

**1450, 1550,
1450 CWS, 1550 CWS,
1450 WTS and 1550
WTS
Combines**
(Serial No. 048751-)



**OPERATOR'S MANUAL
1450, 1550, 1450 CWS, 1550 CWS,
1450 WTS and 1550 WTS
Combines**

OMCQ53869 J4 (ENGLISH)

**CALIFORNIA
Proposition 65 Warning**

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

If this product contains a gasoline engine:

** WARNING**

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

The State of California requires the above two warnings.

John Deere Brasil
LITHO IN BRAZIL



Introduction

Foreword

READ THIS MANUAL carefully to learn how to operate and service your machine correctly. Failure to do so could result in personal injury or equipment damage. This manual and safety signs on your machine may also be available in other languages. (See your John Deere dealer to order.)

THIS MANUAL SHOULD BE CONSIDERED a permanent part of your machine and should remain with the machine when you sell it.

MEASUREMENTS in this manual are given in both metric and customary U.S. unit equivalents. Use only correct replacement parts and fasteners. Metric and inch fasteners may require a specific metric or inch wrench.

RIGHT-HAND AND LEFT-HAND sides are determined by facing in the direction the implement will travel when going forward.

WRITE PRODUCT IDENTIFICATION NUMBERS (P.I.N.) in the Specification section. Accurately record

all the numbers to help in tracing the machine should it be stolen. Your dealer also needs these numbers when you order parts. File the identification numbers in a secure place off the machine.

WARRANTY is provided as part of John Deere's support program for customers who operate and maintain their equipment as described in this manual. The warranty is explained on the warranty certificate which you should have received from your dealer.

This warranty provides you the assurance that John Deere will back its products where defects appear within the warranty period. In some circumstances, John Deere also provides field improvements, often without charge to the customer, even if the product is out of warranty. Should the equipment be abused, or modified to change its performance beyond the original factory specifications, the warranty will become void and field improvements may be denied. Setting fuel delivery above specifications or otherwise overpowering machines will result in such action.

DX,IFC2A -19-17SEP92-1/1

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Identification Views

Combines Covered in This Manual



CQ203751 -UN-26JUL04

This manual provides information on **1450, 1550, 1450 CWS, 1550 CWS, 1450 WTS and 1550 WTS Combines.**

NOTE: Only CWS/WTS models are exported to Europe..

The references in this manual:	Refer to the following models:
1450	1450 Only
1550	1550 Only
1450/1550	1450 and 1550
1450 and 1450 CWS/WTS	1450, 1450 CWS and 1450 WTS
1550 and 1550 CWS/WTS	1550, 1550 CWS and 1550 WTS
1450 and CWS/WTS	1450, 1450 CWS, 1450 WTS, 1550 CWS and 1550 WTS
1550 and CWS/WTS	1550, 1450 CWS, 1450 WTS, 1550 CWS and 1550 WTS
CWS/WTS	1450 CWS, 1450 WTS, 1550 CWS and 1550 WTS
CWS	1450 CWS and 1550 CWS
WTS	1450 WTS and 1550 WTS
Information without reference to a model	All combines

Continued on next page

AG.CO03622,1359 -19-26JUL04-1/2

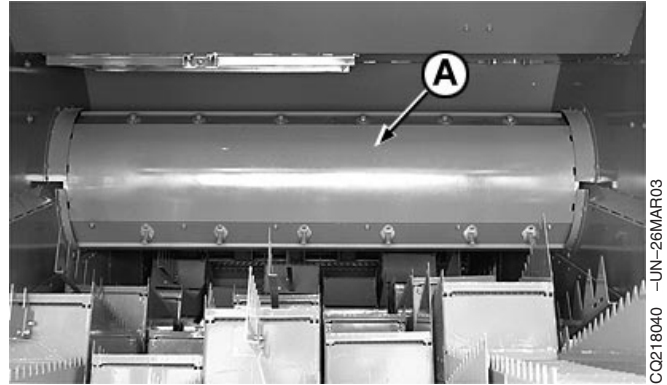
WTS Combines

The exclusive John Deere Walker Tine Separator technology (WTS) provides you the optimal performance of your straw walker combine, especially when working in tough material handling conditions (straw).

Green and wet material are easily separated from the grain if you have the Power Separator™ installed in your machine.

The tines in the Power Separator™ aid the spread of straw over the walkers, enhancing separating capacity.

A—Power Separator



AG,CO03622,1359 -19-26JUL04-2/2

Safety

Recognize Safety Information

This is a safety-alert symbol. When you see this symbol on your machine or in this manual, be alert to the potential for personal injury.

Follow recommended precautions and safe operating practices.



DX,ALERT -19-29SEP98-1/1

T81389 -UN-07DEC88

Follow Safety Instructions

Carefully read all safety messages in this manual and on your machine safety signs. Keep safety signs in good condition. Replace missing or damaged safety signs. Be sure new equipment components and repair parts include the current safety signs. Replacement safety signs are available from your John Deere dealer.

Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.

Keep your machine in proper working condition. Unauthorized modifications to the machine may impair the function and/or safety and affect machine life.

If you do not understand any part of this manual and need assistance, contact your John Deere dealer.



TS201 -UN-23AUG88

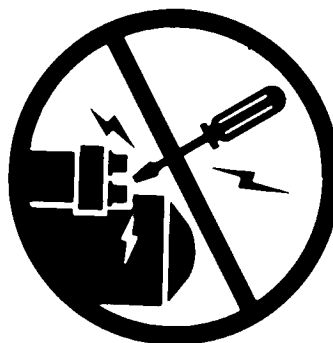
DX,READ -19-03MAR93-1/1

Prevent Machine Runaway

Avoid possible injury or death from machinery runaway.

Do not start engine by shorting across starter terminals. Machine will start in gear if normal circuitry is bypassed.

NEVER start engine while standing on ground. Start engine only from operator's seat, with transmission in neutral or park.



DX,BYPAS1 -19-29SEP98-1/1

TS177 -UN-11JAN89

Understand Signal Words

A signal word—DANGER, WARNING, or CAUTION—is used with the safety-alert symbol. DANGER identifies the most serious hazards.

DANGER or WARNING safety signs are located near specific hazards. General precautions are listed on CAUTION safety signs. CAUTION also calls attention to safety messages in this manual.

⚠ DANGER

⚠ WARNING

⚠ CAUTION

DX,SIGNAL -19-03MAR93-1/1

TS187 -19-30SEP88

Observe Road Traffic Regulations

⚠ CAUTION: Always observe local road traffic regulations when using public roads.



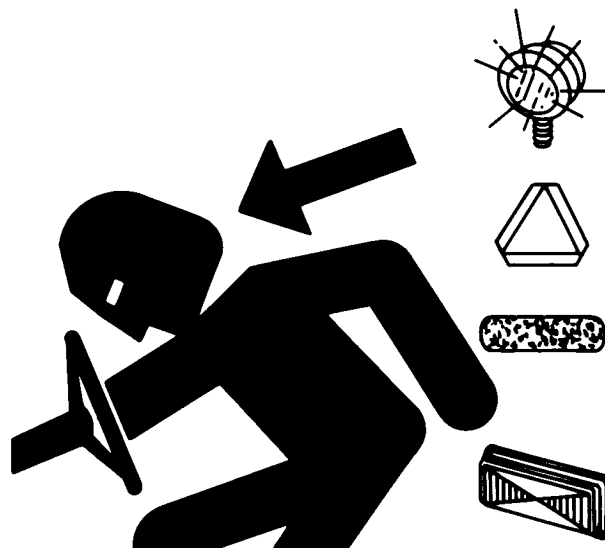
H28930 -UN-30JUN89

AG,GG05155,8 -19-13MAR02-1/1

Use Safety Lights and Devices

Prevent collisions between other road users, slow moving tractors with attachments or towed equipment, and self-propelled machines on public roads. Frequently check for traffic from the rear, especially in turns, and use turn signal lights.

Use headlights, flashing warning lights, and turn signals day and night. Follow local regulations for equipment lighting and marking. Keep lighting and marking visible, clean, and in good working order. Replace or repair lighting and marking that has been damaged or lost. An implement safety lighting kit is available from your John Deere dealer.



TS951 -UN-12APR90

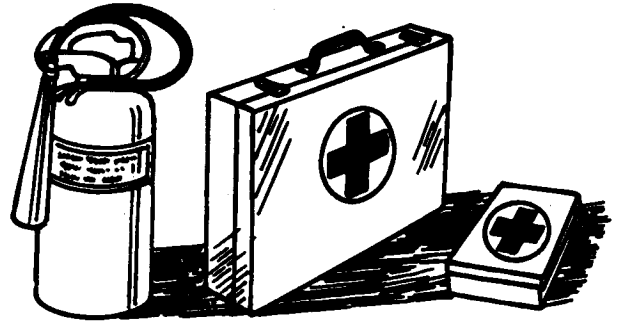
DX,FLASH -19-07JUL99-1/1

Prepare for Emergencies

Be prepared if a fire starts.

Keep a first aid kit and fire extinguisher handy.

Keep emergency numbers for doctors, ambulance service, hospital, and fire department near your telephone.



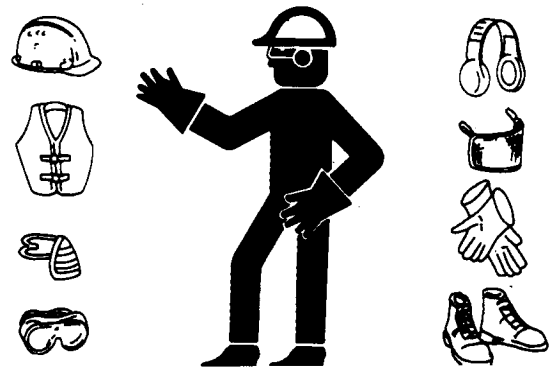
TS291 -UN-23AUG88

DX,FIRE2 -19-03MAR93-1/1

Wear Protective Clothing

Wear close fitting clothing and safety equipment appropriate to the job.

Operating equipment safely requires the full attention of the operator. Do not wear radio or music headphones while operating machine.



TS206 -UN-23AUG88

DX,WEAR2 -19-03MAR93-1/1

Handle Fuel Safely—Avoid Fires

Handle fuel with care: it is highly flammable. Do not refuel the machine while smoking or when near open flame or sparks.

Always stop engine before refueling machine. Fill fuel tank outdoors.

Prevent fires by keeping machine clean of accumulated trash, grease, and debris. Always clean up spilled fuel.



TS202 -UN-23AUG88

DX,FIRE1 -19-03MAR93-1/1

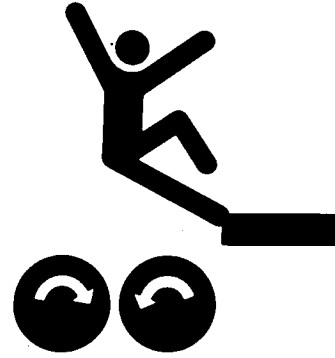
Keep Riders and Children Off Machine

Only allow the operator on the machine. Keep riders off the machine except for periods of training or short periods of observation.

Riders are subject to injury such as being thrown from the machine. Riders also obstruct the operator's view resulting in the machine being operated in an unsafe manner.

Children should never be allowed on the machine or in the combine cab when the engine is running.

The extra seat should only be used for training purposes or short periods of observation.

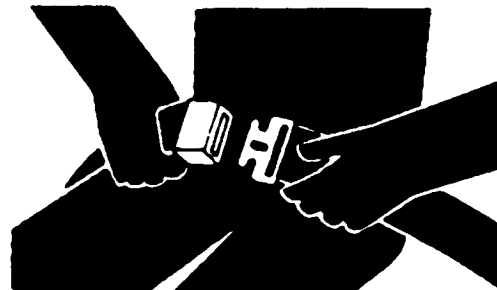


TS253 -UN-23AUG88

ML70882,00004A3 -19-19JUL04-1/1

Use Seat Belts

Use the seat belt whenever you operate the combine or ride as an observer.



H47137

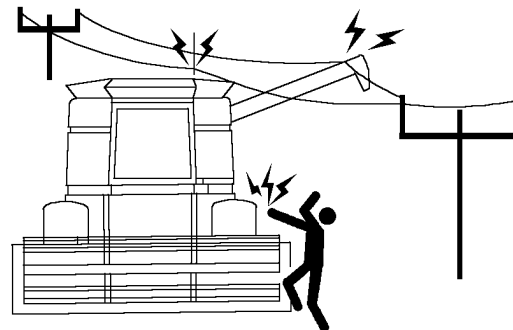
H47137 -UN-25OCT95

HX,STSSA,I -19-22JUL99-1/1

Avoid Electrical Power Lines

Place the grain tank unloading auger in the transport position and lower the grain tank access handrail before driving on public roads.

Secure radio aerial in its transport position before driving on public roads as it may come into contact with low-hanging electrical cables, resulting in the operator suffering a severe electric shock.



H52022 -UN-14APR99

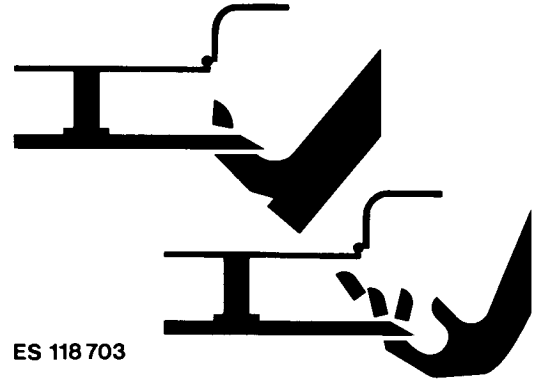
HX,STSSA,D -19-22JUL99-1/1

Guards and Shields

Keep guards and shields in place at all times. Ensure that they are serviceable and correctly installed.

Always disengage separator, shut off engine and remove key before removing any guards or shields.

Keep hands, feet and clothing from power-driven parts.



ES 118 703

ES118703 -UN-21MAR95

CQ,SGCADISP -19-13MAR02-1/1

Stay Clear of Harvesting Units

Cutterbar, auger, reel and feed rolls cannot be completely shielded due to their function. Stay clear of these moving components during operation. Always disengage separator, shut off engine and remove starter key before removing any guards or shields.



ES 118 704

ES118704 -UN-21MAR95

CQ,SGCAPLATA -19-13MAR02-1/1

Keep Hands Away From Knives

Never attempt to clear obstructions in front of or on header unless separator is disengaged, engine is shut off and starter key removed.

Everyone must be clear of the combine before starting the engine.

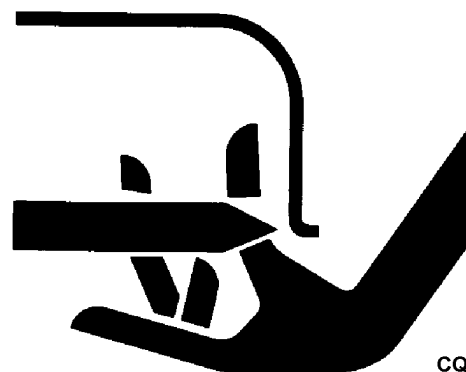


TS254 -UN-23AUG88

AG,SGCALAMIN -19-13MAR02-1/1

Safe operation of Straw Chopper

The straw chopper has safety guards that surround the rotating blades. The blades may continue to rotate for some time after drive has been switched off. Stay clear of moving components during operation of the straw chopper. Disengage drive, shut off engine, remove starter key and wait until drive parts have stopped moving prior to servicing straw chopper.



CQ172130

CQ172130 -UN-11SEP98

MB03730,0001BD2 -19-01SEP04-1/1

Cleaning Grain Tank and Removal of Blockages

Avoid entanglement in the grain tank cross augers as this may cause serious injury or death. For functional purposes the cross augers cannot be completely covered. Do not enter the grain tank when the engine is running. Before entering the tank to clean out residual grain, always shut off the engine, set parking brake and remove the starter key.

If grain bridges and fails to flow into the cross augers, shut off the engine, remove the starter key and from a position on the engine compartment door use a rod, broom or shovel to break the bridge and restore grain flow.



TS256 –UN–23AUG88

HX,STSSA,M –19–22JUL99–1/1

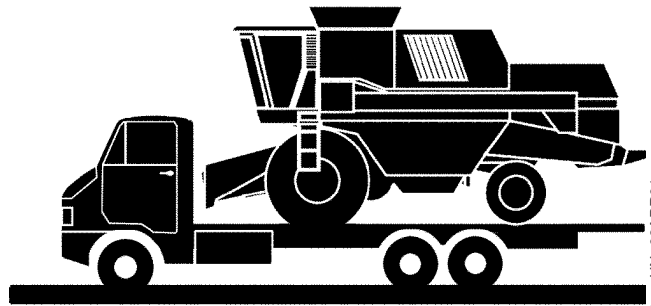
Check Machine Safety

Always check the road and general operating safety of the machine before use, including road traffic regulations.

AG,GG05155,9 –19–22JAN99–1/1

Transporting The Combine on a Truck

Whenever transporting the combine in a truck, make sure that the side shields are firmly fastened in place so that they may not open accidentally during transport.



CQ203970 –UN–09APR01

CQ203970

CO03622,0000061 –19–13MAR02–1/1

Drive your Combine Safely

Whenever maneuvering the machine check that no children are in the proximity of the combine. Ensure good visibility.

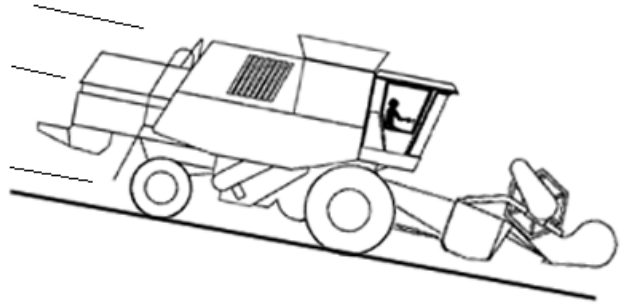
Always use a travel speed suitable to the terrain. Avoid sharp turns when ascending and descending.

Check if accessories are correctly mounted and that they cannot disconnect accidentally.

Take special care when driving with hitched trailers.

Reduce travel speed when driving on slopes or over uneven ground and before making hazardous maneuvers. Shift to a lower speed when moving over quite steep ground. Never coast down hills.

Avoid holes, ditches and obstructions, which may cause the combine to tip over, especially on hilly ground.

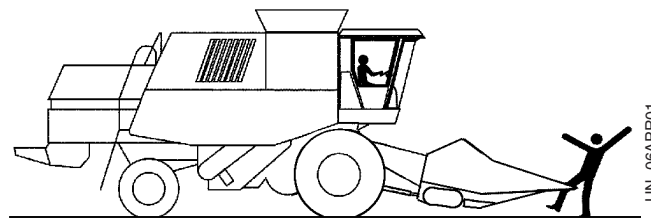


CQ221200 -UN-27NOV03

ML70882,00003F8 -19-28NOV03-1/1

Transport with Header Installed

Before driving combine on public roads header must be raised, but it must not obstruct operator's view of the road. Header height control must be in locked position.



-UN-06APR01
CQ203760

CQ203760

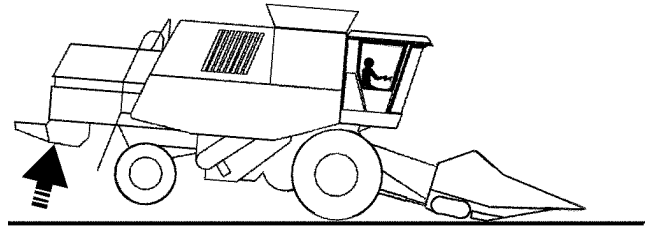
MB03730,0001BD6 -19-29AUG02-1/1

Ballasting for Safe Ground Contact

Operating, steering and braking performance of combine can be considerably affected by the kind of platform used, which may alter the center of gravity of the combine due to its weight.

To maintain the necessary ground contact, ballast the combine at the rear end as necessary.

Observe the maximum permissible axle loads and total combine weight.



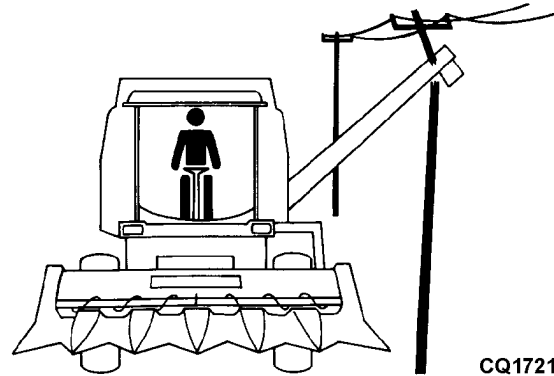
—UN-06APR01
CQ203770

CQ203770

MB03730,0001BD7 -19-20AUG02-1/1

Swing in Grain Tank Unloading Auger

Swing in the grain tank unloading auger to its transport position before driving on public roads. Thereby avoiding collisions with roadside installations, such as telegraph poles, street lights, etc.



—UN-11SEP98
CQ172140

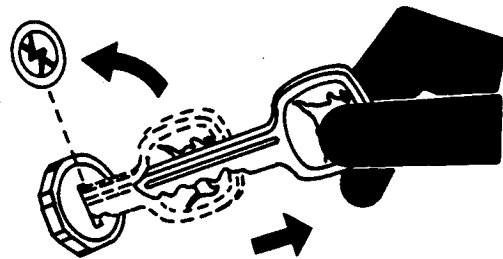
CQ172140

CQ,SGCATQ -19-13MAR02-1/1

Park Machine Safely

Before working on the machine:

- Lower all equipment to the ground.
- Stop the engine and remove the key.
- Disconnect the battery ground strap.
- Hang a "DO NOT OPERATE" tag in operator station.



—UN-24MAY89
TS230

DX,PARK -19-04JUN90-1/1

Work In Ventilated Area

Engine exhaust fumes can cause sickness or death. If it is necessary to run an engine in an enclosed area, remove the exhaust fumes from the area with an exhaust pipe extension.

If you do not have an exhaust pipe extension, open the doors and get outside air into the area



DX,AIR -19-17FEB99-1/1

TS220 -UN-23AUG88

Practice Safe Maintenance

Understand service procedure before doing work. Keep area clean and dry.

Never lubricate, service, or adjust machine while it is moving. Keep hands, feet, and clothing from power-driven parts. Disengage all power and operate controls to relieve pressure. Lower equipment to the ground. Stop the engine. Remove the key. Allow machine to cool.

Securely support any machine elements that must be raised for service work.

Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Remove any buildup of grease, oil, or debris.

On self-propelled equipment, disconnect battery ground cable (-) before making adjustments on electrical systems or welding on machine.

On towed implements, disconnect wiring harnesses from tractor before servicing electrical system components or welding on machine.



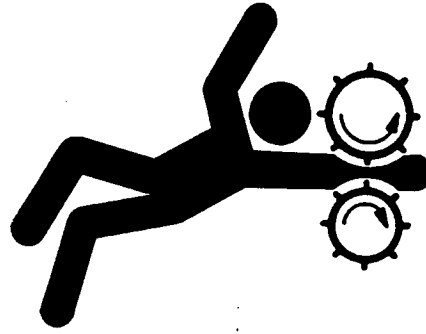
DX,SERV -19-17FEB99-1/1

TS218 -UN-23AUG88

Service Machines Safely

Tie long hair behind your head. Do not wear a necktie, scarf, loose clothing, or necklace when you work near machine tools or moving parts. If these items were to get caught, severe injury could result.

Remove rings and other jewelry to prevent electrical shorts and entanglement in moving parts.



DX, LOOSE -19-04JUN90-1/1

TS228 -UN-23AUG88

Remove Accumulated Crop Debris

The build up of chaff and crop debris in the engine compartment, on the engine, and near moving parts is a fire hazard. Check and clean these areas frequently. Before performing any inspection or service, shut off the engine, set the parking brake and remove the starter key.



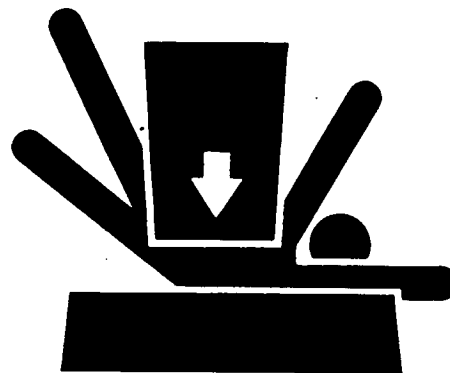
HX, STSSA, N -19-22JUL99-1/1

TS227 -UN-23AUG88

Appropriate Machine Propping

Always lower the accessory or implement to the ground before working on machine. If work on a raised machine or accessory is necessary, securely prop it up.

Do not support the machine on cinder blocks, hollow tiles, or props that may crumble under continuous load. Do not work underneath a machine that is solely propped up by a jack. Follow this manual's recommended procedures.



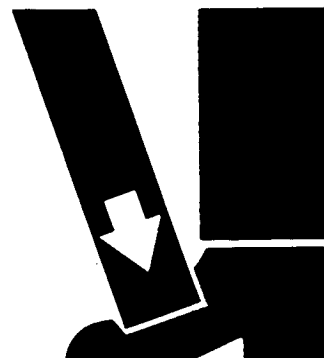
DX, LOWER -19-04JUN90-1/1

TS229 -UN-23AUG88

Use Proper Lifting Equipment

Lifting heavy components incorrectly can cause severe injury or machine damage.

Follow recommended procedure for removal and installation of components in the manual.



DX, LIFT -19-04JUN90-1/1

TS226 -UN-23AUG88

Servicing the Engine

Use the rear service platform when servicing the engine. Climbing onto other parts of the combine may result in accidents such as falling off the machine.

AG,GG05155,11 -19-25JAN99-1/1

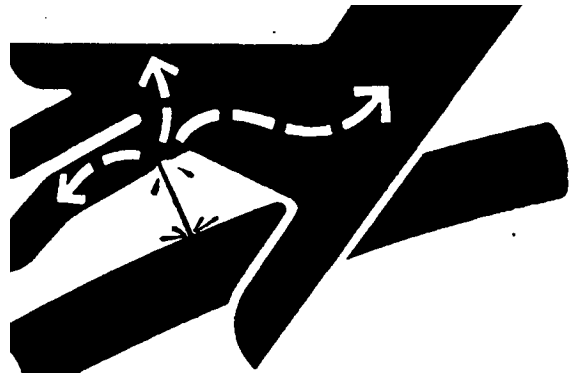
Avoid High-Pressure Fluids

Escaping fluid under pressure can penetrate the skin causing serious injury.

Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure.

Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source. Such information is available from Deere & Company Medical Department in Moline, Illinois, U.S.A.



X9811 -UN-23AUG88

DX,FLUID -19-03MAR93-1/1

Prevent Battery Explosions

Keep sparks, lighted matches, and open flame away from the top of battery. Battery gas can explode.

Never check battery charge by placing a metal object across the posts. Use a volt-meter or hydrometer.

Do not charge a frozen battery; it may explode. Warm battery to 16°C (60°F).



TS204 -UN-23AUG88

DX,SPARKS -19-03MAR93-1/1

Handle Batteries Safely

Sealed batteries

Combines are equipped with sealed batteries, this type of batteries does not need maintenance.

An indicator on top of the battery shows charge level.

Lead-calcium batteries do not need water.

ML70882,00004A4 -19-19JUL04-1/1

Prevent Acid Burns

Sulfuric acid in battery electrolyte is poisonous. It is strong enough to burn skin, eat holes in clothing, and cause blindness if splashed into eyes.

Avoid the hazard by:

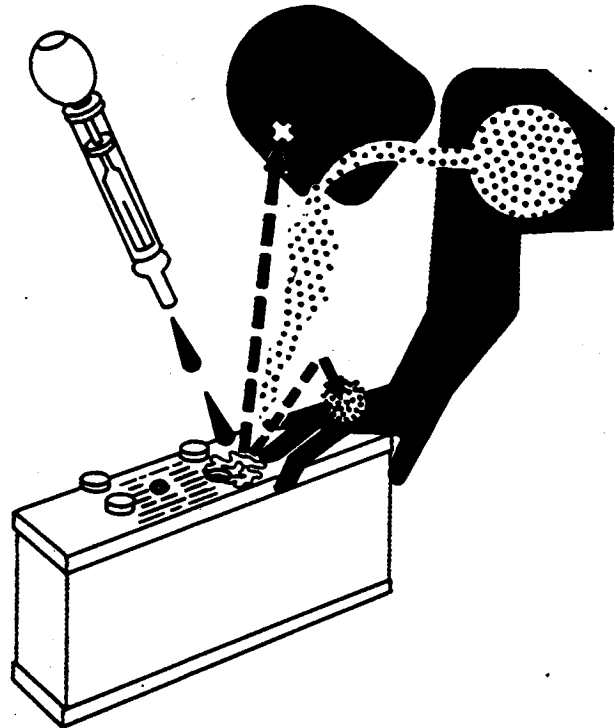
1. Filling batteries in a well-ventilated area.
2. Wearing eye protection and rubber gloves.
3. Avoiding breathing fumes when electrolyte is added.
4. Avoiding spilling or dripping electrolyte.
5. Use proper jump start procedure.

If you spill acid on yourself:

1. Flush your skin with water.
2. Apply baking soda or lime to help neutralize the acid.
3. Flush your eyes with water for 15—30 minutes. Get medical attention immediately.

If acid is swallowed:

1. Do not induce vomiting.
2. Drink large amounts of water or milk, but do not exceed 2 L (2 quarts).
3. Get medical attention immediately.



TS203 -UN-23AUG88

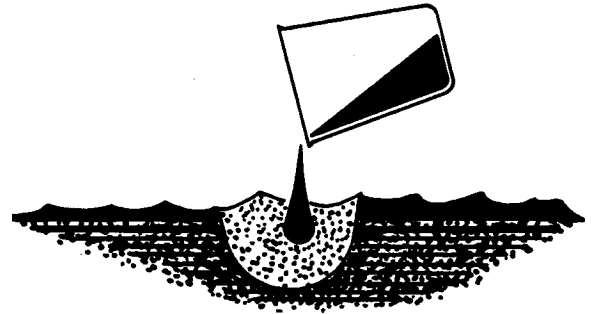
DX,POISON -19-21APR93-1/1

Observe Environmental Protection Regulations

Be mindful of the environment and ecology.

Before bleeding any fluids, find out the correct way of disposing of them.

Comply with relevant environmental protection regulations when disposing of oil, fuel, coolant, filters and batteries.



CQ,SGCAMEIO -19-13MAR02-1/1

TS222 -UN-23AUG88

Service Tires Safely

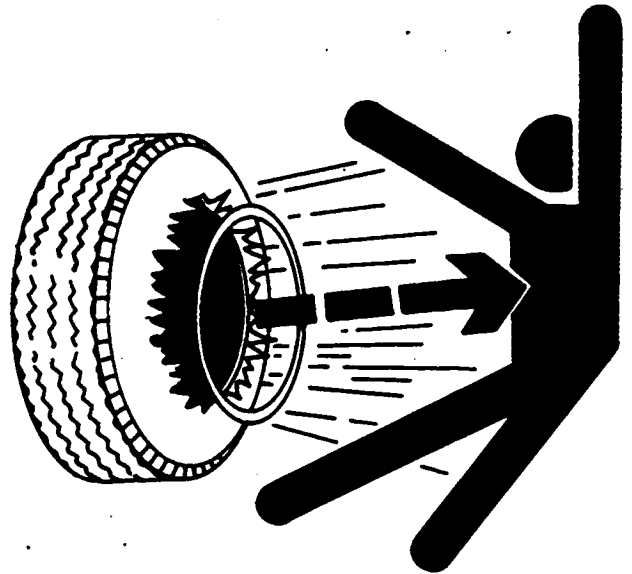
Explosive separation of a tire and rim parts can cause serious injury or death.

Do not attempt to mount a tire unless you have the proper equipment and experience to perform the job.

Always maintain the correct tire pressure. Do not inflate the tires above the recommended pressure. Never weld or heat a wheel and tire assembly. The heat can cause an increase in air pressure resulting in a tire explosion. Welding can structurally weaken or deform the wheel.

When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side and NOT in front of or over the tire assembly. Use a safety cage if available.

Check wheels for low pressure, cuts, bubbles, damaged rims or missing lug bolts and nuts.

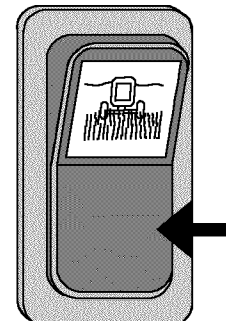


DX,RIM -19-24AUG90-1/1

TS211 -UN-23AUG88

Field / Road Safety Tumbler Switch

IMPORTANT: For road travel, road safety switch must be in road position. In addition, place the header and unloading auger in transport position. This ensures that all hydraulic functions — with the exception of the steering system — are not working.



ZX 002418

AG,CO03622,1361 -19-13MAR02-1/1

ZX002418 -UN-16JUN95

Engine Coolant



CAUTION: Danger of scalding! Do not loosen or remove the radiator filler cap when coolant temperature is near or above boiling point. Always loosen cap a little to release pressure before completely removing it.

Add coolant via uncapped opening, only when the engine is shut off.

When the engine is cool, the coolant level (in the expansion tank) should be up to the "COLD" mark.

Checking coolant quality

IMPORTANT: Regardless of the season, use only John Deere COOL-GARD in the cooling system.

Never use any cooling system additives.

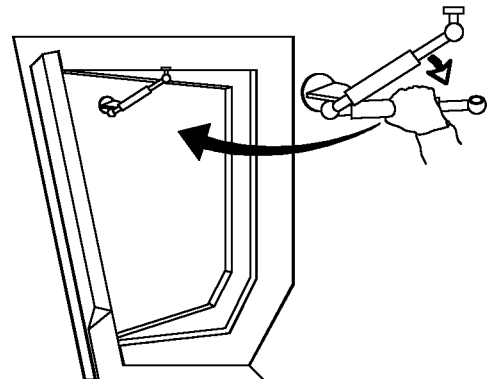


T6642EK -UN-01NOV88

ML70882,00004A5 -19-19JUL04-1/1

Emergency Exit

The right-hand cab window may be used as an emergency exit. Disengage the gas spring and open window.



ZX 006004

ZX006004 -UN-03APR95

AG,CO03622,1362 -19-01SEP04-1/1

Remove Paint Before Welding or Heating

Avoid potentially toxic fumes and dust.

Hazardous fumes can be generated when paint is heated by welding, soldering, or using a torch.

Remove paint before heating:

- Remove paint a minimum of 100 mm (4 in.) from area to be affected by heating. If paint cannot be removed, wear an approved respirator before heating or welding.
- If you sand or grind paint, avoid breathing the dust. Wear an approved respirator.
- If you use solvent or paint stripper, remove stripper with soap and water before welding. Remove solvent or paint stripper containers and other flammable material from area. Allow fumes to disperse at least 15 minutes before welding or heating.

Do not use a chlorinated solvent in areas where welding will take place.

Do all work in an area that is well ventilated to carry toxic fumes and dust away.

Dispose of paint and solvent properly.



TS220 -UN-23AUG88

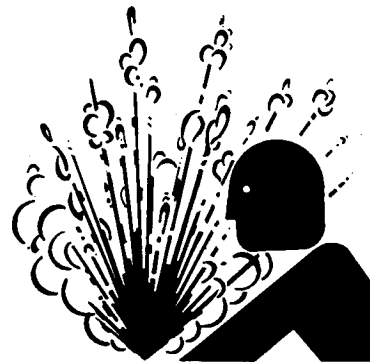
DX,PAINT -19-24JUL02-1/1

Service Accumulator Systems Safely

Escaping fluid or gas from pressurized hydraulic accumulator systems can cause serious injury. Extreme heat can cause the accumulator to burst, and pressurized lines can be accidentally cut. Do not weld or use a torch near a pressurized accumulator or pressurized line.

Relieve pressure from the hydraulic system before removing accumulator. Never attempt to relieve hydraulic system or accumulator pressure by loosening a fitting.

Accumulators cannot be repaired.



TS281 -UN-23AUG88

DX,WW,ACCLA -19-15APR03-1/1

Certificate of Ownership

1. Keep an updated record of the serial number of all products and components in a safe place.
2. Regularly check if identification plates have been removed. Report any evidence of tampering to the police and order a copy of plates.
3. Other measures that you can take:
 - Label your machine with your own numbering system
 - Take color photographs from different angles of each machine

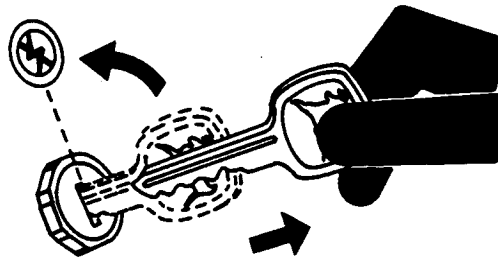


TS1680 -UN-09DEC03

DX,SECURE1 -19-18NOV03-1/1

Safe Storage of Machines

1. Install anti-theft devices.
2. When the machine is to be put into storage:
 - Lower the equipment to the ground
 - Set wheels to widest position to make loading more difficult
 - Remove any keys and batteries
3. When parking indoors, put large equipment in front of exits and lock your storage buildings.
4. When parking outdoors, store in a well-lit, fenced in area.
5. Identify any suspicious situations and immediately report any theft to the police.
6. Notify your John Deere dealer of any losses.



TS230 -UN-24MAY89

DX,SECURE2 -19-18NOV03-1/1

Safety Decals

Pictorial Safety Decals

Safety signs warning of potential accident risks are affixed in a number of different locations on the machine. Danger is indicated by a triangular-shaped symbol. Besides this symbol is another providing information on how to avoid accidents. These safety signs, their location on the machine and a brief explanatory text are shown below.

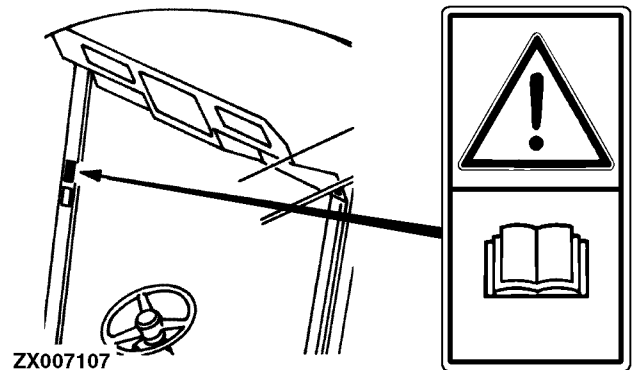


TS231 -19-07OCT88

AG.CO03622,1363 -19-13MAR02-1/1

Operator's Manual

This operator's manual contains all important and necessary information to ensure safe service of your machine. Comply with all safety rules to avoid accidents.

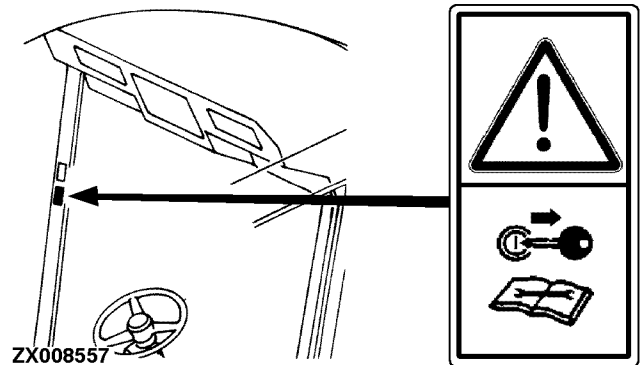


ZX007107 -UN-19JUN95

AG.CO03622,1364 -19-13MAR02-1/1

Repair and Service

Before carrying out repair and maintenance work, shut off engine and remove starter key.



ZX008557 -UN-31JAN96

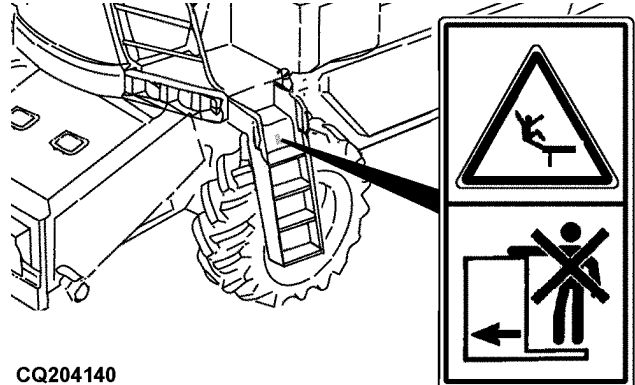
AG.CO03622,1365 -19-13MAR02-1/1

Front Access Ladder and Platform

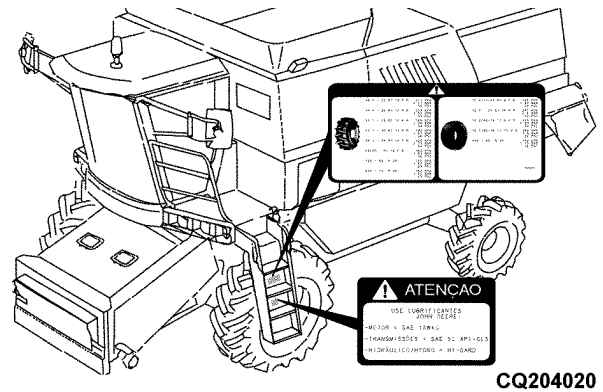
Do not allow riders on access ladder or service platform.

There is an extra seat in the cab for this purpose.

NOTE: There are also decals showing the indicated tire inflation pressure for each tire size, as well as the recommended oils for the combine.



CQ204140 -UN-10APR01

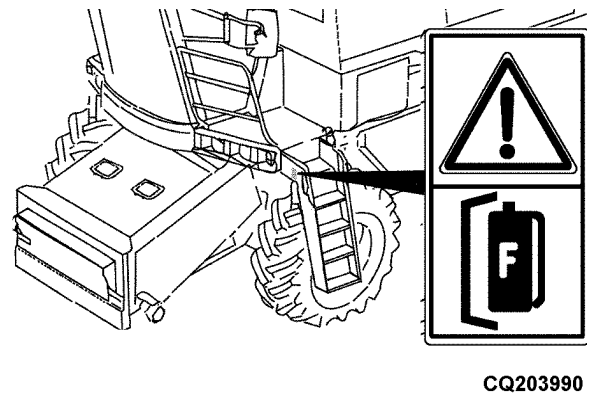


CQ204020 -UN-10OCT01

AG,CO03622,1366 -19-13MAR02-1/1

Fire Extinguisher

The machine must not be operated unless a full, operational fire extinguisher is installed at this point.

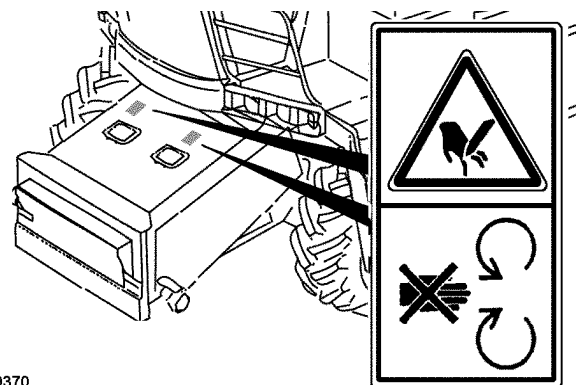


CQ203990 -UN-09APR01

AG,CO03622,1367 -19-13MAR02-1/1

Feeder House Drive Shields

DO NOT open or remove guards when the engine is running.



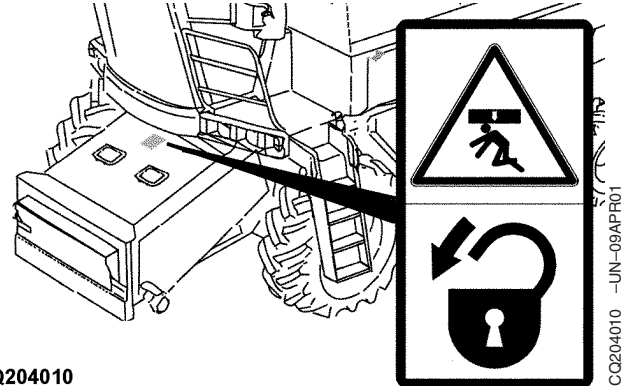
CQ209370 -UN-18OCT01

AG,CO03622,1368 -19-26SEP03-1/1

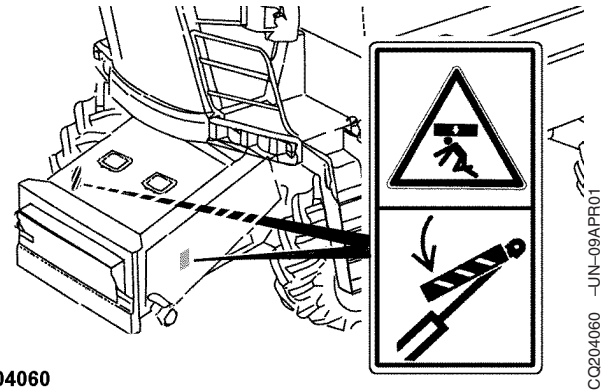
Under the Feeder House

Before carrying out any kind of service under the feeder house ensure that the feeder house cylinders are locked in place by the safety stops.

CQ204010



CQ204060



AG.CO03622,1369 -19-20JUL04-1/1

Unloading Auger

DO NOT open or remove guards when the engine is running.



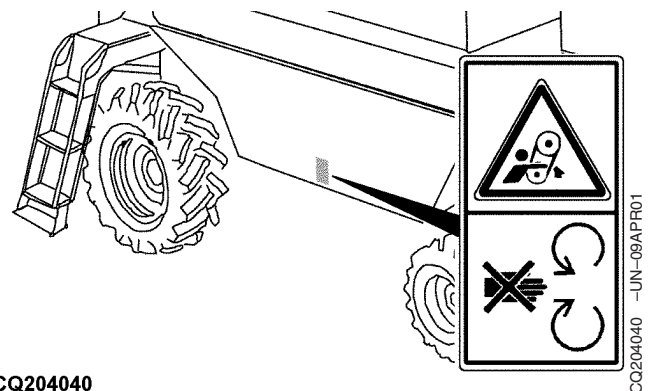
CQ204120

CO03622,0000062 -19-13MAR02-1/1

Left-Hand Side Guard, Fan and Walker Drive Guard

DO NOT open or remove guards when the engine is running.

CQ204040

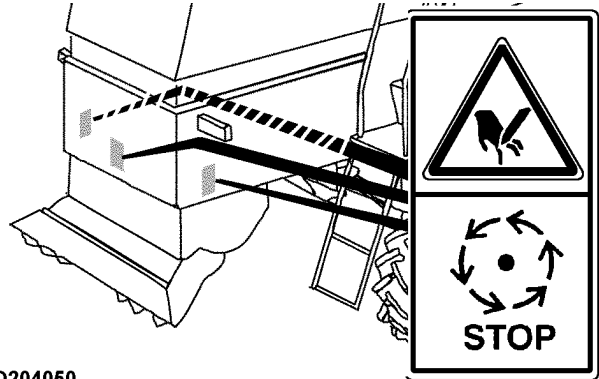


AG.CO03622,1371 -19-20AUG04-1/1

Straw Chopper and Chaff Spreader

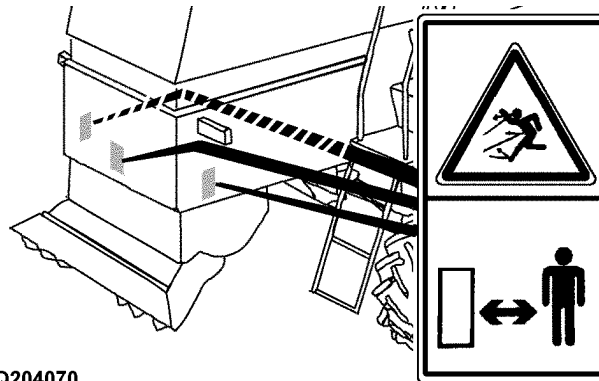
Keep away from these components when the engine is running. Do not touch any moving machine parts. Wait until all moving parts have stopped.

CQ204050



CQ204050 -UN-09APR01

CQ204070



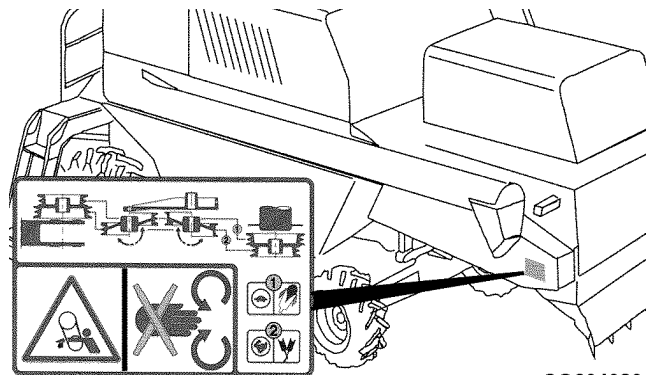
CQ204070 -UN-09APR01

AG,CO03622,1372 -19-20AUG04-1/1

Straw chopper

ALWAYS shut off engine and remove starter key before servicing or adjusting speed of straw chopper.

CQ204080



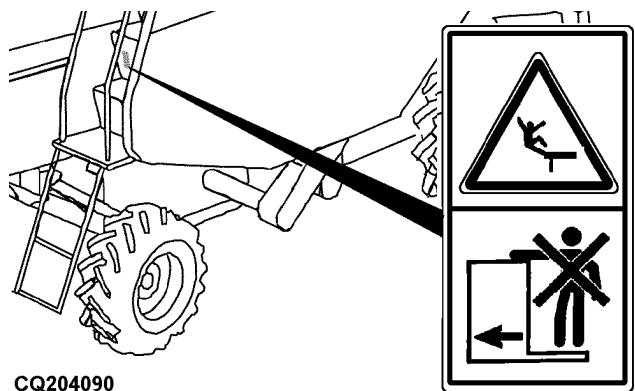
CQ204080 -UN-09APR01

AG,CO03622,1373 -19-20AUG04-1/1

Access to Rear Ladder and Service Platform

Do not allow riders on access ladder or service platform.

CQ204090

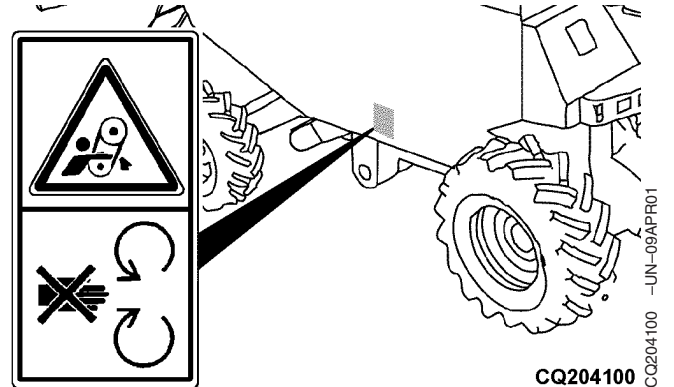


CQ204090 -UN-09APR01

AG,CO03622,1374 -19-26SEP03-1/1

Right-Hand Side Guard

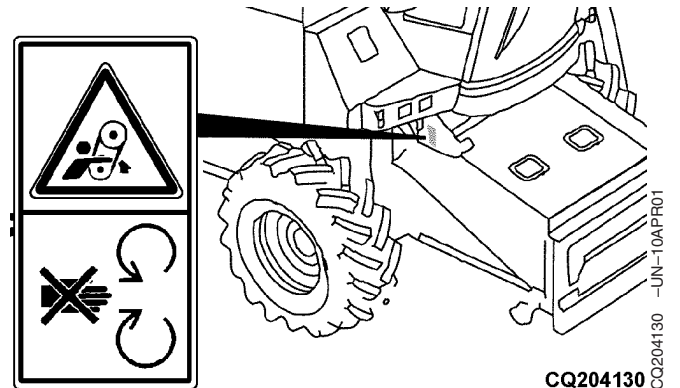
DO NOT open or remove guards when the engine is running.



AG.CO03622,1375 -19-13MAR02-1/1

Reverser Shield

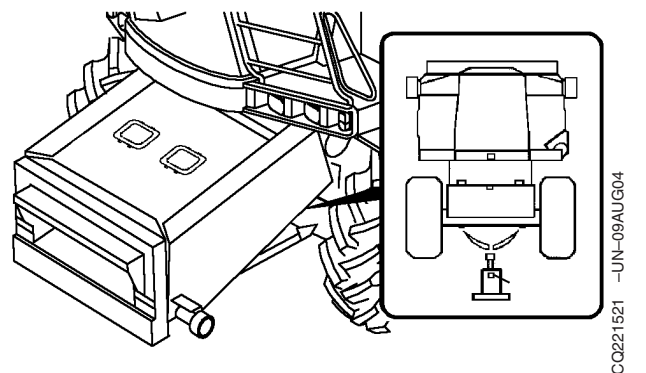
DO NOT open or remove guards when the engine is running.



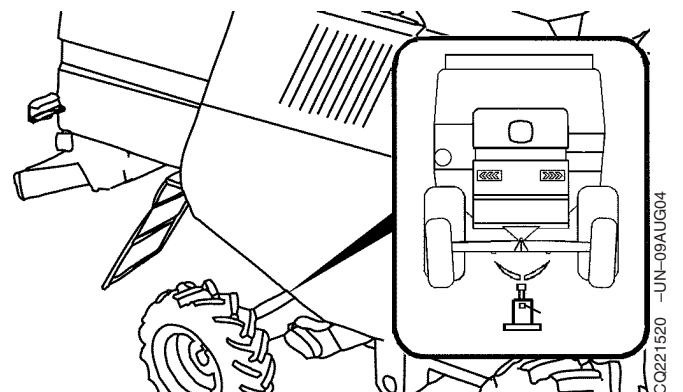
CO03622,0000063 -19-26SEP03-1/1

Jacking Points

Jack up machine positioning jack at specified points on the front and rear axles. The points are located as indicated in decals.



Jacking points - Front axle

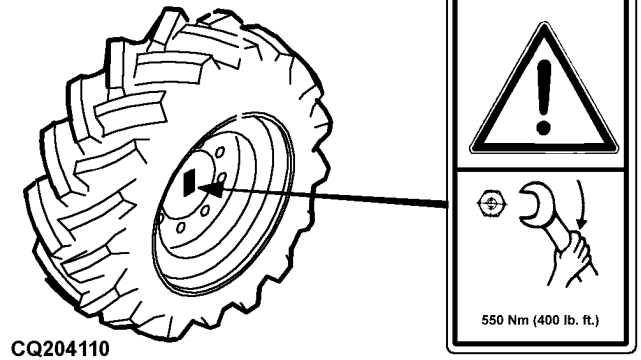


Jacking points - Rear axle

OU83340,000041F -19-09DEC03-1/1

Front Wheel Attaching Nuts

Retighten front wheel attaching nuts at specified intervals.

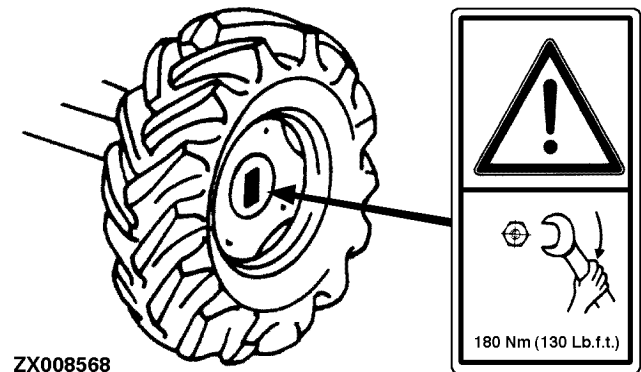


—UN-09APR01

AG,CO03622,1376 —19-13MAR02-1/1

Rear Wheel Attaching Nuts

Retighten front wheel attaching nuts at specified intervals.

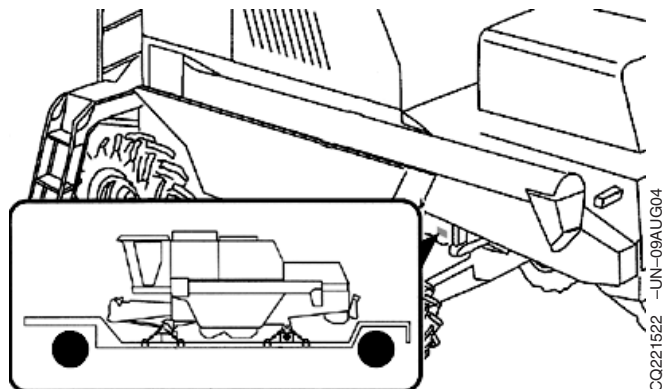


—UN-31JAN96

AG,CO03622,1377 —19-13MAR02-1/1

Transporting the Combine

When transporting the combine over long distances, use a flatbed truck and secure it as indicated on the decal affixed on either side of the combine.

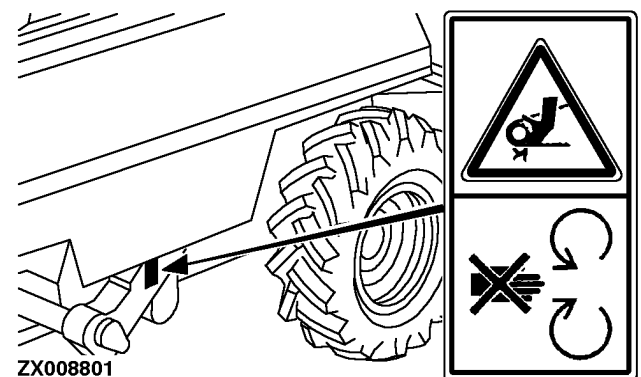


—UN-09AUG04

OU83340,0000420 —19-09DEC03-1/1

Grain Elevator Shield

DO NOT open or remove guards when the engine is running.



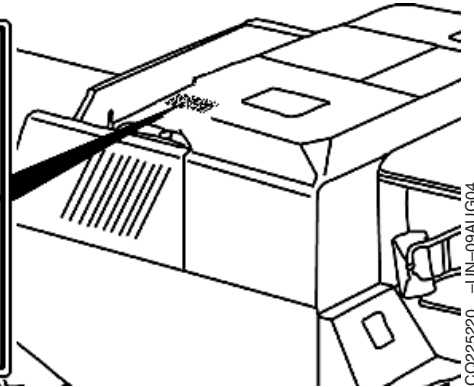
—UN-22MAY96

ML70882,00004D2 —19-05AUG04-1/1

Straw Walker Shield

DO NOT open or remove guards when the engine is running.

The straw walker, when running, can cause a serious accident.

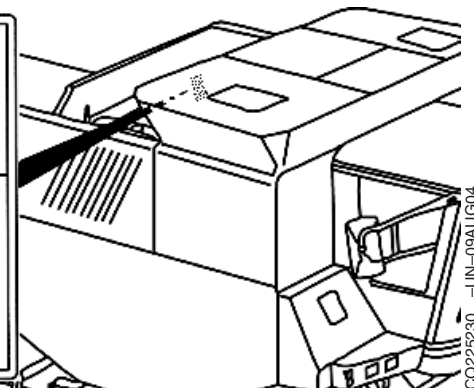


ML70882,00004D4 -19-05AUG04-1/1

CO225220 -UN-09AUG04

Grain Tank Extension

The grain tank extension must be in transport position when the combine is transported on roads, due to the height limit on public roads.

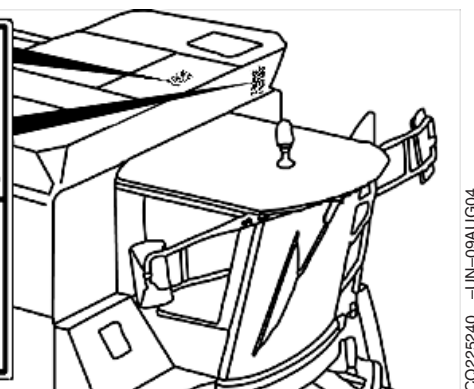


ML70882,00004D5 -19-05AUG04-1/1

CO225230 -UN-09AUG04

Grain Tank

DO NOT enter the grain tank when the engine is running.



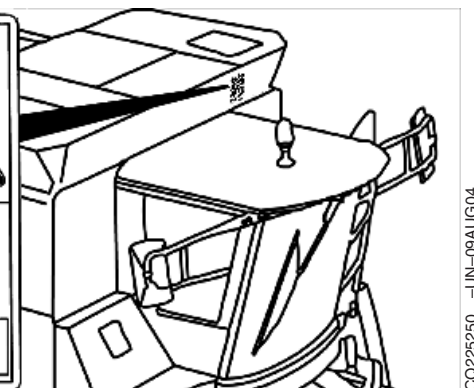
ML70882,00004D6 -19-05AUG04-1/1

CO225240 -UN-09AUG04

Radio Antenna

DO NOT transport or operate the combine with the radio antenna raised or the unloading auger swung out.

One of them may come into contact with low-hanging electrical cables, resulting in the operator suffering a severe electric shock.

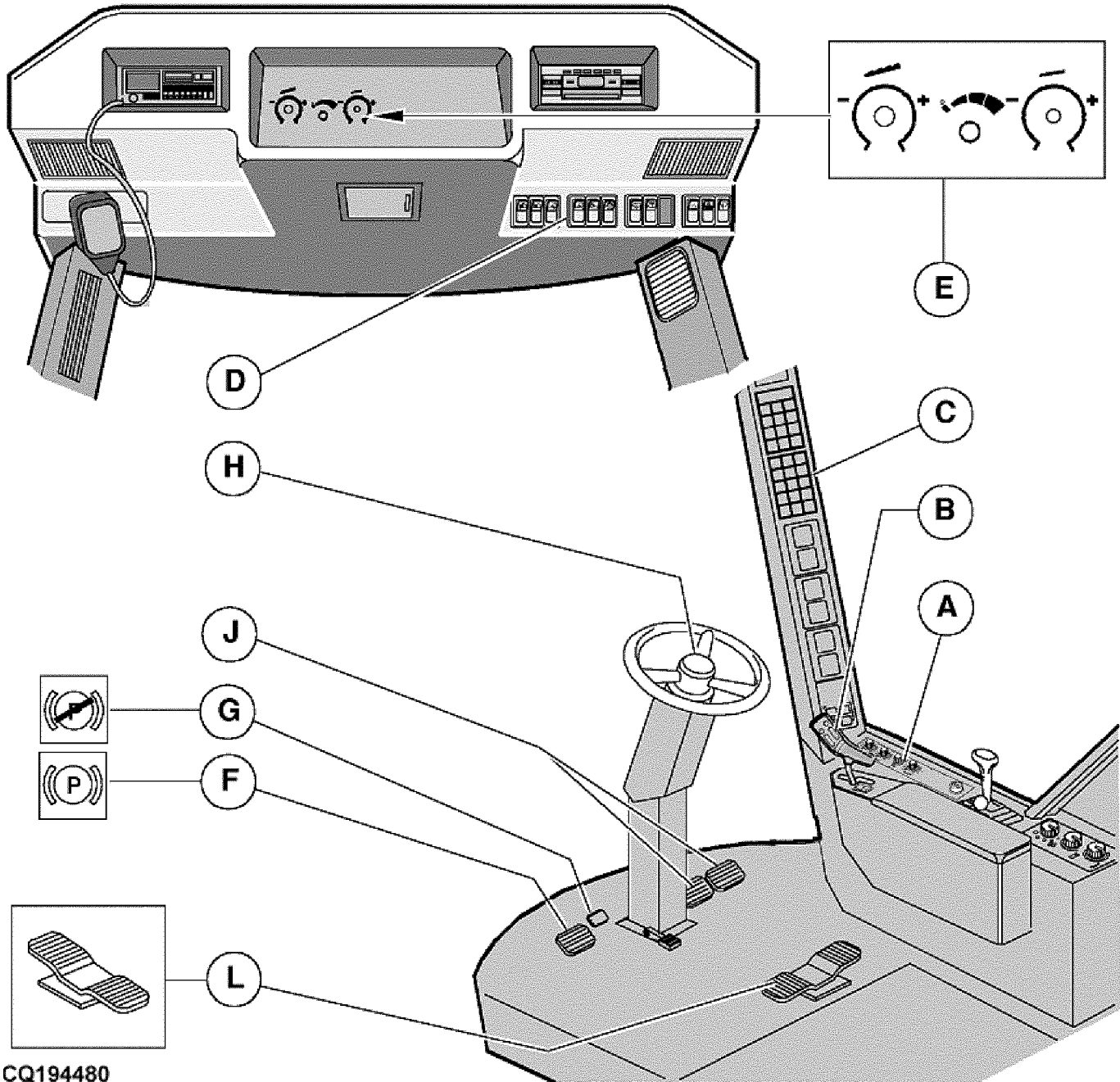


ML70882,00004D7 -19-05AUG04-1/1

CO225250 -UN-09AUG04

Controls and Instruments

General View of Controls and Instruments



CQ194480

A—Switch Console
B—Multifunction control handle
C—Corner Post

D—Roof switch console
E—Harvest performance monitor

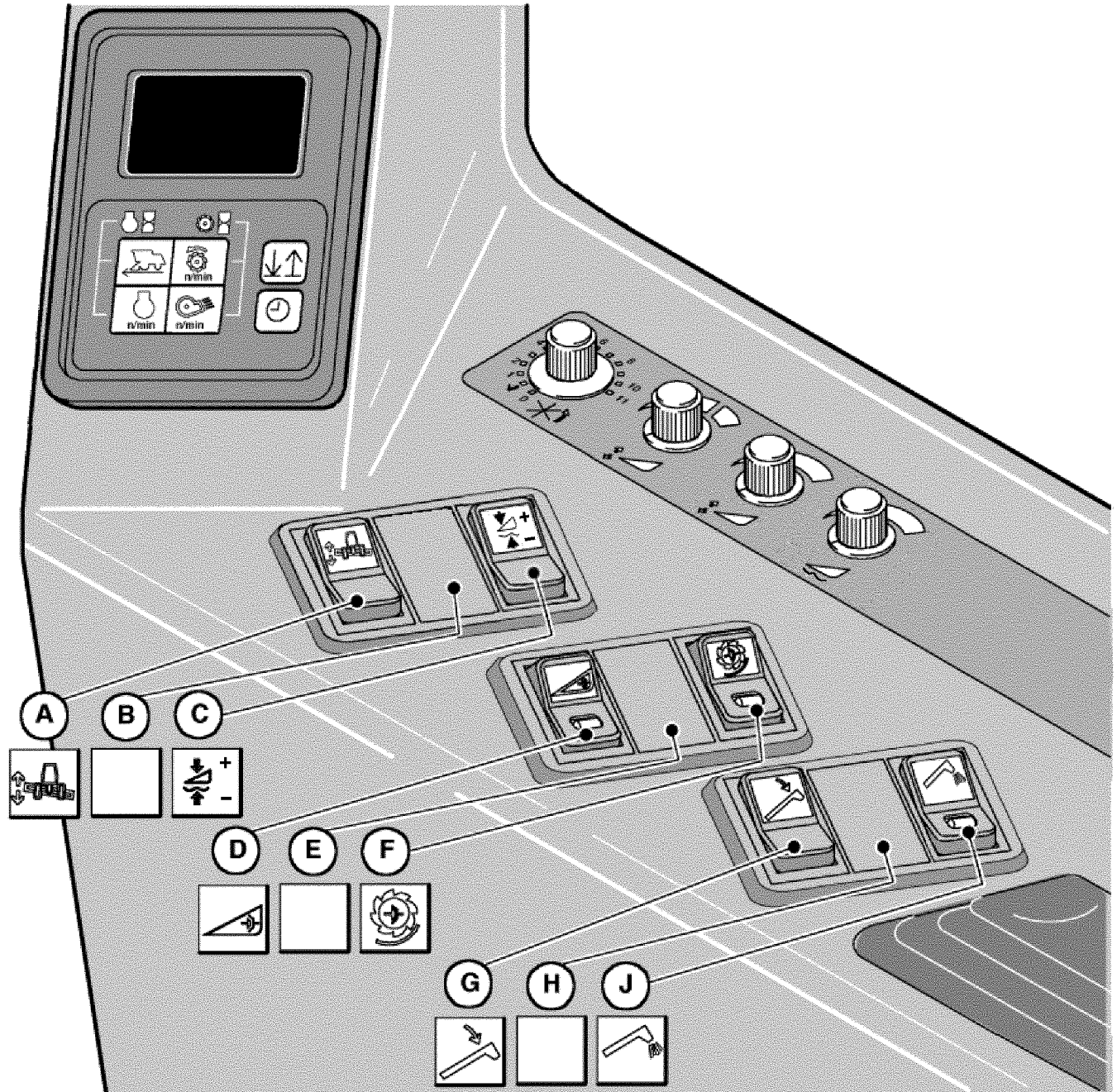
F—Parking brake
G—Parking brake release pedal

H—Steering column
J—Foot brakes
L—Reverser

CQ194480 —UN-17FEB00

AG,CO03622,1378 —19-26SEP03-1/1

Switch Console



A—Header tilt selector/reel
fore-and-aft adjustment
switch (manual mode)
B—Not used
C—Pressure selection valve
engage switch for
cutterbar of flex 600 series
headers

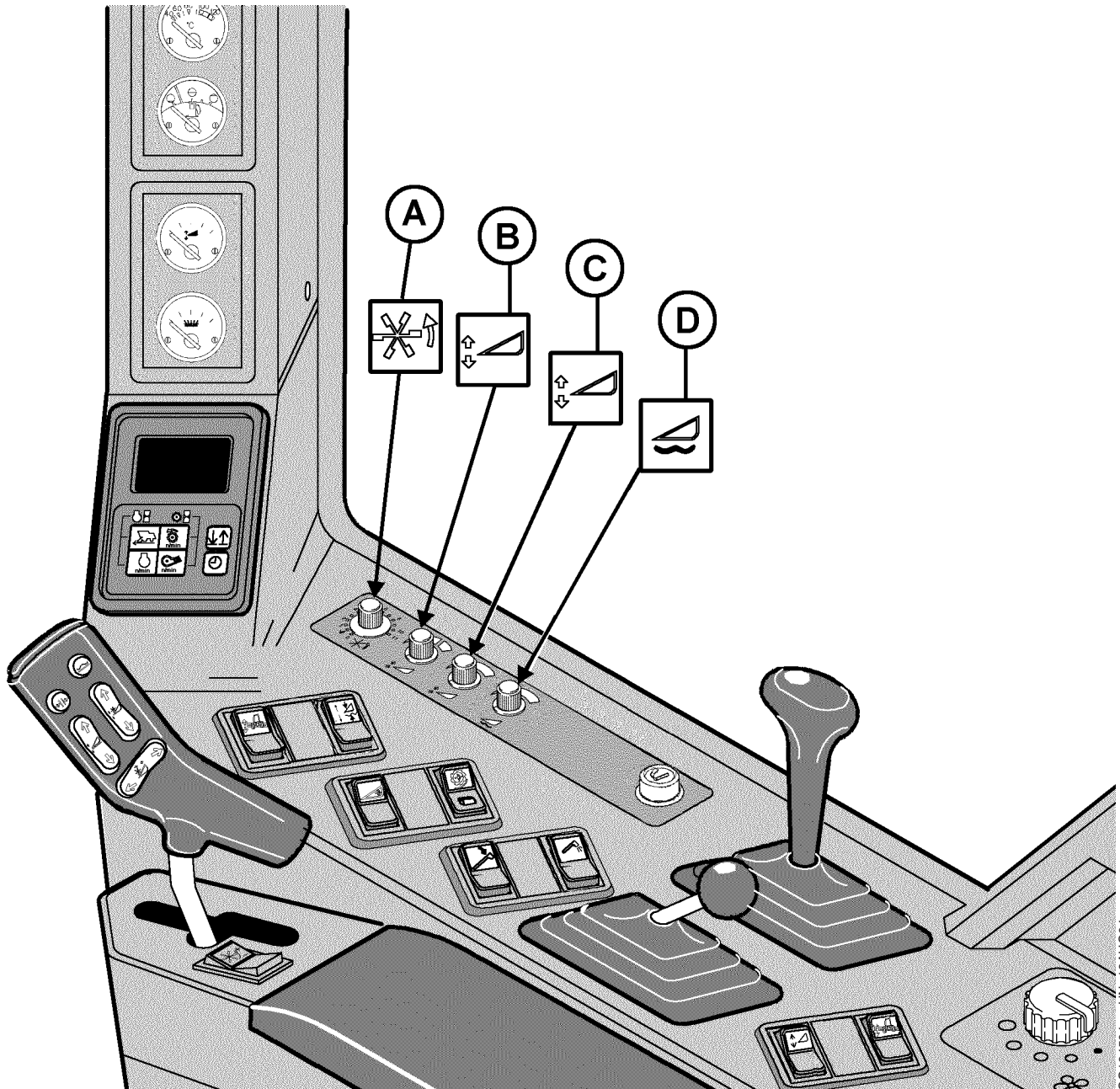
D—Header drive tumbler
switch
E—Not used
F—Separator drive tumbler
switch

G—Unloading auger swing
tumbler switch
H—Not used

J—Unloading auger engage
switch

CQ194493 -JUN-19NOV02

Potentiometers on Switch Console



A—Automatic reel speed control switch

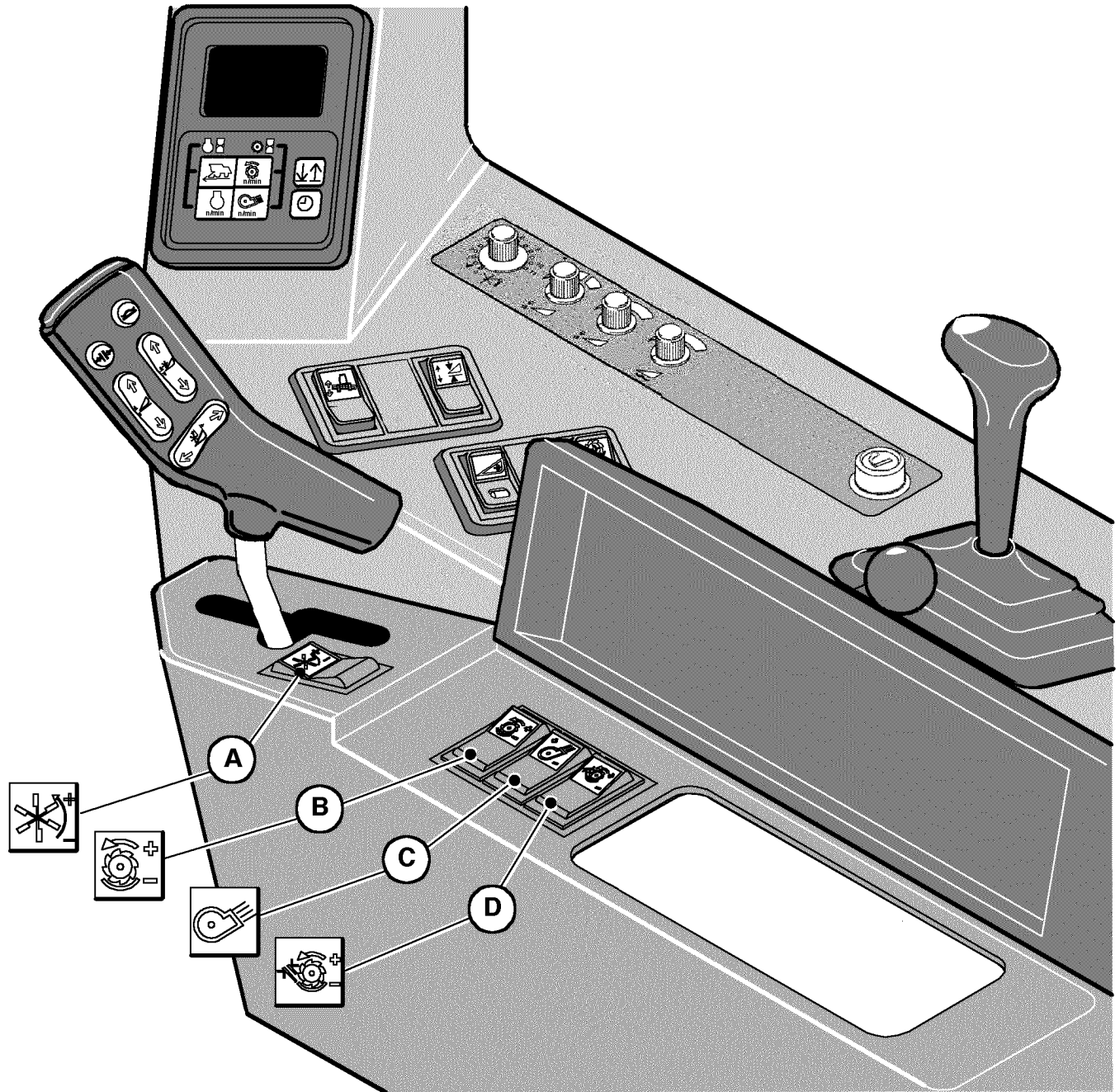
B—AHC selector switch (Automatic Header Control)—flex 300 series headers

C—Header height potentiometer (300 and 600—CWS/WTS series header)

D—Float pressure potentiometer (300 and 600—CWS/WTS series rigid header)

AG,CO03622,1380 -19-09AUG04-1/1

Switch Console (Continued)



CQ194511 -JUN-19AUG04

A—Reel speed switch

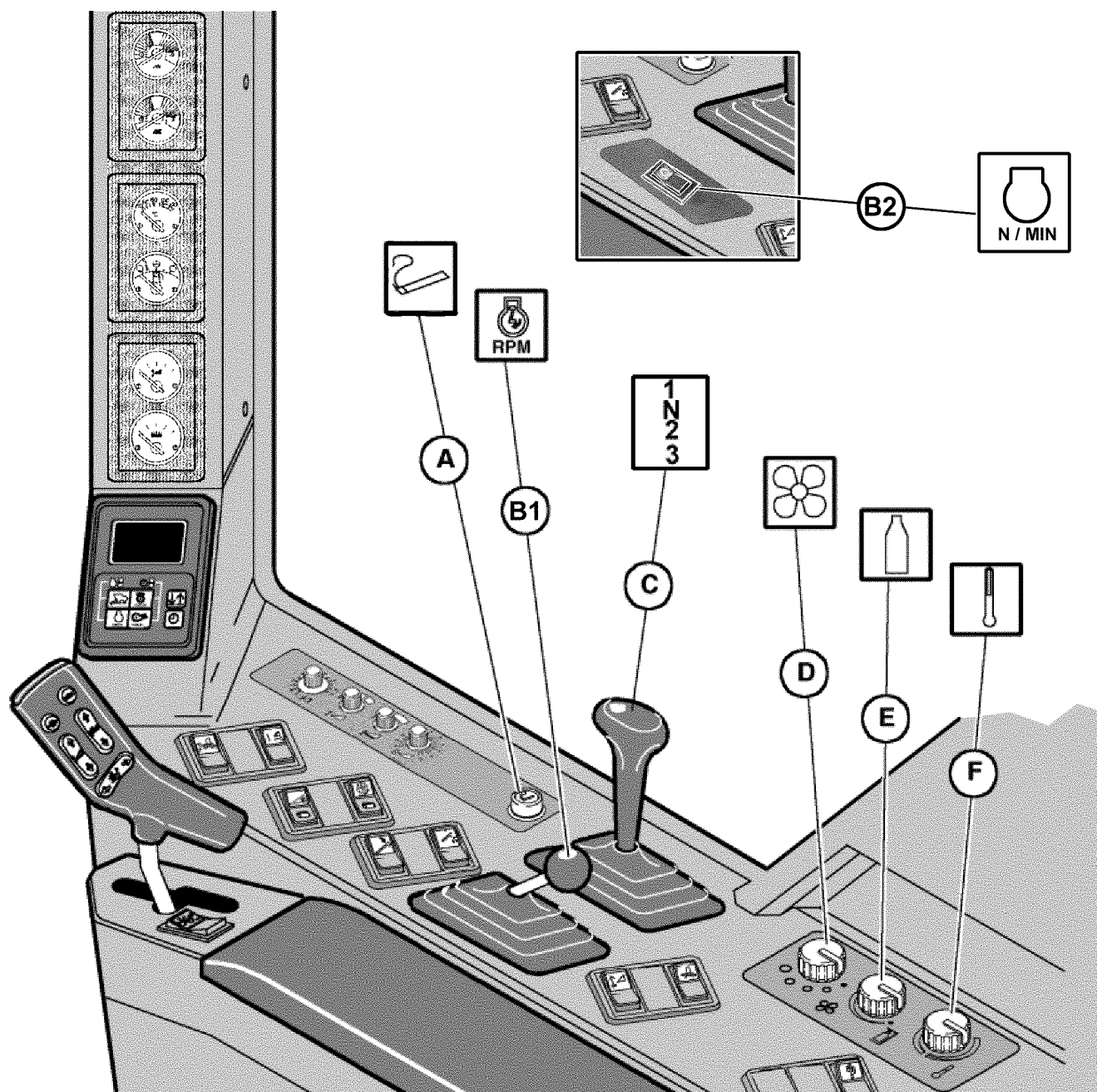
B—Threshing cylinder speed switch

C—Fan speed switch

D—Concave clearance adjusting switch

AG,CO03622,1381 -19-13MAR02-1/1

Switch Console (Continued)



A—Cigarette lighter socket
B1—Throttle lever—1450/1550
B2—Throttle rocker switch—
CWS/WTS

C—Gearshift lever
D—Cab fan switch

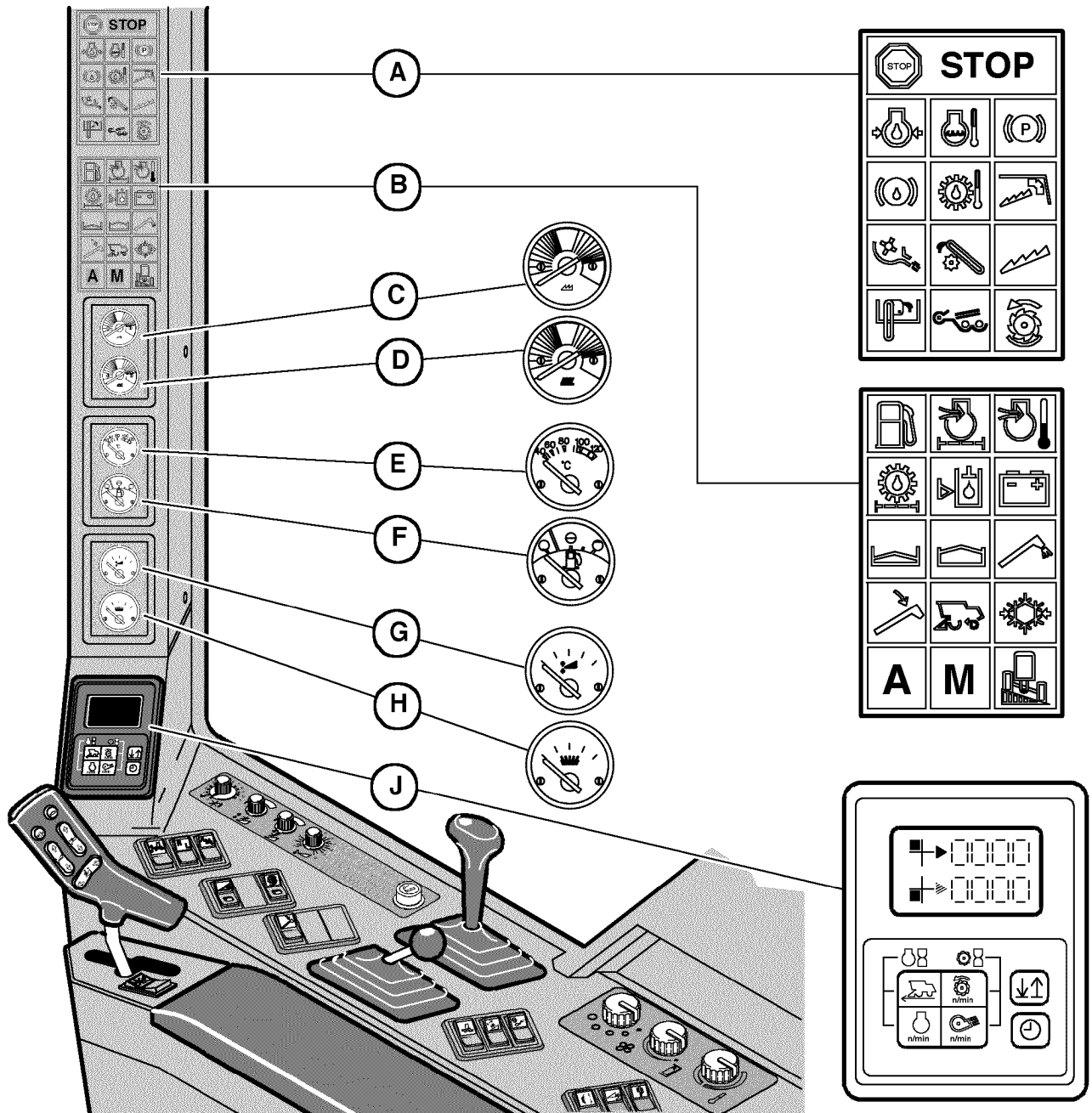
E—Cooling compartment
control switch

F—Air conditioner/heater
switch and temperature
knob (heater only for
CWS/WTS)

AG,CO03622,1382 -19-20AUG04-1/1

CQ203543 -UN-20AUG03

Corner Post



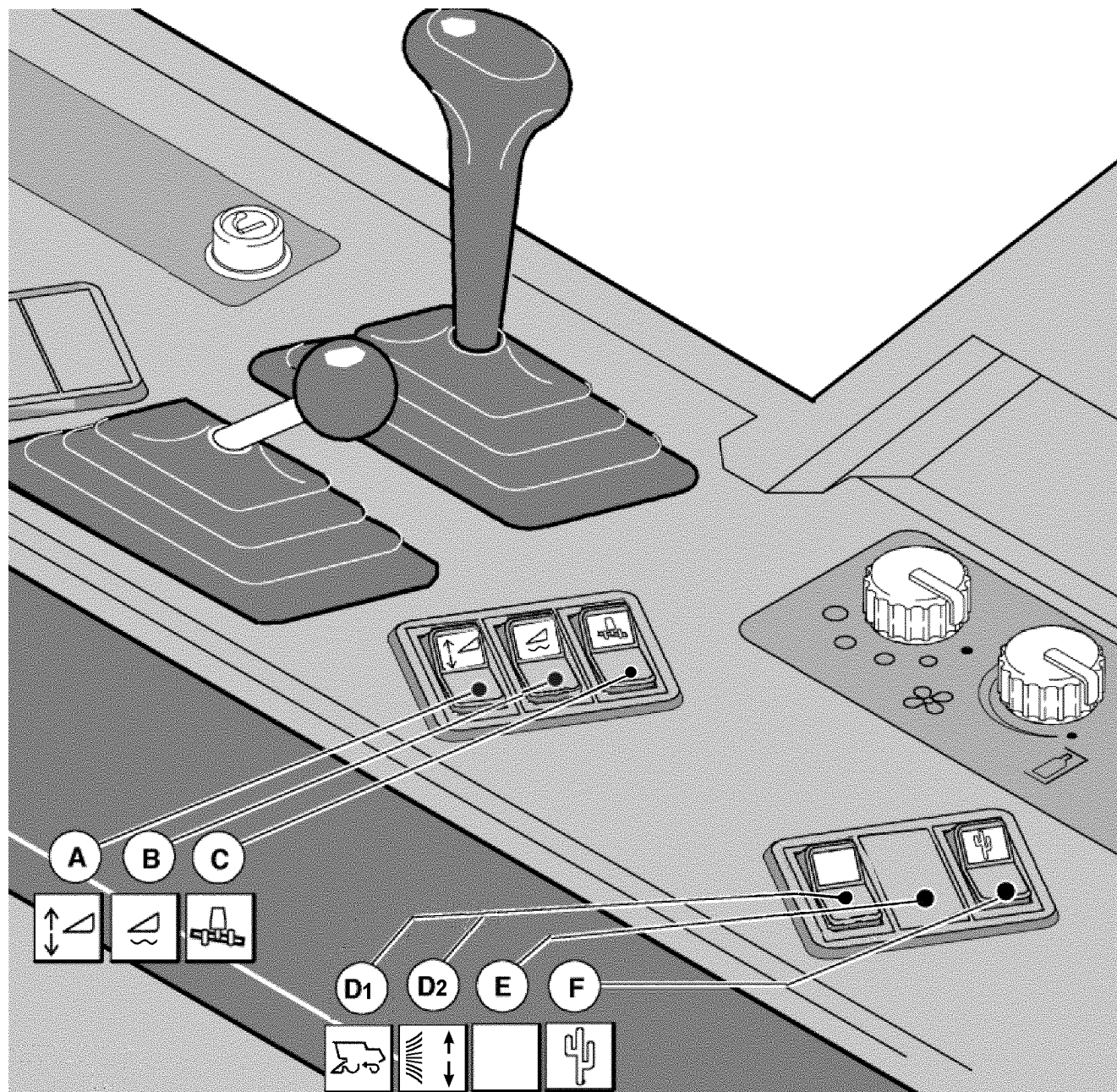
A—Indicator lights I
B—Indicator lights II
C—Harvest performance monitor - Straw walker

D—Harvest performance monitor - Sieves
E—Engine temperature gauge

F—Fuel gauge
G—Header height gauge—CWS/WTS

H—Straw distribution gauge—CWS/WTS (option)
J—INFO-TRAK monitor

Switch Console (Continued)



CQ209153 -UN-28JUL04

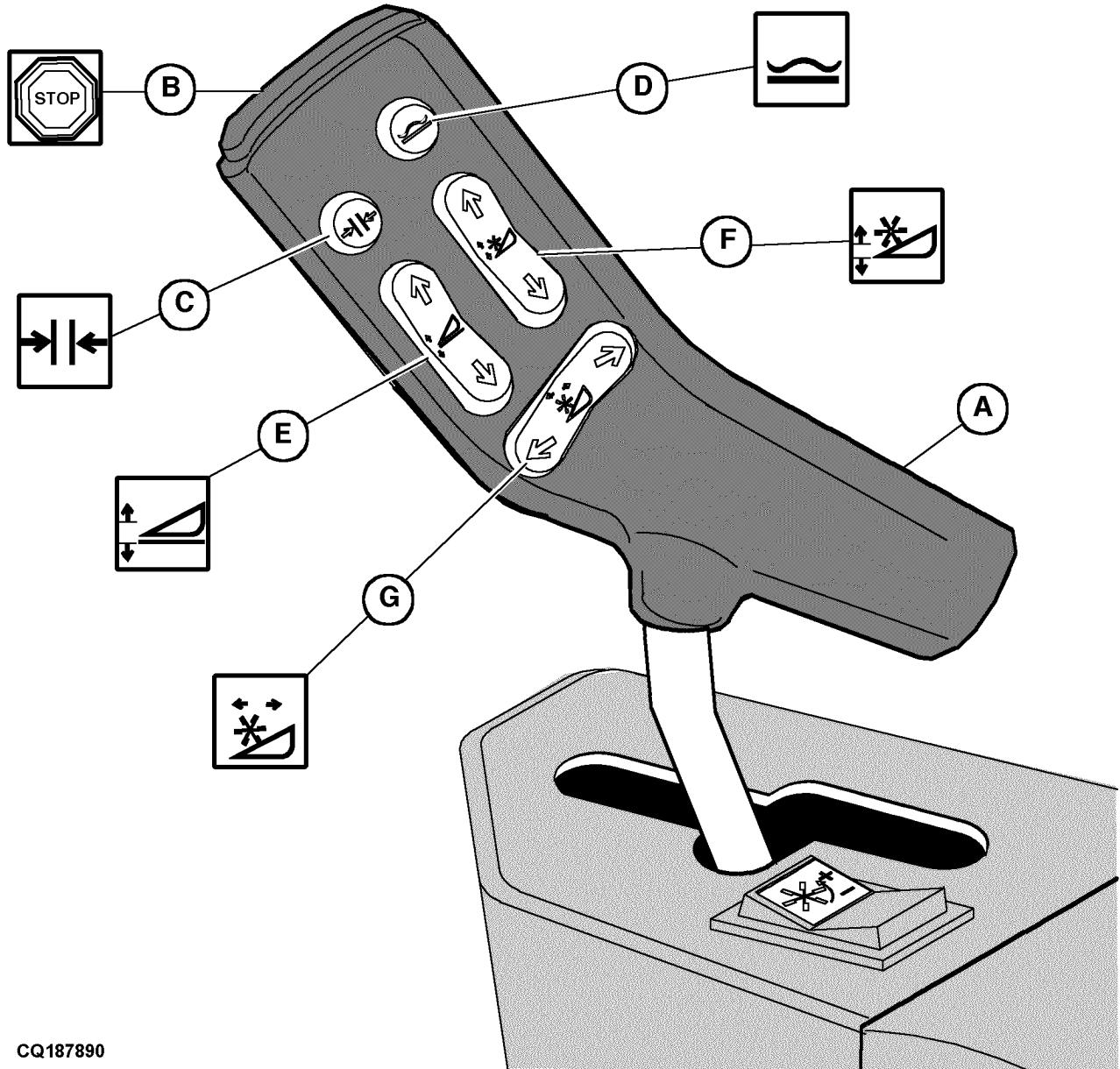
A—AHC enable switch
(Automatic Header
Control)—600 series
header
B—Float enable switch—
CWS/WTS

C—Header tilt enable switch
(automatic mode)—300 and
600 series flex header
D1—Four Wheel Drive
Switch—1450/1550
(option)

D2—Chopper Distributor
Adjustment Switch—
CWS/WTS (option)

E—Not used
F—Demoisturizer tumbler
switch

Multifunction Control Handle



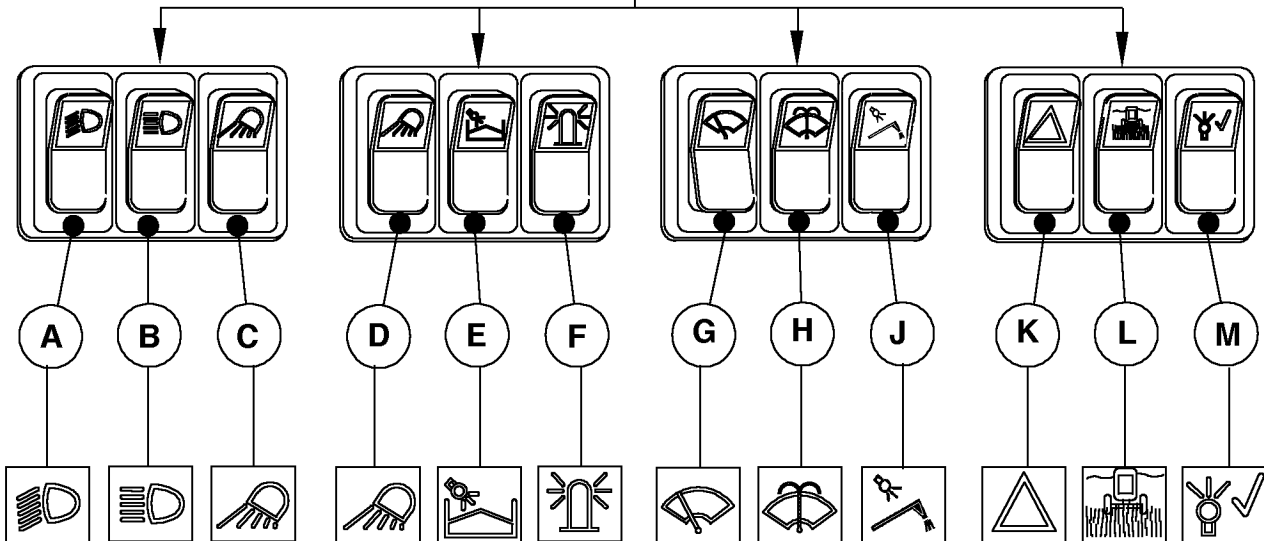
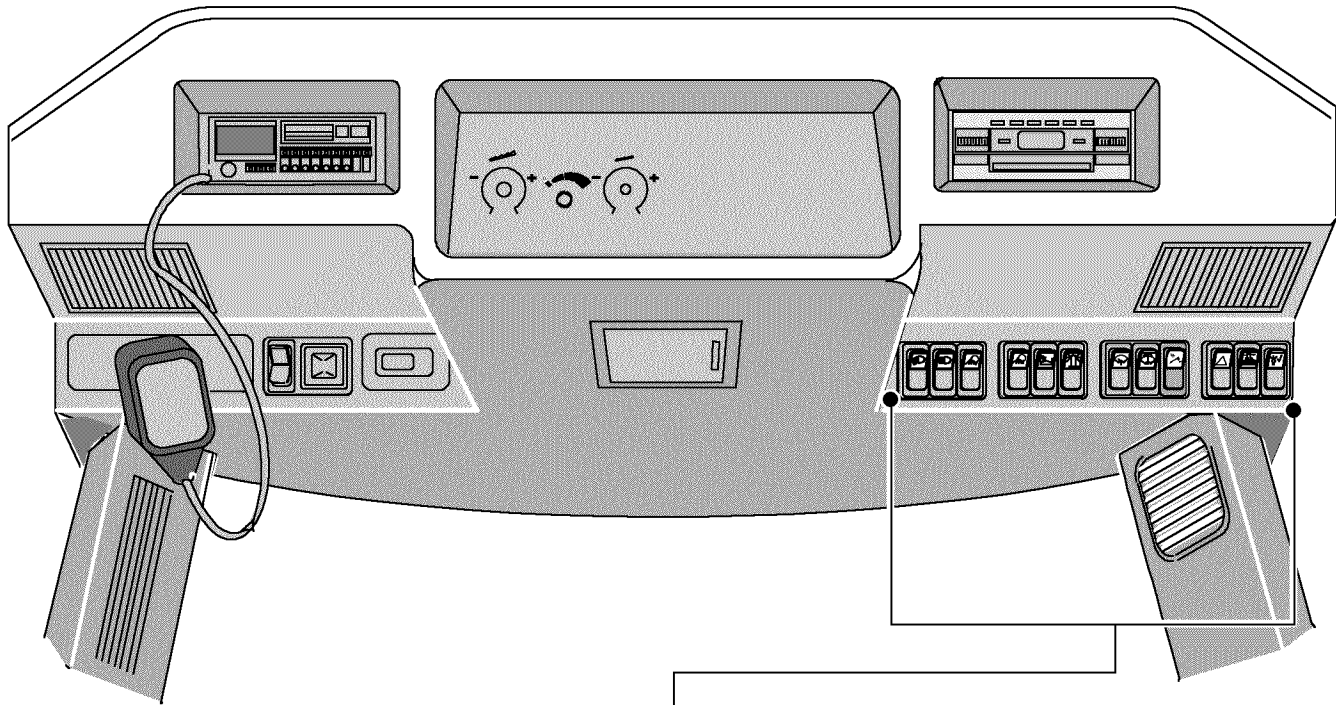
CQ187890

CQ187890 -UN-14JUL99

- | | | | |
|---|--|---|--|
| A—Multifunction control handle | C—Return to cut / automatic header control knob (rigid header)—CWS/WTS | D—Cut break off / Float knob (rigid header)—CWS/WTS | G—Reel fore-and-aft adjustment and /or platform tilt |
| B—Emergency stop switch | D—Break off cut knob—300 and 600 series flex headers | E—Header raise/lower switch (2 speeds) | |
| C—Automatic header control knob—300 and 600 series flex headers | | F—Reel height adjustment switch | |

For more information consult the table in this manual entitled "Multifunction Control Handle Functions".

Roof Console



A—Parking light/headlights
B—Full and low-beam tumbler switch
C—Cab roof work lights (unloading auger)
D—Operator's platform/rear work lights (option, on mirror bracket)

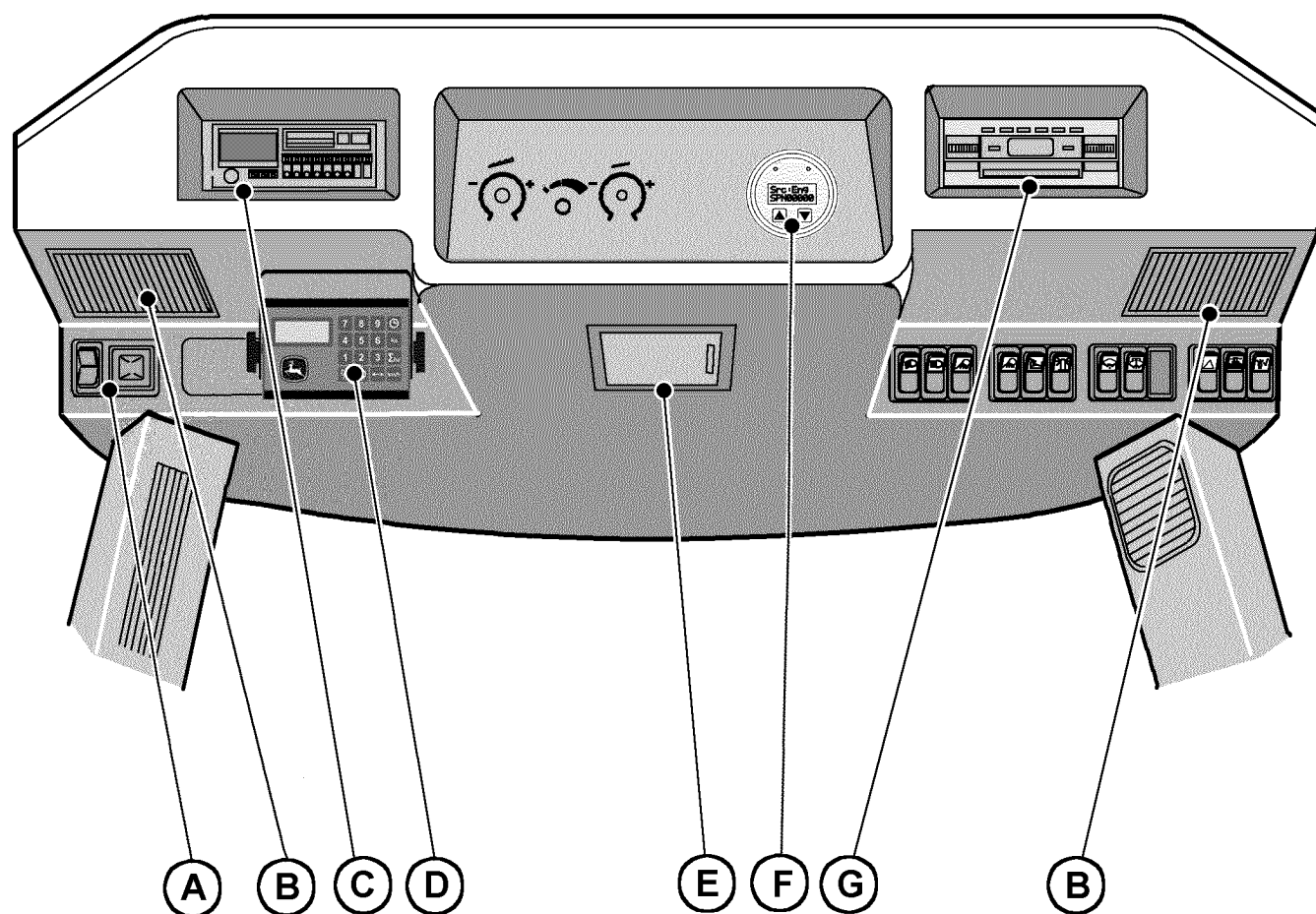
E—Tumbler switch for grain tank lighting
F—Intermittent indicator light switch
G—Windshield wiper tumbler switch

H—Windshield washer switch
J—Unloading auger light switch
K—Hazard warning lights switch

L—Road Safety Tumbler Switch
M—Indicator light test

CO194551 -UN-20JUL04

Roof Console



CQ194561

A—Electric adjustment and heater for outside mirrors—CWS / WTS (option)

B—Loudspeakers
C—Equipped for mounting of radio
D—Area counter—CWS/WTS

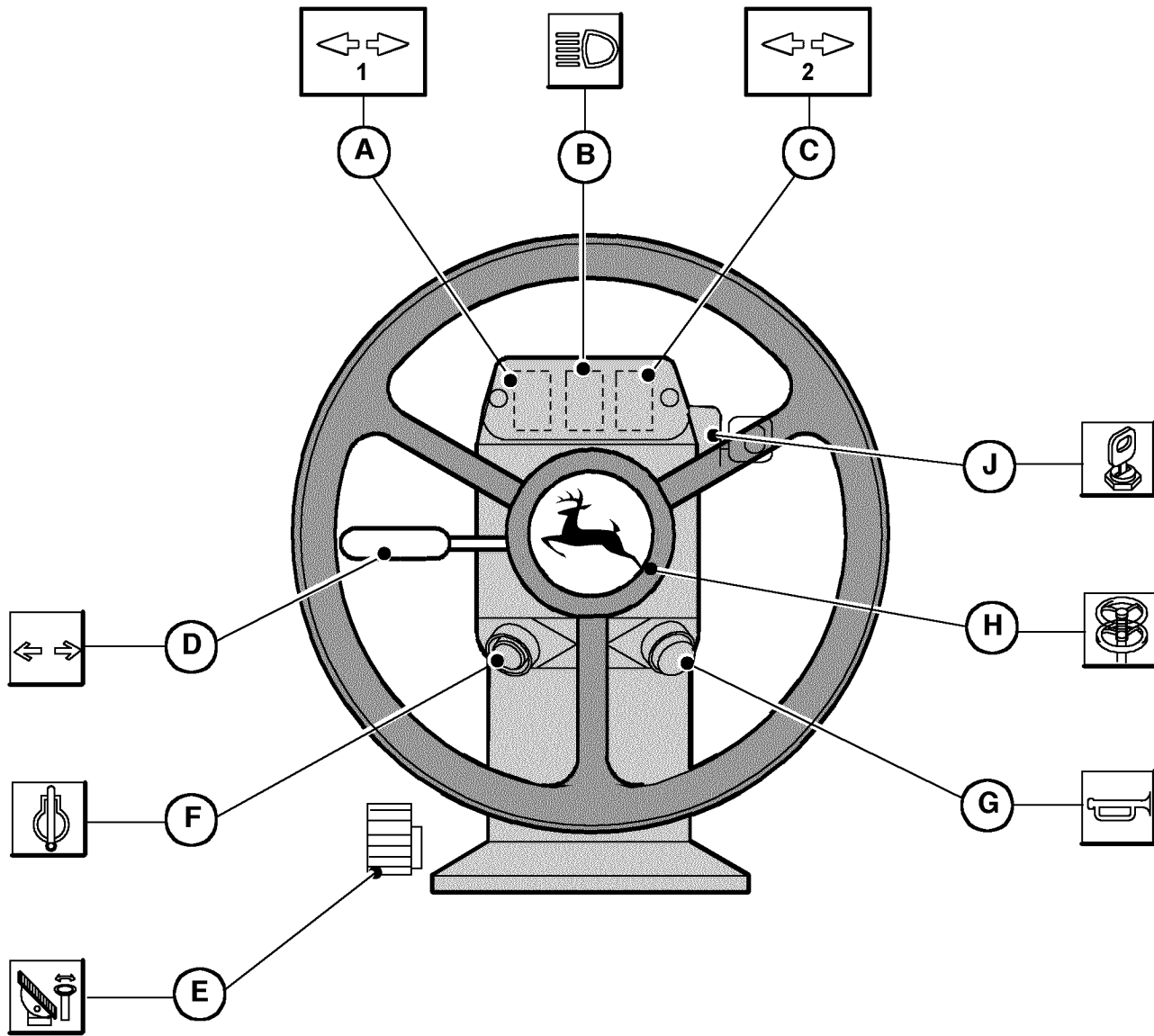
E—Cab interior lighting
F—Diagnostic monitor (to diagnose engine electronic system failures)—CWS/WTS

G—Equipped for mounting of radio/cassette/CD player

NOTE: Dimensions for the installation of (C) and (G) are standard: 182 mm (7.17 in.) wide, 53 mm (2.1 in.) high.

CQ194561 -JUN-06NOV01

Steering Column



A—Turn-signal indicator light
B—Full-beam indicator light
C—Turn signal indicator light (trailer)

D—Turn-signal light switch
E—Pedal for horizontal steering column adjustment

F—Not used
G—Horn knob
H—Knob for vertical steering column adjustment

J—Starter key

CQ203561

CQ203561 -UN-26OCT01

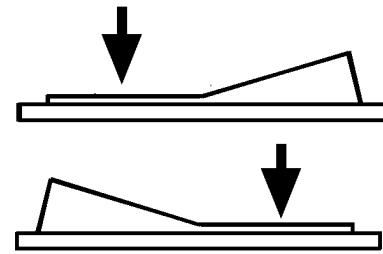
AG,CO03622,1388 -19-26SEP03-1/1

Types of Switches

There are two types of switches on the combine console.

- Two-position Switch
- Three-position Switch

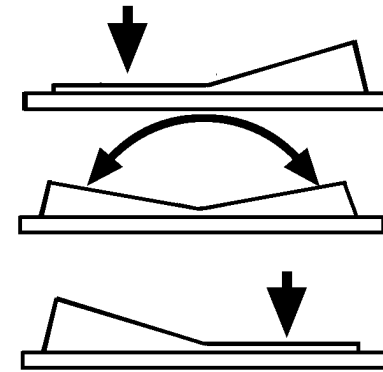
Carefully abide by the switch positions consistent with the instructions provided in this manual.



CQ187960

CO187960 -UN-14JUL99

Two-position Switch



CQ187970

CO187970 -UN-14JUL99

Three-position Switch

AG,CO03622,1392 -19-14JUL99-1/1

Header Drive Tumbler Switch (With Operating Lock)

NOTE: With this switch in the on position, the engine start system is blocked.

Requirements:

- Engine idling.
- Road safety switch in field position.
- Separator engaged.

Engaging Header Drive (I):

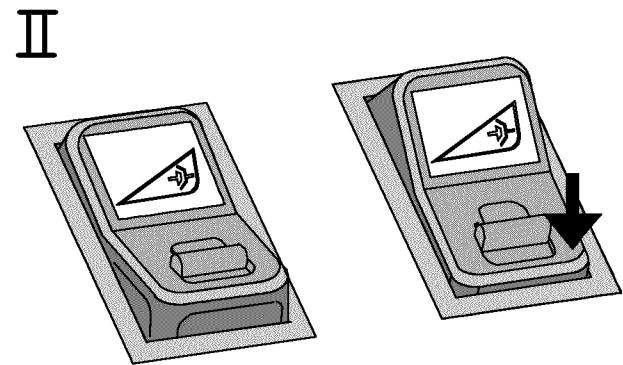
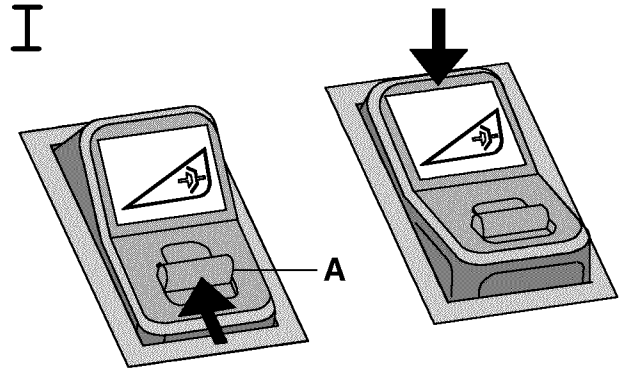
Push up operating lock (A) and depress top part of switch (symbol).

Disengaging Header Drive (II):

Depress lower part of switch.

NOTE: For emergency stop, use the “QUICK STOP” switch on the multifunction control handle. In this situation the header disengages with the header drive switch in ON position, to reactivate this function it is necessary turn the header drive switch OFF and ON again.

NOTE: Only CWS/WTs combines with operator presence switch: This switch will disengage this function when activated. To reengage it, sit down again in operator’s seat and turn the corresponding switch OFF and ON.



ZX 002284

—UN—16JUN95
ZX002284

Separator Tumbler Switch (With Operating Lock)

NOTE: With this switch in the on position, the engine start system is blocked.

Requirements:

- Engine idling.
- Road safety switch in field position.

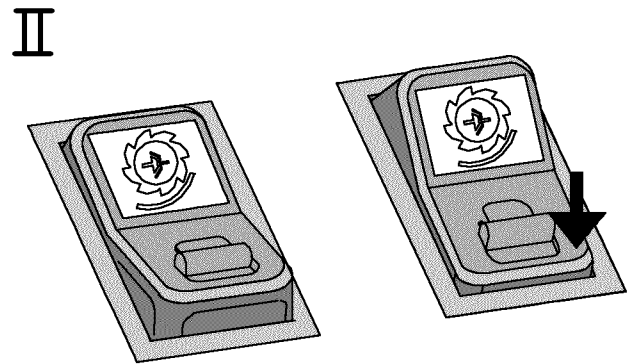
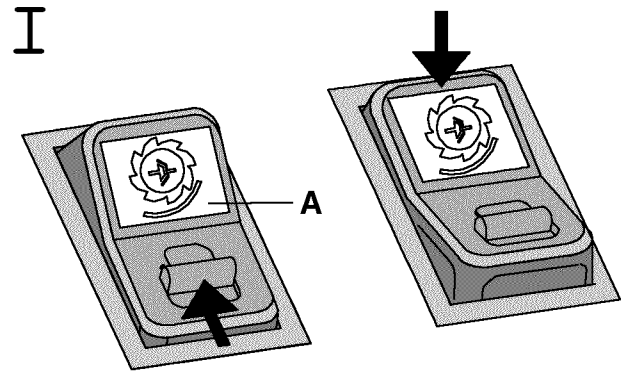
Engaging Separator Drive (I):

Push up operating lock (A) and depress top part of switch (symbol).

Disengaging Separator Drive (II):

Depress lower part of switch.

I—On
II—Off



ZX 002285

AG.CO03622,1547 -19-07OCT02-1/1

ZX002285 -UN-16JUN95

Unloading Auger Swing Tumbler Switch (With Center Position)

Requirements:

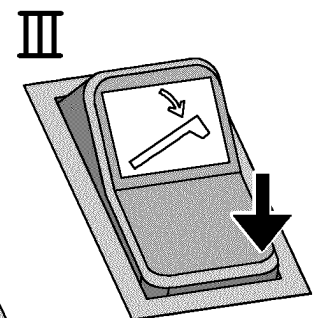
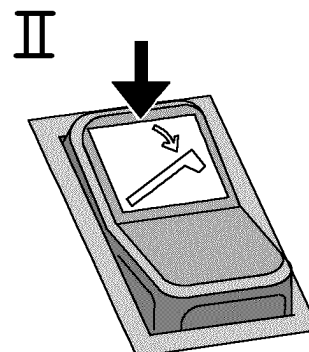
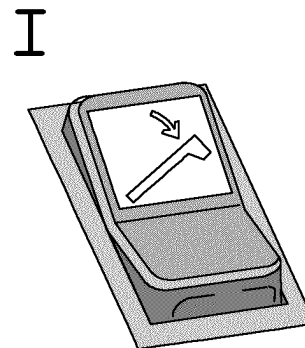
- Engine running.
- Road safety switch in field position.

I — Swing drive shut off

II — Swing out unloading auger

III — Swing in unloading auger

NOTE: The swing drive is shut off automatically when the auger reaches the limit of its travel (after approx. 20 seconds). Auger motion can be stopped in any position by moving switch back to center position.



ZX009529

AG.CO03622,1548 -19-20JUL04-1/1

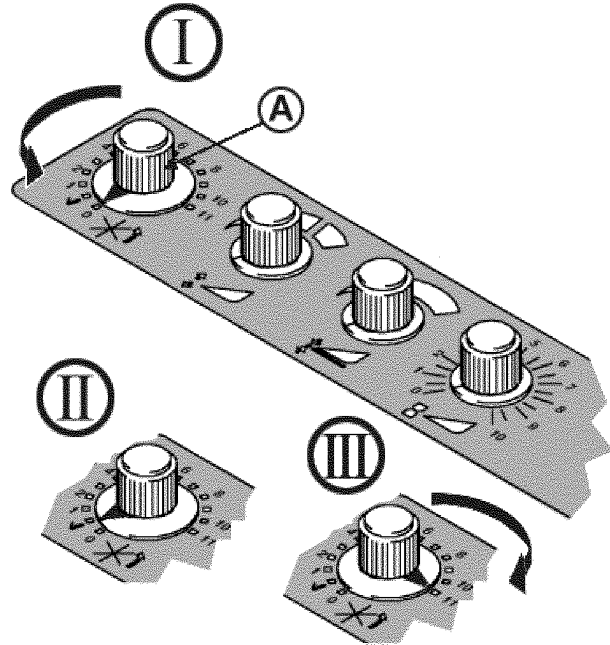
ZX009529 -UN-08NOV96

Reel Speed Control Switch (DIAL-A-SPEED™)

Reel speed-to-ground speed ratio may be preselected. Turning switch (A) clockwise alters ratio from 0.8 to 2.2 (shown on switch as 1 to 11). Turning switch all the way counterclockwise deactivates reel speed control system.

NOTE: Reel speed control system will only operate within a ground speed range from 1.2 km/h (0.75 mph) to approx. 10 km/h (6.25 mph).

- I—Reel speed control off
- II—Switch position for diagnosis/manual reel speed (refer to “Service-Electrical System”)
- III—Reel speed is 2.2 times faster than ground speed



CQ194570

DIAL-A-SPEED is a trademark of the Deere & Company

AG,CO03622,1550 -19-30AUG04-1/2

CQ194570 -UN-26SEP01

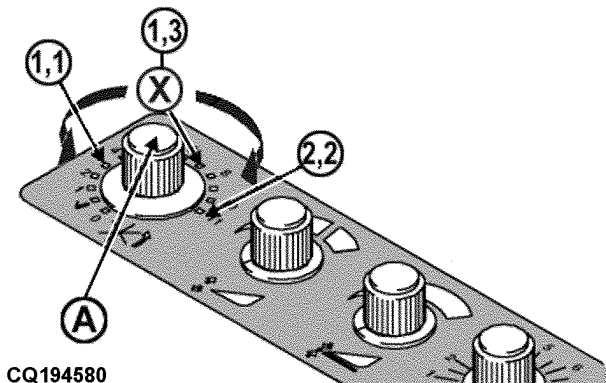
NOTE: For tracked combines there is a large difference between the combine turnover speed and reel speed. Therefore, the combine ground speed can be disregarded when the DIAL-A-SPEED system is engaged.

Operation:

During operation, reel speed may be adapted to harvesting conditions.

When working in down and tangled grain crops and a reel speed faster than ground speed is desired, move switch (A) to area (X) (for a ratio of between 1.1 and 2.2; shown on switch as 3—11).

NOTE: With reel speed control system activated, the reel will continue to rotate at the slowest speed when ground speed drops below operating range.



CQ194580

CQ194580 -UN-17FEB00

AG,CO03622,1550 -19-30AUG04-2/2

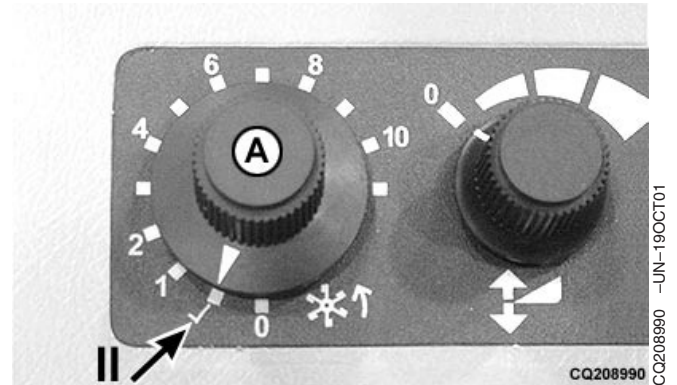
Reel Speed Adjustment

Manual Mode

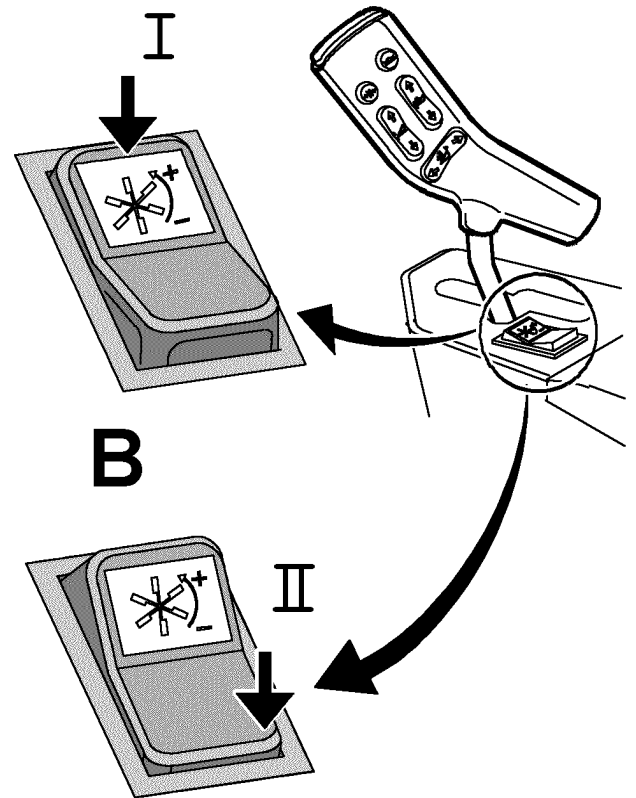
- Move Dial-A-Speed knob (A) to position II
- Separator engaged.
- Platform engaged.
- Adjust reel speed with switch (B) according to needs.

IMPORTANT: Reel speed adjustment can only be done while reel is running.

I—Increase Reel Speed
II—Reduce Reel Speed



Move Dial-A-Speed knob (A) to position II



Switch (B)

Continued on next page

MB03730,000037A -19-26SEP03-1/3

Automatic Mode

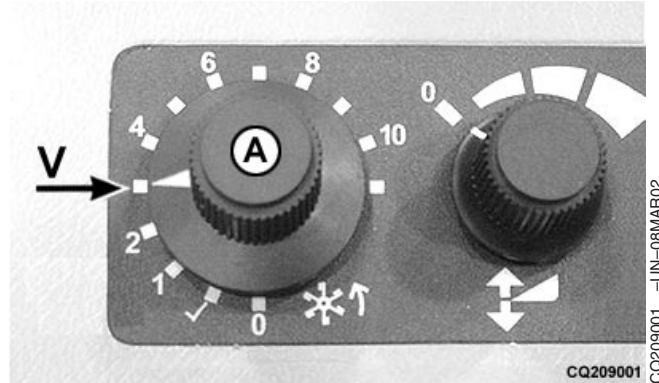
The Dial-A-Speed knob (A) also controls the reel speed to ground speed ratio.

To operate, start the engine and drive forward with the separator and header engaged.

Turn the Dial-A-Speed knob (A) to position V.

Watch the speed of the reel and adjust the Dial-A-Speed knob (A) to a position between 1 and 11 until desired ratio with ground speed is achieved.

The reel will now speed up or slow down in relation to ground speed.



Dial-A-Speed knob (A) in position V

MB03730,000037A -19-26SEP03-2/3

This system does not operate if ground speed is lower than 1.2 Km/h (0.75 m.p.h.).

Turn the Dial-A-Speed knob (A) to position II.

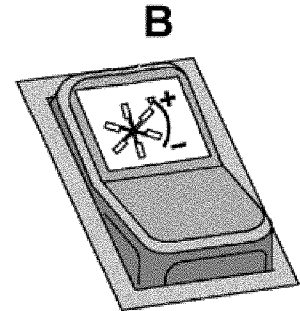
Use the manual reel speed switch (B) to get the desired reel speed.

The minimum reel speed can be increased when operating at slower speeds. To alter minimum speed:

Press the manual switch (B) for 2 or 3 seconds to get the desired minimum reel speed.

Return the Dial-A-Speed knob (A) to the prior setting and continue operating. This minimum speed is kept until the engine is shut off.

NOTE: It is not possible to select manual or automatic mode when knob (A) is in position (0).



MB03730,000037A -19-26SEP03-3/3

Selector Switch for Header Lateral Tilt Adjustment and Fore-and-Aft Adjustment of Reel

This function can only be activated with road safety switch in field position and engine running.

Switch (A) on console selects the functions of switch (B) on multifunction control handle as follows:

Manual Lateral Tilt Adjustment

- With switch (A) in position (I), rocker switch (B) adjusts header lateral tilt.

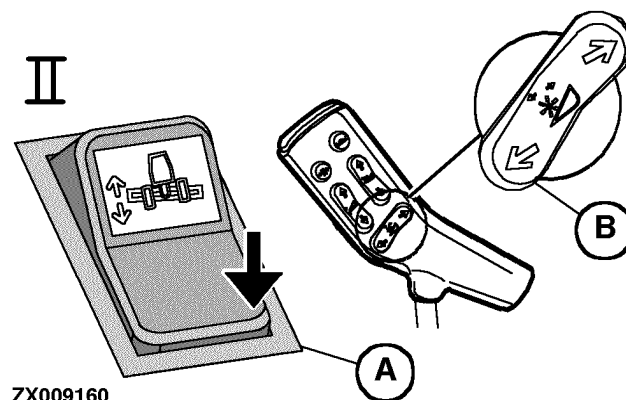
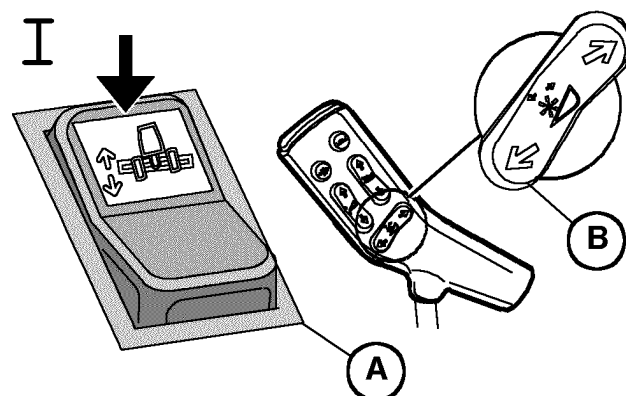
Operation:

When using automatic control of header tilt, it is possible to manually adapt header position to ground contours regardless of combine tilt.

NOTE: When manual header tilt adjustment is used, the automatic system will be disabled. To re-engage the automatic system press the return to cut switch.

Fore-and-Aft Adjustment of Reel

- With switch (A) in position (II), rocker switch (B) controls fore-and-aft adjustment of the reel.



ZX009160

ZX009160 -UN-22MAY96

I—Header lateral tilt adjustment
II—Reel Fore-And-Aft Adjustment

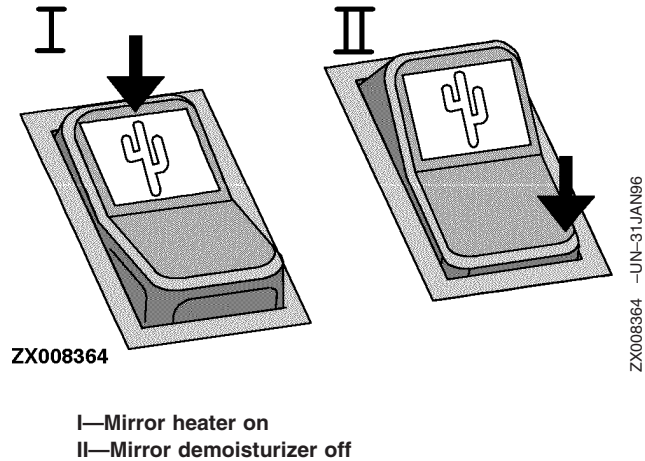
Demoisturizer Tumbler Switch

IMPORTANT: Operate the demoisturizer switch only when heater is switched on.

With heater switched on, cab air can be demoisturized by pressing the “demoisturizer” switch.

Cab air temperature can be regulated by means of rotary heater switch.

NOTE: This switch may be used to reduce the moisture in the air inside the cab if the windows are steamed up.

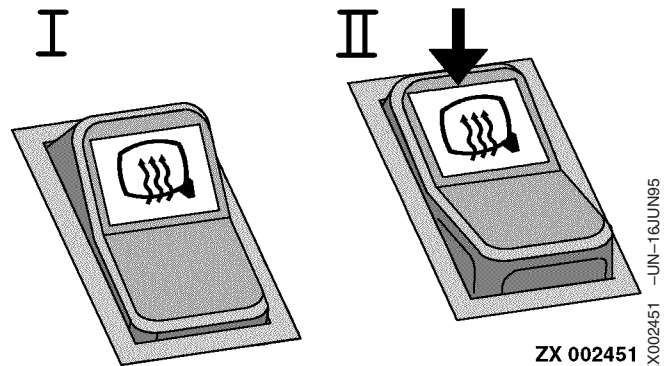


AG,CO03622,1390 -19-13MAR02-1/1

Mirror Heater Tumbler Switch—CWS/WTs (option)

Switching on mirror heater is only possible when starter key is in “On” position (turned to position I or further).

I—Mirror demoisturizer off
II—Mirror heater on



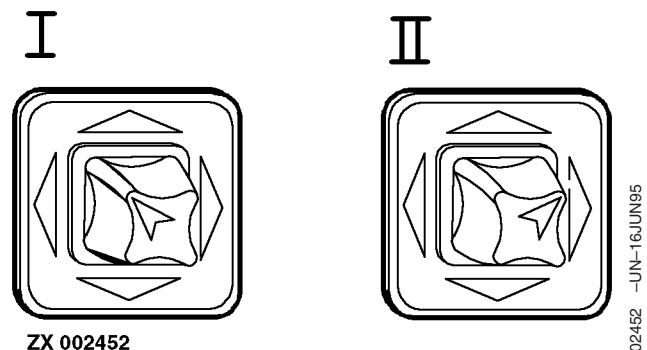
MB03730,00001F1 -19-20AUG04-1/1

Electric Adjustment of Mirror Switch—CWS/WTs (option)

Mirror adjustment is only possible when starter key is in “On” position (turned to position I or further).

Move mirrors up/down or to the right/left according to arrows on switch.

I—Adjusting l.h. outside mirror
II—Adjusting r.h. outside mirror



MB03730,00001F2 -19-20AUG04-1/1

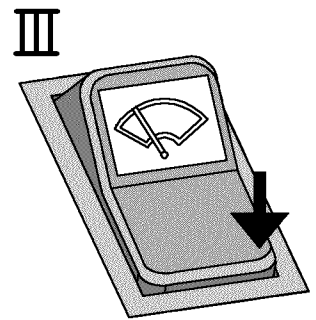
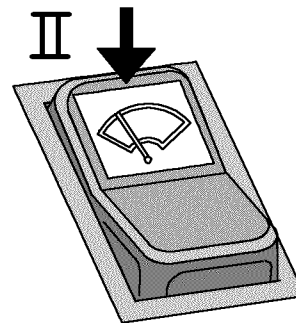
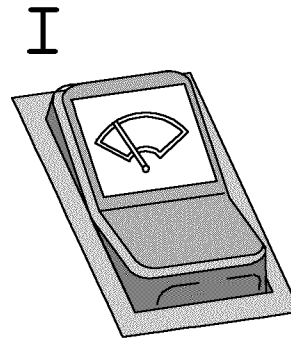
Windshield Wiper Switch

Ignition must be engaged for windshield wiper operation.

I— Windshield wiper off

II— Windshield wiper operates continuously.

III— Windshield wiper completes one cycle (briefly touch switch to activate this function).



ZX 002317

—UN—16JUN95

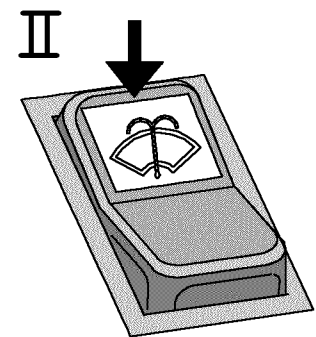
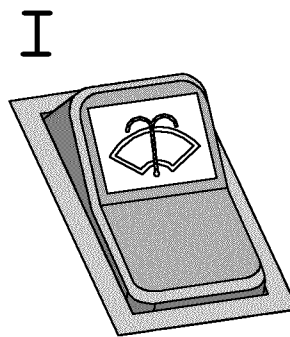
AG,CO03622,1391 —19—13MAR02—1/1

Windshield Washer Rocker Switch

Ignition must be engaged for windshield washer operation.

I—Windshield washer off

II—Windshield washer on



ZX 002318

—UN—16JUN95

AG,CO03622,1393 —19—13MAR02—1/1

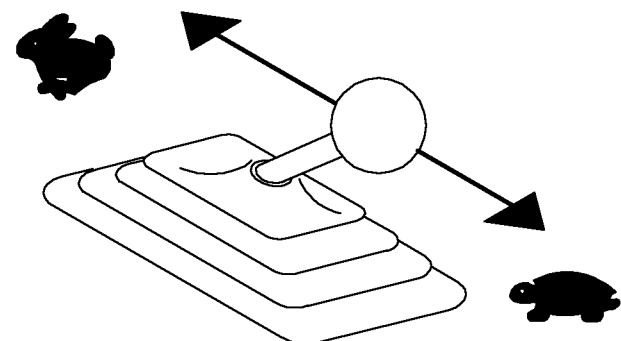
Throttle lever—1450/1550

Push throttle lever forward to:

Increase engine rpm to full load speed (hare).

Pull throttle lever to the rear:

Run engine at slow idle speed (tortoise).



ZX 002310

—UN—16JUN95

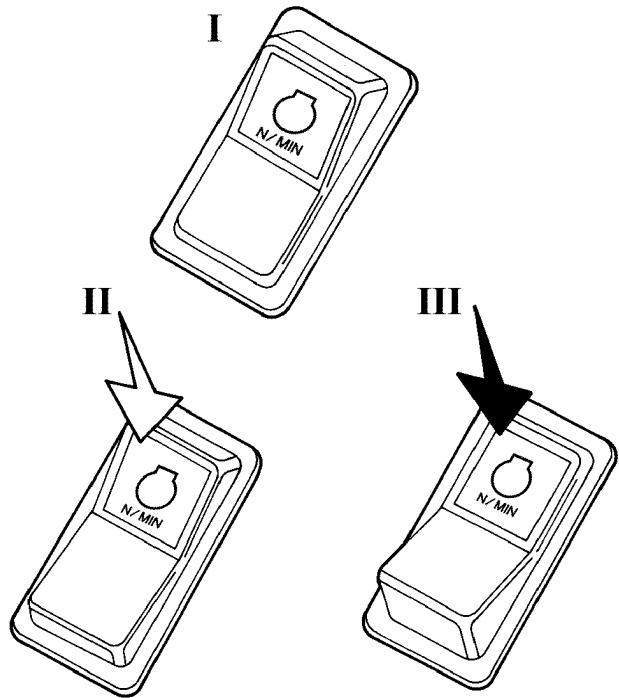
AG,CO03622,1640 —19—20AUG04—1/1

Throttle rocker switch—CWS/WTS

Press the rocker switch according to the illustration.

NOTE: On CWS / WTS models, the engine speed always rises to 2250 rpm when third speed is selected.

- I—Low speed—1300 rpm
- II—Medium speed—1850 rpm
- III—High speed—2550 rpm



CQ203500

CO03622,0000064 -19-20AUG04-1/1

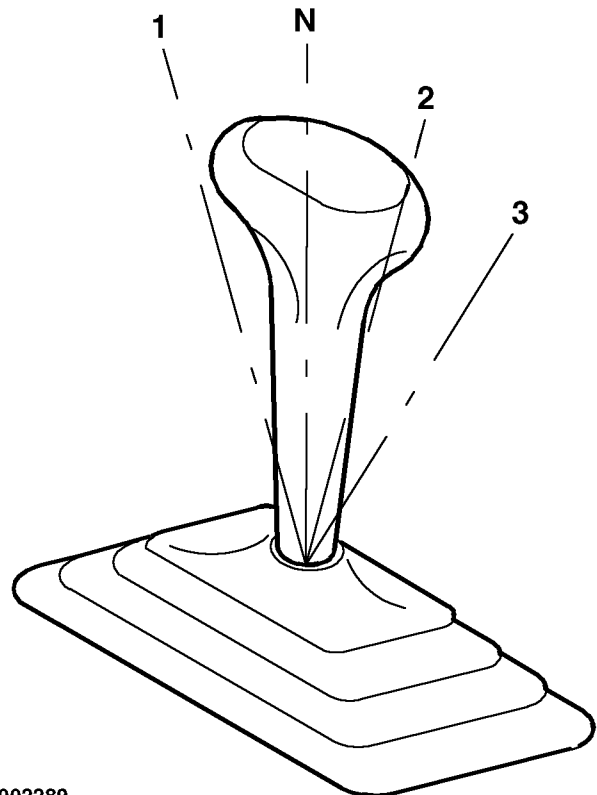
—UN-30MAR01
CQ203500

Gearshift lever

Shift into desired speed with combine stationary (multifunction control handle in neutral position).

Select a suitable speed for road travel or field operation (in most cases 2nd speed is best for harvesting).

NOTE: On CWS / WTS models, the engine speed always rises to 2250 rpm when third speed is selected.



ZX 002289

AG,CO03622,1641 -19-20AUG04-1/1

—UN-16JUN95
ZX002289

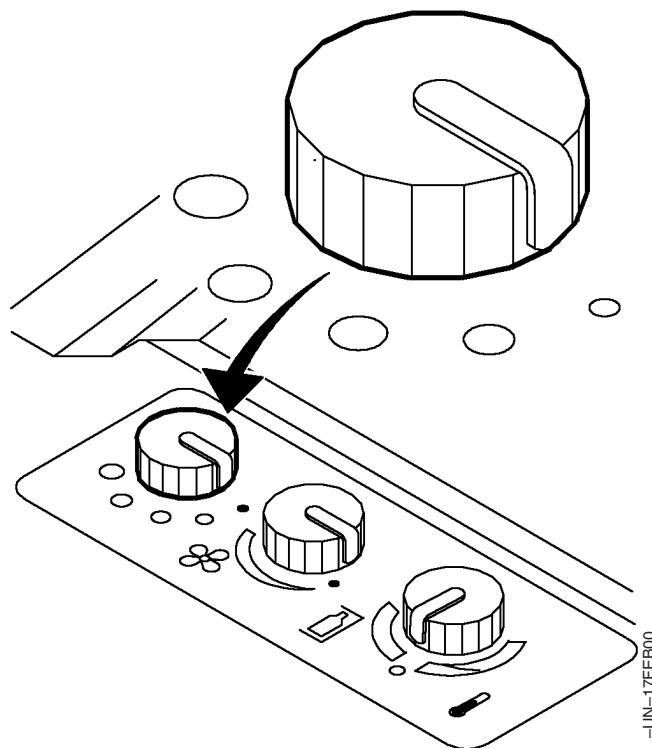
Cab Fan Switch

IMPORTANT: Always switch on fan before heating or air conditioning system is engaged.

A rotary switch controls the four-speed fan which slightly pressurizes the cab. To engage the fan (only with the ignition on), rotate the switch clockwise.

Position 0 — Fan off

Fan speed increases by turning switch to the right (clockwise).



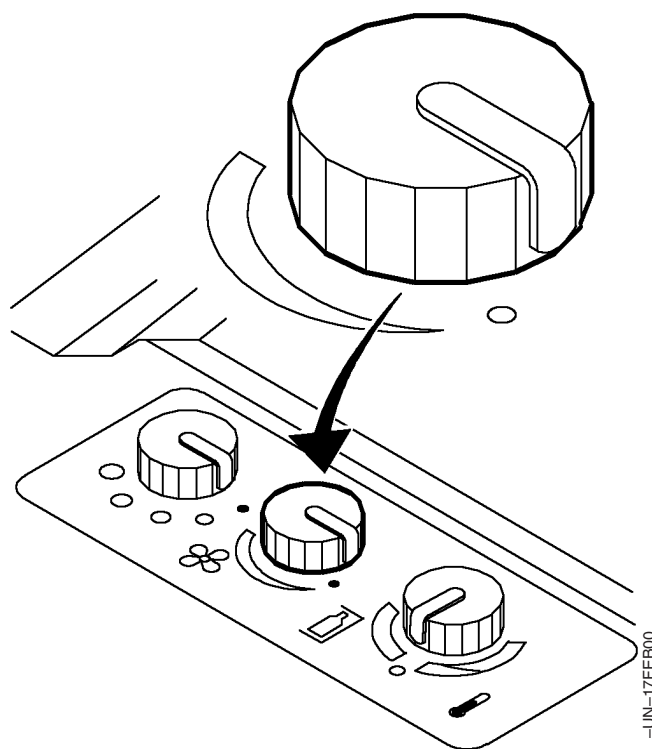
CQ194620

CQ194620 -UN-17FEB00

AG,CO03622,1642 -19-20AUG04-1/1

Rotary Switch—Cooling Compartment

A cooling compartment is located below the passenger seat. To increase cooling effect, turn switch clockwise.



CQ194630

CQ194630 -UN-17FEB00

AG,CO03622,1643 -19-26SEP03-1/1

Rotary Switch — Air Conditioning/Heater

I — Air Conditioning System

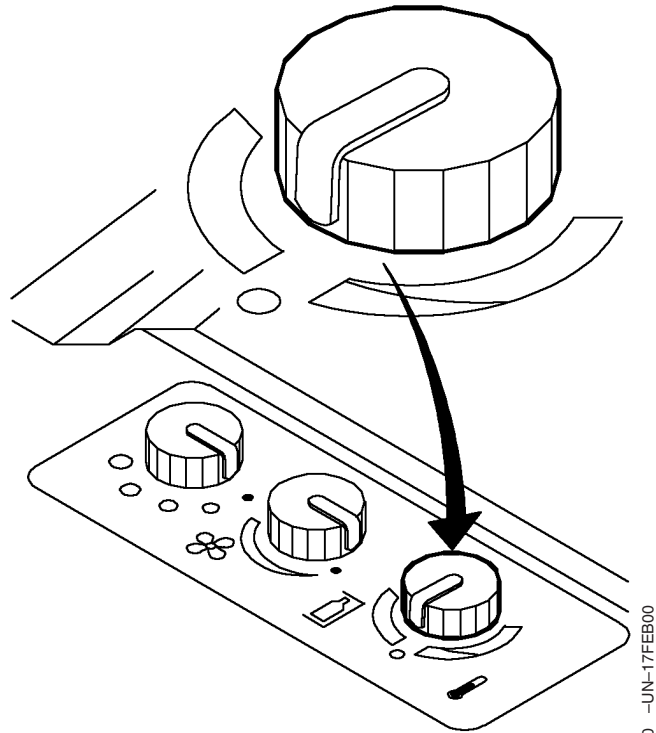
Before switching on the air conditioning system, the fan must be operating. Turn switch counterclockwise to switch on air conditioning. Turning switch all the way counterclockwise will give maximum cooling.

IMPORTANT: Operate air conditioning system several times each year — even in the cooler seasons — to lubricate all moving parts of the system.

II — Heater

Before switching on the heater system, the fan must be operating. Turn switch clockwise to open heater valve. Turning switch all the way clockwise will give maximum heat.

Also refer to “Demoisturizer Tumbler Switch”.



CQ194640

CQ194640 -UN-17FEB00

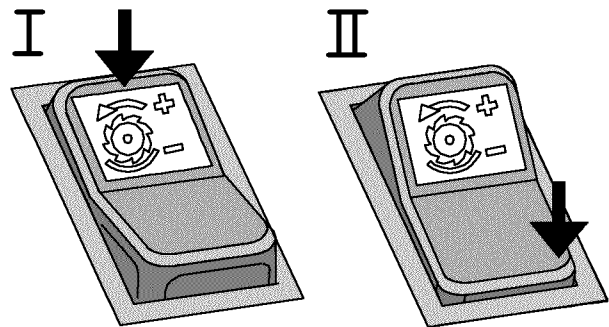
AG.CO03622,1644 -19-17MAY02-1/1

Threshing Cylinder Speed Switch

Cylinder speed adjustment is only possible with the engine running, the road safety switch in the field position and the separator engaged.

IMPORTANT: After altering cylinder speed the alarm must also be adjusted. For details see the “Warning Devices and Monitors” section.

NOTE: The current cylinder speed can be displayed on the infotrak monitor.



ZX 002324

ZX002324 -UN-16JUN95

I—Increase cylinder speed
II—Reduce cylinder speed

AG.CO03622,1647 -19-20AUG04-1/1

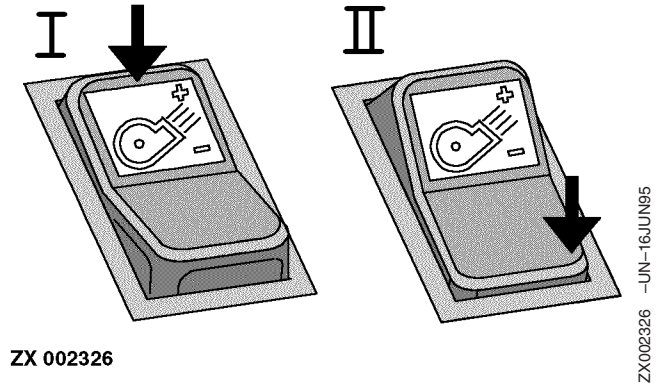
Fan Speed Switch

Fan speed adjustment is only possible with the engine running, the road safety switch in field position and the separator engaged.

IMPORTANT: After altering fan speed the alarm must also be adjusted. For details see “Warning Devices and Monitors”.

NOTE: The current fan speed can be displayed on the infotrak monitor.

- I—Increase fan speed
- II—Reduce fan speed



ZX002326 -UN-16JUN95

AG,CO03622,1648 -19-20AUG04-1/1

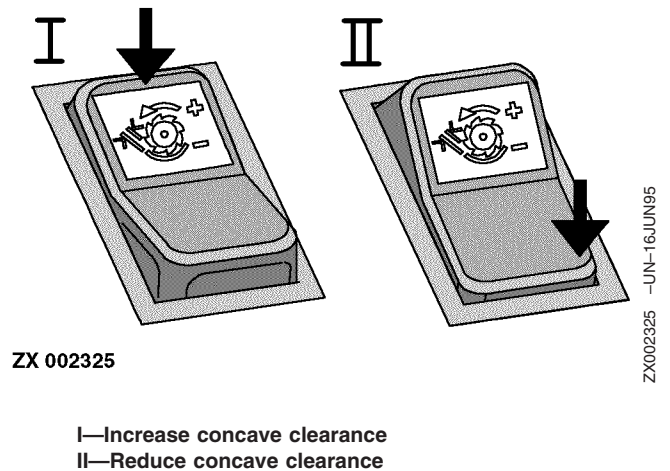
Concave Clearance Adjustment Switch

To adjust concave clearance, starter switch must be in position I or II.

NOTE: The current concave clearance can be displayed on the INFO-TRAK™ monitor. Briefly touch switch (top or bottom part) to display actual setting for 5 seconds.

The number 4 indicates minimum and the number 51 maximum concave clearance.

With manual adjustment, concave clearance is shown on the INFO-TRAK™ monitor.



ZX002325 -UN-16JUN95

- I—Increase concave clearance
- II—Reduce concave clearance

AG,CO03622,1649 -19-09AUG04-1/1

Unloading Auger Drive Switch (With Operating Lock)

NOTE: With this switch in the on position, the engine starter system is blocked.

Requirements:

- Engine running.
- Road safety switch in field position.

Engaging unloading auger drive:

Push operating lock and depress switch (the end marked with a symbol). The warning light will glow when the drive is engaged.

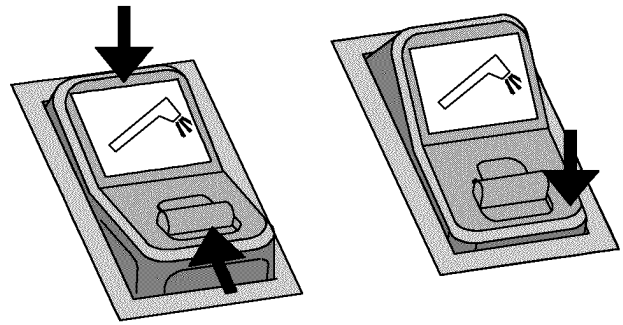
NOTE: The system engages the unloading auger drive in any position, including when it is totally swung in.

Disengaging Unloading Auger Drive:

Depress lower part of switch.

NOTE: For emergency stop, use the “QUICK STOP” switch on the multifunction control handle. In this situation the unloading auger disengages with the unloading auger drive switch in the ON position; to reactivate this function it is necessary turn the unloading auger drive switch OFF and ON again.

NOTE: Only CWS/WTS combines with operator presence switch: This switch will disengage this function when activated. To reengage it, sit down again on operator seat and turn the corresponding switch OFF and ON.



CQ203510

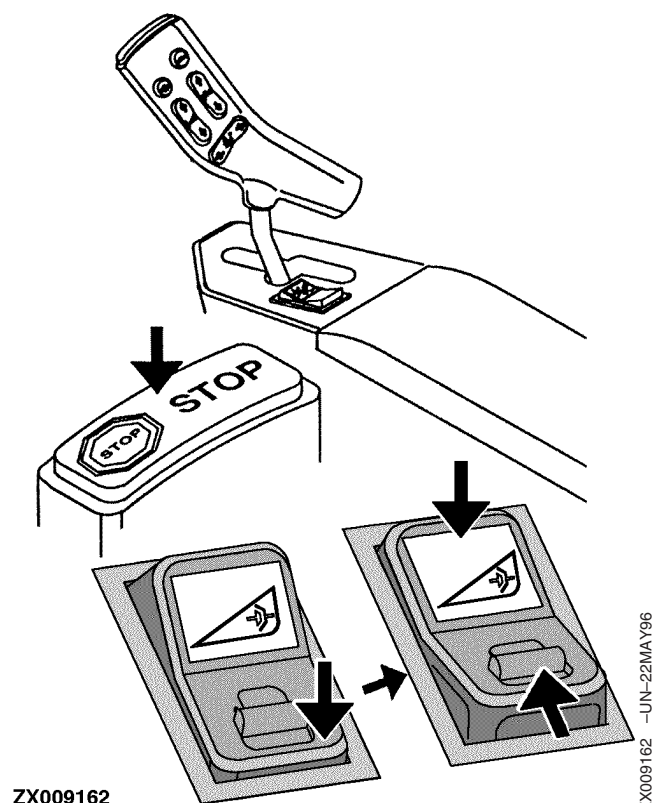
—UN—30MAR01
CQ203510

“QUICK STOP” Switch

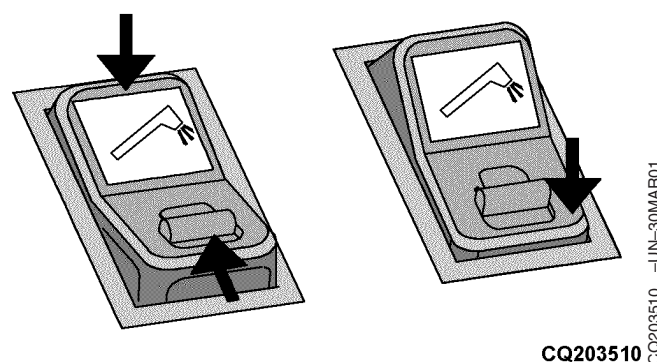
IMPORTANT: Header, reverser and unloading auger drives can be disengaged instantaneously with this switch in the event of malfunctions.

The reel will be also disengaged when the quick stop switch is activated.

To re-engage any one of the functions, turn the corresponding switch OFF and ON. Before doing so, make sure that the malfunction has been corrected.

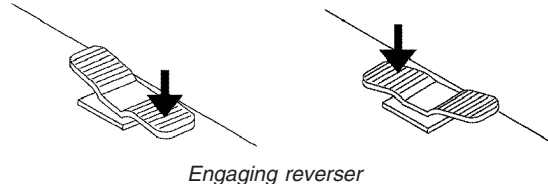


“QUICK STOP” Switch and Header Switch



Unloading Auger Drive Switch

CQ216420 -UN-06NOV02

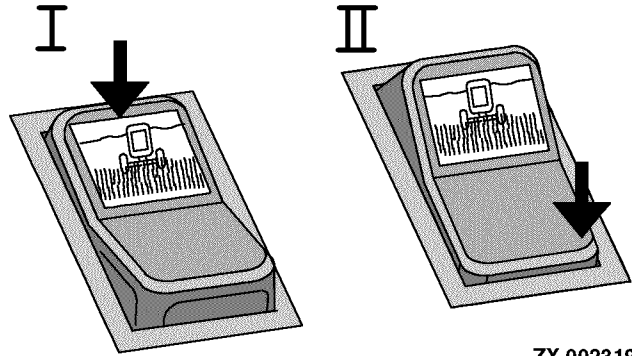


AG,CO03622,1651 -19-19NOV02-1/1

Road Safety Tumbler Switch (Red)

IMPORTANT: For road travel, road safety switch must be in road position (II). Before driving on public roads, place the header and unloading auger in transport position. This switch ensures that all hydraulic functions — with the exception of the steering system — are disengaged. With road safety switch in road position it is also not possible to engage separator and header drives.

NOTE: If this switch is accidentally turned off with any one of the drives engaged, it is necessary to turn any previously selected function(s) off and on. This system incorporates self retain relays to execute operational security functions for the combine.



I—Operating position
II—Transport position

ZX 002319

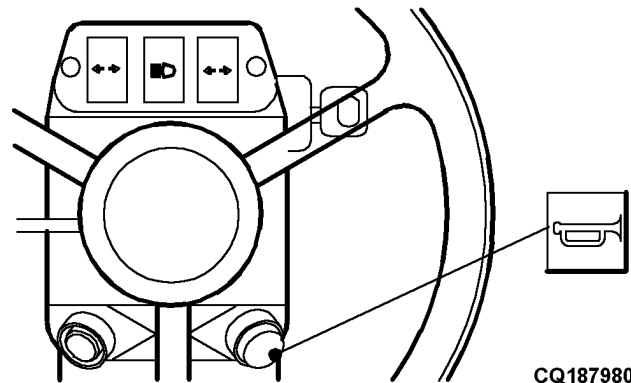
—UN—16JUN95

AG,CO03622,1394 -19-26SEP03-1/1

Horn Button



CAUTION: For safety reasons, sound horn before starting the engine or operating the combine.



CQ187980

—UN—14JUL99

AG,CO03622,1395 -19-13MAR02-1/1

Starter Key

The starter switch has 4 positions:

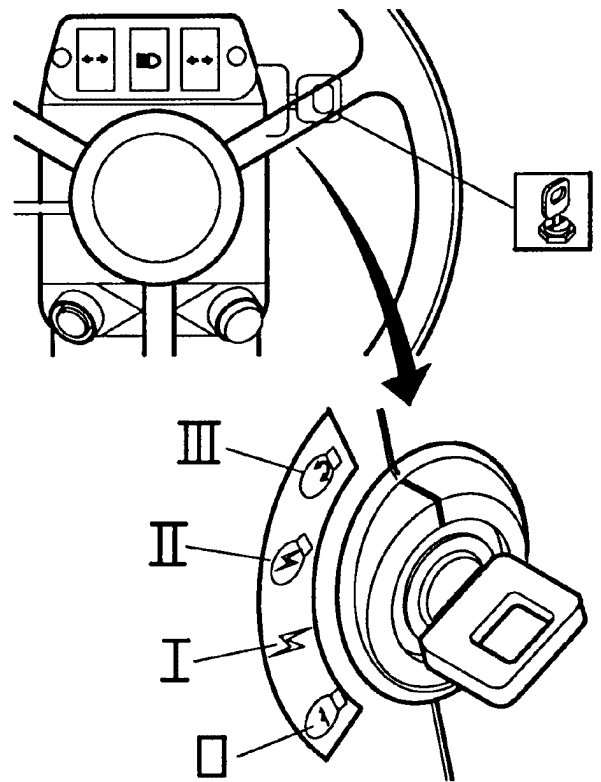
0 —Off

I — Circuits for radio/cassette player/CD player/Citizens' Band radio and INFO-TRAK all ON

II — Ignition ON

III — Start position

NOTE: If one of the three drive switches (yellow) on the side panel is activated or the multifunction control handle is not in neutral position it will not be possible to start the combine.



CQ188000

CQ188000 -UN-14JUL99

AG,CO03622,1397 -19-30JUL04-1/1

Feeder House/Header Reverser

IMPORTANT: Raise reel before engaging reverser. Backing out a crop “slug” into a turning reel may damage it.

I — Disengage header drive (using header drive switch) and back up combine 1—2 m (3—6 ft). Run engine at slow idle speed.

II — Step on left-hand side of reverser pedal and hold pedal down to engage reverser and header.

NOTE: The pedal must be held down or else reverser will not engage.

III — Step on right-hand side of reverser pedal to disengage reverser function.

IV — Engage header for normal function.

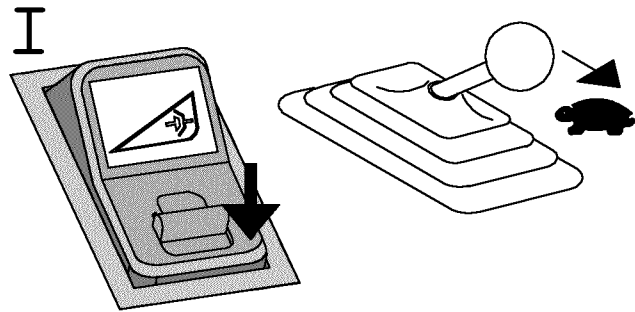
Run engine at high speed and resume harvesting.

IMPORTANT: During reverser operation, never attempt to force “slugs” through combine by repeated cycling of reverser drive. Repeating reverser cycles shortens the working life of components.

NOTE: For safety reasons the reverser works only with threshing engaged and header disengaged.

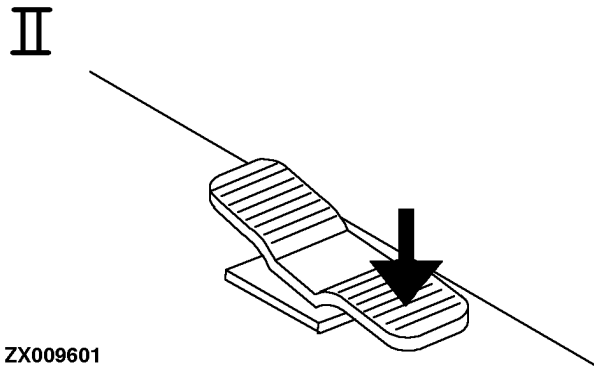
For emergency stop, use the “QUICK STOP” switch on the multifunction control handle. In this situation the reverser disengages even with the pedal pressed down; to reactivate this function the pedal must be released then pressed down again.

NOTE: Only CWS/WTS combines with operator presence switch: This switch will disengage this function when activated. To reengage it, sit down again on operator seat and turn the corresponding switch OFF and ON.



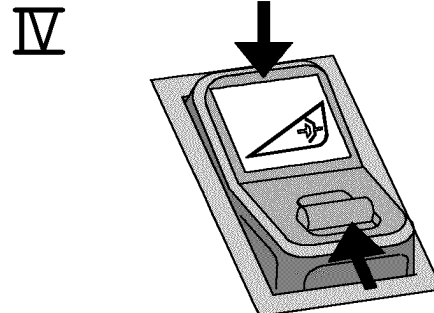
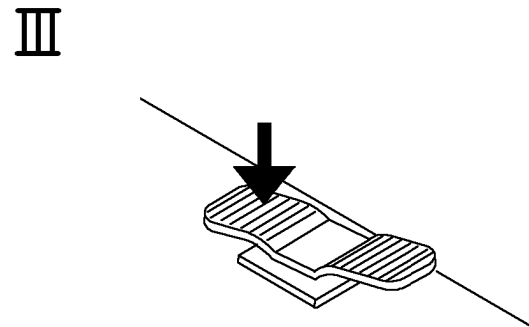
ZX 002453

ZX002453 -UN-16JUN95



ZX009601

ZX009601 -UN-08NOV96



CQ194681

CQ194681 -UN-07FEB02

Adjustment of Electric Baffle of Straw Chopper Distributor—CWS/WTS (option)

Adjustment is only possible with separator engaged.

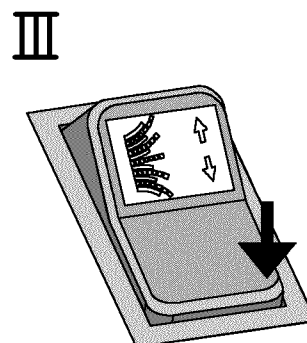
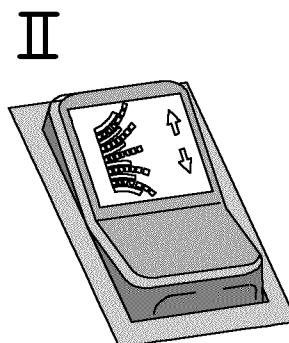
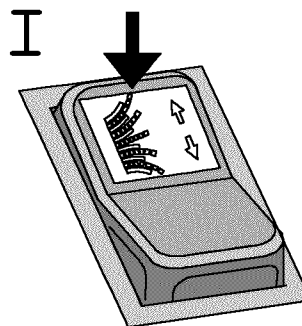
Operation:

In windy conditions and/or on slopes, straw distribution may be adapted to harvesting requirements after basic adjustment with regard to header width has been performed. When working on slopes, this switch is used to regulate the direction of straw distribution. This will avoid downhill straw accumulation. Corner post gauge (A) indicates current direction of straw distribution.

I—Material is thrown to the right

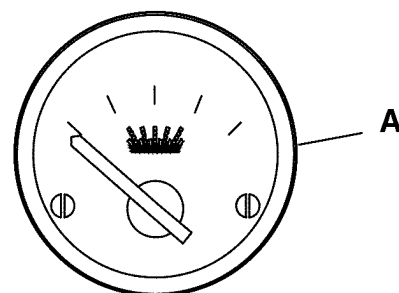
II—Off

III—Material is thrown to the left



ZX 002307

ZX002307 -UN-16JUN95



CO216482 -UN-20AUG03

MB03730,00001EF -19-20AUG04-1/1

Four Wheel Drive Switch—1450/1550 (option)

Four-wheel drive is an optional item used when an immediate increase of traction is required in certain work conditions.

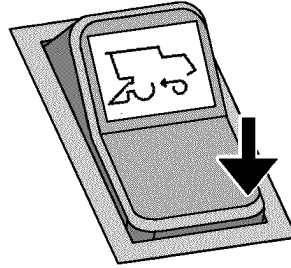
Switch in position (II) will guarantee a faster ground speed but with low torque - appropriate option in dry conditions.

Switch in position (III) will guarantee a slower ground speed but with high torque - appropriate option in wet or waterlogged conditions.

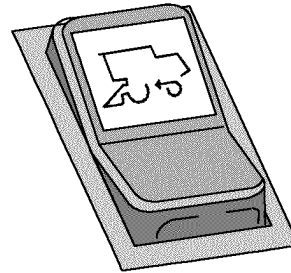
NOTE: Four-wheel drive can only be engaged with road safety switch in field position..

- I—Switch off
- II—High speed with low torque
- III—Low speed with high torque

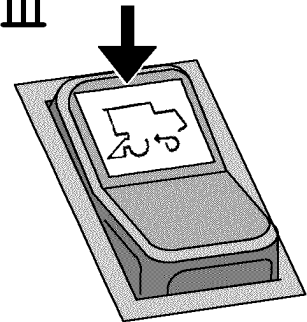
I



II



III



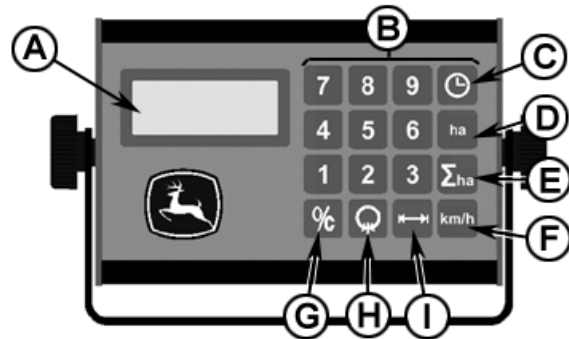
CO217710 -UN-22JAN03

OU83340,00003F3 -19-28JUL04-1/1

Area Counter—Key Functions (CWS and WTS)

NOTE: This equipment only operates with the combine running and threshing engaged.

- A—Digital display
- B—Keyboard
- C—Time consumption in hours/minutes
- D—Trip Counter
- E—Total Counter
- F—Speed
- G—Zeroing of time and area functions. This key is also used when entering the figure 0.
- H—Wheel circumference
- I—Encode of working width



CO209471 -UN-05NOV01

MB03730,000020E -19-09SEP03-1/1

Area Counter — Setting up (CWS and WTS)

Two sets of information must be determined by the operator in order to make the system work. It is important that the following is accurately measured:

1. Circumference of the wheel to which the magnet is mounted.
2. Working width of the platform used.

These two figures are determined as follows:

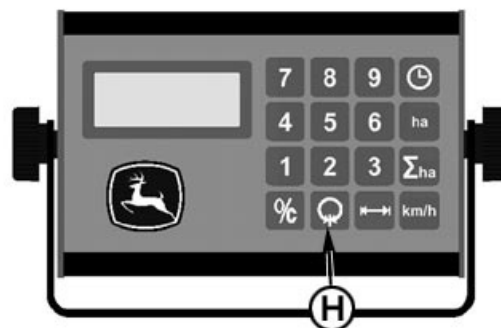
MB03730,0000210 -19-09SEP03-1/2

Wheel circumference is determined as follows:

1. Make a mark in the field and on the tire.
2. Drive until the rear wheel has made 10 revolutions.
3. Make another mark in the field.
4. Measure the distance between the two marks in meters and centimeters. Divide this distance by 10 to obtain the effective wheel circumference.

NOTE: Remember to count the revolutions of the rear right side wheel, on which the magnet is mounted.

H—Wheel circumference



CQ209472 -UN-31OCT01

MB03730,0000210 -19-09SEP03-2/2

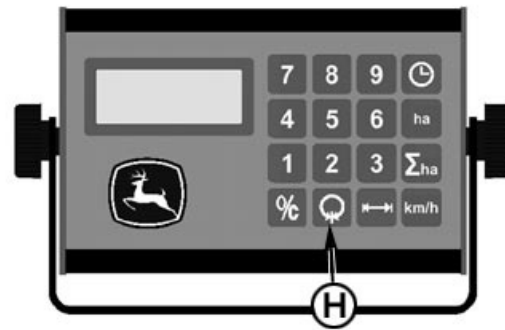
Area Counter — Encode of Wheel Circumference (CWS and WTS)

The wheel circumference is encoded in the following way:

Press key (H) and the last encoded wheel circumference is displayed together with an “o”.

Then encode the calculated wheel circumference.

H—Wheel circumference



CO209472 —UN-31OCT01

MB03730,0000212 —19-09SEP03-1/1

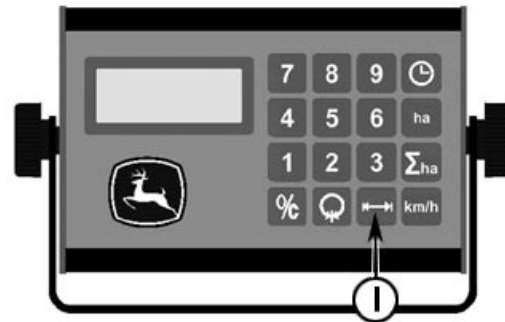
Area Counter — Encode of Working Width (CWS and WTS)

The working width is encoded as follows:

Press key (I) and the last encoded working width is displayed.

Then encode the measured or calculated value for the working width.

I—Encode of working width



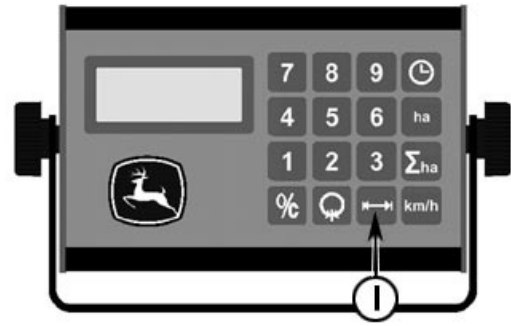
CO209474 —UN-31OCT01

Continued on next page

MB03730,0000213 —19-09SEP03-1/2

If the working width is unknown it may be calculated by completing 5 circuits with the combine, measuring the harvested width and dividing this by 5. Encode the value in centimeters. For example: 11.30 m shall be entered as 1130 cm.

IMPORTANT: When wheel circumference and working width are entered in centimeters, the monitor will calculate in the metric system (km/h, ha, etc.). If you want any of the functions to be calculated in the imperial system (mph, acres etc.) you will have to convert one or both of the figures according to the table (see Area Counter — Error Indication).



I—Encode of working width

CQ209474 -UN-31OCT01

MB03730,0000213 -19-09SEP03-2/2

Area Counter—Key Functions (CWS and WTS)

Time in Hours and Minutes

When key (C) is pressed the time consumption function in hours and minutes (maximum of 99 hours and 59 minutes) will appear on the display.

The time counter can be stopped and started by repeatedly pressing the key.

Flashing colon " : " indicates that the time counter is ON.

Constant colon " : " indicates that the time counter is OFF.

The time counter can be zeroed by pressing key (G) for at least 3 seconds (only when the time counter is off)

Preparation of the time counter:

Press key (C) and the last measured time consumption will be displayed. If the colon " : " flashes (time counter on), press key (C) again and the time counter is turned off (constant colon).

Zeroing of time:

Press key (G) for at least 3 sec. and the time counter is zeroed.

Start timing:

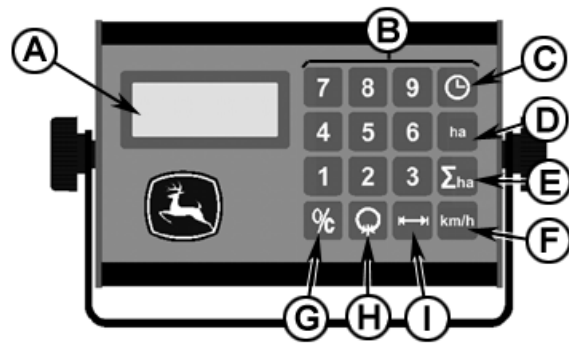
Press key (C) and the time counter turns on (colon flashes).

Area counter now counts hours and minutes, and can be stopped and started again at any time as required.

Trip Counter

When pressing the function key (D), area in ha is displayed.

From 0 to 99.99 ha (acres) the area is displayed with 2 decimal places, and from 100 to 999.9 ha (acres) with 1 decimal place.



- A—Digital display
- B—Keyboard
- C—Time consumption in hours/minutes
- D—Trip Counter
- E—Total Counter
- F—Speed
- G—Zeroing of time and area functions. This key is also used when entering the figure 0.
- H—Wheel circumference
- I—Encode of working width

CQ209471 —UN—05NOV01

Preparation of the trip counter:

Press key (D) and the last measured area is displayed.

Press key (G) for at least 3 sec. and trip counter is zeroed.

Total Counter

Press key (E) to display the total area in ha (acres) (maximum of 9999).

This function is used to check the total area worked over, for example, 1 month or 1 year.

Preparation of total counter:

Press key (E) and the last measured area is displayed.

Press key (G) for at least 3 sec. and total counter is zeroed.

The two area meters are ready for use, and even if another function is activated during work, the area meters continue counting. Usually the speed-function is activated during work, and an " r " will appear on the display whenever the area counters are off.

The area meters automatically stop/start when the implement is lifted/lowered (feeder house sensor).

NOTE: For harvesting corn it is necessary to readjust the sensor position so that the area meter is informed of its higher position in relation to ground.

The day's result can be displayed at the end of each day. At the beginning of the following day the first mentioned area meter is cleared, while the other one is automatically added to the area worked during the week.

Area Counter — Speedometer (CWS and WTS)

Pressing key (F) will display the actual speed to one decimal place.

When the area meters are off an "r" appears on the left-hand side of the display.

When the area counter is turned on it always starts in the speed function.

Speed read out is zeroed 8 seconds after total stop.

F—Speed



CO209475 —UN-31OCT01

MB03730,0000215 —19-09SEP03-1/1

Area Counter—Meter Counter (CWS and WTS)

By encoding a working width of 9999 you can use the trip counter as meter counter.

The meter counter can only be used if the wheel circumference is encoded in cm. (speed is displayed in km/h).

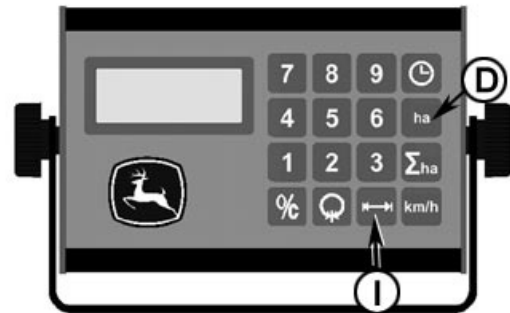
Preparation of meter (distance) counter:

Press keys (I), 9, 9, 9 and 9 in this order.

Then function key is chosen:

Press key (D) and distance will be displayed in meters.

Meter counter is zeroed in the same way as trip counter.



D—Trip Counter
I—Encode of working width

CO209476 —UN-31OCT01

MB03730,0000219 —19-09SEP03-1/1

Area Counter—Fault Finding (CWS and WTS)

If it is suspected that one of the sensors is not operating correctly, the system can be checked as follows:

First a working width of 8888 is encoded.

Press keys (I), 8, 8, 8 and 8 in this order.

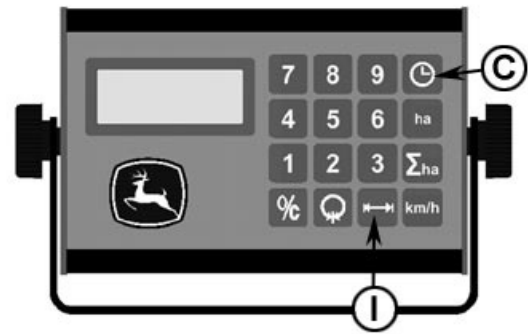
Then function key is chosen:

Press key (C) and the following will be displayed:

An "h" appears when the wheel sensor is activated.

An "r" appears when the feeder house sensor is activated.

NOTE: "r" appears when the area meters are off.



C—Time consumption in hours/minutes
I—Encode of working width

CQ209478 –UN-31OCT01

WH03730,000021A –19-09SEP03-1/1

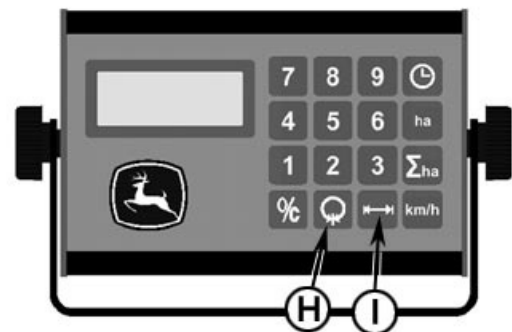
Area Counter—Error Indication (CWS and WTS)

When the letters "FEJL" appear on the display, this means that the area counter is not being supplied with 12 V, but a lower voltage than that required. Check the area counter's "+" and "-" terminals.

If the fault is not resolved, a check of the vehicle's electrical system is recommended.

Metric to imperial conversion table:			
Required unit of measurement:		Value to be encoded:	
Speed	Area	H	I
Km/h	Hectares	cm	cm
Km/h	Acres	cm	cm x 2.741
mph	Hectares	cm x 0.621	cm x 1.610
mph	Acres	cm x 0.621	cm x 3.979

NOTE: Always measure the wheel circumference and working width in centimeters, and then convert them using the above table.



H—Wheel circumference
I—Encode of working width

CQ209479 –UN-31OCT01

MB03730,000021A –19-09SEP03-1/1

Warning Devices and Monitors

Indicator Lights I

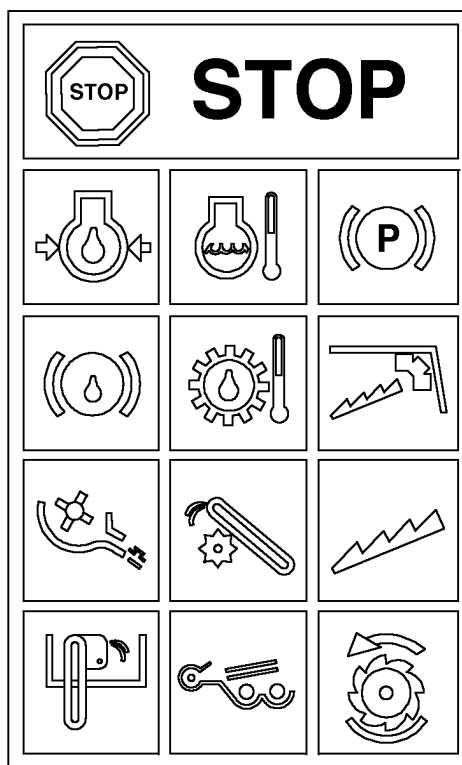
These lights monitor the most important combine functions (road travel, field operation and engine).

Priority 1:

Red warning lights enable an acoustic warning signal.

As soon as one of the indicator lights glows, the “STOP” light will also glow and the warning buzzer will sound (intermittent tone).

NOTE: The acoustic warning signal sounds only with the engine running.



ZX009598

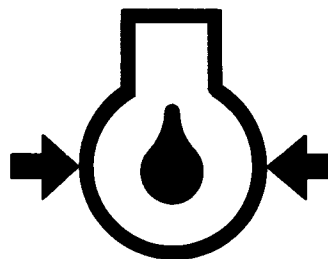
ZX009598 -UN-08NOV96

AG,CO03622,1399 -19-06NOV02-1/1

Engine Oil Pressure Indicator Light

Lights up if engine oil pressure drops below 80 kPa (0.8 bar = 11.6 psi).

- Stop engine immediately.
- Remedy the fault.



ZX 000331

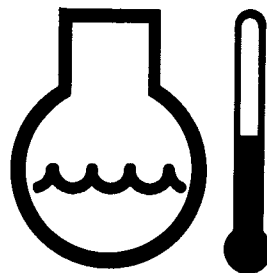
ZX000331 -UN-03APR95

AG,CO03622,1400 -19-13MAR02-1/1

Coolant Temperature Indicator Light

Lights up if coolant temperature exceeds 108°C (226°F) and/or if the intake air temperature exceeds 88°C (190°F).

- Run engine without load for a short period. If temperature (of the coolant) will not drop, stop engine and remedy fault.



ZX 000332

ZX000332 -UN-03APR95

AG,CO03622,1401 -19-13MAR02-1/1

Parking Brake Indicator Light

Lights up if parking brake is applied and multifunction control handle is not in neutral position.

With this light on a intermittent warning signal will be heard.



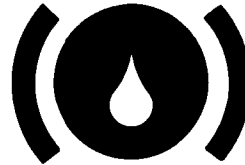
ZX 000 333

AG,CO03622,1402 -19-28JUL04-1/1

ZX000333 -UN-03APR95

Indicator Light

NOTE: This indicator light is not used in the combines covered by this manual.



ZX 000 334

AG,CO03622,1403 -19-13MAR02-1/1

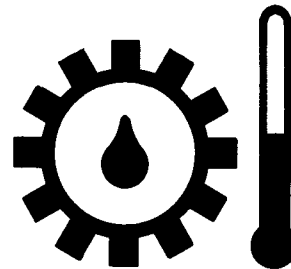
ZX000334 -UN-03APR95

Hydrostatic Drive Oil Temperature Indicator Light

Lights up if transmission oil temperature exceeds 95°C (203°F).

— Check reservoir oil level. Check hydraulic oil radiator, clean if necessary.

— Select a lower speed.



Zx 000 335

AG,CO03622,1404 -19-13AUG02-1/1

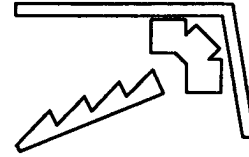
ZX000335 -UN-03APR95

Straw Walker and Chopper Warning Light

lights up if plugging occurs in the straw walker rear hood area.

IMPORTANT: In addition to the buzzer, the horn will also sound (continuous tone) until accumulated material has been removed.

- Disengage separator immediately.
- Shut off engine and wait until all moving parts have stopped, then remove accumulated material.



ZX 002331

-UN-02JUL96
ZX002331

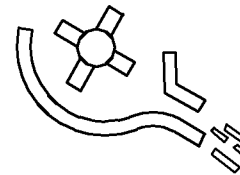
AG,CO03622,1405 -19-20AUG04-1/1

Straw Chopper Speed Indicator Light

Lights up if straw chopper speed drops more than 25% below rated speed.

With engine shut off and separator stopped:

- Check belt tension.
- Check straw chopper for plugging.



ZX 002332

-UN-16JUN95
ZX002332

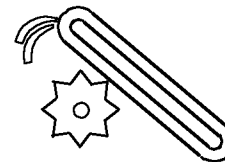
AG,CO03622,1406 -19-29JUL04-1/1

Tailings Elevator Indicator Light

Lights up if tailings elevator shaft speed drops more than 25% below rated speed.

With engine shut off and separator stopped:

- Check drive (belts).
- Check elevator and augers for plugging.



ZX 002333

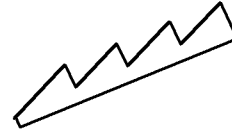
-UN-16JUN95
ZX002333

AG,CO03622,1407 -19-05NOV02-1/1

Straw Walker Indicator Light

Lights up if straw walker shaft speed drops more than 25% below rated speed.

NOTE: On WTS combines this light will also glow if power separator speed drops more than 25% below rated speed.



ZX002334 -UN-16JUN95

With engine shut off and straw walkers stopped:

- Check drive (belts).
- Check for plugging.

ZX 002334

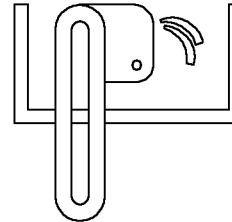
AG.CO03622,1408 -19-20AUG04-1/1

Clean Grain Elevator Indicator Light

Lights up if clean grain elevator shaft speed drops more than 25% below rated speed.

With engine shut off and separator stopped:

- Check drive (belts).
- Check elevator and augers for plugging.



ZX 002335

ZX002335 -UN-16JUN95

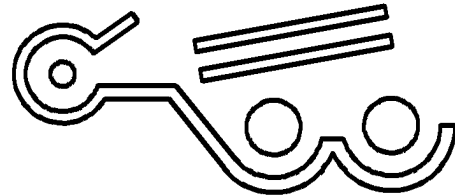
AG.CO03622,1409 -19-05NOV02-1/1

Fan Indicator Light

Lights up if fan speed drops more than 25% below adjusted speed.

With engine shut off and separator stopped:

- Check drive (belts).
- Check for plugging.
- Check alarm trigger threshold. Readjust if necessary (see instructions in this section).



ZX009599

ZX009599 -UN-08NOV96

AG.CO03622,1410 -19-05NOV02-1/1

Threshing Cylinder Indicator Light

Lights up if threshing cylinder speed drops more than 25% below adjusted speed.

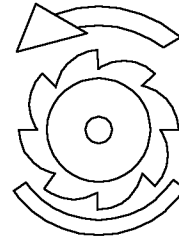
— Reduce ground speed.

With engine shut off and separator stopped:

— Check drive (belts).

— Check for plugging.

— Check alarm trigger threshold. Readjust if necessary (see instructions in this section).



ZX 002337

ZX002337 -JUN-16JUN95

AG,CO03622,1411 -19-05NOV02-1/1

Indicator Lights II

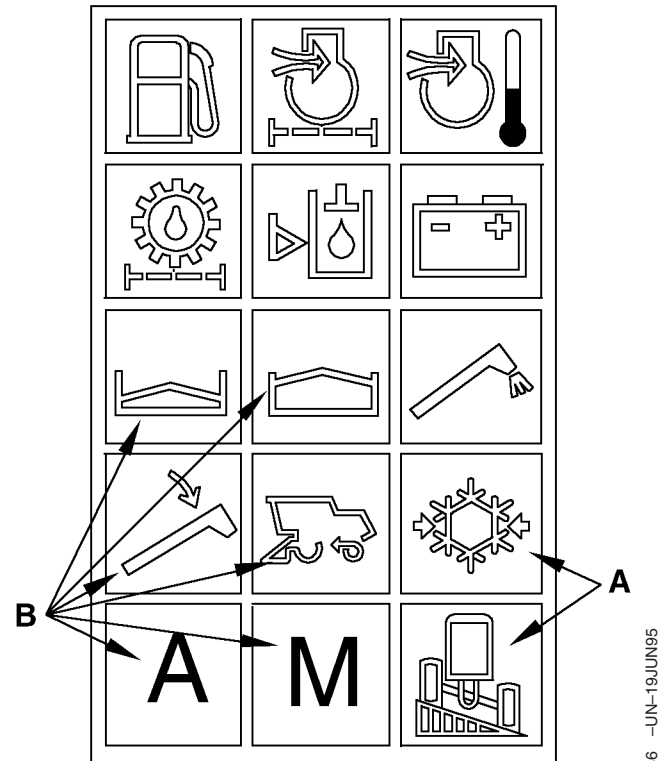
These indicator lights monitor combine functions with priority 2 and 3.

Priority 2:

Yellow warning lights with acoustic warning signal (5-second signal).

Priority 3:

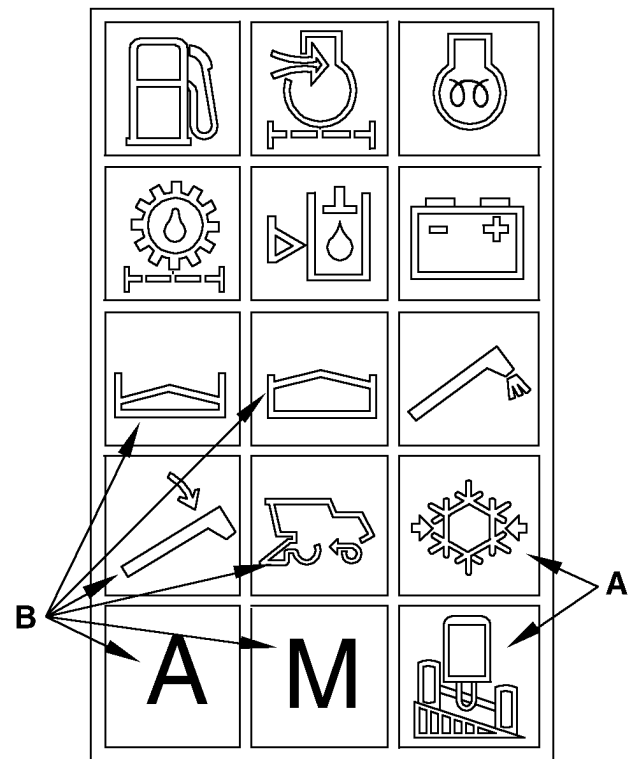
Yellow warning lights (A) and green warning lights (B) without acoustic warning signal.



ZX007336

Indicator Lights II — 1450/1550

ZX007336 -UN-19JUN95



CQ212620

Indicator Lights II — CWS/WTs

CQ212620 -UN-25MAR02

AG.CO03622,1412 -19-20AUG04-1/1

Air Intake Temperature Indicator Light— CWS/WTs

If the outside temperature is below 0°C, an air heater will be activated for 20 to 40 seconds after the starter switch has been turned to position II. Wait for light to extinguish before starting engine.

If there is any fault in the engine's electronic systems the indicator light will blink and a buzzer will sound. Check the fault codes on the engine diagnostic monitor.

CQ212630



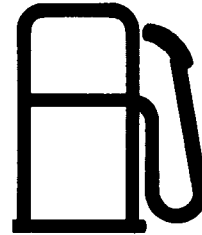
CQ212630 -UN-25MAR02

AG,CO03622,1413 -19-20AUG04-1/1

Fuel Level Indicator Light

Lights up if fuel in tank is on reserve - approx. 50 L (13.2 U.S. gal.).

— Fill fuel tank. Capacity: 470 L (124.16 U.S. gal.).



ZX 000 340

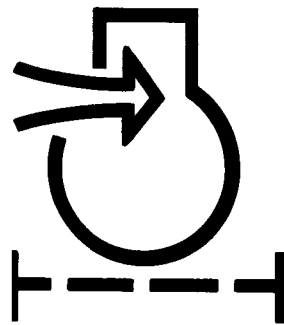
ZX000340 -UN-03APR95

AG,CO03622,1416 -19-13MAR02-1/1

Air Cleaner Indicator Light

lights up if air cleaner primary element is clogged and air flow restricted.

— Clean air cleaner element(s).



ZX 000 341

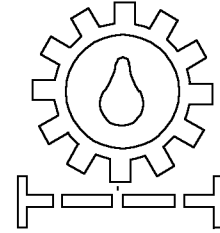
ZX000341 -UN-03APR95

AG,CO03622,1417 -19-13MAR02-1/1

Hydraulic Oil Filter Indicator Light

lights up if hydraulic oil filter is very dirty.

— Change hydraulic oil filter.



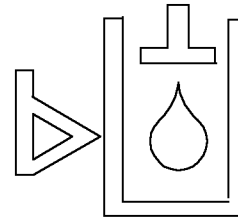
ZX 002339

AG,CO03622,1418 -19-13MAR02-1/1

ZX002339 -UN-16JUN95

Indicator Light

NOTE: This indicator light is not used in the combines covered by this manual.



ZX 002340

AG,CO03622,1419 -19-13MAR02-1/1

ZX002340 -UN-16JUN95

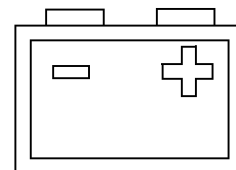
Alternator Indicator Light

lights up if alternator output voltage is not sufficient to charge the batteries.

— Check cables and connections at alternator and batteries.

— Check V-belt.

— Check voltage regulator of alternator.



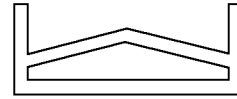
ZX 002341

AG,CO03622,1420 -19-13MAR02-1/1

ZX002341 -UN-16JUN95

Indicator Light

NOTE: This indicator light is not used in the combines covered by this manual.



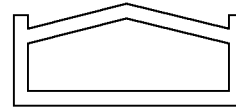
ZX 002342

AG,CO03622,1421 -19-13MAR02-1/1

ZX002342 -UN-16JUN95

Grain Tank Indicator Light (3/4 full)

Lights up when grain tank is 3/4 full.



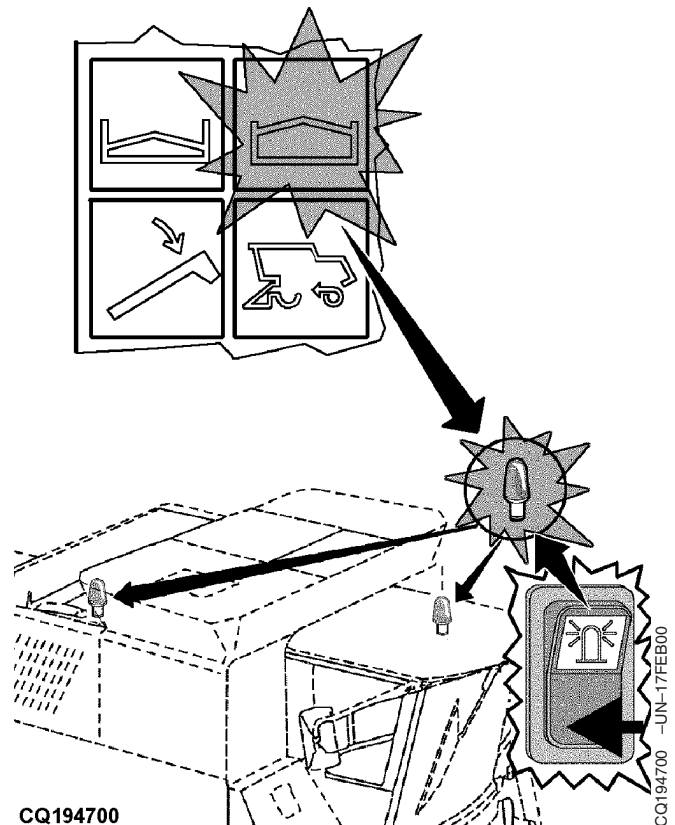
ZX 002343

AG,CO03622,1422 -19-13MAR02-1/1

ZX002343 -UN-16JUN95

Intermittent Indicator Light

The intermittent indicator light is switched on at the same time that the "3/4 full" indicator light is activated when the switch is pressed as illustrated.



CQ194700

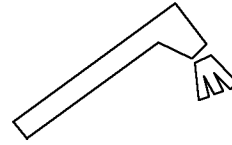
AG,CO03622,1423 -19-22JUL04-1/1

CQ194700 -UN-17FEB00

Grain Tank Indicator Light (Full)

Lights up when grain tank is completely filled. Besides the indicator light a five-second warning signal will sound.

— Empty the grain tank.



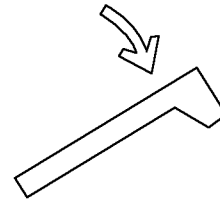
ZX 002344

AG,CO03622,1424 -19-13MAR02-1/1

ZX002344 -UN-16JUN95

Unloading Auger Drive Indicator Light

Lights up whenever the unloading auger drive is switched on.



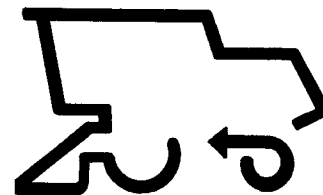
ZX 002348

AG,CO03622,1425 -19-13MAR02-1/1

ZX002348 -UN-16JUN95

Four Wheel Drive Indicator Light—1450/1550 (option)

Lights up whenever four wheel drive is engaged.



ZX 000349

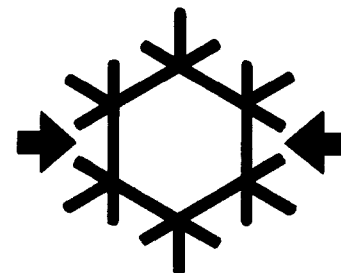
AG,CO03622,1426 -19-03AUG04-1/1

ZX000349 -UN-03APR95

Air Conditioner Indicator Light (High Pressure)

Lights up if system pressure exceeds 2400 kPa (24 bar = 350 psi).

— Switch off air conditioning system and correct fault.



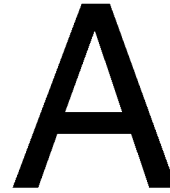
ZX 000 350

AG,CO03622,1427 -19-13MAR02-1/1

ZX000350 -UN-03APR95

Indicator Light

NOTE: This indicator light is not used in the combines covered by this manual.



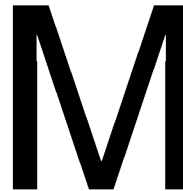
ZX 002345

AG,CO03622,1428 -19-13MAR02-1/1

ZX002345 -UN-16JUN95

Indicator Light

NOTE: This indicator light is not used in the combines covered by this manual.



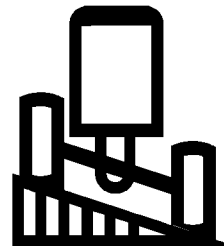
ZX 002346

AG,CO03622,1429 -19-13MAR02-1/1

ZX002346 -UN-16JUN95

Indicator Light

NOTE: This indicator light is not used in the combines covered by this manual.



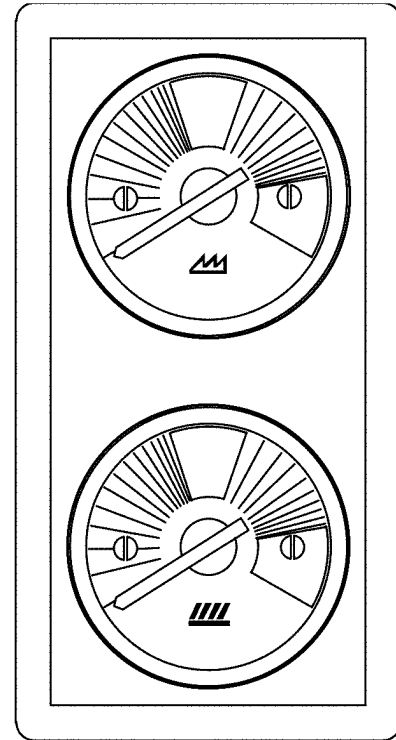
ZX 002347

AG,CO03622,1430 -19-13MAR02-1/1

ZX002347 -UN-16JUN95

Harvest Performance Monitor Gauge

For detailed information, refer to “Harvest Performance Monitor” section.



CQ216491 –UN–20AUG03

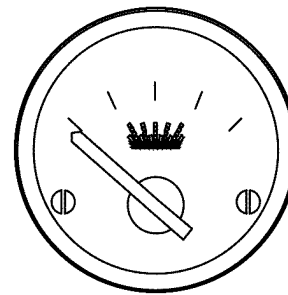
AG.CO03622,1431 –19–09SEP03–1/1

Straw Distribution Gauge—CWS/WTS (option)

Shows direction of straw distribution:

Needle in right-hand area = straw is thrown to the right.

Needle in left-hand area = straw is thrown to the left.

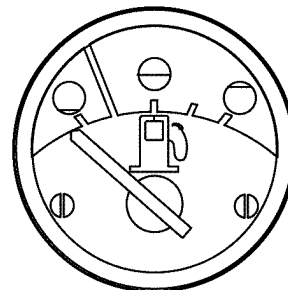


CQ216483 –UN–20AUG03

MB03730,00001F0 –19–20AUG04–1/1

Fuel Gauge

With ignition engaged, fuel level in tank is shown (0 — 1/1).



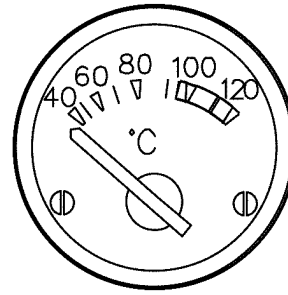
CQ216512 –UN–20AUG03

AG.CO03622,1432 –19–29SEP03–1/1

Coolant Temperature Gauge

With ignition engaged, engine coolant temperature is shown. During operation, needle should be in the yellow/green zone (40°C — 105°C) (140°F — 221°F).

If needle is in orange zone (105°C — 120°C) (221°F — 248°F), run engine without load for a short time. If necessary, shut off engine and correct fault.

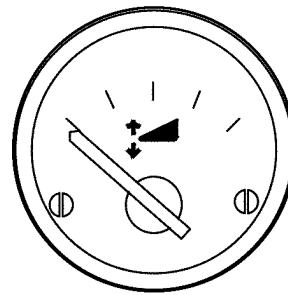


CQ216501 -UN-20AUG03

AG,CO03622,1433 -19-29SEP03-1/1

Header Height Gauge—CWS/WTS

This gauge shows the relative header position in relation to ground.



CQ216521 -UN-20AUG03

MB03730,0000020 -19-20AUG04-1/1

Rigid Header - Ground Pressure Gauge—CWS/WTS

This gauge is located on the left cornerpost in the cab and it indicates the pressure of the platform floatation system.

For further information, refer to the "Preparations and Field Operation." section.



CQ209170

CQ209170 -UN-09OCT01

AG,CO03622,2547 -19-20AUG04-1/1

Cutterbar Pressure Gauge (600 Series Flex Headers)—1450/1550

This gauge is located on the left cornerpost in the cab and indicates the pressure of the cutterbar floatation system.

Recommended pressures:

Recommended pressures:	
Soil conditions	Pressure
Extremely firm	62—70 bar (900—1015 psi)
Normal	71—90 bar (1015—1300 psi)
Soft	> 91 bar (> 1320 psi)



MB03730,0000383 -19-20AUG04-1/1

Engine Electronic System Diagnostic Gauge—CWS/WTs

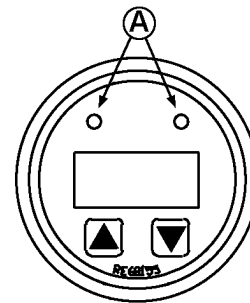
This monitor has two lights (A) that indicate the existence of active diagnostic trouble codes.

Red light glowing: means corrective action is immediately required. Do not operate combine until the fault is corrected.

Yellow Light Glowing: means that a diagnostic trouble code has been generated. Stop the combine when convenient and determine the cause.

The reading of diagnostic trouble codes of the engine electronic system can be carried out as described below in this section.

For further information on activated fault codes consult your John Deere dealer.



A—Lights

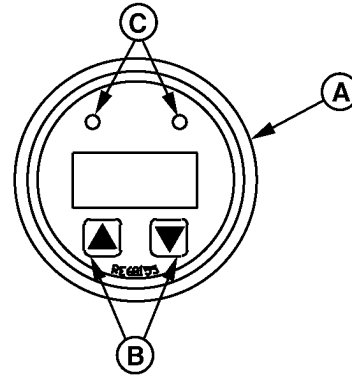
CQ209671

MB03730,0000206 -19-20AUG04-1/1

Viewing Active DTCs on Diagnostic Monitor

Accessing Active Diagnostic Trouble Codes (DTCs):

1. Scroll through the main menu of engine parameters by pressing the right **or** the left touch switch
2. Select the "SvcCodes" sub-menu by **simultaneously** pressing the right and the left touch switch.
3. Scroll through the "Svc Codes" sub-menu to view active DTCs by pressing the left **or** the right touch switch until all codes are found.
4. To exit the "SvcCodes" sub menu, **simultaneously** press the right and left touch switch.



A—Diagnostic monitor
B—Touch keys
C—Lights

RG10031 -UN-28OCT99

DPSG,OUOD007,2842 -19-29JUL04-1/1

Area Counter (CWS and WTS)

The area counter can be operated quite simply and is able to monitor the following:

- Time
- Area
- Forward speed

All the functions within the chosen group of functions are calculated simultaneously. This means, for example, that you can monitor your speed while, at the same time, the monitor calculates the area and time.

All encoded values and gathered data are stored in a memory, even if power, deliberately or not, is cut off.

For further information, refer to the "Controls and Instruments" section.



CQ209680

-UN-05NOV01
CQ209680

MB03730,000020C -19-09SEP03-1/1

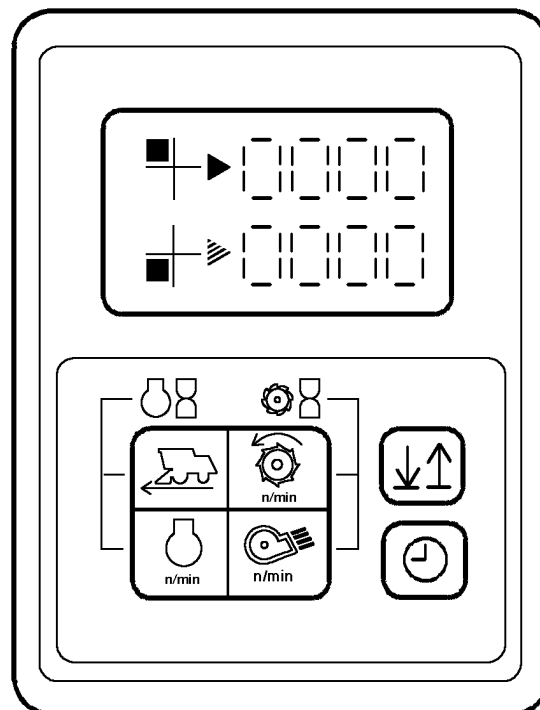
INFOTRAK™ Monitor

The INFO-TRAK™ monitor displays:

- Ground Speed (km/h):
- Speed:
 - Engine (rpm)
 - Threshing cylinder
 - Fan
- Time:
 - Engine
 - Separator
 - Hours
- Spacing:
 - Concave and cylinder
- Cutting platform failure diagnostics.

By inputting certain machine-specific data, the INFO-TRAK™ monitor is adjusted to the requirements of the combine and combine data center (depending on combine equipment).

In addition, error codes and service intervals are displayed.



ZX014262

ZX014262 –UN–16JAN98

AG.CO03622,1437 –19–26SEP03–1/1

INFO-TRAK Monitor Functions

A — Position Indicator:

shows relationship between display and key or key combination (I—VII) pressed previously.

When activating INFO-TRAK™ monitor (starter switch in position I or II), the position indicator will be in upper left-hand position.

B — Line indicator:

indicates the active line on the display on which cursor (A) is showing the corresponding function.

C — Display Panel (4 Digits):

shows the figure called up previously.

Possibilities:

Ground and other speeds, operating or working hours.

Additional displays: SERVICE information “SEU” and concave spacing.

Error codes:

In the event of a malfunction or operator error during combine operation or when running an automatic function, a two or three-digit number followed by an **E** (Error) is displayed. For example: 234 **E**.

D — Line selector switch:

changes active line on the display panel

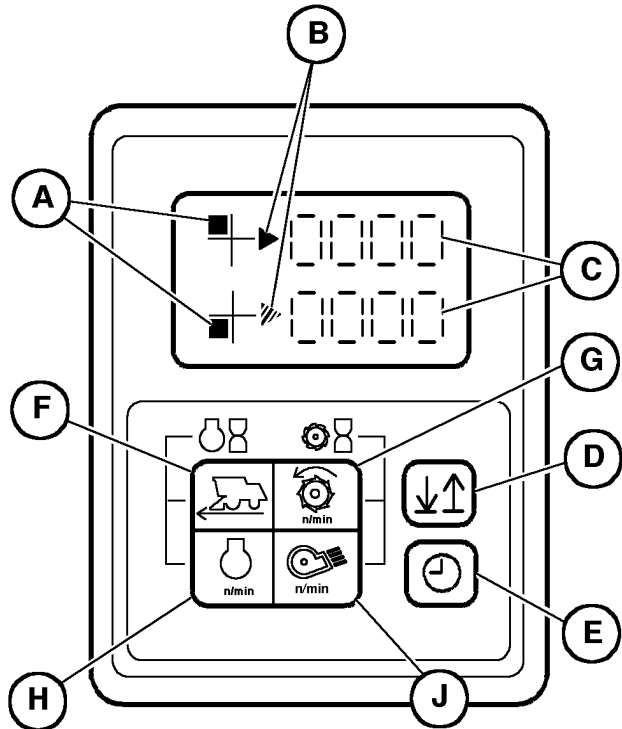
E — Clock:

press this key to display the time on the display panel.

F — Ground speed display key (I).

G — Cylinder speed display key (II).

H — Engine speed display key (III).



ZX014263

ZX014263 —JUN-16JAN98

I ■ —	II — ■
III ■ —	IV — ■
V ■ ■	VI — ■
VII ■ ■	VIII ■ ■

ZX011411

ZX011411 —JUN-22APR97

Continued on next page

AG,CO03622,1438 —19-26SEP03-1/2

J — Fan speed display key (IV) and enter key for calibration modes.

AG,CO03622,1438 -19-26SEP03-2/2

INFO-TRAK Monitor Functions (Continued)

F + H — Key combination to display operating time (engine) (V).

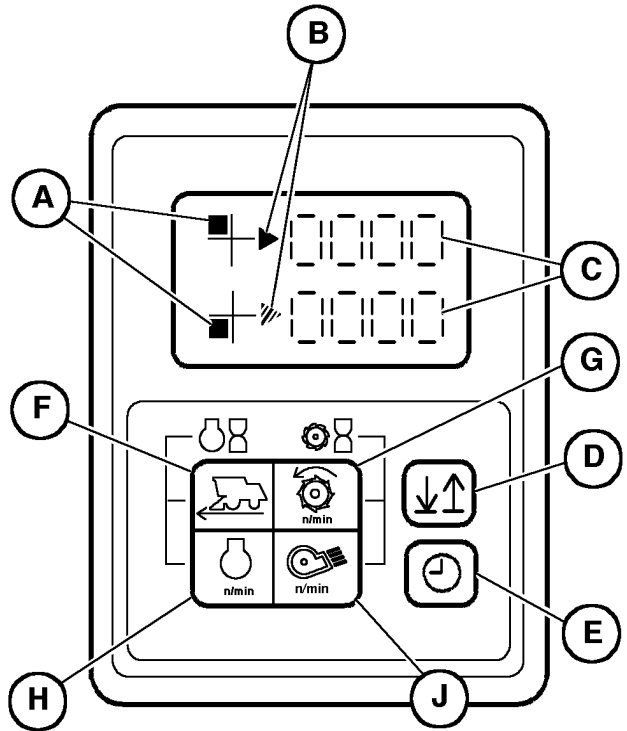
G + J — Key combination to display operating time (cylinder) (VI).

G + H — Key combination to delete SERVICE information “SEU” (VII).

F + G — Key combination to activate input status (VIII).

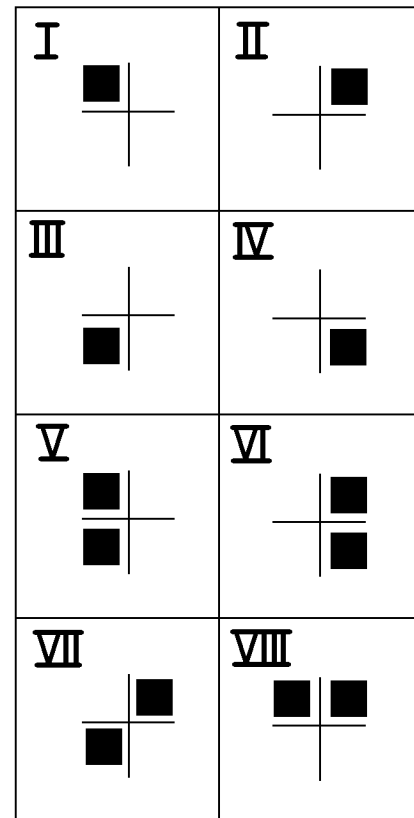
D + and engine start — Activation of ContourMaster diagnostic mode.

E + ignition on — Setting clock



ZX014263

ZX014263 -UN-16JAN98



ZX011411

ZX011411 -UN-22APR97

Setting and Displaying Time

Make sure the starter key is in the "OFF" position. Hold down key (A) and, while holding it, turn the starter key to Position (I). On the display "12H" will initially appear. If the key is maintained held down the display will switch between "12H" and "24H" every 3 seconds. This allows you to select either a 12 hour format or a 24 hour format. Release the key when the desired format is displayed.

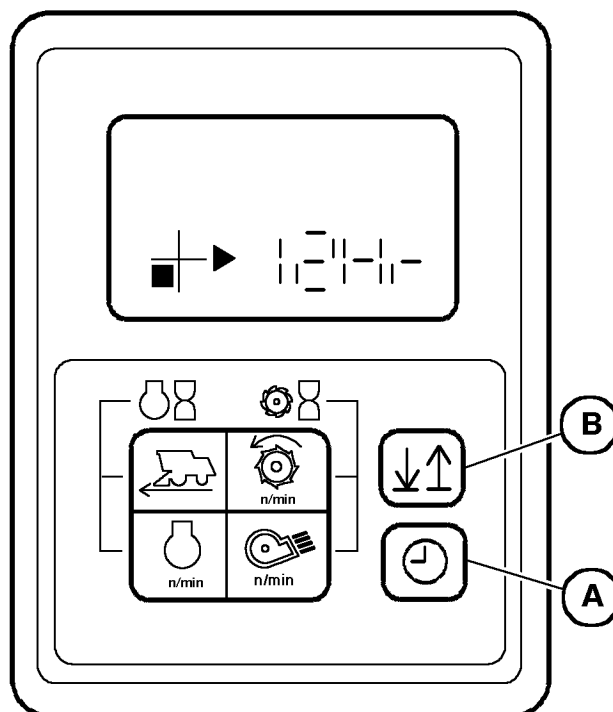
The clock should now be showing "12". Depress key (B) to set the hour. The longer you hold the key down, the faster the hours will advance.

NOTE: You can only increase (not decrease) the hours displayed.

If you go past the hour you want to display, you will have to go full circle and try to catch it on the next pass. When you get close to the desired hour, release the key and press it again so that it increments at a slower rate.

Once you have the hour correctly displayed, depress and release key (A) and the display should show the minutes along with the hours. Again, as described above, depress key (B) to increase the minutes. Set the correct minutes in exactly the same way implemented for the hours. When the correct minute is displayed, depress key (A) one last time and then the clock is set.

NOTE: Clock must be readjusted whenever battery has been disconnected or the battery switch has been in the "Off" position.



ZX014264

ZX014264 -UN-22JAN98

Input of Machine-Specific Data

IMPORTANT: Each time different size drive wheels are installed or tire radius changes due to wear, the infotrak monitor must be calibrated accordingly.

Activate Input Status

Press key combination (A + B) and simultaneously turn starter key from position (0) to position (I). The position indicator will move to the upper left-hand field.

Data Input

Press key (A): displayed value will increase.

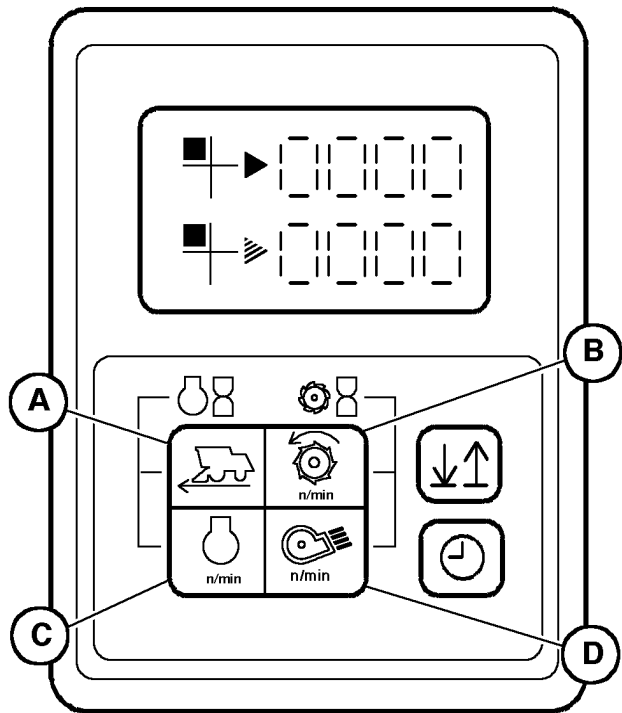
Press key (C): displayed value will decrease.

Data Storage

Press key combination (B + D). At the same time the position indicator will move to another field (upper right-hand, lower right-hand, lower left-hand field).

Deactivate Input Status

After input and storage of all data, turn starter key to position (0).



ZX014265

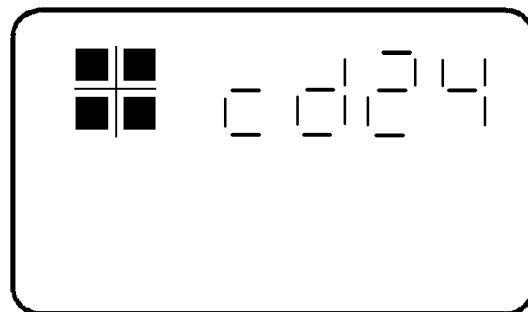
A—Ground speed display key
B—Cylinder speed display key
C—Engine speed display key
D—Fan speed display key

ZX014265 –UN–19JAN98

AG,CO03622,1441 –19–26SEP03–1/1

Software Version

Press the keys for ground travel speed and threshing cylinder speed and at the same time turn the starter key from position (0) to position (I). The version of the software installed in the Infotrak monitor is displayed, e.g. “cd24”. All four display fields light up at the same time.



CQ208700

–UN–12SEP01

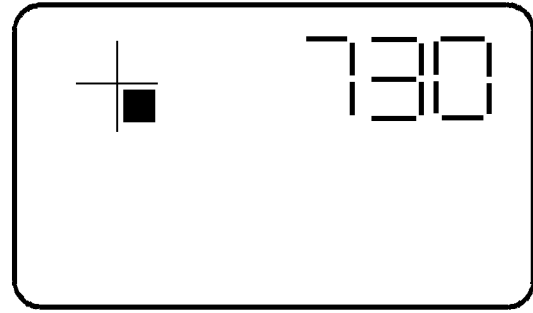
AG,CO03622,1442 –19–26SEP03–1/1

Tire Radius Code

For input of tire radius code, use actual tire radius. The radius must be input in inches for combines with machine code 83. The radius must be input in millimeters for combines with machine code 103.

NOTE: *Rear tire radius must be inputted into the INFO-TRAK Monitor when measuring the distance traveled. This is because the combine movement sensor is located on the rear axle.*

NOTE: *For new tires, refer to the tire chart for correct radius values.*



CQ194730

CQ194730 -UN-17FEB00

Drive Tire	Tire Rolling Radius (mm)	Tire Rolling Radius (in)
28.1 - 26 (750/65 R26)	756	29.7
18.4 - 30 R1 10L	741	29.1
18.4 - 30 R1 12L	741	29.1
24.5 - 32	849	33.4
620/75R 30 (Radial)	810	31.8
(650/75 R32)	863	33.9
28.1/18 - 26 R1 14L	761	29.9
28L26 R1 12L	767	30.1
23.1/18 - 26 R2 10L	780	30.7
23.1/18 - 30	804	31.6
800/65R 32 (Radial)	861	33.8
30.5L32 R1	857	33.7
STEEL TRACK	315	12.4

Continued on next page

AG,CO03622,1445 -19-09SEP03-1/2

Warning Devices and Monitors

Steering Tire	Tire Rolling Radius (mm)	Tire Rolling Radius (in)
540/65 R24	635	24.9
12.4-24 R1 10L	554	21.8
440/65 R24	562	22.1
12.4-24 R1 6L	546	21.5
16.9-24 8L	614	24.2
16.9-24 10L	614	24.2
14.9-24 8L	586	23.1
10.5-18 I1 6L	446	17.5
335-80 R20	942	37.1
16.9-24 R4 8L	611	24.1
14.9-24 R2 8L	608	23.9

NOTE: With worn tires, refer to the following instruction to determine tire radius.

AG,CO03622,1445 -19-09SEP03-2/2

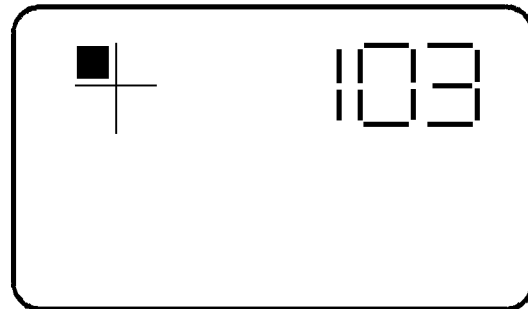
Machine Code

Input code for mph (miles per hour):

83 — Combine

Input code for km/h:

103 — Combine



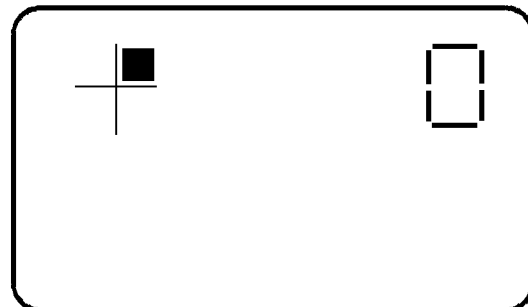
CQ208710

CQ208710 -UN-12SEP01

AG,CO03622,1443 -19-26SEP03-1/1

Transmission Speed Ratio Code

00— Final drive (85/11)



CQ194720

CQ194720 -UN-26SEP01

AG,CO03622,1444 -19-26SEP03-1/1

Determining Tire Radius

This instruction is for both drive (front) and steering (rear) tires.

Requirements:

- Combine on flat, solid ground.
- Cutting platform mounted.
- Correct tire pressures.
- Combine rear wheels (steering wheels) in straight-ahead position.

Place mark on tire and ground. Marks must be in contact with each other.

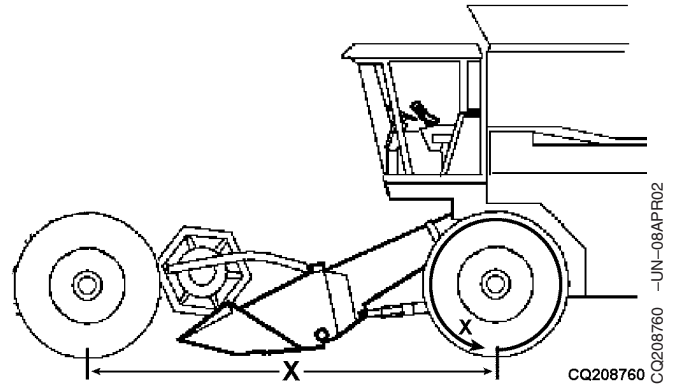
Drive combine until marked tire has completed one revolution.

Transfer mark on tire to ground.

Measure distance (X) between the marks on the ground. The distance (X) must be measured in inches for combines with machine code 83. The distance (X) must be measured in millimeters for combines with machine code 103.

Divide measured distance (X) by 6.28 for any unit.

The obtained value is the tire radius to input in the INFO-TRAK monitor.

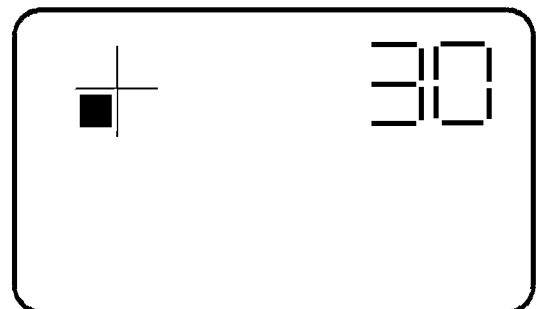


AG,CO03622,1446 -19-09SEP03-1/1

Engine Impulse Code

- CWS/WTs (6068¹ engine/Saran, France) — Code 27
- 1450 (6068 engine/Rosario, Argentina) — Code 30
- 1550 (6081 engine/Rosario, Argentina) — Code 27

¹ Engine with VP44 Injection Pump



CQ194740

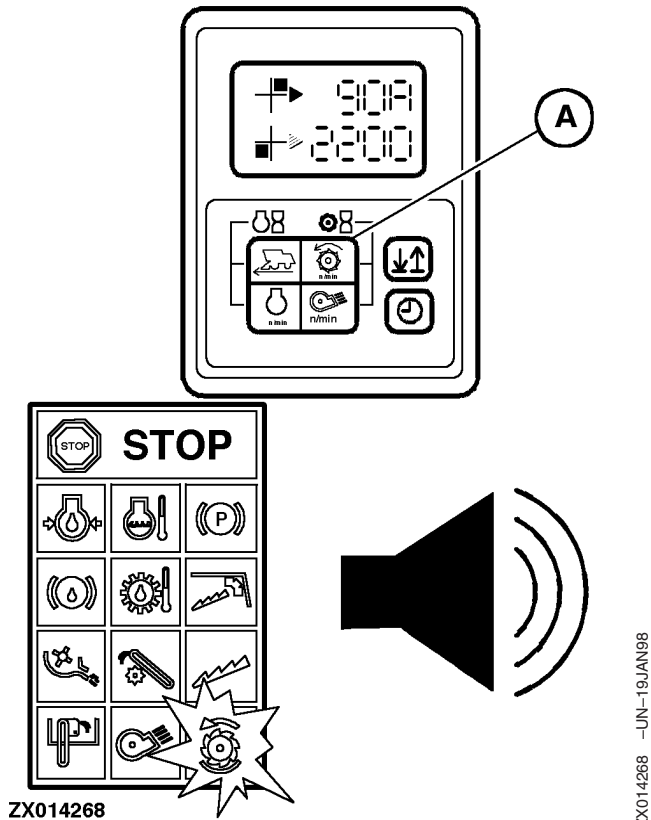
AG,CO03622,1447 -19-20AUG04-1/1

Threshing Cylinder Alarm Adjustment

With engine running, engage separator.

Press key (A) to display cylinder speed. Continue to press key (A) (for approx. 2 seconds) until the last digit of the displayed speed turns into an "A". Now alarm trigger threshold is 75% of the displayed speed.

If cylinder speed drops below alarm trigger threshold during operation, the cylinder speed indicator light will glow and a continuous warning signal will be heard.



ZX014268 -JUN-19JAN98

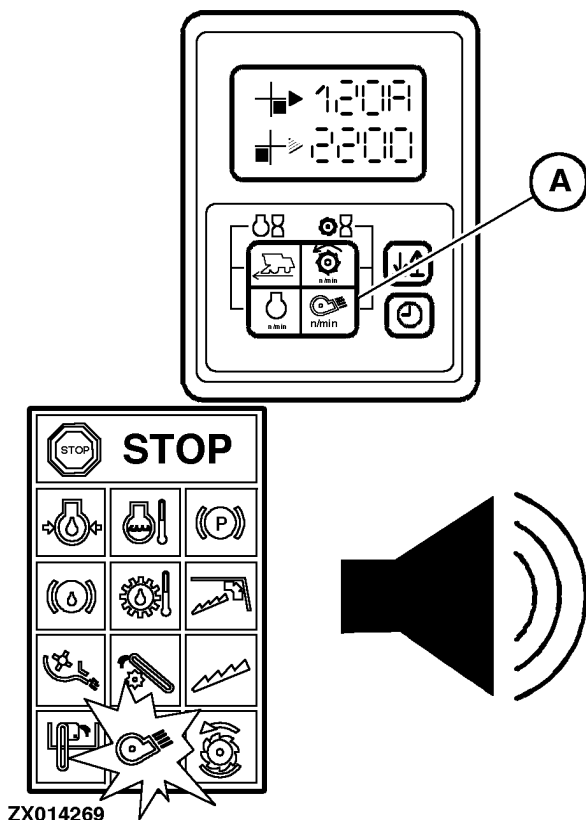
AG,CO03622,1448 -19-20AUG04-1/1

Fan Alarm Adjustment

With engine running, engage separator.

Press key (A) to display fan speed. Continue to press key (A) (for approx. 2 seconds) until the last digit of the displayed speed turns into an "A". Now alarm trigger threshold is 75% of the displayed speed.

If fan speed drops below alarm speed during operation, the fan speed indicator light will glow and a continuous warning signal will be heard.



ZX014269 -JUN-19JAN98

AG,CO03622,1449 -19-20AUG04-1/1

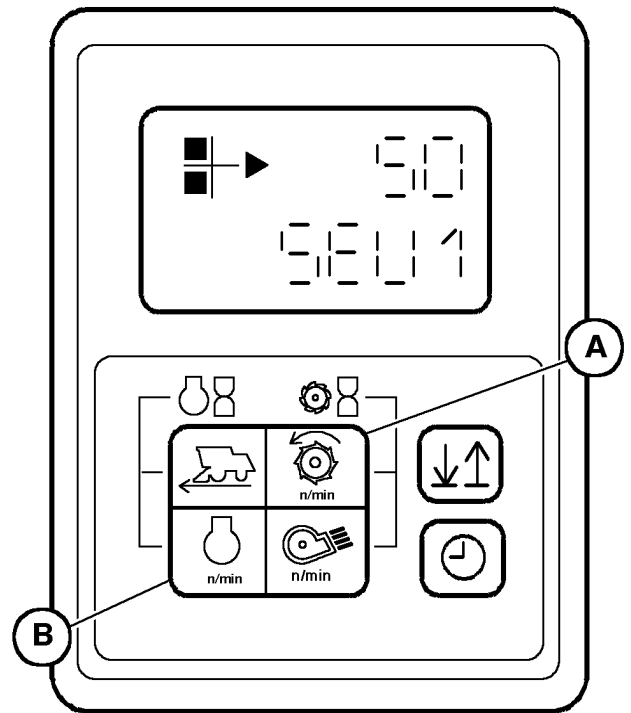
Infotrak Monitor Service Information

Every 50 hours of operation the infotrak monitor will display SERVICE information (SEU).

IMPORTANT: Perform necessary service work, referring to “Periodic Services — Every 50 Operating Hours”.

Press any key to delete SERVICE information immediately (it will reappear when ignition is engaged next time).

To delete SEU display definitively (i.e. until next 50 operating hours are completed) after service work has been carried out, press keys (A+B) simultaneously while engaging ignition.



ZX014270

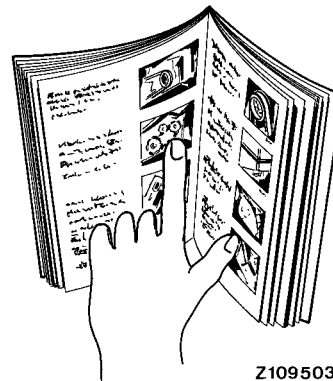
ZX014270 -UN-16JAN98

AG.CO03622,1450 -19-29JUL99-1/1

Preliminary Adjustments On Combine

Before performing any adjustments on the harvest performance monitor, adjust the combine so that it is operating at peak efficiency. The adjustments must correspond to the relevant crop and field conditions.

For further information, see the “Preparations and Field Operation” section.



Z109503

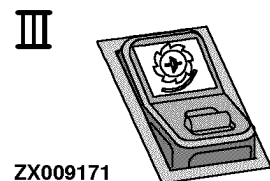
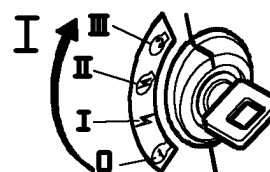
Z109503 -UN-22MAY95

AG.CO03622,1453 -19-20AUG04-1/1

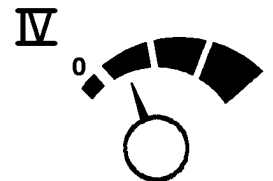
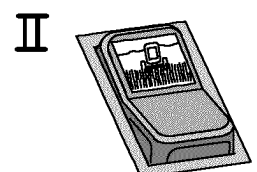
Switching on Harvest Performance Monitor

The system can only operate when:

- the engine is running (I)
- the road safety switch is in the field position (II)
- the threshing unit is engaged (III)
- the harvest performance monitor is switched on (IV)



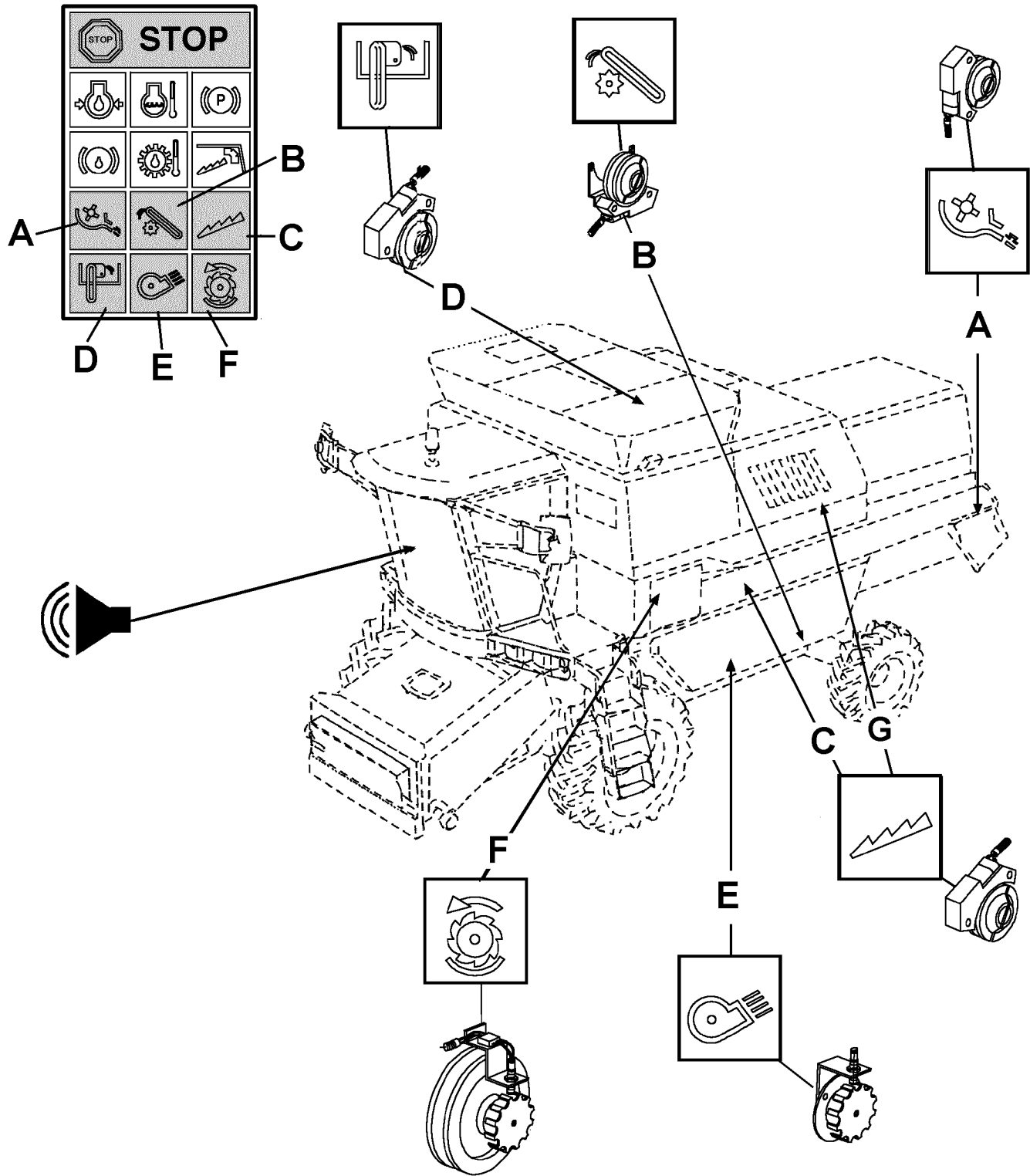
ZX009171



ZX009171 -UN-22MAY96

AG.CO03622,1454 -19-13AUG02-1/1

Low Shaft Speed Monitoring System — Protected Components



A—Straw chopper
B—Tailings elevator

C—Straw walker
D—Clean grain elevator

E—Fan
F—Threshing cylinder

G—Power Separator (WTS)

CQ203981

—UN—07NOV02

Continued on next page

AG.CO03622.1451 —19—20AUG04—1/3

In the event of a malfunction, the low shaft speed monitoring system activates the right-hand corner post indicator lights and an intermittent acoustic warning signal.

With the engine shut off, electrical circuitry on and the separator engaged, all five or six indicator lights must glow and the warning signal must keep mute. With the engine running (at fast idle) and the separator

engaged, all indicator lights should go out and the warning signal must remain mute.

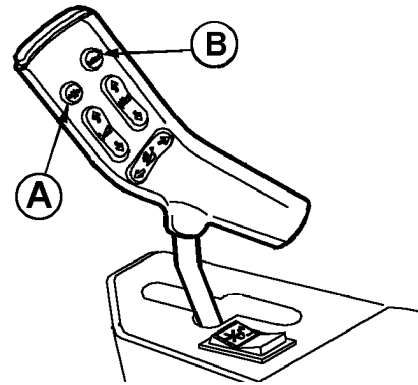
NOTE: *Reset the Infotrak monitor alarm threshold every time the threshing cylinder and/or fan speed are altered.*

The other shafts are adjusted in the factory to pre-set speeds.

AG.CO03622,1451 -19-20AUG04-2/3

It is possible to reprogram them using the following procedure:

1. With the engine running and the threshing engaged, set engine to maximum rpm.
2. Press switches (A) and (B) on the multifunction control handle simultaneously for 3 seconds. An intermittent warning signal will sound 3 times and the indicator lights will also glow 3 times. When this happens the 5 shafts will be reprogrammed for their new settings.
3. To return to factory standard settings, press the two switches for 6 seconds. Confirmation is provided by an intermittent warning signal that will sound 6 times and the indicator lights will also glow 6 times.

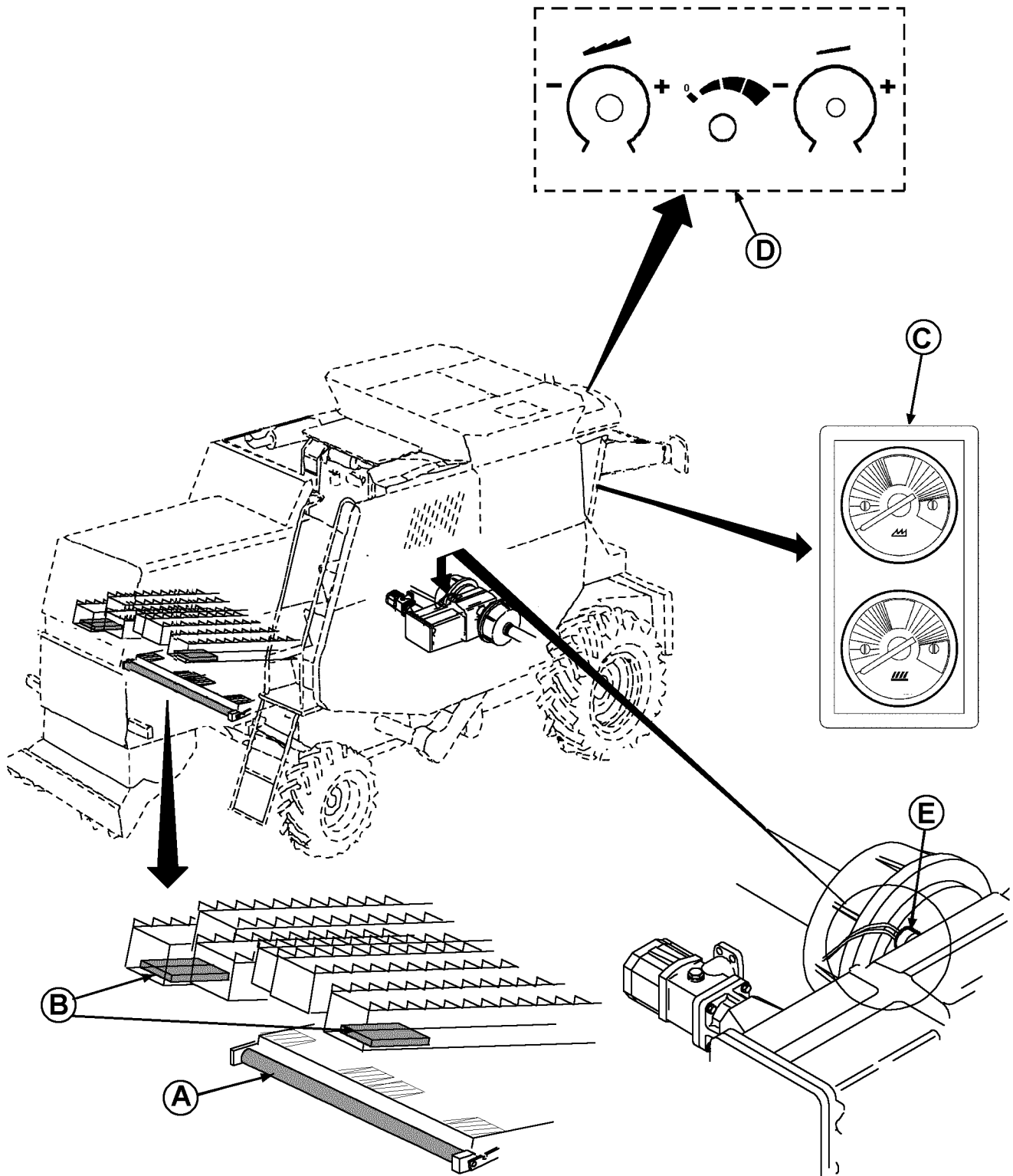


A—Cutting Position/ Return to Cut
B—Break Off Cut/Floating

CO216450 -UN-08NOV02

AG.CO03622,1451 -19-20AUG04-3/3

Harvest Performance Monitor



A—Sieve sensor
B—Straw walker sensors

C—Display unit

D—Adjusting/selecting unit

E—Ground speed sensor

Continued on next page

AG.CO03622.1452 -19-20AUG04-1/2

CQ191872 -UN-20AUG03

General Description

The harvest performance monitor records the amount of grains that hit its sensors at the cleaning shoe (A) and straw walkers (B). Ground speed is measured via sensor (E). Once this factor has been taken into account, the loss rate is displayed on the display unit (C). Display unit (C) indicates the loss level that is acceptable to the user in relation to the area harvested.

The performance monitor enables the operator to utilize the combine's maximum capacity within the selected performance range. After the operator has

adjusted the combine and cutting platform to suit the harvesting conditions, the monitor must also be calibrated (adjusted) to these conditions by means of the adjusting/selecting unit (D).

Incorrect adjustment and inadequate servicing of the combine always results in grain loss and reduced performance. The causes of grain loss are dealt with in detail in the "Preparations and Field Operation" section. Particular attention should be paid to the information provided on "Grain Loss—Explanations and Examples" and "Prevention of Grain Loss—General".

AG,CO03622,1452 -19-20AUG04-2/2

Operational Adjustment of Harvest Performance Monitor sensors

Precondition: Combine is adjusted to peak efficiency.

While threshing, adjust potentiometers (A) and (B) one after the other so that the needle on display unit (C) moves to the center of the green sector (X) when there are grain losses.

I — Setting potentiometer for straw walker losses:

- Use potentiometer (A) to bring the needle into the green sector (X).

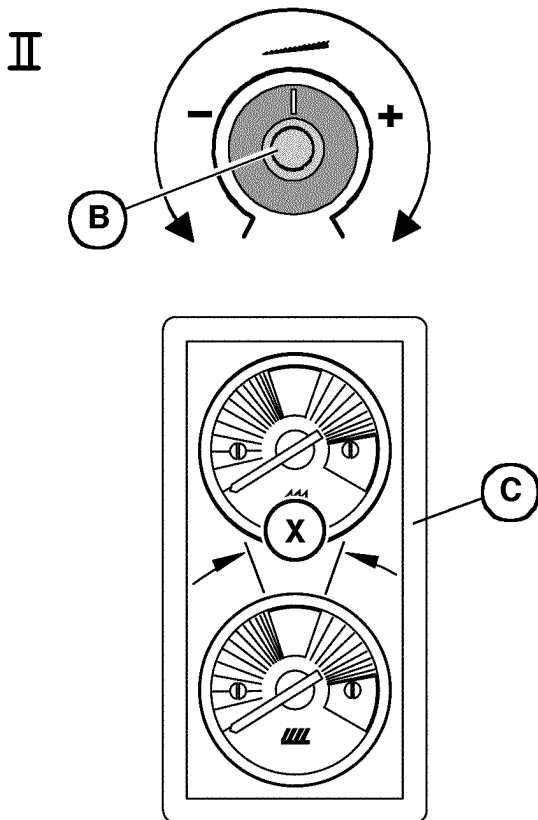
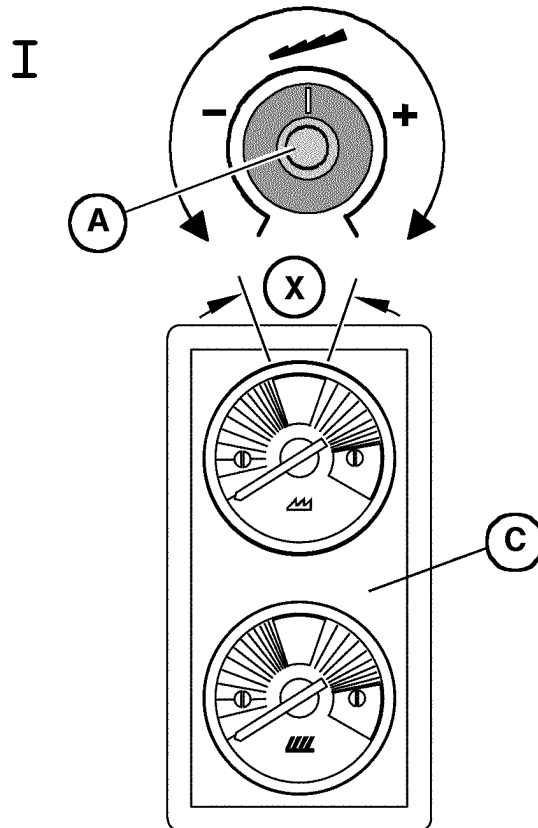
II — Setting potentiometer for cleaning shoe losses:

- Use potentiometer (B) to bring the needle into the green sector (X).

Grain loss constantly varies. This means that the sensors on the cleaning shoe and straw walkers will transmit signals of varying intensity to the display unit. If these signals rise or fall in relation to the preset value, the needle on the display unit will swing to the left or the right.

NOTE: If no losses occur (and therefore none are displayed) even at maximum sensitivity, leave the two potentiometers (A) and (B) set no higher than the “two o’clock” position.

A—Potentiometer for straw walker sensitivity
B—Potentiometer for cleaning shoe sensitivity
C—Display unit
X—Green sector

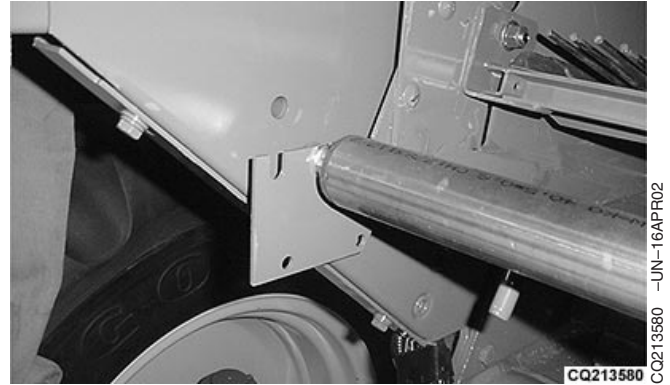


CO216461 -UN-20AUG03

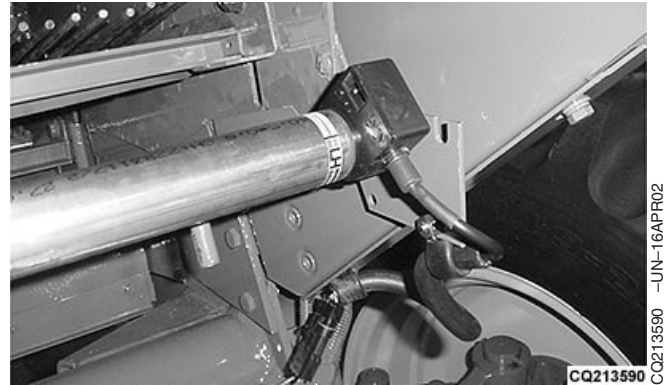
CO216471 -UN-20AUG03

Operational Adjustment of Harvest Performance Monitor (Continued)

1. If the needle moves towards “-” and stays there for more than 20 seconds, the combine’s ground speed is too low, i.e. the harvester is not performing at its peak. In this situation increase combine ground speed until the needle returns to the center of the green sector.
2. If the needle moves towards “+” and stays there for more than 20 seconds, the combine’s ground speed is too high and grain loss increases. Reduce combine ground speed until the needle returns to the center of the green sector.
3. If the needle remains in the “+” sector even after ground speed has been reduced, the straw walkers or sieve (cleaning shoe) may be plugged. In this case, check these components by selecting them individually with the selector switch. Remove the plug, if necessary. Once an acceptable level of performance has been achieved, adjust the potentiometers of the display unit as described above.
4. If harvesting conditions change during the course of the day (straw lying down or damp), or if the machine adjustment changes (fan speed), re-adjust the performance monitor. The sieve sensors may be moved fore-and-aft to any one of the three slots in the lateral supports.
5. Measure grain losses from time to time to determine whether the combine needs to be re-adjusted.



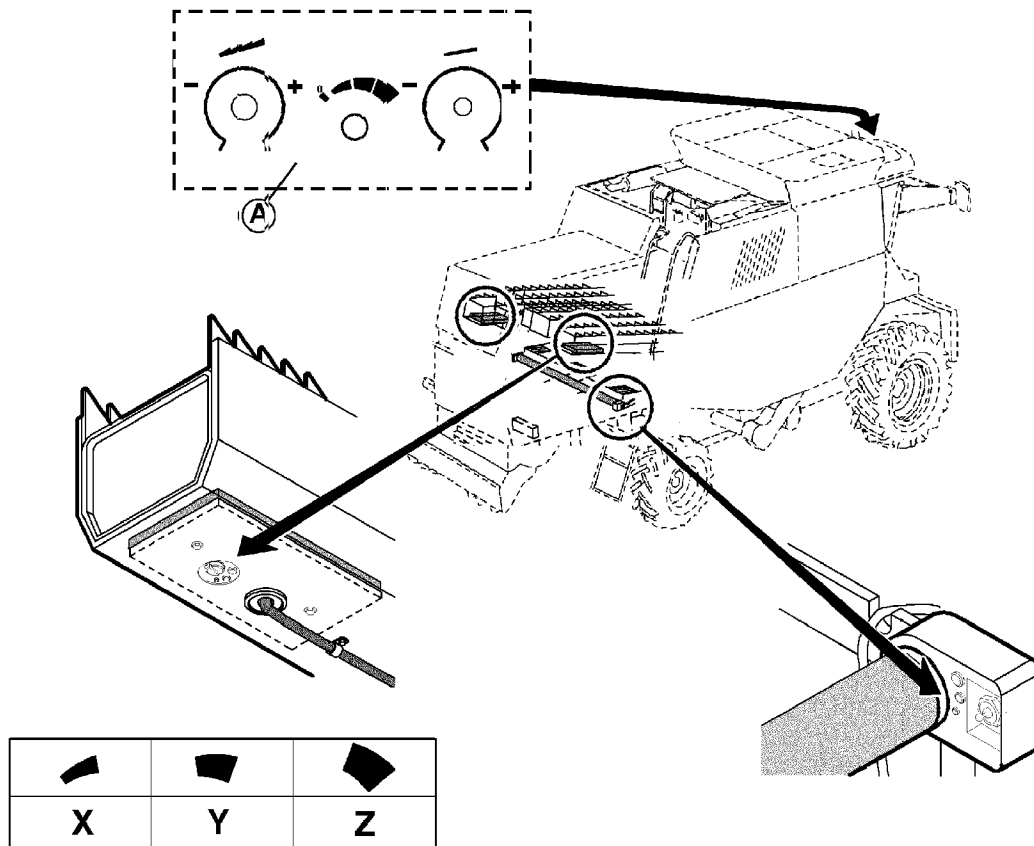
Sensor mounting, left



Sensor mounting, right

ML70882,00004BF -19-27JUL04-1/1

Operational Adjustment of Harvest Performance Monitor sensors



The amplification of the sensors signal is preselected in the cab at the adjusting/selecting unit of harvest performance monitor (A).

Adjustment of cleaning shoe and straw walker sensor sensitivity:

X — Greater sensor sensitivity — For finer grain crops

Y — Medium sensor sensitivity — for medium grain crops (covers a wide range of standard crops).

Z — Lower sensor sensitivity — for coarse grain crops.

NOTE: Always leave the sieve and straw walker sensors at a medium setting.

CO191882 -UN-30JUL04

AG,CO03622,1457 -19-30JUL04-1/1

Operational Check of Harvest Performance Monitor



CAUTION: Do not start engine.

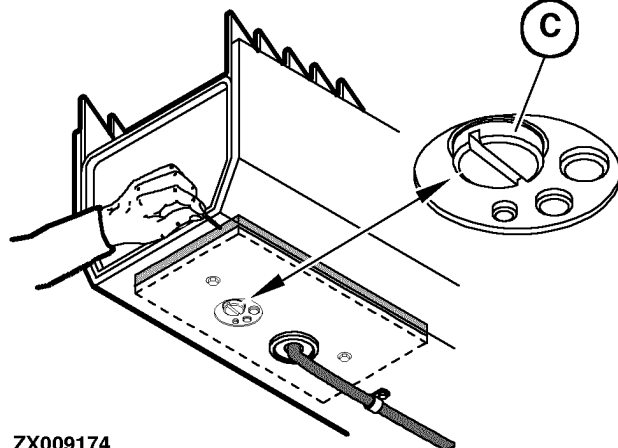
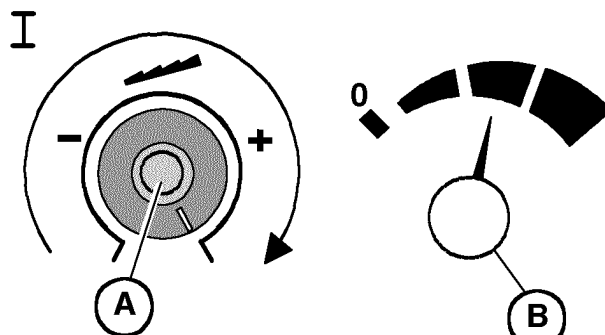
Move road safety switch to field position.
Turn starter key from position (0) to position (II)
Switch threshing unit to ON position.

I — Straw Walker Sensors Check:

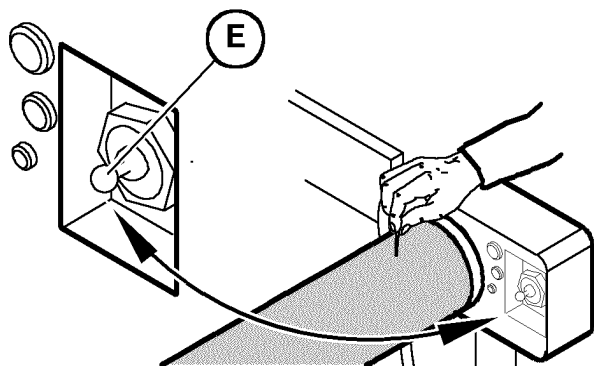
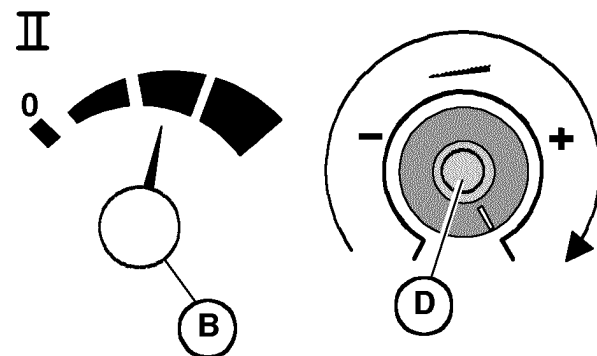
- Turn potentiometer (A) clockwise as far as it will go.
- Place rotary switch (B) in the position for medium grain.
- Rotary switch (C) should be centered.
- Actuate the left and right straw walker sensors by tapping them lightly with a hard object or by dropping kernels on them. A second person is needed to observe the needle of the display. The needle must be seen to move.

II — Check cleaning shoe sensor:

- Turn potentiometer (D) clockwise as far as it will go.
- Place rotary switch (B) in the position for medium grain.
- Tumbler switch (E) should be in the middle position.
- Check cleaning shoe sensor in the same way as the straw walker sensors.
- Switch on the parking light and check whether the display light is on.
- Switch off the parking light. Disengage the threshing unit and remove the starter key.
- If a fault occurs during the check described above, have the fault rectified by your John Deere dealer.



ZX009174

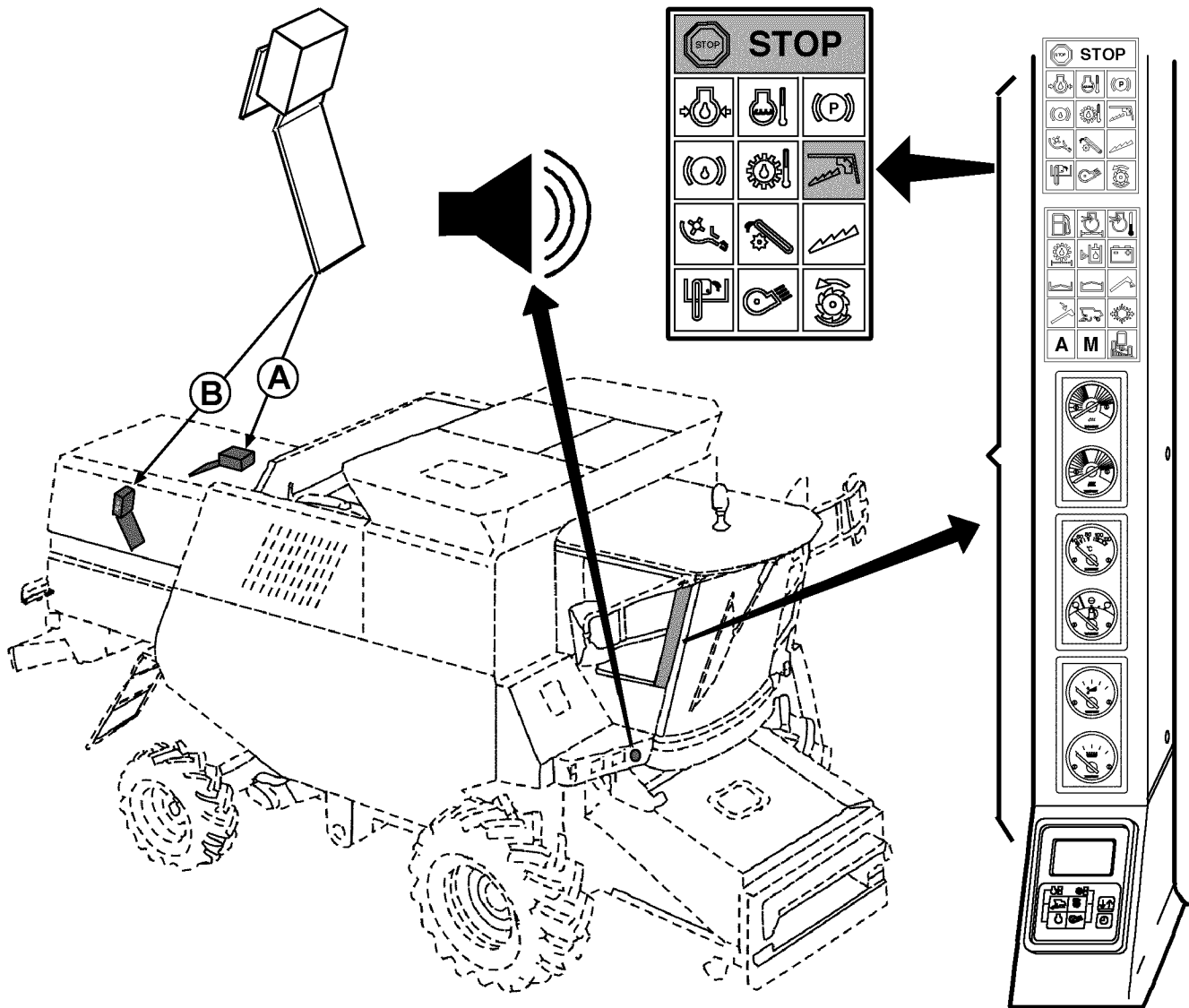


ZX009534

ZX009174 -UN-22MAY96

ZX009534 -UN-08NOV96

Straw Walker and Chopper Warning Device



A—Sensor above straw walker B—Sensor above straw chopper baffle

Daily checks

Check straw walker and chopper warning device daily, with engine shut off and ignition engaged, before operating the combine.

Press contacts by hand, moving them against solenoid to make sure warning signal sounds correctly.

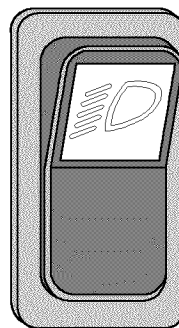
CO194751 -UN-11NOV02

Lighting System and Signals

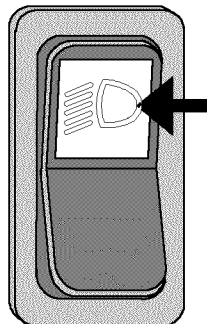
Parking Light and Headlight Tumbler Switch

- I—Light functions off
- II—Parking lights, indicator and instrument lighting on, plus clearance lights in certain countries only
- III—Headlight on, at starter switch positions I + II (ignition) only

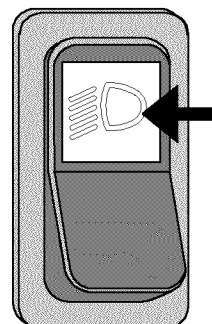
I



II



III



ZX008376

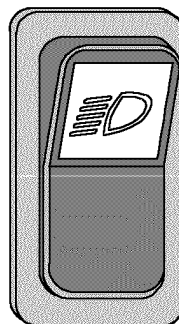
ZX008376 -UN-31JAN96

AG.CO03622,1435 -19-13MAR02-1/1

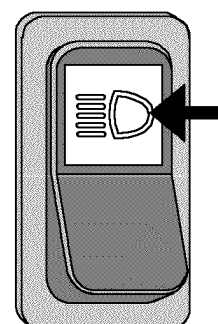
Full and Low-Beam Tumbler Switch

- I—Low-beam on
- II—Full-beam on

I



II



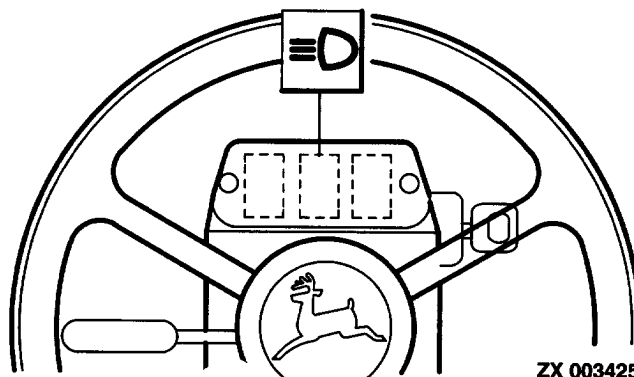
ZX008377

ZX008377 -UN-31JAN96

AG.CO03622,1436 -19-13NOV01-1/1

Full-Beam Indicator Light

The full-beam indicator light comes on when full-beam is selected.



ZX 003425

ZX003425 -UN-25AUG00

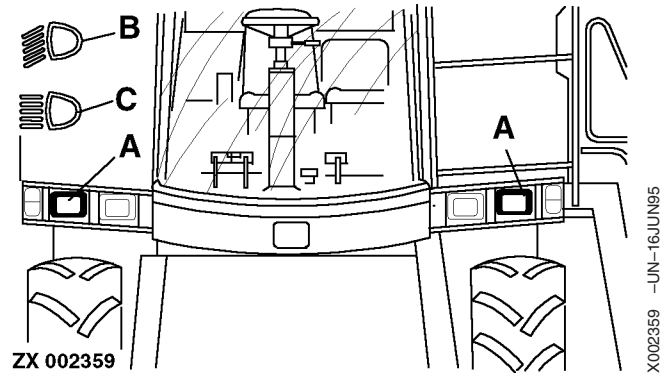
AG.CO03622,1460 -19-02AUG99-1/1

Headlights

Low and full-beam headlights are provided.

Always switch to low-beam when oncoming traffic appears.

- A—Headlights
- B—Low-beam
- C—Full-beam



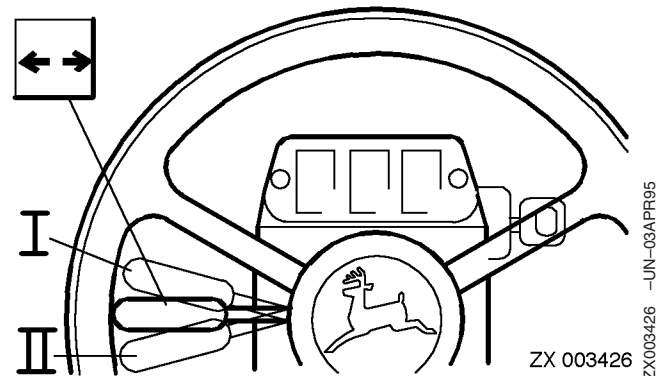
AG,CO03622,1461 -19-02AUG99-1/1

Turn-Signal Switch

Use the turn-signal switch when driving on public roads.

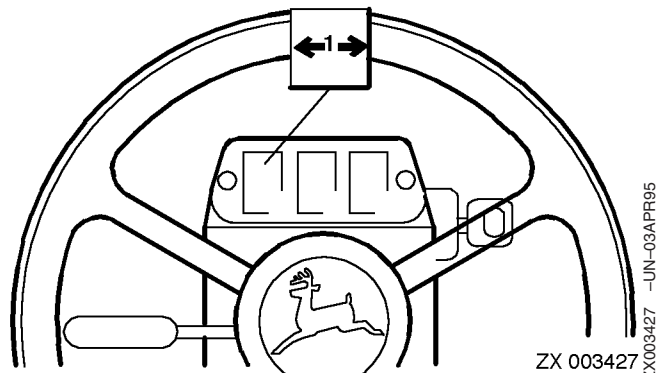
NOTE: The turn-signal switch is not self-canceling.

- I—Right-hand turn
- II—Left-hand turn



AG,CO03622,1462 -19-15NOV02-1/1

Turn-Signal Indicator Light



AG,CO03622,1463 -19-05FEB02-1/1

Rear Turn-Signal Lights, Tail Lights and "STOP" Lights

Turn-signal light switch

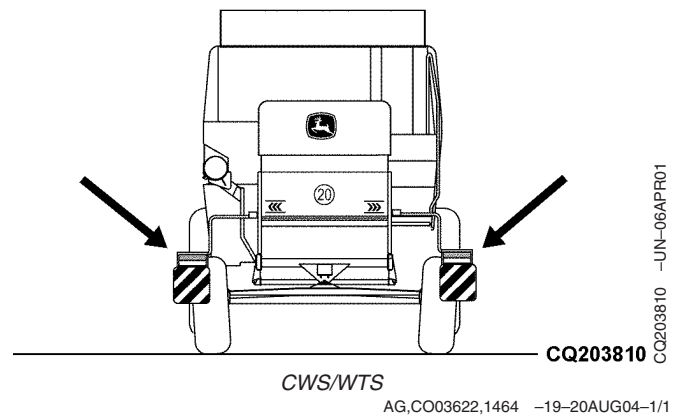
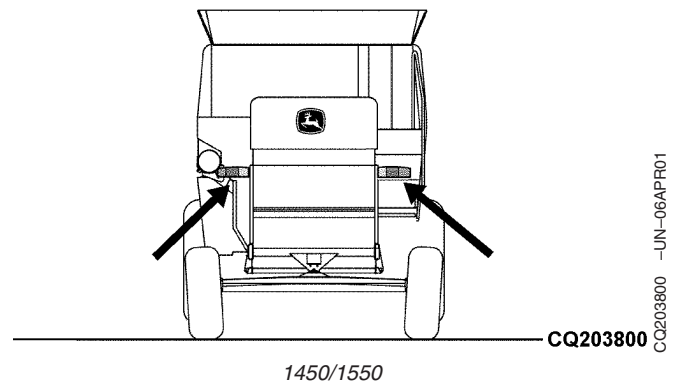
The turn-signal lights light up when the turn-signal switch or hazard warning switch are operated.

Tail Lights

The tail lights light up as soon as parking lights, low-beam headlights or full-beam headlights are selected.

"STOP" Lights

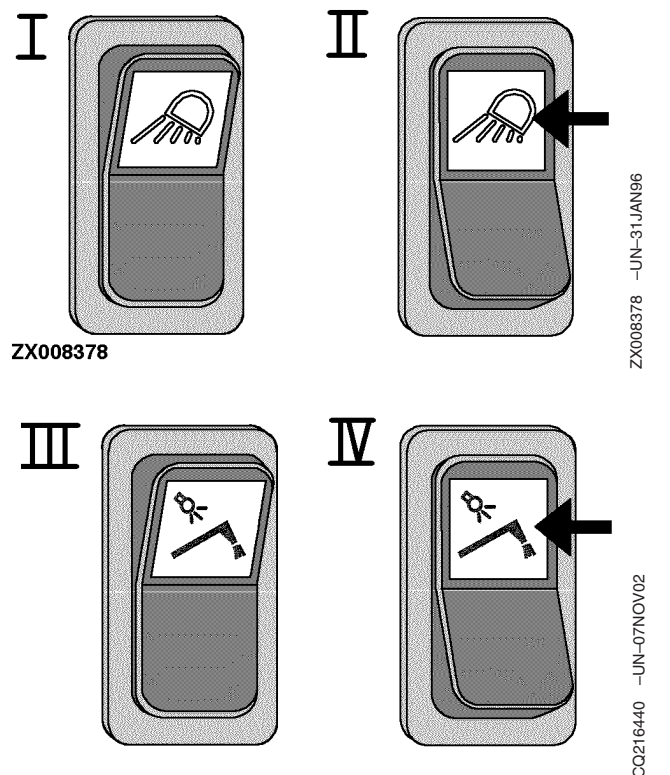
The "STOP" lights light up when the brake pedals are depressed, provided the ignition is switched on.



Tumbler Switch For Work Lights on Cab Roof and Unloading Auger

The work lights on cab roof and unloading auger can be switched ON separately with the ignition key in position I or II.

- I—Work lights on cab roof - OFF
- II—Work lights on cab roof - ON
- III—Work lights on unloading auger - OFF
- IV—Work lights on unloading auger - ON



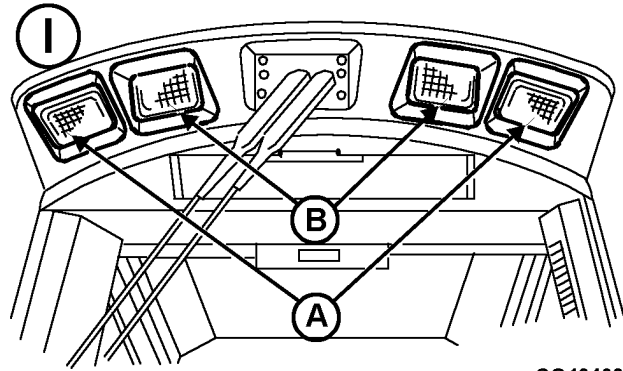
Work Lights on Cab Roof and Unloading Auger

The two work lights (A) are factory adjusted to a width of 6.10 m (20 feet). If necessary, adjust the width according to the header used.

The work lights (B) illuminate the header center.

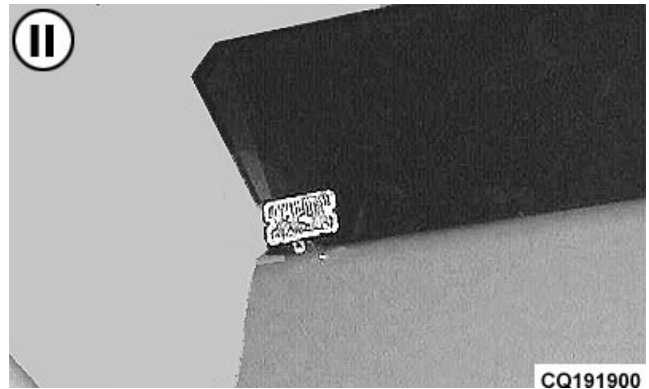
I—Work lights on cab roof

II—Work lights on unloading auger



CQ194030

—UN-06DEC99



CQ191900

—UN-01NOV99

AG,CO03622,1466 -19-13AUG02-1/1

Tumbler Switch for Work Lights on Operator's Platform and Mirror Arms

The two additional work lights on the operator's platform (inner lights), the work lights on the mirror arms and the rear lights can only be switched on when the road safety switch is in the field (off-road) position.

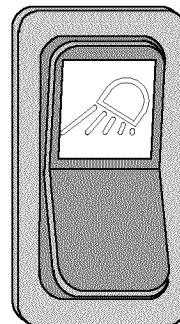
CAUTION: Work lights must be switched on only when operating in the field.

I—Work lights on operator's platform and rear lights on

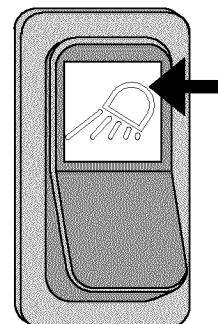
II—Work lights on mirror arms-ON

III—Off

I

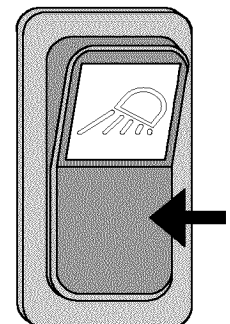


II



ZX009177

III

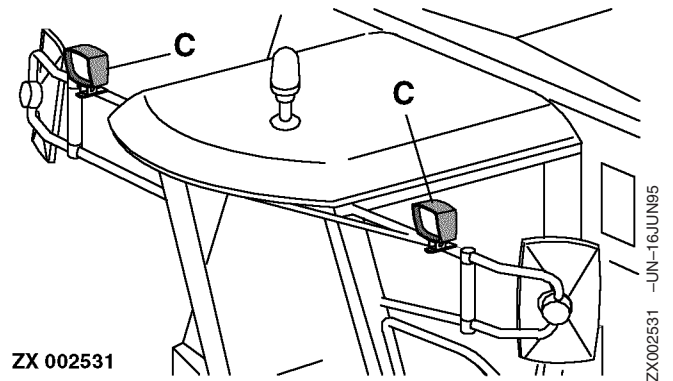
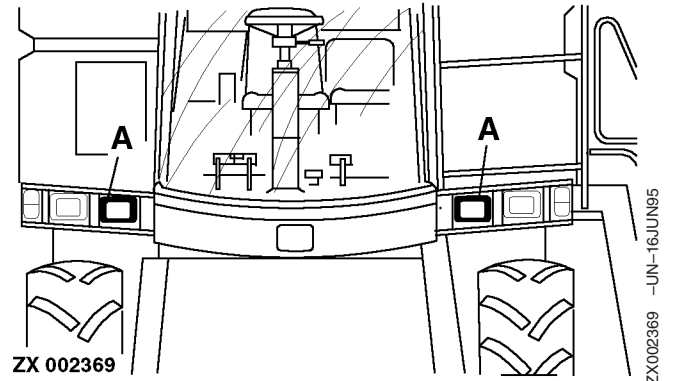


—UN-22MAY96

AG,CO03622,1487 -19-05NOV02-1/1

Work Lights on Operator's Platform And Mirror Arms

A—Work lights on operator's platform
C—Work lights on mirror arms



AG,CO03622,1467 -19-13MAR02-1/1

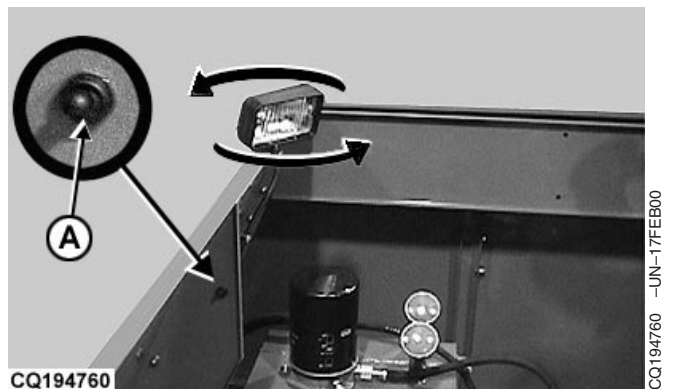
Engine Compartment Lighting

The engine compartment lighting should be used while servicing the engine at night. Switch on the light via switch (A), near to the headlamp.

This light also functions as a rear light.

This light is assembled in a support that rotates according to the operator's needs, which may illuminate the engine compartment or the combine's rear hood.

NOTE: When the multifunction control handle is pulled backwards, the engine compartment lighting will turn on.

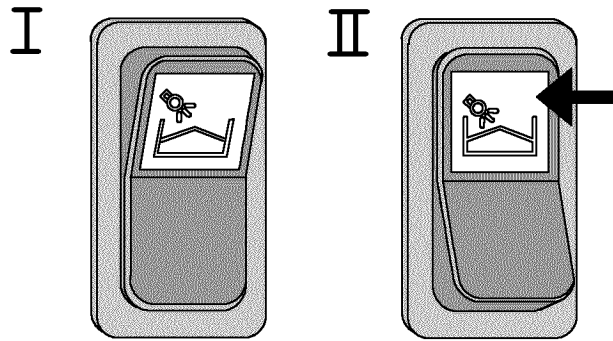


AG,CO03622,2853 -19-28JUL04-1/1

Tumbler Switch for Grain Tank Lighting

Grain tank lighting may be switched on whenever the ignition is engaged.

- I—Grain tank light off
- II—Grain tank light on



ZX009178

ZX009178 -UN-22MAY96



CQ208810

CQ208810 -UN-17SEP01

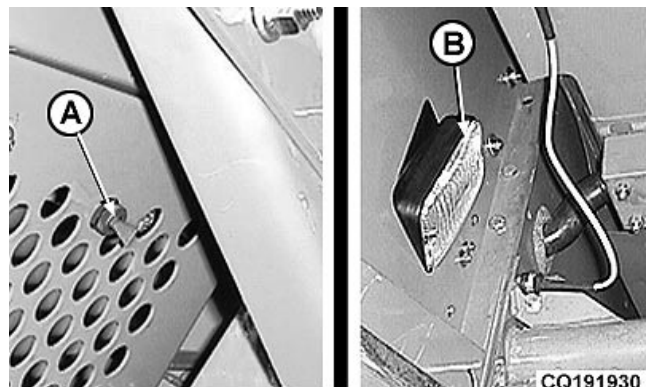
AG,CO03622,1468 -19-13MAR02-1/1

Straw Walker and Cleaning Shoe Light

IMPORTANT: Switch on light inside straw walker only to perform service or maintenance work.

Turn on light (B) to illuminate the straw walker and cleaning shoe area. Use switch (A) located outside of the shield.

- A—Switch
- B—Light



CQ191930

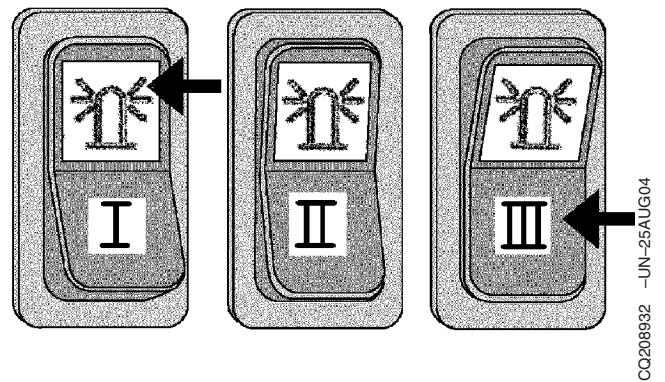
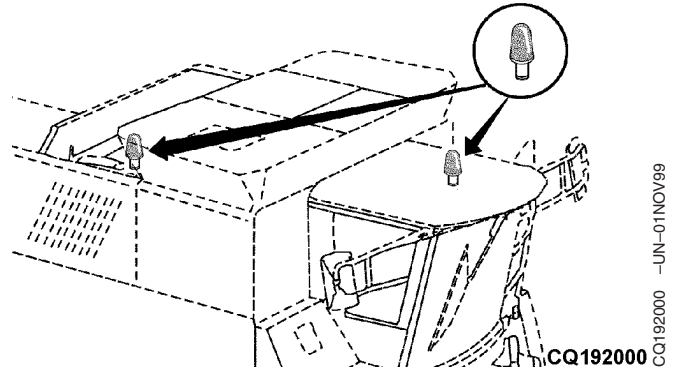
CQ191930 -UN-01NOV99

AG,CO03622,1469 -19-20AUG04-1/1

Intermittent Indicator Light Switch Position

NOTE: In some countries intermittent indicator lights must be on while traveling on roads.

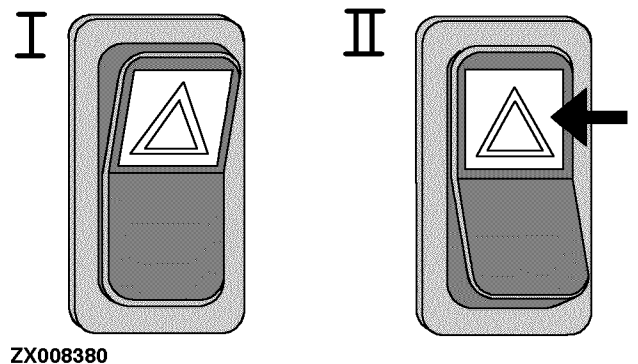
- I—On
- II—Off
- III—Light up when grain tank is 3/4 full



AG,CO03622,1470 -19-22JUL04-1/1

Tumbler Switch for Hazard Warning Lights

- I—Hazard warning lights off
- II—Hazard warning lights on



AG,CO03622,1471 -19-03AUG99-1/1

Using Hazard Warning Lights

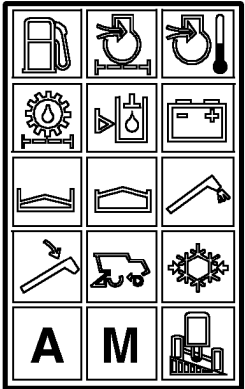
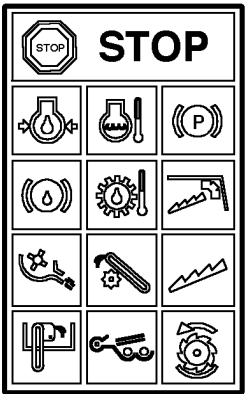
Road traffic regulations in some countries require that the hazard warning lights must be switched on whenever the combine is stopped at the side of the road.

AG,CO03622,1472 -19-03AUG99-1/1

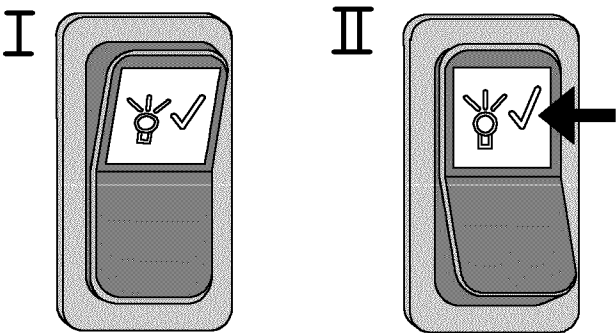
Tumbler Switch for Indicator Light Bulb Test

This test can only be performed with ignition engaged.

- I—Indicator light bulb test off
- II—Indicator light bulb test on



CQ208940 -JUN-16OCT01



ZX008381

ZX008381 -JUN-30JAN96

AG,CO03622,1473 -19-13AUG02-1/1

Operator's Cab

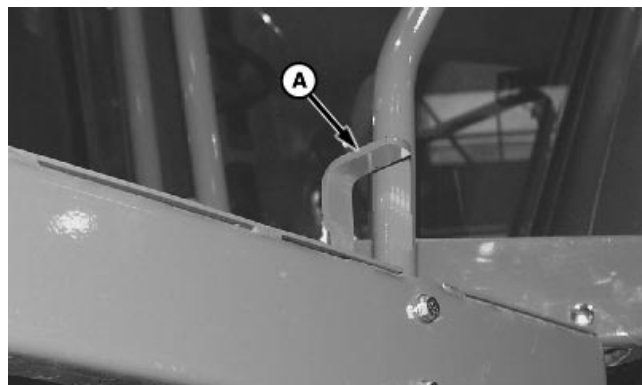
Cab Access Ladder

The ladder can be positioned at ground level or at the level of the cabin floor by means of locking latch (A).

Do not ride on or try to climb up front or rear ladder when the combine is in motion.

NOTE: In very muddy conditions, remove the bottom rung.

IMPORTANT: If the ladder locking latch is loose, clean the area of the pin. Do not use oil or grease in this area.



H72668 -UN-24JUN02

A—Lock latch

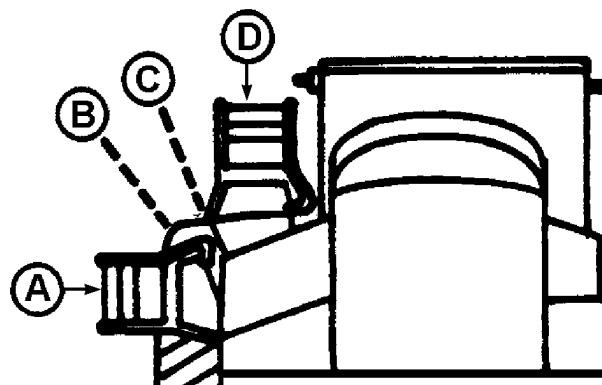
OOU6075,000224F -19-18MAR04-1/1

Cab Access Ladder Positions

The ladder has 4 positions.

The ladder must be positioned according to requirements.

- A—Field position
- B—Field position (when the width of the header is less than that of the combine)
- C—Road transport position (for ladder with long extension)
- D—Road transport position



CO222820 -UN-17MAR04

AG,OOU1035,627 -19-17MAR04-1/1

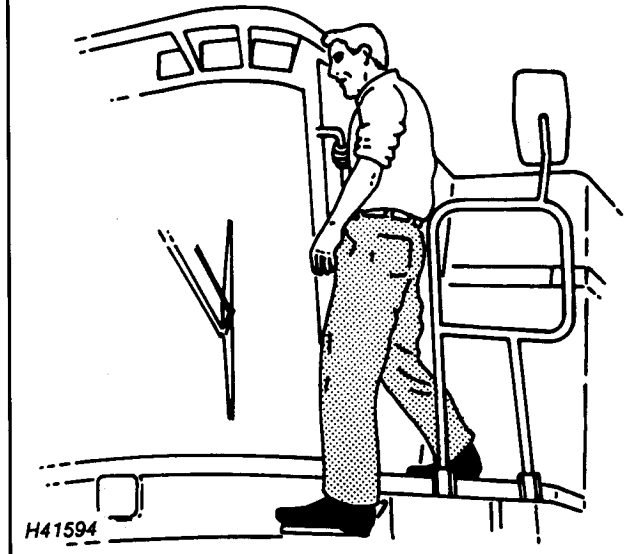
Cleaning Cab Windows, Service Lights and Windshield Wiper

CAUTION: Fully raise the feeder house and slot the safety stops in place. For your safety, close the cab door and use the hand grips.

IMPORTANT: Do not move the wiper arm manually so as not to damage the mechanism.

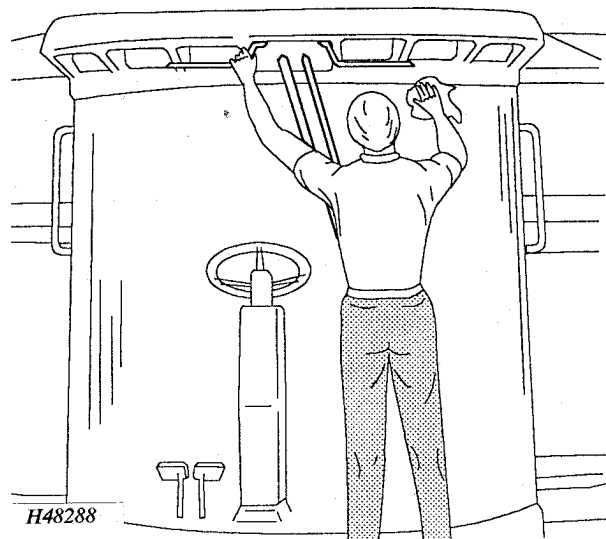
Stay positioned over the feeder house to clean the cabin windshield and to service the main headlights or the windshield wiper.

To maintain balance use the handrails on either side of the cab and the hand grips on either side of the windshield wiper.



Access to Feeder House

H41594 -UN-22FEB90



Hand grips

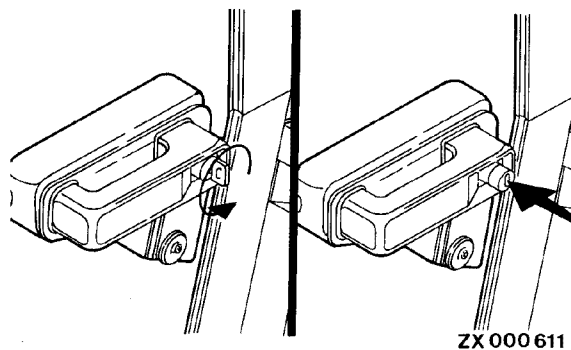
H48288 -UN-08AUG97

ML70882,00004C3 -19-29JUL04-1/1

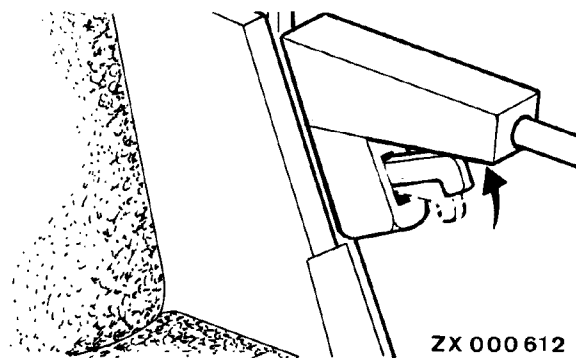
Opening Cab Door

From outside: Unlock the door with the starter key. Press the button and open the door.

From inside: Pull up the door-opening lever.



ZX000611 -UN-03APR95



ZX000612 -UN-03APR95

AG.CO03622,1474 -19-03AUG99-1/1

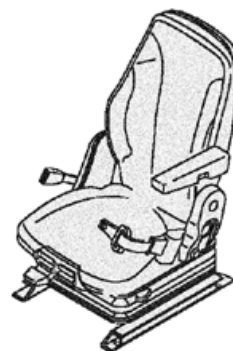
Operator Presence Switch—CWS/WTS

All operator seats models of CWS and WTS combines have presence switch. This is a safety switch located in operator seat. It is activated 5 seconds after the operator leaves the seat with the combine running.

When activated, it will disengage the unloading auger, header and feeder house reverser functions.

To re-engage any of the functions, sit down again on operator seat and turn the corresponding switch OFF and then ON.

IMPORTANT: Never disable this switch.



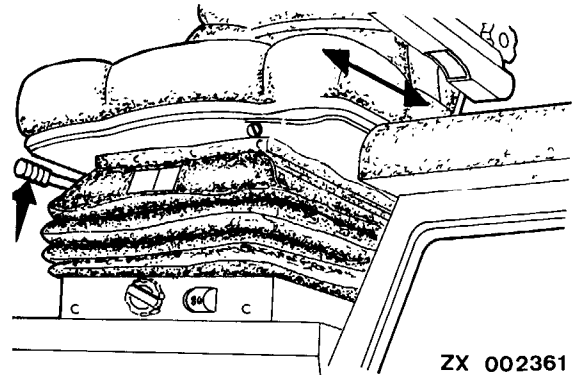
CQ219020 -UN-22AUG03

OU83340,00003F2 -19-20AUG04-1/1

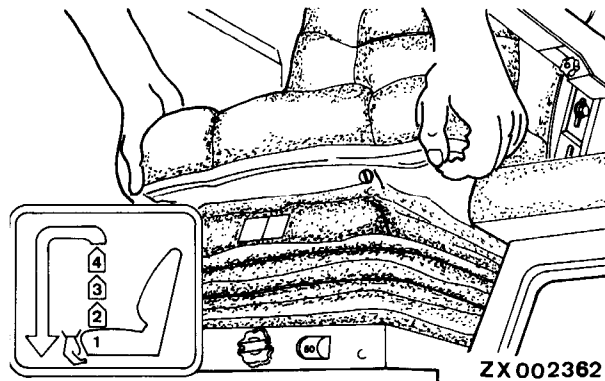
Mechanical Adjustment of Operator's Seat Position—CWS/WTs

Pull locking lever up and slide seat forward or backward.

To adjust the height, secure the seat with two hands and lift it up (3 positions). Should the seat be raised above the third detent position, it will automatically return to lowest position.



ZX002361 -UN-03APR95

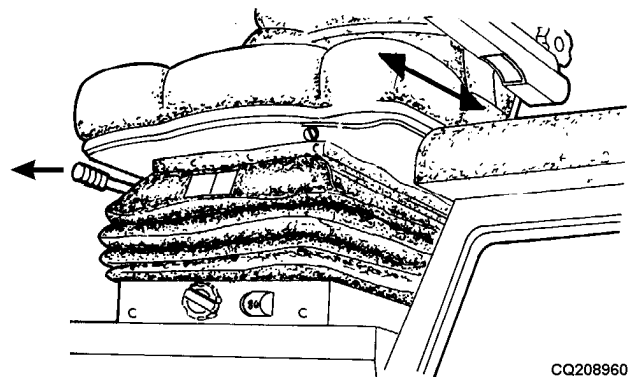


ZX002362 -UN-03APR95

AG.CO03622,1475 -19-20AUG04-1/1

Mechanical Adjustment of Seat Position

Pull locking lever to the side and slide seat forward or backward.



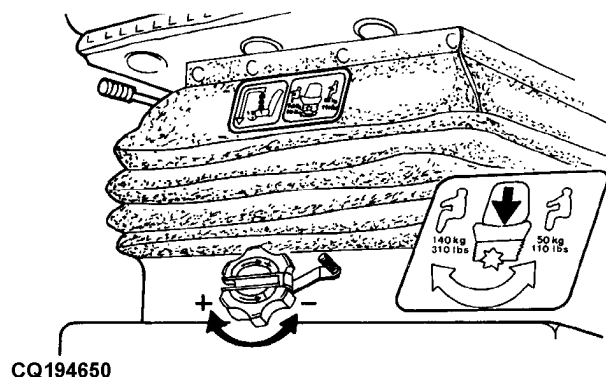
CQ208960 -UN-27SEP01

MB03730,00001EA -19-14MAR02-1/1

Adapting Seat to Operator's Weight

The seat can be adapted to the operator's weight.

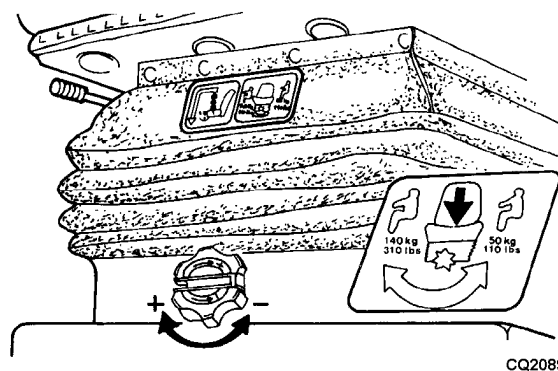
Turn the crank for more weight (+) or less weight (-).



CQ194650

Adapting Seat to Operator's Weight—CWS/WTS

CQ194650 -UN-17FEB00



CQ208970

Adapting Seat to Operator's Weight—1450/1550

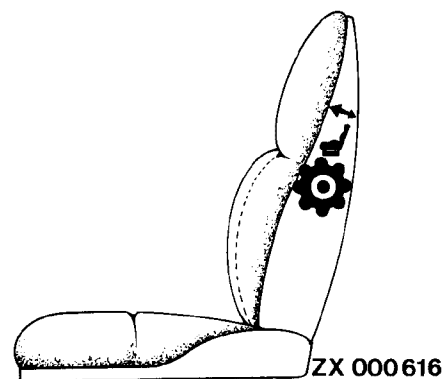
CQ208970 -UN-27SEP01

AG.CO03622,1476 -19-20AUG04-1/1

Lumbar Support (Only Mechanical Seat)—CWS/WTS

An adjustable lumbar support is incorporated into backrest of operator's seat.

Use l.h. or r.h. hand wheel to adjust lumbar support according to operator's requirements.



ZX 000 616

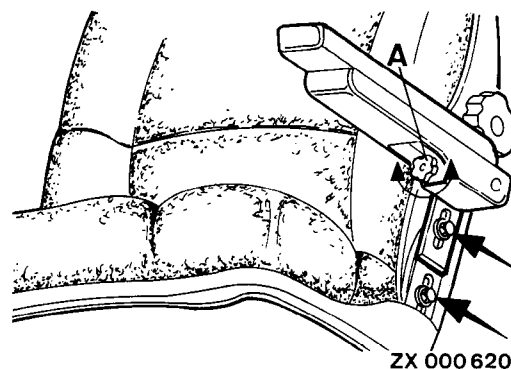
ZX000616 -UN-03APR95

OU83340,00003F1 -19-20AUG04-1/1

Adjusting the Armrest

Adjust armrest angle by means of wheel (A).

Armrest height can also be adjusted at the hinge.



ZX 000 620

ZX000620 -UN-10APR95

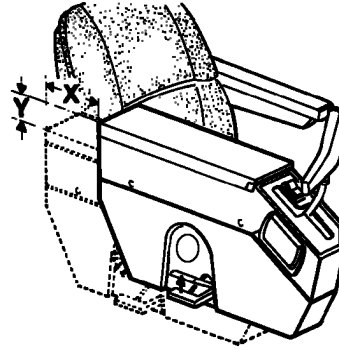
AG.CO03622,1478 -19-14MAR02-1/1

R.H. Armrest — Fore-And-Aft Adjustment

From the rear position, the armrest can be moved approx. 160 mm (6.3 in.) forward (X).

In addition, armrest height can be altered approx. 80 mm (3.1 in.) (Y).

Raise locking lever. Move armrest into desired position and release locking lever.

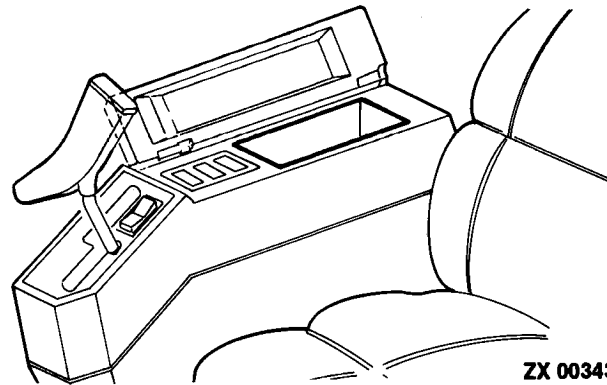


CQ209030

CQ209030 -UN-28SEP01

AG,CO03622,1479 -19-14MAR02-1/1

R.H. Armrest Storage Compartment



ZX 003430

ZX003430 -UN-03APR95

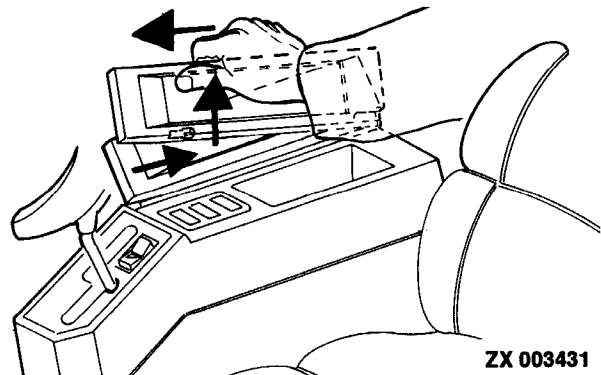
AG,CO03622,1480 -19-03AUG99-1/1

Cover of R.H. Armrest

Armrest cover can easily be removed to make notes:

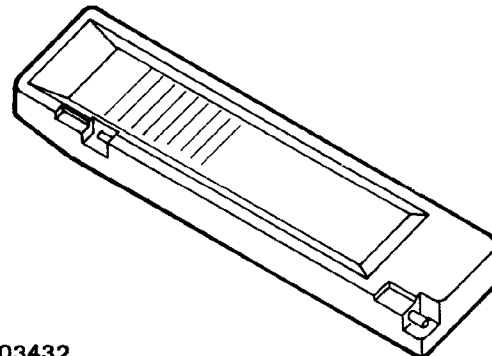
Open cover, grip at the front, press back, raise at the front and pull out.

The notes made with a pencil on the bottom of the cover may be easily removed with an eraser.



ZX 003431

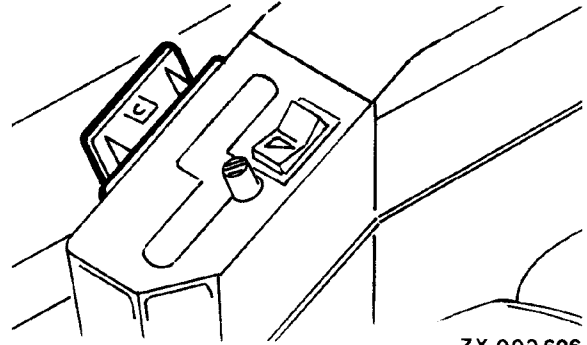
ZX003431 -UN-03APR95



ZX 003432

ZX003432 -UN-03APR95

AG,CO03622,1481 -19-03AUG99-1/1

Ashtray

ZX 000 626

ZX000626 -UN-03APR95

AG,CO03622,1482 -19-03AUG99-1/1

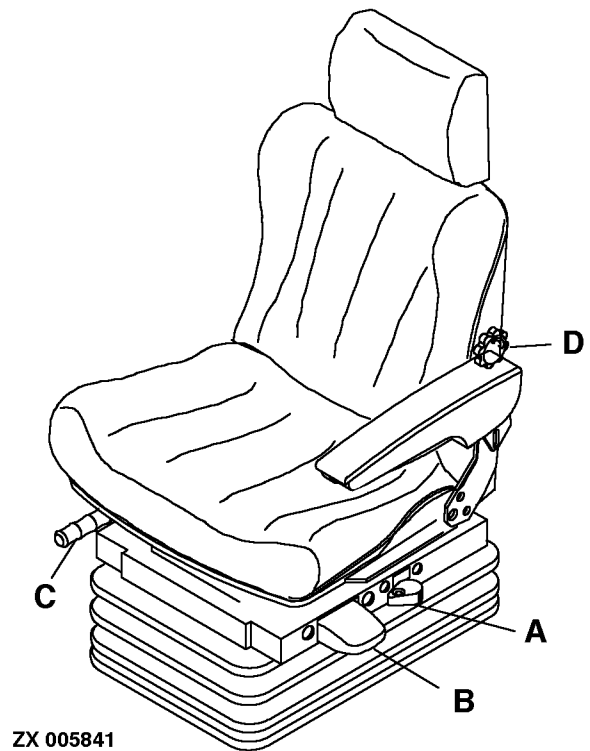
Air Comfort Seat (Option)

The seat's spring setting can be varied from soft to hard by means of lever (A).

After starting the engine, release lever (B) briefly to bring seat to its central position.

To adjust the height, pull lever (B) upward (raise seat) or push it down (lower seat).

- A—Spring setting adjustment
- B—Height and weight adjustment
- C—Horizontal adjustment
- D—Lumbar support adjustment



ZX 005841

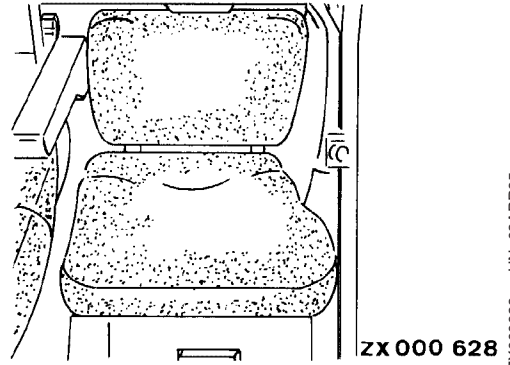
ZX005841 -UN-03APR95

AG,CO03622,1483 -19-04FEB02-1/1

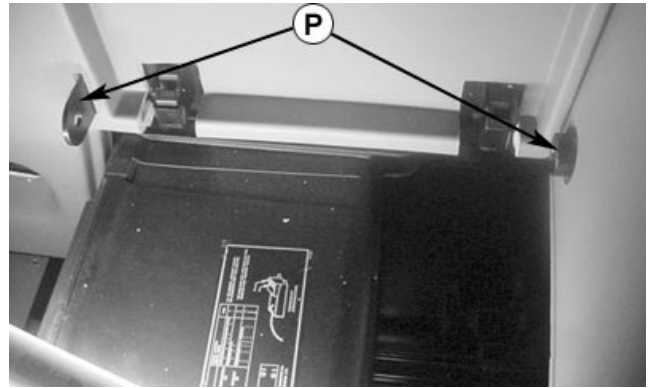
Passenger Seat

During harvesting only the operator and one passenger must occupy the combine cab. The passenger must only stay in the cab for a specified period of time (e.g. training).

NOTE: CWS/WTS combines have anchorage points and the respective cap screws for the installation of a 2-point seat belt (option). We recommend that a AZ51211 model seat belt be installed. The points (P) are located as shown in illustration.



ZX000628 -UN-08APR95



CO219380 -UN-08SEP03

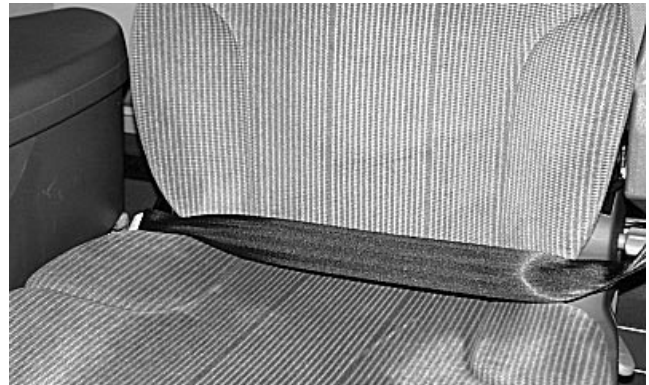
Seat belt anchorage points—CWS/WTS

AG,CO03622,1484 -19-20AUG04-1/1

Seat Belt

The seat belt is standard equipment for the operator's seat. The lap type seat belts have a quick release push button and automatic belt tensioner retraction to allow unrestricted movement to and from cab.

CAUTION: Inspect seat belts and mounting hardware at least once a year. If the seat belt system, including the mounting hardware, buckle, belt or retractor, show any sign of damage such as cuts, fraying, extreme or unusual wear, discoloration or abrasion, the entire seat belt system should be replaced immediately. For your safety, only use original replacement parts. Consult your John Deere dealer.



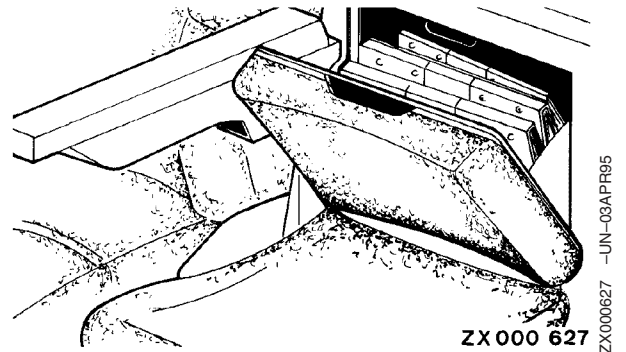
H67084 -UN-02APR01

OU83340,00003EE -19-20AUG04-1/1

Document Pack Compartment

This storage compartment is located in the passenger seat backrest.

For access to compartment, pull backrest forward.

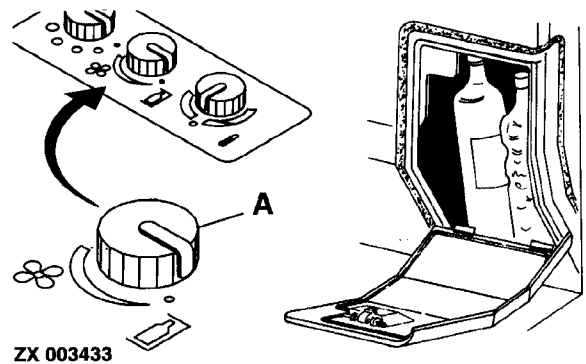


AG.CO03622,1485 -19-27AUG04-1/1

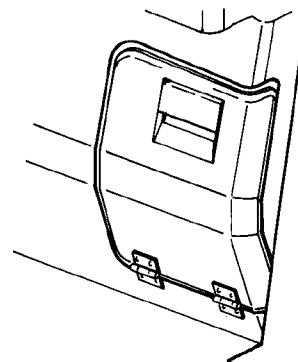
Cooling Compartment

The cooling compartment is located below the passenger seat and has sufficient space for bottles etc. (e.g. two 1.5-L bottles).

To increase cooling effect, turn rotary switch (A) clockwise (also refer to "Controls and Instruments" section).



ZX 003433



ZX 003434

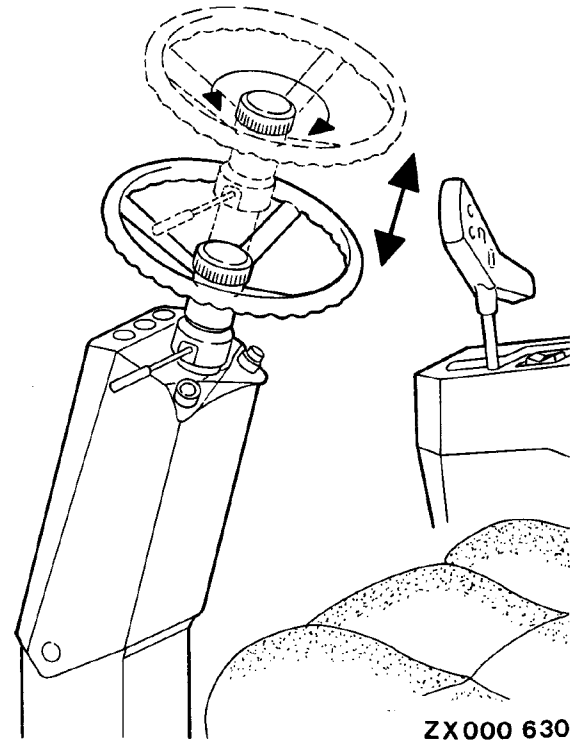
AG.CO03622,1486 -19-20AUG04-1/1

Steering Wheel Height Adjustment

CAUTION: Adjust steering wheel only when machine is stopped.

Loosen hub. Push or pull wheel to desired position.
Tighten hub.

Only a slight tightening of the hub is needed to hold steering wheel in selected position.



ZX000 630

ZX000630 -UN-03APR95

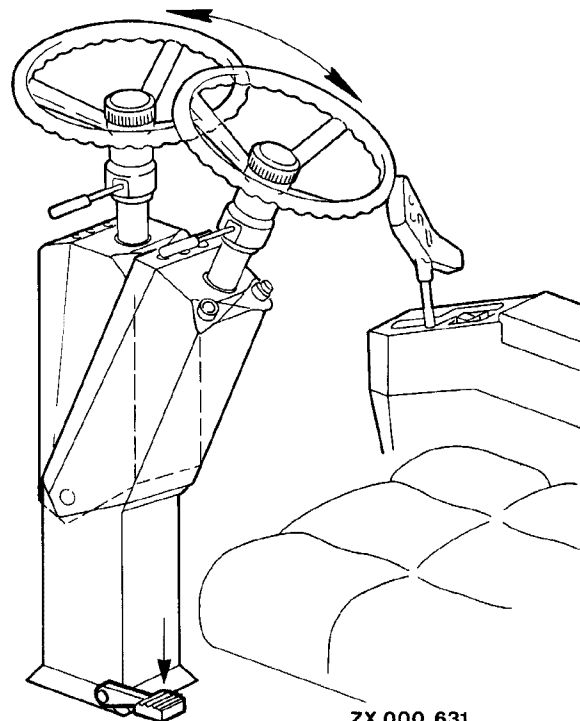
AG.CO03622.1488 -19-03AUG99-1/1

Steering Column Tilt Adjustment

CAUTION: Adjust column only when machine is stopped.

Column is spring loaded to the upright position. Do not step on pedal without securing steering wheel with both hands.

Press pedal to release lock on steering column. Adjust column to desired position. Column locks when pedal is released.



ZX 000 631

ZX000631 -UN-03APR95

AG.CO03622.1488 -19-03AUG99-1/1

Fire Extinguisher

An ABC type dry chemical rechargeable fire extinguisher and mounting brackets are installed on your combine.

Read the label on the extinguisher and become familiar with the instructions on how to use and maintain it. Once the extinguisher is discharged, no matter for how long, it must be recharged.



OU83340,00003EF -19-21AUG03-1/1

Fire Extinguisher Location

Fire extinguisher is located on platform ladder.



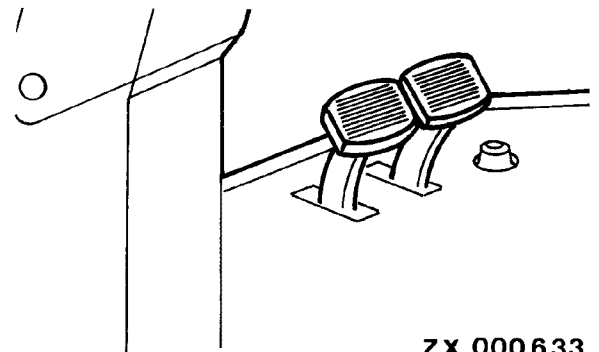
OUO6075,0000190 -19-28AUG03-1/1

Foot Brakes

For road travel, couple brake pedals.

For field operation, uncouple brake pedals.

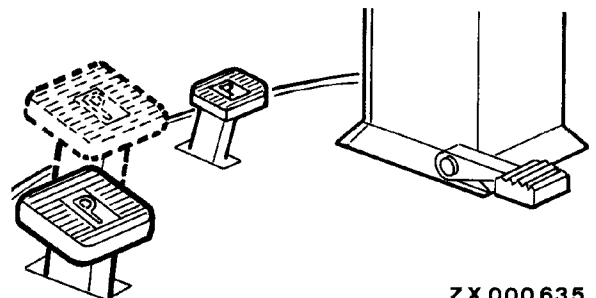
For details refer to "Driving and Transporting" section.



AG,CO03622,1490 -19-20AUG04-1/1

Parking Brake

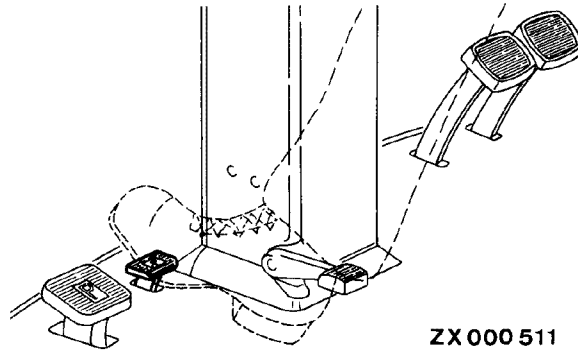
Apply parking brake when stopping combine harvester and when starting engine.



AG,CO03622,1491 -19-03AUG99-1/1

Releasing Parking Brake

To release parking brake, depress release pedal.

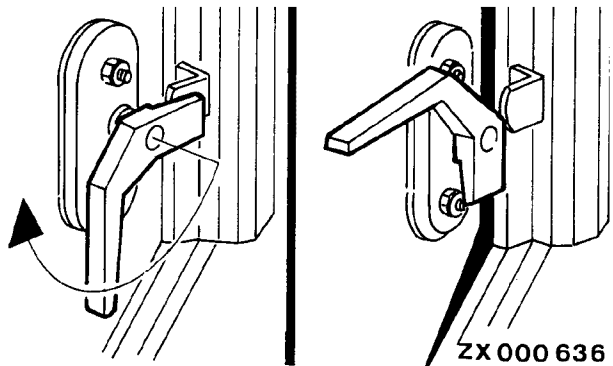


ZX000511 -UN-03APR95

AG,CO03622,1492 -19-03AUG99-1/1

Cab Side Window

To open, unlatch window.



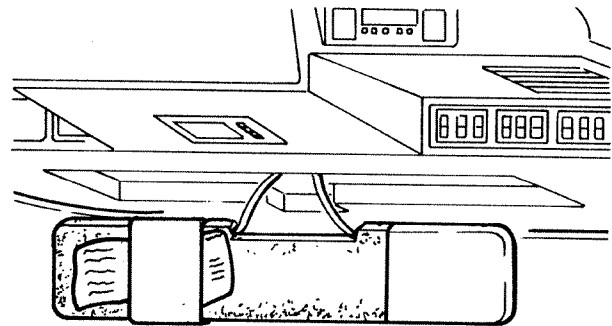
ZX000636 -UN-05APR95

AG,CO03622,1493 -19-03AUG99-1/1

Sun visor

Notes etc. may be stored on back of sun visor.

Adjust sun visor to suit conditions.



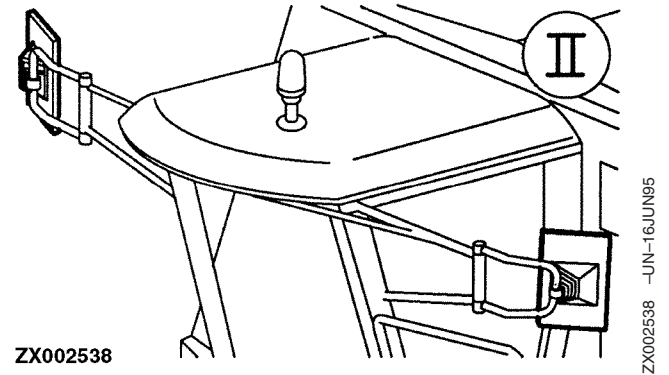
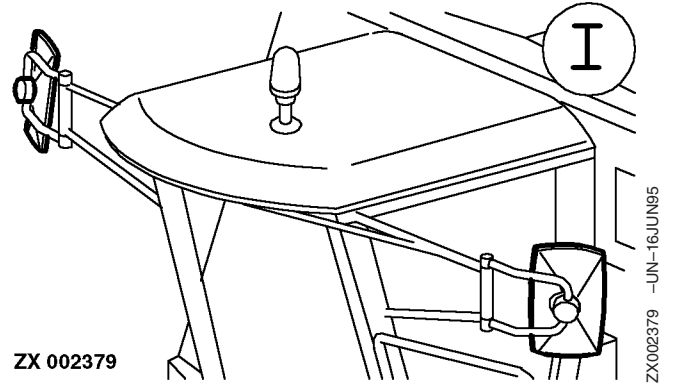
ZX002537 -UN-16JUN95

AG,CO03622,1494 -19-03AUG99-1/1

Outside Mirrors

Adjust outside mirrors according to needs.

- I—Manually adjusted outside mirrors
- II—Electrically adjusted outside mirrors—CWS/WTs (option)

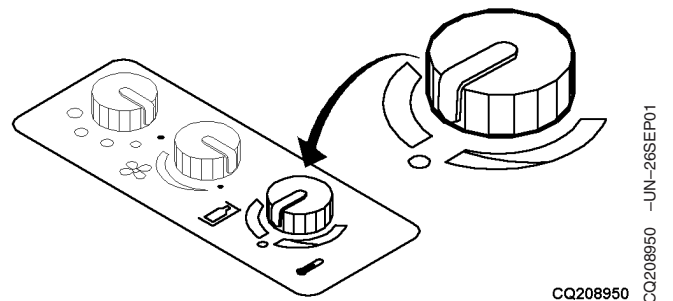


AG.CO03622,1495 -19-20AUG04-1/1

Heater—CWS/WTs (option)

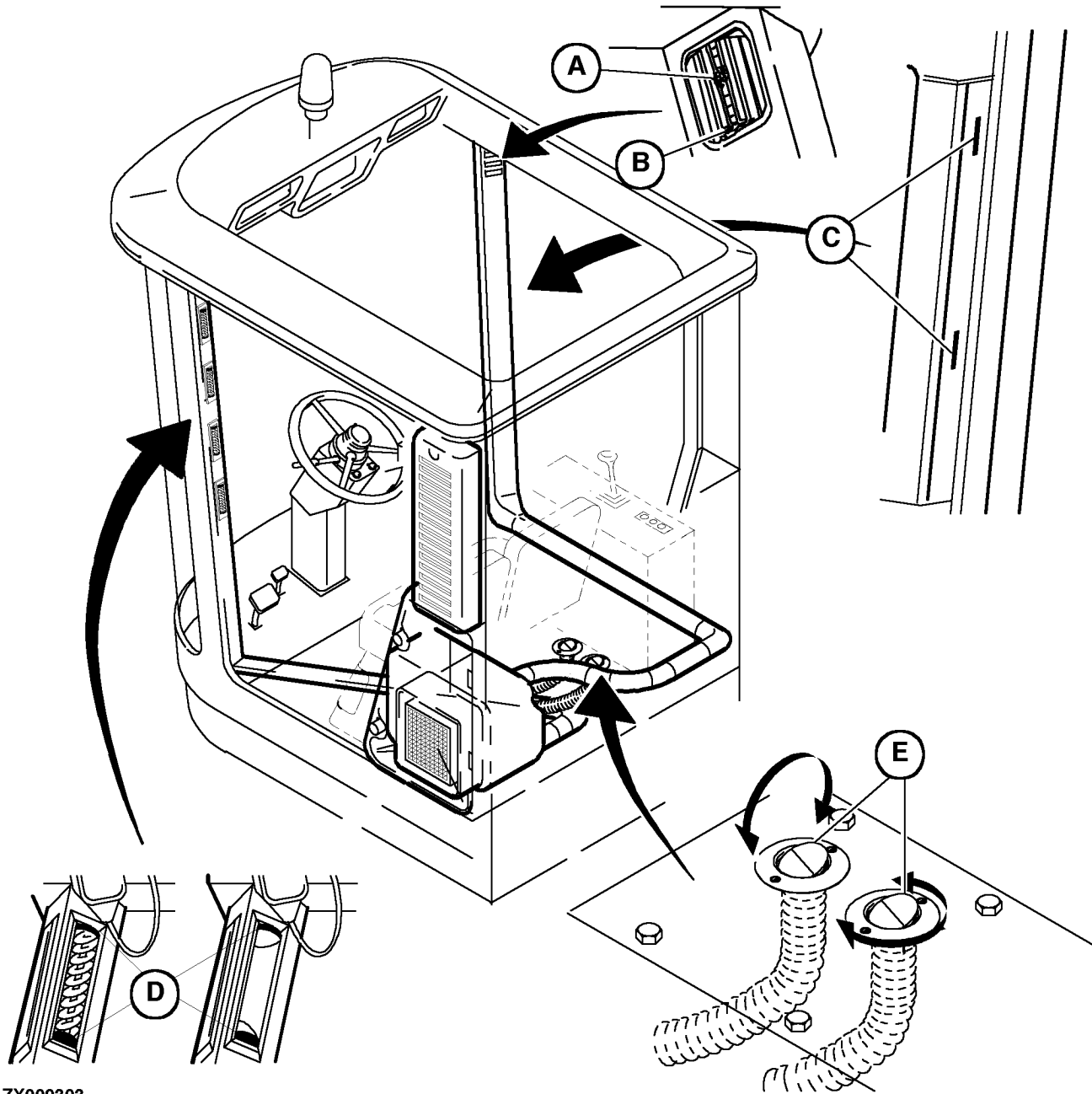
IMPORTANT: Always turn on fan before engaging heater.

For temperature control, adjust knob anti-clockwise.



AG.CO03622,1496 -19-20AUG04-1/1

Adjustable Air Louvers



ZX009303

A—Wheel to regulate air flow C—Air louvers
B—Baffles adjustment

D—Wheel to regulate and
direct air flow.

E—Regulation of air flow and
baffles

Adjust air louvers to prevent misting of windows.

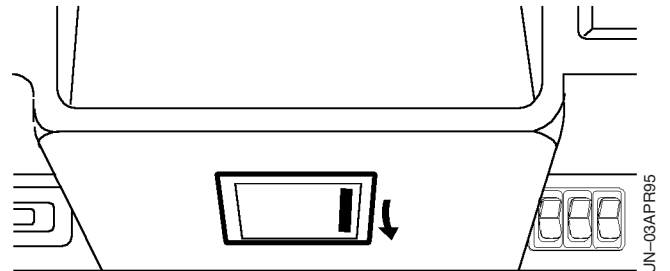
ZX009303 -UN-23MAY96

Cab Interior Lighting

Turn knurled wheel forward — On

Knurled wheel in center position — Off

Turn knurled wheel backward — On

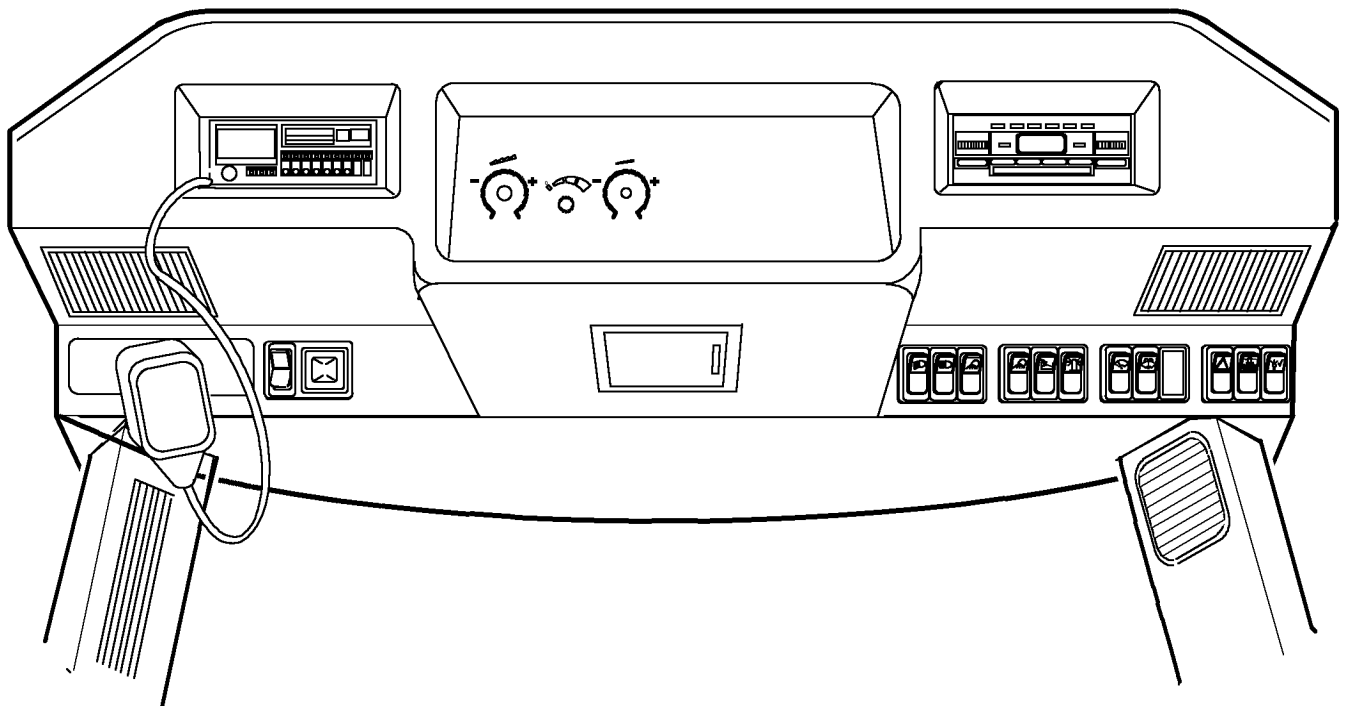


ZX 002560

ZX002560
—UN-03APR95

AG,CO03622,1498 —19-26SEP03-1/1

Radio And Citizens' Band Radio (Special Equipment)



ZX014274

ZX014274 —UN-16JAN98

The combine can be fitted with a radio and Citizens' Band radio as special equipment.

For operation, refer to manufacturer's instruction manual.

NOTE: Dimensions for the installation of radio and CB radio are standard: 182 mm (7.17 in.) wide, 53 mm (2.1 in.) high.

AG,CO03622,1499 —19-04FEB02-1/1

Pre-Starting Checks

Daily Checks

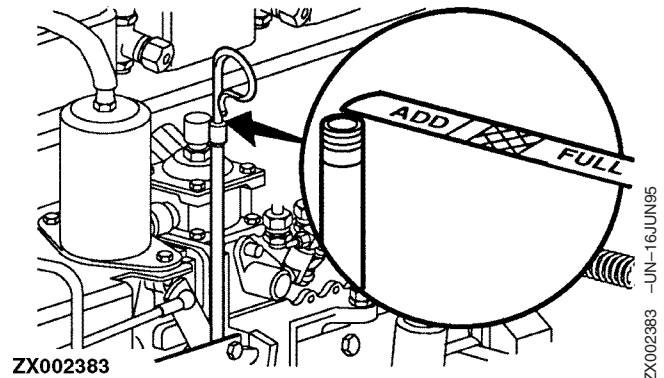
- ☐ Engine oil level.
- ☐ Air compressor oil level.
- ☐ Hydraulic System.
- ☐ Radiator Screen.
- ☐ Cooling system.
- ☐ Tires.
- ☐ Hydrostatic system.
- ☐ Fuel System.
- ☐ Indicator light test.
- ☐ Light functions.
- ☐ Brakes.
- ☐ Straw Walker and Chopper Warning Device.
- ☐ Shift lock system (CWS/WTS).

AG,CO03622,1500 -19-11AUG04-1/1

Engine Oil Level.

Do not operate the engine when oil level is below the low level mark on the dipstick.

The oil level should be between upper and lower marks on dipstick. Check oil level with combine parked on level ground.

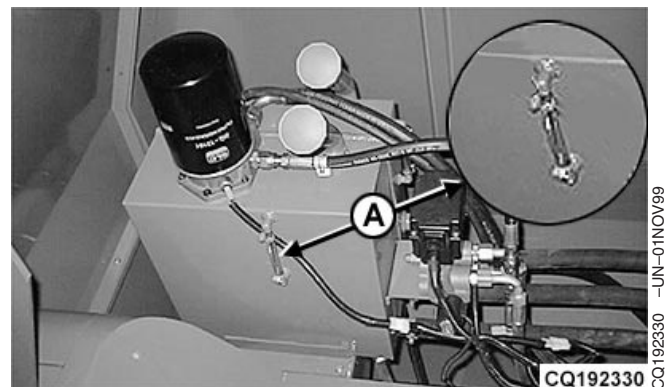


AG,CO03622,1501 -19-15NOV02-1/1

Hydraulic System Oil Level

Retract all hydraulic cylinders and lower header to the ground.

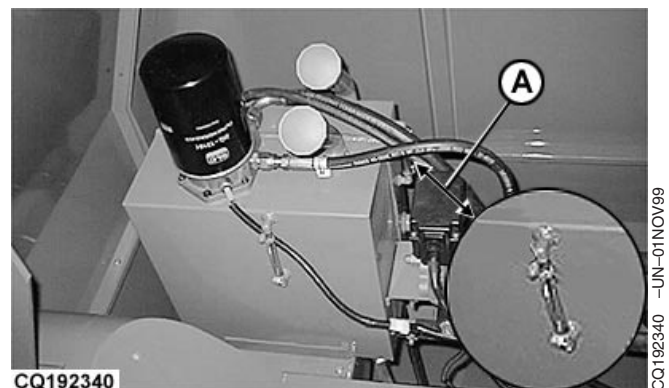
Oil must be visible in center of scale (A).



AG,CO03622,1502 -19-26SEP03-1/1

Hydrostatic System Oil Level

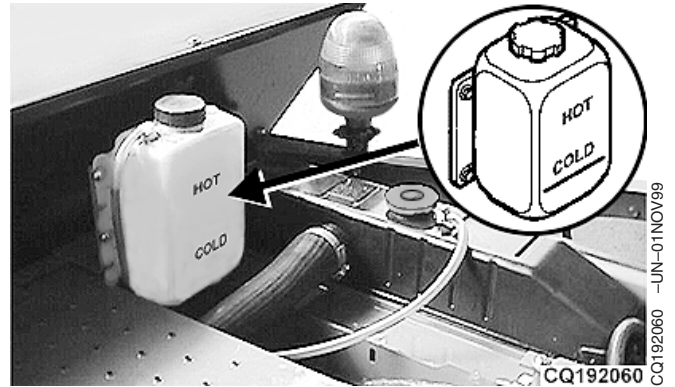
Oil must be visible in center of scale (A).



AG,CO03622,2192 -19-26SEP03-1/1

Engine Coolant Level

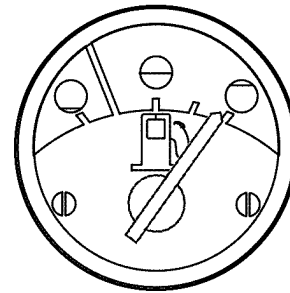
Allow engine to cool. Coolant level should be at the COLD mark.



AG,CO03622,1503 -19-26SEP03-1/1

Fuel Level

Turn the ignition on and check fuel level on fuel gauge.



AG,CO03622,1504 -19-09SEP03-1/1

Windshield Washer Reservoir

Check and refill, if necessary, with clean water or automobile windshield washer solution.

Windshield washer reservoir capacity — 2.8 L (0.73 U.S. gal.).



CO03622,0000066 -19-14MAR02-1/1

After Long Storage Period

Bleed fuel system.

See "Service — Engine " section.

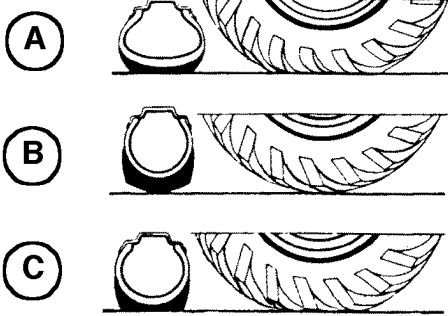
AG,CO03622,1505 -19-20AUG04-1/1

Tires

In addition to wearing rapidly, an under-inflated tire can slip on the rim and cut the valve stem.

See “Tire Inflation Pressure ” table for correct inflation pressure.

A—Pressure Too Low
B—Pressure Too High
C—Correct Pressure



ZCQD1100

ZCQD1100 -UN-26JUN96

AG,CO03622,1506 -19-20AUG04-1/1

Fuel System

If necessary, drain water and sediment deposits from fuel system.

See “Service — Engine ” section.

AG,CO03622,1507 -19-20AUG04-1/1

Combine Lubrication

Proceed according to the lubrication chart.

AG,CO03622,1508 -19-26SEP03-1/1

Checks In Operator’s Cab

For bulb test and indicator light functions see “Tumbler Switch for Indicator Light Bulb Test ”.

AG,CO03622,1509 -19-20AUG04-1/1

Operating the Engine

Breaking In The Engine

The engine is ready for normal operation. However, be extra cautious during the first 100 operating hours.

Observe the Following Points:

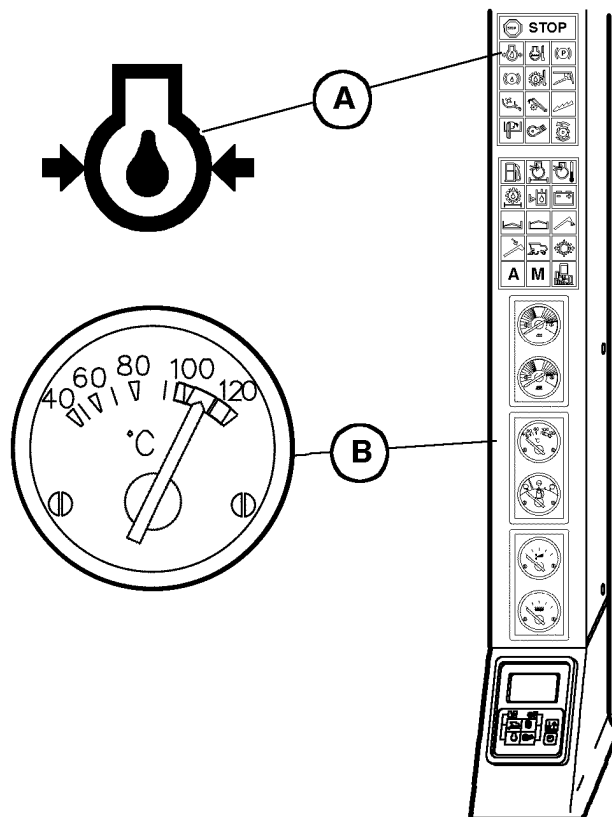
- Watch engine oil pressure (A) and coolant temperature (B) closely. If needle goes into the orange zone, reduce engine load immediately. If needle does not rapidly drop, stop the engine and determine the cause.



CAUTION: Never remove radiator filler cap when engine is hot. Stop engine and wait until engine has cooled down. Turn filler cap to first stop to relieve pressure before removing cap completely (see “Service — Engine” section).

- Check engine oil level periodically, checking for any signs of leaks (see “Service — Engine ” section).
- Until you become thoroughly familiar with the sound and feel of your new combine harvester, stay extra attentive and alert.
- During the first 20 operating hours, avoid high engine loads and do not idle the engine for more than 5 minutes.

See the recommended type of engine oil in the “Fuel, Lubricants, Coolant and Capacities” section.



CQ188092 -UN-20AUG03

AG.CO03622,1510 -19-20AUG04-1/1

Safety Rules For Starting Engine



CAUTION: Make sure that everybody is clear of the combine harvester. Sound the horn to warn people close by. Never run the engine in a closed space without an effective exhaust system. Make sure there is plenty of ventilation.

AG.CO03622,1511 -19-04AUG99-1/1

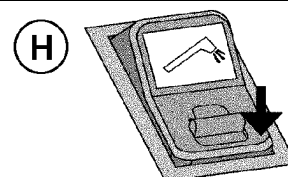
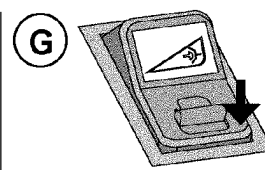
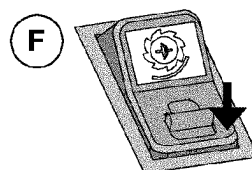
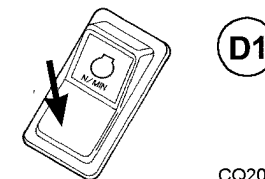
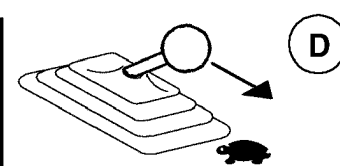
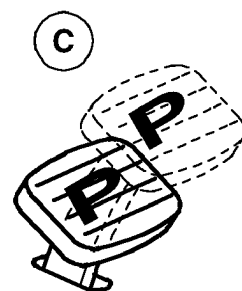
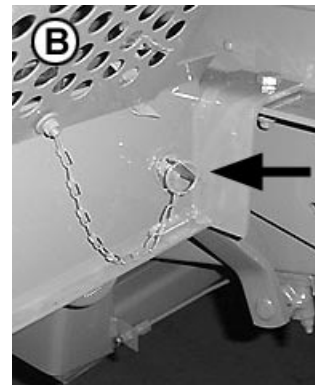
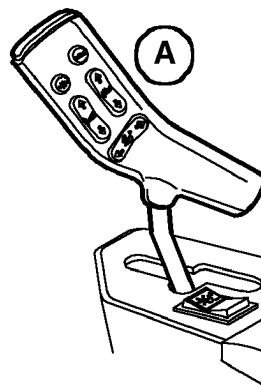
Before Starting Engine

The multifunction control handle must be in neutral (A).

Battery main switch must be on (B).

Other control positions:

- Apply parking brake (C).
- Pull throttle lever all the way back (D) (1450/1550).
- Place throttle rocker switch in position (D1) (CWS and WTS).
- Turn off threshing unit (F), cutting platform (G) and unloading auger drive (H) switches.

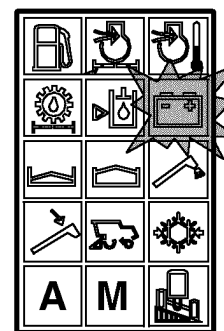
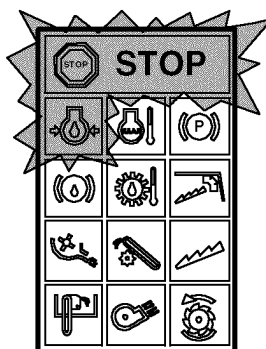


AG,CO03622,1512 -19-28JUL04-1/1

Engage Ignition

The following **Indicator Lights** will glow:

- Warning (STOP) light
- Engine oil pressure
- Alternator indicator light

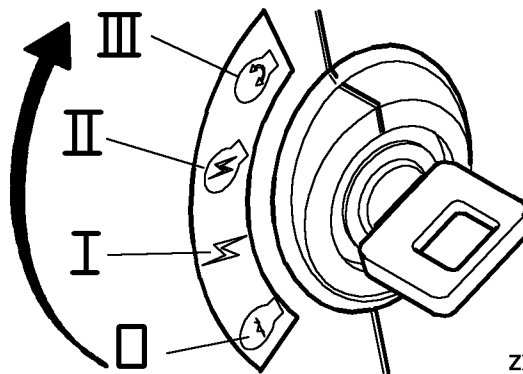


AG,CO03622,1513 -19-05NOV02-1/1

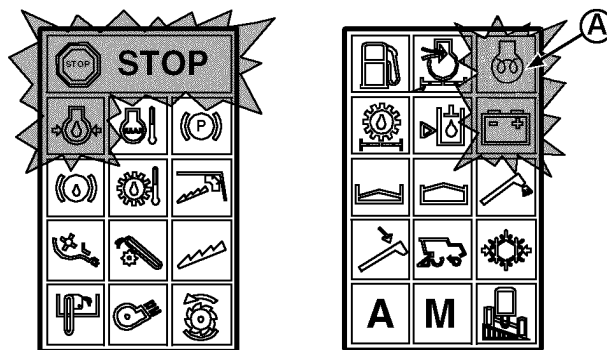
CAUTION: For safety reasons, sound horn before starting the engine or operating the combine. Start engine from operator's seat only.

If key switch is released to position I before engine starts, wait until engine stops turning over before trying again.

NOTE: With temperatures lower than 0°C, after starter switch has been turned to position II, the ECU automatically engages an electric heater, via a relay, in the air intake duct, to increase intake manifold air temperature and improve cold starting. During this operation indicator light (A) turns on. After this light turns off the engine can be started (CWS/WTS).



ZX 002403



CQ209452

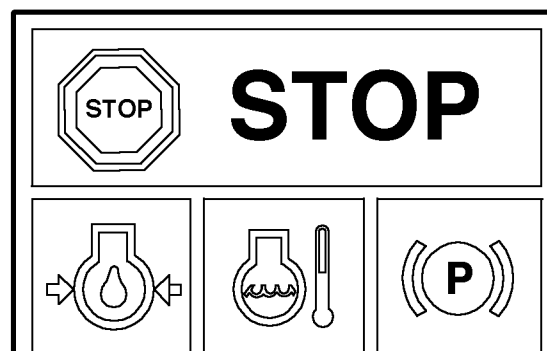
Indicator lights - Engines with ECU (CWS/WTS)

CQ209452 -UN-06NOV02

AG.CO03622.1514 -19-20AUG04-1/1

Immediately after starting the engine, check that this indicator light goes out. If not, (the engine oil pressure indicator light does not turn off after engine start) stop engine immediately and remedy the fault.

The other indicator lights should also go out.



ZX 00239

ZX002395 -UN-03APR95

AG,CO03622,1515 -19-04AUG99-1/1

Warming Up Engine

Move throttle lever back (1450/1550) until a speed of approx. 1200 rpm is achieved.

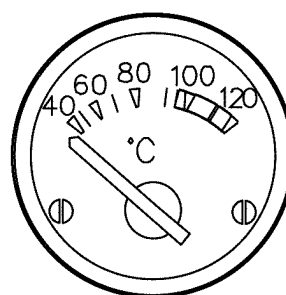
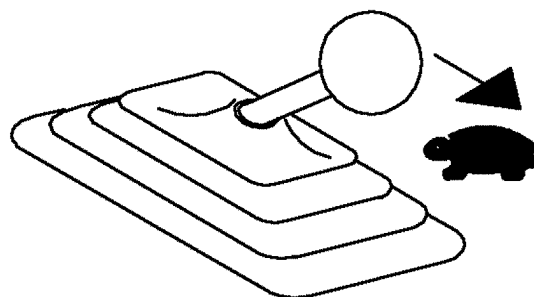
Place throttle rocker switch (CWS/WTS) in position I (1300 rpm).

Run a cold engine for approx 1—2 minutes at this speed. At ambient temperatures below freezing, extend this warming up period to 2—4 minutes.

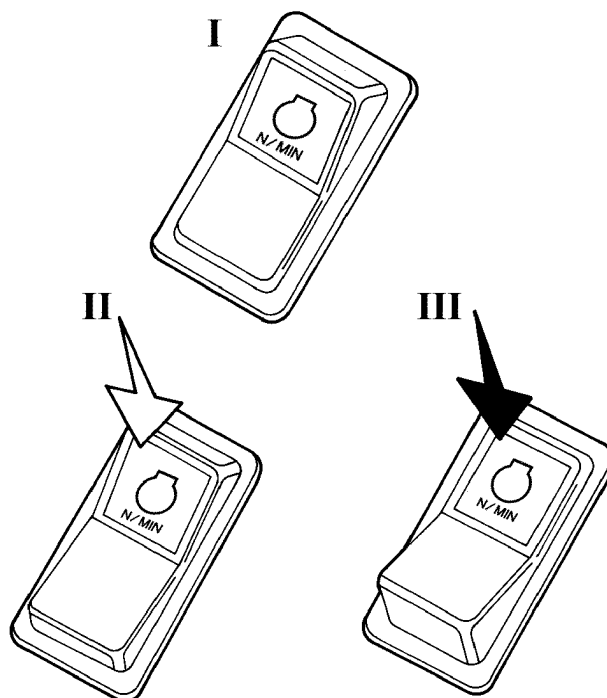
IMPORTANT: Never run engine without load for more than 5 minutes.

Do not increase engine speed to maximum rpm unless needle of coolant temperature gauge is in the yellow-green zone.

NOTE: Only advance the combine when the temperature gauge registers 82 to 85°C.



Throttle lever and temperature gauge



CQ203500

Throttle rocker switch

AG.CO03622,1516 -19-19MAR04-1/1

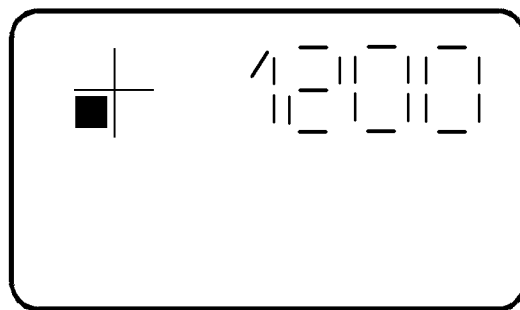
CQ212553 -UN-20AUG03

CQ203500 -UN-30MAR01

Idling The Engine

Allowing the engine to idle at low rpm uses fuel inefficiently and can cause a build-up of carbon residue in the engine.

If harvester must be left with the engine idling for more than 3—4 minutes, minimum engine speed should be 1200 rpm.



ZX012849

ZX012849 -JUN-02SEP97

AG,CO03622,1517 -19-26SEP03-1/1

Starting the Engine by Means of a Booster Battery

In very severe cold weather it may be necessary to connect an additional 12-volt battery in parallel with the harvester's batteries.



CAUTION: Gas given off by batteries is explosive. Avoid sparks or open flames near batteries. Make sure batteries are properly connected (ground cable to negative pole and starter cable to positive pole).

IMPORTANT: Reversed polarity between the battery and alternator may result in severe damage to the electrical system. Always connect ground cable to negative pole last.



TS204 -JUN-23AUG88

AG,CO03622,1519 -19-14MAR02-1/1

Operating In Tropical Conditions

For composition and use of engine coolant, refer to "Engine Coolant".

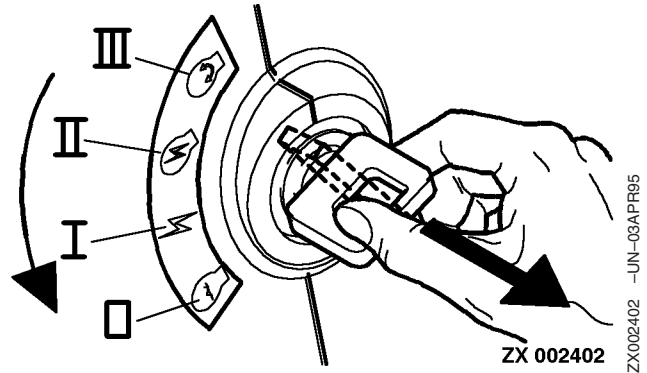
AG,CO03622,1520 -19-20AUG04-1/1

Stopping the Engine

IMPORTANT: Before finally shutting off the engine, run at slow idle for 1—2 minutes to allow engine to cool.

- Put the multifunction control handle in neutral.
- Disengage all drives.
- Engage parking brake.
- Lower header to ground.
- Set throttle lever to idle (1450/1550).
- Place throttle rocker switch in position I (CWS/WTS).
- Turn starter switch to position "0".

CAUTION: Always remove key before leaving operator's cab.



AG,CO03622,1521 —19—28JUL04—1/1

Stalling of Engine

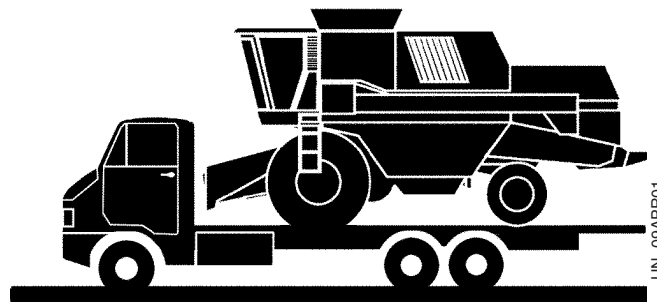
IMPORTANT: If engine stalls at operating temperature, restart it immediately to prevent overheating of certain engine parts. Before finally shutting off the engine, run at slow idle for 1-2 minutes.

AG,CO03622,1522 —19—04AUG99—1/1

Driving and Transporting the Combine

Transporting The Combine on a Truck

Whenever transporting the combine in a truck, make sure that the side shields are firmly fastened in place so that they may not accidentally open during transport.



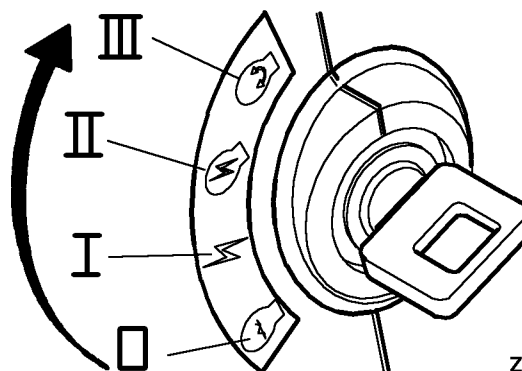
CQ203970

CO03622,0000061 -19-04FEB02-1/1

CO203970 -UN-09APR01

Starting the Engine

For details, refer to "Operating the Engine" section.



ZX 002403

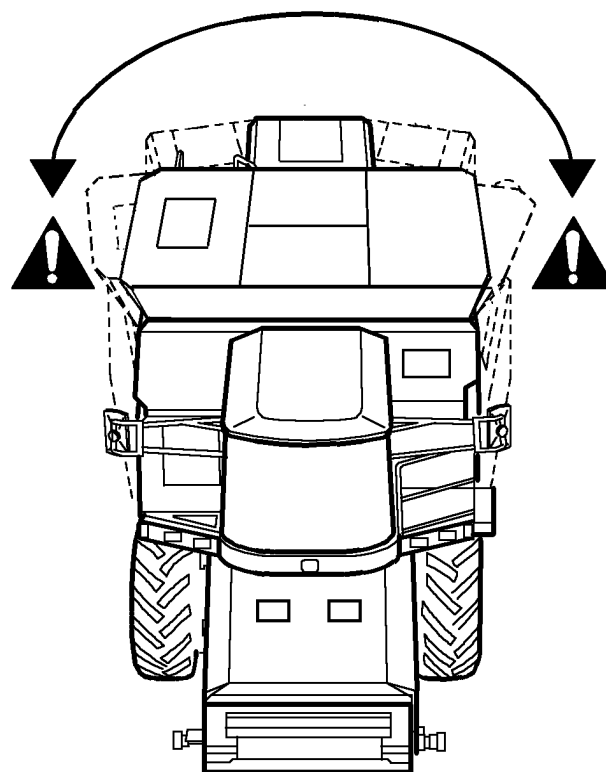
AG.CO03622,1523 -19-17MAY02-1/1

ZX002403 -UN-03APR95

Steering and Driving

CAUTION: The rear (tail) of combine harvester swings out when changing direction. Take care on bends.

The steering wheels are located at the rear of the combine harvester. Therefore, familiarize yourself with the different steering characteristics.

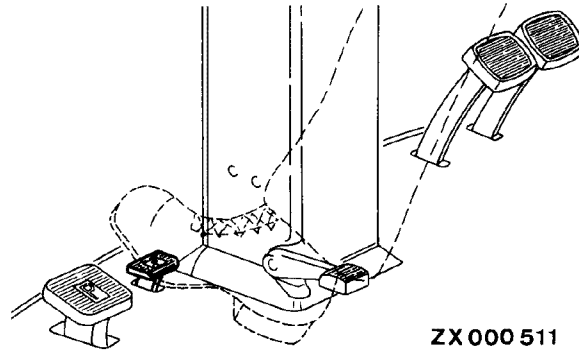


CQ192070

AG.CO03622,1524 -19-04AUG99-1/1

CO192070 -UN-01NOV99

Releasing Parking Brake



AG,CO03622,1525 -19-04AUG99-1/1

ZX000511 -UN-03APR95

Operating the Foot Brakes

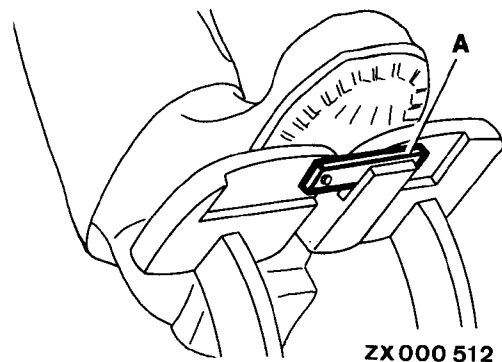
During road travel:

CAUTION: For safety reasons, always couple brake pedals by means of pedal coupler (A) when driving on public roads. This ensures the brakes are engaged in unison.

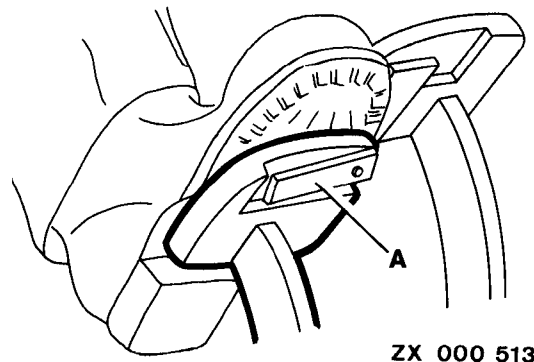
During field travel:

CAUTION: When stopping the combine harvester, always depress both pedals simultaneously.

When negotiating sharp turns, use individual brakes to assist steering. For this purpose, disengage pedal coupler (A).



ZX000512 -UN-03APR95



ZX000513 -UN-03APR95

AG,CO03622,1526 -19-04AUG99-1/1

Engaging a Speed—CWS/WTs

Select 3rd speed for road travel. In this transmission speed maximum engine speed is reduced to 2250 rpm.

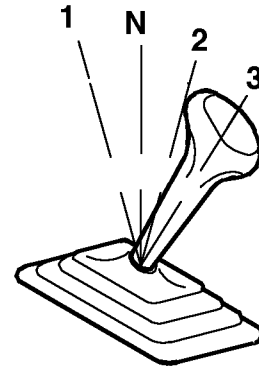
NOTE: Reducing engine speed is effected by reading switch (A) on the transmission. The switch is connected to the engine ECU.

The selected speed can only be shifted with the hydro lever in neutral position or when traveling with a ground speed below 1.5 Km/h. During movement of the combine, the gearshift cam is automatically locked in place by a solenoid.

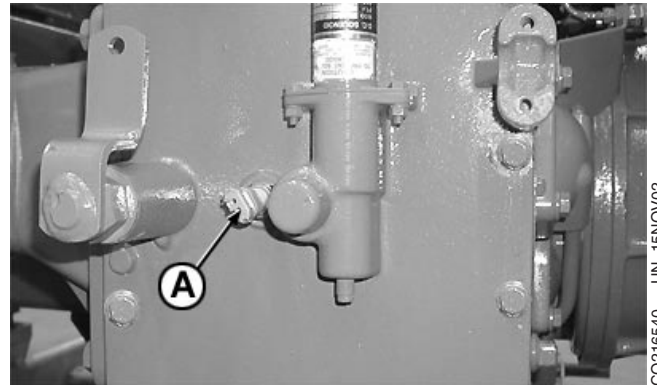
NOTE: Check proper solenoid function daily by listening to the solenoid action with the engine shut off, turning the starter key switch ON and OFF - to stages I and II. If a defect occurs, consult your John Deere dealer.

For field operation:

- Select a speed suitable to working conditions (preferably 2nd speed).



ZX 002405



ZX002405 -UN-03APR95

CQ216540 -UN-15NOV02

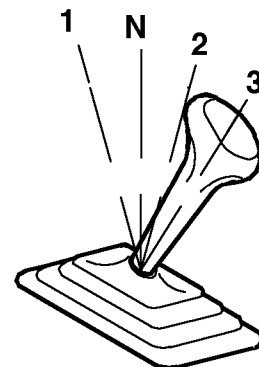
WH,CO03622,1527 -19-28JUL04-1/1

Engaging a Speed—1450/1550

Engage 3rd speed for road travel.

For field operation:

- Select a speed suitable to working conditions (preferably 2nd speed).



ZX 002405

AG,CO03622,1527 -19-20AUG04-1/1

ZX002405 -UN-03APR95

Forward and Reverse Travel

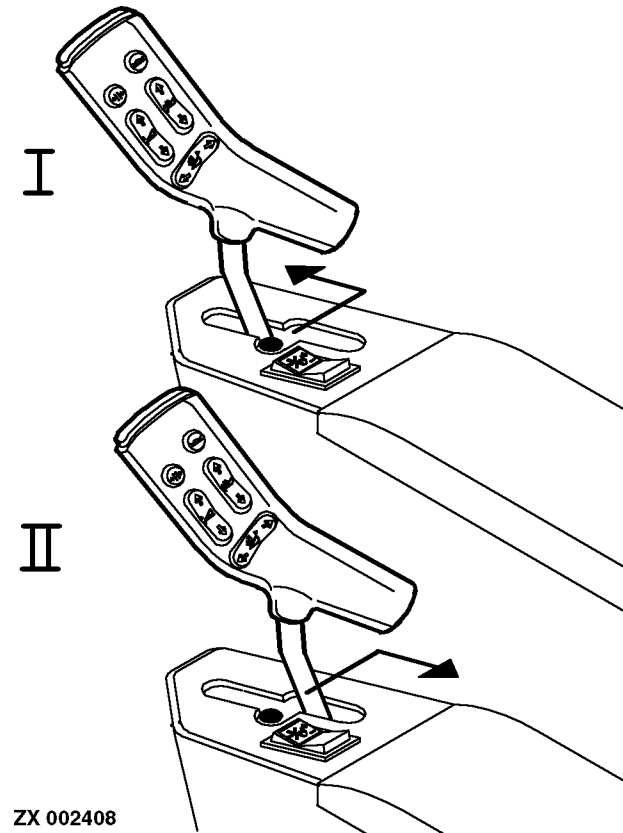
CAUTION: Always adapt ground speed of harvester to road or field conditions.

Forward travel (I)

Push multifunction control handle forward.

Reverse travel (II)

Pull multifunction control handle to rear.



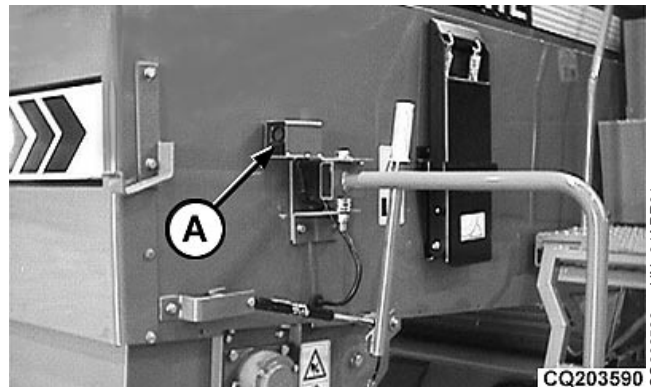
ZX 002408

AG,CO03622,1530 -19-28JUL04-1/1

ZX002408 -UN-16JUN95

Reverse Travel Alarm—CWS/WTS

If the ground speed control lever is moved to the rear (reverse travel) while the engine is running, signal sending unit (A) emits an acoustic warning signal.



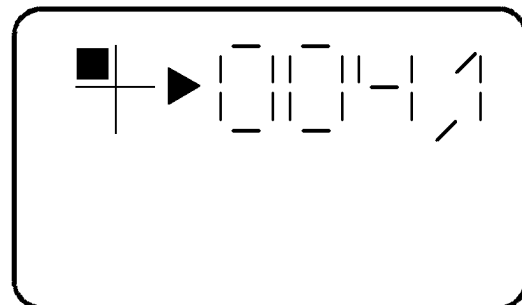
AG,CO03622,2649 -19-28JUL04-1/1

CQ203590 -UN-04APR01

Choosing Correct Ground Speed

Never select a speed lower than the minimum speed for the individual speed range.

It is always better to choose a lower speed range as this will provide more efficient hydrostatic drive performance.



ZX014276

AG,CO03622,1531 -19-26SEP03-1/1

ZX014276 -UN-16JAN98

Engaging Four Wheel Drive—1450/1550 (option)

NOTE: To avoid possible damage to the system, the combine is equipped with a device that disables four wheel drive when third speed is selected.

The two speed four wheel drive system is designed for use in extreme travel conditions or to improve steering control. When four wheel drive is engaged, the system becomes part of the closed circuit system of the hydrostatic drive.

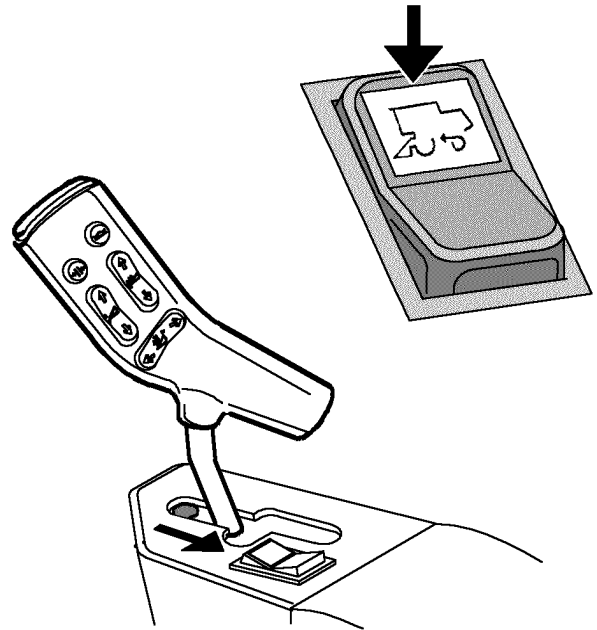
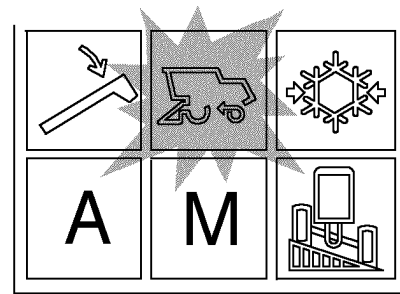
For four wheel drive to function: the engine must be running, the four wheel drive solenoids must be supplied with electrical energy and the multifunction control handle must not be in neutral so that oil under hydrostatic pressure is supplied to the four wheel drive actuation system.

With four wheel drive engaged, the following reductions in forward speed will be observed, in comparison with two wheel drive at engine rated speed:

- High speed, first transmission speed, approx. 15% reduction.
- Low speed, first transmission speed, approx. 25% reduction.
- High speed, second transmission speed, approx. 23% reduction.
- Low speed, second transmission speed, approx. 35% reduction.

When four wheel drive is disengaged, an increase in ground speed will be noted.

NOTE: To improve overall performance, it is recommended that the engine is run at low speed with maximum permitted torque. This will reduce general system pressure and oil temperature, prolonging the working life of the hydrostatic system and the four wheel drive motors.



CQ225010 -UN-28JUL04

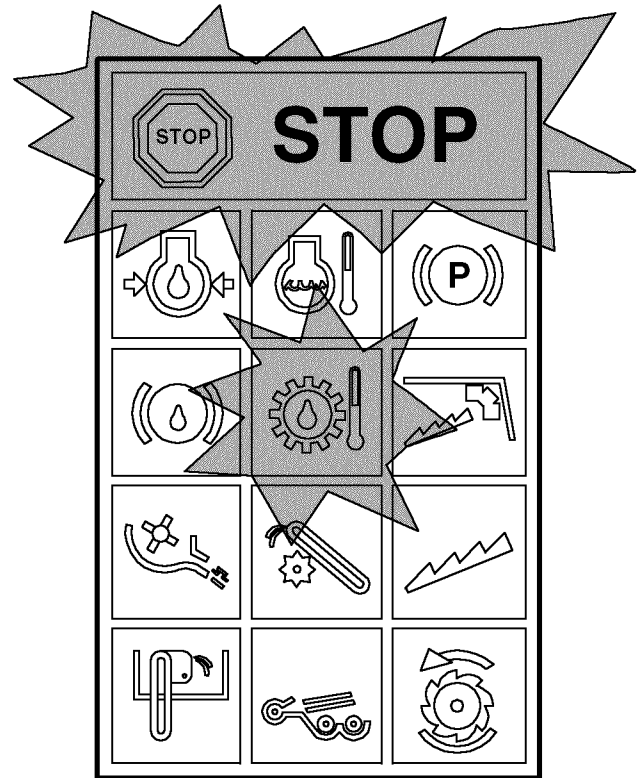
Avoid Overheating of Hydrostatic System

When hydrostatic oil temperature increases, the indicator light and “STOP” warning light glow and an intermittent warning signal sounds.

In this situation, reduce speed in order to increase the efficiency of the hydrostatic system and lower oil temperature.

IMPORTANT: If the hydrostatic drive stalls, never wait more than 5 seconds before shifting the multifunction control handle back to “Neutral”. Reduce speed immediately.

NOTE: Drive wheel torque depends on oil pressure in hydrostatic system. If the pressure requirement exceeds the pressure in the hydrostatic system, a pressure release valve will open and the combine harvester will stop. As soon as the pressure demand drops (i.e. a lower speed range is selected), the combine harvester will travel normally again.



ZX 002410

ZX002410 -UN-16JUN95

AG,CO03622,1532 -19-28JUL04-1/1

Transport Information

CAUTION: To reduce risk of electrical shock, no portion of machine should exceed a height of 4 m (13 ft).

CAUTION: Check local governmental regulations regarding driving or towing equipment on public roads. Use auxiliary lights and devices available from your John Deere dealer to warn other road users.

The combine harvester can be transported on a flatbed truck, on a trailer specifically for this purpose (duly marked as an excessively wide load), or by towing.

When towing, place the gearshift lever in neutral.

Do not exceed a maximum speed of 25 km/h (15 mph).

AG,CO03622,1533 -19-04AUG99-1/1

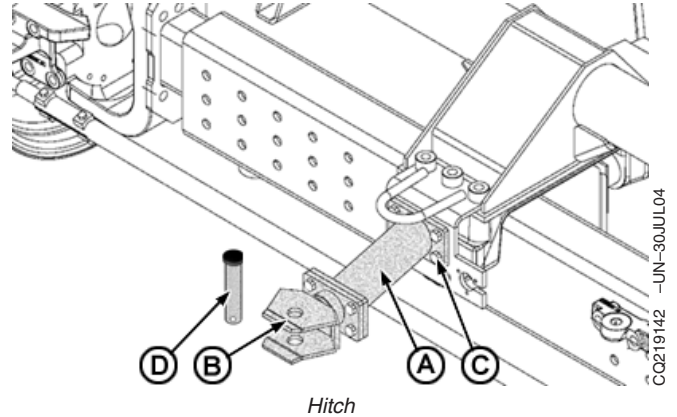
Trailer Hitch (option)

IMPORTANT: Stop machine on a flat surface, shut off engine, and set parking brake when hooking up trailer.

Hitch (A) is used to hook up header trailer to combine. It has a rotating end (B) to make hook up easier.

Attach it on combine rear axle by means of four cap screws (C). Hook up trailer to rotating end (B) with pin (D).

NOTE: Connect trailer indicator lights connector to combine at point next to hitch (A).



OU83340,00003FB -19-30JUL04-1/1

Transporting Under Own Power

Remove **header**, if overall width exceeds the legal limits (for details of removal of header see "Cutting Platform OM"). Move the feeder house to transport position.

Move **straw chopper baffles** to transport position.

Empty the **grain tank**.

Swing in the **unloading auger**.

Raise and secure the **access ladder**.

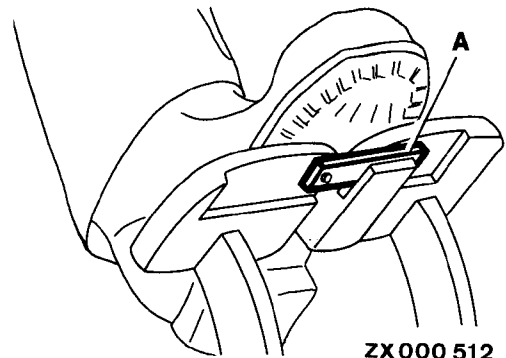
Switch on the **lights**, if necessary.

For general information on driving, see this section.

AG,CO03622,1534 -19-20AUG04-1/2



CAUTION: For safety reasons, always couple brake pedals by means of pedal coupler (A) when driving on public roads. This ensures the brakes are engaged in unison.



ZX000 512

AG,CO03622,1534 -19-20AUG04-2/2

Towing the Harvester

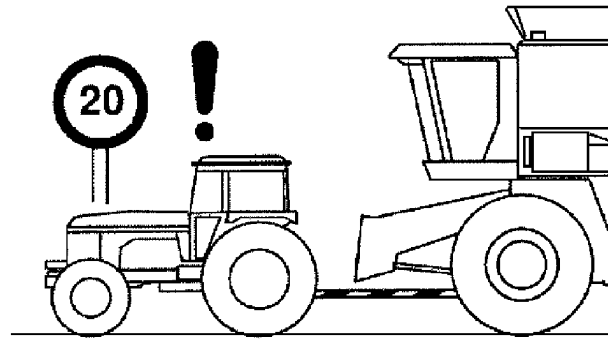
Prepare harvester as shown under "Transporting under Own Power".

CAUTION: Never tow combine with a metal cable. Always use a suitable tow bar. Connect tow bar to towing eye on front axle.

Tow harvester at a safe and suitable speed, not to exceed 20 km/h (12.4 mph).

IMPORTANT: Towing at speeds above 20 km/h (12.4 mph) may damage tires, transmission and final drives.

Comply with local traffic regulations when towing the harvester, e.g. turn on flashing warning lights, display warning signs etc.



CQ192080

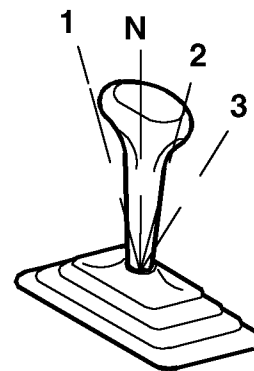
UN-01NOV99

AG.CO03622.1536 -19-20AUG04-1/3

Place gearshift lever in neutral position.

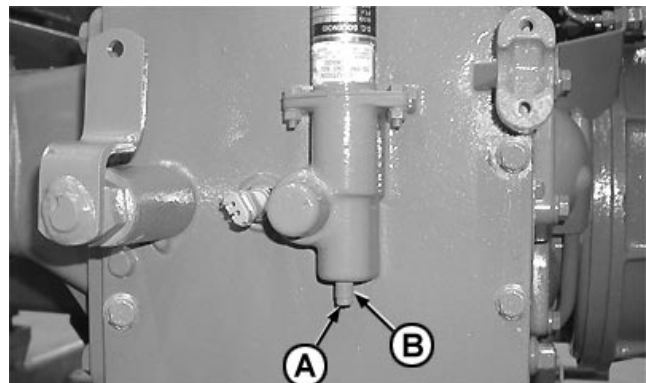
CWS/WTS Combines:

In certain cases it may be necessary to disable the shift lock function to place the gearshift lever in neutral. This may be achieved by removing bushing (B) and turning bolt (A) all the way in so the shifter cam is unlocked. In emergency situations, it would be possible to tow the machine for a short distance (less than 50 m) without following this procedure.



ZX 002422

UN-16JUN95



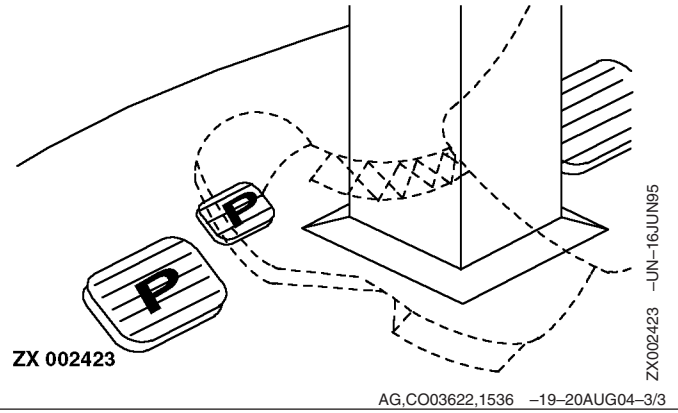
CQ216541 -UN-15NOV02

Continued on next page

AG.CO03622.1536 -19-20AUG04-2/3

IMPORTANT: During towing, it is essential that the three-speed transmission is in neutral.

Release parking brake



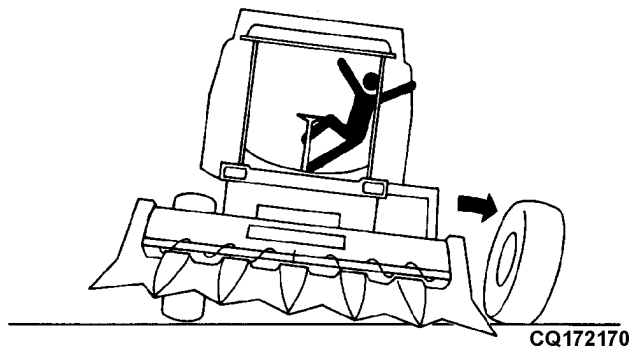
Wheels, Axles and Additional Weights

Tightening Wheel Nuts



CAUTION: Avoid accidents. Do not forget to periodically retighten wheel nuts.

Tighten wheel nuts according to the time intervals defined in this manual.



CQ172170

CQ172170 -UN-11SEP98

ML70882,00004B4 -19-22JUL04-1/1

Tire Maintenance

Check tires daily for damage and correct tire pressure. Long life and satisfactory performance depend on proper tire inflation.

Have cuts or tears repaired as soon as possible, or replace tire.

Protect tires from unnecessary exposure to sunlight, petroleum products and chemicals.

Drive the combine with care. Try to avoid rocks and sharp objects.

AG,CO03622,1537 -19-05AUG99-1/1

Tubeless Tires

The majority of front wheel tires and all rear wheel tires are tubeless. A small puncture in a tubeless tire can be repaired without disassembling the wheel, thus avoiding down time.

IMPORTANT: A permanent, inside-out repair should be made as soon as possible to prevent any further tire damage.

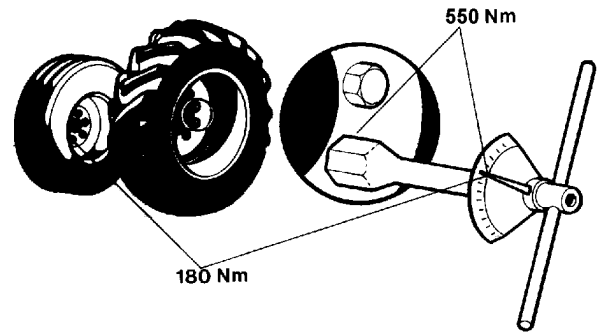
AG,CO03622,2659 -19-26JAN00-1/1

Tightening Wheel Nuts

Front Wheels: 550 N.m Torque (55 kgf.m; 400 lb-ft).

Rear Wheels: 180 N.m Torque (18 kgf.m; 131 lb-ft).

Four Wheel Drive: 200 N.m Torque (20 kgf.m; 145.5 lb-ft).



CQ204230

AG,CO03622,1540 -19-09SEP03-1/1

CO204230 -UN-11APR01

Jacking Points



CAUTION: Always empty grain tank before jacking up the combine.

Jack up machine positioning jack at specified points on the front and rear axles. The points are located as indicated in illustration.



Jacking points on combine

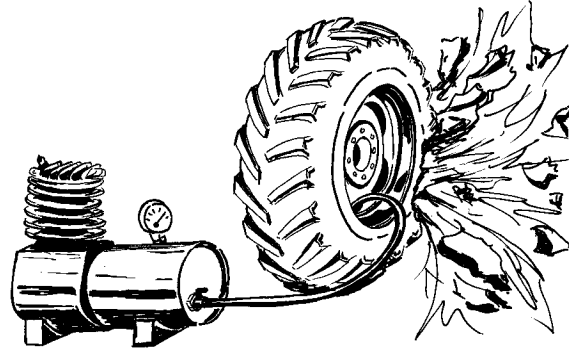
CO219240 -UN-03SEP03

OU83340,00003F1 -19-21AUG03-1/1

Mounting Tires



CAUTION: Failure to follow proper procedures when mounting a tire on a wheel or rim can produce an explosion which may result in serious injury or death. Do not attempt to mount a tire unless you have the proper equipment and experience to perform the job. Have it done by your John Deere dealer or a qualified tire repair service. When seating tire beads on rims, never exceed maximum inflation pressures specified by tire manufacturers for mounting tires. Inflation beyond this maximum pressure may break the bead, or even the rim, with dangerous explosive force. If both beads are not seated when the maximum recommended pressure is reached, deflate, reposition tire, relubricate bead and reinflate. Detailed agricultural tire mounting instructions, including the necessary safety precautions, are available from your local tire manufacturer agents.



Z 20924

Z20924 -UN-15AUG94

IMPORTANT: Never operate combine harvester with tires at shipping pressure. Keep valve caps screwed down on valve stems to prevent foreign material from accumulating in the valve core. Check tire pressure frequently, referring to tire pressure charts. Required pressure may vary as load changes with the installation of different header units.

AG,CO03622,1541 -19-05AUG99-1/1

Changing Tires

IMPORTANT: When changing drive wheels, tire radius may also change. If so, the Infotrak Monitor must be adjusted to the new tire radius. See "Tire Radius Code" to adjust monitor.

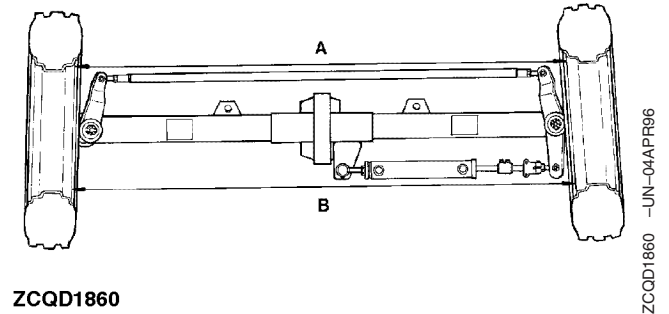
AG,CO03622,1542 -19-20AUG04-1/1

Rear Axle Toe-In

Whenever the combine becomes difficult to steer or the rear tires begin to wear unevenly, check rear wheel toe-in.

Proceed as follows to check and adjust alignment:

- On a flat surface, straighten the rear wheels.
- Mark a point on the upper center part of each tire (the highest point on a central axis). Measure distance (A).
- Drive the Combine half turn back (180°), that is, the marks on the tires are now at the lowest part of the wheel.
- Measure distance (B). It should be 10 mm (0.4 in.) greater than distance (A).
- To adjust, loosen the locknuts at both ends of the tie rod and adjust the tie rod length.

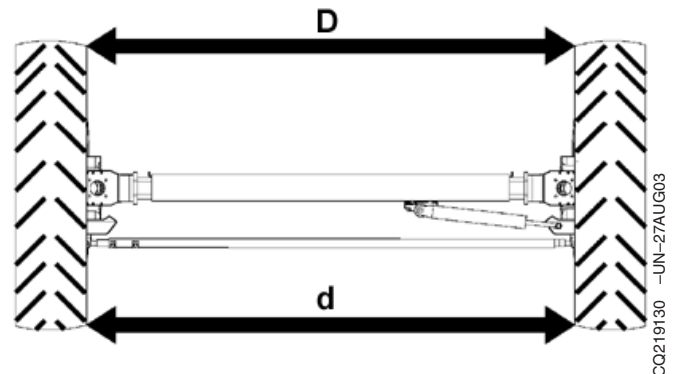


OU83340,00003F9 -19-30JUL04-1/2

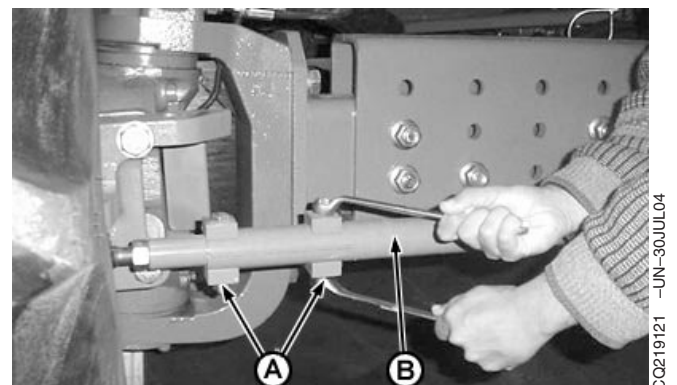
Four wheel drive

For four wheel drive, distances (D and d) must be the same.

Adjust loosen bolts (A) of tie rod (B).



Upper view - Alignment check points



OU83340,00003F9 -19-30JUL04-2/2

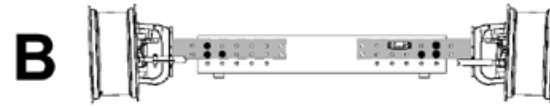
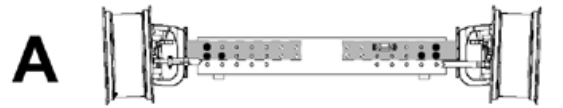
Four Wheel Drive Axle Height and Width Adjustment—1450/1550 (option)

Rear axle has width and height adjustment. Rear wheels must be aligned in relation to front wheels. Adjust machine leveling in relation to soil by altering the height as required.

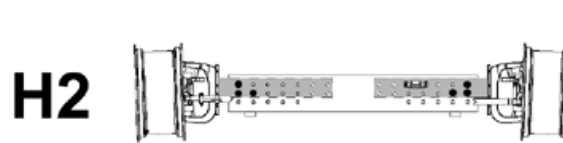
On 1450, CWS and WTS combines width may be adjusted to 3 positions (A, B and C).

On 1550 CWS/WTS combines width may be adjusted to 2 positions (B and C).

Height may be adjusted to 2 positions (H1 and H2).



Width control setting



Height control setting

Continued on next page

OU83340,00003F7 -19-30JUL04-1/2

CQ219070 -UN-27AUG03

CQ219080 -UN-27AUG03

Width control setting:

1. Shut off machine to relieve hydraulic system pressure.
2. On flat ground, raise rear axle so as to free both wheels.



CAUTION: Use equipment that is compatible with the combine weight. If a hydraulic jack is used, position it correctly under the shaft at the defined jacking points.

3. Loosen the two nuts (A) on both sides and remove bearing bolts of hydraulic cylinder (B).
4. Loosen the two bolts (C) of tie rod (D).
5. Loosen nuts (E) on both sides of the four wheel drive axle (F).
6. Displace wheel hub to one of the positions.
7. Retighten all bolts and put wheels back in place.

IMPORTANT: Adjust toe-in of rear wheels See "Rear Wheel Toe-In"

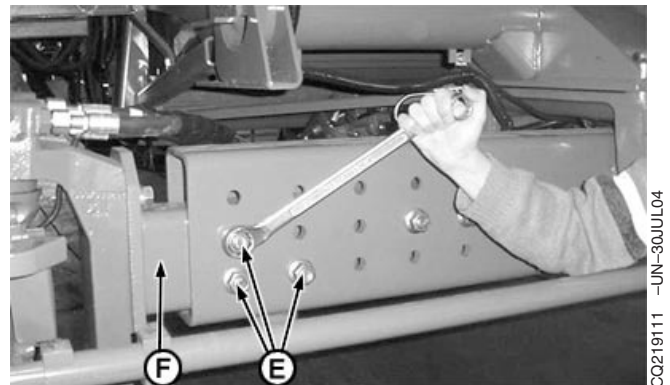
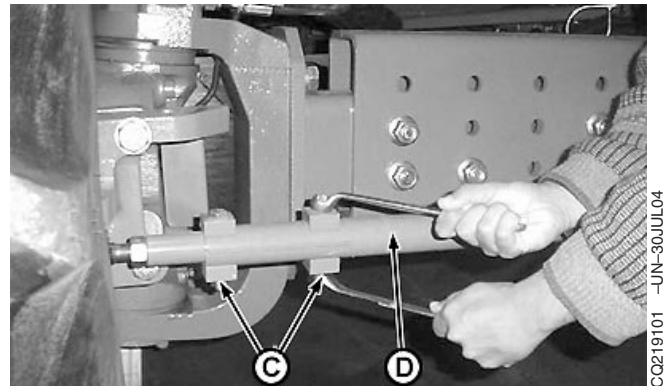
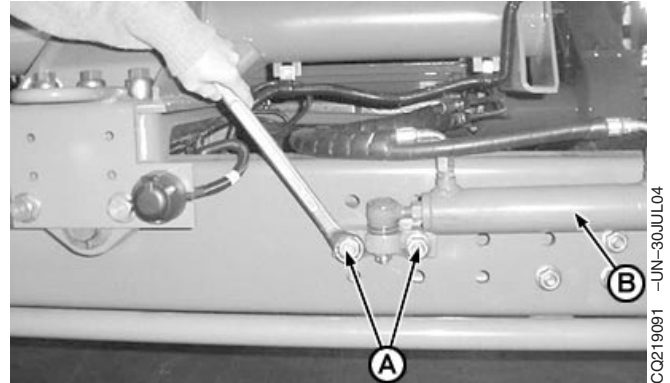
NOTE: Bearing of hydraulic cylinder (B) has to be displaced according to axle positions (A, B or C).

NOTE: Bolts of nuts (E) never change position.

Height control setting:

1. Repeat procedure for width adjustment, skipping step 4.

NOTE: The check of rear wheel toe-in is not necessary.



OU83340,00003F7 -19-30JUL04-2/2

Tire Inflation Pressure

FRONT TIRES

Size	bar	psi
18.4 -30 R1 10 PR.	2,11	30
18.4-30 R1 12 PR.	2,53	36
23.1-26 R1 12 PR.	1,69	24
23.1-26 R2 12 PR.	1,69	24
23.1-30 R1 12 PR.	1,97	28
23.1-30 R2 10 PR.	1,4	20
28.1-26 R1 14 PR.	2,25	32
28L26 R1 12 PR.	1,83	26
750-65 R26*	1,62	23
620/75 R 30 *	1,62	23
650/75 R 32 *	1,69	24
800/65 R 32 *	1,4	20
24.5-32 R1 12 PR.	1,83	26
30.5-32 R1 12 PR.	1,4	20

* Radial Tires

REAR TIRES

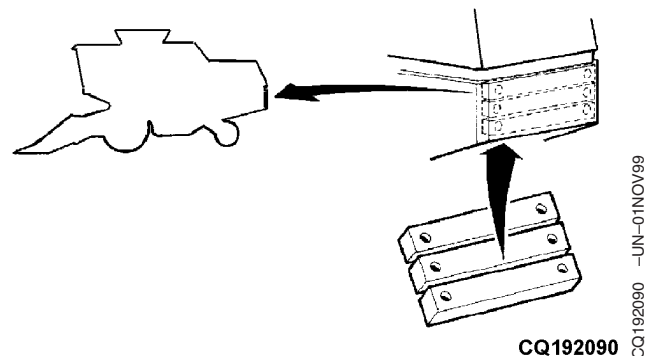
Size	bar	psi
10.5/80-18 L1 6 PR.	2,25	32
10.5/80-18 L1 10 PR.	3,8	54
12.4/11-24 R1 6 PR.	1,97	28
12.4 -24 R1 10 PR.	2,8	40
14.9-24 R1 8 PR.	1,59	23
14.9-24 R2 8 PR.	1,8	26
16.9 -24 R1 10 PR.	1,83	26
16.9-24 R4 8 PR.	1,83	26
335-80 R20 *	2,8	40
440/65 R 24 *	1,6	23
540/65 R 24 *	1,26	18

* Radial Tires

ML70882,00004AC -19-20JUL04-1/1

Counterweights

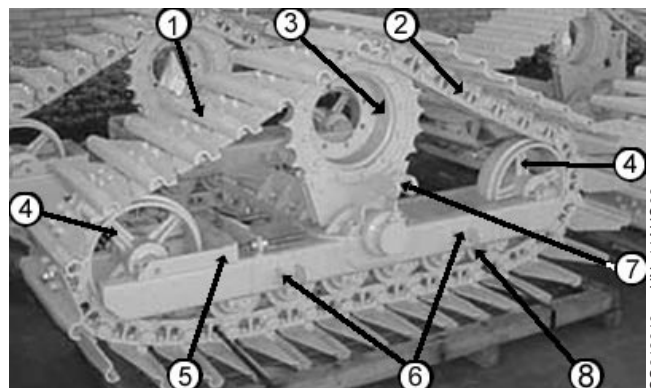
Counterweights mounted on the rear shield improve combine stability when harvesting on slopes.



AG,CO03622,1545 -19-05AUG99-1/1

Steel Track Components—1450 (option)

1. Shoes
2. Steel track chain
3. Drive wheel
4. Guide wheels
5. Tensioner system
6. Hitch points for the lower arms of the tractor lift system
7. Hitch point for the third arm of the tractor lift system
8. Lower rollers



OU83340,0000005 -19-20AUG04-1/1

Preparing the Combine

1. On level and flat ground, raise the Combine front axle so as to free one wheel.



CAUTION: Use equipment that is compatible with the combine weight. If a hydraulic jack is used, position it correctly under the axle, in the defined jack pockets.

2. Place the ladder in extended position. This is to avoid interference of the end of the ladder with steel track shoes.



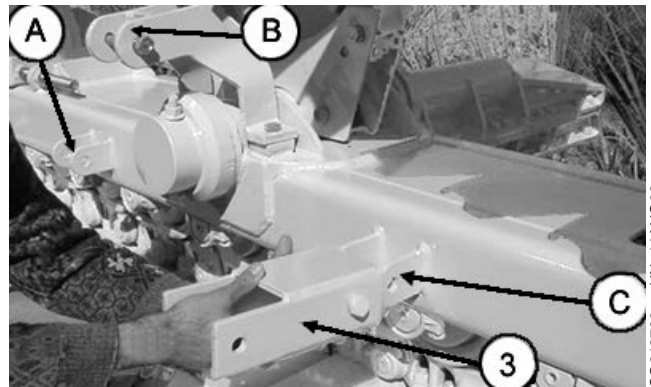
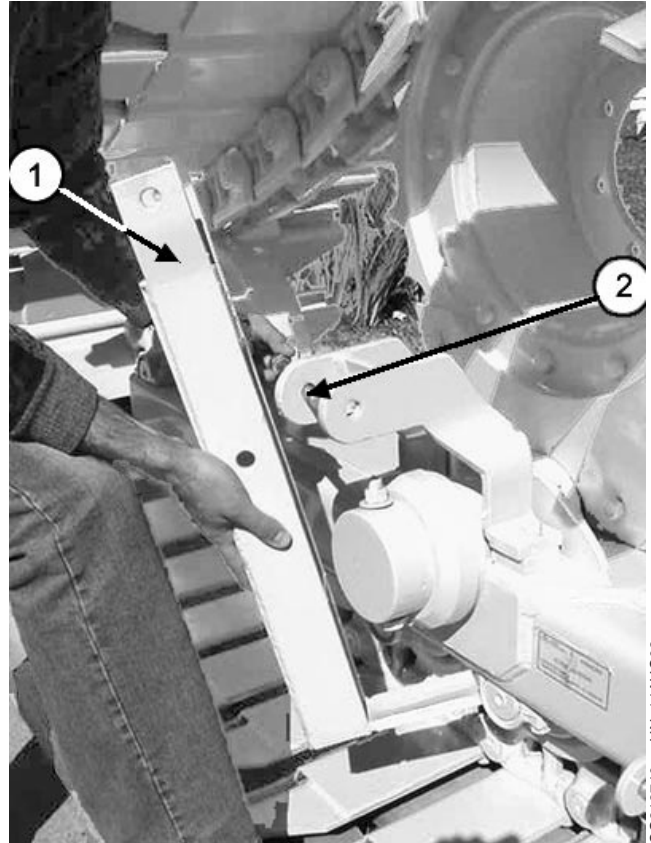
Ladder

CO218690 -UN-14AUG03

AG,AV04449,1 -19-19AUG03-1/1

Fastening Steel Track

1. In order to lift the steel track with the aid of a tractor, attach support (1) with screw (2) to point (B), and supports (3) with their respective screws in illustrated positions (A and C). After this, couple tractor lift system to the existing points.



Continued on next page

OU83340,00003EC -19-18AUG03-1/2

2. Considering the turning direction (according to the arrow), which is opposite to the tensioner system (within the rectangle), approximate the steel track to the front axle hub propping the drive wheel (4).
3. Position support axle (5) correctly on combine front axle by fixing it with twelve bolts (6) to the following torque:

Specification

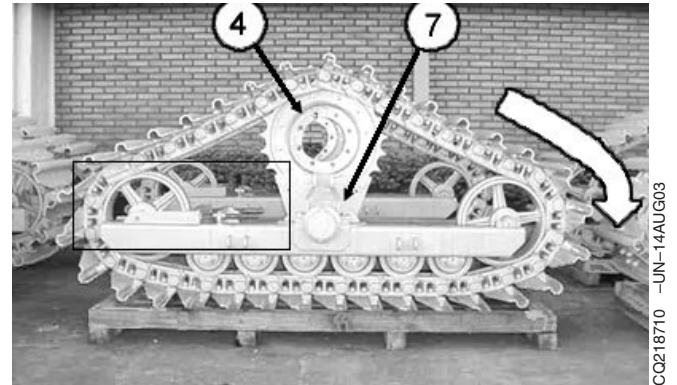
Steel track support axle—Torque 240 N.m (24 kgf.m, 175 lb.ft)

4. Then fix steel track drive wheel to bolts to the following torque:

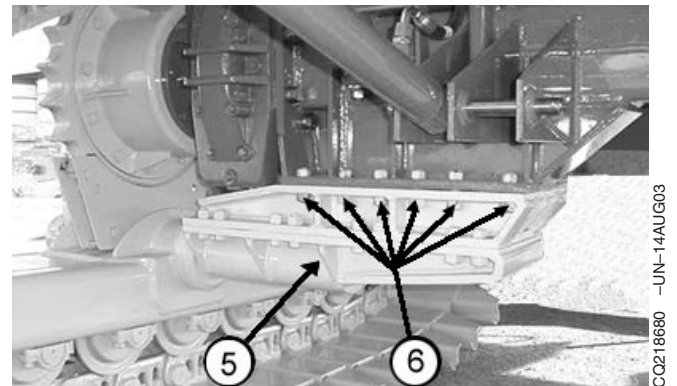
Specification

Drive wheel bolts—Torque 420 N.m (42 kgf.m, 305 lb.ft)

5. Remove supports (1 and 3) from steel track lift points and support (7).
6. **Repeat the combine wheel removal and fastening procedure on the other side of the machine.** Lower combine front axle to the ground.



Turning direction of steel track

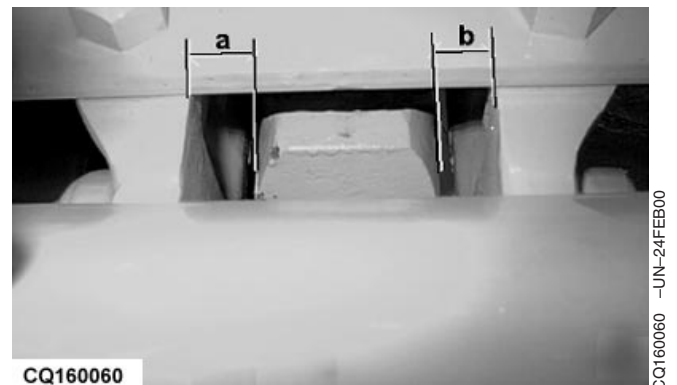


OU83340,00003EC -19-18AUG03-2/2

Checking Drive Wheel Alignment

On a flat surface, move the combine about 10 to 15 m in a straight line. Then check distances (a and b). For the drive wheel to be aligned with the steel track chain link, these distances must match.

NOTE: If distances (a and b) are different, contact the dealer from whom the combine was purchased. Misalignment between the chain link and the drive wheel causes wear on the sides of the guide wheels and the drive wheel itself.



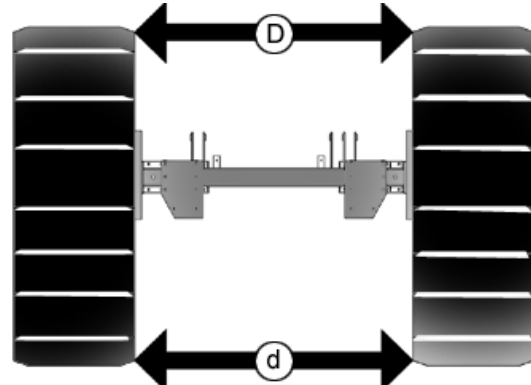
Steel track alignment check point

OU83340,0000002 -19-11AUG03-1/1

Checking Parallelism Between Steel Tracks

Check the distances (D and d) by measuring them at the points indicated by arrows. These distances must be equal.

IMPORTANT: If distances (D and d) are different, contact the dealer from whom the combine was purchased.



Top view of steel tracks - Parallelism test

CQ218850 -UN-18AUG03

OU83340,00003EB -19-02AUG04-1/1

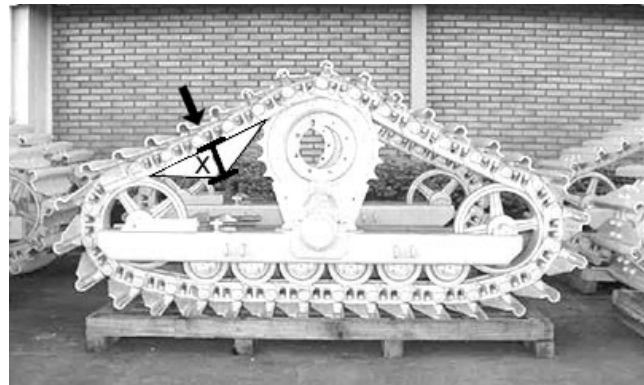
Tensioning Steel Track

To keep unnecessary wear from occurring on the chain links as well as on the guide wheels, drive wheels and bearings, tension the chain correctly on both steel tracks using the following procedure:

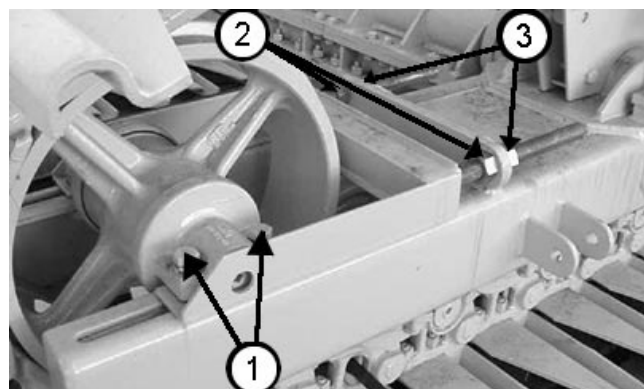
1. On a flat and level place, move the combine back slightly and then check the deflection (X) by pressing the chain at the position indicated by the arrow.
2. With a ruler, measure the deflection (X), which should be between 40 and 50 mm.
3. Tension the chain if needed. To tension the chain loosen bolts (1) on guide wheel bearings and then locknuts (2), tension chain by turning bolts (3) at the same time using the spanner included with steel track. Retighten bolts (1 and 2).

NOTE: Be careful to move bearings at the same time in order to maintain guide wheel alignment.

IMPORTANT: Never operate the Combine with chains too tight, this not only stresses the whole set, it also causes excessive chain wear. Operating with a loose chain can also cause excessive wear of lower rollers and drive wheel teeth.



CQ218720 -UN-14AUG03



CQ218850 -UN-14AUG03

Tensioner system

AG,AV04449,4 -19-18AUG03-1/1

Track Maintenance and Precautions

- Check the fixing elements daily (bolts, nuts) for tightness.
- For the first 100 hours, check the tensioning every 20 working hours. After the first 100 hours, make a check every 50 hours.
- Check alignment every 100 hours.
- Retighten shoes every 100 hours.
- Every 300 hours check the support axle wear and its bushes.
- In case of shoe reassembly or replacement, note the correct side for mounting the shoe fixing nut. The flat face of the nut must make contact with the link.
- The chain, guide and drive wheels do not require lubrication.
- Making curves always to the same side will cause more wear on one steel track than the other. In the event that such a practice cannot be avoided, the steel tracks must be replaced when they are worn down to about 50%. For such, invert the position of the drive wheel and the support axle.
- Tensioning must be performed whenever the deflection is outside specifications. With abrasive materials and soils that cause deflection to build up, check tensioning more frequently.
- Do not slip with steel tracks. This will increase wear on shoes much more than on any other component.
- Use only original components. The use of non-original components will cause the steel track system to be unbalanced and will increase component wear.
- Visually inspect the equipment daily.
- Always use the narrowest possible shoe that provides adequate floating.
- Reverse operation increases wear on bushes and drive wheel. If this happens at high speed, wear will be increased.

AG,AV04449,1204 -19-03AUG04-1/1

Support Axle Maintenance

This procedure is valid when the support axle is removed for checking (every 300 hours) or maintenance.

Removal procedure:

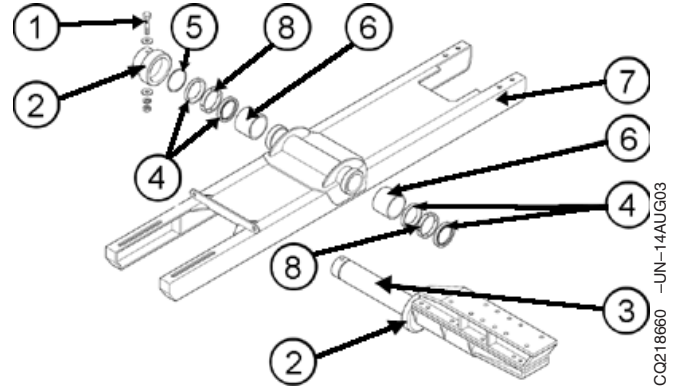
1. Before removing any part, clean the steel track for any kind of service.
2. Remove the steel track from the combine by following the reverse procedure for assembly.
3. Remove bolt (1) to remove the cover (2).
4. Pull the support shaft carefully (3).
5. Check the retainers (4), seal (5), bushes (6) and axle (3). Remove all grease from the trunnion bearing (7).

Assembly procedure:

1. With the bushes (6) in place, put the slightly greased retainers (4) in their seat on the trunnion bearing (7) and the covers (2).
2. Grease the support axle surface (3) and then install a separator ring (8).
3. Insert the shaft (3) on the trunnion bearing (7).

IMPORTANT: Take care not to damage the retainers (4).

4. With the support axle in position, install the other separator ring. On the slash on the end of the support axle, place the sealing ring (5).
5. Put the cover (2) back. Put lithium-based grease back on the trunnion bearing (7) through the cover orifice. To help with greasing, turn the axle a few times. Only stop adding grease when it starts to come out from the hole on the cover (2).
6. Fix the bolt (1). Turn the support axle five times for the grease to spread well.
7. Reinstall steel track on combine.



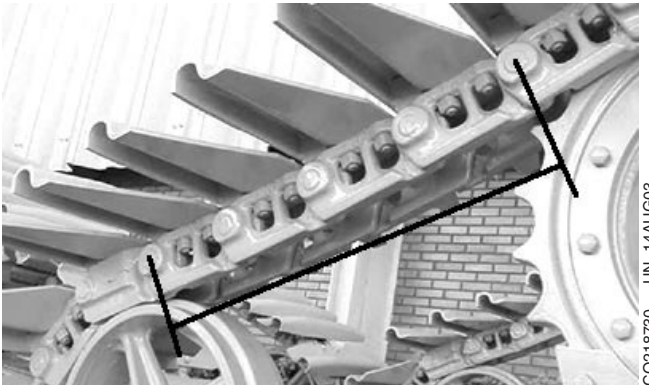
CO218660 -UN-14AUG03

OU83340,0000004 -19-12AUG03-1/1

Checking Steel Track Components' Wear

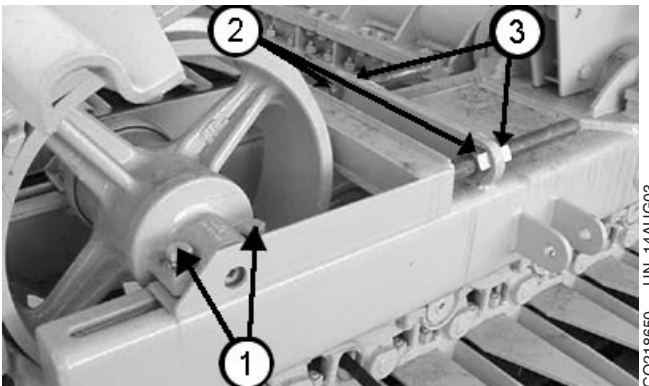
Internal Wear on Pins and Bushes

- To determine the average internal wear of the pins and bushes, measure one “step” of the steel track, which is composed of 4 links (five pins).
- This measurement must be made on the upper part and the steel track must be well tensioned.



CO218730 -UN-14AUG03

One step of the steel track (four links)



CO218650 -UN-14AUG03

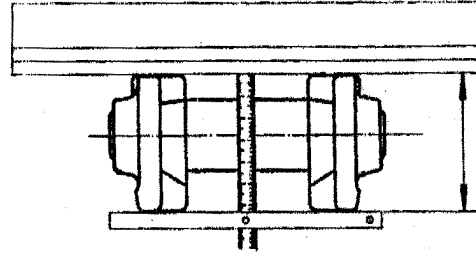
	Wear Percentage				
	New Steel Track	25%	50%	75%	100%
	mm	mm	mm	mm	mm
Step of the Steel Track	685,3	687,3	691,8	693,7	697,5

One other practical way of determining the time to check the chain bush wear is by controlling bolt (3) dislocation when performing new tensioning. If the bolt dislocates approximately 3.5 cm, check for wear.

Continued on next page

AG,AV04449,1205 -19-18AUG03-1/6

Wear of Links



CQ195270

Height of Link

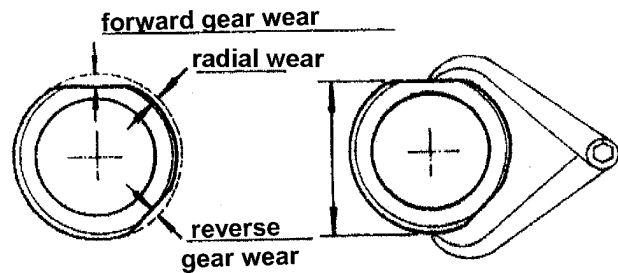
CQ195270 -UN-20MAR00

	New Steel Track	Wear Percentage			
	mm	25%	50%	75%	100%
Height of Link	95,3	93,7	91,8	90,6	88,9

AG,AV04449,1205 -19-18AUG03-2/6

Wear of Bushes

- External wear is usually of 3 types as shown in the figure. Measurement is done for each one of the 3 conditions, and the one showing greatest wear is to be considered.



EXTERNAL WEAR

External Wear of Bushes

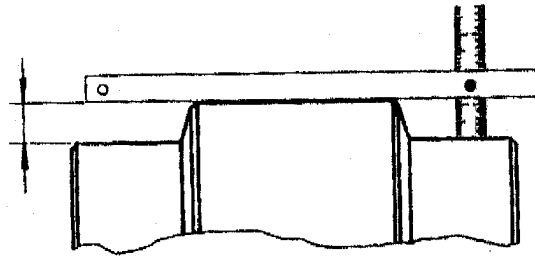
CQ195280 -19-29AUG03

	New Steel Track	Wear Percentage			
	mm	25%	50%	75%	100%
Bushes	53,8	52,9	51,8	50,7	49,5

Continued on next page

AG,AV04449,1205 -19-18AUG03-3/6

Guide Wheel



CQ195290

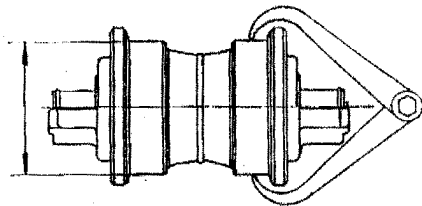
Height of Guide Wheel

CQ195290 -UN-20MAR00

	New Steel Track	Wear Percentage			
		25%	50%	75%	100%
Height of Guide Wheel	mm	mm	mm	mm	mm
	16,0	17,1	18,3	19,6	21,0

AG,AV04449,1205 -19-18AUG03-4/6

Lower Roller



CQ195300

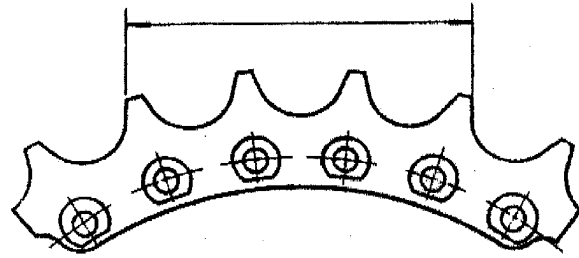
Diameter of Race

CQ195300 -UN-20MAR00

	New Steel Track	Wear Percentage			
		25%	50%	75%	100%
Diameter of Race	mm	mm	mm	mm	mm
	203,2	200,2	195,6	191,6	187,5

Continued on next page

AG,AV04449,1205 -19-18AUG03-5/6

Drive Wheel Teeth**CQ195310**

CQ195310 -UN-20MAR00

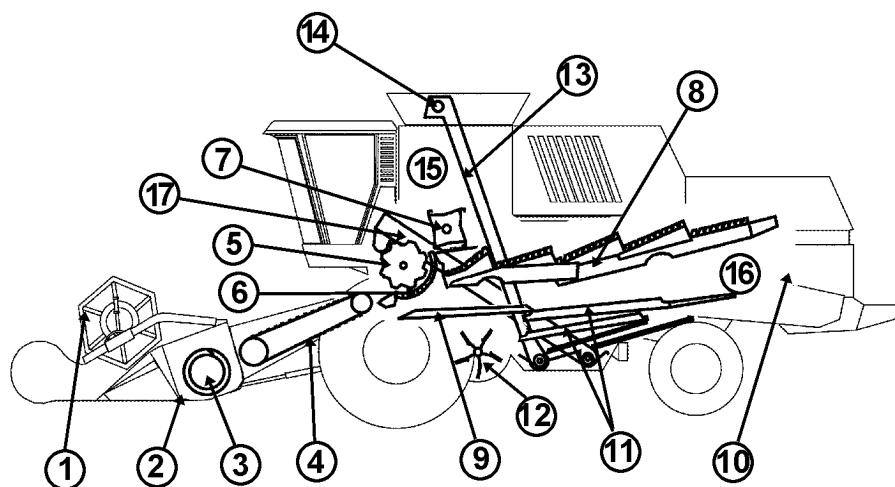
	Wear Percentage				
	New Steel Track mm	25% mm	50% mm	75% mm	100% mm
Drive Wheel Teeth	265,0	260,0	256,0	252,0	248,0

1. Remove the excessive grease or dirt from the teeth, in order to take measure from metal to metal.
2. If a tape measure is used, place its end on the working side of the tooth and measure the 3rd or 4th tooth on the opposite side moving the tape up and down to select the maximum dimension.

AG,AV04449,1205 -19-18AUG03-6/6

Preparations and Field Operation

Fundamentals of Combine Operation



CQ191730
CO191730
-UN-01OCT99

The reel (1) collects the crop and moves it toward the cutterbar (2) to be cut.

The crop is then directed to the cutting platform auger (3).

The auger moves the crop to the center of the header where the retractable pickups move it to the feeder house (4).

The feeder house carries the crop to the cylinder (5).

The cylinder and concave (6) thresh or separate the crop.

The beater (7) takes the larger straw from the cylinder and concave and throws it over the straw walkers (8).

The threshed grain, fine straw and some tailings (ear tips or husks) fall through the openings in the concave to the grain pan (9).

The alternating motion of the straw walkers separates the remaining grain from the straw. The grain falls through the straw walker openings (screens) into the troughs and from there passes to the grain pan. Straw leaves the combine via the straw chopper (rear hood)(10).

Threshed grain and fines are carried by the grain pan to the cleaner which consists of the chaffer and grain screen (11) and the fan (12). The fan blows out the fines and the clean grain falls through the screens.

The clean grain elevator (13) leads to the loading auger (14) which carries the grain to the grain tank (15).

Any tailings (ear tips or husks) fall through the upper screen extension (16) and are carried back to the separator (cylinder and concave) by the tailings elevator (17) for rethreshing.

AG.CO03622,1552 -19-10AUG99-1/1

Cutting and Harvesting Unit

This unit cuts and harvests the crop and then passes it to the cylinder and concave.

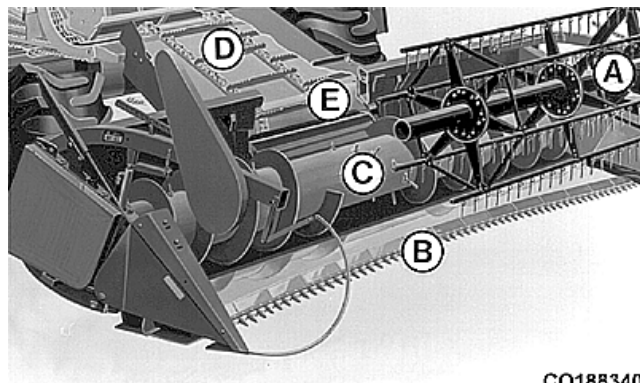
Components:

1. Header

- A. Reel
- B. Cutterbar
- C. Auger

2. Feeder House

- D. Conveyor
- E. Floating roller



AG,CO03622,1553 -19-26SEP03-1/1

Header

The operation of the cutting platform is described in the platform operating manual.

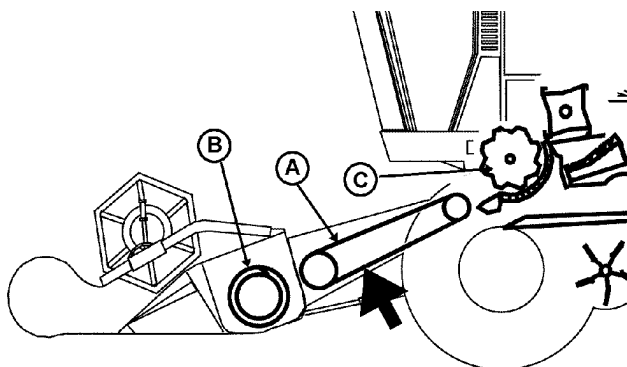


AG,CO03622,1554 -19-20AUG04-1/1

Feeder House Operation

Conveyor chain (A) receives the crop from auger (B) and forwards it to the cylinder (C).

For feeder house adjustment, see "Service — Feeder House" section.



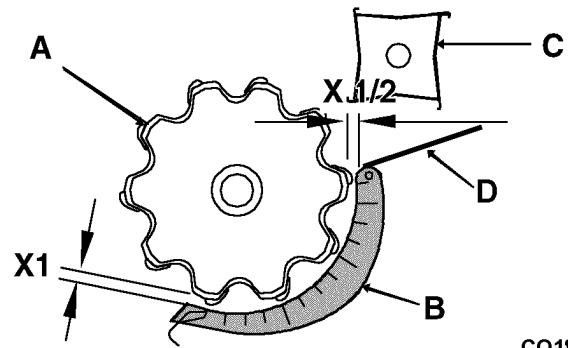
AG,CO03622,1555 -19-20AUG04-1/1

Separator

The separator is the most important component of the combine.

Always take great care when adjusting the separator. For more information see the "Separator and Cleaning Unit" section.

- A—Cylinder
- B—Concave
- C—Beater
- D—Concave extension



CQ188381

—UN-07OCT02

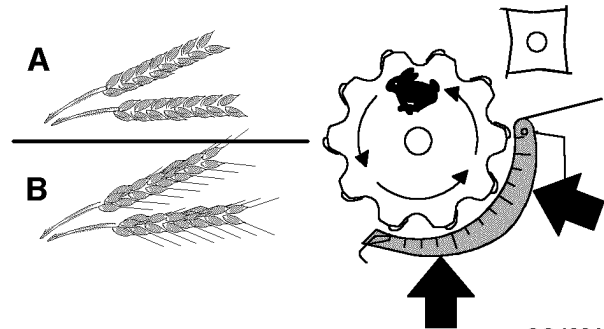
AG,CO03622,1556 —19-20AUG04-1/1

Adjusting Cylinder Speed and Concave for Normal Crop

Fine seeds and normal grain crops:

High cylinder speed and narrow concave spacing.

- A—Wheat
- B—Barley



CQ188441

—UN-07FEB02

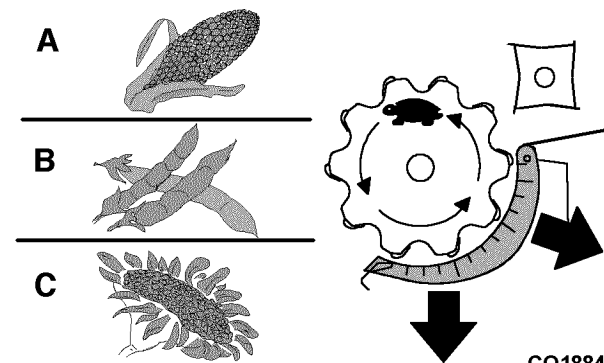
AG,CO03622,1558 —19-05FEB02-1/1

Adjusting Cylinder Speed and Concave for Coarse Crop

Coarse crop:

Low cylinder speed and wide concave spacing.

- A—Corn
- B—Beans
- C—Sunflowers



CQ188450

—UN-16AUG99

AG,CO03622,1559 —19-15NOV02-1/1

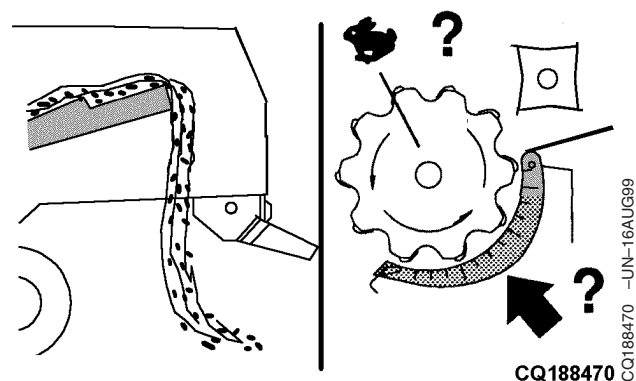
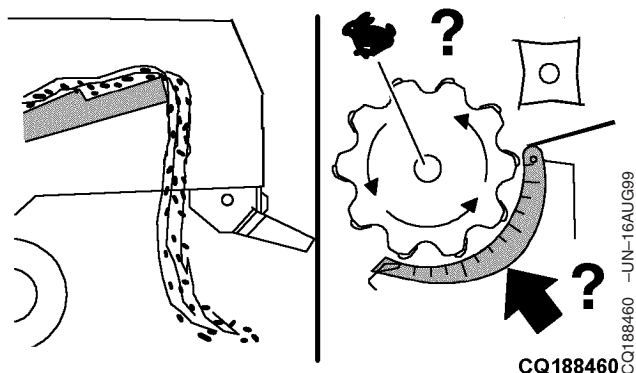
Separating Process

Threshed straw and any remaining grain are deflected and thrown onto the straw walkers. The agitating straw walker action removes the remaining grain which falls onto the grain pan.

Avoid underthreshing and excessive tailings, which may provoke the overload of the straw walkers and excessively rapid threshing. As a result, grain passes over the straw walkers and out of the combine with the mass of the straw.

Check:

- Is the concave spacing narrow enough?
- Is the cylinder speed fast enough?



AG,CO03622,1560 -19-20AUG04-1/1

Grain Cleaning Process

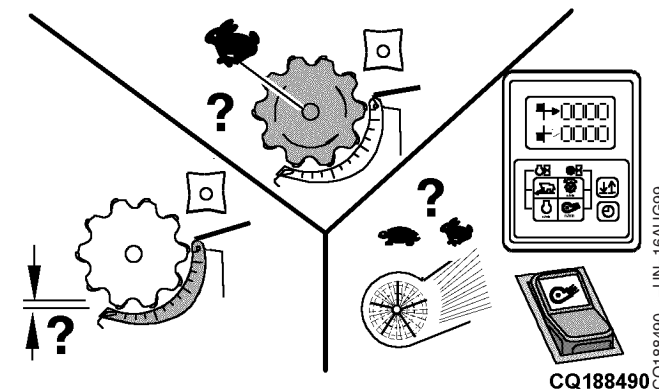
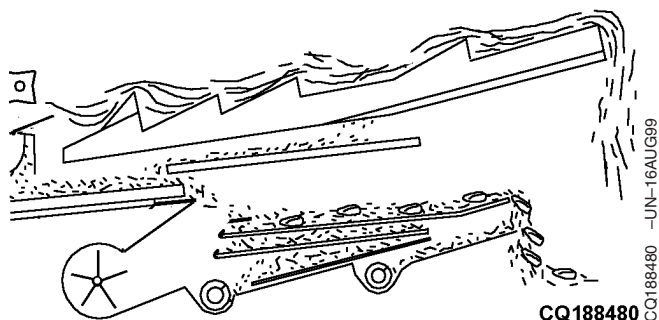
The effectiveness of the chaffer and grain sieve separating action is increased by an intensive fan blast. This blows the chaff, which is lighter than grain, into the rear.

NOTE: The blast should be as strong as possible, but grain loss should be kept to a minimum.

As a result of "overthreshing", the cleaning unit may become overloaded, resulting in poor separation of the grain from the chaff. A considerable amount of grain is lost, dropping to the ground with the straw at the rear of the combine.

Check:

- Is concave spacing too narrow?
- Is the cylinder speed too high?
- Is the intensity of the blast adapted to sieve load?



AG,CO03622,1561 -19-17AUG99-1/1

Grain Recovery Process

Clean Grain

Grain passing through the grain screen falls on the grain collector (B).

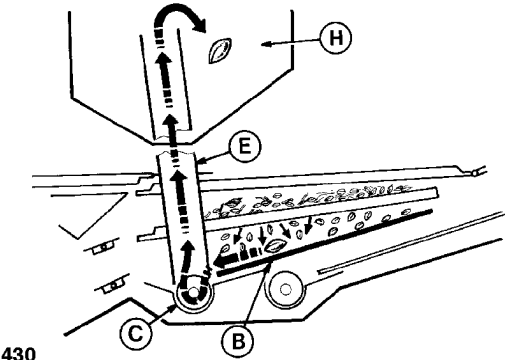
From there it is carried to the lower grain auger (C) which transports it via the grain elevator (E) to the grain tank (H).

Rethreshing

Unthreshed pod, head or ear tips passing via the chaffer extension and carried beyond the end of the grain screen fall on the tailings collector (A). From there they slide to the lower tailings auger (D).

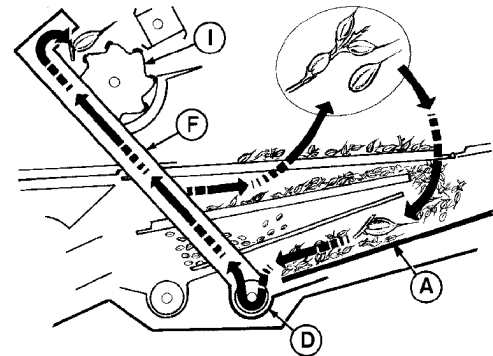
This material is then carried by the tailings elevator (E) to the front of the threshing cylinder (I) where an auger uniformly distributes it in the separator to be threshed.

ZCQD1430



ZCQD1430 -UN-04APR96

ZCQD1440



ZCQD1440 -UN-04APR96

AG.CO03622,1562 -19-17AUG99-1/1

Evaluating Threshing Action

To evaluate threshing action, pay attention to the following:

- Threshed straw
- Grain losses at rear of combine
- Grain tank sample
- Tailings



Z113559

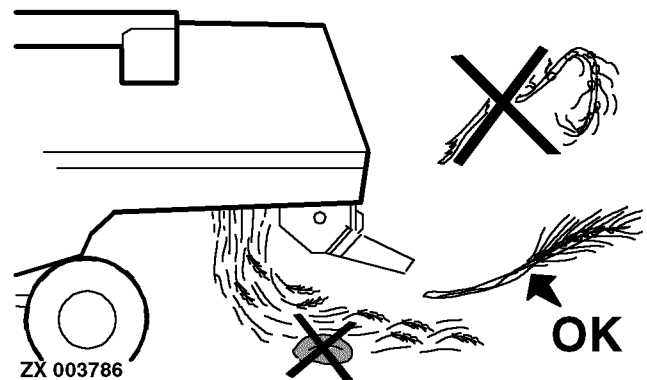
AG.CO03622,1563 -19-17AUG99-1/1

Z113559 -UN-22MAY95

Examining Threshed Straw and Grain Losses at Rear of Combine

Straw should not be broken or chewed.

The amount of grain on the ground should be at a minimum.



ZX 003786

ZX003786 -UN-19JUN95

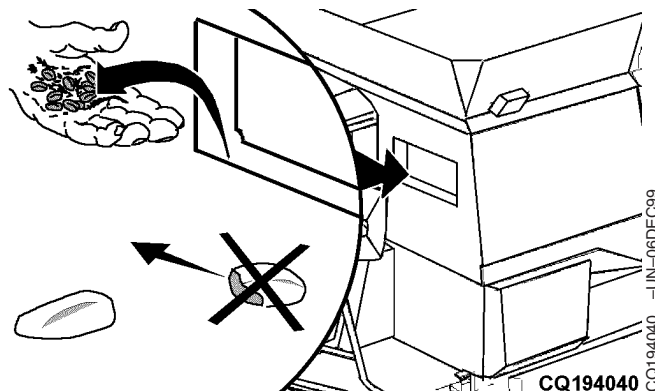
AG.CO03622,1564 -19-17AUG99-1/1

Grain Tank Sample

Open grain sample flap and extract a sample.

Should the grain sample include too many cracked grains, check the following points:

- Excessive tailings?
- Excessive cylinder speed?
- Is concave clearance correct?



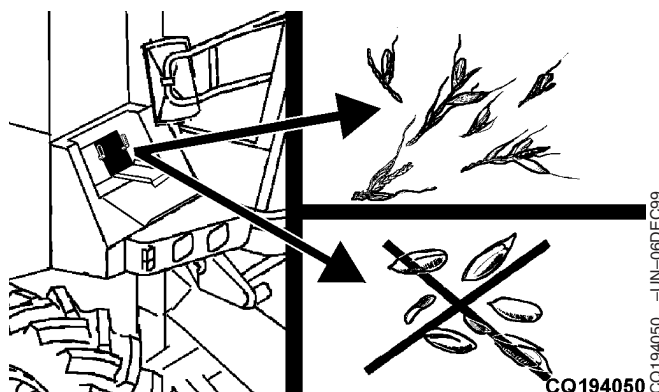
AG,CO03622,1565 -19-17AUG99-1/1

Examination of Tailings

Normally the tailings will consist of head or ear tips that have not been threshed and very small quantities of loose grains, wet straw and straw residue.

The amount of crop contained in two elevator paddles should be less than half a handful.

NOTE: Always close the inspection window after the tailings examination.

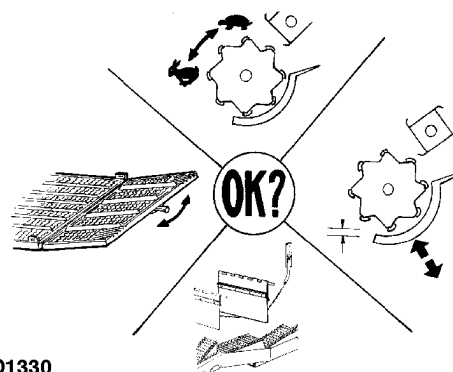


AG,CO03622,1566 -19-07OCT02-1/1

Inadequate Tailings

Check the following:

- Is the chaffer extension correctly adjusted?
- Is the straw walker curtain in the right position?
- Is the opening between cylinder and concave correct for the crop being harvested?
- Is the cylinder speed correct?



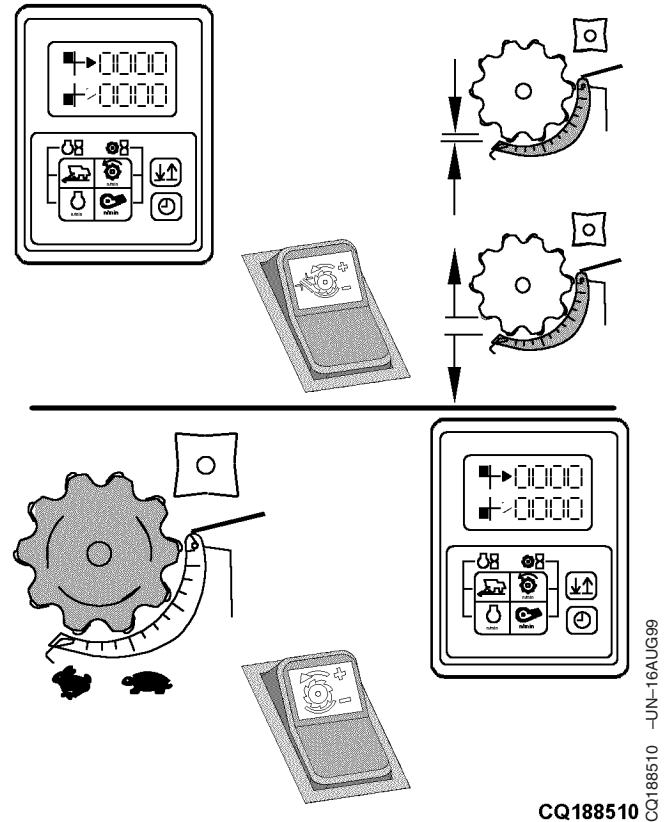
ZCQD1330

ZCQD1330 -UN-04APR96

AG,CO03622,1567 -19-20AUG04-1/1

Identifying Threshing Problems

If threshing action is not satisfactory (irrespective of excessive tailings, incorrect adjustment of cleaning unit or other problems) refer to the following procedures:



AG.CO03622,1568 -19-13NOV01-1/1

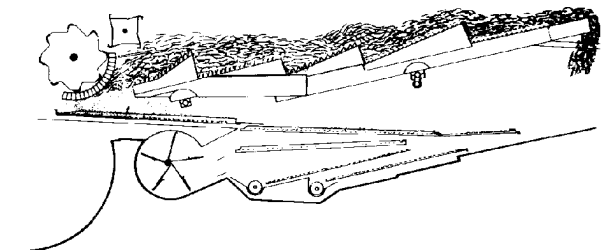
Overthreshing

Overthreshing can be caused by excessive cylinder speed or inadequate cylinder to concave spacing.

Overthreshing can be reduced by lowering cylinder speed. As a rule, reduce the speed by only 5%. Check the result of this change before changing any other settings.

If the problem is not solved by a 10% reduction in cylinder speed, open the concave slightly. If these steps do not eliminate overthreshing, try reducing combine ground speed. A very high crop volume can cause overthreshing.

IMPORTANT: Always check results before attempting further adjustments. Never make more than a 5% adjustment at any one time.



ZCQD2080

ZCQD2080 -UN-04APR96

AG.CO03622,1569 -19-17AUG99-1/1

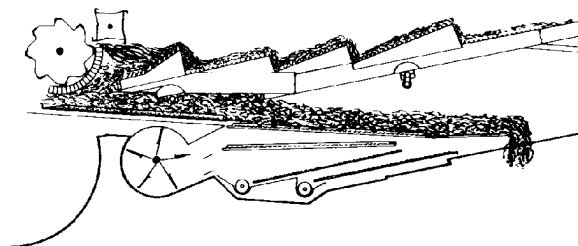
Underthreshing

Underthreshing is the result of low cylinder speed or excessive cylinder to concave spacing.

First increase cylinder speed by 5%. If this does not solve the problem, reduce the concave to cylinder spacing slightly. Check the results after each adjustment.

In certain conditions (low level of straw in the crop) underthreshing may not be solved by these adjustments alone. If this is the case, increase the combine ground speed by selecting a faster transmission speed.

IMPORTANT: Always check results before attempting further adjustments. Never make an adjustment of more than 5% at any one time.



ZCQD2090

ZCQD2090 -UN-04APR96

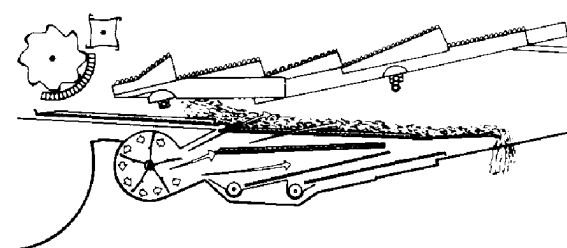
AG.CO03622.1570 -19-17AUG99-1/1

Adjusting Fan Speed

Before adjusting the fan speed, open chaffer and sieve to the maximum recommended openings for the crop being harvested (see "Combine Settings" chart). Start with the lowest fan speed suggested and gradually increase the speed until the maximum amount of chaff is expelled without blowing grain out of the combine or into the tailings return.

Carefully check results. After reaching the maximum acceptable fan speed, continue to make minor adjustments to the chaffer. If necessary, vary fan speed until the best results are obtained.

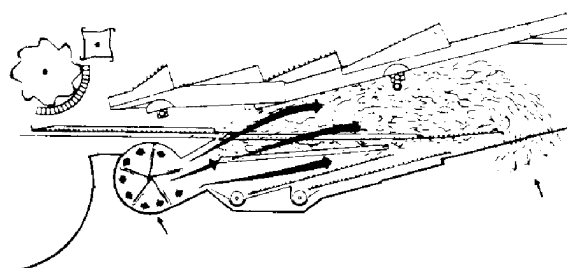
NOTE: Always check the result of each change before carrying out further adjustment.



ZCQD1420

Fan blast too low, insufficient cleaning

ZCQD1420 -UN-04APR96



ZCQD1410

Fan blast too strong, grain is being lost

ZCQD1410 -UN-04APR96

AG.CO03622.1571 -19-20AUG04-1/1

Adjusting The Chaffer

Set the chaffer just wide enough to ensure that the grain falls through before passing the length of the chaffer. If the chaffer is opened too wide, it may overload the sieve with chaff and straw and increase the tailings. If the chaffer is not opened wide enough, excess grain will be moved to the tailings and some will be lost out of the rear of the combine.

Grain losses in the cleaning unit may be caused by:

1. Too little fan blast or too narrow chaffer openings, which results in a layer of straw or chaff on top of the grain.
2. Too much fan blast, which blows the grain out of the combine.

It is important to know which of these reasons is causing the cleaning shoe losses, as this will enable the appropriate action to be taken.

Re 1.) The problem may be caused by overthreshing as well as too little air from the fan. Check the amount and condition of the straw.

If the straw appears to be excessively broken or chewed, the cylinder and concave must be adjusted to reduce overthreshing. If the straw is whole and unbroken, then more air is needed to suspend the straw and chaff so that the grain can drop through the sieve, or the chaffer needs to be opened slightly more.

IMPORTANT: Always check the result of each change before carrying out further adjustment.

Re 2.) If too much fan blast is the problem, then there will be very little chaff and straw on the cleaning shoe. Reduce fan speed and check results.

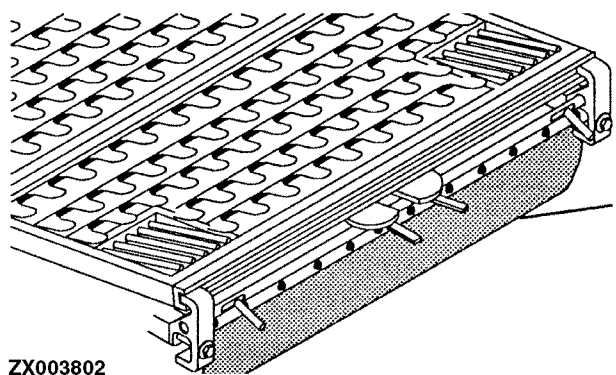
AG.CO03622,1572 -19-17AUG99-1/1

Slope Master System

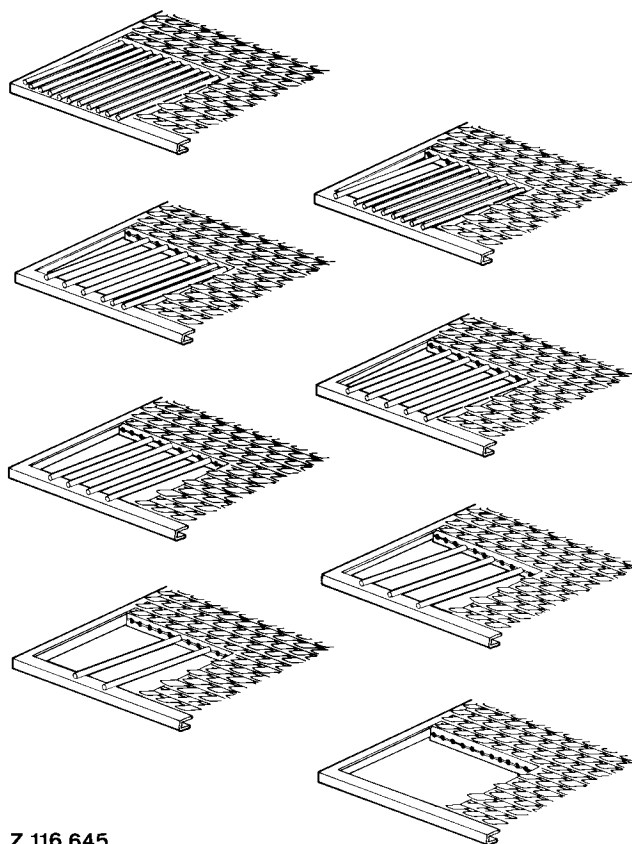
When operating the combine on a slope, special inserts at the left-hand and right-hand sides of the chaffer extension collect the grain rolling across the separator and return it via the tailings elevator.

Vary the openings in the inserts to suit the harvesting conditions, type of crop and combine tilt by adding or removing fingers. The combine is delivered from the factory with 11 fingers installed in the chaffer extension.

Any change in the number of fingers primarily affects the amount of tailings; i.e. if no fingers or only a few fingers are installed, a high percentage of tailings will occur; if all the fingers are installed, very little tailings occur.



ZX003802 -JUN-19JUN95



Z 116 645 -JUN-23MAY95

AG,CO03622,1573 -19-26SEP03-1/1

Adjusting the Sieve

Final cleaning is done by the sieve. It must be open far enough to allow the grain to fall through easily, but not so far that chaff and straw can fall through.

If the sieve is not open wide enough, the grain remains with the tailings. This leads to overthreshing and damages the grain excessively.

To adjust the sieve, open it until too much foreign material appears in the grain tank and then close the sieve slightly until the proportion of foreign material drops to an acceptable level.

AG,CO03622,1574 -19-17AUG99-1/1

Adjustment of Cylinder and Concave

Adjust the clearance between the concave and cylinder in order to obtain **optimum threshing performance**.

Incorrect adjustment:

Cylinder speed too high + concave spacing too narrow = **Overthreshing**

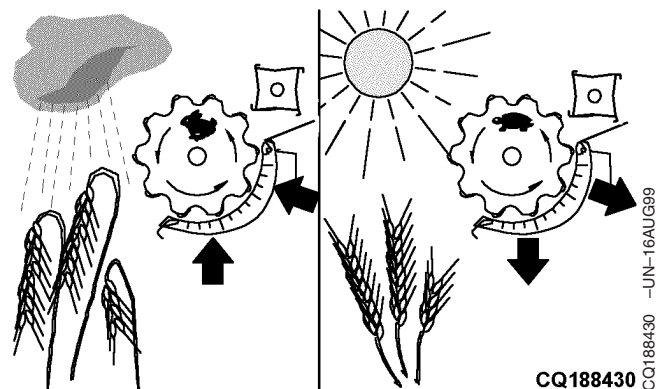
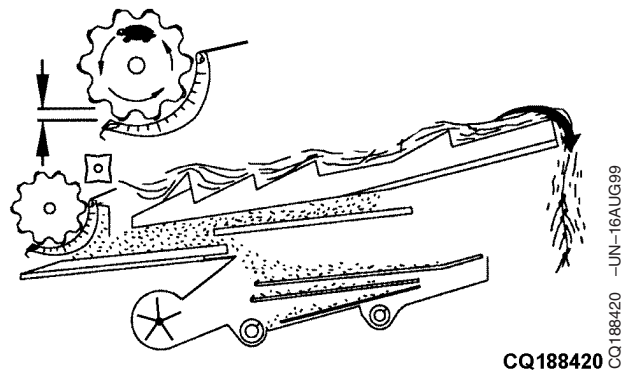
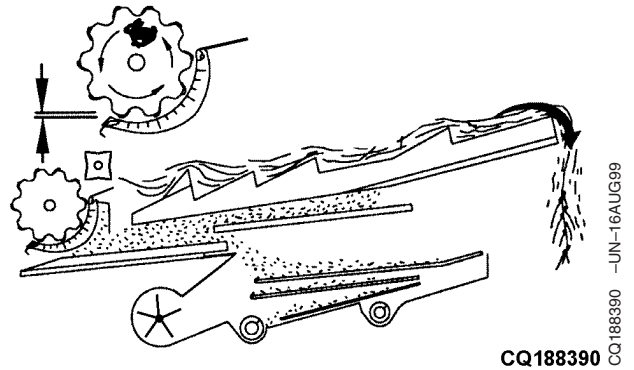
Low cylinder speed + wide concave spacing = **Poor threshing action**

Correct adjustment:

Moist crop: Increase cylinder speed and/or reduce concave spacing

Dry crop: Reduce cylinder speed and/or increase concave spacing

IMPORTANT: Cylinder speed and concave adjustments are the two most important factors in obtaining good harvesting results.



Grain Loss—Explanations and Examples

Acceptable grain loss currently runs at 1—1.5%. How this is calculated depends on the following factors:

- Harvesting conditions;
- Harvesting time;
- Check losses.

What Does Loss of Grain Really Mean?

With a yield of 5000 kg per hectare, a grain loss of 1% is equivalent to 50 kg.

When a combine operates with a grain loss of 6% due to incorrect adjustments, this means that up to 300 kg of grain is lost per hectare.

Correct Adjustment = Greater Yield?

The following example shows that the correct adjustment of the machine leads to good results.

Example:

The combine is working with a 6% loss and the mean yield per hectare is 4000 kg. If the combine is harvesting 2.5 hectares per hour, then in 8 hours it will have harvested 20 hectares.

$$20 \text{ ha} \times 4000 \text{ kg/ha} = 80000 \text{ kg} \times 6\% = 4800 \text{ kg.}$$

Better adjustment reduces grain loss by 1% to 3%. Let us suppose that with certain adjustments we obtain a 2% reduction.

A grain loss value reduced to 4% is still an excessive figure. By reducing combine ground speed losses can be reduced by 1 to 3.5%. If, in our example, we reduce the workload to 2 hectares per hour, then in 8 hours the combine shall harvest 16 hectares and we obtain a reduction of 3%.

Then:

$$16 \text{ ha} \times 4000 \text{ kg/ha} = 64000 \text{ kg} \times 1\% = 640 \text{ kg.}$$

Conclusion:

If you have 100 ha:

Harvesting with a 6% loss will result in a loss of 20,000 kg.

Reducing the grain loss by 5% will result in a saving of 16,000 kg (266 sacks).

The operator, or any other person, must check grain loss three times per day, and carry out any necessary adjustments in order to maintain grain loss at the 1%—1.5% level.

The combine can operate even more economically (especially when several combines are working in one field) if one person is employed specifically to check grain loss on all machines.

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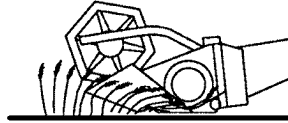
Causes of Grain Loss

After adjusting the combine to get the best results, any further loss of grain can be categorized according to the area where it occurs.

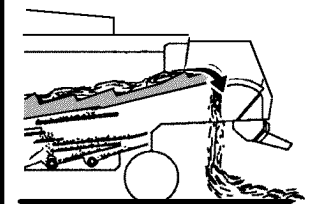
Grain losses fall into four groups:

- I. Cutting platform losses
- II. Threshing unit losses
- III. Straw walker losses
- IV. Sieve losses

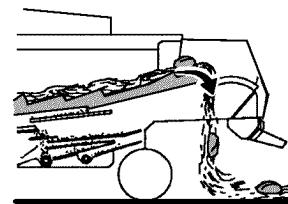
I



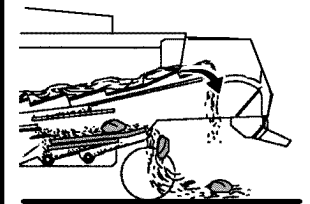
II



III



IV



ZX012165

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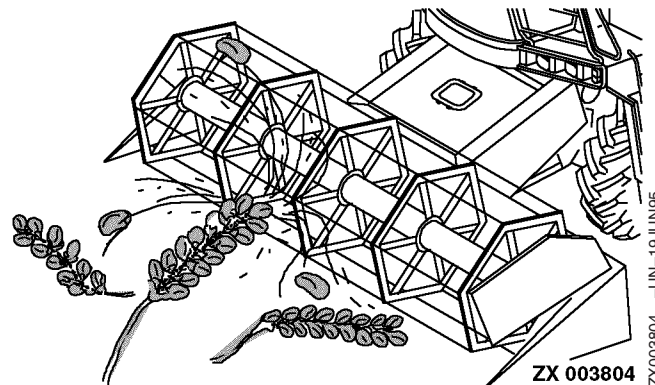
AG.CO03622,1581 -19-20AUG04-1/1

Header Losses

Cutting platform losses are cut ears which fail to get picked up or grain shattered by the reel.

Determining Losses

Compare the number of grains in a certain area before and after the cutting platform has passed through.



ZX 003804

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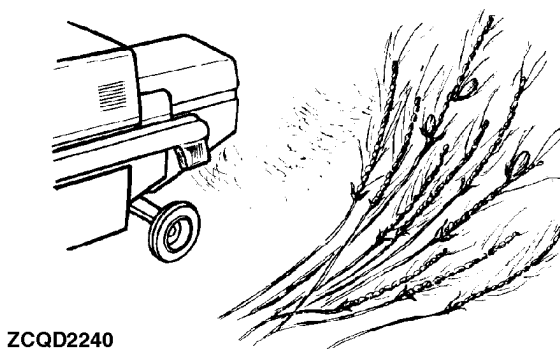
AG.CO03622,1582 -19-18AUG99-1/1

Threshing Unit Losses

Threshing unit losses are those grains which leave the rear end of the machine in partially threshed ears.

Determining Losses

Collect ten threshed ears and count the number of pieces of grain on them after they have been through the threshing unit, straw walkers and sieves. Three grains correspond to a loss of 1% (based on an average yield of 30 grains per ear).



ZCQD2240

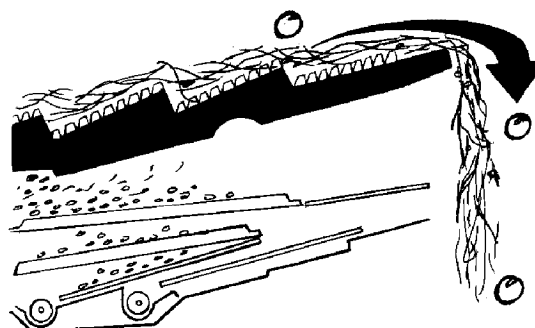
ZCQD2240 -UN-04APR96

AG,CO03622,1583 -19-20AUG04-1/1

Straw Walker Losses

Straw walker losses are those grains carried with threshed straw over the straw walkers and out of the machine. Avoid underthreshing and excessive tailings.

If straw walker losses are not reduced once the cylinder and concave have been adjusted, then reduce ground speed.



ZCQD1480

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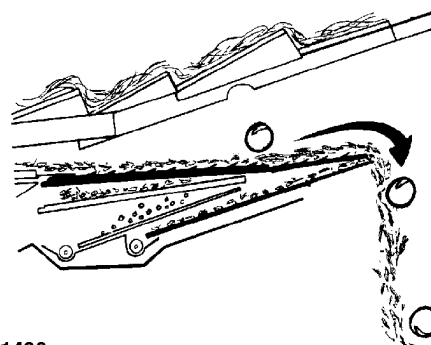
AG,CO03622,1584 -19-20AUG04-1/1

Sieve Losses

Sieve losses are those grains that are carried over the sieve and fall onto the ground due to incorrect sieve adjustment. With correct sieve adjustment, losses will be small and remain constant.

Causes of sieve losses:

- Incorrect cleaning fan speed
- Incorrect air direction
- Sieves incorrectly adjusted
- Sieves overloaded because of incorrect threshing unit adjustment



ZCQD1490

ZCQD1490 -UN-04APR96

AG,CO03622,1585 -19-14AUG02-1/1

Prevention of Grain Loss— General

There is no patent remedy when it comes to preventing grain losses. The threshing process is so complex that a certain relationship between “adjustment” and “result” must be found.

IMPORTANT: Grain loss rises with the amount of material passing along the straw walkers and therefore can be easily remedied by decreasing combine ground speed. However, do not underestimate the effect of other combine adjustments.

Reduce straw walker grain losses as follows:

- Keep openings in straw walkers clean.
- Reduce weeds and green material (raise cutting platform).

- Material overthreshed (reduce cylinder speed).
- Avoid overload of straw walkers (reduce ground speed).

Reduce sieve losses as follows:

- Increase air blast from cleaning fan if layers of straw form on sieves.
- Reduce air blast (fan speed) if grain is blown over the top of cleaning shoe.
- Open sieves.
- Keep sieves clean.
- Add or remove insert fingers to “Slope Master” when working on slopes.
- Reduce amount of chaff on sieves, avoid overthreshing.
- Avoid overloading sieves, reduce amount of grain over sieves (reduce ground speed).

AG.CO03622,1586 –19–20AUG04–1/1

Threshing Adjustments — General Information

IMPORTANT: The Combine Settings Charts apply only for average conditions. Different field and crop conditions may make it necessary to change the settings. Adjustment of the opening between the concave and cylinder is fundamental. It must be adjusted to the crop type.

Some threshing cylinder speeds will only be reached if the combine is equipped with the cylinder drive reduction gear (option).

NOTE: Use straw walker grids and sieves appropriate to the type of crop and harvesting conditions. See the “Separator and Cleaning Unit” section.

AG.CO03622,1587 –19–20AUG04–1/1

Basic Adjustments Charts

IMPORTANT: These charts indicate initial values. Different terrain and crop conditions may need subsequent adjustments.

Adjustments of chaffer extension are not indicated, it is recommended to adjust the extension 2mm more open than the chaffer or according to the amount of tailings.

The minimum value displayed on the INFOTRAK monitor for concave spacing is 4, in this position the front concave spacing should be 6mm and the rear 3mm.

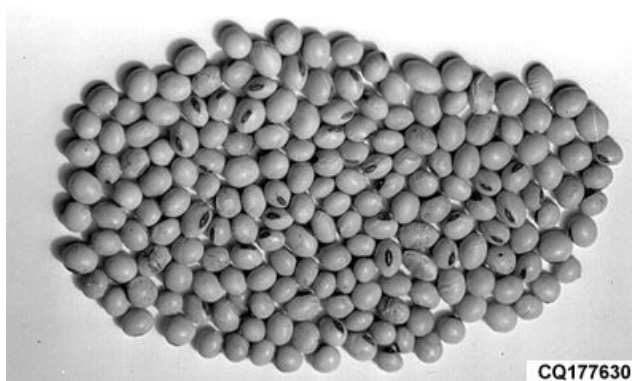
NOTE: Always adjust the cylinder and fan speed with the engine at top speed.

AG.CO03622,1589 –19–29OCT02–1/1

Soybeans

Specification

—Cylinder speed 400 to 800 rpm
 Concave Spacing - INFOTRAK
 indication 30 to 51
 Chaffer Opening 11 to 19 mm
 Grain Screen Opening 8 to 12.5 mm
 Fan Speed 800 to max. rpm



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 CQ177630

AG,CO03622,2860 -19-05NOV02-1/1

Wheat

Specification

—Cylinder speed 800 to 1000 rpm
 Concave Spacing - INFOTRAK
 indication 12 to 33
 Chaffer Opening 11 to 19 mm
 Grain Screen Opening 3 to 6.5 mm
 Fan Speed 700 to 1100 rpm



CQ177640

—UN-09FEB99
 CQ177640

AG,CO03622,2861 -19-26SEP03-1/1

Rice

Specification

—Cylinder speed 600 to 900 rpm
 Concave Spacing - INFOTRAK
 indication 12 to 33
 Chaffer Opening 16 to 19 mm
 Grain Screen Opening 5 to 9.5 mm
 Fan Speed 800 to max. rpm



CQ177650

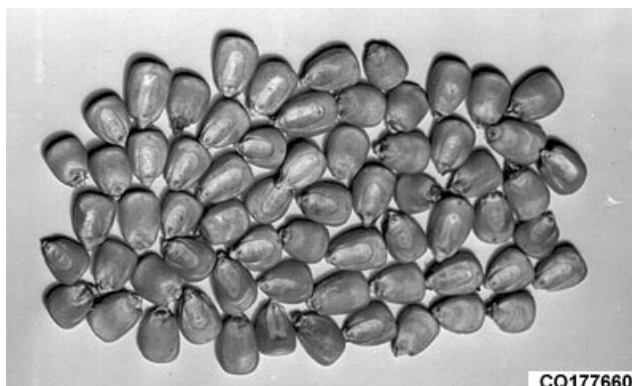
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AG,CO03622,2862 -19-26SEP03-1/1

Corn

Specification

—Cylinder speed 200 to 600 rpm
 Concave Spacing - INFOTRAK
 indication 30 to 51
 Chaffer Opening 11 to 16 mm
 Grain Screen Opening 8 to 14 mm
 Fan Speed 800 to max. rpm



CQ177660

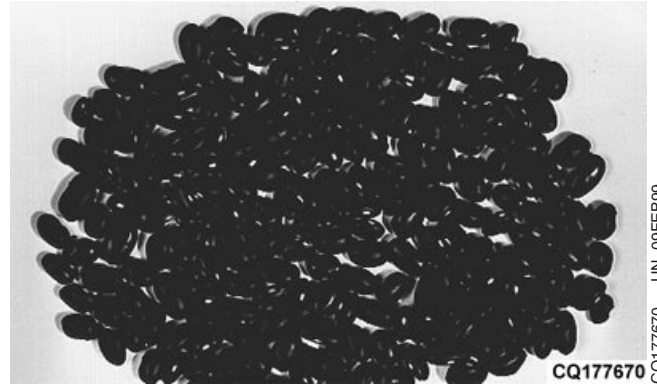
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 CQ177660

AG,CO03622,2863 -19-05NOV02-1/1

Beans

Specification

—Cylinder speed..... 200 to 600 rpm
 Concave Spacing - INFOTRAK
 indication 30 to 51
 Chaffer Opening 12.5 to 19 mm
 Grain Screen Opening 9.5 to 12.5 mm
 Fan Speed..... 850 to max. rpm



CQ177670

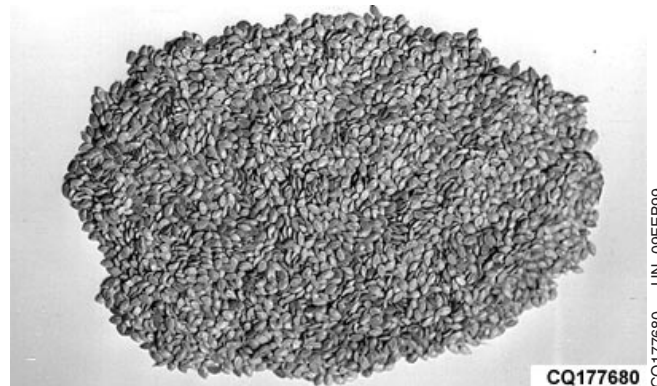
—UN-09FEB99

AG,CO03622,2864 -19-26SEP03-1/1

Herbage

Specification

—Cylinder speed..... 700 to 1000 rpm
 Concave Spacing - INFOTRAK
 indication 4 to 16
 Chaffer Opening 12.5 to 16 mm
 Grain Screen Opening 3 to 6.5 mm
 Fan Speed..... min. up to 700 rpm



CQ177680

—UN-09FEB99

AG,CO03622,2865 -19-26SEP03-1/1

Sorghum

Specification

—Cylinder speed..... 600 to 900 rpm
 Concave Spacing - INFOTRAK
 indication 12 to 33
 Chaffer Opening 9.5 to 16 mm
 Grain Screen Opening 6.5 to 12.5 mm
 Fan Speed..... 700 to 1000 rpm



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—UN-09FEB99

AG,CO03622,2866 -19-26SEP03-1/1

Oats

Specification

—Cylinder speed..... 600 to 900 rpm
 Concave Spacing - INFOTRAK
 indication 12 to 33
 Chaffer Opening 16 to 19 mm
 Grain Screen Opening 6.5 to 12.5 mm
 Fan Speed..... 600 to 900 rpm



CQ177700

—UN-09FEB99

AG,CO03622,2867 -19-26SEP03-1/1

Sunflowers

Specification

—Cylinder speed 200 to 600 rpm
 Concave Spacing - INFOTRAK
 indication 30 to 51
 Chaffer Opening 12.5 to 19 mm
 Grain Screen Opening 11 to 16 mm
 Fan Speed 700 to 900 rpm



CQ177710

AG,CO03622,2868 -19-26SEP03-1/1

—UN-09FEB99
 CQ177710

Barley

Specification

—Cylinder speed 800 to 1000 rpm
 Concave Spacing - INFOTRAK
 indication 12 to 33
 Chaffer Opening 12.5 to 19 mm
 Grain Screen Opening 6 to 12 mm
 Fan Speed 700 to 1100 rpm



CQ177720

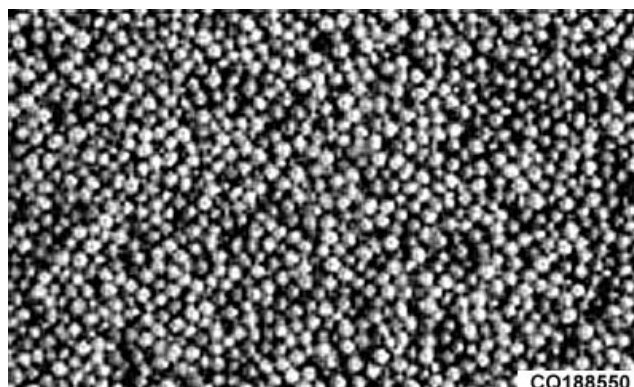
AG,CO03622,2869 -19-26SEP03-1/1

—UN-09FEB99
 CQ177720

Rape

Specification

—Cylinder speed 400 to 800 rpm
 Concave Spacing - INFOTRAK
 indication 4 to 16
 Chaffer Opening 5 to 10 mm
 Grain Screen Opening 3 to 5 mm
 Fan Speed min. up to 800 rpm



CQ188550

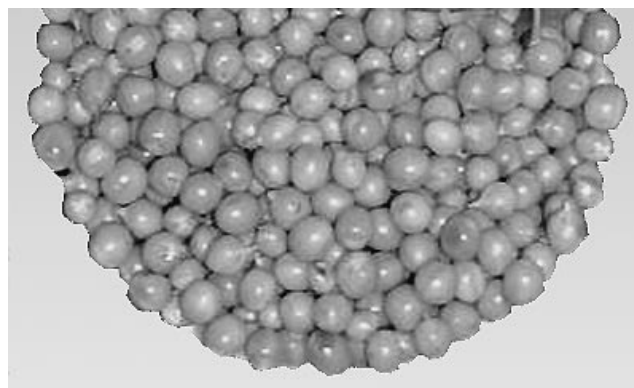
AG,CO03622,2870 -19-05NOV02-1/1

—UN-24AUG99
 CQ188550

Pea

Specification

—Cylinder speed 200 to 600 rpm
 Concave Spacing - INFOTRAK
 indication 30 to 51
 Chaffer Opening 11 to 16 mm
 Grain Screen Opening 8 to 14 mm
 Fan Speed 800 to 1000 rpm



—UN-13NOV02
 CQ216430

MB03730,000001F -19-05NOV02-1/1

Linseed

Specification

—Cylinder speed	800 to 1000 rpm
Concave Spacing - INFOTRAK indication	4 to 16
Chaffer Opening	12.5 to 16 mm
Grain Screen Opening	3 to 6.5 mm
Fan Speed	400 to 700 rpm

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Preparations Before Harvesting Different Crop

Cleaning combine:

- Feeder house
- Separator
- Straw walkers
- Chaffer and sieves
- Elevators
- Grain tank

When changing the header, remember to alter width-of-cut on the combine performance monitor.

NOTE: *Reset the alarm threshold of the INFO-TRAK™ monitor every time the threshing cylinder and/or fan speed are altered.*

INFO-TRAK is a trademark of the Deere & Company

AG.CO03622,1590 -19-20AUG04-1/1

Preparations for Harvesting Grain Crops

Check the height setting of the bottom feeder conveyor drum.

Concave: Install a grain-crop concave.

Check straw walker sieves and grids.

Install a chaffer and chaffer extension as circumstances require.

Install a suitable grain sieve as circumstances require.

Straw chopper: Install counterknives.

Set the combine for grain harvesting according to the values provided by the "Basic Adjustment Chart".

AG.CO03622,1591 -19-20AUG04-1/1

Preparations for Harvesting Corn

Change height setting of bottom feeder conveyor drum.

Install special kit for corn.

Straw chopper: Remove counterknives.

Set the combine for corn harvesting in accordance with the values provided by the “Basic Adjustment Chart” in this section.

AG,CO03622,1592 -19-20AUG04-1/1

Preparations for Harvesting Oil Seed Crops

IMPORTANT: When harvesting oil seed crops (e.g.: rape, sunflowers, etc.), clean separator and cleaning unit thoroughly **EVERY DAY**.

AG,CO03622,1593 -19-15NOV02-1/1

Operating the Combine

1. Prepare the combine for the type of crop to be harvested.

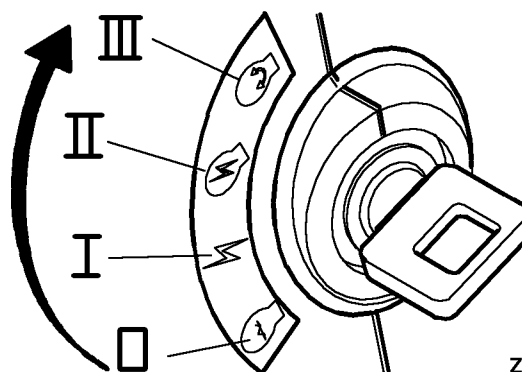
2. Prepare and hook up header to combine.

NOTE: See header preparation and coupling information in the Cutting Platform OM.

NOTE: See information on preparation in this section.

AG,CO03622,1601 -19-20AUG04-1/6

3. Engage engine, leave it running in slow idle.



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ZX002403

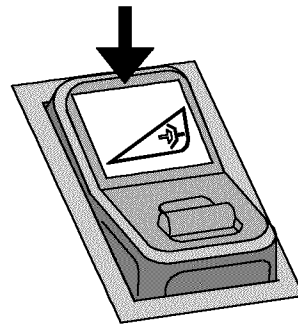
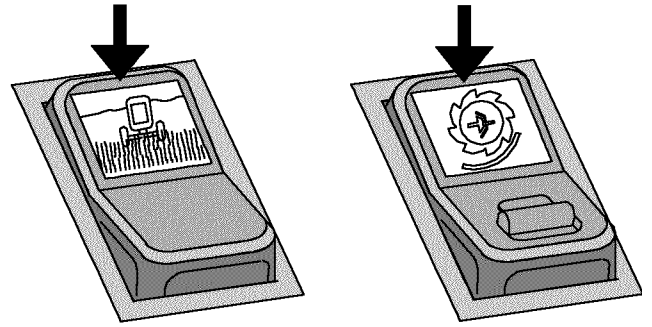
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AG,CO03622,1601 -19-20AUG04-2/6

4. Move road safety switch to field position.

IMPORTANT: Always engage separating system with engine in slow idle.

5. Switch on separator.
6. Switch on header.



ZX 004374

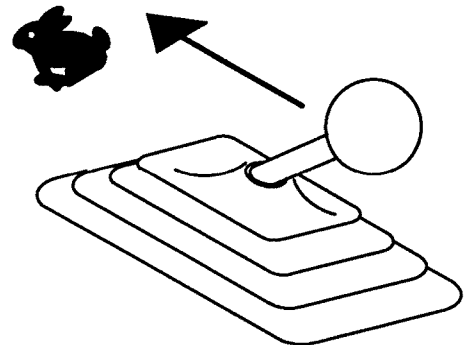
ZX004374 -UN-19JUN95

AG.CO03622,1601 -19-20AUG04-3/6

7. Set engine to maximum rpm.

NOTE: Using throttle lever for 1450/1550.

Using throttle rocker switch for CWS/WTS.



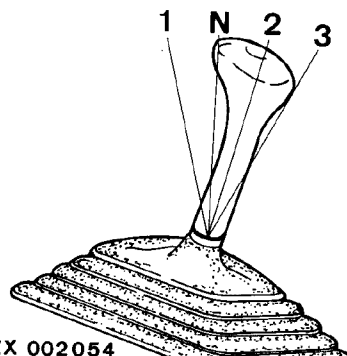
ZX002406

ZX002406 -UN-16JUN95

AG.CO03622,1601 -19-20AUG04-4/6

8. Engage a transmission speed.

NOTE: Second speed is the best for all-around field performance. Third speed is not recommended for field operation, only for transport.



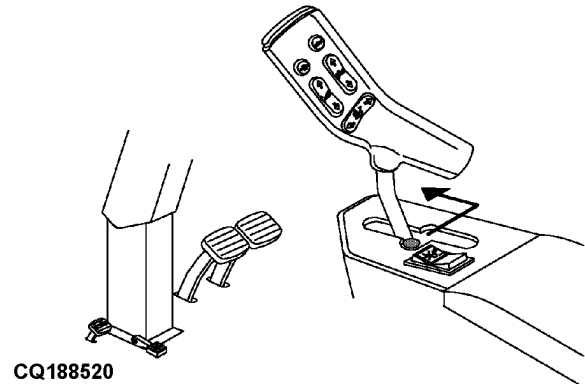
ZX 002054

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AG.CO03622,1601 -19-20AUG04-5/6

9. Move multifunction control handle to adapt ground speed to harvesting conditions.



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AG,CO03622,1601 -19-20AUG04-6/6

Automatic Float Control for 300 and 600— CWS/WTS series Rigid Headers

IMPORTANT: The float system must be calibrated. See “Header Calibration Procedure” in the Service — Electrical System section.

Requirements:

- Engine running (high speed) to enable float.
- Road safety switch in field position.
- Threshing and header engaged.
- Move float enable switch (H) to the position (II).

NOTE: Do not adjust header float unless hydraulic oil is at operating temperature.

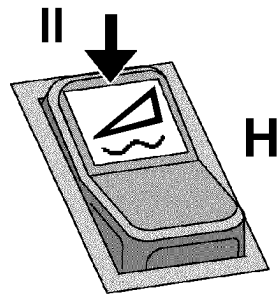
To activate flotation press knob (B). The pressure applied by the header against the ground is adjusted by potentiometer (A2).

Float Adjustment:

Use potentiometer (A2) to adjust to desired header float.

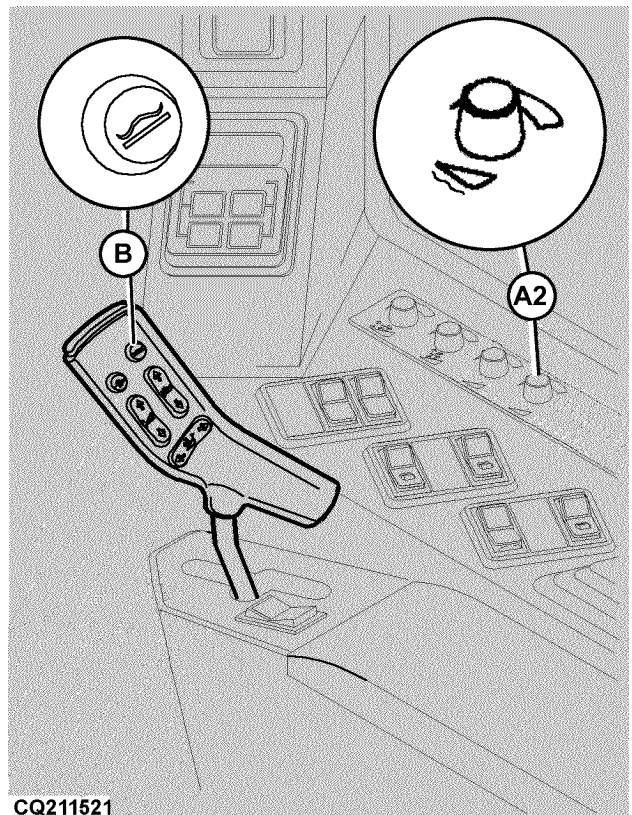
- Turn clockwise — Increase ground pressure (lower header).
- Turn counterclockwise — Reduce ground pressure (raise header).

A2—Header float potentiometer
B—Header float knob
H—Float enable switch



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CQ211521

CQ211521 -UN-21FEB02

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NOTE: When header float knob (B) is activated the automatic height control of the header is deactivated.

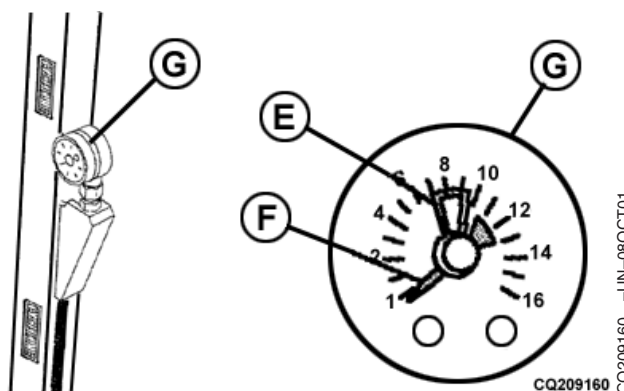
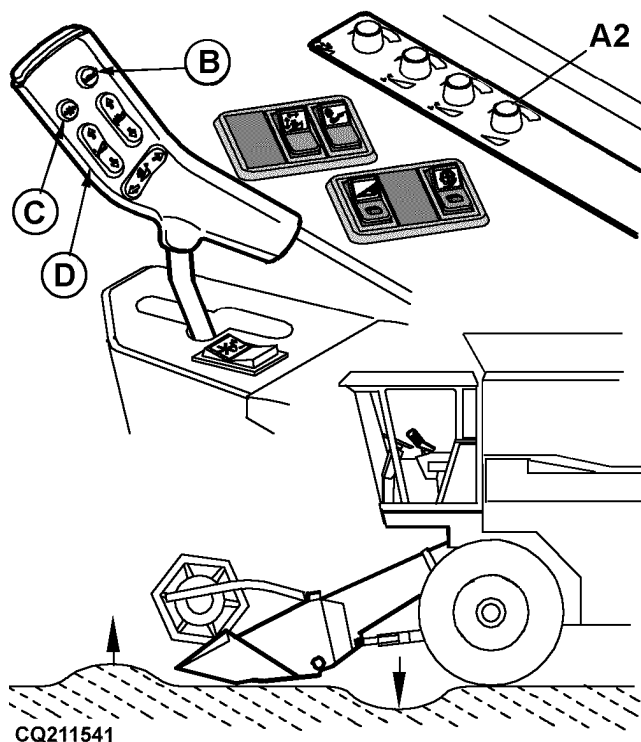
Operation:

Once the system is calibrated, it can be turned "ON" by pushing the resume-to-float knob (B) on the multifunction control handle. The system should lower the header to the position where the float was calibrated, and then open the accumulator shutoff valve in order to effect closed loop lift cylinder pressure control, turning "ON" and "OFF" the header raise/lower valves to keep the lift cylinder pressure set point. It can be tested by driving around on uneven ground and observing the lift cylinder pressure on the pressure gauge (G). With the float set point fully rotated clockwise (A2) the header ground pressure should be almost zero, with the lift cylinder pressure equal to the static weight of the header. With the float set point fully rotated counterclockwise, 40% of the header weight should be on the ground, with lift cylinder pressure equal to 60% of the static weight of the header. Drive over a ditch, or other such very uneven surfaces, and see how the system behaves, in other words if it maintains constant lift cylinder pressure. The system should be fairly fast in responding but not unstable.

NOTE: Needle (F) moves to the right when ground pressure (float) drops, and to the left when pressure increases.

The autofloat control may be deactivated by pressing knob (D) or activating the header automatic height control knob (C).

- A2—Header float potentiometer
- B—Header resume-to-float / Cut Break Off knob
- C—Automatic header control knob
- D—Header raise/lower switch
- E—Adjustment window
- F—Needle
- G—Pressure gauge



Return to Cut Position for 300 and 600— CWS/WTS series Rigid Headers

IMPORTANT: Only for rigid header without AHC rods, controlled by feeder house angle sensor.

Requirements:

- Engine running (high speed).
- Road safety switch in field position.
- Threshing and header engaged.

NOTE: Do not adjust the header height control before the oil is heated to avoid differences in header height that may occur as the oil heats up.

To activate header automatic height control, press knob (C). The distance between platform and ground is adjusted by the potentiometer (A1).

Return To Cut Position:

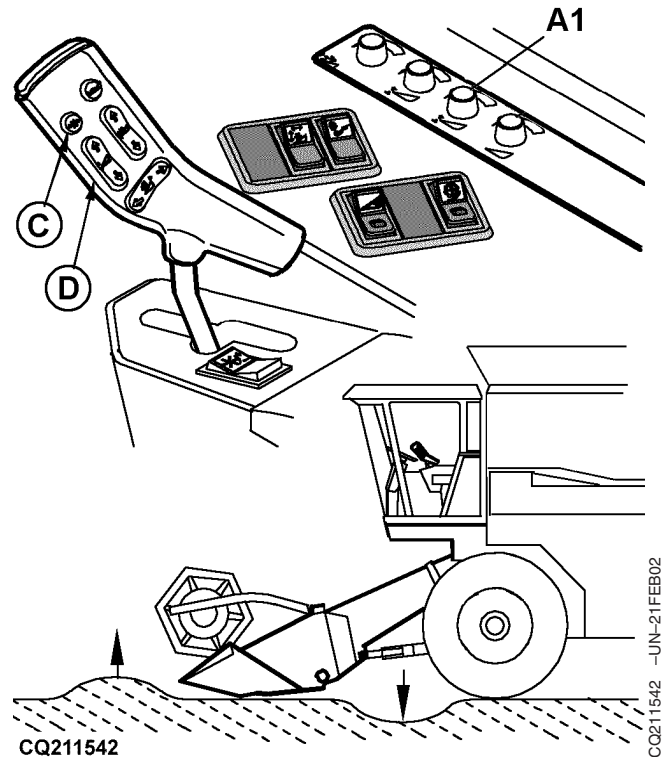
Use potentiometer (A1) to adjust to desired header height.

- Turn clockwise — Increase height between header and ground.
- Turn counterclockwise — Reduce height between header and ground.

Example:

At the end of the field, raise header by actuating switch (D). After changing direction of combine travel, lower header using switch (D) or knob (C) to return to automatic header height mode.

NOTE: The return to cut position of the header can be deactivated by pressing knob (D) or activating the header float system knob (B).



- A1—Header height potentiometer
- C—Return to cut knob
- D—Header raise/lower switch
- E—Header automatic height control switch

Header Automatic Height Control— 600— CWS/WT Series Rigid Header

IMPORTANT: Only for rigid header with rods controlled by sensors installed on header.

Requirements:

- Engine running (high speed).
- Road safety switch in field position.
- Threshing and header engaged.
- To enable header automatic height control and tilt control move switches (E) and (F) to position (II).

NOTE: Do not adjust the header automatic height control before the oil is at working temperature, in order to avoid variations that may occur to header height as the oil heats up.

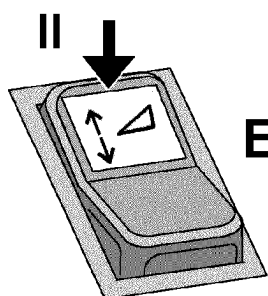
To activate header automatic height control, press knob (C).

Header automatic control knob:

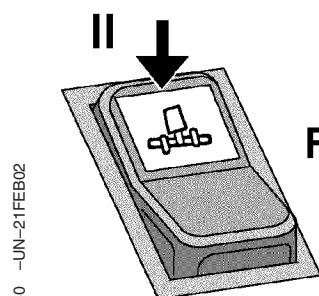
See Header AHC Calibration Procedure—Step by Step” in the “Service “ Electrical System”section.

Example:

At the end of the field, raise header by actuating switch (D). After changing direction of combine travel, lower header using switch (D) or knob (C) to return to automatic header height mode.



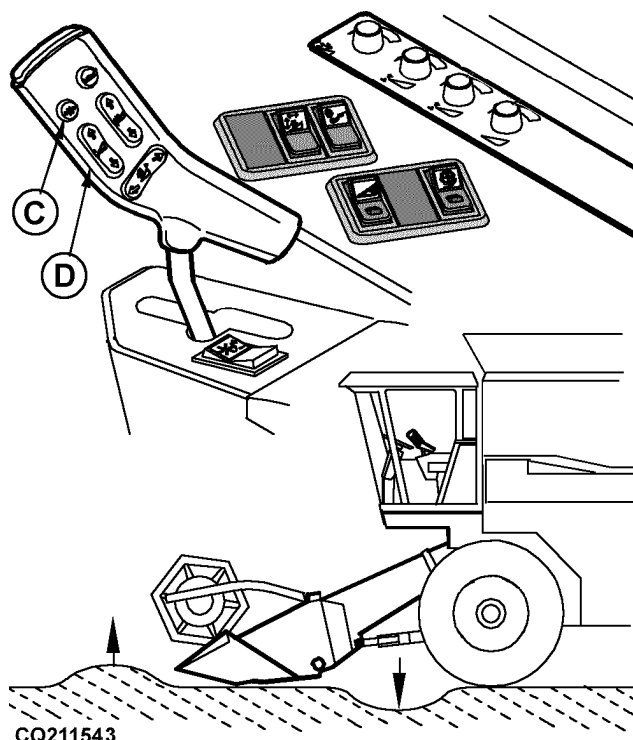
CQ211550



CQ211550 -UN-21FEB02

CQ212540

CQ212540 -UN-22FEB02



CQ211543

CQ211543 -UN-22FEB02

- C—Return to cut knob
- D—Header raise/lower switch
- E—Header automatic height control switch
- F—Header lateral tilt enable switch

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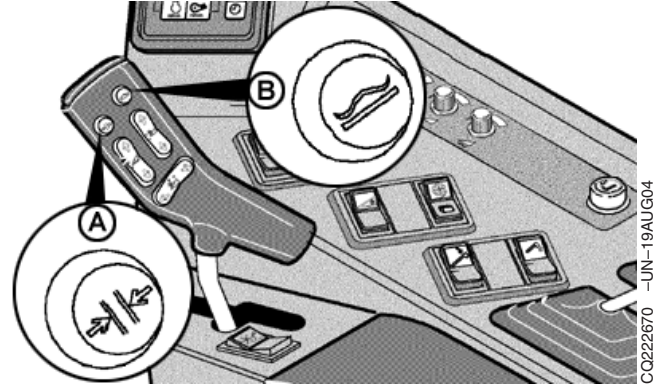
Multifunction Control Handle Functions

Cut Position:

The combine takes the feeder house sensor reading.

Return To Cut:

The combine takes the header sensor reading.



Functions of Multifunction Control Handle Knobs				
		300 and 600 series rigid headers without automatic height control sensor	600 series rigid headers with automatic height control sensor	300 and 600 series flex headers (1450/1550)
With AHC and Float disabled	Knob A	Cut Position	Cut Position	Cut Position
	Knob B	No function	No function	No function
With AHC enabled and Float disabled	Knob A	No function	Return to cut (AHC)	Return to cut (AHC)
	Knob B	Break Off Cut	Break Off Cut	Break Off Cut
With AHC disabled and Float enabled	Knob A	Cut Position	Cut Position	No function (switch)
	Knob B	Float	Float	No function (switch)
With AHC enabled and Float enabled	Knob A	No function	Return to cut (AHC)	No function (switch)
	Knob B	Float	Float	No function (switch)

AG.CO03622,1603 -19-05MAR04-1/1

Feeder House

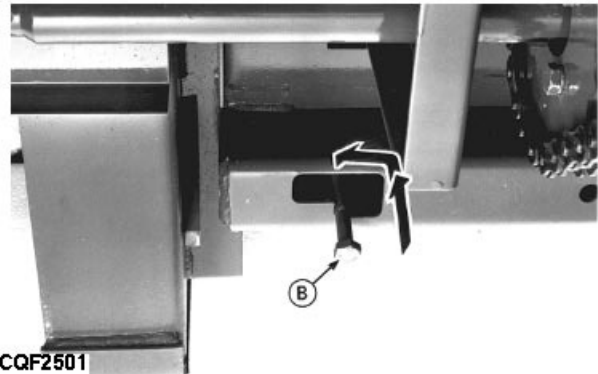
Cutting and Harvesting Unit—Header Installation

Lower the feeder house and move inward the two bolts (B) on both sides of the feeder house. Slowly drive the combine up and slot the two supports (A) into the header.

Move the two bolts (B) which should fit into the corresponding locations on the header as shown in the figure.



CQ192120 -UN-01NOV99



ZCQF2501 -UN-04APR96

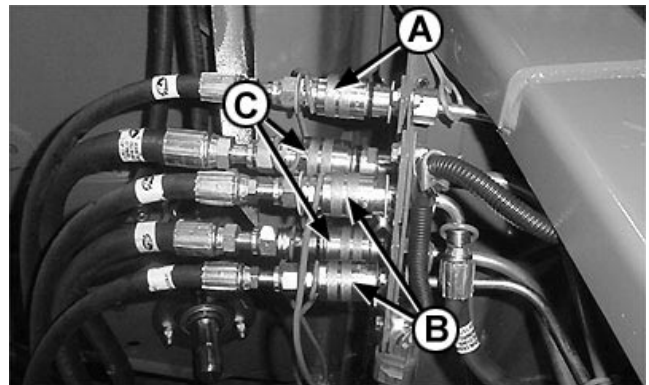
ZCQF2501

AG,CO03622,1628 -19-11MAR02-1/1

Hydraulic Connections

IDENTIFICATION OF HOSES	
Hose function	Identification ring color
A - Reel raising	Green
B - Reel forward position	Dark blue
B - Reel aft position	Light blue
C - Reel hydraulic drive	These hoses do not have identification rings because it is only possible to couple each one in its correct position and in no other

NOTE: The hydraulic hoses are marked with different color rings to avoid wrong connections.



CQ216300 -UN-10OCT02

A—Reel raising
B—Reel Fore-And-Aft Adjustment
C—Reel hydraulic drive

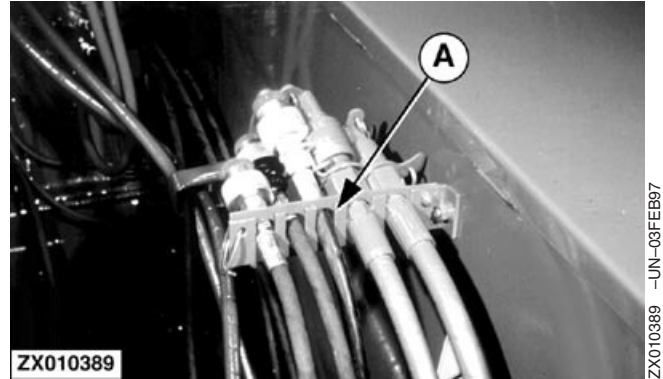
AG,CO03622,1630 -19-02AUG04-1/1

Bracket For Hydraulic Hoses—300 Series Feeder House

When detaching header, the hydraulic hoses can be stored in the bracket (A) on r.h. side of the feeder house. This will prevent them being damaged and contamination of the hydraulic oil during combine transport.

After removal of safety wire, the upper bracket part can be swung open.

IMPORTANT: After removing the header, the two hoses for the reel drive should be coupled together to permit oil flow when header drive if the header is accidentally engaged.



ZX010389 -UN-03FEB97

AG,CO03622,2180 -19-20AUG04-1/1

Connecting the Transmission—300 Series Rigid Header

Align the teeth of the two sprockets on both sides of the header.

Place the chain on the two sprockets on both sides of the header.

NOTE: Do not tie the chain. The protective shield will keep the chain on the sprockets. Push the protective shield over the chain on both sides of the combine.

IMPORTANT: Check header leveling after installation.



ZCQF2540

ZCQF2540 -UN-04APR96



ZCQF2550

ZCQF2550 -UN-04APR96

AG,CO03622,1632 -19-29JUL04-1/1

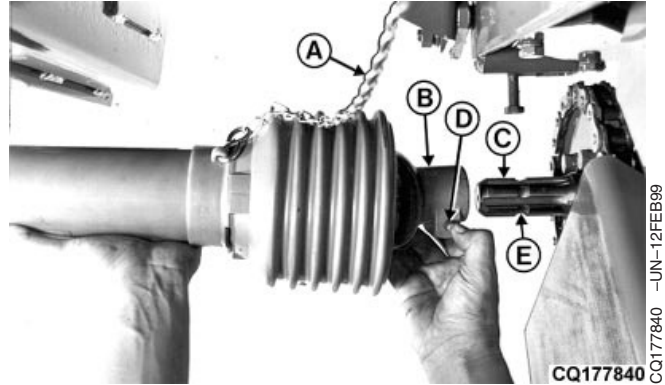
Connecting the Transmission—300 and 600 Series Flex Headers

By means of chain (A) remove the platform drive shaft from its transport position.

NOTE: To align it may be necessary to make (B) turn.

Press pin (D) while pushing the shaft coupler (B) in shaft (C) until you feel pin impeded by notch (E).

IMPORTANT: Once the header is installed, check its leveling.



AG,CO03622,1633 -19-11AUG04-1/1

Checking Header Leveling

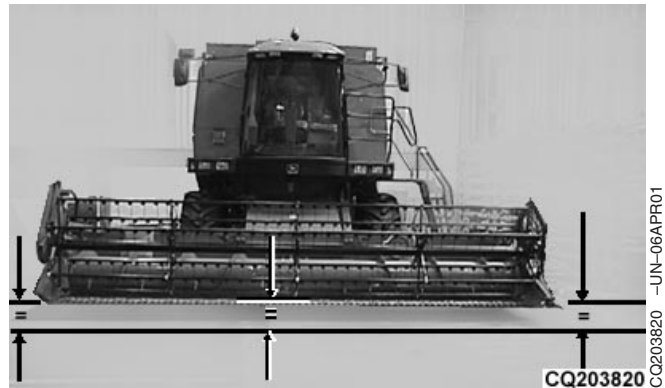
Periodically check the header to ensure it is level. To check:

— Park the combine on a level, flat surface.

Check if front tire pressure is correct (see "Tire Inflation Pressure" table).

— Completely raise the header.

— Stand in front of the header and check the header-to-chassis alignment or measure the height at both ends (see the illustration).



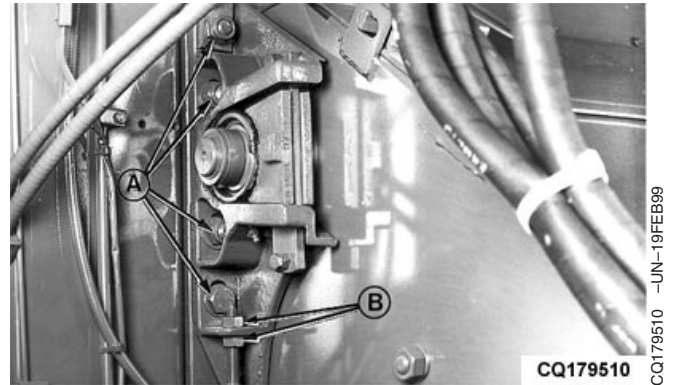
Continued on next page

AG,GG05155,285 -19-20AUG04-1/2

Leveling the Header

NOTE: Adjustment is made on the right-hand side. For illustration purpose, hydraulic reverser has been removed.

- Loosen the 4 bolts (A).
- Turn nuts (B) until the header is level.
- Tighten bolts (A) and nuts (B).



Hydraulic reverser not illustrated.

AG,GG05155,285 -19-20AUG04-2/2

Safety Stop



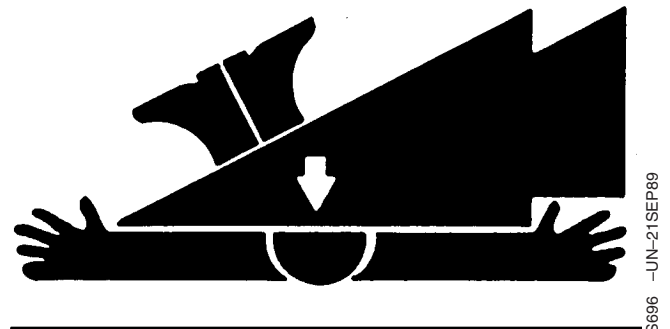
CAUTION: Raise the feeder house and put the safety stop (A) in place before initiating the installation process, in order to avoid serious injury or death. Some assembly stages demand that you work underneath the feeder house.

Without the safety stop (A) in place, the feeder house could fall without warning, causing serious injury or death. Without the safety stop (A) in place, the feeder house could fall without warning, causing serious injury by crushing or even death.

Raise the feeder house and insert the safety stop (A), as illustrated.

Then, turn off engine, remove starter key and apply parking brake.

A—Safety stop



OU83340,00004BE -19-17MAR04-1/1

Third Feeder House Lift Cylinder

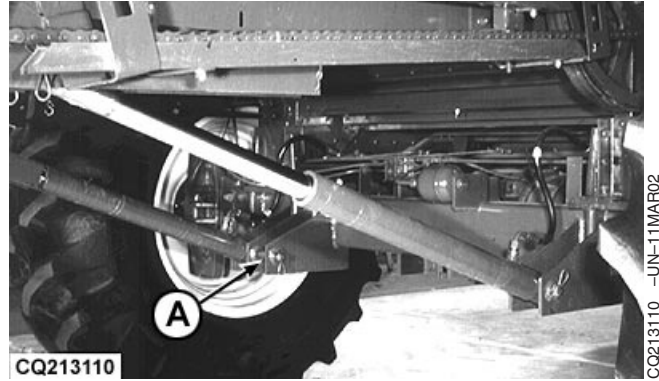
CWS/WTS Combines:

The third cylinder is STANDARD.

1450/1550 Combines:

A third lift cylinder is available for field installation in position (A) for the following headers:

- 18' to 23' cutting platforms.
- 5, 6 and 8 line corn headers.

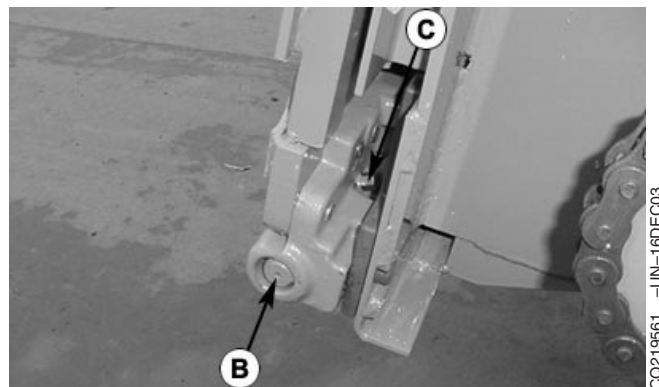
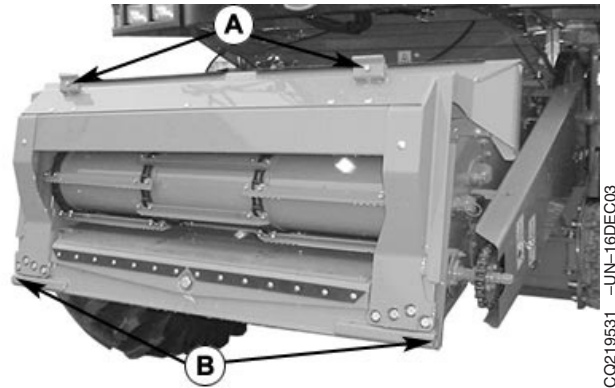


AG,CO03622,1634 -19-20AUG04-1/1

Connecting the Header

To connect a header on combine position it in front of feeder house on a level and flat surface.

Lower the feeder house until the two supports (A) slot into the header. Lock the header on both sides using the latches (B), pulling pins (C) downwards on both sides of the feeder house.

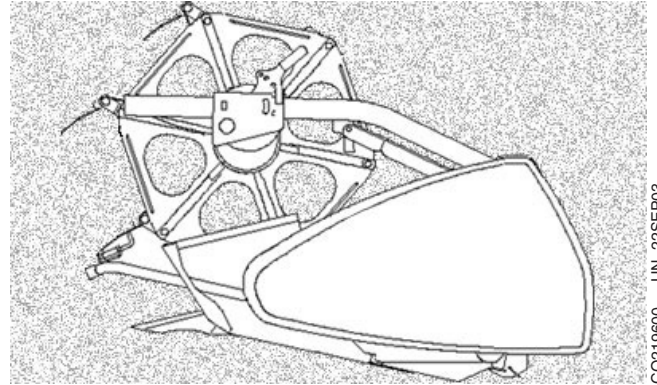


OU83340,000043D -19-16DEC03-1/1

Removing Header

Reverse the assembly process to remove the header.

NOTE: Before disconnecting the hydraulic hoses, completely lower the reel to relieve circuit pressure and to facilitate later reconnection.



AG,GG05155,137 -19-10SEP03-1/1

CO219600 -UN-22SEP03

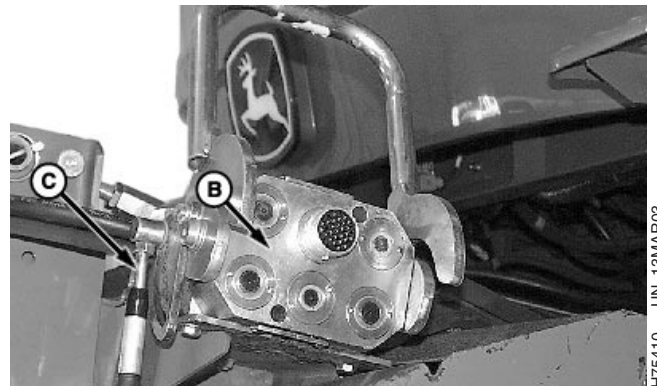
Multiple Connection for 600 —CWS/WTS Series Feeder House (option)

This mechanism automatically locks the header in place by means of the locking cable (C).

NOTE: If the combine is not equipped with locking cable (C), the locking pins must be locked in place by hand.

Procedure:

1. Remove cover and clean surface of multiple connector (B).



B—Multiple Connection
C—Locking cable

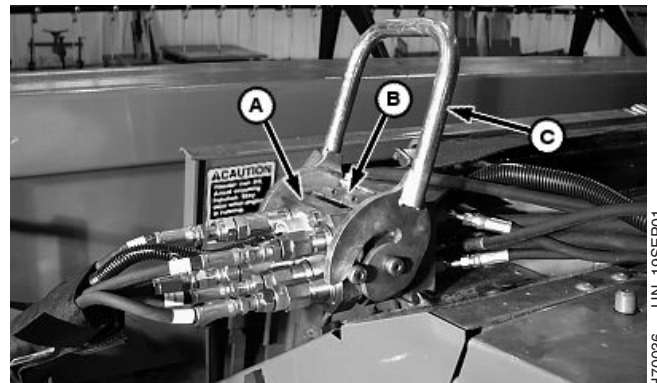
OU83340,00003FB -19-11AUG04-1/3

H75410 -UN-13MAR03

NOTE: A shear bolt is attached to the handle in order to avoid damage to the locking cable. Any attempt to move the locking pins with the header on the ground will cause the handle bolts to shear off.

2. Install the multiple connector (A) on housing (B) of the feeder house and close handle (C).

A—Multiple Connection
B—Housing
C—Handle

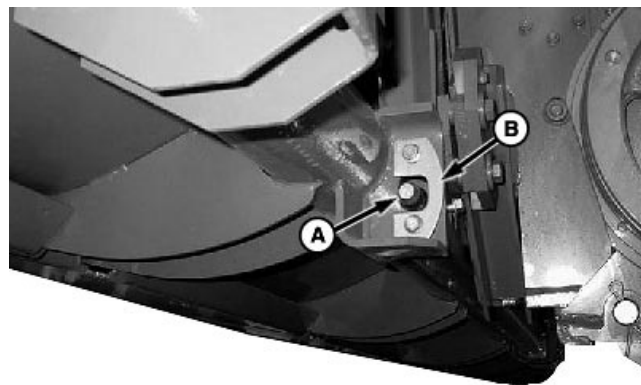


H70036 -UN-19SEP01

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OU83340,00003FB -19-11AUG04-2/3

NOTE: With the header in place, the locking pins should freely slide through the corresponding entry holes on the header. If the locking pins do not move check if header locking plates are correctly adjusted.



H74304 -UN-18NOV02

3. The locking pins (A) shall slide through the feeder house locking plates (B) when the multiple connector is locked in place.

4. Install the multiple connector cover in the header storage position.

NOTE: If the shear bolt breaks, there are another three of them.

IMPORTANT: ONLY use genuine shear bolts because any change in bolt quality may damage the mechanism.

A—Pin
B—Locking plates

OU83340,00003FB -19-11AUG04-3/3

Adjusting Floating Drum Height—300 Series Feeder House

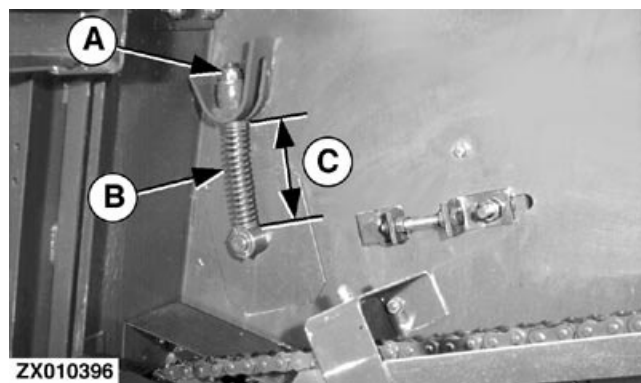
Adjust the height of spring (B) with nut (A) on both sides of the feeder house.

For Corn:

- Spring length (C) should be between 107 — 113 mm (4.2—4.45 in.)

For Other Crops:

- Spring length (C) should be between 137 — 143 mm (5.39—5.63 in.)



ZX010396

ZX010396 -UN-03FEB97

A—Adjusting Nuts
B—Spring
C—Spring length

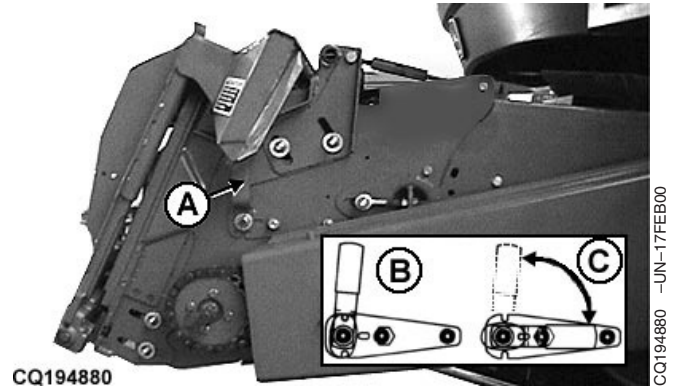
AG,CO03622,1635 -19-20AUG04-1/1

Adjusting Floating Drum Height—600 Series Feeder House

The position of the lever (A) is what determines drum height.

For corn — The lever (A) should be in position (B) (vertical).

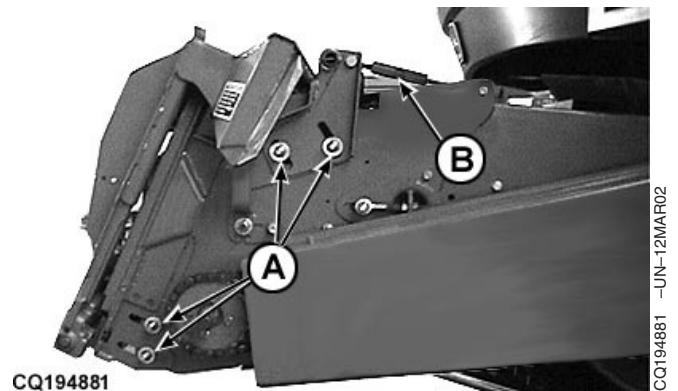
For other crops — The lever (A) should be in position (C) (horizontal).



AG,CO03622,2856 -19-20AUG04-1/1

Adjusting Feeder House Front Face Angle

To adjust feeder house front face angle, bolts (A) must be loosened and adjustment made with nuts (B) on both sides of feeder house.

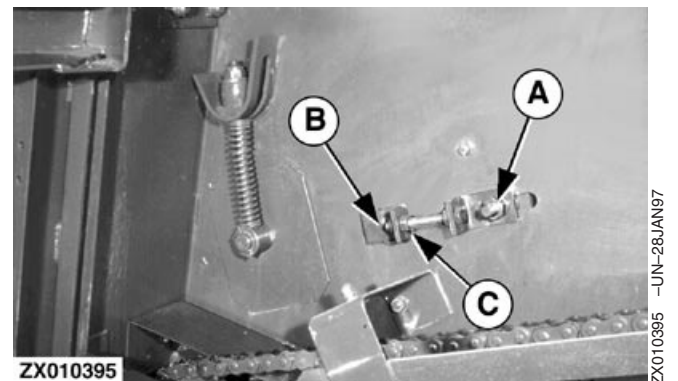


MB03730,000037D -19-11MAR02-1/1

Tension of Conveyor Chains — 300 Series Feeder House

Loosen nut (A) on both sides. Turn nuts (B) and (C) evenly on both sides of the feeder house. Retighten them securely after the adjustment.

IMPORTANT: The chain tension will be ok, when the lowest slat slightly touches the floor of the feeder house.



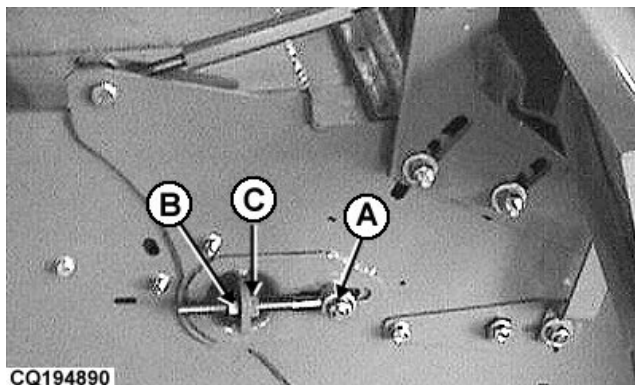
AG,GG05155,156 -19-20AUG04-1/1

Tension of Conveyor Chains — 600 Series Feeder House

Loosen nut (B) and locknut (C) on both sides and move bolt (A) as needed to obtain a good tension of the conveyor chains.

Retighten them securely after the adjustment.

IMPORTANT: The chain tension will be ok, when the lowest slat slightly touches the floor of the feeder house.



CQ194890

—UN-17FEB00

AG,CO03622,2857 —19-20AUG04-1/1

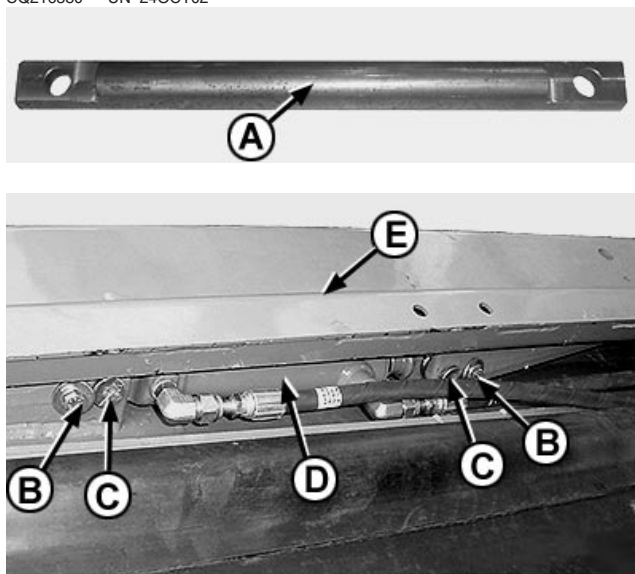
Header Lateral Tilt Locking – Only for Argentina

NOTE: To facilitate the installation of lateral tilt locking (A), disengage header in order to move the front face (E) of feeder house.

Remove screws (B), pins (C) and hydraulic cylinder (D).

- A—Lock
- B—Bolts
- C—Pins
- D—Hydraulic cylinder
- E—Front face

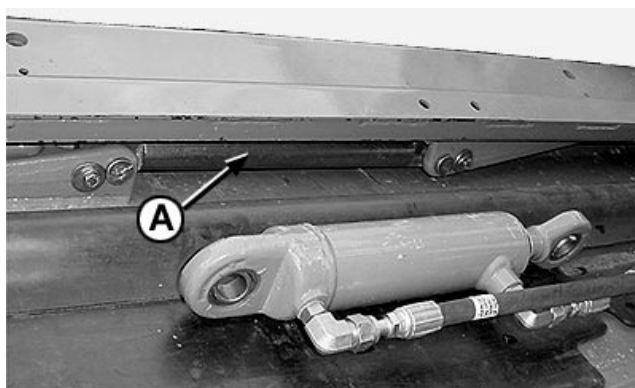
CQ216380 —UN-24OCT02



—UN-24OCT02

MB03730,000001C —19-20AUG04-1/3

Install lock (A) in hydraulic cylinder position.



—UN-24OCT02

Continued on next page

MB03730,000001C —19-20AUG04-2/3

Place the hydraulic cylinder next to the lock.



MB03730,000001C -19-20AUG04-3/3

CO216410 -UN-24OCT02

Separator and Cleaning Unit

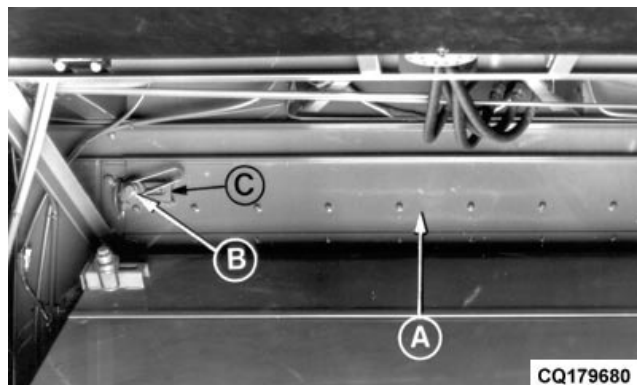
Cylinder Front Inspection Cover



CAUTION: Before adjusting the machine or performing service work, always switch off all drives, shut off the engine and wait until all moving parts have come to a complete halt.

Remove the two nuts (B) and move pins (C) to open this cover (A).

A—Inspection cover
B—Nuts
C—Pins



CQ179680 -UN-19FEB99

AG,GG05155,306 -19-14AUG02-1/1

Cylinder Side Inspection Ports

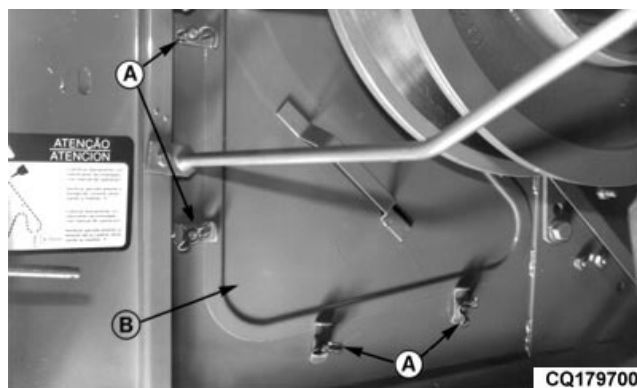


CAUTION: Always switch off all drives (separator, unloading auger and header), shut off the engine and wait until all moving parts have come to a complete halt before adjusting the machine or performing service work.

Open the side inspection ports to work on the cylinder.

Unscrew wing nuts (A) and pull off cover (B).

A — (1450/1550)—Wing nuts
A — (CWS/WTS)—Nuts
B—Cover



CQ179700 -UN-19FEB99

AG,GG05155,307 -19-20AUG04-1/1

Opening Stone Trap Bottom Plate



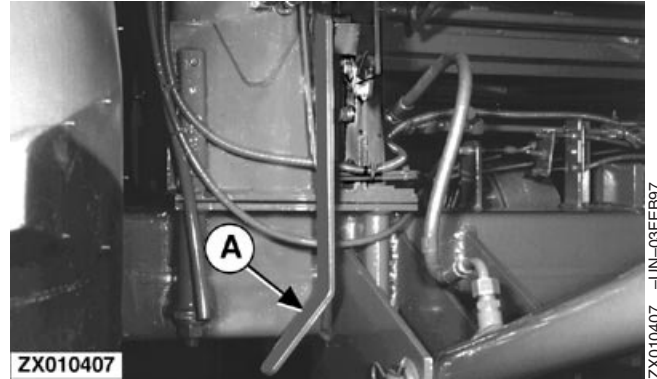
CAUTION: Watch out for falling stones when opening the bottom plate (B).

Periodically clean the stone trap.

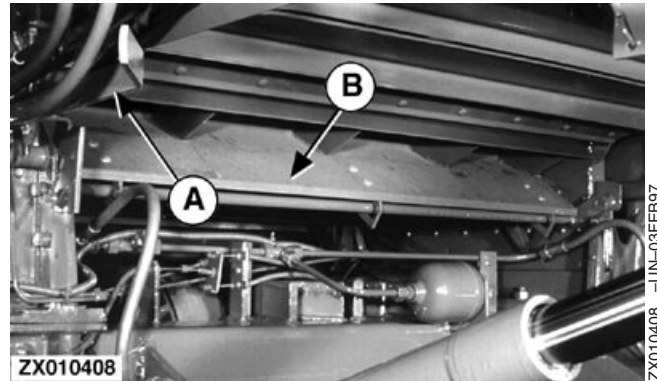
When lever (A) is in the “down” position, the plate (B) under the stone trap is closed.

— To clean the stone trap, pull lever (A) upward to swing down plate (B). The stone strap opens downwards.

— Pull lever (A) downward. A spring-loaded bolt holds the lever in this position.



Stone Trap Bottom Plate Closed



Stone Trap Bottom Plate Open

AG.CO03622,1637 -19-23AUG99-1/1

Rasp Bars of Threshing Cylinder

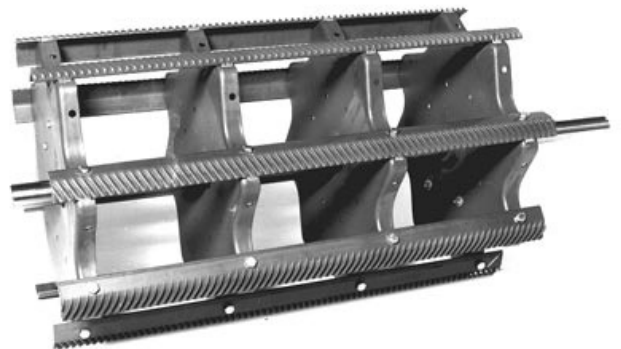
The cylinder has rasp bars with teeth alternately directed to the right and left. If a cylinder bar needs to be replaced the opposite bar will also have to be changed in order to avoid unbalancing the cylinder.

To remove the bars, grind off and re-weld in the same manner.

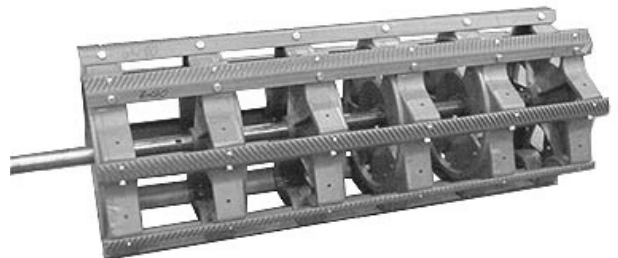
NOTE: On high inertia cylinders bars are not welded.

Tighten the bar bolts to 78 N•m (57 lb-ft).

IMPORTANT: After changing bars retighten the mounting bolts after the first five hours of operation and before harvesting.



Threshing cylinder with bars



High inertia threshing cylinder

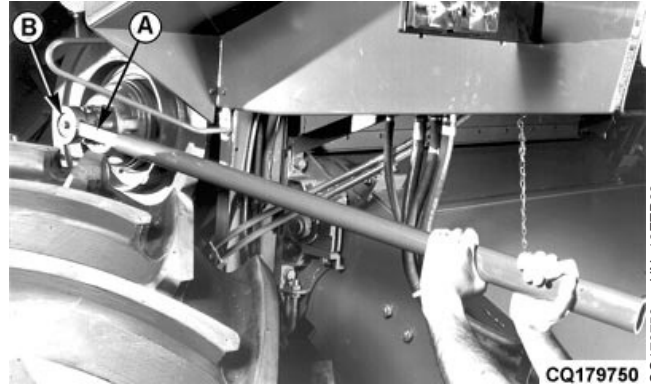
AG.GG05155,309 -19-20AUG04-1/1

Rotating Cylinder By Hand

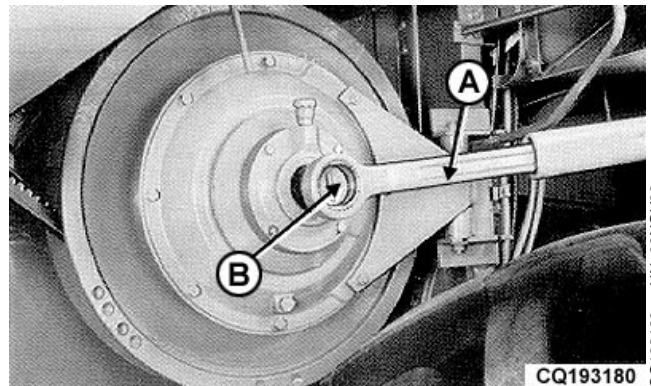
CAUTION: Stop the engine and remove the ignition key before turning the cylinder by hand.

Open the covers on the grain elevator and cylinder front inspection port.

Insert wrench (A) over spline (B) on the cylinder shaft. The wrench is stored in the tool box and the wrench extension is located near the clean grain elevator housing.



Cylinder Drive without Reduction Gear



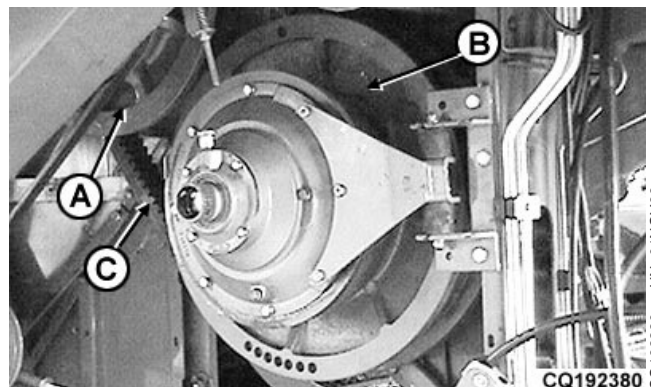
Cylinder Drive with Reduction Gear

AG,GG05155,310 -19-07OCT02-1/1

Operation of Cylinder Drive Reduction Gear (option)

IMPORTANT: Adjustments to both sheaves on cylinder and beater variable drive should only be performed by your John Deere dealer.

- A—Beater shaft variable sheaves
- B—Cylinder shaft variable sheaves
- C—Drive Belt



Continued on next page

AG,CO03622,2728 -19-30JUL04-1/2

With the reduction gear, cylinder speed can be reduced by approx. 50% (when harvesting corn).

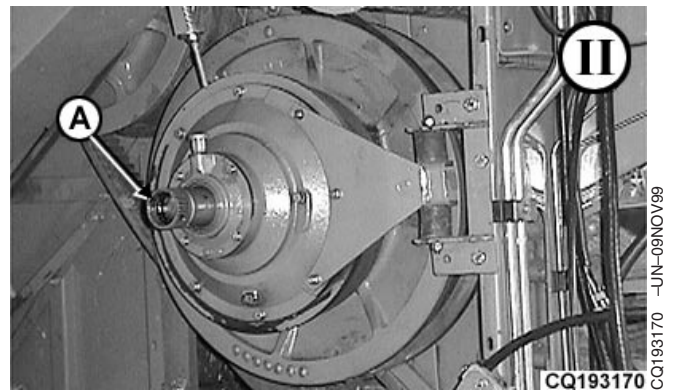
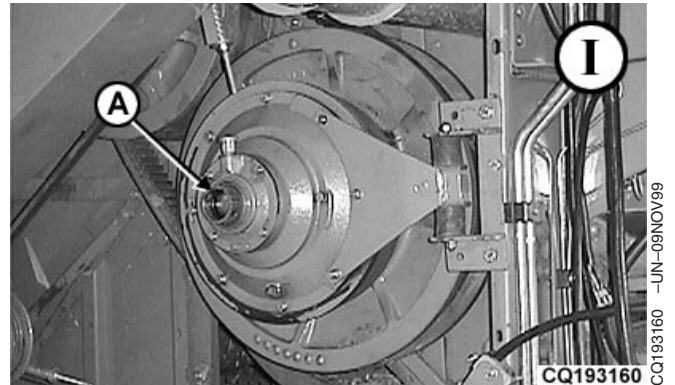
Cylinder speeds range as follows:

Position I — Shifter collar (A) pushed in for speeds of 380 — 1100 rpm.

Position II — Shifter collar (A) pushed out for speeds of 150 — 420 rpm.

IMPORTANT: Have the cylinder drive reduction gear serviced every 600 hours or every year by your John Deere dealer.

NOTE: Cylinder drives without reduction gears must be lubricated with grease. See "Lubrication Chart, Periodic Service".



AG,CO03622,2728 -19-30JUL04-2/2

Concave And Cylinder Alignment

At the factory the concave is horizontal and parallel to the cylinder.

Periodically check the concave-to-cylinder alignment so that the threshing unit operates optimally.



AG,GG05155,315 -19-24FEB99-1/1

Concave and Cylinder Clearance Adjustment

Before adjusting the concave and cylinder clearance by the electrical system from the cab, what is called fine adjustment is necessary.

The electrical actuator (A) should be completely closed so that the clearance between concave and cylinder is minimum. The infotrak monitor should display a concave clearance of "4".

By means of the pin (B) adjust the rear part of the concave and with pin (C) adjust the front part of the concave.

Rear clearance:

- **RASP-BAR CYLINDER** Allow 4—5 mm (0.16—0.2 in.) of play between the highest cylinder bar (the one that projects the most) and the third concave bar from the rear.
- **SPIKED TOOTH CYLINDER:** Allow for a clearance of 8—10 mm (0.3—0.39 in.).

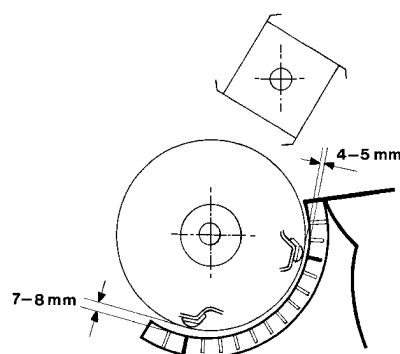
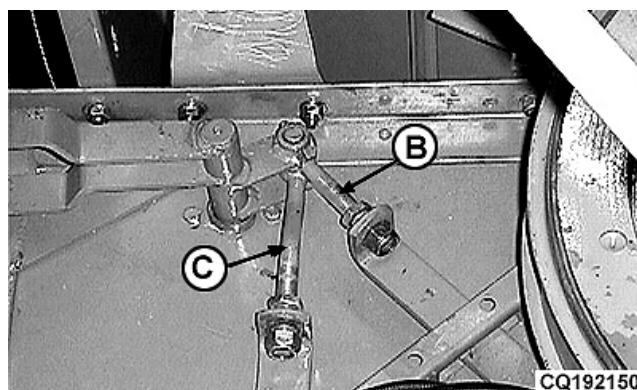
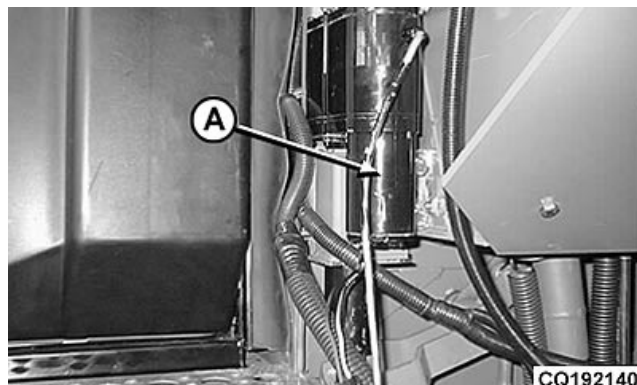
Front clearance:

- **RASP-BAR CYLINDER** Allow 7—8 mm (0.27—0.31 in.) of play between the highest cylinder bar (the one that projects the most) and the second concave bar from the rear.
- **SPIKED TOOTH CYLINDER:** Allow for a clearance of 11—13 mm (0.43—0.5 in.).

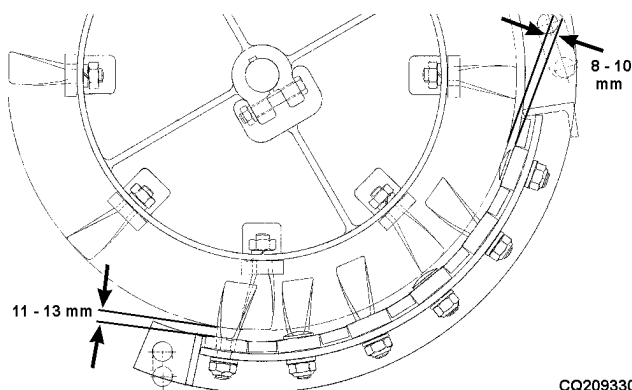
IMPORTANT: Carry out adjustment on both sides of combine.

NOTE: This adjustment should always be done when changing concave.

NOTE: All further clearance adjustments must be made via the switch in the cab. See "Controls and Instruments" section.



Concave and Rasp-Bar Cylinder Clearance Adjustment

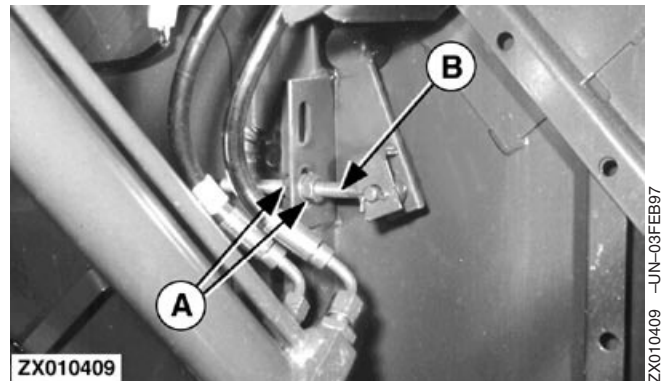
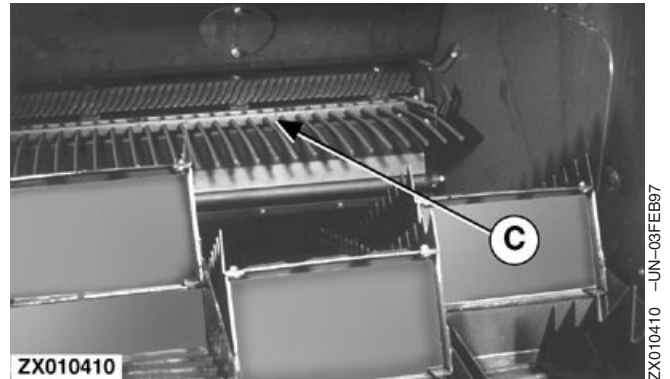


Concave and Spiked-Tooth Cylinder Clearance Adjustment

Adjusting Concave Extension

Adjust with bolt (B) using nuts (A) on the left side of the combine.

The distance between the beater and the finger rake (C) should be at least 70 mm (2.8 in.) for grain crops.

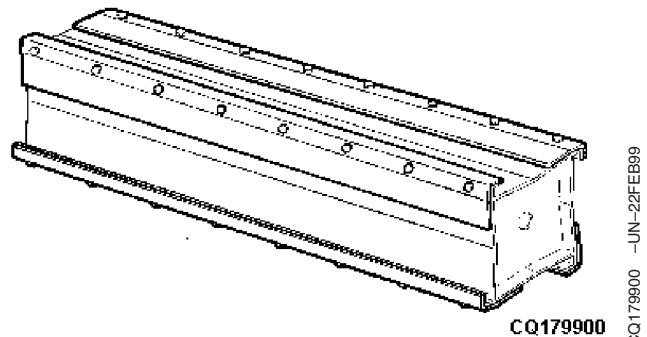


AG,CO03622,1653 -19-24AUG99-1/1

Special Beater Wear Plates

Rice combines are fitted with special wear plates in the beater. They are attached with special plated bolts.

IMPORTANT: Periodically check bolt head wear and replace any excessively worn bolts to avoid damage to the combine caused by loose plates.

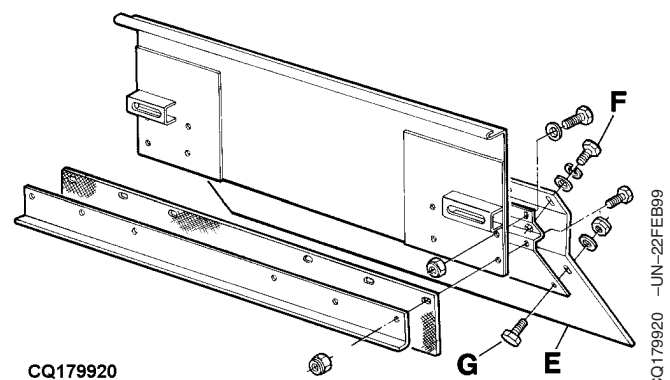


AG,GG05155,318 -19-24FEB99-1/1

Cylinder Baffle

IMPORTANT: Before harvesting corn, remove the cylinder baffle (E) located inside the inspection port.

Baffle (E) is attached by hex bolts (F) and (G).



AG,GG05155,319 -19-24FEB99-1/1

Tooth Concave Closure Plates

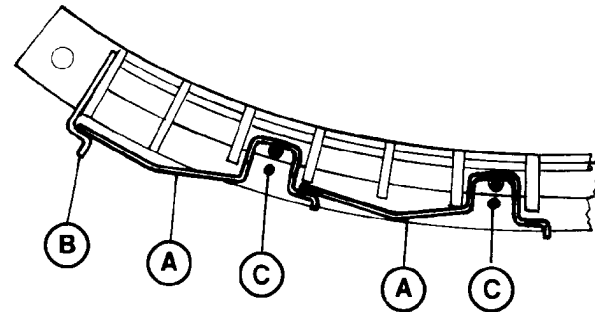
De-awning plates are recommended for some crops such as: barley, wheat and peas, when these crops present threshing difficulties.

NOTE: *It is not necessary to remove the concave to install the plates.*

- After harvesting, clean the chaff from the front support (B) to ensure that the de-awning plate fits properly in the concave.
- Attach the de-awning plate (A) with the mounting bolts (C).
- Begin harvesting with one plate then, if necessary, install a second plate.



CQ179930 -UN-22FEB99



CQ179940

CQ179940 -UN-22FEB99

AG.GG05155.320 -19-11OCT02-1/1

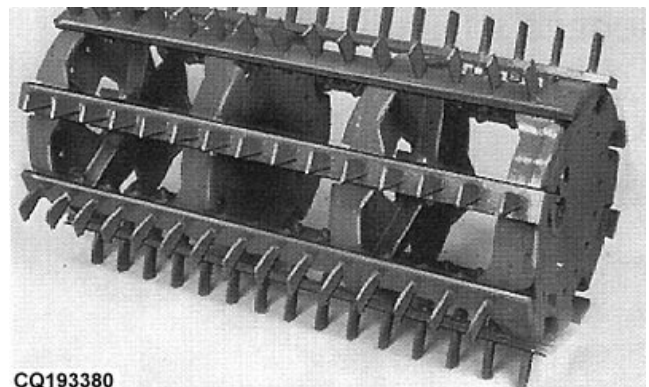
Rice Harvesting Attachment

This attachment consists of the rice cylinder and rice concave.

Threshing of the rice is accomplished through the friction and battering effect on the spiked teeth in rice concave and cylinder.

The rice concave can be equipped optionally with three or four rows of spiked teeth.

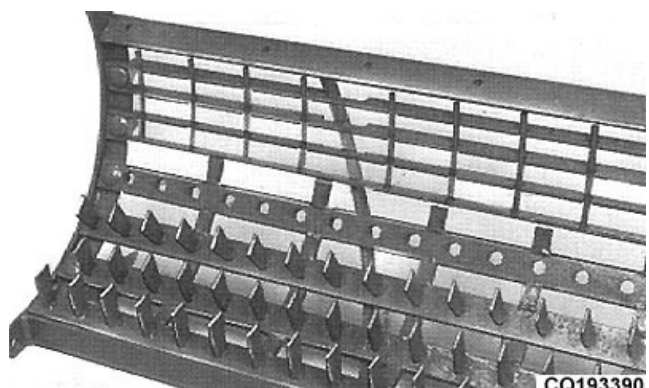
Using a hammer with a piece of hardwood, drive in new teeth. Firmly bolt down teeth. Install teeth with the elongated side to the rear, in relation to the direction of rotation.



CQ193380

Spiked-tooth cylinder

CQ193380 -UN-09NOV99



CQ193390

Concave with three rows of spiked teeth

CQ193390 -UN-09NOV99

AG.CO03622.2227 -19-11AUG04-1/1

Rice Concave and Cylinder — Adjustment

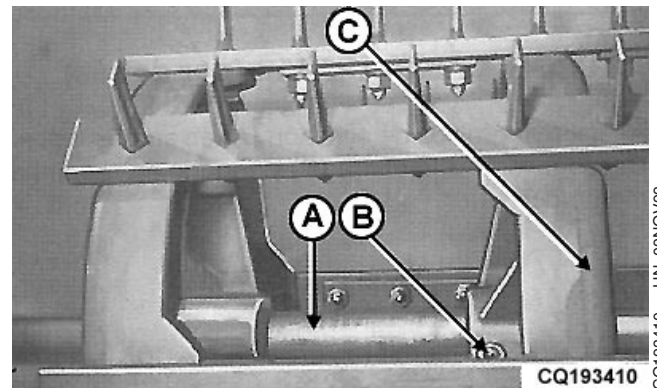
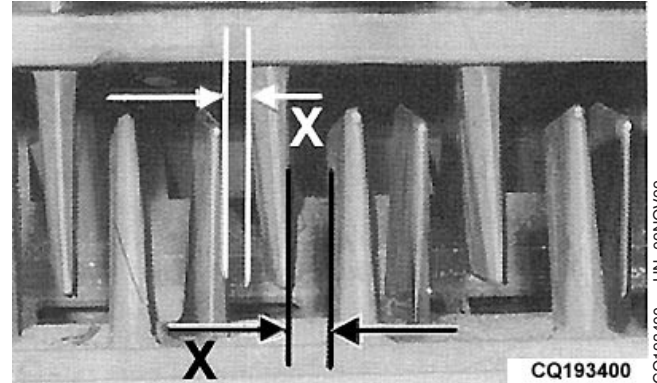
Adjust cylinder as close to concave to possible. Lateral clearance between cylinder teeth and concave should be at least 4 mm.

This lateral clearance of the cylinder spiked teeth should be equal to that of the first, second, third and if, equipped, the fourth row of concave teeth.

If the lateral clearance of the teeth is unequal, then different results will be produced, for example: At one extreme, ears of rice pass through the mechanism without being threshed and at the other extreme grains of rice are broken and the straw is chewed.

Adjust by positioning cylinder on separator shaft. After adjustment, lock cylinder on shaft with clamping screw (B).

NOTE: When the machines leave the assembly line the spiked tooth cylinder has a standard teeth clearance of 4 mm. However, if during harvest season it is necessary to adjust the clearance, ask for assistance at your John Deere dealer.



A—Cylinder shaft
B—Clamping screw
C—Cylinder hub
X—4 mm

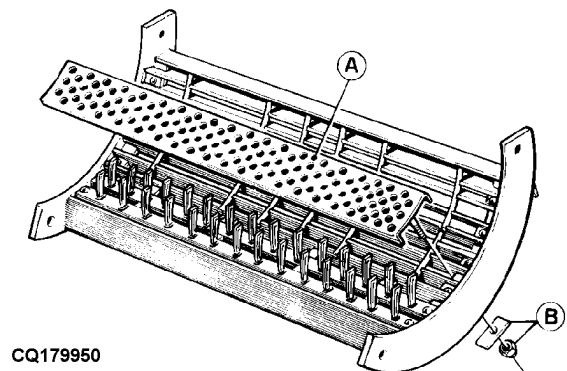
AG,CO03622,2228 -19-15NOV02-1/1

Tooth Concave Closure Plates

Can be used to harvest soy or other beans.

NOTE: It is not necessary to remove the concave to install the plates.

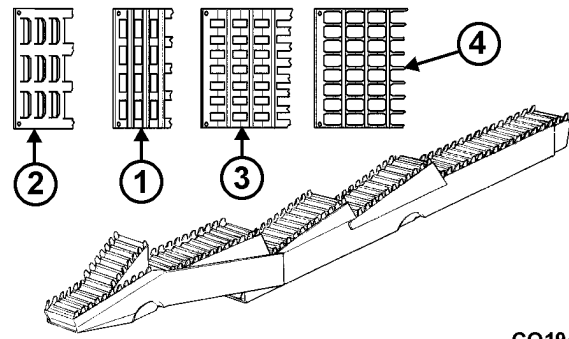
- Attach the closure plate (A) with tabs and nuts (B).
- Begin harvesting with one plate then, if necessary, install a second plate.



AG,GG05155,321 -19-24FEB99-1/1

Straw Walker Types

1. Straw walkers possessing grids with transverse rectangular openings are indicated for small grains such as wheat, etc.
2. Straw walkers possessing “frog mouth” type openings on the grid are indicated for large grains such as corn. They are supplied with the standard version combine.
3. Straw walkers possessing grids with longitudinal openings are especially suited for wheat and peas.
4. “European” Straw walkers possessing grids with longitudinal openings are especially suited for wheat with heavy straw content and peas.



CQ194060

—UN—06DEC99

All straw walker grids are replaceable from the front to the rear, to permit rapid conversion to handle various types of crops.

AG,GG05155,162 —19—20AUG04—1/1

Straw Walker Fishbacks

Fishbacks optimize loose grain separation from chaff by reducing the speed at which straw moves over the straw walkers.

There are two types of fishbacks: One small version and another larger in size. In the basic version only the small ones are installed in the second stage.

NOTE: To avoid loss, more fishbacks can be installed in the basic version for conditions in which it is difficult to separate the grain from chaff (i.e. weedy soy beans or other crops with heavy straw content).



Straw Walker Fishbacks — Basic Version—1450/1550



Straw Walker Fishbacks — Rice Version—1450/1550

AG,GG05155,163 —19—20AUG04—1/1

Straw Walker Curtain

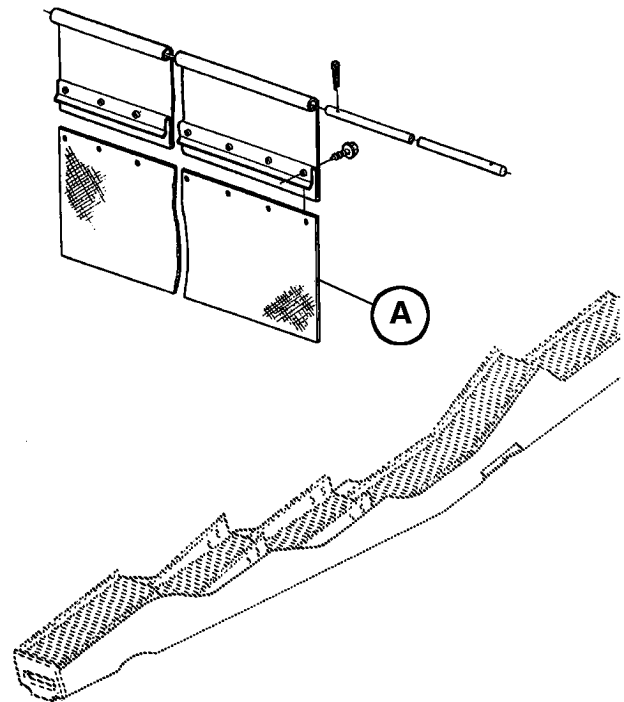
The straw walker curtain (A) helps to slow material flow allowing more time for grain to separate from straw. It also prevents grain from being thrown out of the combine by the beater.

Under normal harvesting conditions, the curtain is free to swing in the slot (I).

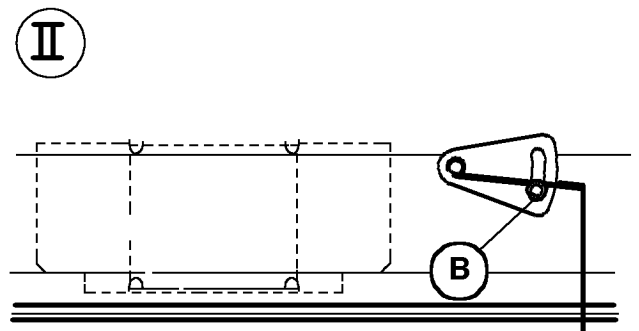
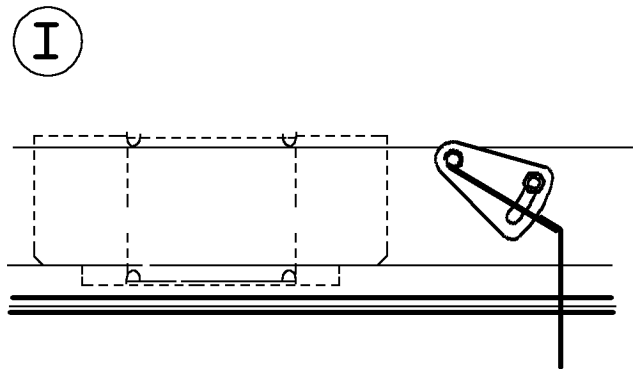
When crops with a heavy straw content are harvested, the recommended position for the curtain is position (II).

IMPORTANT: There are situations in which it is hard to separate grain (for example: corn). In these cases we recommend the use of a second curtain, available as an attachment.

NOTE: There is a third option, where the bolt can be completely removed, leaving the curtain to swing freely.



ZX010381



ZX010382

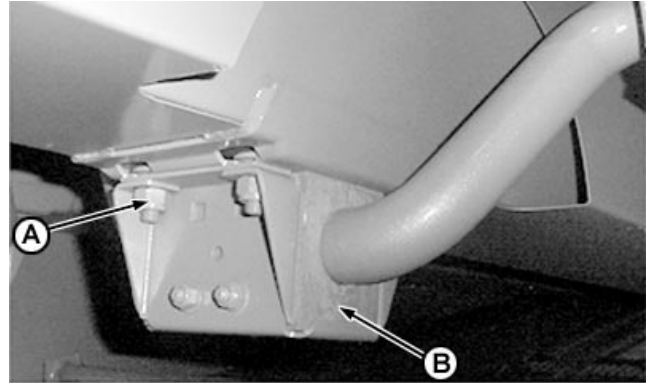
Adjusting Straw Walker Bearings

IMPORTANT: Straw walker bearings may have axial play but they must not have radial play.

After a certain period of time, remove nuts (A) that secure the straw walker guard in place.

Remove the guard and replace the straw walker bearings (B) as necessary.

NOTE: Reinstall the bearings in the same position.



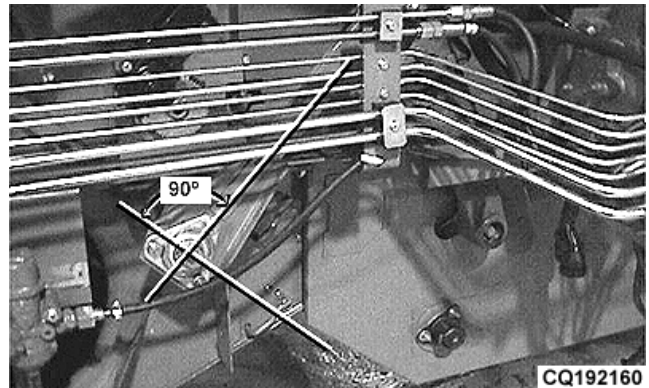
CQ165301 -UN-27NOV03

AG,GG05155,324 -19-22JUL04-1/1

Cleaner Arms And Connecting Rods

If the arm and connecting rod rubber bushings are replaced, the bushing bearings should be tightened when the arms and connecting rods are in their center positions. The center position is determined by turning the beater drive pulley by hand until an imaginary connecting rod center line forms a 90° angle with an imaginary line connecting the journal to the center of the crankshaft.

IMPORTANT: While checking the combine after each harvest, inspect the arm and connecting rod rubber bushings and replace any damaged ones. Replace the bushings every 500 hours.



CQ192160 -UN-01NOV99

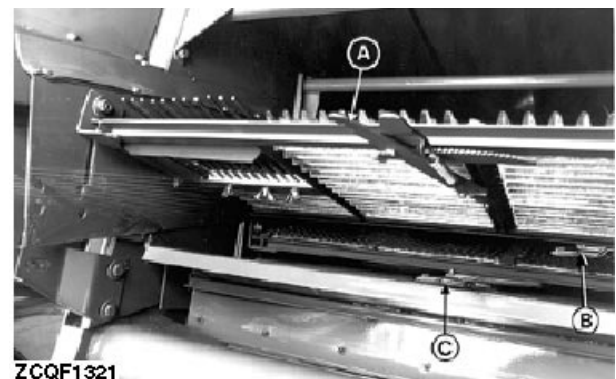
CQ192160

AG,GG05155,325 -19-24FEB99-1/1

Cleaner—Sieves

The sieves can be adjusted in the rear of the combine. Make the initial adjustment according to the basic adjustment charts (see "Combine Settings" in the "Preparation and Field Operation" section.)

- A. Chaffer extension adjustment lever.
- B. Chaffer adjustment lever.
- C. Grain sieve adjustment lever.



ZCQF1321

ZCQF1321 -UN-04APR96

AG,GG05155,164 -19-09FEB99-1/1

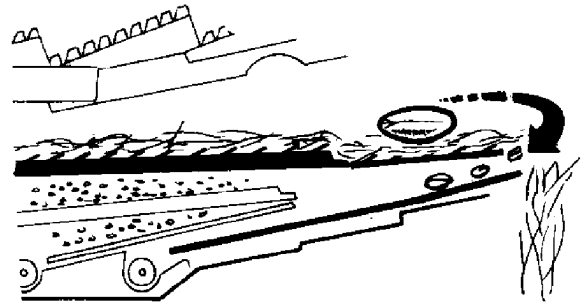
Chaffer Extension

Chaffer extension is installed in place of the conventional chaffer to optimize corn harvesting by means of longer adjustable fins to minimize blockages caused by cob pieces.

Recovers any head or ear tips that have not been fully threshed. Should be a little more open than the chaffer.

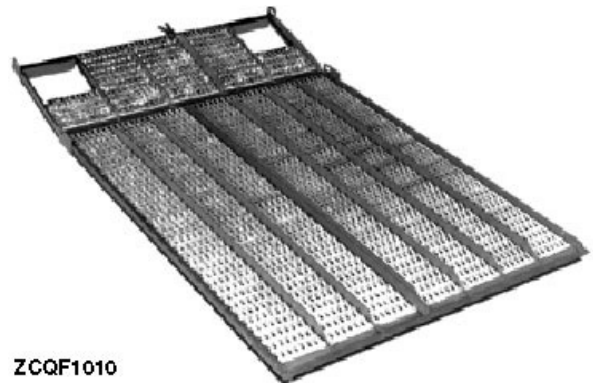
In hilly terrain the opening needs to be greater than normal. Furthermore, there are two openings with inserts (grids) on the lateral extremities of the extension to capture material accumulating there when operating on slopes.

NOTE: *In extremely hilly terrain a chaffer extension for corn can be used.*



ZCQD2140

ZCQD2140 -UN-04APR96



ZCQF1010

ZCQF1010 -UN-04APR96

AG,CO03622,1655 -19-08OCT02-1/1

Adjusting The Chaffer Extension Angle

Loosen nuts (A) on both sides of the chaffer extension.

Low: Dry crops and flat terrain.

High: Products that are difficult to shell (crops with weeds) or on hilly terrain.



ZCQF2231

ZCQF2231 -UN-04APR96

AG,GG05155,165 -19-09FEB99-1/1

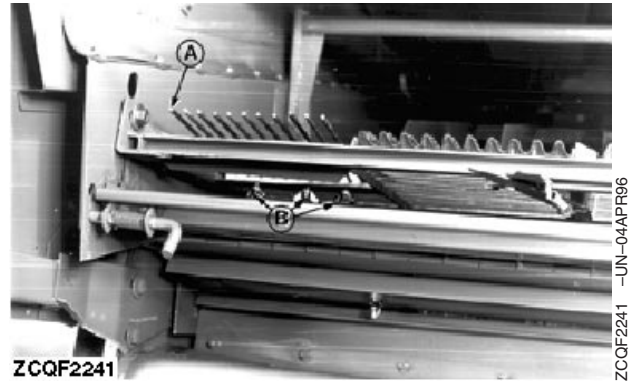
Slope Master System for Hilly Terrain

When operating on hilly terrain a large quantity of material accumulates at the sides of the chaffer and the extension. This material exits the combine without being harvested, thereby increasing grain loss.

To avoid losses, openings located on both sides and behind the chaffer extension collect any material not totally separated.

Depending on the slope and harvesting conditions, regulate chaffer openings by adding or removing rods (A), after loosening winged nuts (B).

NOTE: Combine is delivered from the factory with 11 rods installed.



AG,GG05155,166 -19-22JUL04-1/1

Removing Chaffer Extension

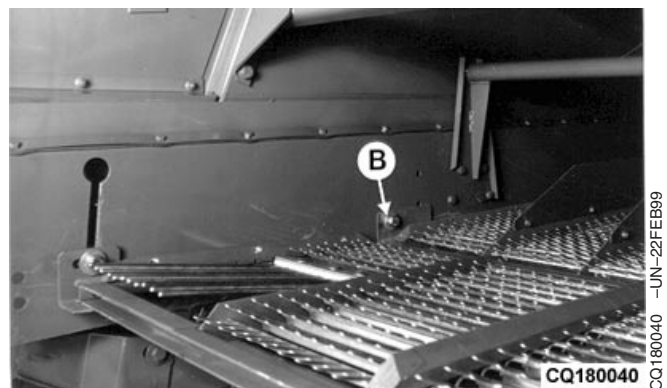
- Remove mounting bolts (A).
- Pull the extension back to remove it.



AG,GG05155,326 -19-24FEB99-1/1

Removing Chaffer

- Remove mounting bolts (B).
- Pull the chaffer back to remove it.



AG,GG05155,327 -19-24FEB99-1/1

Grain Retention Plate

Designed to capture head, pod or ear tips that have not been completely threshed and that were not collected by the chaffer extension.

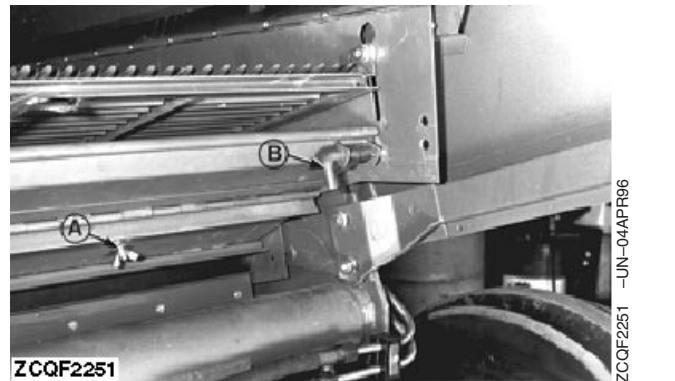


AG,CO03622,1656 -19-24AUG99-1/1

Adjusting Grain Retention Plate

Release latch (B) on both sides and remove wing nuts (A) under the plate.

- Retracted: Easily threshed, dry crops; flat terrain.
- Extended: Hard-to-thresh, very moist crops, and hilly terrain.



AG,GG05155,168 -19-09FEB99-1/1

Removing Grain Sieve

- Remove mounting bolts (C).
- Pull the grain sieve back to remove it.

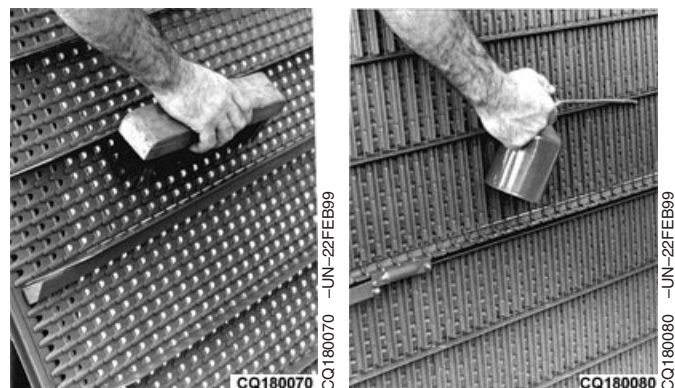


AG,GG05155,328 -19-24FEB99-1/1

Cleaning The Chaffers And Sieves

Use a good steel brush to clean the sieves.

NOTE: Use an oil can to lubricate the fin linkages with medium viscosity oil.



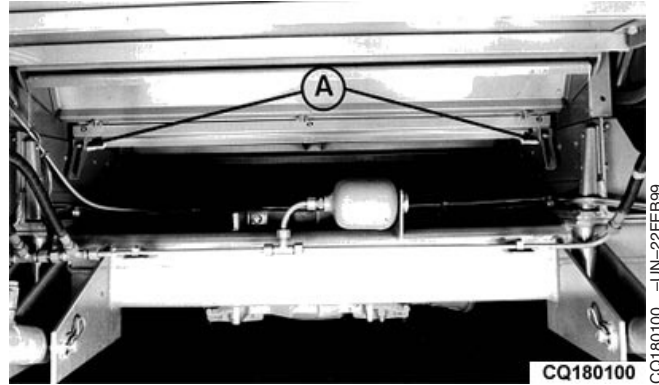
AG,GG05155,329 -19-24FEB99-1/1

Opening The Pan

The front of the pan (under the removable concave) can be removed for quick and easy cleaning.

NOTE: Clean the pan daily.

- Push latches (A) by hand.
- Pull the pan to the rear and remove it.



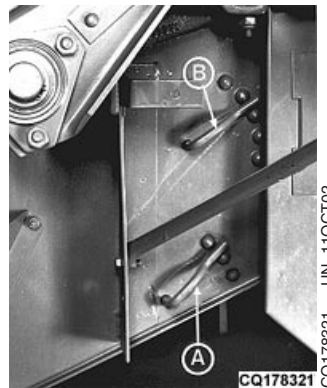
AG,GG05155,330 -19-24FEB99-1/1

Adjusting Air Flow Direction

IMPORTANT: To facilitate adjustment, first adjust the baffles and then regulate fan speed.

NOTE: For soy beans, wheat and corn, start with the lower baffle (A) in the first position (from the top) and the upper baffle (B) in the second position (from the top).

A—Lower Baffle
B—Upper Baffle



AG,GG05155,169 -19-11OCT02-1/1

Adjusting Fan Speed

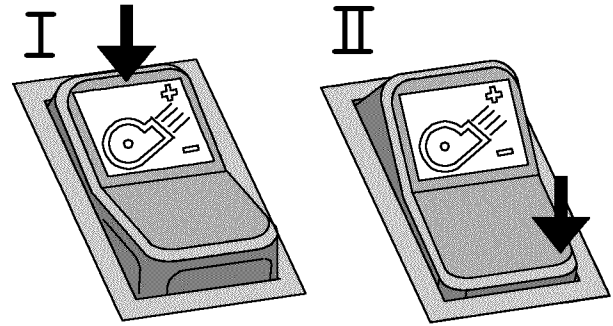
Fan speed can be increased or decreased by pressing the switch as illustrated. This is only possible with the engine running at maximum rpm, threshing engaged and the road safety switch in field position.

IMPORTANT: After altering fan speed the alarm must also be adjusted. For details see **Warning Devices and Monitors** ”.

NOTE: The current fan speed can be displayed on the INFO-TRAK™ monitor.

The fan speed mechanism is protected by limiter switches. The speed can vary between 550 and 1150 rpm.

Changes to fan speed normally occur at a much slower rate than other speed changes because the fan is electrically and not hydraulically driven.



ZX 002326

I—Increase fan speed
II—Decrease fan speed

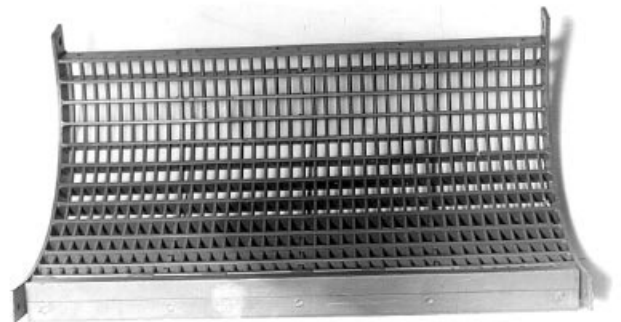
ZX002326 –UN-16JUN95

AG.CO03622,1657 –19-20AUG04-1/1

Corn Concave

To harvest corn the grain concave should be replaced with a special corn concave which has larger openings.

NOTE: This corn concave is a part of the special kit for corn.



ZCQF1920

ZCQF1920 –UN-04APR96

AG.CO03622,2021 –19-25AUG99-1/1

Special Kit for Corn

This is a set of accessories recommended to optimize combine performance when harvesting corn.

The kit includes:

- Fan shields
- Second straw walker curtain
- Chaffer and extension for Corn
- Stone trap cover
- Cylinder filler plates
- Corn concave
- Rear hood protection for corn
- Set of fishbacks for straw walker.

AG,CO03622,2022 -19-20AUG04-1/1

Straw Chopper and Chaff Spreader

Straw Chopper (option)



CAUTION: Always switch off all drives (separator, unloading auger and header), shut off the engine and wait until all moving parts have come to a complete halt before adjusting the machine or performing service work. Once the straw chopper has been engaged never approach it from the rear. **RISK OF DEATH!**



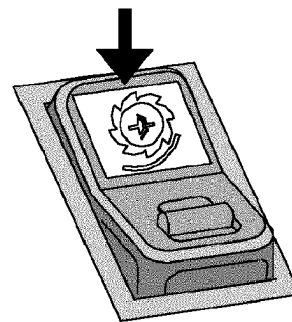
TS268 -UN-23AUG88

ML70882,00004BE -19-27JUL04-1/1

Operating Straw Chopper

When engaging separator drive, proceed as follows:

1. Put the engine at idle speed (low rpm).
2. Place the road safety switch (red) in field position.
3. Release the safety lock and engage the separator tumbler switch as shown in figure.
4. Increase engine rpm.



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ML70882,00003EC -19-12NOV03-1/1

Engaging Straw Chopper



CAUTION: Before engaging the straw chopper, always switch off all drives (separator, unloading auger and header), shut off the engine and wait until all moving parts have come to a stop.

The deflector sheet (A) can be assembled in two positions, depending on the crop.

With deflector sheet (A) in position I, the straw falls on the ground and is not chopped.

With deflector sheet (A) in position II, the straw from the straw walkers passes into the straw chopper and is chopped.

IMPORTANT: With deflector sheet (A) in position I, the straw chopper must be disengaged (remove belt) to avoid damage to the sheet by straw chopper knives.

With deflector sheet (A) in position II, the straw chopper must be engaged.

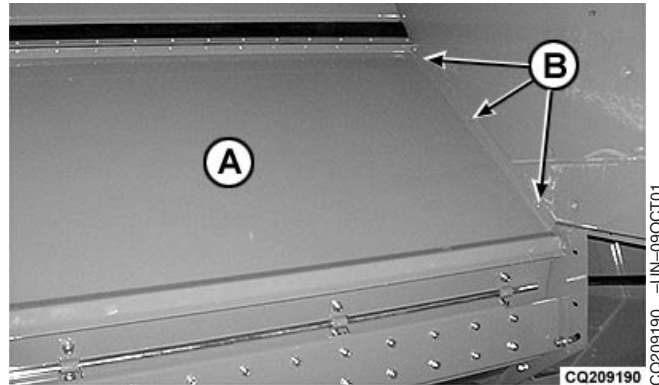
1450/1550 Combines:

1. Remove three bolts (B) on both sides of the machine.
2. Move the deflector sheet forward (position II) or backwards (position I).
3. Retighten bolts.

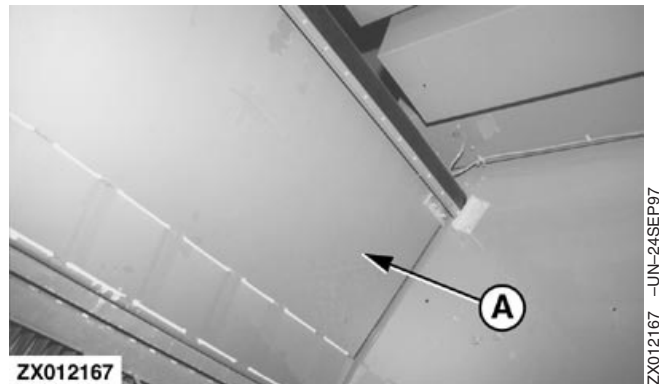
CWS/WTS Combines:

Swinging the deflector sheet from one position to the other is done by means of the lever shown in the figure.

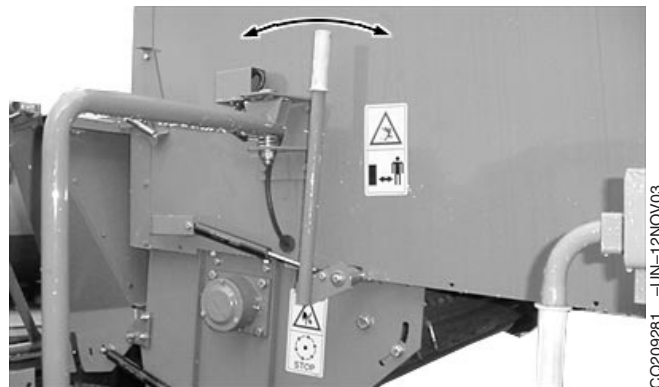
Move the lever forward (position II) or backwards (position I).



Deflector sheet in position I



Deflector sheet in position II



Deflector sheet lever (CWS/WTS)

ML70882,00003F7 -19-14NOV03-1/1

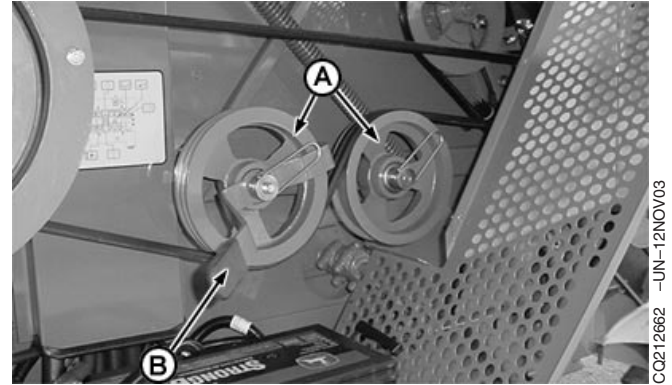
Disengaging Straw Chopper

1450/1550 Combines:

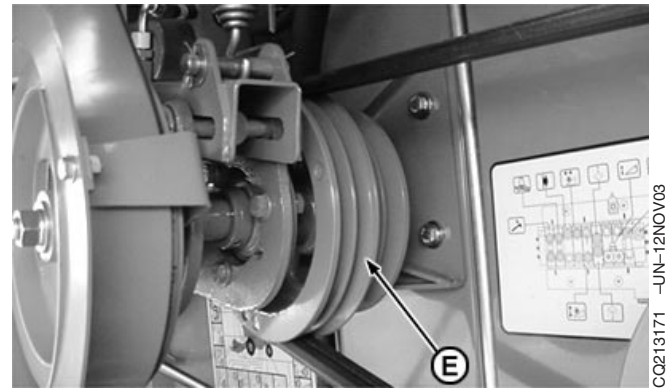
With the combine disengaged, raise adjust pulleys (A) by means of lever (B).

Remove the belt from the adjust pulleys (A) and from the intermediate drive pulleys (E).

Secure the belt in such a way that it does not come into contact with the combine's moving parts.



CO212662 -UN-12NOV03



CO213171 -UN-12NOV03

ML70882,00003F5 -19-27AUG04-1/2

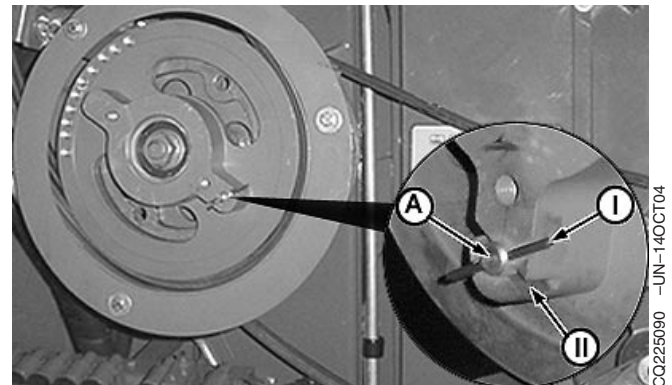
CWS/WTS Combines:

With combine disengaged, pull out pin (A) and rotate it until it slots into position (I) of the intermediate pulley.

NOTE: To engage the straw chopper, pull out pin (A) and rotate it to position (II) of the intermediate pulley.



CAUTION: Avoid damage to your combine. Ensure that pin (A) is correctly seated in one of the slots of the drive pulley.



CO225090 -UN-14OCT04

ML70882,00003F5 -19-27AUG04-2/2

Adjusting Straw Chopper Counterknives

The length of chopped material can be modified by altering angle of the counterknives.

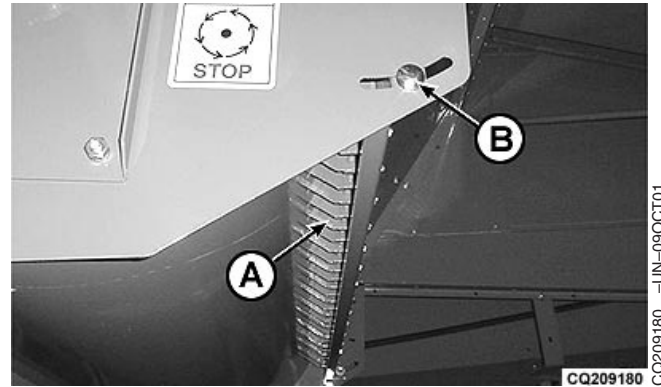
IMPORTANT: Counterknives should only be moved inwards as far as absolutely necessary to prevent waste of engine power.

Positions of counterknives	Utilization in accordance with the type of straw
Shallow angle	Dry straw
Slightly angled	Wet straw and weeds
Fully angled	Rape and crop straw in general

To adjust the counterknives (A), loosen screws (B) on both sides.

CWS/WTs Combines:

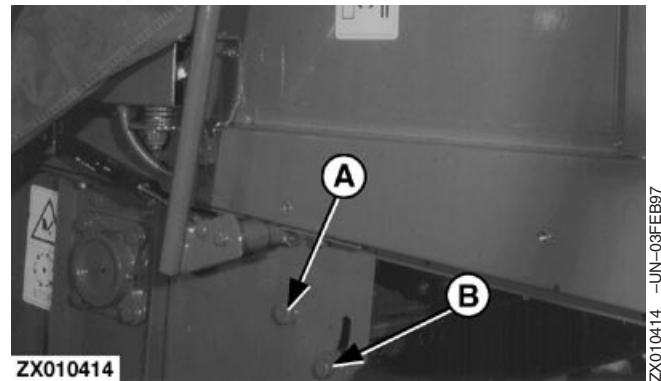
Adjust the angle of the counterknives by pulling on cross-member (C).



1450/1550

CQ209180

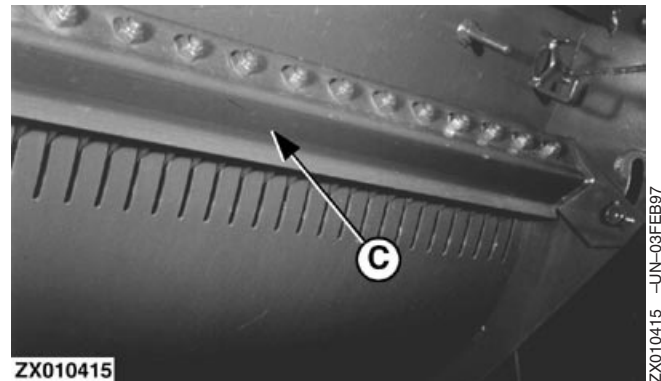
UN-09OCT01



CWS/WTs

ZX010414

UN-03FEB97



CWS/WTs

ZX010415

UN-03FEB97

Replacement of Straw Chopper Knives



CAUTION: Always jam the rotor to prevent accidents when replacing knives.

IMPORTANT: Note the following to avoid unbalancing the straw chopper:

If excessive vibration is noted, then one of the knives has probably broken. If this is the case, immediately remove it and the knife on the opposite side, not forgetting to install new knives.

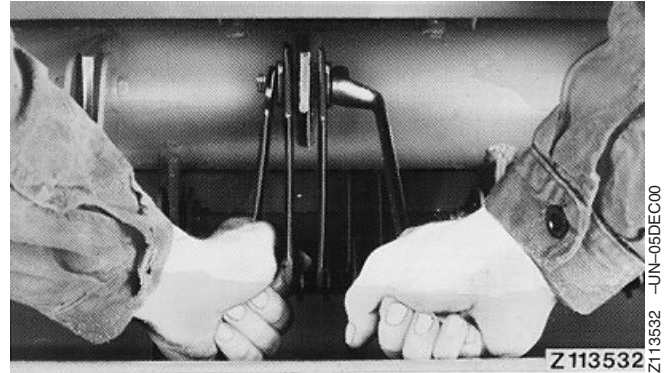
Do not sharpen the knives. Just replace them. This ensures that all knives have the same weight.

Always use 10.9 grade bolts with self-locking nuts.

Specification

Locking Bolt—Torque 50—60 N•m (36—44 lb-ft)

Install the screws from left to right (facing in the direction of forward travel).



Z113532 -UN-05DEC00

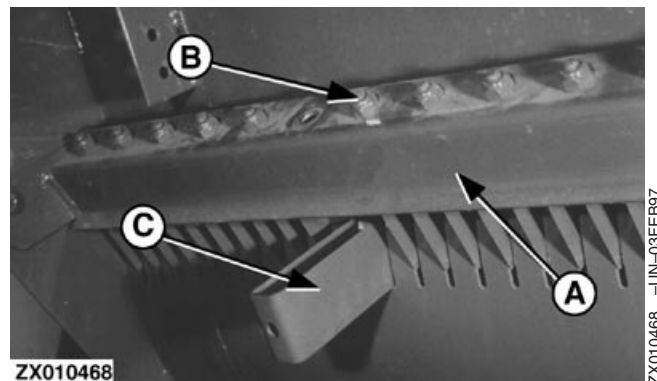
AG,CO03622,2047 -19-11AUG04-1/1

Replacement of Straw Chopper Counterknives

The counterknives are located at the front of the straw chopper.

Remove bolt (B) and withdraw the counterknife (C) from its housing (A).

Install the new counterknife.



ZX010468 -UN-03FEB97

AG,CO03622,2048 -19-27JUL04-1/1

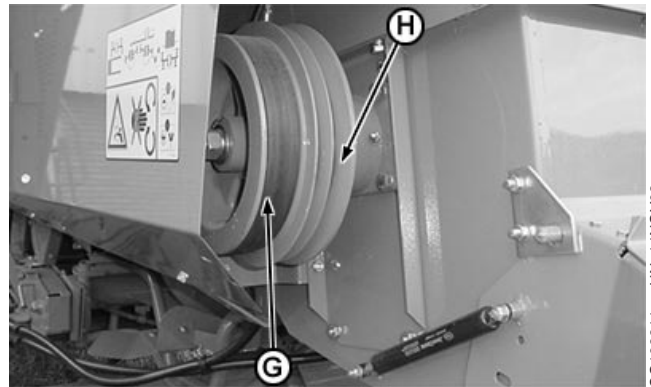
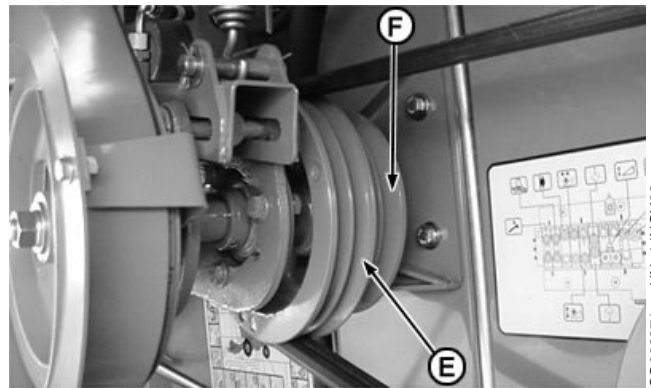
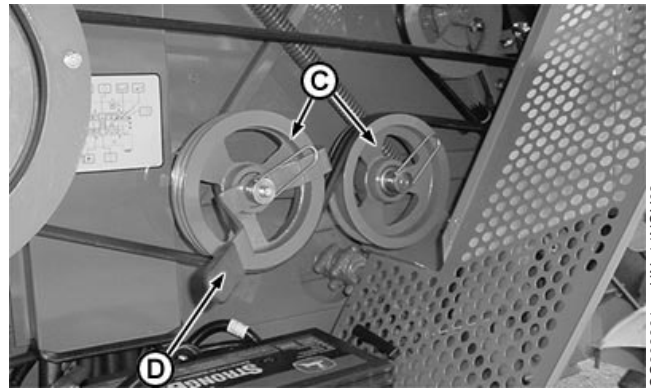
Reducing Straw Chopper Rotational Speed

The adjacent figures illustrate mounting the belt for the majority of crops.

When harvesting corn or sunflowers, rotor speed should be reduced.

1. Open shields (A) and (B). More details in the "Service—Drives and Shields" section.
2. Loosen and remove the belt from pulleys (C) by means of lever (D). Turn pulleys (C) so that the part that was on the outer side is now on the inner side. This permits the correct alignment of the idler pulleys with the intermediate pulleys of the rotor.
3. Attach the belt to the intermediate pulley (F). The smaller diameter of drive pulley (F) is recommended for corn and sunflowers, while the bigger diameter of drive pulley (E) is recommended for most other crops.
4. Attach the belt to pulley (H). The larger diameter of pulley (H) is recommended for corn, while the smaller diameter of pulley (G) is recommended for most other crops.

- A—Shield
- B—Shield
- C—Idler pulleys
- D—Lever
- E—Greater intermediate pulley
- F—Lesser intermediate pulley
- G—Rotor lesser pulley
- H—Rotor greater pulley



Straw Chopper Operating and Transport Position

Operating Position:

Set the straw distributor as illustrated in the “Operating position” figure and lock it in place with nuts (A and B), turning them clockwise on both sides.

Transport Position:

Loosen nuts (A or B) and raise the straw distributor until it touches on combine rear as shown in the “Transport position” figure.

Lock it with latches (C or D).

NOTE: With CWS/WTS combines, when the straw distributor is in the transport position, position the guard rail in front of baffles. See “Transport position” diagram.

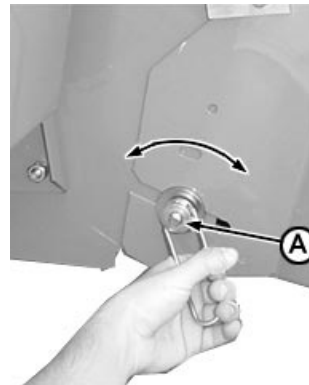
- A—1450/1550 Straw distributor nut
- B—CWS/WTS Straw distributor nut
- C—1450/1550 Straw distributor locking latch
- D—CWS/WTS Straw distributor locking latch



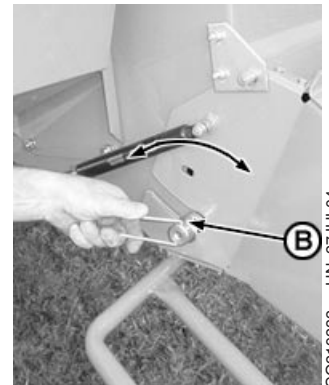
Operating position



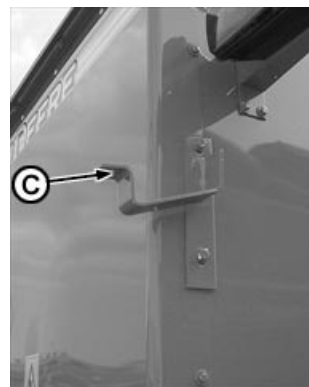
Transport position



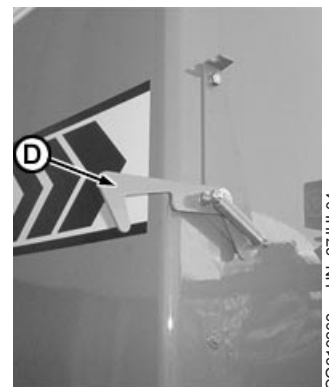
CQ219231 -UN-27JUL04



CQ219232 -UN-27JUL04



CQ219261 -UN-27JUL04

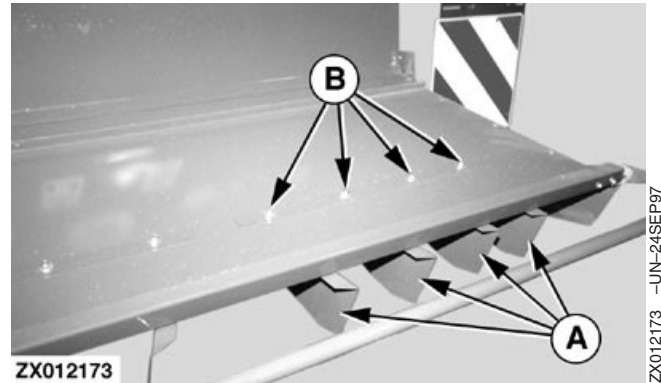


CQ219262 -UN-27JUL04

Adjusting Straw Distributor Baffles

Each baffle of the straw distributor (A) may be individually adjusted. First loosen nuts (B) and adjust the position of the baffles (A) according to the spread distance required for the straw.

NOTE: The greater the angle of the baffles, wider will be the area of straw spread.



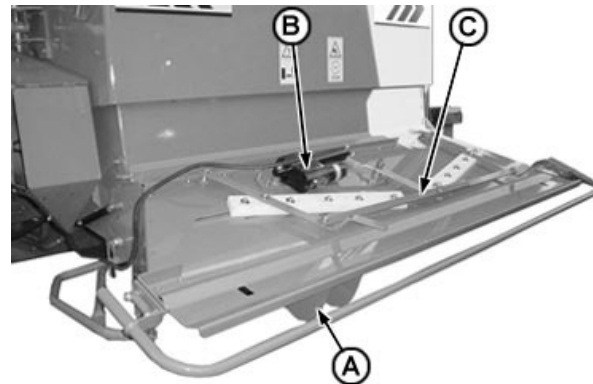
ZX012173

ZX012173 -UN-24SEP97

ML70882,00003ED -19-27AUG04-1/1

Electrical Adjustment of Straw Distributor Baffles—CWS/WTS (option)

Straw distributor deflectors (A) are adjusted by electrical motor (B) which moves the adjustable bars (C). The adjustment and control of the position is made from the operator's cab. See switch in "Electrical Adjustment of Straw Chopper Distributor" in the operator's manual.



CQ219271 -UN-14NOV03

ML70882,00003EE -19-13NOV03-1/3

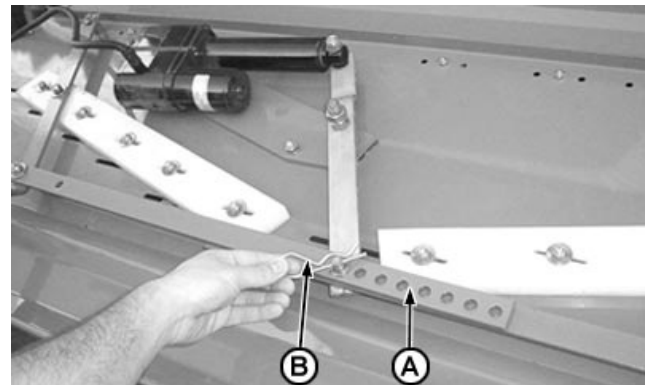
Manual Adjustment of Baffles

Straw spreading width can be adjusted according to straw moisture or if a decrease or increase of the spreading angle to one side is required.

Adjust bars (A) by removing pin (B) as required. The adjustable bars must be aligned.

Select one of the holes depending on the spreading width required: Adjust the adjustable bars (A) outwards for a wider spread, or inwards for a narrower spread.

NOTE: Take care with the washer underneath pin (B), which must be assembled.



CQ219301 -UN-14NOV03

Continued on next page

ML70882,00003EE -19-13NOV03-2/3

Operating and Transport Position

NOTE: The procedure is the same as that for the mechanical straw distributor. Always use the locking latches with the distributor in transport position and always position guard rail as shown in the figure.



Operating position



Transport position

ML70882.00003EE -19-13NOV03-3/3

CQ219290 -UN-04SEP03

CQ219280 -UN-04SEP03

Chaff Spreader Drive



CAUTION: NEVER operate the combine without shields correctly installed.

1450/1550 Combines:

The chaff spreader is driven by the left-hand side of the rear crankshaft of the straw walker. The drive belt is tensioned by two idler pulleys (B) which are under spring (C) tension.

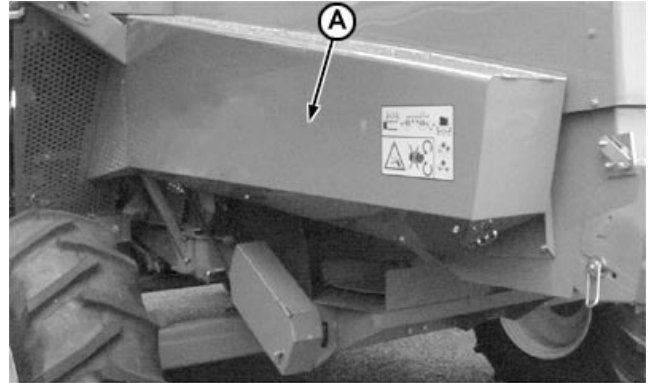
- There is no adjustment.
- With insufficient belt tension, replace spring.

NOTE: To access drive belt remove shield (A).

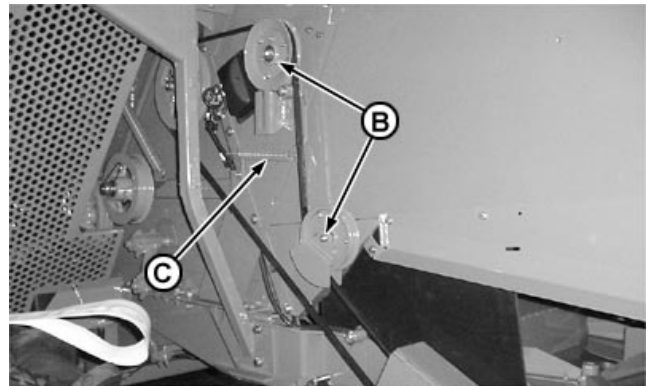
CWS/WTS Combines:

The chaff spreader is driven by a hydraulic hose on the left-hand side of the combine.

NOTE: The chaff spreader is driven by the hydraulic pump located in the straw walker intermediate drive set.



CQ192241 -UN-17NOV03



CQ192231 -UN-17NOV03

1450/1550 Chaff spreader drive



CQ220950 -UN-26JUL04

CWS/WTS Chaff spreader drive

ML70882,00004C5 -19-02AUG04-1/1

Chaff Spreader Speed Adjustment— CWS/WTS

Speed adjustment is performed through handle (A) and it depends on the following:

- Moisture of culture
- Amount of chaff
- Desired area of coverage

NOTE: *The chaff should be thrown uniformly over the rear tires.*

With the product very dry it is necessary to reduce chaff spreader speed to prevent increased dispersion of chaff.

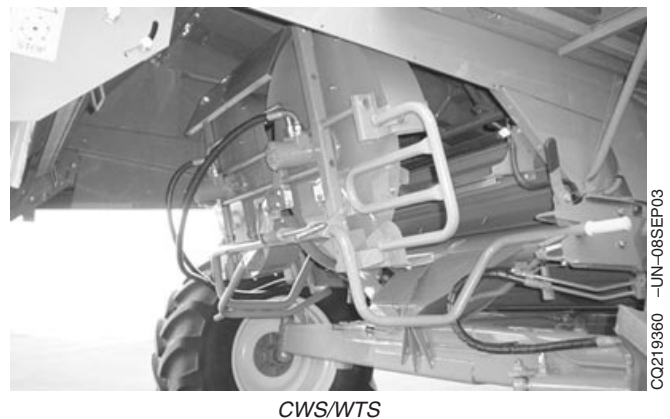
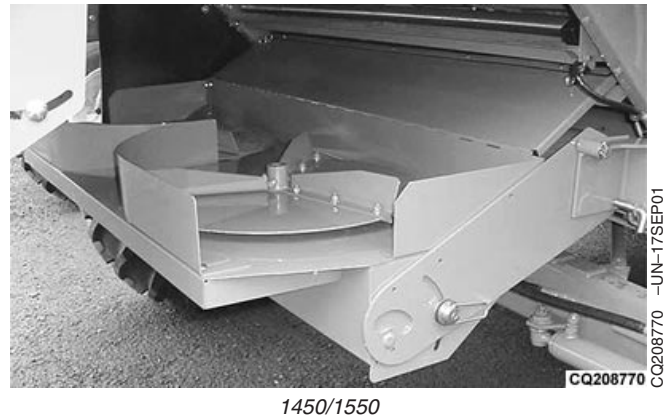


MB03730,0001BB4 -19-11AUG04-1/1

Chaff Spreader Operating Position

Operating Position:

The adjacent photographs indicate the operating position. Use this position whenever operating the combine in the field.



ML70882,00003FF -19-17NOV03-1/1

Chaff Spreader Transport Position

CWS/WTS Combines:

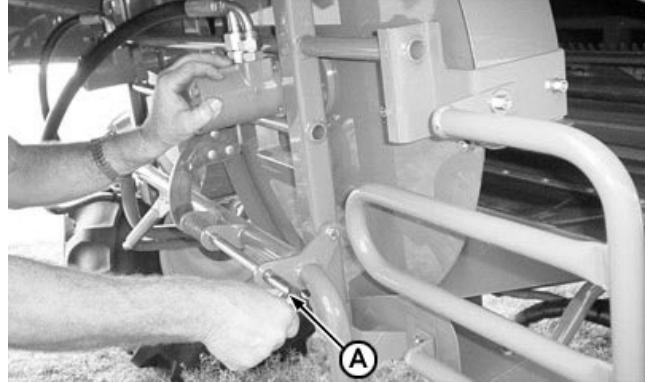
Use locking pin (A) to change from the operating position to the transport position and vice versa.

NOTE: In the transport position the chaff spreader is in a horizontal position.

1450/1550 Combines:

The transport position is the same as the operating position except when a trailer is hitched to the combine.

See “Chaff Spreader Position for Hitching Trailer—1450/1550”.



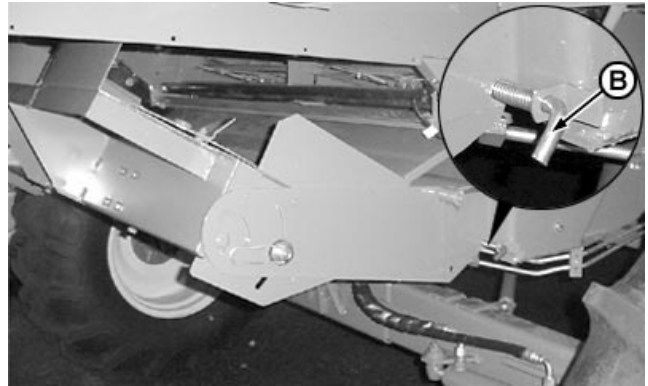
CO219371 -UN-17NOV03

ML70882,0000400 -19-17NOV03-1/1

Chaff Spreader Position for Hitching Trailer—1450/1550

NOTE: Request help from another person to raise the chaff spreader.

1. Pull out pins (B).
2. Raise the chaff spreader.
3. Insert the pins in arm holes so that the chaff spreader is locked in the position illustrated.
4. Hitch on the trailer.



CO220900 -UN-17NOV03

ML70882,0000422 -19-11AUG04-1/1

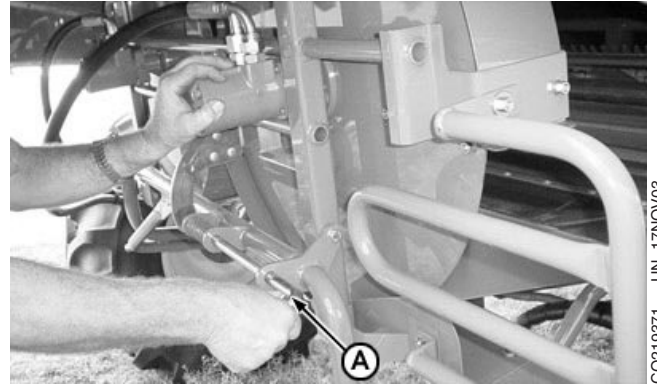
Lateral Swing of the Chaff Spreader— CWS/WTS

Lateral swing allows access to cleaning shoe, making adjustments and service easier.

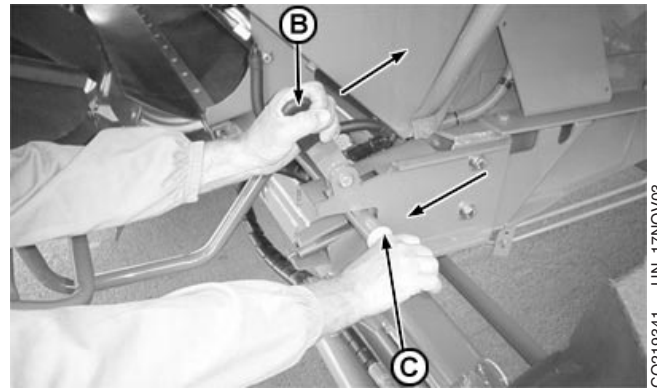
Pull pin (A) so that the chaff spreader may be lowered to **its full extent**.

Push lever (B) to free arm (C). Pull arm (C) to swing chaff spreader in direction of arrow.

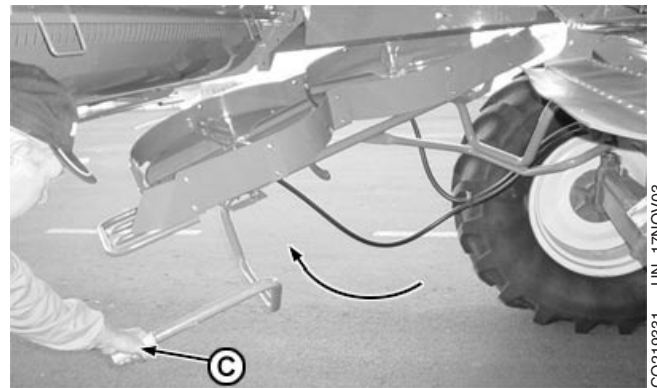
NOTE: At the end of adjustment or service return spreader to operating position, making sure that it is locked in place.



CO219371 -UN-17NOV03



CO219341 -UN-17NOV03



CO219331 -UN-17NOV03

ML70882,0000423 -19-19NOV03-1/1

Swing of Chaff Spreader—1450/1550

Lateral swing allows access to cleaning shoe, making adjustments and service easier.

Loosen bolts (A) and remove angle plate.

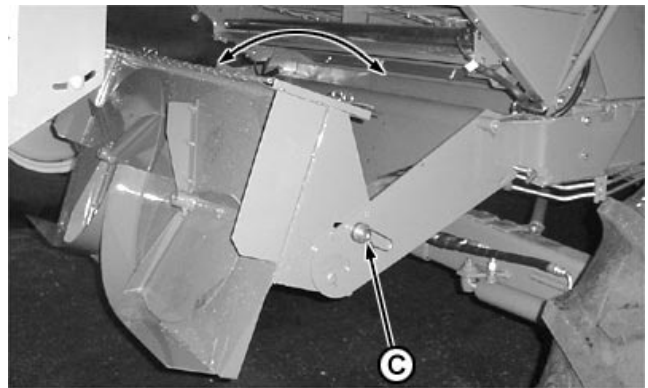
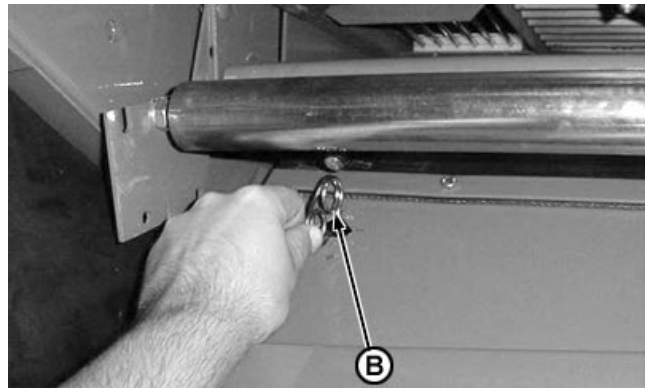
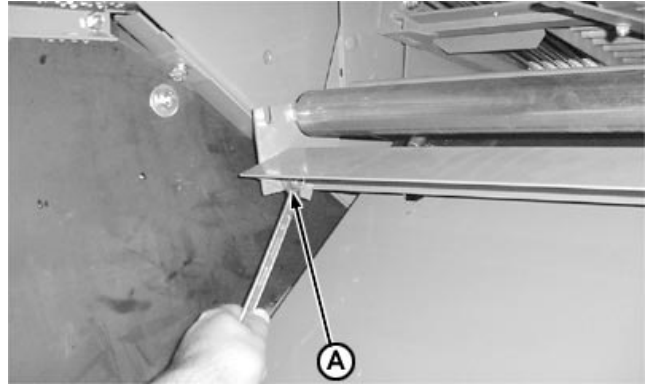
Release locking pins (B) on both sides, then loosen nuts (C) on both sides.

Swing the chaff spreader as shown in figure.



CAUTION: Take care that the nut does not separate from the bolt as this may cause accidents.

NOTE: At the end of adjustment or service return spreader to operating position, making sure that it is locked in place.



ML70882,0000424 -19-19NOV03-1/1

Spread Angle Adjustment of Chaff Spreader

Lateral plate (B or D) determines the spread angle for the chaff. This angle may be adjusted.

I - Increased spread angle:

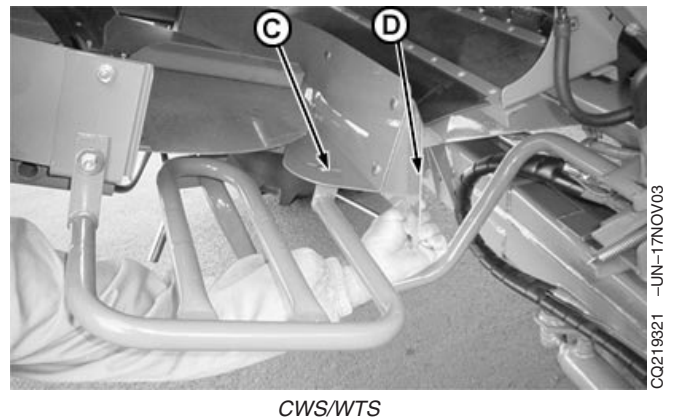
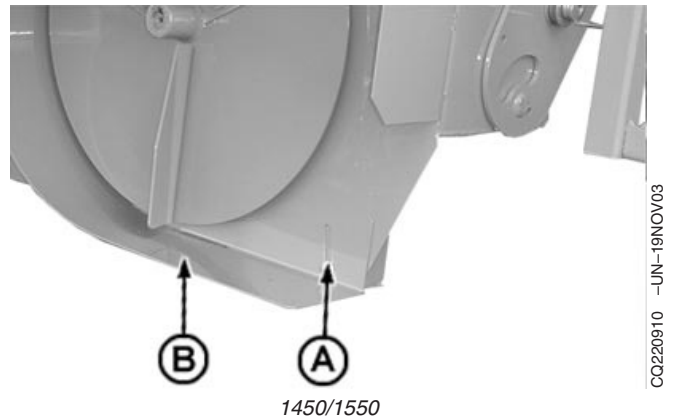
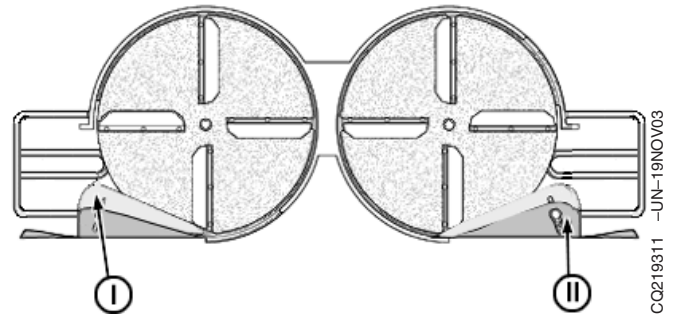
Used for large chaff (e.g. corn straw), or chaff with excessive moisture, or when a combine is using a larger header.

II - Reduced spread angle:

Used for small chaff (e.g. wheat), or chaff with low moisture content, or when a combine is using a smaller header.

Adjustment procedure:

1. Shut off the machine.
2. On a flat place, use a correct tool to loosen bolt (A or C).
3. Adjust spread angle of lateral plate (B or D).



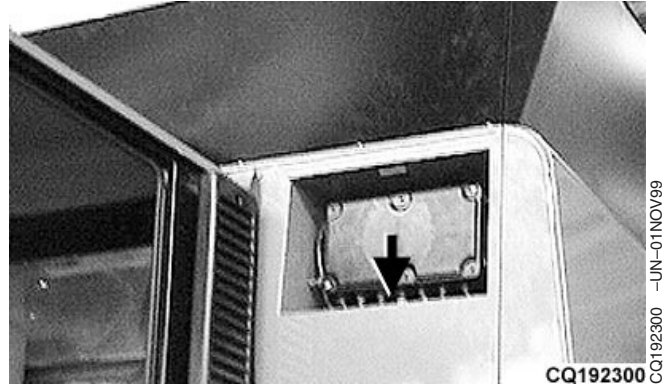
Grain Tank Loading and Unloading

Grain Tank Inspection Window

In the grain tank front wall there is a window to inspect the clean grain and remove samples, located immediately below the electrical box.

Between the grain tank wall and the electrical box, there is a space where a hand can be placed in order to extract clean grain samples.

NOTE: There is also a window behind the seat in the operator's cab.



AG,CO03622,2027 -19-26SEP03-1/1

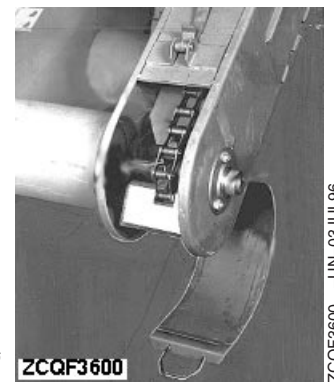
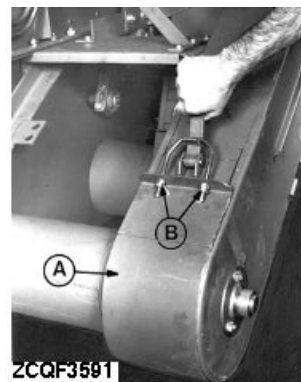
Lower Elevator Inspection Doors

Open the elevator doors (A) at the end of each working day and run the elevators to clean them out. Also clean the elevators when harvesting seeds and if changing crops.

Leave the doors open when not harvesting. Tighten nuts (B), if necessary.

NOTE: When closing the lower inspection doors make sure that they fit perfectly to avoid grain losses.

Check elevator chain tensioning after the first few hours of operation.



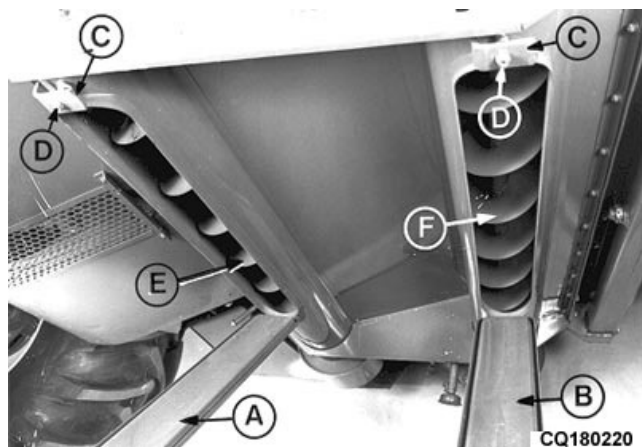
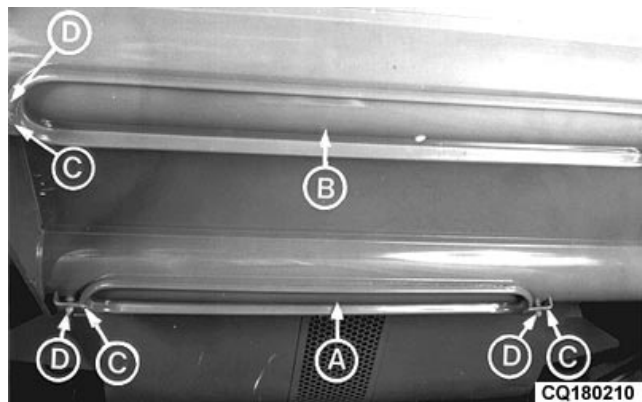
AG,CO03622,2049 -19-26SEP03-1/1

Elevator Augers

IMPORTANT: Thoroughly clean these areas when changing crops while harvesting seeds and at the end of the harvesting period.

Remove nuts (D) and clamps (C). Detach covers (A) and (B).

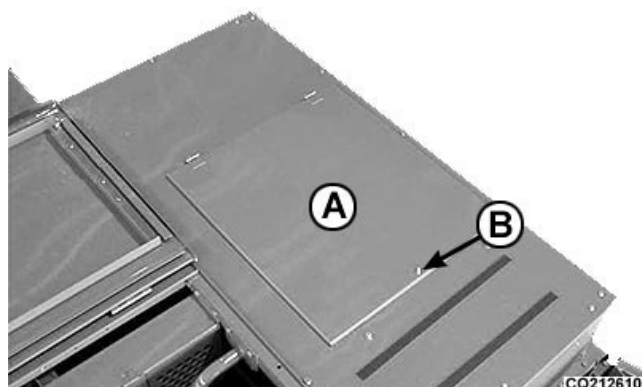
- A—Grain Elevator Auger Cover
- B—Tailings Elevator Auger Cover
- C—Clamps
- D—Hex Nuts
- E—Grain Auger
- F—Tailings Auger



AG,GG05155,335 -19-24FEB99-1/1

Clean Grain Elevator Upper Cover

Remove wing nut (B) to open grain elevator upper cover (A).

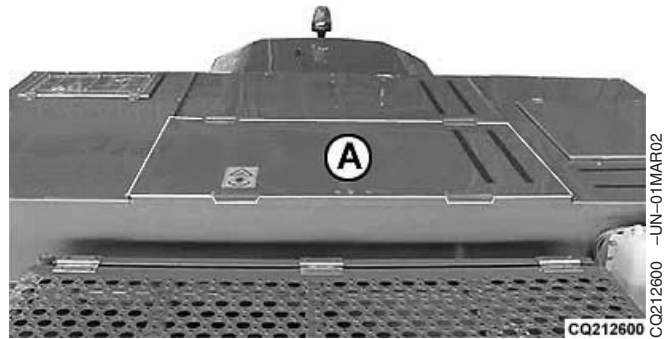


AG,CO03622,2050 -19-01MAR02-1/1

Grain Tank Cover

The grain tank is covered. Access to the interior is via hatch (A).

CAUTION: Danger of Accident! Stop the engine before entering the tank for any reason.



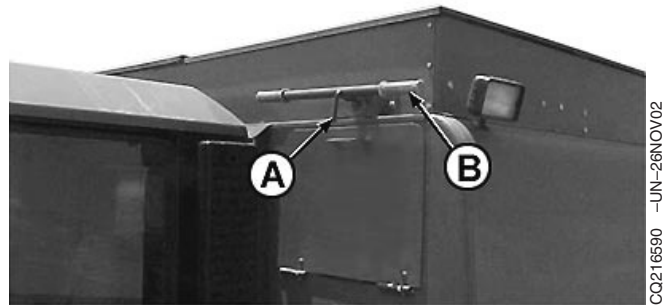
AG,CO03622,2051 -19-01MAR02-1/1

Grain Tank Extension—CWS/WTS (option)

CAUTION: The grain tank extension must be in transport position when the combine is transported on roads, due to the height limit on public roads.

Transport position:

Pull locking lever (A) and turn lever (B) 180° counterclockwise until locking lever (A) slots into hole.



Grain tank extension - transport position

Harvesting position:

Pull locking lever (A) and turn lever (B) 180° clockwise until locking lever slots into hole.



Grain tank extension - harvesting position

MB03730,0000021 -19-27JUL04-1/1

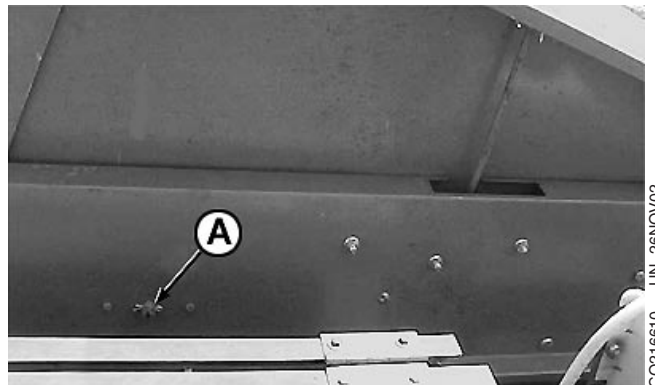
Access to Grain Tank —CWS/WTs (option)

For accessing the grain tank the following procedure is necessary:

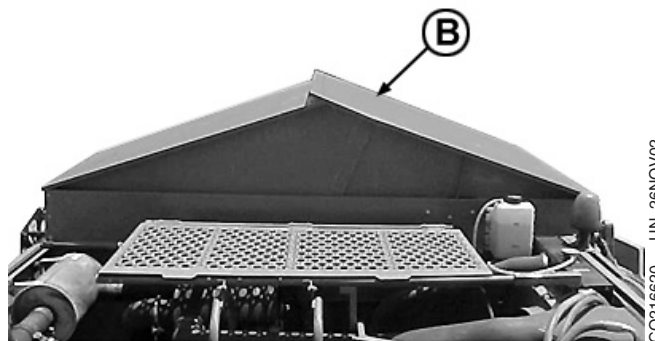
1. With an open end wrench, turn pin (A) counterclockwise until cover (B) can be raised.
2. Cover (B) should be raised until bar (C) goes through hole (D) to lock the cover in open position.

Closing the cover:

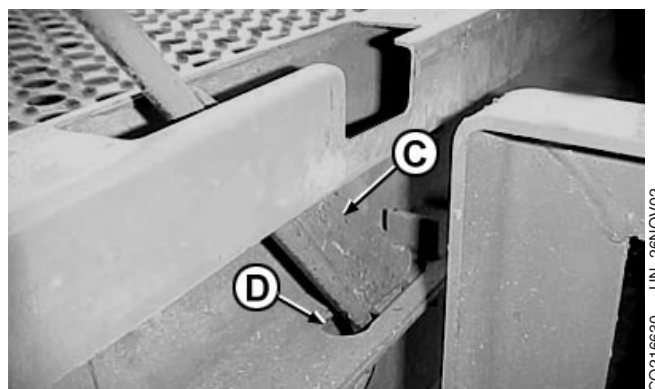
1. Turn pin (A) counterclockwise this time, closing the cover until bar (C) is released.



CO216610 -UN-26NOV02



CO216620 -UN-26NOV02



CO216630 -UN-26NOV02

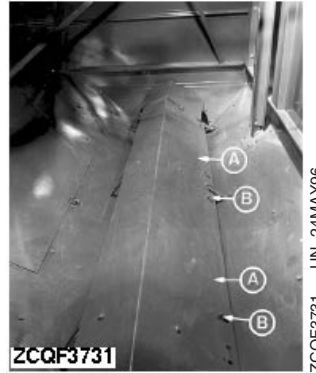
MB03730,0000022 -19-02AUG04-1/1

Lower Auger Covers

The cover plates (A) can be adjusted as required. To adjust, loosen nuts (B).

NOTE: *It is recommend to leave the covers in a more closed position for wet conditions and more open for dry conditions.*

Covers should be in a more closed position on the right side (the clean grain elevator side).

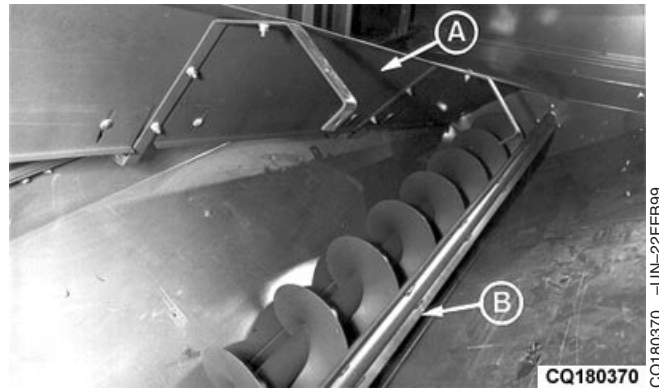


AG,CO03622,2052 -19-12NOV02-1/1

Auger Feeder

The grain tank unloading auger has a fluted cylinder to ensure a continuous flow of material.

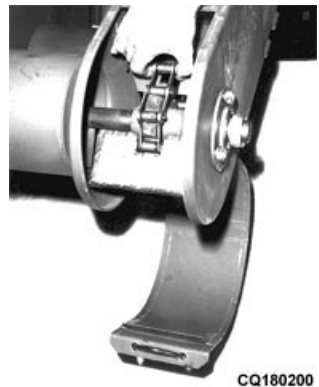
A—Cover
B—Auger feeder



AG,GG05155,340 -19-15NOV02-1/1

Elevator Conveyor Chain Tension

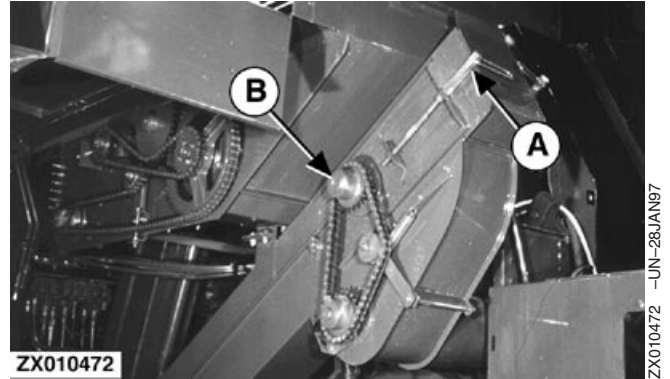
The elevator conveyor chains should be tightened so that the first chain link behind the sprocket can be moved 6 to 10 mm (0.2 to 0.4 in.).



AG,GG05155,334 -19-24FEB99-1/1

Adjusting Tailings Elevator Conveyor Chain

To adjust tension turn both handles (A) at the head of the elevator. Change the position of the bearing housings (B) in their guides, tensioning the chain. (See “Elevator Conveyor Chain Tension” in this section).



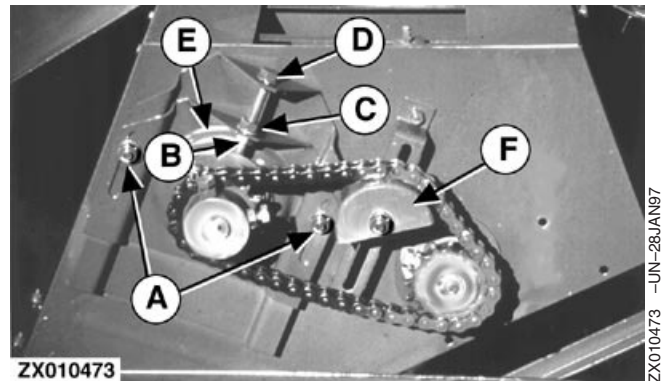
AG,CO03622,2054 -19-20AUG04-1/1

Adjusting Clean Grain Elevator Conveyor Chain

Loosen idler (F) and nuts (A) on both sides of the elevator. Loosen nut (B) and locknut (C) on tightener bolt (D). Adjust chain tension by using the tightener bolt (D) to move the bearing housing (E) to a suitable position. Then tighten nut (B) and locknut (C).

Adjust both bearing housings equally. (See “Elevator Conveyor Chain Tension” in this section).

Tighten nuts (A). Adjust idler (F).



- A—Hex Nut
- B—Hex Nut
- C—Locknut
- D—Tightener Bolt
- E—Bearing Housing
- F—Tensioner sprocket

AG,CO03622,2055 -19-20AUG04-1/1

Fuel, Lubricants, Coolant and Capacities

Fuel



CAUTION: Never fill tank when engine is running. During filling of tank, smoking is strictly prohibited!

The quality and cleanliness of the fuel is an important factor in obtaining dependable performance and satisfactory engine life. Use commercial diesel fuel which must comply with the EN590 standard.

Engine oil and oil filter change interval must be reduced by 50% if diesel fuel with a sulfur content greater than 0.5% is used.

Fill the fuel tank at the end of each day's operation to prevent condensation and freezing during cold weather.

IMPORTANT: The fuel tank cap is sealed and the tank is vented through a special vent. Therefore it is always necessary to replace it with an original cap.

CQ, COMBUST -19-13NOV01-1/1

Handle Fuel Safely—Avoid Fires

Handle fuel with care: it is highly flammable. Do not refuel the machine while smoking or when near open flame or sparks.

Always stop engine before refueling machine. Fill fuel tank outdoors.

Prevent fires by keeping machine clean of accumulated trash, grease, and debris. Always clean up spilled fuel.



TS202 -UN-23AUG88

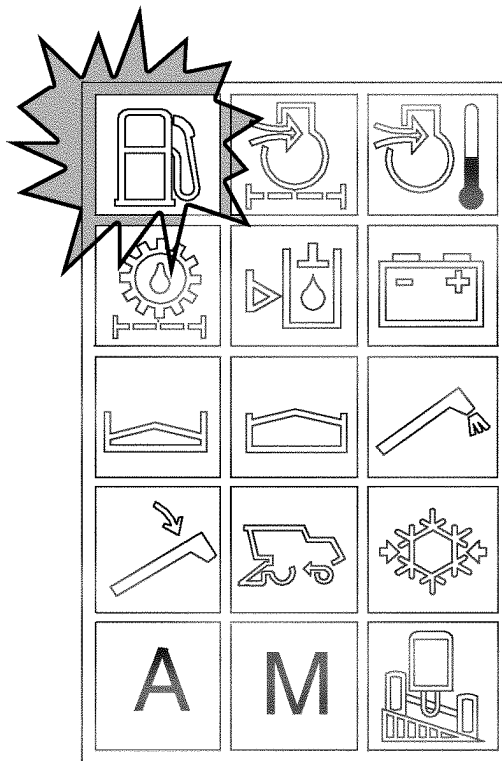
DX,FIRE1 -19-03MAR93-1/1

Filling Fuel Tank

⚠ CAUTION: Be careful when handling fuel. Stop the engine and, above all, **NEVER SMOKE** under any circumstances!

Fill the fuel tank at the end of each day of operation to avoid moisture condensation. Total capacity: 470 L (124 U.S. gal.).

Lights up if fuel level in tank has reached the reserve (approximately 50 L remaining) (13.2 U.S. gal.).



CQ203530

AG.CO03622.2056 -19-14AUG02-1/1

CQ203530 -UN-30MAF01

Diesel Engine Oil—CWS/WTS

Use an oil viscosity suitable for the expected air temperature range during the period between oil changes.

The following oil is preferred:

- John Deere PLUS-50®

It is possible to extend the oil change period when using John Deere PLUS-50 oil, see “Lubrication Chart, Periodic Service” section.

The following oil is also recommended:

- John Deere TORQ-GARD SUPREME®

Other oils may be used if they comply with one or more of the following standards:

- API CG-4 service classification
- API CF-4 service classification
- ACEA E3 standard
- ACEA E2 standard
- CCMC D5 standard
- CCMC D4 standard

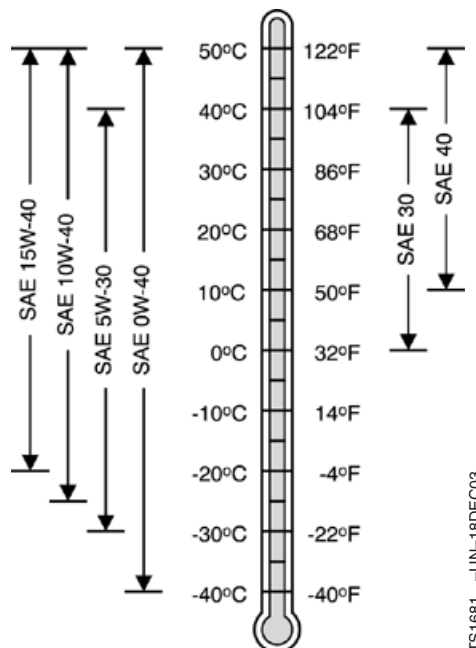
Multi-viscosity diesel engine oils are preferred.

If diesel fuel with sulfur content greater than 0.5% is used, reduce the service interval by 50%.

Greater service intervals may be achieved when John Deere preferred engine oils are used. Consult your John Deere dealer for more information.

ENGINE BREAK-IN OIL

New engines are filled at the factory with John Deere ENGINE BREAK-IN OIL. During the break-in period, add John Deere ENGINE BREAK-IN OIL as needed to maintain the specified oil level.



NOTE: During the break-in period a higher-than-usual oil consumption should be considered as normal.

IMPORTANT: During the first 100 hours, under NO circumstances must you use John Deere PLUS-50 oil or any oil that meets the following specifications: API CG-4, API CF-4, ACEA E2, ACEA E3 or CCMC D5. These oils do not satisfy the requirements for running in an engine.

Change the oil and filter after the first 100 hours of operation of a new or rebuilt engine.

CQ,ENOIL -19-20AUG04-2/2

Engine—Crankcase Capacity (Including Filter Change)

- 1450 — 6.8 L - 20 L (5.01 U.S. gal.) engine
- 1550 — 8.1 L - 28.5 L (7.52 U.S. gal.) engine
- 1450 CWS/WTS — 6.8 L - 32 L (8.45 U.S. gal.) engine
- 1550 CWS/WTS — 6.8 L - 32 L (8.45 U.S. gal.) engine

AG,CO03622,2057 -19-20AUG04-1/1

Air Compressor Crankcase Capacity

All the combines covered by this manual:

- 0.37 L (370 ml)

AG,CO03622,2191 -19-20OCT99-1/1

JD 15W-40 Diesel Engine Oil—1450/1550

A multi-viscosity diesel engine oil (SAE 15W-40) of the highest performance level, manufactured with raw materials of proven quality and containing special additives.

It is indicated for API SF/CF-4 service classification or higher.

In addition, it meets MBB228.3, MF 6610.00, VW505.00, Caterpillar TO-2, Allison C-3, Mack EO-K/2 and Cummins NTC 400 requirements. It is also approved by MWM, Perkins, Scania (complies with the Ford Tornado test) and Volvo (surpasses VDS requirements).

The following oil is also preferred:

- John Deere PLUS-50®

It is possible to extend the oil change period when using John Deere PLUS-50 oil, see “Lubrication Chart, Periodic Service” section.

Other oils may be used if they meet one or more of the following requirements:

- API CG-4 service classification
- API CF-4 service classification
- CCMC D5 standard
- CCMC D4 standard
- Mercedes Benz MB228.3
- ACEA E3 standard
- ACEA E2 standard

Multi-viscosity diesel engine oils are preferred.

If diesel fuel with sulfur content greater than 0.5% is used, reduce the service interval by 50%.

Greater service intervals may be achieved when John Deere preferred engine oils are used. Consult your John Deere dealer for more information.

ENGINE BREAK-IN OIL

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NOTE: During the break-in period a higher-than-usual oil consumption should be considered as normal.

IMPORTANT: During the first 100 hours, under NO circumstances must you use John Deere PLUS-50 oil or any oil that meets the following specifications: API CG-4, API CF-4, ACEA E2, ACEA E3 or CCMC D5. These oils do not satisfy the requirements for running in an engine.

Change the oil and filter after the first 100 hours of operation of a new or rebuilt engine.

PLUS-50 is a trademark of the Deere & Company.

CQ, ENOILBR -19-20AUG04-1/1

Engine Coolant



CAUTION: Hazard to health if swallowed. Risk of death! Basic ingredient: Ethylene Glycol. If swallowed, call a doctor immediately. Avoid breathing in the mist or fumes! Do not store in open recipients or a recipient without a locking device. Wash yourself thoroughly after handling the product. Excessive contact may cause abnormalities in unborn children. Keep out of reach of children and animals.



TY16034 Engine Cooling Antifreeze Concentrate

CO190750 -UN-02SEP99

CQ190750

— John Deere antifreeze concentrate is a high performance cooling antifreeze principally composed of ethylene glycol with special organic additives.

— Developed to fulfill the requirements of current heavy duty engines.

— Provides protection against corrosion of the water pump.

— Stops cavitation and avoids freezing in winter and overheating in summer.

Characteristics:

- The use of John Deere Conditioner will be necessary if the engine has been used for a long time.
- Evaluate the amount of SCA (Supplemental Coolant Additives) annually or add SCA following the instructions given in the operator's manual, if this is the first time.
- The same product that engines are filled up with on assembly line.
- Phosphate-free composition.

Biodegradable

Applications:

Recommended for all John Deere diesel engines.

Use guidelines:

⚠ CAUTION: Never remove the radiator cover with the engine hot. Remove the starter key from the ignition to prevent accidental engine start.

1. Verify the cooling system to make sure that all connections are tight and all components are in a satisfactory condition.
2. Inspect the thermostatic valves to make sure that they open at the correct temperatures.
3. Completely bleed the cooling system and refill it with water. With the radiator cover open, start the engine and run for about 10 minutes.
4. Shut off engine. Bleed the system again. If the system is still dirty, clean the radiator with a good quality cleaner to remove the rust, scales and sediments.
5. Previously mix in a recipient TY 16034 coolant concentrate with water of low mineral text, in the ratio of 1 part of coolant to 1 part of water. Add the solution until 25 mm above of the level in the radiator. TY 16036 coolant liquid is supplied already diluted, so it can be directly added to the radiator.
6. Start the engine again with the radiator cover open in order to mix the coolant and expel the air. Shut off the engine and let it cool down.
7. Check the cooling liquid level again. Add more solution, if necessary.

REFRIMOTOR -19-15AUG02-2/2

Cooling System Capacity

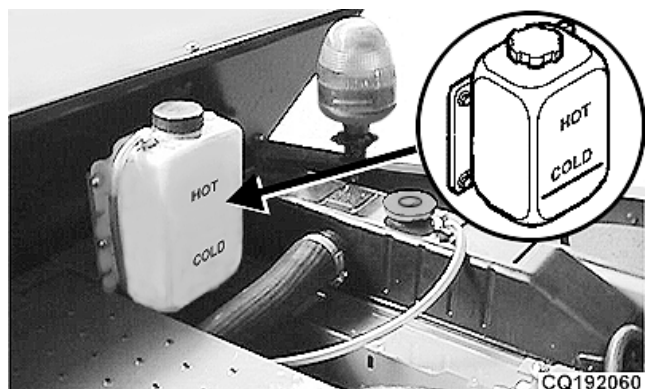
Engine Coolant:

1450— approximately 30 L (7.92 U.S. gal.)

1550— approximately 38 L (10.03 U.S. gal.)

CWS/WTS— Approximately 30 L (7.92 U.S. gal.)

NOTE: The indicated capacities of the cooling system are approximate values, therefore when filling the system, the cooling level must be verified in the expansion tank of the radiator.



AG,CO03622,2058 -19-20AUG04-1/1

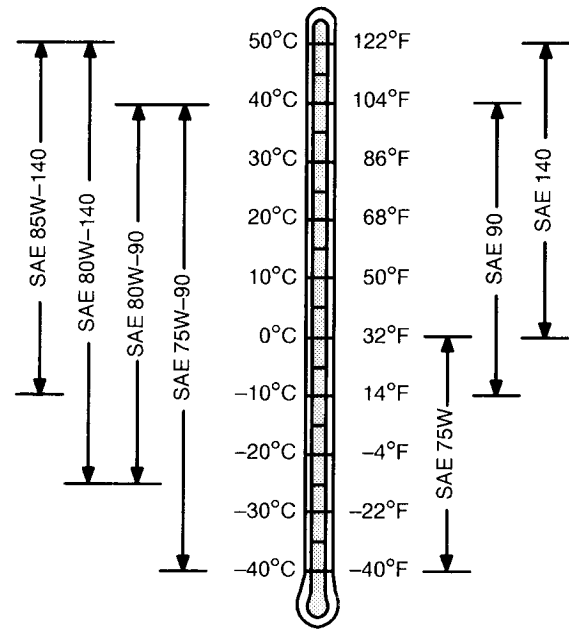
Gear Lubricant

Use an oil viscosity suitable for the expected air temperature range during the period between oil changes.

The following oils are preferred:

- John Deere EXTREME-GARD™
- John Deere GL-5 GEAR LUBRICANT

Other oils may be used if they meet the API GL-5 service classification.



TS1653 -UN-14MAR96

EXTREME-GARD is a trademark of the Deere & Company.

DX,GEOIL -19-18MAR96-1/1

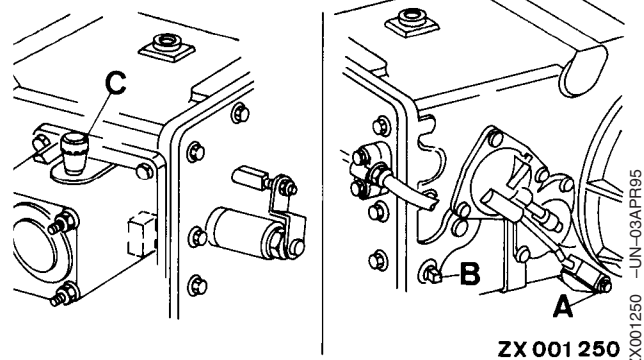
Changing Transmission Oil

Transmission

Capacity: 9 L (2.37 U.S. gal.)

Recommended oil - SAE 90.

- A—Oil bleed screw
- B—Level Plug
- C—Oil filler neck



ZX001250 -UN-03APR95

AG,CO03622,2060 -19-15NOV02-1/1

Final Drives

Recommended oil - SAE 90.

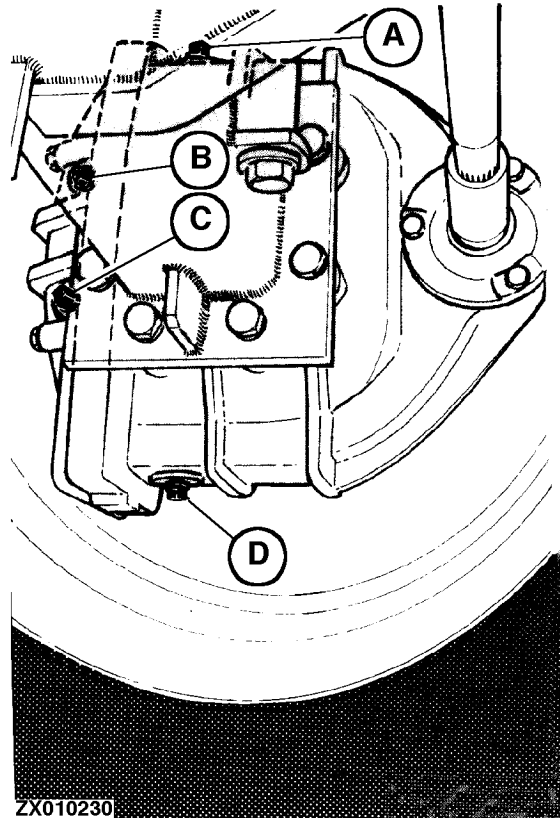
Standard Final Drive Capacity (each)

•3 L (0.8 U.S. gal.)

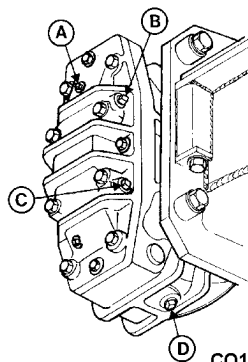
Heavy Duty Final Drive Capacity (each)

•4.8 L (1.2 U.S. gal.)

- A—Oil Filler Cap
- B—Vent Plug
- C—Oil Level Check Plug
- D—Oil Bleed Screw



Standard Final Drive—1450 and 1450 CWS/WTS



Heavy Duty Final Drive—1550 and 1550 CWS/WTS

AG,CO03622,2061 -19-28NOV03-1/1

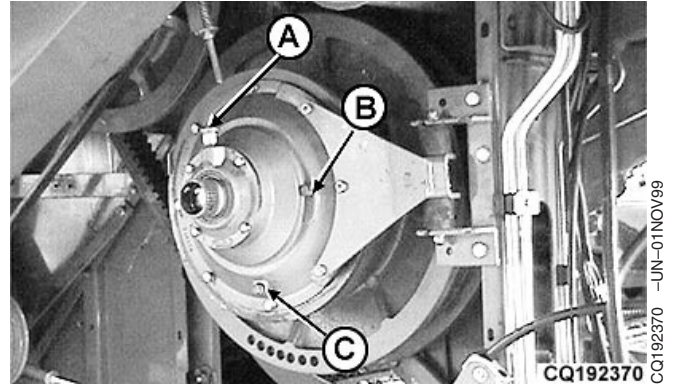
Cylinder Drive Reduction Gear

Recommended oil - SAE 90.

Capacity:

•1.9 L (0.5 U.S. gal.)

- A—Vent Plug
- B—Oil filler and level plug
- C—Oil bleed screw



AG.CO03622,2187 -19-23OCT02-1/1

Chaff Spreader Transmission—1450/1550

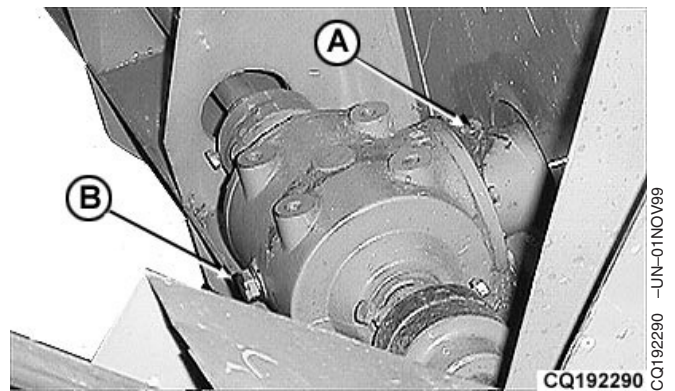
Recommended oil - SAE 90.

Capacity (each):

•0.55 L (0.14 U.S. gal.)

NOTE: To refill the chaff spreader transmission it is necessary to swing the chaff spreader out. For details on how to do this see the "Chaff Spreader and Straw Chopper" section.

- A—Oil filler neck
- B—Oil bleed screw



AG.CO03622,2185 -19-20AUG04-1/1

Hydraulic System Oil

Use an oil viscosity suitable for the expected air temperature range during the period between oil changes.

The following oils are preferred:

- John Deere HY-GARD®
- John Deere Low Viscosity HY-GARD®

The following oils are also recommended:

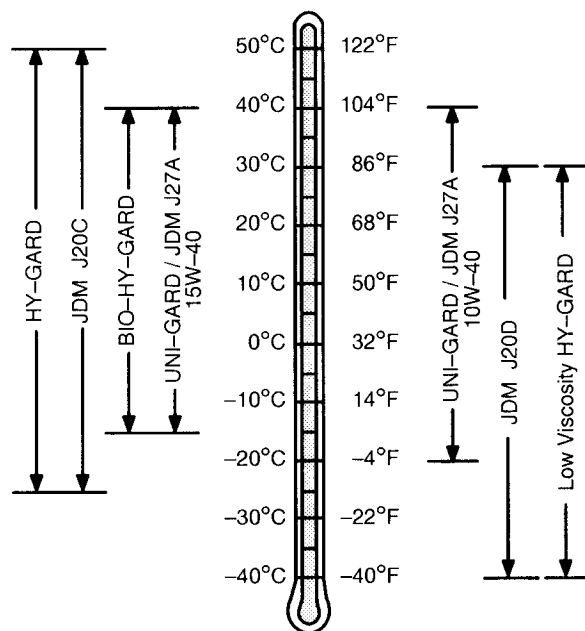
- John Deere UNI-GARD™
- John Deere BIO-HY-GARD™¹

Other oils may be used if they comply with one or more of the following standards:

- John Deere JDM J20C standard
- John Deere JDM J20D standard
- John Deere JDM J27A standard

IMPORTANT: Do not use engine oil in the hydraulic system.

Arctic oils (such as Military Specification MIL-L-46167B) may be used at temperatures below -30°C (-22°F).



TS1650 -UN-14MAR96

HY-GARD is a trademark of the Deere & Company
 UNI-GARD is a trademark of the Deere & Company
 BIO-HY-GARD is a trademark of the Deere & Company

¹ BIO-HY-GARD achieves or exceeds a minimum biodegradability of 80% in 21 days, according to the CEC L-32-T-82 test method. BIO-HY-GARD should not be mixed with mineral oils, because this reduces the biodegradability and makes proper oil recycling impossible.

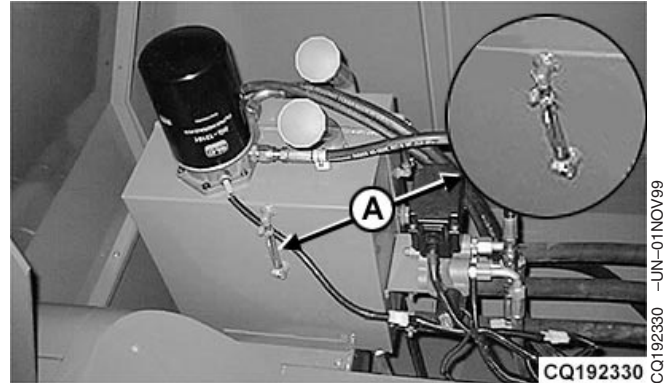
CQ, OLEOHIDR -19-26SEP03-1/1

Hydraulic System Oil—Capacity

Capacity (for all combines covered by this manual):

— 29 L (7.6 U.S. gal.)

Check oil level on scale (A).



AG,CO03622,2064 -19-26SEP03-1/1

Hydrostatic System Oil

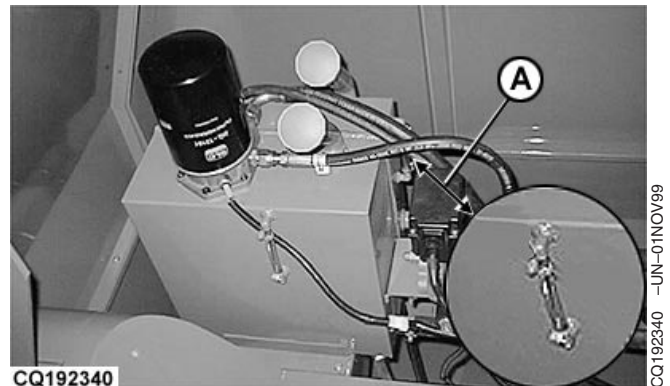
Capacity (for all combines covered by this manual):

— 24 L (6.3 U.S. gal.)

Check oil level on scale (A).

Recommended oil:

John Deere Hy-Gard®.



HY-GARD is a trademark of the Deere & Company

AG,CO03622,2065 -19-26SEP03-1/1

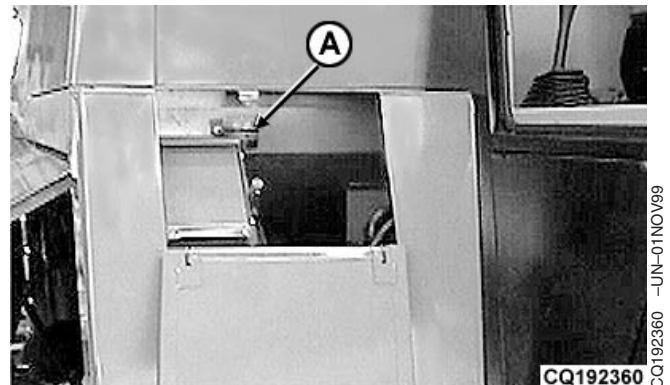
Brake Fluid for Brake System

The brake fluid reservoir (A) is located at the front of the combine next to the tailings elevator.

IMPORTANT: Use only brake fluid that meets the SAE J 1703 (DOT 4) standard.

•**System capacity:** 1.0 L (0.26 U.S. gal.)

•**Reservoir:** 0.5 L (0.13 U.S. gal.)



AG,CO03622,2067 -19-15NOV02-1/1

Grease

Use grease based on NLGI consistency numbers and on the expected air temperature range for the period between services.

John Deere SD POLYUREA GREASE is preferred.

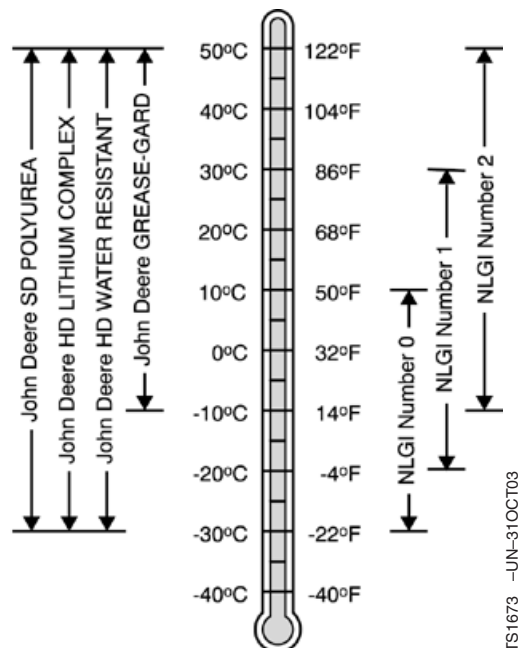
The following greases are also recommended:

- John Deere HD LITHIUM COMPLEX GREASE.
- John Deere HD WATER RESISTANT GREASE.
- John Deere GREASE-GARD.™

Other greases may be used if they comply with the following:

NLGI GC-LB performance classification

IMPORTANT: Some types of grease are not compatible with other types. Consult your grease supplier before mixing different types of grease.



GREASE-GARD is a trademark of the Deere & Company

DX,GREA1 -19-07NOV03-1/1

Lubricant Storage

Your equipment can operate at top efficiency only when clean lubricants are used.

Use clean containers to handle all lubricants.

Whenever possible, store lubricants and containers in an area protected from dust, moisture, and other contamination. Store containers on their side to avoid water and dirt accumulation.

Make certain that all containers are properly marked to identify their contents.

Properly dispose of all old containers and any residual lubricant they may contain.

DX,LUBST -19-18MAR96-1/1

Alternative and Synthetic Lubricants

Conditions in certain geographical areas may require lubricant recommendations different from those printed in this manual.

Some John Deere brand coolants and lubricants may not be available in your location.

Consult your John Deere dealer to obtain information and recommendations.

Synthetic lubricants may be used if they meet the performance requirements as shown in this manual.

The temperature limits and service intervals shown in this manual apply to both conventional and synthetic oils.

Re-refined base stock products may be used if the finished lubricant meets the performance requirements.

DX,ALTER -19-15JUN00-1/1

Use Genuine John Deere Parts

Genuine John Deere parts have been specifically designed for John Deere machines.

Other parts are neither examined nor marketed by John Deere. Installation and use of such products could have negative effects upon the design characteristics of the machine and thereby affect its safety.

Avoid this risk by using only genuine John Deere parts.

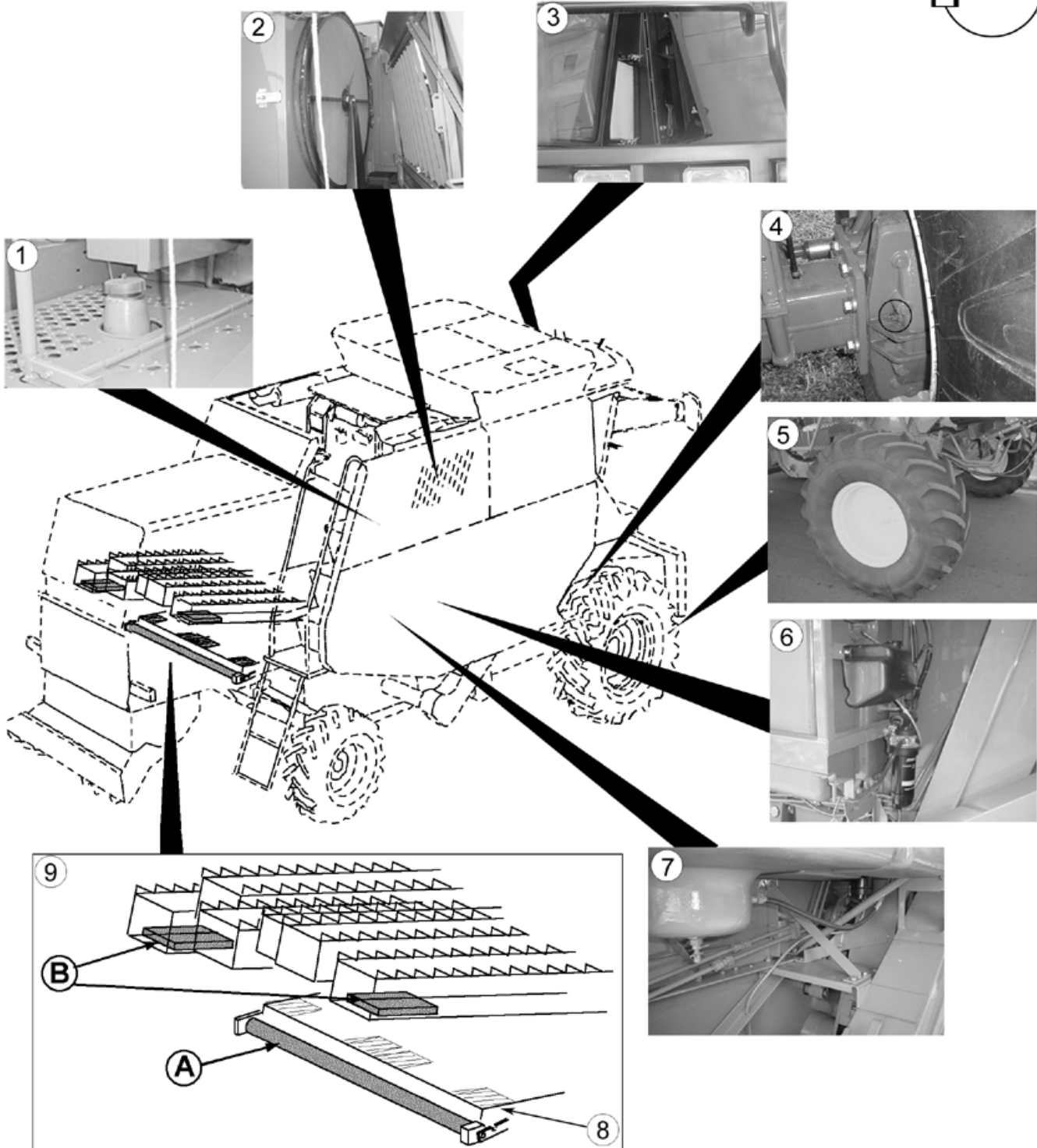
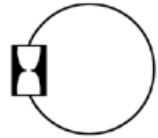


CQ203420 CQ203420 -UN-22MAR01

CQ,PCORIGIN -19-02SEP99-1/1

Lubrication Chart, Periodic Service

Service Points—Daily



Continued on next page

OU83340,00003ED -19-15SEP03-1/2

CQ219730 -UN-10OCT03

IMPORTANT: Service times are for average conditions. Service more often if combine is used in extreme conditions.

1. Fully refill the fuel tank at the end of each day of operation to avoid the condensation of water inside the tank, which could clog the fuel injection nozzles.



CAUTION: Never fill tank when engine is running. During filling of tank, smoking or switching on any electrical apparatus is strictly prohibited!

The quality and cleanliness of the fuel is an important factor in obtaining dependable performance and satisfactory engine life. Use commercial diesel fuel which must comply with the EN590 standard.

2. Check the condition and cleanliness of the rotary screen daily.



CAUTION: Shut off engine and remove starter key before cleaning rotary screen.

3. Check the condition and cleanliness of the cab air conditioning and fan filter. This filter is located on the right-hand side of the cab access door. **Filters must be cleaned every 100 hours.**
4. Check the vent plugs (inside the circle) of the front axle final drives. Clean them, if necessary.

5. Check condition and inflation of tires.

NOTE: When the combine is not being used, checks can be made weekly.

6. Bleed off water accumulated in the fuel filter water trap.
7. Remove sediment deposited in the fuel tank water trap by loosening the wing nut enough to allow the sediment to bleed out.



CAUTION: Never perform any kind of work on the fuel tank when the engine is running. During the procedure it is extremely hazardous to smoke or switch on any electrical apparatus!

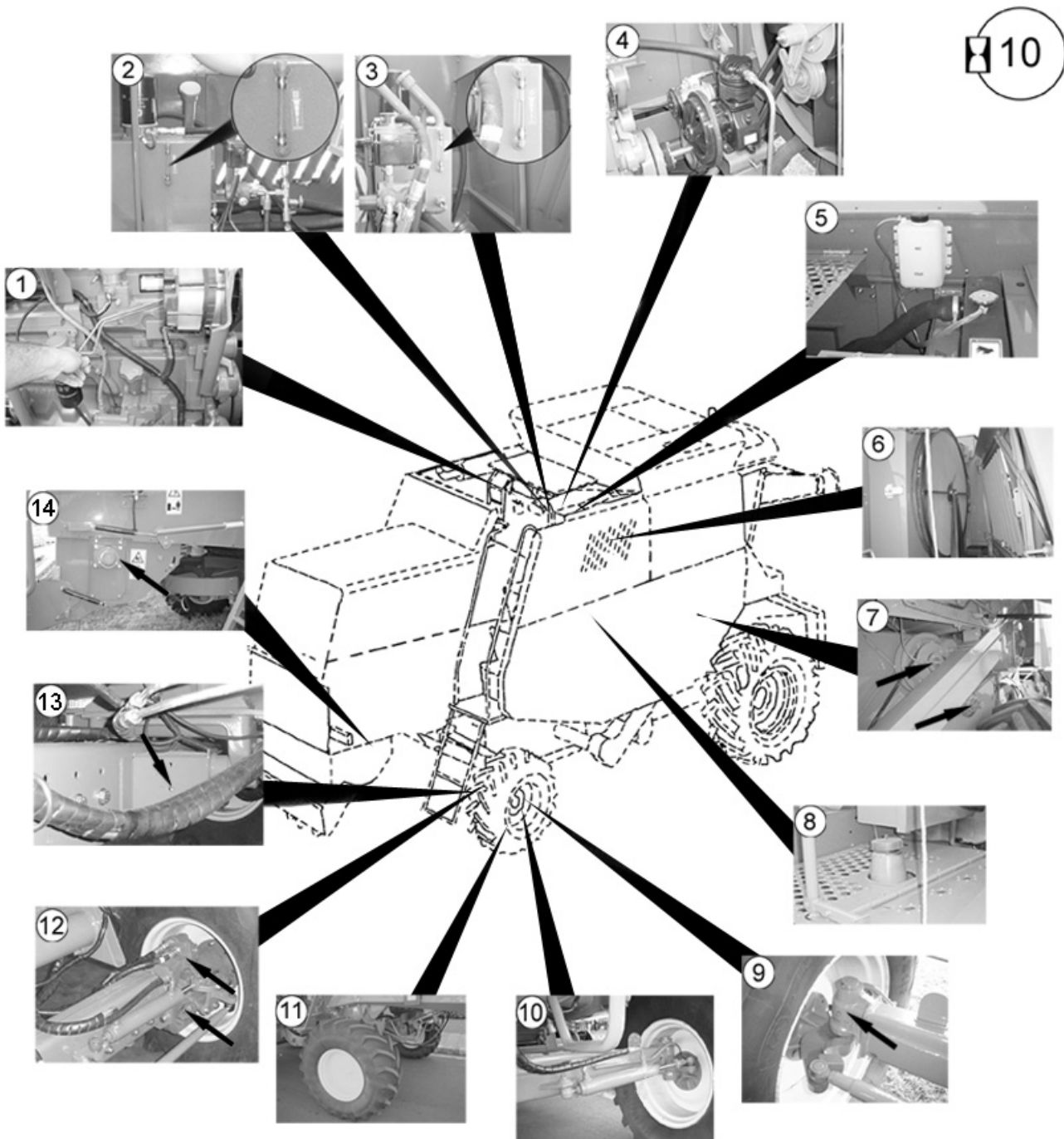
8. Check the cleaning shoe daily and clean, if necessary.

NOTE: Depending on the crop being harvested, it may be necessary to check the cleaning shoe during harvesting.

9. Check that the alarm activated by the straw walker (B) and cleaning shoe (A) sensors functions correctly. See the "Warning Devices and Monitors" section.

OU83340,00003ED -19-15SEP03-2/2

Service points—Every 10 hours



Continued on next page

OU83340,00003E9 -19-11SEP03-1/2

IMPORTANT: Service times are for average conditions. Service more often if combine is used in extreme conditions.

1. Check engine oil level by means of dipstick.

NOTE: Only check the oil after the engine has been shut off for at least 30 minutes.

2. Check the hydraulic system oil level. Check with the header lowered to the ground. The oil level should be more or less in the center of the scale. Add oil recommended by John Deere, if necessary.

3. Check the hydrostatic drive oil level. Check with the header lowered to the ground. The oil level should be more or less in the center of the scale. Add oil of the same brand, if necessary.

4. Check the air compressor oil level by means of the oil level plug. Add oil, if necessary.

NOTE: During the first 50 hours of operation the air compressor has a very high oil consumption, because of this it is very important to check the oil level daily and refill it, if necessary. After the first oil change consumption is greatly reduced.

IMPORTANT: In the event that the air compressor continues to consume a very large quantity of oil after 50 hours have expired, check for leaks in the connections and lines.

5. Check the condition and coolant level in the cooling system. Add water and additives according to the proportions specified in the "Fuel, Lubricants, Coolant and Capacities" section.

IMPORTANT: Only refill the cooling system with the engine shut off and at ambient temperature.

6. Check the condition and cleanliness of the rotary radiator screen. Clean it, if necessary. Check also the condition of the engine and air conditioning (if installed) air filters.

7. Lubrication points: two points. One in front of the beater pulley and the other point in front of the variable speed drive pulley of the threshing cylinder without reduction gears.

IMPORTANT: These points must be lubricated with the pulleys closed. USE grease to lubricate the variable speed drive of the cylinder without reduction gears.

8. Check the condition of the fuel system.

9. Lubrication point: two points (on both sides), on the rear wheel steering system.

10. Torque: Retighten retaining screws between hydraulic steering cylinder and rear axle to 24 kgf.m (240 N.m; 174 lb-ft).

11. Check condition and inflation of tires. See table under "Tire Inflation Pressure" in the "Wheels, Axles and Counterweights" section.

Carry out the first retightening of all rear wheel bolts with a torque of 18 kgf.m (180 Nm; 130 lb-ft). **Thereafter, repeat this procedure every 200 hours.**

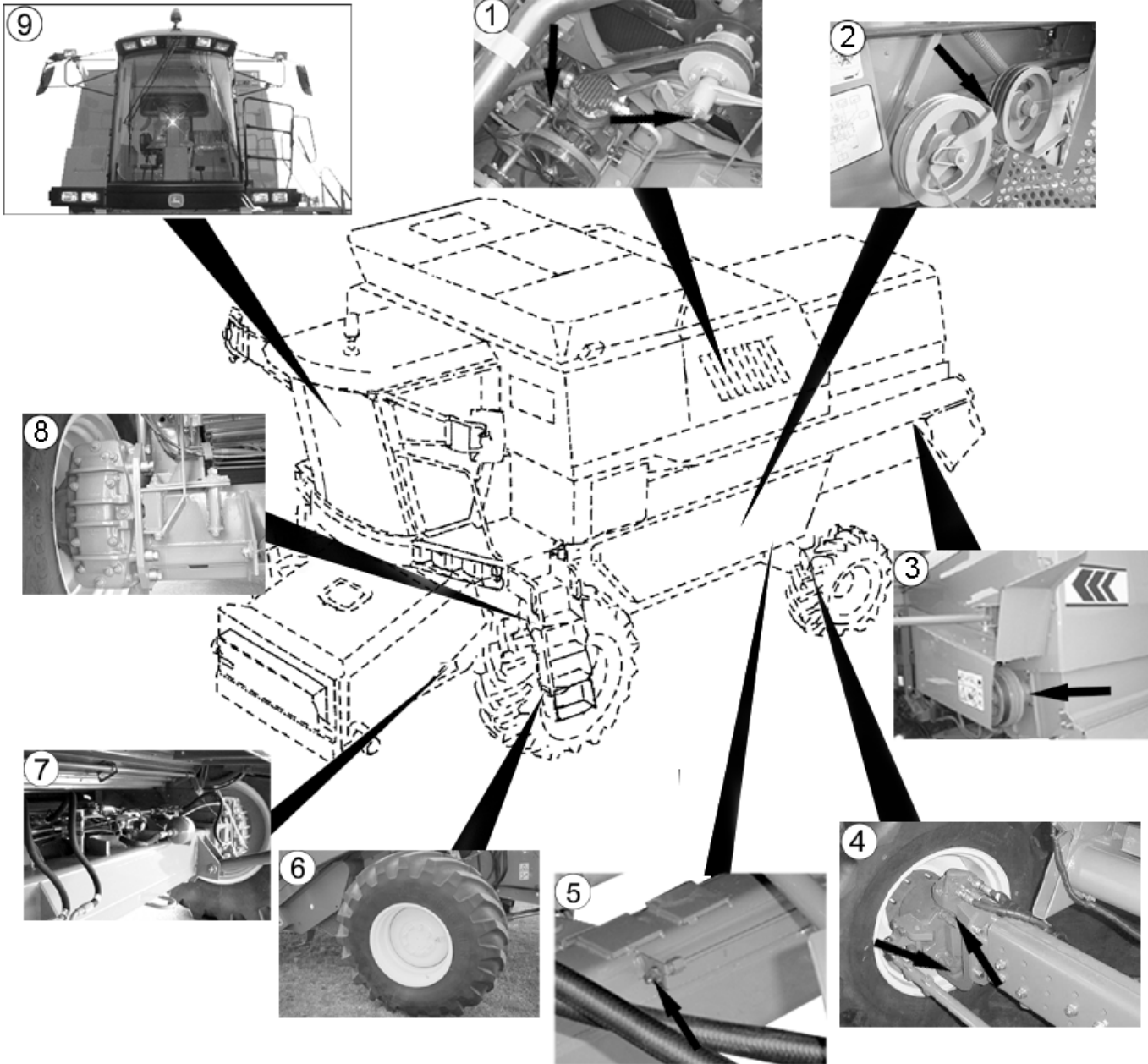
12. Lubrication point: two points on rear-wheel drive linkages.

13. Lubrication point: one point on rear axle pivot fitting.

14. Lubrication point: two points (one on each side of machine) on straw chopper bearings.

Service points—Every 10 hours

10



Continued on next page

OU83340,00003EA -19-12SEP03-1/2

IMPORTANT: Service times are for average conditions. Service more often if combine is used in extreme conditions.

1. Lubrication point: two points - one on engine fan bearing and the other on the air compressor and air-conditioning drive shaft bearing.
2. Lubrication point: three points. One on each idler pulley of the straw chopper belt and one point on the idler arm.
3. Lubrication point: one point on the straw chopper drive pulley bearing.
4. Lubrication point: two points on rear-wheel drive linkages.
5. Lubrication point: one point on rear axle linkage.
6. Check condition and inflation of tires. See table under "Tire Inflation Pressure" in the "Wheels, Axles and Counterweights" section.

Carry out the first retightening of all front wheel bolts with a torque of 55 kgf.m (550 Nm; 400 lb-ft). **Thereafter, repeat this procedure every 200 hours.**

7. Check shift lock solenoid operating function (CWS/WTS).
8. Carry out the first retightening of final drive retaining screws to 35 kgf.m (350 N.m; 252 lb-ft). **Thereafter, repeat this procedure every 50 hours.**

NOTE: Check the recommended torque under "Metric Bolt Tightening Values".

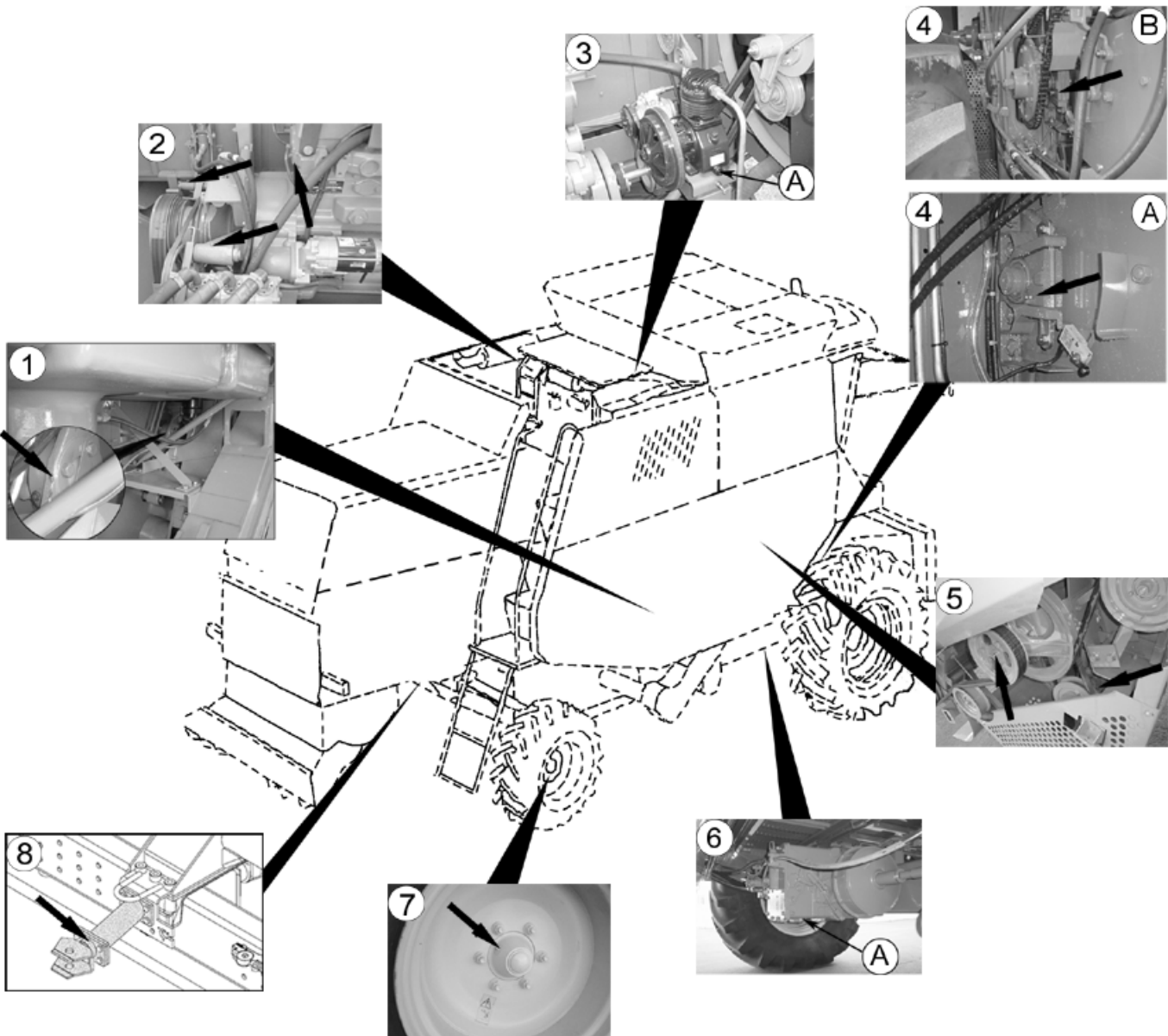
9. Check cleanliness and service of all of the machine's lights.

NOTE: After roughly cleaning the lamp lenses, wipe with a cloth moistened in household alcohol for better lamp performance.

OU83340,00003EA -19-12SEP03-2/2

Service points—Every 50 hours

50



Continued on next page

OU83340,00003EB -19-15SEP03-1/2

IMPORTANT: Service times are for average conditions. Service more often if combine is used in extreme conditions.

1. Lubrication point: one point on drive arm of the right-hand cleaning shoe.
2. Lubrication point: three points on the bearings of the drive belt idlers located next to the engine power takeoff.
3. Change the air compressor oil for the first time, bleeding off the spent oil through the drain plug (A).

NOTE: Thereafter, change the oil every 200 hours.

4. Lubrication point: one point on the feeder house drive pulley bearing.

NOTE: The 300 (A) and 600 (B) series feeder house bearings are identical. However, on the 600 series the plastic shield must be removed in order to access the bearing.

5. Lubrication point: two points - one on the drive pulley of the tailings elevator, fan and straw walker and the other one on the fan bearing.
6. Carry out the first oil change of the transmission box, removing the spent oil by means of the drain plug (A).

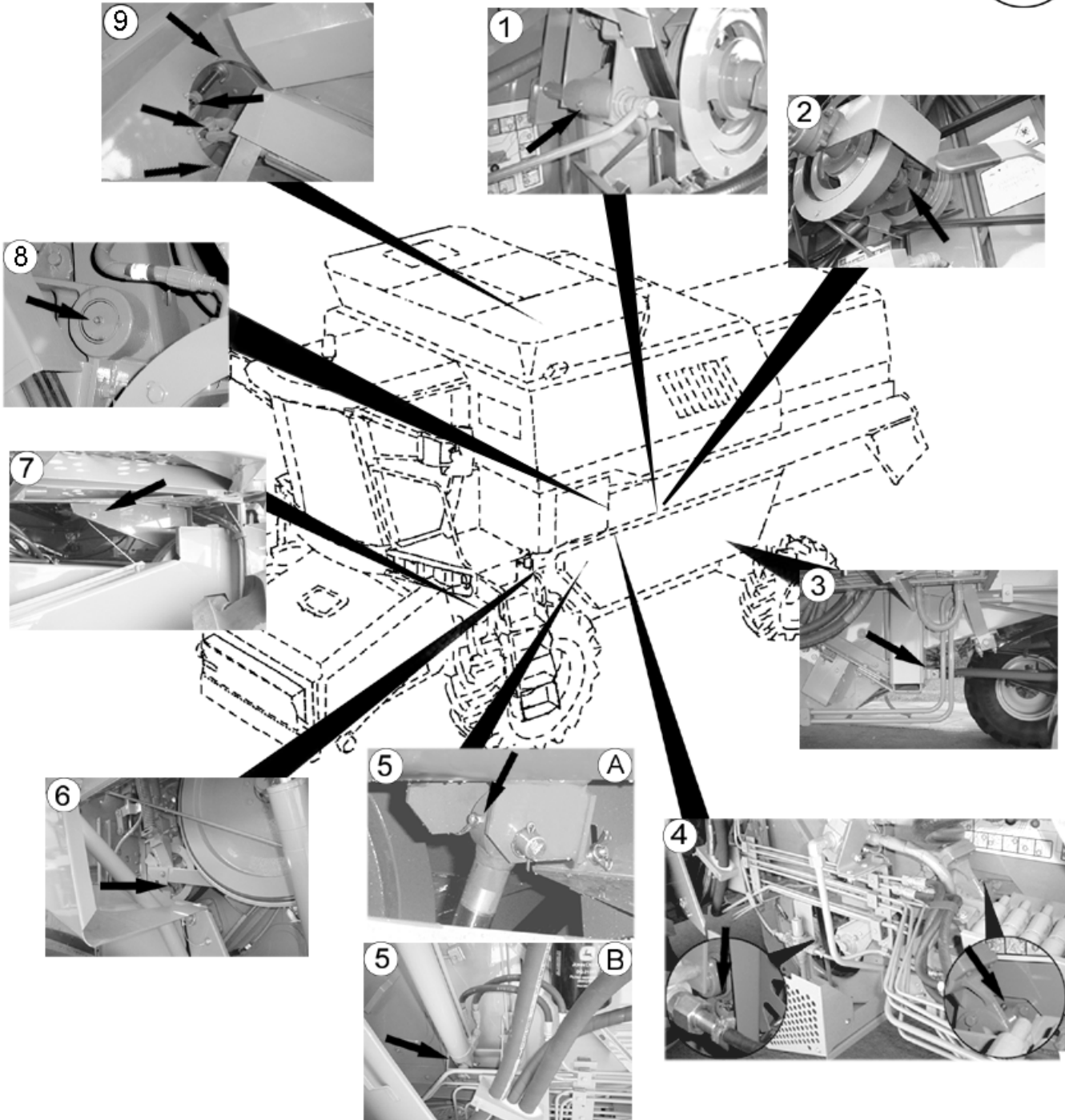
IMPORTANT: Thereafter, change the transmission oil every 500 hours.

7. Lubrication point: one point on each wheel hub.
8. Lubrication point: one point on the hitch.

OU83340,00003EB -19-15SEP03-2/2

Service points—Every 50 hours

50



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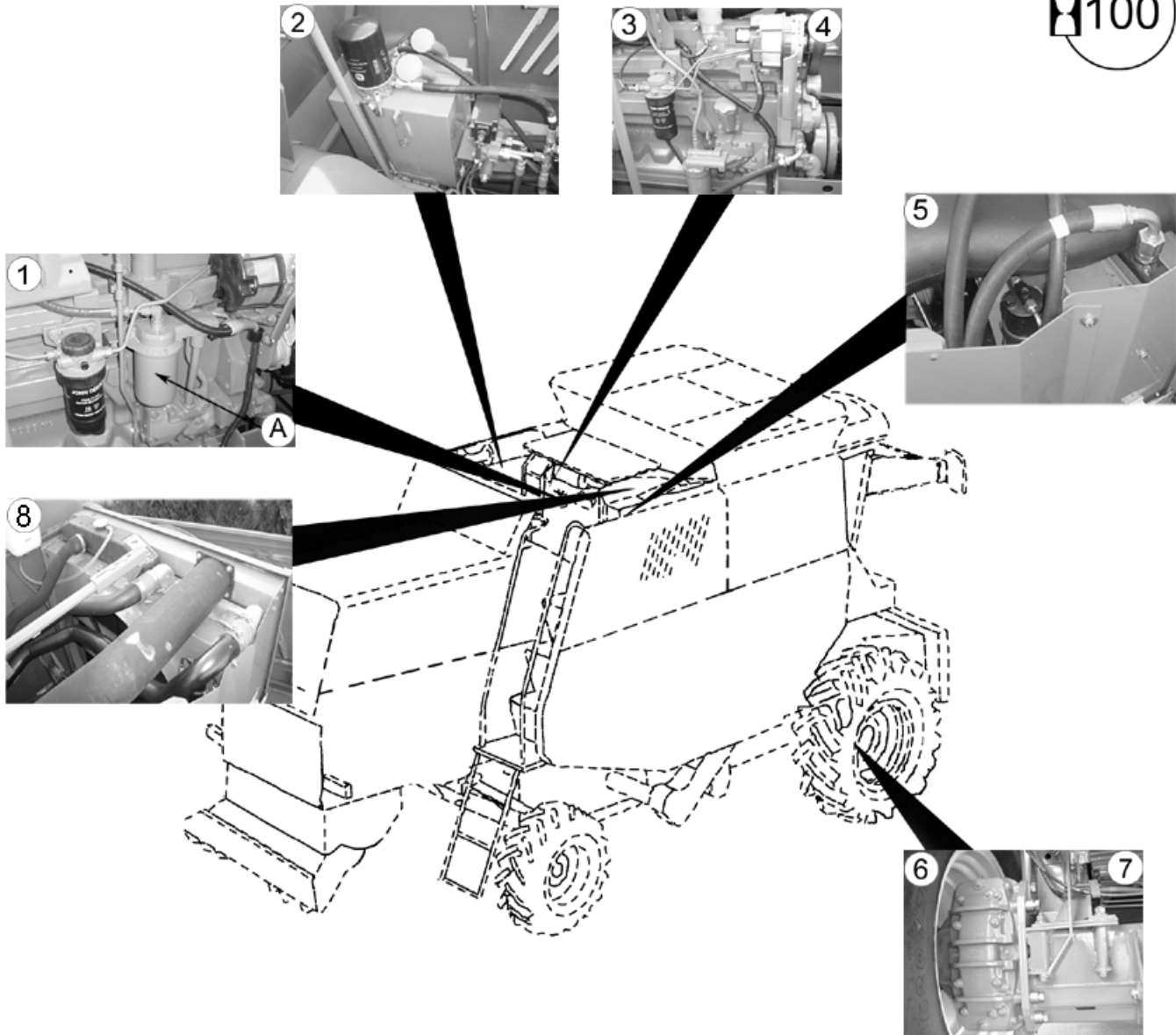
OU83340,00003EC -19-15SEP03-1/2

IMPORTANT: Service times are for average conditions. Service more often if combine is used in extreme conditions.

1. Lubrication point: one point on the linkage of the transmission drive sheave of the straw chopper.
2. Lubrication point: two points. One point on each bearing of the transmission drive sheave of the straw chopper.
3. Lubrication point: one point on rear axle linkage.
4. Lubrication point: two points - one point on the fan bearings and the other on the drive arm of the left-hand side cleaning shoe.
5. Lubrication point: two points. One on the upper part (A) and one on the lower part (B), on the bearings of the swing cylinder of the unloading auger.
6. Lubrication point: one on the header drive pulley.
7. Lubrication point: one on the feeder house drive pulley.
8. Lubrication point: one on the bearings of the drive belt idler of the hydrostatic pump.
9. Lubrication point: four points on the unloading auger. Two points on the shaft and two on the auger linkage. To access these points the grain tank must be empty, and the end of the shield raised.

OU83340,00003EC -19-15SEP03-2/2

Service points—Every 100 hours



Continued on next page

OU83340,00003F4 -19-18SEP03-1/2

CQ219760 -UN-07OCT03

IMPORTANT: Service times are for average conditions. Service more often if combine is used in extreme conditions.

1. Change filter (A) and the engine oil for the first time. Before changing the oil set the engine running for around 5 minutes in order to heat up the oil.
Further oil and filter changes must be carried out every 500 hours.

IMPORTANT: Ensure that your hands and the engine are perfectly clean when installing replacement filter elements or changing the oil.

NOTE: Engine oil is bled off via the drain plug (B - see description in "100 hour service points-front left-hand side"). On the 1550 combine the engine oil is drained off via the drain plug (C - see description in "100 hour service points-front left-hand side").

2. Replace hydraulic system oil filter.

3. Fuel system: inspect the entire system after the first 100 hours.

4. Check connections on fuel injection lines

5. Replace drier filter if the system becomes contaminated with air or every 100 hours.

6. Change the oil of final drives for the first time.
Further oil changes must be carried out every 1000 hours.

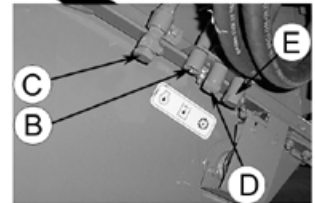
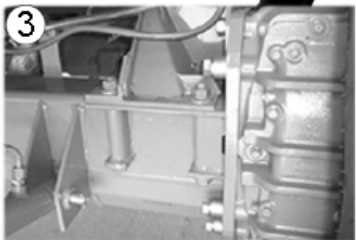
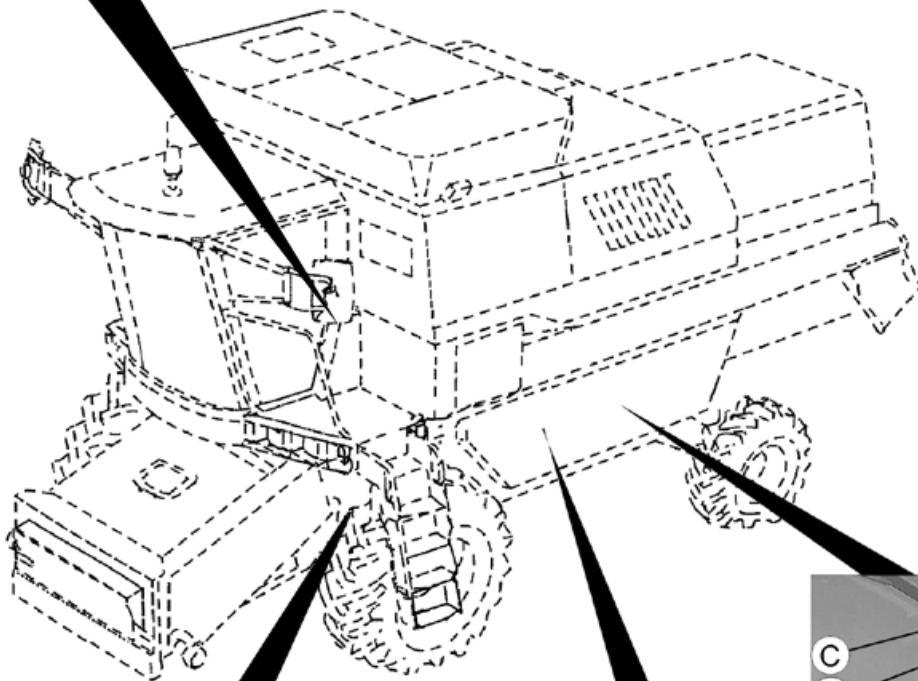
NOTE: Clean vent plug of the final drive.

7. Check play of final drive flanged axle bearings only on steel tracked rice combines. Adjust, if necessary. Further checks must be carried out every 500 hours.

8. Check the tightness of hose clamps and connections.

Service points—Every 100 hours

100



Continued on next page

OU83340,00003F5 -19-18SEP03-1/2

IMPORTANT: Service times are for average conditions. Service more often if combine is used in extreme conditions.

1. Clean cab air filters with hand brush furnished with the machine.



CAUTION: When cleaning or changing air filter, shut off engine and remove starter key.

IMPORTANT: Clean these elements whenever air flow is noticeably reduced. The recirculating filter may not require as frequent cleaning as the fresh air (main) filter.

2. Replace hydrostatic system filter.

Change the oil of the hydrostatic system (only if John Deere **Hy-Gard**® is not used) by means of drain plug (E).

3. Check and, if necessary, retighten front axle retaining bolts. Thereafter, repeat this procedure every 500 hours.

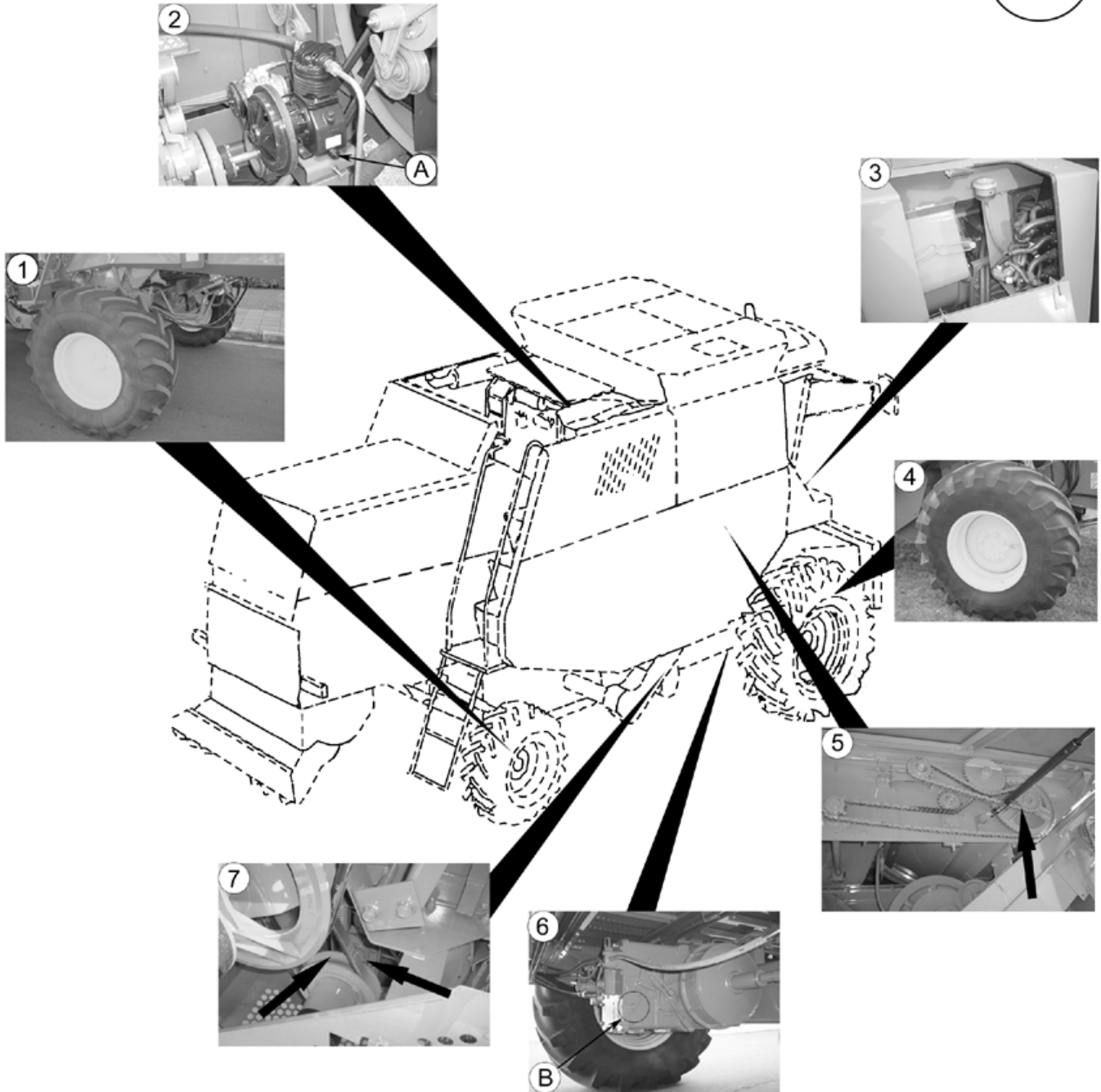
NOTE: Check the recommended torque under "Metric Bolt Tightening Values".

HY-GARD is a trademark of the Deere & Company

OU83340,00003F5 -19-18SEP03-2/2

Service points—Every 200 hours

200



Continued on next page

OU83340,00003F6 -19-18SEP03-1/2

CQ219780 -UN-26AUG04

IMPORTANT: Service times are for average conditions. Service more often if combine is used in extreme conditions.

1. Retighten rear wheel nuts to 18 kgf.m (180 N•m; 130 lb-ft).

NOTE: Four wheel drive: retighten wheel nuts to 20 kgf.m (200 N•m; 145 lb-ft).

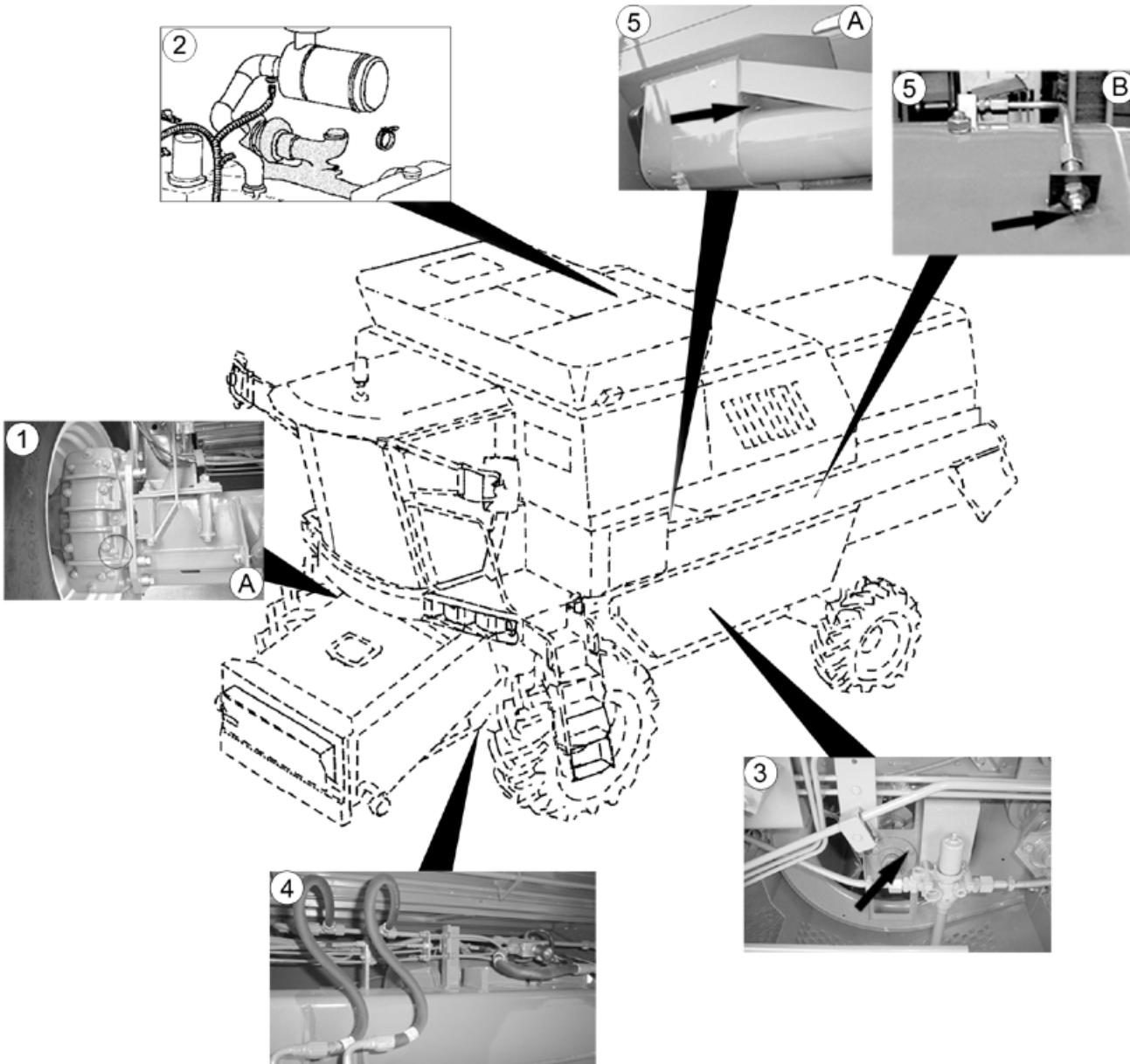
2. Change the air compressor oil by bleeding off the spent oil through the drain plug (A).
3. Check the level of brake fluid. Pull back cover to gain access.

4. Retighten front wheel nuts to 55 kgf.m (550 N•m; 400 lb-ft).
5. Lubrication point: one point on the unloading auger drive gear.
6. Check the oil level in the transmission box through oil level check plug (B).
7. Lubrication point: two points. One point on the pulley and the other on the bearing of the separator fan.

OU83340,00003F6 -19-18SEP03-2/2

Service points—Every 200 hours

200



Continued on next page

OU83340,00003F7 -19-19SEP03-1/2

IMPORTANT: Service times are for average conditions. Service more often if combine is used in extreme conditions.

1. Check the oil level of the final drives through oil level check plug (A).
2. Check clamps and hoses of the turbocharger feeder system.
3. Lubrication point: one point on the separator fan bearing.

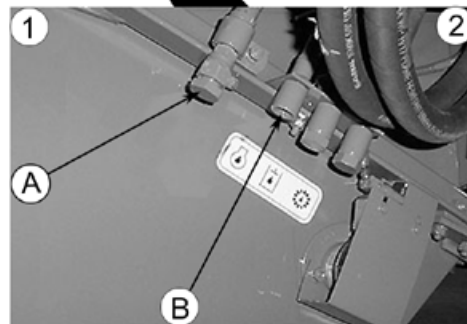
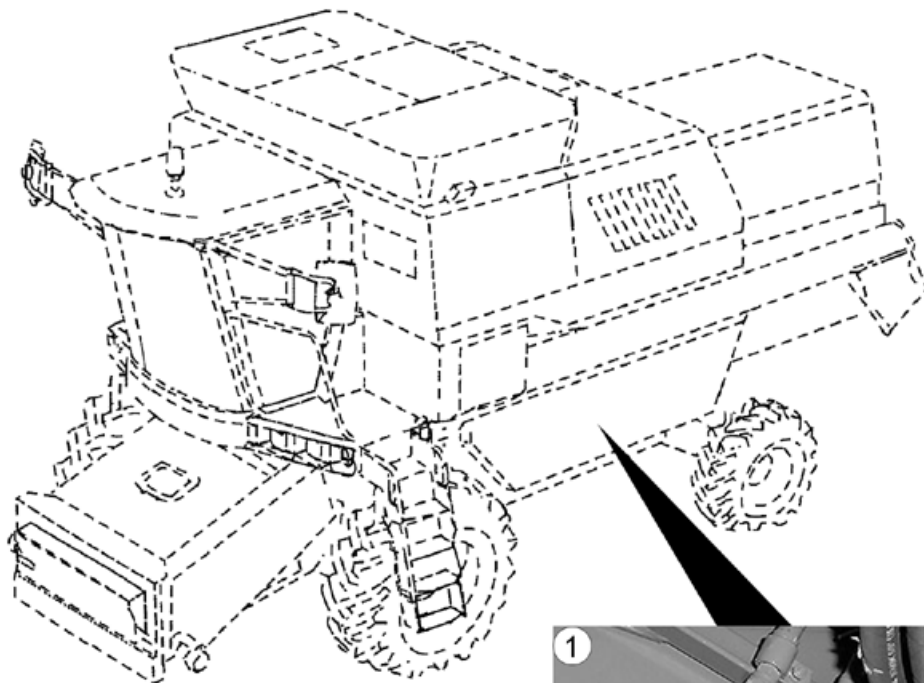
4. Check the parking brake cable and readjust, if necessary.

5. Lubrication point: one point on the external side of the unloading auger (A).

NOTE: On the extra long unloading auger there is also a bearing (B) in the middle of the shaft that also requires lubrication.

OU83340,00003F7 -19-19SEP03-2/2

Service points—Every 250 hours



Continued on next page

OU83340,00003F8 -19-19SEP03-1/2

CO219800 -UN-22SEP03

IMPORTANT: Service times are for average conditions. Service more often if combine is used in extreme conditions.

1. **1450/1550:** bleed off the engine oil and replace with new oil. Replace the engine oil filter. (Engines not using John Deere PLUS-50 or oil meeting ACEA E5 specifications).

This interval can be extended to **375 hours** for engines using John Deere PLUS-50 or oil meeting ACEA E5 specifications.

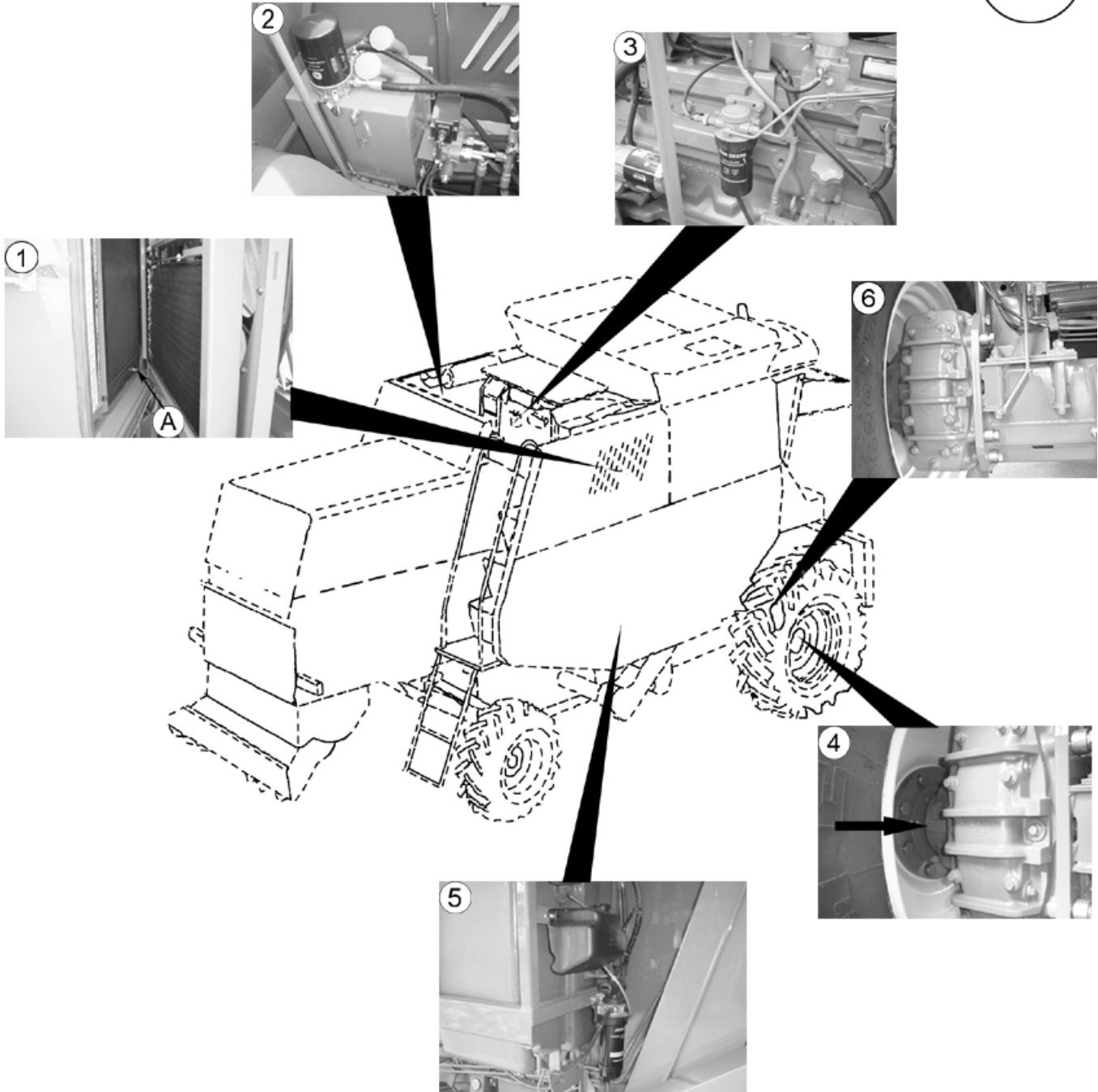
NOTE: 1550 Combine: equipped with oil drain plug (A). Drain plug (B) has no function on this model.

2. **CWS/WTS:** bleed off the engine oil and replace with new oil. Replace the engine oil filter. (Engines not using John Deere PLUS-50 or oil meeting ACEA E5 specifications).

This interval can be extended to **500 hours** for engines using John Deere PLUS-50 or oil meeting ACEA E5 specifications.

OU83340,00003F8 -19-19SEP03-2/2

Service points—Every 500 hours



Continued on next page

OU83340,00003F9 -19-19SEP03-1/2

IMPORTANT: Service times are for average conditions. Service more often if combine is used in extreme conditions.

1. Bleed liquid by drain tap (A) and clean the inside and outside of radiator.

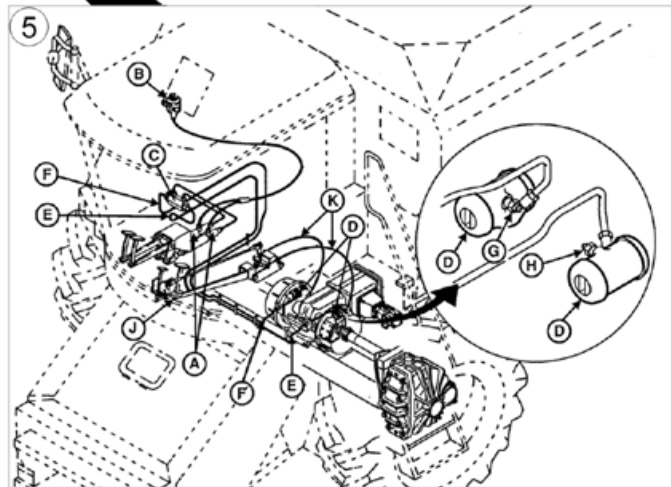
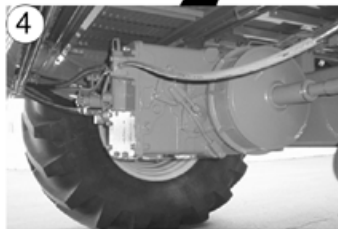
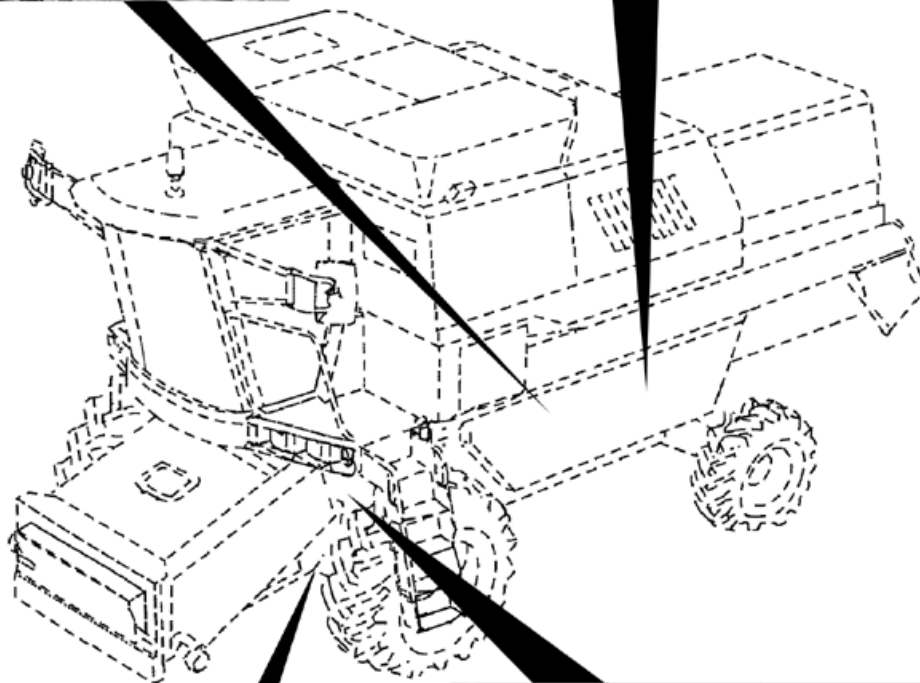
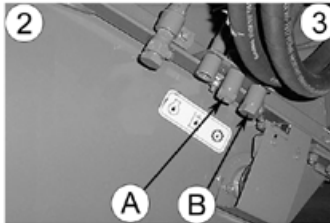
IMPORTANT: Always add additive to the radiator water, according to the specified proportion, after each replacement of radiator liquid.

2. Replace hydraulic system filter.
3. Replace final fuel filter.
4. Lubrication point: one point on all wheel hubs.
5. Replace filter element of fuel system water trap.
6. Check play of final drive flanged axle bearings on all combines. Adjust, if necessary. Further checks must be carried out every 500 hours.

OU83340,00003F9 -19-19SEP03-2/2

Service points—Every 500 hours

500



CO219820 -UN-08OCT03

Continued on next page

OU83340.00003FA -19-19SEP03-1/2

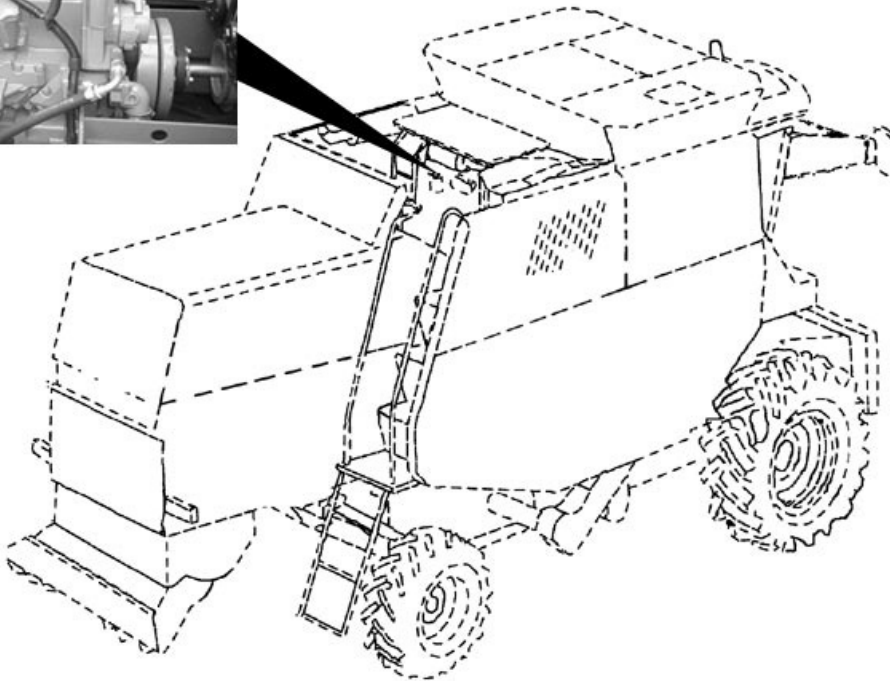
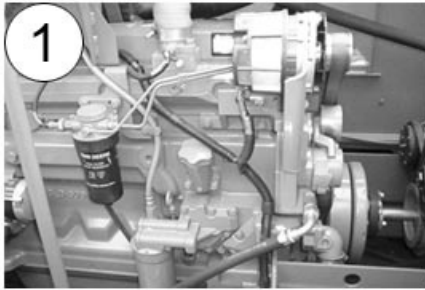
IMPORTANT: Service times are for average conditions. Service more often if combine is used in extreme conditions.

1. Replace hydrostatic system filter (if John Deere **Hy-Gard**® oil is being used). **Thereafter, repeat procedure every 1500 hours**
2. Change the oil of the hydraulic system (only if John Deere **Hy-Gard**® is not used) by means of drain plug (A).
3. Change the oil of the hydrostatic drive system (only if John Deere **Hy-Gard**® is not used) by means of drain plug (B).
4. Change transmission oil.
5. Check the condition of the brake system.

HY-GARD is a trademark of the Deere & Company

OU83340,00003FA -19-19SEP03-2/2

Service points—Every 750 hours



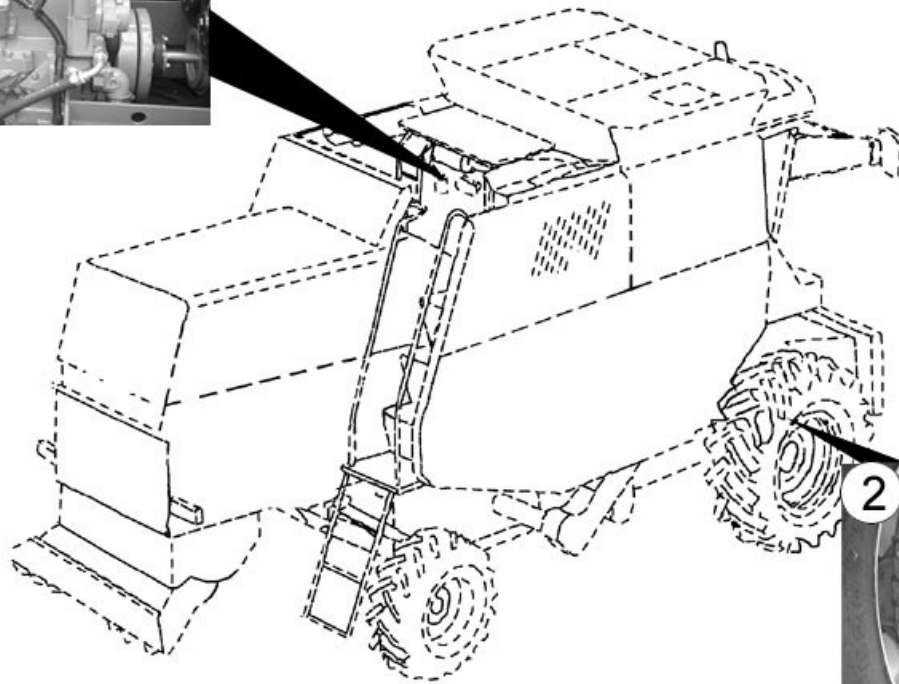
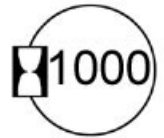
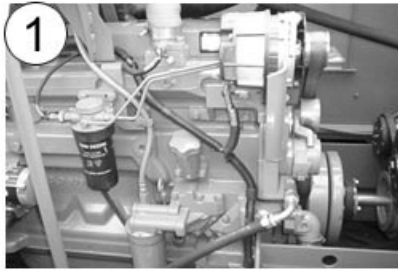
IMPORTANT: Service times are for average conditions. Service more often if combine is used in extreme conditions.

1. 1550 - First adjustment of engine valve tappets.

CQ219830 -UN-22SEP03

OU83340,00003FB -19-19SEP03-1/1

Service points—Every 1000 hours



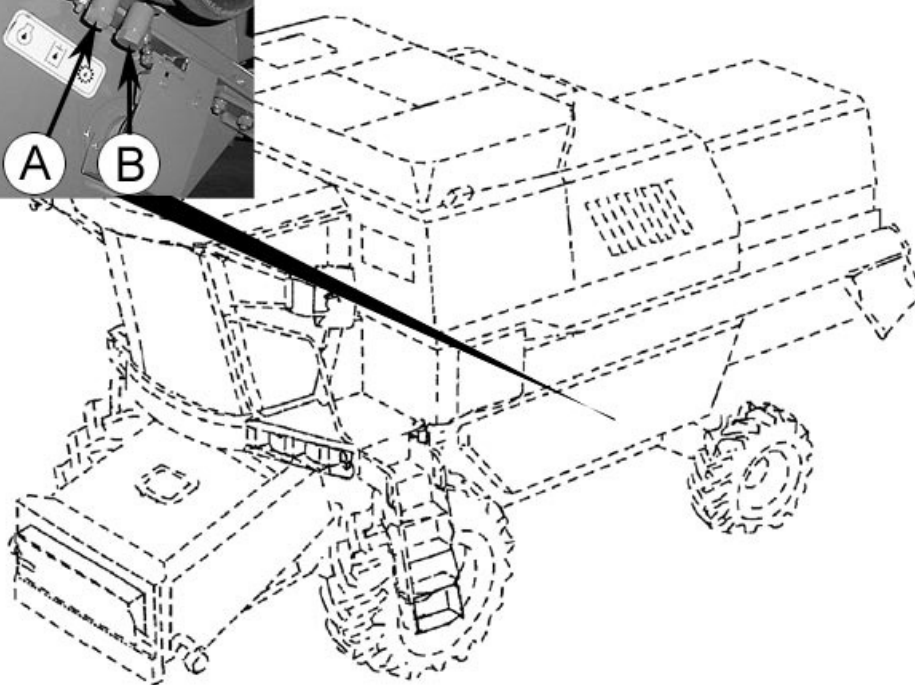
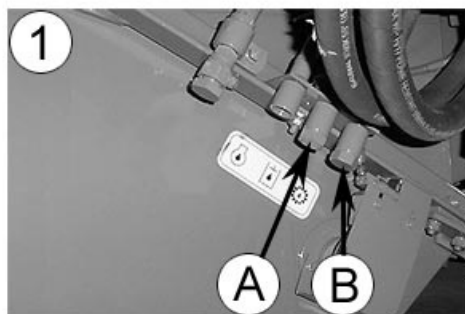
CO219840 -UN-22SEP03

IMPORTANT: Service times are for average conditions. Service more often if combine is used in extreme conditions.

1. **1450 and 1450 CWS/WTS:** - First adjustment of engine valve tappets.
2. **All models:** Change oil of final drives.

OU83340,00003FC -19-19SEP03-1/1

Service points—Every 1500 hours



IMPORTANT: Service times are for average conditions. Service more often if combine is used in extreme conditions.

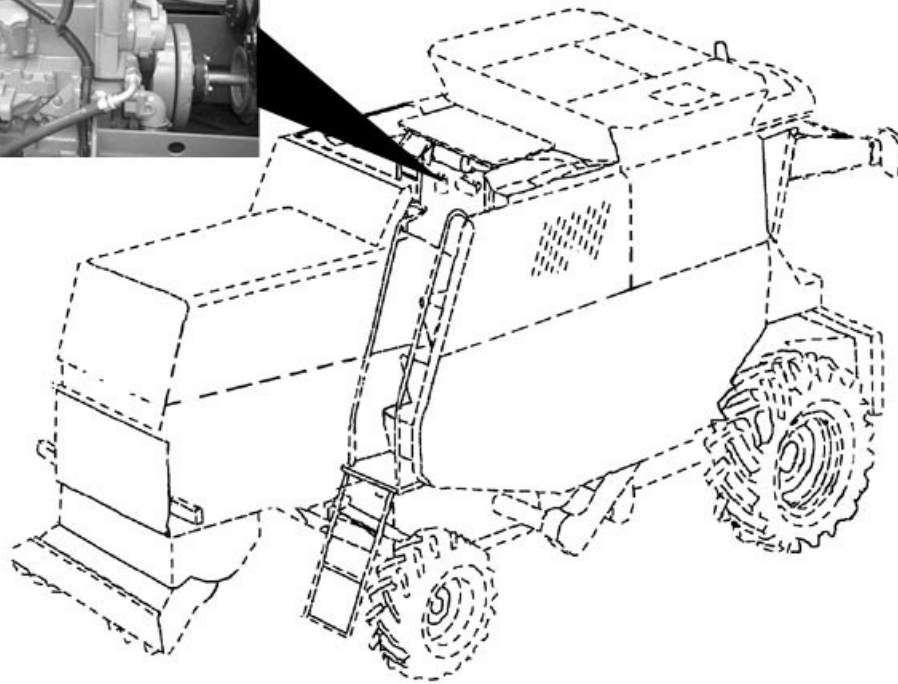
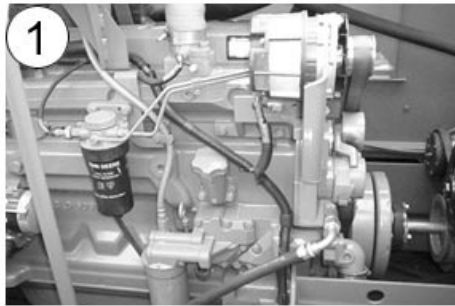
1. Change the oil of the hydraulic system by means of drain plug (A) and of the hydrostatic system by means of drain plug (B) (if John Deere **Hy-Gard**® is being used).

CQ219850 -UN-22SEP03

HY-GARD is a trademark of the Deere & Company

OU83340,00003FD -19-19SEP03-1/1

Service points—Every 2000 hours



IMPORTANT: Service times are for average conditions. Service more often if combine is used in extreme conditions.

1. Check adjustment of engine valve tappets.

CQ219860 -UN-22SEP03

OU83340,00003FE -19-19SEP03-1/1

After Each Harvesting Season

Combine

- ☐ Store the combine in a dry, sheltered area.
- ☐ Carefully wash the interior and exterior of the combine. Powder and chaff fragments attract moisture and cause rust. To facilitate cleaning, run the combine for a few minutes with all inspection openings and doors open and the fan at maximum speed.
- ☐ Clean with water, compressed air or industrial-strength vacuum cleaner.
- ☐ Clean the augers and elevators and leave the elevator inspection doors open.
- ☐ Thoroughly clean grain tank and unloading auger.
- ☐ Clean the bottom of the feeder house and coat it with grease or oil to prevent rust.
- ☐ Lubricate the combine according to the instructions in this section.
- ☐ Lubricate all linkages and bearings that do not have zerks. Grease threads of adjusting bolts.
- ☐ Loosen all belts to avoid stress points.
- ☐ Clean and lubricate chains with oil or grease to prevent rust.
- ☐ Clean the screens and grain pan with a good steel brush.
- ☐ Lubricate the fin linkages with an oil can.
- ☐ Disengage the header and place it on wooden blocks.
- ☐ Fully retract all hydraulic cylinders.
- ☐ Inflate the tires and place the combine on jackstands to remove the weight from the tires.
- ☐ Retouch any painted surfaces needing attention.

- ☐ Make a note of all repair and service work needed before the start of the next season.
- ☐ To ensure work is done quickly and safely during the off season book an appointment with your John Deere dealer for long before season start.

Engine



CAUTION: Do not use petroleum spirits to clean the engine.

- ☐ Clean the outside of the engine with a good solvent.
- ☐ Clean the outside of the radiator with a brush or a jet of water or compressed air.
- ☐ Change the engine oil and filter.
- ☐ Bleed the oil when the engine is hot.
- ☐ Run the engine for a few minutes.
- ☐ Drain the fuel tank and rinse it with clean fuel.
- ☐ Then fill it completely.
- ☐ Check the fuel filters and clean or replace them as needed.
- ☐ Clean the engine air intake and replace the primary air cleaner and safety elements.
- ☐ Check the battery electrolyte level and, if necessary, top up with distilled water (non-sealed batteries).
- ☐ Coat the cable terminals with petroleum jelly or grease.
- ☐ Periodically run the engine at half throttle for about 30 minutes.

AG,GG05155,215 -19-20AUG04-1/1

Belts



CAUTION: Never install belts with the engine running.

When installing a belt, loosen the idler pulleys. Never force the belt over the outside lip of the pulley as this could cause one or more strands to break and weaken the belt.

New belts stretch. For this reason check the tension of new belts several times during the initial days of use. Belts can be damaged by being fitted too loose as well as too tight.

Never use a harsh product to clean belts. Never use turpentine or similar solvents. Clean belts with a rag

soaked in a solution of liquid ammonia or soap and water.

The service life of a belt also depends on pulley condition. A damaged pulley can also damage the belt.

Slight fraying of the outer belt layer does not mean a damaged belt. These frayed areas can be cut off.

IMPORTANT: After the end of harvesting, remove the belts and store them in a cool, dry area.

AG,GG05155,216 -19-16FEB99-1/1

Chains



CAUTION: Do not work on chains when the engine is running.

A chain drive will work longer without problems if correctly installed and serviced. The following information is important for keeping the machine in good condition and reducing repair costs.

Check the chains frequently, primarily during the initial hours of operation. Adjust the idlers so that they maintain proper chain tension. The total deflection range of a chain should be approximately 2% of the distance between the shafts of the drive sprocket and idler sprocket.

For example:

If the distance between the shafts of the drive sprocket and idler sprocket is 250 mm (9.84 in.), the chain should not hang by more than 5 mm (0.20 in.). This distance is measured in the center of the chain span

on the side opposite the idler sprocket. Make sure that there is no chain deflection on the idler sprocket side before measuring the chain deflection on the opposite side.

A chain with excessive deflection will result in rapid and excessive wear of the chain rollers, sprocket teeth and chain-driven components.

A chain that is too tight can damage the bearings and shafts. It can also cause the chain itself to wear faster.

Proper chain lubrication is important. Lubrication primarily reduces friction, aids cooling and lessens the effect of minor impacts. The lubricant should penetrate between the plates in order to reach the remaining components (pins, caps and rollers).

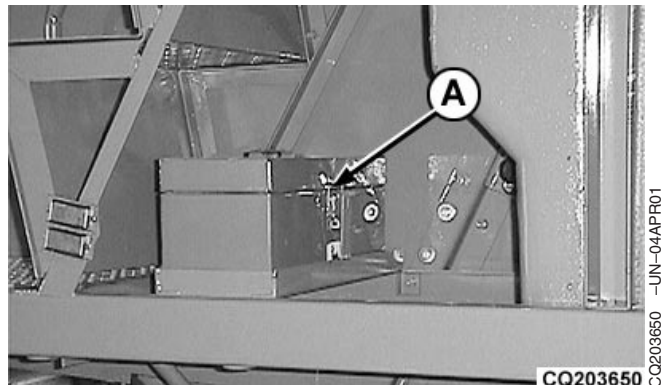
A graphite lubricant, such as Mobil chain oil (produced by Mobiloil) or similar, or medium-viscosity pure mineral oil is recommended.

AG,GG05155,217 -19-15NOV02-1/1

Service—Engine

Tool Box

To perform basic maintenance services and some adjustments, a tool box (A), located in the compartment under the rear right service platform access ladder, is supplied with the combine.

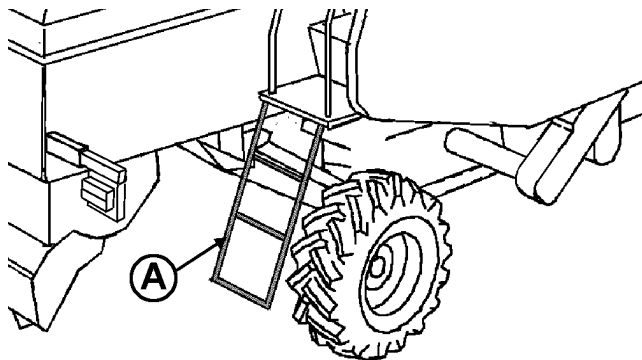


CO03622,0000068 -19-14MAR02-1/1

Access to Engine

Via rear service platform

Access to the engine is via the rear right service platform. Use ladder (A).



CQ192510

AG,CO03622,2074 -19-14MAR02-1/2

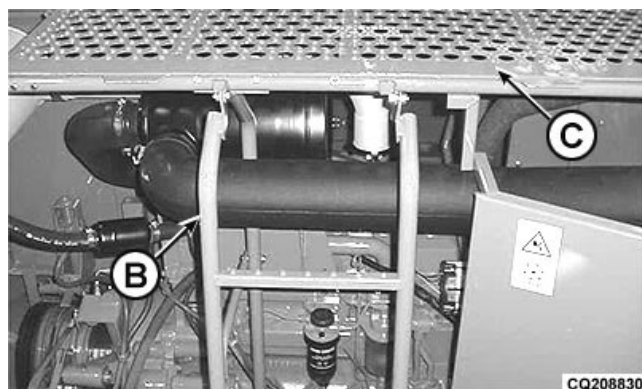
Via Grain Tank

The engine can be accessed by means of ladder (B). Go to deck (C) and then enter inside the grain tank.

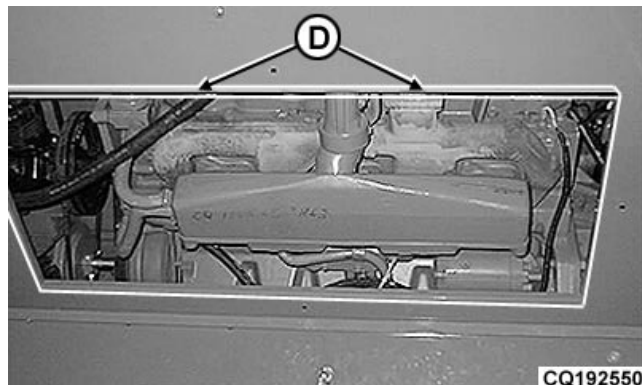
Open service hatch (D) to gain access to the injection pump and the engine.



CAUTION: If it is really necessary to go inside the grain tank, shut off engine and remove starter key.



CQ208830



CQ192550

AG,CO03622,2074 -19-14MAR02-2/2

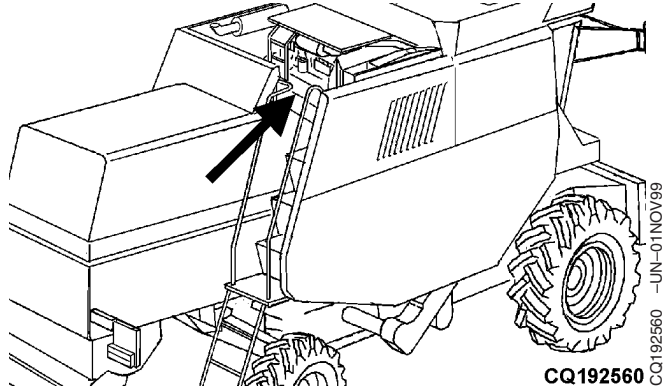
Engine Compartment



CAUTION: A combination of dirt, oil and chaff in the engine compartment represents a fire hazard.

Keep engine and engine compartment clean at all times.

If necessary, clean engine compartment by blowing out dirt with compressed air. Wipe clean any soil deposits.



AG,CO03622,2075 -19-14MAR02-1/1

Adjusting Engine Valve Tappets

IMPORTANT: Have valve tappet clearances checked by your John Deere dealer. Any necessary adjustments must be carried out by the John Deere dealer.

6.8 L engine — 1450 and CWS/WTS combines

Adjust engine valve tappets after the first 1000 hours of operation and every 2000 hours thereafter.

8.1 L engine — 1550 combines

Adjust engine valve tappets after the first 750 hours of operation and every 2000 hours thereafter.



AG,CO03622,2077 -19-20AUG04-1/1

Checking Engine Crankcase Oil Level

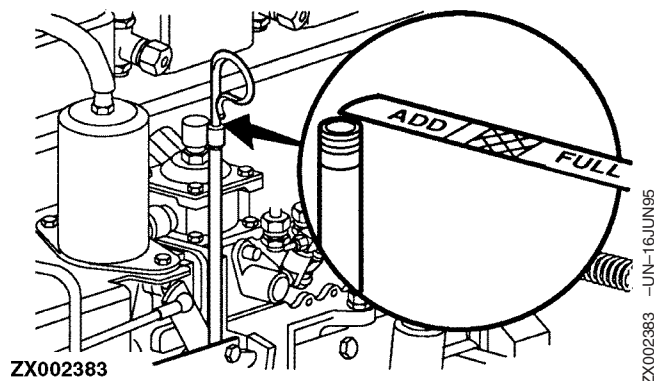
To prevent interruption of circulation of lubrication oil when the combine is in an inclined position, never allow oil to drop below minimum oil level.

IMPORTANT: It is vital to maintain the engine oil at the correct level to ensure a long service life for the engine. Check the engine oil level when engine is cool and the combine is parked on a flat surface.

Before removing dipstick, clean surrounding area thoroughly.

Check engine oil level every 10 hours.

The oil level should be between the upper and lower marks on the dipstick.



AG.CO03622,2078 -19-20AUG04-1/1

Changing Oil and Filter

IMPORTANT: Ensure that your hands and the engine are perfectly clean when installing replacement filter elements or changing the oil.

Run the engine for approx. 5 minutes to heat up oil.

Then shut engine off.

Bleed oil while it is still warm.

Open oil drain plug (A) or (B) and bleed off oil from crankcase.

Remove engine oil filter (see arrow).

Throw away sealing ring and clean mounting surface where sealing ring is fitted. Smear the new sealing ring with a thin layer of oil and mount it with the new filter. As soon as the sealing ring comes into contact with the end of the filter housing tighten it by hand, applying just 1/2 to 3/4 of a turn more. **DO NOT** overtighten filter.

Close oil drain plug (A) or (B) again.

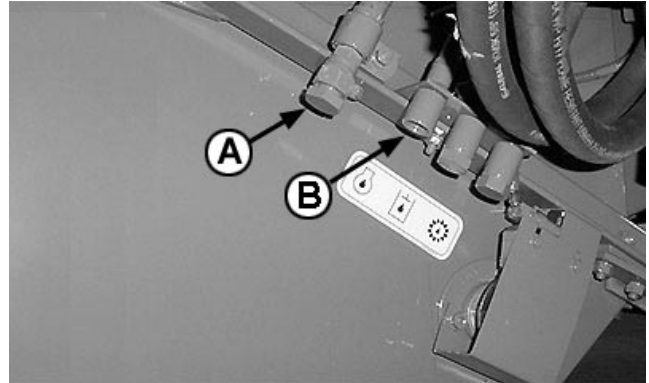
Fill engine with oil complying with the specified viscosity and quality. (See "Engine—Crankcase Capacity [Including Filter Change]").

NOTE: The actual capacity may vary slightly from the figure stated above. Do not overfill.

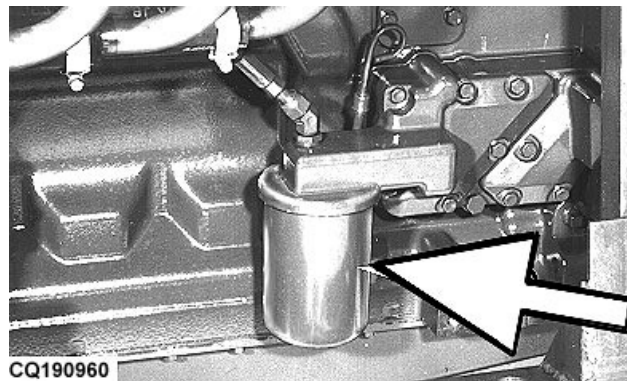
IMPORTANT: Directly after completing an oil change and/or filter change, crank the engine for 30 seconds. This ensures that all the engine components are thoroughly lubricated when the engine is started.

Start the engine and check for leaks.

Shut off engine and wait 10 minutes before checking the oil level. The oil should be between the maximum and minimum marks on the dipstick.

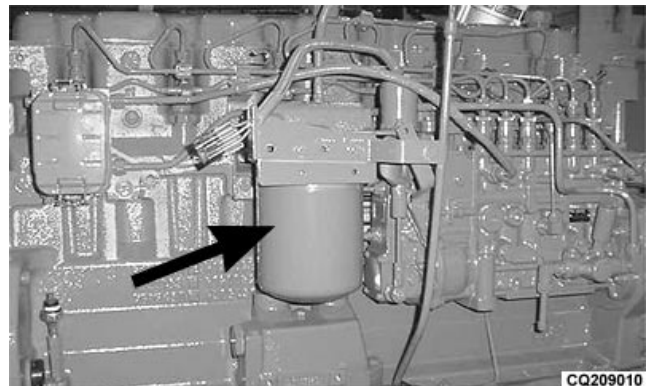


CQ216310 -UN-10OCT02



CQ190960 -UN-09SEP99

Filter — 6.8 L engine



CQ209010 -UN-28SEP01

Filter — 8.1 L engine

A—Bleeding oil - 1550

B—Bleeding oil - 1450 and CWS/WTS

Air Compressor Oil Change

Open the filler neck and oil level (A) and drain plug (B), and bleed off the oil into a suitable recipient.

Mount and tighten drain plug (B).

Fill with recommended oil. See “Fuel, Lubricants, Coolant and Capacities” section.

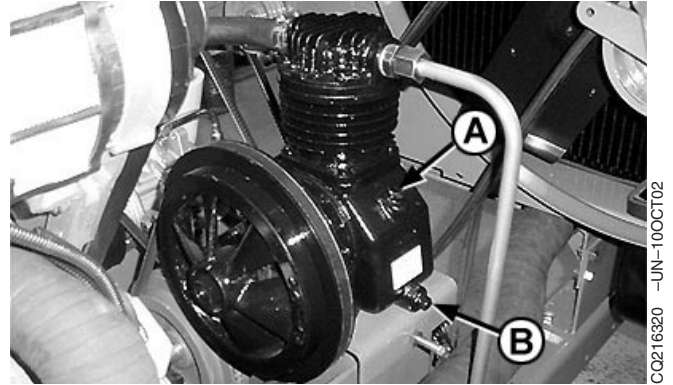
Air compressor crankcase capacity:

0.37 L (370 ml ; 0.097 U.S. gal.)

Check the oil level with dipstick.

The oil level should be between the upper and lower marks on the dipstick.

NOTE: *During the first 50 hours of operation the air compressor has a very high oil consumption, because of this it is very important to check the oil level daily and refill it, if necessary. After the first oil change consumption reduces to a minimum.*



A—Filler neck and oil level
B—Drain plug

AG,CO03622,2190 -19-30SEP03-1/1

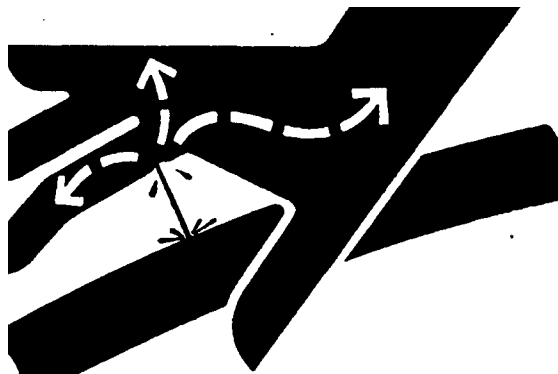
Avoid High-Pressure Fluids

Escaping fluid under pressure can penetrate the skin causing serious injury.

Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure.

Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source. Such information is available from Deere & Company Medical Department in Moline, Illinois, U.S.A.



X9811 -UN-23AUG88

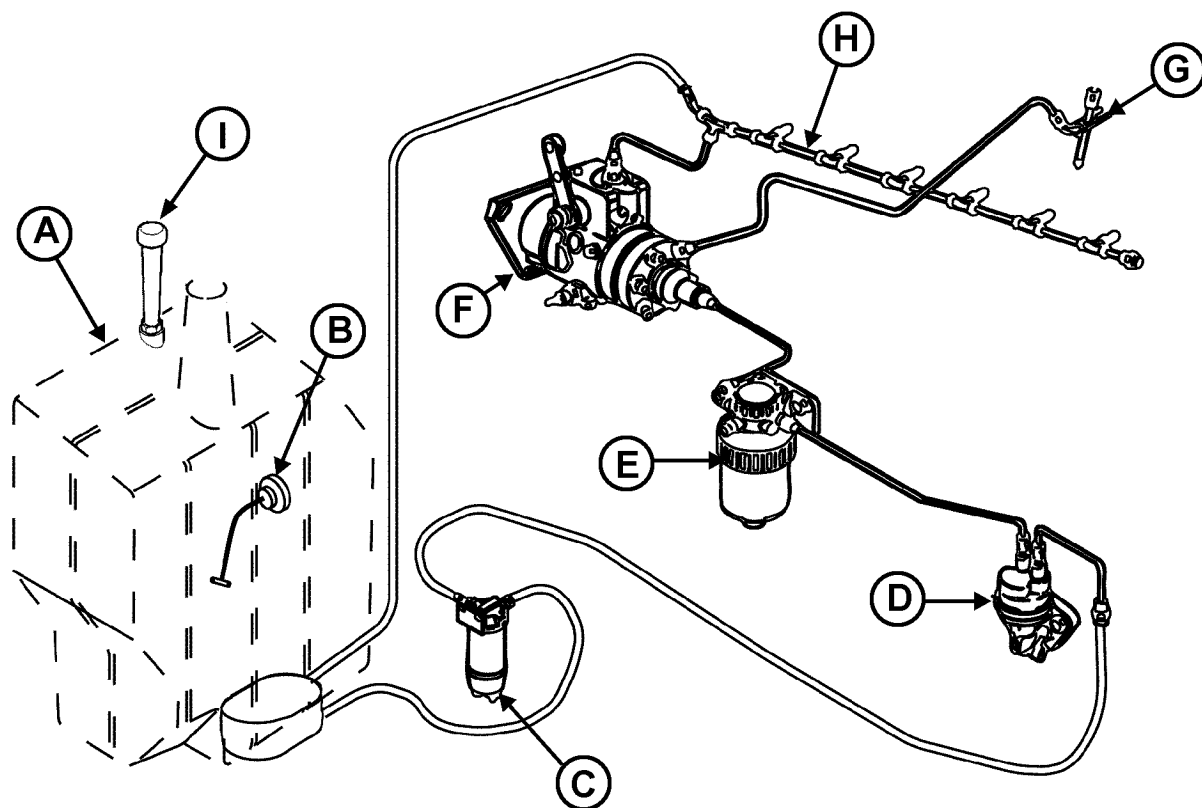
DX,FLUID -19-03MAR93-1/1

Do Not Modify Fuel System

IMPORTANT: Any modification or alteration of the fuel system, injection pump, injection pump timing or fuel injectors in a manner not recommended by the manufacturer will terminate the manufacturer's warranty obligations to the purchaser. See warranty information inside front cover. Do not attempt to service injection pump or fuel injectors yourself. Special training and special tools are required. Consult your John Deere dealer. Never attempt to clean injection pumps while they are hot, as this may damage pump parts.

AG,GG05155,222 -19-15NOV02-1/1

Fuel System in 6.8 L Engines—1450



6.8 L engine—1450

A—Fuel tank
B—Level sensor
C—Water trap

D—Fuel transfer pump
E—Fuel filter

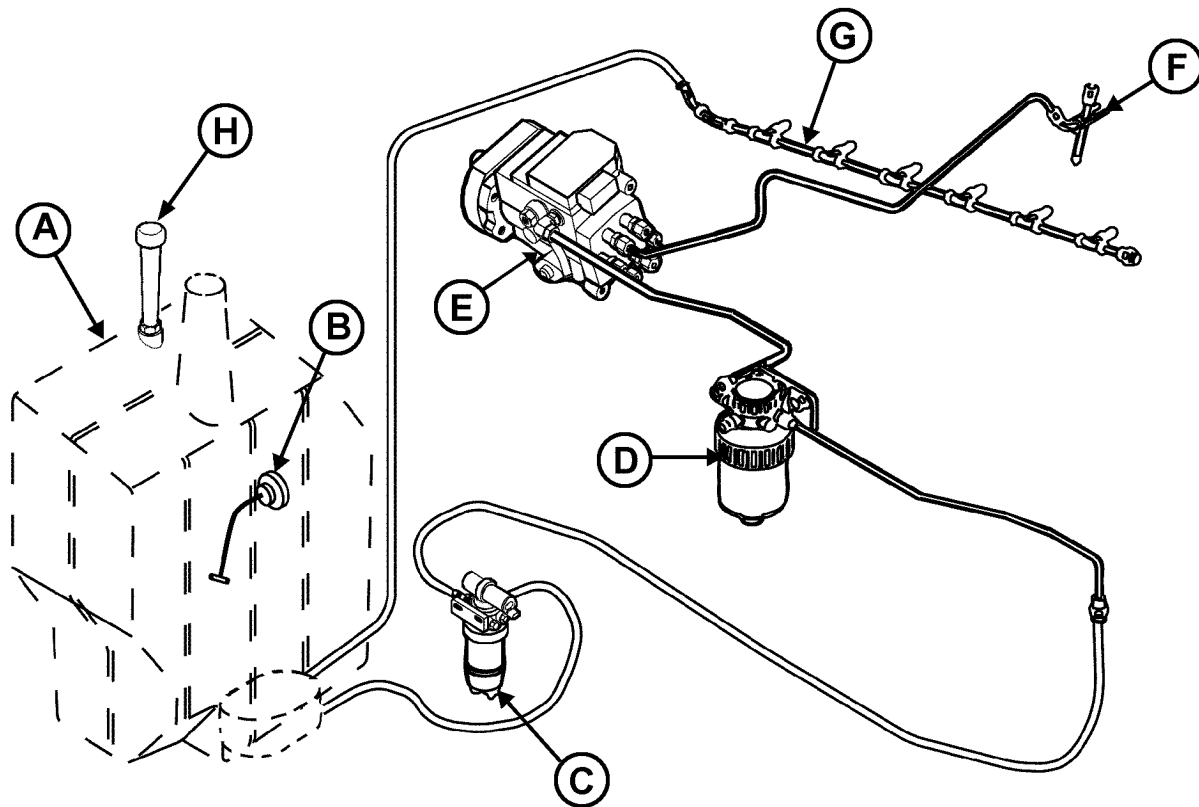
F—Injection pump
G—Injection nozzle

H—Return line
I—Fuel tank breather

AG.CO03622,2080 -19-11AUG04-1/1

CQ194112 -UN-11OCT02

Fuel System in 6.8 L Engines—CWS/WTs



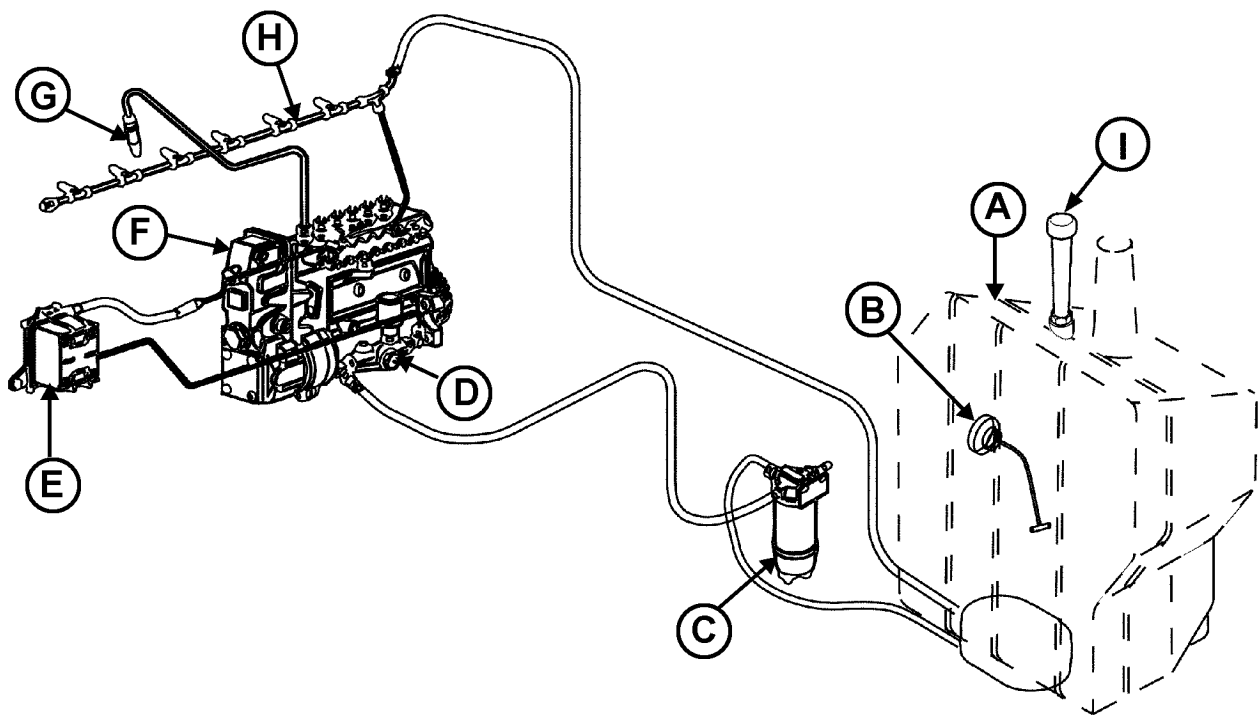
6.8 L engine—CWS/WTs

- | | | | |
|--------------------------------------|------------------|--------------------|----------------------|
| A—Fuel tank | D—Fuel filter | F—Injection nozzle | H—Fuel tank breather |
| B—Level sensor | E—Injection pump | G—Return line | |
| C—Water trap with fuel transfer pump | | | |

CQ203861 -UN-11OCT02

OU83340,00003F5 -19-11AUG04-1/1

Fuel System in 8.1 L Engines—1550



8.1 L engine—1550

A—Fuel tank
B—Level sensor
C—Water trap

D—Fuel transfer pump
E—Fuel filter

F—Injection pump
G—Injection nozzle

H—Return line
I—Fuel tank breather

AG.CO03622,2081 -19-11AUG04-1/1

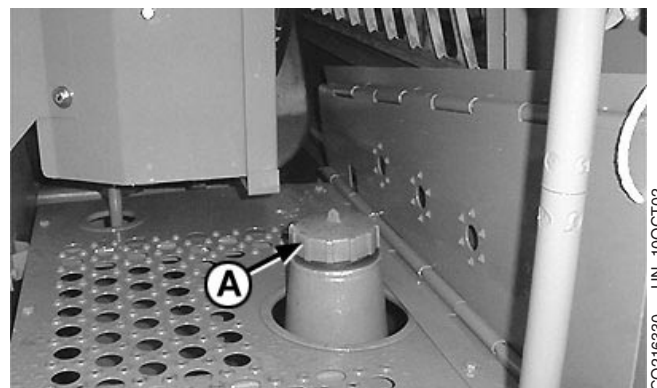
CQ194121 -UN-11OCT02

Fuel Tank Cap

The fuel tank filler neck is closed with a tank cap (A).

The fuel tank cap is sealed. The tank is vented through a special vent.

Clean dust and chaff from the surrounding area before removing tank cap.



AG.CO03622,2082 -19-11OCT02-1/1

CQ216330 -UN-10OCT02

Fuel Tank Water Trap

There is a water trap at the bottom of the fuel tank.

Every day before starting work, drain water and sediment deposits until clean fuel is flowing out of drain plug.



CQ191340 -UN-09SEP99

CQ191340

AG,CO03622,2083 -19-14MAR02-1/1

Cleaning Fuel Filter Water Trap—1450/1550

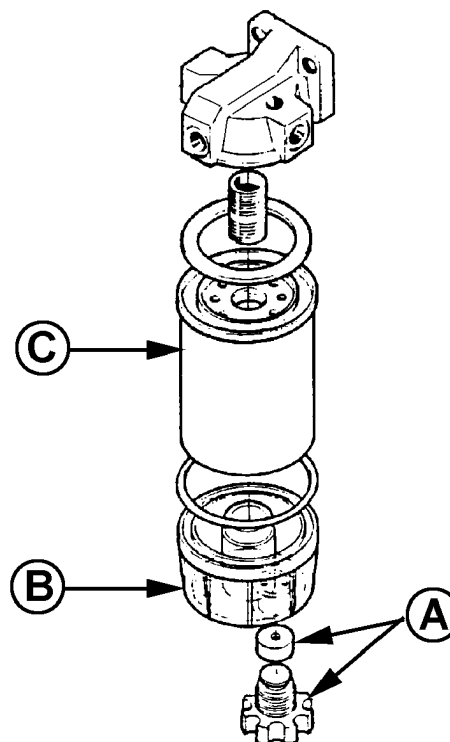
If water and sediment is visible through sight-glass (B), open up drain cock (A) with the engine shut off. Collect the contaminated fuel bleeding out in a suitable container. Then close drain cock (A). To clean the filter follow the procedure outlined below:

Unfasten sight-glass (B).

Remove filter insert (C) and carefully wash it with clean fuel. When the insert has been washed 5 to 10 times, replace the complete water separator for a new one.

Once the filter has been cleaned, re-assemble it, reversing the removal procedure.

- A—Drain cock
- B—Sight-glass
- C—Filter insert



CQ192580

CQ192580 -UN-01NOV99

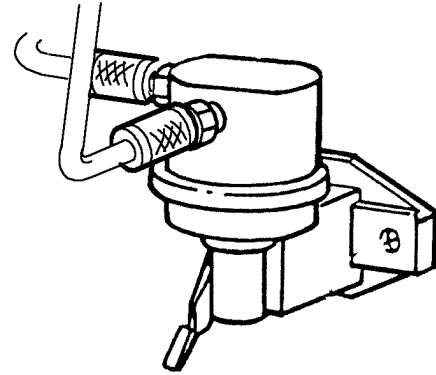
Fuel Filter Water Trap—1450/1550

AG,CO03622,2085 -19-11AUG04-1/1

Mechanical Fuel Transfer Pump in 6.8 L Engines—1450

This pump is maintenance-free.

If a defect occurs, consult your John Deere dealer.



ZX009249

AG.CO03622,2086 -19-11AUG04-1/1

ZX009249 -UN-10JUN96

Cleaning Fuel Filter Water Trap—CWS/WTS

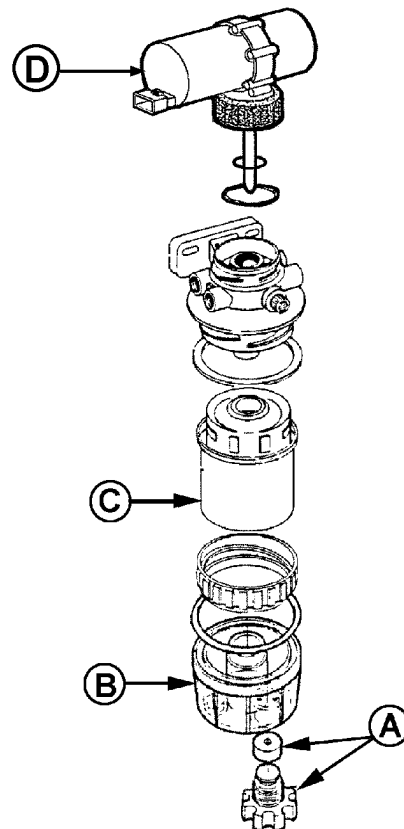
If water and sediment is visible through sight-glass (B), open up drain cock (A) with the engine shut off. Collect the contaminated fuel bleeding out in a suitable container. Then close drain cock (A). To clean the filter follow the procedure outlined below:

Unfasten sight-glass (B).

Remove filter insert (C) and carefully wash it with clean fuel. When the insert has been washed 5 to 10 times, replace the complete water separator for a new one.

Once the filter has been cleaned, re-assemble it, reversing the removal procedure.

- A—Drain cock
- B—Sight-glass
- C—Filter insert
- D—Fuel Pump



CQ203670

Fuel Filter Water Trap—CWS/WTS

CQ203670 -UN-04APR01

CO03622,000006A -19-20AUG04-1/1

Bleeding off Water from Fuel Filter in 6.8 L Engines (1450) and 8.1 L Engines (1550)

CAUTION: Always remove starter key before performing service work on fuel filter. Avoid fire hazards!

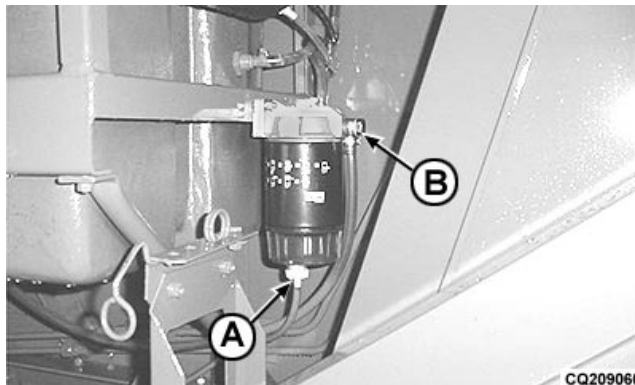
Loosen drain screw (A).

Loosen oil bleed screw (B).

Retighten drain screw as soon as the water and sediment deposits have drained off (clean fuel is observed).

Retighten oil bleed screw.

If necessary follow bleed fuel system procedure.



Fuel Filter Water Trap—1450/1550

CQ209060

—UN-02OCT01

AG,CO03622,2087 —19-20AUG04-1/1

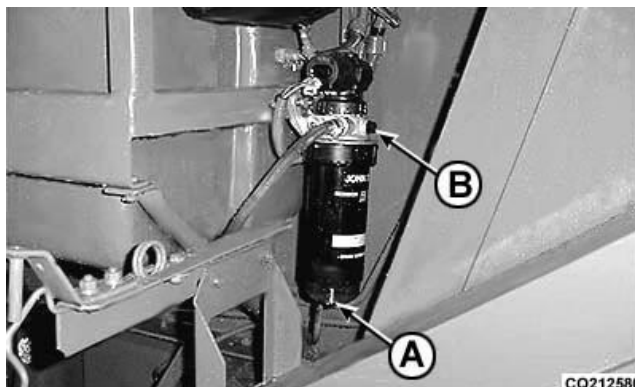
Bleeding off Water from Fuel Filter in 6.8 L Engines—CWS/WTS

Ignition ON.

Loosen drain screw (A).

Loosen drain screw (B) and the fuel system will be automatically drained.

Retighten drain screw as soon as the water and sediment deposits have drained off (clean fuel is observed).



Fuel Filter Water Trap - CWS/WTS

CQ212580

—UN-01MAR02

MB03730,00001EC —19-20AUG04-1/1

Bleeding the Fuel System

General information

Bleed the fuel system:

- After every filter change

- Whenever the fuel tank has run dry
- After repair work on the fuel system
- If the engine has not been run for a while

AG,CO03622,2092 -19-09SEP99-1/1

Bleeding off Fuel Filter in 6.8 L Engines—1450

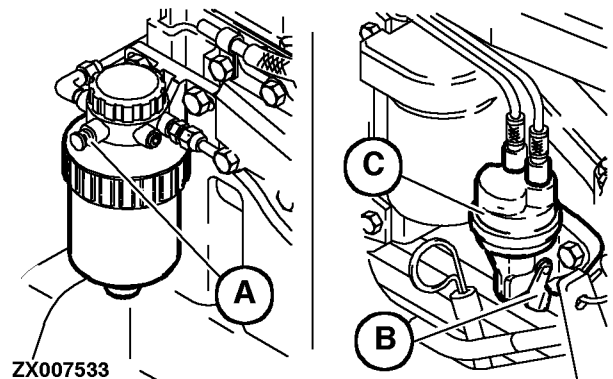
Loosen bleed screw (A).

Pump the fuel until it smoothly exits drain screw (A), free of bubbles.

Pump by means of lever (B) on the fuel transfer pump (C).

Then retighten bleed screw.

NOTE: If no resistance is felt when moving the primer piston (of pump), turn engine over with starting motor to change position of primer pump cam.



ZX007533 -UN-20JUN95

AG,CO03622,2094 -19-20AUG04-1/1

Replacing Fuel Filter in 6.8 L Engines—1450 and CWS/WTS



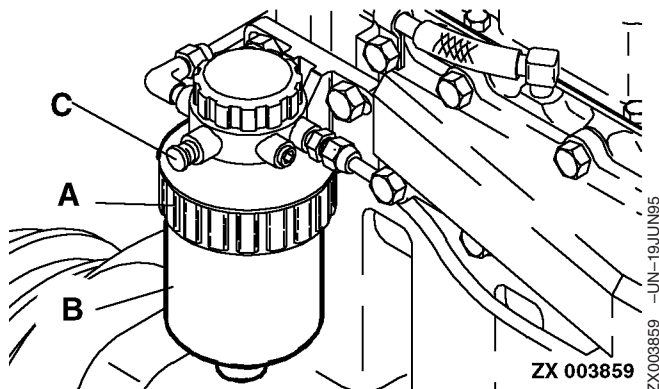
CAUTION: Always remove starter key before performing service work on fuel filter. Avoid fire hazards!

Unfasten ring (A) and remove filter (B).

Install new filter, aligning keys on filter element with slots in filter housing.

Tighten until the retaining ring (A) slots into the lock position.

Loosen bleed screw (C) (see “Bleeding Fuel System”). Hand tighten the bleed screw.



AG,CO03622,2088 -19-02AUG04-1/1

Bleeding Fuel from Filter on 8.1 L Engines—1550

First bleed the water separator.

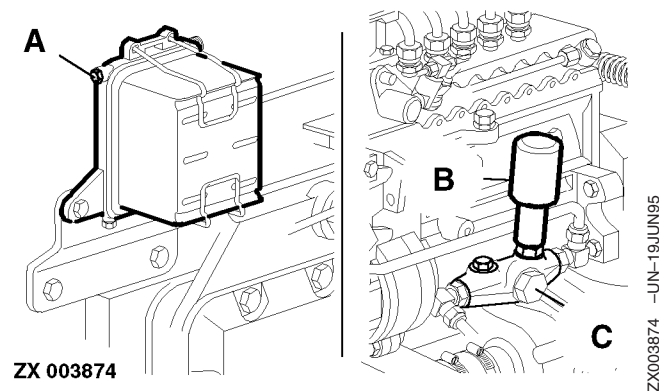
Loosen bleed screw (A).

Pump the fuel until it smoothly exits drain screw (A), free of bubbles.

Pump by means of lever (B) on the fuel transfer pump (C).

Then retighten bleed screw.

NOTE: If no resistance is felt when moving the primer piston (of pump), turn engine over with starting motor to change position of primer pump cam.



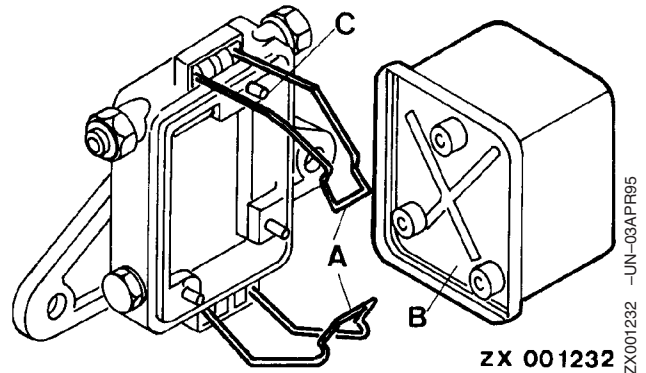
AG,CO03622,2095 -19-20AUG04-1/1

Replacing Fuel Filter in 8.1 L Engines—1550



CAUTION: Always remove starter key before performing service work on fuel filter. Avoid fire hazards!

IMPORTANT: Impurities trapped in the groove or in the cavity of spring pin (C) might be flushed into the injection system where they could seriously damage the pump or injection nozzles.



Replace filters after every 200 hours of operation or at the end of every harvesting season.

To empty filter insert, loosen bleed screw and remove drain plug.

Release retaining springs (A). Remove filter (B) and replace with a new filter.

Bleed air from filter every time the filter is changed and whenever the fuel system has run dry as a result of fuel shortage.

AG.CO03622,2090 -19-20AUG04-1/1

Checking Injection Nozzles

IMPORTANT: Never attempt to remove injection nozzles. Special tools are required to perform this task.

If the engine is running rough, this indicates that the injection nozzles are clogged or not operating correctly. Consult your John Deere dealer.

AG.CO03622,2091 -19-09SEP99-1/1

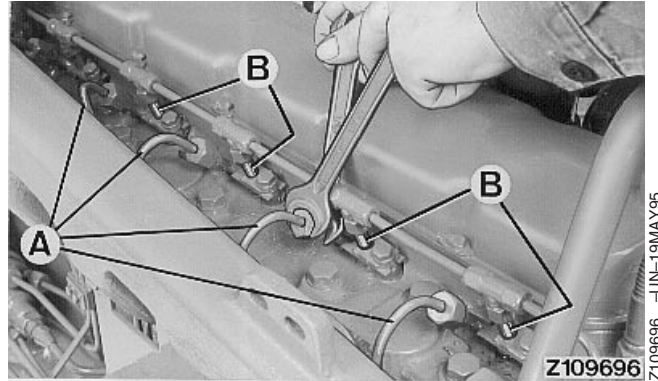
Bleed at Fuel Injection Nozzles — Engines without ECU

If the engine will still not start despite carrying out all above-mentioned bleeding procedures, proceed as follows:

Place hand throttle lever at fast idle.

Using two open-ended wrenches, loosen fuel lines (A) on at least three injection nozzles (B).

Turn over engine with starting motor until the fuel flowing out of the loosened fuel injector connections is free of air bubbles. Retighten connections.



AG,CO03622,2096 -19-01MAR02-1/1

Bleeding Fuel System—Engine using ECU

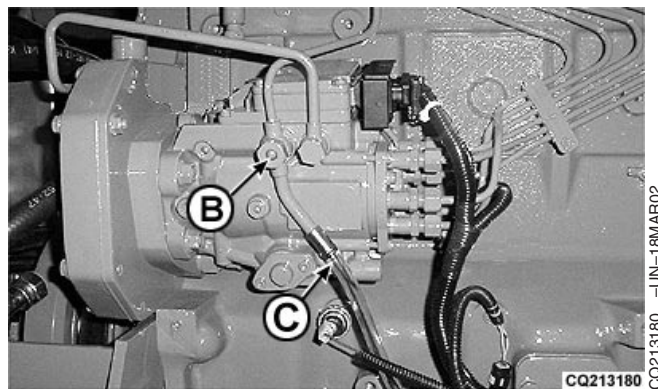
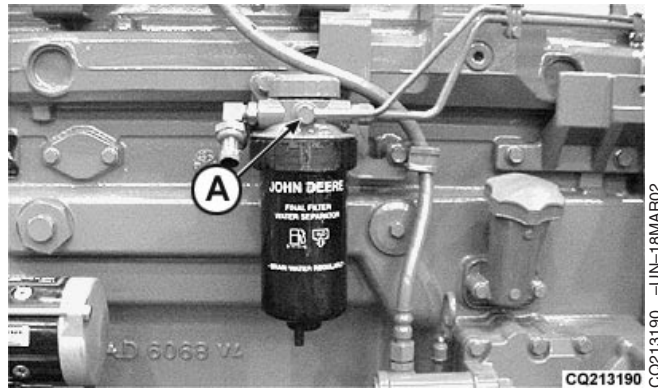
NOTE: This fuel system can only be bled by the electric transfer pump or at the injection nozzles. Bleeding should not be performed at any location on the Bosch VP44 injection pump.

Bleed Using Electric Transfer Pump

Bleeding is automatically performed by a small orifice (A) inside the filter base connected to the overflow valve (B) on the injection pump. This system allows air to escape continually through the fuel return line (C) when ignition is ON.

1. Ignition ON.
2. Allow 40 seconds for electric transfer pump to complete priming.
3. If additional system bleeding is required, bleed the circuit by loosening fuel line connections at injection nozzles.

A—Bleed Orifice in Filter Base
B—Overflow Valve
C—Fuel Return Line



Injection pump (VP44)

Continued on next page

MB03730,00001E7 -19-26SEP03-1/2

Bleed at Fuel Injection Nozzles

1. Place throttle lever in half-throttle position.
On engines equipped with an electric fuel shut-off solenoid, energize solenoid by turning ignition ON.

IMPORTANT: Always use a backup wrench when loosening or tightening fuel lines at nozzles and/or injection pump to avoid damage.

2. Using two open-end wrenches, loosen two fuel line connections at the injection nozzles.
3. Crank engine over with starting motor for 15 seconds (but do not start engine) until fuel free from bubbles flows out of loosened connection. Retighten connections according to specifications.

Specification

—Fuel Injection Nozzle Delivery
Lines Torque 27 N.m (20 lb-ft)

4. Repeat procedure for remaining injection nozzles (if necessary) until all air has been removed from fuel system.



Nozzle Fuel Pressure Line

RG7725 —UN-08JAN97

MB03730,00001E7 —19-26SEP03-2/2

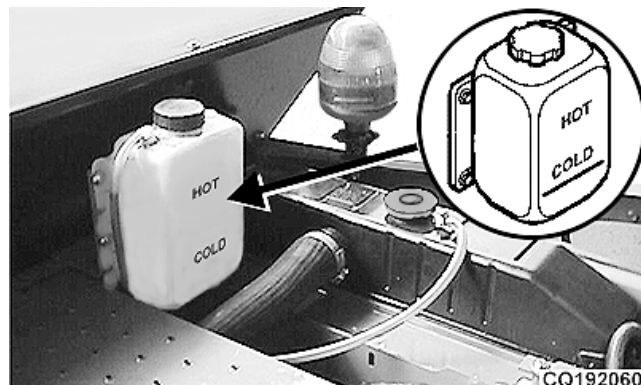
Engine Coolant



CAUTION: Danger of scalding! Do not loosen or remove the radiator filler cap when coolant temperature is near or above boiling point. Always loosen cap a little to release pressure before completely removing it.

Add coolant only when the engine is shut off.

When the engine is cool, the coolant level (in the expansion tank) should be up to the “COLD” mark.



Checking Coolant Quality

IMPORTANT: Regardless of the season, use only John Deere COOL-GARD coolant in the cooling system.

Check condition of coolant mixture before the winter season. Coolant should protect engine against frost down to -36°C (-35°F).

Never use any cooling system additives.

AG,CO03622,2097 -19-15AUG02-1/1

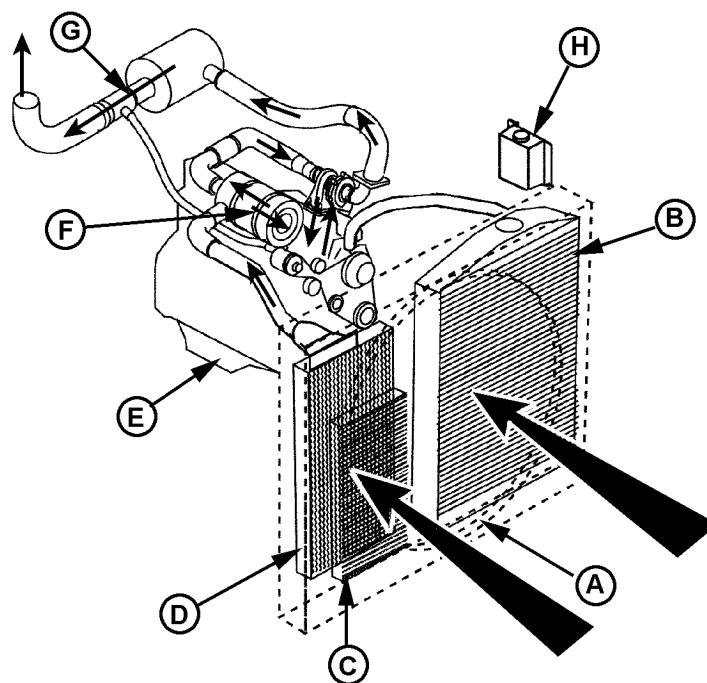
Radiator Coolant Level

Check the level and, if needed, add clean mineral water and coolant concentrate in the proportions indicated in the “Fuel, Lubricants, Coolant and Capacities” section.

IMPORTANT: Only top up the radiator when the engine is shut off and cool.

AG,CO03622,2098 -19-09SEP99-1/1

Cooling, Air Intake and Exhaust System—1450



CQ197150

CQ197150 -UN-17JUL00

A—Rotary screen
B—Radiator
C—Condenser (air conditioning system)

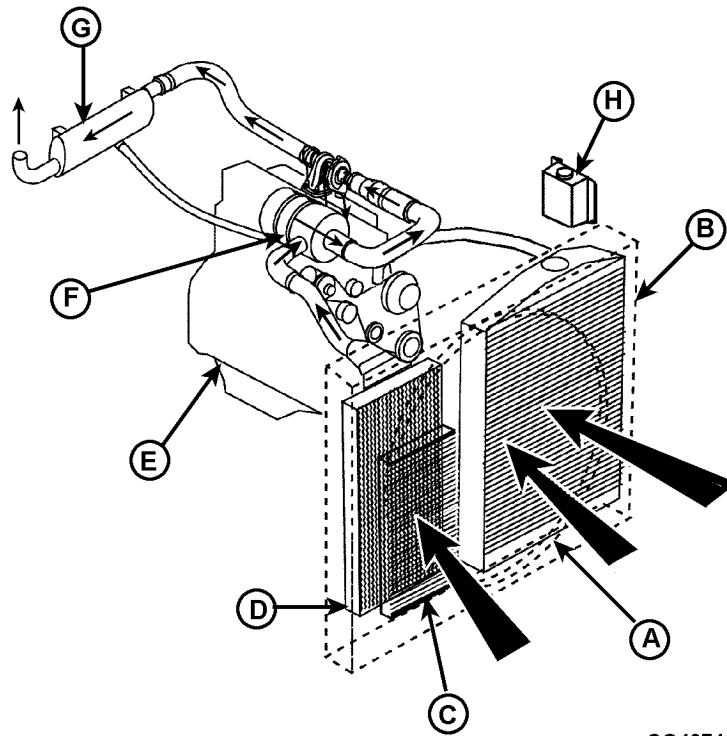
D—Hydrostatic oil cooler
E—Engine

F—Air filter
G—Muffler

H—Expansion tank (coolant)

AG.CO03622,2100 -19-20AUG04-1/1

Cooling, Air Intake and Exhaust System—1550



A—Rotary screen
B—Radiator
C—Condenser (air conditioning system)

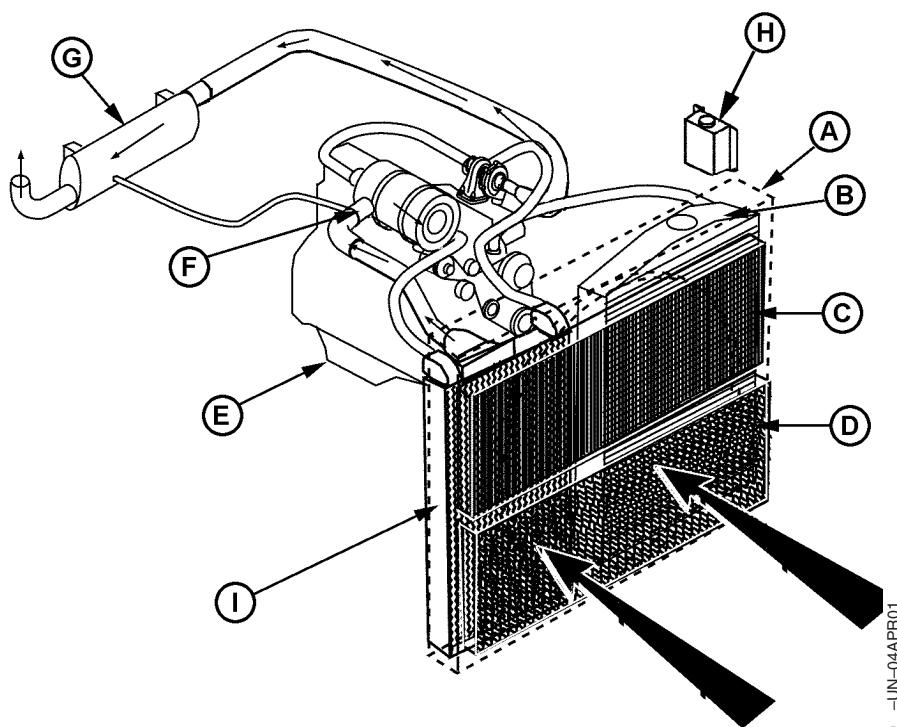
D—Hydrostatic oil cooler
E—Engine

F—Air filter
G—Muffler

H—Expansion tank (coolant)

AG,CO03622,2263 -19-27AUG04-1/1

Cooling, Air Intake and Exhaust System—CWS/WTS



CQ203690

CQ203690 -UN-04APR01

A—Rotary screen
B—Radiator
C—Condenser (air conditioning system)

D—Hydrostatic oil cooler
E—Engine

F—Air filter
G—Muffler

H—Expansion tank (coolant)
I—Radiator (aftercooler)

CO03622,000006B -19-20AUG04-1/1

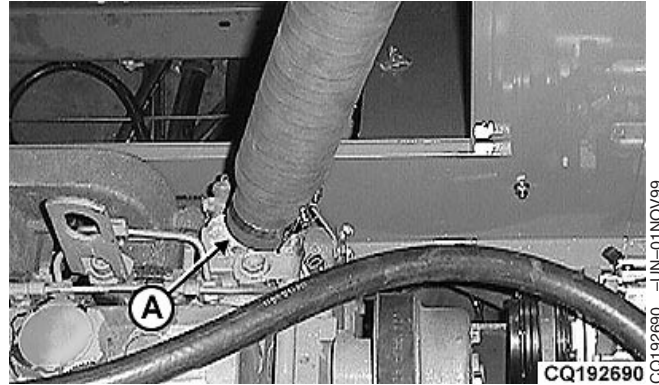
Replacing Thermostat



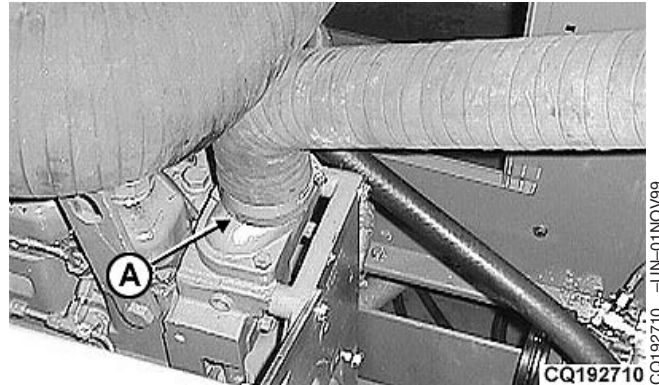
CAUTION: Danger of scalding! Before replacing the thermostat, release system pressure by turning the expansion tank cap to first stop.

IMPORTANT: See your John Deere dealer to execute this job.

When the thermostat (A) is replaced it is also necessary to replace the coolant.



6.8 L engine — 1450 and CWS/WTS



8.1 L engine—1550

AG.CO03622.2197 -19-20AUG04-1/1

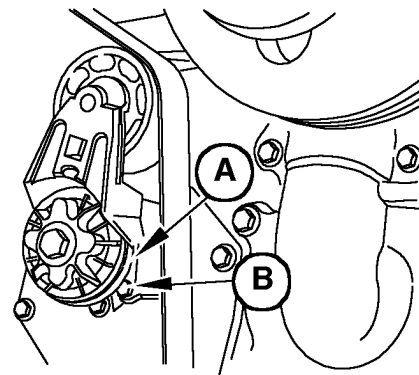
Checking Tension of Alternator V-Belt Tensioner Spring and Belt Wear

Belt drive systems equipped with automatic (spring) belt tensioners cannot be adjusted or repaired. Automatic belt tensioners are designed to maintain proper belt tension over the service life of the belt. If tensioner spring tension is not within specifications, replace tensioner assembly.

Checking Belt Wear

The belt tensioner is designed to operate within the limit of arm movement checked by the cast stops (A and B) when a belt with the correct length and geometry is used.

1. Visually inspect cast stops (A and B) on belt tensioner assembly. If the tensioner stop on swing arm (A) is hitting the fixed stop (B), check mounting brackets (alternator, belt tensioner, idler pulley, etc.) and belt length. Replace belt, if necessary.



ZX009274

ZX009274 -UN-10JUN96

AG.CO03622.2199 -19-15MAR02-1/1

Checking Tensioner Spring Tension

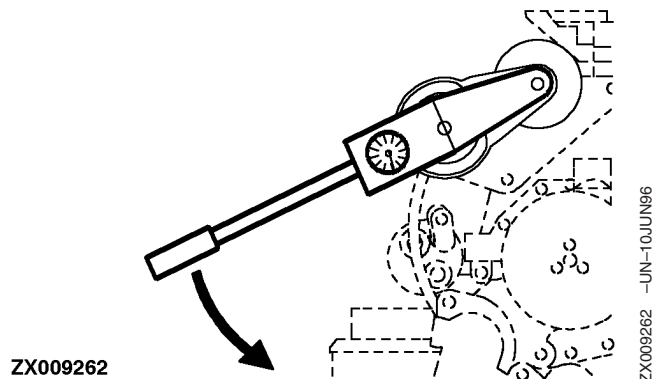
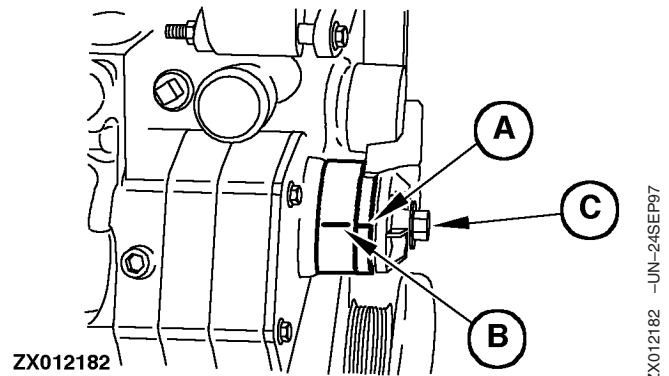
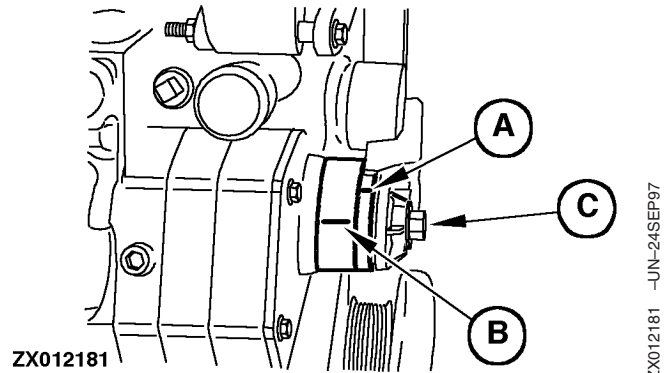
A belt tension gauge will not provide an accurate measure of the belt tension when automatic spring tensioners are used. Measure tensioner spring tension using a torque wrench and following the procedure outlined below:

1. Release tension on belt using a long-bar and adequate wrench applied on cap screw (C) which has left-hand thread. Remove belt from pulleys.
2. Release tension on cap screw (C), then remove bar and wrench.
3. Put a mark (A) on swing arm of tensioner as shown.
4. Measure 20 mm (0.79 in.) from (A) and put a mark (B) on tensioner housing.
5. Rotate the swing arm using a torque wrench applied on cap screw (C) until marks (A and B) are aligned.

NOTE: Before rotating, the torque wrench must be aligned with the tensioner fastening cap screw.

6. Record torque wrench measurement and compare with the specified values below. Replace tensioner assembly, if required.

Spring Tension Specification - 20 N•m (14.8 lb-ft)



AG.CO03622,2200 -19-15MAR02-1/1

Replacing Fan/Alternator V-Belt

Refer to "Checking Tension of Alternator V-Belt Tensioner Spring" to determine if V-belt needs replacing.

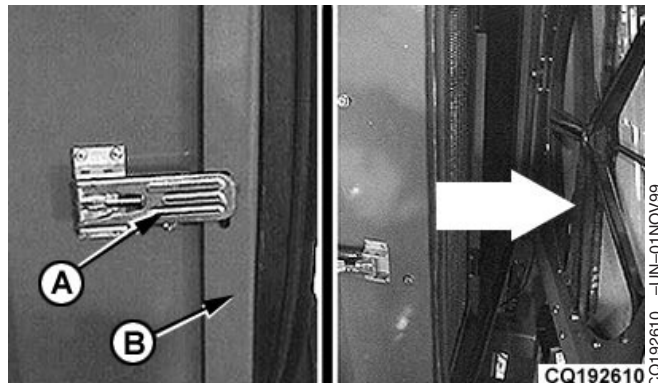
1. Relieve tension from V-belt.
2. Remove V-belt from pulleys.
3. Install a new V-belt and ensure that it is correctly seated in all pulley slots.
4. Apply tension to V-belt with tensioner.
5. Start engine and check V-belt alignment.

AG.CO03622,2201 -19-20AUG04-1/1

Cleaning Rotary Screen, Oil Cooler, Condenser and Radiator

CAUTION: Shut off engine and remove starter key before cleaning rotary screen.

Pull latch (A) and open rotary screen door (B).



AG,CO03622,2101 -19-20AUG04-1/2

Check the rotary screen daily to ensure that it turns freely, unobstructed.

Clean the rotary screen with a brush and compressed air when dirt and chaff build up on or behind the screen.

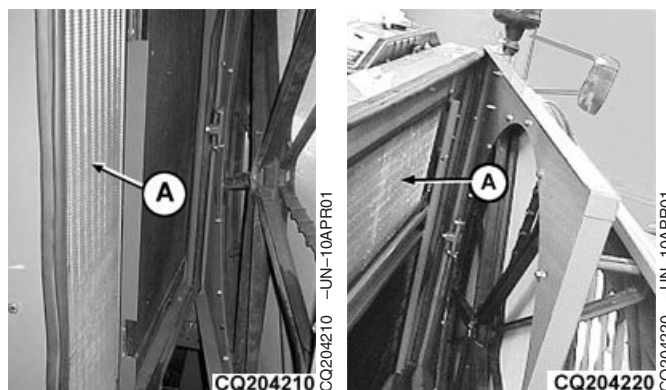
Remove oil cooler and condenser (A).

Clean oil cooler, condenser and radiator.

To clean with compressed air, blow from the inside outwards.

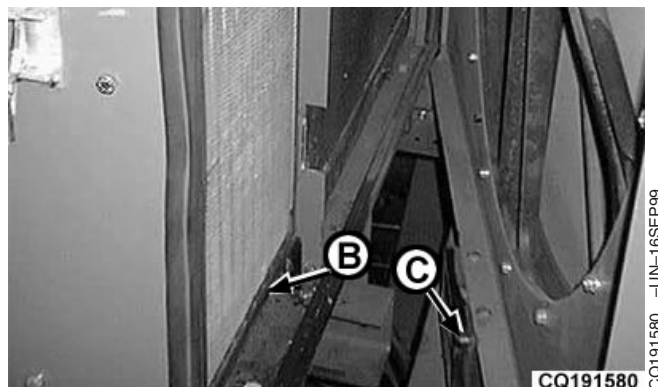
Clean dirt from lower vacuum ducts (B) and (C).

IMPORTANT: When using high pressure air or water, be careful not to damage the cooler's fins. Straighten bent fins. Bent or crushed fins will decrease cooler performance.



1450/1550

CWS/WTS



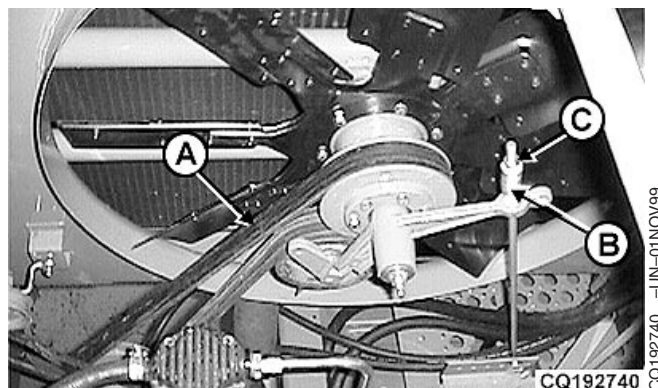
AG,CO03622,2101 -19-20AUG04-2/2

Replacing (Engine) Cooling Fan Belt

CAUTION: Shut off engine and remove starter key.

To remove belt (A), it is necessary to release spring (B) tension by loosening jam nut (C).

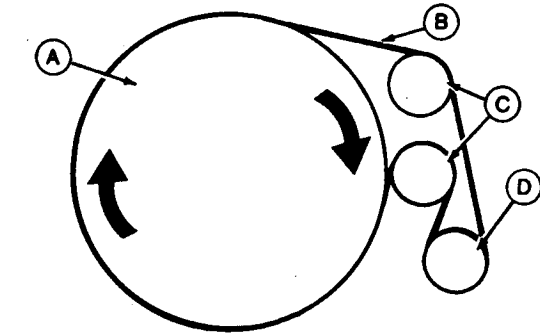
Remove pulley.



AG,CO03622,2202 -19-15MAR02-1/1

Rotary Screen Belt Routing

- A—Rotary screen
- B—Drive Belt
- C—Idlers
- D—Drive sheave



H39170

H39170 -UN-11OCT88

AG.CO03622,2203 -19-15MAR02-1/1

Replacing Rotary Screen Drive Belt

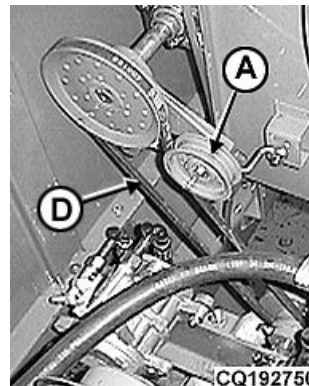


CAUTION: Shut off engine and remove starter key.

Pull up on spring loaded idler (A) loosening spring (B) through nut (C) to remove rotary screen drive belt (D).

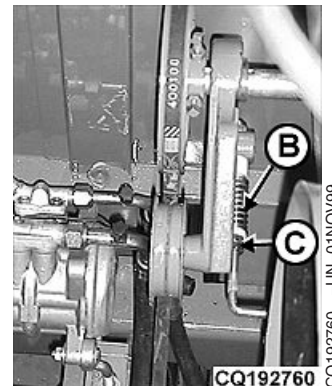
NOTE: To start this procedure the fan belt should be removed in advance.

- A—Idler Pulley
- B—Spring
- C—Nut
- D—Drive Belt



CQ192750

-UN-01NOV99



CQ192760

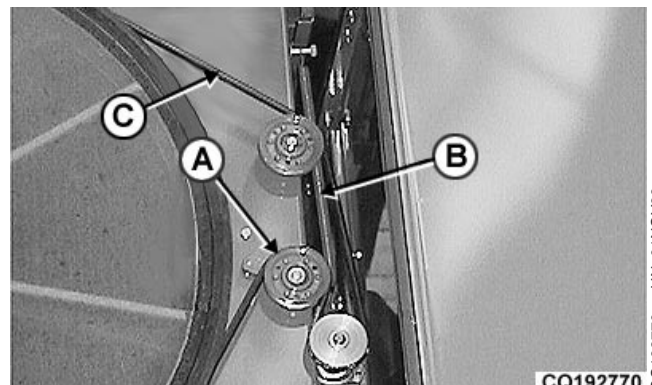
-UN-01NOV99

AG.CO03622,2204 -19-15AUG02-1/1

Rotary Screen—Replacing External Drive Belt

To remove belt (C), loosen idler pulley (A) releasing spring (B).

- A—Idler Pulley
- B—Spring
- C—Drive Belt



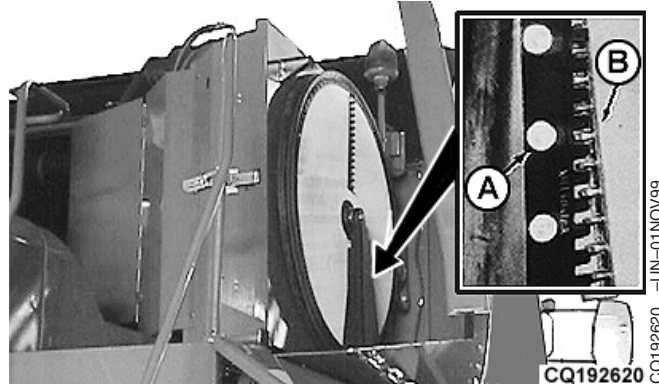
CQ192770

-UN-01NOV99

AG.CO03622,2205 -19-26SEP03-1/1

Adjust Rotary Screen Knife Comb

Loosen nuts (A) and position knife comb so rake bar (B) passes through comb unobstructed.

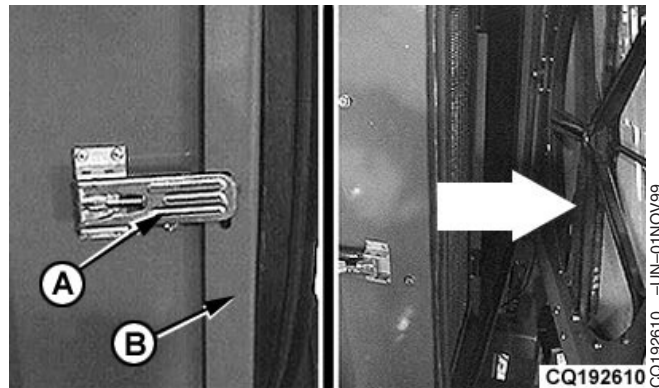


AG,CO03622,2103 -19-15MAR02-1/1

Replacing Rotary Screen Rake Bar

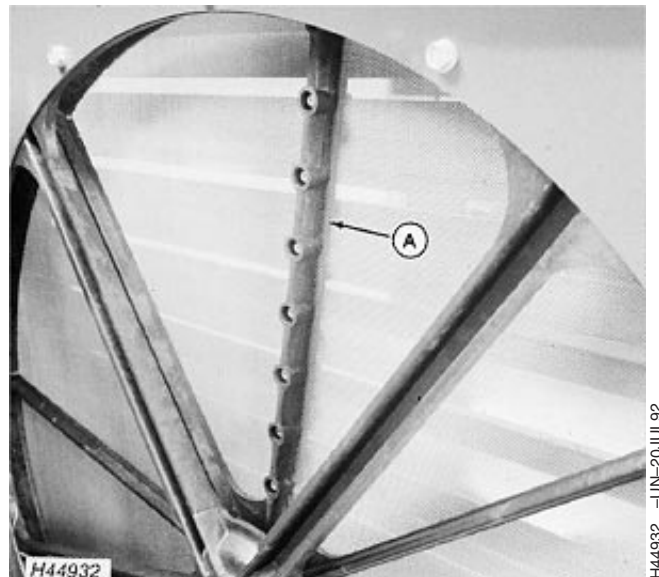
CAUTION: Shut off engine and remove starter key.

Pull latch (A) and open rotary screen door (B).



AG,CO03622,2104 -19-15MAR02-1/2

Remove bolts from rake bar support (A). Remove rake bar.



AG,CO03622,2104 -19-15MAR02-2/2

Cooling System—Flushing Sequence

Drain and flush the cooling system at least once every two years.

Having drained off all coolant, close drain tap or replace plug. Fill system with clean water.

Start engine and run until operating temperature is reached.

Turn cab heater on and leave on until cleaning of cooling system is finished. Stop engine and drain system immediately before rust and sediments settle.

Close drain tap or replace plug. Clean system with commercial cooling system cleaner, following the manufacturer's instructions.

Drain off the cleaning product and fill the system with clean water. Shut off engine when water reaches operating temperature and drain system again.

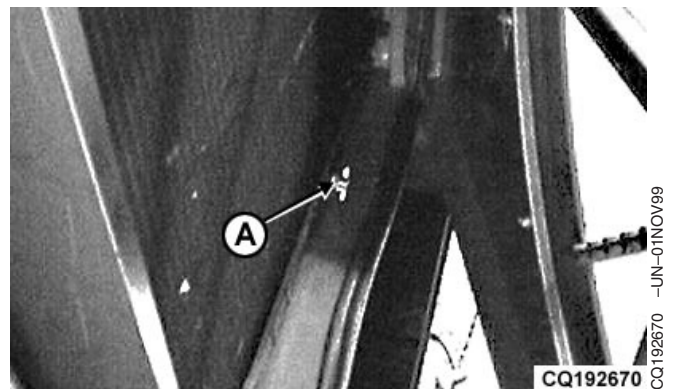
Refill system with the specified coolant.

IMPORTANT: The cooling system must always be filled with the indicated John Deere coolant. See “Engine Coolant”.

AG.CO03622,2114 -19-20AUG04-1/1

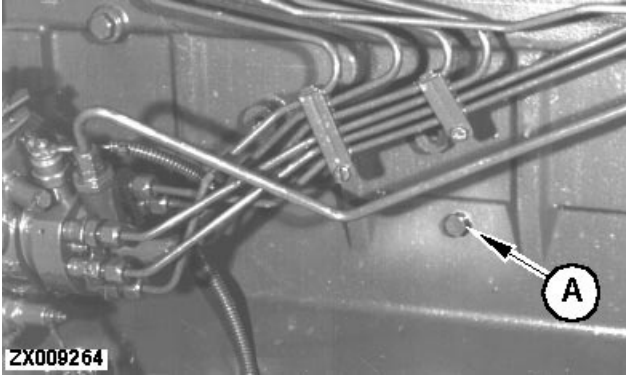
Radiator Drain

A—Radiator Drain

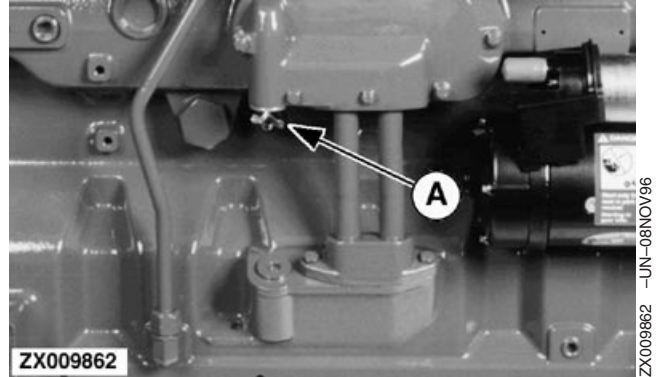


AG.CO03622,2194 -19-15MAR02-1/1

Drain Plug For Engine Coolant

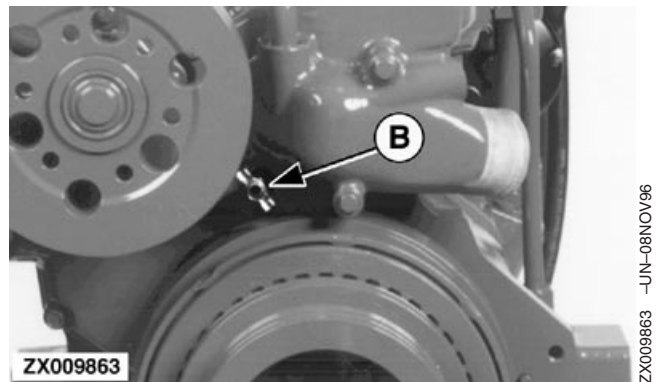


6.8 L engine —1450 and CWS/WTS



8.1 L engine—1550

A—At engine block
B—At coolant pump



8.1 L engine—1550

AG,CO03622,2195 -19-20AUG04-1/1

Removing Engine Air Filter

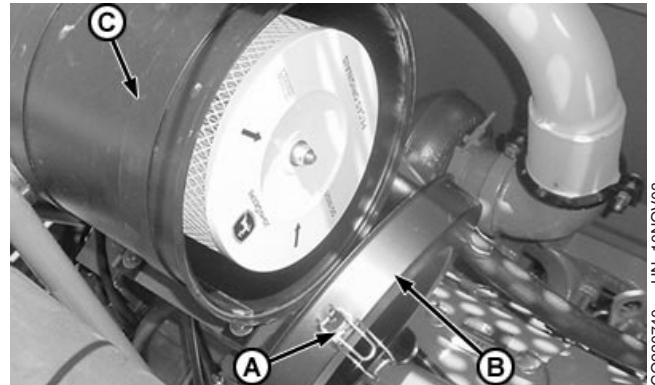
Perform service on the air filter in combines only when the air filter indicator light remains permanently on. The air filter has two filter inserts: filter insert and internal insert.

IMPORTANT: When cleaning or changing air filter, shut off engine and remove starter key.

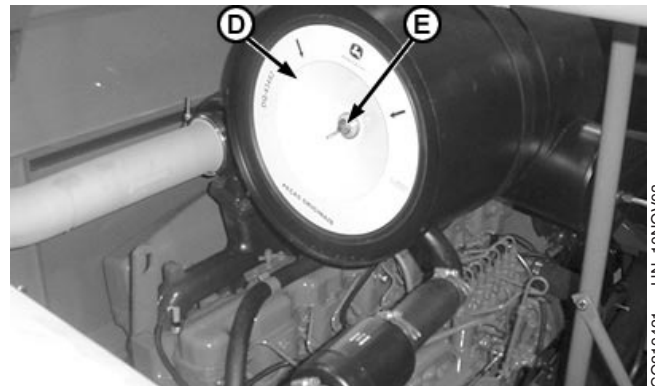
Removing Filter Insert:

1. Only for 1450 model combines:
Remove cover (B) from air filter housing (C) releasing latches (A).
2. To free the filter insert (D) remove nut (E) by turning it counterclockwise, remove also the backing washer.
3. Grip the sides of the filter insert (D) and pull it out with hands.
4. Clean the inside of the housing with a dry rag and afterwards with a rag moistened in water. Also clean the rubber seal around the edge of the filter insert.

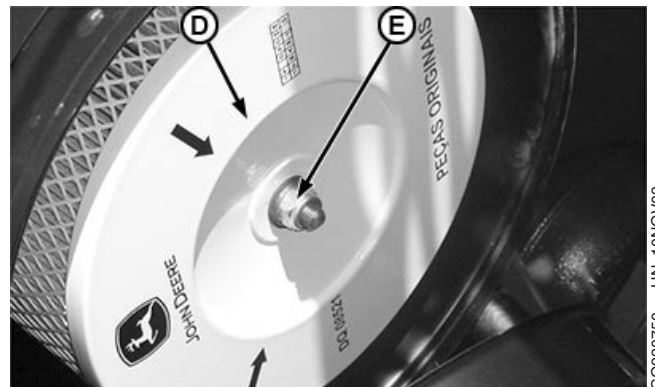
A—Latches
B—Cover
C—Housing
D—Filter insert
E—Nut



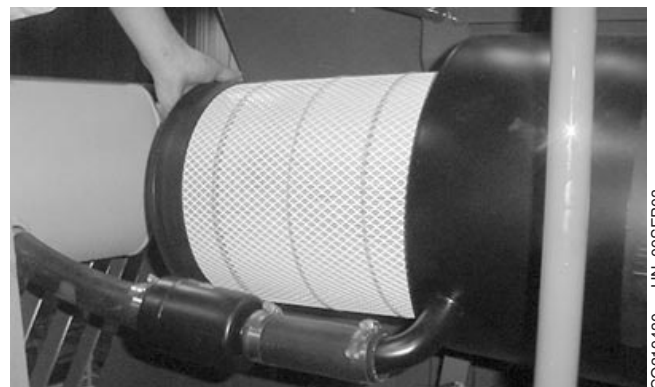
1450 and 1450 CWS/WTS



1550 and 1550 CWS/WTS



1450 and 1450 CWS/WTS



1550 and 1550 CWS/WTS

Continued on next page

ML70882,00003E9 -19-11AUG04-1/2

Removing Internal Insert:

NOTE: Remove internal insert (F) only when filter insert has been cleaned for the third time.

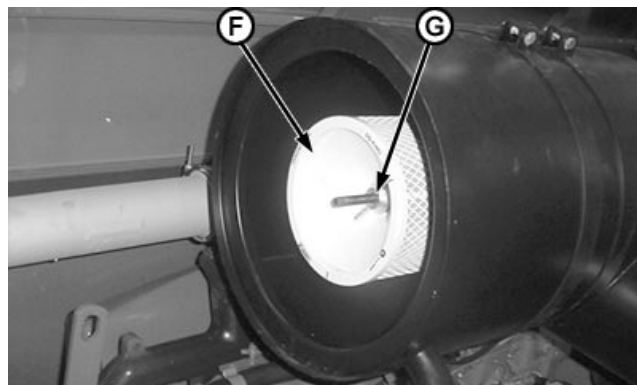
NEVER clean the internal insert. Always replace it if removed.

1. Loosen nut (G) by turning it counterclockwise.
2. To remove internal insert (F), grip it by the sides with your hands and pull it out.
3. Check the filtering performance of the filter inserts.
4. If very dirty, contact your **John Deere dealer**.
5. Clean the inside of the housing with a dry rag and afterwards with a rag moistened in water.
6. Install a new, genuine internal insert.

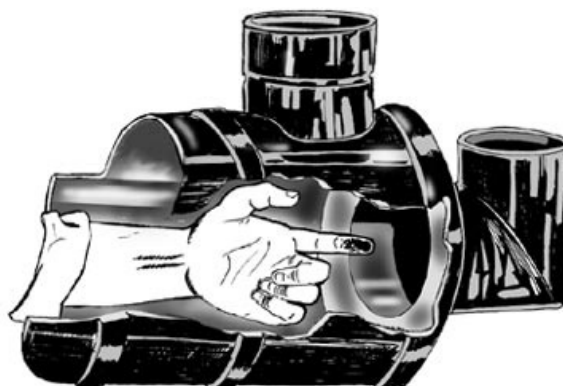
IMPORTANT: NEVER run the engine without the filters installed.

Use only genuine John Deere parts

F—Internal insert
G—Nut



Removing internal insert



Checking air filter performance

ML70882,00003E9 -19-11AUG04-2/2

CQ219441 -UN-10NOV03

CQ220760 -UN-05NOV03

Cleaning and Inspecting Filter Insert

Cleaning Procedure:



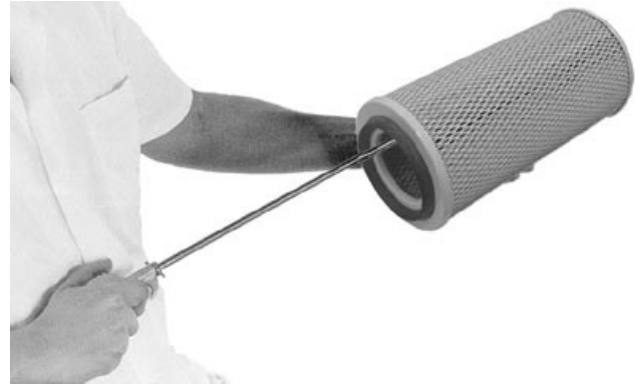
CAUTION: NEVER directly apply water to internal and filter inserts.

1. Shake filter insert carefully to loose dirt on outside.

IMPORTANT: NEVER beat the filter insert against hard objects (tires, shields, etc.).

2. Blow with dry compressed air as shown in the figure. Compressed air jet should be parallel to inner surface of filter insert. The pressure should not exceed 5 kg/cm^2 (70 lb/in^2 , 70 psi).
3. Clean the external screen of the filter insert with a **damp rag**.

IMPORTANT: This cleaning procedure should only be implemented on the filter insert, a maximum of three times.



Cleaning filter insert

CO219460 -UN-09SEP03

Continued on next page

ML70882,00003FB -19-28NOV03-1/2

Inspection Procedure:

1. Insert a light inside filter insert as illustrated in the figure, and carefully look for holes or ruptures on paper part of insert.

IMPORTANT: Replace any filter insert containing a hole or rupture of any kind.

2. Check if the outside screen of the filter insert is crushed.

NOTE: If it is crushed then the vibration caused may, in short time, create a hole in the screen.

3. Check if the rubber seal is in good condition.

IMPORTANT: If the rubber seal is damaged replace the insert.

4. Mark down the number of times the insert was cleaned on its upper part.

NOTE: The filter insert can be cleaned a maximum of three times. On the fourth occasion it must be replaced by a new and genuine filter insert.



Inspecting filter insert

CQ219450 -UN-09SEP03

ML70882,00003FB -19-28NOV03-2/2

Air Filter Assembly—Components

1. Mount the filter and internal insert, ensuring that the nuts are well tightened.

NOTE: The nuts are sufficiently tight when both the filter insert and the internal insert do not move when pressure is applied by hand.

2. Close housing (1450 and 1450 CWS/WTS combines).



Mounting filter insert

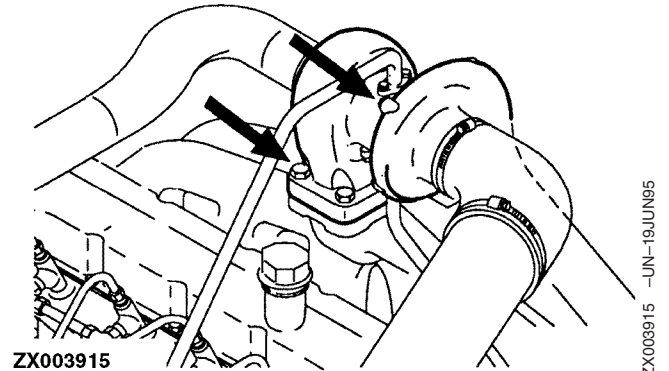
CQ220770 -UN-05NOV03

ML70882,00003EB -19-10NOV03-1/1

Turbocharger

All engine types are equipped with a turbocharger.

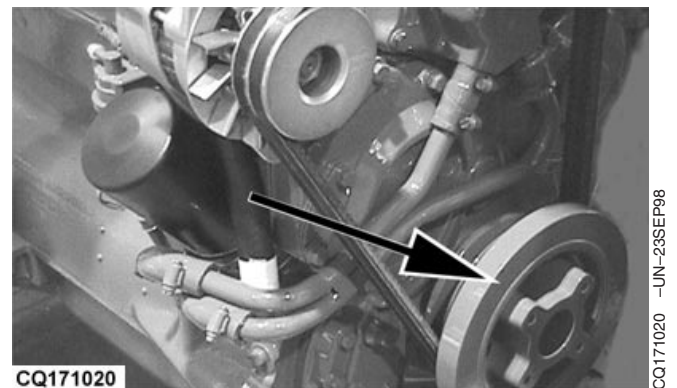
Carefully check all connections and attaching points of the turbocharger every 250 hours. Any lube oil leaks in the turbocharger or in its lube oil feed line must be rectified at once.



Crankshaft Damper Inspection

IMPORTANT: The crankshaft damper set cannot be repaired. It must be replaced after 4500 hours of operation or every 5 years, whichever occurs first.

Ask your John Deere dealer to inspect the engine crankshaft damper.

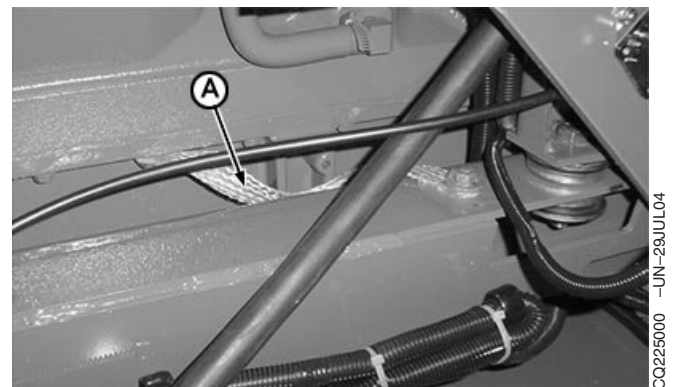


Engine Grounding

IMPORTANT: Periodically inspect the condition of the engine ground cable (A) and check the tightness of the attaching nuts.

John Deere engines are seated on rubber dampers inside the machinery. These dampers, as well as reducing noise levels, also electrically insulate the engine. Nevertheless, it is necessary that the engine has a good ground connection, for which reason the ground cable (A) exists.

If this cable is not in perfect working order then the flow of excess current produced by the alternator may be redirected to the engine bearings, causing severe damage to the engine.



Engine Grounding

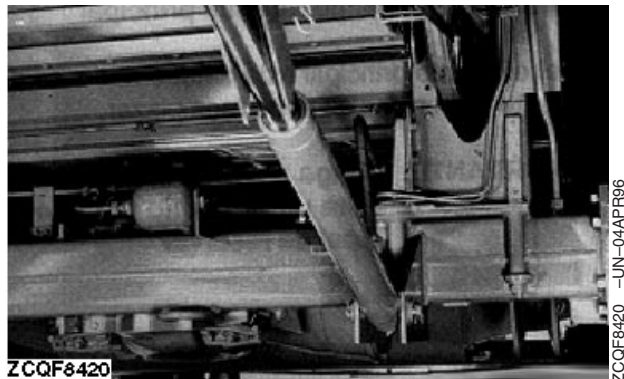
ML70882,00004C0 -19-28JUL04-1/1

Service—Compressed Air System

Compressed Air System Reservoir

The reservoir is located inside the front axle.

Maximum pressure: 570 kPa; 5.7 bar; 82.7 psi.

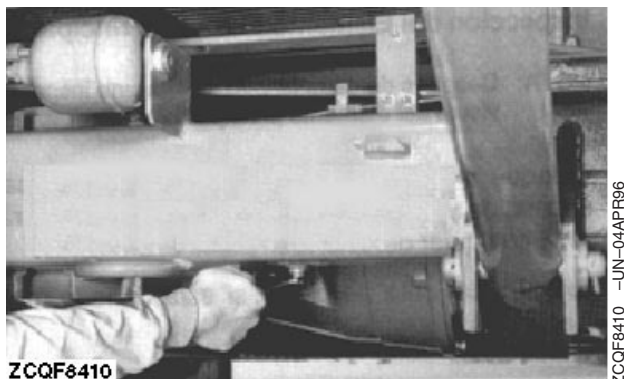


AG,CO03622,2120 -19-15MAR02-1/1

Draining The Air Reservoir

Drain off contaminants periodically.

With the engine off, drain accumulated water by turning the drain valve located on the lower left side of the front axle.



AG,CO03622,2123 -19-15MAR02-1/1

Compressed Air Hose

The compressed air hose is wound up inside the tool box cover, located in the operator's station.

AG,CO03622,2124 -19-21SEP99-1/1

Using Compressed Air

To inflate the tires, connect valve (A) to the hose quick-coupler.

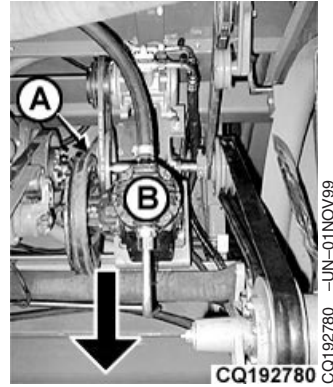
To use compressed air for cleaning, connect nozzle (B) to the hose quick-coupler.



AG,CO03622,2125 -19-15MAR02-1/1

Adjusting Compressor Drive Belt Tension

Compressor drive belt (A) tension can be adjusted by loosening compressor (B) fixing screws and sliding it in the direction of the arrow (see illustration).



UN-01NOV99

AG.CO03622,2126 -19-15MAR02-1/1

Service—Drives and Shields

Opening the Right-Hand Side Shield

Release clamp (B) by pulling it downwards (1450/1550 combines).

Turn lock (C) clockwise (CWS/WTS).

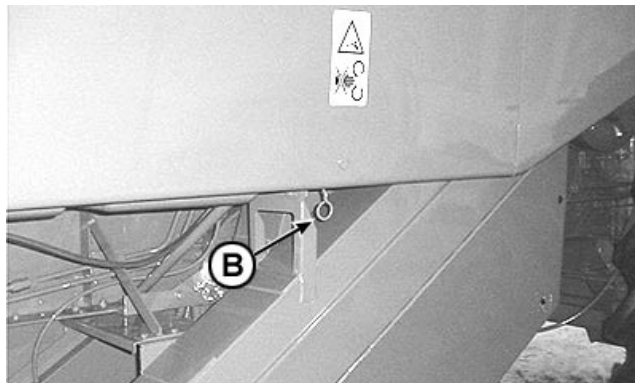
Gas springs (D) will raise the shield once it has been released. The shield will open enough to allow safe service on the combine side.

Close shield by lowering it until it locks in clamp (B) or lock (C).

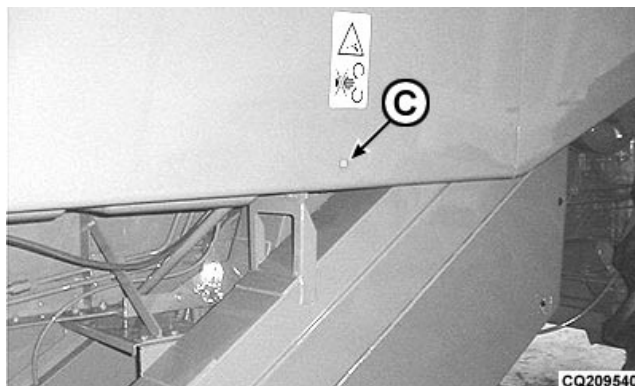
B—Clamp (1450/1550)

C—Lock (CWS/WTS)

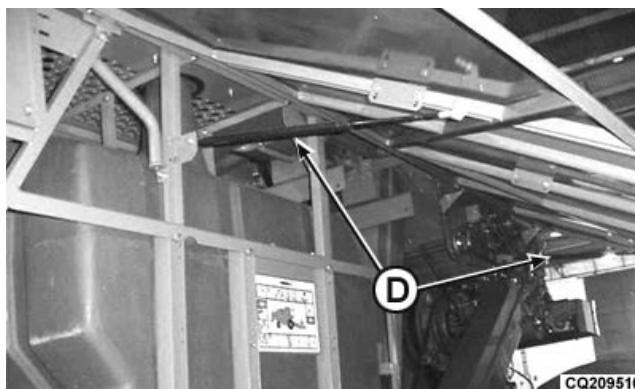
D—Gas spring



Right-Hand Side Shield (1450/1550)



Right-Hand Side Shield (CWS/WTS)



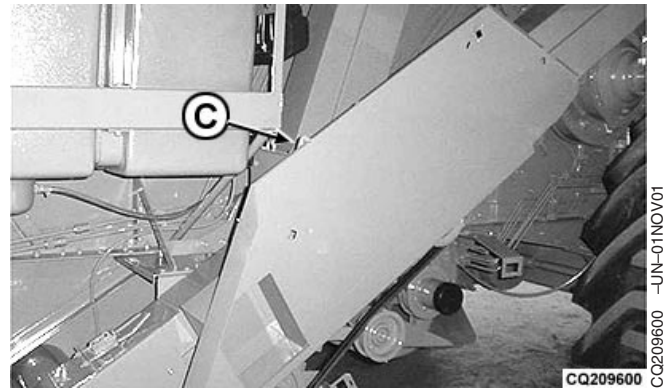
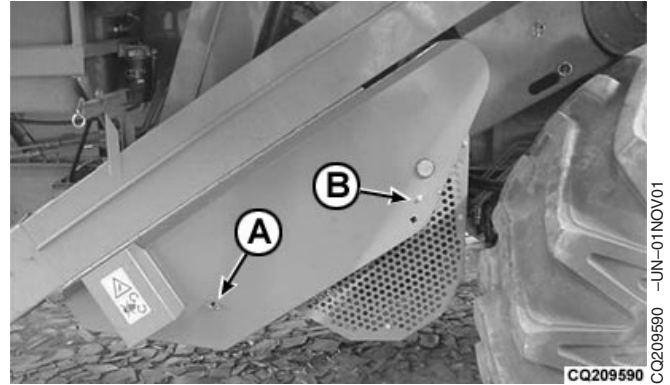
ML70882,00004B0 -19-20JUL04-1/1

Opening the Fan Shield

Turn clamps (A) or lock (B) and lift shield.

Secure the shield by means of spring (C).

- A—Lock
- B—Clamp (1450/1550) — Lock (CWS/WTs)
- C—Spring

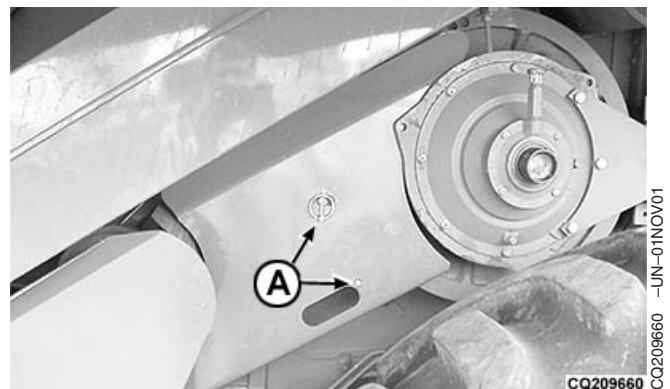


AG.CO03622,2208 -19-20AUG04-1/1

Threshing Cylinder Pulley Shield—CWS/WTs

Remove pin and turn lock (A). Remove shield.

- A—Pin and lock



MB03730,0000205 -19-20AUG04-1/1

Opening the Left-Hand Side Shield

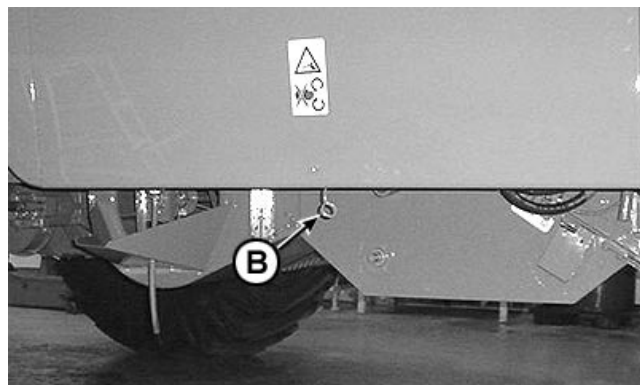
Release clamp (B) by pulling it downwards (1450/1550 combines).

Turn lock (C) clockwise (CWS/WTS).

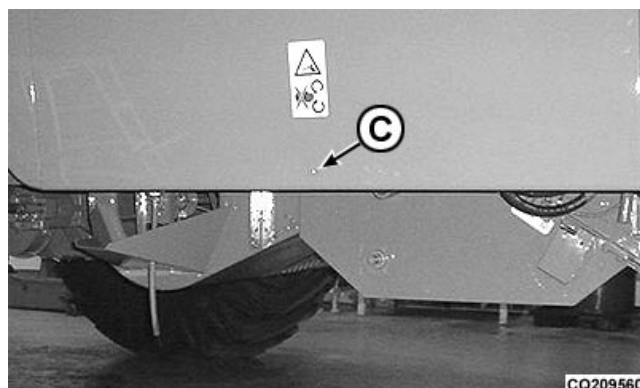
Gas springs (D) will raise the shield once it has been released. The shield will open enough to allow safe service on the combine side.

Close shield by lowering it until it locks in clamp (B) or lock (C).

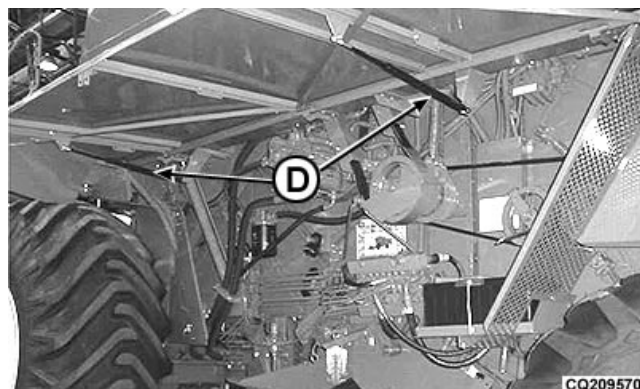
- B—Clamp (1450/1550)
- C—Lock (CWS/WTS)
- D—Gas spring



Left-Hand Side Shield (1450/1550)



Left-Hand Side Shield (CWS/WTS)

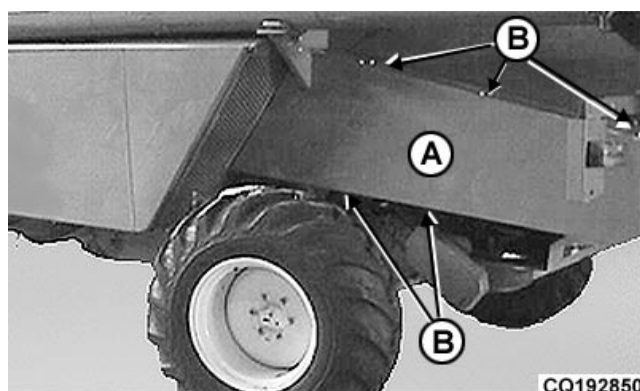


ML70882,00004B1 -19-20JUL04-1/1

Opening the Straw Chopper and Chaff Spreader Idler Pulley Shield

To remove shield (A), remove bolts (B).

To reinstall the shield, perform the reverse procedure.

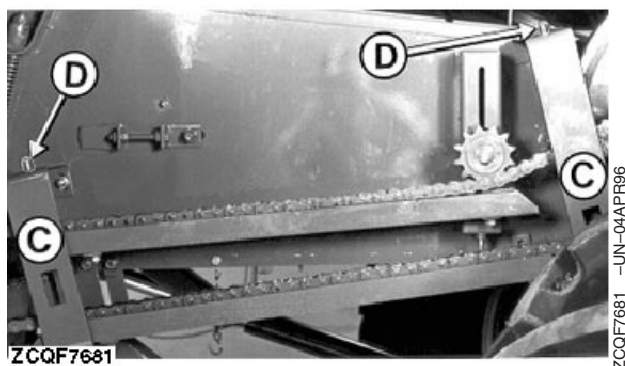


AG,CO03622,2211 -19-20AUG04-1/1

Opening the Header Drive Shield

Turn latches (A) and remove shield (B).

- A—Latches
- B—Shield
- C—Brackets
- D—Alignment pins



AG.CO03622,2129 -19-04MAR02-1/1

Drive Chains Tension

During the first few hours of operation, check that the tension on the chains is correct.

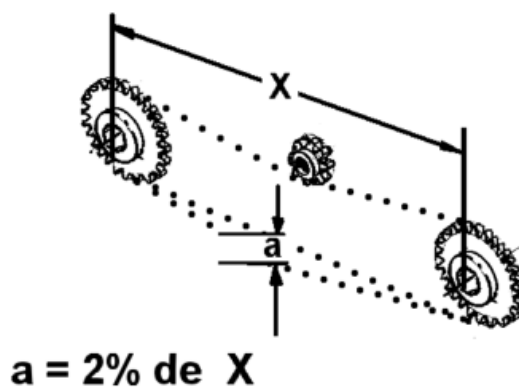
The flex on a chain should be about 2% of the distance between the shafts of the drive sprocket and idler sprocket, flexion being measured on a section of chain opposite the tensioner.

The chain must not flex on the tensioner side.

Example: If the distance between the shafts of the drive sprocket and idler sprocket is 250 mm (10 in.), the chain should not hang by more than 5 mm (0.2 in.).

Loose chains cause premature and excessive wear on the roller elements of the chain links, the sprocket teeth and possibly the drive components of the machine.

Chains that are too tight cause excessive pressure on the sprockets, the bearings and the shafts.

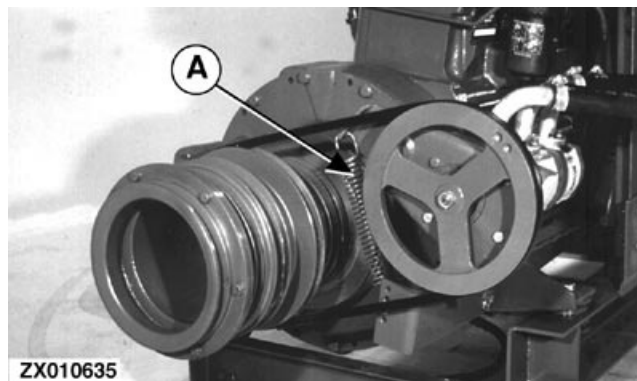


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AG.GG05155,603 -19-04MAR02-1/1

Adjusting Hydraulic Pump Belt Tension

Spring (A) maintains belt tension.



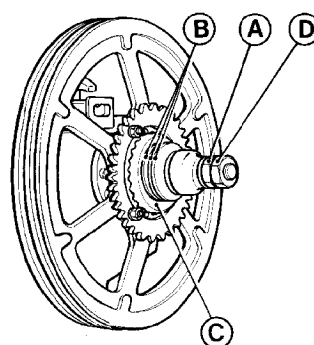
AG,CO03622,2131 -19-15MAR02-1/1

Adjusting Feeder House Slip Clutch

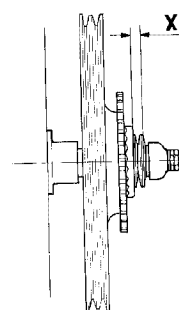
The slip clutch is adjusted with hex nut (A) against three disk springs (B) which act on clutch (C).

First, loosen locknut (D) and nut (A). Then tighten nut (A) until distance (X) is 17.2 mm (0.68 in.). Next, tighten locknut (D) to 140-160 N•m (102.2 to 116.8 lb-ft).

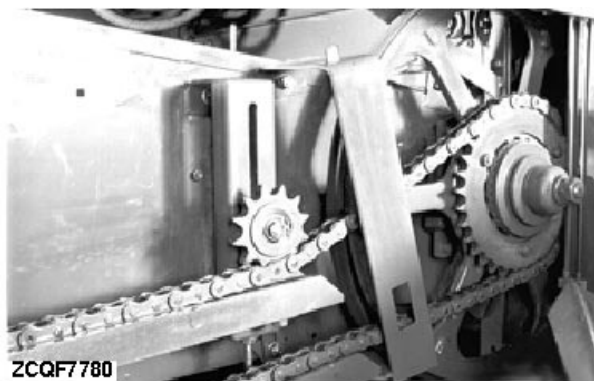
- A—Hex Nut
- B—Disk Spring
- C—Clutch
- D—Locknut
- X—17.2 mm (17.27 mm)



ZCQD3941



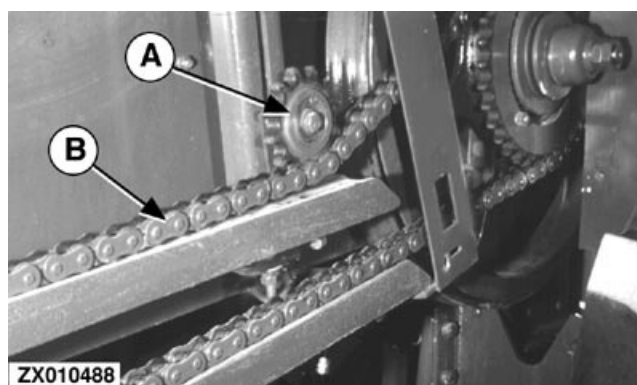
ZCQD3941 -UN-04APR96



AG,CO03622,2133 -19-26SEP03-1/1

Adjusting Feeder-House Drive for Header

Move sprocket (A) to tighten chain (B).



AG,CO03622,2134 -19-20AUG04-1/1

Replacing Feeder House Drive Belt

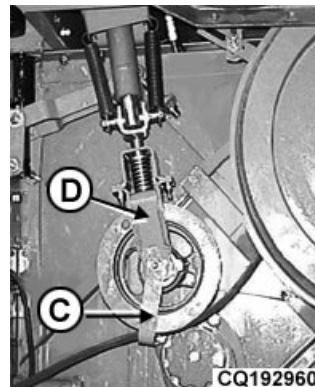
Remove the feeder-house drive shield. Then loosen the header drive chain (A) and remove sprocket (B) from the feeder house upper shaft.

Remove guide (C).

- A—Header Drive Chain
- B—Sprocket
- C—Guide
- D—Belt Idler



—UN-04APR96

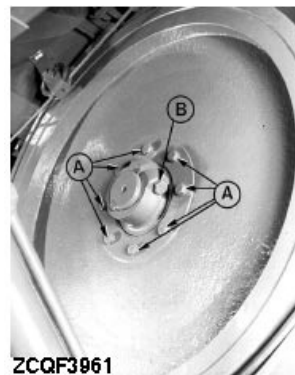


—UN-01NOV99

AG.CO03622,2135 —19-15MAR02-1/4

Remove mounting bolts:

Remove mounting bolts (A) and locking bolt (B).



—UN-24MAY96

AG.CO03622,2135 —19-15MAR02-2/4

Removing Pulley:

Remove beater pulley (B).



—UN-04APR96

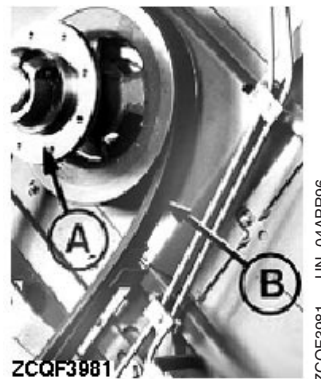
Continued on next page

AG.CO03622,2135 —19-15MAR02-3/4

CAUTION: Warning! This pulley is heavy (approx. 40 kg [88 lb]) and difficult to handle.

Reverse the above sequence to install a new belt.

A—Hub
B—Drive Belt



AG,CO03622,2135 -19-15MAR02-4/4

Adjusting Feeder House Hydraulic Reverser Drive Chain

Lift off shield (A).

Adjust drive chain (B) tension as follows:

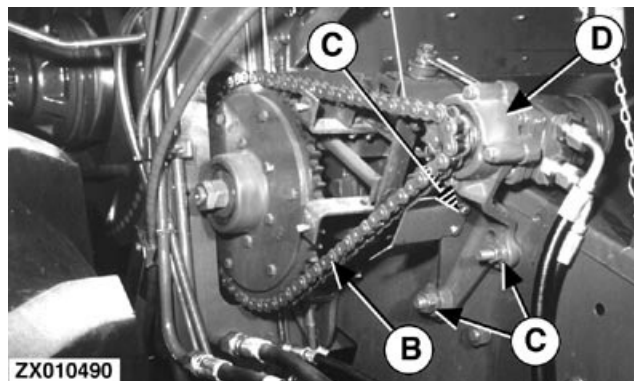
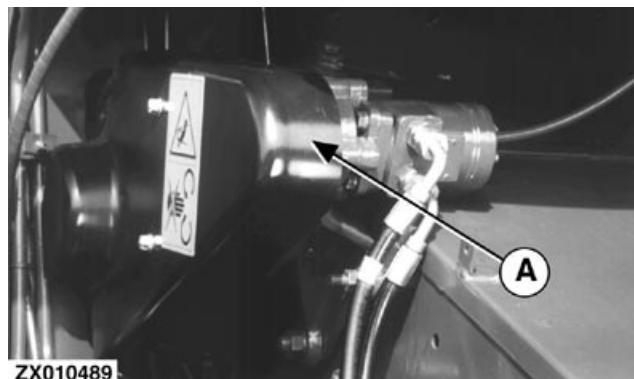
Loosen nuts (C).

Swing hydraulic motor (D) to the front and adjust chain tension as described in "Drive Chains" in this section.

Retighten nuts (C).

Reinstall shield (A).

A—Drive Shield
B—Chain
C—Nuts
D—Hydraulic motor



AG,CO03622,2136 -19-26SEP03-1/1

Replacing Threshing Unit Drive Belt

See your John Deere dealer when the threshing unit drive belt needs to be changed. The following instructions cover only removal of the belt from the beater pulley. This pulley has to be removed in order to remove the feeder house drive belt.

- Move the unloading auger to the unloading position.
- Disengage the threshing lever to loosen the belt.
- Loosen guide (C) and remove belt (D).

To reinstall the belt follow this procedure in reverse order.



C—Belt Guide
D—Threshing Unit Belt

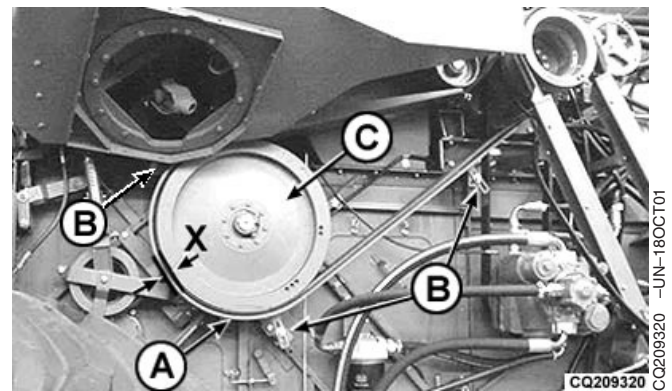
AG,GG05155,313 -19-15MAR02-1/1

Adjusting Threshing Unit Belt Guide

NOTE: Shut off engine before adjusting belt guide to avoid accidents.

To adjust, the belt guide must be moved in order to loosen bolts in slotted supports (B).

With the belt tightened, there should be a play (X) of 2-5 mm (0.08 to 0.2 in.) between the belt and the guide (A).

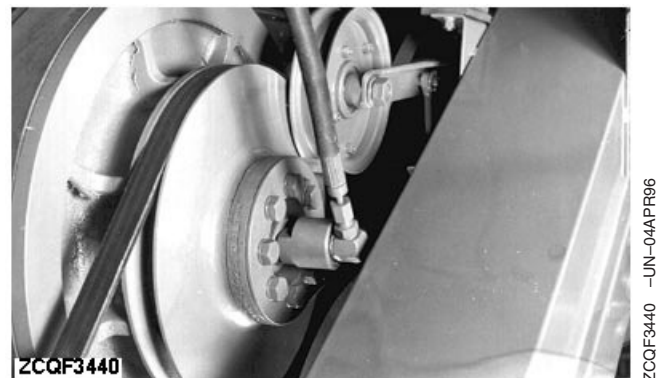


A—Belt Guide
B—Slotted Supports (3)
C—Pulley
X—2 to 5 mm (0.08 to 0.2 in.) play

AG,CO03622,2137 -19-05FEB02-1/1

Adjusting Hydraulic Variable Speed Drive

IMPORTANT: When required, see your John Deere dealer for adjustment of the drive pulley halves on the cylinder and beater shaft.



AG,CO03622,2138 -19-15MAR02-1/1

Replacing Cylinder Variable Drive Belt— Combines With Posi-Torq Cylinder Drive

General information

With the engine at top speed and the threshing unit engaged, use the cylinder speed control switch to fully open the beater shaft pulley (lowest cylinder speed). Disengage the threshing unit and shut down the engine.



CAUTION: Do not adjust belt while the engine is running.

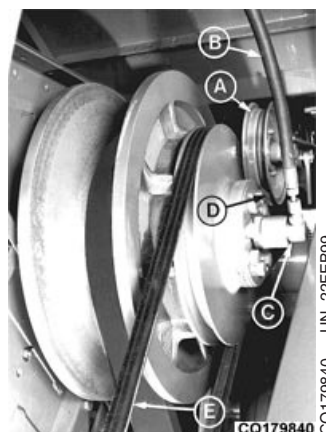
AG,GG05155,317 -19-01SEP03-1/4

IMPORTANT: Before any disassembly, thoroughly clean the area around the connector (C) and hydraulic hose (B).

Remove hydraulic hose (B) and connector (C). Loosen and remove the clean grain elevator drive belt (D) and the separator and cleaner drive belt (E).

Remove idler pulley (A). Move the support and pin upwards and secure in this position.

- A—Idler Pulley
- B—Hydraulic Hose
- C—Connector
- D—Clean Grain Elevator Drive Belt
- E—Separator and Cleaner Drive Belt



Continued on next page

AG,GG05155,317 -19-01SEP03-2/4

Removing Drive Belt

On the beater's variable pulley, push the inner half pulley inward as far as possible.

There are three M12 x 150 bolts (G) with nuts and washers in the tool box. Insert these bolts in the threaded holes on the external half pulley (H) of the cylinder shaft pulley. When the bolt ends touch the inner half pulley, evenly tighten them and the two halves will begin to separate and stay in that position.

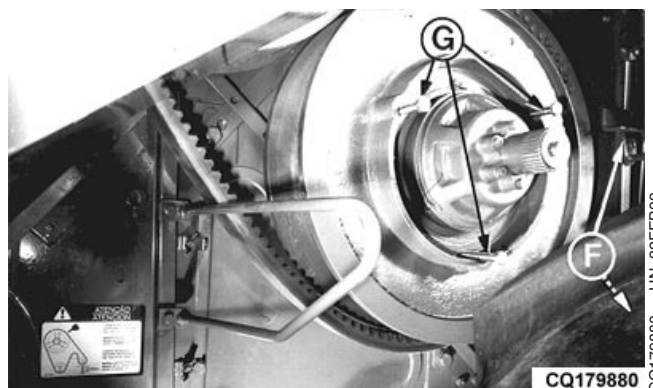
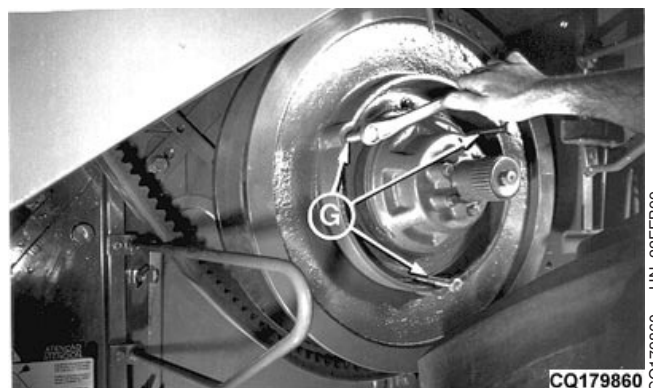
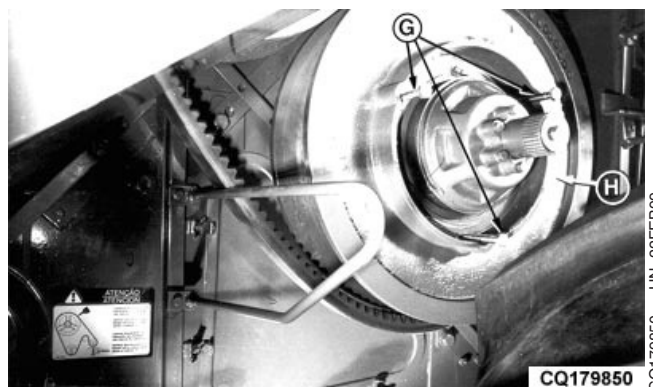
With your hand pull the belt over the outer half pulley of the beater shaft pulley (do not force).

NOTE: Before removing, check that the belt is completely seated in the bottom of the cylinder shaft pulley slot.

Pull the belt off over the cylinder shaft pulley. On the cylinder shaft pulley move the external half pulley inward approximately 50 mm loosening the three bolts (G). Remove the belt passing it through the supports (F).

IMPORTANT: After changing the belt, remove the three bolts and store them in the tool box.

To install a new belt follow this procedure in reverse order.



Removing Belt on Machines with Reduction Gear

Rotate threshing cylinder through the half pulley (A) or using a wrench (See Rotating Cylinder By Hand) until the three holes (B) of reduction gear (C) are aligned with the threaded holes of outer half pulley (A).

Remove nuts (D), (E) and support (F).

There are three M12 x 150 bolts (G) with nuts and washers in the tool box. Insert these bolts fully into the threaded holes in the outer half pulley (A) of the cylinder shaft. Evenly tighten the three nuts (H) to separate the half pulleys to the maximum limit.

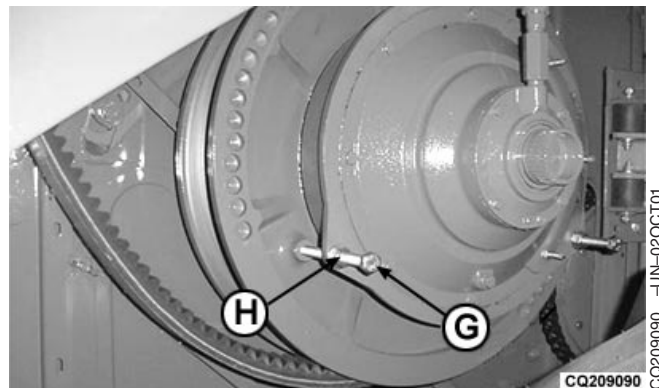
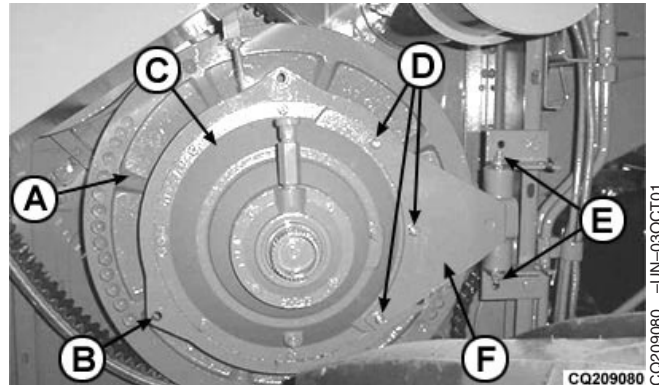
NOTE: Before removing, check that the belt is completely seated in the bottom of the cylinder shaft pulley slot.

With your hand pull the belt over the outer half pulley of the beater shaft pulley (do not force).

Pull the belt off over the cylinder shaft pulley.

To install a new belt follow this procedure in reverse order.

IMPORTANT: After changing the belt, remove the three bolts and store them in the tool box.

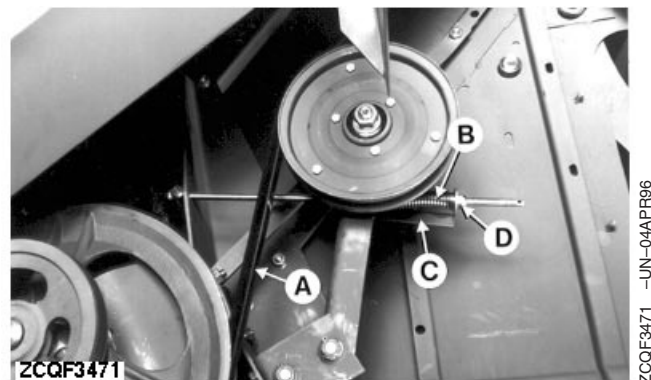


AG,GG05155,317 -19-01SEP03-4/4

Adjusting Straw Walker V-Belt Tension

Belt tension (A) is correct when the length of spring (B) is equal to the length of indicator tab (C). Adjust the tension with nut (D).

- A—Drive Belt
- B—Spring
- C—Indicator Tab
- D—Adjusting Nuts



AG,CO03622,2139 -19-27AUG04-1/1

Adjusting Straw Walker Drive Chain Tension

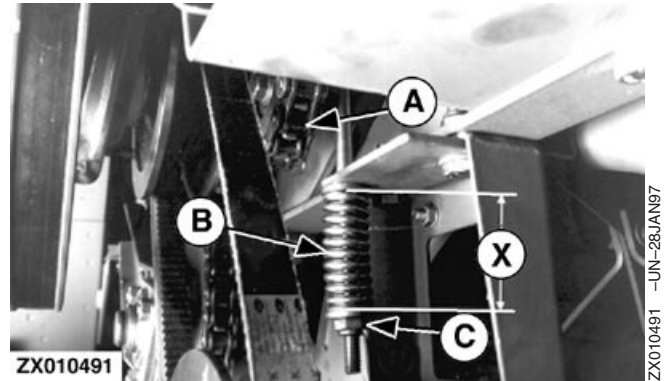
Adjust the tension of chain (A) with the idler sprocket.

Spring (B) should be (X) mm (X in.) long.

X—Distance..... **Specification** 70 mm (2.75 in.)

Adjust length with nut (C).

A—Chain
B—Spring
C—Adjusting Nuts
X—Length



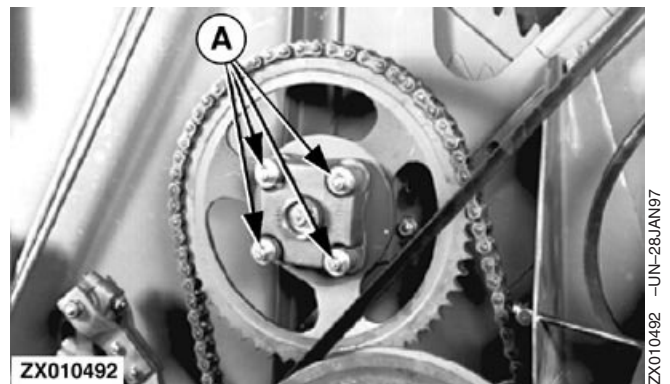
AG.CO03622,2140 -19-20AUG04-1/1

Adjusting Straw Walker Slip Clutch

The straw walkers are protected by a slip clutch.

Adjust by tightening four nuts (A).

Nuts (A)—Torque **Specification** 40 N•m (29 lb-ft)

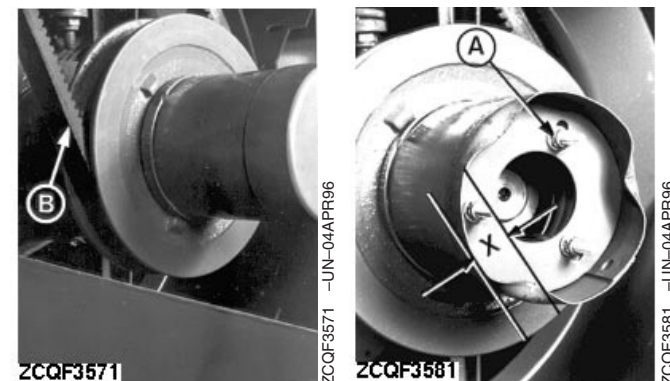


AG.CO03622,2141 -19-27AUG04-1/1

Adjusting Fan Variable Speed Drive Belt Tension

The fan drive belt (B) is correctly adjusted when distance (X), as measured from the outer edge of the spring box to the spring retaining washer, is 20 to 30 mm (0.79 to 1.18 in.).

Adjust nuts (A) to change this distance.



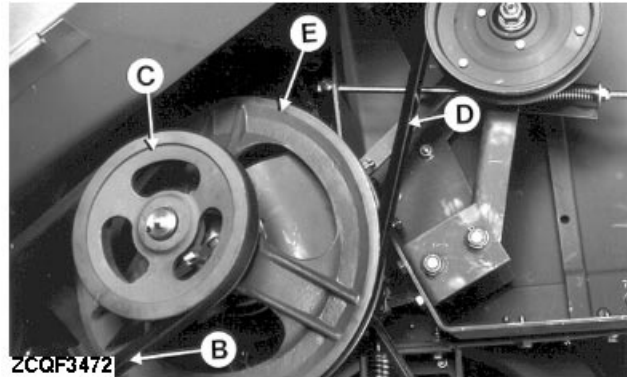
AG.CO03622,2142 -19-15MAR02-1/1

Replacing Fan/Alternator V-Belt

IMPORTANT: Only adjust fan speed with the engine running.

Remove the elevator drive belt (B) and pulley (C).
Remove belt (D). Loosen mounting bolt and detach pulley (E).

- B—Drive Belt
- C—Pulley
- D—Drive Belt
- E—Pulley



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AG,CO03622,2143 -19-26SEP02-1/2

Remove pivot arm (A) and bolt (B) on both sides of yoke (C).

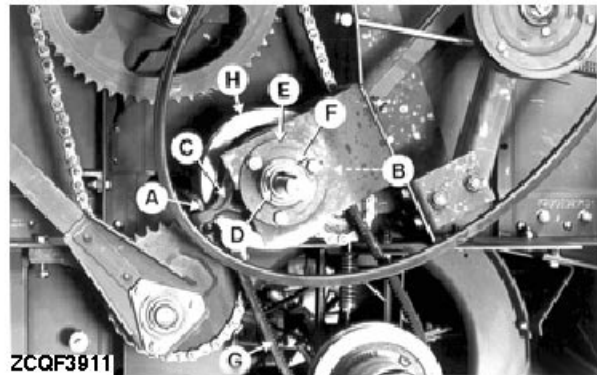
Remove snap ring (D) and take out flange (E) with bearing (F).

Remove belt (G) from the lower fan drive unit. Pull belt (G) over outer variable pulley (H) and yoke (C). The belt comes out over the bearing support opening (I). Pull the belt out through the opening.

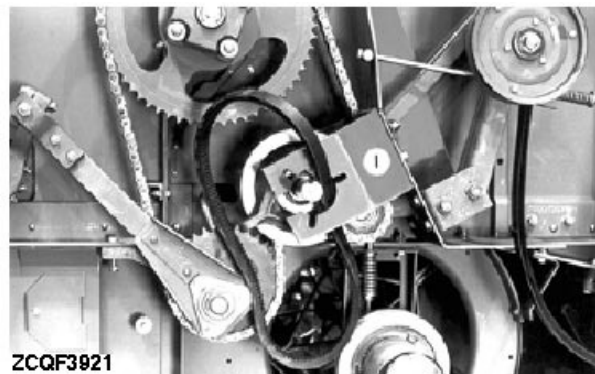
To install a new belt follow this procedure in reverse order.

NOTE: Make sure the upper pulley lugs are correctly connected. Firstly install the belt on the upper unit.

- A—Pivot Arm
- B—Locking Bolt
- C—Yoke
- D—Snap Ring
- E—Bearing Support Flange
- F—Bearing
- G—Drive Belt
- H—Outer Variable Pulley
- I—Bearing Housing



ZCQF3911 -UN-04APR96



ZCQF3921 -UN-04APR96

AG,CO03622,2143 -19-26SEP02-2/2

Adjusting Tailings Elevator Drive Belt Tension

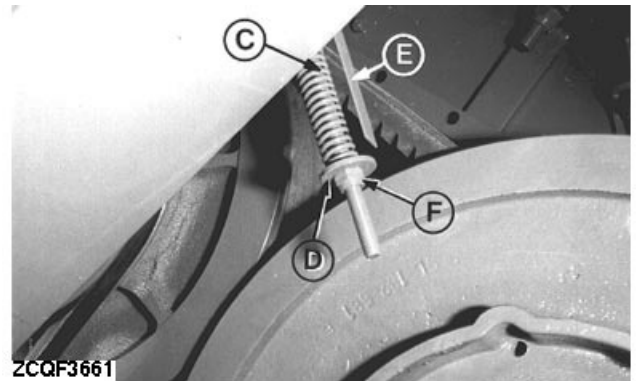
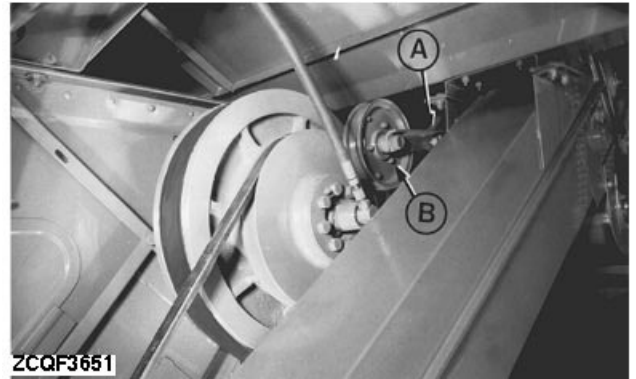
The tailings elevator is driven by the beater pulley via the elevator slip clutch.

Belt (A) is automatically tensioned by idler pulley (B).

To obtain proper tension, backing washer (D) should be level with indicator tab (E).

Adjust with nut (F).

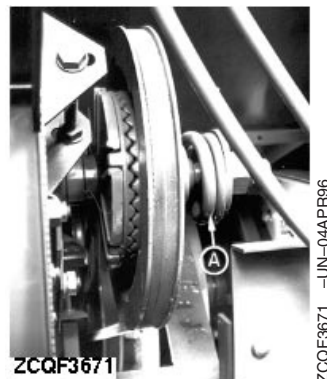
- A—Drive Belt
- B—Idler Pulley
- C—Spring
- D—Backing Washer
- E—Indicator Tab
- F—Adjusting Nuts



AG.CO03622,2144 -19-15MAR02-1/1

Adjusting Tailings Elevator Slip Clutch

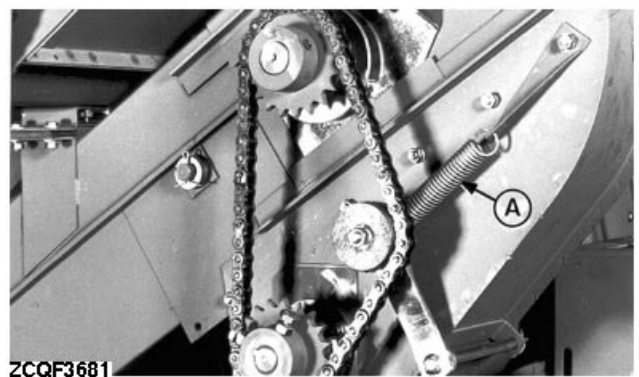
The slip clutch is correctly adjusted when spring (A) measures 60 mm (2,36 in.).



AG.CO03622,2145 -19-15MAR02-1/1

Adjusting Tailings Auger Drive

The chain is automatically tightened by spring (A).

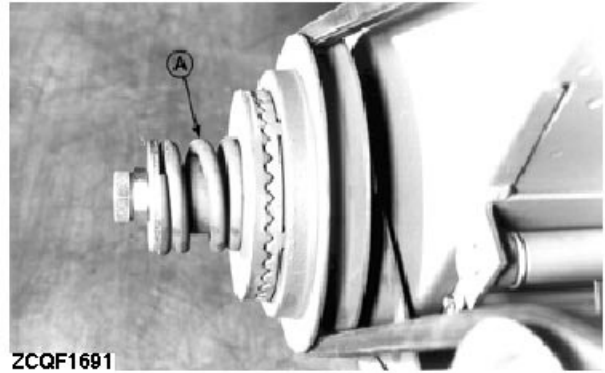


AG.CO03622,2146 -19-20AUG04-1/1

Adjusting Clean Grain Elevator Slip Clutch

The slip clutch is correctly adjusted when spring (A) measures 59 mm (5.89 cm.).

NOTE: Do not lubricate the slip clutch.



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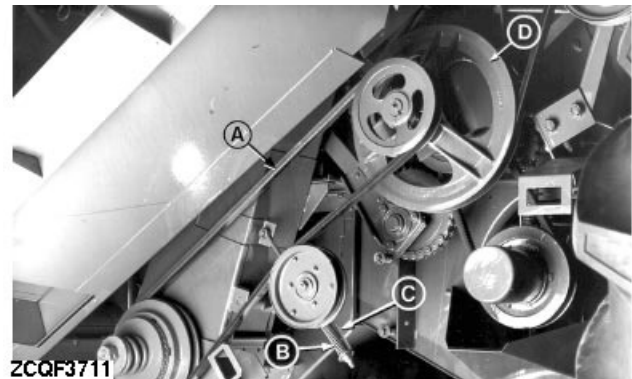
AG,CO03622,2147 -19-26SEP03-1/1

Clean Grain Elevator Drive Belt

The clean grain elevator is driven by belt (A) from the straw walker drive (D).

The belt tension is correct when spring (B) is as long as indicator tab (C).

- A—Belt
- B—Spring
- C—Indicator Tab
- D—Straw Walker Drive



ZCQF3711

ZCQF3711 -UN-04APR96

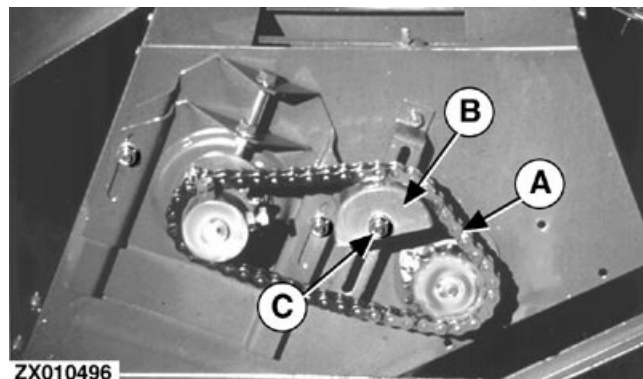
AG,CO03622,2148 -19-20AUG04-1/1

Adjusting Upper Auger Drive Chain

Remove wing nut and open the cover.

To adjust chain tension (A) using idler (B), loosen nut (C) from the bolt and move idler (B) as required.

- A—Chain
- B—Idler
- C—Locking Bolt



ZX010496

ZX010496 -UN-28JAN97

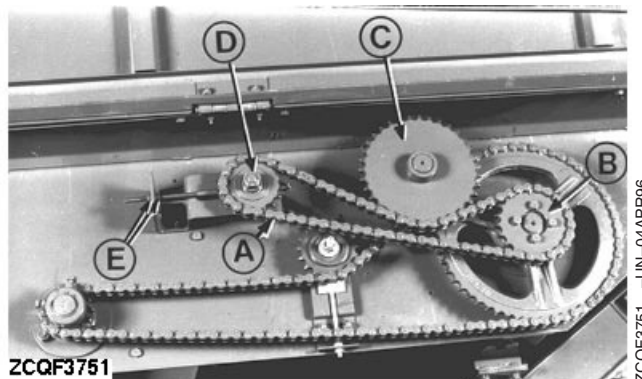
AG,CO03622,2150 -19-20AUG04-1/1

Adjusting Unloading Auger Feeder Drive

The drive of the unloading auger feeder is powered by chain (A) running from the lower unloading auger sprocket (B) to sprocket (C).

Chain (A) can be tightened by moving sprocket (D) after loosening the hex nuts (E).

- A—Chain
- B—Sprocket
- C—Sprocket
- D—Sprocket
- E—Hex nut



AG,CO03622,2151 -19-20AUG04-1/1

Adjusting Unloading System Drive

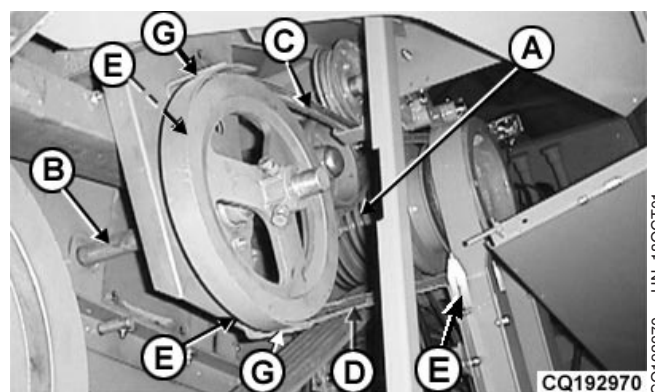
Left-hand side of combine:

NOTE: To avoid accidents shut off engine before adjusting belt guide.

The system is driven by belt (C) from the engine pulley (A) and jackshaft (B).

Adjust belt guide (D) with supports (G) after loosening bolts (E) to obtain uniform spacing of 3 to 5 mm (0.1 to 0.2 in.) between the belt and guide with the belt tightened.

Run machine and verify the adjustment between belt and guide.



- A—Engine pulley
- B—Jackshaft
- C—Drive Belt
- D—Belt Guide
- E—Bolts
- G—Supports

Continued on next page

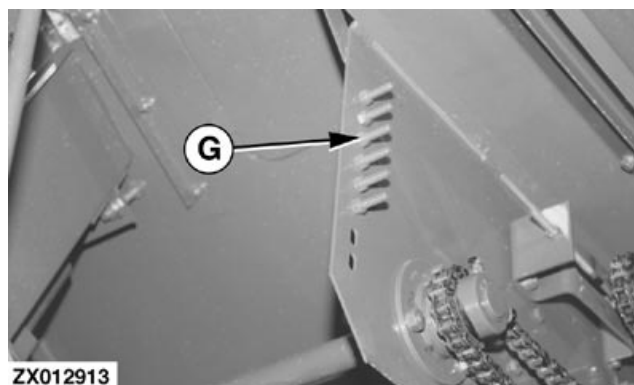
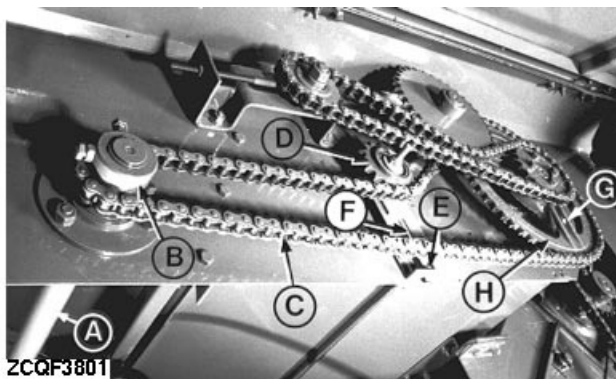
AG,CO03622,2152 -19-26SEP03-1/2

Sprocket (B) is engaged by jackshaft (A) on the right-hand side of the combine. Chain tension is adjusted with idler sprocket (D). Loosen hex nut (E) and position the idler sprocket accordingly, with bolt (F).

IMPORTANT: Bolt (G) is a shear bolt which will break in order to protect the drive system. Always replace with an original JOHN DEERE part. Tighten it enough to bring the drag arm smoothly in contact with sprocket (H). Tighten shear bolt (G) using a screwdriver while holding lock nut with a spanner.

NOTE: Six (6) replacement shear bolts (G) are supplied with the combine.

- A—Jackshaft
- B—Sprocket
- C—Chain
- D—Sprocket
- E—Hex Nut
- F—Tightener Bolt
- G—Shear bolt
- H—Unloading auger shaft sprocket

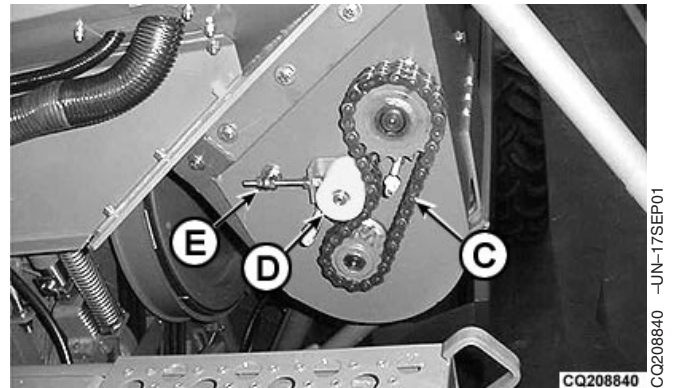
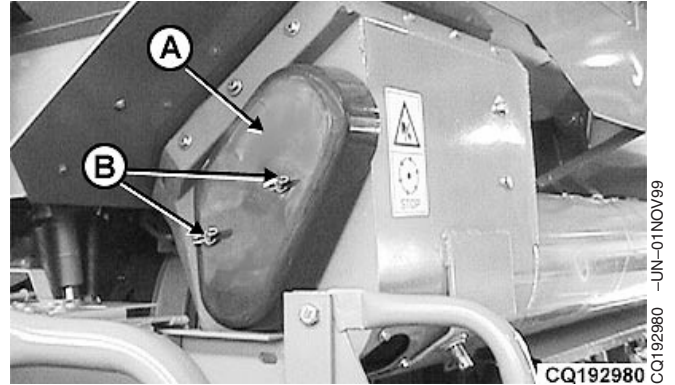


Adjusting Unloading Auger Drive Chain

Remove drive shield (A) by taking out wing nuts (B).

The grain unloading auger is driven by means of chain (C). Adjust tension of chain (C) by means of idler sprocket (D) through nuts (E). Put drive shield back in its place.

- A—Drive Shield
- B—Wing nut
- C—Chain
- D—Idler sprocket
- E—Nuts



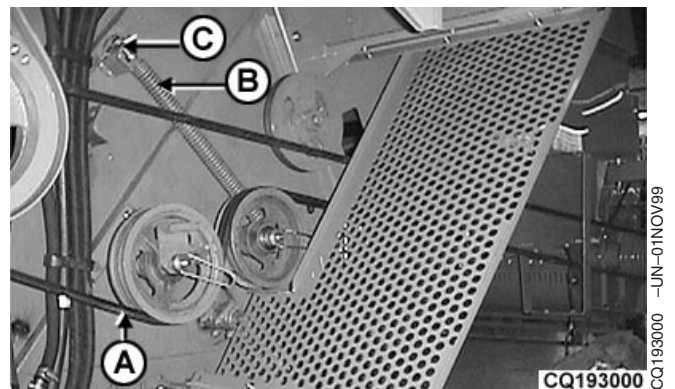
AG.CO03622,2153 -19-20AUG04-1/1

Tensioning Straw Chopper Intermediate Drive Belt

The correct tension of belt (A) is obtained by means of spring (B).

Use adjusting bolt (C) for adjustment.

- A—Belt
- B—Spring
- C—Locking Bolt



AG.CO03622,2212 -19-11AUG04-1/1

Service —Electrical System

Prevent Battery Explosions

Keep sparks, lighted matches, and open flame away from the top of battery. Battery gas can explode.

Never check battery charge by placing a metal object across the posts. Use a volt-meter or hydrometer.

Do not charge a frozen battery; it may explode. Warm battery to 16°C (60°F).



TS204 -UN-23AUG88

DX,SPARKS -19-03MAR93-1/1

Removing Battery



CAUTION: When servicing the electrical system **ALWAYS** disengage the battery switch



CAUTION: When removing the battery, first disconnect the negative (-) cable followed by the positive cable (+).

NOTE: When reconnecting the battery cables, first connect the positive (+) cable and then the negative (-).



CQ194821 -UN-01DEC03

ML70882,00003ED -19-10NOV03-1/1

Cleaning the Battery

— Clean the battery weekly.

— Use a brush to remove any corrosion from the terminals.

— Smear the battery terminals and cables with grease or petroleum jelly.



CQ194821 -UN-01DEC03

ML70882,00003EE -19-10NOV03-1/1

Battery Electrolyte Level

Check battery electrolyte level weekly.

Check Test Indicator:

- Green:** Battery voltage is good.
- Dark:** Battery voltage is not good. Charge battery until test indicator turns green.
- Light:** electrolyte level low. Replace battery and check combine electrical system.



CO194841 -UN-01DEC03

ML70882,00003EF -19-10NOV03-1/1

Storing and Handling Battery

At the end of the harvesting season store the battery in a cool, dry place.

Inspect the battery every 30 days.

If necessary, recharge the battery.

AG,CO03622,441 -19-26SEP03-1/1

Battery Switch

Turn switch clockwise to turn on and counterclockwise to turn off.



CO216341 -UN-01DEC03

ML70882,00003EC -19-10NOV03-1/1

Installing and Connecting the Battery

IMPORTANT: Check that battery is connected to correct poles. The positive cable (from starting motor) to the positive (+) pole, the negative cable (from ground) to the negative (-) pole. Inverted polarity may cause permanent damage to the electrical system.



CQ194821 -UN-01DEC03

ML70882,00003F1 -19-10NOV03-1/1

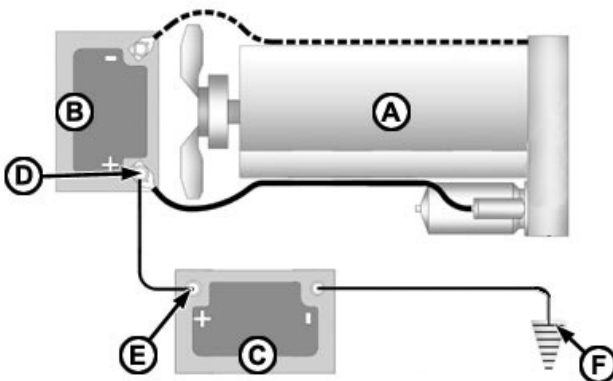
Using a Booster Battery

IMPORTANT: If this is necessary, do not directly connect the booster battery cables (C) to the terminals of the weak battery (B). This may damage the batteries or even cause an explosion.

Use cables terminated in “crocodile” clips, and with sufficient current carrying capacity.

Procedure

1. Connect one cable between the (+) terminals (D and E) of batteries (B and C).
2. Connect one end of the other cable to the (-) terminal of booster battery (C) and attach the other end to a ground connection, e.g.: engine housing, chassis.
3. Start up engine.



CQ221020 -UN-21NOV03

A—Engine
B—Weak Battery
C—Booster Battery
D—Positive Terminal of Weak Battery
E—Positive Terminal of Booster Battery
F—Ground Connection

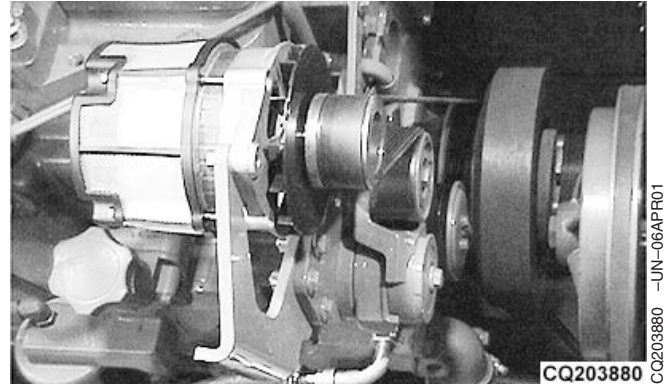
OU83340,00003F6 -19-21NOV03-1/1

Alternator

IMPORTANT: Before carrying out service of any kind on the electrical system, always disconnect the ground cable, since this prevents damage from occurring.

NOTE: Tensioning of the drive belt is described in the "Service — Engine" section.

Have alternator checked by a specialist workshop once every year.



AG,CO03622,2214 -19-15MAR02-1/1

Starting Motor

IMPORTANT: Before carrying out service of any kind on the electrical system, always disconnect the ground cable, since this prevents damage from occurring.

If the starting motor does not function or operates only sluggishly, the fault may lie not in the starting motor but in one of the causes suggested below.

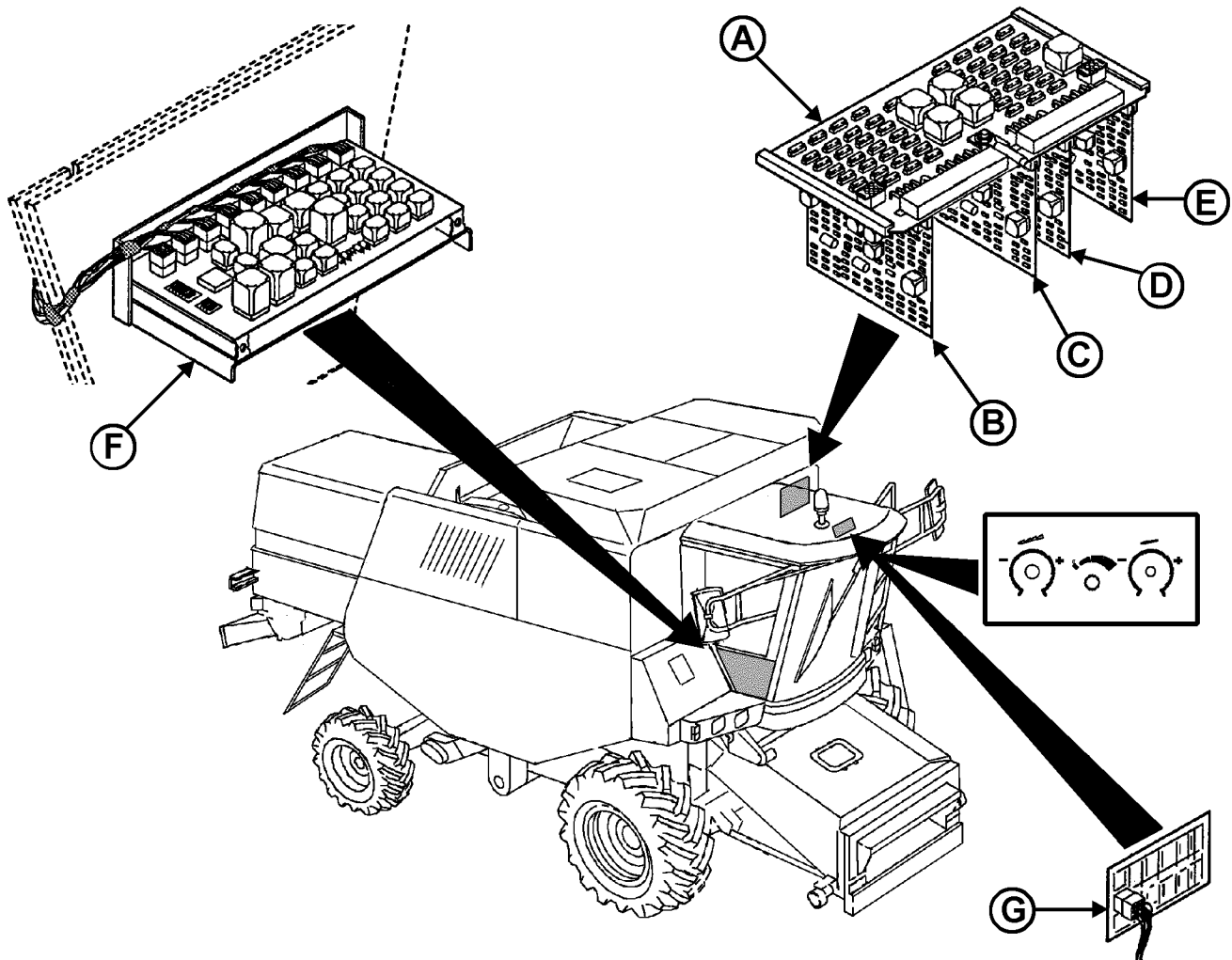
- ☐ **Loose, dirty or corroded connections:** Clean and tighten all connections.
- ☐ **Low battery output:** Check electrolyte level and specific gravity of battery. If necessary, recharge battery. See "Battery Electrolyte Level".
- ☐ **Run down battery:** Recharge battery.

- ☐ **Engine oil with incorrect viscosity:** Use oil with specified viscosity.
- ☐ **Low environmental temperature (Europe and United States):** An intake heating system is automatically engaged by the ECU to increase intake manifold air temperature to improve cold starting. An indicator light goes out when it is possible to turn starter key.
- ☐ **Defective starting motor safety relay:** Replace relay.

If the suggested remedies fail to improve starting motor operation, see your local John Deere dealer. Have starting motor inspected by a specialist workshop once every year.

AG,CO03622,2215 -19-20AUG04-1/1

Electronic Boards



CQ193050

—JUN-09NOV99

A—Fuse board
B—Speed and warning signals
monitoring board

C—Reel speed adjustment
board
D—Auxiliary relay board

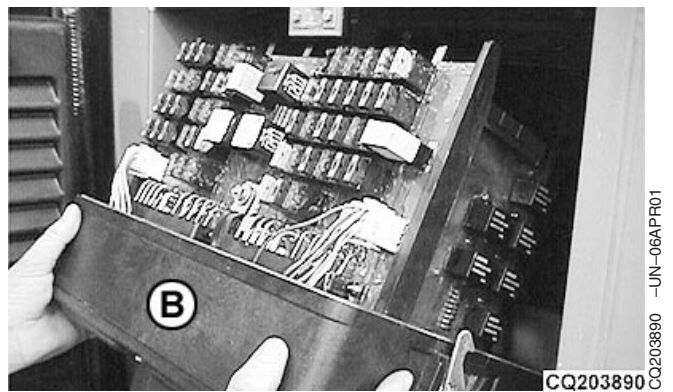
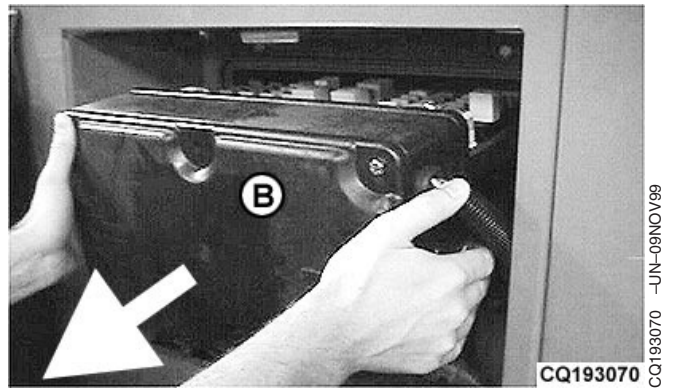
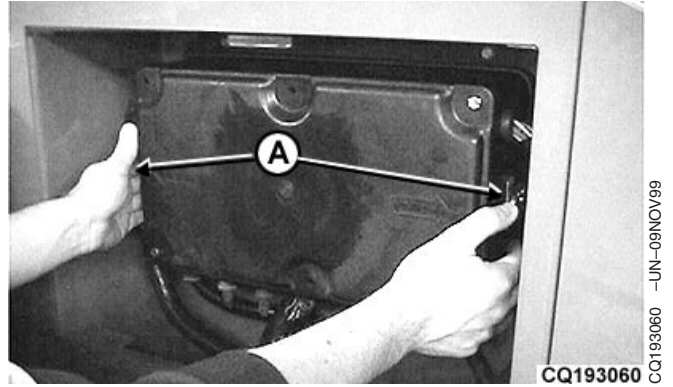
E—Cutting platform control
board
F—Relay and diode board

G—Harvest performance
monitor board

AG,CO03622,2216 —19-20AUG04-1/1

Removing Electrical Box

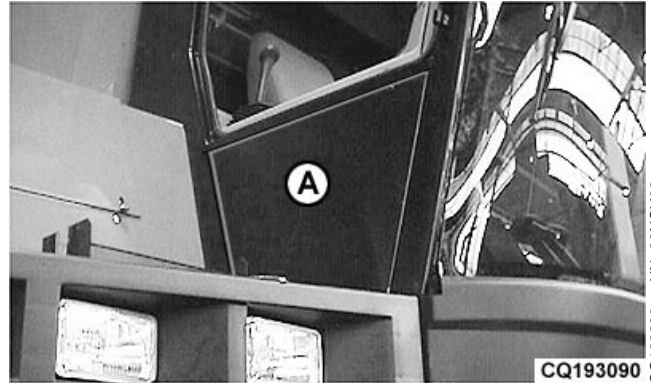
- Remove cover of electrical box (not illustrated).
- Loosen latches (A) on both sides of box.
- Slowly and carefully pull out the electrical box (B) as illustrated.



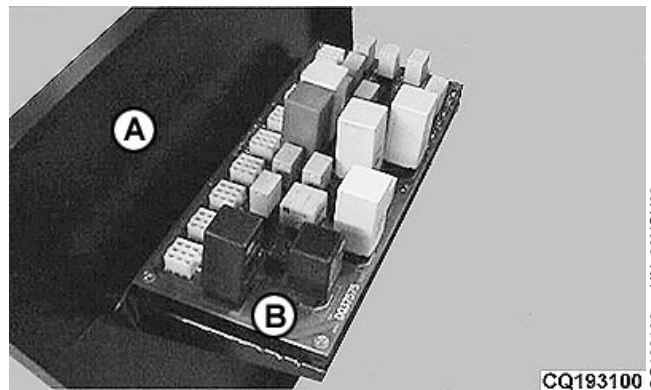
AG.CO03622,2217 -19-15MAR02-1/1

Access to the Relay and Diode Board

- Remove cover (A).
- The relay and diode board (B) is integrated into the inner side of the cover (A).



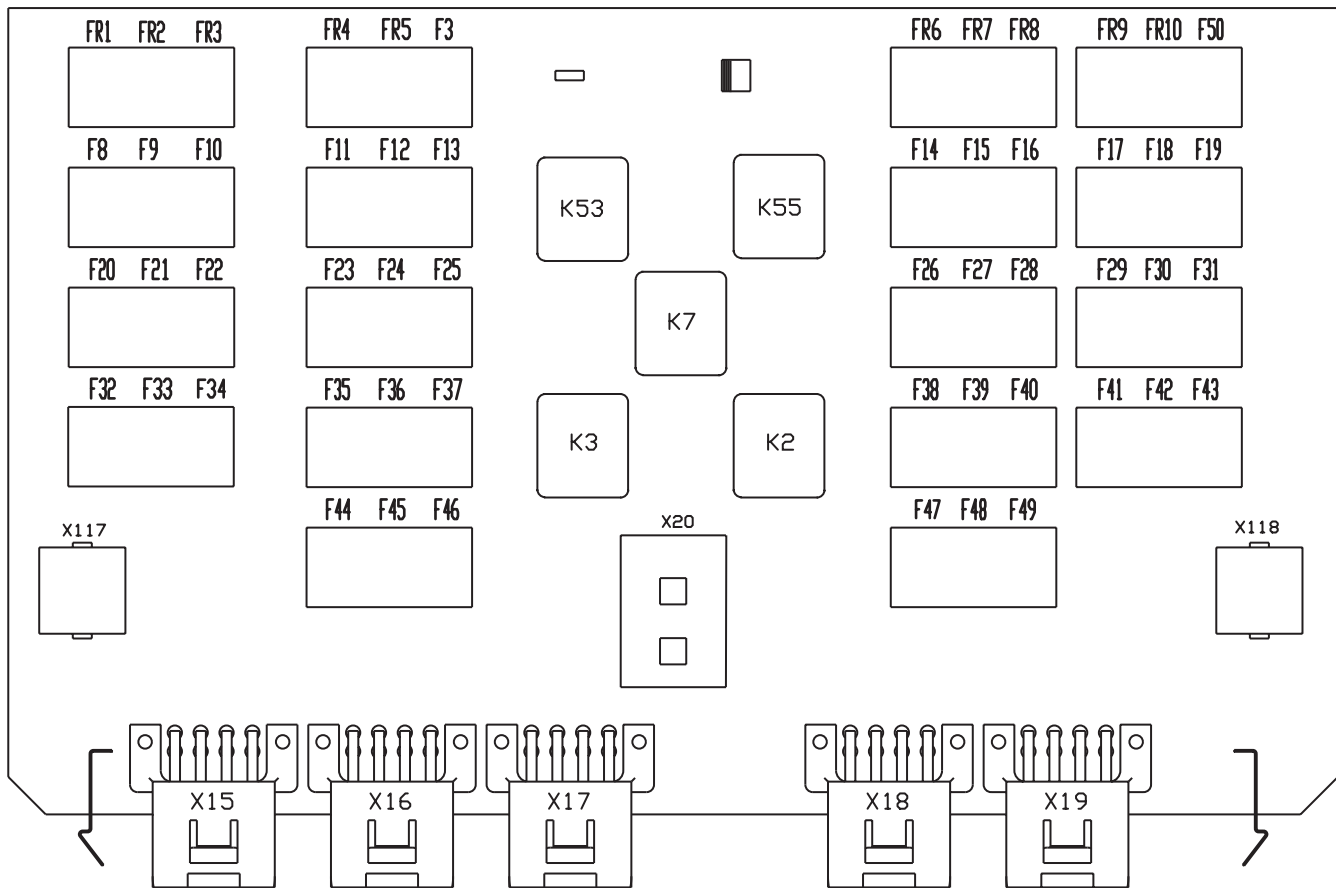
UN-09NOV99
CQ193090



UN-09NOV99
CQ193100

AG,CO03622,2218 -19-15MAR02-1/1

Fuses on Fuse Board



CQ216560
512 X 388

CQ216560 —UN—19NOV02

Continued on next page

AG,CO03622,2219 —19—22JUL04—1/2

F8—7.5 A fuse - Fan and threshing cylinder speed adjustment	F20—7.5 A fuse - Unloading auger light	F32—15 A fuse - Horn	F45—7.5 A fuse - Left-hand high beam
F9—15 A fuse - Straw distributor adjustment—CWS/WTs (option)	F21—30 A fuse - Air conditioning system	F33—30 A fuse - Starter switch	F46—7.5 A fuse - Right-hand high beam
F10—7.5 A fuse - Low shaft speed monitor system	F22—15 A fuse - Windshield wipers, grain tank light and cab dome light	F34—15 A fuse - Field / road safety tumbler switch	F47—7.5 A fuse - Radio, CB and clock
F11—7.5 A fuse - Harvest performance monitor	F23—15 A fuse - Brake lights, reel speed adjustment	F35—7.5 A fuse - Straw walker and straw chopper warning device	F48—7.5 A fuse - D+ alternator
F12—15 A fuse - Header and reverser drive	F24—7.5 A fuse - Reverse travel warning siren	F36—7.5 A fuse - Electrically adjustable outside mirrors—CWS/WTs (option)	F49—7.5 A fuse - Injector pump solenoid (1450/1550)
F13—7.5 A fuse - Cutting platform controls	F25—30 A fuse - Shift lock (CWS/WTs)	F37—15 A fuse - Radio, CB and clock	F50—7.5 A fuse - Indicator lights, temperature gauge
F14—7.5 A fuse - Power supply to cutting platform control board	F26—15 A fuse - Intermittent indicator lights	F38—15 A fuse - Cigarette lighter socket	FR1—7.5 A fuse - Spare
F15—7.5 A fuse - Raising/lowering header	F27—30 A fuse - Concave adjustment	F39—Not used	FR2—7.5 A fuse - Spare
F16—7.5 A fuse - Grain tank unloading system	F28—7.5 A fuse - Power supply to cutting platform control board	F40—7.5 A fuse - Left parking light	FR3—7.5 A fuse - Spare
F17—7.5 A fuse - Main power supply to threshing and splitter relays	F29—30 A fuse - Work lights on cab roof	F41—7.5 A fuse - Right parking light	FR4—7.5 A fuse - Spare
F18—Not used	F30—30 A fuse - Fan adjustment	F42—7.5 A fuse - Dash panel lighting	FR5—15 A fuse - Spare
F19—Not used	F31—15 A fuse - Turn signal lights, sieves and engine compartment lighting	F43—7.5 A fuse - Right-hand low beam	FR6—15 A fuse - Spare
		F44—7.5 A fuse - Left-hand low beam	FR7—15 A fuse - Spare
			FR8—30 A fuse - Spare
			FR9—30 A fuse - Spare
			FR10—30 A fuse - Spare
			F3—Fuse Tester

IMPORTANT: Never use fuses with higher amperage than those specified. If fuses keep blowing in one circuit,

have the electrical system of your combine inspected by your John Deere dealer.

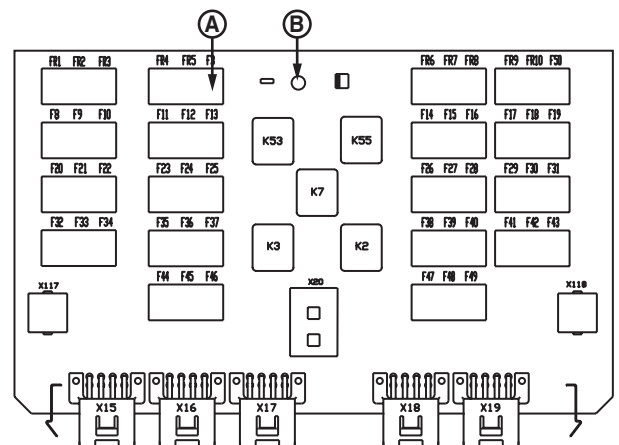
AG,CO03622,2219 -19-22JUL04-2/2

Fuse Tester

To test the fuses a tester was placed on the fuse circuit board proper, permitting the working order of a fuse to be checked.

Remove any fuse that may possible be defective and insert it in slot (A). If led (B) lights up, the fuse is perfect working order.

NOTE: It is not necessary to turn on the starter key to carry out the test, just ensure that the battery switch is ON.

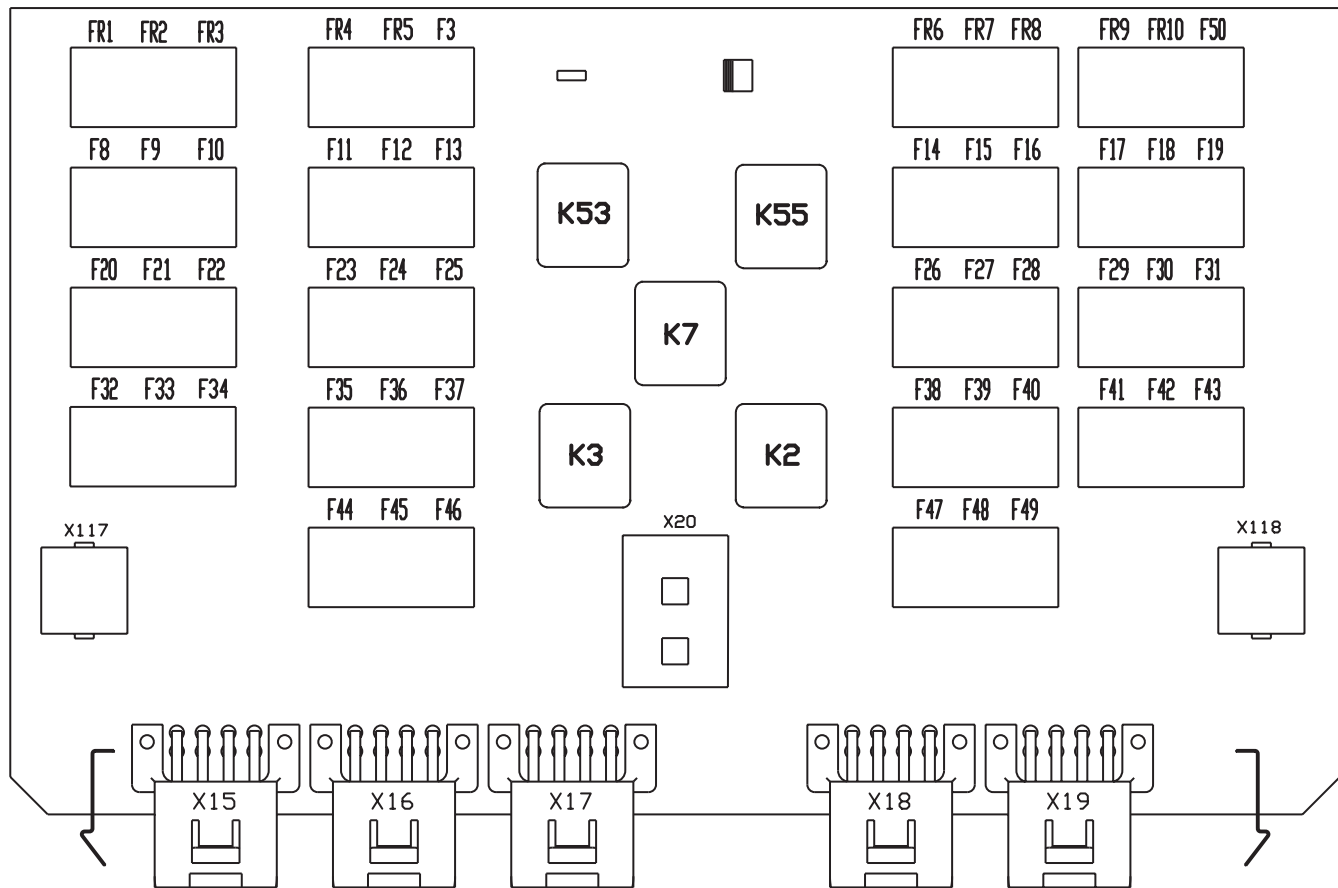


A—Fuse Tester
B—Luminous diode

CO216570 -UN-19NOV02

CO03622,000006D -19-19NOV02-1/1

Relays on Fuse Board



CQ216561 -UN-19NOV02

CQ216561
512 X 388

K02—Power supply relay
K03—Power supply relay

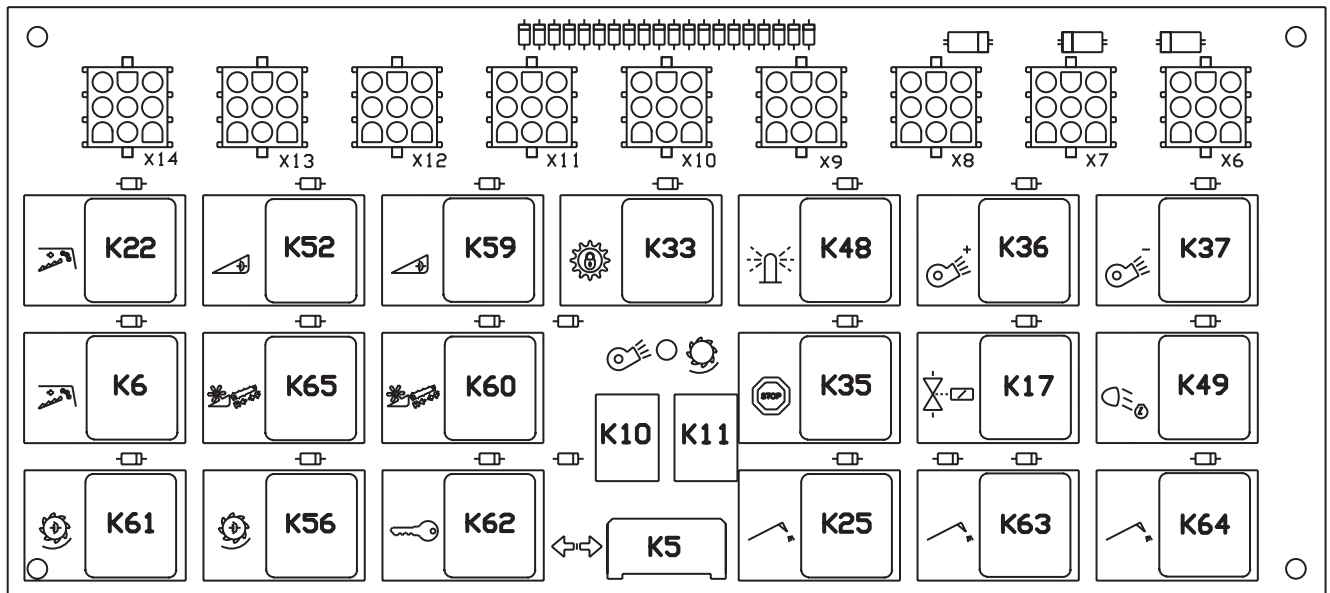
K07—Work lights relay

K53—Threshing unit relay

K55—Field / road safety
tumbler switch relay

AG,CO03622,2264 -19-19NOV02-1/1

Relay and Diode Board



CQ216550
512 X 268

CQ216550 -UN-19NOV02

K05—Turn signal relay
K06—Horn relay # 2 positions
K10—Fan speed alarm relay
K11—Cylinder speed alarm relay
K17—Splitter relay
K22—Horn relay # 1
K25—Unloading auger relay

K33—Shift lock auxiliary relay (CWS/WTs)
K35—Emergency stop relay
K36—Relay, increasing speed of fan
K37—Relay, reducing speed of fan
K48—Intermittent indicator lights relay

K49—Rear light relay
K52—Header drive tumbler switch self retain relay
K56—Separator drive relay
K59—Header drive engage relay
K60—Reverser relay
K61—Separator drive self retain relay

K62—Start lock relay
K63—Unloading auger drive self retain relay
K64—Unloading auger drive relay
K65—Reverser self retain relay

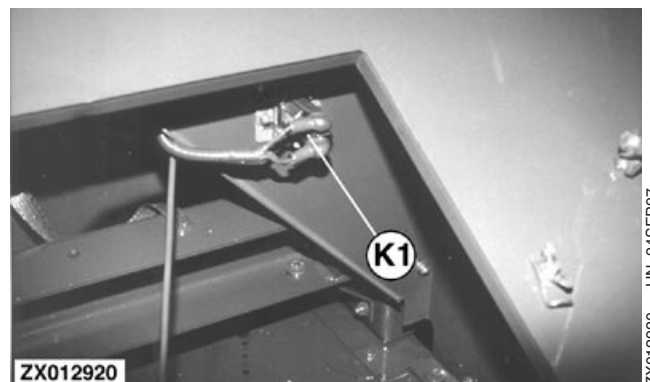
AG,CO03622,2221 -19-22JUL04-1/1

Starting Motor Relay—1450/1550

K 1 — Relay, Starting Motor

The solenoid switch of the starting motor is supplied with power via relay. The relay is located underneath the left-hand rear grain tank support.

Access is possible via an opening in the grain tank bottom.

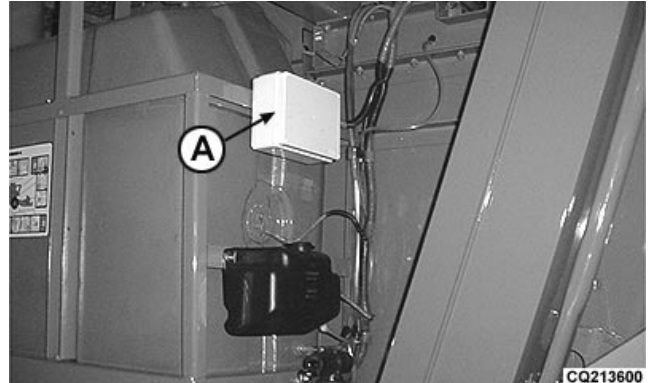


ZX012920 -UN-24SEP97

WH,CO03622,2223 -19-20AUG04-1/1

Starting Motor Relay—CWS/WTs

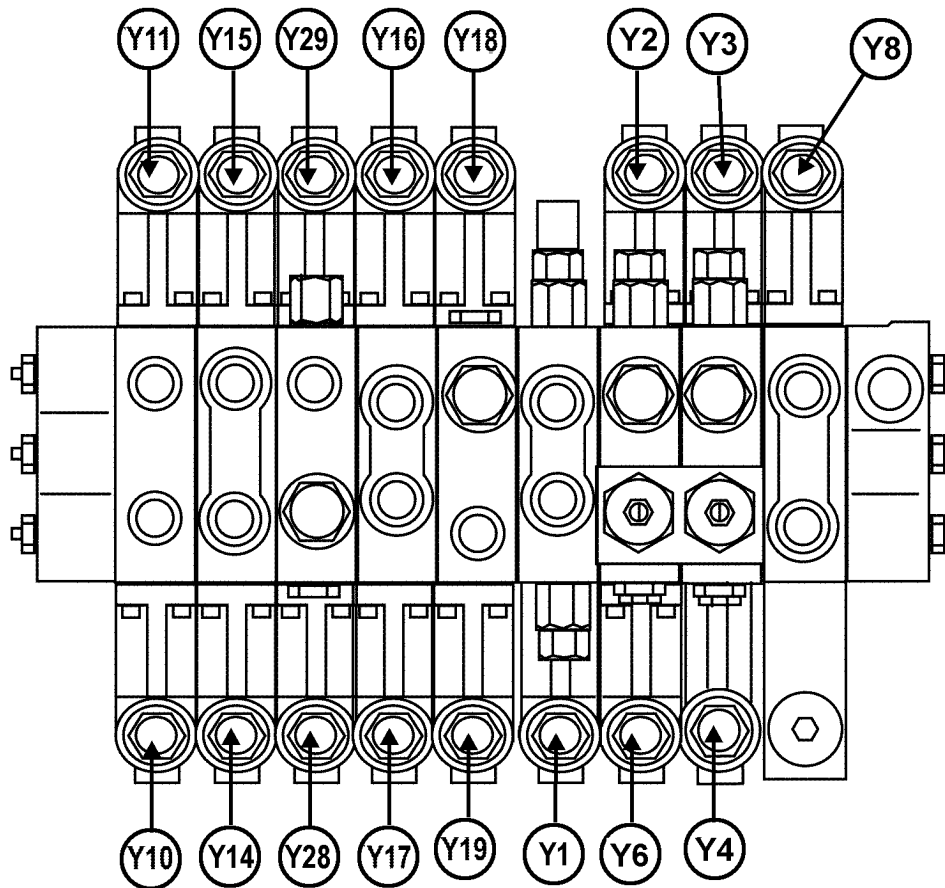
The solenoid switch of the starting motor is supplied with power via the K1 relay. This relay is located in the electrical box (A) near the fuel tank.



AG,CO03622,2223 -19-20AUG04-1/1

CO213600 -UN-15APR02

Solenoid Valves (Main Hydraulic Block)



CO222860 -UN-23MAR04

Y1—Splitter
Y2—Fast raise of header
Y3—Slow raise of header
Y4—Slow lowering of header
Y6—Fast lowering of header

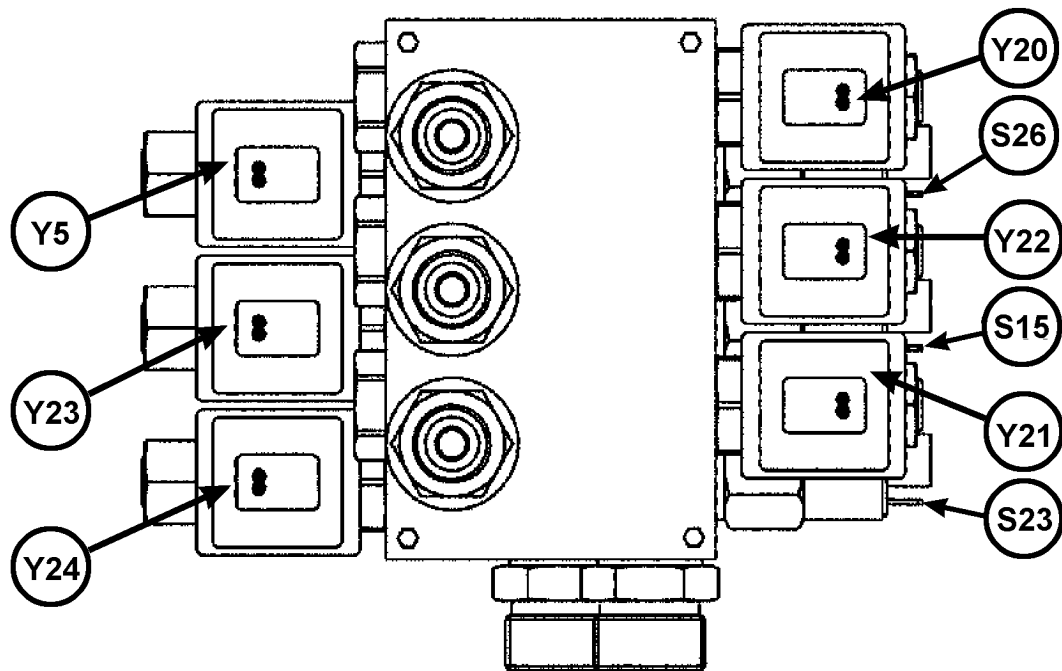
Y8—Hydraulic reverser
Y10—Swinging in unloading auger
Y11—Unloading auger swinging

Y14—Header tilt to right
Y15—Header tilt to left
Y16—Reel aft position
Y17—Reel forward position
Y18—Reel lowering

Y19—Reel raising
Y28—Reduce threshing cylinder speed
Y29—Increase threshing cylinder speed

ML70882,00004AD -19-20JUL04-1/1

Solenoid Valves (Secondary Hydraulic Block)



CQ209341 -UN-22JUL04

S15—Pressure Switch (35 bar)
 S26—Pressure Switch (12 bar)
 S23—Pressure Switch (12 bar)
 Y5—Disengaging unloading
 auger
 Y20—Engaging unloading
 auger

Y21—Header drive
 Y22—Engaging separator

Y23—Disengaging separator
 Y24—Engaging header

ML70882,00004B5 -19-22JUL04-1/1

Error Codes, INFOTRAK Monitor

Whenever the INFO-TRAK™ monitor displays a three-digit number followed by an “E”, a malfunction or operating error is indicated. The cause of equipment malfunction may be a broken wire etc.

IMPORTANT: If the solution cannot be found or the malfunction solved, see your John Deere dealer.

Error Codes	Problem	Solution
101E	Counter of engine operating hours on INFOTRAK monitor is defective.	
102E	Working hour counter of INFO-TRAK monitor is defective	
122E	Concave cannot be adjusted, sensor signals not in correct area (too low)	Check fuse (F27)
123E	Concave cannot be adjusted, sensor signals not in correct area (too high)	Check fuse (F27)
128E	No reaction from INFO-TRAK monitor	
129E		
130E	Adjustment motor cannot reduce fan speed to the desired rpm	Check fuses (F8, F30)
131E	Variator cannot reduce cylinder speed to the desired rpm	Check fuse (F8)
132E	Adjustment motor cannot reduce concave clearance to desired gap	Check fuse (F27)
135E	Adjustment motor cannot increase fan speed to the desired rpm	Check fuses (F8, F30)
136E	Variator cannot increase cylinder speed to the desired rpm	Check fuse (F8)
137E	Adjustment motor cannot increase concave clearance to desired gap	Check fuse (F27)
139E	With versions 7 or 9 of EPROM	Engine speed at “automatic machine adjustment” is less than 2000 rpm, or the separator is switched off

AG,CO03622,2225 -19-26JUL04-1/1

Automatic Header Control System Error Codes

IMPORTANT: The solution number for the error message is the number (step) of the header test procedure.

Error Codes	Error Message	Solution
200	System not calibrated	
201	Header height not calibrated	
202	Header float not calibrated	
203	Header height sensors not available	28
209	Slow raise valve driver circuit fault	25
210	Slow lower valve driver circuit fault	25
211	Fast raise valve driver circuit fault	25
212	Fast lower valve driver circuit fault	25
213	Tilt left valve driver circuit fault	26
214	Tilt right valve driver circuit fault	26
215	Flex pressure diverter valve circuit fault	24
216	Accumulator shutoff valve circuit fault	24
218	Sensor power fault	6
220	Height control setting fault	10
221	Float control setting fault	11
224	Feeder house angle sensor fault	13
225	Header height sensor (left) fault	14
226	Header height sensor (right) fault	15
227	Cylinder pressure sensor fault	16
232	Header raise/lower switch fault	8
233	Manual tilt switch fault	8
234	Flex pressure switch fault.	9
235	Reel raise/lower switch fault	8
236	Reel forward switch fault	8
240	Header height sensor fault	21
241	Reel raise/lower position sensor fault (not available)	19
242	Reel forward position sensor fault (not available)	20
243	Reel fast raise valve driver circuit fault	26
244	Reel fast lower valve driver circuit fault	26
245	Reel forward position circuit fault	26
246	Reel aft position circuit fault	26
247	Reel raise/lower setpoint position not reached (not available)	
248	Reel fore/aft setpoint position not reached (not available)	

Header Test Procedures

Display Addresses	Circuit Description	Display / Description	RELATED FAULT CODE
1	Recover codes / Delete codes	Mode 3 to mode 23 numbers	all
2	Global intermittent circuit mode (bip)	Mode 3 to mode 23 numbers	none
3	Battery voltage for logic circuit and valves (F28)	12.3 — 13.5 Volts (normal)	none
4	Battery voltage for valves (F15)	12.3 — 13.5 Volts (normal)	none
5	Battery voltage for valves (F14)	12.3 — 13.5 Volts (normal)	none
6	Sensor power	4.8 — 5.2 Volts	218
7	Voltage of height sensor number 5 contact (Flex 300 Series)	0.0 — 5.0 Volts	none
8	Status of Reel Manual Control two position switch, Tilt and Raise/Lower	Code: xxx0 - Left/Right Switch "OFF" xxx1 - Slow Raise xxx2 - Slow Lower xxx3 - Fast Raise xxx4 - Fast Lower xxx5 - Raise/Lower Switch Error xx0x - Tilt Switch "OFF" xx1x - Left Tilt xx2x - Right Tilt xx5x - Tilt Switch Error x0xx - Right/Left Reel "OFF" x1xx - Raising Reel x2xx - Lowering Reel x5xx - Right/Left Reel Error 0xxx - Reel Fore/Aft Position "OFF" 1xxx - Reel Forward Position 2xxx - Reel Aft Position 5xxx - Reel Fore/Aft Position Error	232, 233, 235, 236
9	Status of manual flex pressure raise/lower switch (Flex 600 Series)	0000 - Pressure "OFF" 0001 - Pressure Increase 0002 - Pressure Decrease 0005 - Switch Error	234
10	Height control setting (Rigid)	0.50 — 4.50 Volts	220
11	Float control setting (Rigid)	0.50 — 4.50 Volts	221
12	Voltage of height sensor number 6 contact (Flex 300 Series)	0.0 — 5.0 Volts	none
13	Feeder house angle sensor (Rigid)	0.25 — 4.75 Volts	224
14	Left-hand header tilt sensor (Flex 600 Series)	0.25 — 4.75 Volts	225

Continued on next page

MB03730,000035A -19-26JUL04-1/4

Display Addresses	Circuit Description	Display / Description	RELATED FAULT CODE
14	Right-hand header tilt sensor (Flex 300 Series)	0.0 — 5.0 Volts	none
15	Right-hand header tilt sensor (Flex 600 Series)	0.25 — 4.75 Volts	226
15	Left-hand header tilt sensor (Flex 300 Series)	0.0 — 5.0 Volts	none
16	Lift cylinder pressure sensor (Rigid)	0.24 — 4.76 Volts	227
17	Voltage of height sensor number 2 contact (Flex 300 Series)	0.0 — 5.0 Volts	none
18	Voltage of height sensor number 3 contact (Flex 300 Series)	0.0 — 5.0 Volts	none
19	Reel raise/lower position sensor (Flex 600 Series)	0.25 — 4.75 Volts	241
20	Reel fore/aft position sensor (Flex 600 Series)	0.25 — 4.75 Volts	242
21	Flex header height sensor (Flex 600 Series)	0.25 — 4.75 Volts	240
21	Voltage of height sensor number 1 contact (Flex 300 Series)	0.0 — 5.0 Volts	none
22	Resume switch positions	Code: 0000 - Switches "OFF" 0xx1 - Resume Float 0x1x - Return to cut 01xx - Auto Enable	none
23	Reel, float, tilt and height enable switch positions	Code: 0000 - Switches "OFF" xxx1 - Float "ON" xx1x - Height "ON" x1xx - Tilt "ON" 1xxx - Reel "ON"	none
23	Height switch positions (Flex 300 Series)	xx1x - Pos 1 xx2x - Pos 2 xx3x - Pos 3	none
24	Status of flex pressure divert valve and accumulator shut-off safety valve	Code: 00x0 - Accumulator valve "OFF" 00x1 - Accumulator valve "ON" 000x - Divert Valve "OFF" 001x - Divert Valve "ON"	215, 216
25	Height valve control block	Code: 0000 - Valve "OFF" 0001 - Slow Raise Command 0002 - Slow Lower Command 0003 - Fast Raise Command 0004 - Fast Lower Command - - - - Disabled Valve	209, 210, 211, 212

Display Addresses	Circuit Description	Display / Description	RELATED FAULT CODE
26	Overflow valve, tilt and reel control blocks	Code: 0000 - All "OFF" xxx1 - Overflow Valve "ON" xx1x - Left Tilt xx2x - Right Tilt x1xx - Raising Reel x2xx - Lowering Reel 1xxx - Reel Forward Position 2xxx - Reel aft position	213, 214, 243, 244, 245, 246
27	Flex pressure, tilt and height operating modes	Code: 0xxx - 5xxx Pressure Modes x0xx - x6xx Tilt Modes xx00 - xx17 Height Modes	none
28	Header sensors, reel operating modes	Code: 1xxx - Mean Height Sensor x1xx - Mechanical Height Sensors xx0x - xx7x Reel Fore/Aft Position Modes xxx0 - xxx7 Reel Raise/Lower Position Modes	none
29	Error cancel modes	Code: 0 — 2048	none
30	Header calibration mode (Corn Header and 600 Series)		none
31	Float calibration mode (Rigid)		none
32	Header type	0 - 300 Series Flex Headers 1 - 600 Series Flex Headers 2 - 300 and 600 Series Rigid Header 3 - Corn Header	none
33	Synchronized raise valve	0 — 5 seconds (3 second standard)	none
34	Height set point (Corn Header and 600 Series Flex Header)	0 — 250 (standard: 35)	none
35	Height system deadband (Corn Header and 600 Series Header)	50 — 250 (standard: 105)	none
36	Tilt system deadband (Corn Header and 600 Series Header)	50 — 250 (standard: 150)	none
37	Fast Raise of Flex Header (Flex 300 Series)	0 — 1	none
38	TEST ONLY - no display AHC calibration fault codes (600 Series)		none
39	TEST ONLY - no display Calibration memory fault		200
40	TEST ONLY - no display Header height calibration fault		201
41	TEST ONLY - no display Header float calibration fault		202

Display Addresses	Circuit Description	Display / Description	RELATED FAULT CODE
42	TEST ONLY - no display Header sensors not responding		203
73	Header height position		none
75	Header tilt position		none
87	Software version	xxxx - (example: 0006)	none

MB03730,000035A -19-26JUL04-4/4

Preliminary Header AHC Calibration Procedures

IMPORTANT: Make sure that the operating position of the cutting platform and the rods is parallel to the ground before starting the calibration procedure. Header angle adjustment is dependent on tire size and is described in the “Feeder House” section.

The header height sensors are calibrated by the AHC in the header calibration procedure.

All other components of the automatic header control system are calibrated in the combine calibration procedure.

The header calibration procedure must only be performed when a header is initially installed or when header height sensors are replaced.

Header selection:

The types of headers supported are:

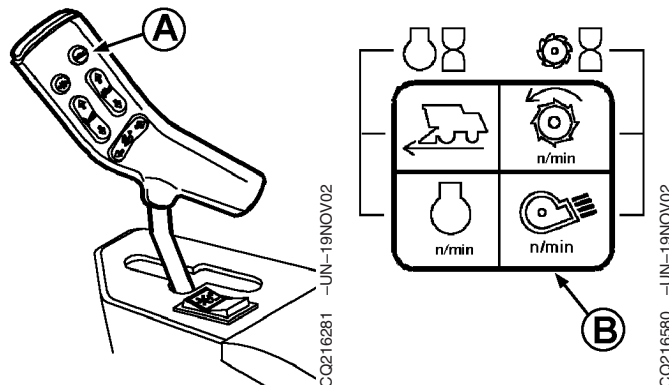
- 0 — 300 Series Flex Headers
- 1 — 600 Series Flex Headers
- 2 — Rigid Headers
- 3 — Corn Headers

Continued on next page

AG,CO03622,2235 -19-11AUG04-1/2

To change the header type stored in the AHC memory, perform the following:

1. Go to address number 32 in the Infotrak. The current header type will be displayed.
2. With the starter key in position II and the road safety switch engaged, push the resume to float knob (A) on the multifunction control handle. The AHC will scroll through the available types of headers. Release the resume to float knob when the desired header type is displayed.
3. Press the fan speed key (B) on the INFOTRAK monitor to store the new header type.



NOTE: The following is a step by step procedure for header calibration, indicating operator action and system response. "r" and "l" on the display mean: "r = right" and "l = left" or "r = raise " and "l = lower".

AG,CO03622,2235 -19-11AUG04-2/2

Header AHC Calibration Procedure for 600 Series—Step by Step

Step	Action	GO TO:
Prepare Header for Calibration	Hook up header to the combine and ensure header harness is connected to main vehicle harness. Check that the header height sensors are in working order. Move the machine onto a level concrete surface.	GO TO Step 1
1 — Select Diagnostic Mode	The INFO-TRAK™ monitor is used for diagnostic mode. Press the up/down key on the INFO-TRAK monitor, turn the combine starter key on and start the combine. The display should indicate: - - dIA	OK: GO TO step 2 NOT OK: Check INFO-TRAK Monitor
2 — Select AHC	Press the up/down key on the Infotrak until "AHC" is displayed. The display should indicate: - - AHC	OK: GO TO step 3 NOT OK: See your nearest dealer
3 — Enter header calibration mode	Press the fan speed key on the INFO-TRAK monitor to access the "AHC" diagnostic mode The display should indicate: 0000 AHC Press the up/down key on the INFO-TRAK monitor twice to obtain mode 2. The display should indicate: 0002 AHC Press the fan speed key on the INFO-TRAK monitor to obtain header calibration mode 30 The display should indicate: 0030 Hdr	OK: GO TO step 4 NOT OK: Check INFO-TRAK Monitor
4 — Calibrate height system and return-to-cut system. Establish minimum sensor settings	With the raise/lower rocker switch on the multifunction lever handle, lower the header until it rests fully on the ground. The left and right sides of the header should come into contact with the ground at the same time as the header is lowered. Press the fan speed key on the INFO-TRAK monitor. The display should indicate: 0030 H - d Press the return to cut knob on the multifunction control handle. The display should indicate: 0030 H - U	OK: GO TO step 5 NOT OK: Header does not raise or lower, check system hydraulics NOT OK: Display does not change to "H-U", make sure raise/lower rocker switch is off. See your nearest dealer. NOT OK: Display shows "E5X", "E7X", "E8X" or "E9X", indicating an error. See your nearest dealer NOT OK: Display does not change from "r - d". See your nearest dealer

Continued on next page

ML70882.00004BA -19-26JUL04-1/2

Step	Action	GO TO:
5 — Establish maximum sensor settings.	With the raise/lower rocker switch on the multifunction lever handle, raise the header until it reaches its limit. Press and hold the return to cut knob on the multifunction control handle. The display should indicate: 0030 EOC	OK: GO TO step 6 NOT OK: Display shows "E5X", "E7X", "E8X" or "E9X", indicating an error. See your nearest dealer
6 — Store header calibration data in the AHC.	Press the fan speed knob on the INFO-TRAK monitor to store all calibration values. If no errors occurred during calibration, the following will be displayed: EOC E00 END If any errors occurred during calibration, previous calibration values are kept and the following will be displayed: EOC Err END	OK: Calibration is done. GO TO step 7 NOT OK: See your nearest dealer
7 — Reset to normal operation.	The starter key must be turned to the OFF position to return the AHC to normal operation at the next start-up.	

ML70882,00004BA -19-26JUL04-2/2

300 and 600—CWS/WTS Series Rigid Header Float Calibration Procedure

The pressure sensor is calibrated for the header floatation installed on the combine by means of the float system calibration procedure. If float mode is used, then the float calibration procedure must be performed when a header is initially hooked up.

The following is a step by step procedure that shows operator action and system response.

Continued on next page

ML70882,00004BB -19-26JUL04-1/3

Step	Action	GO TO:
Prepare Header for Calibration.	Hook up header to the combine. Move the machine onto a level concrete surface.	GO TO Step 1.
1 - Select Diagnostic Mode	The INFO-TRAK™ monitor is used to provide diagnostic mode. While pressing the up/down key on the INFO-TRAK, turn the starter key to the "ON" position and start up the combine. The display should indicate: -- dIA	OK: GO TO step 2 NOT OK: Check INFO-TRAK Monitor
2 - Select AHC	Press the up/down key on the Infotrak until "AHC" is displayed. The display should indicate: -- AHC	OK: GO TO step 3 NOT OK: See your nearest dealer
3 - Enter float calibration mode.	Press the fan speed key on the INFO-TRAK monitor to access the "AHC" diagnostic mode The display should indicate: 0000 AHC Press the up/down key on the INFO-TRAK monitor twice to obtain mode 2. The display should indicate: 0002 AHC Press the fan speed key on the INFO-TRAK monitor to obtain header calibration mode 30. Then press the up/down key to obtain float calibration mode 31. The display should indicate: 0031 FLO	OK: GO TO step 4 NOT OK: Check INFO-TRAK Monitor
4 - Calibrate float system.	With the raise/lower rocker switch on the multifunction control handle, lower the header until it is about 100 mm above ground level (the header must not touch the ground). Press the fan speed knob on the INFO-TRAK monitor. The display indicates: 0031 HFL Press the resume to float knob on the multifunction control handle. The display should indicate: 0031 EOC	OK: GO TO step 5 NOT OK: Header does not raise or lower, check system hydraulics NOT OK: Display does not change to "HFL", make sure header raise/lower rocker switch is off. See your nearest dealer NOT OK: "E5X" or "E39" on display indicates an error. See your nearest dealer NOT OK: The display does not change, continuously shows "HFL". See your nearest dealer

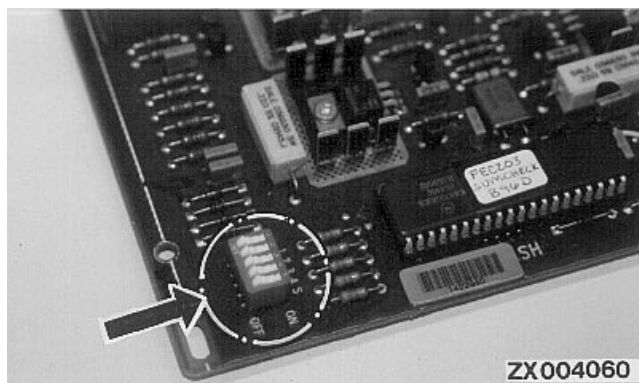
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ML70882,00004BB -19-26JUL04-2/3

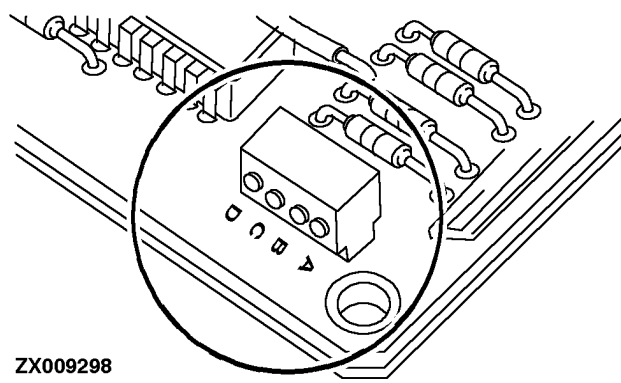
Step	Action	GO TO:
5 Store header calibration data in the AHC.	Press the fan speed knob on the INFO-TRAK monitor to store all calibration values. If no errors occurred during calibration, the following will be displayed: EOC E00 END If any errors occurred during calibration, previous calibration values are kept and the following will be displayed: EOC Err END	OK: Calibration is done. GO TO step 6. NOT OK: See your nearest dealer
6 - Reset to normal operation.	The starter key must be turned OFF to return the AHC to normal operation on next start-up.	

ML70882,00004BB -19-26JUL04-3/3

Dipswitches and Lights of Reel Speed Control Board



Dipswitches



Lights

ML70882,00004BC -19-26JUL04-1/1

Dipswitch Positions

Consult the following for the position of dipswitches according to tire radius.

Drive Tire	Tire Rolling Radius	S1	S2	S3	S4	S5
28.1-26 (750/65 R26)	756	OFF	ON	OFF	OFF	OFF
18.4-30 R1 10L	741	OFF	ON	OFF	OFF	OFF
18.4-30 R1 12L	741	OFF	ON	OFF	OFF	OFF
24.5-32	849	OFF	ON	ON	ON	OFF
620/75R 30 (Radial)	810	OFF	ON	ON	OFF	OFF
(650/75 R32)	863	OFF	ON	ON	ON	OFF
28.1/18-26 R1 14L	761	OFF	ON	OFF	ON	OFF
28L26 R1 12L	767	OFF	ON	OFF	ON	OFF
23.1/18-26 R2 10L	780	OFF	ON	ON	OFF	OFF
23.1/18-30	804	OFF	ON	ON	OFF	OFF
800/65R 32 (Radial)	861	OFF	ON	ON	ON	OFF
30.5L32 R1	857	OFF	ON	ON	ON	OFF
STEEL TRACK	315	OFF	OFF	OFF	OFF	OFF

CO03622,000009D -19-29NOV02-1/1

Reel Speed Control Board Error Codes

IMPORTANT: If the solution cannot be found or the malfunction solved, see your John Deere dealer.

ERROR CODE 0 —Light off X — Light on	PROBLEM	SOLUTION
A — 0 B — 0 C — 0 D — 0	No power	Check fuse (F23)
A — X B — 0 C — 0 D — 0	No ground speed signal	Check 3-speed transmission signal transmitting unit
A — 0 B — X C — 0 D — 0	Ground speed signal outside of operating range	See "Reel Speed Control System Operating Range " in the operator's manual.
A — X B — X C — 0 D — 0	No reel speed signal	Check header signal transmitting unit
A — 0 B — 0 C — X D — 0	Reel speed signal outside of operating range	
A — X B — 0 C — X D — 0	Error "Bit 1" of reel speed control switch	Check reel speed control switch, electrical board and harness
A — 0 B — X C — X D — 0	Error "Bit 2" of reel speed control switch	Check reel speed control switch, electrical board and harness
A — X B — X C — X D — 0	Error "Bit 4" of reel speed control switch	Check reel speed control switch, electrical board and harness
A — 0 B — 0 C — 0 D — X	Error "Bit 8" of reel speed control switch	Check reel speed control switch, electrical board and harness
A — X B — 0 C — 0 D — X	Option A, input short circuiting to ground	

ERROR CODE 0 —Light off X — Light on	PROBLEM	SOLUTION
A — 0 B — X C — 0 D — X	Option A, input 2 short circuiting to ground	
A — X B — X C — 0 D — X	Reel does not accelerate	Check electrical board, cut wire or hydraulic motor
A — 0 B — 0 C — X D — X	Reel does not reduce speed	Check electrical board, cut wire or hydraulic motor
A — X B — 0 C — X D — X	Reel speed control switch outside of diagnostic mode position	See “Reel Speed Control System Operating Range ” in the operator’s manual.
A — 0 B — X C — X D — X	No problem found	
A — X B — X C — X D — X	All contacts of reel speed control switch open	

AG,CO03622,2240 –19–31MAR04–2/2

Service — Hydraulic System

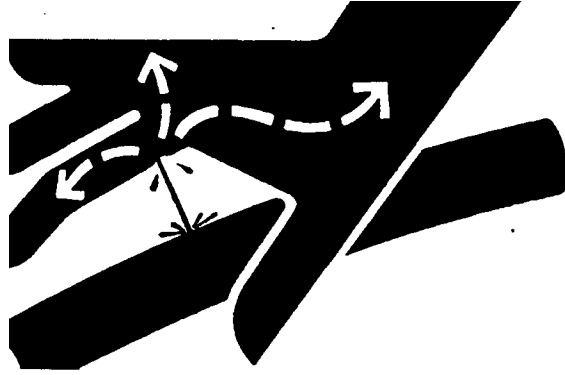
Avoid High-Pressure Fluids

Escaping fluid under pressure can penetrate the skin causing serious injury.

Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure.

Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source. Such information is available from Deere & Company Medical Department in Moline, Illinois, U.S.A.



X9811 -UN-23AUG88

DX,FLUID -19-03MAR93-1/1

Hydraulic System Description

The machine is equipped with a so-called “open-center hydraulic system”, i.e. with engine running at constant speed the hydraulic pump conveys a constant amount of hydraulic oil.

The hydraulic pump is a triple pump:

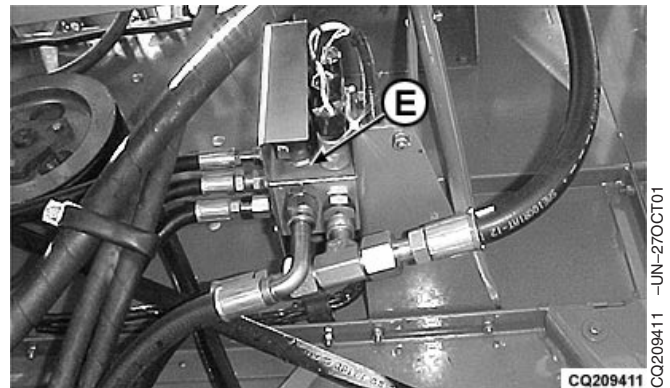
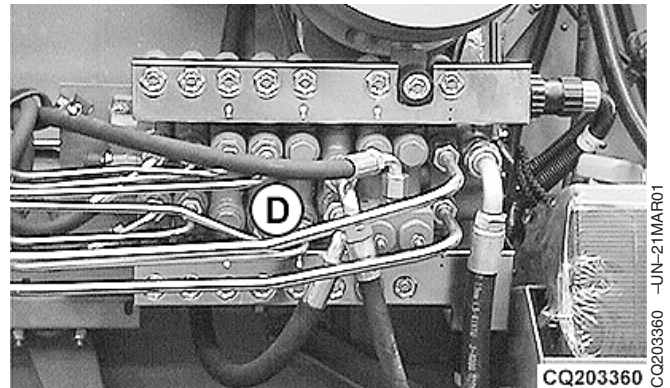
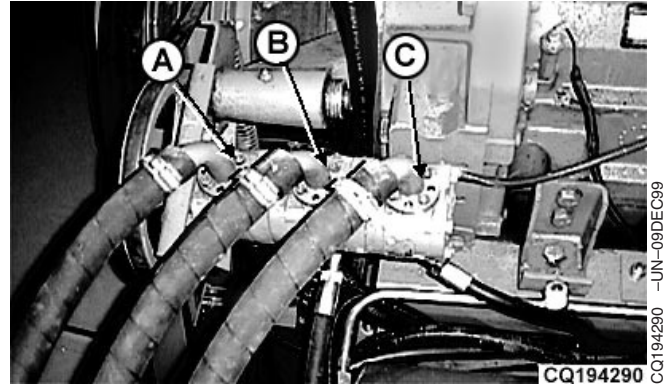
- Pump (A) conveys 28.6 L/min. (7.55 gpm)
- Pump (B) conveys 28.6 L/min. (7.55 gpm)
- Pump (C) conveys 10.6 L/min. (2.80 gpm)

If no pressure oil is required, the solenoid pressure valves direct pressure-free oil back to the tank.

The main hydraulic valve block (D) is located on the left-hand side of the combine close to the battery.

The secondary hydraulic valve block (E) is located a few inches away, above the main hydraulic valve block (D).

- A—Pump (Hydraulic System)
 B—Pump (Reel Drive)
 C—Pump (Steering System)
 D—Primary hydraulic valve block
 E—Secondary hydraulic valve block



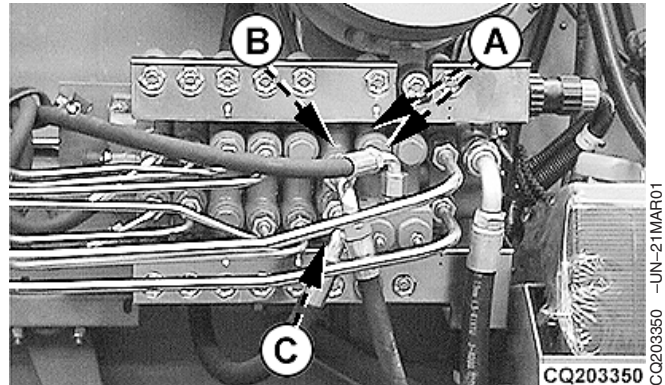
Pressure Relief Valves

IMPORTANT: Have pressure relief valves serviced solely by your John Deere dealer.

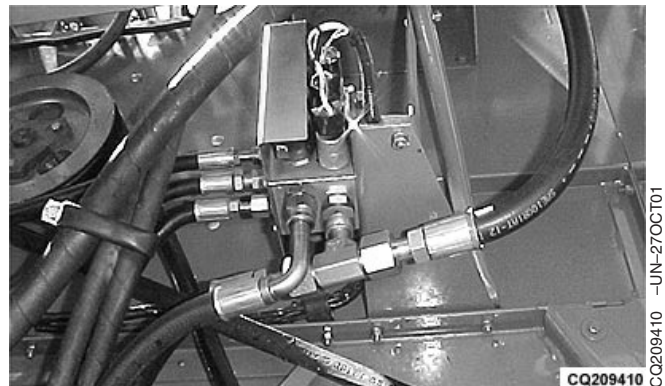
The main hydraulic valve block is equipped with four pressure relief valves which have been tested and set in the factory.

The secondary hydraulic valve block is controlled by relief valve (B) from main hydraulic valve block.

If any of the drives or the header malfunction, the pressure relief valve may be damaged. If this or something similar occurs, see your John Deere dealer.



Primary circuit of hydraulic valve block



Secondary hydraulic valve block

AG,CO03622,2272 -19-20AUG04-1/1

Functions of the Valves on the Block

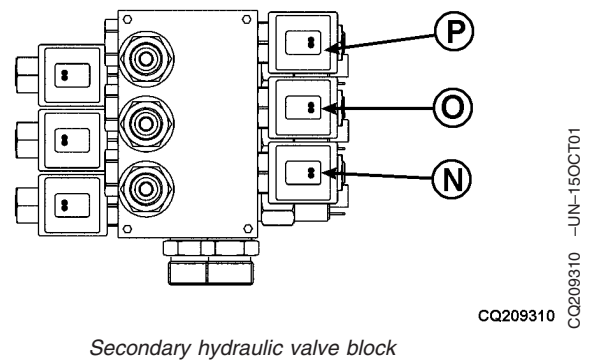
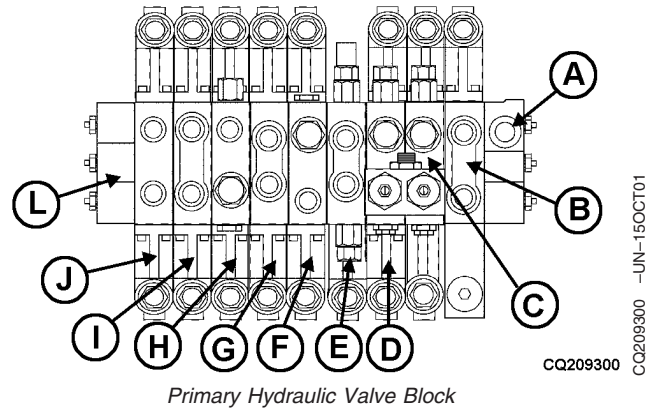
The main hydraulic valve block controls 6, 7 or 8 functions of the combine through individual modules (valves) depending on the configuration and combine model:

- 1450/1550 (without header tilt and reel forward position) = 6 functions.
- CWS/WTS (without header tilt) = 7 functions.
- 1450/1550 (with header tilt) = 8 functions.
- CWS/WTS (with header tilt) = 8 functions.

The secondary hydraulic valve block controls three functions of the combine.

NOTE: See detailed list of the valves (solenoids) in the "Service — Electrical System" section.

- A—Return to reservoir
- B—Hydraulic reverser
- C—AHC (Automatic Height Control) / Slow raise/lower of header
- D—Fast raise/lower of header (manual)
- E—Power and splitter / Out port for secondary valve block
- F—Reel raising
- G—Reel fore/aft position
- H—Threshing cylinder speed variator
- I—Header lateral tilt
- J—Unloading auger swinging
- L—Secondary valve block pressure take-off
- N—Header drive
- O—Separator engage
- P—Unloading auger engage



Cutting Platform Raise and Lower Speed Adjustment

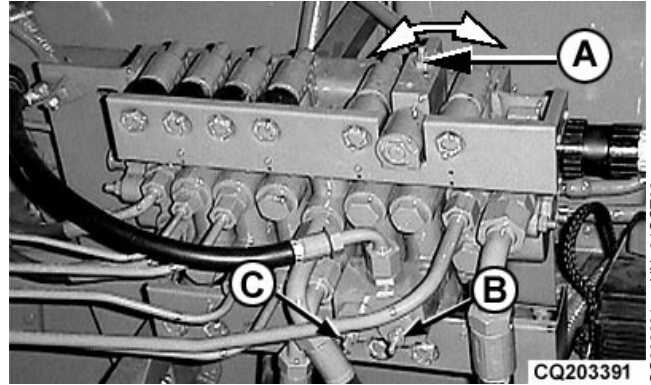
Adjusting Slow Raise Speed

This adjustment is done by means of screw (A) located on the primary hydraulic valve block.

- Turn screw clockwise to decrease speed.
- Turn screw counterclockwise to increase speed.

The screw is adjusted in the assembly line with a slow raise speed considered to be average, which means it is neither fast nor too slow.

The adjustment of the **slow and fast lower** speed can be done in the same way through its respective valves (B) and (C).



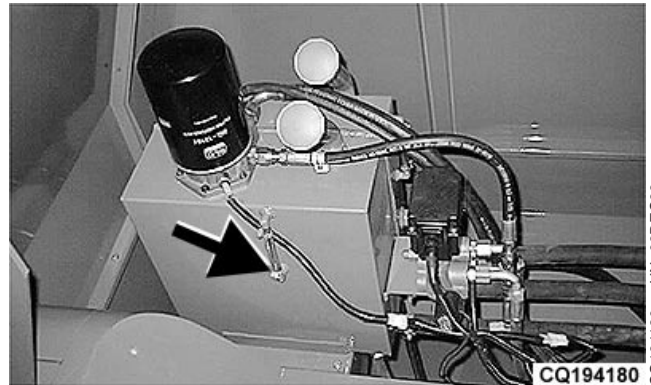
A—Adjusting slow raise speed
B—Adjusting slow lower speed
C—Adjusting fast lower speed

MB03730,000001D -19-24OCT02-1/1

Hydraulic System Reservoir Oil Level

Periodically check the hydraulic oil level in the reservoir. If necessary, add the recommended oil (see “Fuel, Lubricants, Coolant and Capacities” section).

NOTE: Before checking the oil level, lower the cutting platform to the ground, place the unloading auger in the transport position and fully lower the reel, so that all of the respective hydraulic cylinders are totally retracted.



AG,CO03622,2266 -19-20AUG04-1/1

Changing Hydraulic Oil and Filter

Changing the hydraulic oil filter:

- ☐ According to specified time periods in the “Lubrication Chart, Periodic Service” section.
- ☐ Whenever the hydraulic filter obstruction warning light glows on the dash.

IMPORTANT: Observe utmost cleanliness when installing filter.

Loosen and remove filter (A).

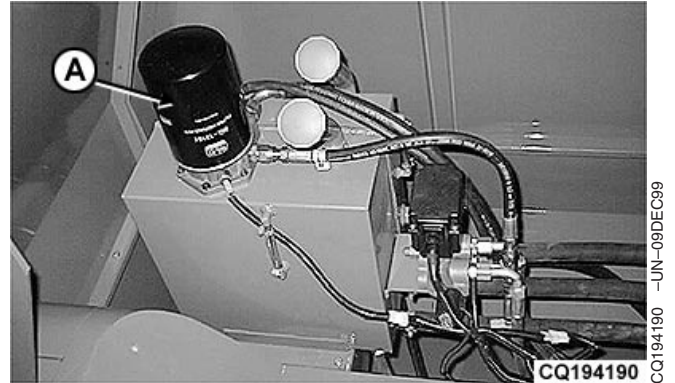
Dispose of filter properly and replace with a genuine John Deere filter.

Coat filter sealing surface with a thin layer of oil.

Tighten filter (A) by hand until sealing ring comes into contact with filter housing surface and then tighten a further 3/4 to 1-1/4 turns. Do not overtighten.

Start engine and check for leaks.

Retighten if necessary.



AG,CO03622,2267 -19-28MAY02-1/1

Bleeding Hydraulic System Oil

The hydraulic system must be completely drained when changing oil.

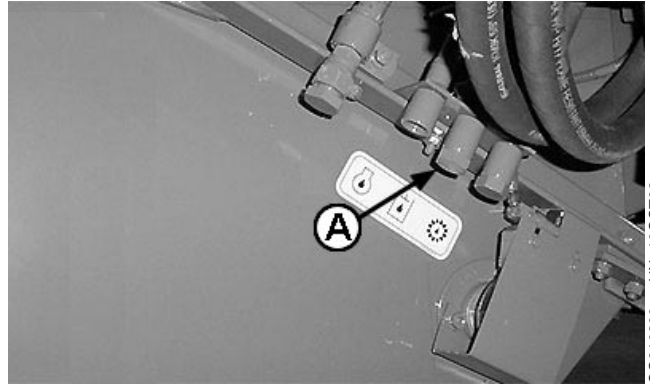
1. Lower the header to the ground, lower the reel completely and place the unloading auger in the transport position (closed), so that all of the respective hydraulic cylinders are totally retracted.
2. Remove the hydraulic reservoir drain plug (A) and drain the oil into an appropriate container.

NOTE: The hydraulic reservoir drain plug (A) is located below the fuel tank on the left-hand side of combine.

3. Disconnect the hoses from all hydraulic cylinders, the control return hose and the reel drive system hoses from the flow regulating valve. Drain off the oil at all of these points.

NOTE: Before disconnecting the hoses clean the connections thoroughly.

4. After draining all oil, replace all connections and reinstall the reservoir drain plug (A).



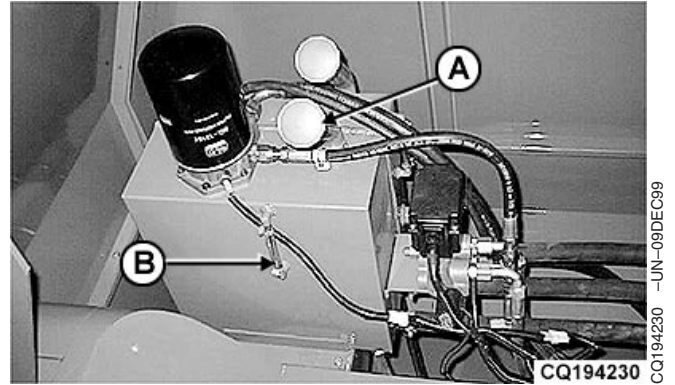
CO216360 -UN-10OCT02

AG,CO03622,2268 -19-11OCT02-1/1

Refilling the Hydraulic System

NOTE: Only use specified oil (see “Fuel, Lubricants, Coolant and Capacities” section). Carefully clean area around filler neck before filling with fresh oil.

1. Refill with fresh hydraulic oil via the filler neck (A) until the oil reaches the center of the sight glass (B).
2. Start the combine engine and let it run for about 15 seconds. Then turn the steering wheel in both directions several times to bleed off the air still in the circuit.
3. Engage the header lift, reel lift and unloading auger drive several times in both directions, by means of their respective knobs.
4. Engage the threshing unit and the header and activate the cylinder speed control several times.
5. Inspect all lines and connections for leaks. Comply with safety recommendations.
6. With the header and reel fully lowered and the unloading auger in transport position (retracted), add oil to the reservoir until the correct level is reached.



CO194230 -UN-09DEC99

CQ194230

AG.CO03622,2269 -19-20AUG04-1/1

Bleeding Air from the Reel Raise and Lower Hydraulic System

If the reel cylinder hoses are disconnected or if the reel is not leveled, all the trapped air needs to be removed from the circuit and cylinders.

To remove the air, loosen the left cylinder upper drain plug (A) of the reel. Raise the reel. Replace the plug when oil begins to flow out of the drain plug without bubbles.



ZCQF6671

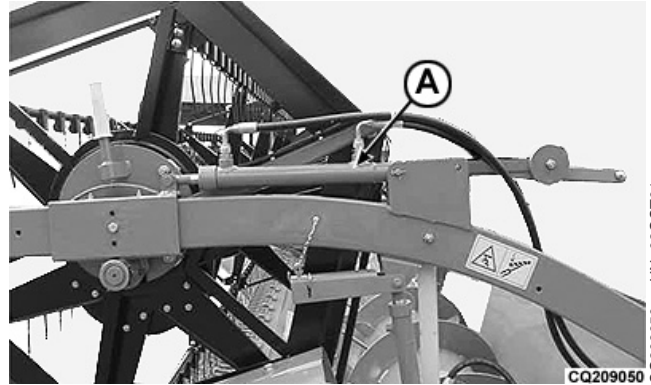
ZCQF6671 -UN-04APR96

AG.CO03622,2270 -19-15MAR02-1/1

Bleeding Air from the Fore and Aft Hydraulic Circuit of the Reel

To bleed reel fore and aft cylinders (A), the following procedure must be followed:

- Move cylinders fully forward and keep engaged for 15 seconds.
- Move cylinders fully backward and keep engaged for 15 seconds.
- Repeat this procedure 2 or 3 times and the cylinders will be bled automatically.



CQ209050 —UN-02OCT01

MB03730,00001EB —19-15MAR02-1/1

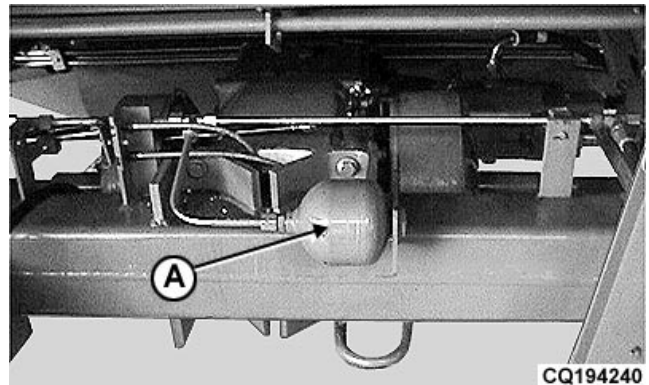
Accumulators



CAUTION: If necessary, have hydraulic accumulator replaced by your local John Deere dealer.

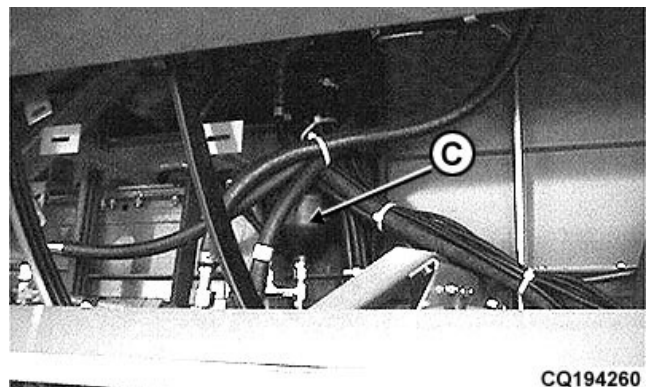
A—Header raising system accumulator

C—Separator and straw chopper drive accumulator



CQ194240

—UN-10DEC99



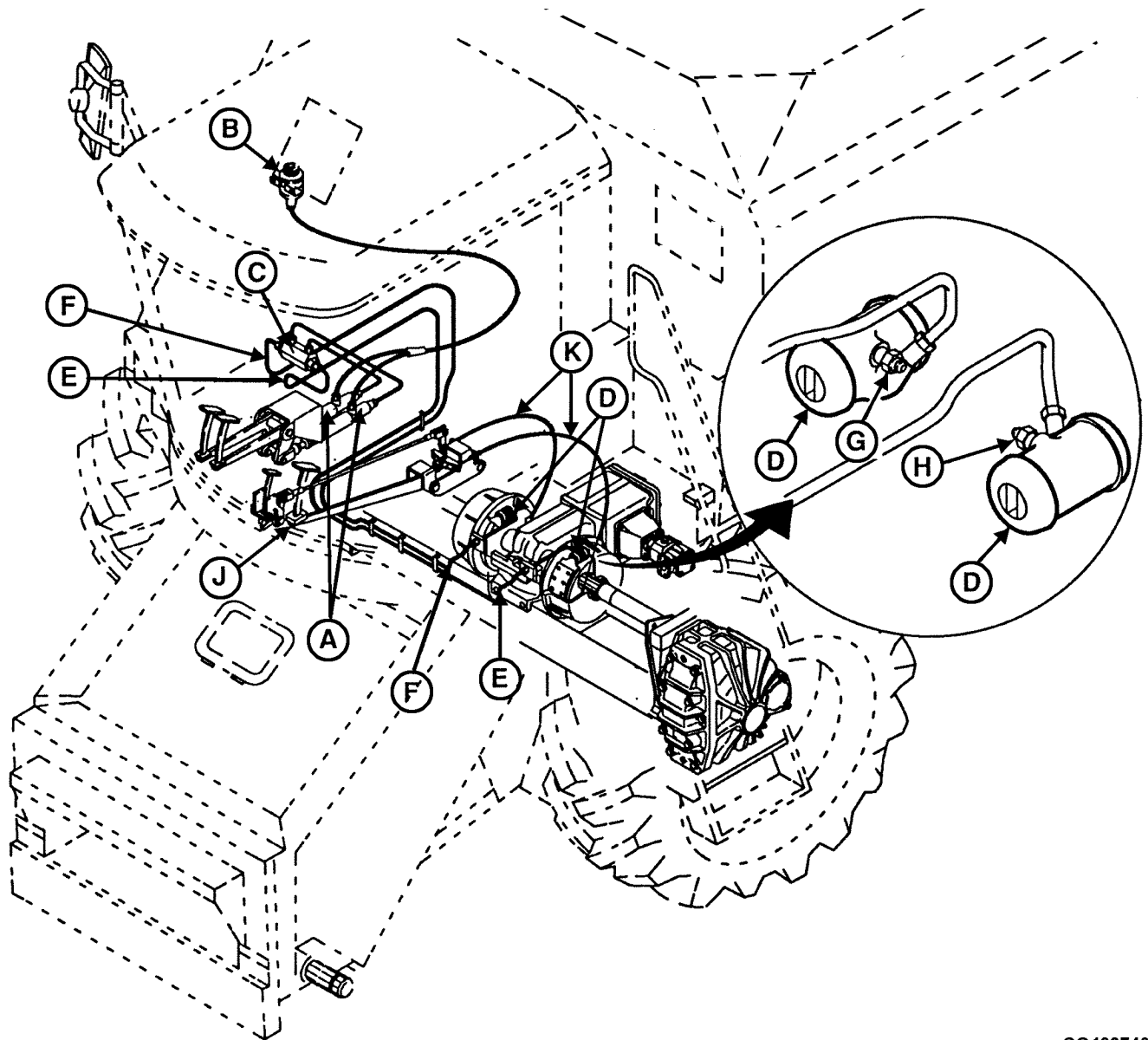
CQ194260

—UN-10DEC99

AG,CO03622,2271 —19-11AUG04-1/1

Serv.-Hydrostatic Var. Speed Drive & Brakes

Brake System



CQ193740

CQ193740 -UN-29NOV99

A—Brake master cylinder (2 used)
B—Brake fluid reservoir
C—Equalizing valve

D—Brake slave cylinder (2 used)
E—L.h. brake line
F—R.h. brake line

G—R.h. bleed screw
H—L.h. bleed screw
J—Parking brake operating assembly

K—Parking brake bowden cables (2 used)

AG,CO03622,2250 -19-15MAR02-1/1

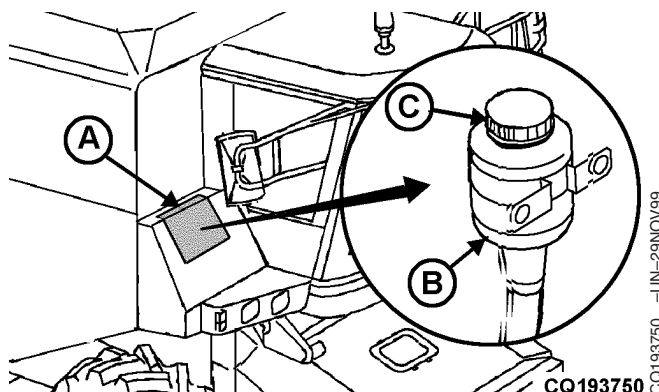
Brake Fluid Reservoir

The reservoir (B) is mounted inside the combine, near the tailings inspection window. To access the reservoir, remove inspection window (A) and reservoir cap (C).

To compensate for fluid losses fill the reservoir with specified brake fluid only.

Check the fluid level after every 200 hours of operation.

- A—Inspection window — tailings
- B—Brake fluid reservoir
- C—Reservoir cap



—UN-29NOV99
CQ193750

AG,CO03622,2251 —19-17MAY02-1/1

Adjusting Foot Brakes



CAUTION: In case of any leakage or malfunction of the brake system see your nearest John Deere dealer.

When depressing brake pedals drum brake is adjusted automatically and thus further adjustment is not necessary.

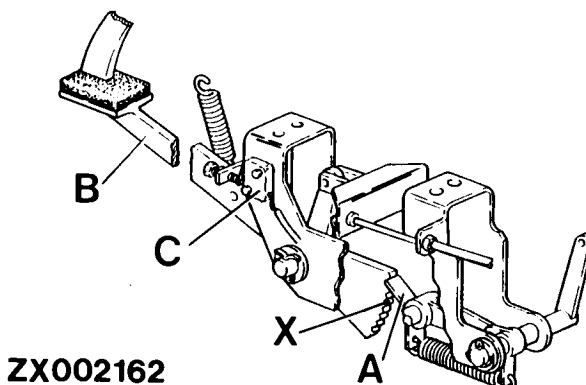
AG,CO03622,2252 —19-26NOV99-1/1

Parking Brake

Basic adjustment:

With parking brake released, lock (A) of brake pedal (B) engages the first tooth of the quadrant and the pedal bottoms against cab floor. Maximum pedal travel should not go beyond the fourth tooth (X) of the brake quadrant.

When parking brake is released, indicator light switch (C) is activated by the adjusting screw on the pedal.

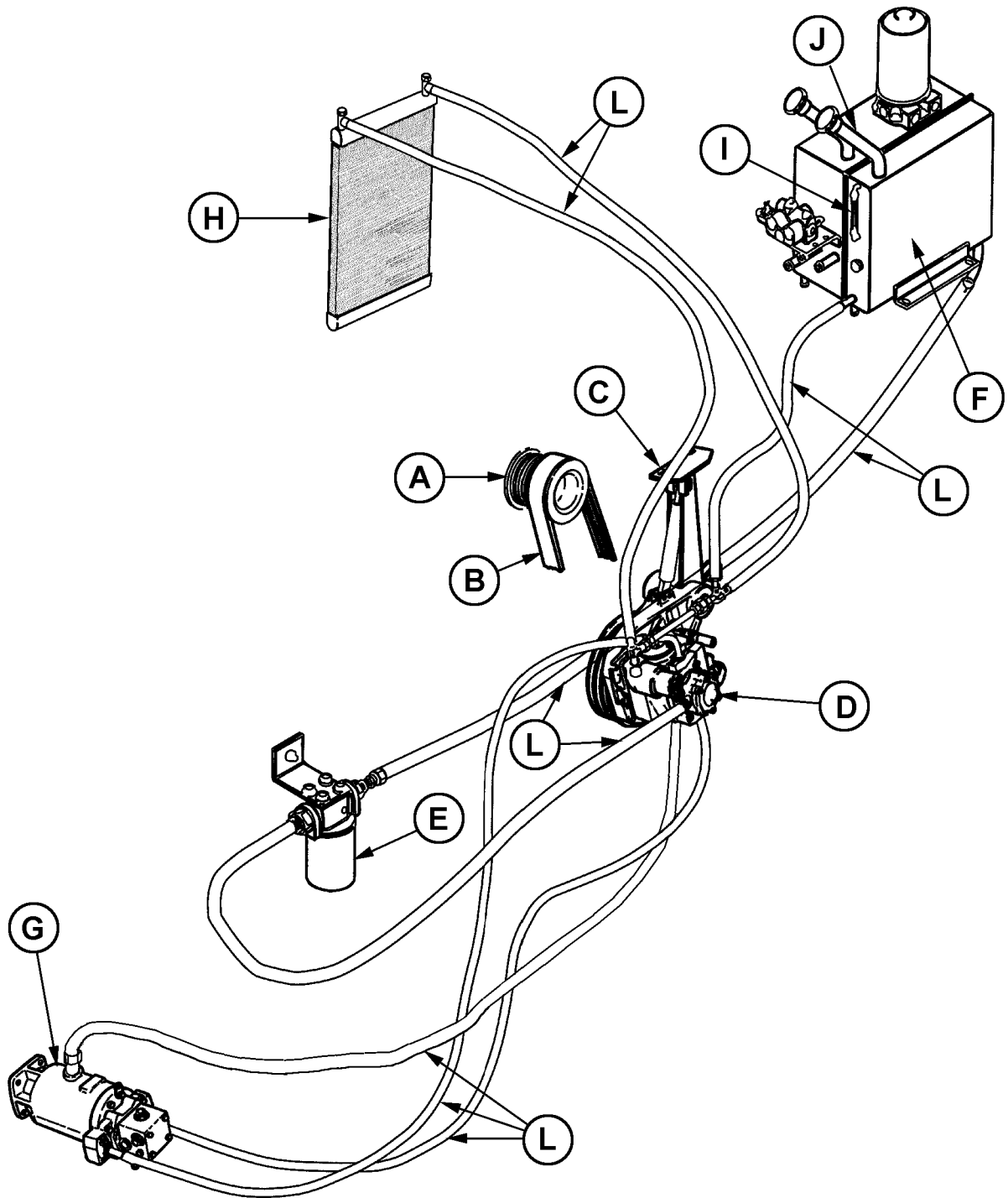


- A—Lock
- B—Pedal
- C—Indicator light switch
- X—Max. position (fourth tooth of pedal)

—UN-04APR95
ZX002162

AG,CO03622,2253 —19-15MAR02-1/1

Hydrostatic Drive Components—1450/1550



CQ203320

CQ203320 -UN-21MAR01

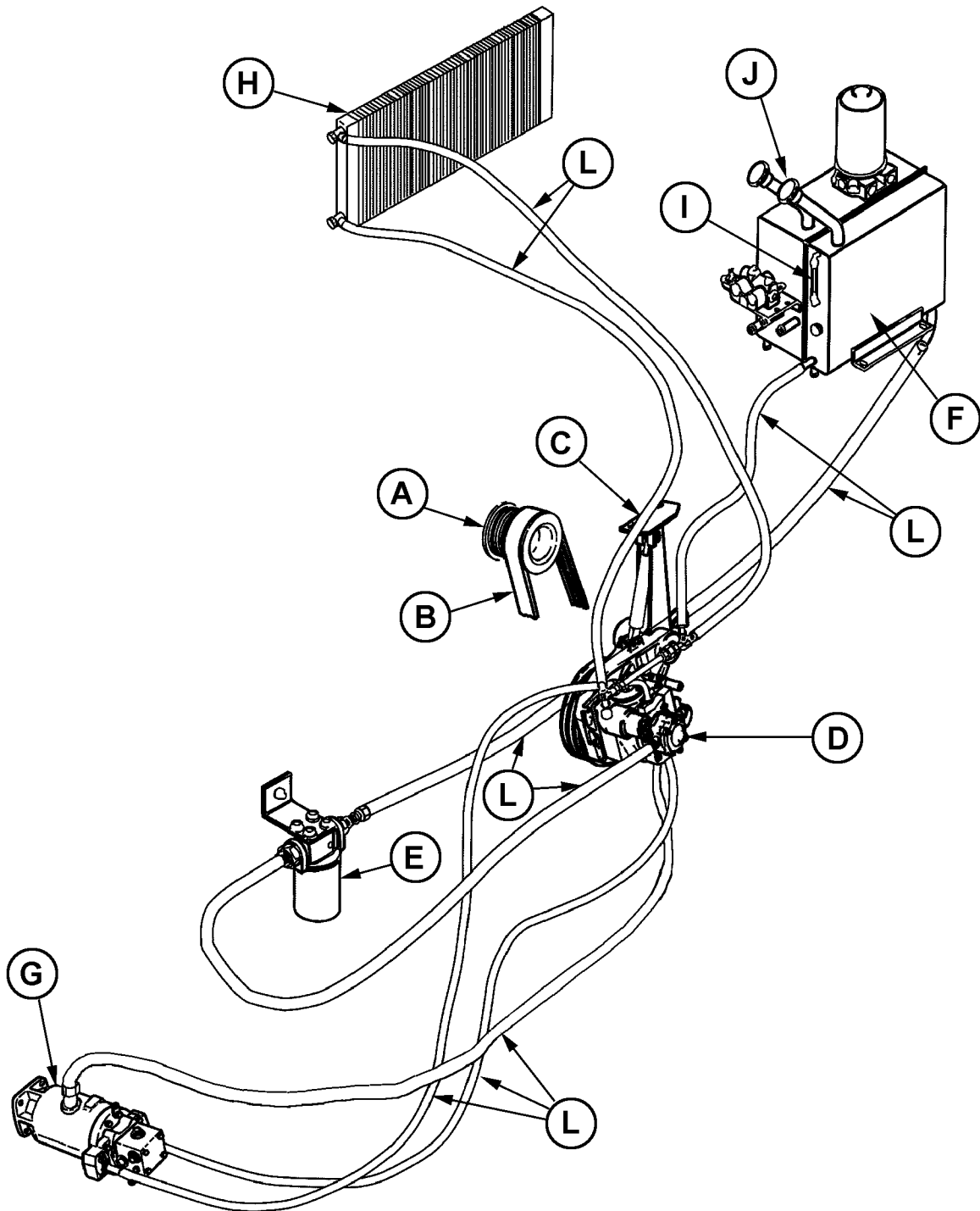
A—Engine power takeoff
B—Multi "V" belt
C—Idler hydraulic cylinder

D—Hydrostatic pump
E—Oil filter
F—Oil reservoir

G—Hydrostatic motor
H—Oil cooler
I—Level indicator

J—Oil filler neck
L—Hoses

Hydrostatic Drive Components—CWS/WTS



CQ203330

CQ203330 -UN-21MAR01

A—Engine power takeoff
B—Multi "V" belt
C—Idler hydraulic cylinder

D—Hydrostatic pump
E—Oil filter
F—Oil reservoir

G—Hydrostatic motor
H—Oil cooler
I—Level indicator

J—Oil filler neck
L—Hoses

Changing Hydrostatic Drive Oil and Filter

Change hydrostatic oil and filter according to time periods specified in the "Lubrication Chart, Periodic Service" section.

Filter change

IMPORTANT: Observe utmost cleanliness when installing filter. Install the new filter immediately after removing the used one.



Loosen and remove filter.

Dispose of filter properly and replace with a genuine John Deere filter.

For installation of new filter, proceed as follows:

- Coat filter sealing surface with a thin layer of oil.
- Tighten filter (A) by hand until sealing ring comes into contact with filter housing surface and then tighten a further 3/4 to 1-1/4 turns. Do not overtighten.
- Start engine and check for leaks. Retighten filter, if necessary.
- Check oil level and refill system, if necessary.

Oil change

Preferentially have this service carried out by your local John Deere dealer, who alone is familiar with the relevant rules and regulations.

IMPORTANT: Always use specified oil (see "Fuel, Lubricants, Coolant and Capacities" section).

AG.CO03622,2255 -19-20AUG04-1/1

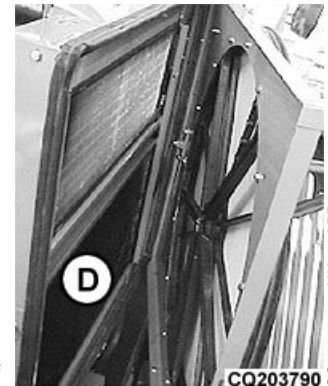
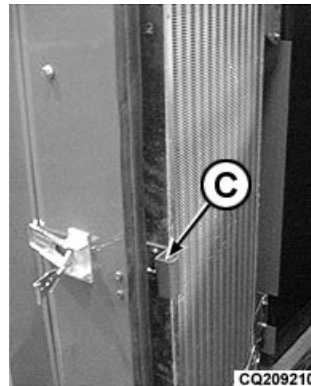
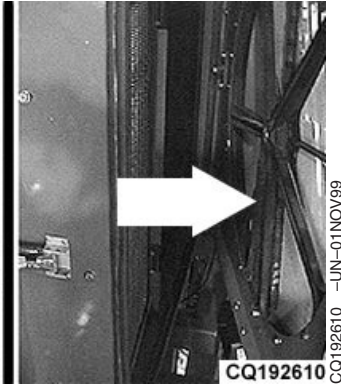
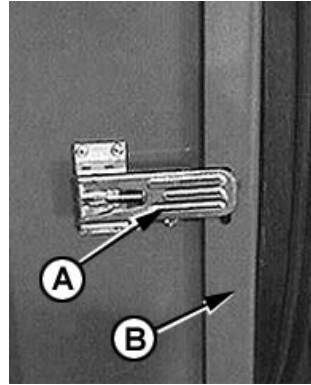
Cleaning Oil Cooler

CAUTION: Shut off engine and remove starter key before cleaning oil cooler.

Undo latch (A) and open rotary screen door (B).

Pull up tap (C) and free the air conditioning condenser, then open it to access the oil cooler (1450/1550).

The oil cooler (D) can now be accessed (CWS and WTS).



1450/1550

CWS/WTS

Transmission

Change oil after the first 50 hours of operation.

Thereafter change oil every 500 hours of operation or before every harvesting season (whichever occurs first).

Check oil level every 250 hours of operation.

IMPORTANT: Always use specified oil.

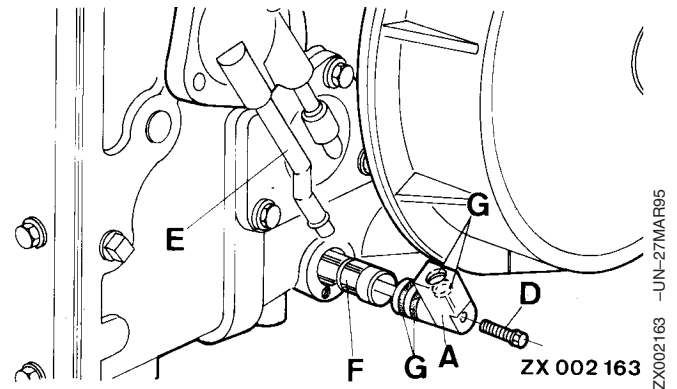
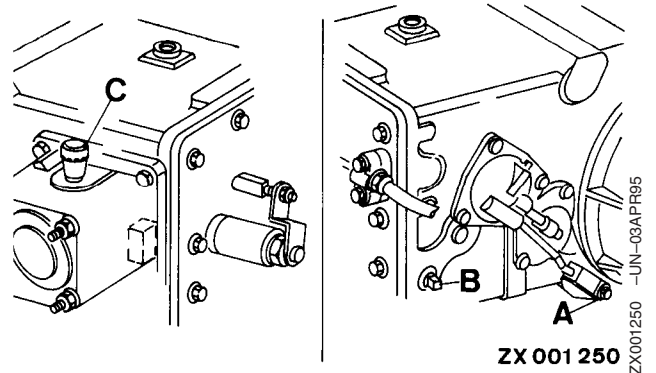
Oil change

Remove cap screw (D).

Remove drain plug (A) from transmission housing and take out line (E).

Check filter (F) and O-rings (G), and replace if necessary.

IMPORTANT: When reinstalling, make sure filter (F) is seated correctly in transmission housing.



- A—Oil bleed screw
- B—Check plug
- C—Filler and bleed plug
- D—Locking Bolt
- E—Line
- F—Screen
- G—O-rings

AG,CO03622,2115 -19-06JUN02-1/1

Final Drives

The combine has two final drive units, one at each end of front axle.

Change oil every 1000 hours of operation.

IMPORTANT: Every 100 hours, check final drive oil level and play of flanged axle bearings. Clean vent plug daily.

Capacity of Standard Final Drive—1450 and 1450 CWS/WTS (each one):

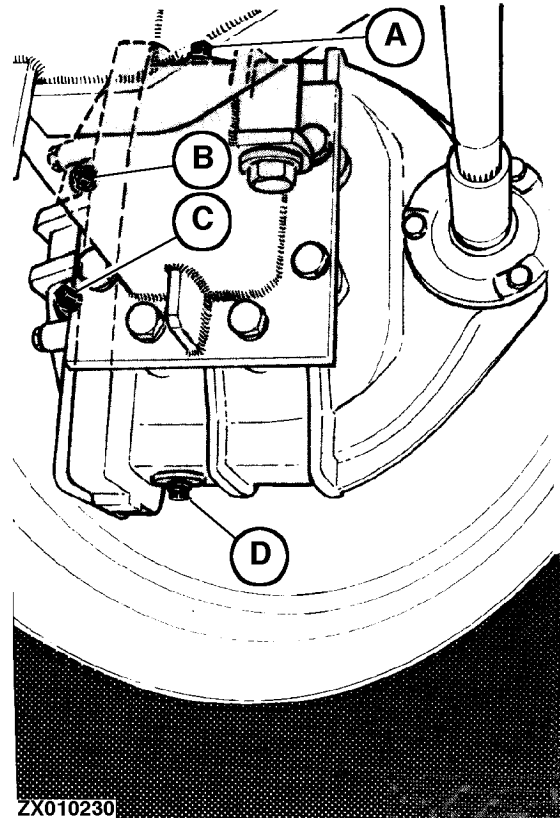
•3 L (0.79 U.S. gal.)

Capacity of Heavy Duty Final Drive—1550 and 1550 CWS/WTS (each one):

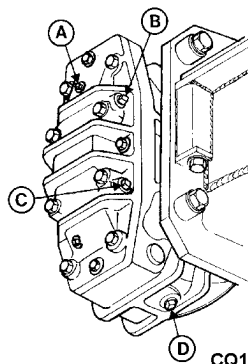
•4.8 L (1.26 U.S. gal.)

IMPORTANT: Only use specified oil (see “Fuel, Lubricants, Coolant and Capacities” section). Carefully clean area around filler neck before filling with fresh oil.

- A—Oil filler neck
- B—Vent Plug
- C—Oil level check plug
- D—Drain plug

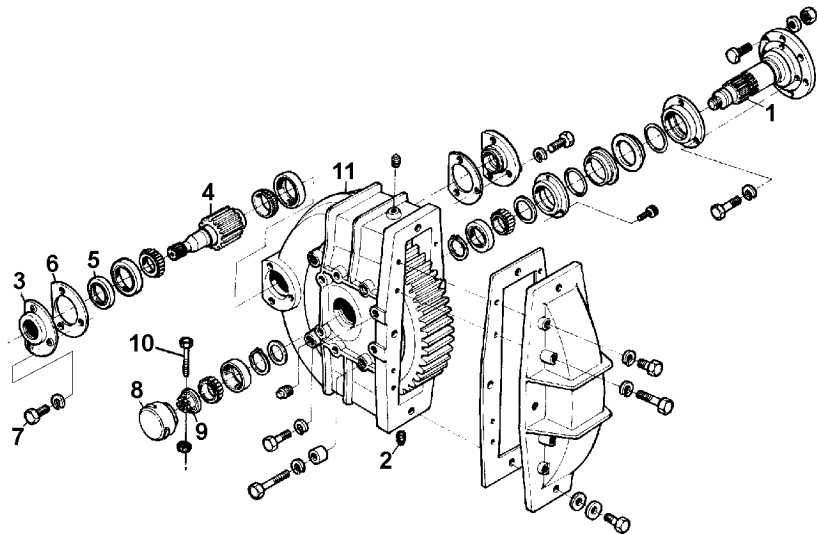


Standard Final Drive—1450 and 1450 CWS/WTS



Heavy Duty Final Drive—1550 and 1550 CWS/WTS

Adjusting Play of Final Drive Flanged Axle Bearings



CQ206870

—UN-26JUN01
CQ206870

1—Flanged axle
2—Oil bleed screw
3—Bearing Housing

4—Drive Pinion
5—Shaft Seal
6—Shim

7—Locking Bolt
8—Cover
9—Nut

10—Locking Bolt
11—Housing

It is necessary to check play of final drive flanged axle bearings on the completion of the first 100 hours of operation, every 500 hours and at the end of each harvest season.

When checking the adjustment, it is necessary to remove the front wheel of the machine and push the flanged axle (1) up and down. If there is play, adjust bearings as follows:

1. Drain final drive oil through drain screw (2).
2. Remove final drive from machine.
3. Remove bearing housing (3) and shaft seal (5) of drive pinion (4).
4. Install drive pinion bearing housing (3), without shaft seal (5). Take care to assemble the same

shim (6). Tighten bearing housing (3) screws (7) to 60 N.m (44 lb-ft).

5. Remove flanged axle nut cap (8) and bolt (10) or key (depending on final drive housing assembled in the machine).
6. Check nut (9) torque, it should be 100 N.m (74 lb-ft) for standard final drives and 150 N.m (110 lb-ft) for heavy duty final drives.
7. Rotate flanged axle (1) several times in both directions. Using a lead hammer, lightly tap both sides of flanged axle to seat bearing cups.
8. Check flanged axle (1) rolling drag torque through nut (9), it should be 7 to 13 N.m (5 to 10 lb-ft). Adjust rolling drag torque, if necessary, by loosening or tightening nut (9).

NOTE: If necessary loosen nut (9). Make sure to loosen bearings also. If necessary use a lead hammer and lightly tap both sides of flanged axle to seat bearing cups.

9. Repeat this procedure until the correct torque is obtained.
10. Tighten nut (9) until one of the grooves matches with the hole of flanged axle (1) and install the locking bolt (10). Seal and install nut cap (8).

11. Remove drive pinion bearing housing (3) and install shaft seal (5).
12. Install drive pinion bearing housing (3), taking care to assemble the same shim (6). Tighten bearing housing (3) screws (7) to 60 N.m (44 lb-ft).
13. Repeat this procedure with the other final drive.

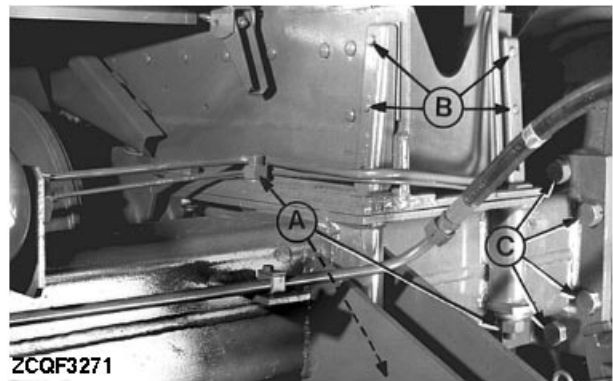
MB03730,00001D3 -19-24OCT03-2/2

Tightening Front Axle Attaching Nuts and Bolts

Tighten as follows:

- Nuts (A) to 300 N•m (218 lb-ft).
- Bolts (B) to 200 N•m (145 lb-ft).
- Bolts (C) to 250 N•m (182 lb-ft).

NOTE: Tighten during the first 25 hours of operation and then at the start of each harvesting season.

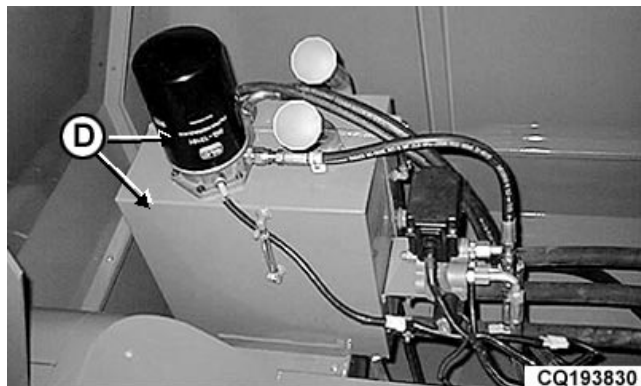
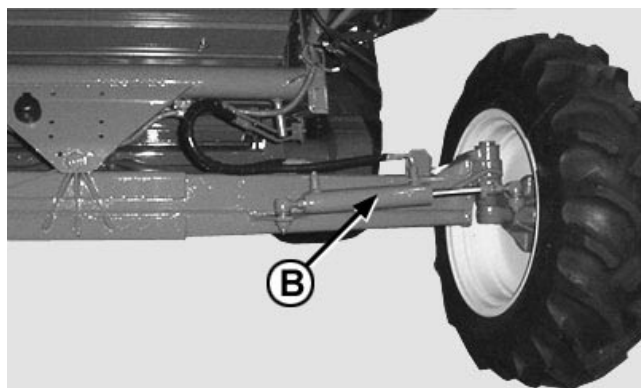
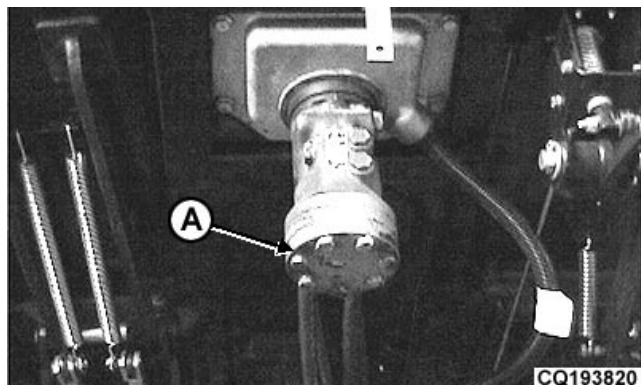


ZCQF3271 -JUN-04APR96

AG,CO03622,2258 -19-09SEP03-1/1

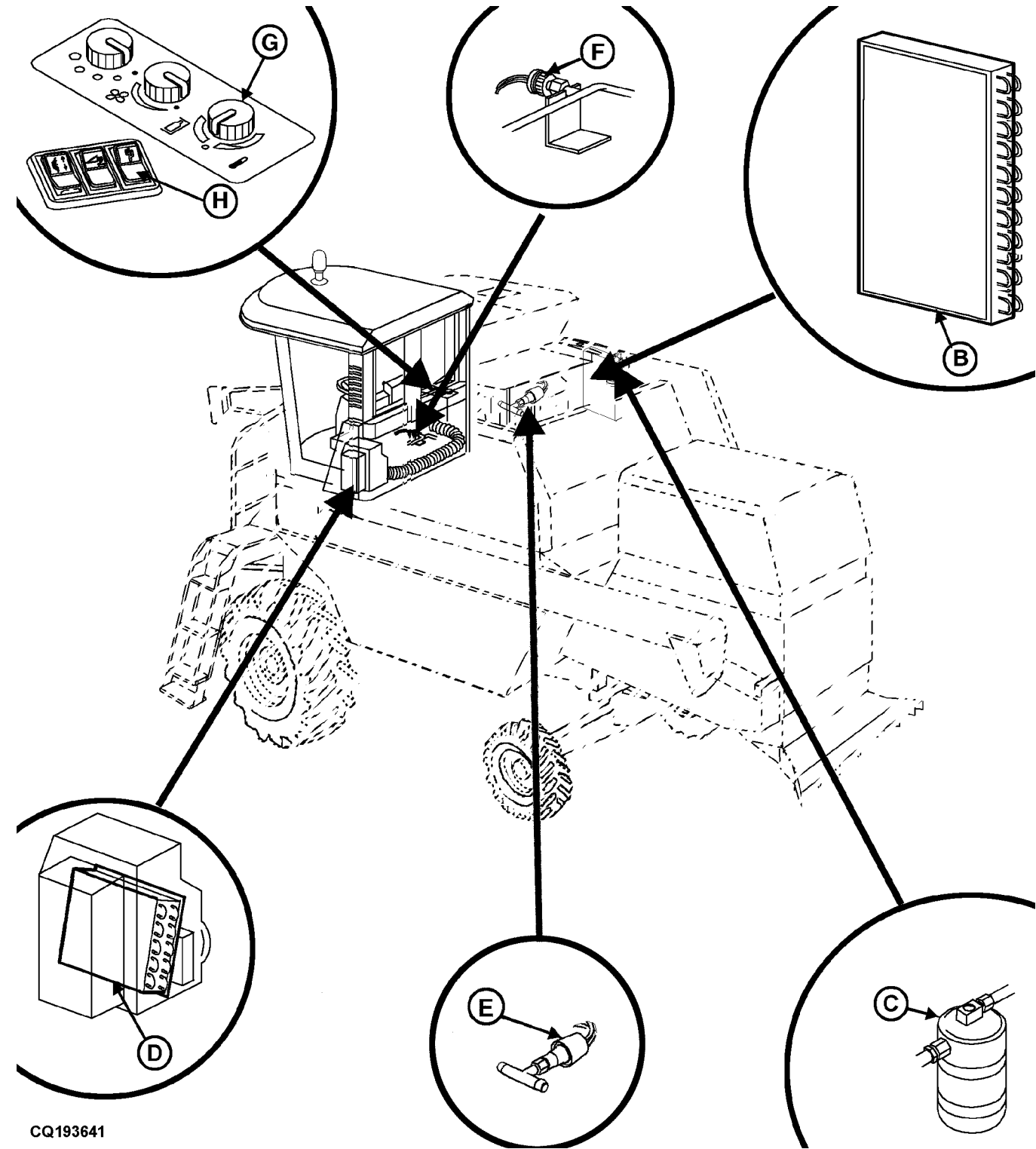
Steering System Components

- A—Steering valve
- B—Steering cylinder
- C—Steering system pump
- D—Hydraulic oil reservoir and filter



Service—Air Conditioning and Heating

Air Conditioning System Components



B—Condenser
C—Receiver-drier

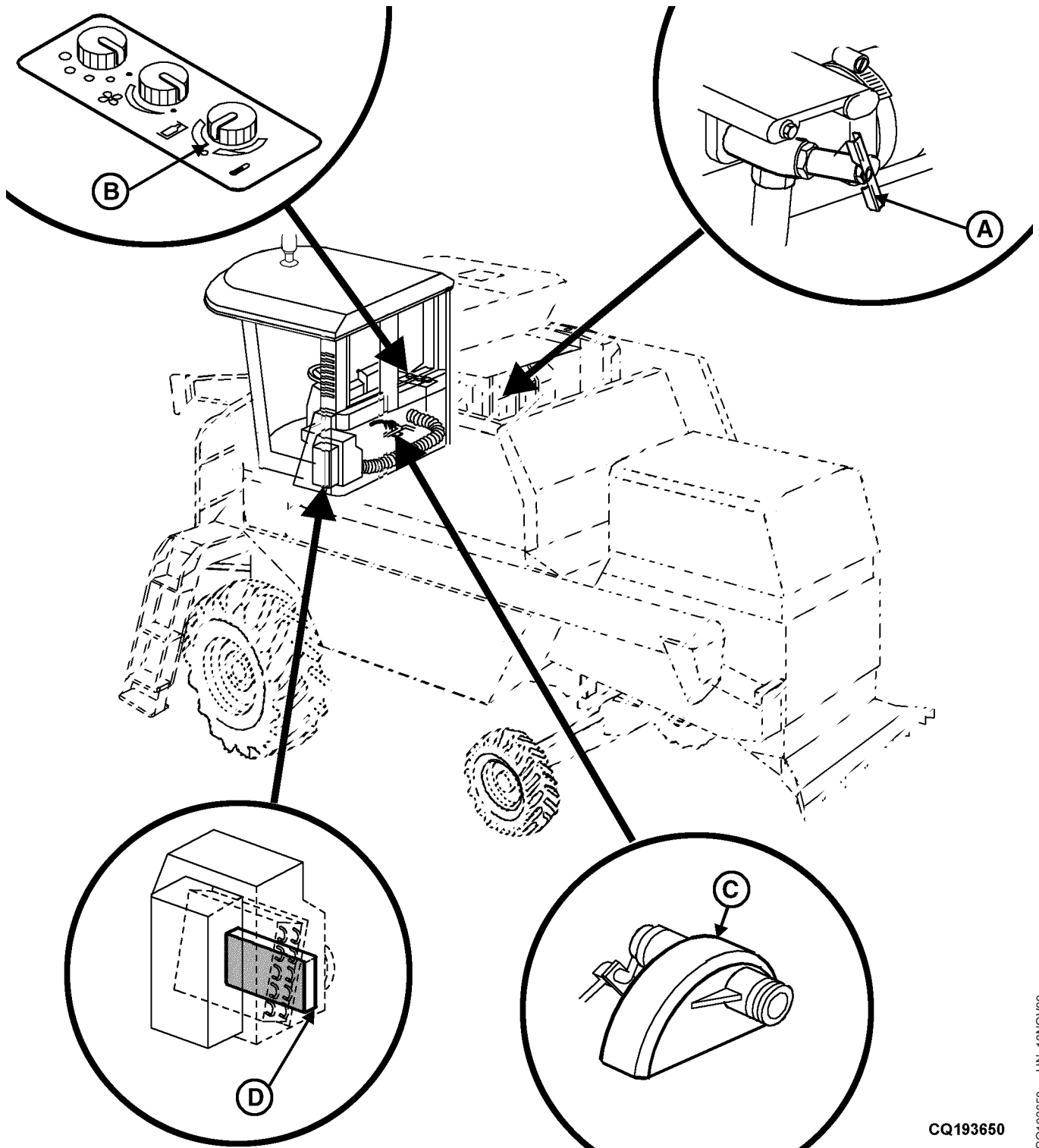
D—Evaporator
E—High pressure switch

F—Low pressure switch
G—Air conditioning/heater
rotary switch

H—Demoisturizer switch

CQ193641 -UN-05MAR02

Heater Components



A—Heater valve at cylinder block

B—Air conditioning/heater rotary switch

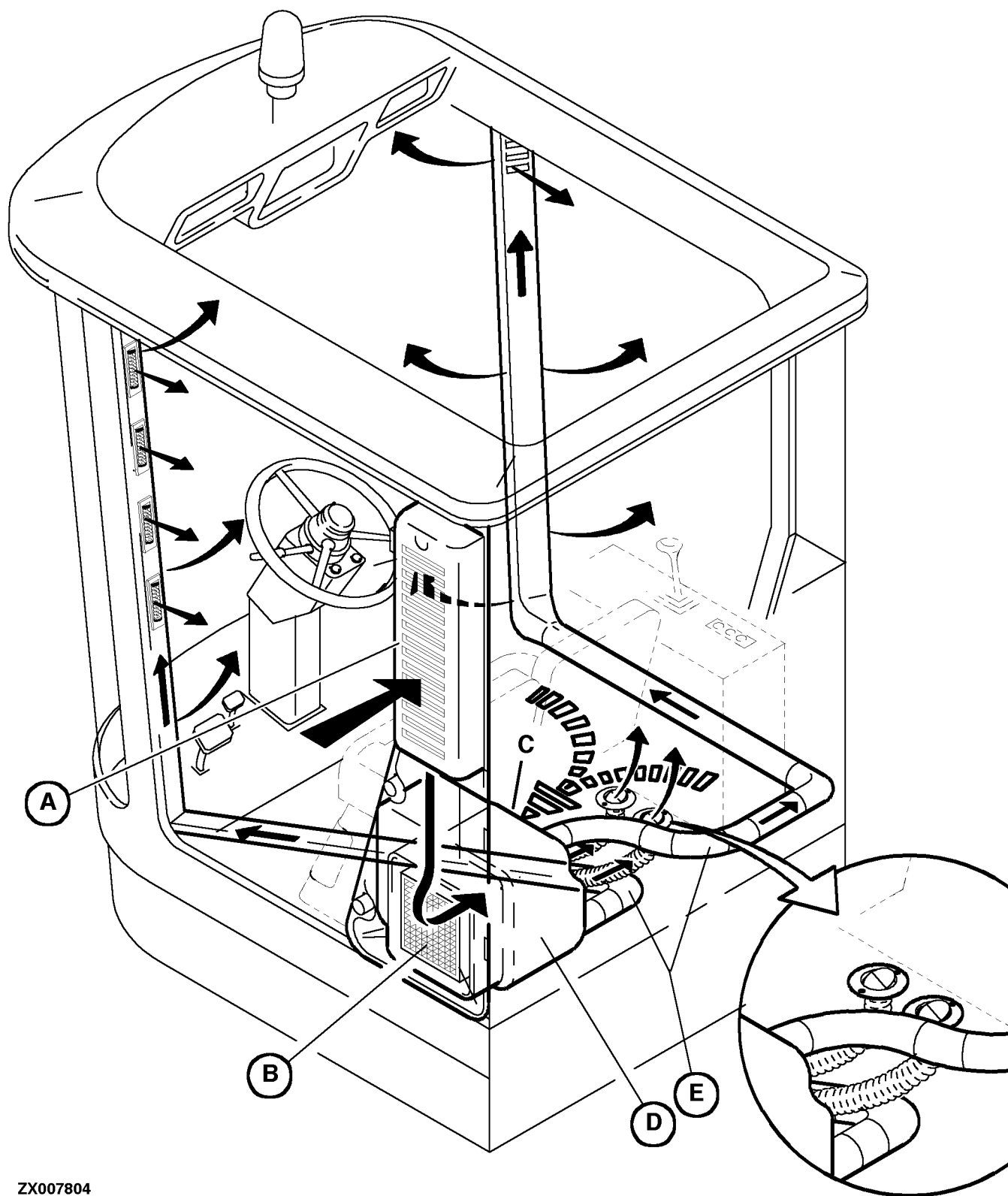
C—Heater valve in cab

D—Radiator

CQ193650

CQ193650 -JUN-18NOV99

Air Intake And Distribution



ZX007804

A—Air intake channel
B—Main air filter

C—Recirculating air filter

D—Fan

E—Air outlet channels

ZX007804 -UN-22MAY96

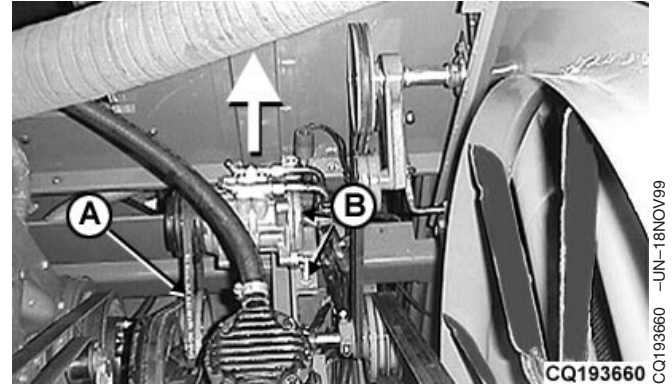
AG.CO03622,2159 -19-26SEP03-1/1

Compressor Drive Belt

Tension of air conditioning compressor drive belt (A) is adjusted, if necessary, by shifting the compressor assembly in the direction of arrow.

Loosen bolts (B) and shift compressor as indicated.

Tighten firmly screws (B).



AG.CO03622,2246 -19-15MAR02-1/1

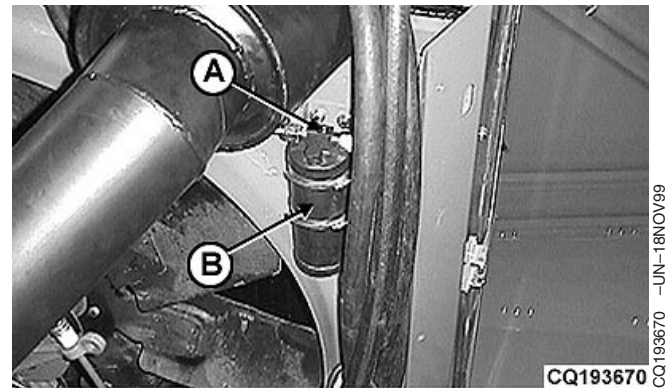
Refrigerant Level

IMPORTANT: The air conditioning system operates using R134a refrigerant (tetra-fluorethane). This substance does not contain any chlorine atoms, so it does not have a detrimental effect on the ozone in the Earth's atmosphere.

Even so, the refrigerant must never be discharged straight into the air. It must be trapped in a recycling unit. Therefore, do not carry out repair work on the refrigeration lines or on the system as a whole. All service work on the air conditioning system must be carried out by a John Deere dealer.

Check refrigerant level every 100 hours of operation. With air conditioning system controls set for maximum cooling and the engine running, check sight glass (A) at receiver-drier (B).

If refrigerant appears cloudy or foamy, refrigerant level is low and system should be recharged.

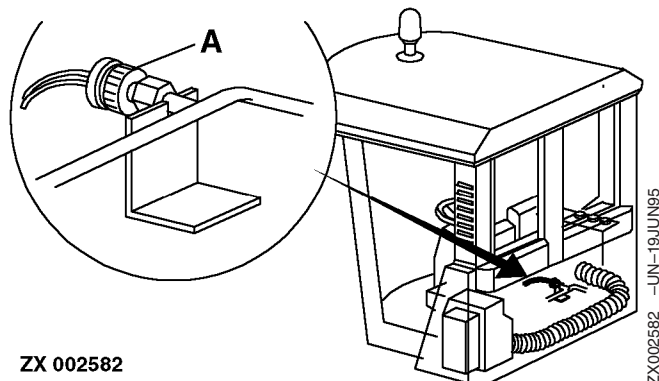


AG.CO03622,2160 -19-20AUG04-1/1

Low Pressure Switch

IMPORTANT: Use the highest comfortable fan speed and adjust the temperature to an intermediate setting. Do not operate the air conditioning system at maximum output when the fan is at its lowest speed setting.

The air conditioning system is equipped with a low pressure switch (A) which switches off the system in the event of a refrigerant leak. Some leakage (a minimal amount) through air conditioning hoses cannot be avoided. Check refrigerant level every 100 hours of operation. When necessary, have system recharged by your John Deere dealer.



ZX 002582

ZX002582 -UN-19JUN95

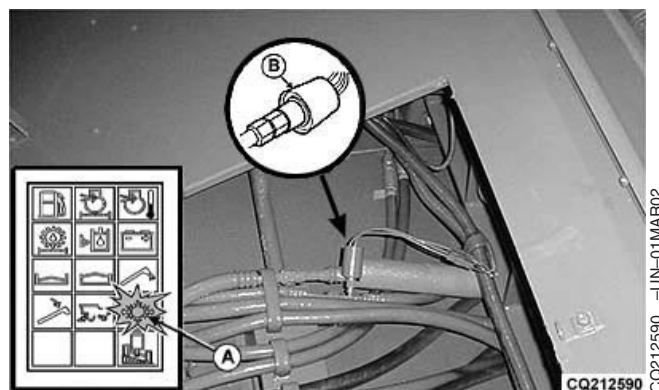
AG,CO03622,2161 -19-15MAR02-1/1

High Pressure Switch

Light (A) indicates that the high pressure switch (B) has disengaged the air conditioning system. Stop the combine. Disconnect and clean the condenser. (See the “Service—Engine” section).

The switch is located under the lower cover of grain tank.

If the indicator light remains on after the condenser has been cleaned, see your John Deere dealer.



CO212590 -UN-01MAR02

CQ212590

AG,CO03622,2162 -19-20AUG04-1/1

Cleaning Condenser

Clean the condenser periodically. See the “Service—Engine” section.

AG,CO03622,2163 -19-20AUG04-1/1

Cab Filters

The operator's cab is equipped with two reusable dry-type filter elements.

Clean these elements every 100 hours of operation or whenever air flow is noticeably reduced. The

recirculating filter may not require as frequent cleaning as the fresh air (main) filter.

Remove the coarse dirt daily with the hand brush furnished with the machine.

AG,CO03622,2164 -19-29SEP99-1/1

Removing Paper (Main) Filter Element

IMPORTANT: Thoroughly clean paper filter element (with compressed air) every 100 hours of operation. Clean more frequently when operating in adverse conditions (clean daily, if necessary).

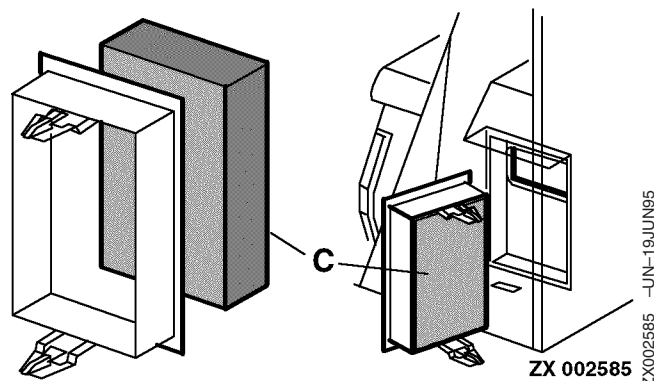
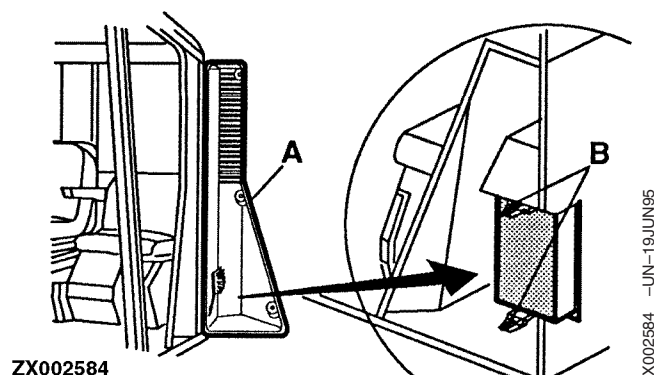
NOTE: Replace filter element after it has been washed six times.

Open service cover (A).

Disengage fasteners (B).

Lift out filter housing with element (C).

When reinstalling, make sure filter element is in correct position.



AG,CO03622,2165 -19-06JUN02-1/1

Cleaning Paper Filter Elements

As a provisional measure during operation, tap element on palm of hand or on a flat soft surface



Z 63398

Continued on next page

AG,CO03622,2166 -19-26SEP03-1/3

Cleaning with Compressed Air

Direct compressed air through filter in opposite direction of arrows on filter [maximum pressure 200 kPa (2 bar; 30 psi)].



Z 63399

Z63399 -UN-04APR95

AG,CO03622,2166 -19-26SEP03-2/3

Washing the Filter

IMPORTANT: Never wash element in fuel or strong detergents. NEVER install a wet or even humid filter.

Hold filter element under running water to remove any coarse dirt.

Soak element for approx. 15 min. in clean lukewarm water, using a mild non-sudsing detergent. Wash filter.

Rinse in clean water with a pressure lower than 200 kPa (2 bar; 28 psi). Shake filter and leave to dry.



Z 63400

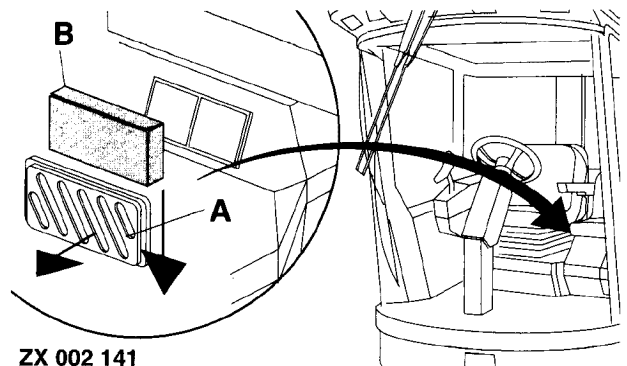
Z63400 -UN-04APR95

AG,CO03622,2166 -19-26SEP03-3/3

Removing Cab Recirculating Filter

Press down grille (A) and pull out by top.

Lift out filter element (B).



ZX 002 141

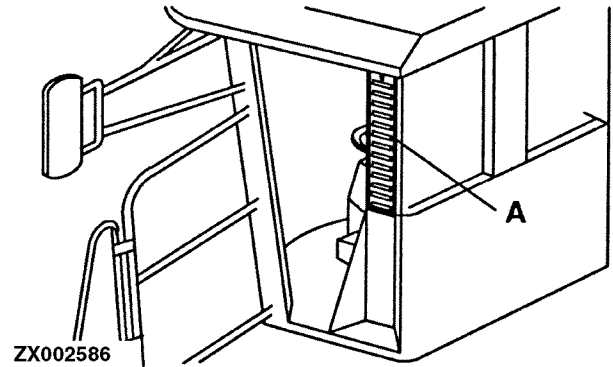
ZX002141 -UN-03APR95

AG,CO03622,2168 -19-15MAR02-1/1

Air Intake Opening

A fine plastic mesh screen (A) covers the air intake opening. Keep screen clear of chaff and leaves.

Use hand brush located in main filter service cover.



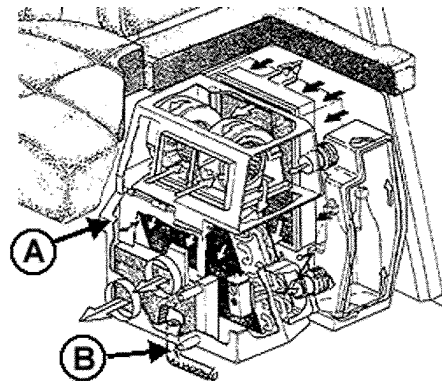
ZX002586

ZX002586 -UN-19JUN95

AG.CO03622,2169 -19-15MAR02-1/1

Condensed Water Drain Hose

If water collects in housing (A), the condensed water drain hose (B) may be blocked. Check if hose is bent or blocked.



CQ195030

CQ195030 -UN-23FEB00

AG.CO03622,2170 -19-15MAR02-1/1

Storage

At Season's End

If possible, store the combine harvester in a dry, sheltered place.

Clean the combine harvester thoroughly inside (by means of inspection holes) and out. Chaff and dirt will attract moisture, which leads to corrosion.

NOTE: Should a high-pressure washer be used for cleaning, do not direct pressurized water jet at the bearings.

Remove all V-belts.

Clean all belts. Do not use aggressive cleaning agents. Do not use petrol, benzene, turpentine or similar cleaning solvents.

The recommended procedure is to use a rag dipped in:

- liquid ammonia,
- soap-suds, or a
- 1:10 mixture of glycerin spirit.

Store drive belts in a dry, cool and dark area, avoiding distortion or tensioning of belts.

Thoroughly clean all drive chains and coat them with heavy oil to prevent corrosion.

Clean out augers and clean grain and tailings elevators, leaving upper and lower flaps open.

Thoroughly clean grain tank and unloading auger.

Thoroughly clean all sieves.

Grease feeder house conveyor bottom to prevent corrosion. Lubricate combine thoroughly as indicated in the lubricating charts. Lubricate threads of adjusting screws etc. Release tension in springs.

Touch up all parts where paint is damaged.

Support the combine with blocks to level it or support the header on a horizontal, dry base. Lower the feeder house.

Grease bare metal surfaces of hydraulic cylinder piston rods well and retract rods as far as possible.

Block up combine, taking the load off the tires. Leave tires inflated.

If combine is stored outside, jack it up on supports and remove wheels. Store wheels in a cool, dark and dry place.

Coat all lever linkages and bearing points without grease fittings with oil.

List all service work to be done before the next season and have it carried out in good time. Your John Deere dealer is in a better position to carry out necessary service and repairs during the off-season.

AG,CO03622,2171 -19-26SEP03-1/1

At Season's End— Engine

If the combine harvester is to be stored for some time (during the winter months), metal parts of the engine must be protected from corrosion and the fuel system must be protected from gum-type deposits.

Protect engine, fuel system etc. as follows:

- ☐ Thoroughly clean outside of engine with a safe solvent.



CAUTION: Do not use gasoline!

- ☐ Drain, wash and refill the engine cooling system with new coolant every two years (See "Engine Coolant ").

IMPORTANT: Use only John Deere recommended coolant in the cooling system.

- ☐ Open rotary radiator screen and carefully clean radiator fins, using compressed air or a weak water jet.
- ☐ Drain off engine oil and replace the filter. Drain off the oil while it is still hot. Refill crankcase with oil of the specified quality and viscosity (refer to "Fuel, Lubricants, Coolant and Capacities " section).
- ☐ Fully drain fuel tank and flush it with clean fuel.
- ☐ Check fuel filters and clean them. Replace them, if necessary.
- ☐ Fully fill the fuel tank to avoid condensation.
- ☐ Clean the engine air intake and replace the primary air cleaner and safety elements.
- ☐ Coat the battery cable terminals with petroleum jelly or grease.
- ☐ Periodically run the engine at half throttle.

AG,CO03622,2172 -19-20AUG04-1/1

At Season's End — Air Conditioning System

Clean condenser.

Remove compressor drive belt and store with the other belts.

AG,CO03622,2173 -19-30SEP99-1/1

Removing Combine From Storage

Before the beginning of each harvesting season, the combine harvester should undergo a thorough check. By ensuring that the machine is in really good condition, costly breakdowns at critical times will be avoided.

Thoroughly clean the combine harvester inside and out, if this was not done at the termination of the previous harvesting season. Reinstall all belts and check tensions.

Re-adjust chain tensions and make sure the chains on the grain and tailings elevators are in a clean condition.

Clean the slip clutches. Adjust the tension of springs (see "Adjusting Tailings Elevator Slip Clutch" in the "Service—Drives/Shields" section).

Close elevator flaps.

Fully lubricate combine harvester in accordance with the lubrication charts.

Afterwards run combine harvester at half-speed for about an hour. Check all bearings for overheating.

Check tire inflation pressures.

Inspect the entire combine, ensuring that all bolts are tight and cotter pins are in place.

AG,CO03622,2174 -19-20AUG04-1/1

Removing Combine From Storage—Engine

Check all hose clamps and coolant level.

Drain engine oil and replace with new oil if this had not already been done at the end of the harvest season. See "Fuel, Lubricants, Coolant and Capacities" section.

Check all seals and coolant level.

Check battery electrolyte level (See "Battery Electrolyte Level"). Recharge battery, if necessary.

Crank engine during 5 seconds without starting. This will assure complete engine lubrication.

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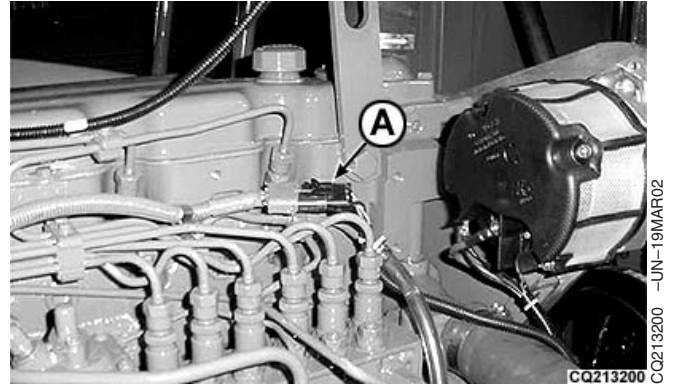
AG,CO03622,2175 -19-20AUG04-1/3

Procedure:

1450/1550:

This procedure is possible by disconnecting fuel supply solenoid connector (A) and cranking engine.

A—Connector



1550

AG,CO03622,2175 -19-20AUG04-2/3

CWS/WTS:

With combines using ECU it is necessary to disconnect connector (A) by pulling lock latch (B) from ECU (C) and cranking engine for 5 seconds.

Put the connector back in place.

Start engine and run it for approx. 5 minutes at half-rated speed.

Check all lines and seals for leaks. See your John Deere dealer, if necessary.



A—Connector
B—Lock latch
C—ECU

AG,CO03622,2175 -19-20AUG04-3/3

Removing Combine From Storage — Air Conditioning System

An annual service of the air conditioning system is necessary to assure satisfactory performance.

Clean or replace dry-type paper filter.

Clean or replace recirculating air filter.

Install and tension compressor drive belt.

Check refrigerant level in the sight glass.

It is a good idea to have your John Deere dealer check the entire system at the beginning of each season.

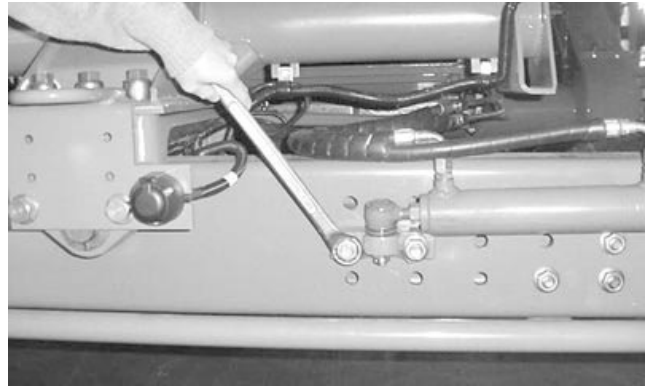


CAUTION: The air conditioning system should be serviced only by your John Deere dealer.

AG,CO03622,2176 -19-30SEP99-1/1

Removing Combine From Storage—Four Wheel Drive

The tightness of all four wheel drive bolts must be checked at the beginning of each harvesting season. Retighten any bolts as necessary.



CO219060 -UN-26AUG03

OU83340,00003F6 -19-20AUG04-1/1

Specifications

Operating Speeds

The indicated speeds are average and may vary from machine to machine. The speeds are graded using an elevated ground speed with the threshing unit engaged and without load.

Engine idling	1200 rpm
Engine rated speed	2200 rpm
Feeder house fixed speed	510 rpm
Threshing cylinder standard speed	380-1100 rpm
Threshing cylinder speed	150-420, 400-1100 rpm
Beater speed	865 ± 15 rpm
Fan speed range	550-1150 rpm

ML70882,000045D -19-29JUN04-1/1

Specifications

Specifications—1450 and 1450 CWS/WTs combines

	1450	1450 CWS/WTs
Engine:		
Manufacturer	John Deere	
Model	6068TJ04	CD6068HCQ60
Type	Six-cylinder, in line, valve-in-head, diesel turbocharged	
Power	134 kW (179.7 hp)	133 kW (178.36 hp) @ 2400 rpm in accordance with the ECE R24, DIN70020 standard (net power)
Bore	106.5 mm (4.2 in.)	
Stroke	127 mm (5 in.)	
Displacement	6.8 L (415 cu in.)	
Firing order	1-5-3-6-2-4	
Electrical System:		
Type	12 Volts, negative ground, 120 A alternator and 150 A battery	
Hydraulic System:		
Type	Triple pump, electro-hydraulic valves	
Flow rate	68.7 L/min (4192.3 cu in.)	
Pressure	195—120 bar (1740.5—2828.2 psi)	
Transmission:		
Type	3 Speeds	3 Speeds with lock
Steering System:		
Type	Hydrostatic with telescopic and inclinable post	
Capacities		
Grain tank	5500 L (335630.59 cu in.)	6000 L (366142.46 cu in.)
Final drive	3 L (183.07 cu in.)	4.8 L (292.91 cu in.)
Engine crankcase	20 L (1220.5 cu in.)	32 L (1952.76 cu in.)
Unloading auger	3300 L (201378.36 cu in.)	
Engine cooling system	30 L (1830.71 cu in.)	
Air compressor crankcase	0.37 L (22.58 cu in.)	
Threshing cylinder creeping hub	1.6 L (97.64 cu in.)	
Chaff spreader transmission	0.55 L (33.56 cu in.) (CADA)	
Brake system (with reservoir)	1 L (61.02 cu in.)	
Transmission	9.6 L (585.83 cu in.)	
Fuel tank	470 L (28681.16 cu in.)	
Windshield washer reservoir	2.8 L (170.87 cu in.)	
Hydraulic system reservoir	29 L (1769.69 cu in.)	
Hydrostatic system reservoir	24 L (1464.57 cu in.)	

Continued on next page

ML70882.000045C -19-29JUN04-1/2

Specifications

	1450 and 1450 CWS/WTS
Cab Noise Level:	
EEC Directive No. 86/188	Measurement method in accordance with ISO 5131, with the cab closed. 79 dB (Average value)
Weight without Header^a	
Approximate	10,000 kg (22046.23 lbs)
Feeder House	
Number of chains	3
Number of rails	2 - "T" Profile
Length	1.8 m
Lateral tilt	+/- 4 degrees - option
Vertical tilt	+/- 9 degrees - standard
Reverser	16 hp (11931.2 W)
Separator:	
Diameter	610 mm
Cylinder width	1.3 m
Number of bars	08
Concave width	1.3 m
Concave area	0.77 m ² (1193.5024 sq in.)
Beater bore	380 mm (14.96 in.)
Separator System:	
Amount of straw walkers	05
Number of steps on straw walker	05
Straw walker length	3.715 m (146.25 in.)
Straw walker separating area	4.83 m ² (51.98 sq ft)
Fan diameter	580 mm (22.83 in.)
Fan adjustment	Electrically from cab
Chaffer area (including extension)	2.45 m ² (26.37 sq ft)
Grain sieve area	1.88 m ² (20.23 sq ft)
Total cleaning area	4.60 m ² (49.51 sq ft)
^a All weights stated in this manual are approximate values of the combine with all accessories installed.	

ML70882,000045C -19-29JUN04-2/2

Specifications—1550 and 1550 CWS/WTs combines

	1550	1550 CWS/WTs
Engine:		
Manufacturer	John Deere	
Model	6081AJ01	CD6068HCQ61
Type	Six-cylinder, in line, valve-in-head, diesel turbocharged	
Power	168 kW (225.3 hp)	167 kW (225 hp) @ 2400 rpm in accordance with the ECE R24, DIN70020 standard (net power)
Bore	116 mm (4.56 in.)	106.5 mm (4.2 in.)
Stroke	129 mm (5.08 in.)	127 mm (5 in.)
Displacement	8.1 L (494.3 cu. in.)	6.8 L (415 cu. in.)
Firing order	1-5-3-6-2-4	
Electrical System:		
Type	12 Volts, negative ground, 120 A alternator and 150 A battery	
Hydraulic System:		
Type	Triple pump, electro-hydraulic valves	
Flow rate	68.7 L/min (4192.3 cu in.)	
Pressure	195—120 bar (1740.5—2828.2 psi)	
Transmission:		
Type	3 Speeds	3 Speeds with lock
Steering System:		
Type	Hydrostatic with telescopic and inclinable post	
Capacities:		
Grain tank	6000 L (366142.46 cu in.)	6000 L (366142.46 cu in.) standard or 6800 L (414961.46 cu in.) adjustable extension
Unloading auger	3300 L (201378.36 cu in.)	
Engine crankcase	28.5 L (1739.18 cu in.)	32 L (1952.76 cu in.)
Engine cooling system	38 L (2318.90 cu in.)	30 L (1830.71 cu in.)
Air compressor crankcase	0.37 L (22.58 cu in.)	
Final drive	4.8 L (292.91 cu in.)	
Threshing cylinder creeping hub	1.6 L (97.64 cu in.)	
Chaff spreader transmission	0.55 L (33.56 cu in.) (CADA)	
Brake system (with reservoir)	1 L (61.02 cu in.)	
Transmission	9.6 L (585.83 cu in.)	
Fuel tank	470 L (28681.16 cu in.)	
Windshield washer reservoir	2.8 L (170.87 cu in.)	
Hydraulic system reservoir	29 L (1769.69 cu in.)	
Hydrostatic system reservoir	24 L (1464.57 cu in.)	

Specifications

	1550 and 1550 CWS/WTs
Cab Noise Level:	
EEC Directive No. 86/188	Measurement method in accordance with ISO 5131, with cab closed. 79 dB (Average value)
Weight without Header^a	
Approximate	11,400 kg (25132.7 lbs)
Feeder House	
Number of chains	4
Number of rails	3 - "T" Profile
Length	1.8 m
Lateral tilt	+/- 4 degrees - option
Vertical tilt	+/- 9 degrees - standard
Reverser	16 hp (11931.2 W)
Separator:	
Diameter	610 mm
Cylinder width	1.56 m
Number of bars	08
Concave width	1.56 m
Concave area	0.93 m ² (1441.5 sq in.)
Beater bore	380 mm (14.96 in.)
Separator System:	
Amount of straw walkers	06
Number of steps on straw walker	05
Straw walker length	3.715 m (146.25 in.)
Straw walker separating area	5.79 m ² (62.32 sq ft)
Fan diameter	580 mm (22.83 in.)
Fan adjustment	Electrically from cab
Chaffer area (including extension)	2.95 m ² (31.75 sq ft)
Grain sieve area	2.38 m ² (25.61 sq ft)
Total cleaning area	5.60 m ² (60.27 sq ft)
^a All weights stated in this manual are approximate values of the combine with all accessories installed.	

ML70882,000045B -19-29JUN04-2/2

Specifications

Power Separator—WTS

Power Separator (WTS)		
	1450 WTS	1550 WTS
External diameter	443 mm (17.44 in.)	
Speed	165 rpm	
Number of fingers	15	18
Width	1278 mm (50.31 in.)	1538 mm (60.55 in.)

ML70882,000045A -19-29JUN04-1/1

Four Wheel Drive—1450/1550 (option)

Four Wheel Drive (1450/1550)	
Model of hydraulic motor	MG 11 - 2
Maximum operating pressure	450 bar (6500 psi)
Capacity of four wheel drive reservoir	40 L
Flow for higher torque	1259 cm ³ /h (1259 L/h)
Flow for lower torque	629 cm ³ /h (629 L/h)
Recommended tires	14.9 - 24 R1 (8L) 14.9 - 24 R2 (8L) 16.9 - 24 R4 (8L)
Rear axle adjustable width - Using 14.9 - 24 R1 (8L) tire	Position A - 2694 mm (106.06 in.) Position B - 2897 mm (114.05 in.) Position C - 3100 mm (122.05 in.)
Rear axle adjustable width - Using 16.9 - 24 R4 (8L) tire	Position A - 2802 mm (110.32 in.) Position B - 3005 mm (118.31 in.) Position C - 3208 mm (126.3 in.)
Height (rear axle height change)	60 mm (2.36 in.)

ML70882,0000459 -19-29JUN04-1/1

Specifications

Tracked combine—1450 (option)

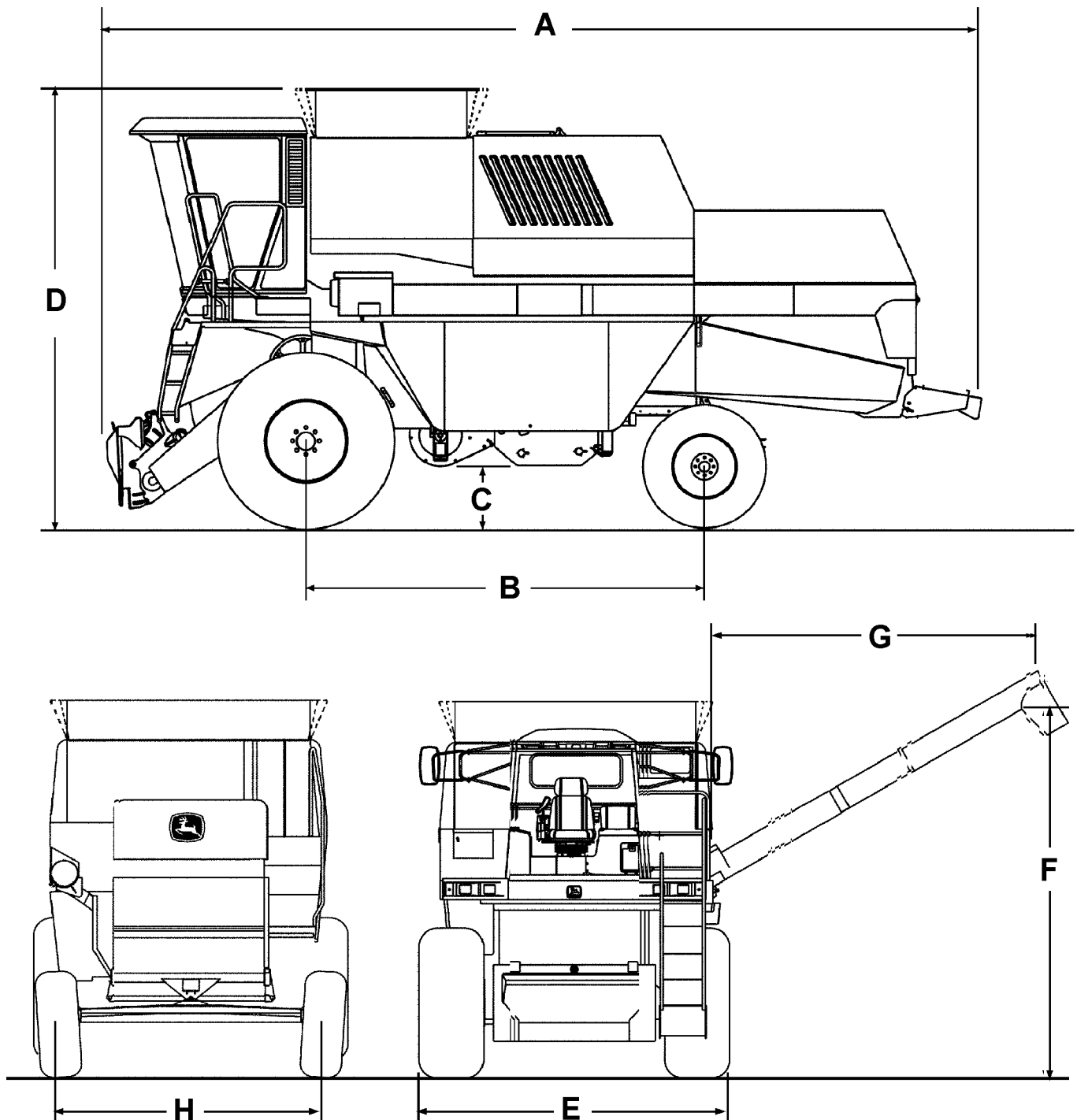
Tracked combine—1450 (option)			
	6 rollers / 700 mm	6 rollers / 800 mm	7 rollers / 950 mm
Width without support axle	700 mm (27.56 in.)	800 mm (31.49 in.)	950 mm (37.4 in.)
Width with support axle	1350 mm (53.15 in.)	1400 mm (55.12 in.)	1775 mm (69.88 in.)
Weight	1200 kg (2645.55 lb)	1240 kg (2733.73 lb)	1550 kg (3417.16 lb)
Length	2660 mm (104.72 in.)	2660 mm (104.72 in.)	2820 mm (101 in.)
Height	1130 mm (44.5 in.)	1130 mm (44.5 in.)	1130 mm (44.5 in.)
Track Deflection (sealed)	40 mm (1.57 in.)	40 mm (1.57 in.)	40 mm (1.57 in.)
Track Deflection (lubricated)	80 mm (3.15 in.)	80 mm (3.15 in.)	80 mm (3.15 in.)
Drive Wheel Diameter	668 mm (26.3 in.)	668 mm (26.3 in.)	668 mm (26.3 in.)
Number of shoes	33	33	36
Total amount of rollers	6	6	7
Total amount of single rollers	4	4	5
Total amount of double rollers	2	2	2

ML70882,00004C7 -19-03AUG04-1/1

Wheeled combines

Wheeled combines				
Front Wheel—Rear Wheel	Combine			
	1450	1550	1450 CWS/WTS	1550 CWS/WTS
23.1 - 30 — 12.4 - 24	X		X	
28.1 - 26 — 12.4 - 24	X		X	X
24.5 - 32 — 16.9 - 24	X		X	X
23.1 - 26 — 16.9 - 24	X		X	
Track — 16.9 - 24	X			
28.1 - 26 — 16.9 - 24		X	X	X
30.5 - 32 — 16.9 - 24		X		X
23.1 - 30 — 16.9 - 24				X
23.1 - 26 — 12.4 - 24			X	
23.1 - 26 — 440/65R24			X	
23.1 - 26 — 540/65R24			X	
28.1 - 26 — 440/65R24			X	X
28.1 - 26 — 540/65R24			X	X
620/75R30 — 12.4 - 24			X	X
620/75R30 — 16.9 - 24			X	X
620/75R30 — 440/65R24			X	X
620/75R30 — 540/65R24			X	X
650/75R32 — 12.4 - 24			X	X
650/55R32 — 12.4 - 24			X	
650/55R32 — 16.9 - 24			X	
650/55R32 — 440/65R24			X	
650/55R32 — 540/65R24			X	
750/65R26 — 440/65R24			X	
800/65R32 — 12.4 - 24			X	X
800/65R32 — 16.9 - 24			X	X
800/65R32 — 440/65R24			X	X
800/65R32 — 540/65R24			X	X
650/75R32 — 16.9 - 24				X
650/75R32 — 440/65R24				X
650/75R32 — 540/65R24				X

Combine dimensions



Combine views

- | | | | |
|------------------------------------|------------------------|----------------------------|-------------------------|
| A—Total length | C—Bottom to the ground | E—Front axle width | G—Unloading auger reach |
| B—Distance from front to rear axle | D—Total height | F—Maximum unloading height | H—Rear axle width |

Continued on next page

ML70882,00004C6 -19-02AUG04-1/2

CQ203711 -UN-02JUN04

Specifications

1450 and 1450 CWS/WTS combine dimensions with 28.1-26 front tires and 12.4-24 rear tires.

Model	A	B	C	D	E	F	G	H
1450	7.96 m	3.57 m	0.46 m	3.73 m	3.64 m	4.15 m	3.71 m	2.8 m
1450 CWS/WTS	7.96 m	3.57 m	0.47 m	3.85 m	3.64 m	4.15 m	3.71 m	2.8 m

1550 and 1550 CWS/WTS combine dimensions with 28.1-26 front tires and 16.9-24 rear tires.

1550	7.96 m	3.72 m	0.47 m	4.03 m	3.78 m	4.67 m	4.22 m	2.8 m
1550 CWS/WTS	7.96 m	3.72 m	0.47 m	3.84 m	3.78 m	4.67 m	4.22 m	2.8 m

ML70882,00004C6 -19-02AUG04-2/2

Safety Note Regarding the Subsequent Installation of Electrical and Electronic Appliances and/or Components

The machine is equipped with electronic components whose function may be influenced by electromagnetic radiation produced by other appliances. This may be hazardous and it may cause the malfunction of installed equipment. We therefore recommend that the following safety instructions are complied with:

If electrical and electronic appliances are subsequently installed on the machine and connected to the onboard system, the user must verify whether the installation affects the electronics or other components. This applies particularly to the following:

- Area counter
- Personal Computer
- GPS (Global Positioning System) receiver

In particular, subsequently installed electrical/electronic components must comply with the relevant edition of

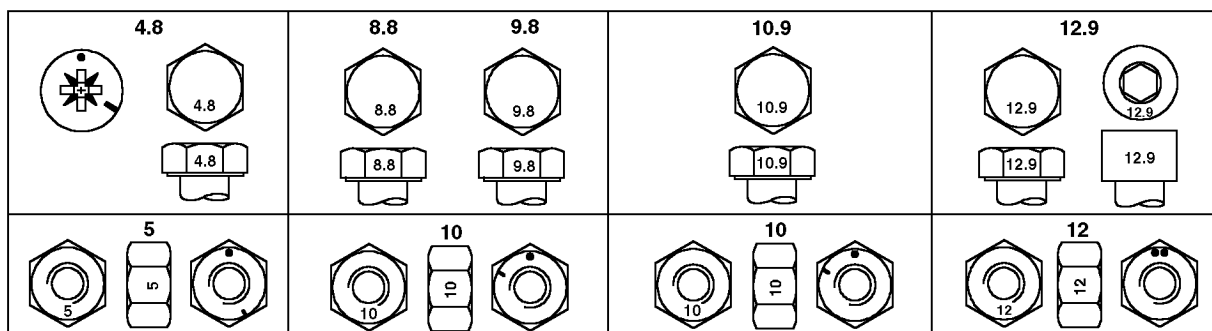
EMC Directive 89/336/EEC, and be CE marked. In the event of the installation of mobile communications equipment (e.g.: radio-transmitter, telephone, etc.) these must additionally comply with the following requirements:

- The device shall be installed securely.
- Portable or mobile devices may be operated in the vehicle only if connected to a fixed outside antenna.
- Transmitters shall be installed separately from the vehicle's electronics.
- The antenna must be installed in a professional manner, with a good ground connection between the antenna and the vehicle ground.

Wiring, installation and maximum permissible current supply must be in accordance with those stated in the installation instructions of the machine's manufacturer.

AG,CO03622,2262 -19-20AUG02-1/1

Metric Bolt and Cap Screw Torque Values



Top, Property Class and Head Markings; Bottom, Property Class and Nut Markings

	Class 4.8		Class 8.8 or 9.8		Class 10.9		Class 12.9	
Size	Lubricated ^a N•m(lb-ft)	Dry ^b N•m(lb-ft)	Lubricated ^a N•m(lb-ft)	Dry ^b N•m(lb-ft)	Lubricated ^a N•m(lb-ft)	Dry ^b N•m(lb-ft)	Lubricated ^a N•m(lb-ft)	Dry ^b N•m(lb-ft)
M6	4.7 (3.5)	6 (4.4)	9 (6.6)	11.5 (8.5)	13 (9.5)	16.5 (12.2)	15.5 (11.5)	19.5 (14.5)
M8	11.5 (8.5)	14.5 (10.7)	22 (16)	28 (20.5)	32 (23.5)	40 (29.5)	37 (27.5)	47 (35)
M10	23 (17)	29 (21)	43 (32)	55 (40)	63 (46)	80 (59)	75 (55)	95 (70)
M12	40 (29.5)	50 (37)	75 (55)	95 (70)	110 (80)	140 (105)	130 (95)	165 (120)
M14	63 (46)	80 (59)	120 (88)	150 (110)	175 (130)	220 (165)	205 (150)	260 (190)
M16	100 (74)	125 (92)	190 (140)	240 (175)	275 (200)	350 (255)	320 (235)	400 (300)
M18	135 (100)	170 (125)	265 (195)	330 (245)	375 (275)	475 (350)	440 (325)	560 (410)
M20	190 (140)	245 (180)	375 (275)	475 (350)	530 (390)	675 (500)	625 (460)	790 (580)
M22	265 (195)	330 (245)	510 (375)	650 (480)	725 (535)	920 (680)	850 (625)	1080 (800)
M24	330 (245)	425 (315)	650 (480)	820 (600)	920 (680)	1150 (850)	1080 (800)	1350 (1000)
M27	490 (360)	625 (460)	950 (700)	1200 (885)	1350 (1000)	1700 (1250)	1580 (1160)	2000 (1475)
M30	660 (490)	850 (625)	1290 (950)	1630 (1200)	1850 (1350)	2300 (1700)	2140 (1580)	2700 (2000)
M33	900 (665)	1150 (850)	1750 (1300)	2200 (1625)	2500 (1850)	3150 (2325)	2900 (2150)	3700 (2730)
M36	1150 (850)	1450 (1075)	2250 (1650)	2850 (2100)	3200 (2350)	4050 (3000)	3750 (2770)	4750 (3500)

^a "Lubricated" means coated with a lubricant such as engine oil, or fasteners with phosphate and oil coatings.

^b "Dry" means plain or zinc plated without any lubrication.

DO NOT use these values if a different torque value or tightening procedure is given for a specific application. Torque values listed are for general use only. Check tightness of fasteners periodically.

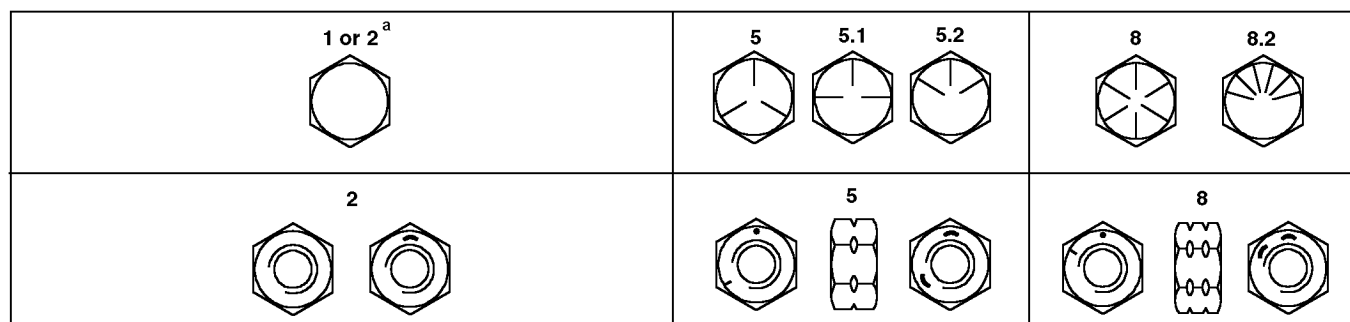
Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical property class.

Fasteners should be replaced with the same or higher property class. If higher property class fasteners are used, these should only be tightened to the strength of the original.

Make sure fastener threads are clean and that you properly start thread engagement. This will prevent them from failing when tightening.

Tighten plastic insert or crimped steel-type lock nuts to approximately 50 percent of the dry torque shown in the chart, applied to the nut, not to the bolt head. Tighten toothed or serrated-type lock nuts to the full torque value.

Unified Inch Bolt and Cap Screw Torque Values



Top, SAE Grade and Head Markings; Bottom, SAE Grade and Nut Markings

Size	Grade 1 (No Mark)		Grade 2 ^a (No Mark)		Grade 5, 5.1 or 5.2		Grade 8 or 8.2	
	Lubricated ^b N•m(lb-ft)	Dry ^c N•m(lb-ft)	Lubricated ^b N•m(lb-ft)	Dry ^c N•m(lb-ft)	Lubricated ^b N•m(lb-ft)	Dry ^c N•m(lb-ft)	Lubricated ^b N•m(lb-ft)	Dry ^c N•m(lb-ft)
1/4	3.8 (2.8)	4.7 (3.5)	6 (4.4)	7.5 (5.5)	9.5 (7)	12 (9)	13.5 (10)	17 (12.5)
5/16	7.7 (5.7)	9.8 (7.2)	12 (9)	15.5 (11.5)	19.5 (14.5)	25 (18.5)	28 (20.5)	35 (26)
3/8	13.5 (10)	17.5 (13)	22 (16)	27.5 (20)	35 (26)	44 (32.5)	49 (36)	63 (46)
7/16	22 (16)	28 (20.5)	35 (26)	44 (32.5)	56 (41)	70 (52)	80 (59)	100 (74)
1/2	34 (25)	42 (31)	53 (39)	67 (49)	85 (63)	110 (80)	120 (88)	155 (115)
9/16	48 (35.5)	60 (45)	76 (56)	95 (70)	125 (92)	155 (115)	175 (130)	220 (165)
5/8	67 (49)	85 (63)	105 (77)	135 (100)	170 (125)	215 (160)	240 (175)	305 (225)
3/4	120 (88)	150 (110)	190 (140)	240 (175)	300 (220)	380 (280)	425 (315)	540 (400)
7/8	190 (140)	240 (175)	190 (140)	240 (175)	490 (360)	615 (455)	690 (510)	870 (640)
1	285 (210)	360 (265)	285 (210)	360 (265)	730 (540)	920 (680)	1030 (760)	1300 (960)
1-1/8	400 (300)	510 (375)	400 (300)	510 (375)	910 (670)	1150 (850)	1450 (1075)	1850 (1350)
1-1/4	570 (420)	725 (535)	570 (420)	725 (535)	1280 (945)	1630 (1200)	2050 (1500)	2600 (1920)
1-3/8	750 (550)	950 (700)	750 (550)	950 (700)	1700 (1250)	2140 (1580)	2700 (2000)	3400 (2500)
1-1/2	990 (730)	1250 (930)	990 (730)	1250 (930)	2250 (1650)	2850 (2100)	3600 (2650)	4550 (3350)

^a Grade 2 applies for hex cap screws (not hex bolts) up to 6 in. (152 mm) long. Grade 1 applies for hex cap screws over 6 in. (152 mm) long, and for all other types of bolts and screws of any length.

^b "Lubricated" means coated with a lubricant such as engine oil, or fasteners with phosphate and oil coatings.

^c "Dry" means plain or zinc plated without any lubrication.

DO NOT use these values if a different torque value or tightening procedure is given for a specific application. Torque values listed are for general use only. Check tightness of fasteners periodically.

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical grade.

Fasteners should be replaced with the same or higher grade. If higher grade fasteners are used, these should only be tightened to the strength of the original.

Make sure fastener threads are clean and that you properly start thread engagement. This will prevent them from failing when tightening.

Tighten plastic insert or crimped steel-type lock nuts to approximately 50 percent of the dry torque shown in the chart, applied to the nut, not to the bolt head. Tighten toothed or serrated-type lock nuts to the full torque value.

Declaration of Conformity

John Deere Brasil Ltda.
Av. Jorge A. D. Logemann, 600
98920-000 Horizontina - RS - Brasil



Header:

Models 1450 CWS/STS and 1550
CWS/STS

comply with EU provisions:
98/37/EECMachine Directive
89/336/EECEMC Directive

Horizontina 9 May 2004

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Marlon Adami

Combine Engineering Management

CO222660 -UN-08MAR04

ML70882,0000432 -19-18MAY04-1/1

Serial Number

Type Plates

Serial numbers identifying combine harvester components or assemblies are stamped on components or factory serial number plates.

These numbers and letters are required when ordering parts or components for the combine harvester.

To ensure that you always have these numbers at hand, enter the appropriate serial numbers in the spaces provided in each illustration.

AG,CO03622,2179 -19-04OCT99-1/1

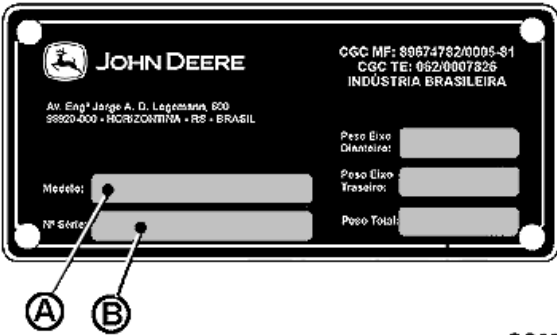
Combine Serial Number—1450/1550

The product identification number is located under the operator's platform on the front right-hand side.

Enter the appropriate serial numbers in the spaces provided below:

*															*
---	--	--	--	--	--	--	--	--	--	--	--	--	--	--	---

A—Model
B—Serial Numbers



—UN-10APR01
CQ204180
CQ204180

AG,CO03622,2247 -19-20AUG04-1/1

Combine Serial Number—CWS/WTS

The product identification number is located under the operator's platform on the front right-hand side.

Enter the appropriate serial numbers in the spaces provided below:

*																				*
---	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	---

A—Model
B—Serial Numbers

JOHN DEERE		BAUJAHR	
TYP		AUSFÜHRUNG	
HOMOL. NR.		LEISTUNG KW	
IDENT. NR.		ABS. COEF.	
ZUL. GESAMTGEWICHT	KG	P.T.C.	KG
ZUL. ACHSLAST/STÜTZLAST VORN	KG	P.T.R.	KG
ZUL. ACHSLAST HINTEN	KG	RECEPTION DES MINES	
TECHNISCH ZULÄSSIGE ANHÄNGELAST	KG	ORLEANS LE	
UNABHÄNGIGE BREMSUNG	KG	INSPECTION CODES	
AUFLAUFGEBREMST	KG	CE	
HYDRAUL. O. PNEUMAT. GEBREMST	KG	DEERE & COMPANY	
ZUL. STÜTZLAST ANHÄNGER	KG	MOLINE, ILLINOIS, USA	
		MADE IN BRAZIL	

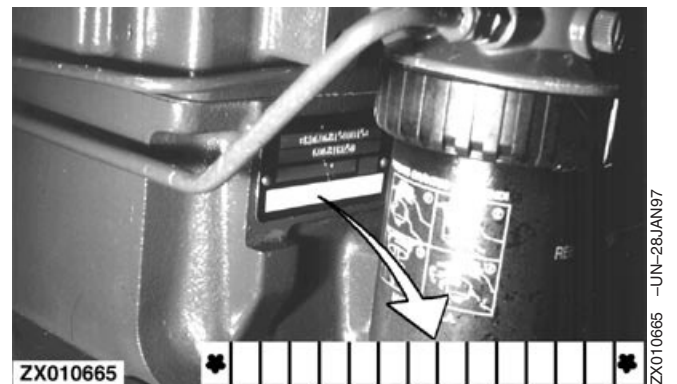
CQ204190

CO204190 -UN-10APR01

AG,CO03622,2859 -19-20AUG04-1/1

Engine Serial Number

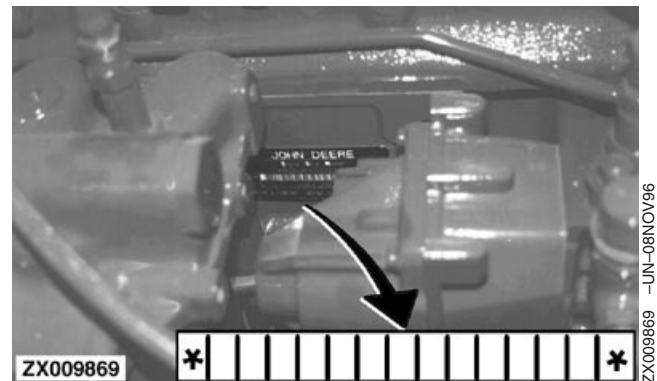
The engine serial number for the combines described in this manual is located on the engine block.



ZX010665

6.8 L engine—1450 and 1450 CWS/WTS

ZX010665 -UN-28JAN97



ZX009869

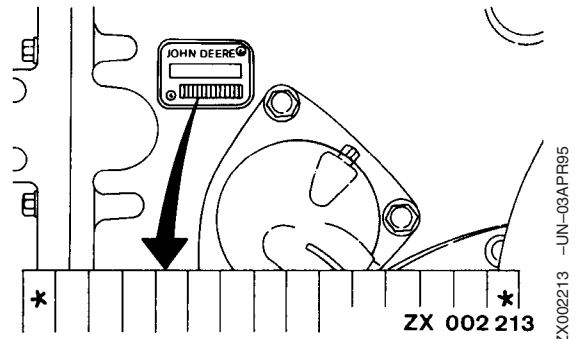
8.1 L engine—1550

ZX009869 -UN-08NOV96

AG,CO03622,2248 -19-20AUG04-1/1

Three-Speed Transmission Serial Number

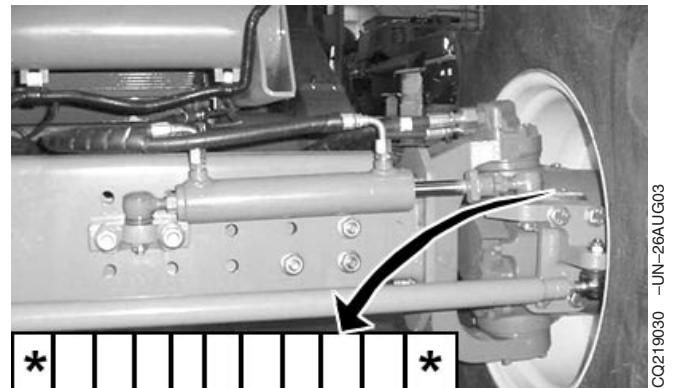
The three-speed transmission serial number is located on right-hand side of transmission housing.



AG,CO03622,2249 -19-15MAR02-1/1

Four Wheel Drive Serial Number

The serial number is located on hydraulic motor housing at right wheel.



OU83340,00003F4 -19-26AUG03-1/1

Index

	Page		Page
" QUICK STOP" Switch	15-26	Air Filter	
A		Assembly of components	90-32
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