



DCY

1450 CWS Combine

(Serial No. 070076 - 070085)

OPERATOR'S MANUAL 1450 CWS Combine

OMCQ72746 Issue A7 (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
Italian Edition
LITHO IN BRAZIL



OMCQ72746

Introduction

Foreword

READ THIS MANUAL carefully in order to learn how to correctly operate and service your machine. Bodily injury or damage to the machine may occur if this procedure is not followed. This manual as well as the safety signs on your machine may be available in other languages (contact your John Deere dealer for more information).

THIS MANUAL SHOULD BE CONSIDERED a permanent part of your machine and it should accompany the machine if sold.

Measurements in this manual are presented both in the metric system and in the commonplace measurement system used in the United States. Only use system the correct replacement parts and attaching accessories. Bolts and screws in inches and millimeters may require a drive tool in inches or millimeters.

RIGHT-HAND AND LEFT-HAND sides are determined with reference to the direction of forward travel.

WRITE DOWN THE P.I.N.'s (Product Identification Numbers) in the Specifications or I.D. Numbers section. Note down all numbers precisely in order to aid in the location of the machine in the case of theft. Your John Deere dealer shall also require that these numbers are provided when you request parts. Archive the I.D. numbers in a safe place, exterior to the machine.

SETTING FUEL INJECTION BEYOND PUBLISHED factory specifications, or any other modification made

with the purpose of increasing engine power, will result in loss of warranty cover for the machine.

BEFORE DELIVERING THIS MACHINE, your dealer performed a predelivery inspection. The machine was first used operationally after the dealer had carried out the Technical Delivery. The dealer monitored the machine during its first few hours of operation. Before completing 600 operating hours or 12 months of use, schedule a post-sales inspection by your dealer to tune the machine to perform at its best.

This machine was designed solely for use in regular agricultural operations or similar such operations ("INTENDED USE"). Its use in any other way is deemed contrary to the intended use. The manufacture accepts no liability for damage or injury resulting from misuse, such risks must be borne solely by the user. Compliance with and strict adherence to the operating, service and repair conditions specified by the manufacturer also constitute essential elements of the intended use.

THIS MACHINE SHOULD BE OPERATED and repaired only by persons familiar with all its particular characteristics and acquainted with the relevant safety rules (accident prevention). Accident prevention regulations, all other generally recognized regulations on safety and occupational medicine as well as road traffic regulations must always be complied with at all times. Any arbitrary modifications carried out on this machine will release the manufacturer of all liability for any resulting damage or injury.

ML70882,0000516 -19-06JUN05-1/1

Interpreting the Serial Number of Your Machine

Interpreting the Serial Number of Your Machine		
1	Code of producing unit	CQ — Machines produced at JD Horizontina NW — Machines produced at JD Catalão BM — Machines produced at JD Montenegro
2	Machine model	
3	Serial code of Machine	A, B, C...
4	Year of production of the machine	06, 07, 08, 09, 10...
5	Sequential number	0001, 0002, 0003, 0004...

Each model has its own “sequential number”. The sequential number restarts at 0001 with the first machine produced each year.

Each model has its “Serial code of Machine”. This code will change whenever there is a significant change of the machine’s configuration.

CQ1450B060001
 (1) (2) (3) (4) (5)
 CQ0600A060001

Serial number examples

CQ266870 –UN–06MAR06

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A John Deere ILLUSTRATION® Manual

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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

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

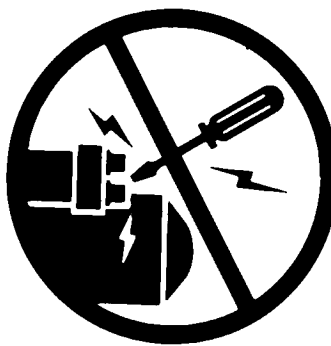
TS187 -19-30SEP88

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.



TS177 -UN-11JAN89

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

Check the Safe Operation of the Combine

Always remember to service the combine to ensure its safe operation and running, and also regarding the traffic regulations.

AG,GG05155,9 -19-22JAN99-1/1

Observe the Traffic Norms



CAUTION: Always observe local road traffic regulations when driving the machine on public roads.



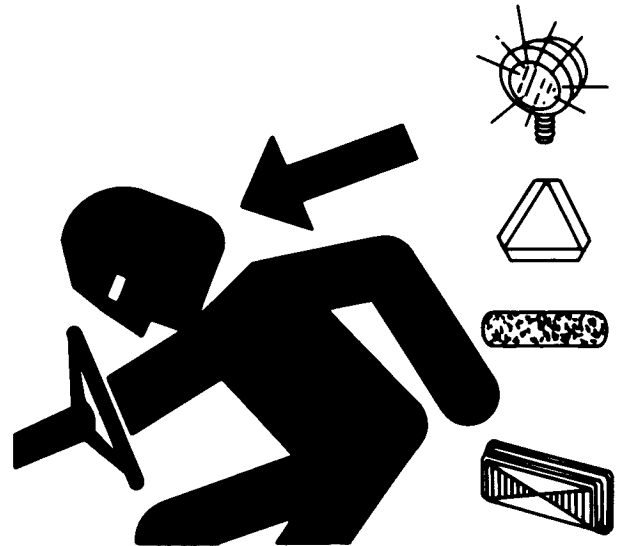
H28930 -UN-30JUN89

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

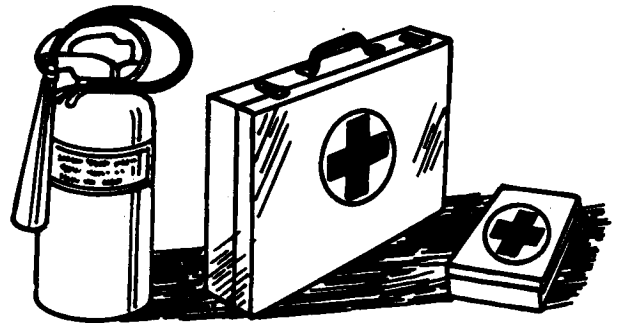
DX,FLASH -19-07JUL99-1/1

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

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.



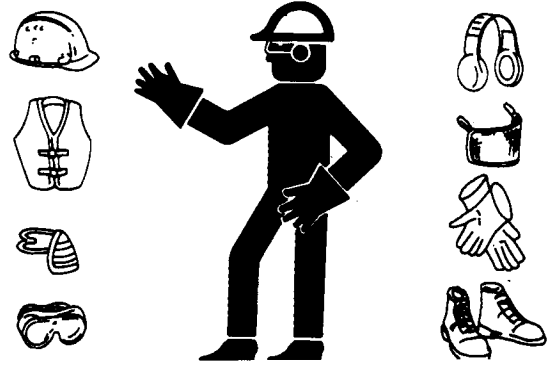
TS202 -UN-23AUG88

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

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.



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

TS206 -UN-23AUG88

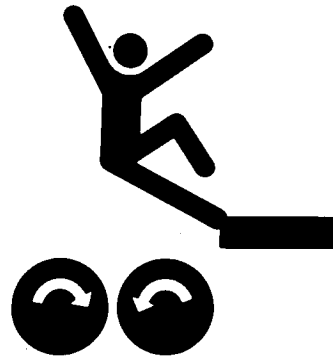
Keep Riders and Children Off Machine

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.

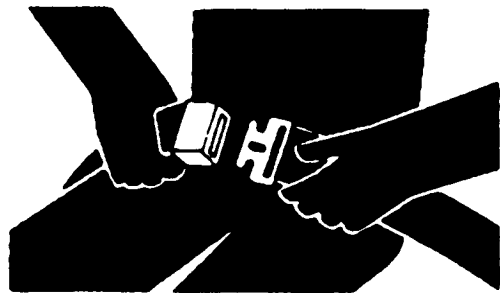


ML70882,00004A3 -19-19JUL04-1/1

TS253 -UN-23AUG88

Use Seat Belts

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



H47137

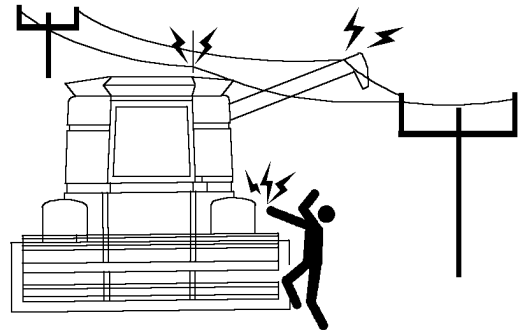
HX,STSSA,I -19-22JUL99-1/1

H47137 -UN-25OCT95

Avoid Power Lines

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

Fasten the radio aerial in its transport position before driving on public roads, it may come into contact with low-hanging power lines. This would result in the operator suffering a severe electrical shock.



H52022 -UN-14APR99

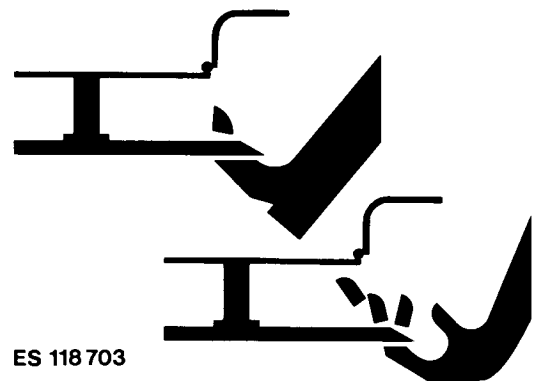
HX,STSSA,D -19-22JUL99-1/1

Protection Device

Keep guards in place at all times. Ensure that they are in good condition and installed correctly.

Always disengage the threshing, shut off the engine and remove key switch before removing any guards.

Keep hands, feet and clothing away from moving parts.



ES 118 703

ES118703 -UN-21MAR95

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

Stay Clear of Harvesting Units

Cutterbars, auger, reel and rollers cannot be completely armored due to their function. Stay away from these elements during operation. Always disengage the threshing, shut off the engine and remove key switch before removing any guards.



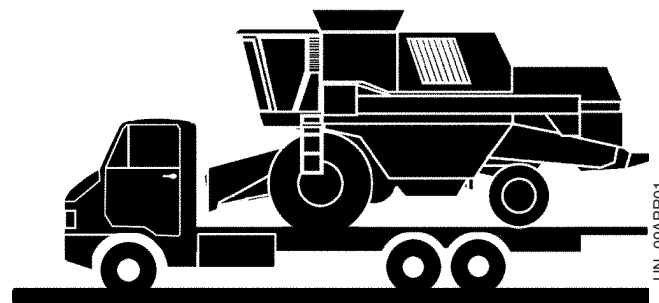
ES 118 704

ES118704 -UN-21MAR95

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

Transport on a Truck

When transporting the combine on trucks, make sure the side shields are well fastened and cannot open accidentally during transportation.



CQ203970

CO203970 -UN-09APR01

CO03622,0000061 -19-13MAR02-1/1

Transport Combine Safely

Whenever setting the machine in movement look around for children. Ensure good visibility.

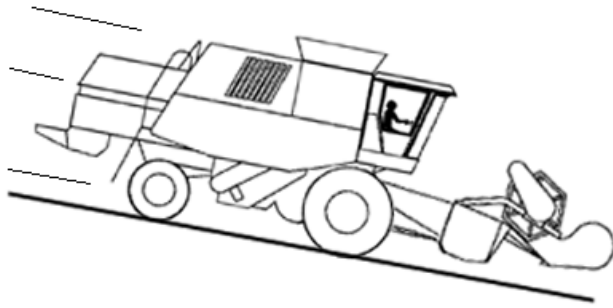
Always adapt the travel speed according to the ground. Avoid sharp turns when going uphill or downhill.

Check that the attachments are properly coupled and that they do not disconnect accidentally.

When driving with assembled trailers, be very careful.

Reduce the gear speed when driving on hillsides or rough grounds and before performing risky maneuvers. Reduce to a lower speed when driving steep downhill slopes. Never drive downhill in neutral.

Avoid holes, ditches, and obstructions which may cause tractor roll-over, especially on hillsides.

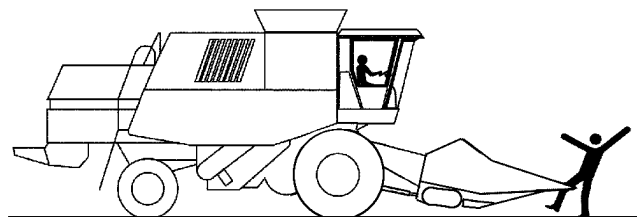


CQ221200 -JUN-27NOV03

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

Transport with Head Installed

Before driving combine on public roads, head must be raised. It must not obstruct the operator's view of the road. Head height control must be in the locked position.



-JUN-06APR01

CQ203760

CQ203760

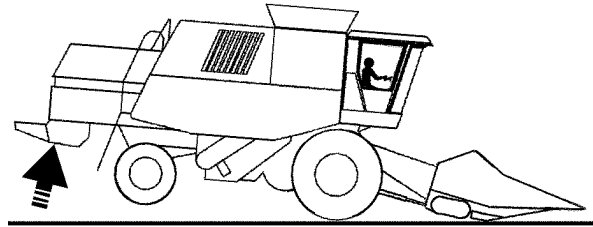
MB03730,0001BD6 -19-01AUG05-1/1

Use of Counterweights

Operating, steering and braking performance of the combine may be affected by the header used because its weight can alter the center of gravity of the combine.

To maintain stability, the use of counterweights may be necessary on the rear part of the Combine.

Observe the maximum axle weight and total weight allowed.



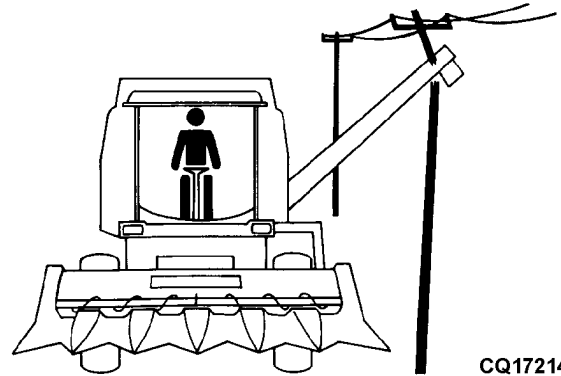
CQ203770

—UN-06APR01

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.



CO172140

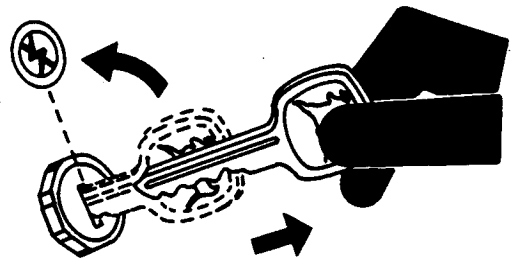
—UN-11SEP98

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.



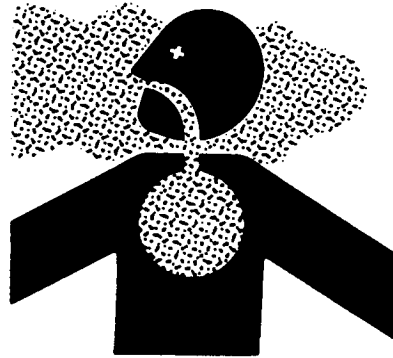
DX,PARK —19-04JUN90-1/1

—UN-24MAY89

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



TS220 -UN-23AUG88

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

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.



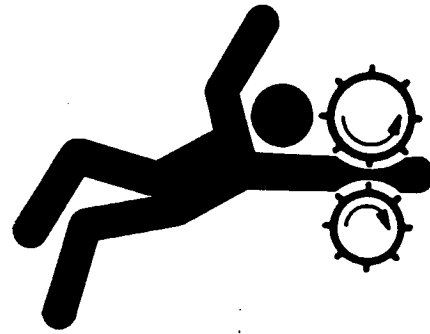
TS218 -UN-23AUG88

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

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.



TS228 -UN-23AUG88

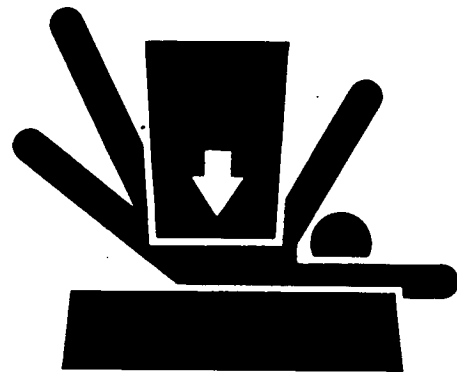
DX, LOOSE -19-04JUN90-1/1

Support Machine Properly

Always lower the attachment or implement to the ground before you work on the machine. If the work requires that the machine or attachment be lifted, provide secure support for them. If left in a raised position, hydraulically supported devices can settle or leak down.

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

When implements or attachments are used with a machine, always follow safety precautions listed in the implement or attachment operator's manual.

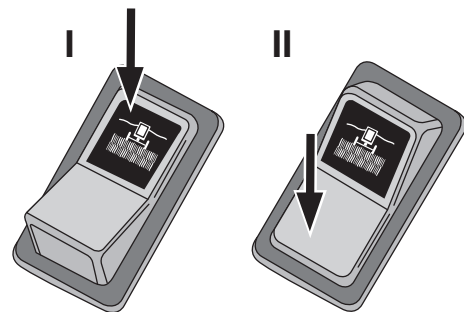


TS229 -UN-23AUG88

DX, LOWER -19-24FEB00-1/1

Road Safety Rocker Switch

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



I—Field position
II—Transport position

CQ245130 -UN-29JUL05

AG, CO03622, 1361 -19-01AUG05-1/1

Remove Built-up 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 park brake and remove the key.



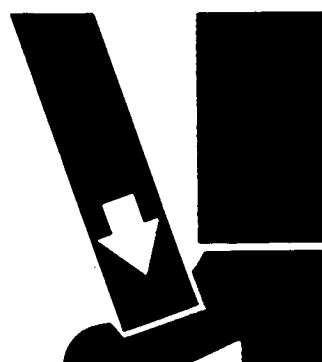
HX,STSSA,N -19-22JUL99-1/1

TS227 -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

Engine Maintenance

Always use the rear header to perform maintenance work on the engine. Do not climb on any other part of the Combine for there is a risk of falling off.

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

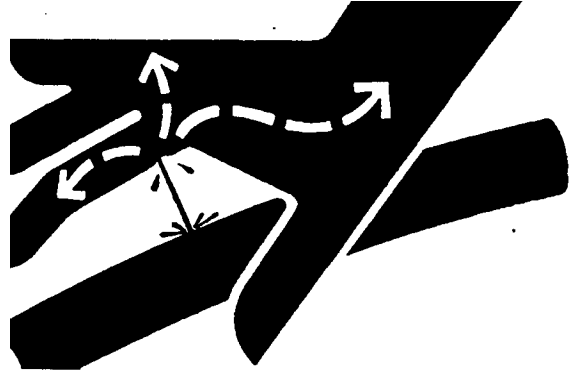
Avoid High-Pressure Fluids

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

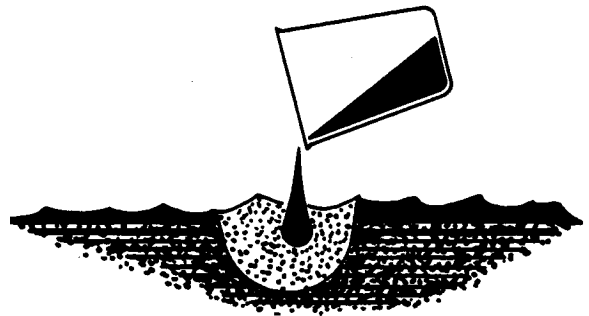
DX,FLUID -19-03MAR93-1/1

Observe the Environment Protection Laws

Be conscious of ecology and the environment.

Before draining any fluid, learn about the correct way to dispose of it.

Observe the environment protection norms when disposing of oil, fuel, coolant, filter and batteries.



TS222 -UN-23AUG88

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

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:

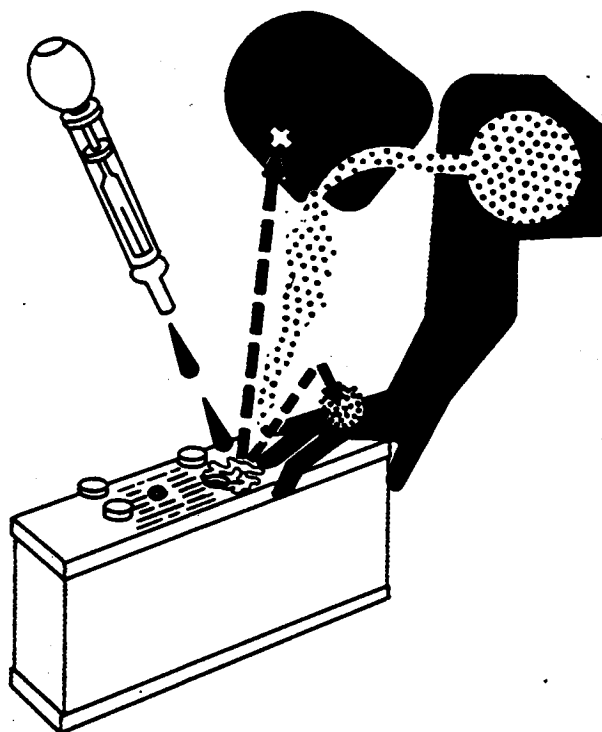
1. Filling batteries in a well-ventilated area.
2. Wearing eye protection and rubber gloves.
3. Avoiding breathing fumes when electrolyte is added.
4. Avoiding spilling or dripping electrolyte.
5. Use proper jump start procedure.

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 -JUN-23AUG88

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

Cleaning the Grain Tank and Removal of Obstructions

Avoid serious injury or death from entanglement in the grain tank cross augers. For functional reasons 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 key

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



TS256 -UN-23AUG88

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

Care with the Cutter Blades

Never attempt removing any obstructions from the header unless the threshing and the engine are shut off and the key switch removed.

Make sure no one is standing nearby before moving the Combine.

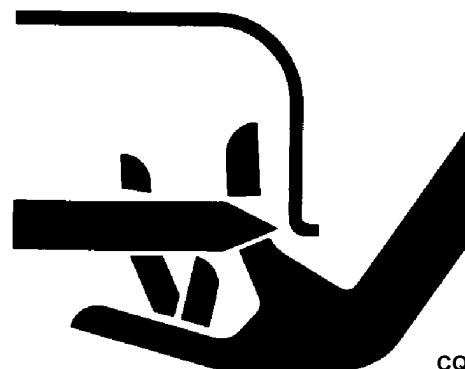


TS254 -UN-23AUG88

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

Service Tires Safely

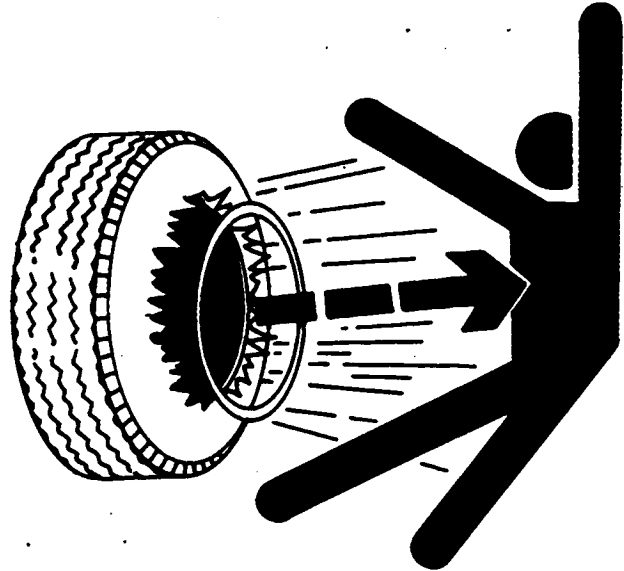
Explosive separation of a tire and rim parts can cause serious injury or death.

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.



TS211 -UN-23AUG88

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

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 slightly to relieve pressure before removing cap completely.

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

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



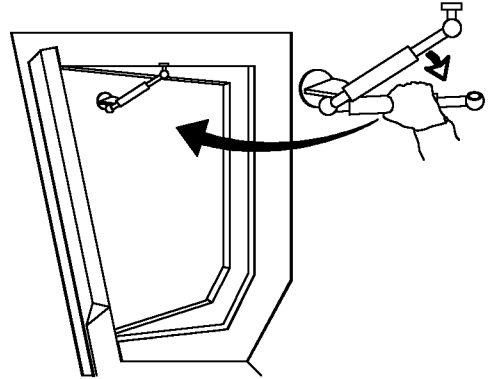
T6642EK -UN-01NOV88

ML70882,00004A5 -19-19JUN06-1/1

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.

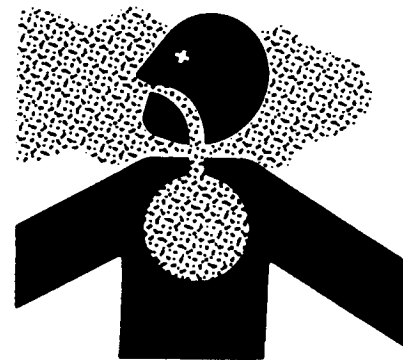
Remove paint before heating:

- 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

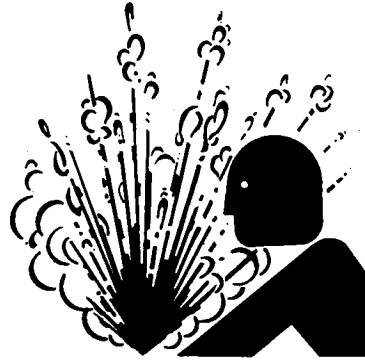
DX,PAINT -19-24JUL02-1/1

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

Keep Proof of Ownership

1. Maintain in a secure location an up-to-date inventory of all product and component serial numbers.
2. Regularly verify that identification plates have not been removed. Report any evidence of tampering to law enforcement agencies and order duplicate plates.
3. Other steps you can take:
 - Mark your machine with your own numbering system
 - Take color photographs from several angles of each machine

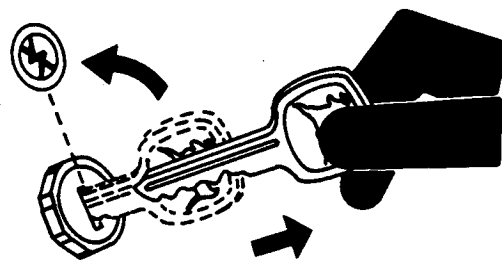


TS1680 -UN-09DEC03

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

Keep Machines Secure

1. Install vandal-proof devices.
2. When machine is in storage:
 - Lower 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-lighted and fenced area.
5. Make note of suspicious activity and report any thefts immediately to law enforcement agencies.
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.

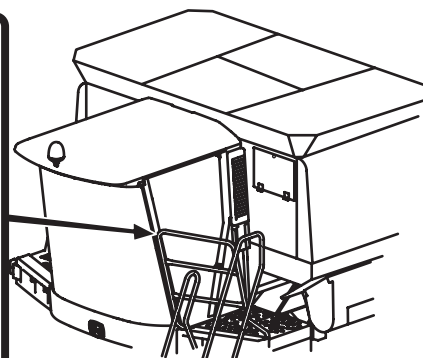


TS231 -19-07OCT88

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

Operator's Manual

This operator's manual contains all important information necessary for safe machine operation. Carefully observe all safety rules to avoid accidents.

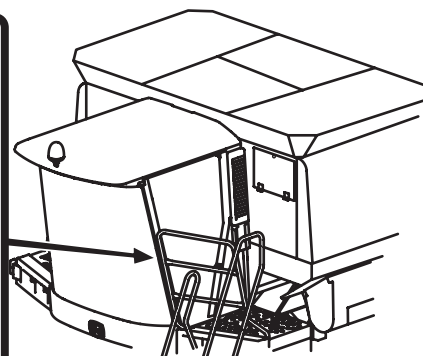


CQ275330 -UN-11JUL06

AG,CO03622,1364 -19-11JUL06-1/1

Repair and Service

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



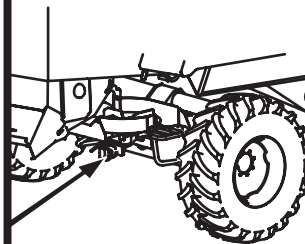
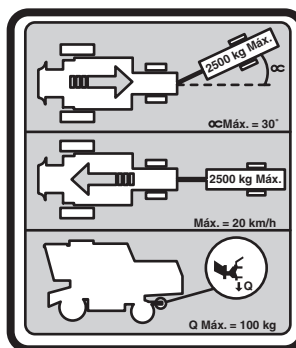
CQ275340 -UN-11JUL06

AG,CO03622,1365 -19-11JUL06-1/1

Trailer Hitch

Make sure maximum load and maximum angle of lateral tilt are within specification.

DO NOT exceed these values.



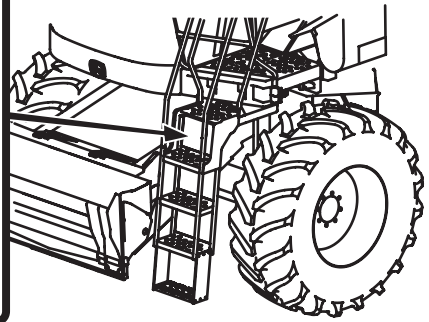
CQ275480 -UN-11AUG06

ML70882,0000949 -19-11JUL06-1/1

Front Access Ladder and Operating Platform

Do not allow passengers on access ladder or service platform.

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

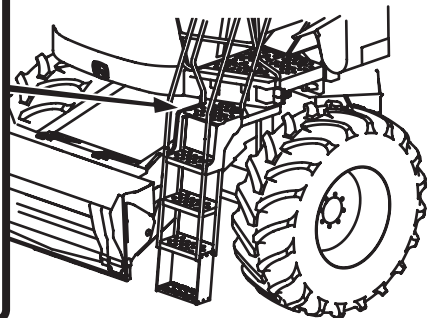


CQ275350 -UN-11JUL06

AG,CO03622,1366 -19-11JUL06-1/1

Fire Extinguisher

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

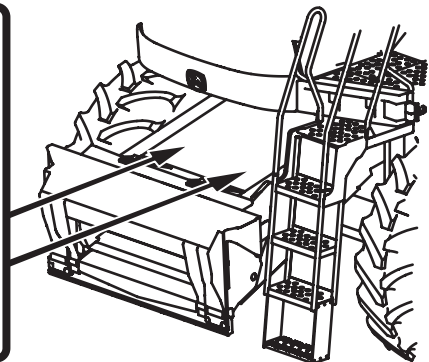


CQ275360 -UN-11JUL06

AG,CO03622,1367 -19-11JUL06-1/1

Feeder House Drive Shields

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

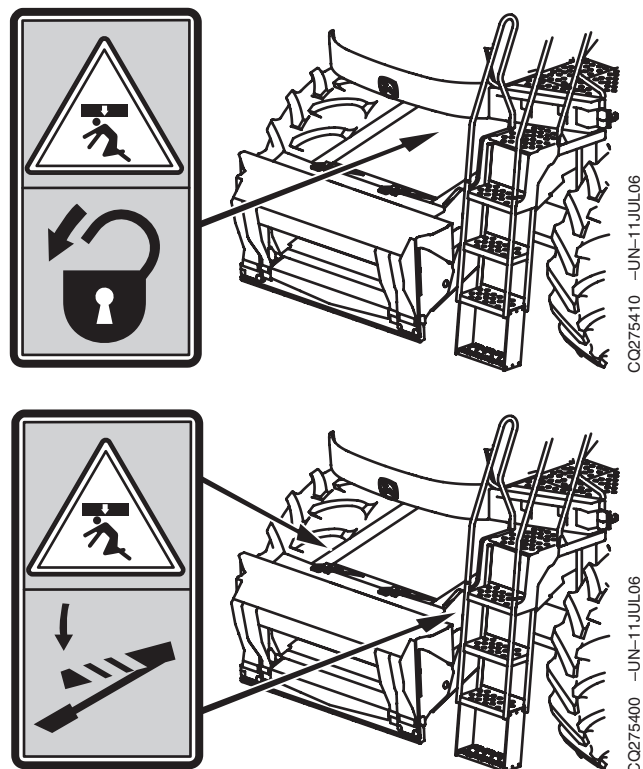


CQ275390 -UN-11JUL06

AG,CO03622,1368 -19-11JUL06-1/1

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.



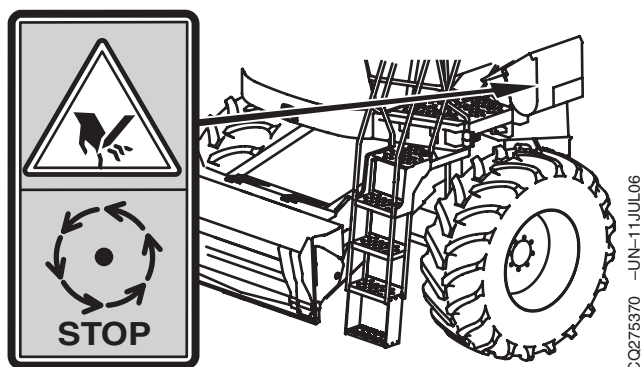
CQ275410 -UN-11JUL06

CQ275400 -UN-11JUL06

AG,CO03622,1369 -19-11JUL06-1/1

Unloading Auger

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

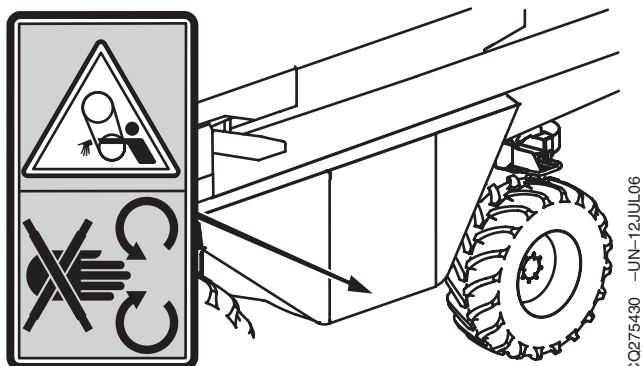


CQ275370 -UN-11JUL06

CO03622,0000062 -19-11JUL06-1/1

Left-Hand Side Shield, Straw Walker Drive and Fan

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

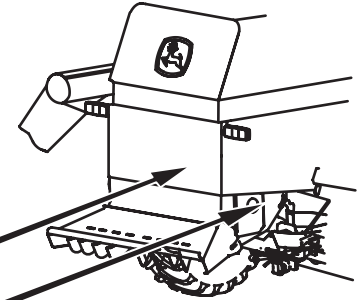


CQ275430 -UN-12JUL06

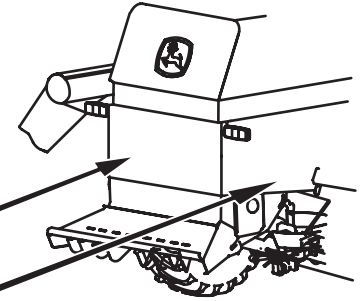
AG,CO03622,1371 -19-11JUL06-1/1

Straw Chopper and Chaff Spreader

Stay clear of these components when the engine is running. Do not touch any moving machine parts. Wait until all moving parts have stopped.



CQ275490 -UN-11JUL06

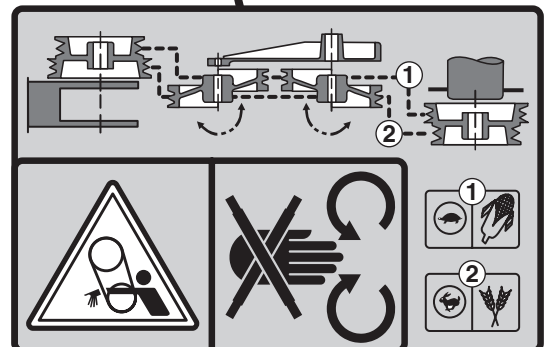
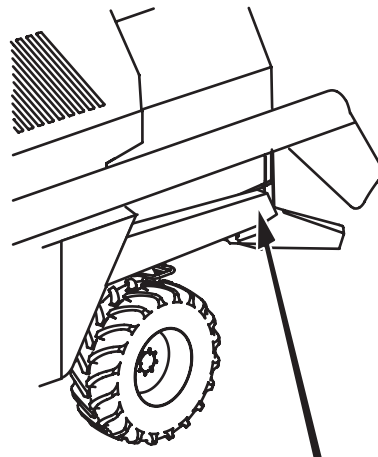


CQ275630 -UN-11JUL06

AG,CO03622,1372 -19-11JUL06-1/1

Straw Chopper

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

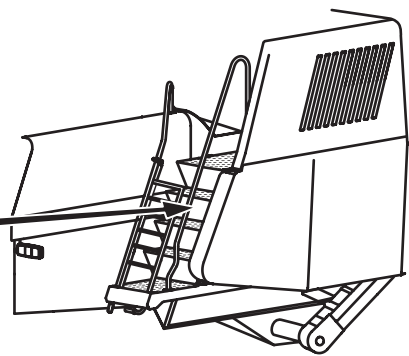


CQ275420 -UN-12JUL06

AG,CO03622,1373 -19-11JUL06-1/1

Access to Rear Ladder and Service Platform

Do not allow passengers on access ladder or service platform.

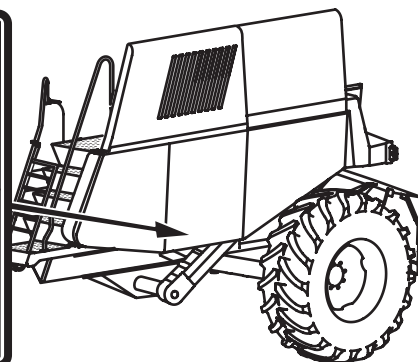


CQ275640 -UN-11JUL06

AG,CO03622,1374 -19-11JUL06-1/1

Right-Hand Side Shield

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

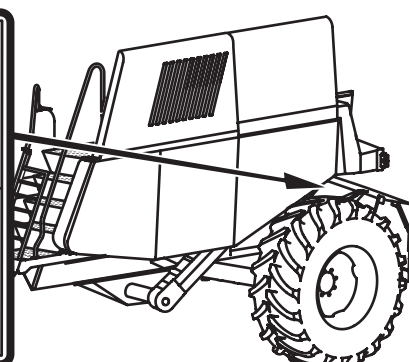


CQ275660 -UN-12JUL06

AG,CO03622,1375 -19-11JUL06-1/1

Reverser Shield

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

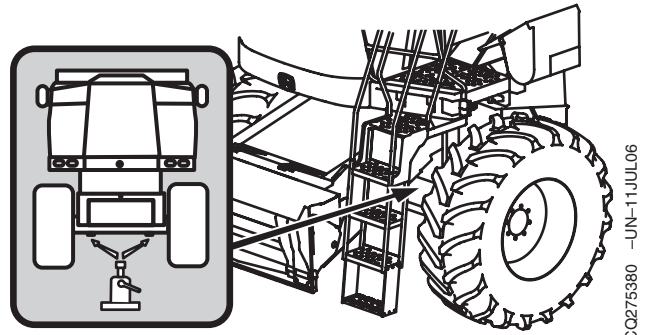


CQ275670 -UN-12JUL06

CO03622,0000063 -19-11JUL06-1/1

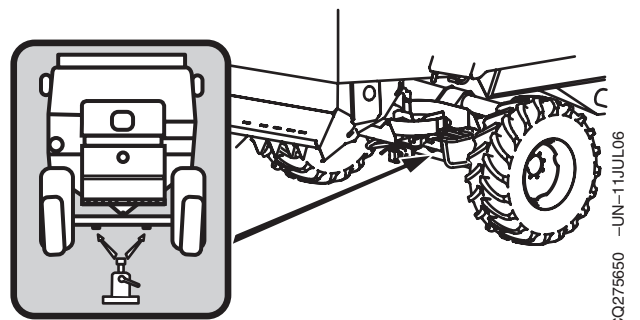
Jacking Points

Jack up machine positioning jack at specified points at the front and rear axles. The points can be found by their stickers.



Jacking points - Front axle

CQ275380 -UN-11JUL06



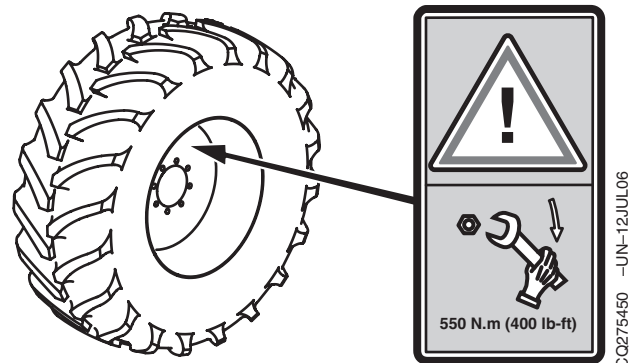
Jacking points - Rear axle

CQ275650 -UN-11JUL06

OU83340,000041F -19-11JUL06-1/1

Front Wheel Attaching Nuts

Retighten front wheel attaching nuts at specified intervals.

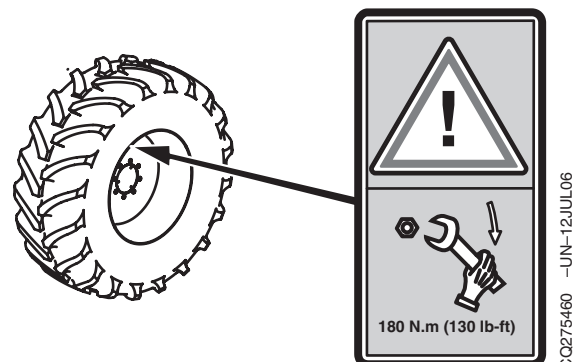


CQ275450 -UN-12JUL06

AG,CO03622,1376 -19-11JUL06-1/1

Rear Wheel Attaching Nuts

Retighten rear wheel attaching nuts at specified intervals.

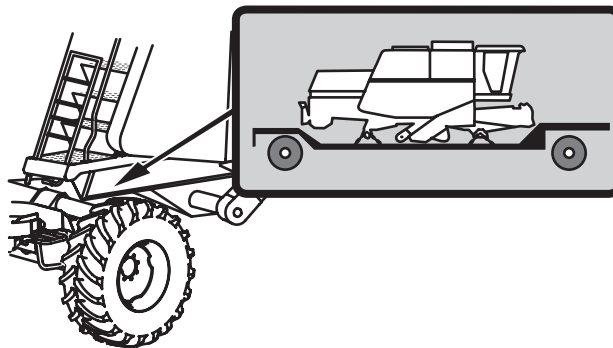


CQ275460 -UN-12JUL06

AG,CO03622,1377 -19-11JUL06-1/1

Transporting the Combine

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

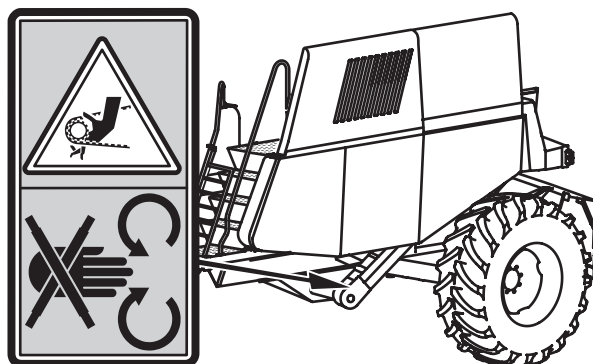


CQ277160 -UN-08AUG06

OU83340,0000420 -19-08AUG06-1/1

Grain Elevator Shield

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



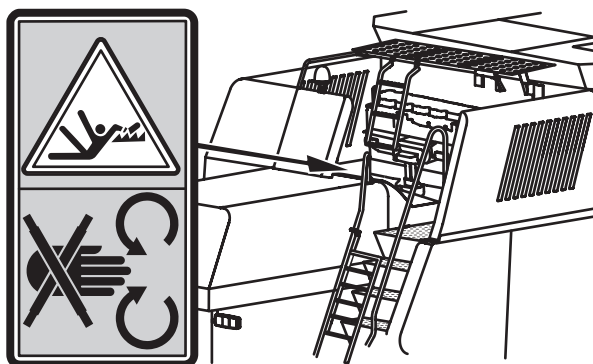
CQ275680 -UN-12JUL06

ML70882,00004D2 -19-11JUL06-1/1

Straw Walker Shield

DO NOT open or remove shields while the engine is running.

Straw walker movements may cause serious accidents.

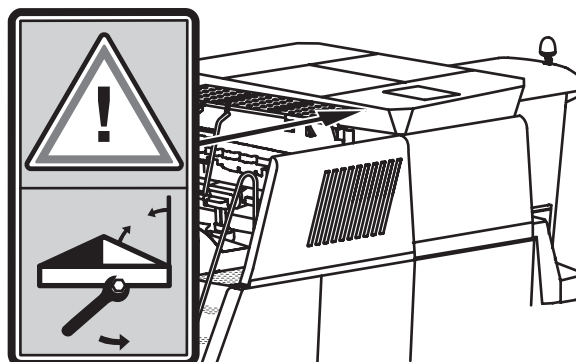


CQ277160 -UN-08AUG06

ML70882,00004D4 -19-08AUG06-1/1

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.

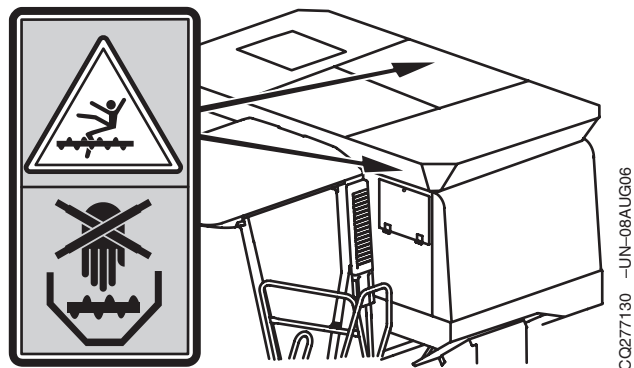


CQ277140 -UN-08AUG06

ML70882,00004D5 -19-08AUG06-1/1

Grain Tank

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

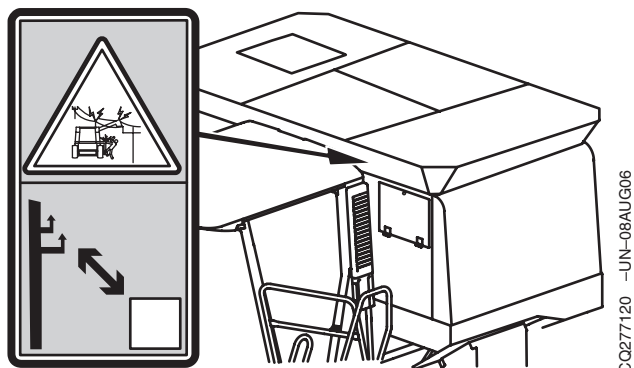


ML70882,00004D6 -19-08AUG06-1/1

Radio Antenna

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

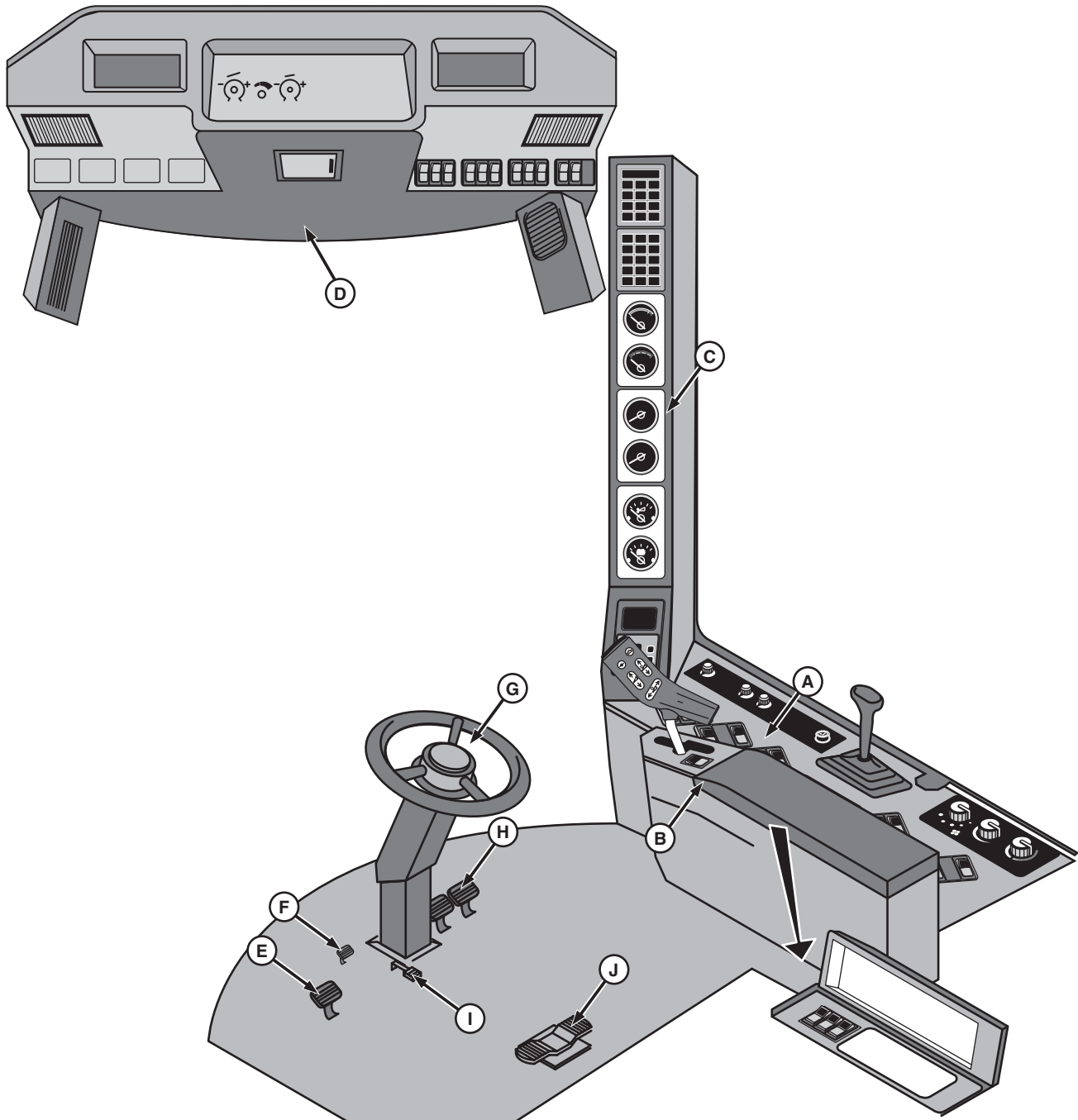
One of them may come into contact with low-hanging electrical cables. This would result in the operator suffering a severe electrical shock.



ML70882,00004D7 -19-08AUG06-1/1

Controls and Instruments

General Layout of Controls and Instruments



A—Main console
B—Armrest console
C—Corner post

D—Overhead console
E—Parking brake
F—Parking brake release
pedal

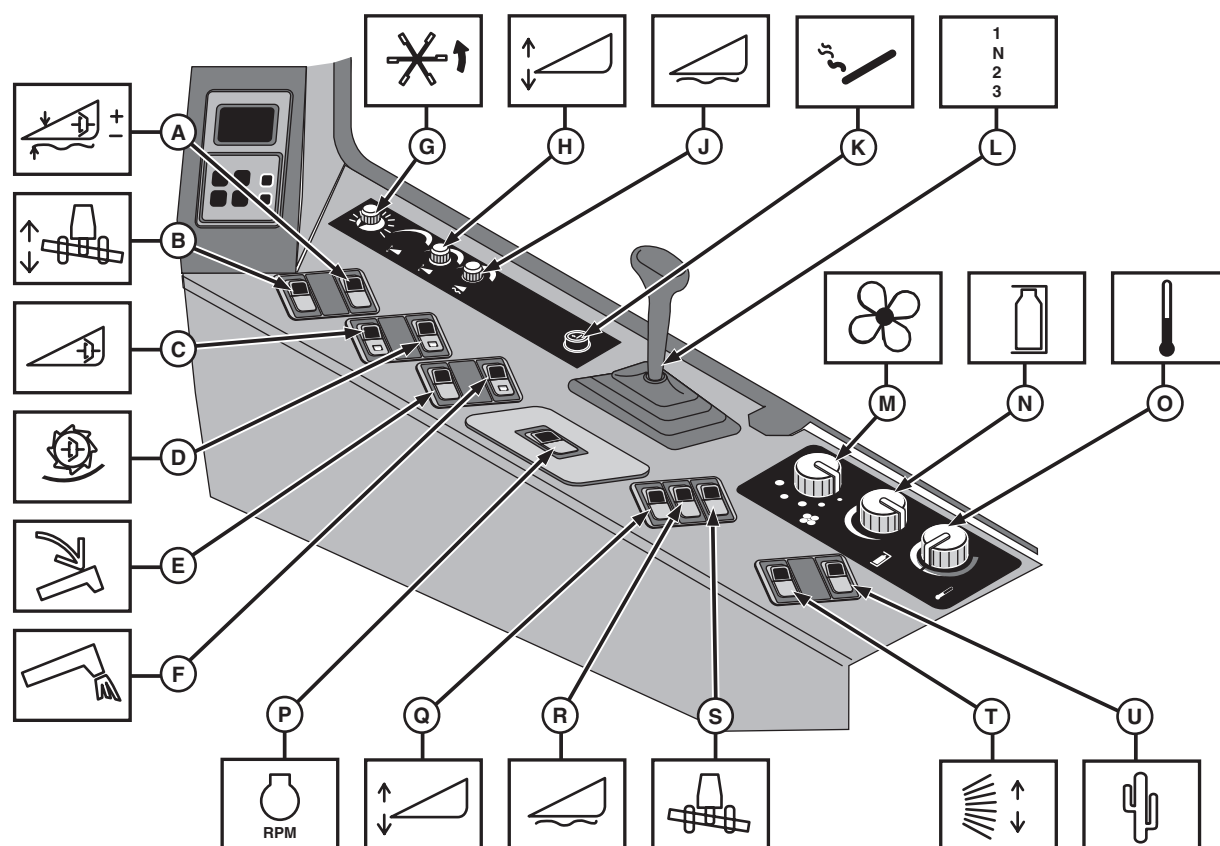
G—Steering column
H—Foot brakes
I—Steering column position
adjustment pedal

J—Feeder house reverser

CQ244710 -UN-29JUL05

AG,CO03622,1378 -19-01AUG05-1/1

Main Console



A—Without function
 B—Header tilt/reel horizontal position commuting switch (manual mode)
 C—Header engage switch
 D—Separator engage switch
 E—Unloading auger swing switch
 F—Unloading auger engage switch

G—Automatic reel speed control switch
 H—Header height adjustment potentiometer (300 and 600 CWS/WTS series rigid headers)
 J—Float pressure potentiometer (300 and 600 CWS/WTS series rigid headers)

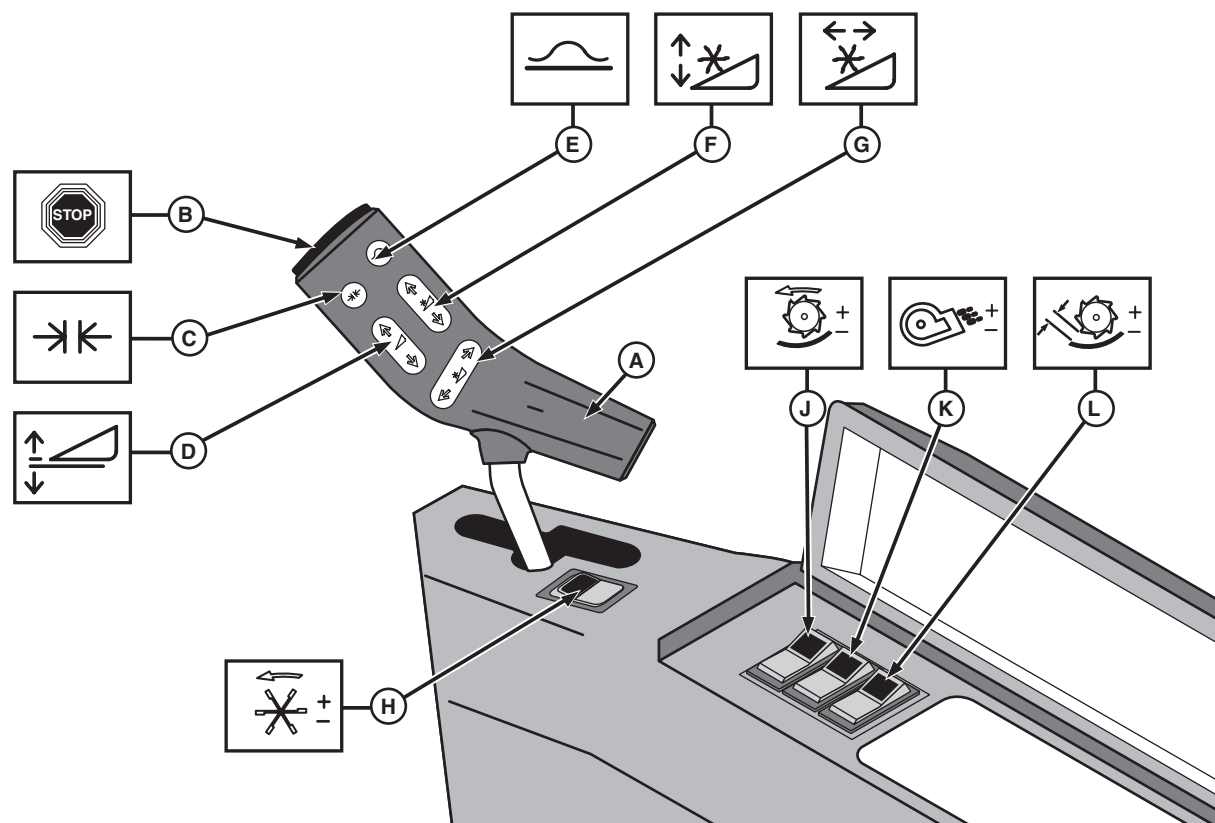
K—Cigarette lighter socket
 L—Gearshift lever
 M—Cab fan switch
 N—Cooling compartment temperature control switch
 O—Air conditioner/heater switch and temperature knob
 P—Throttle rocker switch

Q—AHC enable switch (Active Header Control)
 R—Float enable switch
 S—Header tilt enable switch (Automatic mode)
 T—Straw Chopper Distributor Adjustment Switch
 U—Demoisturizer switch

ML70882,0000969 -19-23MAY06-1/1

CO272210 -UN-24MAY06

Armrest Console



A—Multifunction control handle
 B—Emergency stop switch
 C—Knob*
 D—Head raise/lower switch (2 speeds)

E—Knob*
 F—Reel height adjust switch
 G—Head tilt (manual mode) or reel horizontal adjustment switch

H—Reel speed switch
 J—Threshing cylinder speed rocker switch

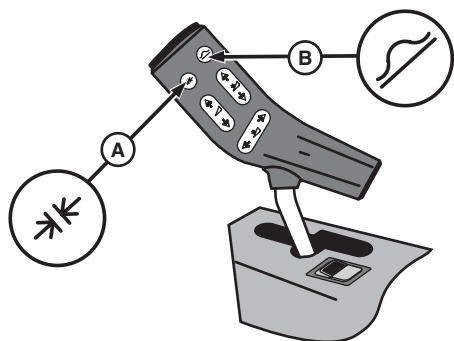
K—Fan speed rocker switch
 L—Concave clearance adjustment rocker switch

* See “Functions of Multifunction Control Handle Knobs” for more details.

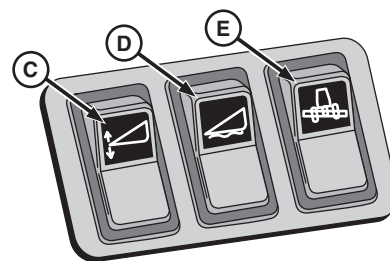
CO244730 –UN–29JUL05

AG,CO03622,1385 –19–01AUG05–1/1

Functions of Multi-Function Control Handle Buttons



CQ222671 -UN-29JUL05



CQ266630 -UN-23MAR06

A—Button
B—Button

C—AHC engage switch (Active Header Control) D—Float enable switch

E—Header lateral tilt enable switch (automatic mode)

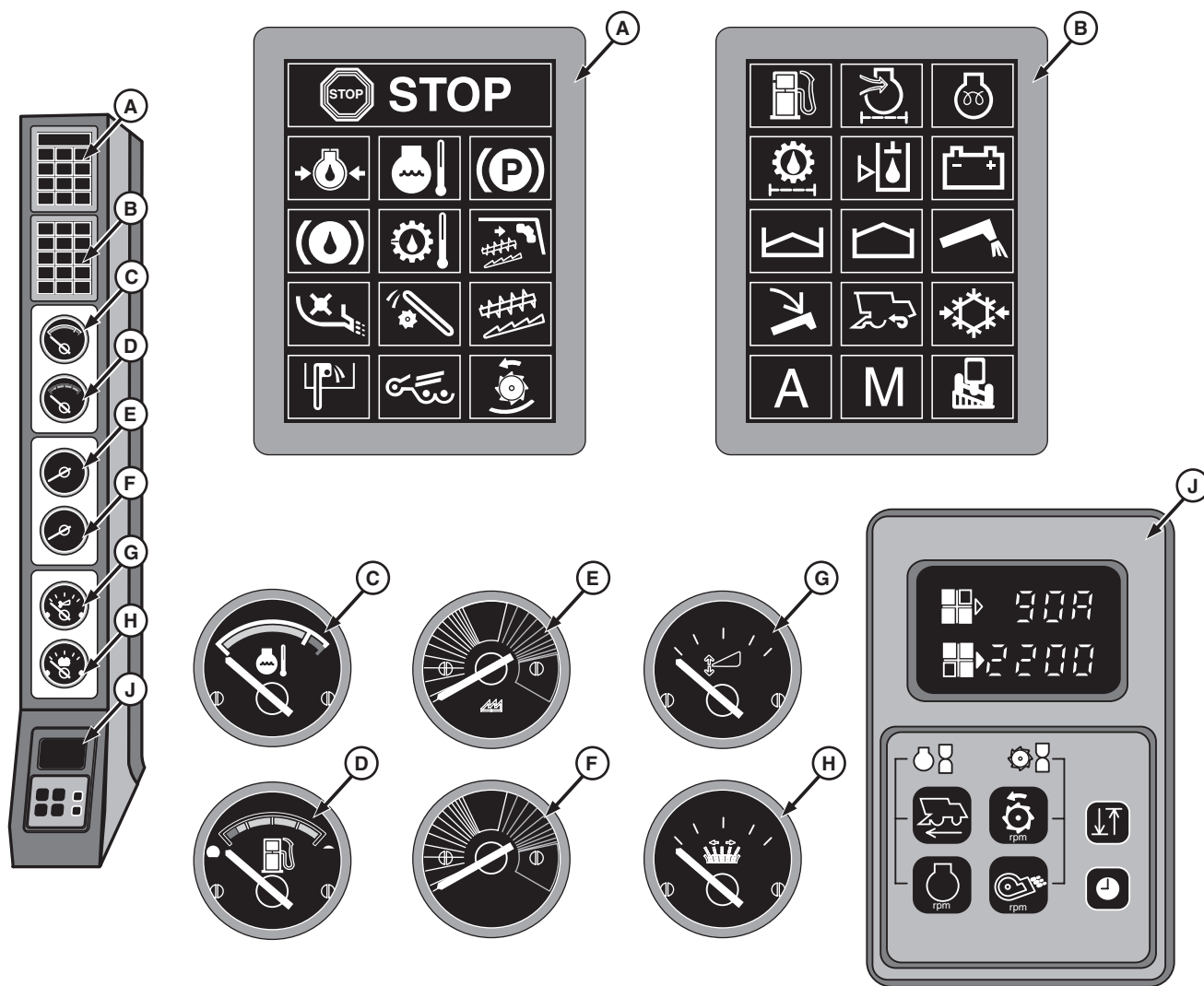
IMPORTANT: AHC enable switch (C) must be engaged to enable header lateral tilt (automatic mode) using switch (E).

NOTE: Press the symbol on switch to enable this function.

Functions of Multi-Function Control Handle Buttons								
	With AHC and Float disabled		With AHC enabled and Float disabled		With AHC disabled and Float enabled		With AHC enabled and Float enabled	
	Button A	Button B	Button A	Button B	Button A	Button B	Button A	Button B
300 and 600 Series rigid header without automatic header height control sensor	Cut Position*	No function	No function	Break Off Cut	Cut Position*	Float	No function	Float
600 Series rigid header with automatic header height control sensor	Cut Position*	No function	Return to cut (AHC)**	Break Off Cut	Cut Position*	Float	Return to cut (AHC)**	Float
* The combine takes the feeder house sensor reading.								
** The combine takes the header sensor reading.								

ML70882,000096A -19-29MAY06-1/1

Corner Post



A—Indicator lights
B—Indicator lights
C—Engine temperature gauge

D—Fuel gauge
E—Harvest performance
monitor gauge - Straw
walker

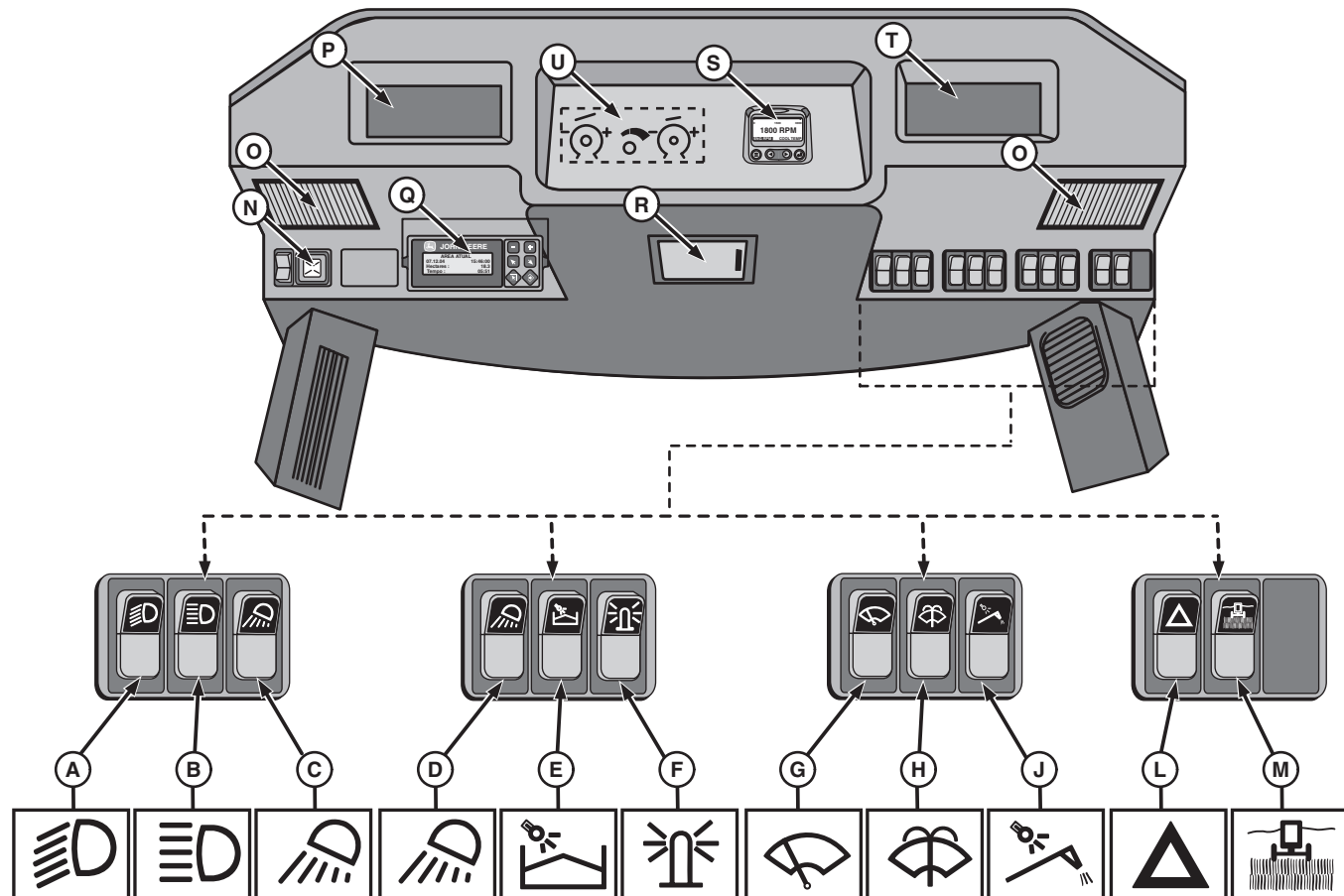
F—Harvest performance
monitor gauge - Sieves
G—Header height gauge

H—Straw distribution gauge
J—INFO-TRAK Monitor

CO244740 -UN-29JUL05

ML70882,000096B -19-23MAY06-1/1

Overhead Console



CQ277080 -UN-22AUG06

A—Clearance lights and headlights switch
 B—Full and low-beam switch
 C—Cab auxiliary work light switch
 D—Operator's platform/rear work lights (optional on mirror bracket)

E—Grain tank lighting switch
 F—Beacon lights switch
 G—Windshield wiper switch
 H—Windshield washer switch
 J—Unloading auger light switch
 L—Hazard warning lights switch

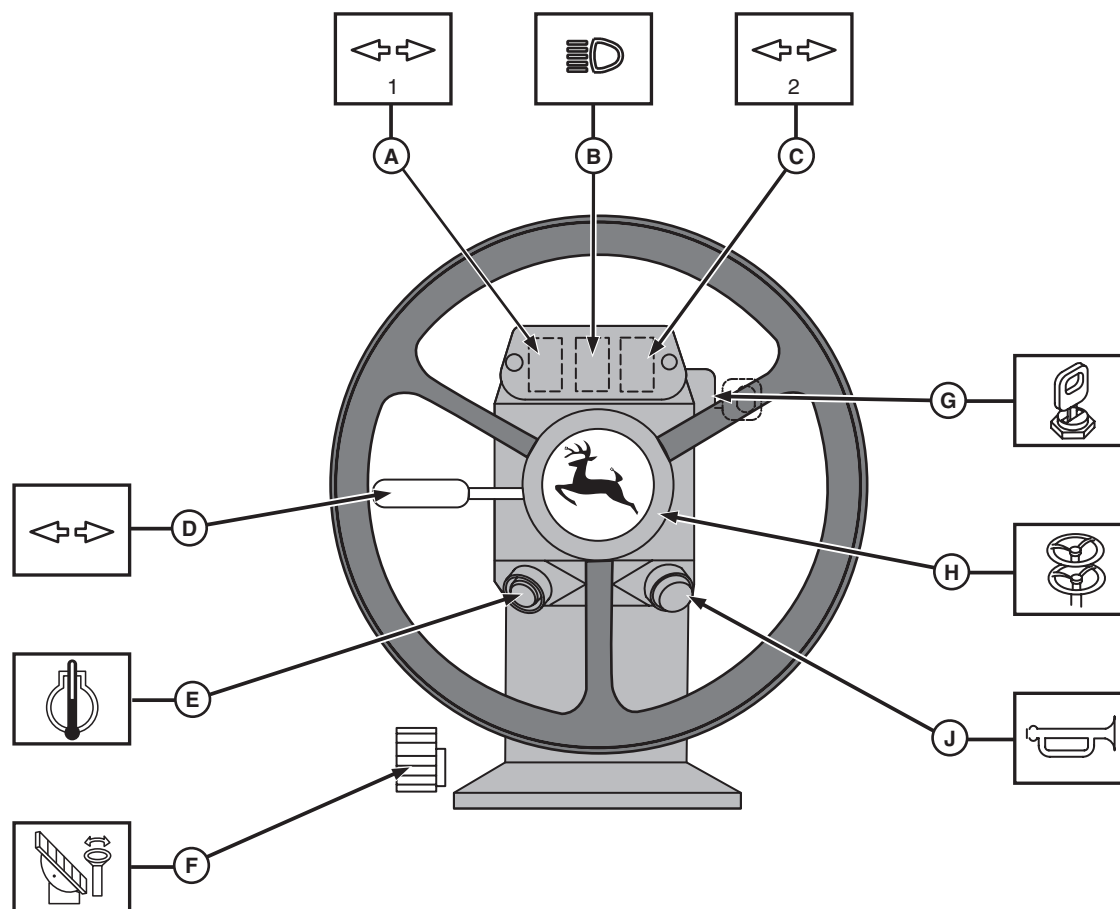
M—Road safety switch
 N—Electric adjustment and demister for mirrors
 O—Loudspeakers
 P—Equipped for mounting of radio
 Q—Hectaremeter

R—Cab interior lighting
 S—Diagnostic monitor (to diagnose engine electronic system failures)
 T—Equipped for mounting of radio/cassette/CD player
 U—Performance monitor

NOTE: Dimensions for the installation of (P) and (T) are standard: 182 mm (7.17 in.) wide by 53 mm (2.1 in.) high.

ML70882,000096C -19-07AUG06-1/1

Steering Column



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

D—Turn signal lever
 E—Not used
 F—Steering column horizontal
 adjust pedal

G—Starter key
 H—Steering wheel hub

J—Horn knob

CQ244750 -UN-29JUL05

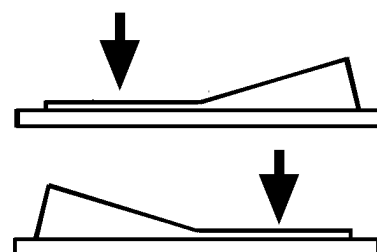
AG,CO03622,1388 -19-01AUG05-1/1

Types of Switches

There are two types of switches on the combine console.

- Two-position Switch
- Three-position Switch

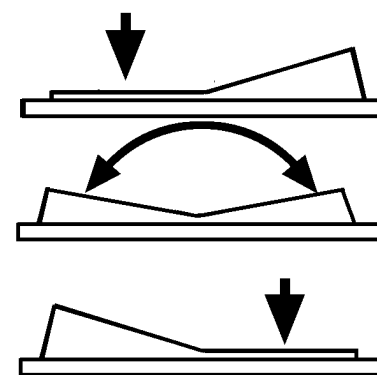
Carefully abide by the switch positions consistent with the instructions provided in this manual.



CQ187960

—UN-14JUL99

Two-position Switch



CQ187970

—UN-14JUL99

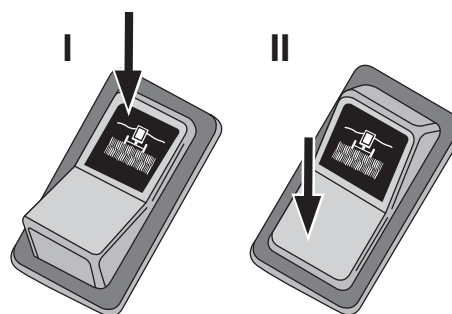
Three-position Switch

AG.CO03622,1392 —19-14JUL99-1/1

Road Safety Switch (Red)

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

NOTE: If this switch is accidentally disengaged while any one of the transmissions is in motion, it is necessary to turn the selected function(s) off and on to re-engage the transmission.



I—Field position
II—Transport position

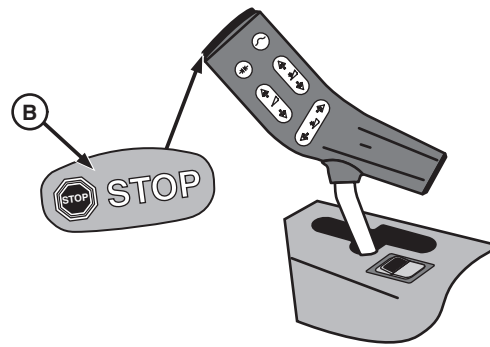
CQ245130 —UN-29JUL05

“EMERGENCY STOP” Switch

IMPORTANT: Head, reverser and unloading auger drives can be disengaged instantaneously by means of this switch in the event of malfunction.

The reel is also disengaged when the emergency stop switch (B) is enabled.

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



CQ245120 -JUN-29JUL05

AG,CO03622,1651 -19-01AUG05-1/1

Separator Drive Rocker Switch (with Operating Lock)

NOTE: With this rocker switch enabled, the engine starter system is blocked.

Requirements:

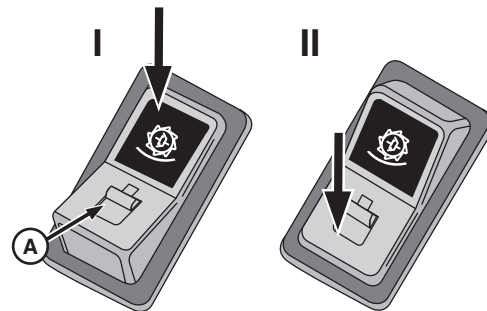
- Engine at low idle.
- Road safety rocker switch in field position.

To engage separator drive (i):

Push operating lock (A) upwards and depress upper part of rocker switch (symbol).

To disengage separator drive (ii):

Depress lower part of rocker switch.



I—Separator engaged
II—Separator disengaged

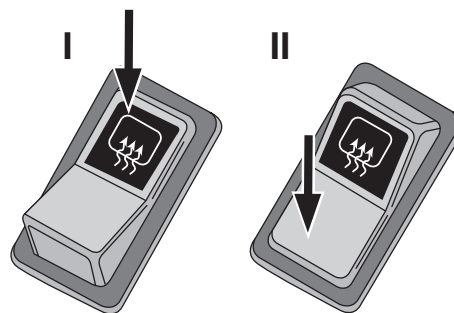
CQ244860 -JUN-29JUL05

AG,CO03622,1547 -19-01AUG05-1/1

Mirror Demoisturizer Tumbler Switch

This switch will only operate if starter switch is not in "off" position.

- I—Mirror demoisturizer on
II—Mirror demoisturizer off



CQ244950 -UN-29JUL05

ML70882,000096D -19-02JUN06-1/1

Header Drive Tumbler Switch (With Operating Lock)

NOTE: With this switch in the ON position, the engine start-up system is blocked.

Requirements:

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

To engage header drive (I):

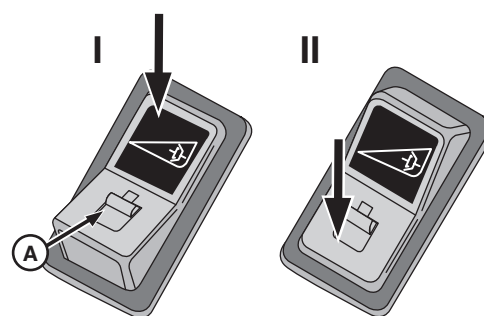
Push up operating lock (A) and depress top part of switch (symbol).

To disengage header drive (II):

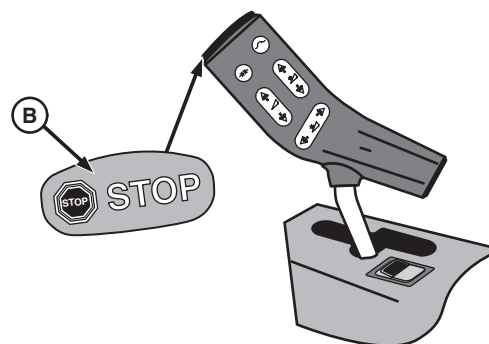
Depress lower part of switch.

NOTE: For emergency stop, use quick "STOP" switch (B) on multi-function control handle. In this case, header disengages with header drive switch in ON position, to reactivate this function, it is necessary to turn header drive switch OFF and ON again.

NOTE: When the operator is not seated in the seat for more than 5 seconds, a safety system disengages the transmission. To reengage it, reoccupy seat and turn the corresponding switch OFF and then ON.



CQ244830 -UN-29JUL05



CQ245120 -UN-29JUL05

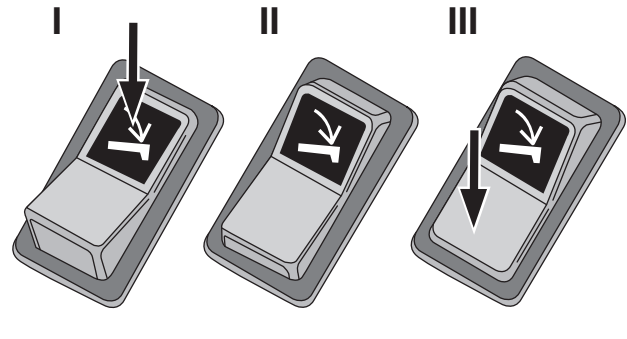
AS60558,00003ED -19-22JAN07-1/1

Unloading Auger Swing Rocker Switch (With Center Position)

Requirements:

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

NOTE: The swing drive is shut off automatically as soon as auger end positions are reached (after approx. 20 seconds). Auger swing can be halted in any position by shifting rocker switch back to center position.



- I—Unloading auger swings outwards
II—Disabled
III—Unloading auger swings inwards

CQ244850 -UN-29JUL05

AG,CO03622,1548 -19-01AUG05-1/1

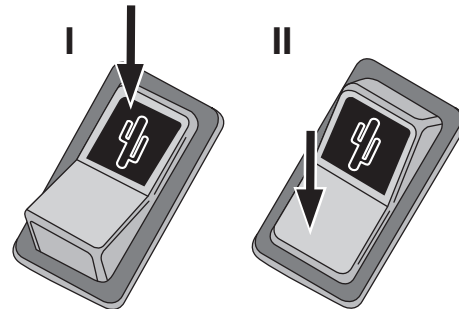
Windshield Demoisturizer Rocker Switch



CAUTION: Prevent possible compressor damage. Only keep the demoisturizer engaged the time necessary to demoisturize the windshield.

IMPORTANT: Only engage the demoisturizer when the heater is switched on.

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



- I—Demoisturizer engaged
II—Demoisturizer disengaged

CQ244960 -UN-29JUL05

AG,CO03622,1390 -19-01AUG05-1/1

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

Reel speed-to-ground speed ratio may be preselected. Turning switch (A) clockwise changes ratio from 0.8—2.2 (shown on switch as 1—11). Turning switch all the way counterclockwise will de-activate 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).

Operation:

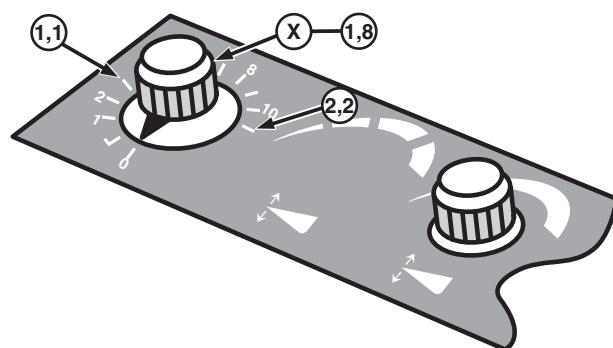
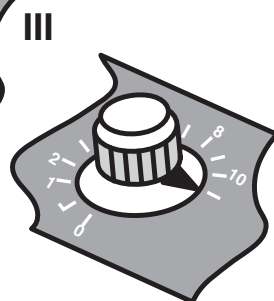
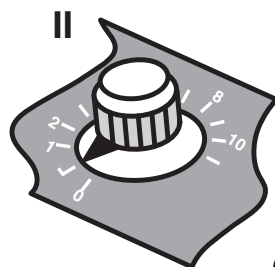
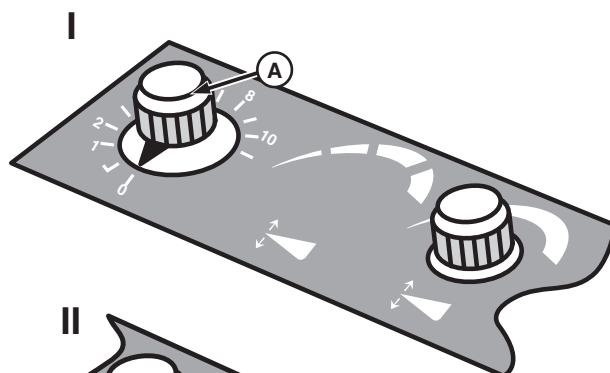
During operation, reel speed can be adapted to harvesting conditions.

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, reel will continue to rotate at the slowest speed when ground speed drops below operating range.

For more information on diagnostics/manual reel speed position (Refer to “Service—Electrical System”).

- I—Reel speed control off
- II—Switch position for diagnostics/manual reel speed
- III—Reel speed is 2.2 times faster than ground speed



CQ249200 -UN-15JUN06

CQ244940 -UN-15JUN06

Reel Speed Adjustment

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

NOTE: When rotary switch (A) indicates (0), speed adjustment is not possible.

Manual Mode

- Start engine.
- Turn rotary switch (A) to position "X".
- Engage separator.
- Engage head.
- Multifunction control handle in forward travel position.
- Adjust reel speed by means of rocker switch (B), as required.

Automatic Mode

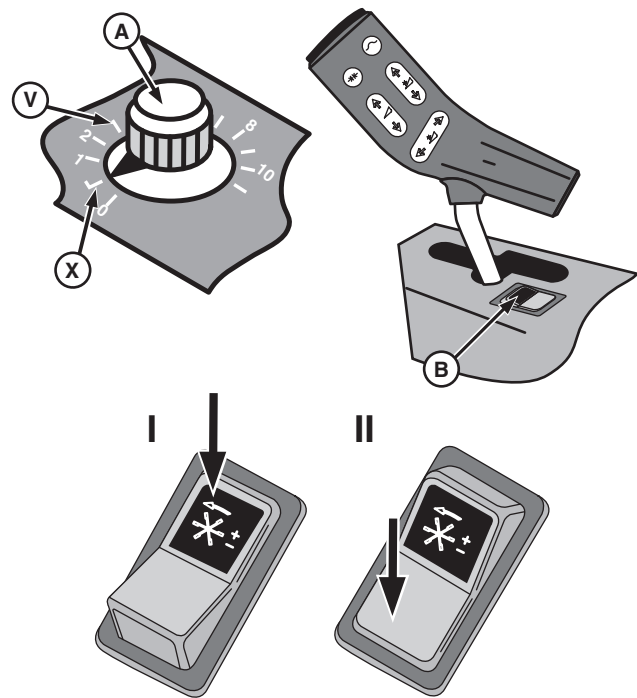
- Start engine.
- Turn rotary switch (A) to position "V".
- Engage separator.
- Engage head.
- Multifunction control handle in forward travel position.
- Watch reel speed and adjust rotary switch (A) to a position between 1 and 11 until required ratio with combine ground speed is achieved.

NOTE: Reel will now speed up or slow down according to ground speed.

This system does not work if ground speed is lower than 1.2 Km/h (0.75 mph).

The minimum reel speed can be raised:

1. Turn rotary switch (A) to position "X".
2. Press rocker switch (B) for 2 to 3 seconds to get required minimum reel speed.
3. Turn rotary switch (A) to position "V".
4. Observe system operation and readjust, if necessary. This minimum speed is maintained until the engine is shut off.



I—Increase reel speed
II—Reduce reel speed
A—Rotary Switch
B—Rocker Switch
X—Position
V—Position

CQ244970 -UN-29JUL05

Head Lateral Tilt and Reel Horizontal Adjustment Rocker Switch

This function may be enabled with the road safety rocker switch in the field position and engine running.

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

Manual Lateral Tilt Adjust

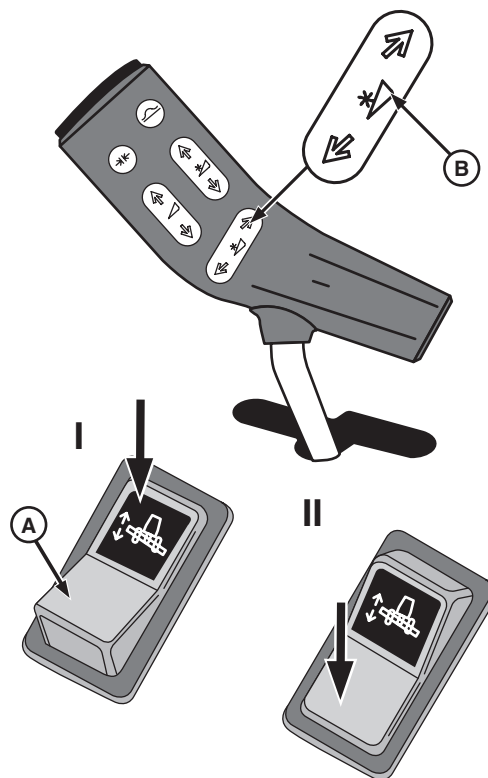
With rocker switch (A) in position (I), switch (B) adjusts head lateral tilt.

NOTE: If the automatic mode is engaged, using the manual tilt mode by means of switch (B) disengages automatic mode. Engage return-to-cut switch to reactivate automatic mode. See "Functions of Multifunction Control Handle Knobs".

Reel Horizontal Adjustment

With rocker switch (A) in position (II), switch (B) controls the horizontal adjustment of the reel.

- I—Head lateral tilt adjust
II—Reel horizontal position adjust



CO244980 -UN-29JUL05

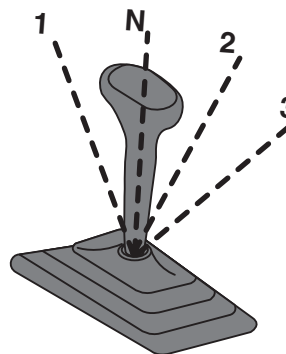
AG.CO03622,1389 -19-01AUG05-1/1

Gearshift Lever

Shift into desired gear with combine stationary (Multi-function control handle in neutral position).

Engage 3rd speed for road travel.

Engage preferentially 1st speed for rice harvesting.



CO245020 -UN-29JUL05

ML70882,000084C -19-17SEP05-1/1

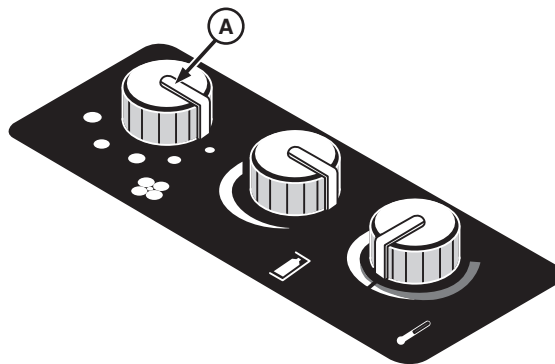
Cab Fan Rotary Switch

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

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

Illustrated position — Fan disengaged

Fan speed increases by turning rotary switch (A) clockwise.

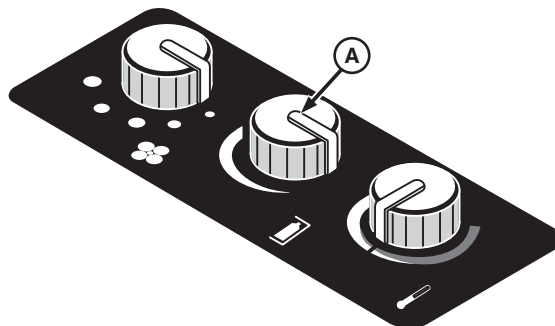


CO245040 -UN-29JUL05

AG,CO03622,1642 -19-01AUG05-1/1

Cooling Compartment Rotary Switch

A cooling compartment is located below the instruction seat. To increase cooling effect, turn rotary switch (A) clockwise.



CO245050 -UN-29JUL05

AG,CO03622,1643 -19-01AUG05-1/1

Rotary Switch — Air Conditioning/Heater

IMPORTANT: When ceasing the day's operation, disengage the air conditioning system and leave the fan engaged for a further 10 minutes. This will help prevent the system from generating odors at a later date.

I — Air Conditioning System

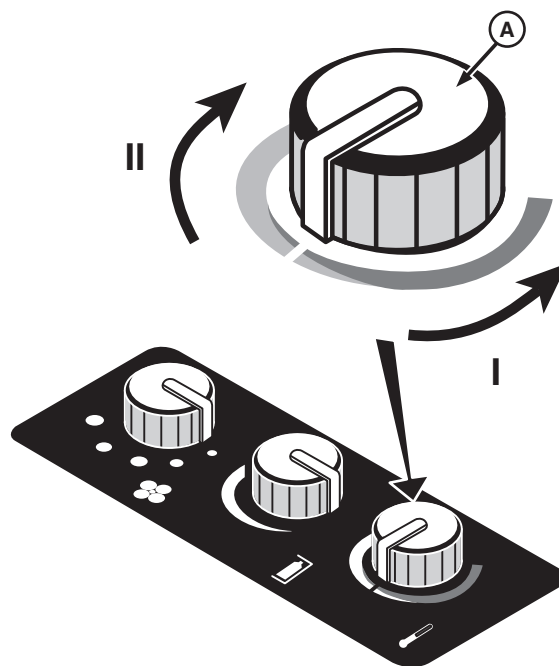
Before switching on the air conditioning system, the fan must be operating. Turn rotary switch (A) counterclockwise to engage air conditioning. Turning switch all the way counterclockwise will provide maximum cooling.

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

II — Heater

Before switching on the heater, the fan must be operating. Turning rotary switch clockwise will open heater valve. Turn switch all the way clockwise for maximum heating effect.

Also refer to "Demoisturizer Rocker Switch".



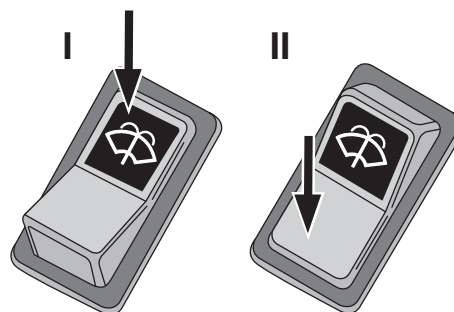
CO245060 —UN—29JUL05

AG,CO03622,1644 —19—01AUG05—1/1

Windshield Washer Rocker Switch

Ignition must be engaged for windshield washer operation.

- I—Windshield washer engaged
- II—Windshield washer disengaged



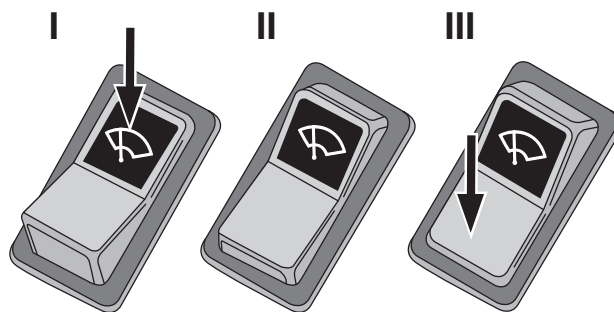
CO245000 —UN—29JUL05

AG,CO03622,1393 —19—01AUG05—1/1

Windshield Wiper Rocker Switch

Ignition must be engaged for windshield wiper operation.

- I—Windshield wiper operates continuously
- II—Windshield wiper disengaged
- III—Windshield wiper completes one cycle (briefly touch switch to enable this function)



CQ244990 -UN-29JUL05

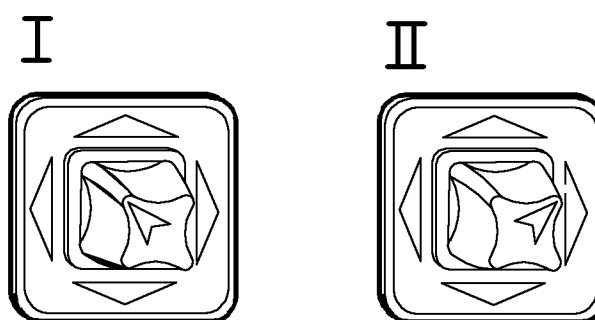
AG,CO03622,1391 -19-01AUG05-1/1

Switch for Electrical Adjustment of Rear View Mirrors

This switch will only operate if starter switch is not in "off" position.

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

- I—Adjusting left-hand rear view mirror
- II—Adjusting right-hand rear view mirror



ZX 002452

ZX002452 -UN-16JUN95

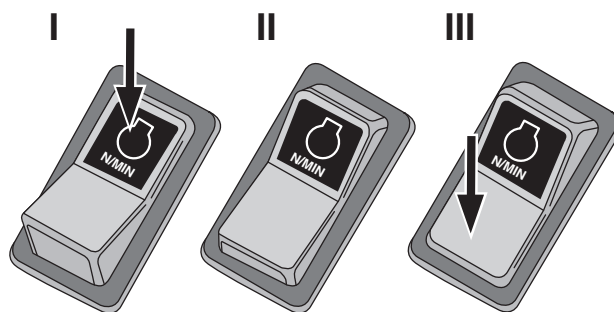
ML70882,000096E -19-02JUN06-1/1

Throttle Rocker Switch

Press throttle switch as shown in illustration.

NOTE: Engine speed always rises to 2250 rpm when third speed is selected.

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



CQ245010 -UN-29JUL05

ML70882,00009A7 -19-29MAY06-1/1

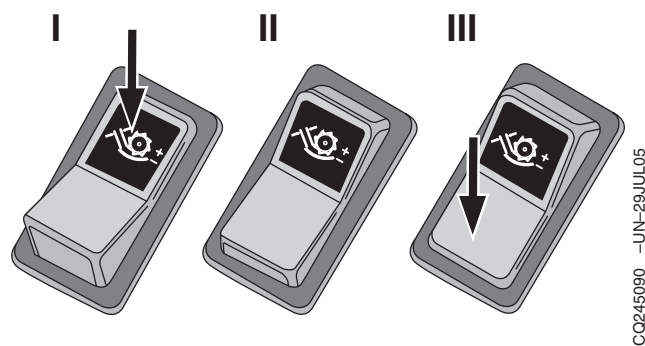
Concave Clearance Adjustment Rocker Switch

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

NOTE: The current concave clearance is displayed on the infotrak™ monitor. Briefly touch rocker switch (top or bottom part) to display actual setting for 5 seconds.

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

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



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

CQ245090 -UN-29JUL05

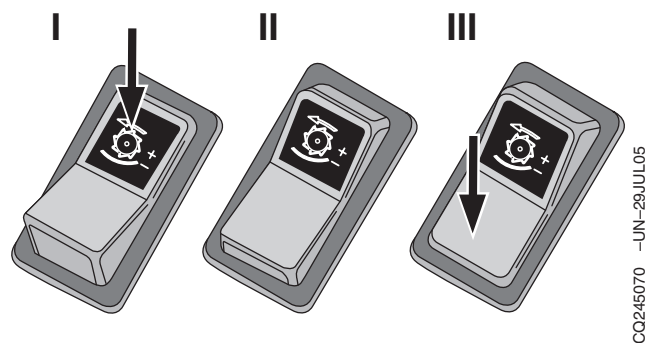
AG,CO03622,1649 -19-01AUG05-1/1

Threshing Cylinder Speed Rocker 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 INFO-TRAK monitor.



- I—Increase cylinder speed
- II—Disabled
- III—Reduce cylinder speed

CQ245070 -UN-29JUL05

AG,CO03622,1647 -19-01AUG05-1/1

Fan Speed Rocker Switch

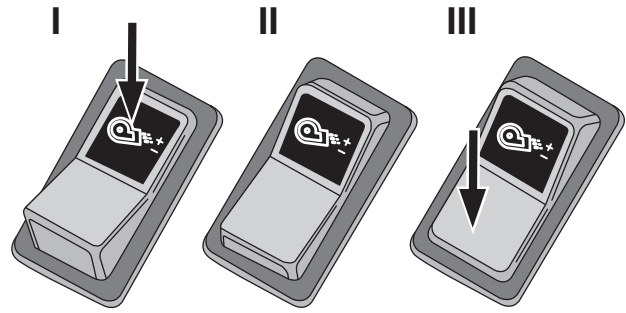
The fan speed can be increased or decreased by pressing the rocker switch as illustrated. It is only possible with the engine running, threshing engaged and the road safety switch in the field position.

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

NOTE: The current fan speed can be displayed on the INFO-TRAK™ monitor.

The fan speed mechanism is protected by course limiter switches. The speed can range from 550 to 1150 rpm.

Changes to fan speed normally occur at a much slower rate than in other speed variation devices because the fan is electrically and not hydraulically driven.



I—Increase fan speed
II—Disabled
III—Reduce fan speed

CQ245080 -UN-29JUL05

AG,CO03622,1648 -19-01AUG05-1/1

Unloading Auger Engage Switch (With Operating Lock)

NOTE: With this switch in the ON position, the engine start-up system is blocked.

Requirements:

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

To engage unloading auger drive (I):

Push up operating lock (A) and depress top part of switch (symbol). The indicator light comes on as soon as the drive is engaged.

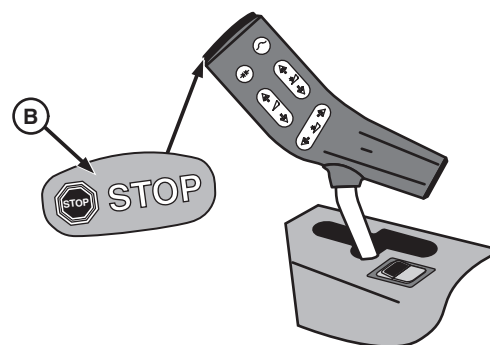
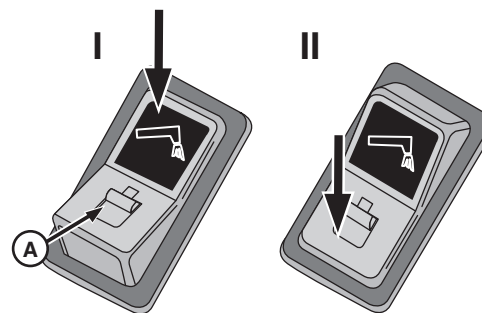
NOTE: The system engages the unloading auger drive in any position, including when it is totally swung in.

To disengage unloading auger drive (II):

Depress lower part of switch.

NOTE: For emergency stop, use quick "STOP" switch (B) on multi-function control handle. In this case the unloading auger disengages with the unloading auger drive switch in ON position; to reactivate this function, it is necessary to turn unloading auger drive switch OFF and ON again.

NOTE: When the operator is not seated in the seat for more than 5 seconds, a safety system disengages the transmission. To reengage it, reoccupy seat and turn the corresponding switch OFF and then ON.



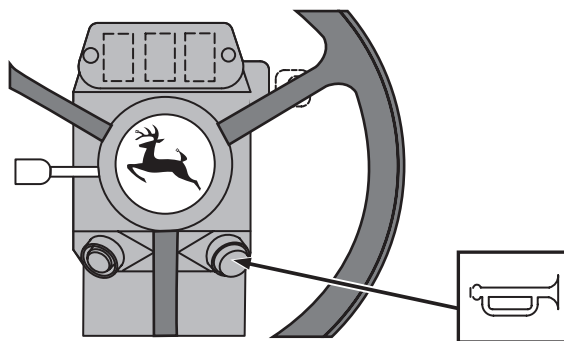
CQ245100 -UN-29JUL05

CQ245120 -UN-29JUL05

Horn Knob



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



CQ245140 -UN-16SEP05

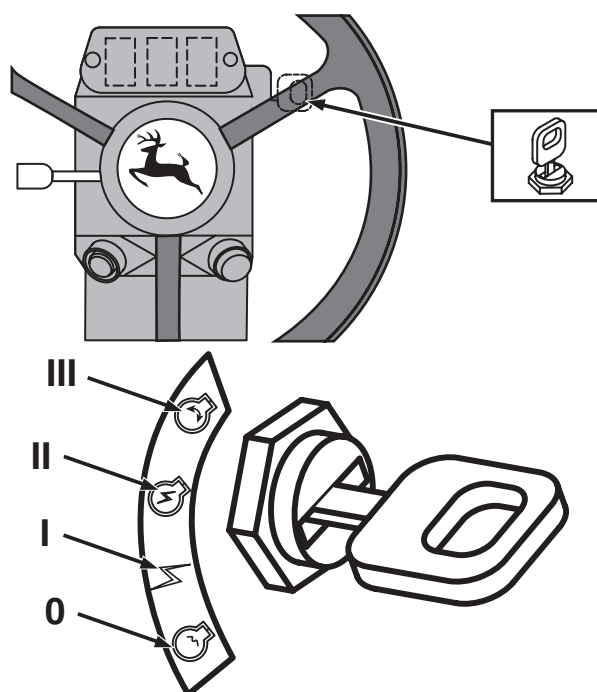
AG,CO03622,1395 -19-01AUG05-1/1

Starter Switch

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

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—Operating position
- III—Starting the Engine



CQ245170 -UN-16SEP05

AG,CO03622,1397 -19-12JAN06-1/1

Feeder House/Header Reverser

IMPORTANT: Do not force reverser with repetitive actions.

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

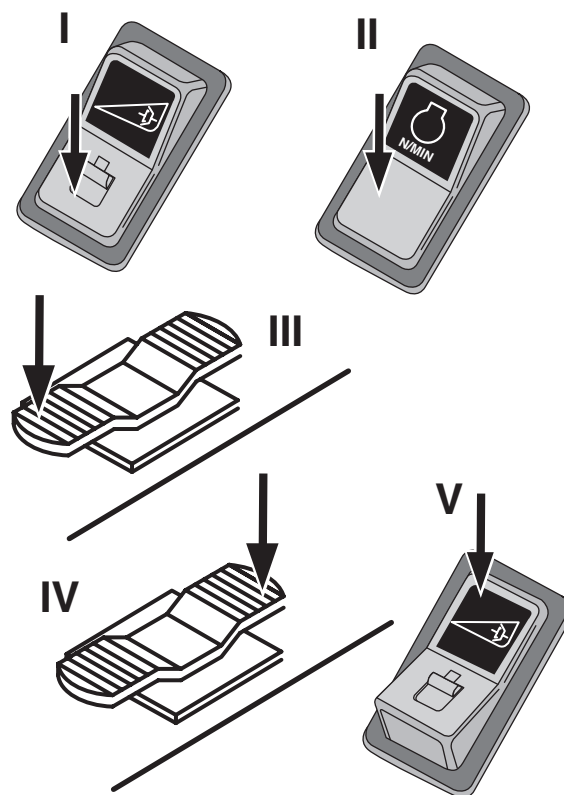
1. Disengage header drive (using header engage switch) and back up combine 1—2 m (3—6 ft).
2. Run engine at slow idle speed.

CAUTION: High engine speed can cause damage to reverser and feeder house.

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

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

4. Step on right-hand side of reverser pedal to disengage reverser function.
5. Engage header again.
6. Increase engine speed and resume harvesting.



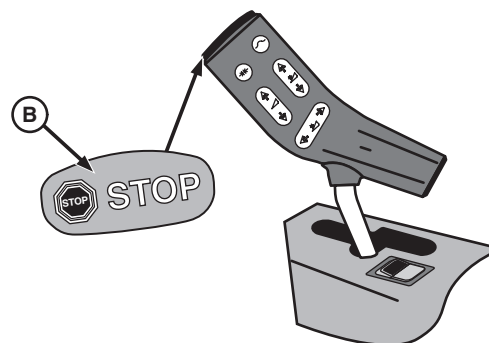
CO245310 -UN-29JUL05

AS60558,00003EF -19-22JAN07-1/2

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

NOTE: For emergency stop, use quick “STOP” switch (B) on multi-function control handle. In this case, the reverser disengages with the pedal activated; to reengage the reverser, the pedal must be deactivated and then activated again.

When the operator is not seated for more than 5 seconds, the presence switch will disengage the transmission. To reengage it, reoccupy seat and turn the corresponding switch OFF and then ON.



CO245120 -UN-29JUL05

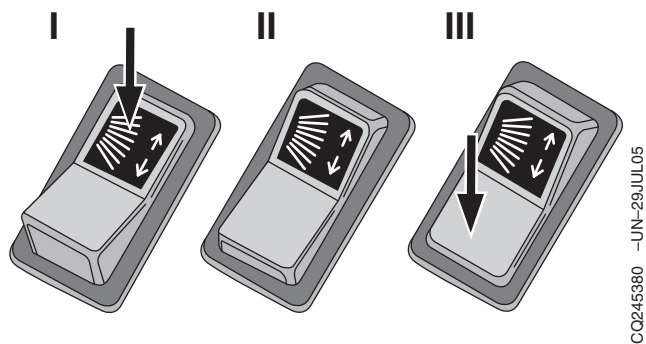
AS60558,00003EF -19-22JAN07-2/2

Electrical Adjustment of Straw Distributor Baffles

Adjustment is only possible with separator engaged.

Operation:

In windy conditions and/or on slopes, straw distribution may be adapted to harvesting conditions. When working on slopes, this switch is used to regulate the direction of straw distribution baffles. This will avoid downhill straw accumulations.

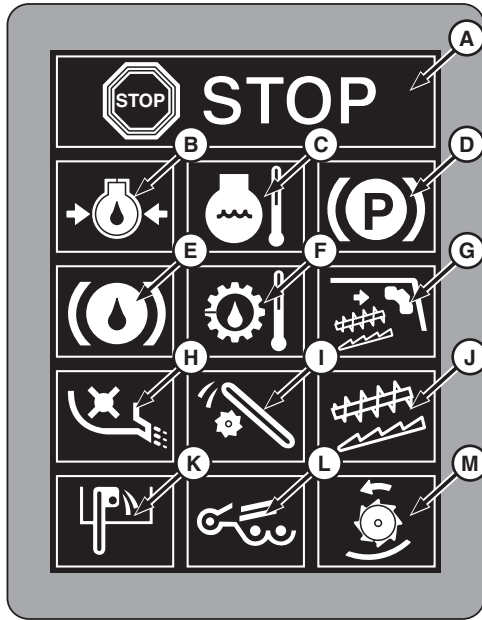


- I—Material is thrown to the right
- II—Off
- III—Material is thrown to the left

ML70882,0000970 -19-02JUN06-1/1

Indicator Lights and Monitors

Indicator Lights



A—Emergency stop
B—Engine oil pressure
C—Engine coolant temperature
D—Parking brake
E—Without function
F—Hydrostatic drive oil temperature

G—Slugging
H—Straw chopper speed
I—Tailings elevator
J—Power Separator (WTS) and straw walker
K—Clean grain elevator
L—Fan
M—Threshing cylinder

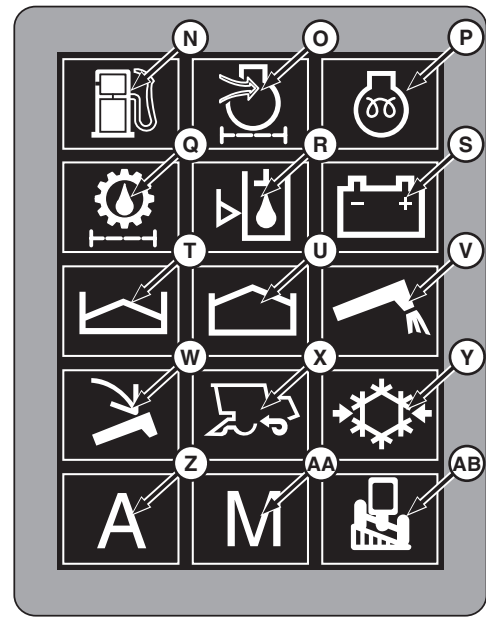
These indicator lights monitor the most important combine functions (engine, field operation, and road travel).

Priority 1 (Lights A—M):

Red indicator lights enable an acoustic warning signal.

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

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



N—Fuel level
O—Engine air filter
P—Air intake temperature
Q—Hydraulic oil filter
R—Without function
S—Alternator
T—Without function
U—Grain tank 3/4 full

V—Grain tank full
W—Unloading auger
X—Without function
Y—Air conditioning (high pressure)
Z—Without function
AA—Without function
AB—Without function

Priority 2 (Lights N—S and V):

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

Priority 3 (Lights T, U and W—AB):

Yellow and green indicator lights without acoustic warning signal.

CQ249130 –UN–12SEP05

Emergency Stop Indicator Light

Lights up when the emergency stop is engaged.
Disengage all drives and check fault.

See ““EMERGENCY STOP” Rocker Switch” for more details.



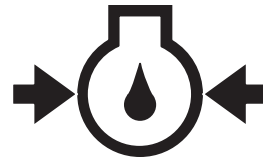
CQ247470 –UN-29JUL05

ML70882,000080E –19-22JUL05-1/1

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



CQ244150 –UN-29JUL05

AG,CO03622,1400 –19-16AUG05-1/1

Coolant Temperature Indicator Light

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

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



CQ244160 –UN-29JUL05

AG,CO03622,1401 –19-16AUG05-1/1

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.



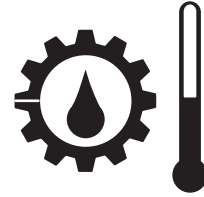
CQ244170 –UN-29JUL05

AG,CO03622,1402 –19-16AUG05-1/1

Hydrostatic Transmission Oil Temperature Indicator Light

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

- Check reservoir oil level. Clean oil cooler, if necessary.
- Select a lower gear.



CQ244190 -UN-29JUL05

AG,CO03622,1404 -19-16AUG05-1/1

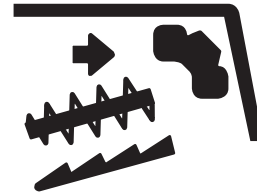
Slugging Indicator Light

This indicator light will come on if any exaggerated accumulation of material occurs in rear hood area.

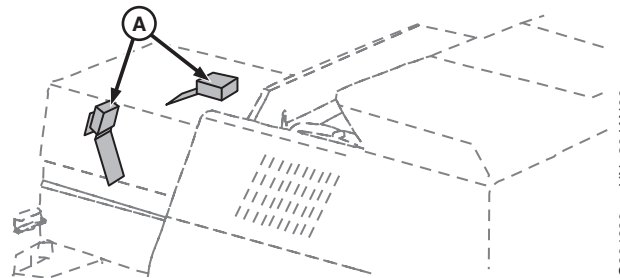
IMPORTANT: In addition to buzzer, horn will also sound (continuous tone) until accumulated material has been removed.

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

NOTE: Check slugging alarm function daily by pushing manually on plate of sensor (A), before operating combine. Starter key must be in position I.



CQ244200 -UN-29JUL05



CQ264890 -UN-30JAN06

ML70882,00008FA -19-18FEB06-1/1

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.



CQ244210 -UN-29JUL05

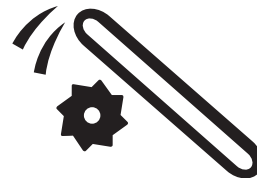
AG,CO03622,1406 -19-16AUG05-1/1

Tailings Elevator Indicator Light

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

With Engine Shut Off and Separator Stopped:

- Check drive.
- Check elevator and augers for plugging.



CQ244220 -UN-29JUL05

AG,CO03622,1407 -19-16AUG05-1/1

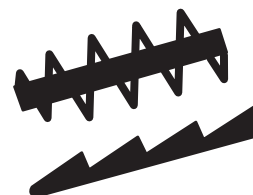
Straw Walker Indicator Light

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.

With engine shut off and straw walkers stopped:

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



CQ244230 -UN-29JUL05

AG,CO03622,1408 -19-16AUG05-1/1

Fuel Level Indicator Light

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

—Refill fuel tank. Consult tank capacity in the "Specifications" section.



CQ244270 -UN-29JUL05

AG,CO03622,1416 -19-16AUG05-1/1

Clean Grain Elevator Indicator Light

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

With Engine Shut Off and Separator Stopped:

- Check drive.
- Check elevator and augers for plugging.



CQ244240 -UN-29JUL05

AG,CO03622,1409 -19-16AUG05-1/1

Fan Indicator Light

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

With Engine Shut Off and Separator Stopped:

- Check drive.
- Check for plugging.
- Check alarm speed. Readjust, if necessary (see instructions in this Section).



CQ244250 -UN-29JUL05

AG,CO03622,1410 -19-16AUG05-1/1

Hydraulic Oil Filter Indicator Light

Lights up if cleaning action of filters is not sufficient.

- Change hydraulic oil filter.



CQ244300 -UN-29JUL05

AG,CO03622,1418 -19-16AUG05-1/1

Threshing Cylinder Indicator Light

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

— Reduce ground speed.

With Engine Shut Off and Separator Stopped:

— Check drive.

— Check for plugging.

— Check alarm speed. Readjust, if necessary (see instructions in this Section).



CQ244260 -UN-29JUL05

AG,CO03622,1411 -19-16AUG05-1/1

Engine Air Intake Temperature Indicator Light

Whenever ambient temperature is below 0°C (32 °F), an air heater will be activated for 20 to 40 seconds. Starter key must be in position II. Wait until the light goes off before starting engine.

If there is any fault in the engine's electronic system, indicator light will flash and buzzer will sound. Check for error codes on engine diagnostics monitor.



CQ244290 -UN-29JUL05

ML70882,0000841 -19-17SEP05-1/1

Engine Air Filter Indicator Light

This light comes on if air cleaner primary element is clogged and air flow restricted.

— Clean air cleaner elements.

For details see "Removing Engine Air Filter".



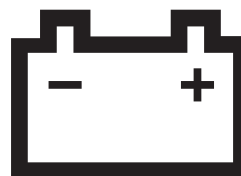
CQ244280 -UN-29JUL05

AG,CO03622,1417 -19-18FEB06-1/1

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.



CQ244320 -UN-29JUL05

AG,CO03622,1420 -19-16AUG05-1/1

Grain Tank 3/4 Full Indicator Light

Lights up when grain tank is 3/4 full.

The intermittent indicator light is enabled at the same time as the “tank 3/4 full” indicator light. See “Intermittent Indicator Light Switch” for further details.



CQ245680 -UN-29JUL05

AG,CO03622,1422 -19-01AUG05-1/1

Grain Tank Indicator Light (Full)

Lights up when grain tank is completely filled. This will be indicated by a five-second warning signal.

- Empty the grain tank.



CQ244350 -UN-29JUL05

AG,CO03622,1424 -19-16AUG05-1/1

Unloading Auger Indicator Light

Lights up whenever the unloading auger drive is engaged.



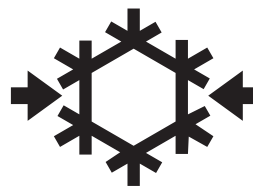
CQ244360 -UN-29JUL05

AG,CO03622,1425 -19-01AUG05-1/1

Air Conditioner Indicator Light (High Pressure)

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

— Switch off air conditioning system and remedy the fault.



CQ244380 -UN-29JUL05

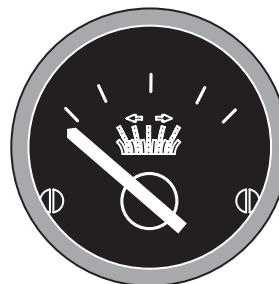
AG,CO03622,1427 -19-16AUG05-1/1

Straw Distribution Gauge

This gauge shows direction of straw distribution:

Needle to right-hand side of gauge = straw is thrown to the right.

Needle to left-hand side of gauge = straw is thrown to the left.

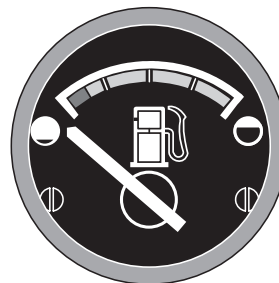


CQ244180 -UN-29JUL05

ML70882,0000972 -19-23MAY06-1/1

Fuel Gauge

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



CQ244310 -UN-29JUL05

AG,CO03622,1432 -19-16AUG05-1/1

Header Height Analog Gauge

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



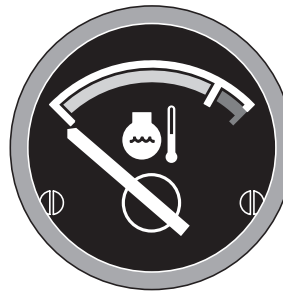
CQ244340 -UN-29JUL05

ML70882,0000973 -19-23MAY06-1/1

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.



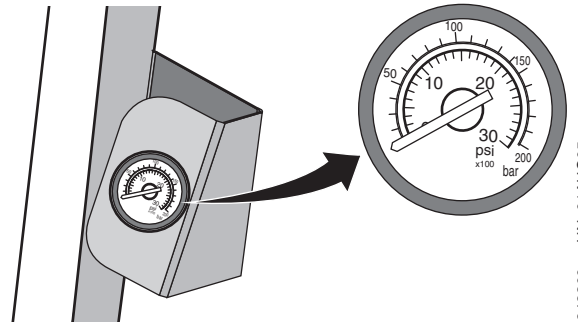
CQ244330 -UN-29JUL05

AG,CO03622,1433 -19-16AUG05-1/1

Left-Hand Corner Post Analog Gauge

Its function is to indicate the pressure that the rigid platform exerts on the feeder house.

For further information, see section “Setup and Operation”.



CQ248300 -UN-01AUG05

ML70882,0000974 -19-19JUN06-1/1

Engine Electronic System Diagnostic Monitor

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

Red LED Activated: This means corrective action is immediately required. Do not operate combine until the problem is corrected.

Yellow LED Activated: This means a diagnostic trouble code has been generated. Stop the combine when convenient and determine the cause.

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

For further information on active codes consult your John Deere dealer.



A—LEDs

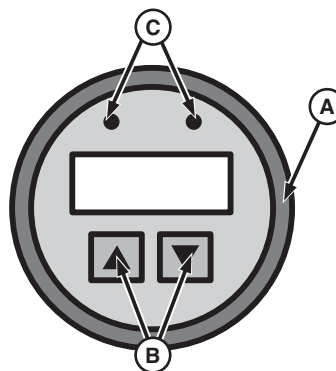
CQ245600 –UN-29JUL05

AS60558,00003DD –19-18JAN07-1/1

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 “SrvCodes” sub-menu by **simultaneously** pressing the right and the left touch switch.
3. Scroll through the “Srv 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 “SrvCodes” sub menu, **simultaneously** press the right and left touch switch.



A—Diagnostic monitor
B—Touch keys
C—Lights

CQ245690 –UN-29JUL05

DPSG,OUOD007,2842 –19-16AUG05-1/1

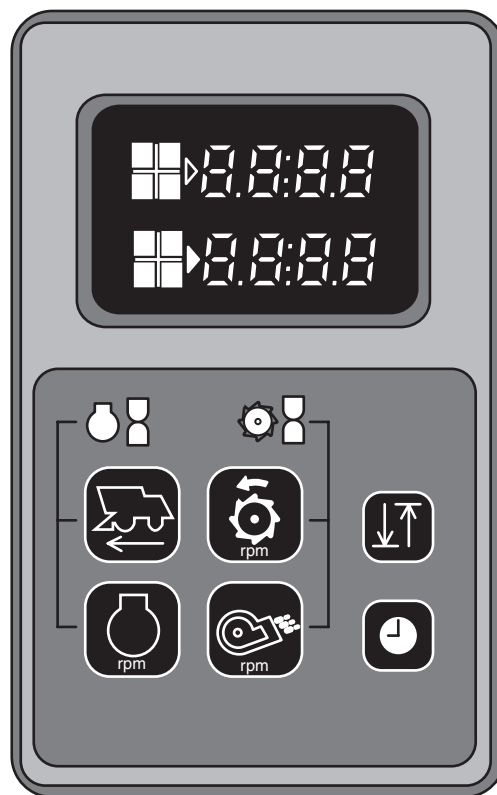
INFOTRAK™ Monitor

The INFO-TRAK™ monitor displays:

- Ground Speed (km/h):
- Speed:
 - Engine (rpm)
 - Threshing Cylinder
 - Fan
- Time:
 - Engine
 - Separator
 - Hours
- Spacing:
 - Concave and cylinder
- Header 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).

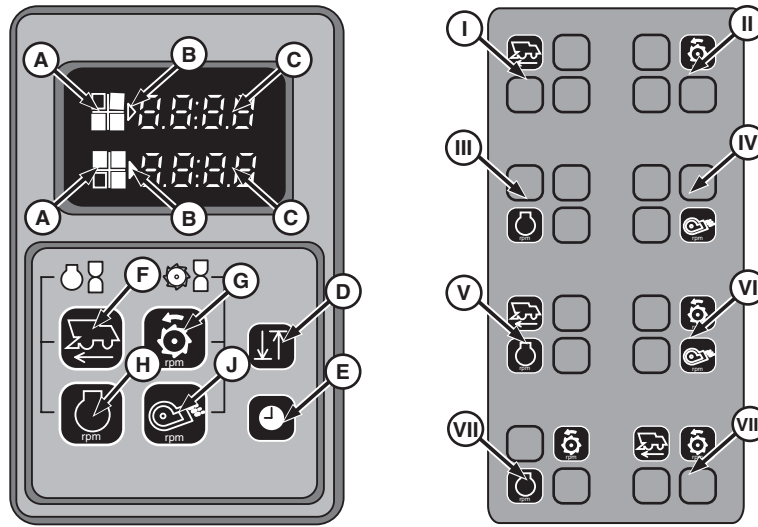
In addition, error codes and service intervals are displayed.



CO244540 –UN–12SEP05

AG,CO03622,1437 –19–30SEP05–1/1

INFO-TRAK Monitor Functions



A — Position Indicator: indicates relationship between the (digital) display and the key or key combination (I—VII) pressed. When enabling the INFO-TRAK™ monitor (start up from position I or II), the position indicator will be in upper left-hand position.

B — Line Indicator: specifies the selected display where the cursor (A) indicates the corresponding function.

C — Display (4 digits): Displays the element previously called up.

Possibilities:

Ground and other speeds, operating or working hours.
Additional display: SERVICE information “SEU” and concave clearance.

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: Selects the display

E — Clock: Press this key to display the time.

F — Ground speed display key (I).

G — Cylinder speed display key (II).

H — Engine speed display key (III).

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

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 “SEU” SERVICE information (VII).

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

D + and engine start up — ContourMaster diagnostic mode enabled.

E + ignition on — Setting clock

CQ244390 -UN-12SEP05

Setting and Displaying Time

Make sure the keyswitch is OFF. Hold down button (A) and, while holding it, turn the keyswitch to position (I). In the display will initially appear "12Hr". If you continue to hold the button down, it will alternate every 3 seconds between '12Hr' and '24Hr'. Release button when the desired format is displayed.

Press switch (B) to increase "hours". The longer you hold it switch down, the faster "hours" will increase.

Once you have the hours displayed properly, depress and release switch (A) and the display should show minutes along with hours. Press switch (B) to increase "minutes". When "minutes" is set correctly, depress switch (A) one last time and the clock is set.

IMPORTANT: Hour and minute values can only be increased.

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



CO244580 -UN-12SEP05

AG,CO03622,1440 -19-27MAR06-1/1

Tire Rolling Radius Code

New Tire Rolling Radius

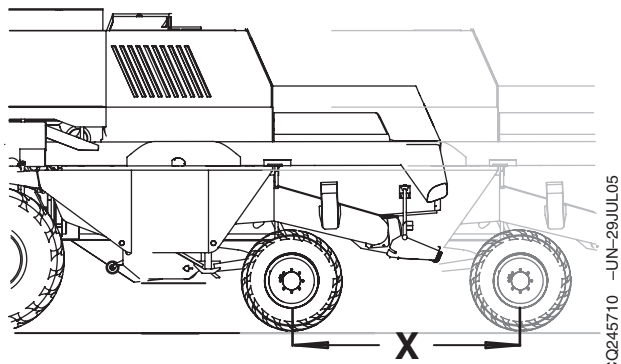
Drive Tire	Tire Rolling Radius (mm)	Tire Rolling Radius (in)		Drive Tire	Tire Rolling Radius (mm)	Tire Rolling Radius (in)
28.1 - 26 (750/65 R26)	756	29.7		28L26 R1 12L	767	30.1
18.4 - 30	741	29.1		23.1/18 - 26 R2 10L	780	30.7
18.4 - 38	805	31.6		23.1/18 - 30	804	31.6
24.5 - 32	849	33.4		800/65R 32 (Radial)	861	33.8
620/75R 30 (Radial)	810	31.8		30.5L32 R1	857	33.7
(650/75 R32)	863	33.9		STEEL TRACK	315	12.4
28.1/18 - 26 R1 14L	761	29.9				

Continued on next page

AG,CO03622,1445 -19-14JUL06-1/2

Determining Rolling Radius of Used Tires

- Combine on solid ground.
 - Cutting platform connected.
 - Correct tire pressures.
 - Combine steering wheels in straight-ahead position.
1. Place mark on tire and ground. Marks must be in contact with each other.
 2. Drive combine until marked tire has completed one revolution.
 3. Transfer mark on tire to ground.
 4. Measure distance (X) between ground marks. 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.
 5. **Divide measured distance (X) by 6.28.**
Include value shown on INFO-TRAK monitor.

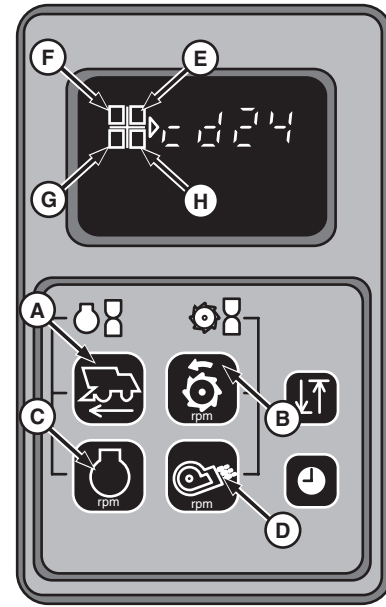


AG,CO03622,1445 -19-14JUL06-2/2

Input of Machine-Specific Data

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

Activate Input Status	Press key combination (A + B) and simultaneously turn starter switch from position (0) to position (I). Position indicator will move to upper left-hand position (F).
Modify/Include Data	Press key (A): displayed value increases. 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 (E), lower right-hand (H), lower left-hand (G) field).
Deactivate Input Status	After input and storage of all data, turn starter key to position (0).



CO244510 -UN-12SEP05

Software Version	Press keys for ground speed (A) and threshing cylinder speed (B) and at the same time turn starter key from (0) to (I). The version of the software installed on INFO-TRAK™ monitor is displayed, e.g. "cd24". All four display fields light up at the same time.
Transmission Speed Ratio Code (E)	00— Final drive (85/11)
Machine Code (F)	Input code for mph (miles per hour): 83 — Combine Input code for km/h: 103 — Combine
Engine Impulse Code (G)	Code 27
Tire Radius Code (H)	See "Tire Radius Code" and use correct tire radius code to include it in INFO-TRAK™ monitor. For machines with machine code 83, the radius must be keyed in inches. For machines with machine code 103, the radius must be keyed in millimeters. <i>NOTE: Rear tires radius must be entered in INFO-TRAK Monitor to measure the travelled distance. This is necessary because the combine movement sensor is located on rear axle.</i>

Threshing Cylinder Alarm Adjustment

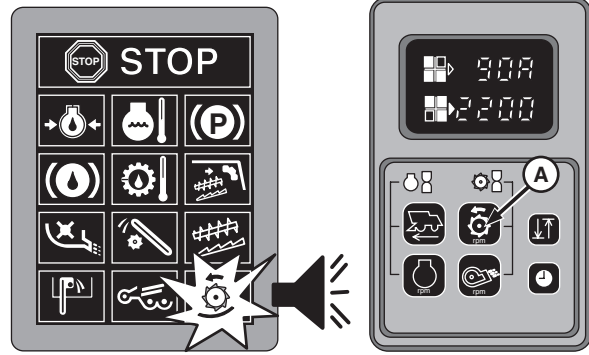
With engine running, engage separator.

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

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

IMPORTANT: If threshing cylinder has been operating more than 2 seconds at a speed below the adjusted limit, threshing system will turn off platform drive.

IMPORTANT: If threshing cylinder speed continues to fall and reaches 30 rpm, threshing cylinder will be disengaged.



CQ244420 -UN-12SEP05

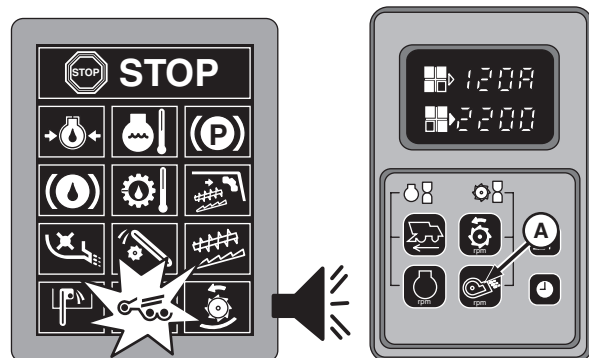
AG,CO03622,1448 -19-12JUL06-1/1

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 an "A" appears at the last digit of the displayed speed. Now alarm speed is 75% of the displayed speed.

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



CQ244430 -UN-12SEP05

AG,CO03622,1449 -19-16AUG05-1/1

INFO-TRAK™ Monitor Service Information

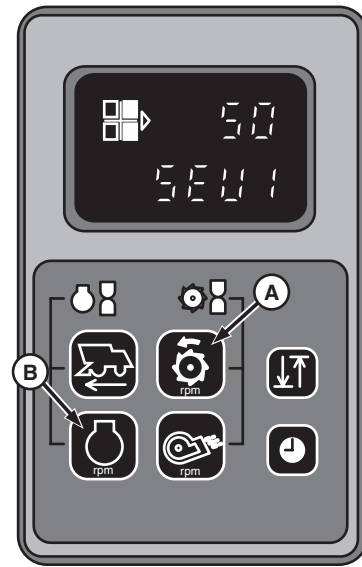
Every 50 hours of operation the INFO-TRAK™ monitor will display SERVICE information (SEU).

IMPORTANT: Perform necessary service referring to “Service Points—Every 50 Hours”.

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

To remove SERVICE information until next 50 operating hours are completed, press keys (A+B) simultaneously while engaging ignition.

IMPORTANT: Only deactivate SERVICE information after performing periodical service.



CO244590 -UN-12SEP05

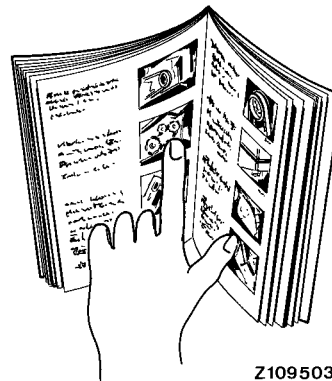
INFO-TRAK is a trademark of the Deere & Company

AG,CO03622,1450 -19-18FEB06-1/1

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 “Setup and Operation” section.



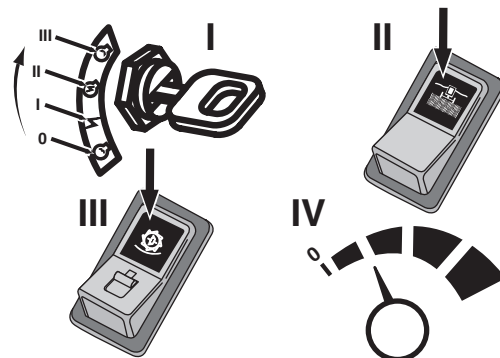
Z109503 -UN-22MAY95

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

Switching on Harvest Performance Monitor

The system can only operate when:

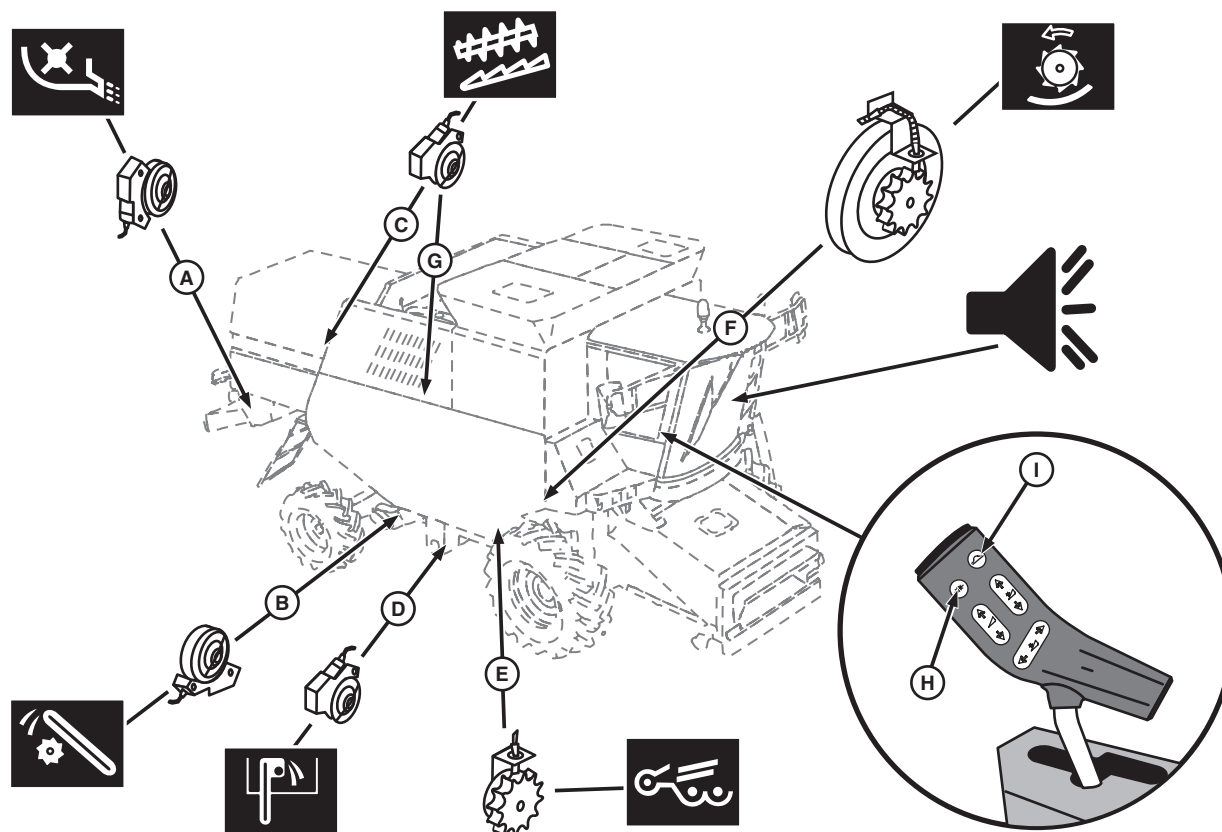
- The engine is running (I).
- The road safety rocker switch is in field position (II).
- Separator running (III).
- The harvest performance monitor is ON (IV).



CO248260 -UN-29JUL05

AG,CO03622,1454 -19-01AUG05-1/1

Protected Shaft Speed Monitor



A—Straw chopper
B—Tailings elevator
C—Straw walkers

D—Clean grain elevator
E—Fan

F—Threshing cylinder
G—Power Separator (WTS)

H—Button
I—Button

With engine shut off, electrical circuit on and threshing unit engaged, all five or six indicator lights must glow and buzzer must remain silent. With engine running (at fast idle) and threshing unit engaged, all indicator lights should go out and buzzer must remain silent.

In the event of a malfunction, the monitoring system activates the corner post indicator lights and an intermittent acoustic warning signal.

NOTE: Reset INFO-TRAK™ monitor alarm threshold every time threshing cylinder and/or fan speed is adjusted.

Use the following procedure:

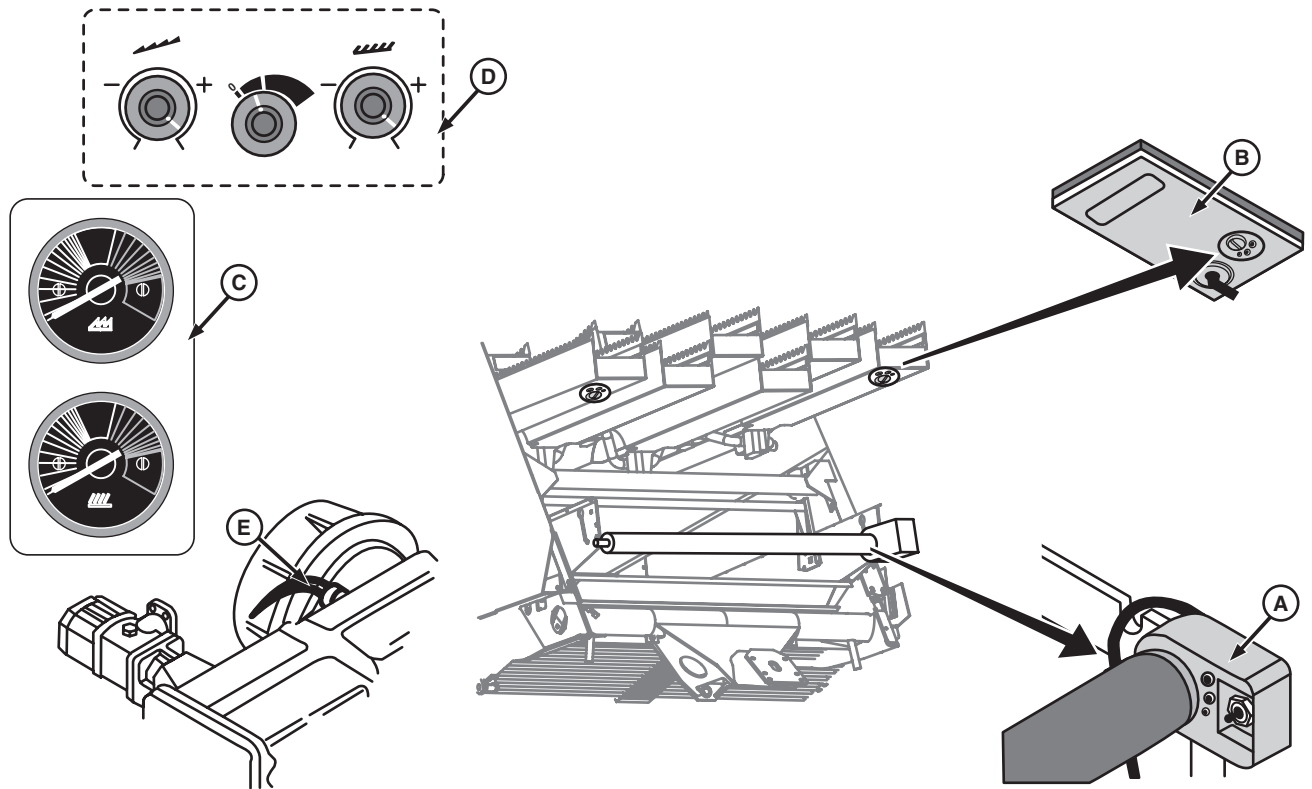
1. With engine running and threshing unit engaged, set engine to maximum rpm.
2. Press buttons (I and H) on multi-function control handle simultaneously for 3 seconds. An intermittent warning signal will be heard for 3 times and indicator lights will also flash 3 times. When this occurs, the 5 shafts have been reprogrammed for new condition.
3. To go back to default factory setting, press the two switches for 6 seconds. Confirmation is given through an intermittent warning signal that will be heard 6 times and indicator lights will also flash 6 times.

CO244440 -UN-29JUL05

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

AG,CO03622,1451 -19-20FEB06-2/2

Harvest Performance Monitor



A—Cleaning shoe sensor
B—Straw walker sensors

C—Analog gauge

D—Adjusting/selecting unit

E—Ground speed sensor

General Description

The harvest performance monitor records the amount of grain striking the cleaning shoe (A) and straw walker (B) sensors. Ground speed is measured via sensor (E). Once this factor has been determined, the loss rate appears on analog gauge (C). Analog gauge (C) indicates acceptable grain loss level to the user in relation to the area harvested.

The performance monitor enables the operator to use maximum combine capacity within the previously selected performance range. After the operator has

adjusted the combine and header to suit harvesting conditions, the monitor must likewise be set (adjusted) to these conditions by means of the adjusting/selecting unit (D).

Incorrect adjustment and inadequate servicing of the combine always result in higher grain loss and reduced performance. The causes of grain loss are dealt with in detail in the "Setup and Operation" section. Special attention should be paid to the information provided on "Causes of Grain Loss and Examples" and "Prevention of Grain Loss in General".

CQ264680 -UN-26JAN06

AG,CO03622,1452 -19-21MAR06-1/1

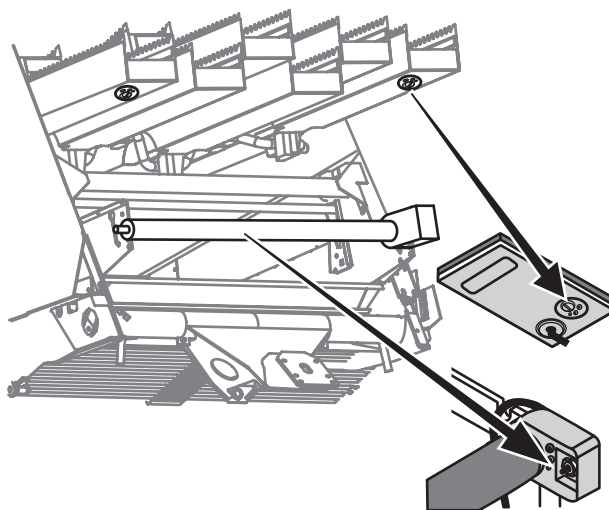
Adjusting Harvest Performance Monitor Sensor Sensitivity

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: Sensor sensitivity should preferably be adjusted to a medium setting.



●	●	●
X	Y	Z

CO264900 —UN—30JAN06

ML70882,00008FB —19—30JAN06—1/1

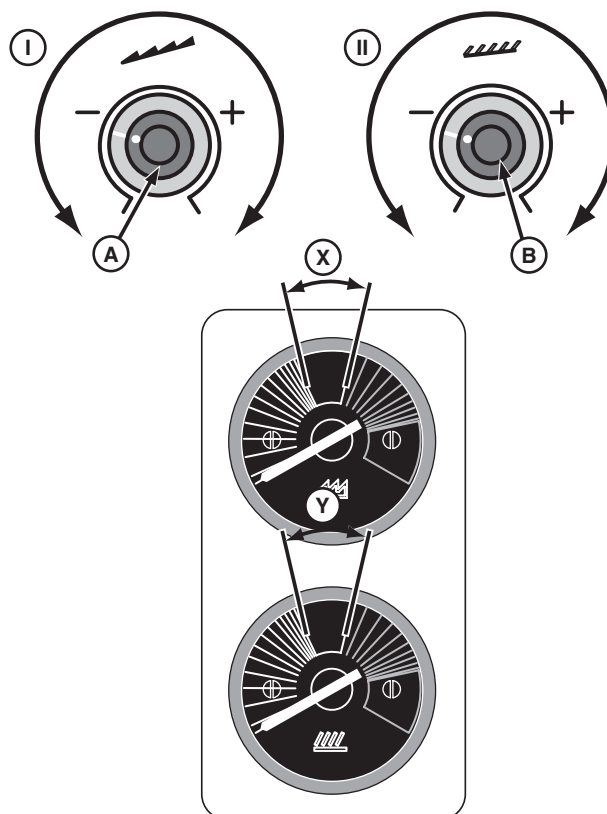
Adjusting Harvest Performance Monitor Potentiometers

NOTE: Set harvest performance monitor potentiometers after carrying out sensor adjustment.

I — To calibrate threshing system grain loss sensors, use potentiometer (A) to bring needle into green sector (X).

II — To calibrate cleaning system grain loss sensors, use potentiometer (B) to bring needle into green sector (Y).

IMPORTANT: 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.



CO250860 —UN—12SEP05

ML70882,0000813 —19—10MAR06—1/1

Adjusting Ground Speed for Harvest Performance Monitor

I — If the needle moves counter-clockwise and stays there for more than 20 seconds:

Ground speed is too low and combine is not working at full performance. In this case, increase ground speed until needle returns to center of green sector.

II — If the needle moves clockwise and stays there for more than 20 seconds:

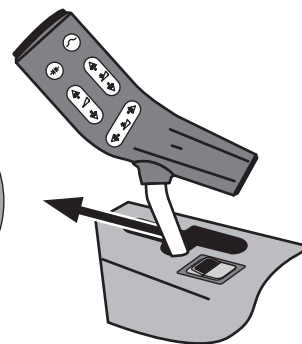
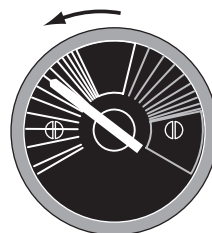
Excessive ground speed and there is elevated grain loss. Reduce ground speed until needle returns to center of green sector.

IMPORTANT: If needle remains in the same position even after ground speed has been reduced, this may be due to plugging. Check and clean, if necessary.

If harvesting conditions change during the course of the day (straw lying down or damp), or if machine adjustment is changed (fan speed), re-adjust performance monitor. The sieve sensors may be moved fore-and-aft to any one of the three cut-outs in the sensor mountings on lateral supports.

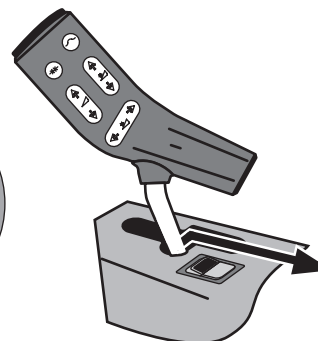
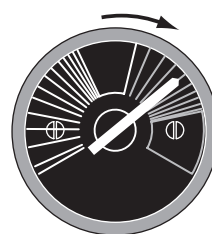
Measure grain losses from time to time to determine whether the combine needs to be re-adjusted.

I



CQ250890 -UN-12SEP05

II



CQ250900 -UN-12SEP05

Operational Check of Harvest Performance Monitor

CAUTION: Do not start up engine.

Requirements:

- Road safety switch in field position.
- Starter key in position (II).
- Threshing unit switch activated.

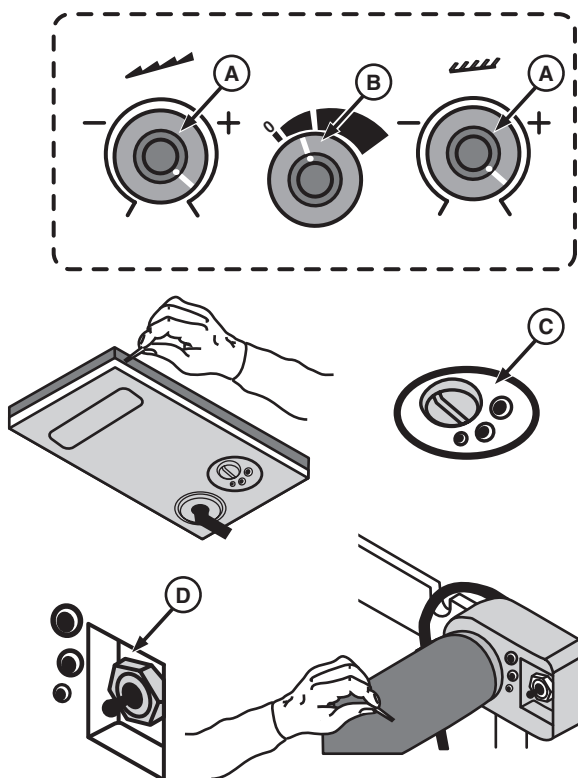
NOTE: A second person is required to observe the needle at the display.

1. Turn potentiometer (A) clockwise as far as it will go.
2. Set rotary switch (B) to medium grain position.
3. Rotary switch (C) and switch (D) should be in middle position.

4. Checking Sensors:

Tap sensors lightly with a hard object or by dropping some kernels on them. Gauge needles should move.

IMPORTANT: If a fault occurs during the check described above, have machine inspected by your John Deere dealer.

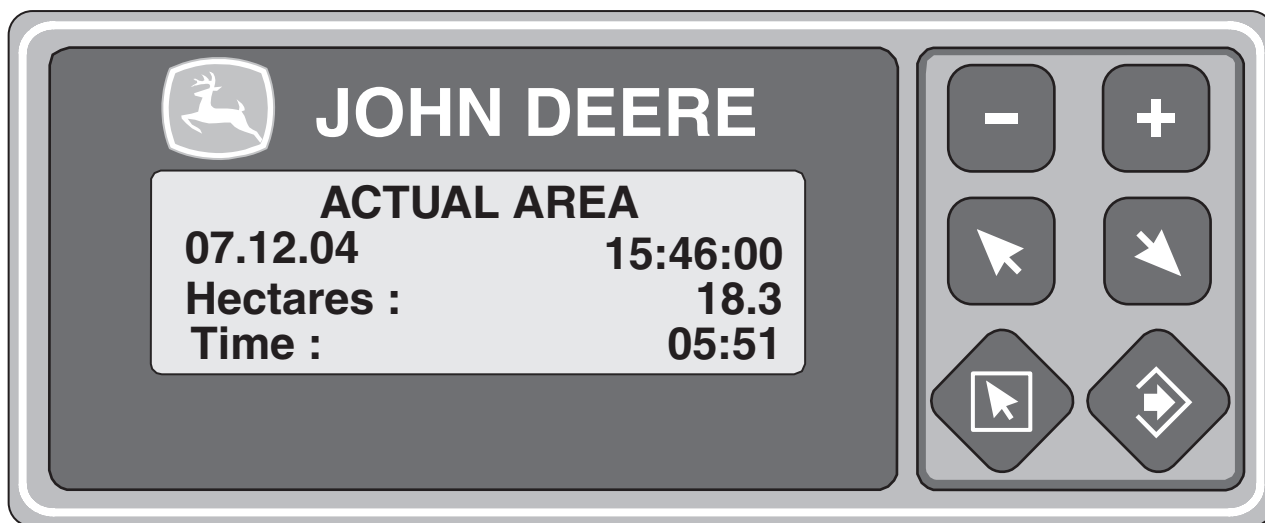


A—Potentiometers
B—Rotary switch
C—Rotary switch
D—Switch

CO221820 -UN-12SEP05

ML70882,0000870 -19-10MAR06-1/1

Hectaremeter



CQ229010 -19-02FEB05

IMPORTANT: All described procedures assume that the operator is observing the entry screen (Actual Area).

NOTE: This equipment only operates with combine and threshing system engaged and is available in Portuguese, English, Spanish, German, French and Italian.

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

- Tire radius.
- Operating width of the header used.

Tire radius is determined as follows:

Consult tire rolling radius value in "Tire Rolling Radius Code".

Header width is determined as follows:

1. Obtain header width from decal or measure width using a tape measure.

NOTE: If you are using the metric system the width must be converted into millimeters. If you are using the imperial system, just note down the recorded value.

- Ex: 618R - The header is 18 feet.
- Convert "feet" to "mm" multiplying the amount in "feet" by 304.8.

2. Input header width in the area counter. See "Header Width Adjustment".

Hectaremeter will save data when:

- You change machine parameters.
- Reset partial or actual area.
- Turn starter key OFF.
- Every 1 hour of harvesting.

ML70882.0000536 -19-14JUL06-1/1

Functions of Keys

A — Key “-”:Reduces values and adjusts date and time.

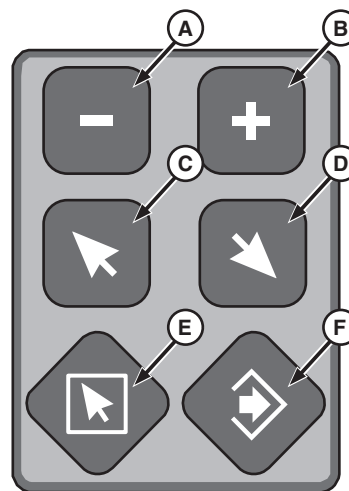
B — Key “+”:Increases values and adjust date and time.

C — Left Arrow:Navigation key that takes the cursor up and to the left.

D — Right Arrow:Navigation key that takes the cursor down and to the right.

E — Escape Key:Return to main menu and cancel adjusted values.

F — Enter Key:Confirm selected option and adjusted values.

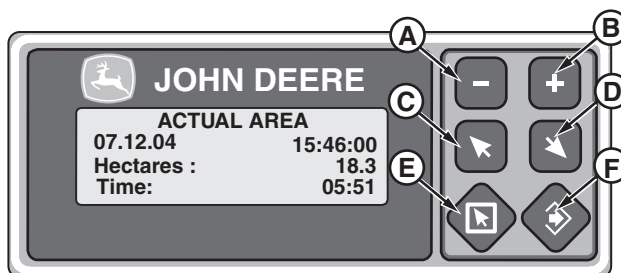


CQ264910 -UN-18FEB06

ML70882,0000537 -19-07MAR06-1/1

Change Language and Measurement System

1. Press escape (E) three times consecutively.
2. Select the language using the - key (A) or the + key (B).
3. Press key (C) or (D) once to select the measuring system.
4. Select the measuring system using the - key (A) or the + key (B).
5. Press enter (F) to confirm. Press escape (E) to cancel.



ACTUAL AREA <-
PARTIAL AREA
TOTAL AREA
OPTIONS

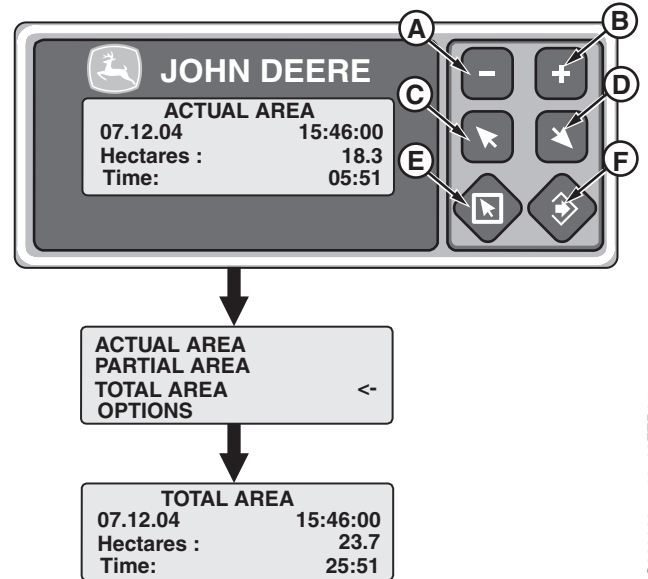
LANGUAGE/UNIT
> LANGUAGE : Portugues
UNIT : Metrico

CQ229090 -19-02FEB05

ML70882,0000539 -19-01FEB05-1/1

Checking Area Harvested

1. Press escape (E).
2. Select "Actual Area", "Partial Area" or "Total Area" as required. Make selection by pressing the (C) or (D) key.
3. Press enter (F).
4. Press escape (E) to exit.

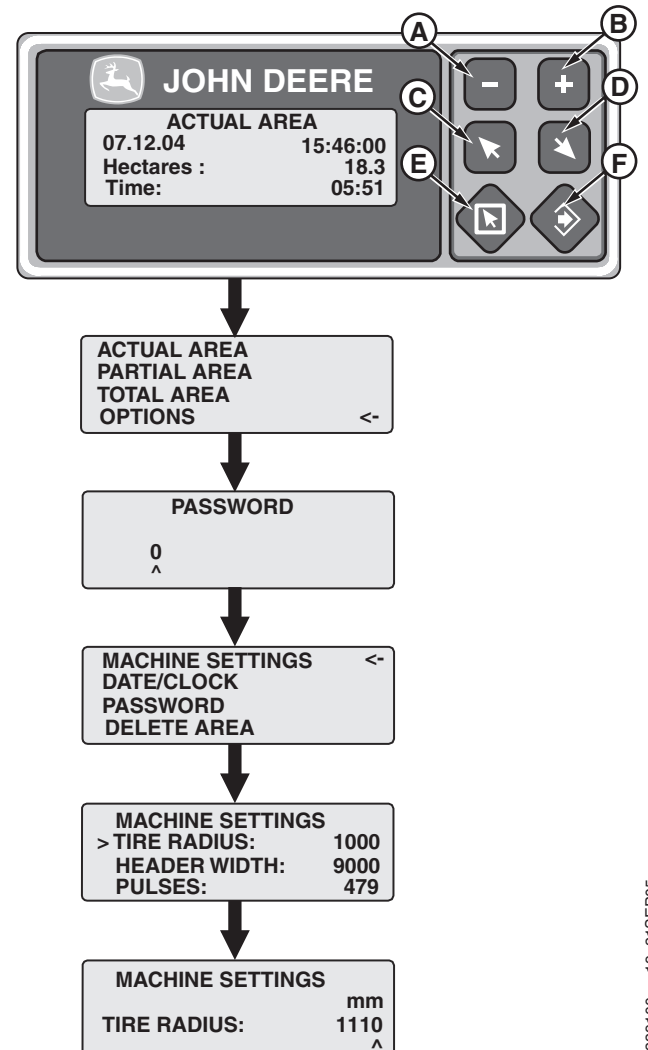


CO229080 -19-02FEB05

ML70882.0000538 -19-01FEB05-1/1

Adjustment of Tire Radius

1. Press escape (E).
2. Press (C) or (D) key and select "Options".
Press enter (F).
3. Enter password. Press enter (F).
NOTE: The default password is 0 (zero) To change password see "Changing Password".
4. Select "Machine Settings" by pressing the (C) or (D) key.
Press enter (F).
5. Select "Tire Radius" by pressing the (C) or (D) key.
Press enter (F).
6. Adjust tire radius using the (A), (B), (C) and (D) keys.
7. Press enter (F) to confirm. Press escape (E) to cancel.



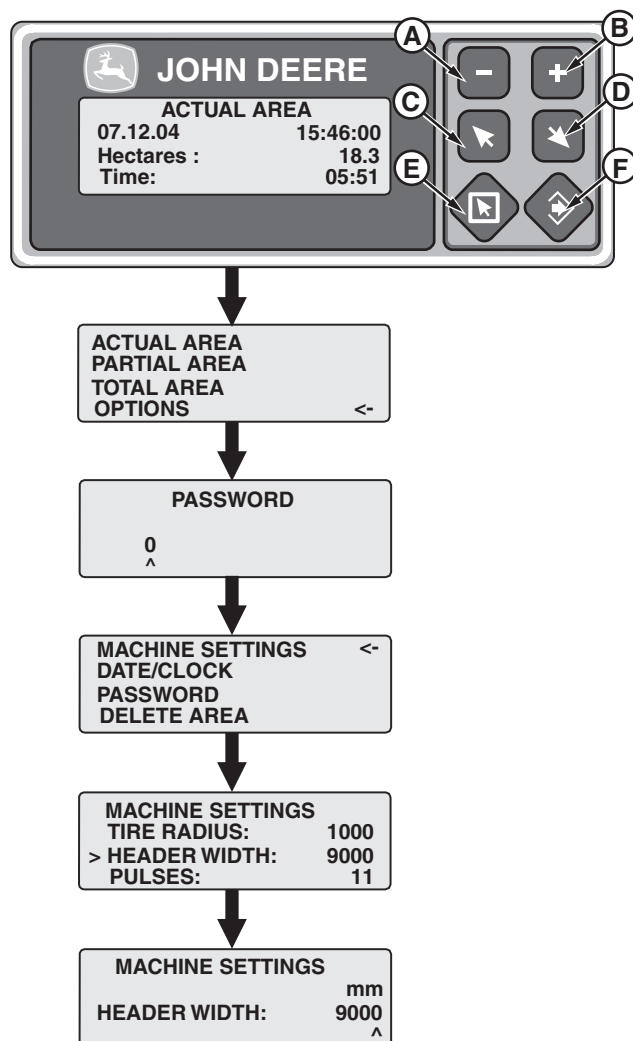
CO229100 -19-21SEP05

ML70882.000053A -19-01FEB05-1/1

Adjust Header Width

1. Press escape (E).
2. Press (C) or (D) key and select "Options".
Press enter (F).
3. Enter password. Press enter (F).

NOTE: The default password is 0 (zero) To change password see "Changing Password".
4. Select "Machine Settings" by pressing the (C) or (D) key.
Press enter (F).
5. Select "Header Width" by pressing the (C) or (D) key.
Press enter (F).
6. Adjust header width using the (A), (B), (C) and (D) keys.
7. Press enter (F) to confirm. Press escape (E) to cancel.

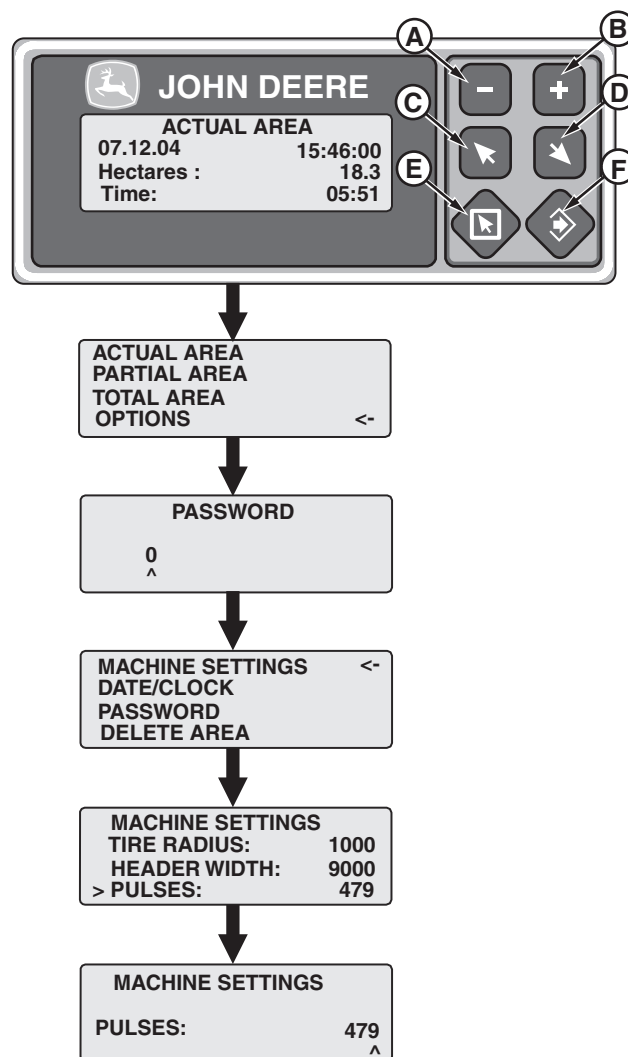


ML70882,000053B -19-01FEB05-1/1

CQ229070 -19-02FEB05

Adjust Pulses

1. Press escape (E).
 2. Press (C) or (D) key and select "Options".
Press enter (F).
 3. Enter password. Press enter (F).
NOTE: The default password is 0 (zero) To change password see "Changing Password".
 4. Select "Machine Settings" by pressing the (C) or (D) key.
Press enter (F).
 5. Select "Pulses" by pressing the (C) or (D) key.
Press enter (F).
 6. Adjust pulses using the (A), (B), (C) and (D) keys.
- IMPORTANT: Pulse value is 479.**
7. Press enter (F) to confirm. Press escape (E) to cancel.

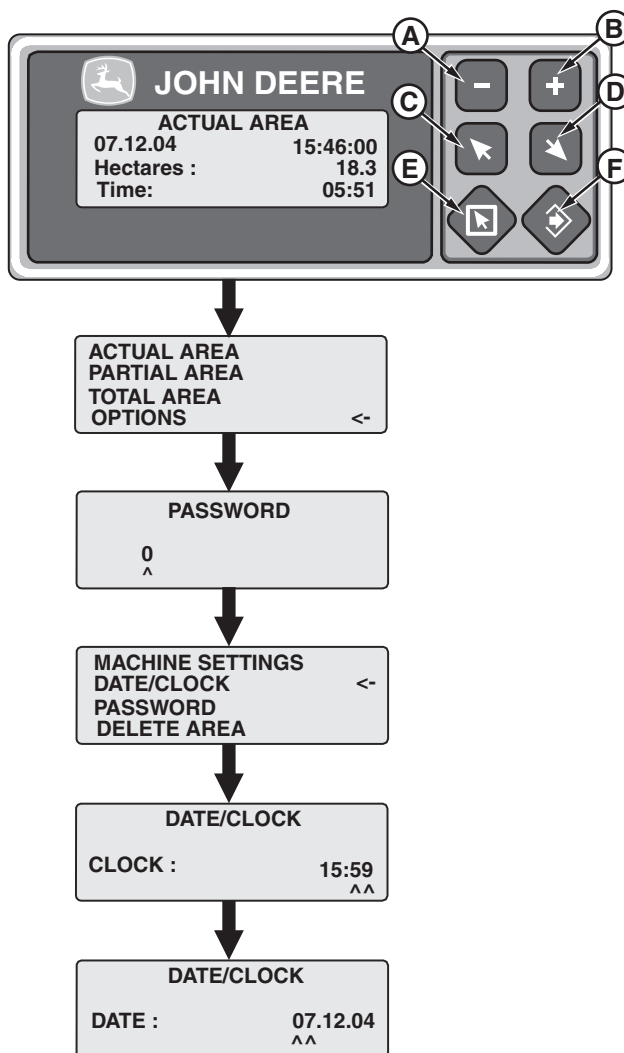


ML70882,000053C -19-01FEB05-1/1

CQ229110 -19-02FEB05

Adjust Date and Time

1. Press escape (E).
2. Press (C) or (D) key and select "Options".
Press enter (F).
3. Enter password. Press enter (F).
NOTE: The default password is 0 (zero) To change password see "Changing Password".
4. Select "Date/Clock" by pressing the (C) or (D) key.
Press enter (F).
5. Adjust time using the (A), (B), (C) and (D) keys.
NOTE: It is not possible to alter the value for seconds.
6. Adjust date using the (A), (B), (C) and (D) keys.
7. Press enter (F) to confirm. Press escape (E) to cancel.



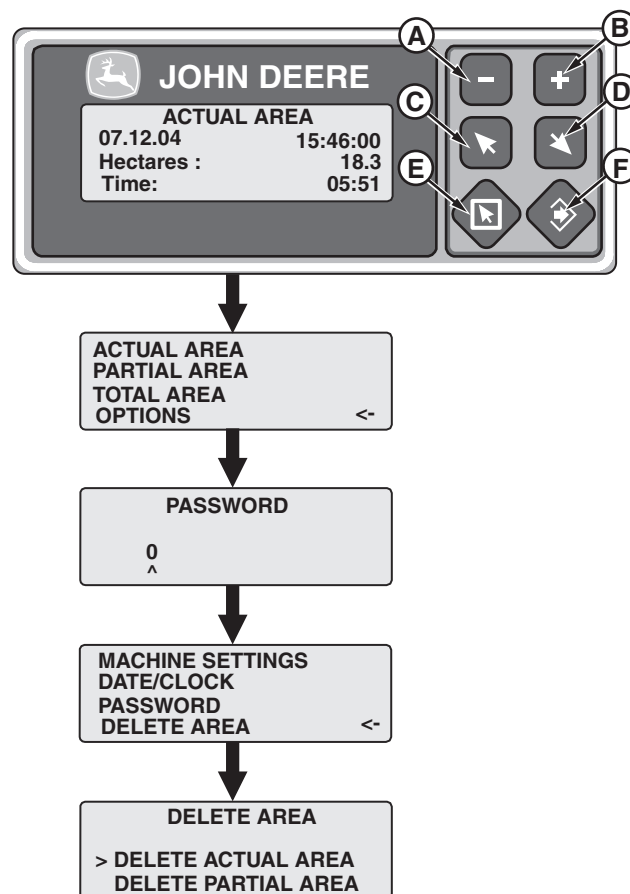
ML70882,000053D -19-01FEB05-1/1

CQ229120 -19-02FEB05

Deleting Harvested Area

1. Press escape (E).
2. Press (C) or (D) key and select "Options".
Press enter (F).
3. Enter password. Press enter (F).
NOTE: The default password is 0 (zero) To change password see "Changing Password".
4. Select "Delete Area" by pressing the (C) or (D) key.
Press enter (F).
5. Select "Actual Area " or "Partial Area" by pressing the (C) or (D) key.
6. Press enter (F) to delete selected area. Press escape (E) to cancel.

NOTE: The "Total Area" cannot be deleted.

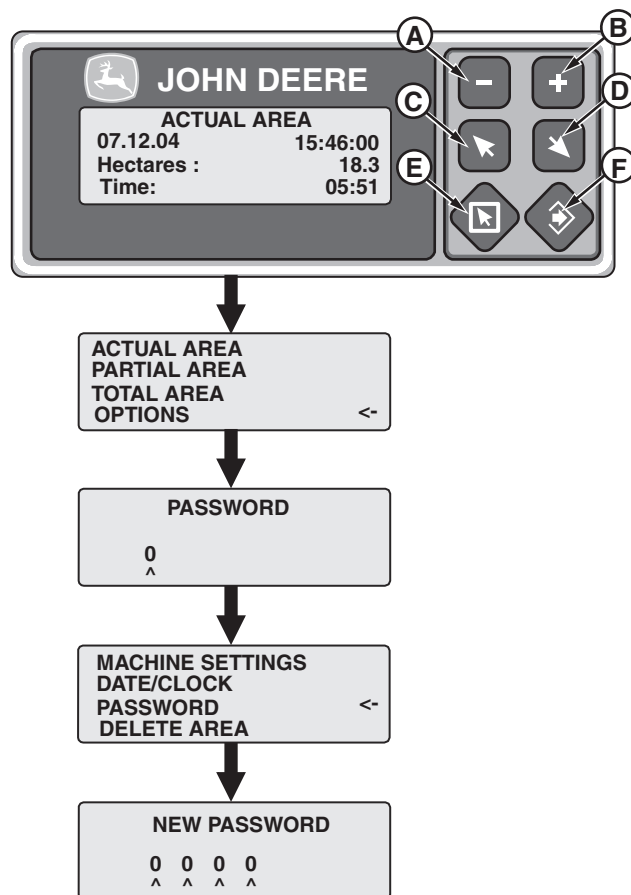


CQ229140 -19-02FEB05

ML70882,000053F -19-01FEB05-1/1

Change Password

1. Press escape (E).
2. Press (C) or (D) key and select "Options".
Press enter (F).
3. Enter password. Press enter (F).
NOTE: The default password is 0 (zero).
4. Select "Password" by pressing the (C) or (D) key.
Press enter (F).
5. Enter new password using the (A), (B), (C) and (D) keys.
6. Press enter (F) to confirm. Press escape (E) to cancel.



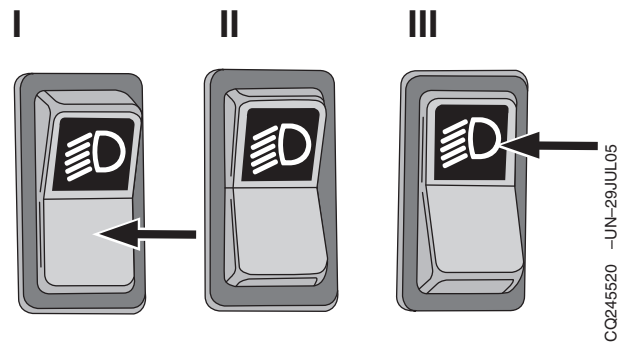
CO229130 -19-02FEB05

ML70882,000053E -19-01FEB05-1/1

Lighting System and Lights

Parking Light and Headlight Rocker Switch

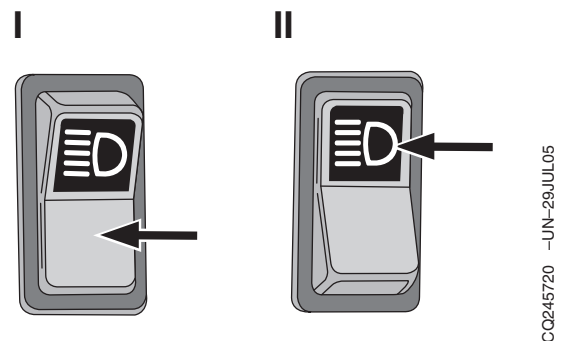
- I—Light functions OFF
- II—Parking lights, indicator and instrument lighting enabled
- III—Headlights enabled (starter key only in positions I and II)



AG,CO03622,1435 -19-01AUG05-1/1

Full Beam Rocker Switch

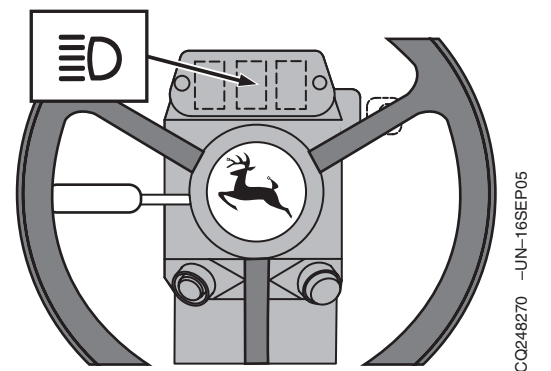
- I—Full beam disabled
- II—Full beam enabled



AG,CO03622,1436 -19-01AUG05-1/1

Full-Beam Indicator Light

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



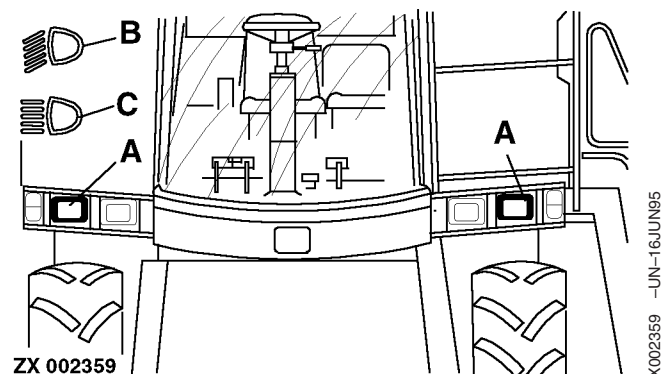
AG,CO03622,1460 -19-16AUG05-1/1

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



ZX 002359

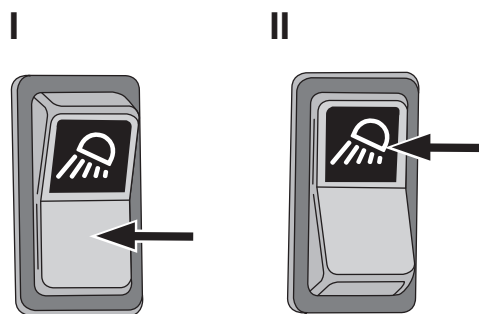
AG,CO03622,1461 -19-02AUG99-1/1

Work Lights Rocker Switch—Cab Roof and Unloading Auger

The work lights can be enabled separately with the starter key in position I or II.

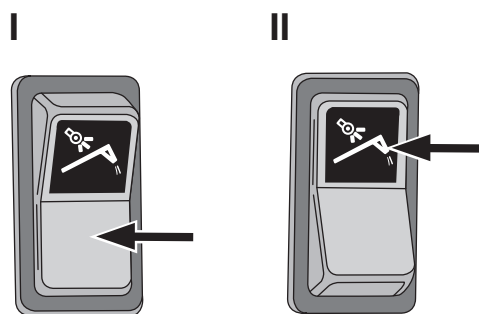
See “Starter Key” for more details.

- I—Work lights disabled
- II—Work lights enabled



Cab Roof

CQ245740 –UN–29JUL05



Unloading Auger

CQ245750 –UN–29JUL05

AG,CO03622,1465 –19–01AUG05–1/1

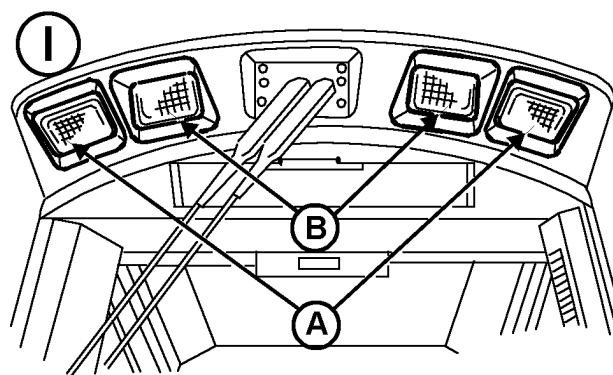
Work Lights on Cab Roof and Unloading Auger

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

The work lights (B) illuminate the head center.

The work light (C) illuminates the unloading auger.

- I—Work lights on cab roof
- II—Work lights on unloading auger



CQ194030

CQ194030 –UN–06DEC99



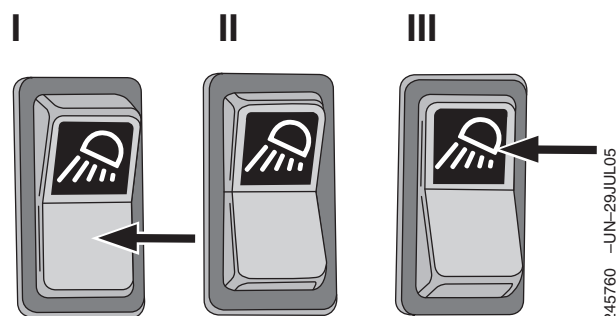
CQ246490 –UN–29JUL05

AG,CO03622,1466 –19–01AUG05–1/1

Rocker Switch for Work Lights on Operator's Platform and Outside 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 rocker switch is in the field position.

CAUTION: Work lights must only be enabled during field operation.



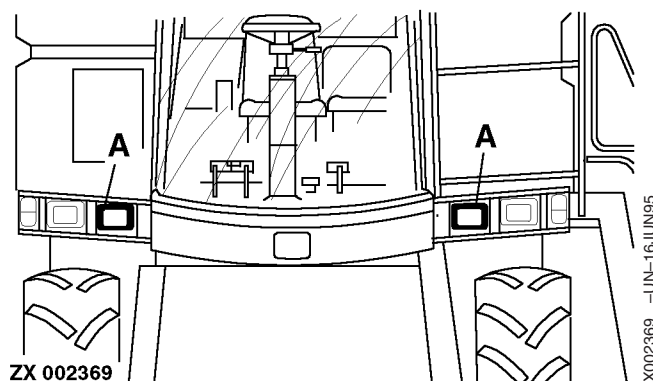
CQ245760 -UN-29JUL05

- I—Disabled
- II—Work lights on operator's platform and rear lights enabled
- III—Work lights on outside mirror arms enabled

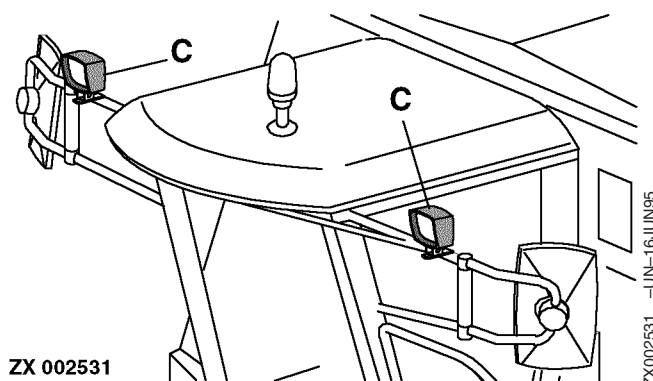
AG.CO03622,1487 -19-01AUG05-1/1

Work Lights on Operator's Platform And Mirror Arms

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



ZX002369 -UN-16JUN95



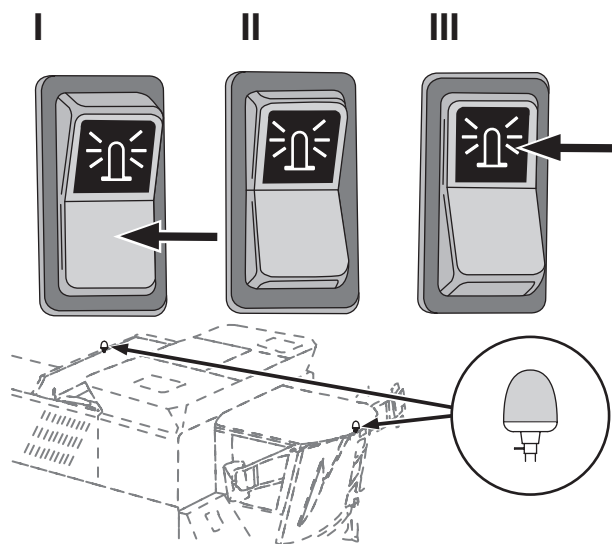
ZX002531 -UN-16JUN95

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

Intermittent Indicator Light Rocker Switch

NOTE: In some countries the intermittent indicator lights must be enabled when traveling on public highways.

- I—Light up when grain tank is 3/4 full
- II—Disabled
- III—Enabled



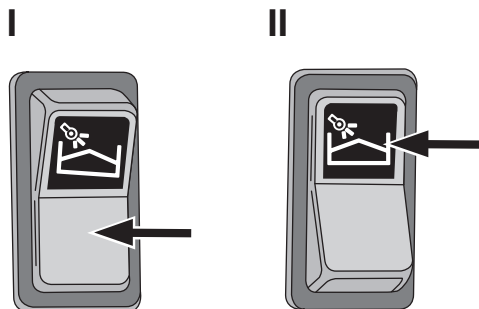
CQ245670 -UN-19MAY06

AG,CO03622,1470 -19-01AUG05-1/1

Grain Tank Lighting Rocker Switch

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

- I—Grain tank light disabled
- II—Grain tank light enabled



CQ245770 -UN-29JUL05



CQ246500 -UN-29JUL05

AG,CO03622,1468 -19-01AUG05-1/1

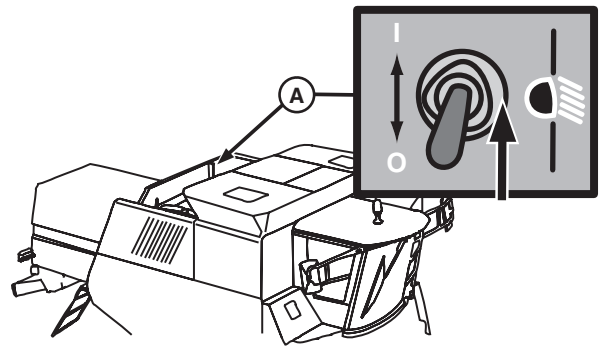
Engine Compartment Lighting

Switch on the engine compartment light through switch (A), located near light.

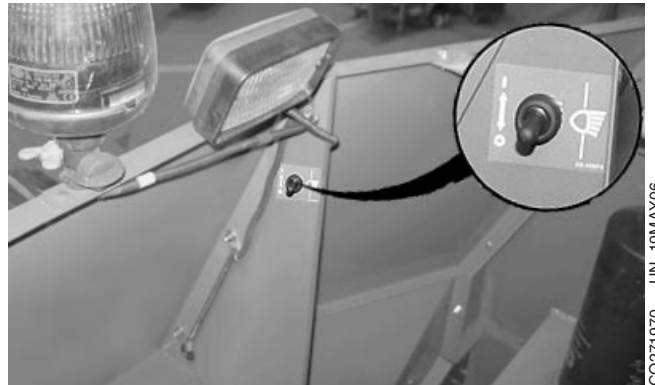
This light also functions as a rear light.

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

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



CQ245810 -UN-29JUL05



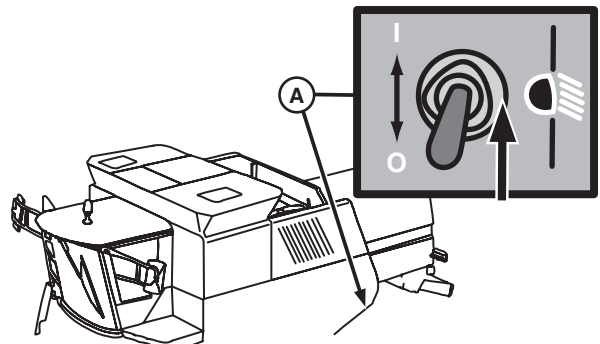
CQ271970 -UN-19MAY06

AG,CO03622,2853 -19-02JUN06-1/1

Cleaning System Interior Lighting

IMPORTANT: Switch on lights only to perform service or maintenance work.

Use switch (A) located outside of shield.



CQ245870 -UN-29JUL05



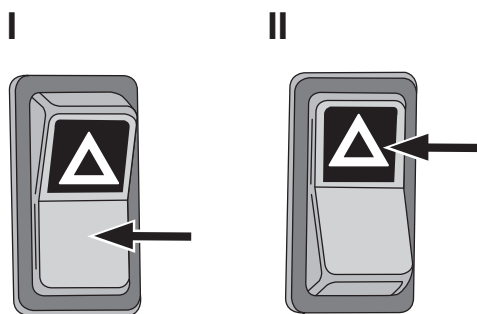
CQ246540 -UN-29JUL05

AG,CO03622,1469 -19-18FEB06-1/1

Hazard Warning Light Rocker Switch

Use the hazard warning lights in accordance with the traffic regulations of your country/region.

- I—Hazard warning lights disabled
- II—Hazard warning lights enabled



CQ245780 -UN-29JUL05

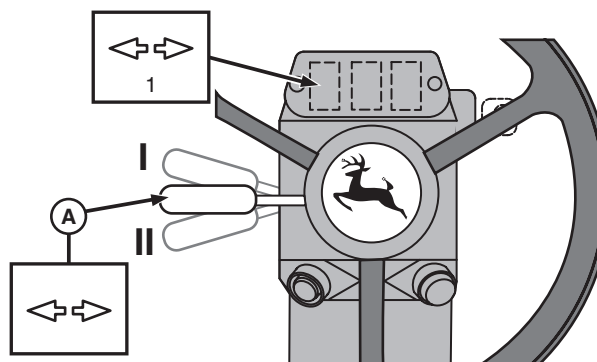
AG,CO03622,1471 -19-01AUG05-1/1

Turn Signal Lever

Use the turn signal lever when driving on public roads.

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

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



CQ246550 -UN-15SEP05

AG,CO03622,1462 -19-01AUG05-1/1

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

Turn-signal switch

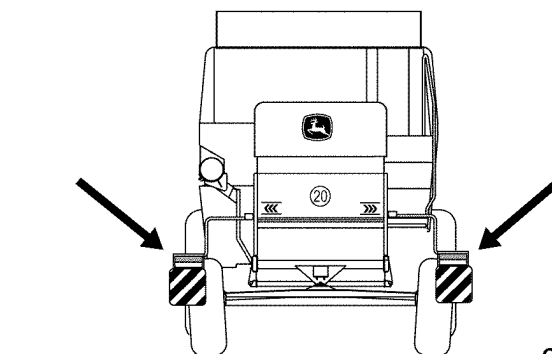
The turn-signals light up when the turn-signal or hazard warning switches are operated.

Tail Lights

The tail lights light up when clearance 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.



CQ203810

-UN-06APR01

ML70882,0000990 -19-02JUN06-1/1

Operator's Cab

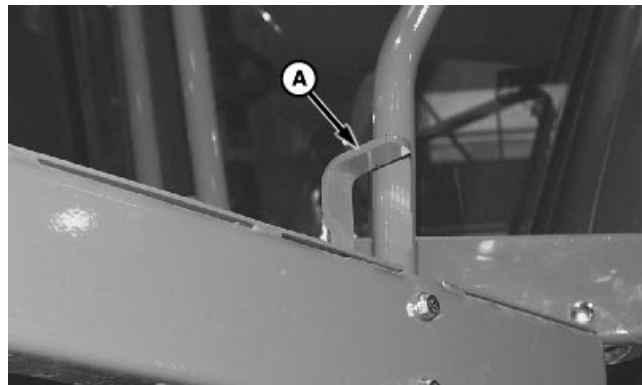
Cab Access Ladder

The ladder can be positioned at ground level or at the level of the cab 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.



A—Lock latch

H72668 -UN-24JUN02

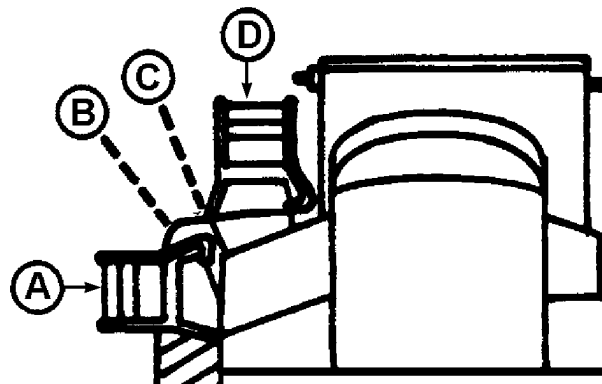
OOU6075,000224F -19-18MAR04-1/1

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

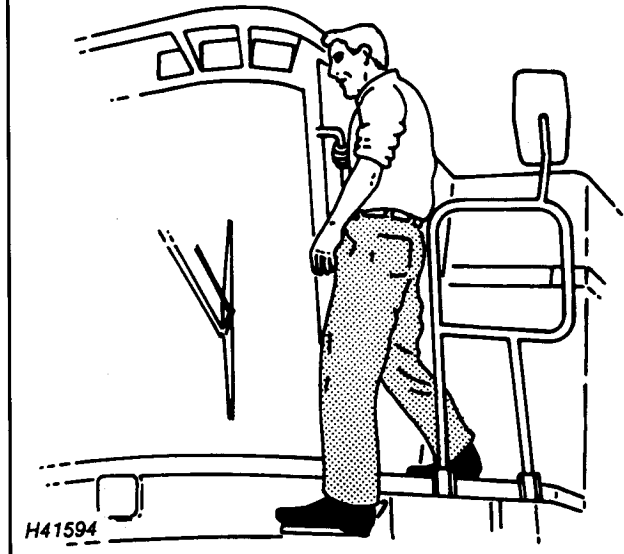
Cleaning Cab Windows, Service Lights and Windshield Wiper

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.

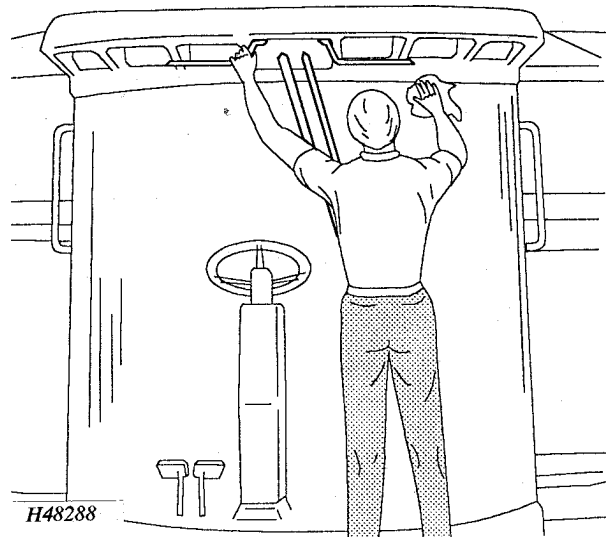
Stay positioned over the feeder house to clean the cab windshield and to service the main headlights or the windshield wiper.

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

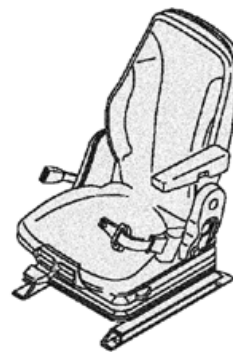
Operator Presence Switch

Safety switch is 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.



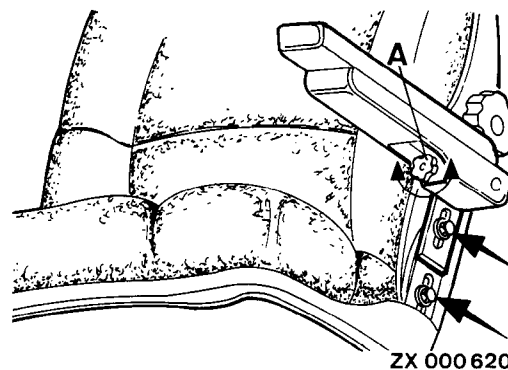
CQ219020 -UN-22AUG03

ML70882,0000979 -19-02JUN06-1/1

Adjusting the Armrest

Adjust armrest angle by means of wheel (A).

Armrest height can also be adjusted at the hinge.



ZX000620 -UN-10APR95

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

Right-hand Armrest

NOTE: Armrest cover can easily be removed and used to jot down notes.

Remove cover by securing it at the front and pushing rearwards, as illustrated.

Notes must only be written in pencil. These can easily be erased using a pencil eraser.

- A—Right-hand armrest storage compartment
- B—Right-hand armrest cover
- C—Ashtray



CQ246870 -UN-29JUL05

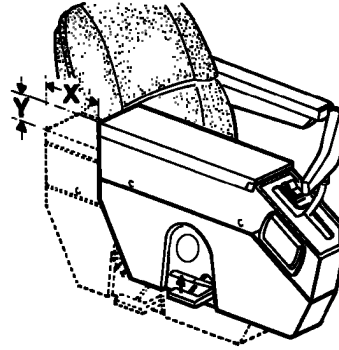
AG,CO03622,1481 -19-01AUG05-1/1

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

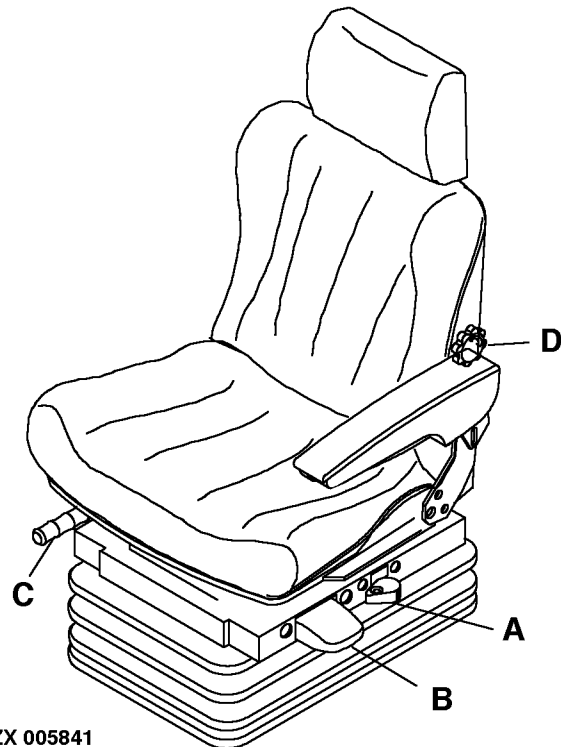
Air Comfort Seat

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 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

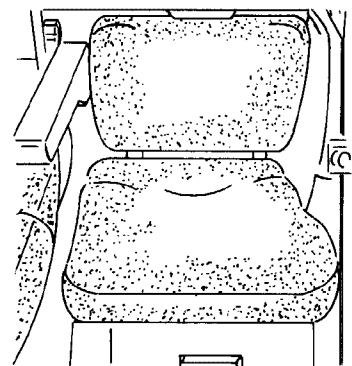
ZX005841 -UN-03APR95

AG,CO03622,1483 -19-19OCT05-1/1

Instructional Seat

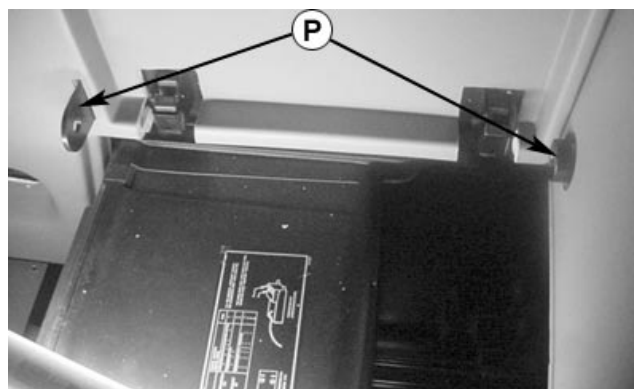
During harvesting only the operator and one passenger should be in the combine cab. Passenger should remain inside the cab for a determined time only (e.g. training).

NOTE: There are anchorage points, and the respective cap screws, for the installation of a two point seat belt (optional item). It is recommended to install the AZ51211 model seat belt. Points (P) are located as shown.



ZX 000 628

ZX000628 -UN-03APR95



Seat belt anchorage points

CQ219380 -UN-08SEP03

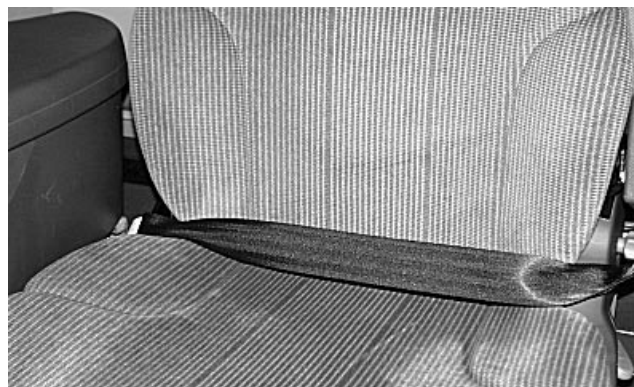
ML70882,000097A -19-23MAY06-1/1

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.



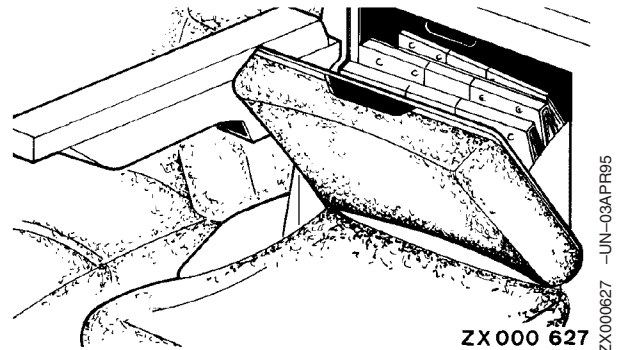
H67084 -UN-02APR01

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

Document Pack Compartment

This storage compartment is located in the instruction seat backrest.

To access the compartment, pull backrest forward.



ZX000 627

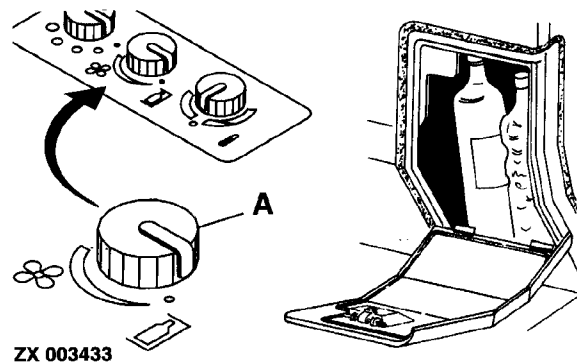
-UN-03APR95
ZX000627

AG,CO03622,1485 -19-01AUG05-1/1

Cooling Compartment

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

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



ZX 003433

-UN-19APR95
ZX003433

AG,CO03622,1486 -19-01AUG05-1/1

Steering Column Tilt and Height Adjustment



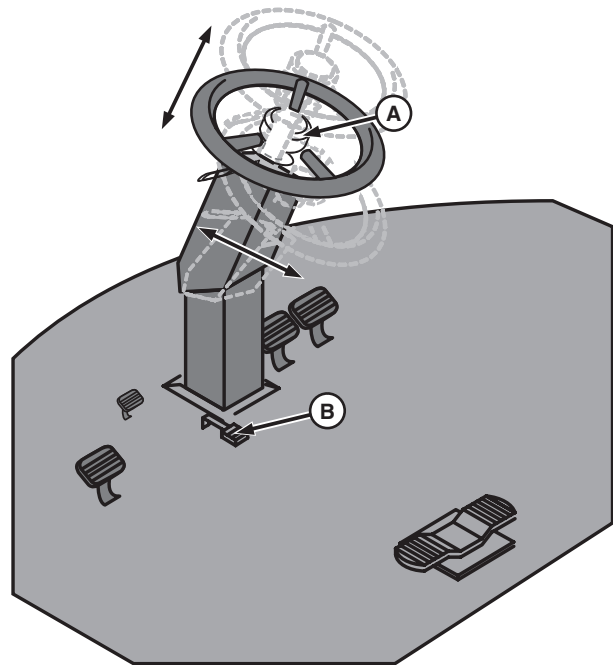
CAUTION: Adjust steering column only when combine is stopped.

Loosen steering hub (A). Raise or lower steering wheel to required position. Tighten hub to fix steering wheel in required position.

NOTE: The hub need only be lightly tightened.

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

Press pedal (B) to release steering column lock. Move column to required position. The column locks when pedal is released.

-UN-29JUL05
CQ246850

AG,CO03622,1488 -19-01AUG05-1/1

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.

Fire extinguisher is located on platform ladder.



CO231820 -UN-29JUL05

OU83340,00003EF -19-01FEB05-1/1

Operating Foot Brakes

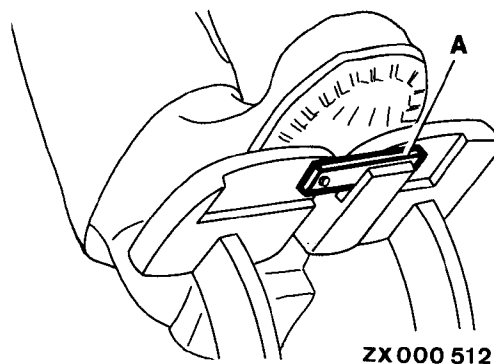
During road travel:

CAUTION: For safety reasons, always couple the two brake pedals by means of pedal coupler (A) when driving on public roads. This ensures the brakes are enabled together.

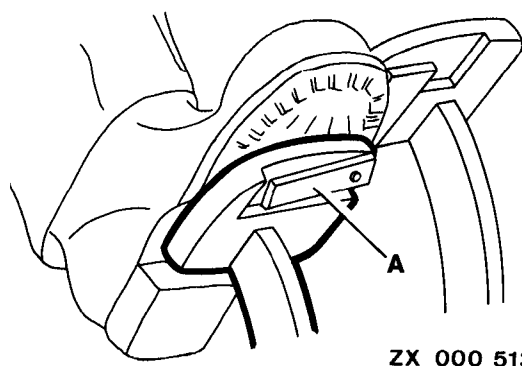
During field travel:

CAUTION: To stop combine, always depress both brake pedals simultaneously.

When negotiating sharp turns, use individual brakes to assist steering. For this purpose, disengage pedal coupler (A).



ZX000512 -UN-03APR95

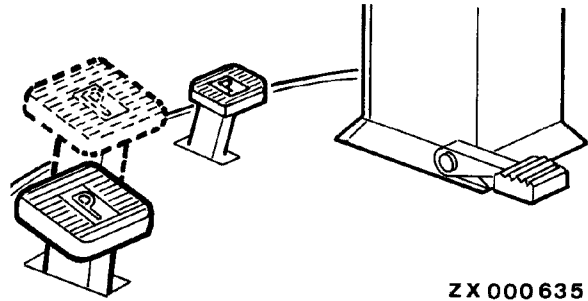


ZX000513 -UN-03APR95

AG,CO03622,1526 -19-01AUG05-1/1

Parking Brake

Apply parking brake when stopping combine harvester and/or when starting engine up.



ZX 000 635

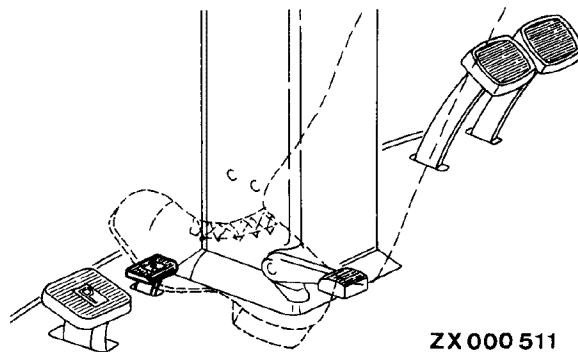
AG,CO03622,1491 -19-01AUG05-1/1

ZX000635 -UN-03APR95

Releasing Parking Brake

CAUTION: Avoid leaving your foot on or around the parking brake pedal when the release pedal is enabled.

To release parking brake, depress release pedal.



ZX 000 511

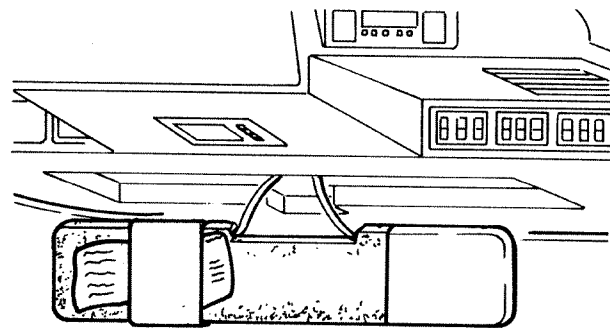
AG,CO03622,1492 -19-01AUG05-1/1

ZX000511 -UN-03APR95

Sun visor

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

Adjust sun visor to suit conditions.



ZX002537

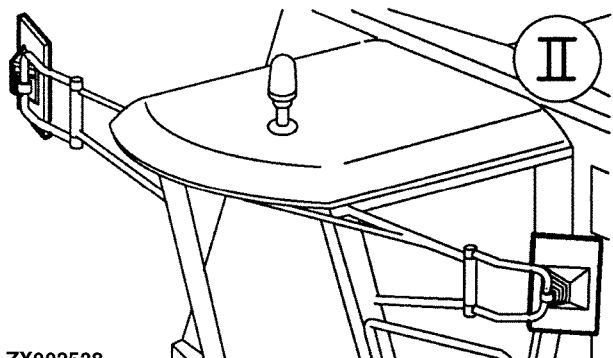
AG,CO03622,1494 -19-03AUG99-1/1

ZX002537 -UN-16JUN95

Outside Mirrors

Adjust outside mirrors according to requirements.

NOTE: See "Outside Mirror Demoisturizer Rocker Switch" for combines with electrical adjustment.



ZX002538

AG,CO03622,1495 -19-01AUG05-1/1

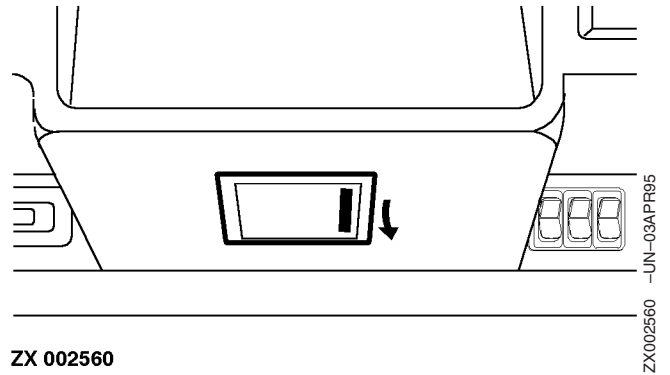
ZX002538 -UN-16JUN95

Cab Interior Lighting

Switch slid forward — Enabled

Switch in center position — Disabled

Switch slid rearwards — Enabled



ZX 002560

AG,CO03622,1498 -19-01AUG05-1/1

Preliminary Checks

Daily Checks

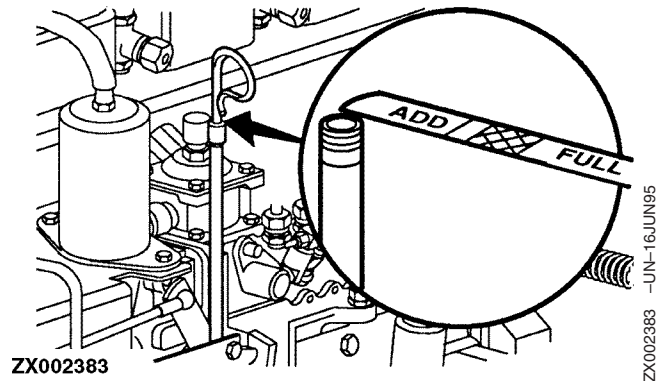
- ☐ Check engine oil level.
- ☐ Air compressor oil level.
- ☐ Hydraulic system.
- ☐ Radiator screen.
- ☐ Cooling system.
- ☐ Tires.
- ☐ Hydrostatic system.
- ☐ Fuel system.
- ☐ Indicator light test.
- ☐ Light functions.
- ☐ Brakes.
- ☐ Straw walker and chopper warning device.
- ☐ Gearshift lock system.

AS60558,00003F0 -19-22JAN07-1/1

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

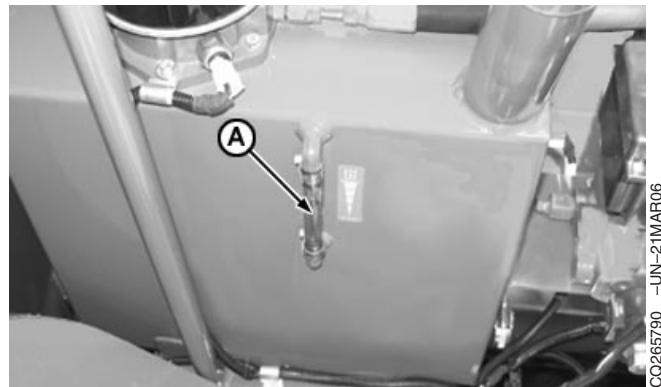
Hydraulic System Oil Level

Check oil level at sight glass (A). Oil must be visible in center of sight glass (A). Top up with the recommended oil as necessary.

Consult capacity in the "Specifications" section.

Recommended oil: John Deere HY-GARD™.

NOTE: Before checking the oil level, lower the header to the ground, place the unloading auger in the transport position and fully lower the reel, so that all respective hydraulic cylinders are totally retracted.



HY-GARD is a registered trademark of the Deere & Company

AG,CO03622,1502 -19-14FEB06-1/1

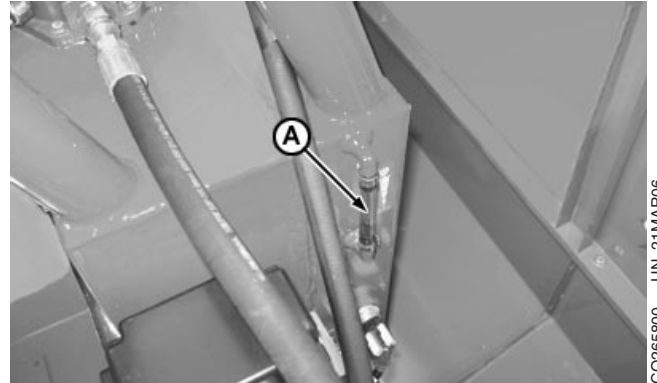
Hydrostatic System Oil Level

Check oil level at sight glass (A). Oil must be visible in center of sight glass (A). Top up with the recommended oil as necessary.

Consult capacity in the “Specifications” section.

Recommended oil: John Deere HY-GARD™.

HY-GARD is a registered trademark of the Deere & Company



CQ265800 -UN-21MAR06

ML70882,0000991 -19-24MAY06-1/1

Engine Coolant Level

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

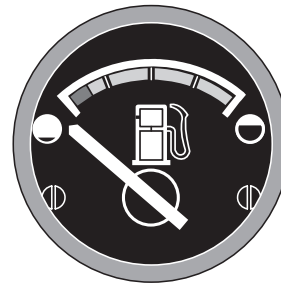


CQ246570 -UN-29JUL05

AG.CO03622,1503 -19-16AUG05-1/1

Fuel Level

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



CQ244310 -UN-29JUL05

AG.CO03622,1504 -19-16AUG05-1/1

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.

Consult capacity in the “Specifications” section.



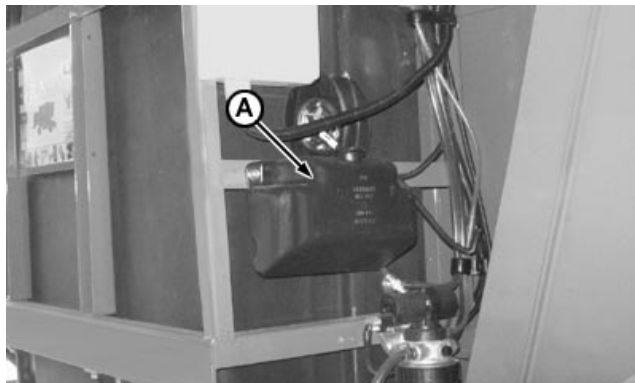
CQ247210 -UN-29JUL05

AG.CO03622,2067 -19-25AUG06-1/1

Windshield Washer Reservoir

Check and refill reservoir (A), if necessary, with clean water or automobile windshield washer solution.

Consult capacity in the “Specifications” section.



CO272860 -UN-02JUN06

ML70882,00009AE -19-02JUN06-1/1

After Long Storage Period

Bleed fuel system.

See “Service — Engine ” section.

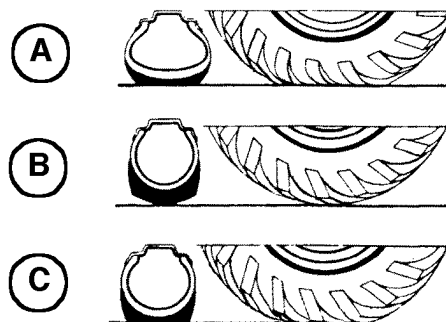
AG,CO03622,1505 -19-20AUG04-1/1

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

Operating the Engine

Breaking In The Engine

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

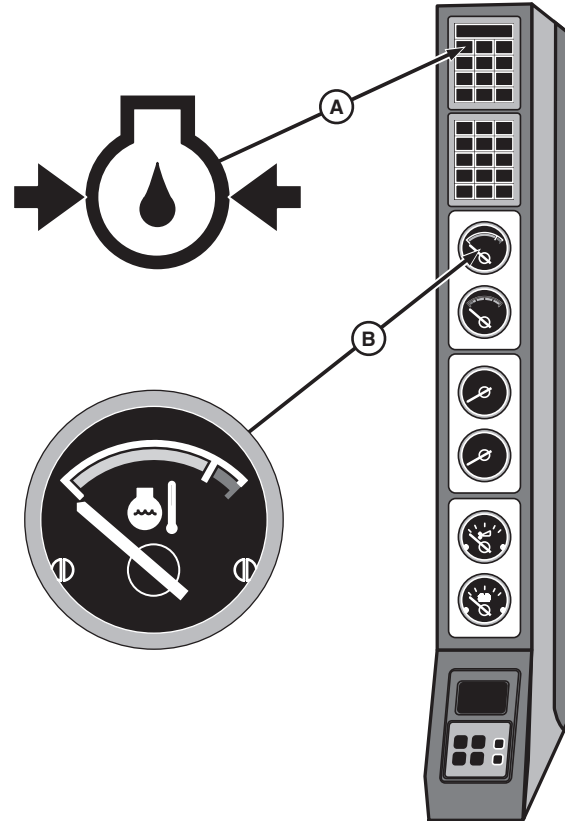
Observe the Following Points:

- 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 (Refer to “Engine Coolant” 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.



CO246880 -UN-29JUL05

AG,CO03622,1510 -19-16AUG05-1/1

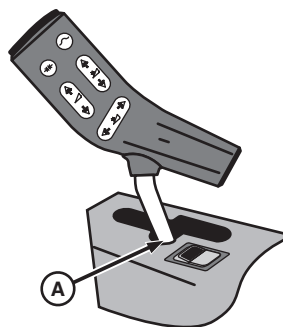
Safety Rules For Starting Engine

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 the Engine

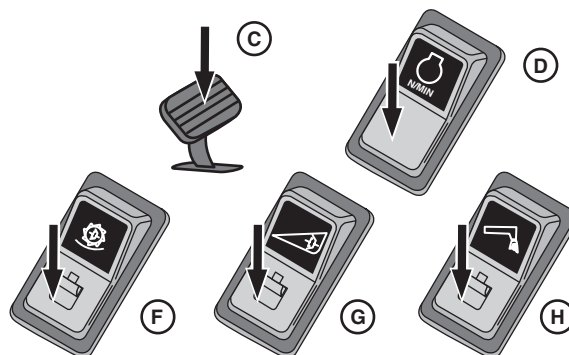
- ☐ The multi-function control handle (A) must be in neutral.
- ☐ Key switch (B) must be ON.
- ☐ Set parking brake (C).
- ☐ Engine idling (D).
- ☐ Separator drive (F), cutting platform (G) and unloading auger drive (H) switched OFF.



CQ246890 -UN-29JUL05



CQ216342 -UN-17AUG05



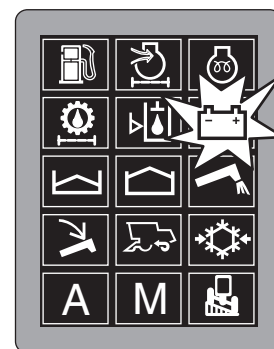
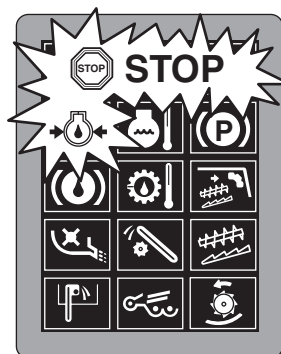
CQ246900 -UN-29JUL05

ML70882,000083E -19-17AUG05-1/1

Engage Ignition

The following **Indicator Lights** will glow:

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



CQ246930 -UN-29JUL05

AG,CO03622,1513 -19-16AUG05-1/1

Operating In Tropical Conditions

For composition and use of engine coolant, refer to "Engine Coolant".

AG,CO03622,1520 -19-20AUG04-1/1

Starting the Engine

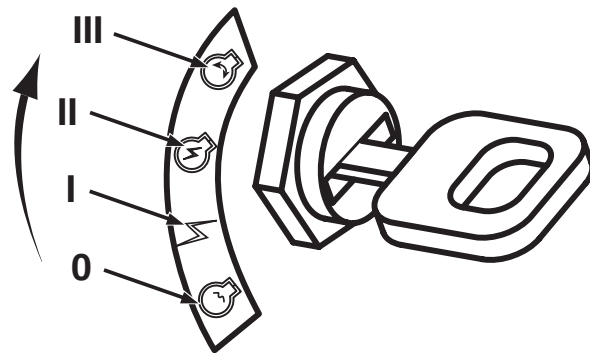
CAUTION: For safety reasons, sound horn before starting the engine or operating the combine. Start engine from operator's seat only.

Turn key to position "Start Engine". As soon as engine starts, release key.

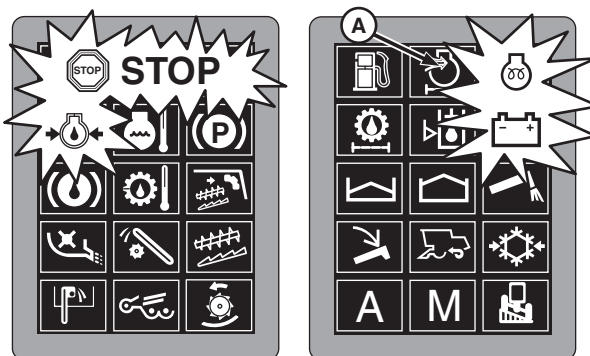
IMPORTANT: Never hold key in "Start Engine" position for longer than 20 seconds.

IMPORTANT: If engine does not start within 20 seconds, wait at least two (2) minutes before trying again. Do not try to start engine more than four times.

NOTE: At temperatures below 0°C, the ECU activates an intake air heater through a relay to increase intake manifold air temperature, after starter switch has been turned to position II. During this operation, air intake temperature indicator light (A) will come on. After this light turns off it is possible to start the engine.



CQ246950 -UN-29JUL05



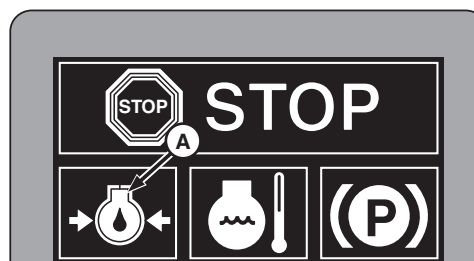
CQ246940 -UN-29JUL05

ML70882,0000840 -19-17AUG05-1/1

Engine Oil Pressure Indicator Light

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

The other indicator lights should also go out immediately after starting engine.



CQ246970 -UN-29JUL05

AG,CO03622,1515 -19-01AUG05-1/1

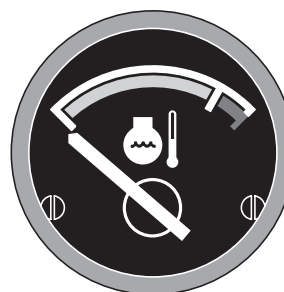
Warming Up Engine

Run engine at low idle.

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.



CQ244330 -UN-29JUL05

AG.CO03622,1516 -19-01AUG05-1/1

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 -UN-23AUG88

AG.CO03622,1519 -19-14MAR02-1/1

Shutting Off the Engine

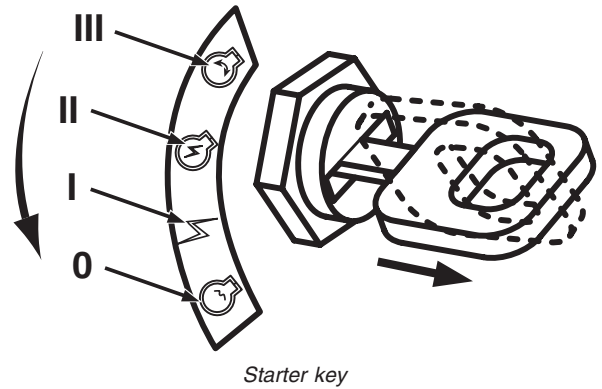


CAUTION: Always remove key before leaving operator's cab.

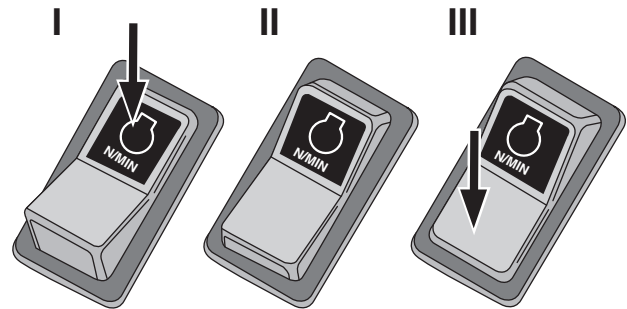
Never run engine without load for more than 5 minutes. Allowing the engine to idle at low rpm uses fuel inefficiently and can cause a build-up of carbon residue in the engine.

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 cutting platform to ground.
- Put throttle rocker switch in position III.
- Turn starter key to position "0".



CQ246960 -UN-29JUL05



CQ245010 -UN-29JUL05

ML70882,0000842 -19-17AUG05-1/1

Stalling of Engine

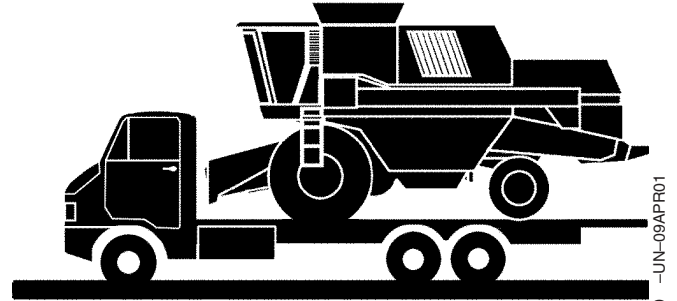
IMPORTANT: If engine stalls at operating temperature, restart it immediately. This prevents engine overheating. Before turning engine off, execute procedures described in "Shutting off the Engine".

ML70882,0000843 -19-17AUG05-1/1

Operating and Transporting 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

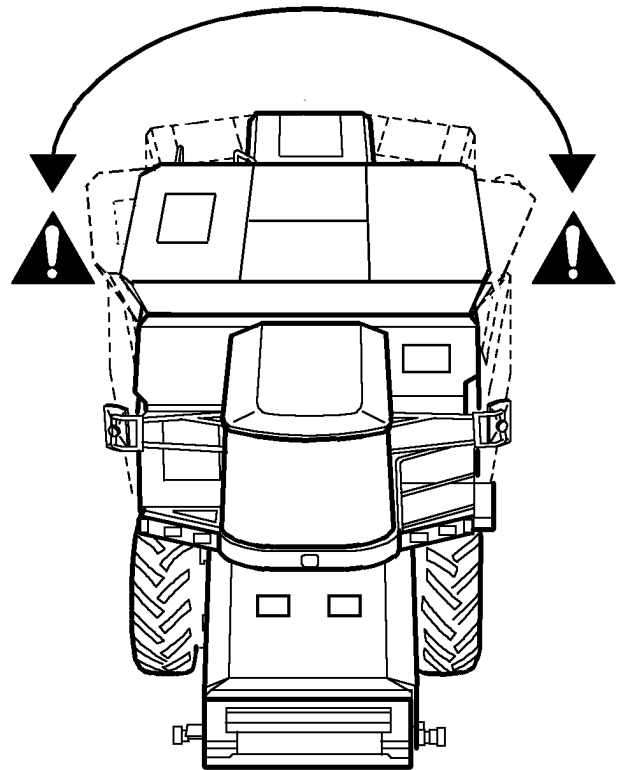
UN-09APR01

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

UN-01NOV99

Selecting Gears



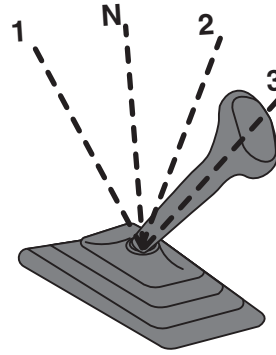
CAUTION: Gear shifting is possible only with multi-function control handle in neutral position.

NOTE: Gear shifting is easier while combine is on plain and level ground.

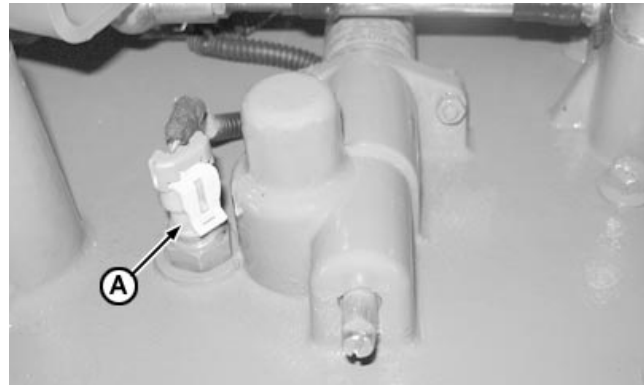
When the combine is in motion, the gearshift cam is automatically locked in place by a solenoid.

NOTE: In 3rd gear, maximum engine speed is limited to 2250 rpm. Switch (A) reads engine speed and is connected to engine ECU.

IMPORTANT: Check proper solenoid function daily by listening to the solenoid action with the engine shut off, turning starter switch ON and OFF in stages I and II. If a defect occurs, consult your John Deere dealer.



CQ246990 -UN-29JUL05



CQ266840 -UN-16FEB06

ML70882,000097B -19-23MAY06-1/1

Forward and Reverse Travel



CAUTION: Always adapt combine ground speed to road or field conditions.

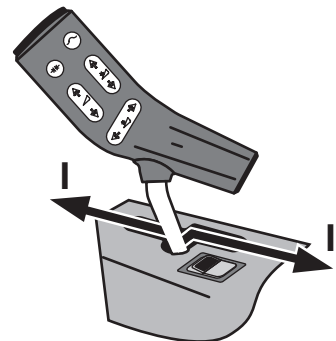
Forward travel (I)

Push multi-function control handle forward.

Reverse travel (II)

Pull multi-function control handle to the rear.

IMPORTANT: It is recommended to select a lower speed. This will provide more efficient hydrostatic drive performance.

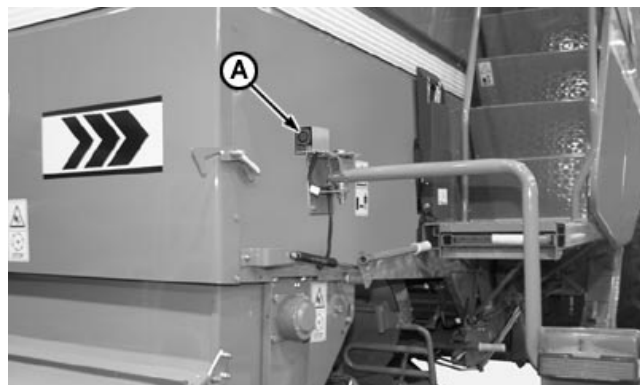


CQ246910 -UN-29JUL05

ML70882,000084D -19-17SEP05-1/1

Back-Up Alarm

If the multi-function control handle is moved to the rear (reverse travel) while the engine is running, signal sending unit (A) emits an acoustic warning signal.



CQ247500 -UN-29JUL05

ML70882,000097C -19-23MAY06-1/1

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.



CQ247000 -UN-29JUL05

AG,CQ03622,1532 -19-16AUG05-1/1

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 carrier, on a trailer specifically adapted for this purpose (duly marked as an excessively wide load), or by towing.

Do not exceed a speed of 20 km/h (12.4 mph).

For more information, see “Towing the Combine”.

AG,CO03622,1533 -19-11AUG06-1/1

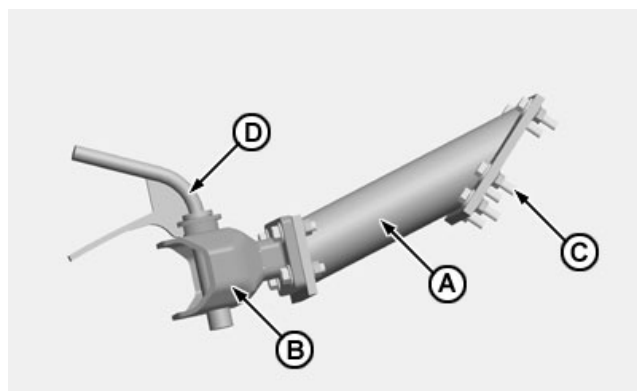
Trailer Hitch

IMPORTANT: Stop machine on a flat surface, shut off engine and set parking brake.

Hitch (A) is used to hook up header trailers to combine. It has a rotating end (B) to facilitate hooking up.

Attach it to combine rear axle by means of four bolts (C). Hook up trailer to rotating end (B) with pin (D).

NOTE: Connect trailer clearance lights connector to combine at point next to hitch (A).



Hitch

CO271240 -UN-17MAY06

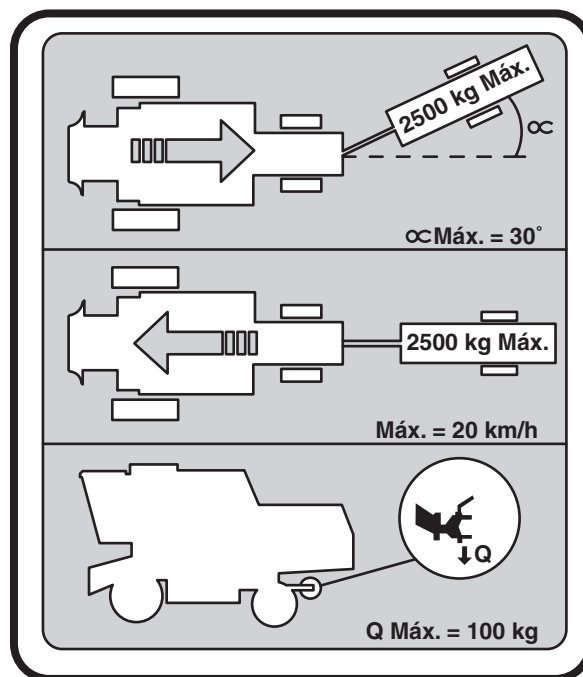
ML70882,0000948 -19-06JUN06-1/1

Towing Trailer

CAUTION: DO NOT exceed specified values. Excessive loading or speeding could result in bodily injury or machine damage.

If towing a trailer, make sure maximum draft load and maximum vertical load on hitch are not greater than 2500 Kg (5511 lb) and 100 Kg (220 lb), respectively.

Do not tow trailer at a speed greater than 20 km/h (12.4 mph) and, if the combine reverses with trailer connected, the trailer maximum angle of lateral tilt should not exceed 30°, as shown.



ML70882,00009C7 -19-11AUG06-1/1

CO277500 -UN-11AUG06

Transporting Under Own Power

Remove **head**, if overall width exceeds legal limits (for details of head removal, see "Head 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 **lighting**, if necessary.

For general information on driving, see this section.



CAUTION: For safety reasons, always couple the two brake pedals by means of pedal coupler when driving on public roads. This ensures the brakes are enabled together. See "Foot Brakes", in the "Operator's Cab" section for more details.

AG,CO03622,1534 -19-01AUG05-1/1

Towing the Combine

1. Prepare combine as shown under "Driving Combine on Public Roads".

CAUTION: Do not use flexible ropes to tow the combine, always use a towing bar. Connect towing bar to towing eye on front axle.

2. Release parking brake
3. Do not exceed 20Km/h (12.4 mph) when towing combine.

IMPORTANT: Towing at greater speeds may damage tires, transmission and final drives.

NOTE: Comply with local traffic regulations when towing combine.

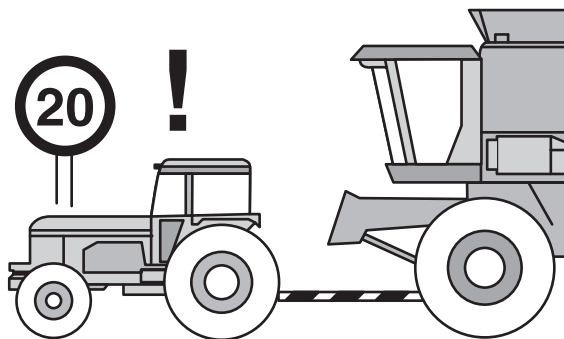
4. Place gearshift lever in neutral position.

NOTE: In case of emergency, it is possible to tow the machine for a short distance (less than 50 m) without following this procedure.

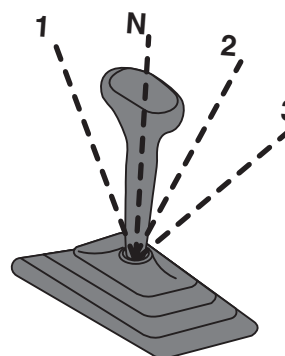
IMPORTANT: In certain cases it may be necessary to disable the shift lock function to place gear shift lever in neutral.

To disable lock:

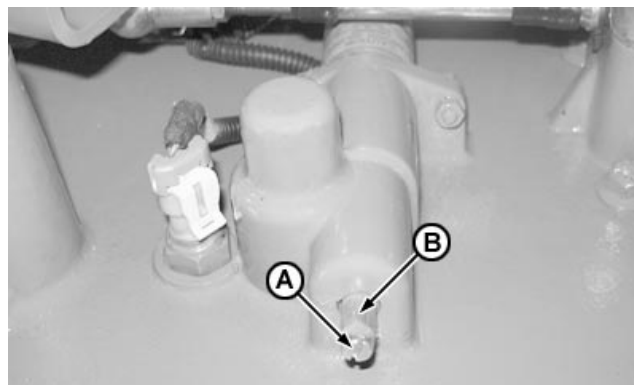
1. Remove screw (A) and spacer (B), reinstalling only screw (A).
2. Turn screw all the way in so the shifter cam is unlocked.



CQ265860 -UN-16FEB06



CQ245020 -UN-29JUL05



CQ265850 -UN-16FEB06

ML70882,000097D -19-06JUN06-1/1

Operating the Combine

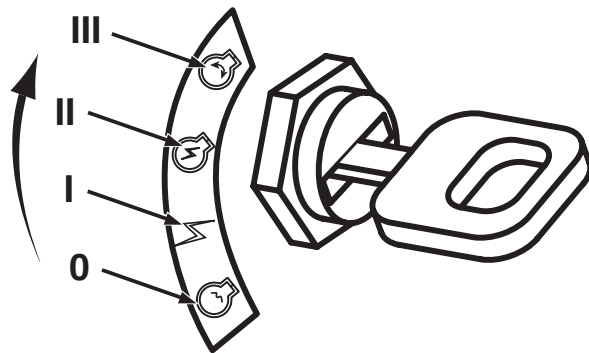
1. Prepare the combine for the type of crop to be harvested.

NOTE: See information on preparation in this section.

2. Prepare and hook up header to combine.

NOTE: See header preparation and coupling information in the Cutting Platform OM.

3. Start engine, leave it running in slow idle.



CQ246950 -UN-29JUL05

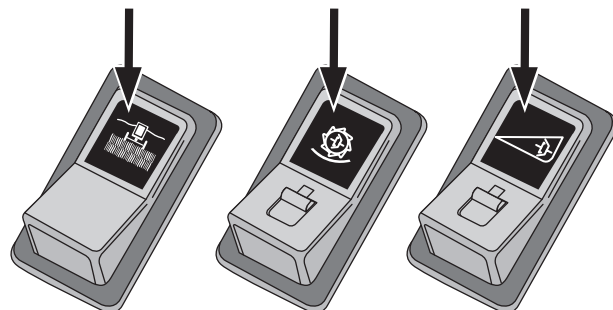
AG,CO03622,1601 -19-19SEP05-1/4

4. Move road safety switch to field position.

IMPORTANT: Always engage separating system with engine in slow idle.

5. Switch on separator.

6. Engage header.



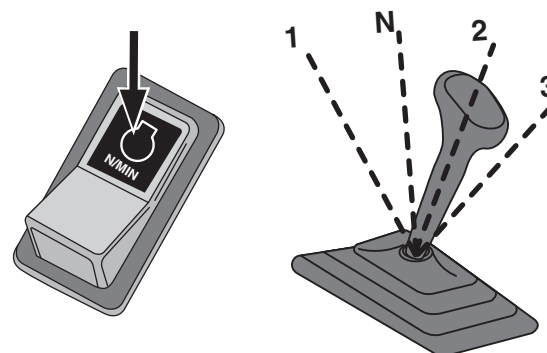
CQ247010 -UN-29JUL05

AG,CO03622,1601 -19-19SEP05-2/4

7. Set engine to maximum rpm.

8. Engage a transmission speed.

NOTE: The second speed is the most indicated for all-around field performance. The third speed is not recommended for field operations, only for transport.

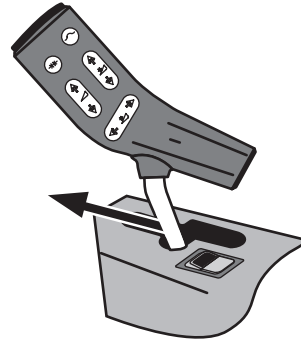


CQ247020 -UN-29JUL05

Continued on next page

AG,CO03622,1601 -19-19SEP05-3/4

9. Move multi-function control handle to adapt ground speed to harvesting conditions.



CQ247030 -UN-29JUL05

AG,CO03622,1601 -19-19SEP05-4/4

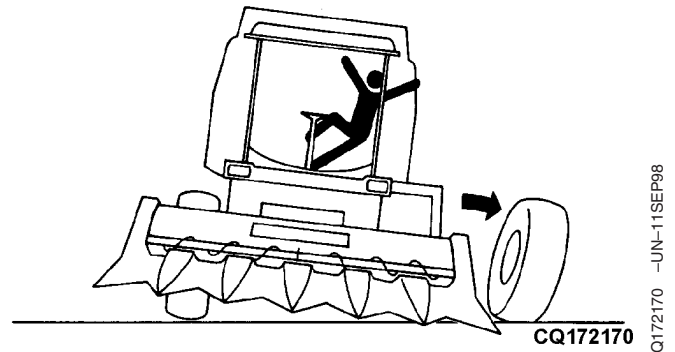
Wheels, Axles and Counterweights

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.



ML70882,00004B4 -19-22JUL04-1/1

CQ172170 -UN-11SEP98

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.

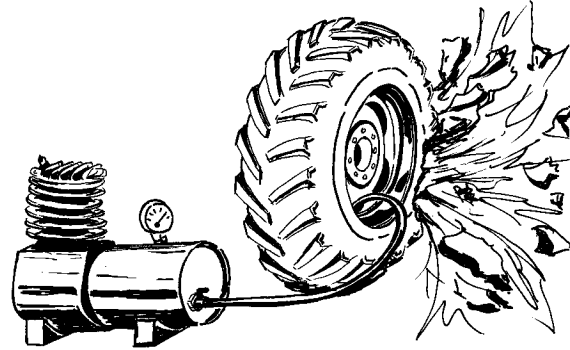
IMPORTANT: A permanent, inside-out repair should be made as soon as possible to prevent any further tire damage.

AG,CO03622,2659 -19-26JAN00-1/1

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. 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, re-lubricate bead and re-inflate. 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 head units.

AG,CO03622,1541 -19-01AUG05-1/1

Installing Front Wheels



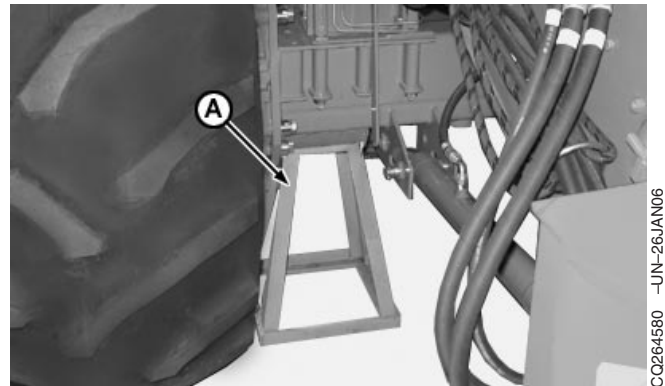
CAUTION: PREVENT accidents. Install safety stop. Without safety stop (A) in place, the feeder house could fall without warning, causing serious injury by crushing or even death.

IMPORTANT: Wheel assemblies are heavy, awkward to handle and difficult to control due to offset of tire and rim. Two service technicians are required for wheel removal.



ML70882.00009A1 -19-06JUN06-1/4

1. Raise front end of combine using jack, observing combine support points.
2. Support combine on blocks or jackstand (A) under front axle, making sure there is no load shift.



ML70882.00009A1 -19-06JUN06-2/4

IMPORTANT: Wheel nuts must be clean and free of lube before installing. Torque value is for clean, dry nuts. Lubricating reduces friction and overloads the nuts.

3. Tighten nuts and bolts according to recommended torque sequence.



Torque Sequence

CQ221010 -UN-05AUG04

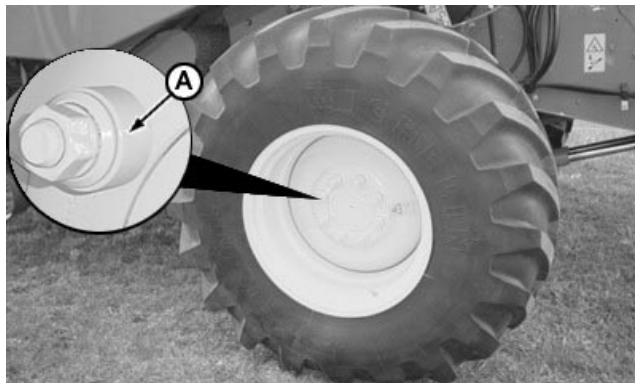
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ML70882.00009A1 -19-06JUN06-3/4

4. Position wheel and install nuts with bushing (A).
Tighten nuts to the specified torque.

Specification

Front wheel nuts—Torque.....550 N•m (405 lb-ft)



CQ265810 -UN-16FEB06

ML70882,00009A1 -19-06JUN06-4/4

Installing Rear Wheels



CAUTION: PREVENT accidents. Support machine adequately. Machine tipping over can cause serious crushing injuries or even death.

IMPORTANT: Wheel nuts must be clean and free of lube before installing. Torque value is for clean, dry nuts. Lubricating reduces friction and overloads the nuts.

1. Park machine on a flat surface and set parking brake.
2. Install rear tires and tighten nuts to specification.

Specification

Rear Wheel Attaching Nuts—

Torque 180 N•m (133 lb-ft)



CQ221000 -UN-21NOV03

ML70882,000099F -19-25MAY06-1/1

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

Support Points for Raising Combine

CAUTION: Always empty grain tank before raising the combine.

Always place adequate equipment under support points (A) when you raise combine.

A—Support points (2 points on front axle and 2 points on rear axle)

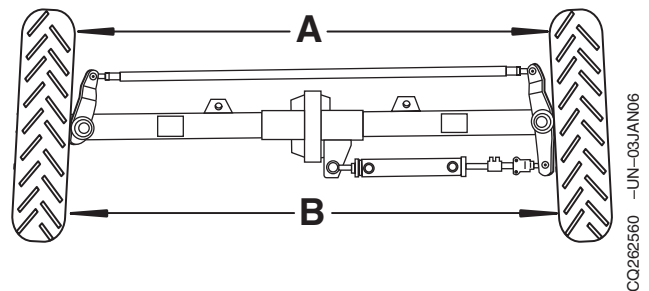


OU83340,00003F1 -19-01AUG05-1/1

Rear Axle Toe-In

Whenever combine becomes difficult to steer or rear tires begin to wear unevenly, check rear wheel toe-in.

1. On a flat surface, straighten rear wheels.
2. Mark a point at the upper center part of each tire. Measure distance (A).
3. Drive Combine half turn back (180°), that is, marks on tires are now at lowest part of wheel.
4. Measure distance (B). It should be 10 mm (0.4 in.) bigger than distance (A).
5. To adjust, loosen locknuts at both ends of tie rod and adjust tie rod length.



A—Distance
B—Distance

AG,GG05155,271 -19-06APR06-1/1

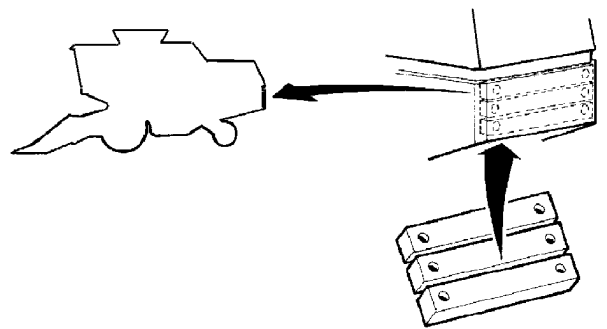
Tire Inflation Pressures

FRONT TIRE INFLATION PRESSURES				REAR TIRE INFLATION PRESSURES		
Size	bar	psi		Size	bar	psi
18.4 -30 R1 10 PR.	2,1	30		10.5/80-18 L1 6 PR.	2,3	32
18.4-30 R1 12 PR.	2,5	36		10.5/80-18 L1 10 PR.	3,8	54
18.4-38 R1 10 PR.	2,1	30		12.4/11-24 R1 6 PR.	2,0	28
18.4-38 R1 12 PR.	2,4	34		12.4 -24 R1 10 PR.	2,8	40
18.4-38 R1 14 PR.	2,5	36		14.9-24 R1 8 PR.	1,6	23
23.1-26 R1 12 PR.	1,7	24		14.9-24 R2 8 PR.	1,8	26
23.1-26 R2 12 PR.	1,7	24		16.9 -24 R1 10 PR.	1,8	26
23.1-30 R1 12 PR.	2,0	28		16.9-24 R4 8 PR.	1,8	26
23.1-30 R2 10 PR.	1,4	20		335-80 R20 *	2,8	40
28.1-26 R1 14 PR.	2,3	32		440/65 R 24 *	1,6	23
28L26 R1 12 PR.	1,8	26		540/65 R 24 *	1,3	18
750-65 R26*	1,6	23				
620/75 R 30 *	1,6	23				
650/75 R 32 *	1,7	24				
800/65 R 32 *	1,4	20				
24.5-32 R1 12 PR.	1,8	26		PR - Ply no		
30.5-32 R1 12 PR.	1,4	28		* Radial Tires		

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Counterweights

Counterweights mounted on the rear shield improve combine stability when harvesting on slopes.



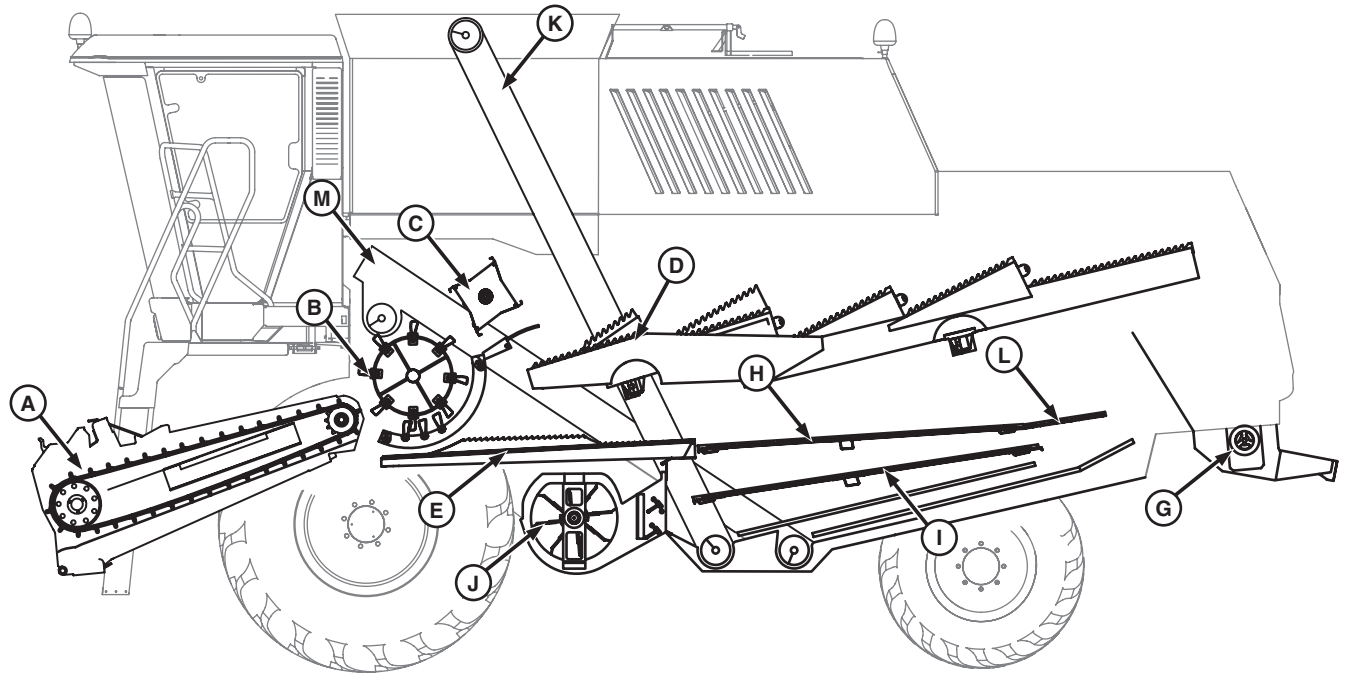
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AG,CO03622,1545 -19-05AUG99-1/1

Setup and Operation

Combine Operation



CQ266370 -UN-02MAR06

Crop cut by header is sent to feeder house (A) that has the function to transport crop into threshing cylinder (B) and concave.

NOTE: Cutting platform operation is described in the platform's Operator's Manual.

For feeder house adjustment, see "Service — Feeder House" section.

Threshed grain, fine straw and some tailings (ear tips or husks) fall through openings in concave onto grain pan (E).

The overshot beater (C) receives straw threshed by threshing cylinder and throws it on straw walkers (D).

The straw walkers separate the remaining grain from the straw. Grain falls into pan (E) and the straw leaves the combine via straw chopper (G) where straw is chopped.

Threshed grain and fines are carried to the cleaner which consists of upper (H) and lower (I) sieves and the fan (J). The fan blows out the fines and the clean grain falls through the sieves.

The clean grain elevator (K) transports the grain to grain tank.

Any tailings (ear tips or husks) fall through the upper screen extension (L) and are carried by the tailings elevator (M) for rethreshing.

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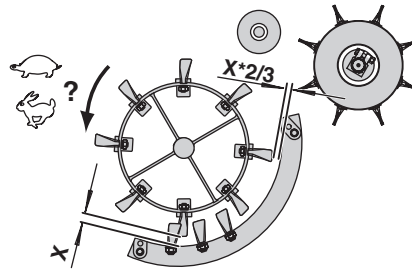
Grain Separating Process

The threshing system is the most important component of the combine.

Adjust threshing cylinder speed and concave spacing according to harvesting and soil conditions.

Fine seeds and normal grain crops	High threshing cylinder speed and narrow concave spacing.
Coarse crop	Low threshing cylinder speed and wide concave spacing.
Front clearance	X
Rear clearance	Approximately $\frac{2}{3}$ of X.

Adjust concave opening as described in “Adjusting Opening between Concave and Threshing Cylinder”.



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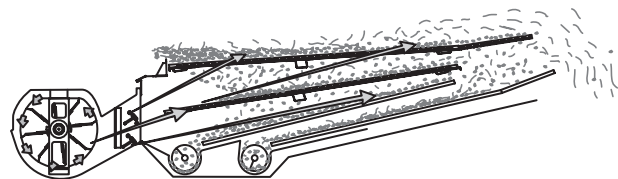
Grain Cleaning Process

The effectiveness of the chaffer and grain sieve separating action is increased by fan blast. Thus the chaff, which is lighter than grain, is blown to the rear.

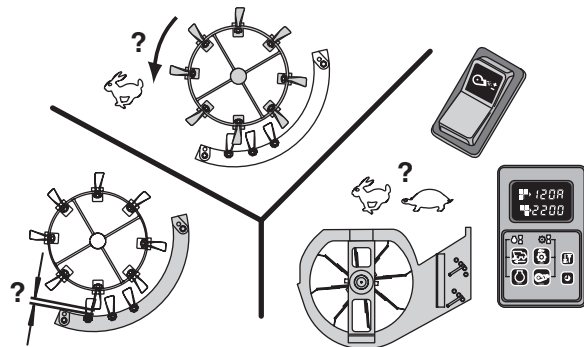
NOTE: Air flow should be as strong as possible and grain loss should be kept to a minimum.

As a result of “overthreshing”, the cleaning unit becomes overloaded, resulting in poor separation of grain from chaff. If there is a considerable amount of grain, it is dragged outside of the combine together with the straw.

- Is there insufficient concave spacing?
- Is there excessive threshing cylinder speed?
- Is intensity of air blast corresponding to sieve load?



CQ251990 -UN-16SEP05



CQ251570 -UN-13SEP05

ML70882,00008B1 -19-19SEP05-1/1

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

ZCQD1440

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Identifying Problems

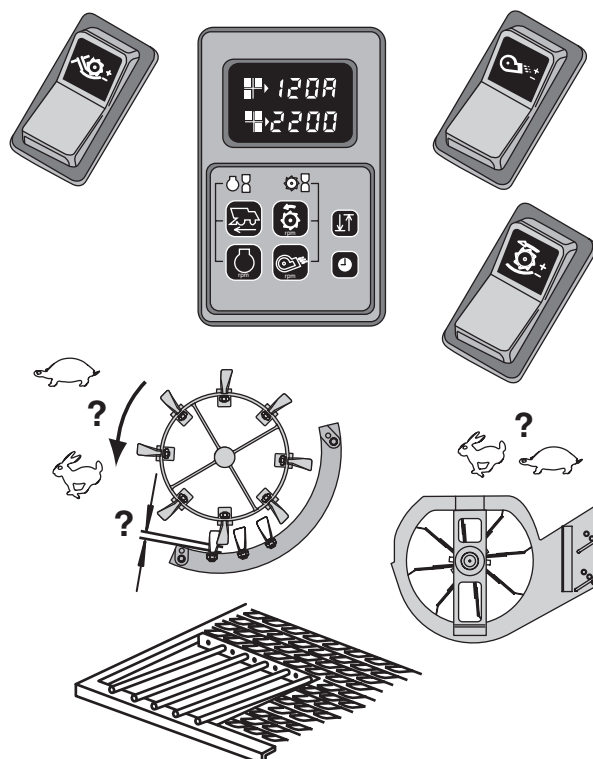
Correct combine operation depends on various factors that should be considered every time you carry out adjustments to combine.

Have a closer look at the following factors:

- Adjusting Threshing Cylinder and Concave
- Adjusting Chaffer
- Adjusting Fan Speed
- Slope Master System

Incorrect adjustments of these and other components of the machine can lead to serious problems and can cause grain damage or loss, for instance.

If threshing is not satisfactory, check if all adjustments are set according to harvesting and soil conditions.



CO252420 -UN-16SEP05

ML70882,00008B2 -19-19SEP05-1/1

Adjusting Threshing Cylinder and Concave

IMPORTANT: Threshing cylinder speed and concave spacing are the two most important factors in obtaining good harvesting results.

Adjust spacing between concave and cylinder in order to obtain **optimum threshing performance**.

Incorrect adjustment:

Threshing cylinder speed too high + Concave spacing at minimum = **Overthreshing**

Insufficient threshing cylinder speed + Maximum concave spacing = **Insufficient threshing**

NOTE: Overthreshing or insufficient threshing are normally caused by inadequate threshing cylinder speed or concave spacing.

Start with threshing cylinder speed adjustment. As a rule, reduce/increase speed by only 5%. Check the result of this change before changing any other settings.

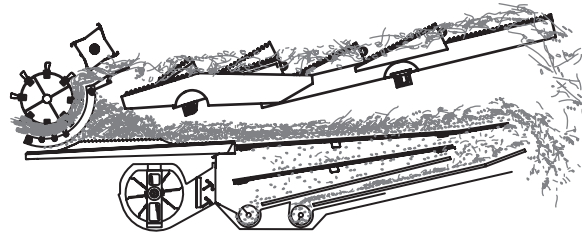
If the problem is not solved by a 10% reduction in threshing cylinder speed, open/close concave spacing slightly. If these steps do not correct improper threshing, try reducing/increasing combine ground speed. **A very high crop volume and very high ground speed can cause underthreshing.**

IMPORTANT: Always check results before attempting further adjustments. Never change any adjustment by more than 5% at a time.

Correct adjustment:

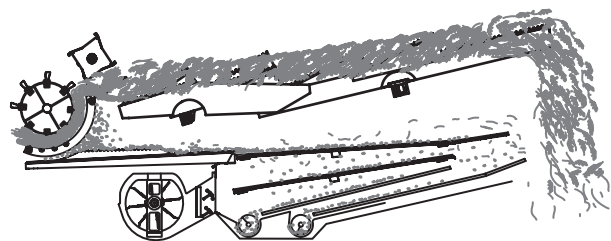
Moist crop: Increase cylinder speed and/or reduce concave spacing.

Dry crop: Reduce cylinder speed and/or increase concave spacing.



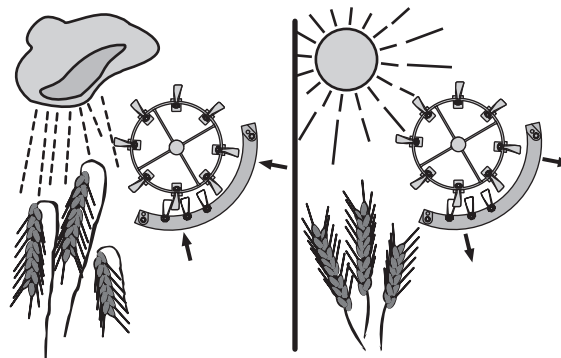
Overthreshing

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Insufficient threshing

CQ266390 -UN-21FEB06



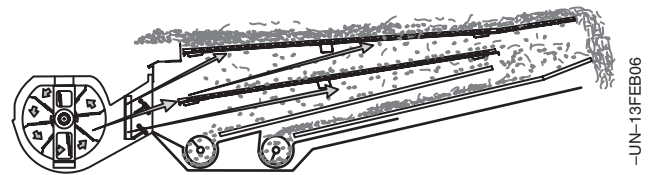
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Adjusting Fan Speed

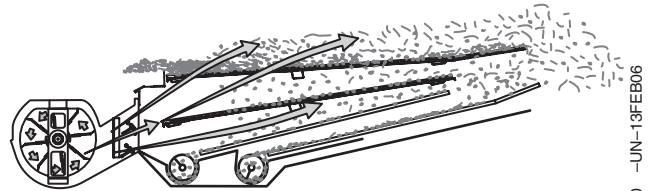
Before adjusting fan speed, open chaffer and sieve to the maximum recommended openings, as in "Combine Settings" chart). Then start with the lowest fan speed suggested and gradually increase fan speed until the maximum amount of chaff is expelled without blowing grain out of the combine or into the tailings return.

Check the results carefully. After reaching the maximum acceptable fan speed, continue to make minor adjustments to the chaffer (Consult "Adjusting Sieves"). If necessary, change fan speed again, until the best result is achieved.

NOTE: Always check results before attempting further adjustments.



Fan blast too low, insufficient cleaning



Fan blast too strong, grain is being lost

ML70882,00008A2 -19-17SEP05-1/1

Adjusting Sieves

Open or close chaffer sufficiently to let grain fall through before it passes the whole length of sieve. If chaffer is excessively open, this may overload grain sieve with chaff. If chaffer is not sufficiently open, some grain can be lost.

Final cleaning is done by the grain sieve. It has to be sufficiently open to allow clean grain fall easily and straw and chaff be retained. If grain sieve is excessively closed, grain will move to tailings. There might be grain damage in tailings procedure. If grain sieve is excessively closed, impurities will be conveyed to grain tank.

Grain losses in the cleaning unit may be caused by:

1. Too little fan blast or too narrow chaffer openings, facilitating plugging.
2. Too much fan blast, blowing grain out of combine.

It is important to know which of the reasons above is causing grain losses to be able to carry out correct adjustment.

IMPORTANT: Always check results before attempting further adjustments.

If caused by overthreshing or insufficient fan blast. Check amount and condition of straw. If straw seems excessively broken or chewed, threshing cylinder and concave should be adjusted to reduce overthreshing.

If straw is not broken or cut, more air is required to lift it slightly. Before attempting further adjustments, check results. If the problem is excessive fan blast, there will be little chaff and straw in chaffer. Reduce fan speed and check results.

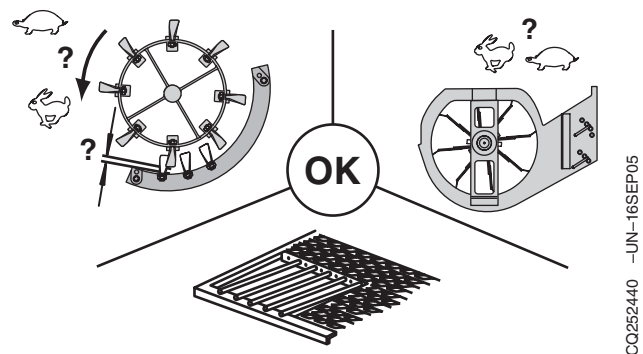
Consult more detailed information under “Cleaning System”, in section “Threshing System, Separation and Cleaning”.

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Inadequate Tailings

Check the following:

- Is the chaffer extension correctly adjusted?
- Concave spacing is set according to crop being harvested?
- Is the cylinder speed correct?
- Fan speed is set excessively?



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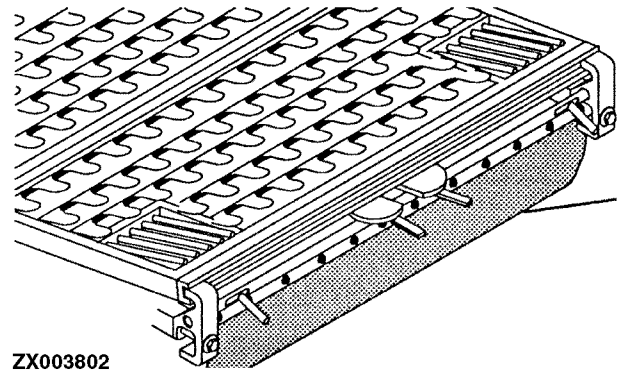
Slope Master System

When operating the combine on a slope, special inserts at the left-hand and right-hand sides of the chaffer extension collect grain rolling across the separator and return it via tailings elevator.

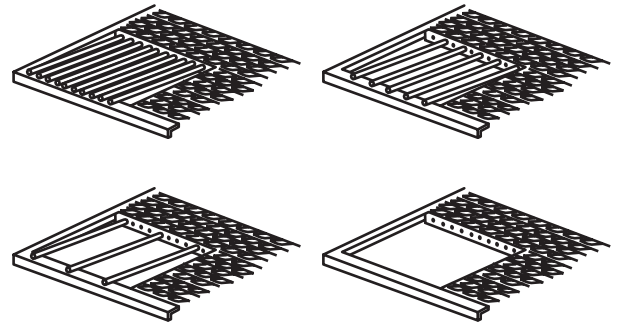
Vary the quantity of tines to suit harvesting conditions, type of crop and combine tilt by adding or removing tines. The combine is delivered from the factory with 11 tines installed on chaffer extension.

Any change in the number of tines primarily affects the amount of tailings; i.e. if no tines or only a few tines are installed, a high percentage of tailings will occur; if all the tines are installed, very little tailings occur.

Consult "Slope Master System for Hilly Terrain" to find out how to remove tines.



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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:

1. Header Losses

2. Threshing System Losses
3. Separating System Losses
4. Cleaning System Losses

NOTE: Reduce ground speed if losses can not be reduced.

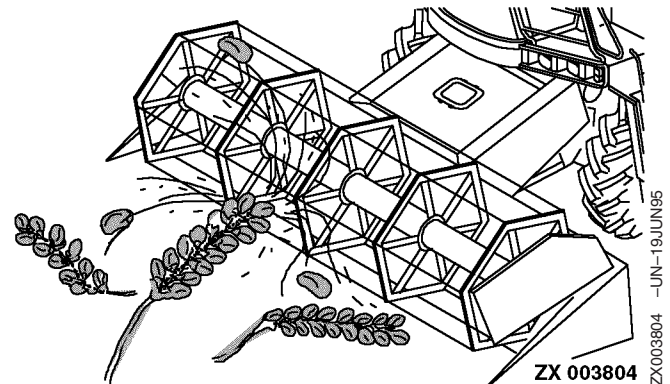
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Head Losses

Head losses include husks, ears and tips which fail to get picked up or grain shattered by reel impact.

Calculating Loss

Compare the number of grains in a certain area before and after the head has passed through.

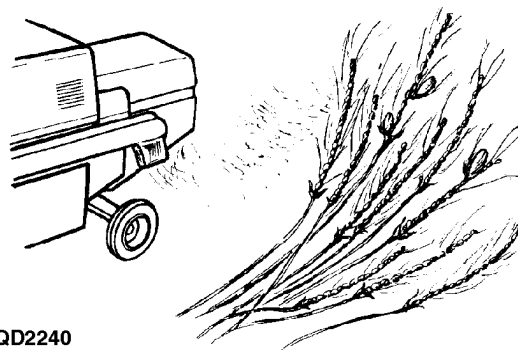


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Threshing System Losses

Grain losses are manifest by grain which is lost in threshing cylinder and concave.



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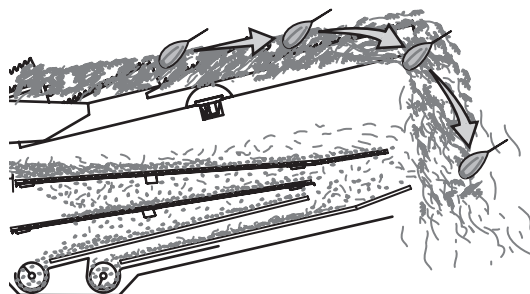
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Separating System Losses

These are grains that could not be separated by straw walkers and are carried out of the combine.

NOTE: Avoid insufficient threshing which causes system overload.



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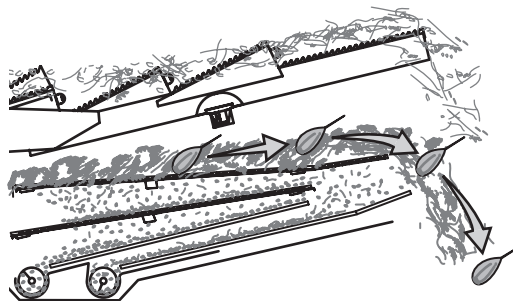
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Cleaning System Losses

Lose grain carried over the sieve and falling onto the ground due to incorrect sieve adjustment. With correct sieve adjustment, losses will be small and remain constant.

Causes of grain loss in the sieves are:

- Incorrect cleaning fan speed.
- Incorrect air direction.
- Sieves incorrectly adjusted.
- Sieves overloaded because of overthreshing.



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Prevention of Grain Loss in General

There is no patent remedy when it comes to preventing grain losses. The threshing process is so complex that a certain interaction between “adjustment” and “result” must be found.

IMPORTANT: Grain losses rise with the amount of material passing along the separating system and therefore can be easily remedied by decreasing combine ground speed. However, do not underestimate the effect of other combine adjustments.

Reduce separating system grain losses as follows:

- Keep rotor screens clean.
- Reduce weeds and green material (raise cutting platform).

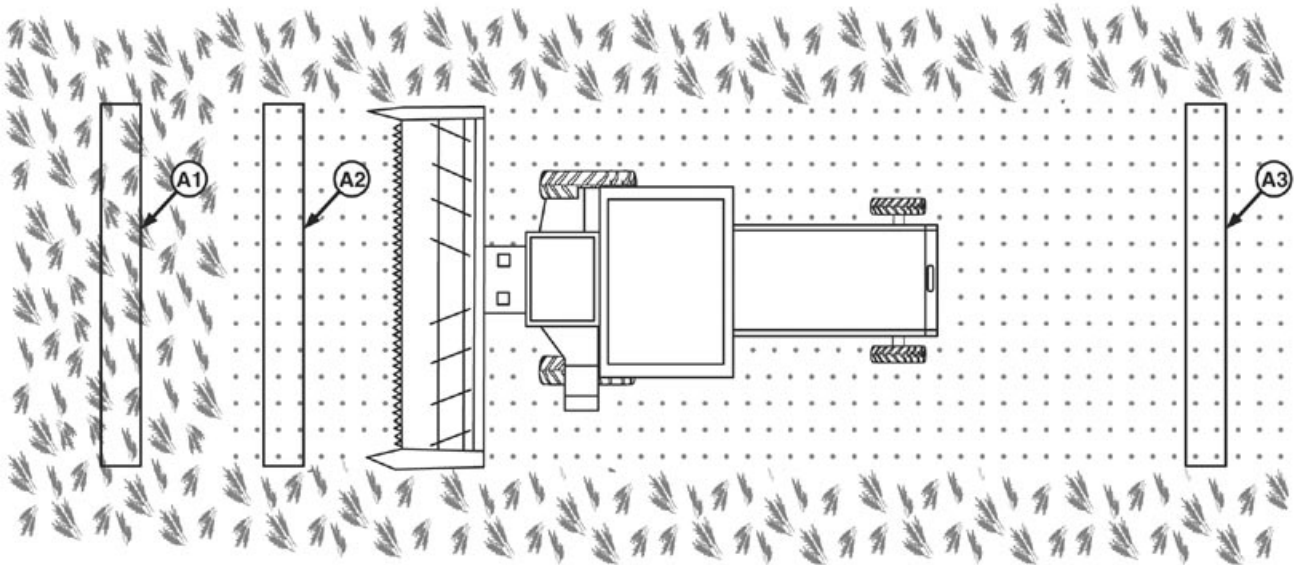
- Avoid material overload (adjusting threshing cylinder speed and concave spacing).
- Avoid system overload (reduce ground speed).

Reduce sieve losses as follows:

- Increase air blast from cleaning fan if plugging (layers of straw) occurs on sieves.
- Reduce air blast (fan speed) if grain is blown beyond sieves.
- Open sieves.
- Keep sieves clean.
- Add or remove tines 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).

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Loss Measurements and Loss Percentage Calculation



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IMPORTANT: To obtain higher precision, repeat the procedure at different points of the field and perform a calculation of mean performance and loss.

Crop Losses:

1. Mark an area of 1 m² in the section to be harvested (A1).

IMPORTANT: Larger side of marked area must be equal to header width.

2. Count loose grains and grains in fallen down ear tips or husks inside this area.

Example: Number of counted grains is 20.
Crop losses = 20 grains

Header Losses:

1. Harvest until header passes marked area. Stop combine and keep it operating until all straw comes out.
2. Reverse by a distance equal to combine length. At that point, area (A1) corresponds to area (A2).

3. Count loose grains and grains in fallen down ear tips or husks inside this area.

4. Subtract this value from crop losses.

Example: Number of counted grains is 70.
Header losses = 70 - 20 = 50 grains

Threshing System, Separation and Cleaning Losses:

1. Harvest a distance equal to three times the combine's length. Stop combine and keep it operating until all straw comes out. At that point, area (A2) corresponds to area (A3).

2. Count loose grains and grains in fallen down ear tips or husks inside this area.

3. Subtract this value from crop losses and header losses.

Example: Number of counted grains is 90.
Threshing system, separation and cleaning losses = 90 - 50 - 20 = 20 grains

Total Combine Losses:

Sum of threshing system, separation and cleaning losses.

Example: Total combine losses = 50 + 20 = 70 grains

Crop Performance_

1. Harvest a sample of 100 m² with combine totally empty.
2. Unload harvested grains into a suitable container.
3. Weigh the grains and multiply the weight of the sample by 100 to obtain performance value in kg/ha.

Example: Sample weight was 40 kg. By multiplying the weight by 100 a performance of 4000 kg/ha is obtained.

Percentage of Losses:

1. Weigh quantity of grains corresponding to total combine losses.
2. Calculate crop losses in kg/ha by multiplication of the weight by 10000.
3. Multiply grain loss value by 100 and divide the result by the filed performance to obtain percentage of losses.

Example: Weight of grains corresponding to total combine losses is 0.024 kg.

$$0.024 \text{ kg} \times 10000 = 240 \text{ kg/ha}$$

With a performance of 4000 kg/ha and losses of 240 kg/ha we can now calculate the percentage of losses.

$$240 \times 100 = 24000 / 4000 = 6 \% \text{ losses.}$$

Grain Loss Reduction

Acceptable grain losses currently run at 1—1.5%. How this is calculated depends on the following factors:

- Harvesting conditions;
- Harvesting time;
- Checks of losses.

What Does Loss of Grain Really Mean?

With a yield of 4000 kg per hectare, a grain loss of 1% is equivalent to 40 kg.

When a combine operates with a grain loss of 6% due to incorrect adjustments, this means that up to 240 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 performance per hectare is 4000 kg. If the combine is harvesting 2.5 hectares per hour, then in 8 hours it will harvest 20 hectares.

$$20 \text{ ha} \times 4000 \text{ kg/ha} = 80000 \text{ kg} \times 6\% = 4800 \text{ kg.}$$

Verify where the greatest grain loss is concentrated (header or threshing, separating or cleaning systems) and start adjustments at that point. Better adjustment

reduces grain loss by 1% to 3%. Let us suppose that with these adjustments we obtain a 2% reduction.

The now reduced grain loss of 4% is still excessive. By reducing 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 of 60 kg).

The operator, or any other person, must check grain loss three times a day, and carry out any necessary adjustments in order to maintain grain losses at a level of 1%—1.5%.

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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Evaluating Grain Quality

It is possible to evaluate grain quality at different points of your combine. Carry out evaluation at those points where the greatest chance of loss occurs and if necessary readjust combine to adapt it to harvesting and ground conditions.



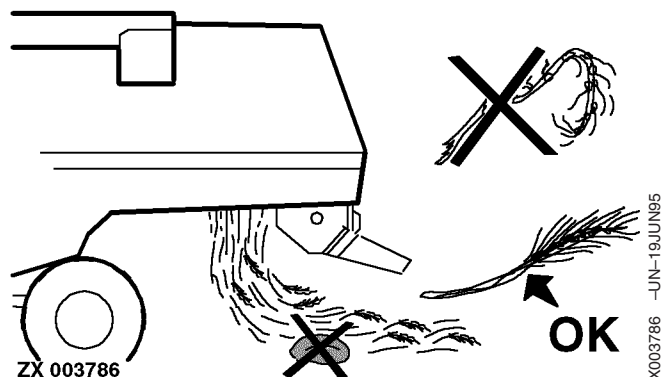
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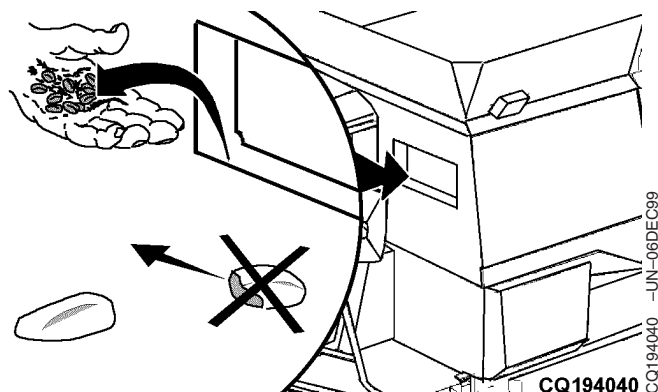
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- At rear of combine.
 - Straw should not be broken or chewed.
 - The amount of grain on the ground should be at a minimum.



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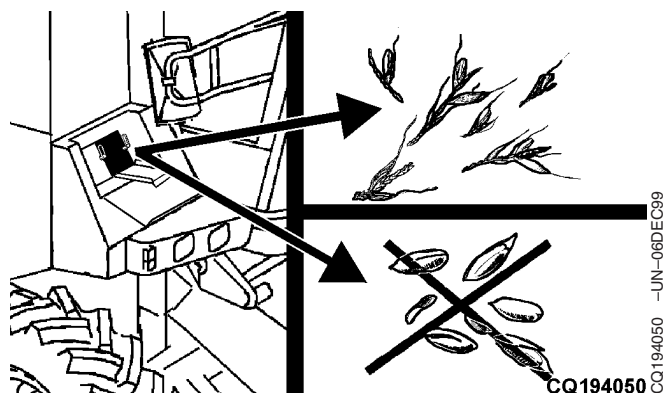
- In grain tank.
 - Open inspection window and extract a sample.
 - Should the grain sample include too many cracked grains, check the following points:
 - a. Excessive tailings?
 - b. Cylinder speed too high?
 - c. Is there insufficient concave spacing?



ML70882,00008AA -19-17SEP05-3/4

- At rethreshing.
 - 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.



ML70882,00008AA -19-17SEP05-4/4

General Information on Combine Adjustments

IMPORTANT: The combine settings chart applies only for average conditions. Varying field and crop conditions may make it necessary to change the settings. Adjustments to cylinder speed and concave spacing are fundamental. They should be adapted to these variations.

Some threshing cylinder speeds will only be reached if the combine is equipped with threshing cylinder drive reduction gear.

NOTE: Use adequate sieves according to harvesting conditions. Consult section "Threshing System, Separation and Cleaning".

ML70882,00008AB -19-17SEP05-1/1

Basic Combine Adjustments Chart

IMPORTANT: This chart indicates initial values.
Different terrain and crop conditions
may need subsequent adjustments.

Adjustments of cleaning shoe extension are not indicated, it is recommended that the extension is adjusted to provide spacing 2mm greater than that of the cleaning shoe or according to the amount of tailings.

The minimum value displayed on INFOTRAK monitor for concave spacing is 4. See concave threshing cylinder distances at “Concave and Cylinder Clearance Adjustment”.

NOTE: Always adjust cylinder and fan speed with engine at top speed.

Combine adjustments					
Crop	Threshing Cylinder Speed - rpm	Concave Spacing - INFOTRAK indication	Chaffer Opening - mm (in.)	Grain Sieve Opening - mm (in.)	Fan Speed - rpm
Soybeans	400—800	30—51	11—19 (0.43—0.75)	8—12,5 (0.31—0.49)	800—max.
Wheat	800—1000	12—33	11—19 (0.43—0.75)	3—6,5 (0.11—0.25)	700—1100
Rice	600—900	12—33	16—19 (0.63—0.75)	5—9,5 (0.2—0.37)	800—max.
Corn	200—600	30—51	11—16 (0.43—0.63)	8—14 (0.31—0.55)	800—max.
Beans	200—600	30—51	12,5—19(0.49—0.75)	9,5—11,5 (0.37—0.45)	850—max.
Herbage	700—1000	4—16	12,5—16 (0.49—0.63)	3—6,5 (0.11—0.25)	min.—700
Sorghum	600—900	12—33	9,5—16 (0.37—0.63)	6,5—12,5 (0.25—0.49)	700—1000
Oats	600—900	12—33	16—19 (0.63—0.75)	6,5—12,5 (0.25—0.49)	600—900
Sunflowers	200—600	30—51	12,5—19 (0.49—0.75)	11—16 (0.43—0.63)	700—900
Barley	800—1000	12—33	12,5—19 (0.49—0.75)	6—12 (0.23—0.47)	700—1100
Rape	700—800	4—16	5—10 (0.2—0.4)	3—5 (0.11—0.2)	min.—800
Peas	200—600	30—51	11—16 (0.43—0.63)	8—14 (0.31—0.55)	800—1000
Linseed	800—1000	4—16	12,5—16 (0.49—0.63)	3—6,5 (0.11—0.25)	540—700

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Adjusting Concave-to-Cylinder Clearance

Before adjusting the concave and cylinder clearance by the electrical system from the cab, fine adjustment is necessary.

The electrical actuator (A) should be completely closed so that the clearance between concave and cylinder is a minimum. The INFOTRAK monitor must 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 clearance between the highest cylinder bar (the one that projects the most) and the third concave bar from the rear.
- **SPIKE TOOTH CYLINDER:** Allow for a clearance of 8—10 mm (0.3—0.39 in.).

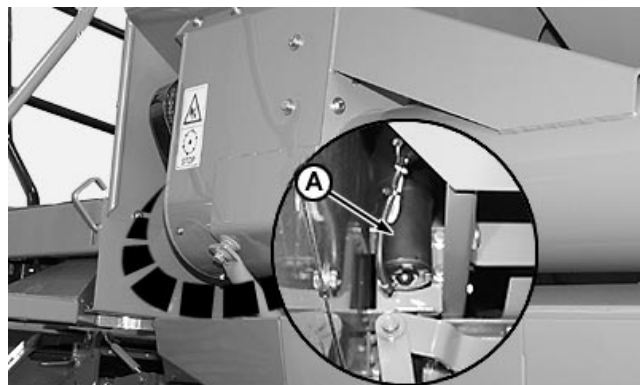
Front clearance:

- **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 front.
- **SPIKE TOOTH CYLINDER:** Allow for a clearance of 11—13 mm (0.43—0.5 in.).

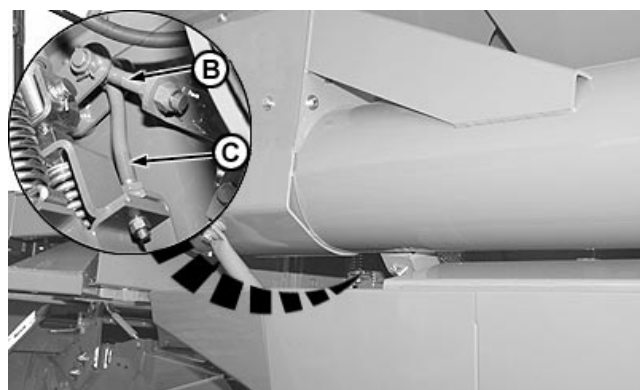
IMPORTANT: Carry out adjustment on both sides of combine.

NOTE: This adjustment should always be done when changing concave.

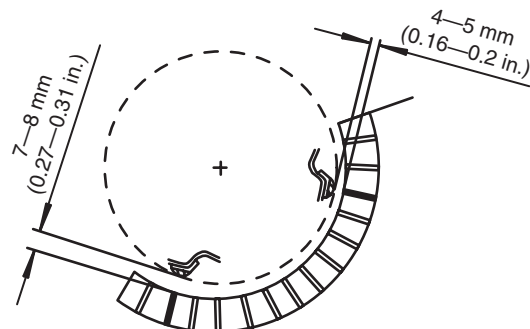
NOTE: All further clearance adjustments must be made via the switch in the cab. See "Concave Clearance Adjustment Switch" for more details.



CQ246710 -UN-29JUL05

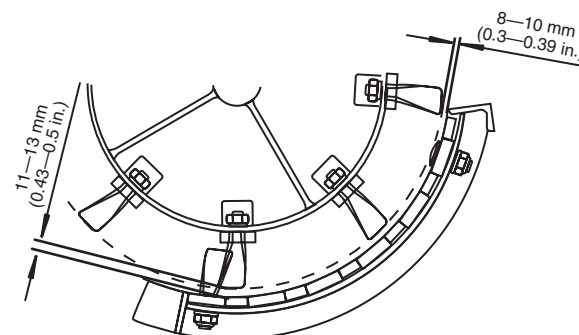


CQ246720 -UN-29JUL05



Concave and rasp-bar cylinder clearance adjustment

CQ247560 -UN-29JUL05



Concave and spiked-tooth cylinder clearance adjustment

CQ248290 -UN-01AUG05

Preparing for Different Crop

Clean and readjust combine for the new crop.

NOTE: Reset the alarm threshold of the INFO-TRAK™ monitor for threshing cylinder and fan speed functions.

IMPORTANT: When changing the header, remember to change required information for area counter and INFOR-TRAK monitor according to new header.

INFO-TRAK is a trademark of the Deere & Company

ML70882,00008AD -19-17SEP05-1/1

Preparations for Harvesting Grain Crops

Check the height setting of the bottom feeder conveyor drum.

Install a suitable grain sieve as circumstances require.

Concave: Install a grain-crop concave.

Straw chopper: Install counterknives.

Check straw walker sieves and grids.

Set the combine for grain harvesting according to the values provided by the "Basic Adjustment Chart".

Install a chaffer and chaffer extension as circumstances require.

AG,CO03622,1591 -19-20AUG04-1/1

Preparations for Harvesting Corn

Change height setting of bottom feeder conveyor drum.

Set the combine for corn harvesting in accordance with the values provided by the "Basic Adjustment Chart" in this section.

Install special kit for corn.

Straw chopper: Remove counterknives.

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

Cut Position for 300 and 600 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 unit and header engaged.

NOTE: Do not adjust the cut position unless the hydraulic oil is at operating temperature to avoid differences in header height that may occur as the oil heats up.

Press button (C) to activate cut position. The distance between platform and ground is adjusted by the potentiometer (A1).

Adjusting Cut Position:

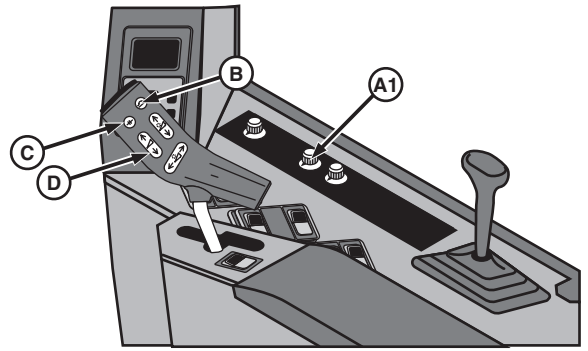
Use potentiometer (A1) to adjust to desired header height.

- 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 maneuvering the machine, lower header using button (C) to return to cut position.

NOTE: Cut position control can be disabled by pressing switch (D) or button (B).



A1—Header height potentiometer
B—Floating or break off cut button
C—Return to cut knob
D—Switch, raise/lower header

CQ247330 -UN-01AUG05

ML70882.0000980 -19-29MAY06-1/1

Return to Cut (AHC) for 600 Series Rigid Headers

IMPORTANT: Only for rigid headers with AHC rods controlled by header sensors.

Requirements:

- Engine running (high speed).
- Road safety switch in field position.
- Threshing unit and header engaged.
- AHC enable switch (E) and lateral tilt enable switch (F) of header to position I.

NOTE: Do not adjust the header automatic control before the oil is at working temperature, in order to avoid variations that may occur to header height as the oil heats up.

Press button (C) to enable return to cut.

Adjusting AHC:

Use potentiometer (A1) to adjust to desired header height.

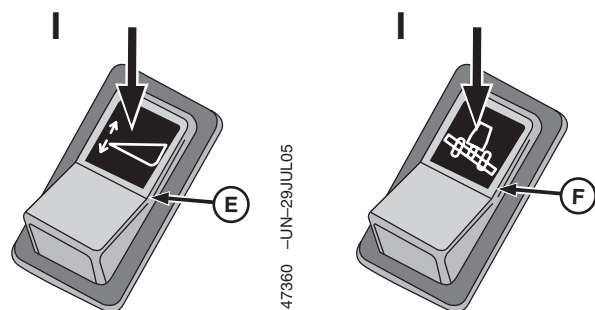
- Turn clockwise — Increase height between header and ground.
- Turn counterclockwise — Reduce height between header and ground.

Calibrating AHC:

Refer to “600 Series Header AHC Calibration Procedure—Step by Step” in “Servicing—Electrical System” section.

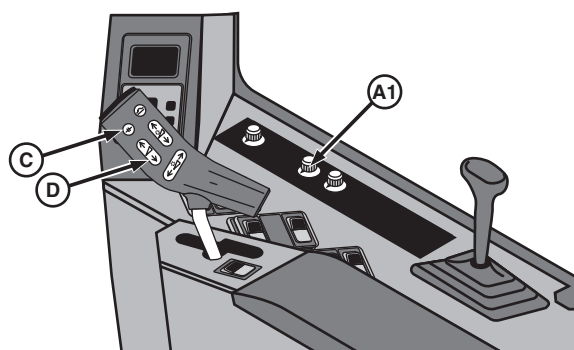
Example:

At the end of the field, raise header by actuating switch (D). After maneuvering the machine, lower header using button (C) to enable return to cut (AHC).

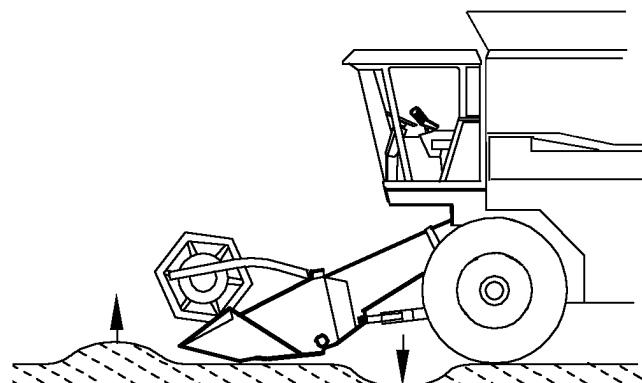


CQ247360 -UN-29JUL05

CQ247350 -UN-29JUL05



CQ267270 -UN-06MAR06



CQ247300 -UN-29JUL05

- A1—Header height potentiometer
C—Return to cut knob
D—Switch, raise/lower header
E—Header automatic height control switch
F—Header lateral tilt enable switch

ML70882,0000981 -19-26MAY06-1/1

Float For 300 and 600 Series Rigid Headers

IMPORTANT: The floating system should be calibrated. See “300 and 600 Series Rigid Header Float Calibration Procedure”.

Requirements:

- Engine running (high speed).
- Road safety switch in field position.
- Threshing unit and header engaged.
- Floating system calibrated.
- Move float enable switch (H) to position (I).

NOTE: Only adjust header floating when hydraulic oil is at operating temperature.

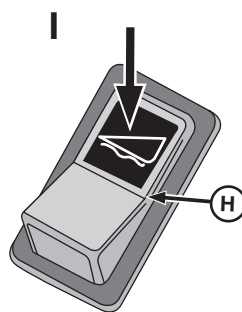
To activate flotation press button (B). Header pressure against the ground is adjusted by potentiometer (A2).

Float Adjustment:

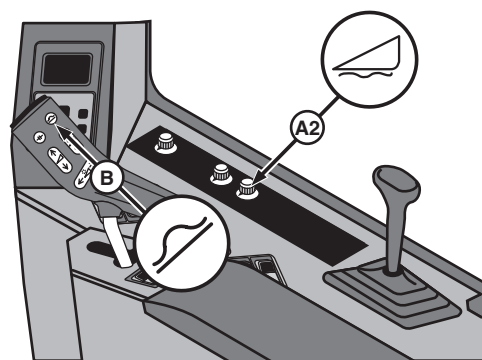
Use potentiometer (A2) to adjust to required header floating.

- Turning anti-clockwise — increases ground pressure (lowers header).
- Turning clockwise — reduces ground pressure (raises header).

NOTE: When header automatic float knob (B) is activated the automatic height control of the header is disabled.



CQ247280 -UN-29JUL05



CQ247270 -UN-29JUL05

A2—Header float potentiometer
B—Header float knob
H—Float enable switch

Continued on next page

ML70882,000097F -19-06JUN06-1/2

Operation:

With the system calibrated and float enable switch actuated, when button (B) on the multi-function control handle is pressed the system should lower header to position set in calibration. The system controls the pressure in the feeder house hydraulic cylinder, turning the header raising and lowering valves "ON" and "OFF".

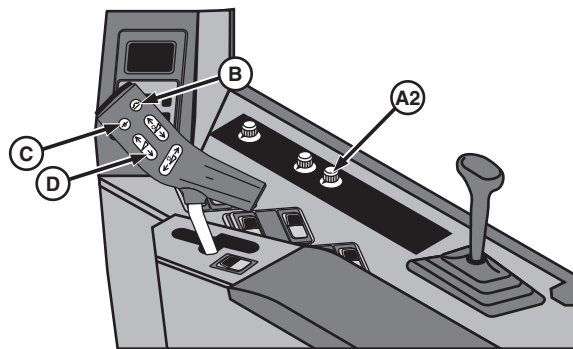
IMPORTANT: The system can be tested by driving around on uneven ground and observing cylinder pressure on pressure gauge (G). Check system response.

With the potentiometer (A2) rotated fully clockwise, header ground pressure should be almost zero (header weight should be on feeder house hydraulic cylinder). With the potentiometer rotated fully anti-clockwise, 40% of header weight should be on the ground and 60% of header weight should be on the feeder house hydraulic cylinder.

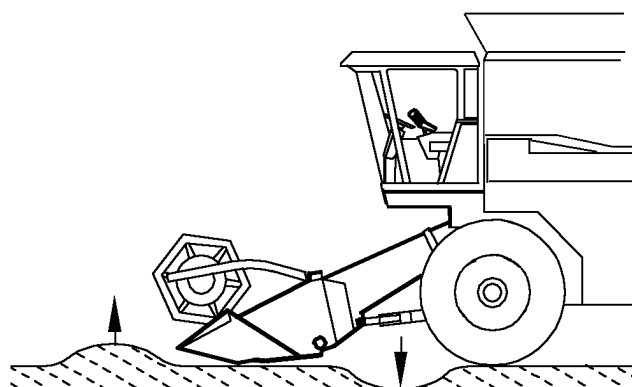
NOTE: Needle (F) moves right when feeder house hydraulic cylinder pressure increases.

Float control can be disabled by pressing switch (D) or actuating AHC through button (C).

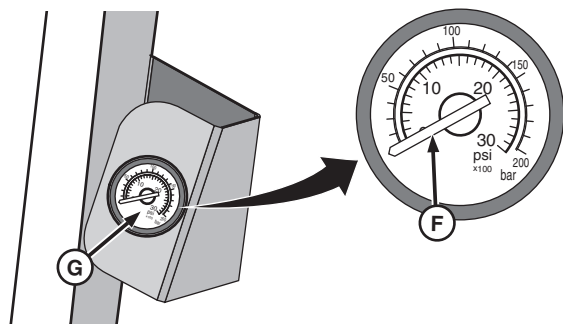
- A2—Header float potentiometer
- B—Header return-to-float / Break off cut knob
- C—Automatic header control knob
- D—Switch, raise/lower header
- F—Needle
- G—Pressure gauge



CQ247290 -UN-29JUL05



CQ247300 -UN-29JUL05



CQ248320 -UN-01AUG05

Feeder House

Safety Stop



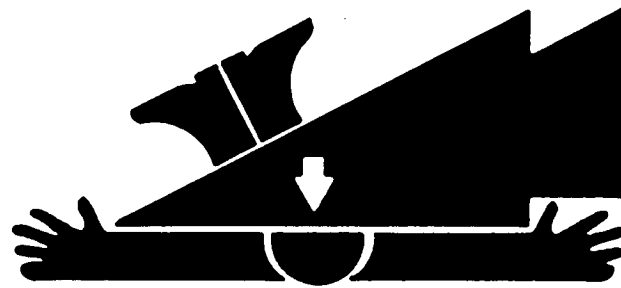
CAUTION: Raise the feeder house and put the safety stop (A) in place before initiating the installation process, in order to avoid serious injury or death. Some assembly stages demand that you work underneath the feeder house.

Without the safety stop (A) in place, the feeder house could fall without warning, causing serious injury by crushing or even death.

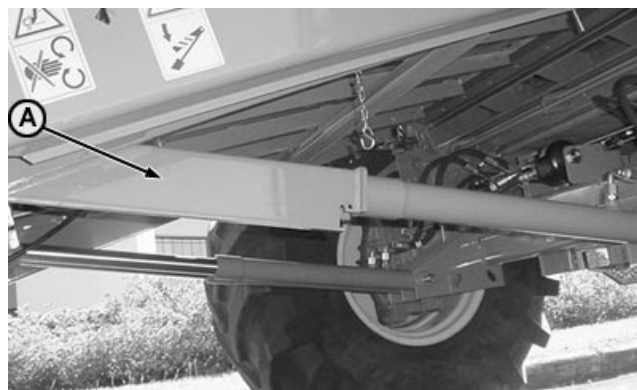
Raise the feeder house and insert the safety stop (A), as illustrated.

Then, shut off engine, remove starter key and apply parking brake.

A—Safety stop



TS696 -UN-21SEP89



CQ222760 -UN-17MAR04

OU83340,00004BE -19-17MAR04-1/1

Coupling Header to Feeder House

See more information on coupling up header in Header OM.

ML70882,0000913 -19-01MAR06-1/1

Checking Header Leveling

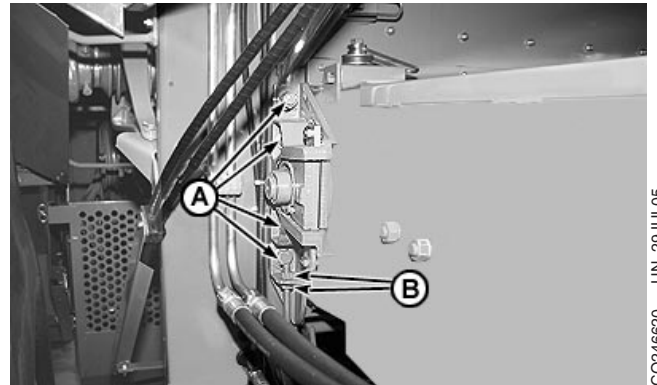
Periodically check header leveling.

1. With combine on level ground raise header to maximum height.
2. Check if front tire pressure is correct (consult "Tire Inflation Pressure").
3. Measure height at both ends. Height should be equal.

Leveling header

NOTE: The adjustment is performed on right-hand side. For illustration purpose, hydraulic reverser has been removed.

1. Loosen 4 bolts (A).
2. Turn nuts (B) until the header is level.
3. Tighten bolts (A) and nuts (B) firmly.



Hydraulic reverser not illustrated.

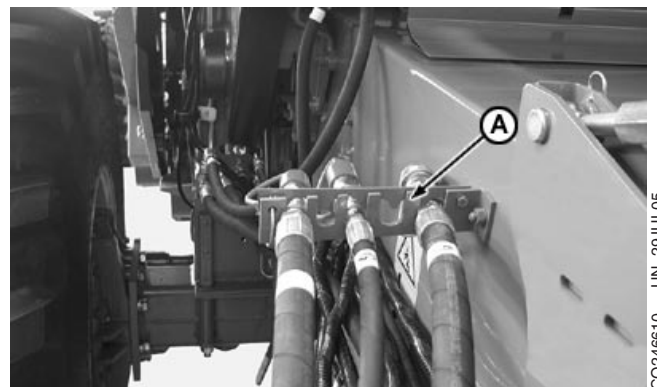
CQ246620 -UN-29JUL05

AG,GG05155,285 -19-06SEP05-1/1

Hydraulic Connections—300 Series Feeder House

With header detached, the hydraulic hoses can be stored in the bracket (A) on the right-hand side of the feeder house. This will prevent them from damage and dirt contamination during transport.

IMPORTANT: After uncoupling the header or installing corn headers, it is recommended that the two reel drive (pressure and return) hoses are united. This allows oil to flow in the event that the switch is accidentally enabled.



CQ246610 -UN-29JUL05

AG,CO03622,2180 -19-13MAR06-1/1

Multi-Coupler for 600 Series Feeder House

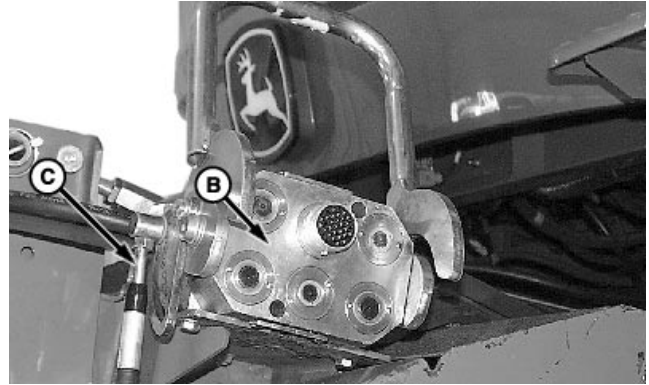
This mechanism automatically locks the header in place by means of the locking cable (C).

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 multi-coupler (B).

B—Multi-coupler
C—Locking cable



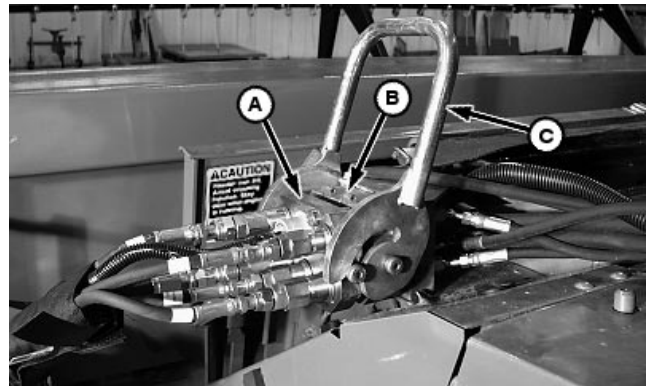
H75410 -UN-13MAR03

ML70882,0000982 -19-23MAY06-1/3

NOTE: To prevent damage to the latching cable, a shear bolt is attached to the handle. Attempts to actuate the latching pins with the header on the ground will shear the screw on the handle.

2. Install the multi-coupler (A) on housing (B) of the feeder house and close handle (C).

A—Multi-coupler
B—Housing
C—Handle



H70086 -UN-19SEP01

Continued on next page

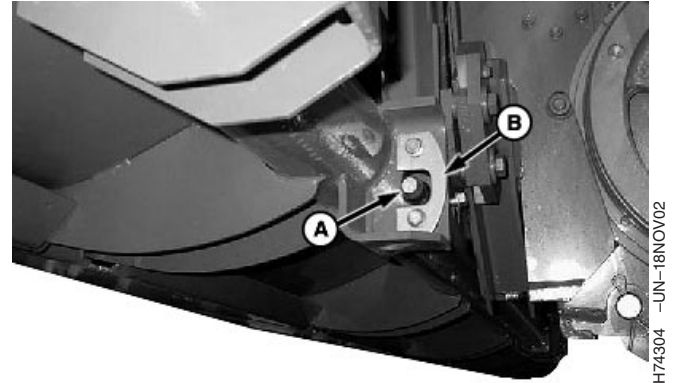
ML70882,0000982 -19-23MAY06-2/3

NOTE: With header attached, latch pins should move freely through receiving holes in header. If latch pins do not extend, make sure that the latching plates on the header are properly adjusted.

- The locking pins (A) slide through the feeder house locking plates (B) when the multi-coupler is locked in place.
- Install the multiple connector cover in the header storage position.

NOTE: If the shear bolt breaks, there are three more of them.

IMPORTANT: ONLY use genuine shear bolts because any change in screw quality may damage the mechanism.



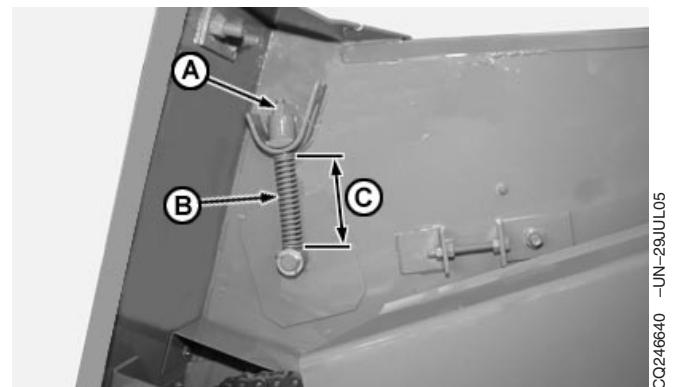
A—Pin
B—Locking Plates

ML70882,0000982 -19-23MAY06-3/3

Adjusting Floating Roller Height—300 Series Feeder House

Adjust spring (B) length (C) through nut (A), on both sides of feeder house.

Crop	Length (C):
For large grain	107—113 mm (4.2—4.45 in.)
For medium and small grain	137—143 mm (5.39—5.63 in.)



A—Adjusting Nuts
B—Spring
C—Spring length

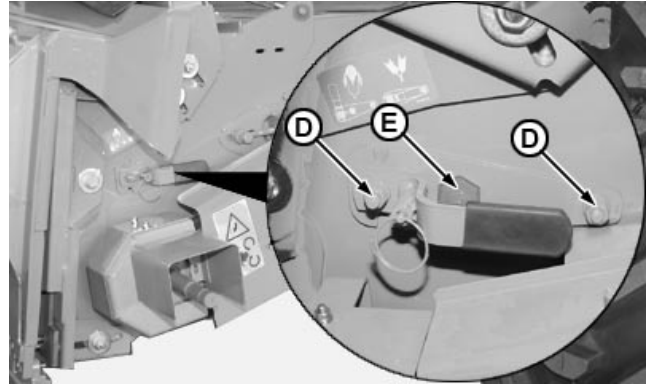
AG,CQ03622,1635 -19-22MAY06-1/1

Adjusting Floating Roller Height—600 Series Feeder House

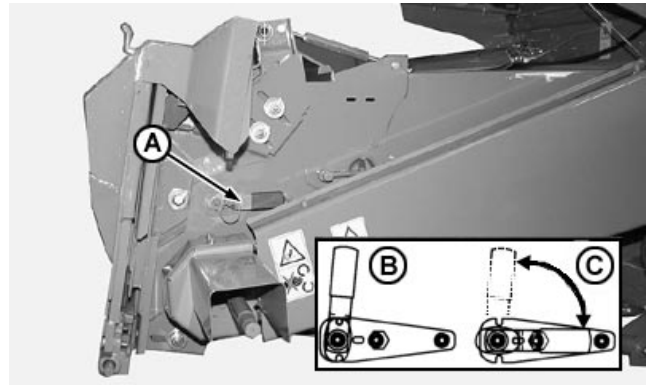
1. Loosen nuts (D) and adjust floating roller height through eccentric nut (E), on both sides of feeder house.
2. Adjust position (B) or (C) through lever (A).

Crop	Lever position:
For large grain	B (vertical)
For medium and small grain	C (horizontal)

A—Lever
 B—Position
 C—Position
 D—Nuts
 E—Eccentric nut



CQ271910 -UN-19MAY06

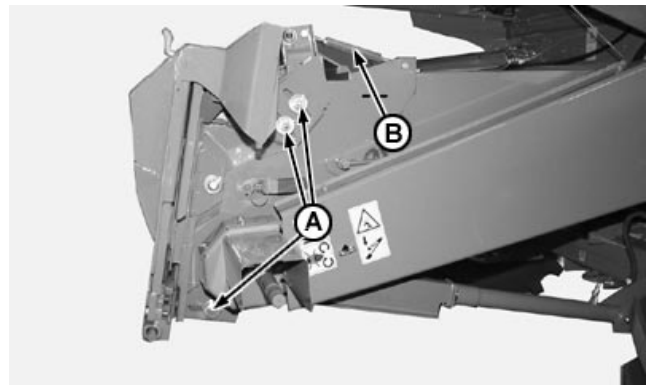


CQ246650 -UN-23JUL05

AG,CO03622,2856 -19-19MAY06-1/1

Adjusting Feeder House Front Face Angle

To adjust feeder house front face angle is necessary loose bolts (A) and make the adjustment with nuts (B) in both sides of feeder house.



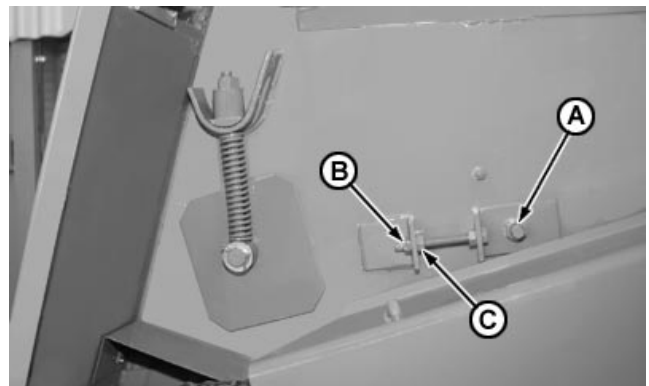
CQ246660 -UN-23JUL05

MB03730,000037D -19-17AUG05-1/1

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.



CQ246670 -UN-23JUL05

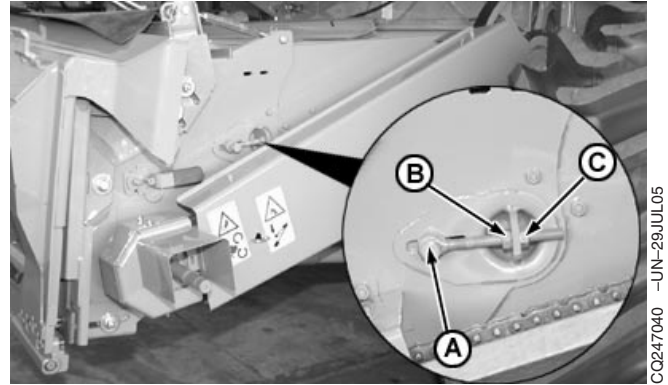
AG,GG05155,156 -19-17AUG05-1/1

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.



CQ247040 -UN-29JUL05

AG.CO03622,2857 -19-17AUG05-1/1

Threshing System, Separation and Cleaning

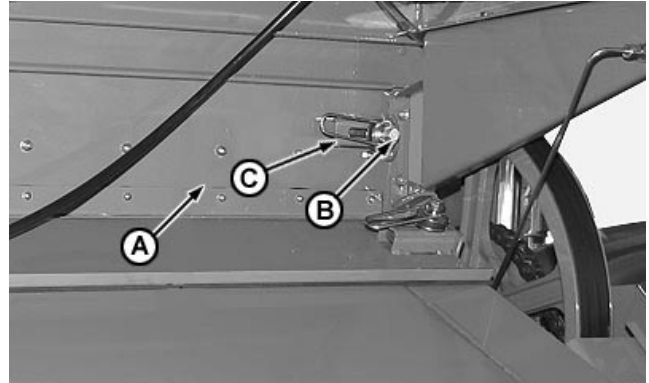
Threshing Cylinder Front Inspection Cover



CAUTION: Always switch off all drives (separator, unloading auger and header) and shut off engine. Wait until all moving parts have come to a complete halt before adjusting the machine or performing service work.

Remove the two nuts (B) and move pins (C) to open this cover (A).

A—Inspection cover
B—Nuts
C—Pins



CQ246880 -UN-29JUL05

AG.GG05155,306 -19-17SEP05-1/1

Cylinder Side Inspection Covers

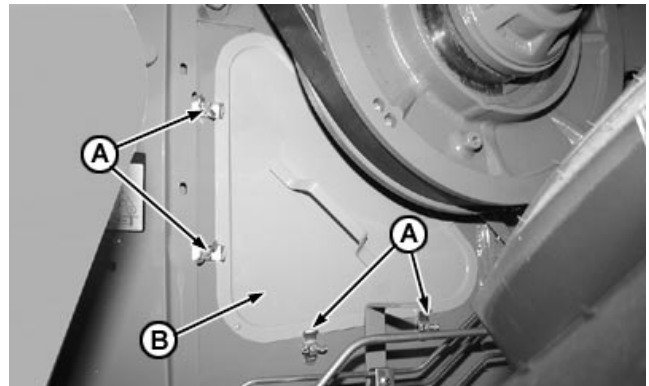


CAUTION: Always switch off all drives (separator, unloading auger and header) and shut off engine. Wait until all moving parts have come to a complete stop before adjusting the machine for operation.

Open the side inspection covers to work on the cylinder.

Remove nuts (A) and pull off cover (B).

A—Nuts
B—Cover



CQ246890 -UN-29JUL05

ML70882,0000992 -19-24MAY06-1/1

Opening Stone Trap



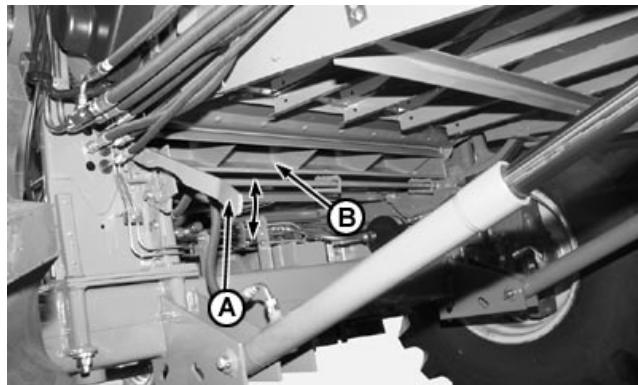
CAUTION: Watch out for falling stones when opening the stone trap.

Periodically clean the stone trap.

When lever (A) is in the “down” position, the stone trap (B) is closed.

— To clean the stone trap, pull lever (A) upwards to swing down bottom plate (B). Stone trap opens downwards.

Pull lever (A) downwards. A spring-loaded bolt holds the lever in this position.



CO246700 -UN-29JUL05

AG,CO03622,1637 -19-01AUG05-1/1

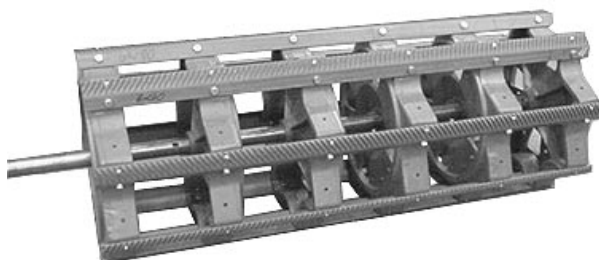
Rasp Bars of Threshing Cylinder

Threshing cylinder is equipped with rasp bars with teeth alternately directed to the right and left. If a cylinder bar needs to be changed the opposite bar will also have to be changed in order to avoid unbalancing the cylinder.

Remove bolts to remove bars. To install, carry out reverse procedure.

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.



CO209020

CO209020 -UN-28SEP01

ML70882,0000871 -19-17SEP05-1/1

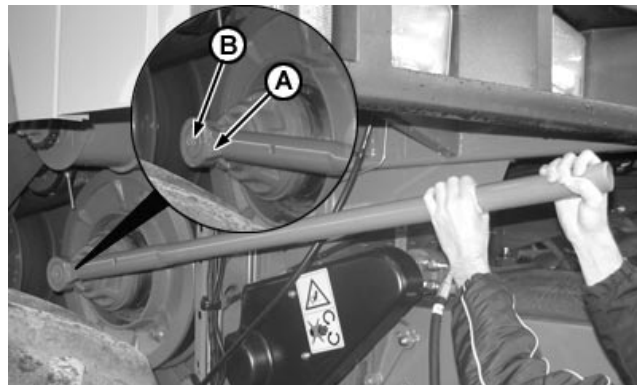
Rotating Cylinder By Hand

CAUTION: Shut off engine and remove starter key before turning cylinder by hand.

Insert wrench (A) over spline (B) on cylinder shaft.

Turn as required.

NOTE: Wrench is stored in front ladder tool box. Wrench extension is located next to clean grain elevator.



Cylinder drive without reduction gear

CQ250480 -UN-02SEP05

ML70882,0000809 -19-17SEP05-1/1

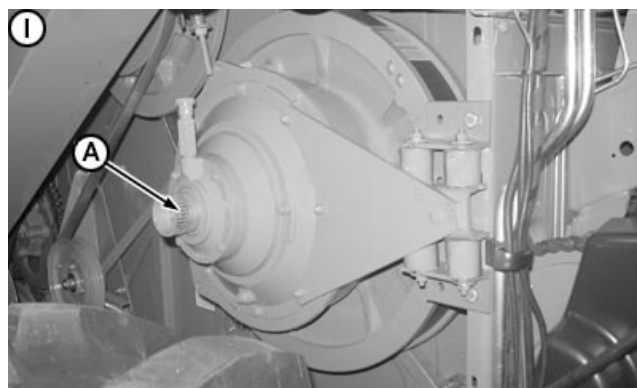
Operating Threshing Cylinder Speed Reduction Gear

IMPORTANT: Adjustments to both sheaves on threshing cylinder and overshot beater variable drive should only be performed by your John Deere dealer. Have the cylinder drive reduction gear serviced every 600 hours or once yearly by your John Deere dealer.

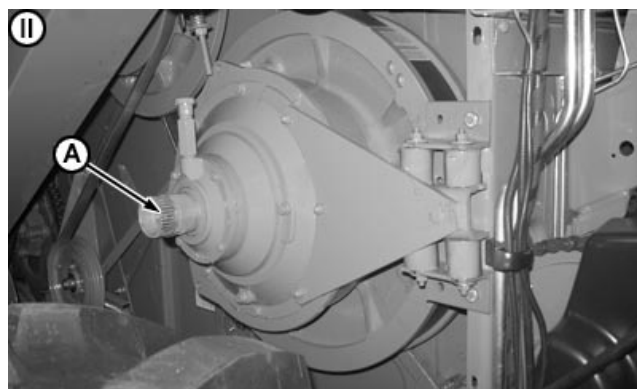
MOBILITH SHC 007 grease recommended. Consult quantity in the "Specifications" section.

Position I — Shifter collar (A) pushed in for speeds of 380 — 1100 rpm.

Position II — Shifter collar (A) pulled out for speeds of 130 — 420 rpm.



CQ250520 -UN-02SEP05



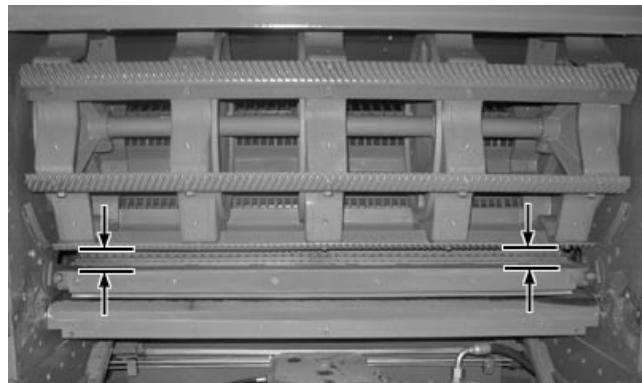
CQ250500 -UN-02SEP05

ML70882,000080A -19-01MAR06-1/1

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.



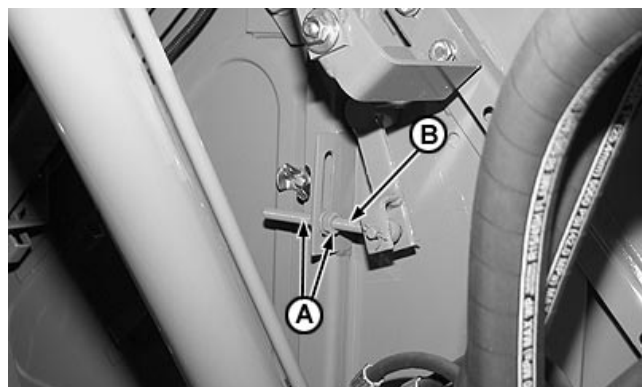
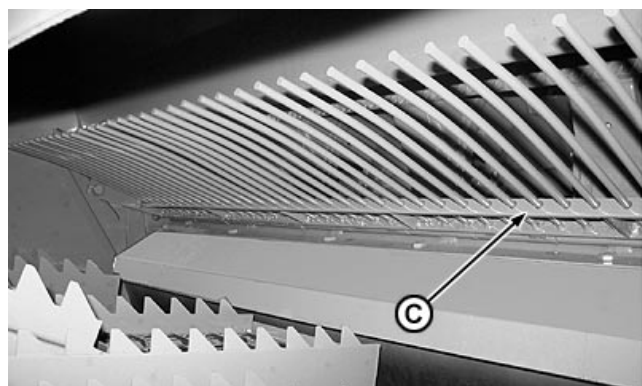
AG,GG05155,315 -19-17AUG05-1/1

CO247540 -UN-29JUL05

Adjusting Concave Extension

Adjust with bolt (B) using nuts (A) on the left of the combine.

The distance between the beater and the finger rake (C) should be at least 70 mm (2.8 in.) in grain crops.



AG,CO03622,1653 -19-17AUG05-1/1

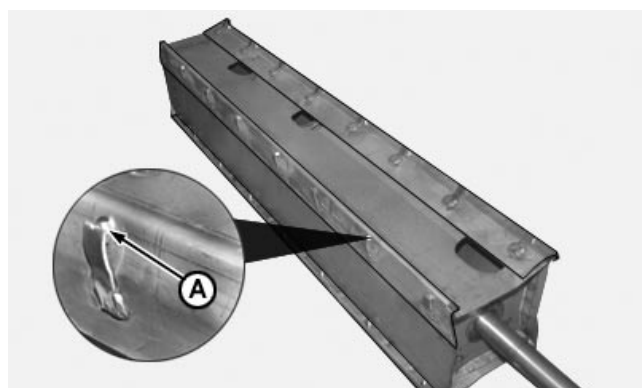
CO246730 -UN-29JUL05

CO246740 -UN-29JUL05

Special Beater Wear Plates

Rice combines are fitted with special wear plates in the beater.

IMPORTANT: Periodically check wear of plate and bolts (A) and replace any excessively worn bolts.



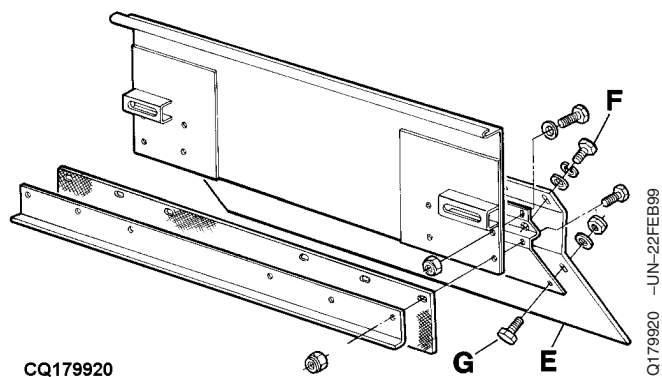
AG,GG05155,318 -19-24SEP05-1/1

CO252970 -UN-30SEP05

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

Installing Tooth Concave Cover Plates

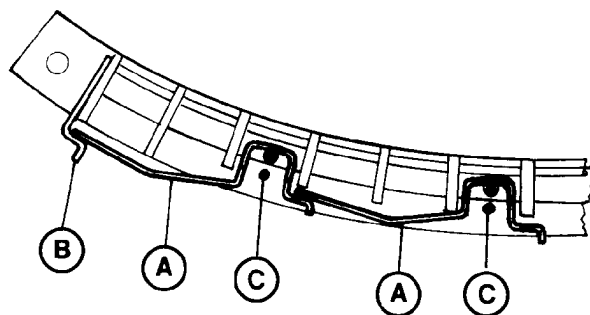
The installation of cover plates is recommended for harvesting barley.

The purpose of the cover plates is to increase threshing efficiency.

NOTE: It is not necessary to remove the concave to install the plates.

NOTE: Begin harvesting with one cover plate. Then install the second if needed.

1. Seat cover plate (A) on support (B).
2. Attach the cover plate with mounting bolts (C).



CQ179940

ML70882,0000993 -19-24MAY06-1/1

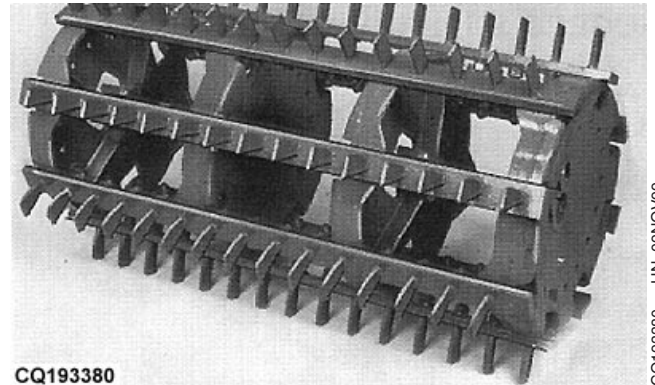
Rice Harvesting Attachment

This attachment consists of rice cylinder and rice concave.

Rice is threshed through friction and by the battering effect of cylinder teeth and spiked concave.

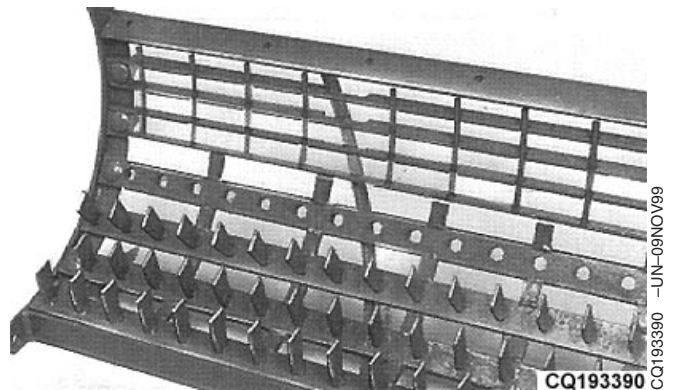
Standard concave is equipped with three bars of spiked teeth. You can add another teeth spiked bar to enhance threshing.

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, as seen in direction of rotation.



CQ193380

Spiked-tooth cylinder



CQ193390

Concave with three rows of spiked teeth

ML70882.0000854 -19-17SEP05-1/1

Adjust Lateral Spacing between Threshing Cylinder Teeth and Concave Teeth

The teeth (A) of threshing cylinder must be centered in relation to the concave teeth (B).

If lateral spacing (X) is uneven between teeth (A) and (B) this could cause reduced threshing performance. Crop ears tips could pass through without being threshed on one side and grain crops could be damaged and straw could get very chewed on the other.

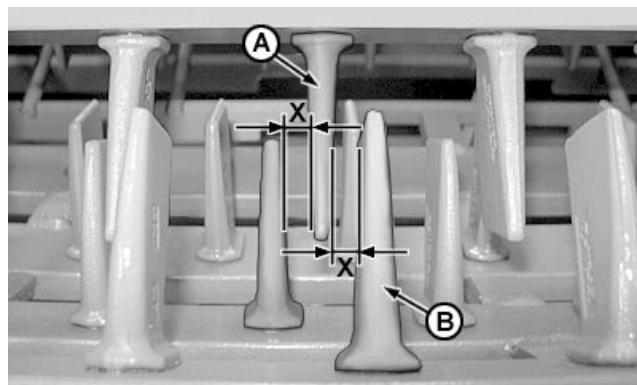
Adjust lateral spacing (X) moving threshing cylinder (C) on its shaft. After adjusting, attach threshing cylinder on shaft, tightening clamp bolts (D) to specification.

Specification

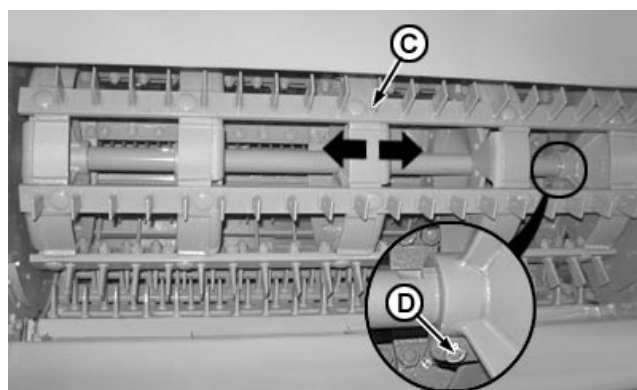
Bolts for attaching brackets of threshing cylinder on shaft—

Torque 78 N•m (56.5 lb-ft)

- A—Teeth
- B—Teeth
- C—Threshing Cylinder
- D—Bolts
- X—Lateral spacing



CQ258260 -UN-30NOV05



CQ258330 -UN-30NOV05

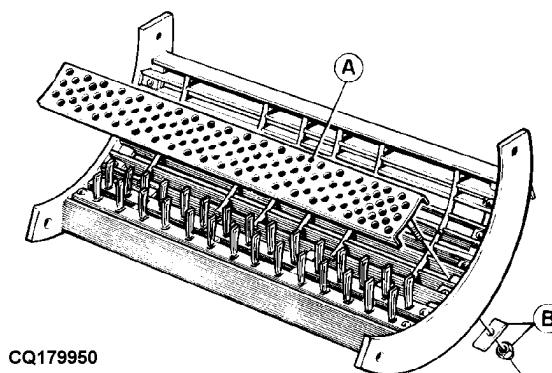
OU64006,0000036 -19-07FEB06-1/1

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.



CQ179950

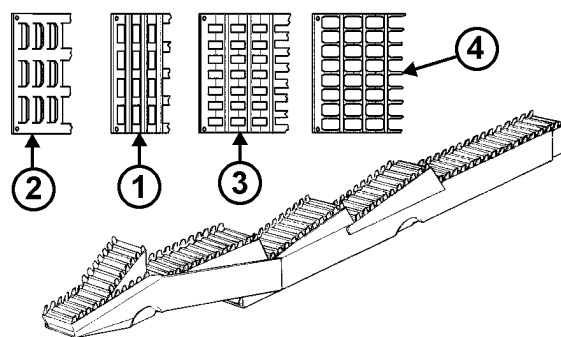
CQ179950 -UN-22FEB99

AG,GG05155,321 -19-24FEB99-1/1

Straw Walker Types

All straw walker sieves are replaceable from the front to the rear, to permit rapid conversion to handle various types of crops.

1. Rectangular transversal sieve openings. Are indicated for rice harvesting.
2. “Frog mouth” sieve openings. Are indicated for all crops.
3. Rectangular longitudinal sieve openings. Are indicated for fine grain harvesting, like wheat.
4. Rectangular longitudinal sieve openings for “high flow rate”. Are indicated for high productivity crops.



CQ194060

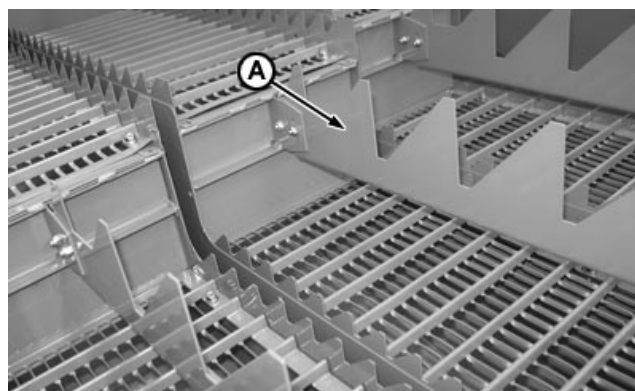
—UN-06DEC99

AG,GG05155,162 —19-20JUN06-1/1

Straw Walker Fishbacks

Fishbacks (A) optimize loose grain separation from chaff by reducing the speed at which straw moves over the straw walkers.

NOTE: To avoid loss, more fishbacks can be installed for conditions in which it is difficult to separate the grain from chaff (e.g., weedy soy beans).



—UN-03JUN05

AG,GG05155,163 —19-03JUN05-1/1

Straw Walker Curtain

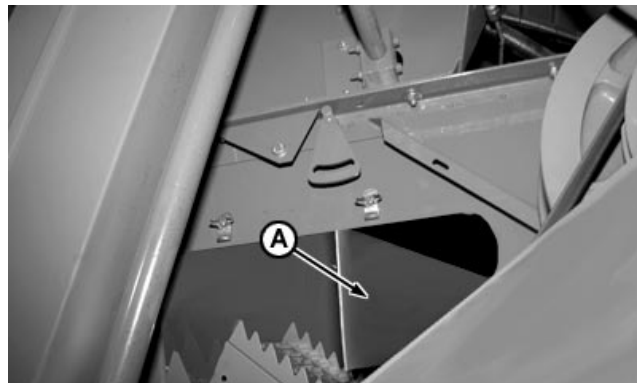
The straw walker curtain (A) helps to slow material flow, providing more time for grain to separate from straw. It also prevents grain from being thrown out of the combine by the beater.

Under normal harvesting conditions, the curtain is free to swing in the slot (I).

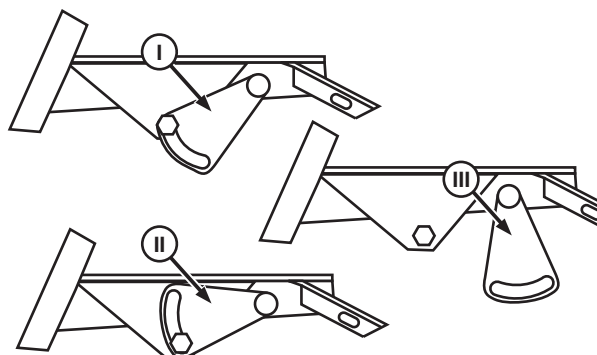
When crops with a heavy straw content are harvested, the recommended position for the curtain is position (II).

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, which is to let the curtain swing freely (III).



CQ247550 -UN-29JUL05



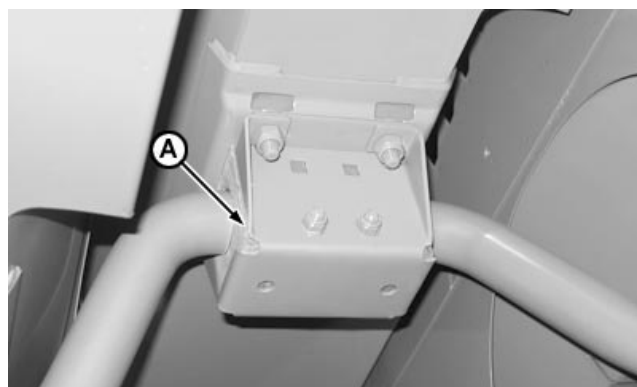
CQ247570 -UN-29JUL05

AG,CO03622,1654 -19-01AUG05-1/1

Adjusting Straw Walker Bearings

IMPORTANT: Straw walker bearings may have axial play but they must not have radial play (at diameter).

If there is radial play, consult a John Deere dealer to replace bearing (A).



CQ272000 -UN-22MAY06

ML70882,000094D -19-22MAY06-1/1

Cleaner Arms And Connecting Rods

Whenever a rubber bushing of the arms and connecting rods (A) is replaced, place these in the center to tighten the bearings. Position them using the template. See your John Deere dealer.

IMPORTANT: While checking the combine after each harvest, inspect the arm and connecting rod rubber bushings and replace any damaged ones. Change the bushings every 500 hours.



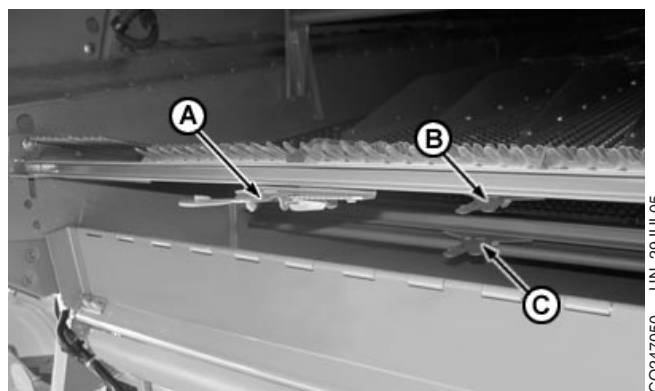
CO246750 -UN-29JUL05

AG,GG05155,325 -19-01AUG05-1/1

Cleaning System

The sieves can be adjusted in the rear of the combine. Adjust combine initially according to the "Combine Settings Chart" and then adapt to harvesting and ground conditions.

- A—Chaffer extension adjustment lever
- B—Chaffer adjustment lever
- C—Grain sieve adjustment lever



CO247050 -UN-29JUL05

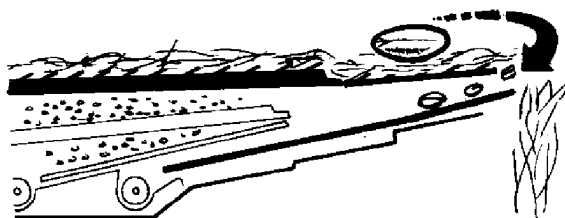
AG,GG05155,164 -19-17SEP05-1/1

Chaffer Extension

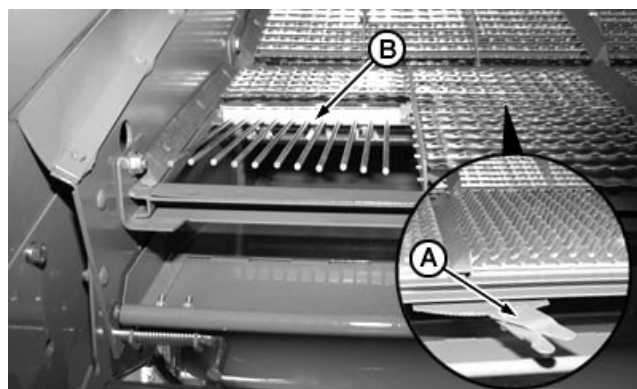
Chaffer extension is used to optimize corn harvesting. Lever (A) is used to adjust fins to minimize plugging caused by cob pieces.

In hilly terrain the opening needs to be larger than normal. Use Slope Master System (B) for this operation. Consult more detailed information in section "Slope Master System".

NOTE: In extremely hilly terrain a chaffer extension for corn may be used.



CQ249510 -UN-22AUG05



CQ247580 -UN-06SEP05

AG,CQ03622,1655 -19-17SEP05-1/1

Adjusting The Chaffer Extension Angle

Loosen nuts (A) on both sides of chaffer extension.

Intermediate height: Dry crops and flat terrain.

High: Products that are difficult to shell (crops with weeds) or on hilly terrain.



CQ246760 -UN-23JUL05

AG,GG05155,165 -19-17SEP05-1/1

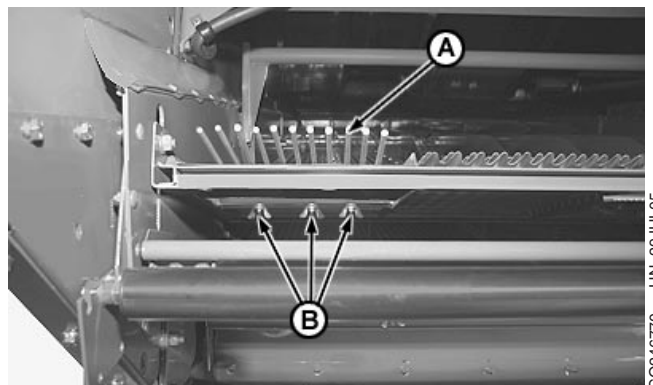
Slope Master System for Hilly Terrain

When operating on hilly terrain a large quantity of material accumulates at the sides of the cleaning shoe and extension. This material exits the combine without being harvested, thereby increasing grain loss.

To avoid loss, openings located on both sides of the rear ends of the cleaning shoe extension collect any material not totally separated.

Depending on the slope and harvesting conditions, regulate openings by adding or removing fingers (A), after loosening winged nuts (B).

NOTE: The combine is delivered from the factory with 11 fingers mounted.



CQ246770 -UN-29JUL05

AG,GG05155,166 -19-01AUG05-1/1

Removing Chaffer Extension

- Remove the mounting bolts (A).
- Pull the extension back to remove it.

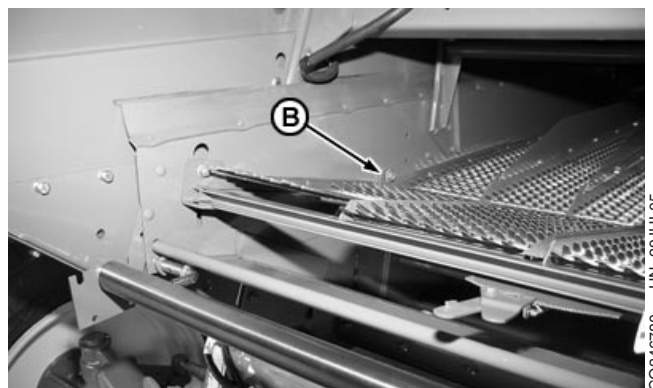


CQ246760 -UN-29JUL05

AG,GG05155,326 -19-17AUG05-1/1

Removing Chaffer

- Remove the mounting bolts (B).
- Pull the chaffer back to remove it.



CQ246780 -UN-29JUL05

AG,GG05155,327 -19-17AUG05-1/1

Removing Grain Sieve

1. Remove the cleaning shoe extension.
2. Remove retaining bolts (C) on both sides.
3. Pull the grain sieve rearwards to remove it.

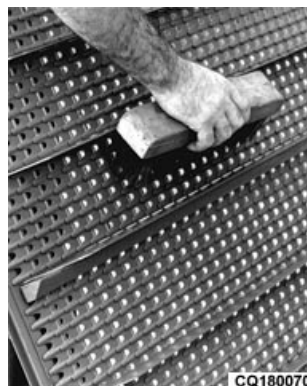


AG,GG05155,328 -19-01AUG05-1/1

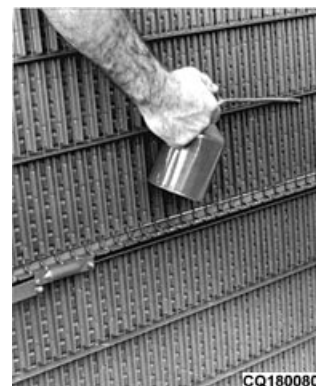
Cleaning The Chaffers And Sieves

Use a good steel brush to clean the sieves.

NOTE: Use an oil can to lubricate the fin linkages with medium viscosity oil.



CQ180070 -UN-22FEB99



CQ180080 -UN-22FEB99

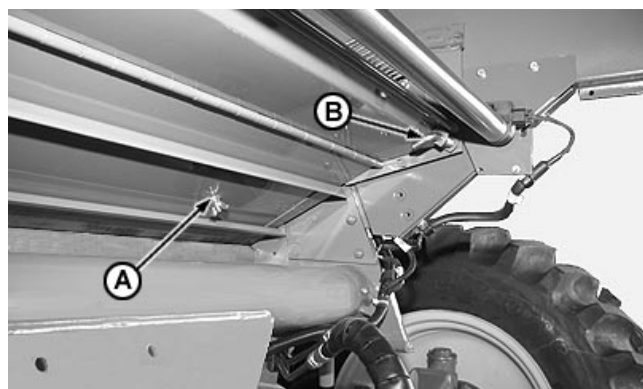
AG,GG05155,329 -19-24FEB99-1/1

Adjusting 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.

Loosen nuts (A). Release latch (B) on both sides and position as necessary.

- **Forward:** Easily threshed, dry crops; flat terrain.
- **Rearward:** Hard-to-thresh, very moist crops, and hilly terrain.
- **Up:** Collects greater crop quantity.
- **Down:** Collects smaller crop quantity.



CQ246790 -UN-23JUL05

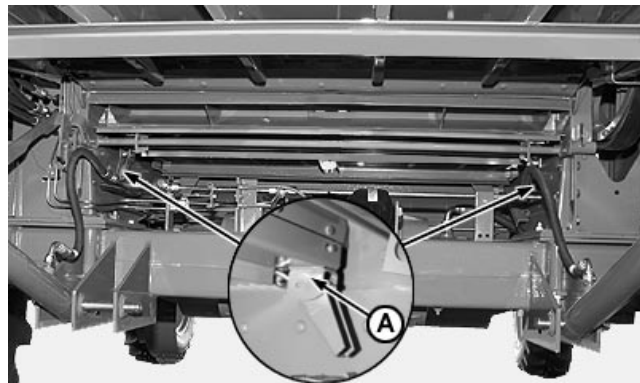
AG,GG05155,168 -19-18FEB06-1/1

Opening The Pan

The front of the pan (under the concave) can be removed for quick and easy cleaning.

NOTE: Clean the pan daily.

- Push latches (A) by hand.
- Pull out the pan to the front and remove it.



CO246800 -UN-29JUL05

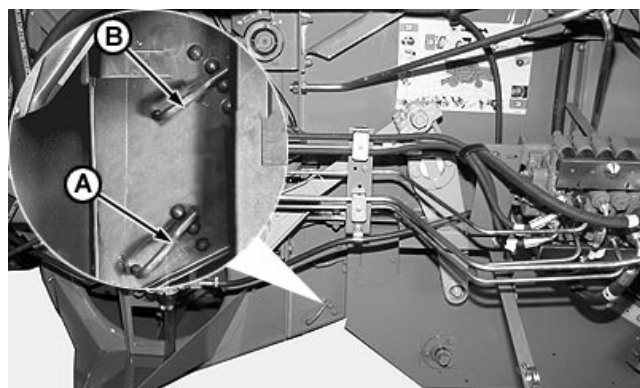
AG,GG05155,330 -19-17AUG05-1/1

Adjusting Fan 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



CO248520 -UN-29JUL05

AG,GG05155,169 -19-17AUG05-1/1

Special Kit for Corn

This is a set of accessories recommended to optimize combine performance when harvesting corn.

Consult your John Deere dealer to obtain specific information and recommendations.

AG,CO03622,2022 -19-30MAR06-1/1

Straw Chopper and Chaff Spreader

Straw Chopper



CAUTION: Always switch off all drives (separator, unloading auger and header) and shut off engine. Wait until all moving parts have come to a complete stop before adjusting the machine for operation. Do not approach straw chopper from behind when it is in operation. **RISK OF DEATH!**



TS268 -UN-23AUG88

ML70882,00004BE -19-12JUL06-1/1

Straw Chopper Deflector Sheet

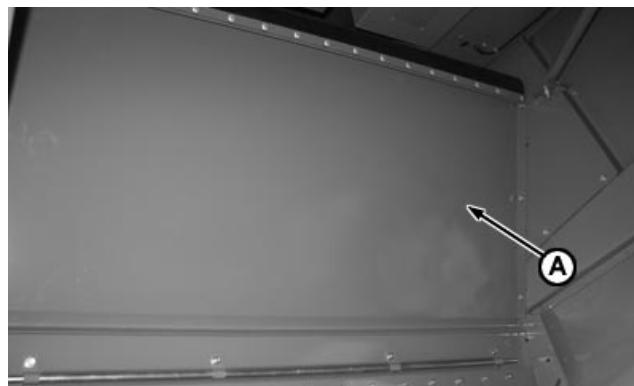
With deflector sheet (A) in position I, the straw falls on the ground and is not chopped.

IMPORTANT: With deflector sheet (A) in position I, the straw chopper must be disengaged to avoid damage to the sheet by straw chopper knives.

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 II, the straw chopper must be engaged.

Swinging the deflector sheet from one position to the other is done by means of lever shown.



CO247620 -UN-29JUL05

Deflector sheet in position II



CO247600 -UN-29JUL05

Deflector sheet lever

ML70882,0000983 -19-26MAY06-1/1

Precautions for Engaging Straw Chopper

1. Set the engine at idle speed (low rpm).
2. Put road safety switch (red) in field position.
3. Release safety lock and engage threshing unit switch.
4. Increase engine rpm.

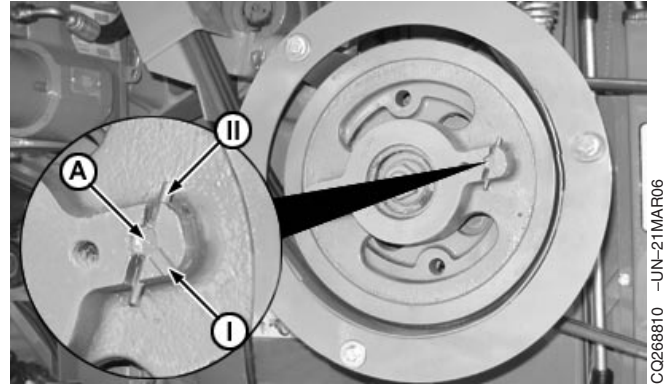
ML70882,00003EC -19-18FEB06-1/1

Disengaging Straw Chopper

IMPORTANT: When disengaging straw chopper, swing deflector sheet into correct position. This will prevent straw build-up on straw chopper. See “Straw Chopper Deflector Sheet” for swinging.

With combine shut off, pull out pin (A) and rotate it until it slots into position (I) of the intermediate pulley wheel.

To engage the straw chopper, pull out pin (A) and rotate it to position (II) of the intermediate pulley.



CO268810 -UN-21MAR06

CAUTION: Prevent damage to the combine. Ensure that pin (A) is seated in one of the drive pulley holes.

ML70882,0000984 -19-23MAY06-1/1

Replacement of Straw Chopper Knives

CAUTION: Always jam the impeller to prevent accidents when replacing knives.

IMPORTANT: Note the following to avoid unbalancing the straw chopper:

Excessive vibration may be caused by broken impeller knives. Immediately remove the broken knife and the knife that is directly opposite, and install replacement knives.

Do not sharpen knives. Replace knives only. This ensures that all the knives on the impeller weigh approximately the same.

Only use grade 10.9 bolts with self-locking nuts.

Specification

Bolt—Torque.....50 – 60 N•m (36 – 44 lb – ft)

Mount bolts from left to right (facing the direction of forward travel).



CO247130 -UN-23JUL05

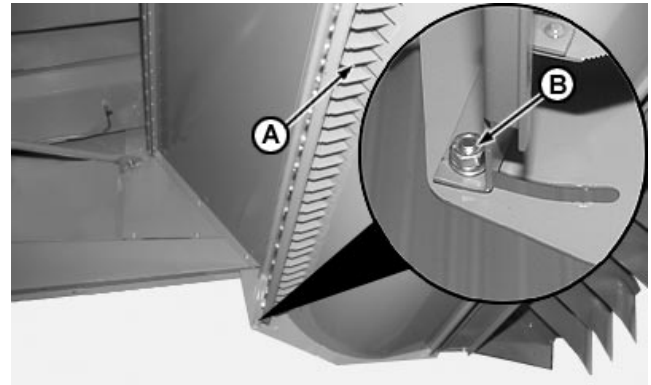
AG.CO03622,2047 -19-01AUG05-1/1

Adjusting Straw Chopper Counterknives

IMPORTANT: Counterknives should only be moved inwards as far as absolutely necessary to prevent wasting engine power.

Positions of counterknives	Utilization in accordance with straw type
Shallow angle	Dry straw
Slightly angled	Wet straw and weeds
Fully angled	Rape and crop straw in general

To adjust the counterknives (A), loosen bolts (B) on both sides.



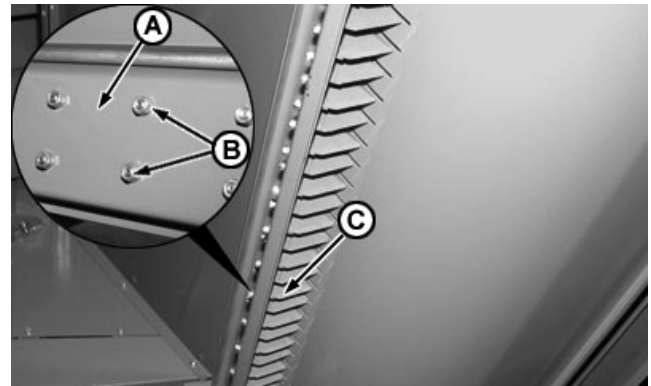
Fully angled position

ML70882,0000806 -19-01AUG05-1/1

Replacement of Straw Chopper Counterknives

NOTE: The counterknives are located at the front of the straw chopper.

Remove bolt (B) and withdraw the counterknife (C) from support (A). Install the new counterknife.



ML70882,0000985 -19-23MAY06-1/1

Reducing Straw Chopper Rotational Speed

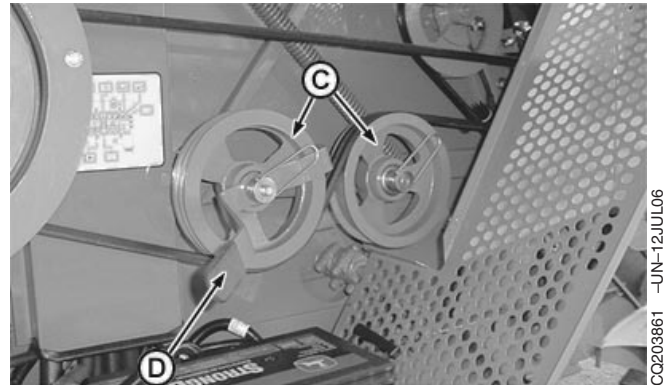
When harvesting corn or sunflowers, impeller speed should be reduced.

1. Open shields (A) and (B). For more details see the "Service—Drives and Shields" section.
2. Loosen and remove pulley belt (C) by means of lever (D). Turn pulley belt (C) inside out, so that the inside is now facing outwards. This permits the correct alignment of the idler pulley wheels with the intermediate pulley wheels and impeller.
3. Insert belt on to intermediate pulley wheel (F). The smaller diameter drive pulley wheel (F) is recommended for corn and sunflowers, while the larger diameter drive pulley wheel (E) is recommended for most other crops
4. Insert belt on to pulley wheel (H). The larger diameter drive pulley wheel (H) is recommended for corn, while the smaller diameter drive pulley wheel (G) is recommended for most other crops.

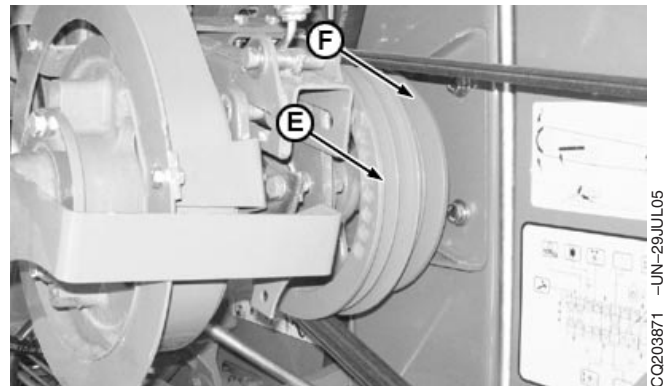
A—Shield
B—Shield
C—Idler pulley wheels
D—Lever
E—Greater intermediate pulley wheel
F—Lesser intermediate pulley wheel
G—Impeller lesser pulley wheel
H—Impeller greater pulley wheel



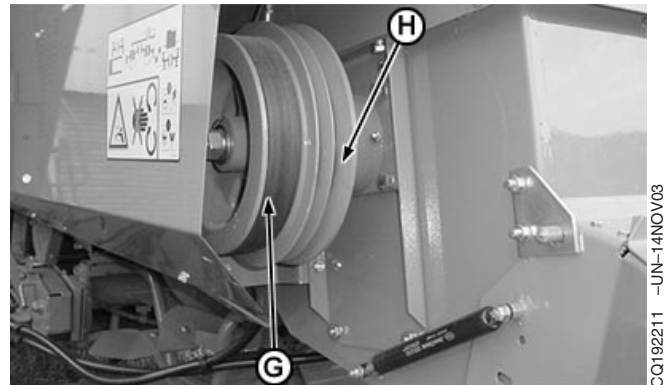
CQ247140 —UN-29JUL05



CQ203861 —UN-12JUL06



CQ203871 —UN-29JUL05



CQ192211 —UN-14NOV03

Straw Distributor Operating and Transport Position

Operating Position:

Set the straw distributor as illustrated in the “Operating position” figure and lock it in place with nuts (B), turning them clockwise on both sides.

Transport Position:

Loosen nuts (B) and raise the straw distributor until it touches on combine rear as shown in the “Transport position” figure.

Lock it with latches (D).

NOTE: When the straw distributor is in the transport position, position the guard rail in front of baffles. See the illustration “Transport position”.

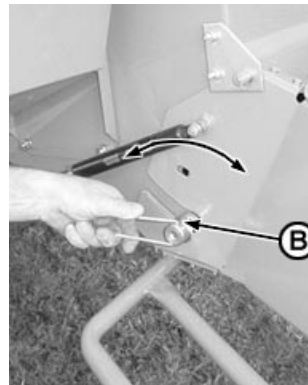
B—Nut
D—Lock



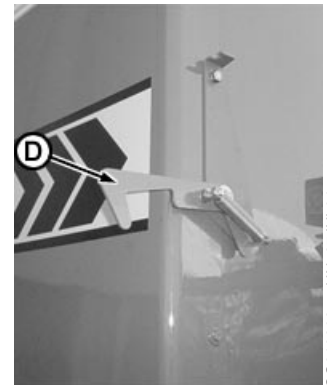
Operating position



Transport position



CQ219232 –UN-27JUL04



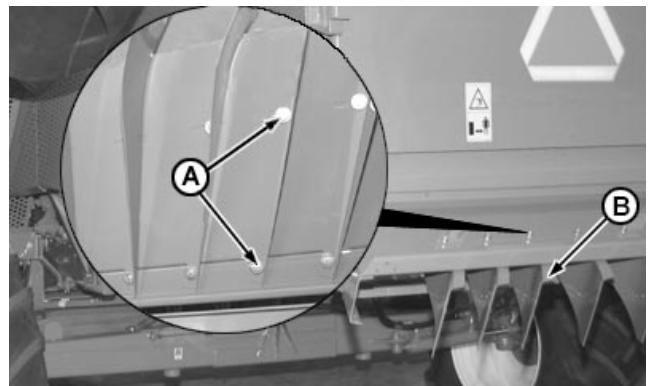
CQ219262 –UN-27JUL04

ML70882,0000986 –19-26MAY06-1/1

Adjusting Straw Distributor Baffles

Loosen nuts (A) and adjust baffles (B) according to the required distance for straw to be thrown.

NOTE: The greater the angle of the baffles, wider will be the area of straw spread.

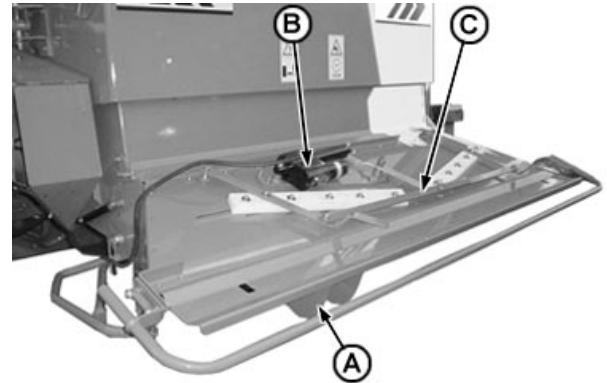


CQ247640 –UN-28JUL05

ML70882,0000811 –19-01AUG05-1/1

Adjusting Straw Distributor Baffles with Electric Motor

Straw distributor baffles (A) are adjusted by electrical motor (B) which moves the adjustable bars (C). The adjustment and control of position is made from the operator's cab.



ML70882,0000987 -19-06JUN06-1/2

CQ219271 -UN-14NOV03

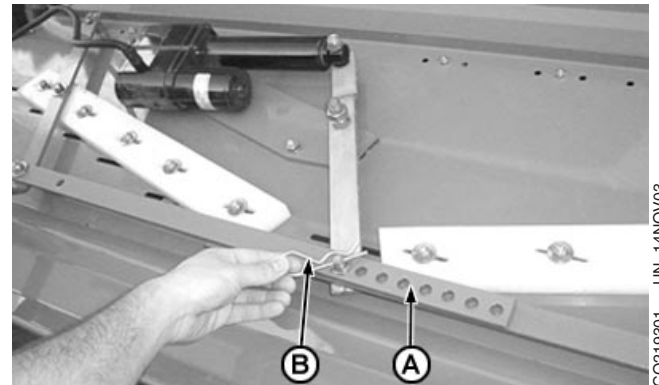
Manual Deflector Adjustment

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: Be careful with the washer under pin (B), which must be assembled.



ML70882,0000987 -19-06JUN06-2/2

CQ219301 -UN-14NOV03

Chaff Spreader Drive



CAUTION: NEVER operate the combine without shields correctly installed.

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.



ML70882,00004C5 -19-03JUN05-1/1

CQ220950 -UN-26JUL04

Chaff Spreader Speed Adjustment

Speed adjustment is performed through handle (A) and it depends on the following:

- Moisture of crop
- Amount of chaff
- Desired area of coverage

NOTE: Chaff should be expelled uniformly over rear tires.

It is necessary to reduce chaff spreader speed to avoid excessive dispersion of chaff.



MB03730,0001BB4 –19-03JUN05-1/1

Chaff Spreader Operating Position

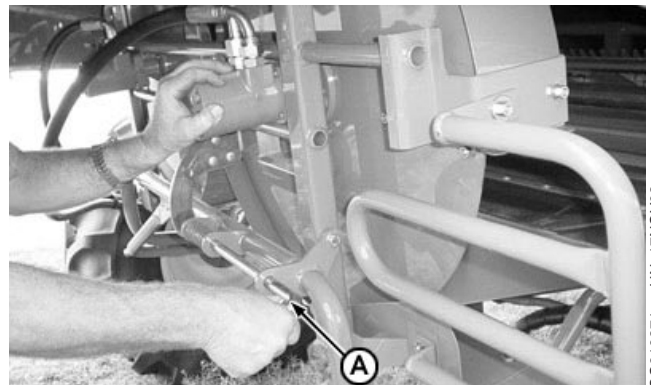
Operating position is shown on this photograph.



Chaff Spreader Transport Position

Use locking pin (A) to change from operating position to transport position and vice versa.

NOTE: In transport position chaff spreader is in a horizontal position.



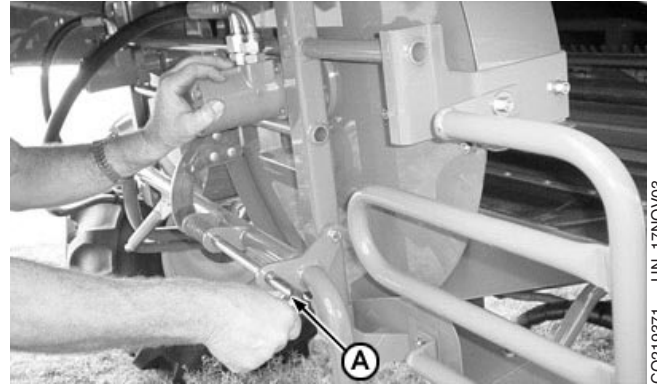
Lateral Swing of Chaff Spreader

Lateral swing allows access to cleaning shoe, making adjustments and service easier.

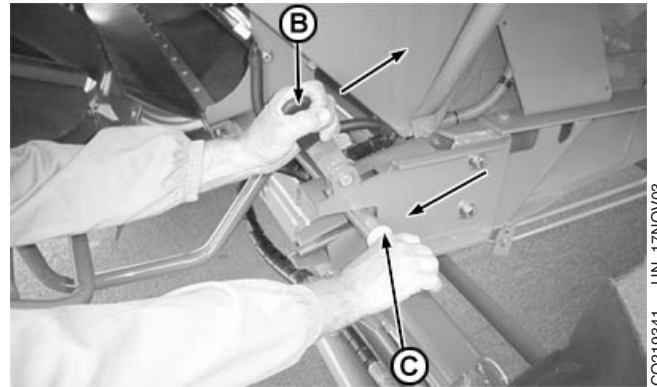
Pull pin (A) so that the chaff spreader may be lowered to **its full extent**.

Push lever (B) to free arm (C). Pull arm (C) to swing chaff spreader in direction of arrow.

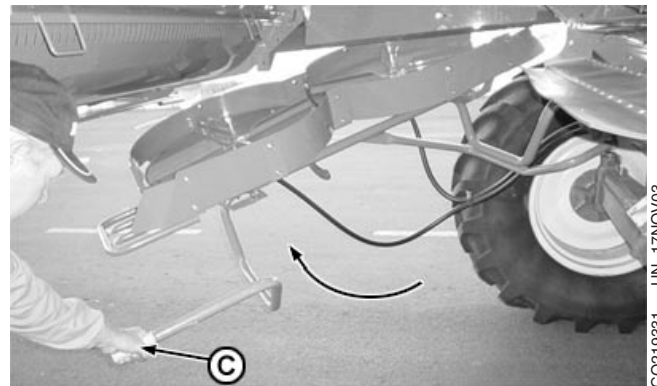
NOTE: At the end of adjustment or service return spreader to operating position, making sure that it is locked in place.



CQ219371 -UN-17NOV03



CQ219341 -UN-17NOV03



CQ219331 -UN-17NOV03

ML70882.0000423 -19-03JUN05-1/1

Chaff Spreader Spread Angle Adjustment

Lateral plate (D) determines the spread angle for the chaff. The plate's spread angle may be adjusted.

I - Increased spread angle:

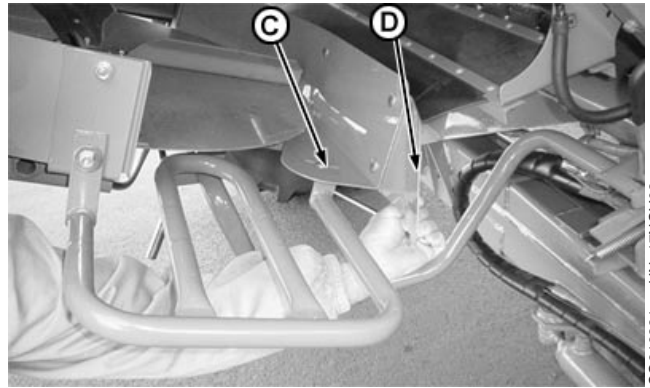
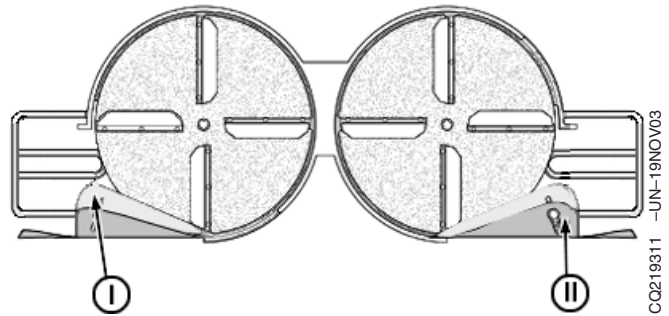
Used for large chaff (e.g. corn straw), or chaff with excessive moisture, or when a combine is using a larger header.

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 down machine.
2. On a flat surface, use correct tool to loosen bolt (C).
3. Adjust spread angle of lateral plate (D).



ML70882,000041B -19-03JUN05-1/1

Grain Tank Loading and Unloading

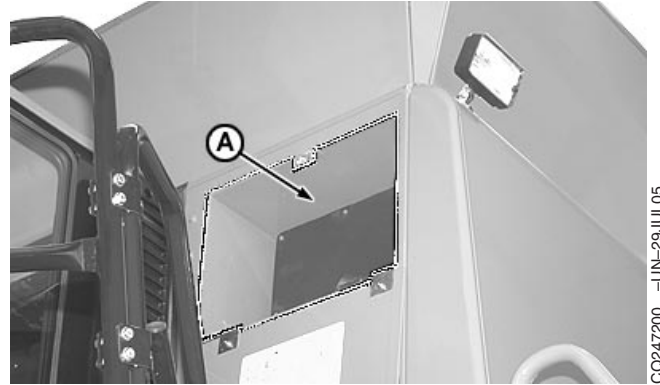
Grain Tank Inspection Hatch

In the grain tank wall there is a hatch (A) to inspect the clean grain and remove samples, located immediately below the main electrical box.

Between the grain tank wall and the main electrical box, there is a space where a hand can be inserted to extract a clean grain sample.

NOTE: There is also a hatch behind the seat in the operator's cab through which grain in the grain tank can be inspected.

A—Inspection hatch



CO247200 –UN-29JUL05

AG.CO03622,2027 –19-01AUG05-1/1

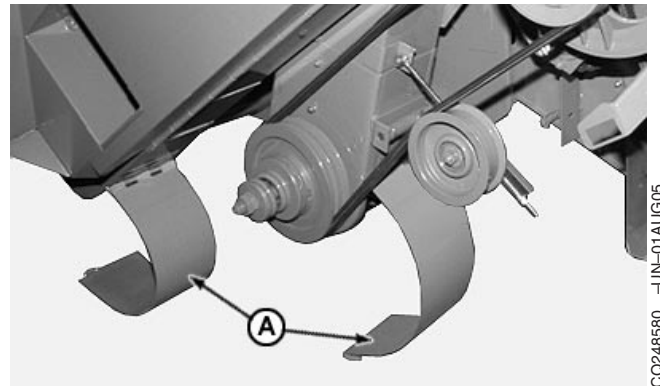
Tailings Elevator and Clean Grain Elevator

Open the elevator doors (A) at the end of each working day and run the elevators to clean them out. Clean them also before harvesting a different crop.

Leave the hatches open when not harvesting.

NOTE: When closing the lower inspection hatches make sure that they seal perfectly to avoid grain loss.

Check elevator chain tensioning after the first few hours of operation.



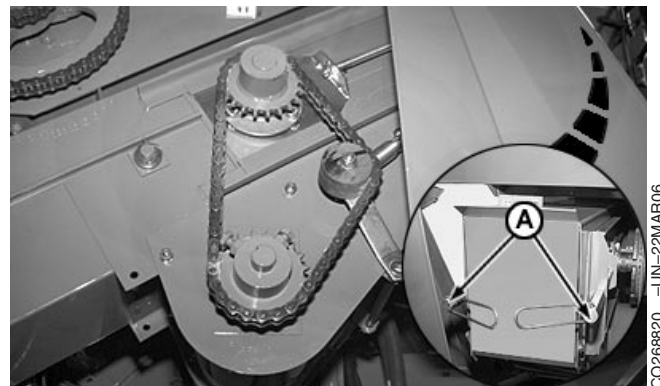
CO248580 –UN-01AUG05

AG.CO03622,2049 –19-01AUG05-1/1

Tailings Elevator Conveyor Chain Tension

The tailings elevator conveyor chain 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.).

To adjust tension, turn both handles (A) at elevator head.



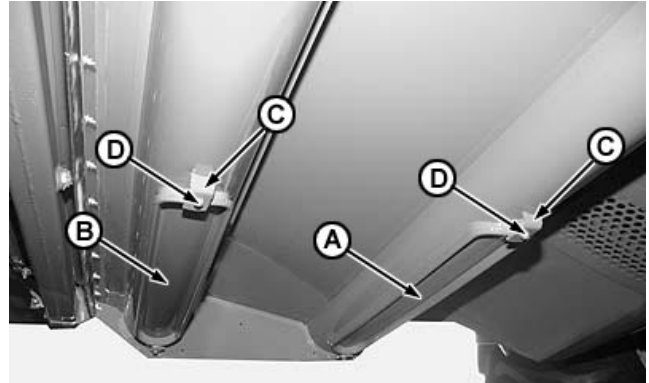
CO268820 –UN-22MAR06

ML70882,0000810 –19-22MAR06-1/1

Elevator Augers

IMPORTANT: Thoroughly clean these areas when harvesting a different crop for seeds and at the end of the harvesting period.

Remove nuts (D) and clamps (C). Remove covers (A) and (B).

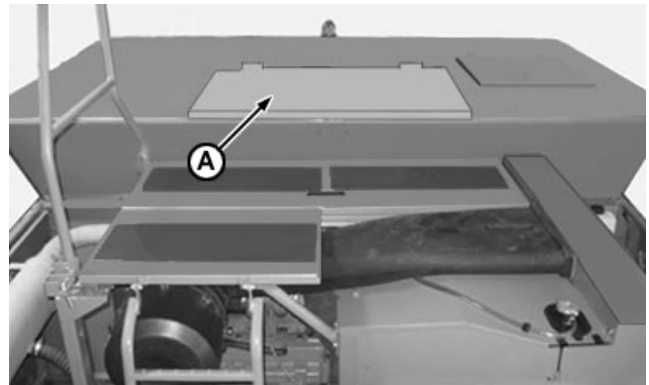


AG,GG05155,335 -19-01AUG05-1/1

Grain Tank Cover

The grain tank is covered. Access to the interior is via hatch (A).

CAUTION: Danger of accidents! Stop the engine before entering the tank for any reason.



ML70882,000094E -19-19MAY06-1/1

Grain Tank Extension

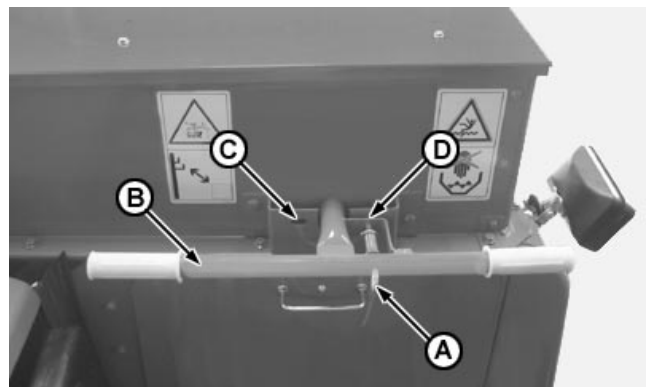
CAUTION: The grain tank extension must be in transport position when the combine is transported on roads, due to the height limit on public roads.

Operating position:

Pull locking lever (A) and turn lever (B) 180° clockwise until locking lever slots into hole (C).

Transport position:

Pull locking lever (A) and turn lever (B) 180° counterclockwise until locking lever slots into hole (D).



Transport position

ML70882,0000988 -19-23MAY06-1/1

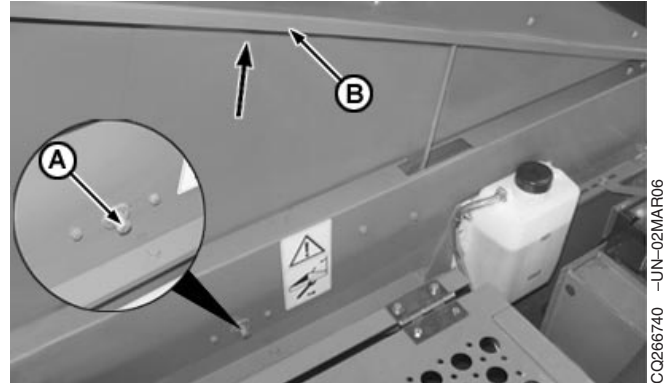
Access to Grain Tank with Extension

IMPORTANT: Grain tank extension should be in field position. See “Grain Tank Extension”.

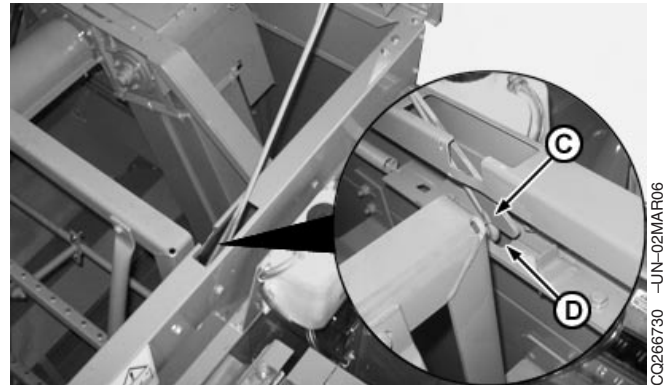
1. With an open end wrench, turn pin (A) counterclockwise until cover (B) can be raised.
2. Cover (B) should be raised until rod (C) goes through hole (D) to lock the cover in open position.

Closing the cover:

1. Turn pin (A) counterclockwise again, closing the cover until rod (C) is released.



CQ266740 -UN-02MAR06



CQ266730 -UN-02MAR06

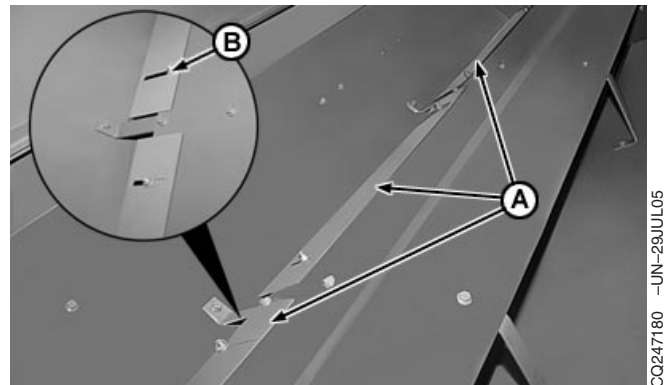
ML70882,0000989 -19-23MAY06-1/1

Grain Tank Lower Auger Cover Plates

The cover plates (A) can be adjusted as required. Loosen nuts (B) to adjust.

NOTE: It is recommend that the covers are kept in a more closed position for wet conditions and more open for dry conditions.

The covers should be more closed on the right side (the clean grain elevator side).

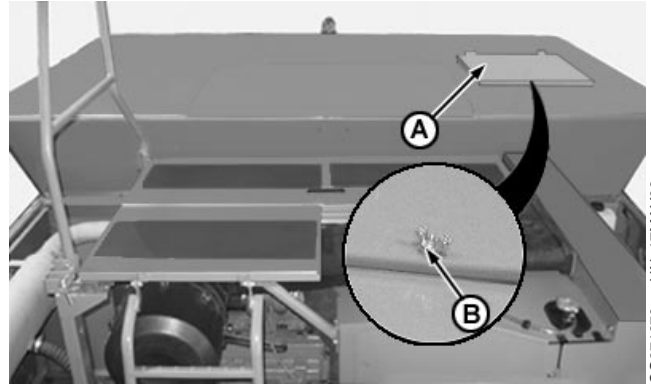


CQ247180 -UN-29JUL05

AG,CQ03622,2052 -19-01AUG05-1/1

Clean Grain Elevator Upper Cover

Remove wing nut (B) to open grain elevator upper cover (A).



ML70882,0000950 -19-19MAY06-1/1

CQ271270 -UN-17MAY06

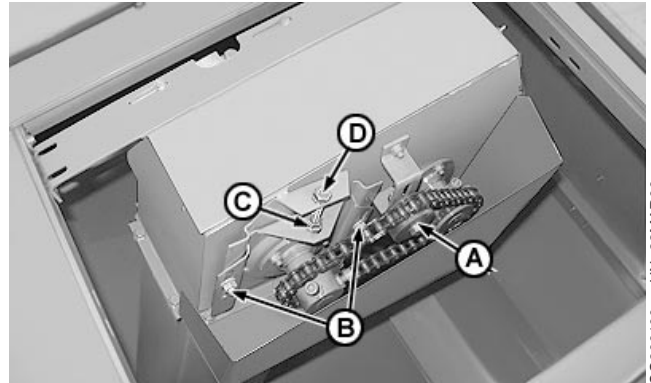
Adjusting Clean Grain Elevator Conveyor Chain Tension

1. Loosen chain tension through idler (A).
2. Loosen nuts (B).
3. Loosen nuts (C).
4. Adjust conveyor chain tension through adjustment screws (D).

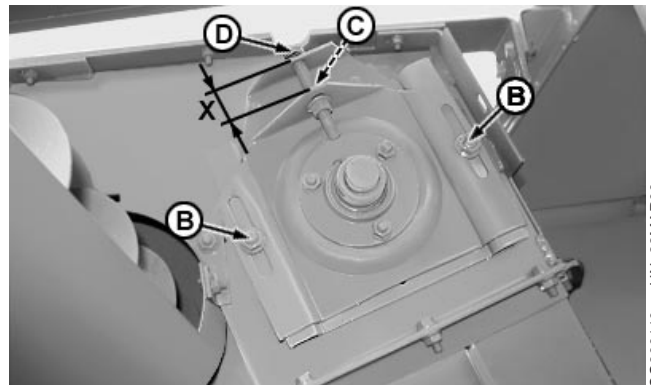
NOTE: Adjust maintaining the same distance (X) on both sides of elevator.

5. Retighten nuts (B) and (C).
6. Adjust tension of upper auger drive chain of grain tank. See "Adjusting Grain Tank Upper Auger Drive Chain".

A—Tensioner
B—Nuts
C—Nuts
D—Adjusting screws
X—Distance



Right-hand side



Left-hand side

AG,CO03622,2055 -19-24MAR06-1/1

CQ266110 -UN-23MAR06

CQ266100 -UN-23MAR06

Fuel, Lubricants and Coolant

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

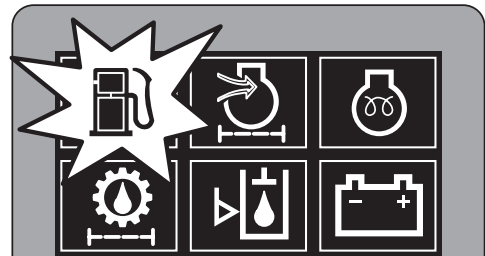
Filling Fuel Tank



CAUTION: Be careful when handling fuel. Stop the engine and, above all, do not smoke!

Fill the fuel tank at the end of each day of operation to avoid moisture condensation. Consult capacity in the "Specifications" section.

Warning light comes on if fuel level in tank has reached reserve (approximately 50 L remaining) (13.2 U.S. gal).



CQ247240 -UN-29JUL05

AG,CO03622,2056 -19-17AUG05-1/1

Diesel Fuel

Consult your local fuel distributor for properties of the diesel fuel available in your area.

In general, diesel fuels are blended to satisfy the low temperature requirements of the geographical area in which they are marketed.

Diesel fuels specified to EN 590 or ASTM D975 are recommended.

Required fuel properties

In all cases, the fuel shall meet the following properties:

Cetane number of 45 minimum. Cetane number greater than 50 is preferred, especially for temperatures below -20°C (-4°F) or elevations above 1500 m (5000 ft).

Cold Filter Plugging Point (CFPP) below the expected low temperature OR **Cloud Point** at least 5°C (9°F) below the expected low temperature.

Fuel lubricity should pass a minimum level of 3100 grams as measured by ASTM D6078 or maximum

scar diameter of 0.45 mm as measured by ASTM D6079 or ISO 12156-1.

Sulfur content:

- Diesel fuel quality and fuel sulfur content must comply with all existing emissions regulations for the area in which the engine operates.
- Use of diesel fuel with sulfur content less than 0.10% (1000 ppm) is **STRONGLY** recommended.
- Use of diesel fuel with sulfur content 0.10% (1000 ppm to 0.50% (5000 ppm) may result in **REDUCED** oil and filter change intervals.
- **BEFORE** using diesel fuel with sulfur content greater than 0.50% (5000 ppm), contact your John Deere dealer.
- **DO NOT** use diesel fuel with sulfur content greater than 1.0%.

IMPORTANT: Do not mix used diesel engine oil or any other type of lubricating oil with diesel fuel.

IMPORTANT: Improper fuel additive usage may cause damage on fuel injection equipment of diesel engines.

DX,FUEL1 -19-17NOV05-1/1

Bio-Diesel Fuel

Consult your local fuel distributor for properties of the bio-diesel fuel available in your area.

Bio-diesel fuels may be used ONLY if the bio-diesel fuel properties meet the latest edition of ASTM D6751, EN 14214, or equivalent specification.

It is recommended to purchase bio-diesel fuel blended with B100 from a BQ-9000 Accredited Producer or a BQ-9000 Certified Marketer as recommended by the National Bio-diesel Board.

The maximum allowable bio-diesel concentration is a 5% blend (also known as B5) in petroleum diesel fuel. It has been found that bio-diesel fuels may improve lubricity in concentrations up to this 5% blend.

When using a blend of bio-diesel fuel, the engine oil level must be checked daily when the air temperature is -10°C (14°F) or lower. If oil becomes diluted with fuel, shorten oil change intervals accordingly.

IMPORTANT: Raw pressed vegetable oils are NOT acceptable for use as fuel in any concentration in John Deere engines.

These oils do not burn completely, and will cause engine failure by

leaving deposits on injectors and in the combustion chamber.

A major environmental benefit of bio-diesel fuel is its ability to biodegrade. This makes proper storage and handling of bio-diesel fuel especially important. Areas of concern include:

- Quality of new fuel
- Water content of the fuel
- Problems due to aging of the fuel

Potential problems resulting from deficiencies in the above areas when using bio-diesel fuel in concentrations above 5% may lead to the following symptoms:

- Power loss and deterioration of performance
- Fuel leakage
- Corrosion of fuel injection equipment
- Coked and/or blocked injector nozzles, resulting in engine misfire
- Filter plugging
- Lacquering and/or seizure of internal components
- Sludge and sediments
- Reduced service life of engine components

Consult your fuel supplier for additives to improve storage and performance of bio-diesel fuels.

DX,FUEL7 -19-14NOV05-1/1

Diesel Engine Coolant

The engine cooling system is filled to provide year-round protection against corrosion and cylinder liner pitting, and winter freeze protection to -37°C (-34°F). If protection at lower temperatures is required, consult your John Deere dealer for recommendations.

John Deere COOL-GARD™ Prediluted Coolant is preferred for service.

John Deere COOL-GARD Prediluted Coolant is available in a concentration of either 50% ethylene glycol or 55% propylene glycol.

Additional recommended coolants

The following engine coolant is also recommended:

- John Deere COOL-GARD Coolant Concentrate in a 40% to 60% mixture of concentrate with quality water.

John Deere COOL-GARD coolants do not require use of supplemental coolant additives, except for periodic replenishment of additives during the drain interval.

Other fully formulated coolants

Other fully formulated low silicate ethylene or propylene glycol base coolants for heavy-duty engines may be used if they meet one of the following specifications:

- ASTM D6210 prediluted (50%) coolant
- ASTM D6210 coolant concentrate in a 40% to 60% mixture of concentrate with quality water

Coolants meeting ASTM D6210 do not require use of supplemental coolant additives, except for periodic replenishment of additives during the drain interval.

Coolants requiring supplemental coolant additives

Other low silicate ethylene glycol base coolants for heavy-duty engines may also be used if they meet one of the following specifications:

- ASTM D4985 ethylene glycol base prediluted (50%) coolant
- ASTM D4985 ethylene glycol base coolant concentrate in a 40% to 60% mixture of concentrate with quality water

Coolants meeting ASTM D4985 require an initial charge of supplemental coolant additives, formulated for protection of heavy duty diesel engines against corrosion and cylinder liner erosion and pitting. They also require periodic replenishment of additives during the drain interval.

Other coolants

It is possible that neither John Deere COOL-GARD nor coolants meeting one of the coolant standards listed above is available in the geographical area where service is performed. If these coolants are unavailable, use a coolant concentrate or prediluted coolant with a quality additive package that provides cylinder liner cavitation protection and protects the cooling system metals (cast iron, aluminum alloys, and copper alloys such as brass) from corrosion.

The additive package must be part of one of the following coolant mixtures:

- ethylene glycol or propylene glycol base prediluted (40% to 60%) coolant
- ethylene glycol or propylene glycol base coolant concentrate in a 40% to 60% mixture of concentrate with quality water

Water quality

Water quality is important to the performance of the cooling system. Distilled, deionized, or demineralized water is recommended for mixing with ethylene glycol and propylene glycol base engine coolant concentrate.

IMPORTANT: Do not use cooling system sealing additives or antifreeze that contains sealing additives.

IMPORTANT: Do not mix ethylene glycol and propylene glycol base coolants.

DX,COOL3 -19-27OCT05-2/2

Diesel 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.

Change the oil and filter after the first 100 hours of operation of a new or rebuilt engine.

After engine overhaul, fill the engine with John Deere ENGINE BREAK-IN OIL.

If John Deere ENGINE BREAK-IN OIL is not available, use a diesel engine oil meeting one of the following during the first 100 hours of operation:

- API Service Classification CE
- API Service Classification CD
- API Service Classification CC
- ACEA Oil Sequence E2
- ACEA Oil Sequence E1

After the break-in period, use John Deere PLUS-50™ or other diesel engine oil as recommended in this manual.

IMPORTANT: Do not use PLUS-50 oil or engine oils meeting any of the following during the first 100 hours of operation of a new or rebuilt engine:

API CJ-4	ACEA E7
API CI-4 PLUS	ACEA E6
API CI-4	ACEA E5
API CH-4	ACEA E4
API CG-4	ACEA E3
API CF-4	
API CF-2	
API CF	

These oils will not allow the engine to break-in properly.

PLUS-50 is a trademark of Deere & Company.

DX,ENOIL4 -19-13SEP06-1/1

Diesel Engine Oil

Use oil viscosity based on the expected air temperature range during the period between oil changes.

John Deere PLUS-50™ oil is preferred.

Oils meeting one of the following specifications are also recommended:

- ACEA Oil Sequence E7
- ACEA Oil Sequence E6
- ACEA Oil Sequence E5
- ACEA Oil Sequence E4

Extended service intervals may apply when John Deere PLUS-50, ACEA E7, ACEA E6, ACEA E5, or ACEA E4 engine oils are used. Consult your John Deere dealer for more information.

Other oils may be used if they meet one or more of the following:

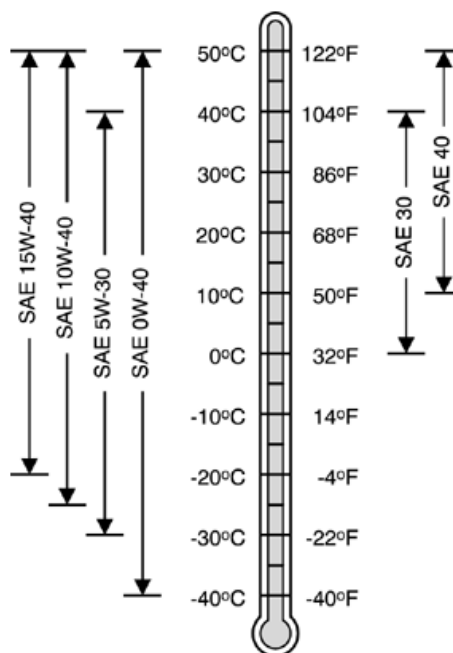
- John Deere TORQ-GARD SUPREME™
- API Service Category CJ-4
- API Service Category CI-4 PLUS
- API Service Category CI-4
- API Service Category CH-4
- API Service Category CG-4
- API Service Category CF-4
- ACEA Oil Sequence E3
- ACEA Oil Sequence E2

If oils meeting API CG-4, API CF-4, or ACEA E2 are used, reduce the service interval by 50%.

Multi-viscosity diesel engine oils are preferred.

Diesel fuel quality and fuel sulfur content must comply with all existing emissions regulations for the area in which the engine operates.

If diesel fuel with sulfur content greater than 0.50% (5000 ppm) is used, reduce the service interval by 50%.



Oil Viscosities for Air Temperature Ranges

TS1681 -UN-09OCT06

DO NOT use diesel fuel with sulfur content greater than 1.00% (10 000 ppm).

DX,ENOIL -19-13SEP06-2/2

Testing Diesel Fuel

DIESELSCAN™ is a John Deere fuel analysis program that can be used to monitor the quality of your fuel. The DIESELSCAN analysis verifies fuel type, cleanliness, water content, suitability for cold weather operation, and whether the fuel meets specifications.

Check with your John Deere dealer for availability of DIESELSCAN kits.

DIESELSCAN is a trademark of Deere & Company

DX,FUEL6 -19-14NOV05-1/1

Lubricity of Diesel Fuel

Most diesel fuels manufactured in the United States, Canada, and the European Union have adequate lubricity to ensure proper operation and durability of fuel injection system components. However, diesel fuels manufactured in some areas of the world may lack the necessary lubricity.

IMPORTANT: Make sure the diesel fuel used in your machine demonstrates good lubricity characteristics.

Fuel lubricity should pass a minimum load level of 3100 grams as measured by ASTM D6078 or a maximum scar diameter of 0.45 mm as measured by ASTM D6079 or ISO 12156-1.

If fuel of low or unknown lubricity is used, add John Deere PREMIUM DIESEL FUEL CONDITIONER (or equivalent) at the specified concentration.

DX,FUEL5 -19-27OCT05-1/1

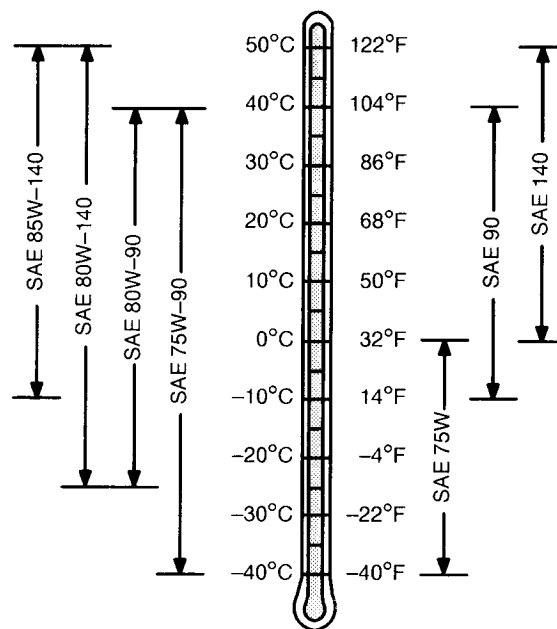
Gear Oil

Use oil viscosity based on the expected air temperature range during the period between oil changes.

The following oils are preferred:

- John Deere GL-5 GEAR LUBRICANT
- John Deere EXTREME-GARD™

Other oils may be used if they meet API Service Classification GL-5.



EXTREME-GARD is a trademark of Deere & Company.

DX.GEOIL -19-07JUL99-1/1

TS1653 -UN-14MAR96

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:

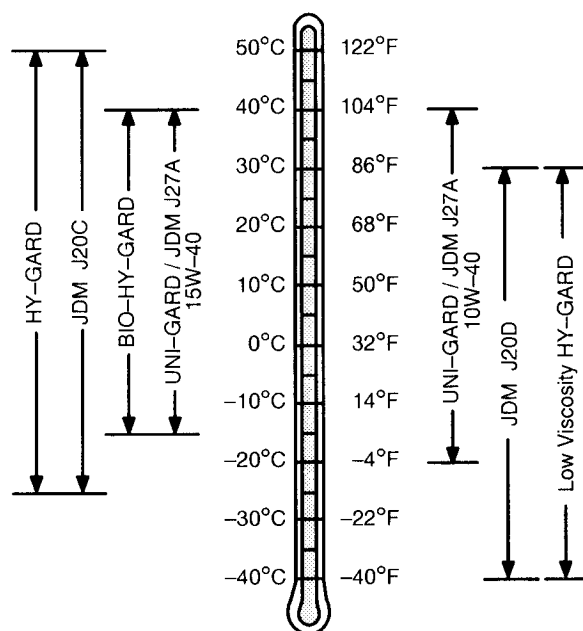
- John Deere UNI-GARD™
- John Deere BIO-HY-GARD™¹

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 Deere & Company
 UNI-GARD is a trademark of Deere & Company
 BIO-HY-GARD is a trademark of 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.

Grease

Use grease based on NLGI consistency numbers and the expected air temperature range during the service interval.

John Deere SD POLYUREA GREASE is preferred.

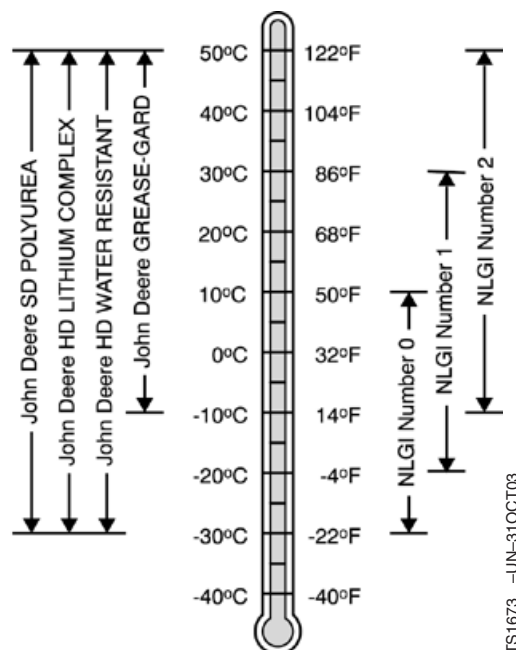
The following greases are also recommended

- John Deere HD LITHIUM COMPLEX GREASE
- John Deere HD WATER RESISTANT GREASE
- John Deere GREASE-GARD™

Other greases may be used if they meet the following:

NLGI Performance Classification GC-LB

IMPORTANT: Some types of grease thickeners are not compatible with others. Consult your grease supplier before mixing different types of grease



TS1673 -UN-31OCT03

GREASE-GARD is a trademark of Deere & Company

DX,GREAI -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.



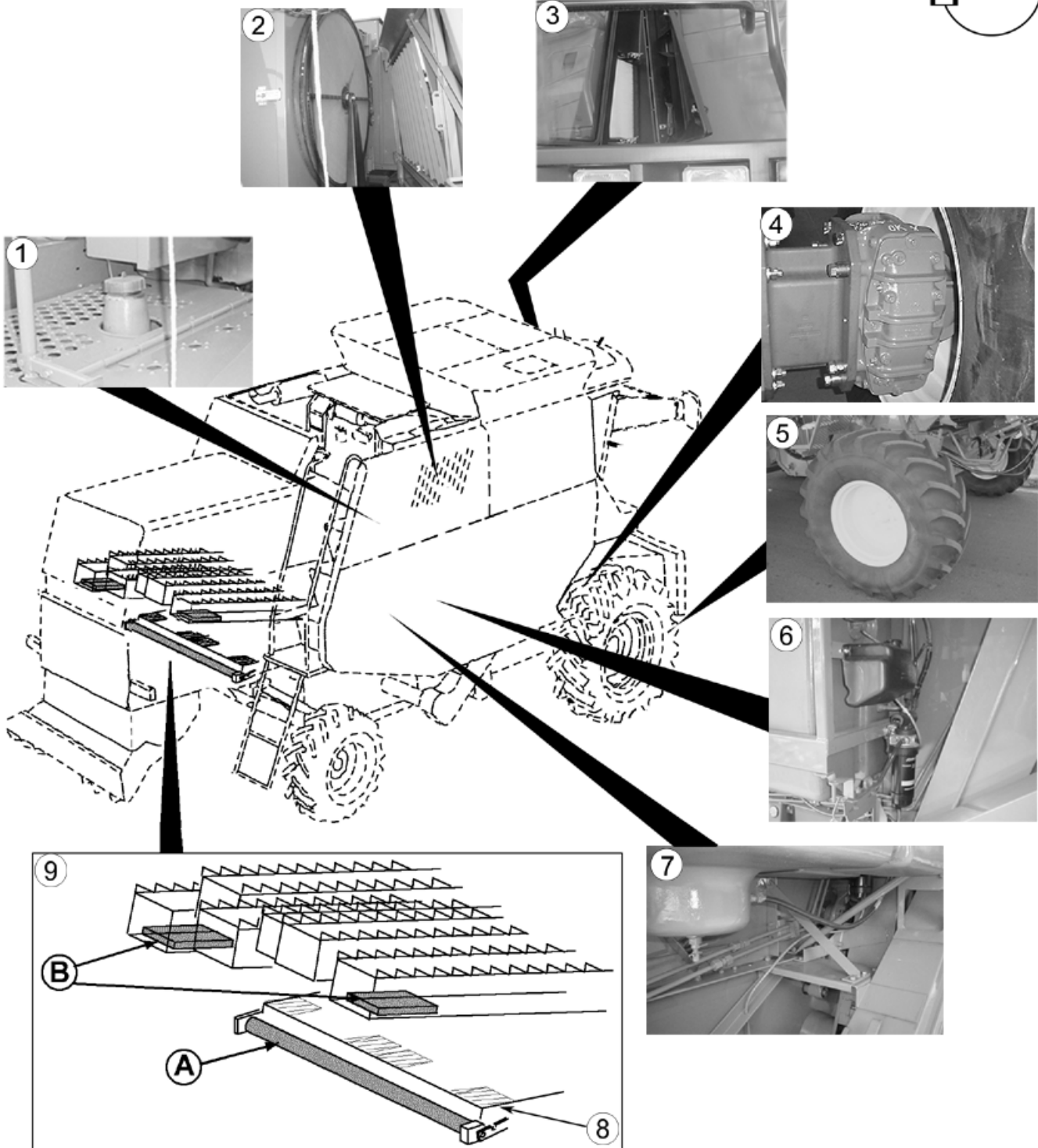
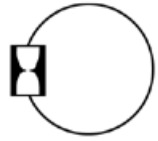
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CO203420 -UN-22MAR01

CQ,PCORIGIN -19-02SEP99-1/1

Periodic Servicing and Lubrication

Service Points—Daily



Continued on next page

OU83340,00003ED -19-03JUN05-1/2

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 equipment 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 50 hours.**
4. Check the vent plugs 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 equipment!**

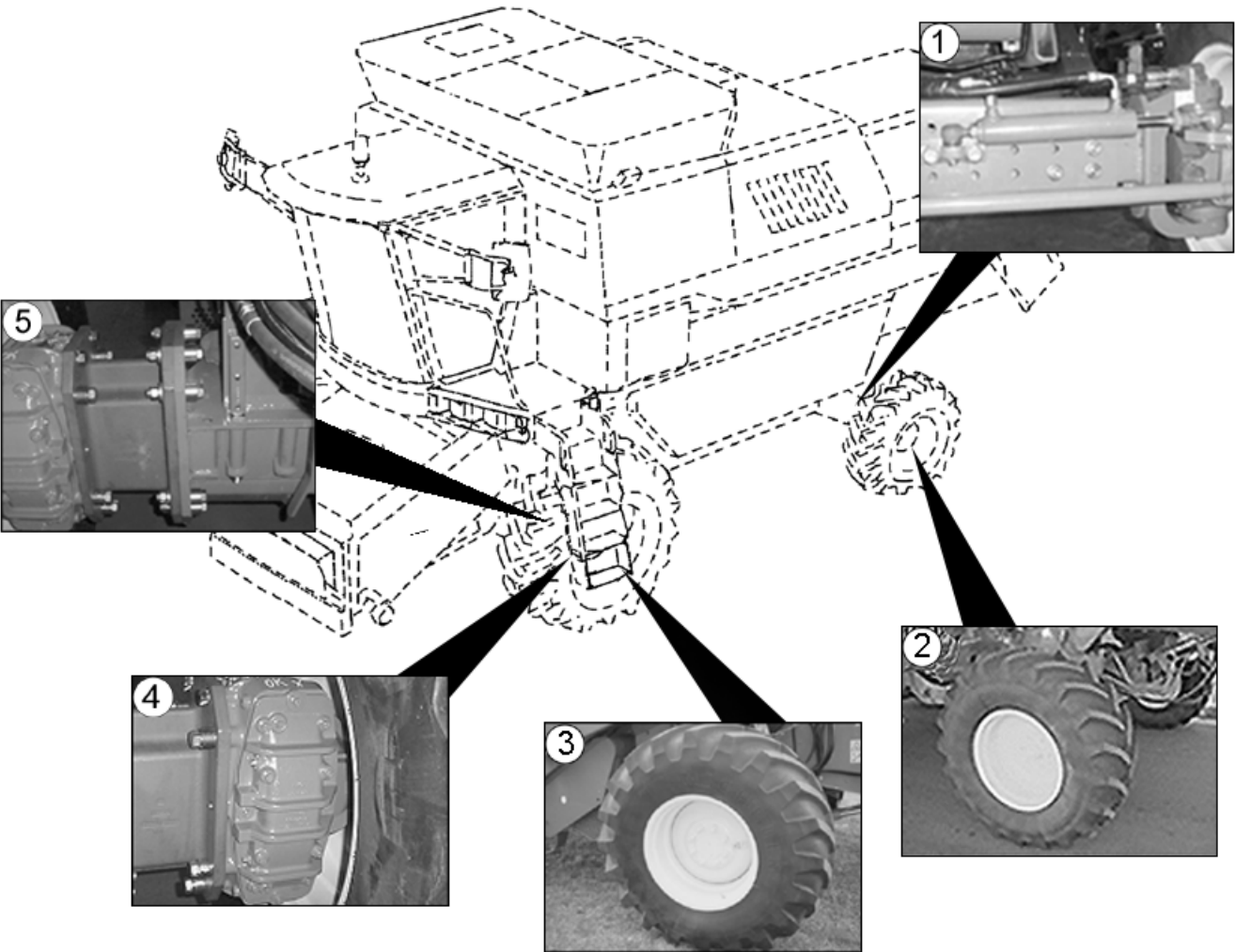
8. Check the cleaning shoe daily and clean, if necessary.

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 Lights and Monitors" section.

Service Points—First 10 hours

10



Continued on next page

ML70882.00007AC -19-01AUG05-1/2

CO242240 -UN-13AUG05

IMPORTANT: Service times refer to average conditions. Service more often if combine is operated in extreme conditions.

1. Carry out first retightening of the retaining bolts between the hydraulic steering cylinder and rear axle to 240 N.m (174 lb-ft).
2. Perform first retightening of all rear wheel bolts to a torque of 180 N.m (130 lb-ft). **Thereafter, repeat this procedure every 200 hours.**

NOTE: Four wheel drive: retighten wheel nuts to 200 N.m (145 lb-ft).

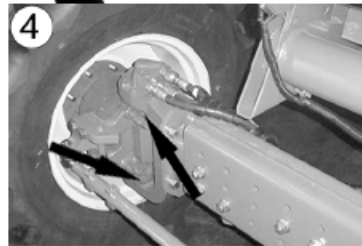
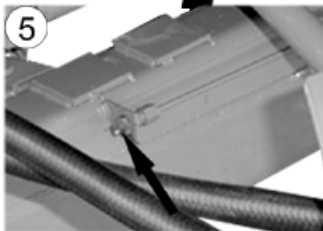
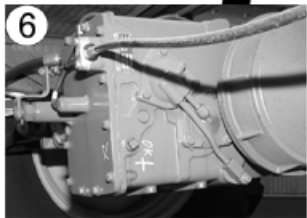
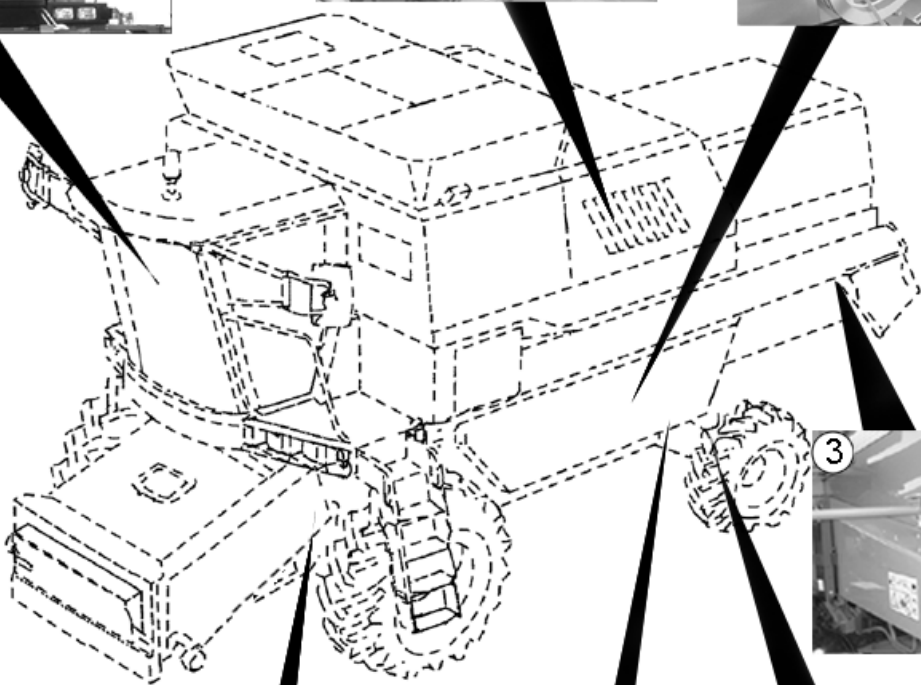
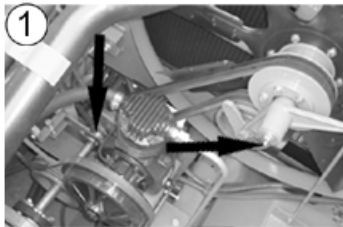
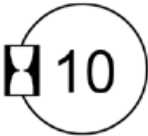
3. Perform first retightening of front wheel nuts to 550 N.m (400 lb-ft). **Thereafter, repeat this procedure every 200 hours.**

NOTE: Refer to "Mounting Front Wheels" for further details.

4. Carry out the first retightening of final drive retaining bolts to 450 N.m (332 lb-ft). **Thereafter, repeat this procedure every 50 hours.**
5. If equipped: Carry out the first retightening of front axle retaining bolts to 450 N.m (332 lb-ft). **Thereafter, repeat this procedure every 50 hours.**

ML70882,00007AC -19-01AUG05-2/2

Service points—Every 10 hours



CO219704 -UN-01AUG05

IMPORTANT: Recommended service intervals are for average conditions. Service more frequently 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.

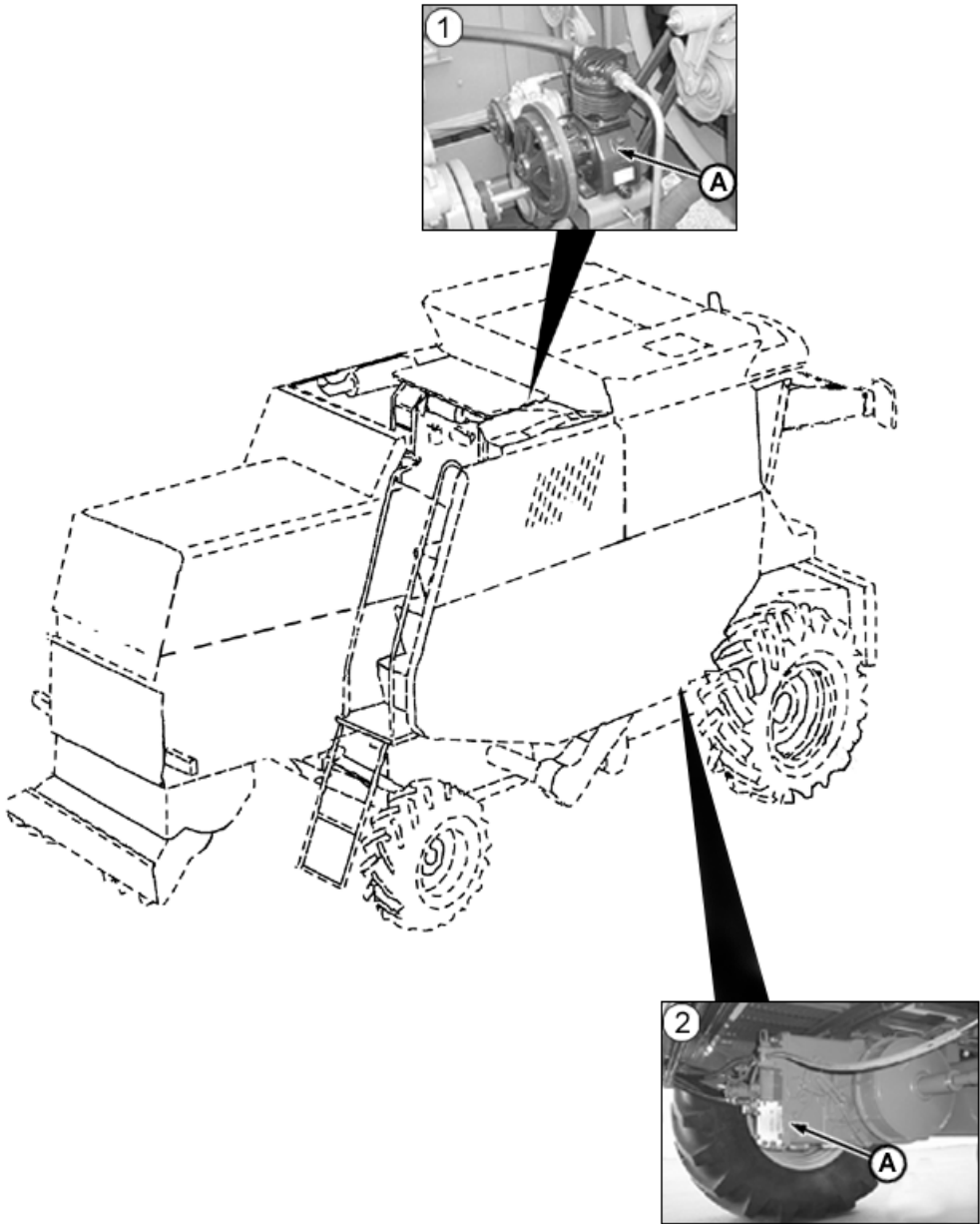
4. Lubrication point: two points on rear-wheel drive linkages.
5. Lubrication point: one point on rear axle linkage.
6. Check gearshift lock solenoid operating function.
7. Check cleanliness and service condition of all of the machine's lights.

NOTE: After roughly cleaning the lamp lenses, wipe with a cloth moistened in household alcohol for better lamp performance.

AS60558,00003DF -19-19JAN07-2/2

Service Points—First 50 hours

 50



Continued on next page

ML70882,00007AE -19-20MAY05-1/2

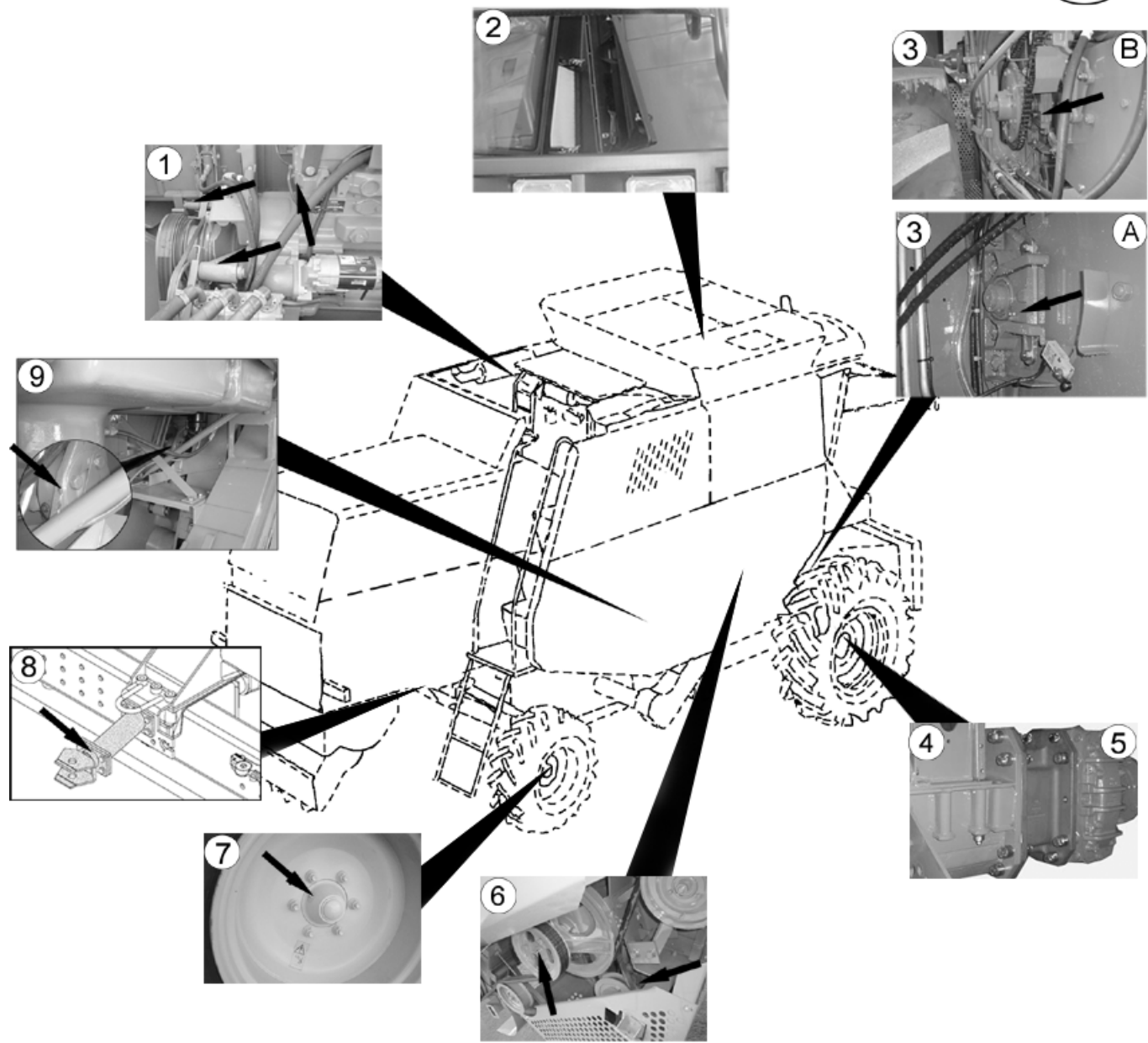
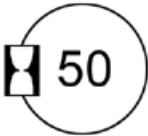
CO242260 -UN-13AUG05

IMPORTANT: Service times are for average conditions. Service more often if combine is used in extreme conditions.

1. Change air compressor oil for the first time, draining off spent oil through drain plug (A). **Later, change oil every 200 hours.**
2. Carry out the first oil change of the transmission box, removing the spent oil by means of the drain plug (A). **Later, change transmission oil every 500 hours.**

ML70882,00007AE -19-20MAY05-2/2

Service points—Every 50 hours



Continued on next page

OU83340,00003EB -19-03JUN05-1/2

IMPORTANT: Service times are for average conditions. Service more often if combine is used in extreme conditions.

1. Lubrication point: three points on the bearings of the drive belt idlers located next to the engine power takeoff.
2. Clean cab air filters with hand brush furnished with the machine.



CAUTION: When cleaning or changing air filter, shut down 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.

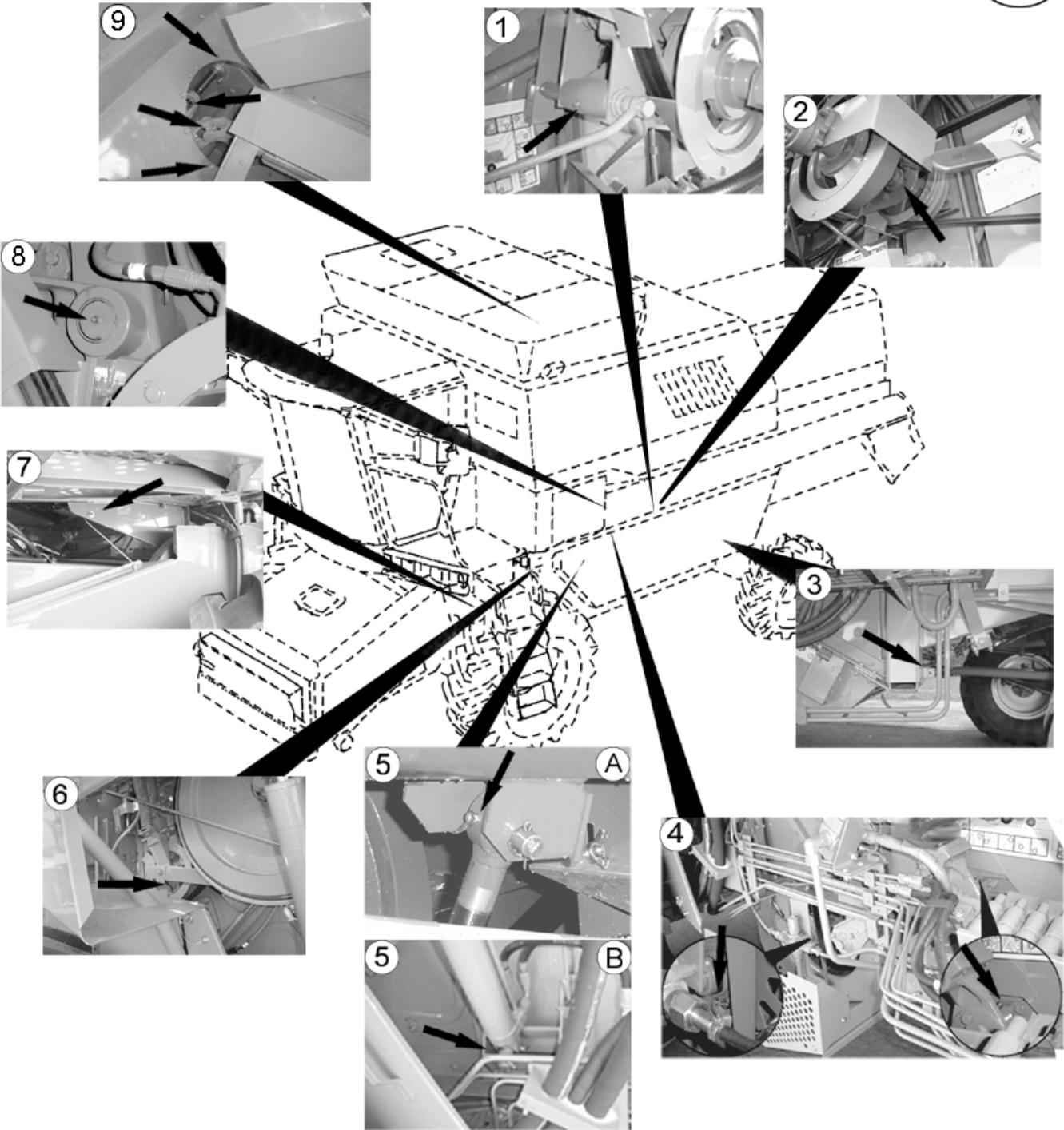
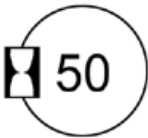
3. Lubrication point: one point on the feeder house linkage bearing.

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.

4. If equipped: Retighten front axle retaining bolts to 450 N.m (332 lb-ft).
5. Retighten final drive retaining bolts to 450 N.m (332 lb-ft).
6. 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.
7. Lubrication point: one point on each wheel hub.
8. Lubrication point: one point on the hitch.
9. Lubrication point: one point on drive arm of the right-hand cleaning shoe.

OU83340,00003EB -19-03JUN05-2/2

Service points—Every 50 hours



Continued on next page

OU83340,00003EC -19-03JUN05-1/2

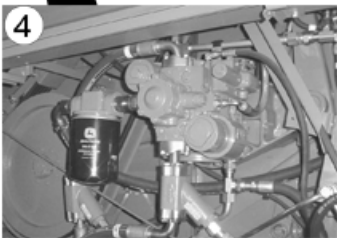
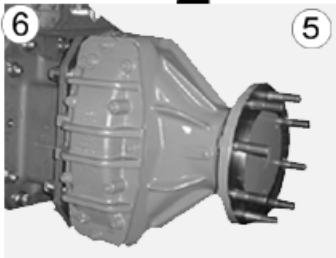
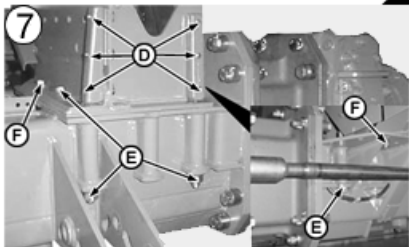
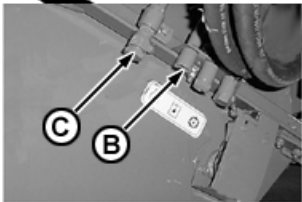
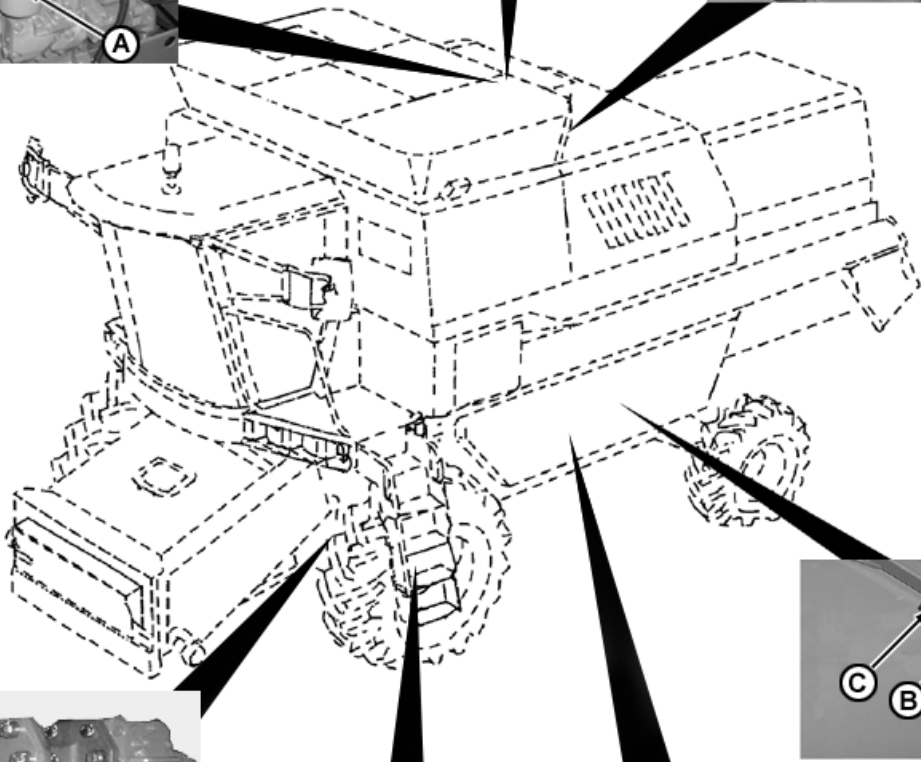
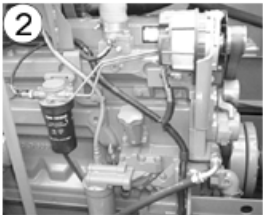
C0219721 -UN-31JAN05

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 point on the header drive pulley.
7. Lubrication point: one point on the feeder house linkage bearing.
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 -19-03JUN05-2/2

Service Points—First 100 hours



Continued on next page

ML70882,00007AF -19-20MAY05-1/2

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 oil set the engine running for around 5 minutes in order to heat up oil. **Later on, oil and filter changes must be carried out every 250 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). On 1550 combine engine oil is drained off via drain plug (C).

2. Check the entire fuel system.
 - a. Carry out first replacement of fuel system water trap filter element. **Further replacements are due every 500 hours.**
 - b. Carry out first replacement of final fuel filter. **Further replacements must be carried out every 250 hours.**
3. Carry out first replacement of hydraulic system oil filter. **Further replacements must be carried out every 500 hours.**

4. Carry out first replacement of hydrostatic system filter. **Further replacements must be carried out every 500 hours.**

Change hydrostatic system oil (only if John Deere **Hy-Gard®** is not used) by means of drain plug (E).

5. Change the oil of final drives for the first time. **Further oil changes must be carried out every 1000 hours.**

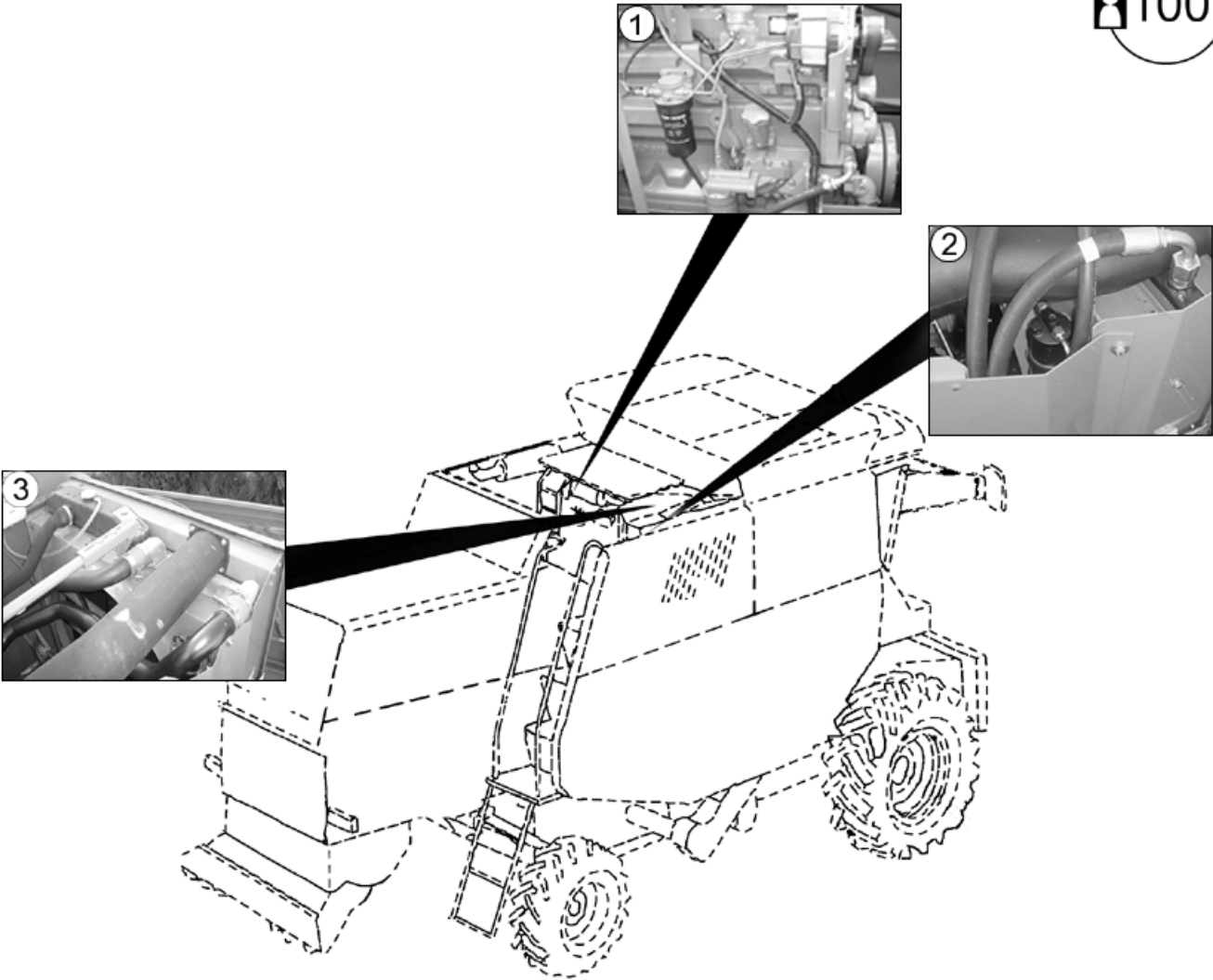
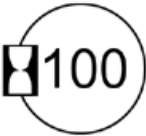
NOTE: Clean vent plug of the final drive.

6. Carry out first check of 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 and at the end of every season.**

NOTE: See "Adjusting Play of Final Drive Flanged Axle Bearings" in the "Service—Hydrostatic Variable Speed Drive and Brakes" section.

7. Carry out first tightening of front axle retaining bolts. **Thereafter, repeat this procedure every 500 hours.**
 - a. Tighten bolts (D) to 95 N•m (70 lb-ft).
 - b. Tighten bolts (E) to 300 N•m (221 lb-ft).
 - c. Tighten bolts (F) to 240 N•m (177 lb-ft).

Service points—Every 100 hours

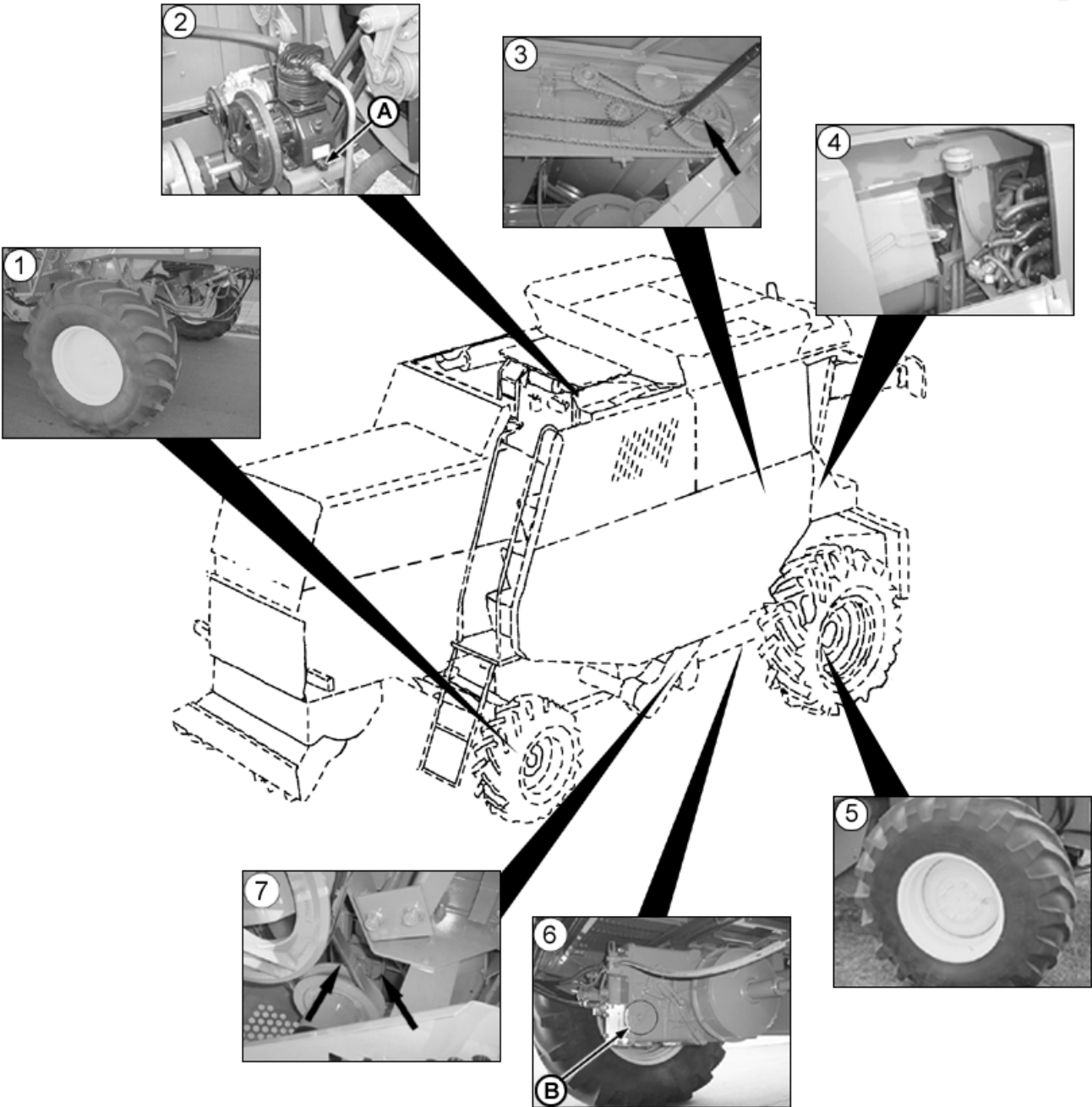


IMPORTANT: Service times are for average conditions. Service more often if combine is used in extreme conditions.

1. Check connections on fuel injection lines. Retighten, if necessary.
2. Replace drier filter if the system becomes contaminated with air or every 100 hours.
3. Check the tightness of hose clamps and connections. Retighten, if necessary.

OU83340.00003F5 -19-03JUN05-2/2

Service points—Every 200 hours



Continued on next page

OU83340,00003F6 -19-01AUG05-1/2

IMPORTANT: Service times refer to average conditions. Service more often if combine is operated in extreme conditions.

1. Retighten rear wheel nuts to 180 N•m (130 lb-ft).

NOTE: Four wheel drive: retighten wheel nuts to 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 level of brake fluid. Pull back cover to gain access. Fill up, if necessary.

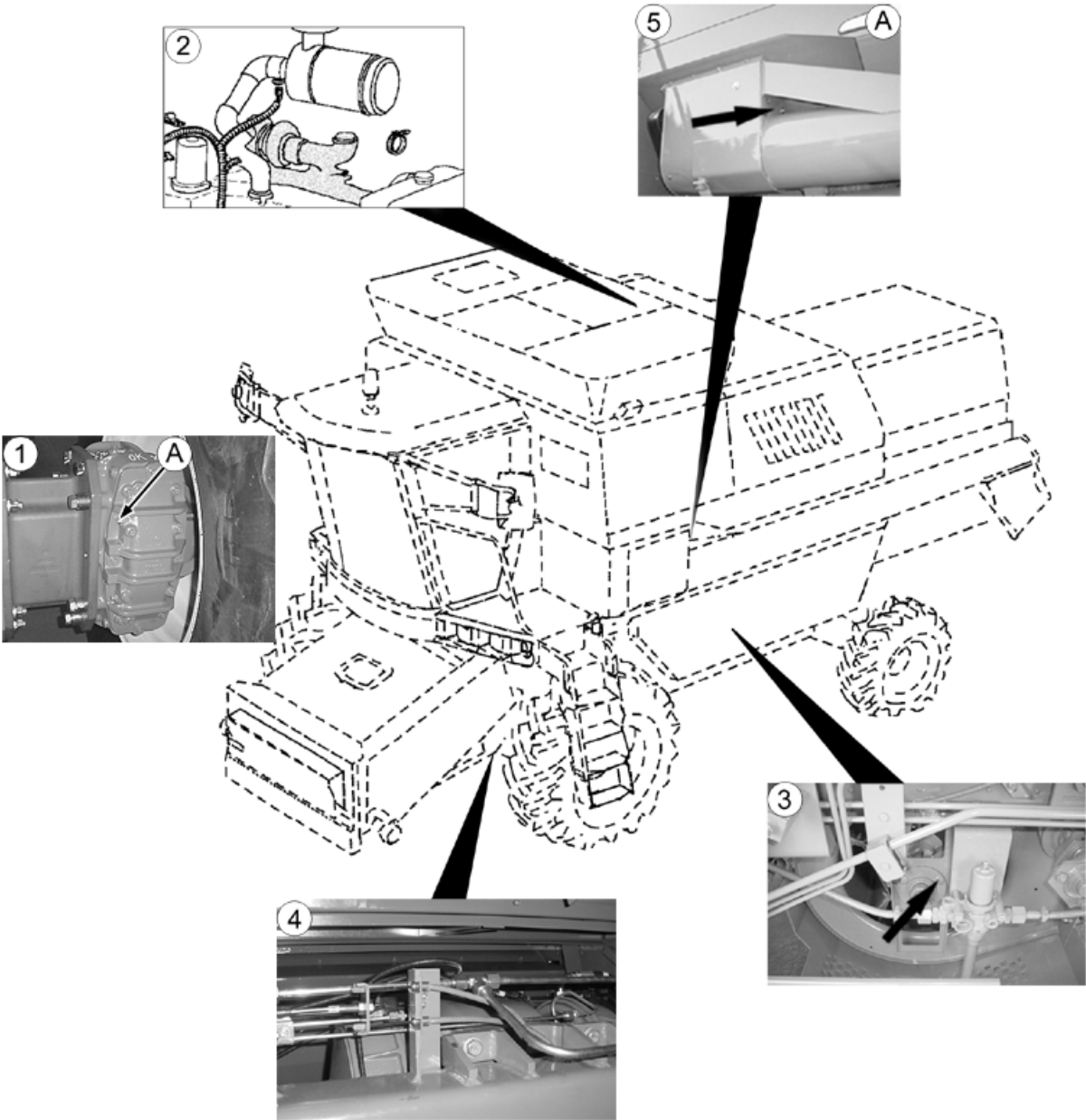
4. Retighten front wheel nuts to 550 N•m (400 lb-ft).

NOTE: Refer to "Mounting Front Wheels" for further details.

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). Fill up, if necessary.
7. Lubrication point: two points. One point on the pulley wheel and the other on the bearing of the separator fan.

OU83340,00003F6 -19-01AUG05-2/2

Service points—Every 200 hours



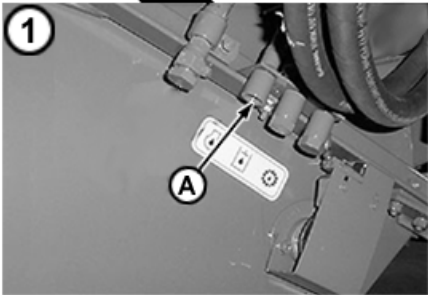
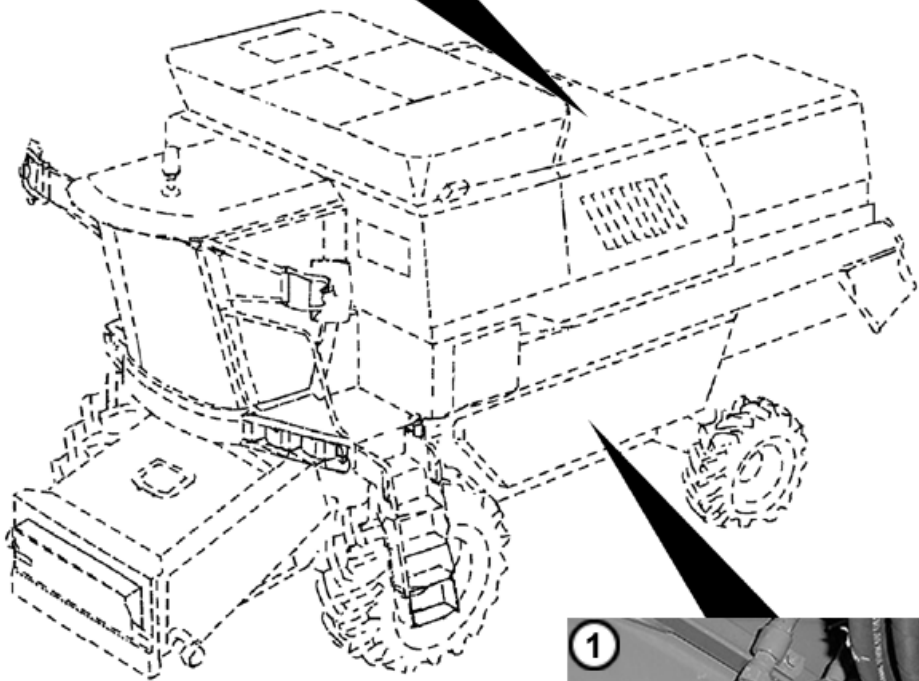
IMPORTANT: Service times are for average conditions. Service more often if combine is used in extreme conditions.

1. Check the oil level of the final drives through oil level check plug (A). Fill up, if necessary.
2. Check clamps and hoses of the turbocharger feeder system. Retighten, if necessary.
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).

OU83340,00003F7 -19-03JUN05-2/2

Service points—Every 250 hours

250



CQ279345 -UN-19JAN07

IMPORTANT: Recommended service intervals are for average conditions. Service more frequently if combine is used in extreme conditions.

1. Drain engine oil through plug (A) and add new oil. Replace the engine oil filter. (Engines not using John Deere PLUS-50 or oil meeting ACEA E5 specifications).

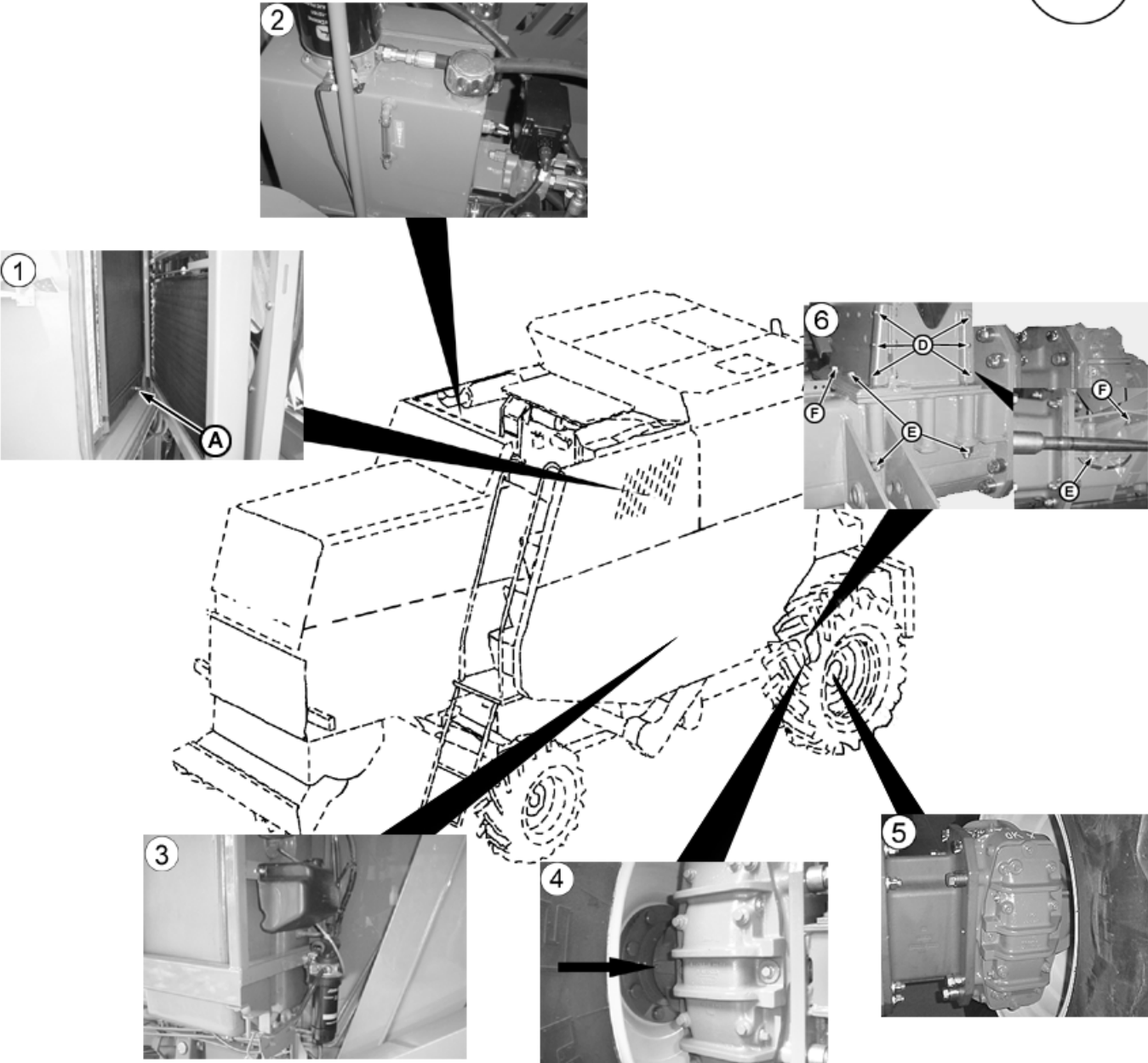
This interval can be extended to **500 hours** for engines using John Deere PLUS-50 or oil meeting ACEA E5 specifications.

NOTE: The interval for replacement can be extended to 500 hours because the combine is equipped with a long-life filter.

2. Replace final fuel filter.

AS60558,00003E0 -19-19JAN07-2/2

Service points—Every 500 hours



Continued on next page

OU83340,00003F9 -19-03JUN05-1/2

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 filter element of fuel system water trap.

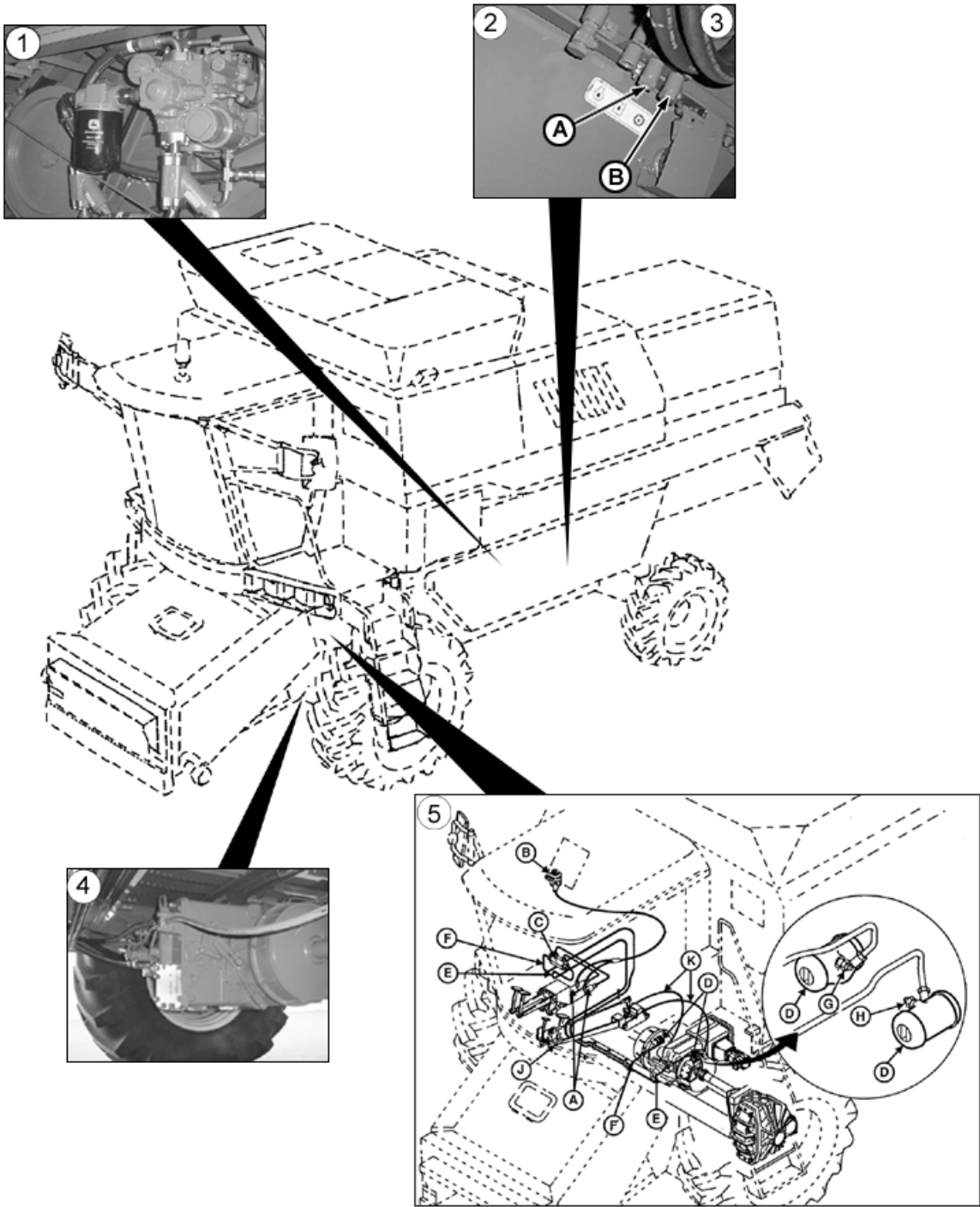
4. Lubrication point: one point on all wheel hubs.
5. Check play of final drive flanged axle bearings on all combines. Adjust, if necessary.

NOTE: See "Adjusting Play of Final Drive Flanged Axle Bearings" in the "Service—Hydrostatic Variable Speed Drive and Brakes" section.

6. Tightening front axle retaining bolts.
 - a. Tighten bolts (D) to 95 N•m (70 lb-ft).
 - b. Tighten bolts (E) to 300 N•m (221 lb-ft).
 - c. Tighten bolts (F) to 240 N•m (177 lb-ft).

OU83340,00003F9 -19-03JUN05-2/2

Service points—Every 500 hours



CQ219821 -UN-13AUG05

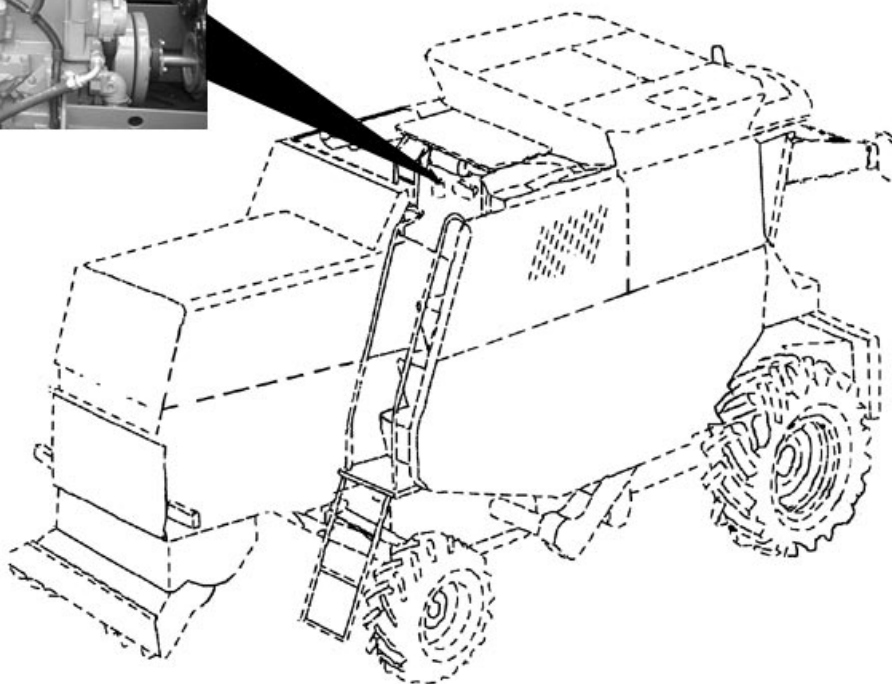
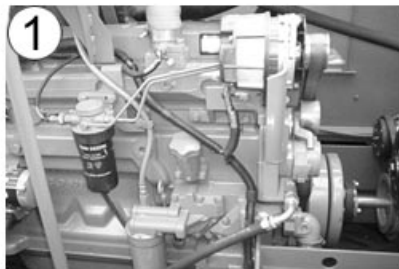
IMPORTANT: Service times are for average conditions. Service more often if combine is used in extreme conditions.

1. Replace hydrostatic system filter.
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 condition of brake system. In case of any fault, see your John Deere dealer.

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OU83340,00003FA -19-03JUN05-2/2

Service Points—First 750 hours



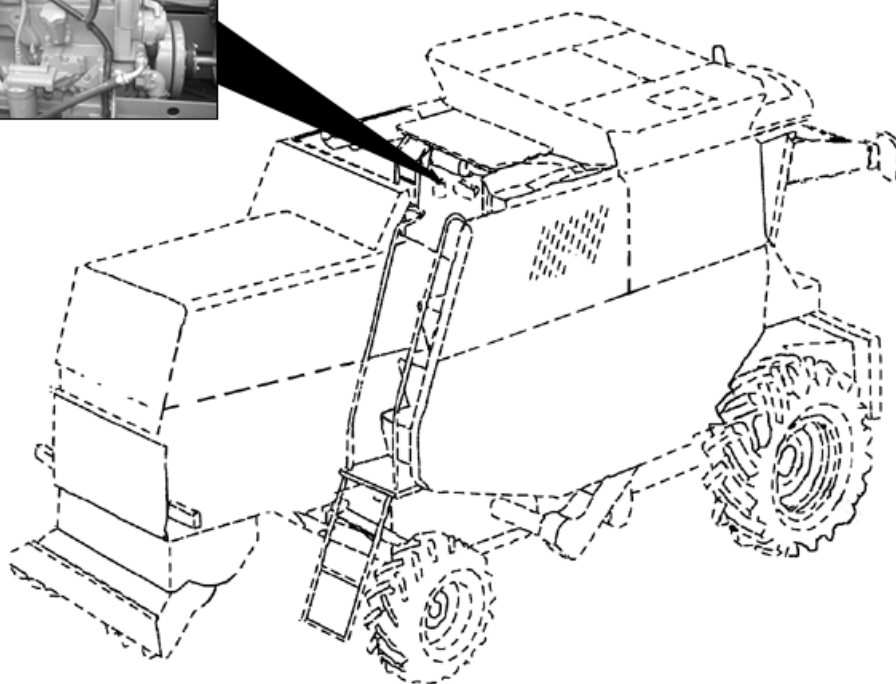
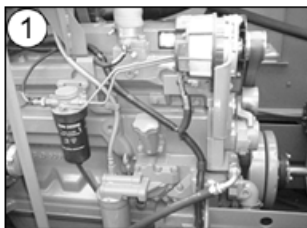
IMPORTANT: Service times are for average conditions. Service more often if combine is used in extreme conditions.

1. **1550:** Carry out first adjustment of engine valves. See your John Deere dealer for this adjustment. Afterwards, repeat every 2000 hours.

CQ219830 -UN-03JUN05

OU83340,00003FB -19-03JUN05-1/1

Service Points—First 1000 hours



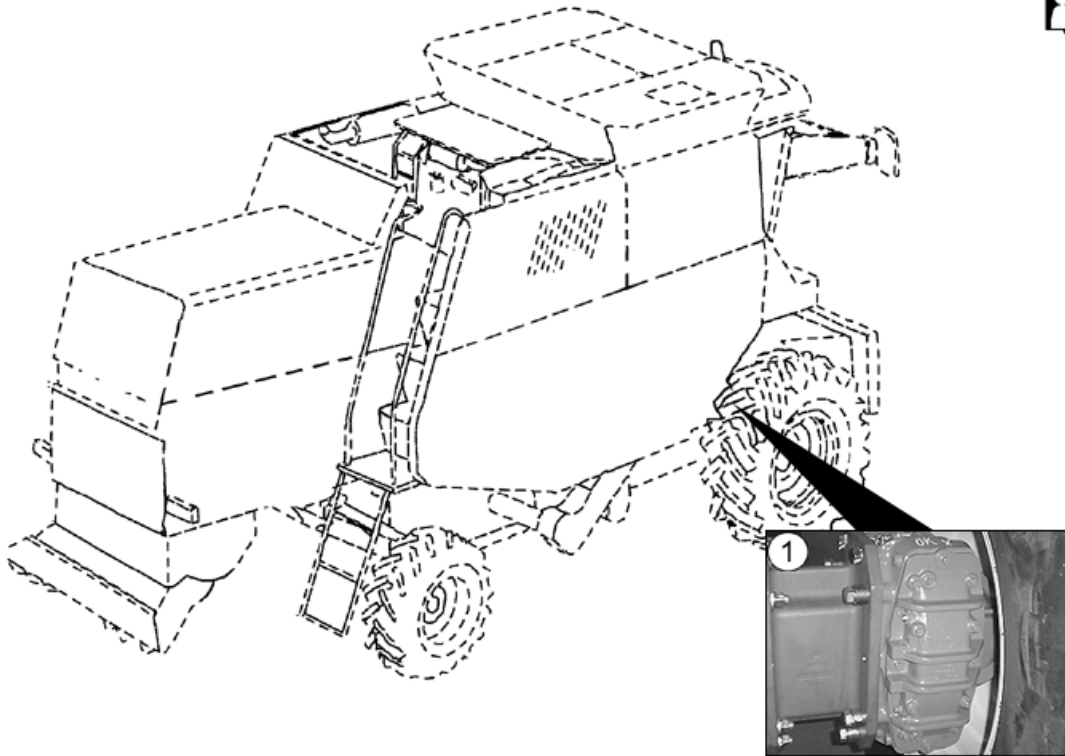
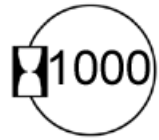
CQ242700 -UN-13AUG05

IMPORTANT: Recommended service intervals are for average conditions. Service more frequently if combine is used in extreme conditions.

1. Carry out first adjustment of engine valves. See your John Deere dealer for this adjustment. **Thereafter, repeat this procedure every 2000 hours.**

AS60558,00003E2 -19-19JAN07-1/1

Service points—Every 1000 hours

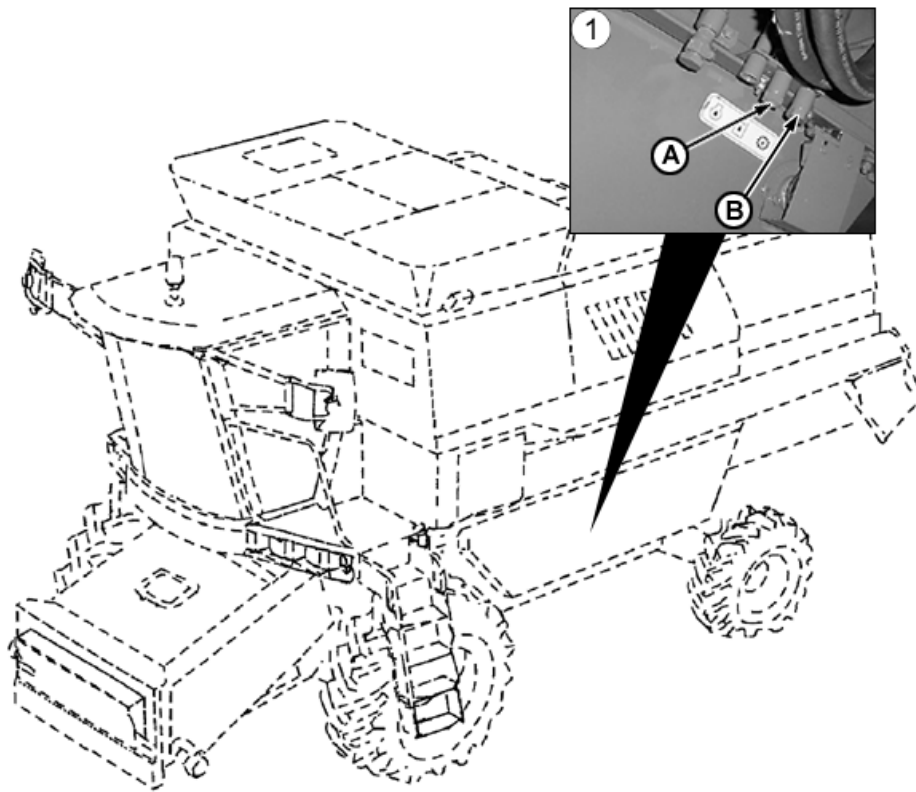


1. Change oil of final drives.

CQ219844 -UN-13AUG05

ML70882,00007B7 -19-02JUN05-1/1

Service points—Every 1500 hours



CQ219850 -UN-13AUG05

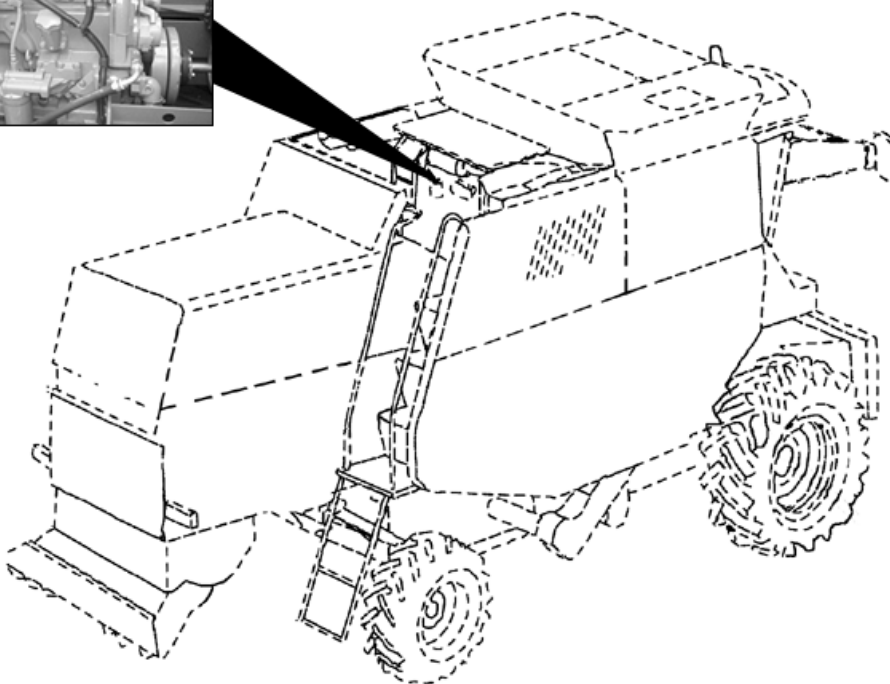
IMPORTANT: Service times are for average conditions. Service more often if combine is used in extreme conditions.

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).

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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. Carry out adjustment of engine valves. See your John Deere dealer for this adjustment.

CQ219860 -UN-13AUG05

OU83340,00003FE -19-03JUN05-1/1

After Each Harvesting Season

Combine

- ☐ Store the combine in a dry, sheltered area.
- ☐ Carefully wash and clean the interior and exterior of the combine. Powder and chaff fragments attract moisture, causing 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 screws.
- ☐ Loosen all belts to avoid stress points.
- ☐ Clean and lubricate chains with oil or grease to prevent rust.
- ☐ Clean the cleaning shoe and grain pan with a good steel brush.
- ☐ Lubricate the fin linkages with an oil can.
- ☐ Uncouple the head and set 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 have these services carried out by your John Deere dealer long before the season starts.

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 with 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 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 battery cable terminals with petroleum jelly.
- ☐ Periodically run the engine at half throttle for about 30 minutes.

AG,GG05155,215 -19-01AUG05-1/1

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

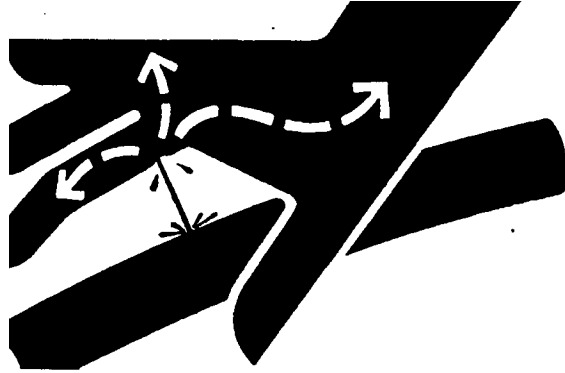
Avoid High-Pressure Fluids

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

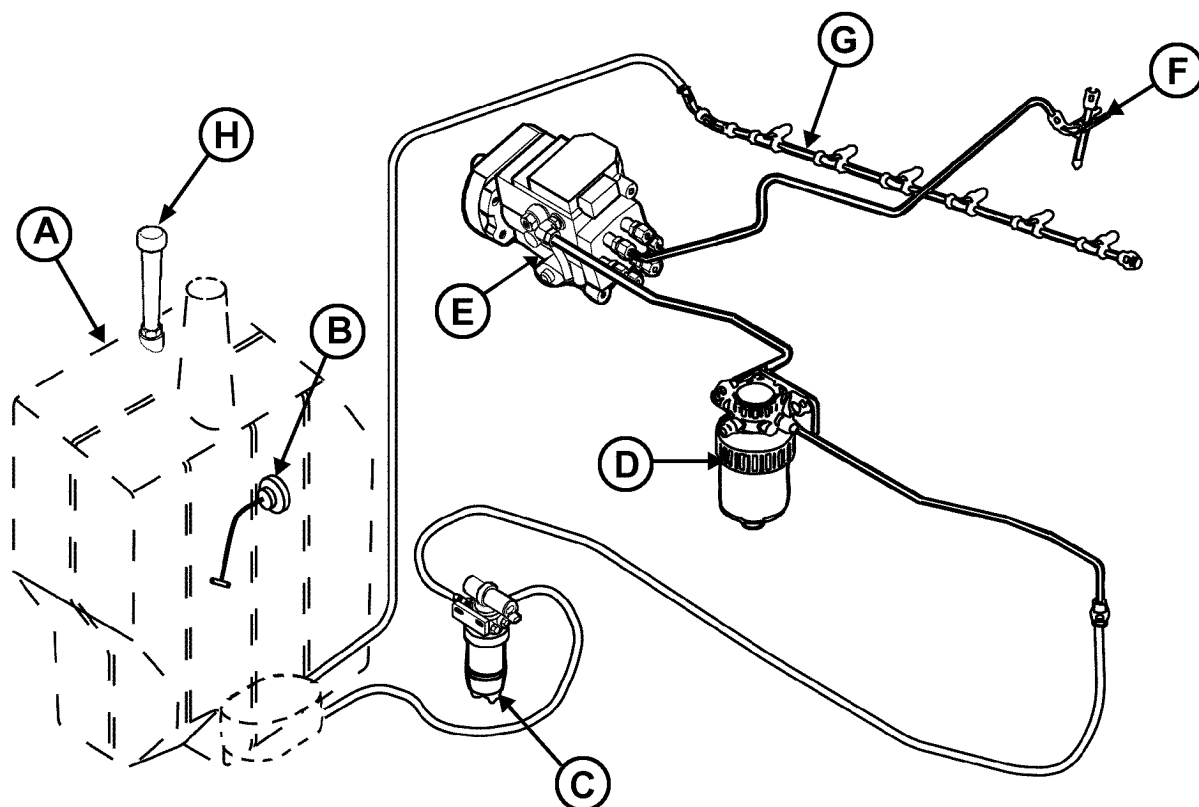
DX,FLUID -19-03MAR93-1/1

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

Engine Fuel System



A—Fuel tank
B—Level sensor
C—Primary filter with fuel transfer pump

D—Fuel filter
E—Injection pump

F—Injection nozzle
G—Return line

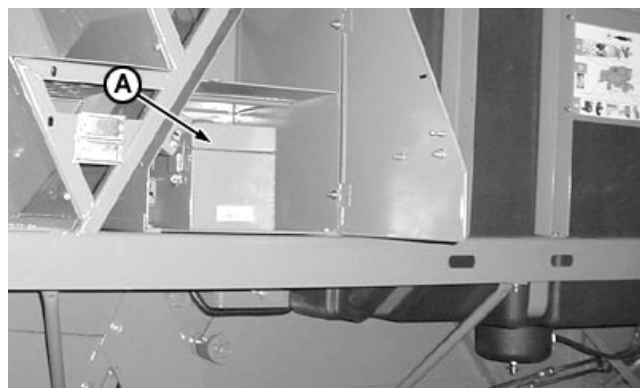
H—Fuel tank breather

CO203661 -UN-11OCT02

AS60558,00003E4 -19-22JAN07-1/1

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.



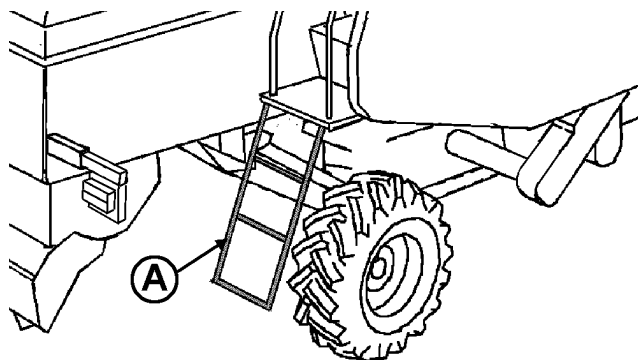
CO203661 -UN-31JAN05

CO03622,0000068 -19-01FEB05-1/1

Access to Engine

Access to the engine is via the rear service deck. Use ladder (A).

NOTE: For more details see “Access Points Via Rear Ladder”.



CQ192510

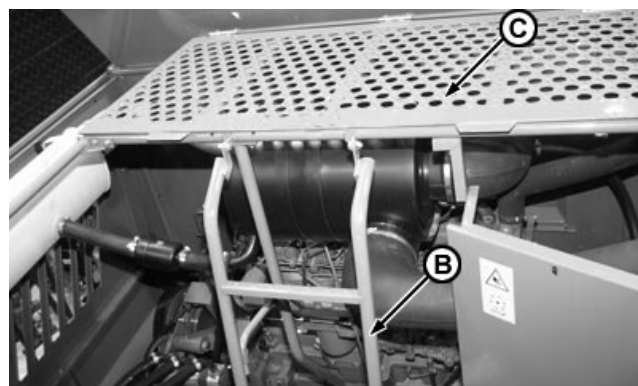
AG,CO03622,2074 -19-01AUG05-1/2

UN-01NOV99

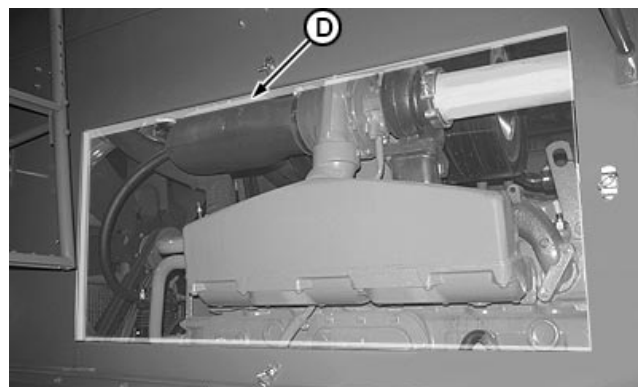
The engine compartment can be reached by raising ladder (B).

Climb to deck (C) and then access interior of grain tank. Open inspection hatch (D) to access the other side of the engine.

CAUTION: If it is really necessary to go inside the grain tank, shut off engine and remove starter key.



UN-29JUL05



UN-06SEP05

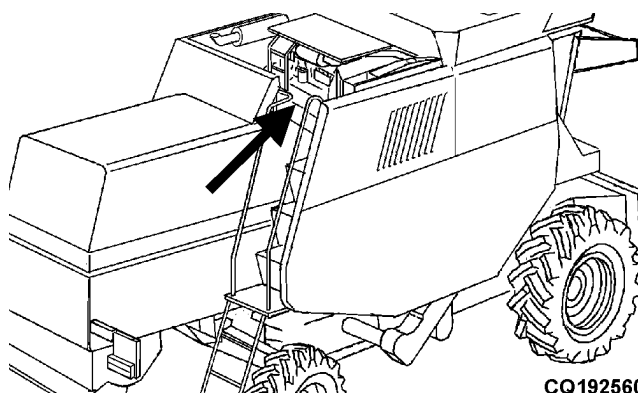
AG,CO03622,2074 -19-01AUG05-2/2

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.



CQ192560

AG,CO03622,2075 -19-14MAR02-1/1

UN-01NOV99

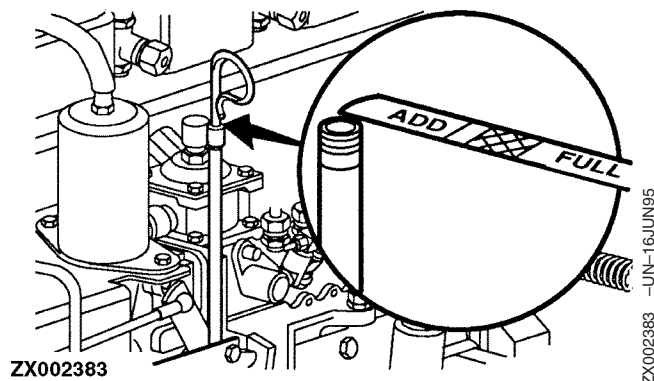
Checking Engine Oil Level

To prevent interruption of the circulation of lubrication oil when the combine is in an inclined position, never allow oil to drop below the minimum level.

IMPORTANT: It is vital to maintain the engine oil at the correct level to ensure a longer engine service life. Check the engine oil level when the engine is cool and the combine is parked on a flat surface.

Before removing dipstick, clean surrounding area thoroughly.

The oil level should be between the upper and lower marks on the dipstick.



AG.CO03622,2078 -19-01AUG05-1/1

Changing Engine Oil Filter and Oil

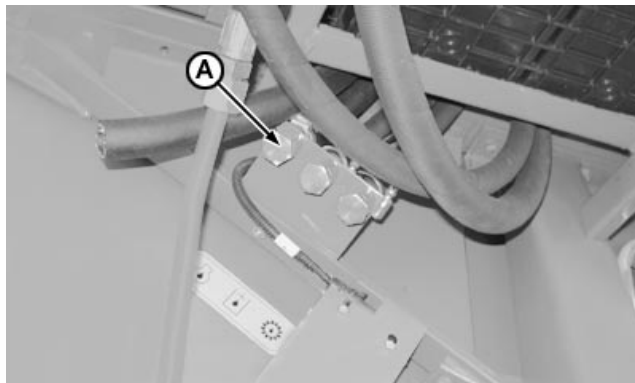
IMPORTANT: Ensure that your hands and engine are perfectly clean when installing replacement filter elements or changing oil.

1. Run engine for approx. 5 minutes to heat up oil.
2. Then shut down engine.
3. Bleed oil through plug (A) while it is still warm.
4. Remove oil filter (B).
5. Remove O-ring and clean mounting surface where new O-ring will be fitted. Apply a thin coat of oil to new O-ring and install it together with the new oil filter. When O-ring is touching mounting surface, tighten filter manually by another 1/2 to 3/4 turn. Do NOT overtighten filter.
6. Close oil drain plug (A) again.
7. Fill engine with oil complying with specified viscosity and quality. (Refer to "Specifications" section).

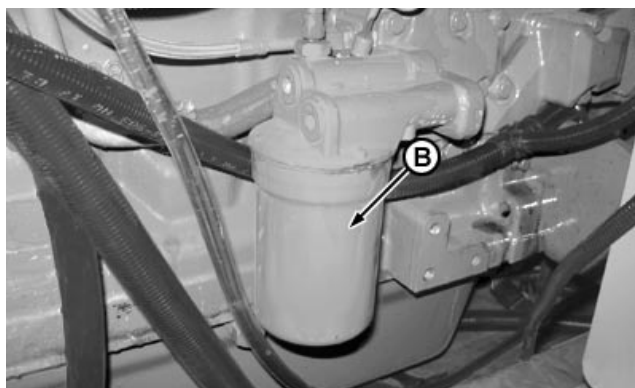
NOTE: Actual capacity may vary slightly from figure stated above. Do NOT overfill!

IMPORTANT: Directly after completing oil change and/or filter change, crank engine for 30 seconds. This ensures that all engine components are thoroughly lubricated when engine is started.

8. Start engine and check for leaks.
9. Shut off engine and wait 10 minutes before checking oil level. Oil should still be up to upper mark on dipstick.



CQ272880 -UN-02JUN06



CQ271500 -UN-30MAY06

ML70882,0000995 -19-29MAY06-1/1

Cleaning Fuel Filter Water Trap

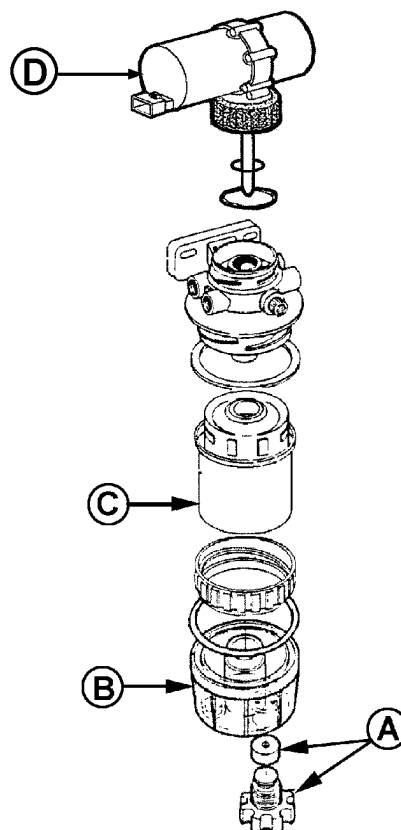
When water and sediment are visible at the sight-glass (B), shut off the engine and open drain cock (A). Trap the contaminated fuel as it emerges in a suitable container. Then close drain cock (A) again. To clean the filter further, proceed as follows:

Unfasten sight-glass (B).

Remove filter insert (C) and clean it thoroughly in clean diesel fuel. When the insert has been washed between 5 and 10 times, throw it away and use a new insert.

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

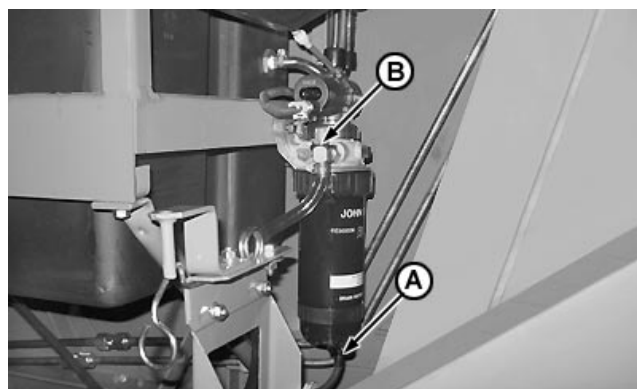
ML70882,000085D -19-17SEP05-1/1

CQ203670 -UN-04APR01

Bleeding off Water from Primary Fuel Filter

NOTE: Ensure fuel shut-off valve (B) is in position "ON".

1. Loosen drain screw (A).
2. Drain water from primary filter and retighten drain screw as soon as clean fuel is observed.



ML70882,000085E -19-23MAY06-1/1

CQ266700 -UN-21MAR06

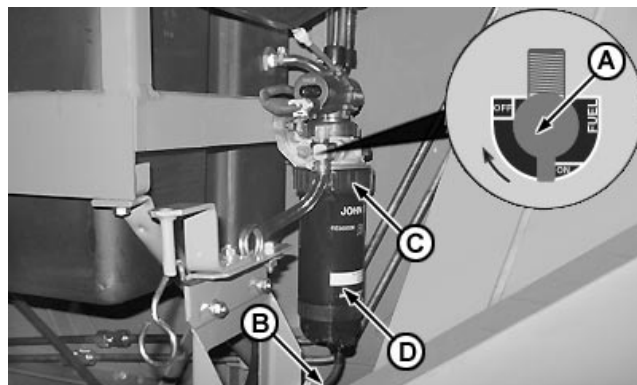
Replacing Primary Fuel Filter

CAUTION: Always remove ignition key before performing maintenance work on primary fuel filter. Avoid fire hazards!

1. Close fuel shut-off valve (A) (OFF position).
2. Remove drain hose (B).
3. Turn locking ring (C) and remove primary filter (D).
4. Clean or replace as required.
5. Install parts following reverse procedure.

NOTE: Make sure you open fuel shut-off valve (ON position).

6. Bleed fuel system. See “Bleeding the Fuel System” for more information.



CQ272990 -UN-02JUN06

ML70882,0000957 -19-01JUN06-1/1

Replacing Engine Fuel Filter

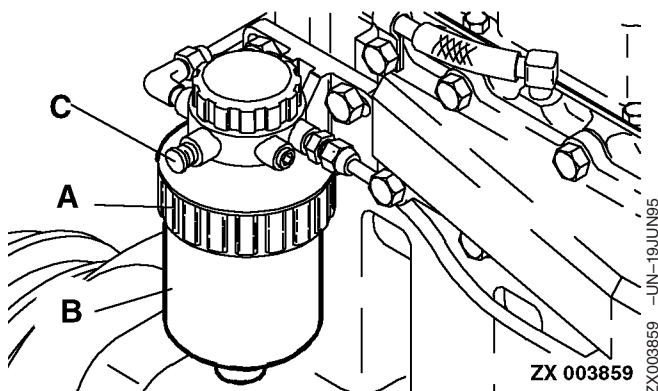
CAUTION: Always remove starter key before performing maintenance work on fuel filter. Avoid fire hazards!

Unfasten ring (A) and remove filter (B).

Install new filter, correctly aligning marks on filter and filter base.

Tighten until retaining ring (A) slots into its lock position.

Loosen bleed screw (C) (see “Bleeding Fuel System”).
Tighten bleed screw by hand.



-UN-19JUN95
ZX003859

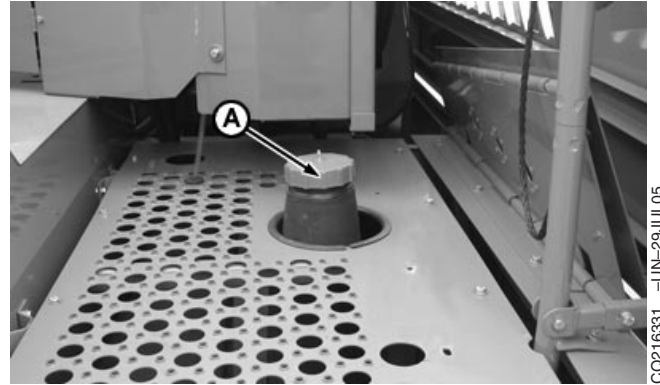
AS60558,00003E5 -19-22JAN07-1/1

Fuel Tank Cap

The fuel tank filler neck is closed with a tank cap (A).

The fuel tank cap is sealed. To vent the tank there is a special vent.

Clean dust and chaff from the surrounding area before removing tank cap.



AG,CO03622,2082 -19-17AUG05-1/1
CQ216331 -UN-29JUL05

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.

Check injection nozzles every 1500 hours.

AG,CO03622,2091 -19-01FEB05-1/1

Bleeding the Fuel System

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.

IMPORTANT: First bleed fuel in fuel filter. Turn on engine, in case engine does not start bleed fuel in injection nozzles.

ML70882,000090B -19-17FEB06-1/1

Bleeding the Fuel System on Engines with 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.

Bleeding Fuel System using the Electric Transfer Pump

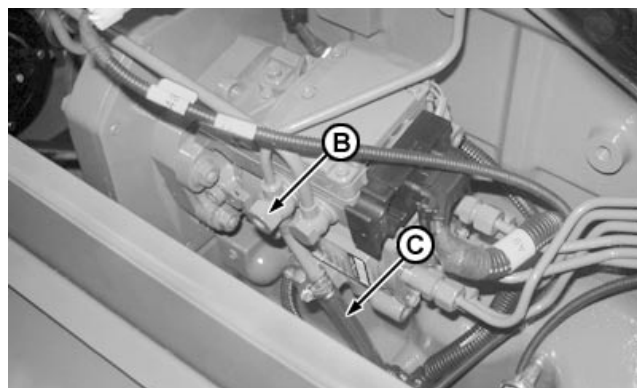
Bleeding is automatically performed by a bleed screw (A) on the side of the filter base connected to the overflow valve (B) on injection pump. This system allows air to escape continually through the fuel return line (C) when ignition is ON.

1. Turn starter key to ON position.
2. Allow 40 seconds for electric transfer pump to complete priming of circuit.
3. If additional system bleeding is required, bleed the circuit by loosening fuel line connections at injection nozzles.

A—Bleed screw
B—Overflow valve
C—Return line



CQ265920 —UN-16FEB06



CQ265930 —UN-16FEB06

Injection pump (VP44)

Continued on next page

ML70882,000090D —19-21MAR06-1/2

Bleeding Fuel System at the Fuel Injection Nozzles

1. Set throttle switch to medium speed.

NOTE: On engines equipped with an electric fuel shut-off solenoid, energize solenoid by turning starter key to the ON position.

IMPORTANT: Always use a backup wrench when loosening or tightening fuel lines at injection nozzles and/or at the injection pump in order to avoid damaging the connectors.



RG7725 -UN-08JAN97

Fuel Injection Nozzle Pressure Line

2. Using two wrenches disconnect two fuel lines at the injection nozzles.
3. Crank engine through starter motor for 15 seconds (but do not start engine) until fuel free of bubbles flows out of loosened connection. Retighten connections according to specifications.

Specification

Connections of fuel injection
nozzle pressure line—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.

ML70882,000090D -19-21MAR06-2/2

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

Engine Coolant Level

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

When the engine is cool, the coolant level (in the expansion tank) should be at the “COLD” mark.

IMPORTANT: Regardless of the season, use only John Deere COOL-GARD coolant.

Check condition of coolant mixture before the winter season. Coolant should protect engine against temperatures below -36°C (-35°F).

Check the level and, if needed, add clean mineral water and coolant concentrate in the proportions indicated in the “Fuel, Lubricants, Coolant” section.

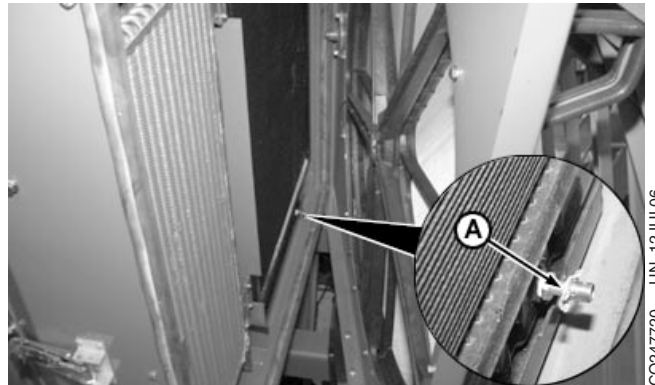
IMPORTANT: Only top up the coolant system when the engine is shut off and cool.

Drain coolant via the drain plug (A).

Never use any cooling system additives.



CO246570 -UN-29JUL05

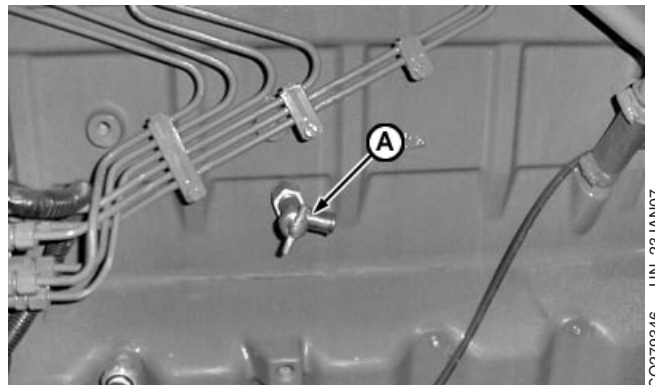


CO247720 -UN-12JUL06

AG,CO03622,2097 -19-01AUG05-1/1

Drain Plug For Engine Coolant

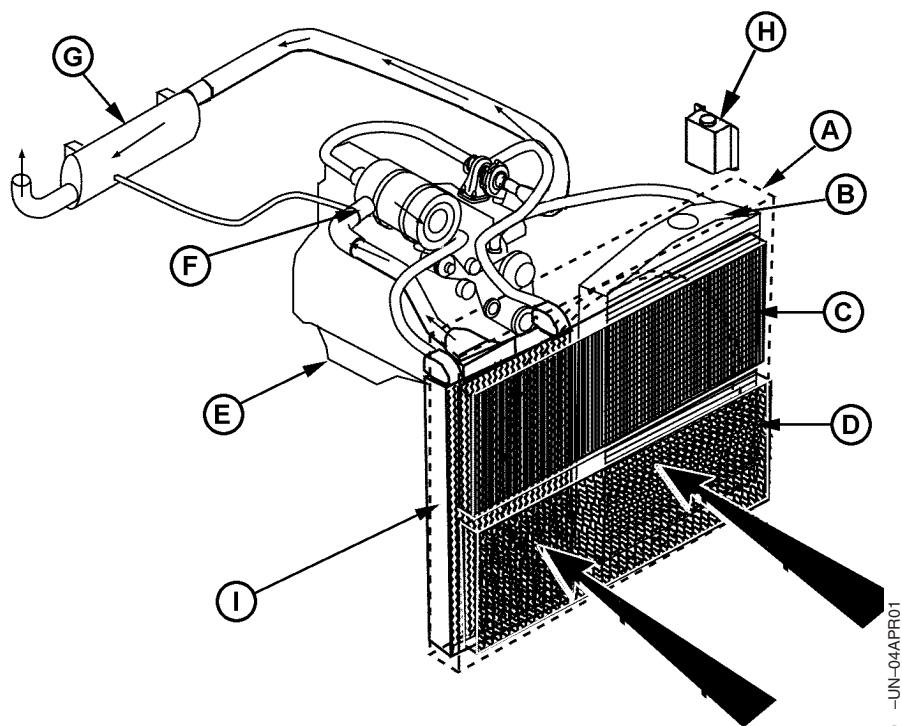
A—Drain Plug



CO279346 -UN-23JAN07

AS60558,00003E6 -19-22JAN07-1/1

Cooling, Air Intake and Exhaust System



CQ203690

CQ203690 -JN-04APR01

A—Rotary screen
B—Radiator
C—Condenser (air conditioning system)

D—Hydrostatic oil cooler
E—Engine

F—Air filter
G—Exhaust

H—Expansion tank (coolant)
I—Radiator (aftercooler)

AS60558,00003E7 -19-22JAN07-1/1

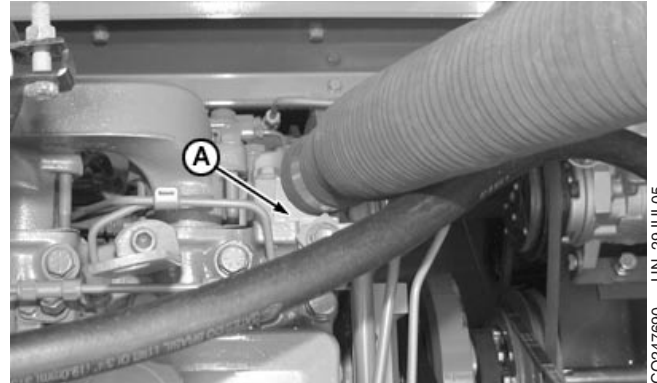
Replacing Thermostat



CAUTION: Danger of scalding! Before replacing the thermostat, release system pressure by turning expansion tank cap to first stop.

IMPORTANT: See your John Deere dealer to carry out this service.

When thermostat (A) is replaced coolant should also be replaced.



CO247690 -UN-29JUL05

AS60558,00003E8 -19-22JAN07-1/1

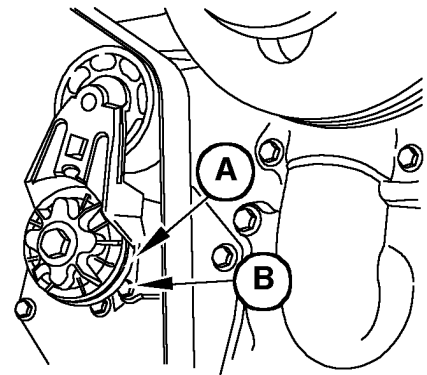
Checking Tension of Alternator V-Belt Tensioner Spring and Belt Wear

Belt drive systems equipped with automatic (spring) belt tensioners cannot be adjusted or repaired. The automatic belt tensioner is designed to maintain proper belt tension over the service life of the belt. If tensioner spring tension is not within specification, 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 the belt length. Replace belt as needed.



ZX009274

ZX009274 -UN-10JUN96

AG,CO03622,2199 -19-15MAR02-1/1

Checking Tensioner Spring Tension

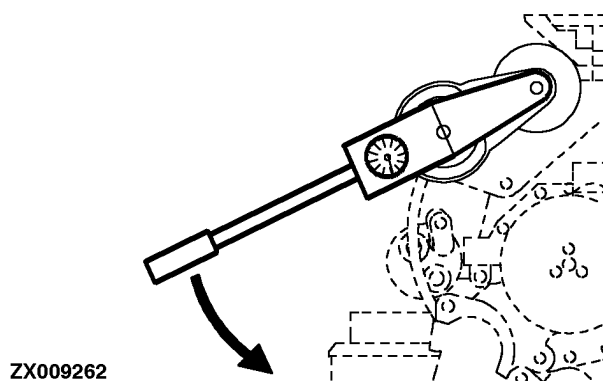
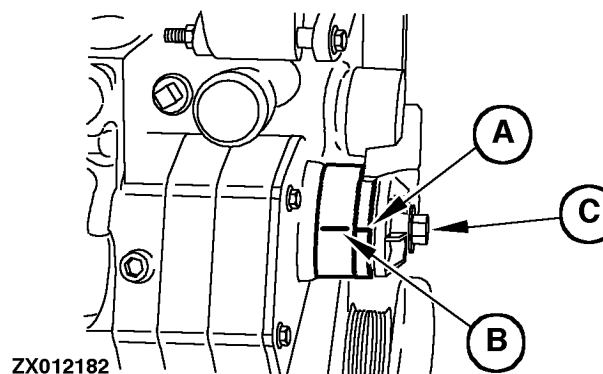
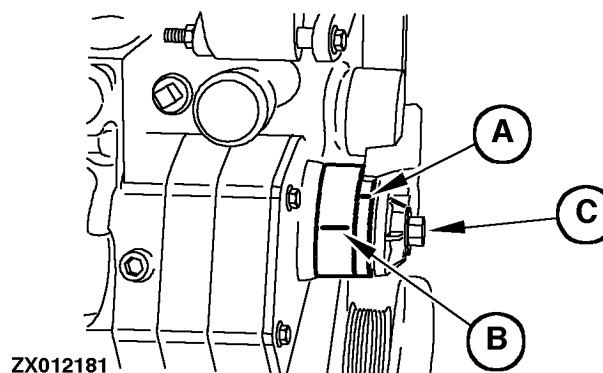
A belt tension gauge will not give an accurate measurement of the belt tension if an automatic spring tensioner is used. Measure tensioner spring tension using a torque wrench and procedure outlined below:

1. Release tension on belt using a long-bar and adequate wrench applied on cap screw (C) provided with 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 mounting base.
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 specification below. Replace tensioner assembly as 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.

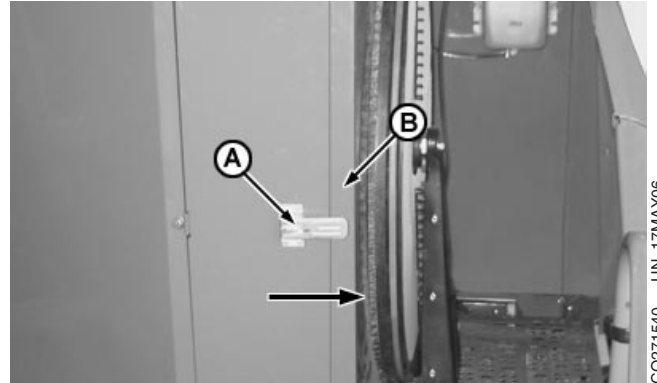
1. Relieve tension from V-belt.
2. Remove V-belt from pulleys.
3. Install a new V-belt and ensure that it is correctly seated in all pulley slots.
4. Apply tension to V-belt with tensioner.
5. Start engine and check V-belt alignment.

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.

Undo latch (A) and open rotary screen door (B).



ML70882,0000960 -19-23MAY06-1/2

CQ271540 -UN-17MAY06

Check rotary screen daily to ensure that it turns freely, unobstructed.

Clean rotary screen with a brush and compressed air when dirt and chaff build up on or behind the screen.

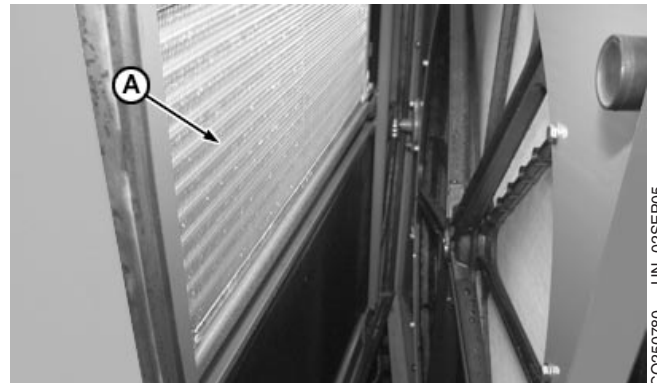
Remove oil cooler and condenser (A).

Clean oil cooler, condenser and radiator.

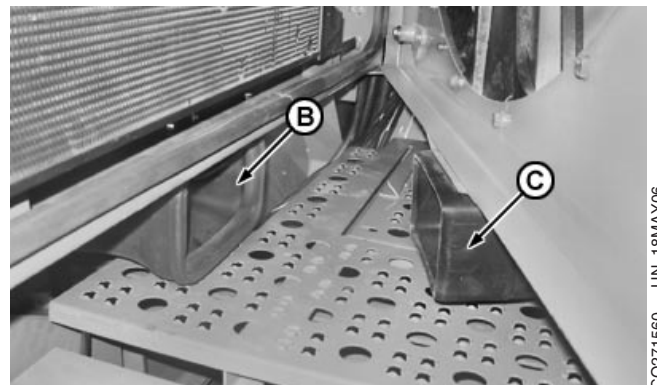
To clean with compressed air, blow from inside outwards.

Clean dirt from lower vacuum ducts (B) and (C).

IMPORTANT: When using high pressure air or water, be careful of fin damage to coolers. Straighten bent fins. Bent fins will decrease cooler performance.



CQ250780 -UN-02SEP05



CQ271560 -UN-18MAY06

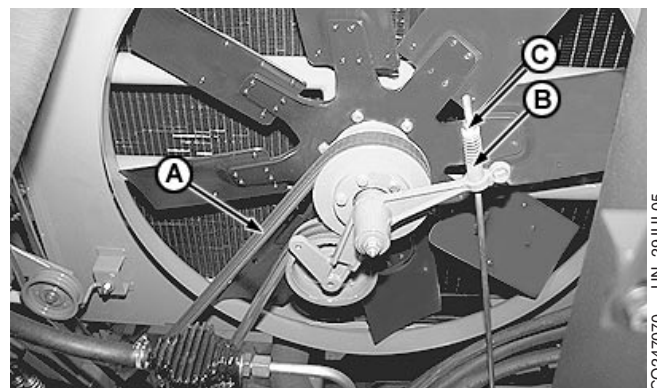
ML70882,0000960 -19-23MAY06-2/2

Replacing (Engine) Cooling Fan Belt

CAUTION: Shut off engine and remove key.

To remove belt (A), it is necessary to release spring (B) tension by loosening jam nut (C).

Remove pulley.



CQ247070 -UN-29JUL05

AG.CO03622,2202 -19-17AUG05-1/1

Replacing Rotary Screen Drive Belt

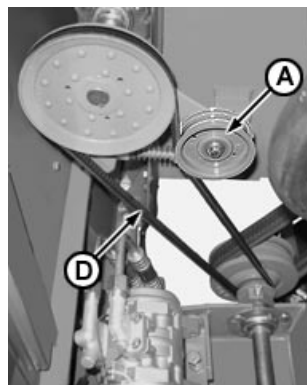


CAUTION: Shut off engine and remove key.

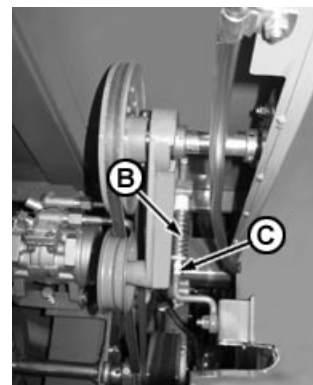
Pull up on spring loaded idler (A) loosening spring (B) through nut (C) to remove rotary screen drive belt (D).

NOTE: To start this procedure the fan belt should be removed in advance.

A—Idler Pulley
B—Spring
C—Nut
D—Drive Belt



CQ247080 -UN-29JUL05

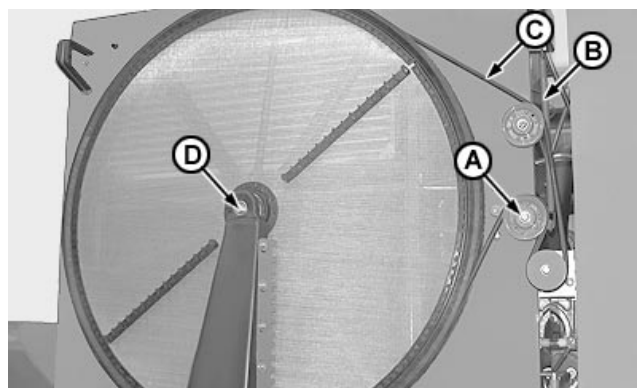


CQ247090 -UN-29JUL05

AG,CO03622,2204 -19-17AUG05-1/1

Replacing Rotary Screen Drive Belt

1. Loosen idler pulley (A) releasing spring (B).
2. Remove bolt (D) and belt (C).

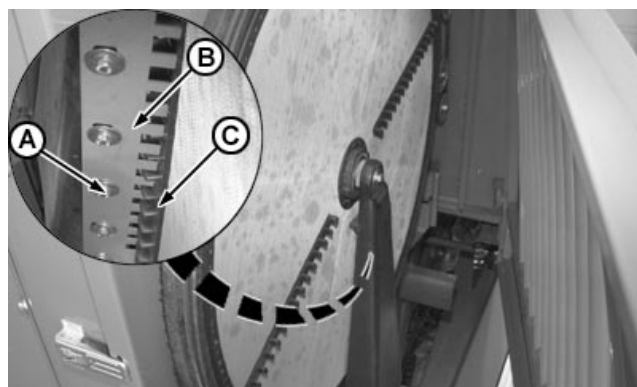


CQ266310 -UN-02MAR06

ML70882,0000916 -19-06MAR06-1/1

Adjusting Rotary Screen Rake Bar

Loosen bolts (A) and position rotary screen knife comb (C) so that rake bar (B) passes through comb unobstructed.



CQ248000 -UN-29JUL05

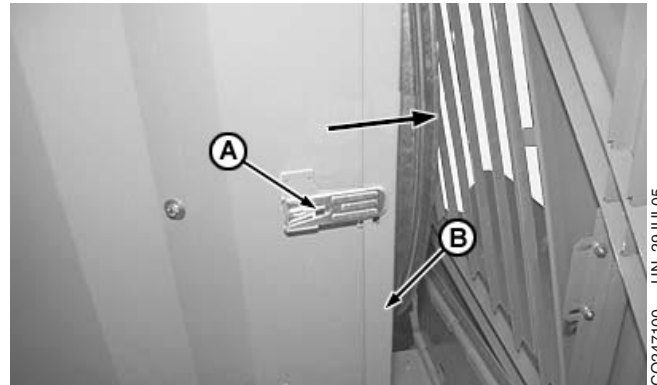
AG,CO03622,2103 -19-01AUG05-1/1

Replacement of Rotary Screen Knife Comb

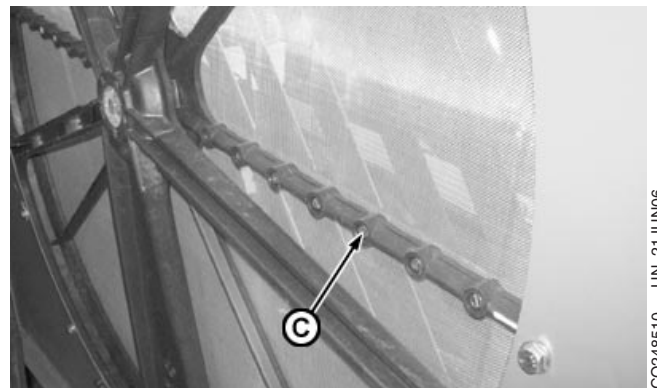


CAUTION: Shut off engine and remove starter key.

1. Remove locking clamp (A) and open rotary screen door (B).
2. Remove screws (C).
3. Remove rotary screen knife comb.



CQ247100 -UN-29JUL05



CQ248510 -UN-21JUN06

AG,CO03622,2104 -19-21JUN06-1/1

Removing Engine Air Filter

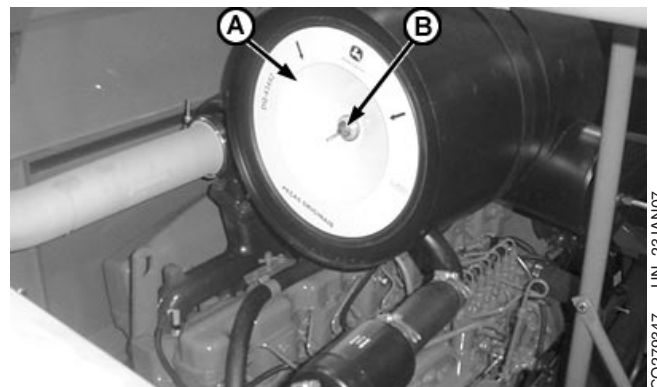
Perform service on the air filter in combines only when the air filter indicator light remains permanently on. The air filter has two filter inserts: filter insert and internal insert.

IMPORTANT: When cleaning or changing air filter, shut down engine and remove starter key.

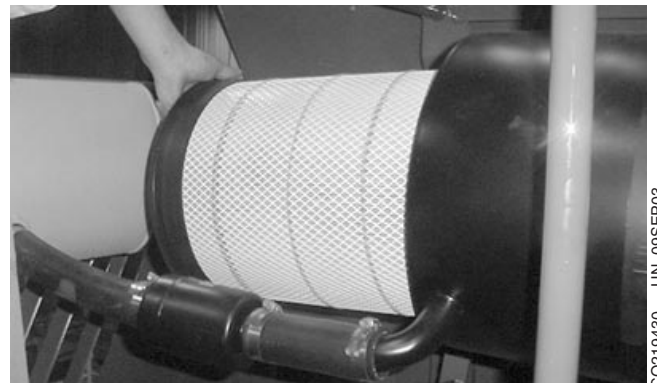
Removing Filter Insert:

1. To free filter insert (A), loosen nut (B) by turning it counterclockwise and also remove thrust washer.
2. Grip edges of filter insert (B) and pull it out by hand.
3. Clean inside of housing with a dry rag and afterwards with a rag moistened in water. Also clean gasket on edge of filter insert.

A—Filter insert
B—Nut



CQ279347 -UN-23JAN07



CQ219430 -UN-09SEP03

Continued on next page

AS60558,00003E9 -19-22JAN07-1/2

Removing Internal Insert:

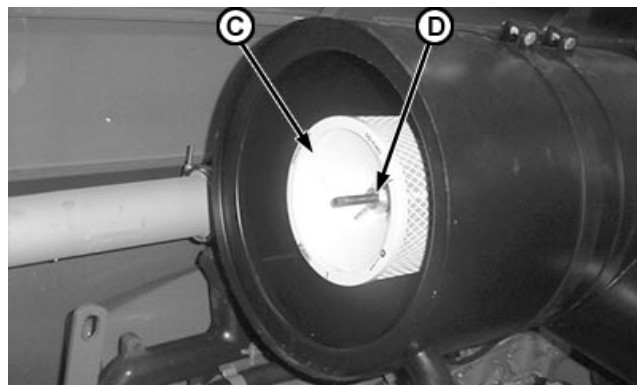
NOTE: Remove internal insert (C) only when filter insert cleaning is being carried out for the third time.

NEVER clean internal insert. Always replace it if removed.

1. Loosen nut (D) by turning it counterclockwise.
2. To remove internal insert (C), grip it by the sides with your hands and pull it out.
3. Clean inside of housing with a dry rag and afterwards with a rag moistened in water.
4. Install a new, genuine internal insert.

IMPORTANT: NEVER run engine without filters installed.

Use only genuine John Deere parts.



Removing internal insert

C—Internal insert
D—Nut

CQ279348 –UN-23JAN07

AS60558,00003E9 –19-22JAN07-2/2

Cleaning and Inspecting Filter Insert

Cleaning Procedure:

CAUTION: NEVER apply water directly to internal and filter inserts.

1. Shake filter insert carefully to loosen dirt on outside.

IMPORTANT: NEVER beat the filter insert against hard objects (tires, shields, etc.).

2. Blow dry with compressed air as shown in the figure. Compressed air blow should be parallel in relation to internal surface of filter insert. Pressure should not exceed 5 kg/cm² (70 lb/in², 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

CQ219460 –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 a 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 upper part of insert was cleaned.

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

Mounting Engine Air Filter Components

1. Attach internal and filter inserts.

NOTE: Tightening is sufficient when internal insert does not move when you try to turn it by hand.

2. Close housing.



Attaching filter insert

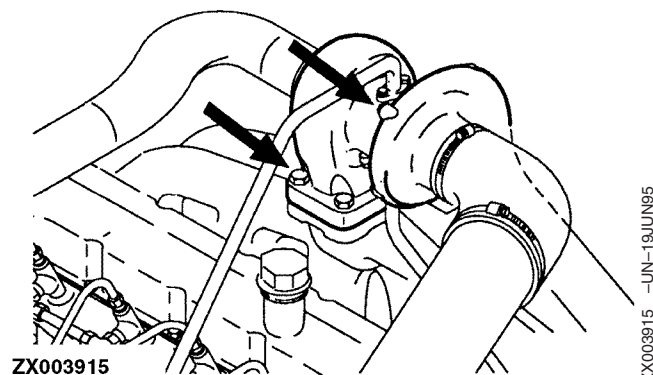
CQ220770 -UN-05NOV03

ML70882,0000996 -19-31MAY06-1/1

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 at the turbocharger or its lube oil feed line must be rectified at once.



AG,CO03622,2122 -19-17APR02-1/1

Crankshaft Damper Inspection

IMPORTANT: The engine crankshaft damper cannot be repaired. It must be replaced after 4500 hours or 5 years, whichever occurs first.

See your John Deere dealer about replacement.



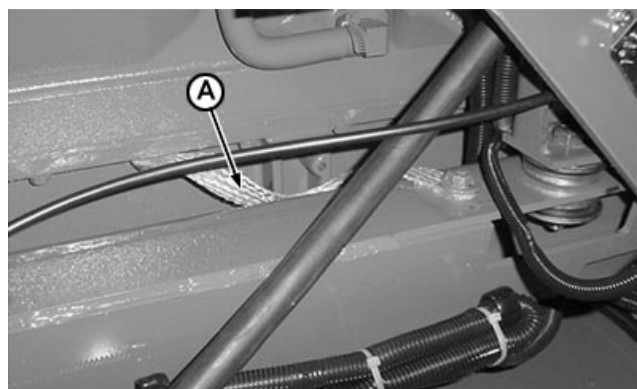
MB03730,00001E3 -19-01AUG05-1/1

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

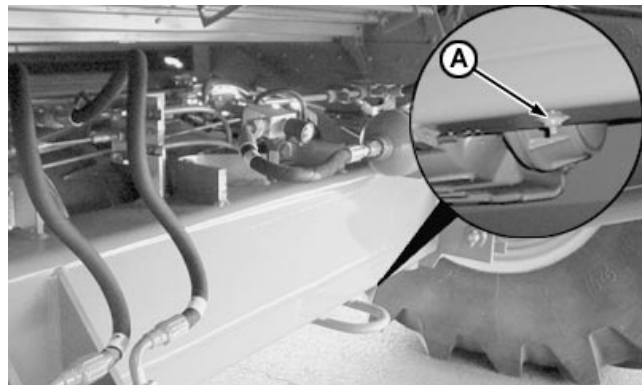
Compressed Air System Reservoir

The reservoir is located inside the front axle.

Maximum pressure: 570 kPa; 5.7 bar; 82.7 psi.

Drain off contaminants periodically.

With the engine off, drain accumulated water by turning the drain valve (A) located on the lower left side of the front axle.



CO231800 -UN-28JAN05

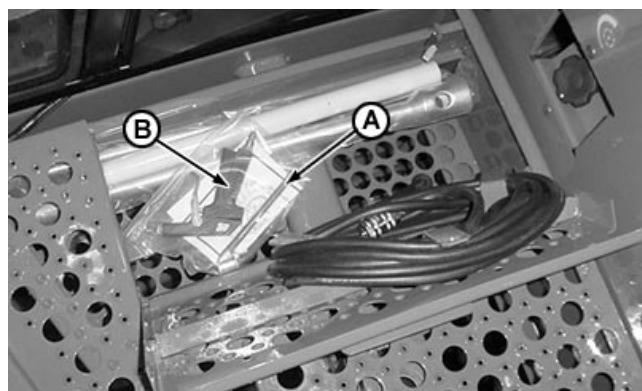
AG.CO03622,2120 -19-01FEB05-1/1

Compressed Air Hose and Using Compressed Air

The compressed air hose is wound up inside the tool box cover, located in the operator's station.

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.

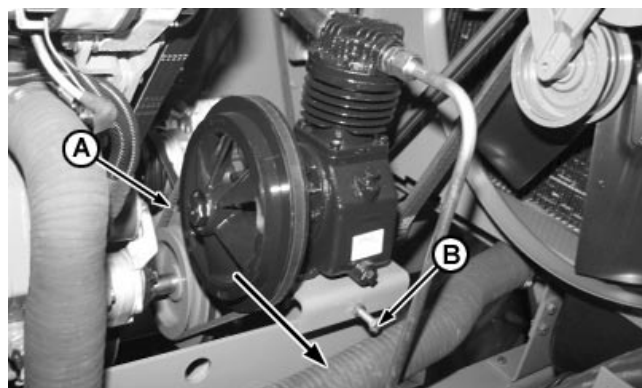


CO231790 -UN-28JAN05

AG.CO03622,2124 -19-01FEB05-1/1

Adjusting Compressor Drive Belt Tension

Belt tension (A) can be adjusted by tightening bolt (B) and shifting compressor in the direction of arrow (see illustration).



CO247740 -UN-28JUL05

AG.CO03622,2126 -19-01AUG05-1/1

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).

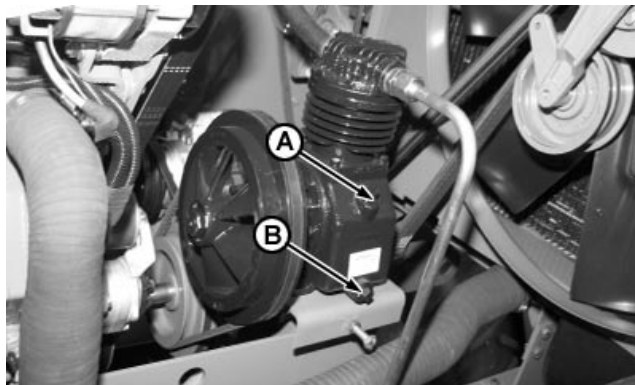
Fill with recommended oil. See “Fuel, Lubricants, Coolant and Capacities” section.

Consult capacity in the “Specifications” section.

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

CO247230 -UN-29JUL05

AG,CO03622,2190 -19-17AUG05-1/1

Service—Drives/Shields

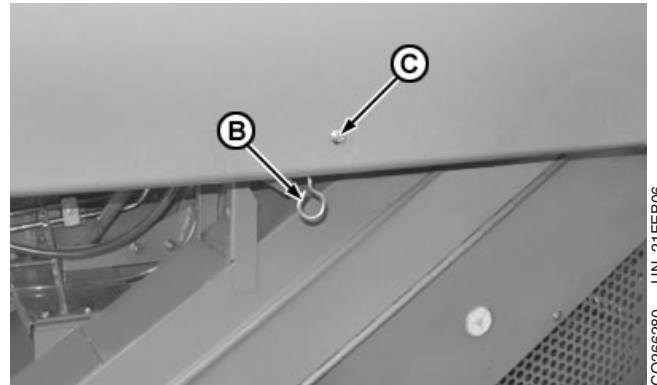
Opening Right-Hand Side Shield

1. Release clamp (B) by pulling it downward.

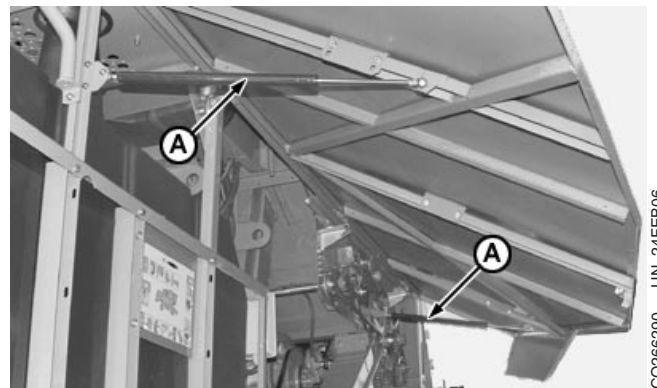
NOTE: Turn lock (C) counterclockwise.

2. Gas cylinders (A) will support shield once it is released from the spring latch. Shield will open enough to allow safe service on this side of combine.
3. Close shield adopting inverse procedure.

A—Gas cylinder
B—Clamp
C—Lock



CQ266280 -UN-21FEB06



CQ266290 -UN-24FEB06

ML70882,000098A -19-29MAY06-1/1

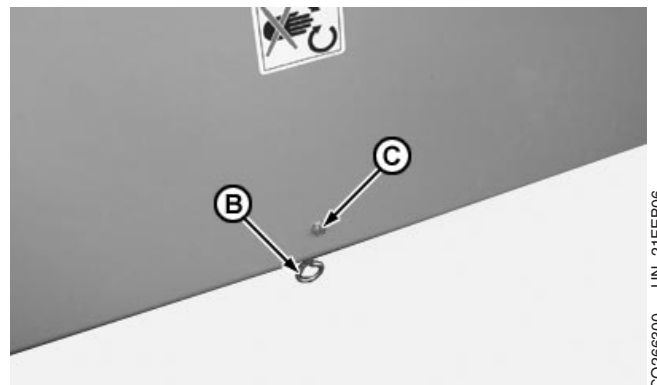
Opening the Left-Hand Side Shield

1. Release clamp (B) by pulling it downward.

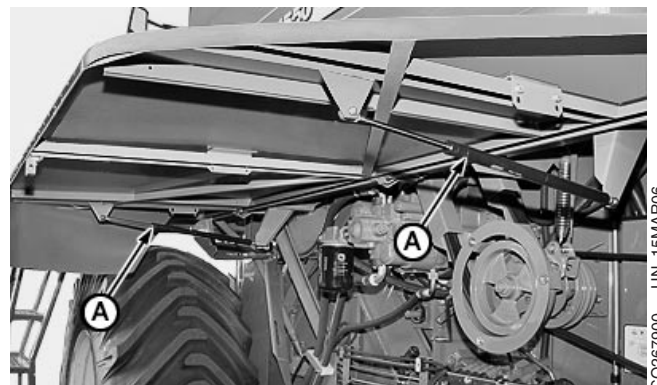
NOTE: Turn lock (C) counterclockwise.

2. Gas cylinders (A) will support shield once it is released from the spring latch. Shield will open enough to allow safe service on this side of combine.
3. Close shield adopting inverse procedure.

A—Gas cylinder
B—Clamp
C—Lock



CQ266300 -UN-21FEB06



CQ267900 -UN-15MAR06

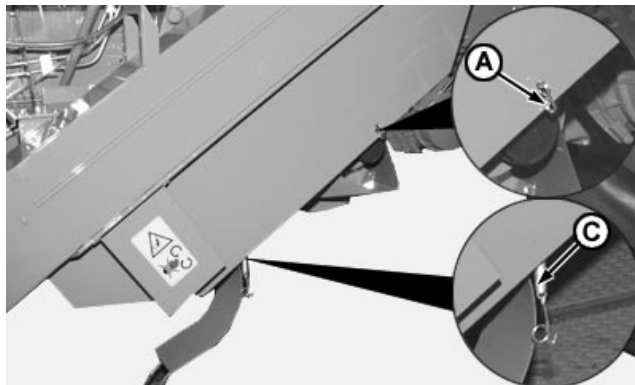
ML70882,000098C -19-29MAY06-1/1

Opening the Fan Shield

Turn catch (A) and raise shield.

Secure the shield by means of spring (C).

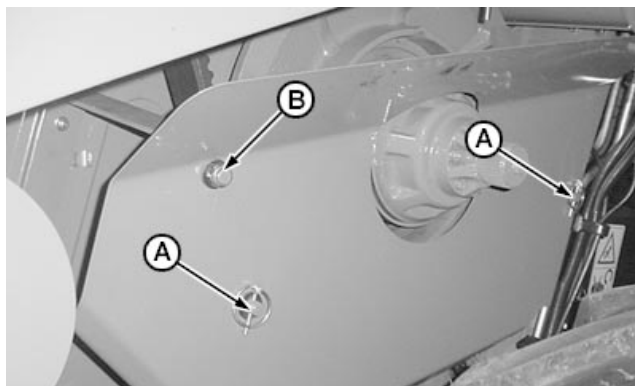
A—Catch
C—Spring



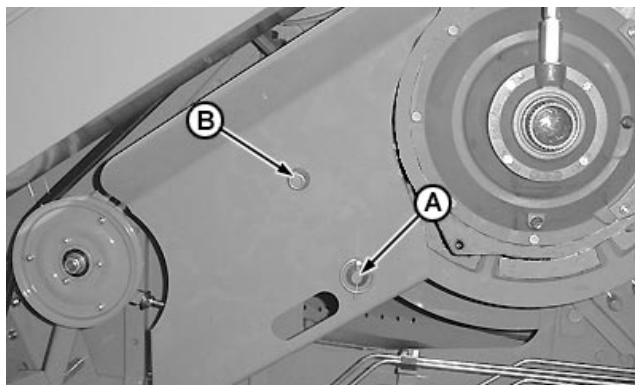
AG,CO03622,2208 -19-16JUN05-1/1

Opening Shield of Lower Threshing Cylinder Pulley

1. Remove pin(s) (A).
2. Remove nut (B) and shield.



Combines without reduction gear



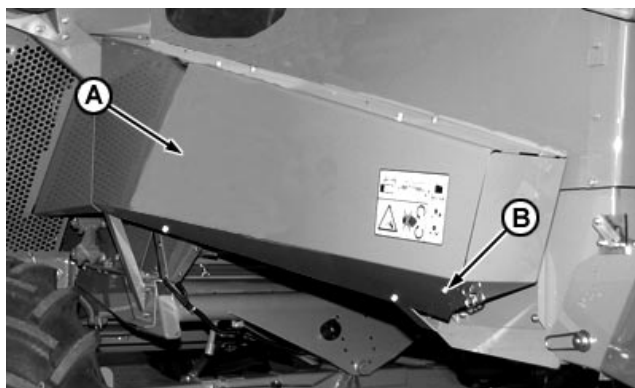
Combines with reduction gear

ML70882,000098B -19-23MAY06-1/1

Opening the Straw Chopper and Chaff Spreader Idler Pulley Shield

To remove shield (A), remove all bolts (B).

To remount shield, perform the reverse procedure.



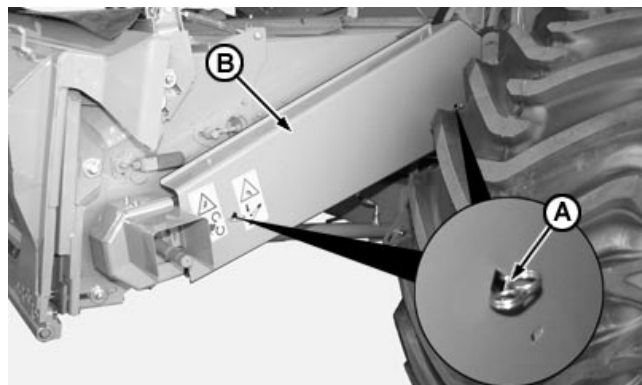
AG,CO03622,2211 -19-01AUG05-1/1

Opening the Head Drive Shield

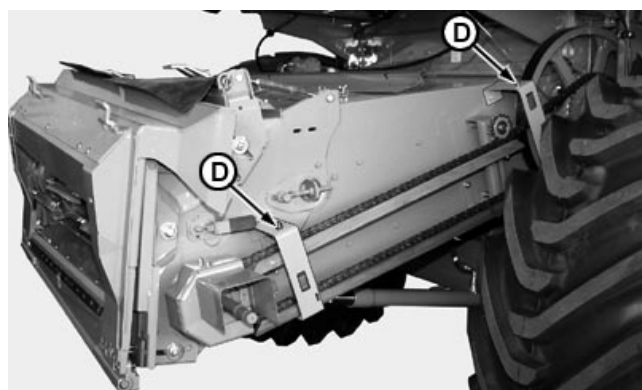
Undo locking clips (A) and remove shield (B).

To remount shield, slot into place on the alignment pins (D) and secure with clips (A).

- A—Locking clips
- B—Shield
- D—Alignment pins



CQ247770 -UN-29JUL05



CQ247780 -UN-29JUL05

AG,CQ03622,2129 -19-01AUG05-1/1

Drive Chains Tension

During the first few hours of operation, check that the tension on the chains is correct.

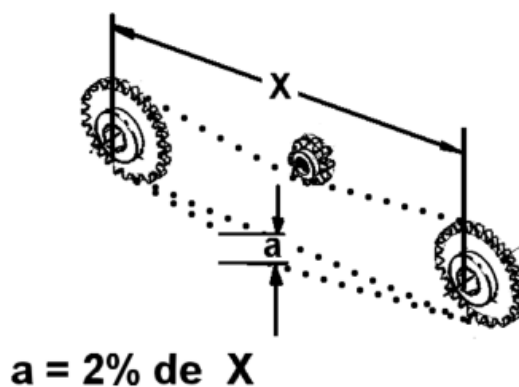
The flex on a chain should be about 2% of the distance between the shafts of the drive sprocket and idler sprocket, flexion being measured on a section of chain opposite the tensioner.

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.



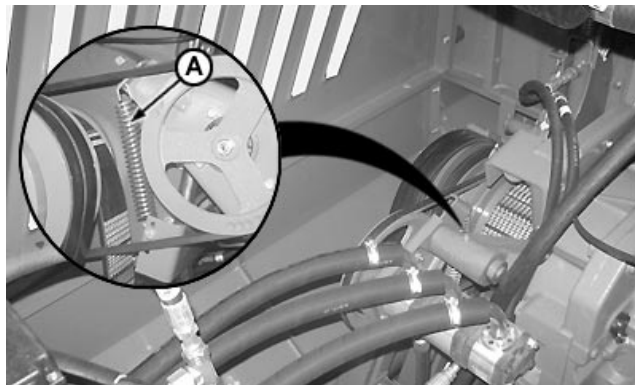
CQ188760

-UN-19AUG99

AG,GG05155,603 -19-04MAR02-1/1

Adjusting Hydraulic Pump Belt Tension

Spring (A) maintains belt tension.



CO248550 -UN-29JUL05

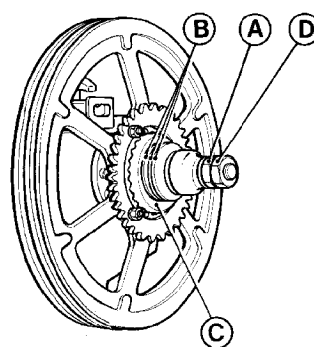
AG,CO03622,2131 -19-17AUG05-1/1

Adjusting Feeder House Slip Clutch

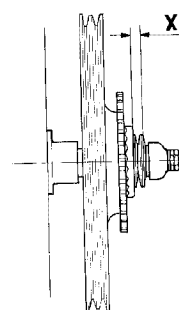
The slip clutch is adjusted by means of the pressure applied by hex nut (A) on the three disk springs (B), which then act on the clutch (C).

First loosen locknut (D) and hex nut (A). Then tighten nut (A) until distance (X) is 17.2 mm (0.68 in.). 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

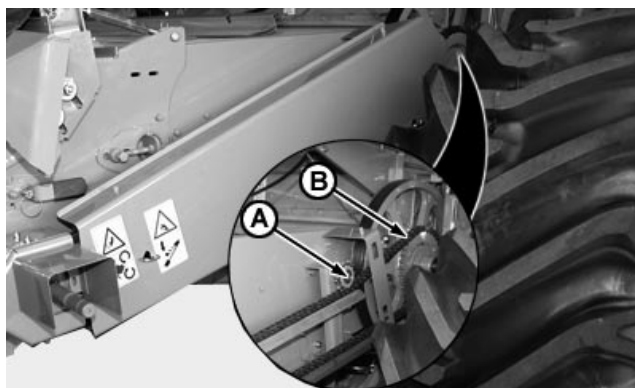


CO247790 -UN-29JUL05

AG,CO03622,2133 -19-01AUG05-1/1

Feeder House Drive to Head

Move sprocket (A) to tighten chain (B).



CO247800 -UN-29JUL05

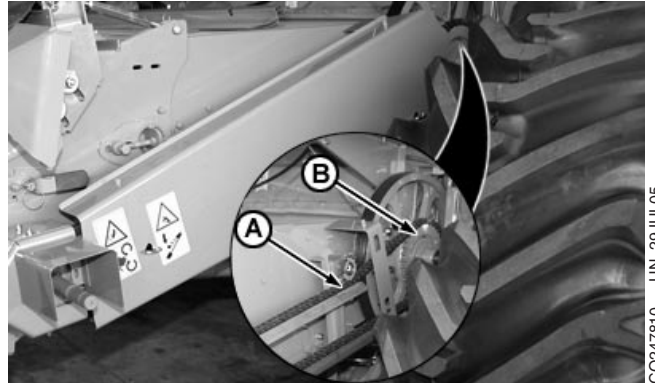
AG,CO03622,2134 -19-01AUG05-1/1

Replacing Feeder House Drive Belt

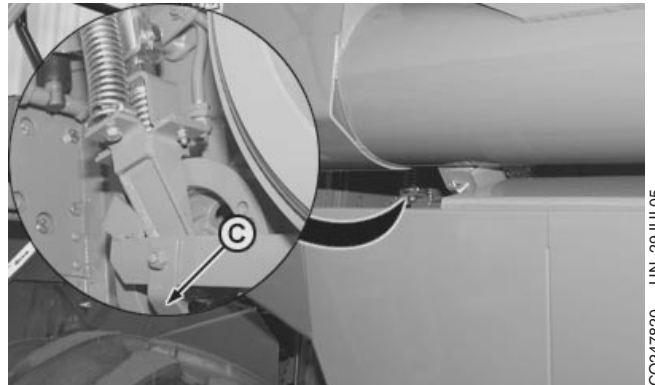
Remove feeder house chain shield. After loosening head drive chain (A), remove sprocket (B) from feeder house upper shaft.

Remove guide (C).

- A—Head Drive Chain
- B—Sprocket
- C—Guide



CQ247810 -UN-29JUL05



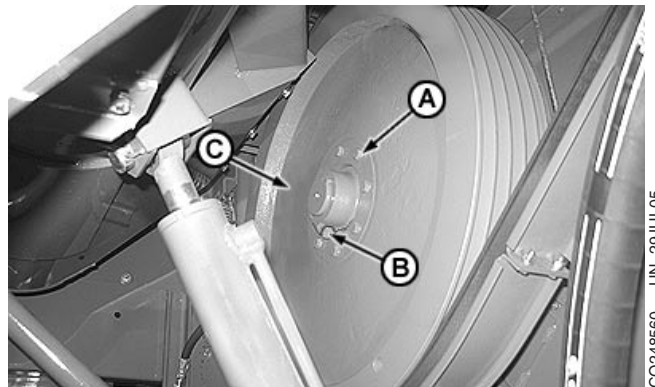
CQ247820 -UN-29JUL05

AG.CO03622,2135 -19-01AUG05-1/2

Remove retaining bolts (A), locking bolt (B) and beater pulley wheel (C). Replace belt.



CAUTION: Warning! This pulley wheel is heavy (approx. 40 kg [88 lb]) and difficult to handle.

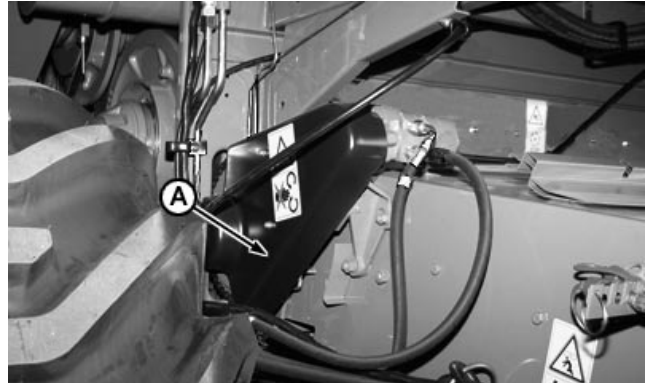


CQ248560 -UN-29JUL05

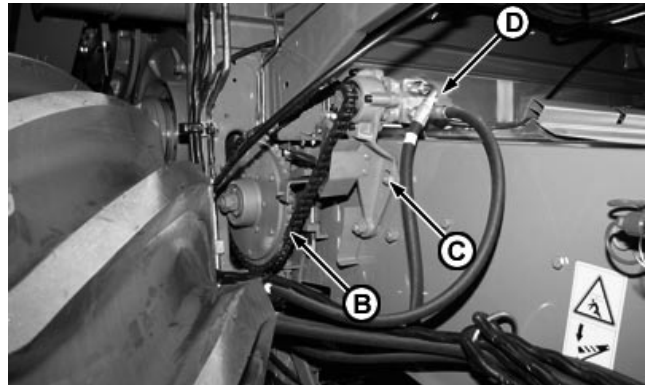
AG.CO03622,2135 -19-01AUG05-2/2

Adjusting Feeder House Hydraulic Reverser Chain Tension

1. Remove shield (A).
2. Loosen the three nuts (C) of bracket.
3. Swing hydraulic motor (D) forwards and adjust chain tension as described in "Chain Tensions" in this section.
4. Retighten nuts (C).
5. Remount shield (A).



CQ247830 -UN-29JUL05



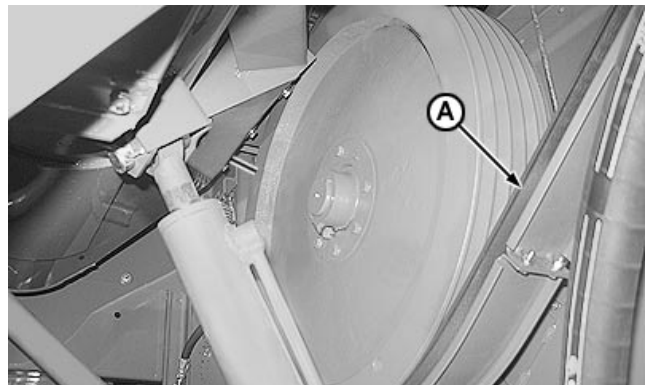
CQ247840 -UN-29JUL05

AG,CO03622,2136 -19-01AUG05-1/1

Replacing Threshing Unit Drive Belt

NEVER replace belt (A) of threshing unit drive. Consult your John Deere dealer to perform this replacement.

A—Belt



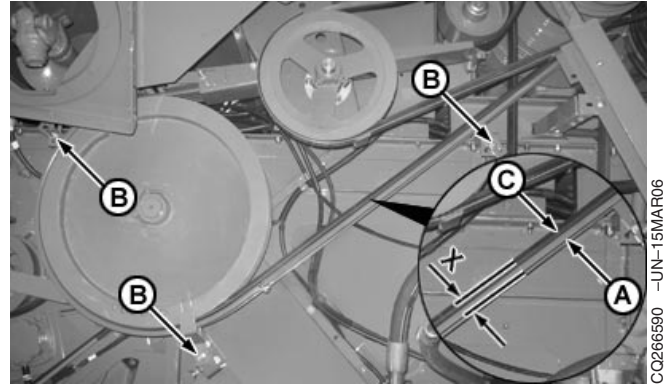
CQ266520 -UN-24FEB06

AG,GG05155,313 -19-24FEB06-1/1

Adjusting Threshing Unit Drive Belt Guide

NOTE: To prevent accidents shut off engine before adjusting belt guide.

1. Start engine and engage threshing unit.
2. Turn off engine (with threshing unit engaged) and remove starter key.
3. Adjust play (X) between belt guide (A) and belt (C). Adjust through bolts of supports (B).



CO266590 -UN-15MAR06

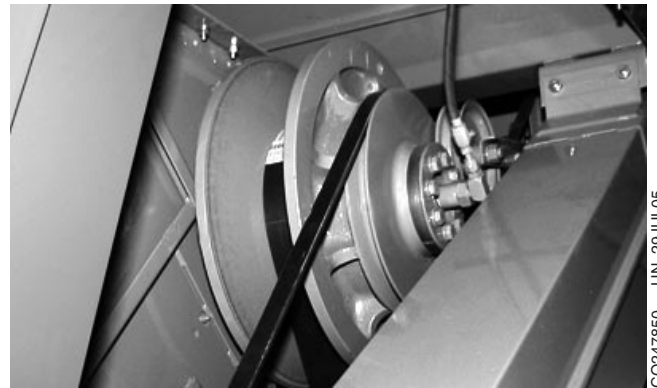
Specification

Play between belt guide and threshing unit drive belt—Play 2—5 mm (0.08—0.2 in.)

AG.CO03622,2137 -19-05APR06-1/1

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.



CO247850 -UN-29JUL05

AG.CO03622,2138 -19-17AUG05-1/1

Preparing for Replacement of Cylinder Variable Speed Drive Belt

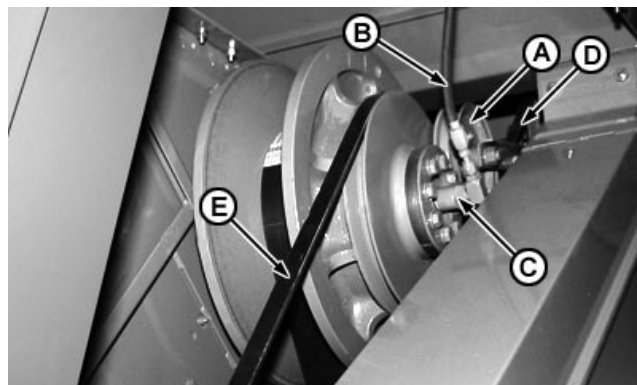
With the engine at top speed and the threshing unit engaged, use the cylinder speed control switch to fully open the beater shaft pulley (lowest cylinder speed). Disengage the threshing unit and stop the engine.



CAUTION: Do not adjust belt while the engine is running.

IMPORTANT: Before any disassembly, thoroughly clean the area around the connector (C) and hydraulic hose (B).

1. 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).
2. Remove the idler (A). Move support and bolt down and secure in this position.



CQ247860 -UN-29JUL05

- A—Idler Pulley Wheel
- B—Hydraulic hose
- C—Connector
- D—Clean grain elevator drive belt
- E—Separator and cleaning unit drive belt

ML70882,0000867 -19-03SEP05-1/1

Removing Cylinder Variable Speed Drive Belt on Combines without Reduction Gear

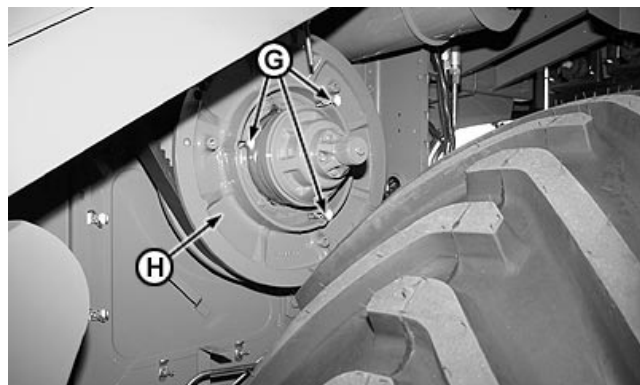
1. On the beater's variable pulley, push the inner half pulley inward as far as possible.
2. There are three M12 x 150 bolts (G) in the tool box. Insert these into the threaded holes in the outer half pulley (H) of the cylinder shaft. When the bolt ends touch the inner half pulley wheel, evenly tighten them and the two halves will begin to separate and stay in that position.
3. Pull the belt with your hand over the outer half pulley wheel of the beater shaft pulley (do not force on belt).

NOTE: Before removing the belt, check that the belt is fully seated at the bottom of the cylinder shaft pulley wheel rim.

4. Pull the belt off over the cylinder shaft pulley. Dislocate the outer half pulley wheel of the cylinder shaft inward approximately 50 mm by unfastening the three bolts (G).

IMPORTANT: After changing the belt, remove the three bolts and store them in the tool box.

5. To install a new belt, follow this procedure in reverse order.



CQ248480 -UN-29JUL05

ML70882,0000868 -19-03SEP05-1/1

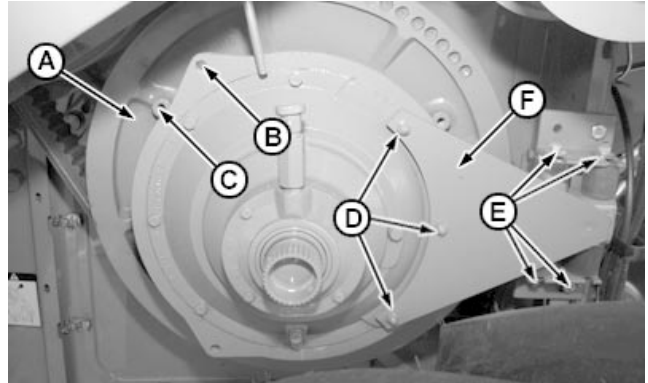
Removing Cylinder Variable Speed Drive Belt on Combines with Reduction Gear

1. Rotate half pulley (A) until hole (B) of reduction gear is aligned with threaded hole (C) of outer half pulley.
2. Remove nuts (D), (E) and support (F).
3. There are three M12 x 150 bolts (G) with nuts and washers in the tool box. Fully insert these bolts into the threaded bores in the outer half pulley (A) of the cylinder shaft. Evenly tighten three nuts (H) to fully separate the two halves.

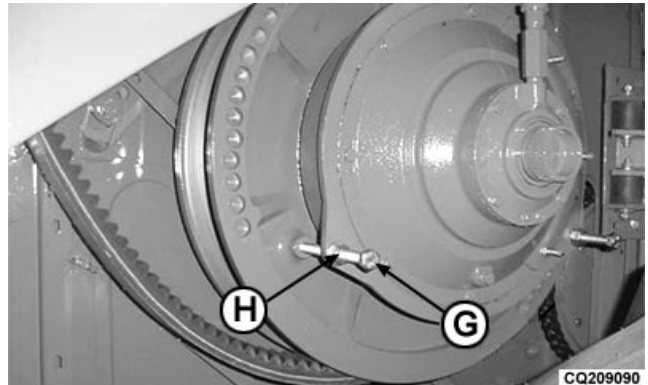
NOTE: Before removing the belt, check it is fully seated at the bottom of the cylinder shaft pulley wheel rim.

4. Pull the belt with your hand over the outer half pulley wheel of the beater shaft pulley (do not force the belt).
5. Pull the belt off over the cylinder shaft pulley.
6. 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.



CQ247870 -UN-29JUL05



CQ209090

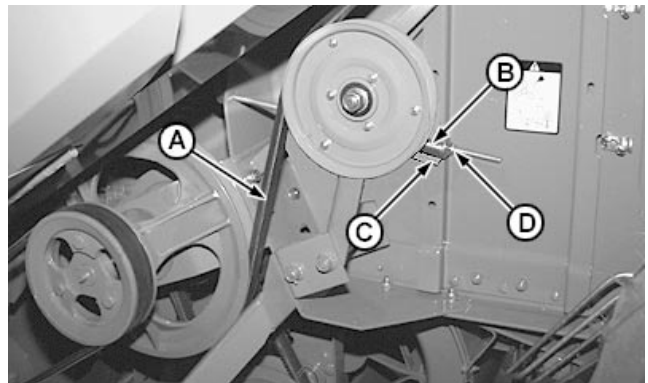
CQ209090 -UN-02OCT01

ML70882,0000869 -19-20JUN06-1/1

Adjusting Straw Walker Belt Tension

Belt tension (A) is correct when the length of spring (B) is equal to the length of tab (C). Effect adjustment by means of nut (D).

- A—Belt
- B—Spring
- C—Indicator Tab
- D—Nut



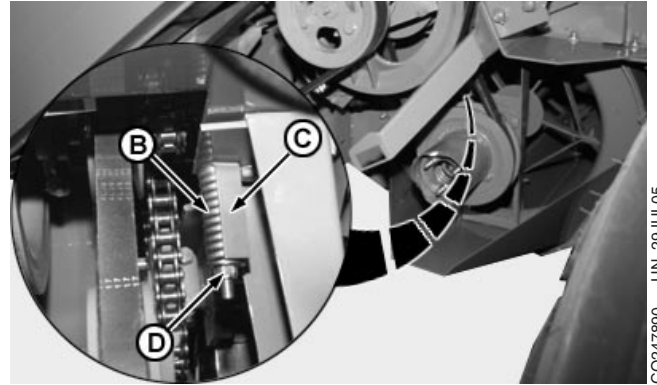
CQ247880 -UN-29JUL05

AG,CO03622,2139 -19-01AUG05-1/1

Adjusting Straw Walker Drive Belt Tension

Belt tension is correct when the length of spring (B) is equal to the length of tab (C). Effect adjustment by means of nut (D).

B—Spring
C—Indicator Tab
D—Nut



AG.CO03622,2140 -19-01AUG05-1/1

CQ247890 -UN-29JUL05

Adjusting Straw Walker Slip Clutch

The straw walkers are protected by a slip clutch.

Adjust by tightening four nuts (A).

Specification

Nuts (A)—Torque 40 N•m (29 lb-ft)



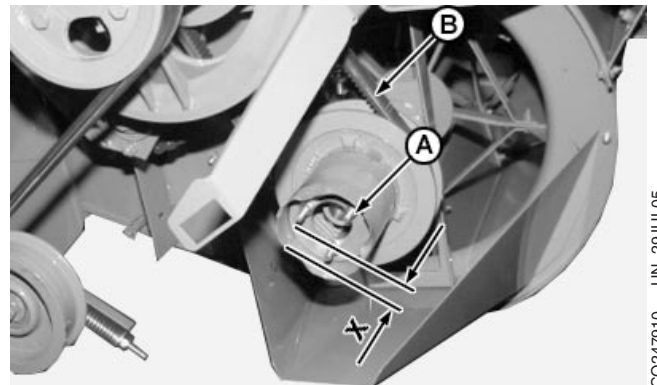
AG.CO03622,2141 -19-17AUG05-1/1

CQ247900 -UN-22JUN06

Adjusting Fan Variable Speed Drive Belt

The fan drive belt (B) is correctly adjusted when the 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.).

Use nuts (A) to adjust.



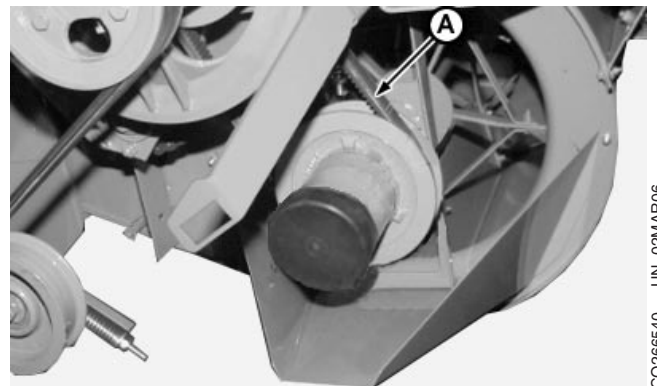
AG.CO03622,2142 -19-01AUG05-1/1

CQ247910 -UN-29JUL05

Replacing Fan Variable Speed Drive Belt

NEVER replace belt (A) of fan. Consult your John Deere dealer to perform this replacement.

A—Belt



AG.CO03622,2143 -19-02MAR06-1/1

CQ266540 -UN-02MAR06

Adjusting Tailings Elevator Drive Belt

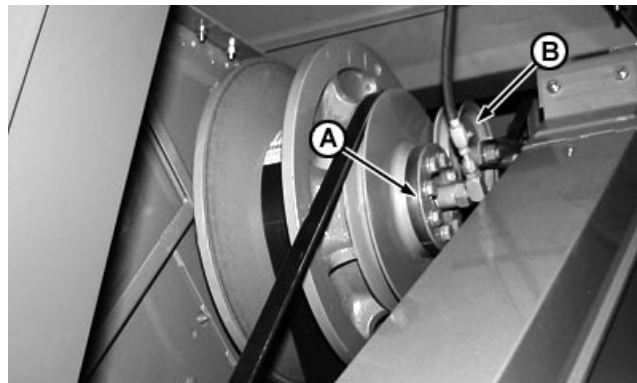
The tailings elevator is driven by the beater pulley via the elevator slip clutch.

Belt (A) is automatically tensioned by the idler pulley wheel (B).

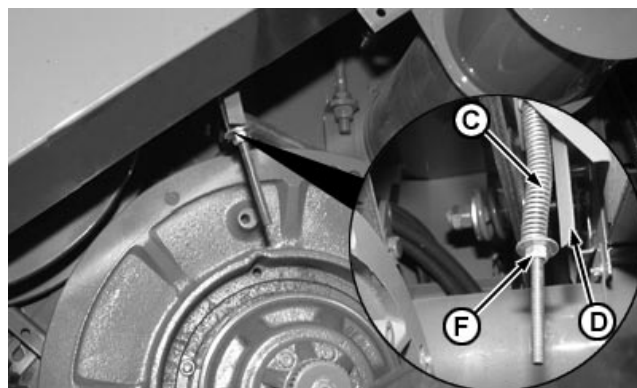
To obtain the appropriate tension, the spring backing washer (C) should be level with the indicator tab (D).

Effect adjustment with nut (F).

- A—Belt
- B—Idler pulley wheel
- C—Spring
- D—Indicator Tab
- F—Nut



CQ248010 -UN-29JUL05



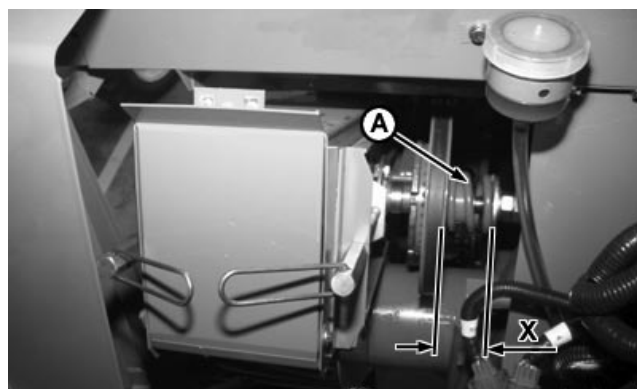
CQ248020 -UN-29JUL05

AG,CO03622,2144 -19-01AUG05-1/1

Adjusting Tailings Elevator Clutch

The slip clutch is correctly adjusted when the length (X) of spring (A) measures 60 mm (2,36 in.).

NOTE: Do not lubricate the slip clutch.

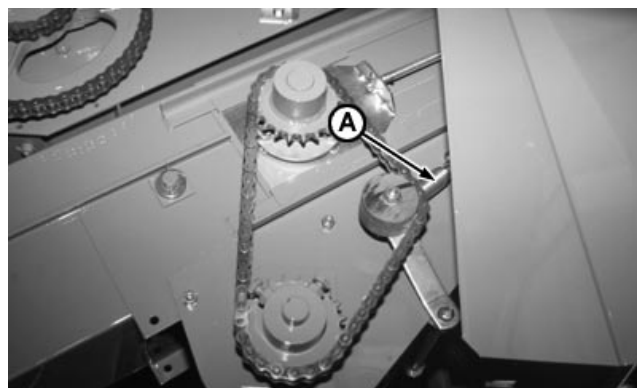


CQ248030 -UN-29JUL05

AG,CO03622,2145 -19-01AUG05-1/1

Adjusting Tailings Auger Drive

The chain is automatically tightened by spring (A).



CQ247980 -UN-29JUL05

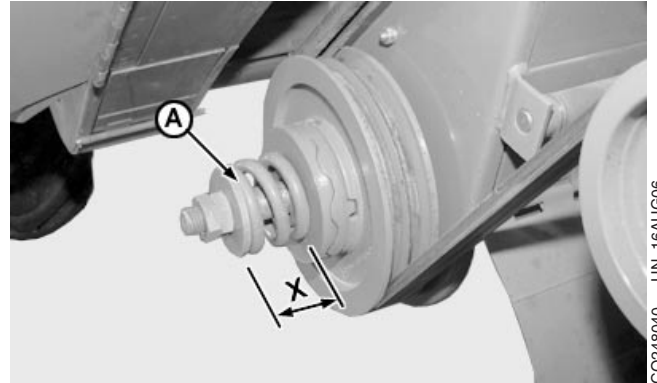
AG,CO03622,2146 -19-17AUG05-1/1

Adjusting Clean Grain Elevator Slip Clutch

The slip clutch is correctly adjusted when the length (X) of spring (A) measures 51 mm (2 in.).

IMPORTANT: Measure at two distinct points with an angle of 180° between points.

NOTE: Check length according to section “Periodic Servicing and Lubrication” or every 50 engagements. Do not lubricate the slip clutch.



CO248040 -UN-16AUG06

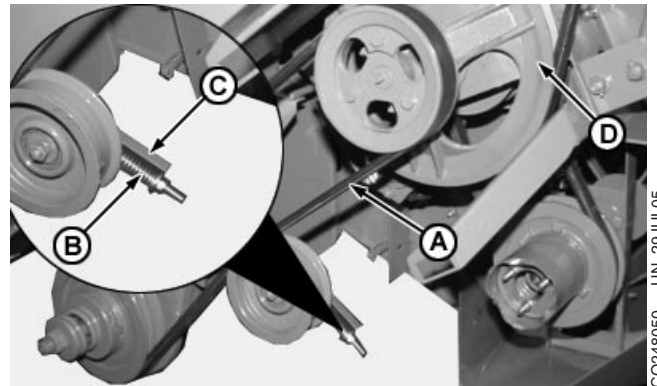
AG.CO03622,2147 -19-14JUN06-1/1

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



CO248050 -UN-29JUL05

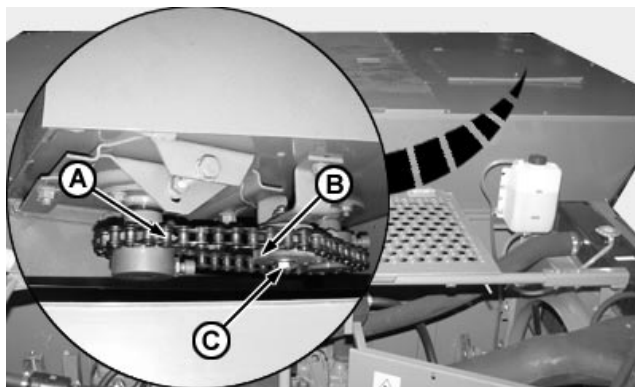
AG.CO03622,2148 -19-17AUG05-1/1

Adjusting Grain Tank Upper Auger Drive Chain

Remove wing nut and open the cover.

Use idler (B) to adjust chain tension (A). Loosen nut of bolt (C) and move idler (B) as required.

A—Chain
B—Idler
C—Bolt

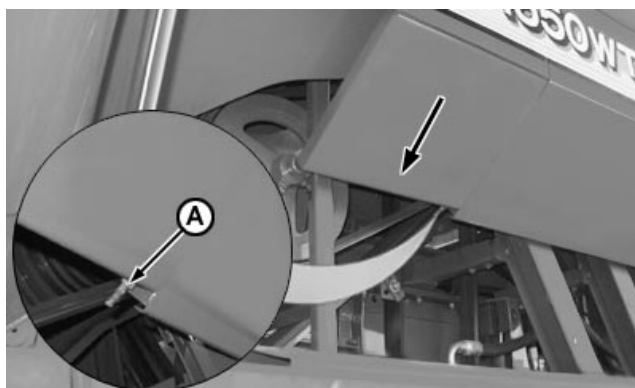


CO248060 -UN-29JUL05

AG,CO03622,2150 -19-01AUG05-1/1

Opening Grain Tank Unloading Auger Drive Shield

Remove locknut (A) and remove shield as arrow shows.



CO273030 -UN-02JUN06

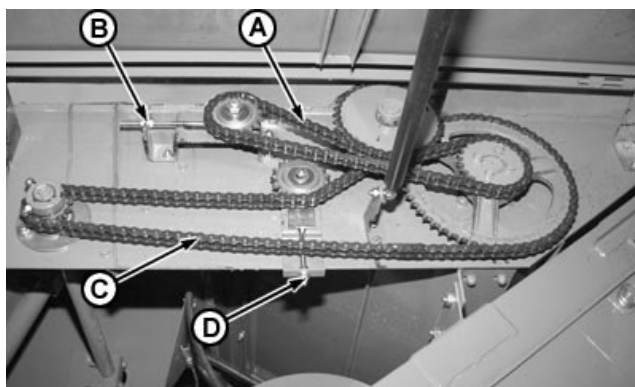
ML70882,00009B9 -19-01JUN06-1/1

Adjusting Grain Tank Unloading Auger and Feeder Auger Chain Tension

The drive of the unloading auger feeder is powered by chain (A). Adjustment is made by means of nut (B).

The drive of the unloading auger is powered by chain (C). Adjustment is made by means of nut (D).

Adjust the chains as described in "Chain Tensions".



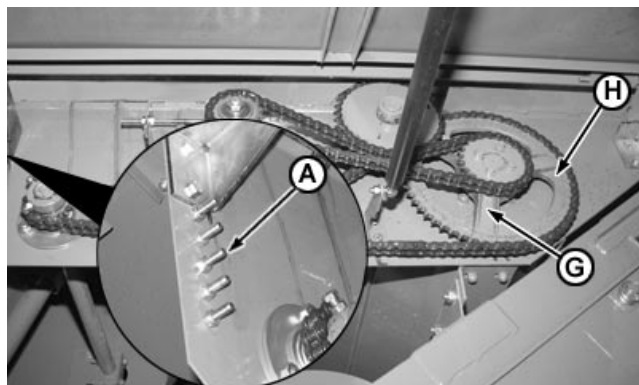
CO248070 -UN-29JUL05

Continued on next page

AG,CO03622,2151 -19-21MAR06-1/2

IMPORTANT: Bolt (G) is a safety (shear) bolt which will break on overload in order to protect the drive system. Always replace with original JOHN DEERE part. Tighten it enough to bring the drag arm smoothly in contact with sprocket (H).

NOTE: The combine holds spare shear bolts (A).



CO248080 -UN-29JUL05

AG,CO03622,2151 -19-21MAR06-2/2

Adjusting Belt Guide of Unloading Auger Drive



CAUTION: To prevent accidents shut off engine before adjusting belt guide.

Start engine and engage unloading auger transmission. Turn off engine (with transmission engaged) and remove starter key.

Adjust belt guide (A) through its supports to obtain uniform spacing of 3 to 5 mm (0.1 to 0.2 in.) between belt and guide.



CO266470 -UN-24FEB06

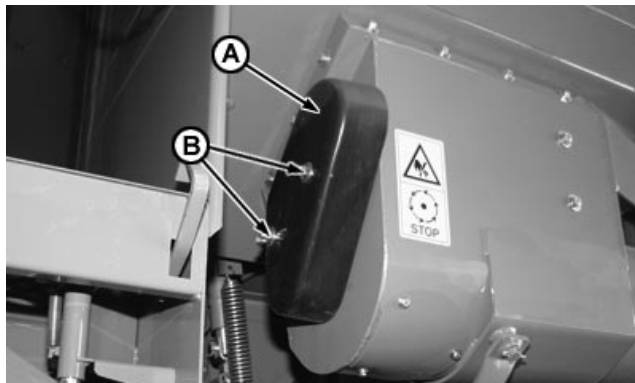
ML70882,0000912 -19-21MAR06-1/1

Adjusting Unloading Auger Drive Chain

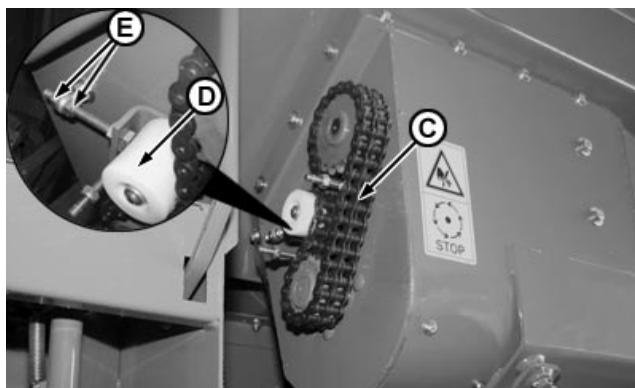
Remove drive shield (A) by taking out wing nuts (B).

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



CO248100 -UN-29JUL05



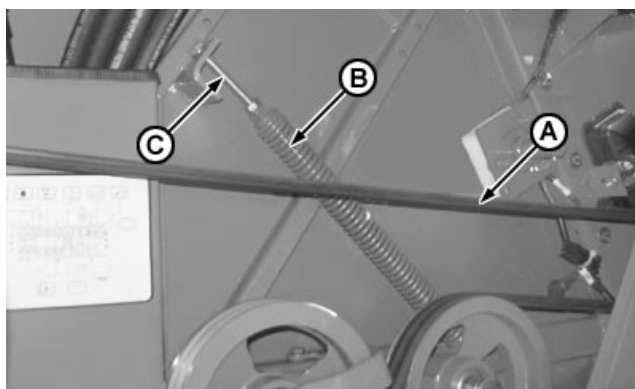
CO248110 -UN-29JUL05

AG,CO03622,2153 -19-17AUG05-1/1

Tensioning Straw Chopper Intermediate Drive Belt

The correct tension of belt (A) is obtained by means of spring (B). Use bolt (C) for adjustment.

- A—Belt
- B—Spring
- C—Bolt



CO266270 -UN-21FEB06

AG,CO03622,2212 -19-20FEB06-1/1

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).



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

TS204 -UN-23AUG88

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 (-).

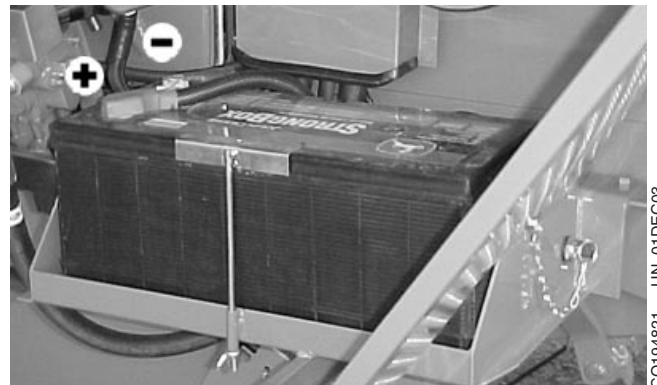


CQ194821 -UN-01DEC03

ML70882,0000813 -19-01AUG05-1/1

Cleaning the Battery

- Clean the battery daily. Remove straw build-up.
- 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 -19-23MAR06-1/1

Battery Charging

Check battery charge weekly.

- Green:** battery voltage is OK.
- Dark:** battery voltage is not OK. Charge battery until test indicator turns to green.
- Light:** low level of electrolyte. Replace battery and check combine electrical system.



CQ194841 -UN-01DEC03

ML70882,0000751 -19-13MAR06-1/1

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.



CQ216341 -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.



ML70882,00003F1 -19-10NOV03-1/1

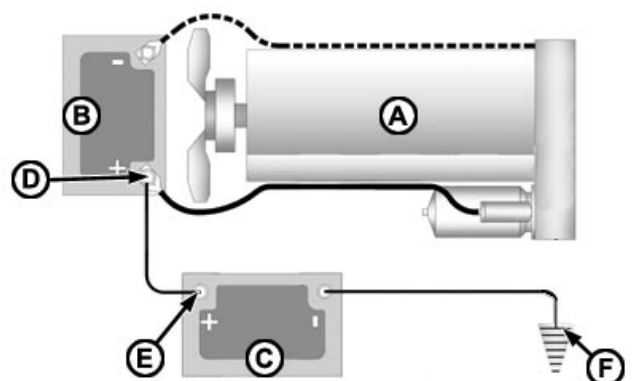
Using a Booster Battery

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 the batteries (B and C).
2. Connect the other cable to the (-) terminal of the booster battery (C) and attach the other end to a ground connection (F) e.g.: engine housing, chassis.
3. Start up engine.



A—Engine
B—Weak battery
C—Booster battery
D—Positive terminal of weak battery
E—Positive terminal of booster battery
F—Ground connection

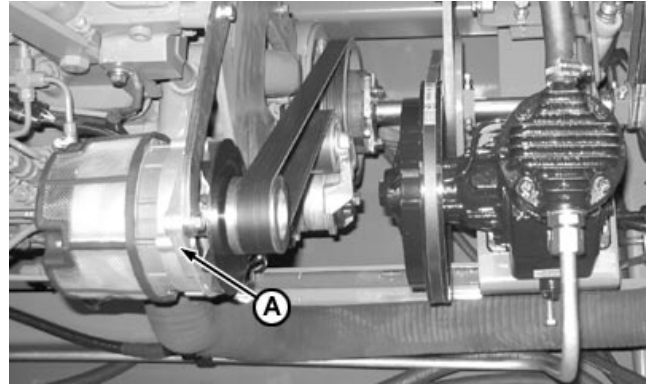
ML70882,0000814 -19-01AUG05-1/1

Alternator

IMPORTANT: When working on the electrical system, always disconnect the ground cable. This prevents damage from occurring.

NOTE: Tensioning of the drive belt is described in the “Service — Engine” section.

Have the alternator (A) serviced by a specialist workshop once every year.



CO248120 -UN-29JUL05

AG,CO03622,2214 -19-01AUG05-1/1

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.

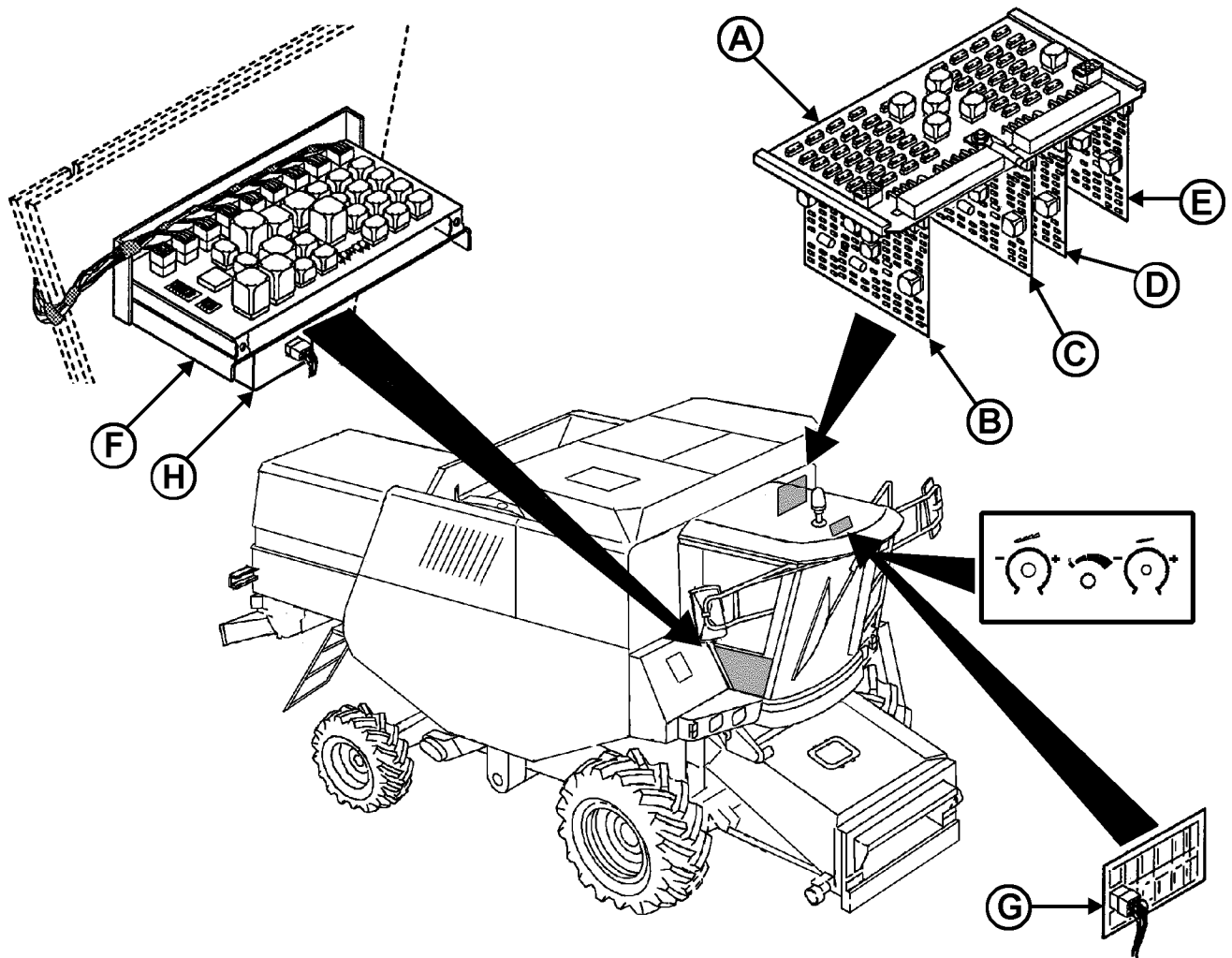
- ☐ **Loose, dirty or corroded connections:** Clean and tighten all connections.
- ☐ **Low battery output:** Check electrolyte level and specific gravity of battery. If necessary, recharge battery. See “Battery Electrolyte Level”.
- ☐ **Run down battery:** Recharge battery.

- ☐ **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 Circuit Boards



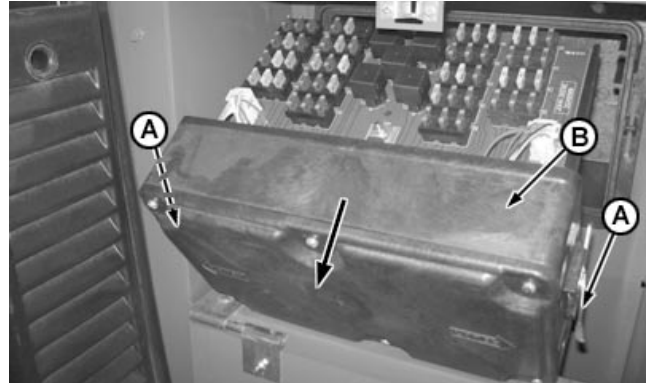
A—Fuse circuit board	D—Auxiliary relay circuit board	F—Relay and diode circuit board	H—Separator relay circuit board
B—Speed and warning signal monitoring circuit board	E—Head control circuit board	G—Harvest performance monitor circuit board	
C—Reel speed adjustment circuit board			

CQ193052 -UN-29JUL05

AG,CO03622,2216 -19-01AUG05-1/1

Removing Main Electrical Box

- Remove access cover of main electrical box (not illustrated).
- Loosen latches (A) on both sides of box.
- Slowly and carefully pull out the main electrical box (B) as illustrated.

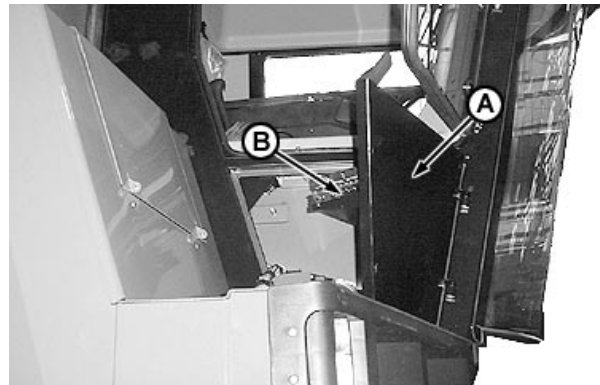


CO248130 -UN-29JUL05

AG,CO03622,2217 -19-01AUG05-1/1

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).



CO193091 -UN-31JAN05

AG,CO03622,2218 -19-01FEB05-1/1

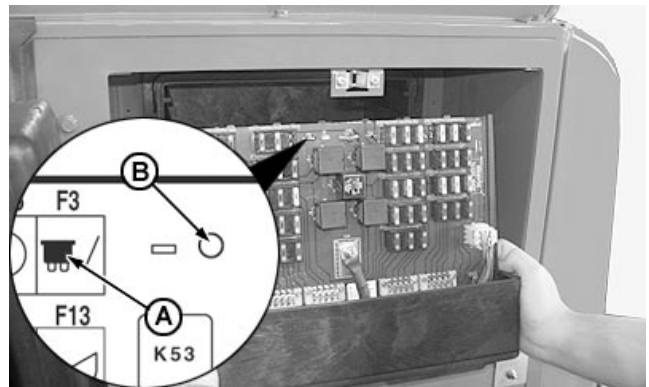
Fuse Tester

To test fuses a tester was placed on the fuse circuit board proper, permitting a fuse's working order to be checked.

Remove any fuse that is believed to be defective and insert it in the "slot" (A). If the led (B) lights up the fuse is functioning perfectly.

IMPORTANT: Never use fuses with a higher current carrying capacity than the specified value. If fuses keep blowing in one circuit, have the combine electrical system inspected by your John Deere dealer.

NOTE: It is not necessary to engage the starter key to carry out the test, just ensure that the battery switch is ON.



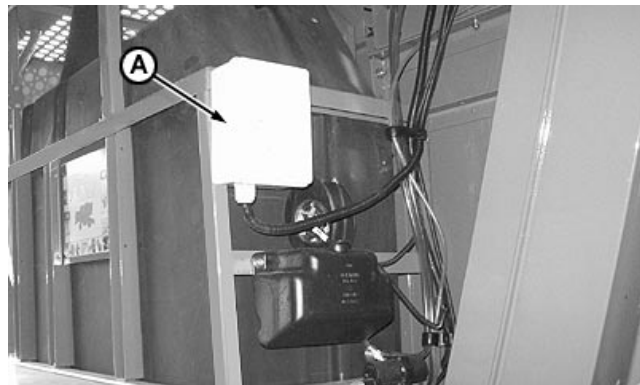
CO248180 -UN-29JUL05

A—Fuse Tester
B—LED

CO03622,000006D -19-01AUG05-1/1

Starter Motor Relay

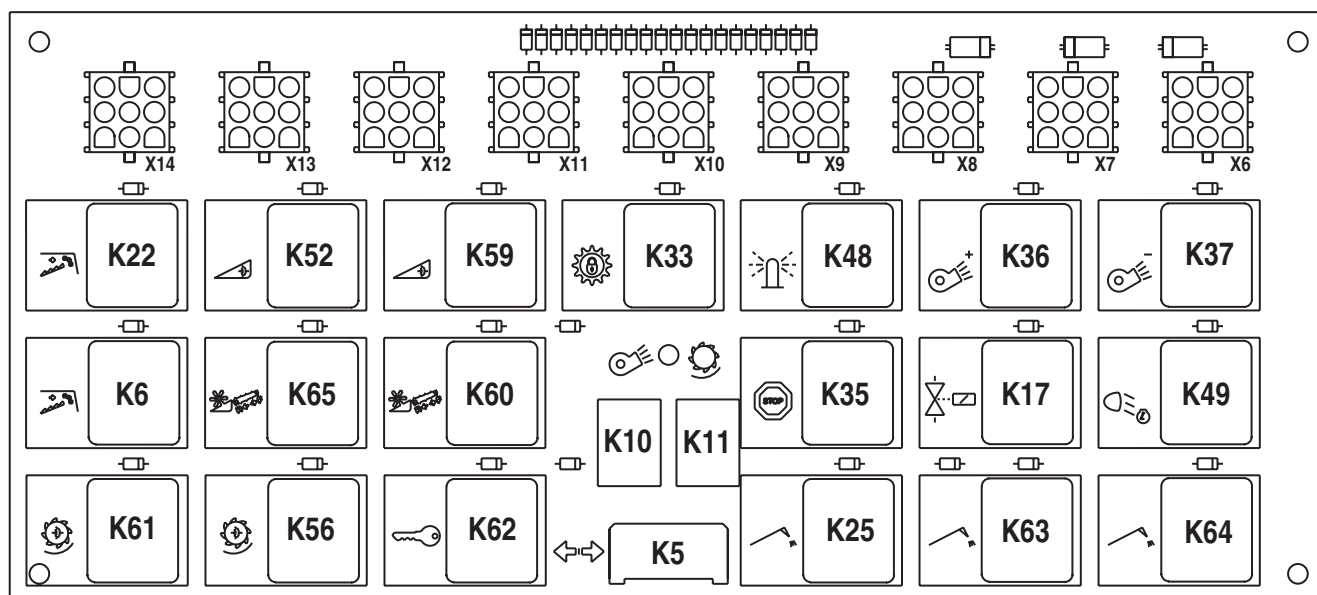
Solenoid of starter motor is supplied with power via relay K1. It is located in electrical box (A) near fuel tank.



CQ248500 -UN-29JUL05

ML70882,000086A -19-17SEP05-1/1

Relay and Diode Board



CQ216550 -UN-12JAN05

K05—Turn signal relay
K06—Horn relay number 2
K10—Fan speed alarm relay
K11—Cylinder speed alarm relay
K17—Splitter relay
K22—Horn relay number 1
K25—Unloading auger relay

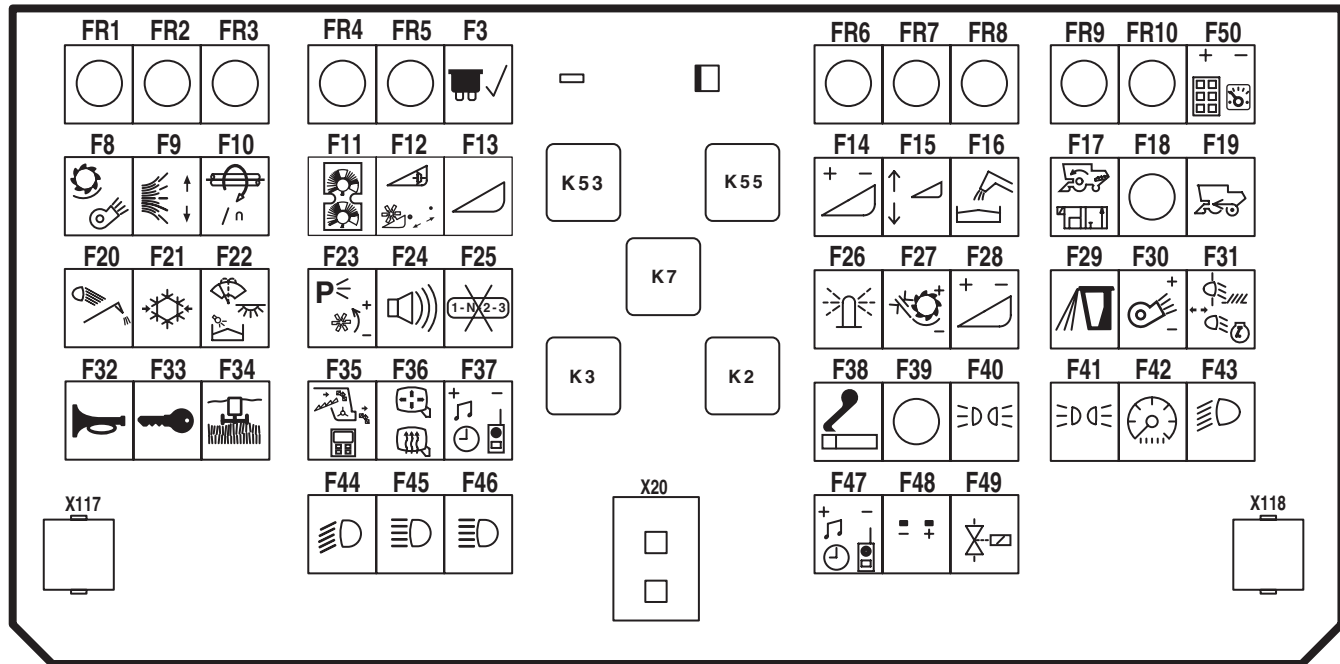
K33—Gearshift lock auxiliary relay
K35—Emergency stop relay
K36—Relay increasing fan speed
K37—Relay decreasing speed of fan
K48—Beacon lights relay

K49—Rear light relay
K52—Header drive 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

AS60558,00003F1 -19-22JAN07-1/1

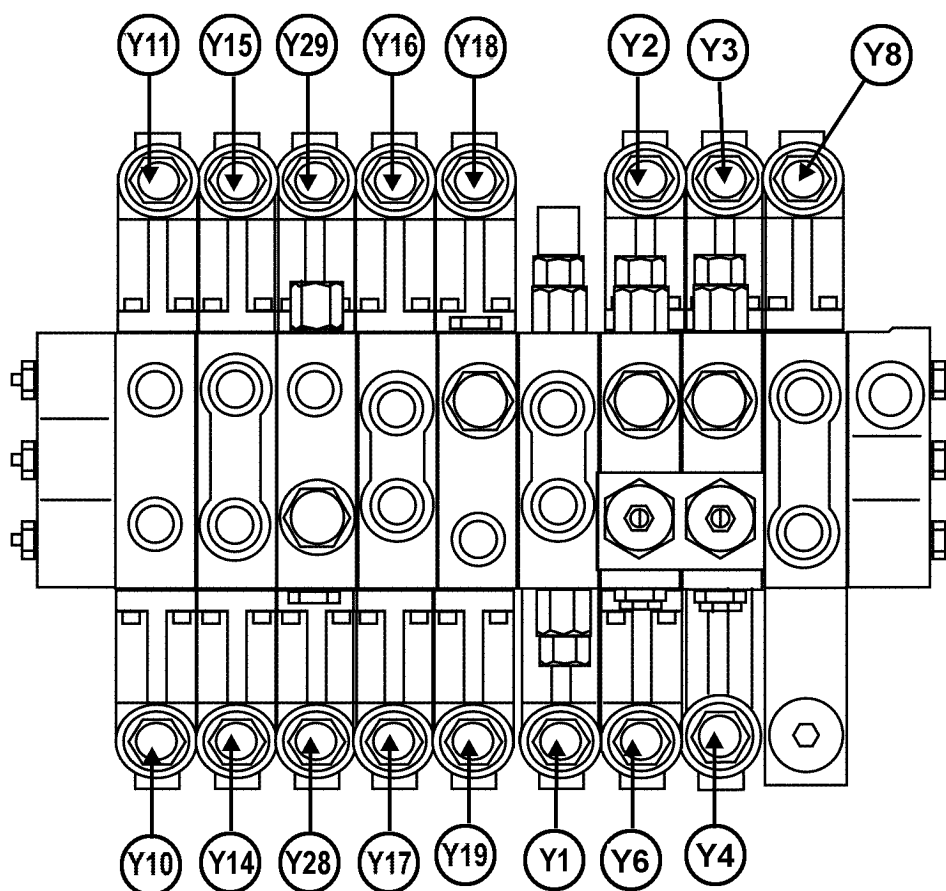
Fuse and Relay Board



CO248170 -UN-29JUL05

- F3—Fuse Tester
 F8—7.5 A fuse - Fan and threshing cylinder speed adjustment
 F9—Not used
 F10—7.5 A fuse - Low shaft speed monitor system
 F11—7.5 A fuse - Harvest performance monitor
 F12—15 A fuse - Head and reverser drive
 F13—7.5 A fuse - Head controls
 F14—7.5 A fuse - Power supply to head control circuit board
 F15—7.5 A fuse - Head raise/lower
 F16—7.5 A fuse - Grain tank unloading system
 F17—7.5 A fuse - Main power supply to threshing and splitter relays
 F18—Not used
 F19—Not used
 F20—7.5 A fuse - Unloading auger light
 F21—30 A fuse - Air conditioning system
 F22—15 A fuse - Windshield wipers, grain tank light and cab dome light
 F23—15 A fuse - Brake lights, reel speed adjustment
 F24—Not used
 F25—Not used
 F26—15 A fuse - Beacon lights
 F27—30 A fuse - Concave adjustment
 F28—7.5 A fuse - Power supply to head control circuit board
 F29—30 A fuse - Work lights on cab roof
 F30—30 A fuse - Fan adjustment
 F31—15 A fuse - Turn signal lights, cleaning shoe and engine compartment lighting
 F32—15 A fuse - Horn
 F33—30 A fuse - Starter key switch
 F34—15 A fuse - Field / road safety switch
 F35—7.5 A fuse - Slugging alarm buzzer
 F36—Not used
 F37—15 A fuse - Radio, CB and clock
 F38—15 A fuse - Cigarette lighter socket
 F39—Not used
 F40—7.5 A fuse - Left clearance light
 F41—7.5 A fuse - Right clearance light
 F42—7.5 A fuse - Dash panel lighting
 F43—7.5 A fuse - Right-hand low beam
 F44—7.5 A fuse - Left-hand low beam
 F45—7.5 A fuse - Left-hand high beam
 F46—7.5 A fuse - Right-hand high beam
 F47—7.5 A fuse - Radio, CB and clock
 F48—7.5 A fuse - D+ alternator
 F49—7.5 A fuse - Injector pump solenoid
 F50—7.5 A fuse - Indicator lights, temperature gauge
 FR1—7.5 A fuse - Spare
 FR2—7.5 A fuse - Spare
 FR3—7.5 A fuse - Spare
 FR4—7.5 A fuse - Spare
 FR5—15 A fuse - Spare
 FR6—15 A fuse - Spare
 FR7—15 A fuse - Spare
 FR8—30 A fuse - Spare
 FR9—30 A fuse - Spare
 FR10—30 A fuse - Spare
 K02—Power supply relay
 K03—Power supply relay
 K07—Work lights relay
 K53—Threshing unit relay
 K55—Field / road safety switch relay

Solenoid Valves (Main Hydraulic Block)



CQ222860 -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

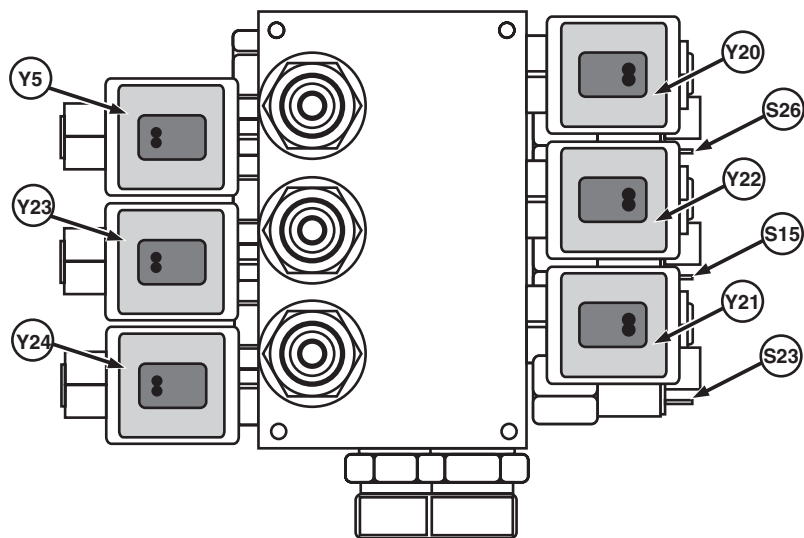
Y19—Reel raising

Y28—Reduce threshing
cylinder speed

Y29—Increase threshing
cylinder speed

ML70882,00004AD -19-20JUL04-1/1

Solenoid Valves (Secondary Hydraulic Block)



S15—Pressure Switch (35 bar)	Y5—Disengaging unloading auger	Y21—Header drive	Y23—Disengaging separator
S26—Pressure Switch (12 bar)	Y20—Engaging unloading auger	Y22—Engaging separator	Y24—Engaging header
S23—Pressure Switch (12 bar)			

CQ248230 -UN-01AUG05

ML70882,00004B5 -19-17AUG05-1/1

INFO-TRAK™ Monitor Error Codes

Whenever the INFO-TRAK™ monitor displays a three-digit number followed by an “E”, a malfunction or operator error has occurred. The cause of a machine 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	The engine operating hours counter of the INFO-TRAK™ monitor is defective.	
102E	The engine operating hours counter of the INFO-TRAK™ monitor is not functioning	
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 response from INFO-TRAK™ monitor	
129E		
130E	Adjustment motor cannot reduce fan speed to required rpm	Check fuses (F8, F30)
131E	Variator cannot reduce cylinder speed to required rpm	Check fuse (F8)
132E	Adjustment motor cannot reduce concave clearance to required gap	Check fuse (F27)
135E	Adjustment motor cannot increase fan speed to required rpm	Check fuses (F8, F30)
136E	Variator cannot increase cylinder speed to required rpm	Check fuse (F8)
137E	Adjustment motor cannot increase concave clearance to required value	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 –19–01AUG05–1/1

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 Head AHC Calibration Procedures

IMPORTANT: Make sure that the head operating position and rods are parallel to the ground before starting the calibration procedure. Head angle adjustment depends on tire size and is described in the “Feeder House” section.

The head height sensors are calibrated by the AHC (Automatic Height Control) in the head calibration procedure.

All other components of the automatic head control system are calibrated in the combine calibration procedure.

The head calibration procedure must only be performed when a head is initially installed or when head height sensors are replaced.

Definition of head type:

The types of heads supported are:

- 0 — 300 Series Flex Head
- 1 — 600 Series Flex Head
- 2 — Rigid Head
- 3 — Corn Head

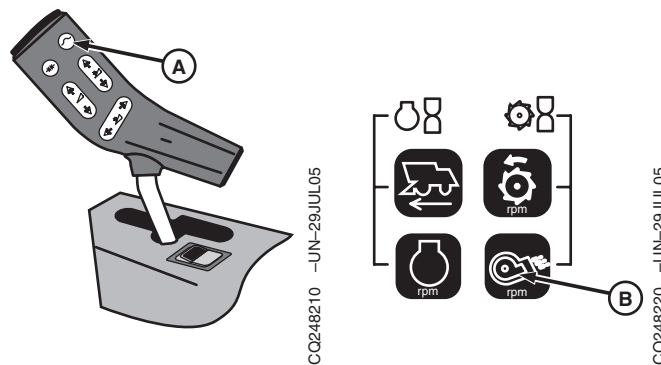
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AG,CO03622,2235 -19-01AUG05-1/2

To change the head type stored in the memory, perform the following:

1. Go to Infotrak address number 32. The current head type will be displayed.
2. With the starter key in position II and the road safety switch engaged, push the return-to-float knob (A) on the multifunction control handle. The AHC will scroll through the available head types. Release the return-to-float knob when the required head type is displayed.
3. Press the “Fan Speed” key (B) on the INFOTRAK monitor to store the new head type.

NOTE: The following table provides a detailed description of the steps necessary to calibrate the head, including operator action and system response. “r” and “l” on the display signify: “r = right” and “l = left” or “r = raise ” and “l = lower”.



AG.CO03622,2235 -19-01AUG05-2/2

600 Series Header AHC Calibration Procedure—Step by Step

IMPORTANT: Carry out “Preliminary Header AHC Calibration Procedures” before you perform the calibration.

Step	Action	Go to:
Prepare Header for Calibration	Hook up header to combine and ensure header harness is connected to main vehicle harness. Check that header height sensors are in working condition. Move 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 button on INFO-TRAK monitor, turn combine key switch on and start combine. Display should indicate: -- dIA	OK: GO TO Step 2 NOT OK: Check INFO-TRAK Monitor
2 — Select AHC (Active Header Control)	Press the up/down key on Infotrak until "AHC" is displayed. Display should indicate: -- AHC	OK: GO TO Step 3 NOT OK: See your nearest dealer
3 — Enter header calibration mode	Press fan speed key on INFO-TRAK monitor to access "AHC" diagnostic mode Display should indicate: 0000 AHC Press the up/down key on INFO-TRAK monitor twice to obtain mode 2. Display should indicate: 0002 AHC Press fan speed key on INFO-TRAK monitor to obtain header calibration mode 30 Display should indicate: 0030 Hdr	OK: GO TO Step 4 NOT OK: Check INFO-TRAK Monitor
4 — Calibrate height system and return-to-cut. Define sensor minimum settings	Lower header until it rests fully on ground by "raise/lower" switch on multi-function lever handle. Left- and right-hand sides of header should contact ground at the same time as the header is lowered. Press "Fan Speed" button on INFO-TRAK monitor. Display should indicate: 0030 H - d Press return to cut knob on multi-function control handle. Display should indicate: 0030 H - U	OK: GO TO Step 5 NOT OK: Header does not raise or lower, check hydraulic system NOT OK: Display does not change to "H-U", make sure "raise/lower" rocker switch is off. See your nearest dealer NOT OK: Display "E5X", "E7X", "E8X" or "E9X" indicates 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 -19-14JUL06-1/2

Step	Action	Go to:
5 — Define maximum sensor settings.	Use raise/lower switch on multi-function control handle to raise header fully. Press return to cut knob on multi-function control handle. Display should indicate: 0030 EOC	OK: GO TO Step 6 NOT OK: Display "E5X", "E7X", "E8X" or "E9X" indicates an error. See your nearest dealer
6 — Store header calibration data in the AHC (Active Header Control).	Press "Fan Speed" knob on 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 display reads: EOC Err END	OK: Calibration is done. GO TO Step 7 NOT OK: See your nearest dealer
7 — Reset to normal operation.	Turn starter key to position "0" to return the AHC (Active Header Control) to normal operation at next start-up.	

ML70882,00004BA -19-14JUL06-2/2

300 and 600 Series Rigid Header Float Calibration Procedure

The pressure sensor is calibrated for the header flotation installed on the combine in the float system calibration procedure. The float calibration procedure must be performed when a header is initially hooked up if the ground pressure (float) mode of operation will be used.

The following is a step by step procedure that shows operator action and system response.

Continued on next page

ML70882,000098E -19-23MAY06-1/3

Step	Action	Go to:
Prepare Header for Calibration.	Couple header to combine. Move machine onto a level concrete surface.	GO TO Step 1.
1 - Select Diagnostic Mode	The INFO-TRAK™ monitor is used to provide diagnostic mode. Start up the combine while pressing the up/down key on the INFO-TRAK. Display should indicate: -- dIA	OK: GO TO Step 2 NOT OK: Check INFO-TRAK Monitor
2 - Select AHC	Press the up/down key on Infotrak until "AHC" is displayed. Display should indicate: -- AHC	OK: GO TO Step 3 NOT OK: See your nearest dealer
3 - Enter float calibration mode.	Press fan speed key on INFO-TRAK monitor to access "AHC" diagnostic mode Display should indicate: 0000 AHC Press the up/down key on INFO-TRAK monitor twice to obtain mode 2. Display should indicate: 0002 AHC Press the "Fan Speed" key on the Infotrak to access header calibration mode 30. Then press the up/down key to access float calibration mode 31. 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 multi-function 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 multi-function control handle. Display should indicate: 0031 EOC	OK: GO TO Step 5 NOT OK: Header does not raise or lower, check hydraulic system NOT OK: Display does not change to "HFL", make sure header raise/lower rocker switch is off. See your nearest dealer NOT OK: Display "E5X" or "E39" indicates an error. See your nearest dealer NOT OK: Display does not change from "HFL". See your nearest dealer

Continued on next page

ML70882,000098E -19-23MAY06-2/3

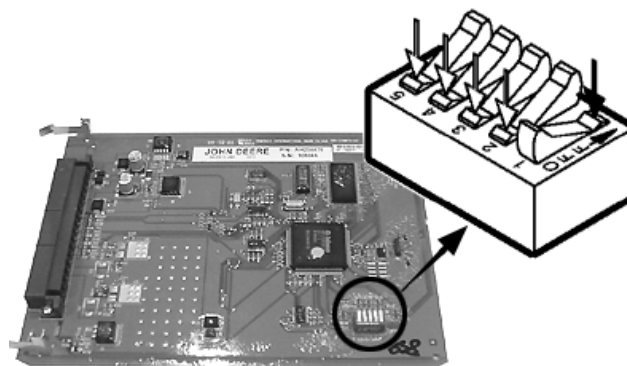
Service—Electrical System

Step	Action	Go to:
5 Store header calibration data in the AHC (Active Header Control).	Press "Fan Speed" knob on INFO-TRAK monitor to store all calibration values. If no errors occurred during calibration, display reads: EOC E00 END If any errors occurred during calibration, previous calibration values are kept and display reads: EOC Err END	OK: Calibration is done. GO TO Step 6. NOT OK: See your nearest dealer
6 - Reset to normal operation.	Turn starter key to position "0" to return the AHC (Active Header Control) to normal operation at next start-up.	

ML70882,000098E -19-23MAY06-3/3

Position of Dipswitches on Reel Speed Control Board

Consult position of dipswitches according to tire radius below.



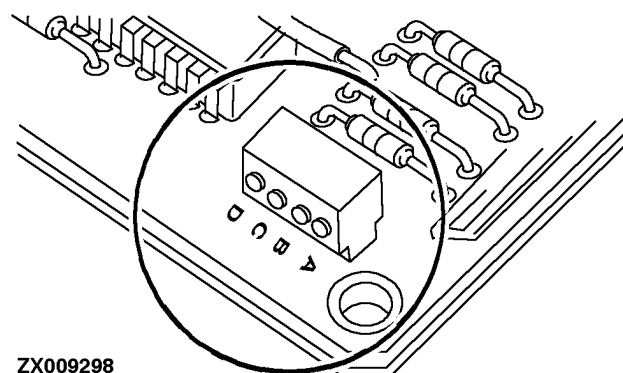
CQ216530 -UN-12NOV02

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	741	OFF	ON	OFF	OFF	OFF
18.4-38	805	OFF	ON	ON	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 -19-13MAR06-1/1

LEDs on Reel Speed Control Board (Error Codes)

If a solution cannot be found nor the malfunction eliminated, see your John Deere dealer.



ZX009298

ZX009298 -UN-22MAY96

Continued on next page

AG,CO03622,2240 -19-17SEP05-1/3

ERROR CODE 0 —LED off X — LED 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	Check system operating range.
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	“Bit 1” error of reel speed control switch	Check reel speed control switch, electrical board and harness
A — 0 B — X C — X D — 0	“Bit 2” error of reel speed control switch	Check reel speed control switch, electrical board and harness
A — X B — X C — X D — 0	“Bit 4” error of reel speed control switch	Check reel speed control switch, electrical board and harness
A — 0 B — 0 C — 0 D — X	“Bit 8” error 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	
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

Service—Electrical System

ERROR CODE 0 — LED off X — LED on	PROBLEM	SOLUTION
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	Check system operating range.
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 —19–17SEP05–3/3

Service—Hydraulic System

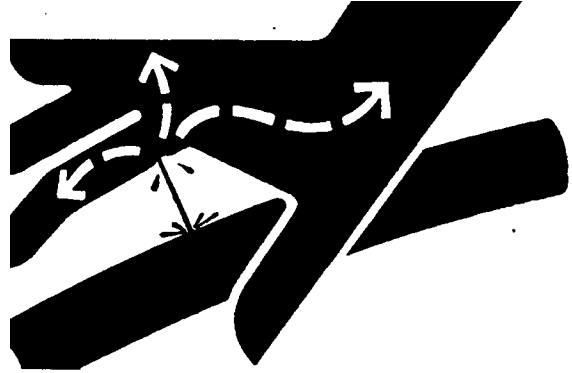
Avoid High-Pressure Fluids

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

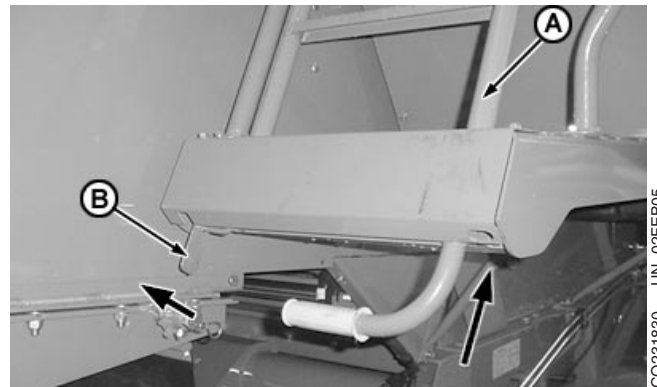
DX,FLUID -19-03MAR93-1/1

Access Points Behind Rear Ladder

Some services to be carried out on the engine, hydraulic system or straw-walkers require access via rear ladder.

To access these points push (upwards) the ladder (A) and pull (rearwards) locking latch (B).

NOTE: To retract ladder, carry out reverse procedure.



CQ231830 -UN-02FEB05

ML70882.0000517 -19-06JUN05-1/1

Description of Hydraulic System

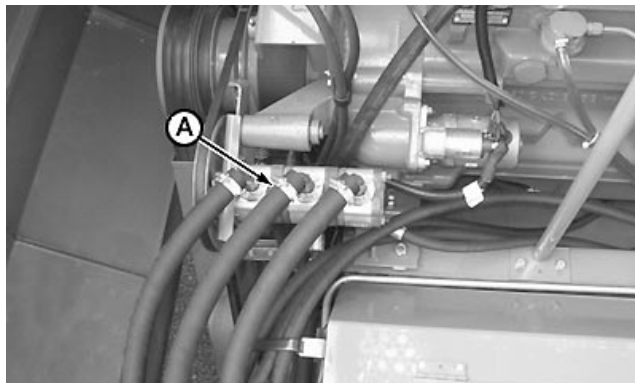
The machine is equipped with an open-center hydraulic system, which means that with the engine running at constant speed the triple hydraulic pump (A) conveys a constant flow of hydraulic oil. See Triple Hydraulic Pump section for more details.

If no pressurized oil is required, the solenoid pressure valves direct pressure-free oil back to the tank.

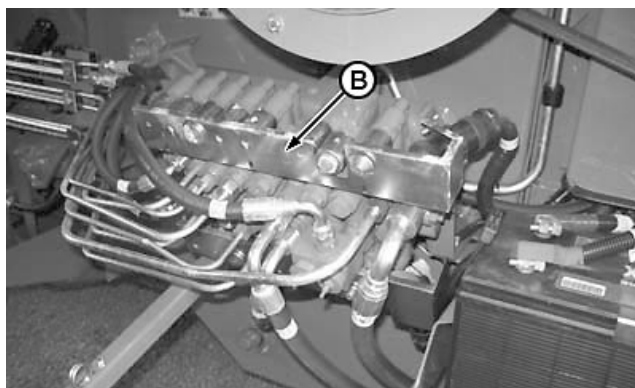
The primary hydraulic valve block (B) is located on the left-hand side of the combine close to the battery.

The secondary hydraulic valve block (C) is likewise located on the left-hand side of the combine, a little bit above the primary hydraulic valve block (B).

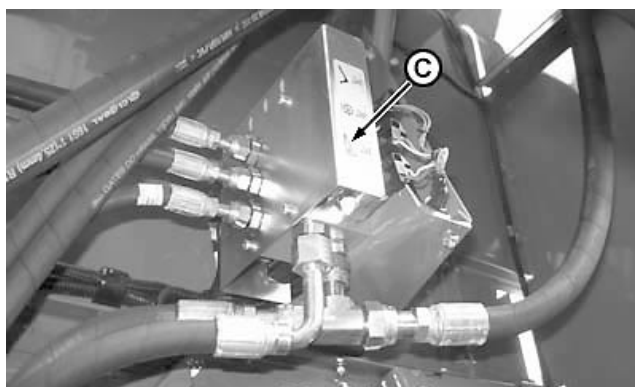
- A—Triple hydraulic pump
- B—Primary hydraulic valve block
- C—Secondary hydraulic valve block



CQ238360 -UN-27JUL05



CQ238370 -UN-27JUL05



CQ238380 -UN-27JUL05

AG,CO03622,2273 -19-24MAR05-1/1

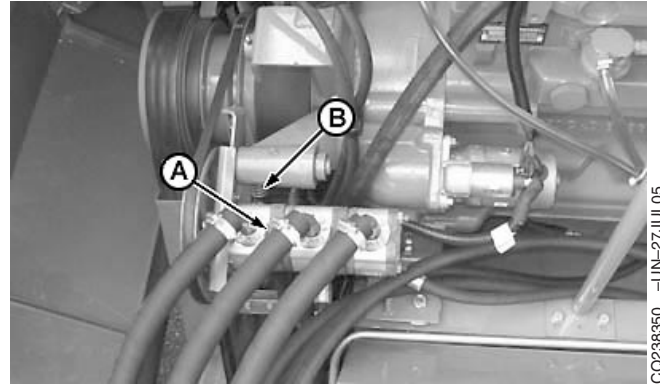
Triple Hydraulic Pump

The triple hydraulic pump (A) is V-belt driven.

The belt tension required to start up the engine is achieved by means of spring (B) on the pivoting pump support.

When the hydraulic pump operates, the drive belt is tensioned automatically by the shift of the pump support depending on the required drive power.

Consult “Specifications” section for system details.



A—Triple Hydraulic Pump
B—Spring

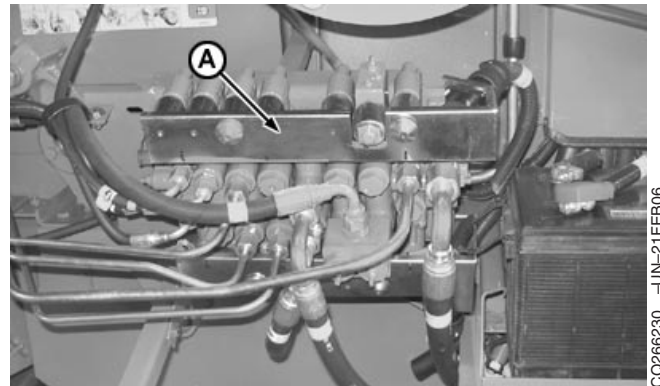
AG,CO03622,2910 -19-06JUN05-1/1

Hydraulic Valve Block Relief Valves

IMPORTANT: Have pressure relief valves serviced solely by your John Deere dealer.

The main hydraulic valve block (A) is equipped with 4 pressure relief valves which have been tested and set in the factory.

If any of the drives or the header malfunctions, the drive relief valve may be damaged. If this or a similar defect occurs, consult your John Deere dealer.



AG,CO03622,2272 -19-13MAR06-1/1

Functions of Hydraulic Control Block Valves

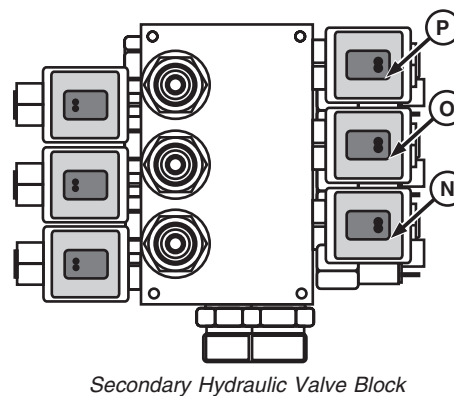
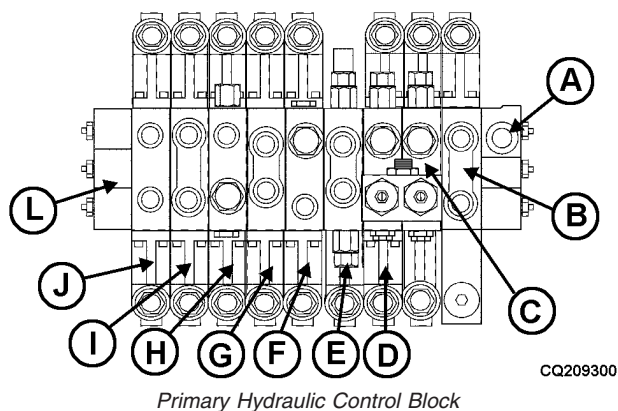
Main hydraulic valve block controls 6, 7 or 8 functions of combine through individual modules (valves) depending on configuration and combine model:

- Without header tilt and reel forward position = 6 functions.
- Without header tilt = 7 functions.
- With header tilt = 8 functions.

Secondary hydraulic valve block controls three functions of combine.

NOTE: See detailed list of electrical valves (solenoids) in the "Service — Electrical System" section.

- A—Return to reservoir
- B—Hydraulic reverser
- C—AHC (Automatic Header Control) / Slow raise/lower of header
- D—Fast raise/lower of header (manual)
- E—Power and splitter / Secondary valve block output port
- F—Reel raise
- G—Reel fore/aft position
- H—Threshing cylinder speed variator
- I—Header lateral tilt
- J—Unloading auger swing out
- L—Secondary valve block pressure take-off
- N—Header engage
- O—Separator drive
- P—Unloading auger drive



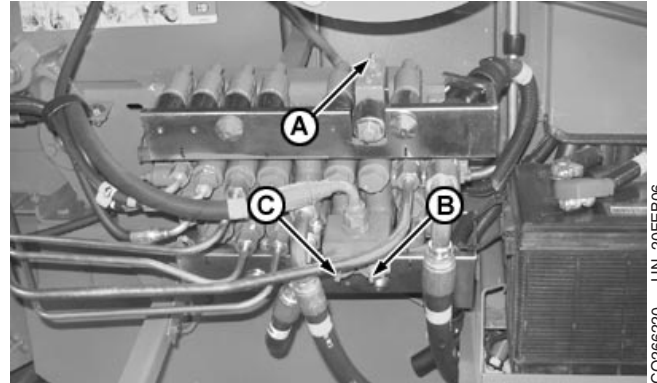
Adjusting Header Raise and Lower Speed

The adjustment of the slow header raise speed is done by screw (A) located on the hydraulic valve block.

- Turn screw counterclockwise to increase speed.
- Turn screw clockwise to decrease speed.

Adjustment of **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



CO266220 -UN-20FEB06

MB03730,000001D -19-20FEB06-1/1

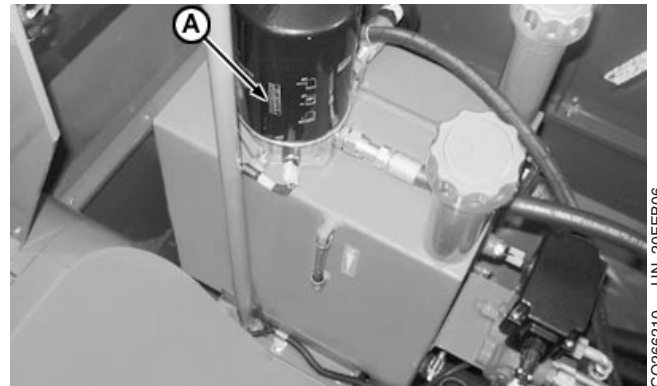
Changing Hydraulic Oil and Filter

Changing the hydraulic oil filter:

- According to intervals specified 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.

1. Loosen and remove filter (A).
2. Dispose of filter properly and replace with a genuine John Deere filter.
3. Coat filter sealing surface with a thin layer of oil.
4. Tighten filter (A) by hand until sealing ring touches filter housing sealing surface and then tighten a further 3/4 to 5/4 turns. Do not overtighten.
5. Start engine and check for leaks. Retighten filter if necessary.



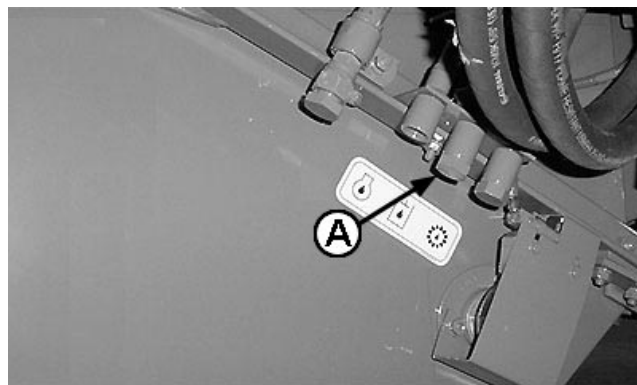
CO266210 -UN-20FEB06

AG.CO03622,2267 -19-13MAR06-1/1

Changing Hydraulic Oil

Draining Oil:

1. Lower header to ground. Retract hydraulic cylinders of reel and unloading auger.
2. Remove drain plug (A) and drain the oil into an appropriate container.
3. Disconnect the hoses from all hydraulic cylinders, the hydraulic valve block return hose and the reel drive system hoses close to the valve. Let the oil flow out of these points.



CO216360 -UN-100CT02

NOTE: Before disconnecting the hoses clean the connections thoroughly.

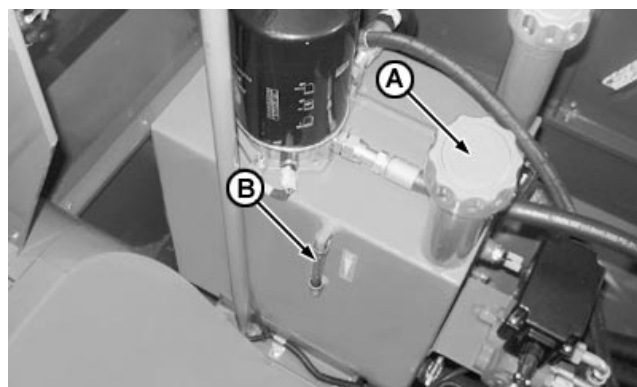
4. After draining all oil, reconnect all connections and reinstall the reservoir drain plug (A).

AG,CO03622,2268 -19-20FEB06-1/2

Refilling:

NOTE: Only use recommended oil (see "Fuel, Lubricants and Coolant" section). Carefully clean area around filler neck.

1. Refill with fresh hydraulic oil through filler neck (A) until oil reaches the center of sight glass (B).
2. Run engine. After 15 seconds raise and lower the unloading auger, reel and header a number of times and turn the steering wheel in both directions several times to bleed off the air in the circuit.
3. Engage the threshing unit and the header and activate the cylinder speed control several times.
4. Inspect all lines and connections for leaks. Comply with all safety rules.
5. Check oil level in reservoir with all hydraulic cylinders completely retracted. If necessary, add oil to reservoir until correct level is reached.



CO266200 -UN-20FEB06

AG,CO03622,2268 -19-20FEB06-2/2

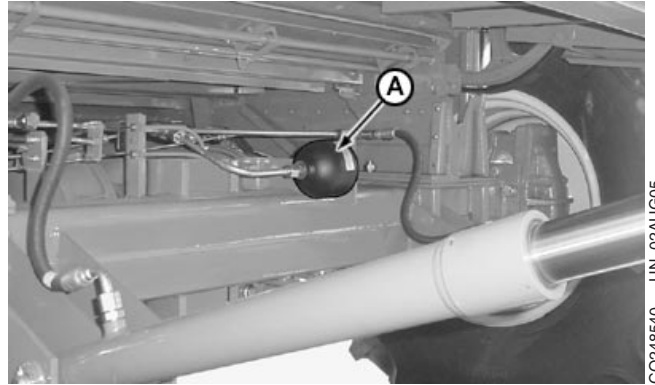
Accumulators



CAUTION: If necessary, have hydraulic accumulator replaced by your local John Deere dealer.

A—Head raise system accumulator

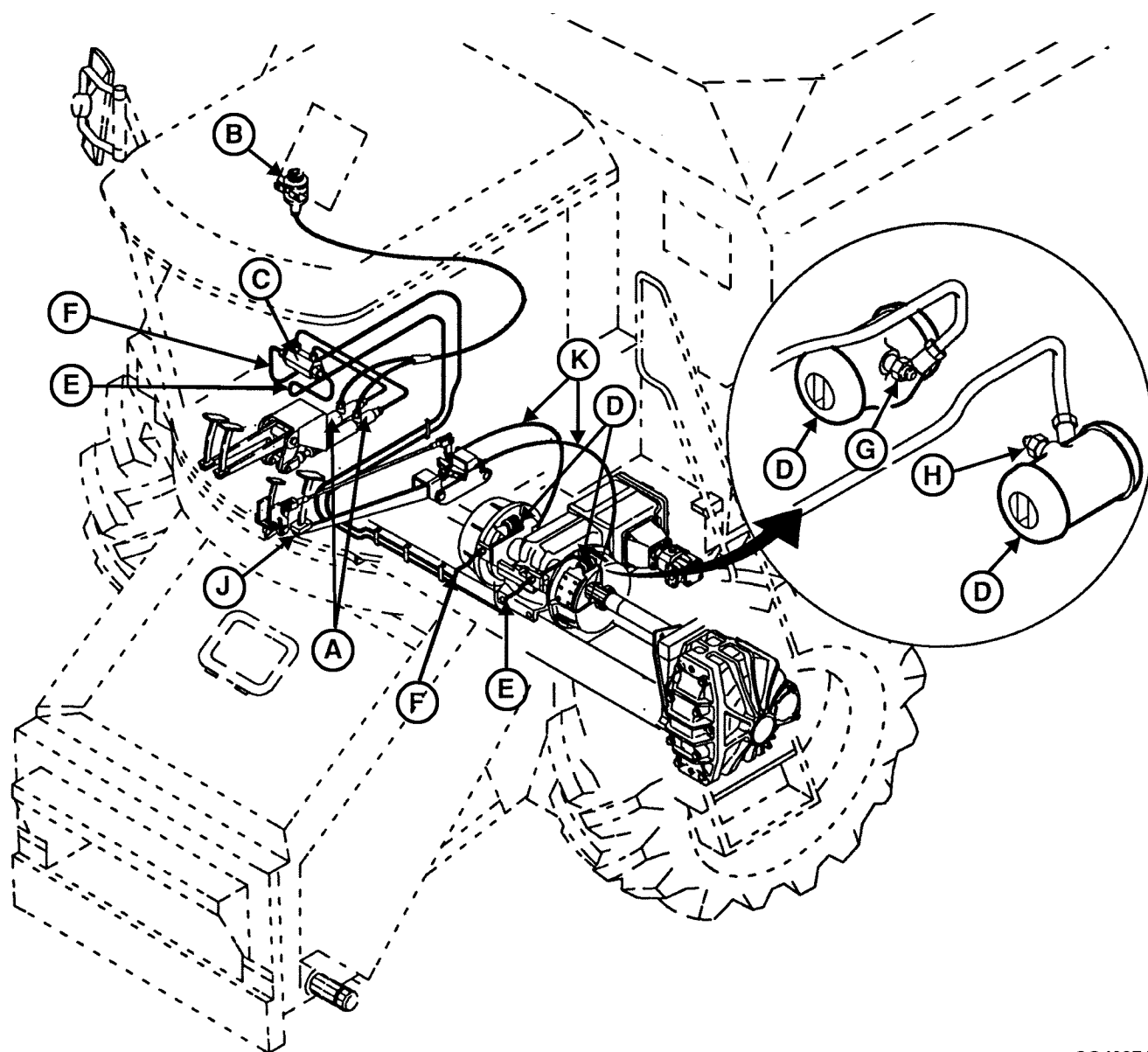
C—Separator and straw chopper drive accumulator



AG.CO03622,2271 -19-01AUG05-1/1

Service-Hydropst. Variable 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

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.

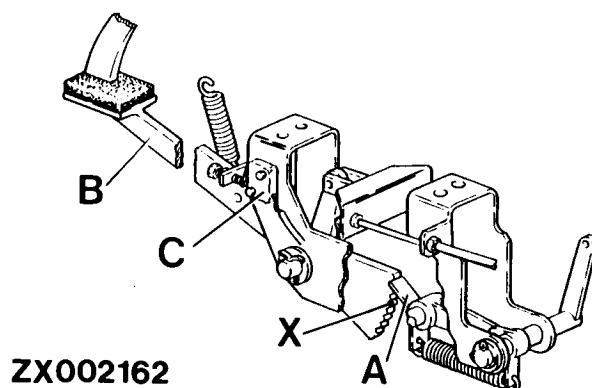
AG,CO03622,2252 -19-26NOV99-1/1

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.

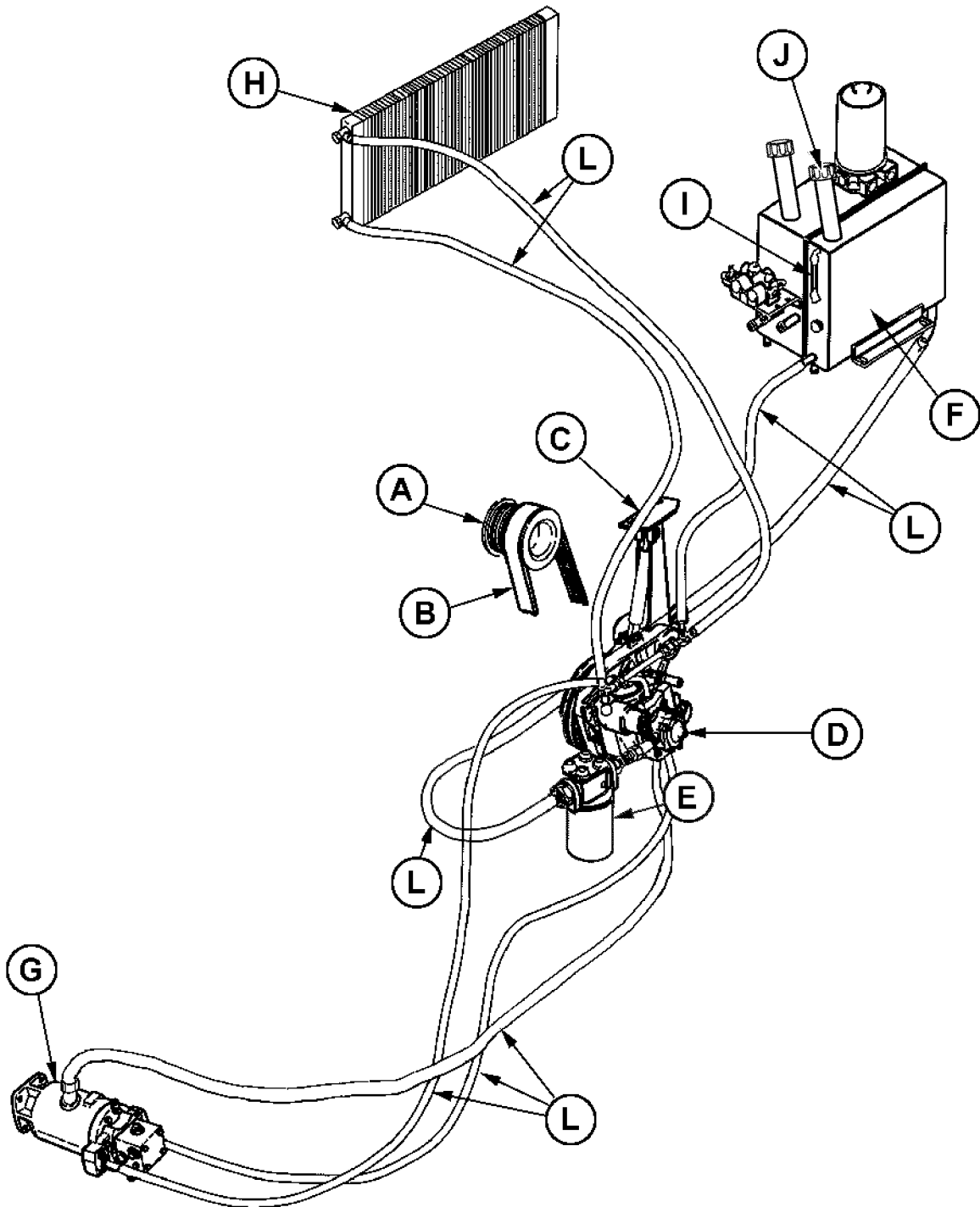


- A—Lock
- B—Pedal
- C—Indicator light switch
- X—Max. position (fourth tooth of pedal)

ZX002162 -UN-04APR95

AG,CO03622,2253 -19-15MAR02-1/1

Hydrostatic Drive Components



A—Engine power takeoff
B—Multi-“V”-belt
C—Tensioning 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

CO249560 -UN-21JUN06

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 (A).

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).

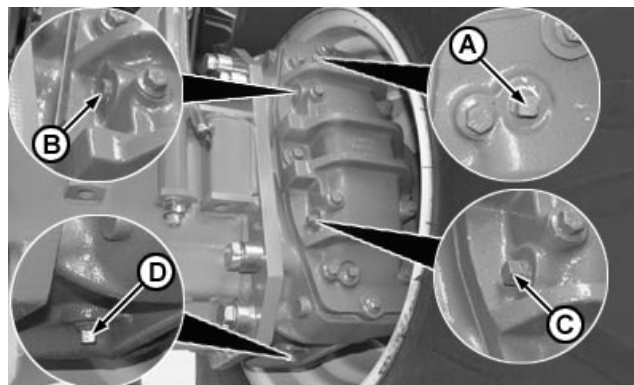
Changing Final Drive Oil

1. Remove drain plug (D) to drain oil. Open filler plug (A).
2. After draining the oil, close drain plug (D) and remove oil level plug (C).
3. Fill with oil up to the indicated level. Install oil level plug. Close filler plug.

IMPORTANT: Only use recommended oil and quantity. Carefully clean area around filler opening.

Recommended oil: **SAE 90.**

NOTE: Consult capacity in the "Specifications" section.



A—Oil filler plug
B—Vent plug
C—Oil level plug
D—Drain plug

CO267970 -UN-15MAR06

AG,CO03622,2257 -19-14MAR06-1/1

Changing Transmission Oil

Remove bolt (D).

Remove cap (A) from transmission box and take out line (E).

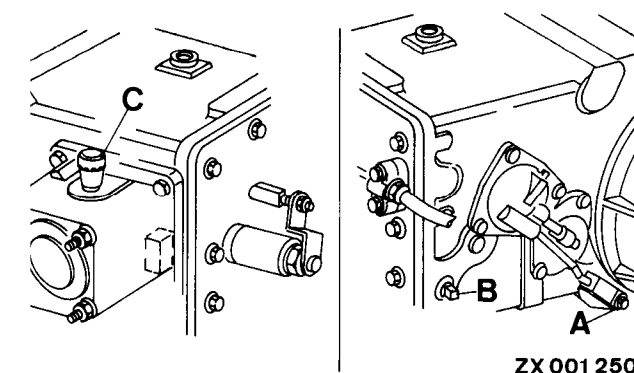
Check filter (F) and rings (G), and replace if necessary.

IMPORTANT: When reinstalling, make sure filter (F) is seated correctly in transmission housing.

Recommended oil - SAE 90.

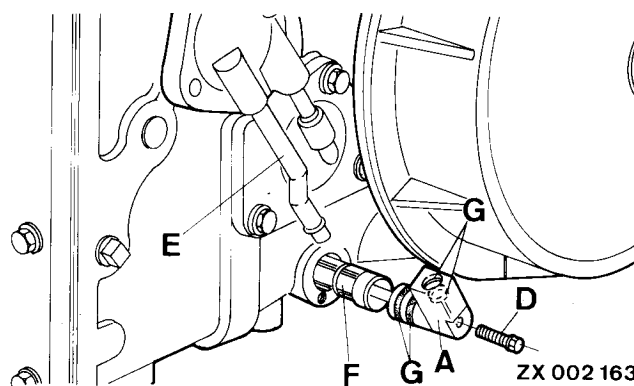
IMPORTANT: Always use specified oil.

Consult capacity in the "Specifications" section.



ZX 001 250

ZX001250 -UN-03APR95



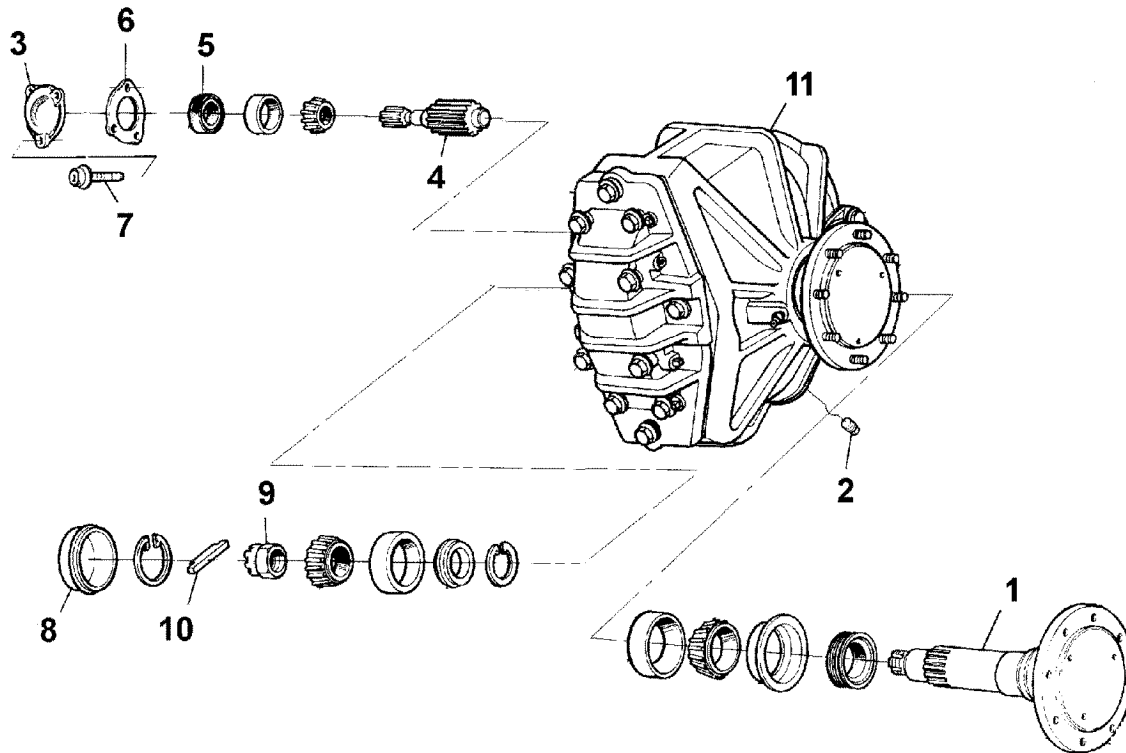
ZX 002 163

ZX002163 -UN-27MAR95

A—Cap
B—Check plug
C—Filler neck and bleed plug
D—Bolt
E—Line
F—Filter
G—Rings

AG,CO03622,2115 -19-01AUG05-1/1

Adjusting Play of Final Drive Shaft End Bearings



1—Shaft end
2—Drain 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 shaft end 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 shaft end (1) up and down.

If there is play, have the bearings adjusted by your John Deere dealer or, if you possess the suitable tools, adjust 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 shims (6). Tighten bearing housing (3) bolts (7) to 60 N.m (44 lb-ft).
5. Remove shaft end nut cap (8) and locking pin (10).
6. Check castle nut (9) torque, it should be 150 N.m (110 lb-ft).
7. Rotate shaft end (1) several times in both directions. Using an aluminum hammer, lightly tap both sides of shaft end to seat bearing cups.

Continued on next page

MB03730,00001D3 -19-01AUG05-1/2

8. Check shaft end (1) rolling drag torque through castle nut (9), it should be 7 to 13 N.m (5 to 10 lb-ft). Adjust castle nut, if necessary.

NOTE: If necessary loosen nut (9). Make sure to loosen bearings also. If necessary, use an aluminum hammer and lightly tap both sides of shaft end to seat bearing cups.

9. Repeat this procedure until the correct torque is obtained.

10. Tighten castle nut (9) until one of the grooves aligns with the bore on the shaft end (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).

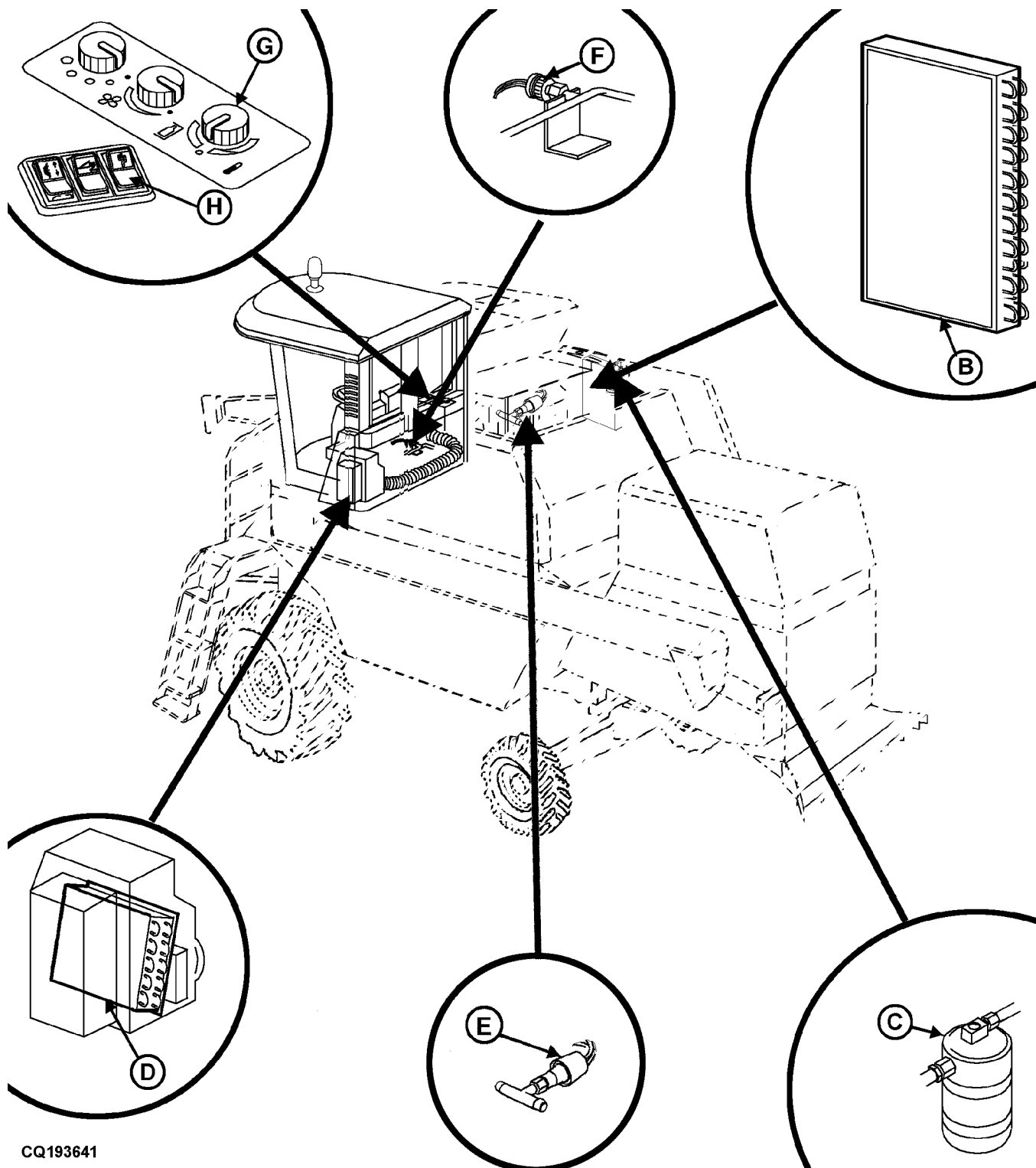
12. Install drive pinion bearing housing (3), taking care to use the same shim (6). Tighten bearing housing (3) bolts (7) to 60 N.m (44 lb-ft).

13. Repeat this procedure with the final drive on the other side.

MB03730,00001D3 -19-01AUG05-2/2

Service—Air Conditioning / Heating

Air Conditioning System Components



CQ193641

B—Condenser
C—Drier filter

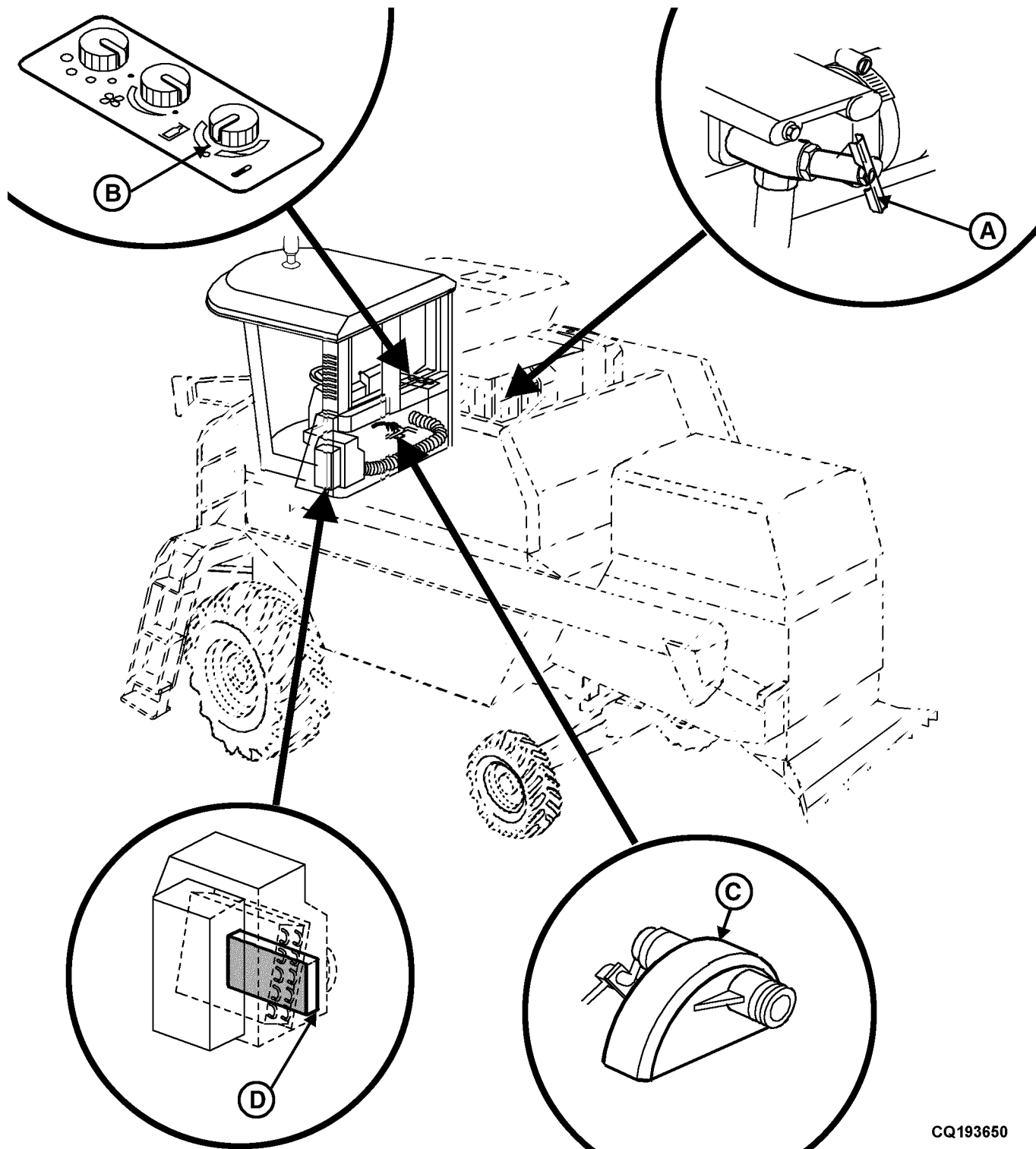
D—Evaporator
E—High pressure switch

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

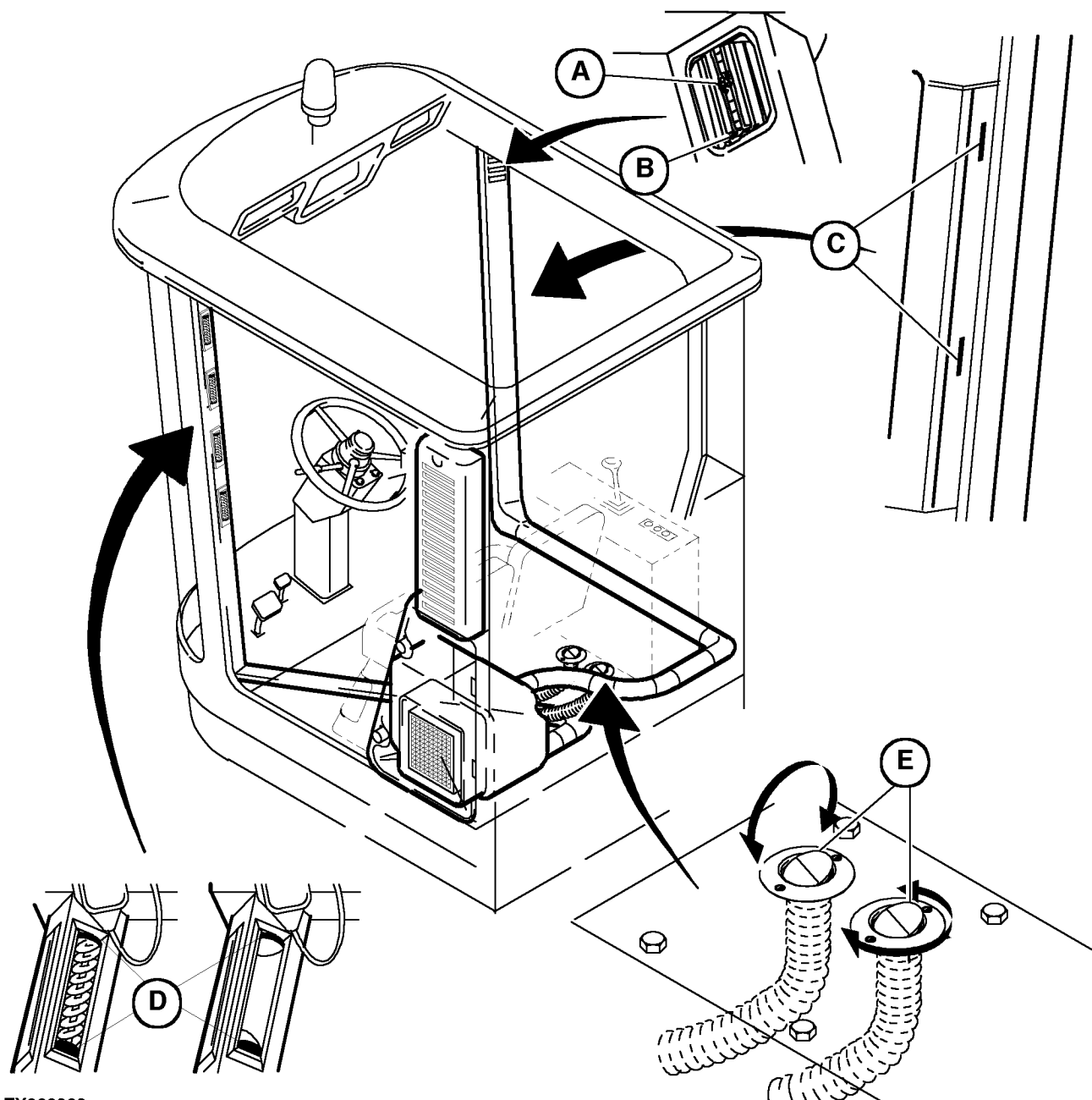
C—Heater valve in cab

D—Radiator

CQ193650

CQ193650 -UN-18NOV99

Adjustable Air Louvers



ZX009303

A—Wheel to regulate air flow
B—Baffles adjustment

C—Air louvers

D—Wheel to regulate and
direct air flow.

E—Regulation of air flow and
baffles

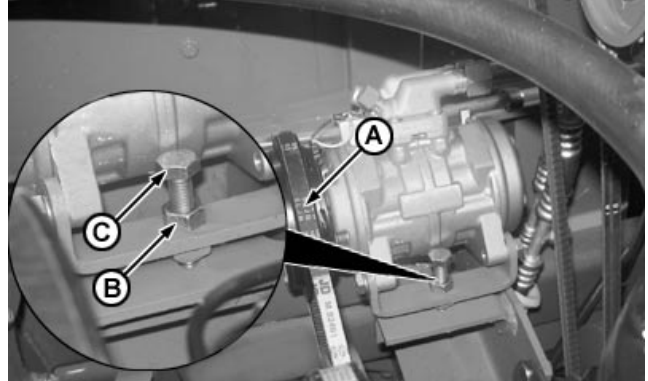
Adjust air louvers to prevent misting of windows.

ZX009303 -UN-23MAY96

Air Conditioning Compressor Belt Tension

Check tension of air conditioning compressor belt (A), if necessary.

1. Loosen nut (B) and move compressor through bolt (C).
2. Retighten nut (B).



AG,CO03622,2246 -19-20FEB06-1/1

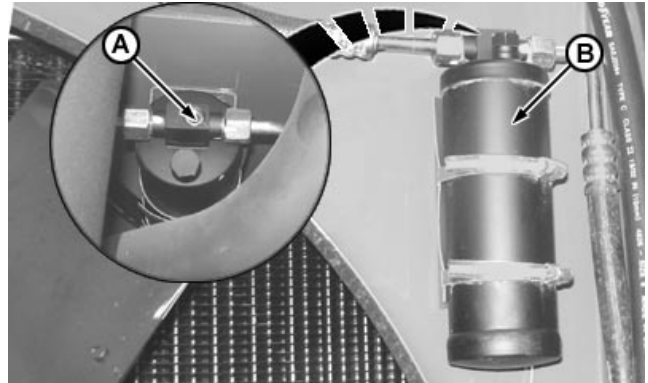
CQ266150 -UN-20FEB06

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 into the atmosphere. Before any intervention in the system, it must be trapped in a recycling unit. Therefore, do not execute repairs on refrigeration lines nor the system itself. Service work on the air conditioning system must be carried out by your John Deere dealer.

With air conditioning system controls set for maximum cooling and with the engine running, check sight glass (A) at drier filter (B). If refrigerant appears cloudy or foamy, refrigerant level is low and system should be recharged.



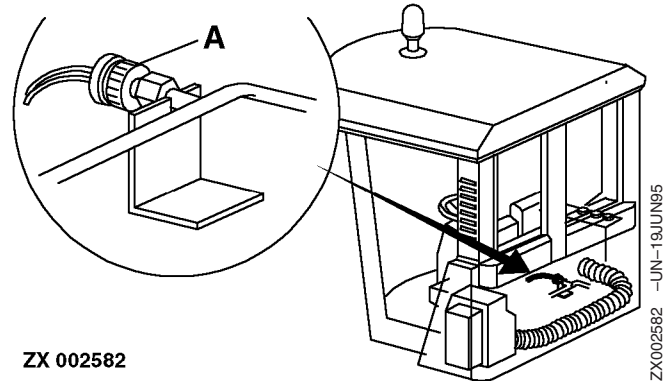
AG,CO03622,2160 -19-20FEB06-1/1

CQ266180 -UN-21MAR06

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.



ZX002582 -UN-19JUN95

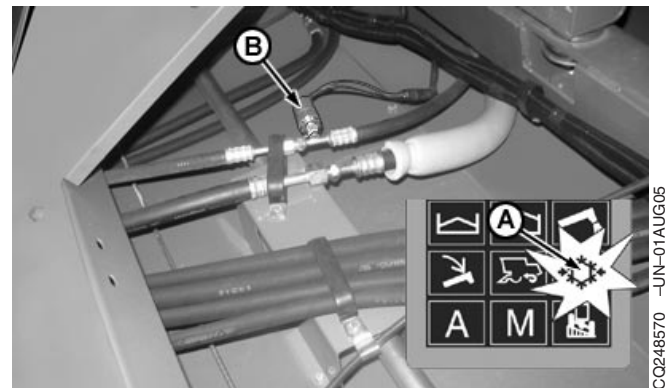
AG,CO03622,2161 -19-15MAR02-1/1

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.



CO248570 -UN-01AUG05

AG,CO03622,2162 -19-17AUG05-1/1

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.

significantly reduced. The recirculation filter may not require as frequent cleaning as the air filter.

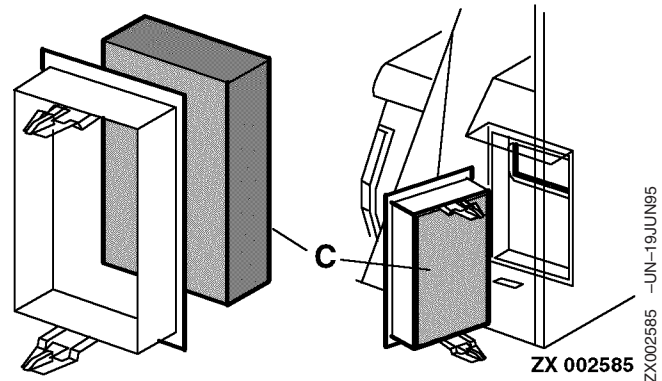
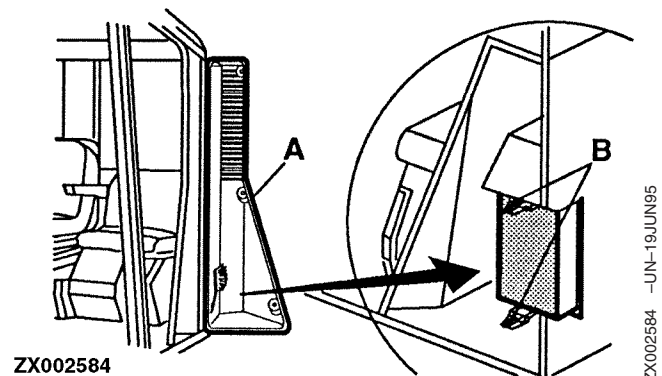
Clean filters according to section "Lubrication and Periodic Service", or whenever air circulation is

AG,CO03622,2164 -19-20FEB06-1/1

Removing Cab Air Filter

1. Open service cover (A).
2. Disengage fasteners (B).
3. Lift out filter housing with element (C).
4. When reinstalling, make sure filter element is in correct position.

IMPORTANT: Replace air filter after the sixth cleansing.



AG,CO03622,2165 -19-20FEB06-1/1

Cleaning Cab Air Filters

Temporary Cleaning

As a provisional measure during harvesting, tap element on palm of hand to remove major dirt build-up.



Continued on next page

AG,CO03622,2166 -19-14MAR06-1/2

Cleaning with Compressed Air

Direct compressed air through filter in inside-out direction with maximum pressure of 200 kPa (2 bar; 30 psi).



Z 63399

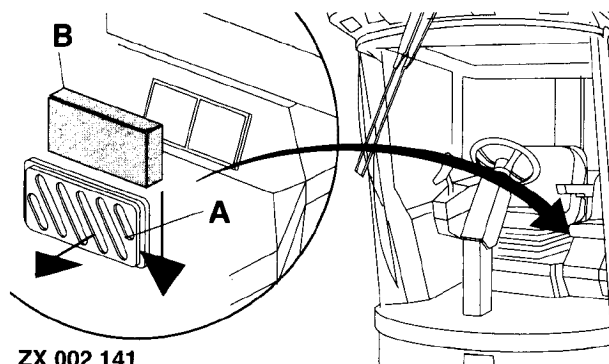
Z63399 -UN-04APR95

AG.CO03622,2166 -19-14MAR06-2/2

Removing Cab Recirculating Filter

Press down grille (A) and pull out by top.

Lift out filter element (B).



ZX 002 141

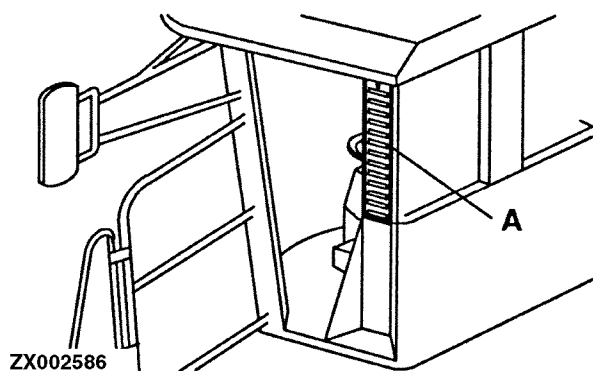
ZX002141 -UN-03APR95

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.



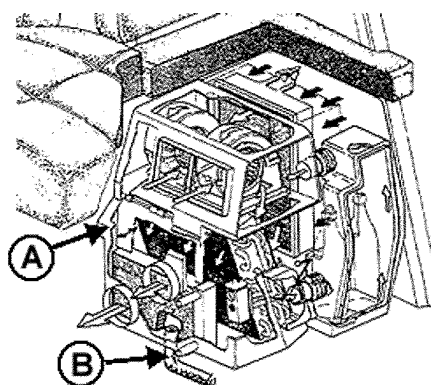
ZX002586

ZX002586 -UN-19JUN95

AG.CO03622,2169 -19-15MAR02-1/1

Condensed Water Drain Hose

If water is accumulating 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, flush 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 add new oil if it has not been done at the end of the harvest season. See section "Fuel, Lubricants and Coolant".

Check all seals and coolant level.

Check battery electrolyte level (See "Battery Electrolyte Level"). Recharge battery, if necessary.

Crank engine for 5 seconds without starting. This will assure complete engine lubrication.

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ML70882,0000998 -19-29MAY06-1/2

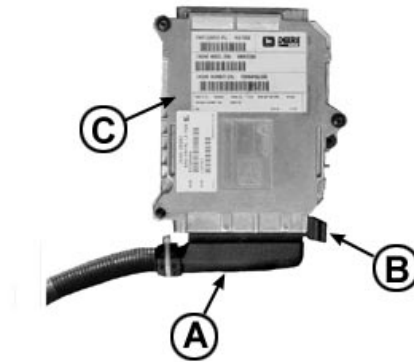
Procedure:

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 slow idle.

Check all lines and seals for leaks. See your John Deere dealer if necessary.



A—Connector
B—Lock
C—ECU

CQ213210

—UN—19MAR02

ML70882,0000998 —19—29MAY06—2/2

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

Specifications

Operating Speeds

The indicated speeds are average values and may vary from machine to machine. Speeds are graded using an elevated ground speed with the threshing unit engaged and without load.

Engine idling	1300 rpm
Engine maximum rpm (no load)	2550 rpm
Hydraulic pump maximum rpm	2615 rpm
Feeder house speed	510 rpm
Threshing cylinder standard speed	452—1115 rpm
Threshing cylinder speed (with final drive in position I)	150—420 rpm
Threshing cylinder speed (with final drive in position II)	380—1100 rpm
Beater speed	865 ± 15 rpm
Fan speed range	550—1150 rpm

ML70882,000045D -19-16AUG06-1/1

Specifications

Specifications

Engine:	
Manufacturer	John Deere
Model	CD6068HCQ61
Type	Six-cylinder, in line, valve-in-head, diesel turbocharged
Power	170 kW (230 hp) @ 2300 rpm in accordance with the ECE R24, DIN70020 standard (net power) and 190 kW (255 hp) @ 2300 rpm in accordance with ISO standards
Cylinder bore	106.5 mm (4.2 in.)
Cylinder travel	127 mm (5 in.)
Displacement	6.8 L (1.8 US gal)
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
Pressure	120—195 bar (1740.5—2828.2 psi)
Flow Rate to Header / Controls	32.6 L/min (8.61 US gal/min)
Flow Rate to Steering	11.9 L/min (3.14 US gal/min)
Flow Rate to Reel	32.6 L/min (8.61 US gal/min)
Total Flow Rate	77.1 L/min (20.36 US gal/min)
Transmission:	
Type	3 Speeds with lock
Steering System:	
Type	Hydrostatic with telescopic and inclinable post
Capacities	
Engine cooling system	30 L (8 US gal)
Engine crankcase	32 L (8.45 US gal)
Grain tank	6000 L (1585 US gal)
Unloading auger (unloading flow rate)	3300 L/min (871.77 US gal/min)
Final drive	4.8 L (1.27 US gal)
Engine cooling system	30 L (8 US gal)
Air compressor crankcase	0.37 L (0.1 US gal)
Threshing cylinder drive reduction gear (grease)	0.8 kg (1.76 lb)
Brake system (with reservoir)	1 L (0.264 US gal)
Gearbox	9.6 L (2.5 US gal)
Fuel tank	470 L (124.16 US gal)
Windshield washer reservoir	2.8 L (0.74 US gal)
Hydraulic system reservoir	29 L (7.66 US gal)

Continued on next page

AS60558,00003EB -19-22JAN07-1/2

Specifications

Hydrostatic system reservoir	24 L (6.34 US gal)
* Engine at maximum rpm without load.	

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	10,000 kg (22,046.23 lbs)

Feeder house	
Number of chains	3
Number of cross members	2 - T-Profile
Length	1.8 m (5.9 ft)
Lateral tilt	+/- 4 degrees - option
Vertical tilt	+/- 9 degrees - standard
Reverser	11,931.2 W (16 hp)

Separator:	
Diameter	610 mm (2 ft)
Cylinder width	1.3 m (4.26 ft)
Number of bars	08
Concave width	1.3 m (4.26 ft)
Concave area	0.77 m ² (1,193.50 sq in.)
Beater bore	380 mm (14.96 in.)

Separator System:	
Quantity 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)

^aAll weights stated in this manual are approximate combine values with all accessories installed.

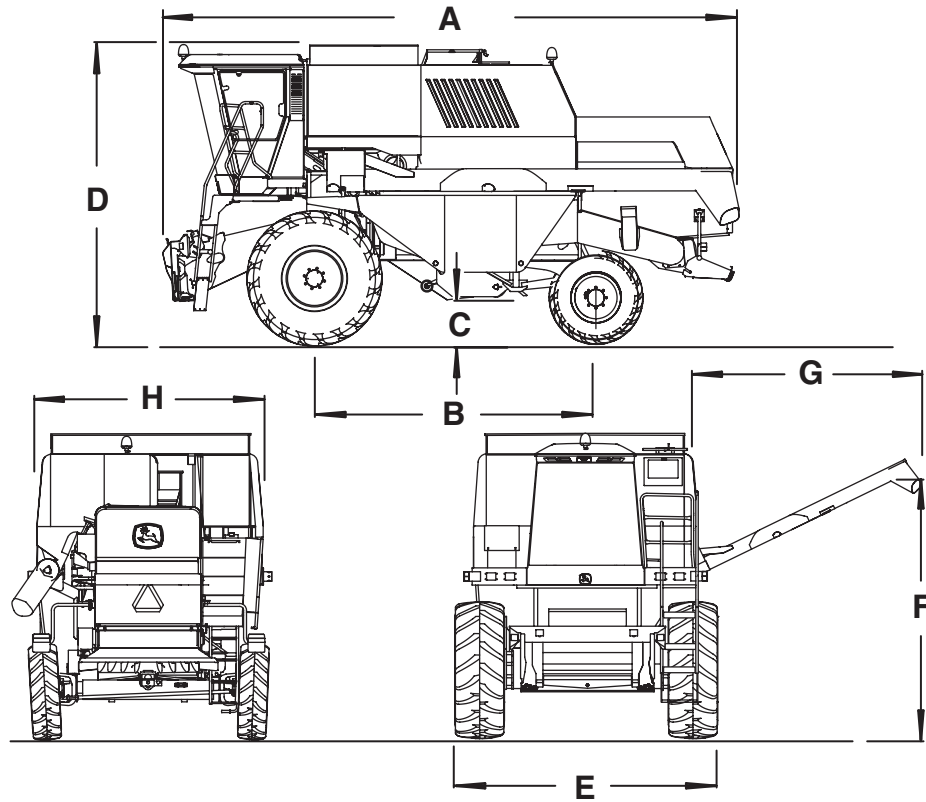
AS60558,00003EB -19-22JAN07-2/2

Wheel Configurations

Consult your John Deere dealer for more information about wheel configurations for your combine.

ML70882,000045E -19-17MAR06-1/1

Combine Dimensions



Combine views

A—Total length	D—Total height	F—Maximum unloading height	H—Overall width
B—Wheelbase	E—Front axle width between outside tire faces	G—Unloading auger reach	
C—Ground clearance of vehicle			

Continued on next page

AS60558,00003EC -19-23JAN07-1/2

CQ243610 -UN-01AUG05

Specifications

Combine dimensions* with 28.1-26 front tires and 12.4-24 rear tires

A	B	C	D	E	F**	F***	G**	G***	H
8.25 m (27.06 ft)	3.57 m (11.7 ft)	0.47 m (1.54 ft)	3.73 m (12 ft)	3.62 m (11.87 ft)	4.55 m (14.93 ft)	5.05 m (16.57 ft)	3.62 m (11.87 ft)	4.28 m (14.04 ft)	2.95 m (9.68 ft)

Combine dimensions* with 28.1-26 front tires and 14.9-24 rear tires

A	B	C	D	E	F**	F***	G**	G***	H
8.25 m (27.06 ft)	3.57 m (11.7 ft)	0.47 m (1.54 ft)	3.73 m (12 ft)	3.62 m (11.87 ft)	4.55 m (14.93 ft)	5.05 m (16.57 ft)	3.62 m (11.87 ft)	4.28 m (14.04 ft)	2.95 m (9.68 ft)

Combine dimensions* with 18.4-38 front tires (double wheel) and 14.9-24 rear tires

A	B	C	D	E	F**	F***	G**	G***	H
8.25 m (27.06 ft)	3.57 m (11.7 ft)	0.47 m (1.54 ft)	3.73 m (12 ft)	4.62 m (15.16 ft)	4.55 m (14.93 ft)	5.05 m (16.57 ft)	3.62 m (11.87 ft)	4.28 m (14.04 ft)	2.95 m (9.68 ft)

*The dimensions are approximate values and vary according to tire configuration.

** Standard Unloading Auger

*** Long Unloading Auger

AS60558,00003EC -19-23JAN07-2/2

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

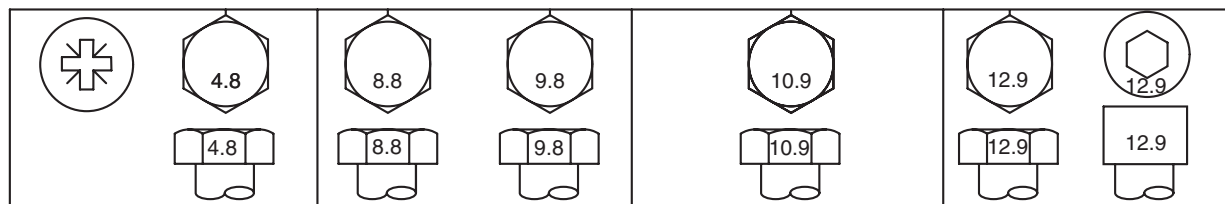
EMC Directive 89/336/EEC, and be CE marked. In the event of the installation of mobile communications equipment (e.g.: radio-transmitter, telephone, etc.) these must additionally comply with the following requirements:

- 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 Screw Torque Values



TS1670 -UN-01MAY03

Bolt or Screw	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
	Lubricated ^a		Dry ^b		Lubricated ^a		Dry ^b		Lubricated ^a		Dry ^b		Lubricated ^a		Dry ^b	
Size	N•m	lb-in	N•m	lb-in	N•m	lb-in	N•m	lb-in	N•m	lb-in	N•m	lb-in	N•m	lb-in	N•m	lb-in
M6	4.7	42	6	53	8.9	79	11.3	100	13	115	16.5	146	15.5	137	19.5	172
									N•m	lb-ft	N•m	lb-ft	N•m	lb-ft	N•m	lb-ft
M8	11.5	102	14.5	128	22	194	27.5	243	32	23.5	40	29.5	37	27.5	47	35
			N•m	lb-ft	N•m	lb-ft	N•m	lb-ft								
M10	23	204	29	21	43	32	55	40	63	46	80	59	75	55	95	70
	N•m	lb-ft														
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

Torque values listed are for general use only, based on the strength of the bolt or screw. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For stainless steel fasteners or for nuts on U-bolts, see the tightening instructions for the specific application. Tighten plastic insert or crimped steel type lock nuts by turning the nut to the dry torque shown in the chart, unless different instructions are given for the specific application.

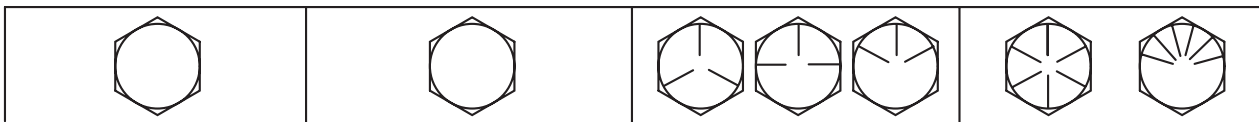
Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical property class. Replace fasteners with the same or higher property class. If higher property class fasteners are used, tighten these to the strength of the original. Make sure fastener threads are clean and that you properly start thread engagement. When possible, lubricate plain or zinc plated fasteners other than lock nuts, wheel bolts or wheel nuts, unless different instructions are given for the specific application.

^a"Lubricated" means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or M20 and larger fasteners with JDM F13C zinc flake coating.

^b"Dry" means plain or zinc plated without any lubrication, or M6 to M18 fasteners with JDM F13B zinc flake coating.

Unified Inch Bolt and Screw Torque Values

TS1671 –UN–01MAY03



Bolt or Screw	SAE Grade 1				SAE Grade 2 ^a				SAE Grade 5, 5.1 or 5.2				SAE Grade 8 or 8.2			
	Lubricated ^b		Dry ^c		Lubricated ^b		Dry ^c		Lubricated ^b		Dry ^c		Lubricated ^b		Dry ^c	
Size	N•m	lb-in	N•m	lb-in	N•m	lb-in	N•m	lb-in	N•m	lb-in	N•m	lb-in	N•m	lb-in	N•m	lb-in
1/4	3.7	33	4.7	42	6	53	7.5	66	9.5	84	12	106	13.5	120	17	150
													N•m	lb-ft	N•m	lb-ft
5/16	7.7	68	9.8	86	12	106	15.5	137	19.5	172	25	221	28	20.5	35	26
									N•m	lb-ft	N•m	lb-ft				
3/8	13.5	120	17.5	155	22	194	27	240	35	26	44	32.5	49	36	63	46
			N•m	lb-ft	N•m	lb-ft	N•m	lb-ft								
7/16	22	194	28	20.5	35	26	44	32.5	56	41	70	52	80	59	100	74
	N•m	lb-ft														
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

Torque values listed are for general use only, based on the strength of the bolt or screw. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For plastic insert or crimped steel type lock nuts, for stainless steel fasteners, or for nuts on U-bolts, see the tightening instructions for the specific application. Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical grade.

Replace fasteners with the same or higher grade. If higher grade fasteners are used, tighten these to the strength of the original. Make sure fastener threads are clean and that you properly start thread engagement. When possible, lubricate plain or zinc plated fasteners other than lock nuts, wheel bolts or wheel nuts, unless different instructions are given for the specific application.

^aGrade 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, fasteners with phosphate and oil coatings, or 7/8 in. and larger fasteners with JDM F13C zinc flake coating.

^c"Dry" means plain or zinc plated without any lubrication, or 1/4 to 3/4 in. fasteners with JDM F13B zinc flake coating.

Declaration of Conformity

John Deere Brasil Ltda.
Av. Jorge A. D. Logemann, 600
98920-000 Horizontina - RS - Brazil

Combine:
Model 1450 CWS

In compliance with EU directives:
98/37/EEC Machine Directive
89/336/EEC EMC Directive

Horizontina, 9 May 2004



.....
Marlon Adamy

Combine Engineering Management

CO222660 -UN-08MAR04

AS60558,00003F2 -19-22JAN07-1/1

Serial Numbers

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

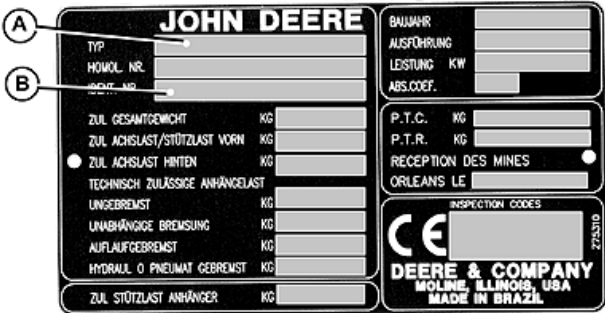
Combine Serial Number

The product identification number is located under operator's platform on front right-hand side.

Enter appropriate serial numbers in spaces provided below:

*															*

A—Model
B—Serial Numbers



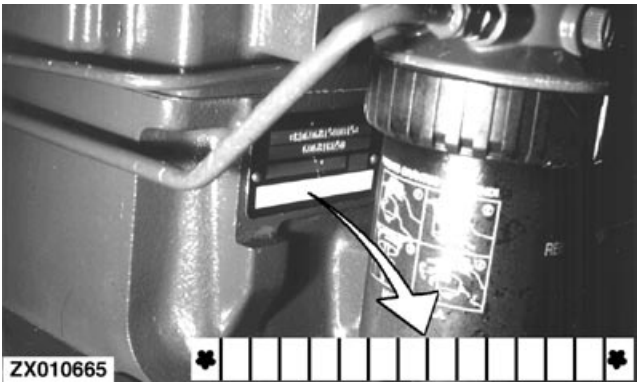
CQ204190

CO204190 -UN-10APR01

ML70882,000099D -19-24MAY06-1/1

Engine Serial Number

The engine serial number for combines described in this manual is located on engine block.

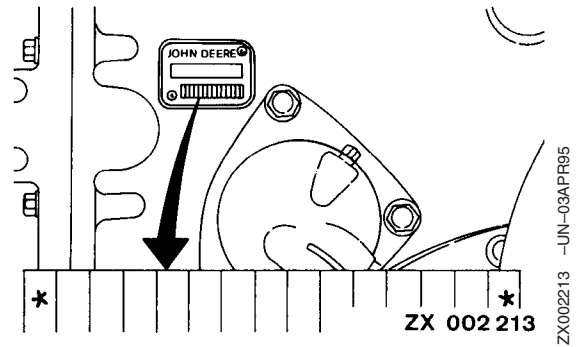


ML70882,000099E -19-24MAY06-1/1

ZX010665 -UN-28JAN97

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

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TS100 -UN-23AUG88

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DX,IBC,B -19-04JUN90-1/1

TS101 -UN-23AUG88

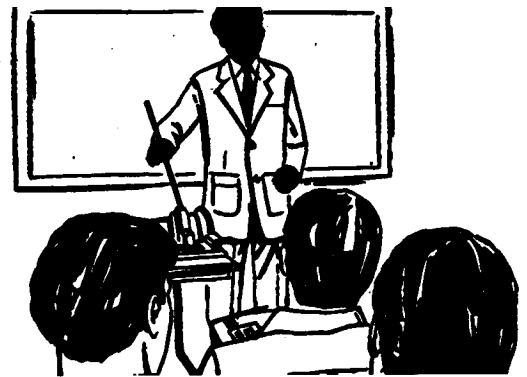
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Experience you can count on!



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DX,IBC,D -19-04JUN90-1/1

TS103 -UN-23AUG88

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