

Combines

1166SII, 1166SII Hydro/4

1174SII, 1174SII Hydro/4

1177SII, 1177SII Hydro/4

and 1188SII Hydro/4

(Serial No. 056 350-)

OPERATOR'S MANUAL

Combines 1166SII, 1166SII Hydro/4

1174SII, 1174SII Hydro/4 ,

1177SII, 1177SII Hydro/4

e 1188SII Hydro/4 (Serial No. 056 350-)

OMZ92058 Issue A1 (ENGLISCH)

John Deere Werke Zweibrücken

European Version

Printed in U.S.A.





We appreciate the confidence you have shown in John Deere for the purchase of this equipment.

INSPECTIONS

Before handing over this new machine, your dealer performed a Predelivery Inspection. After the machine has operated the first 20 – 50 hours, your dealer should perform an After-Sale Inspection in order to guarantee the reliable operation of the machine.

The check list provided for the Predelivery Inspection (at the beginning of the Operator's Manual) will be completed and removed by your John Deere dealer as the inspection is being performed. The dealer will confirm completion of the inspection on the check list and will hand over the pink colored copy to you.

IMPORTANT: This combine is designed solely for use in customary agricultural operations ("intended use").

Use in any other way is considered as contrary to the intended use.

The manufacturer accepts no liability for damage or injury resulting from this misuse, and these risks must be borne solely by the user.

Compliance with and strict adherence to the conditions of operation, service and repair as specified by the manufacturer also constitute essential elements for the intended use.

This combine should be operated, serviced and repaired only by persons familiar with all its particular characteristics and acquainted with the relevant safety rules (accident prevention).

The accident prevention regulations, all other generally recognized regulations on safety and occupational medicine and the road traffic regulations must be observed at all times.

Any arbitrary modifications carried out on this combine will relieve the manufacturer of all liability for any resulting damage or injury.

SAFETY



CAUTION: This safety alert symbol indicates important safety messages in this manual. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.

At the hand over, your dealer explained the proper operation and maintenance of the machine. Read this Operator's Manual carefully before using the machine for the first time, and pay particular attention to the Safety Rules on the first pages.

IMPORTANT: The fuel injection pump adjusting screws are sealed. Any breakage of the seals and/or any increase in max. fuel delivery or engine power beyond published factory specifications will result in loss of warranty protection for this machine.

MEASUREMENTS

Your operator's manual contains the international standardized SI metric measurement system.

DIRECTION

Right-hand and left-hand sides of this machine are determined by facing in the direction of forward travel.

SERIAL NUMBERS

Record the serial numbers of your machine in the spaces provided at the end of this manual. Your dealer needs this information when ordering spare parts.

All information, illustrations, and specifications contained in this operator's manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

COPYRIGHT © 1991 DEERE & CO.
European Office Mannheim
All rights reserved
A John Deere ILLUSTRATION™ Manual
PREVIOUS EDITION
COPYRIGHT © 1990

Contents

SAFETY RULES 05-1

CONTROLS AND INSTRUMENTS 10-

- Miscellaneous controls 10-1
- Controls and instruments – dash 10-4
- Instruments in corner post 10-7
- Operator's platform and cab 10-9
- Access ladder 10-9
- Adjusting steering column 10-10
- Operator's seat 10-10
- Operator's cab 10-12
- Air conditioning system 10-13
- Heater 10-14
- Fan 10-15
- Windshield wiper 10-15
- Lighting system and signals 10-17
- Starter switch positions 10-17
- Lights and horn switch 10-17
- Headlights and work lights 10-17
- Turn signal and clearance lights 10-18
- Hazard warning lights 10-19

WARNING DEVICES AND MONITORS 15-

- Warning lights and acoustic warning system .. 15-1
- Low shaft speed monitors 15-4
- Harvest performance monitor 15-5
- Area counter 15-6

COMBINE OPERATION AND FIELD ADJUSTMENTS 20-

- Pre-starting checks 20-1
- Engine 20-1
- Coolant 20-1
- Hydraulic oil 20-1
- Hydrostatic oil 20-2
- Fuel 20-2
- Combine 20-3
- Operating the engine 20-4
- Starting the engine 20-4
- Stopping the engine 20-8
- Cold weather operation 20-10
- Ether starting aid 20-11
- Thermostart starting aid 20-11
- Operating in tropical conditions 20-12
- Break-in period 20-13
- Driving the combine 20-15
- Steering and driving 20-15
- Operating foot brakes 20-16
- Operating the clutch 20-16
- Engaging a gear 20-16
- Mechanical ground speed drive 20-17
- Hydrostatic ground speed drive 20-18
- Four-wheel drive 20-20

- Transporting the combine 20-21
- Under own power 20-21
- Towing the combine 20-22
- Transport without header 20-23
- Cutting platform adjustments 20-24
- Cutting platform drive 20-25
- Hydraulic reverser 20-25
- Height control 20-27
- Cutting platform float 20-28
- Platform pressure gauge 20-30
- Reel adjustment 20-31
- Combine field adjustments 20-33
- Separator drive 20-33
- Cylinder speed indicator 20-33
- Cylinder drive with reduction gear 20-34
- Concave clearance 20-34
- Fan speed 20-35
- Chaffer and grain sieves 20-36
- Straw warning devices 20-38
- Grain tank and unloading auger 20-39
- Grain tank 20-39
- Grain sample flap 20-39
- Unloading auger 20-40
- Grain tank cover 20-41

OPERATION AND FIELD ADJUSTMENTS –

ADDITIONAL EQUIPMENT 25-

- Ballast weights and straw spreader 25-1
- Straw chopper 25-2
- Engaging straw chopper 25-3
- Straw distributor 25-3
- Adjusting length of cut 25-5
- Electro-magnetic clutch 25-6
- Disengaging straw chopper 25-7
- When driving on public roads 25-8
- Chaff spreader 25-9

HARVEST PERFORMANCE MONITOR 26-

- General information 26-1
- Position and basic function 26-1
- Control panel – components 26-3
- Grain size adjustments 26-3
- Sensor selection 26-4
- Adjustments 26-4
- Operational check 26-6

AREA COUNTER OPERATING ADJUSTMENTS . .	27-
– General	27-1
– Preparing the area counter	27-2
– Area counter functions	27-3

FUEL, LUBRICANTS, HYDRAULIC OIL COOLANT AND CAPACITIES	30-
– Fuel	30-1
– Engine oil	30-2
– Engine coolant	30-3
– Transmission oil	30-4
– Hydraulic oil	30-6
– Lubricants	30-8

LUBRICATING POINTS AND PERIODIC SERVICES, V-BELTS AND CHAINS	35-
Lubricating points	35-1
Periodic services	35-5
– After the first few hours of operation	35-5
– Every 10 operating hours	35-6
– After the first 100 hours of operation	35-7
– Every 200 operating hours	35-8
– Every 400 operating hours	35-9
– After the harvesting season	35-10
– Every 800 operating hours	35-11
– Every 1200 operating hours	35-11
Service – V-belts and chains	35-11
– V-belts	35-12
– Chains	35-13
Service – Opening side guards and inspection covers	35-14

SERVICE – ENGINE	40-
Engine	40-1
– Access to engine	40-1
– Engine compartment	40-2
– Adjusting valve tappets	40-2
– Oil level	40-2
– Filter element	40-4
Fuel system	40-5
– Fuel tank	40-5
– Fuel transfer pump	40-5
– Water trap	40-7
– Fuel filter(s)	40-9
– Bleeding the fuel system	40-10

Cooling system	40-13
– Radiator and rotary screen	40-13
– Hydrostatic drive oil cooler	40-14
– Engine coolant	40-15
– Flushing the cooling system	40-16
– Water pump and fan drive	40-18
Air intake system	40-19
– Pre-filter screen	40-19
– Dry-type air cleaner element	40-19
– Air intake lines	40-23
– Turbocharger	40-23

SERVICE – AIR CONDITIONING SYSTEM, ELECTRICAL SYSTEM, HARVEST PER- FORMANCE MONITOR AND HYDRAULIC SYSTEM	45-
Air conditioning system	45-1
– Compressor with separate condenser cooling	45-1
– Refrigerant level	45-2
– Condenser air intake opening	45-2
– Rotary blade drive	45-3
– Cleaning condenser	45-3
– Compressor with integrated condenser cooling	45-4
– Pre-cleaner screens	45-5
– Paper filter element	45-6
– Recirculating filter	45-6
– Cleaning filter elements	45-6
– Cleaning evaporator and heater	45-8
Electrical system and lighting	45-9
– Batteries	45-9
– Alternator	45-11
– Starting motor	45-12
– Fuse and relay box	45-13
– Fuse and relay, air conditioning system	45-15
– Clearance and turn-signal lights, front	45-16
– Tail, stop and turn-signal lights, rear	45-16
– Headlights	45-16
– Dome light and console light	45-17
Harvest performance monitor	45-18
Area counter	45-19
Hydraulic system	45-20
–Hydraulic pump	45-21
–Hydrostatic reel drive	45-23

SERVICE – TRANSMISSION	50-	Cleaning shoe	55-21
Clutch and brakes	50-1	– Access	55-21
– Brake oil reservoir	50-1	– Straw walkers	55-21
– Adjusting foot brakes	50-1	– Straw walker center bearing	55-22
– Adjusting parking brake	50-2	– Cross shaker	55-23
Ground speed drive	50-3	– Curtains	55-23
– Posi-Torq drive	50-5	– Straw walker drive	55-24
– Hydrostatic drive	50-7	– Fan	55-25
– Hydrostatic drive oil cooler	50-7	– Chaffer and chaffer extension	55-26
– Hydrostatic drive oil and filter change	50-7	– Grain sieve	55-27
Transmission, axles and wheels	50-8	Elevators and augers	55-28
– Transmission	50-8	– Elevators	55-28
– Final drives	50-8	– Grain elevator drive	55-31
– Front axle	50-10	– Elevator slip clutch	55-31
– Rear axle	50-10	– Tailings elevator drive	55-32
– Tires	50-12	– Elevator augers	55-33
– Wheel bolts	50-13	Grain tank	55-34
 SERVICE – FEEDER HOUSE, SEPARATOR AND CLEANING SHOE	 55-	– Grain tank leveling auger	55-34
Feeder house	55-1	– Grain tank unloading auger	55-35
– Feeder conveyor chain tension	55-1	– Unloading paddle drive	55-37
– Feeder conveyor drum	55-2	 SERVICE – OPTIONAL EQUIPMENT	 60-
– Slip clutch on upper feeder shaft	55-3	Straw chopper	60-1
– Feeder conveyor drive	55-4	– Replacement of rotating knives	60-1
– Header drive	55-5	– Replacement of counter knives	60-1
– Chain transmission, cutting platform drive	55-8	– Drive belt	60-2
– Hydraulic reverser	55-9	– Electro-magnetic clutch	60-3
Separator	55-10	Straw spreader	60-4
– Inspection covers	55-10	Chaff spreader	60-4
– Stone trap	55-10	 STORAGE	 65-
– Cylinder rasp bars	55-12	– After the season	65-1
– Turning cylinder	55-12	– Removing combine from storage	65-3
– Separator drive	55-14	 SPECIFICATIONS	 70-1
– Cylinder drive, mechanical adjustment	55-15	 SERIAL NUMBERS	 75-1
– Cylinder drive, hydraulic adjustment	55-15		
– Cylinder drive reduction gear	55-16		
– Concave settings	55-17		
– Concave control gauge	55-18		
– De-awning plates	55-19		
– Rice harvesting	55-20		

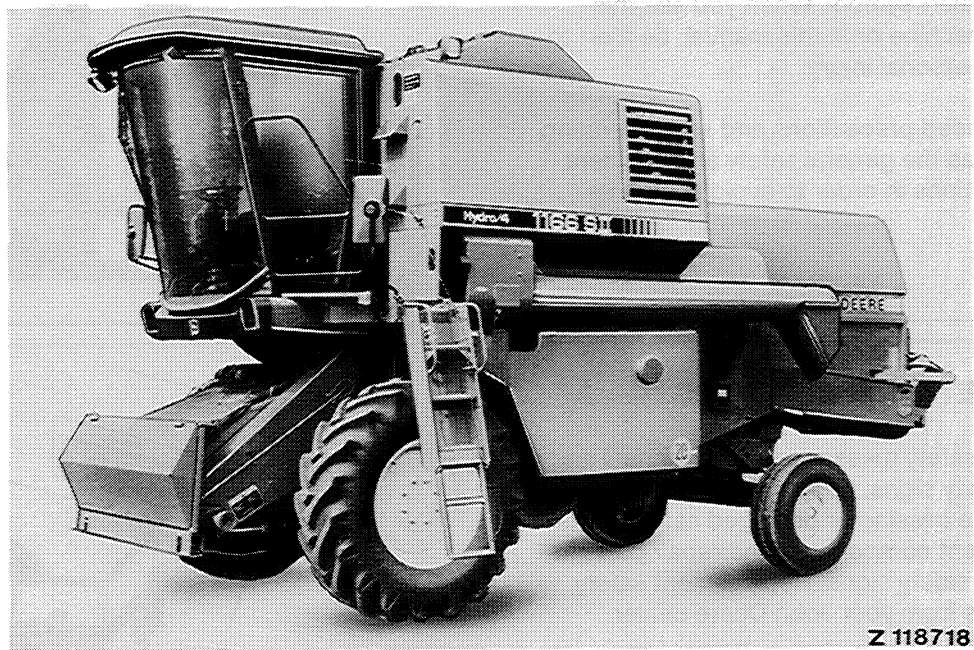
FUNDAMENTALS OF COMBINE HARVESTING .. 80-

- Choice of harvesting time	80-1
- Avoiding grain losses	80-1
- Cutting platform operation	80-2
- Feeder house	80-2
- Separator	80-3
- Adjusting concave and cylinder speed	80-4
- Separating process	80-4
- Cleaning process	80-5
- Grain transportation	80-5
- Evaluating threshing action	80-6
- Grain tank sample	80-6
- Checking tailings	80-7
- Overthreshing	80-8
- Underthreshing	80-8
- Adjusting fan speed	80-9
- Adjusting the chaffer	80-9
- "Slope Master" system	80-10
- Grain loss limits	80-11
- Determining grain losses	80-14
- Grain loss chart	80-17
- Prevention of grain losses	80-20
- Combine settings chart	80-21

INDEX 85-1

Identification Views

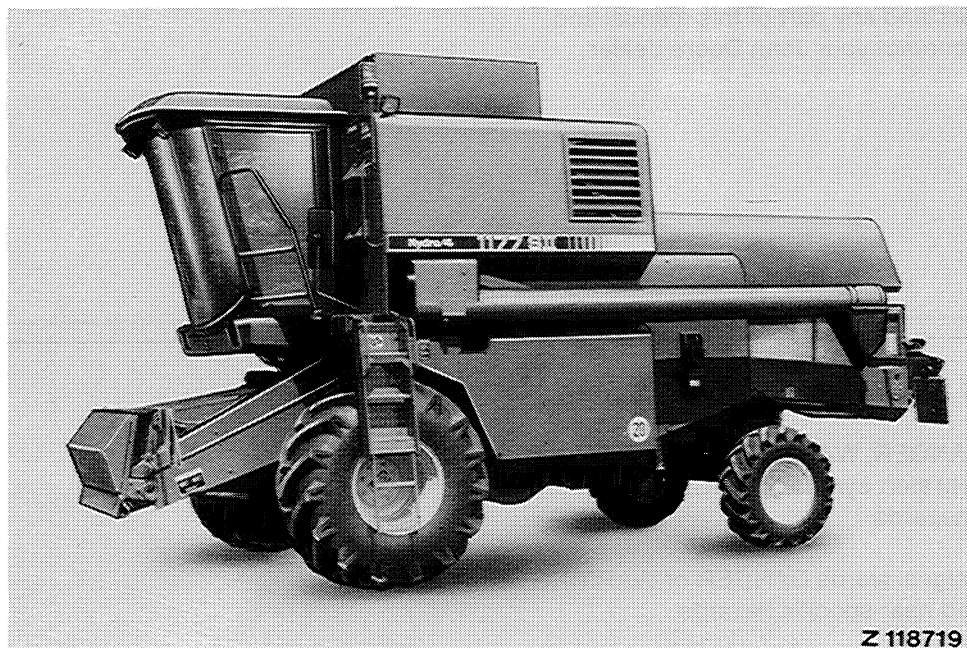
1166SII HYDRO/4 – LEFT-HAND VIEW



Z 118718

Z118718-1166AZE-160790

1177SII HYDRO/4 – LEFT-HAND VIEW



Z 118719

Z118719-1166AZE-160790

Safety (General)

RECOGNIZE SAFETY INFORMATION

This is the 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 as well as the general safety and accident prevention regulations in order to avoid accidents.



T 81389

T81389-ESPD AE-260188

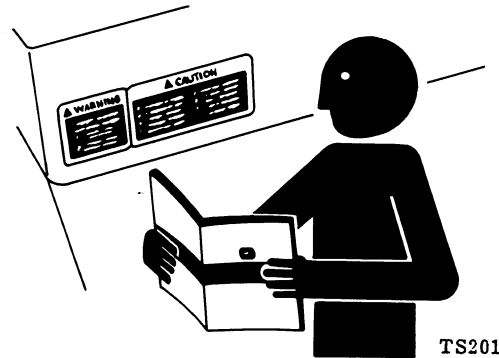
FOLLOW SAFETY INSTRUCTIONS

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

TS201-ESPD AE-040690

UNDERSTAND SIGNAL WORDS

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

Safety signs with signal words DANGER or WARNING are typically located near specific hazards.

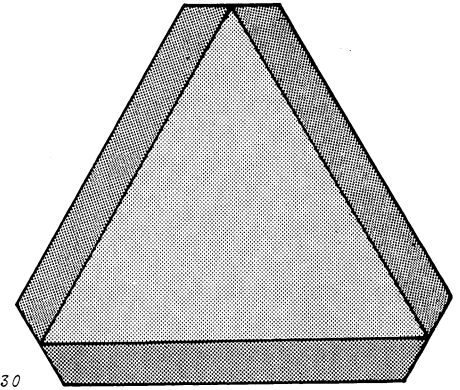
General precautions are listed on the CAUTION safety signs. CAUTION also calls attention to safety messages in this manual.

SIGNAL-ESPD AE-140388

OBSERVE ROAD TRAFFIC REGULATIONS

Always observe local road traffic regulations when using public roads.

H28930



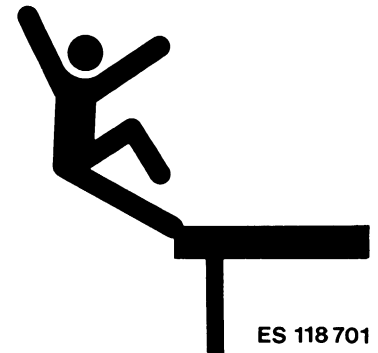
H28930-ESDAE-160288

PREVENT MACHINE RUNAWAY

Avoid possible injury or death from a machine runaway.

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

NEVER start engine while standing on service platform. Start engine only from operator's seat with transmission in neutral.



ES 118 701

ES118701-ESDAE-270588

USE SAFETY LIGHTS AND DEVICES

When transporting your machine on a public road either at night or during the day, use the necessary safety lights. Check local government regulations.

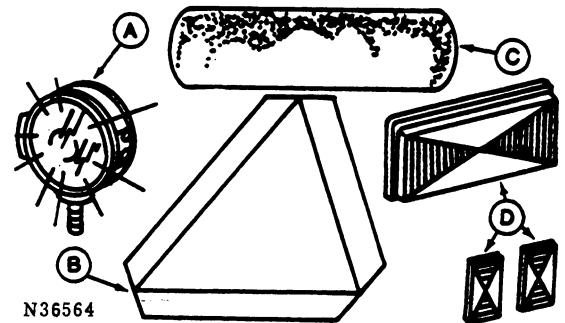
Keep safety items in good condition. Replace missing or damaged items.

A-Lights

B-Slow moving vehicle emblem

C-Reflector tape

D-Reflectors



N36564

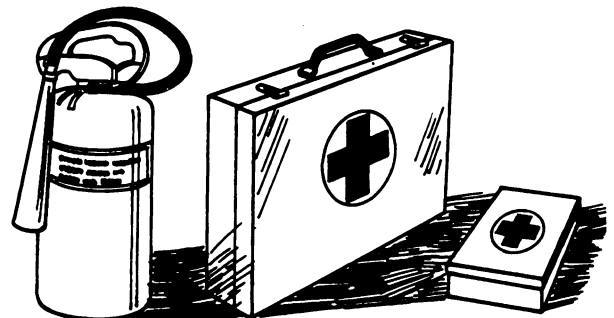
N36564-ESDAE-260188

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.



L 114 052

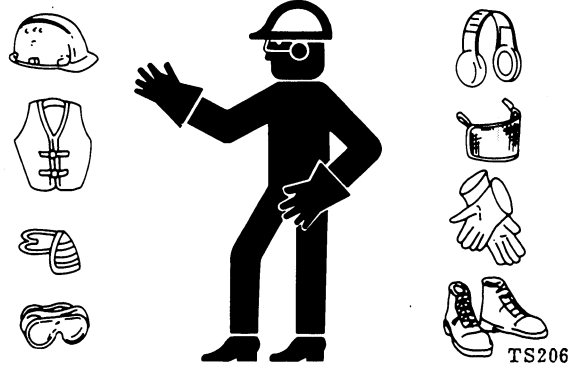
L114052-ESDAE-170388

WEAR PROTECTIVE CLOTHING

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

Prolonged exposure to loud noise can cause impairment or loss of hearing.

Wear a suitable hearing protective device such as ear-muffs or earplugs to protect against objectionable or uncomfortable loud noises.



TS206-ESPD AE-230487

HANDLE FUEL SAFELY – AVOID FIRES

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

Always stop engine and remove key from main switch 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-ESPD AE-260188

STORE ATTACHMENTS SAFELY

Stored attachments such as crop dividers, headers, etc. can fall and cause serious injury or death.

Securely store attachments and implements to prevent from falling. Keep playing children and bystanders away from storage area.



TS219-ESPD AE-070488

Safety (Operation)

CHECK MACHINE SAFETY

Always check the road and general operating safety of the machine before using.

SAFETY-ESPDAE-260188

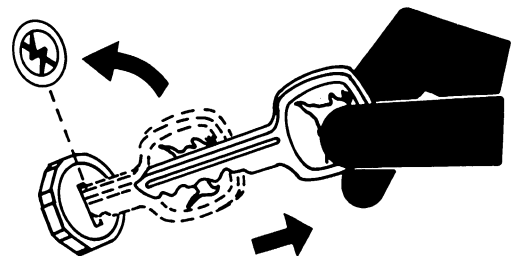
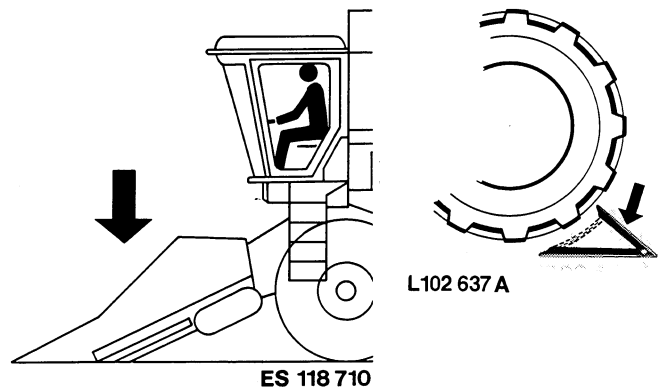
PARKING AND LEAVING THE COMBINE

Lower headers or other equipment to the ground before leaving the combine.

When leaving the combine, disengage separator/header drive, shut off engine, move gear shift lever to neutral and apply parking brake, remove main switch key and lock the operator's cab (when equipped). Position chock blocks.

Never leave combine unattended as long as engine is still running.

Never leave the operator's platform/cab when driving.



ES118710,L102637A,TS230-ESPDAE-270588

OPERATING THE ENGINE

Never operate the engine in a closed building.
Danger of asphyxiation!

When starting engine, ensure that all hydraulic controls and transmission are in neutral and separator/header drive is disengaged.



ES118711-ESPDAE-270588

DRIVING THE COMBINE

Operate combine only when all guards are fitted and in their correct position.

Before moving away, always check immediate vicinity of machine (e.g. for children). Ensure adequate visibility. Use the horn as a warning immediately before moving away.

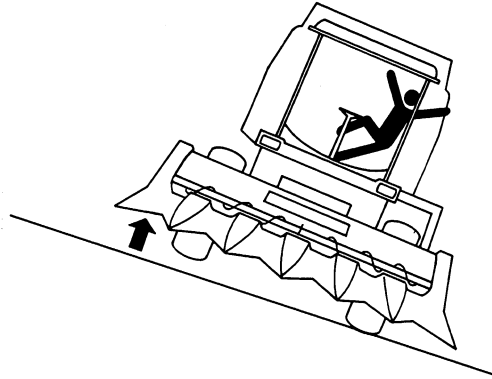
Always adapt your ground speed to meet the ground conditions. Avoid making sharp turns when driving up or down slopes or when driving across the slope. Be extra careful when turning on slopes with a full grain tank. When driving down slopes, never depress clutch and change gear!

Attach harvesting units and other implements to combine with extreme care.

When making turns, always take into consideration the width of the attachment and the fact that the rear end of the combine swings out. Combine attachments and the ground conditions affect the driving characteristics of the combine.

Reduce ground speed when driving combine on slopes or over uneven ground and before making sharp turns. Before descending a steep hill, shift to a lower gear. Never coast downhill!

Avoid holes, ditches and obstructions which may cause the combine to tip, particularly on hillsides.



ES 118 702

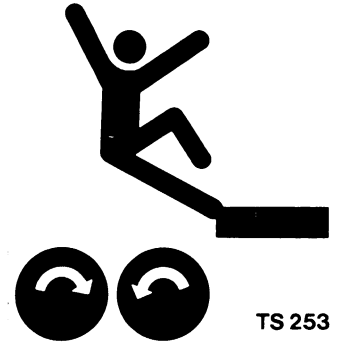
ES118702-ESPD AE-270588

KEEP RIDERS OFF MACHINE

Only allow the operator on the machine.
Keep riders off.

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

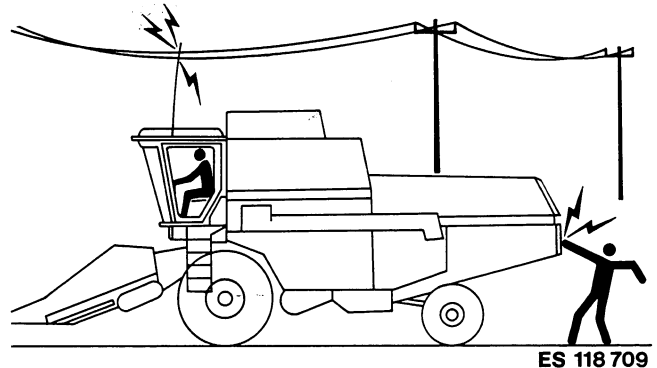
On machines equipped with a passenger seat, one rider is permitted.



TS253-ESPD AE-270588

RADIO AERIAL

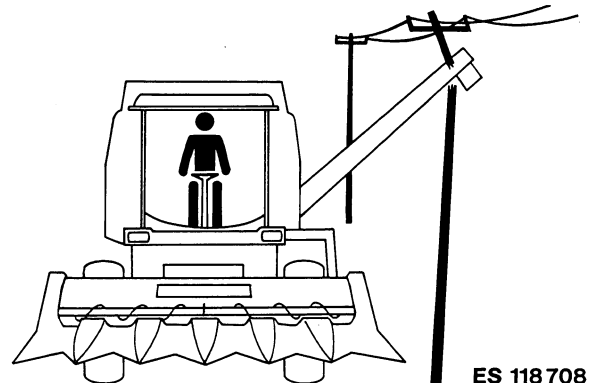
If radio aerial is not secured in its transport position before driving on public roads, it may come into contact with low-hanging electrical cables. This would result in the operator suffering a severe electrical shock.



ES118709-ESPD AE-270588

SWING IN GRAIN TANK UNLOADING AUGER

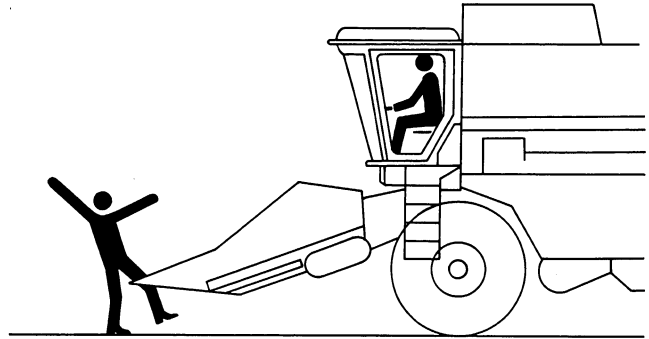
Swing in the grain tank unloading auger to its transport position before driving on public roads. Otherwise collisions may occur with roadside installations, e.g. telegraph poles, street lights, etc.



ES118708-ESPD AE-270588

TRANSPORT WITH HEADER INSTALLED

Before driving combine on public roads, header must be raised. It must not, however, obstruct operator's view of the road. Header height control must be in locked position. Remove crop dividers (if equipped) and install protective cover.



ES 118 706

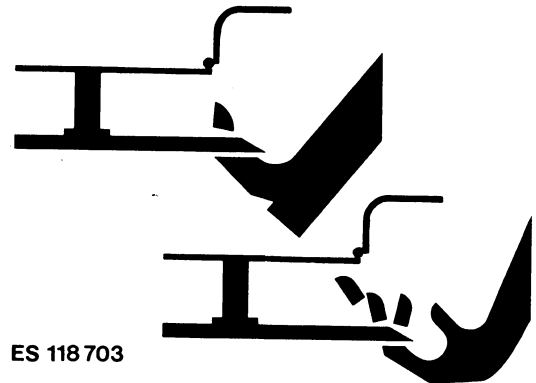
ES118706-ESPD AE-270588

GUARDS AND SHIELDS

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

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

Keep hands, feet and clothing away from moving parts.



ES 118 703

ES118703-ESPD AE-070488

STAY CLEAR OF HEADER

Mower bar, cutting platform auger, reel, gatherer chain and stalk rolls of the corn head, etc., cannot be completely shielded by constructional measures due to their function. Stay clear of these moving elements during operation! Always disengage header drive, shut off the engine and remove key before servicing or unclogging header.



ES 118 704

ES118704-ESPD AE-270588

KEEP HANDS AWAY FROM KNIVES

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

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



TS 254

TS254-ESPD AE-270588

STAY CLEAR OF ROTATING DRIVELINES

Entanglement in rotating driveline can cause serious injury or death. When operating, no-one may be allowed to remain in the vicinity of the rotating drive shaft. Always ensure that drive shaft guards are in position.

Wear close-fitting clothing. Stop engine, remove key and be sure the drive shaft has stopped before making adjustments, connections or cleaning out machine.



TS198

TS198-ESPD AE-030588

STAY CLEAR OF AUGER

The auger located inside grain tank cannot be shielded completely against accidental contact. Use a rod to clear blockages and a scoop or similar vessel to take grain samples. Never use hands or feet. Never enter grain tank when engine is running.

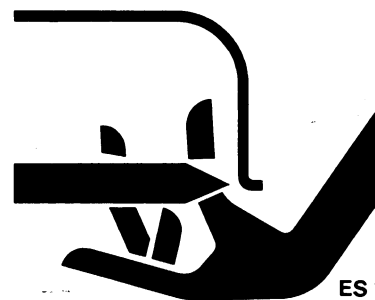


TS 256

TS256-ESPD AE-270588

STAY CLEAR OF STRAW CHOPPER

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



ES 118705

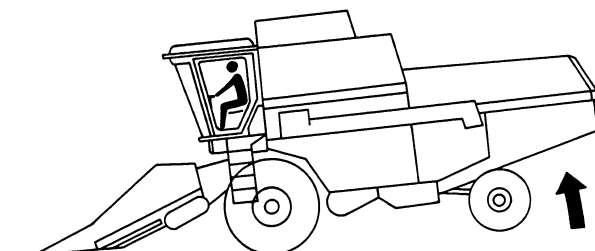
ES118705-ESPD AE-270588

BALLASTING FOR SAFE GROUND CONTACT

Operating, steering and braking performance of combine can be considerably affected by heavy front end attachments which alter the center of gravity of the combine.

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

Observe the maximum permissible axle loads and total weights.



ES 118707

ES118707-ESPD AE-270588

Safety (Service)

PRACTICE SAFE MAINTENANCE

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

Never lubricate or service machine while it is moving. Keep hands, feet and clothing from power-driven parts. Disengage all power and operate the 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.

Disconnect battery ground cable(s) (–) before making adjustments on electrical system or welding on machine.



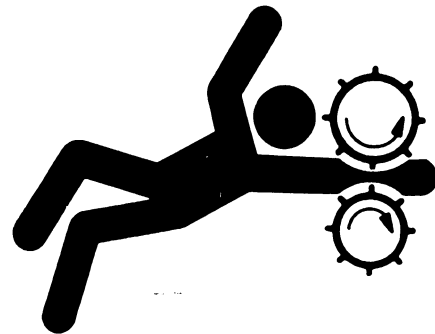
TS 218

TS218-ESPD AE-160288

SERVICE MACHINE 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.



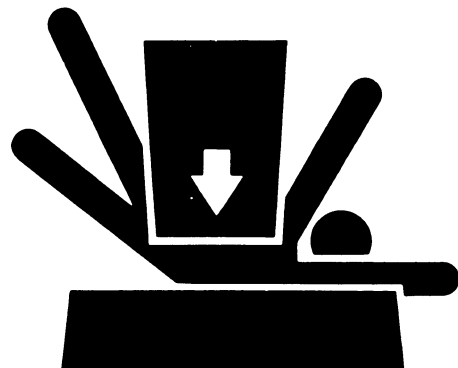
TS 228

TS228-ESPD AE-160288

SUPPORT MACHINE PROPERLY

Always lower the attachment or implement to the ground before you work on the machine. If you must work on a lifted machine or attachment, securely support the machine or attachment.

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.

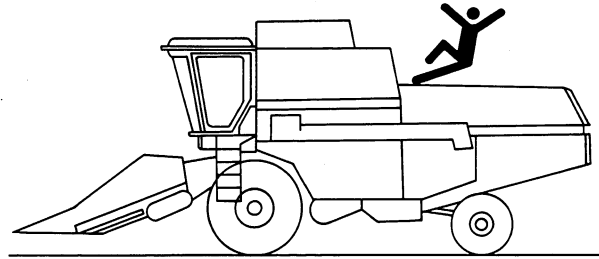


TS 229

TS229-ESPD AE-160288

SERVICING THE ENGINE

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

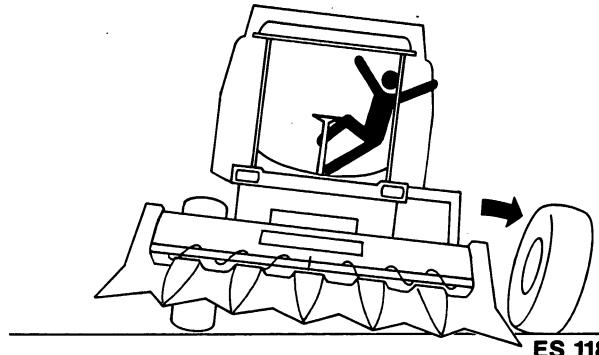


ES 118 712

ES118712-ESPD AE-270588

RETORQUE WHEEL NUTS

Retorque machine wheel nuts and bolts as specified in section "Break-In Period" and "Service". Failure to do this could result in a wheel falling off during operation, causing the combine to tip over with serious injury to the operator and extensive damage to the machine.



ES 118 713

ES118713-ESPD AE-270588

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.



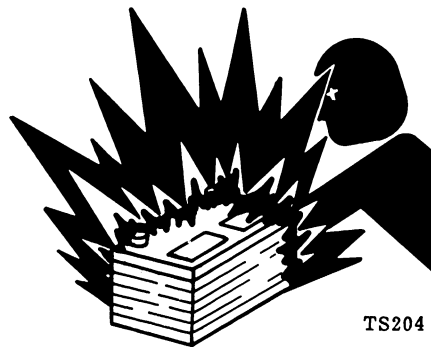
X9811-ESPD AE-050690

AVOID BATTERY EXPLOSIONS

Battery gas can explode. Keep sparks and flames away from batteries. Use a flashlight to check battery electrolyte level.

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

Always remove grounded (–) battery clamp first and replace it last.



TS204

TS204-ESPDAE-270588

HANDLE BATTERIES SAFELY

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:

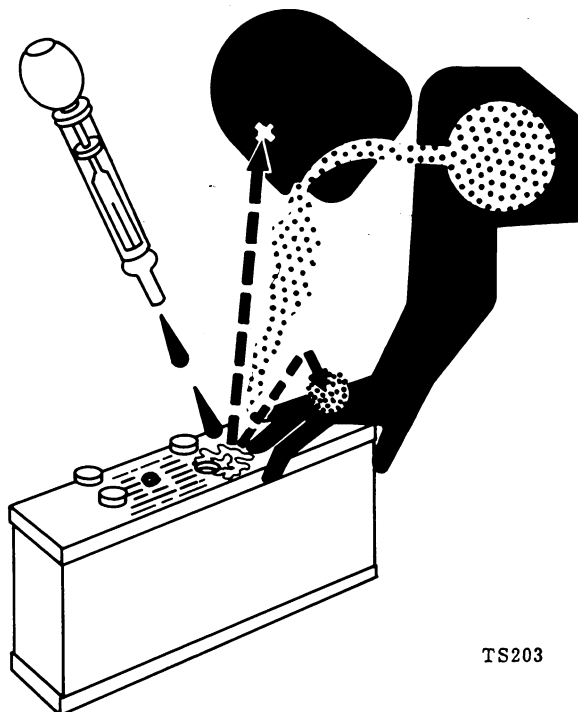
1. Filling the batteries in a well-ventilated area.
2. Wearing eye protection and rubber gloves.
3. Avoiding breathing in the fumes when electrolyte is added.
4. Avoiding spilling or dripping electrolyte.
5. Using the proper jump start procedure.

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 10 – 15 minutes.
- Get medical attention immediately.

If acid is swallowed:

1. Drink large amounts of water or milk.
2. Then drink milk of magnesia, beaten eggs or vegetable oil.
3. Get medical attention immediately.



TS203

TS203-ESPDAE-160288

MOUNTING TIRES SAFELY

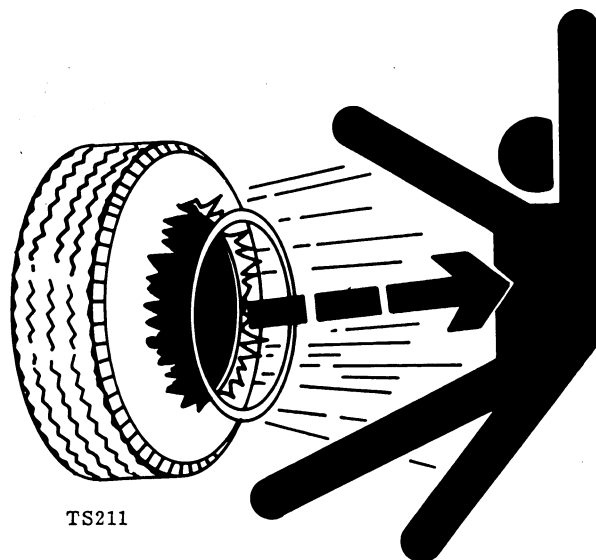
Explosive separation of a tire and rim parts can cause serious injury or death.

Only attempt to mount a tire if you have the proper equipment and experience to perform the job. Have it done by your John Deere dealer or a qualified repair service.

Always maintain the correct tire pressure. Do not inflate tires above the recommended pressure.

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.

Inspect the tires and wheels daily. Do not operate with low pressure, cuts or bubbles, damaged rims or missing lug bolts and nuts.



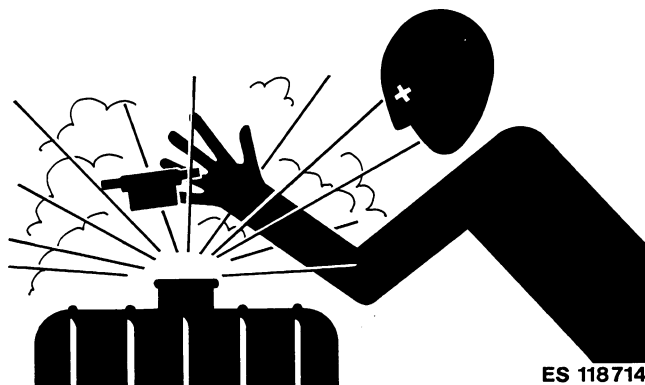
TS211-ESPD AE-160288

SERVICE COOLING SYSTEM SAFELY

Danger of scalding!

With the engine shut off, first loosen the radiator cap or expansion tank cap only to the first stop to relieve the pressure before removing the cap completely.

Top up cooling system with coolant only when engine is shut off.



ES118714-ESPD AE-270588

REMOVE PAINT BEFORE WELDING OR HEATING

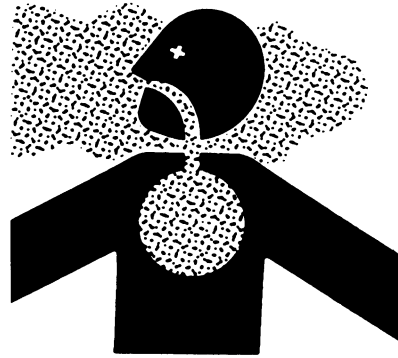
Avoid potentially toxic fumes and dust.

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

Do all work outside or in a well ventilated area. Dispose of paint and solvent properly.

Remove paint before welding or heating:

- 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.



TS 220

TS220-ESPD AE-040690

AVOID HEATING NEAR PRESSURIZED FLUID LINES

Flammable spray can be generated by heating near pressurized fluid lines, resulting in severe burns to yourself and bystanders. Do not heat by welding, soldering, or using a torch near pressurized lines or other flammable materials.

Pressurized lines can be accidentally cut when heat goes beyond the immediate flame area. Install fire resisting guards to protect hoses or other materials.



TS 953

TS953-ESPD AE-040690

AVOID HARMFUL ASBESTOS DUST

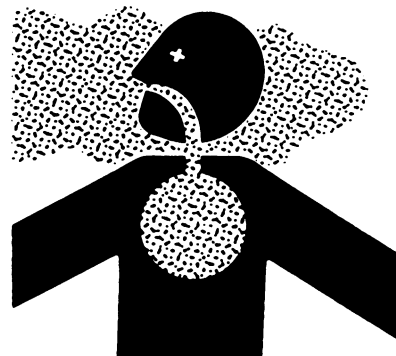
Avoid breathing dust that may be generated when handling components containing asbestos fibers. Inhaled asbestos fibers may cause lung cancer.

Components in John Deere products that may contain asbestos fibers are brake pads, brake band and lining assemblies, clutch plates and some gaskets. The asbestos used in these components is usually found in a resin or sealed in some way. Normal handling is not hazardous as long as airborne dust containing asbestos is not generated.

Avoid creating dust. Never use compressed air for cleaning. Avoid brushing or grinding of asbestos-containing materials. When servicing, wear an approved respirator. A special vacuum cleaner is recommended to clean asbestos. If not available, wet the asbestos-containing materials with a mist of oil or water.

Keep bystanders away from the area.

Please note designations on spare parts.



TS 220



L 114 051

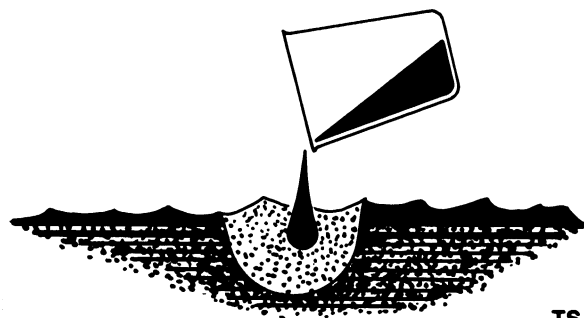
TS220, L114051-ESPD AE-170388

OBSERVE ENVIRONMENTAL PROTECTION REGULATIONS

Be mindful of the environment and ecology.

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

Observe the relevant environmental protection regulations when disposing of oil, fuel, coolant, brake fluid, filters and batteries.



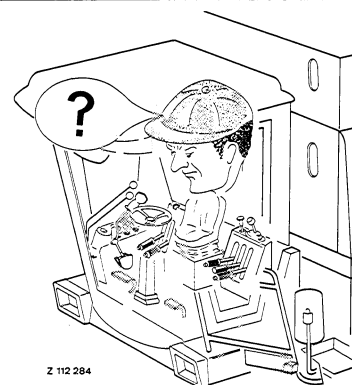
TS 222

TS222-ESPD AE-140388

Controls and Instruments

CONTROLS AND INSTRUMENTS – GENERAL

Before attempting to operate your new combine, familiarise yourself with the location and purpose of each control and instrument.

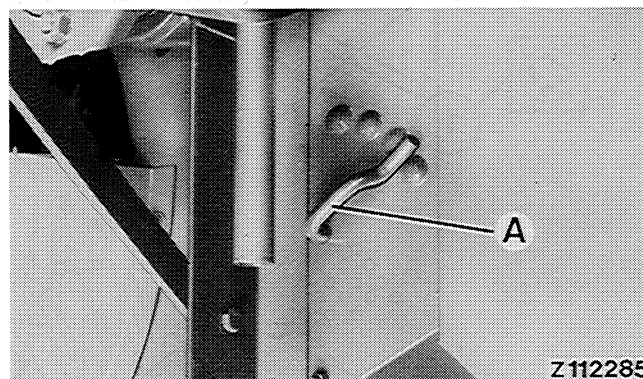


Z 112 284

Z112284-1188AZE-010987

MISCELLANEOUS CONTROLS – NOT ON PLATFORM

Windboard Adjusting Lever (A)

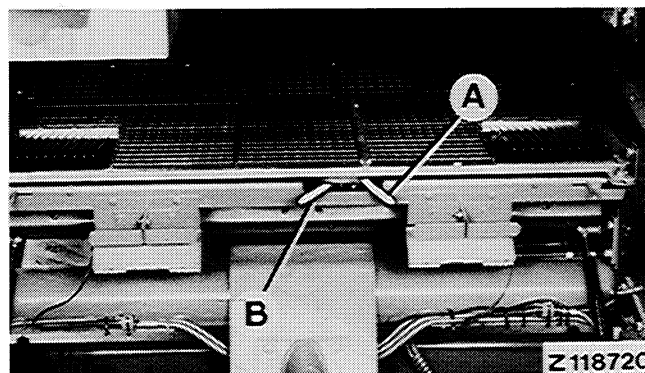


Z112285

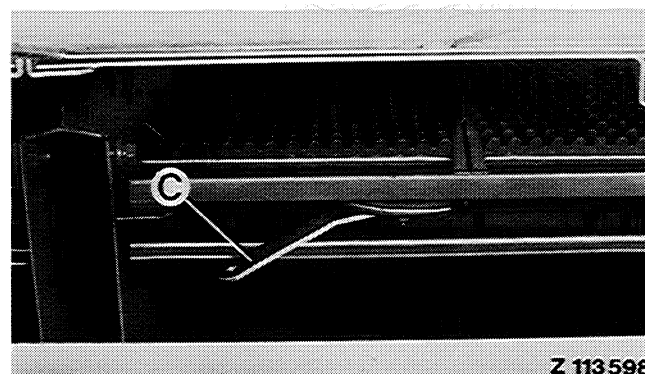
Z112285-1188AZE-010987

Chaffer and Sieve Adjustment

A—Chaffer extension adjusting lever
B—Chaffer adjusting lever
C—Sieve adjusting lever



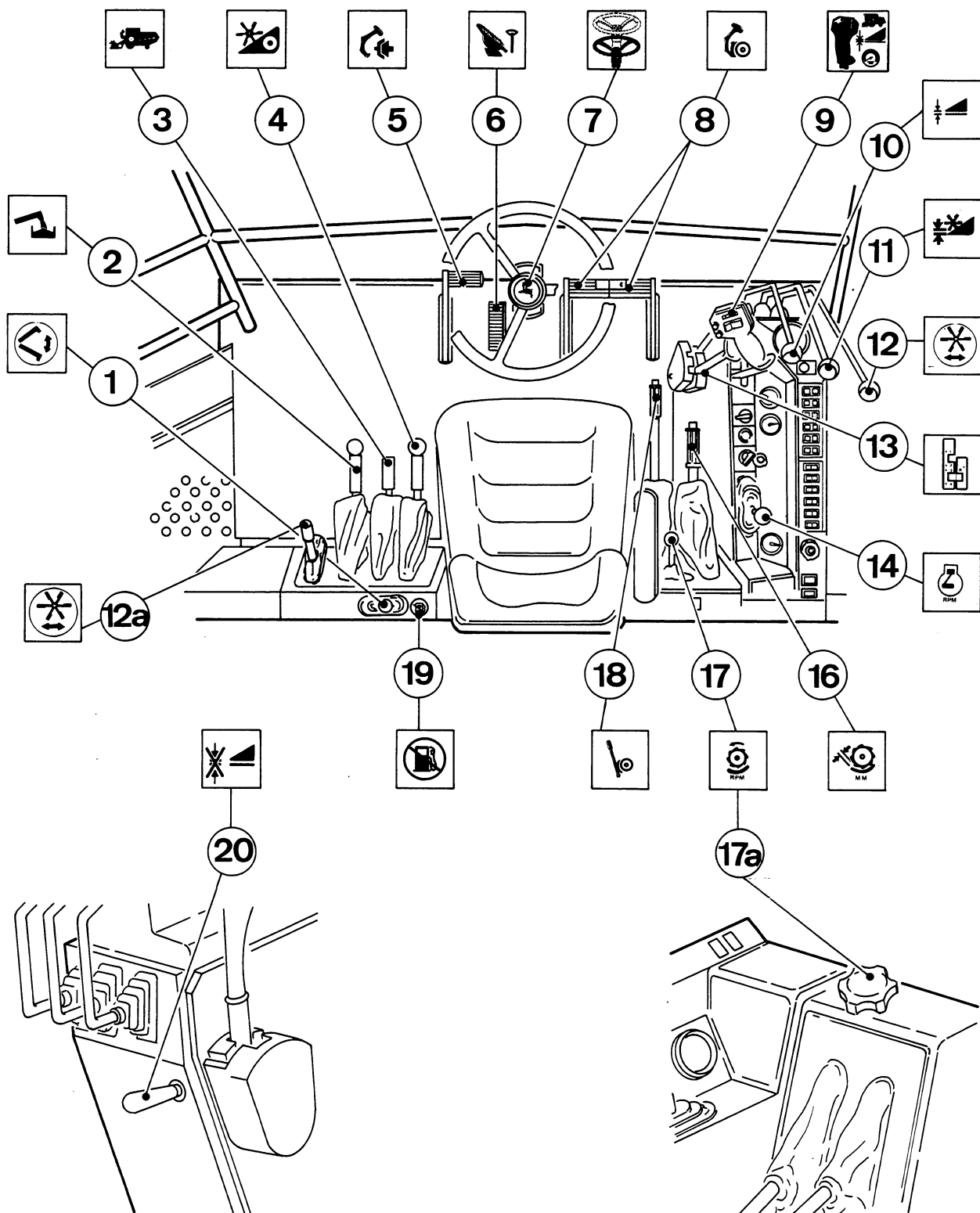
Z 118720



Z 113598

Z118720,Z113598-1166AZE-160790

OPERATOR'S PLATFORM - CONTROLS



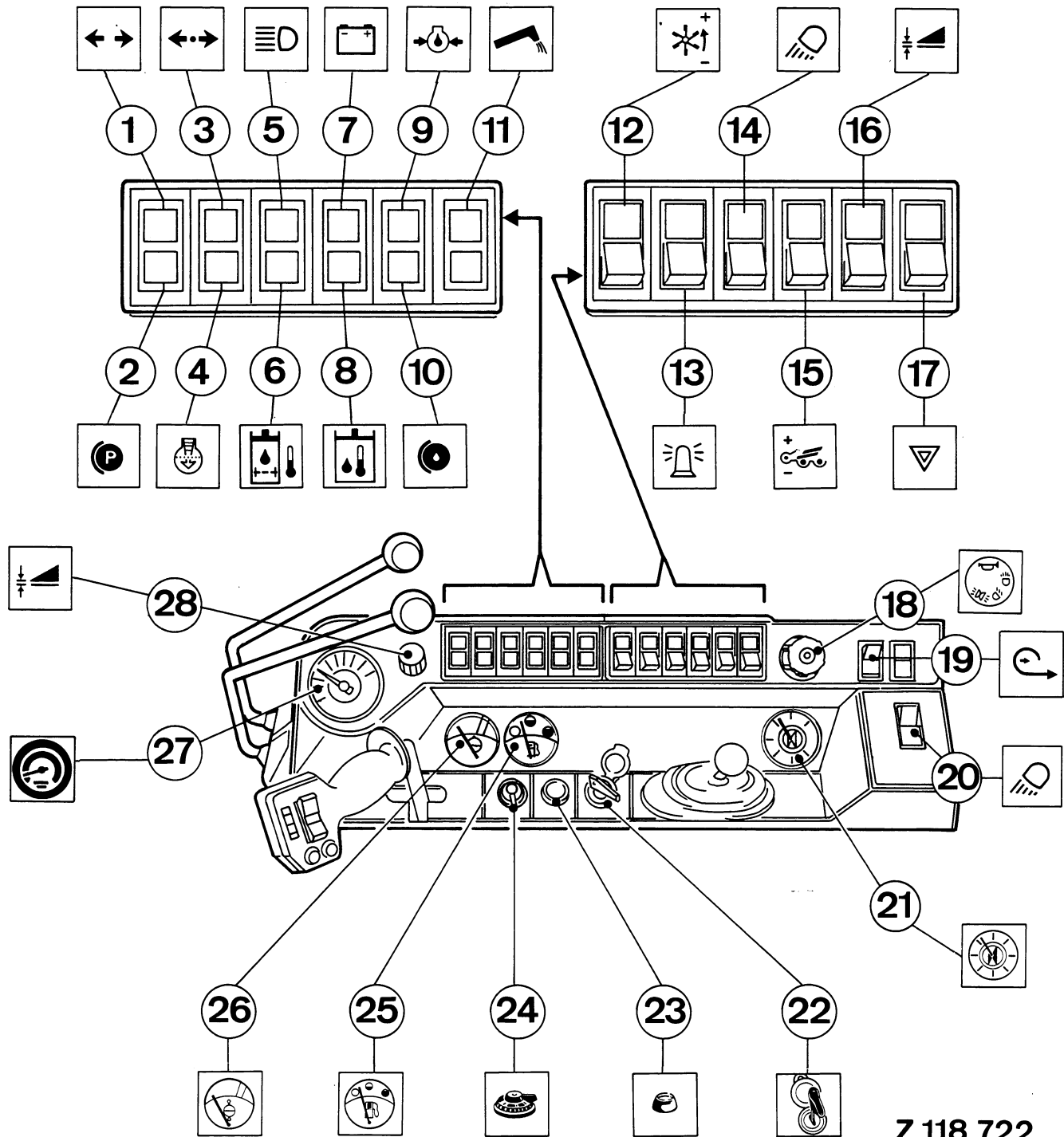
Z 118 721

OPERATOR'S PLATFORM – CONTROLS

- | | |
|---|---|
| 1–Lever for hydraulic swing unloading auger | 10–Cutting platform height control lever
(1166SII, 1166SII Hydro/4, 1174SII,
1174SII Hydro/4) |
| 2–Grain tank unloading auger lever | |
| 3–Separator throw-out lever | 11–Reel height control lever |
| 4–Throw-out lever for cutting platform and – when
equipped – for hydraulic reverser | 12–Reel fore-and-aft control lever |
| 5–Clutch pedal (mechanical drive only) | 12A–Reel fore-and-aft control lever
(1166SII Hydro/4, 1174SII Hydro/4 only) |
| 6–Steering column locking lever | 13–Gear shift lever |
| 7–Ring for steering wheel height adjustment | 14–Throttle lever |
| 8–Brake pedals | 16–Concave clearance adjusting lever |
| 9–Multi-function lever <ul style="list-style-type: none">–Ground speed control–Cutting platform height adjustment
(1177SII, 1177SII Hydro/4, 1188SII Hydro/4)–Automatic platform height resume button
(1177SII, 1177SII Hydro/4, 1188SII Hydro/4)–Button for selecting indicated speed | 17–Cylinder speed control lever
(1166SII Hydro/4, 1174SII Hydro/4, 1177SII,
1177SII Hydro/4, 1188SII Hydro/4) |
| | 17A–Cylinder speed control knob
(1166SII, 1174SII) |
| | 18–Parking brake |
| | 19–Fuel injection pump shut-off cable
(1177SII Hydro/4, 1188SII Hydro/4) |
| | 20–Cutting platform height adjustment lock
(1166SII, 1166SII Hydro/4, 1174SII,
1174SII Hydro/4) |

BEDIEOM-1166AZE-070191

CONTROLS AND INSTRUMENTS - DASH



Z 118 722

CONTROLS AND INSTRUMENTS – DASH

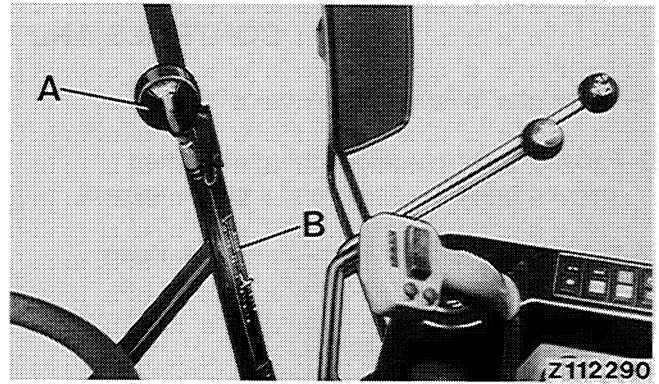
- | | |
|--|--|
| 1–Turn signal indicator light – combine | 18–Combined switch – lights and horn <ul style="list-style-type: none">–Off–Parking lights–Dimmed headlights–Full-beam headlights–Horn (press to operate) |
| 2–Parking brake indicator light (glows when parking brake is applied and a gear engaged) | |
| 3–Turn signal indicator light – cutting platform trailer | 19–Four-wheel drive selector switch
(1177SII Hydro/4, 1188SII Hydro/4) |
| 4–Air cleaner indicator light | 20–Switch for additional grain tank or straw hood lights (optional equipment) |
| 5–Indicator light for full-beam headlights | 21–Hourmeter |
| 6–Indicator light – hydraulic oil filter and hydraulic oil temperature | 22–Starter switch <ul style="list-style-type: none">P–Not usedO–Press in keyI–All circuits ONII–Thermostart ON (1166SII, 1166SII Hydro/4, 1174SII, 1174SII Hydro/4, 1177SII)III–Operate starting motor |
| 7–Alternator indicator light | |
| 8–Indicator light – hydrostatic oil temperature (only with hydrostatic ground speed drive) | 23–Ether cold weather starting aid button
(1177SII Hydro/4, 1188SII Hydro/4) |
| 9–Engine oil pressure indicator light | 24–Turn signal switch |
| 10–Brake oil indicator light | 25–Fuel gauge |
| 11–Grain tank filling indicator light (combines without cab) | 26–Coolant temperature gauge (with buzzer when needle enters the red zone) |
| 12–Rocker switch for reel speed adjustment (electrical or hydrostatic reel drive) | 27–Multi-tachometer <ul style="list-style-type: none">–Ground speed–Cylinder speed–Fan speed–Engine speed |
| 13–Switch for revolving hazard warning lights | 28–Knob for fine adjustment of cutting platform height resume control
(1177SII, 1177SII Hydro/4, 1188SII Hydro/4) |
| 14–Work light switch | |
| 15–Fan switch | |
| 16–Cutting platform height resume switch
(1177SII, 1177SII Hydro/4, 1188SII Hydro/4) | |
| 17–Hazard warning light switch | |

MISCELLANEOUS CONTROLS

Cutting Platform Pressure Gauge (A)
(Special Equipment)

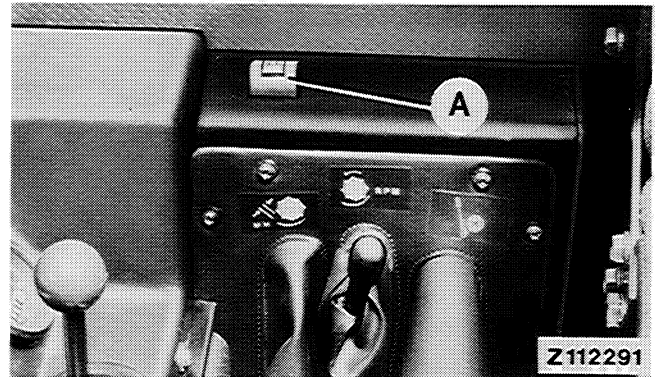
Cutting Height Indicator (B)

NOTE: This equipment is only for combines without cab.



Z112290-1188AZE-010987

Concave Clearance Indicator (A)



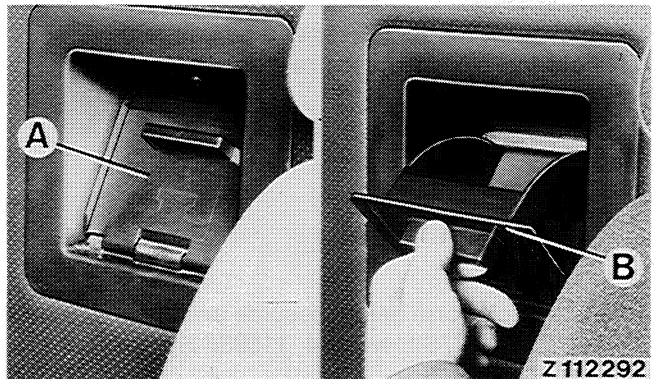
Z112291-1188AZE-010987

GRAIN TANK SAMPLE FLAP

A—Closed
B—Open

IMPORTANT: Open grain tank sample flap when starting to fill the grain tank only! Do not open sample flap again before grain tank filling gauge shows "half-full".

Grain Tank Sample Flap on Combines with Cab Only

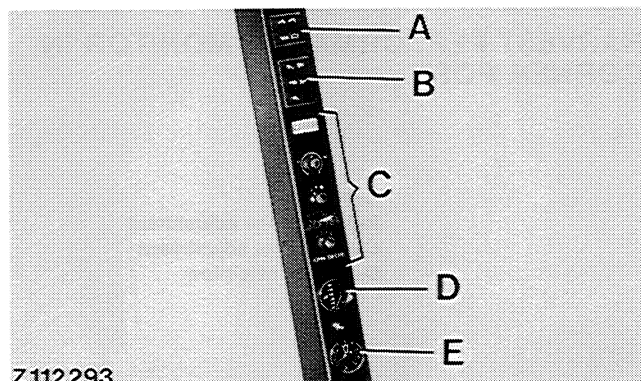


Z112292-1188AZE-000987

CORNER POST INSTRUMENTS

All combines with cab are equipped with a corner post incorporating the important gauges which the operator must have in his field of vision.

- A—Grain tank filling gauge (5 secs. continuous warning sound when "full")
- B—Low shaft speed monitor
- C—Harvest performance monitor
- D—Cutting height indicator
- E—Cutting platform pressure gauge

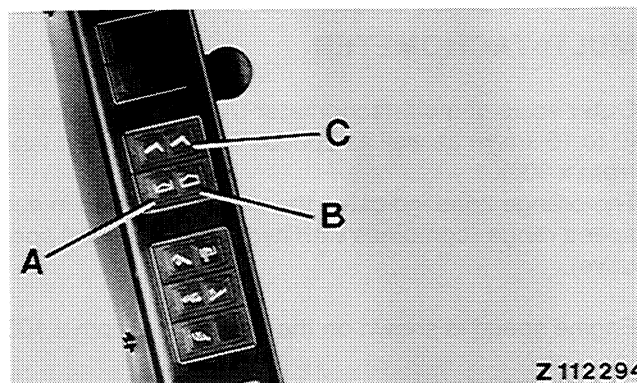


Z112293

Z112293-1188AZE-000987

GRAIN TANK FILLING GAUGE IN CORNER POST

- A—1/2 full
- B—3/4 full
- C—Full



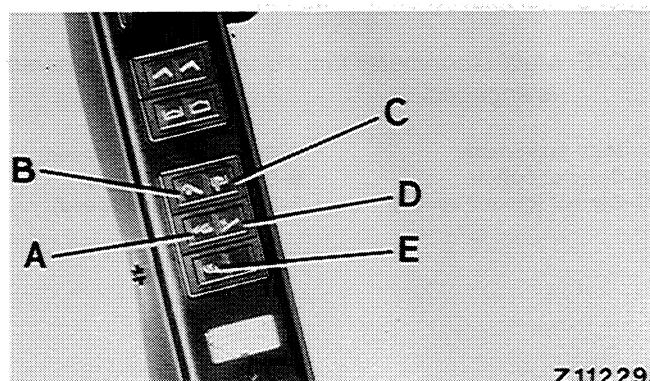
Z112294

Z112294-1188AZE-010987

LOW SHAFT SPEED MONITOR IN CORNER POST

- | | |
|------------------------|-------------------------------------|
| A—Cleaning fan | D—Straw walkers |
| B—Tailings elevator | E—Straw chopper (special equipment) |
| C—Clean grain elevator | |

NOTE: All four or five monitors indicate with glowing indicator light and warning tone.

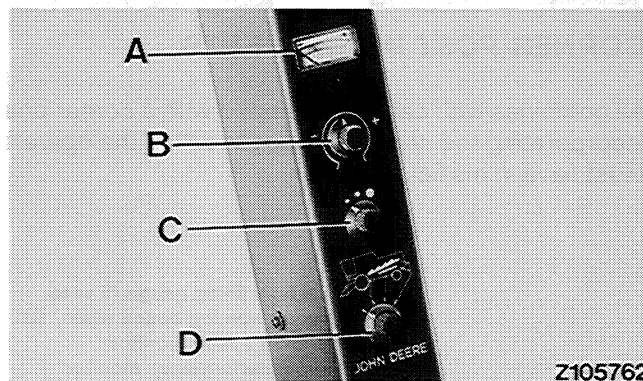


Z112295

Z112295-1166AZE-150488

HARVEST PERFORMANCE MONITOR IN CORNER POST

- A-Meter
- B-Meter zone adjustment
- C-Grain size adjustment
- D-Sensor selection



Z105762

Z105762-1188AZE-010987

CORNER POST GAUGES

- A-Cutting height indicator
- B-Cutting platform pressure gauge



Z112296

Z112296-1188AZE-010987

MULTI-TACHOMETER

Outer scale of multi-tachometer (A) shows ground speed (0 to 15 km/h) as well as speeds for cylinder and fan (rpm x 100).

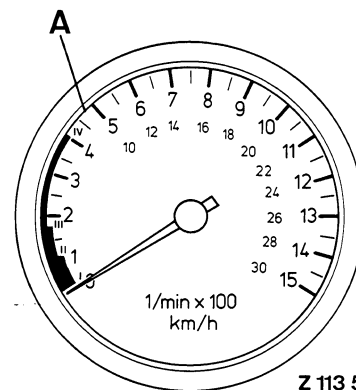
The orange zone indicates the minimum speed in each speed range (combines with hydrostatic ground speed drive).

Engine speed is shown on the inner scale (rpm x 100).

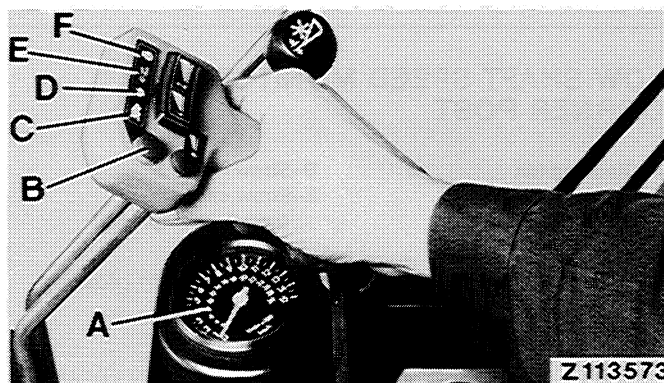
When pressing selector button (B), one of the symbols (C), (D), (E) or (F) lights up and the corresponding speed is displayed on the tachometer.

NOTE: Multi-tachometer functions only when separator is engaged.

- | | |
|-------------------------|---------------------------|
| A-Multi-tachometer | D-Symbol (cylinder speed) |
| B-Selector button | E-Symbol (fan speed) |
| C-Symbol (ground speed) | F-Symbol (engine speed) |



Z 113 572



Z113573

Z113572,Z113573-1188AZE-000987

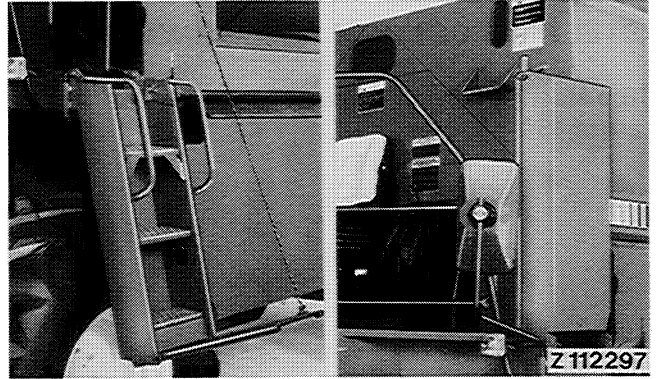
Operator's Platform and Cab

ACCESS LADDER TO OPERATOR'S PLATFORM

The operator's platform is easily accessible via a hinged ladder.



CAUTION: Always lower the ladder slowly by means of a rope. Before lowering the ladder, make sure that no one is standing where he might be struck by the ladder.

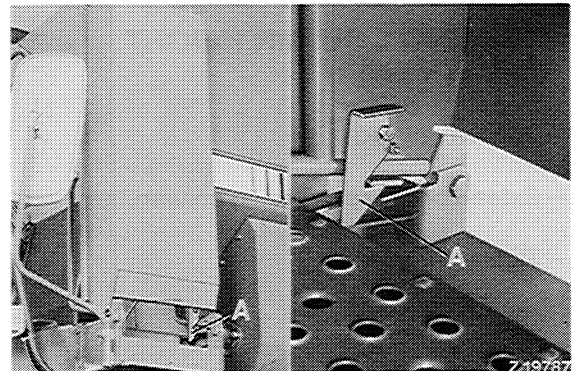


Z112297-1188AZE-000987

SECURING ACCESS LADDER



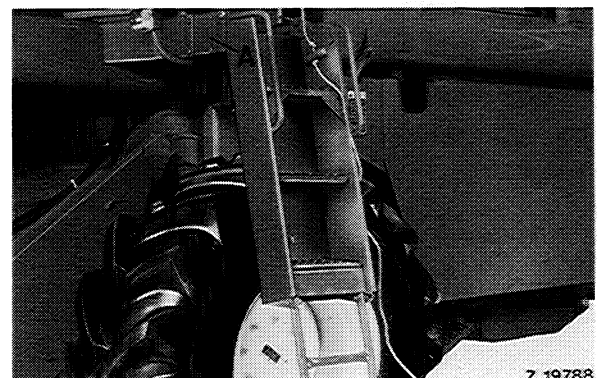
CAUTION: Always fold the ladder upward as shown opposite and secure by means of locking bracket (A) before traveling on public roads.



Z19787-1188AZE-010987

ADJUSTING THE LADDER

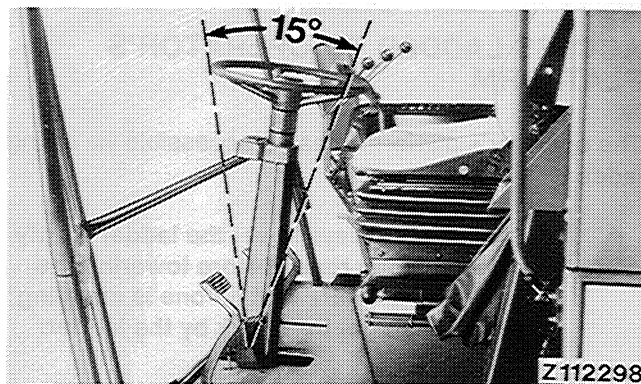
If the combine is to be equipped with larger tires or crawler tracks, move intermediate section (A) of ladder outward (reposition screws).



Z19788-1188AZE-000987

STEERING COLUMN ADJUSTING RANGE

The steering column is infinitely adjustable within an arc of 15°.



Z112298-1188AZE-000987

ADJUSTING STEERING COLUMN

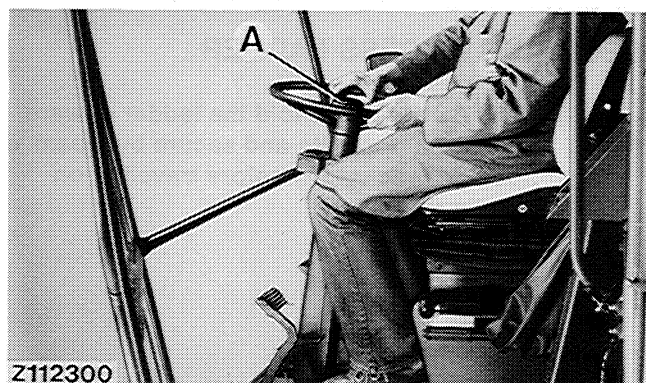
- Depress locking lever (A).
- Move steering column to desired position.
- Release locking lever (A).



Z112299-1188AZE-010987

STEERING COLUMN HEIGHT ADJUSTMENT

- Loosen ring (A).
- Extend or retract steering column.
- Tighten ring (A).

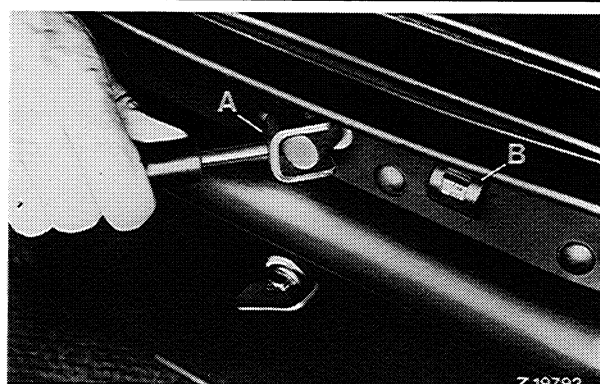


Z112300-1188AZE-010987

ADAPTING SEAT TO OPERATOR'S WEIGHT

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

Turn crank (A) until operator's weight is shown on scale (B).

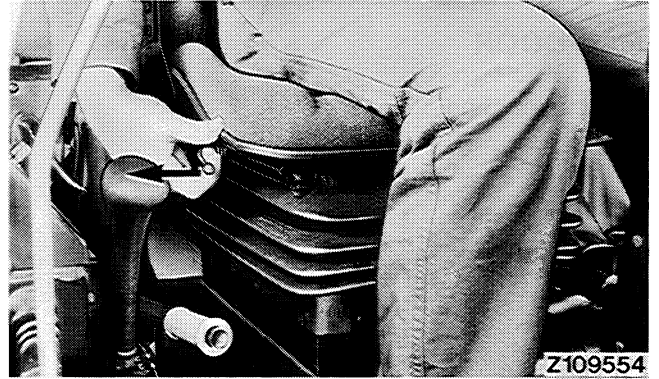


Z19792-1188AZE-010987

ADJUSTING SEAT POSITION

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

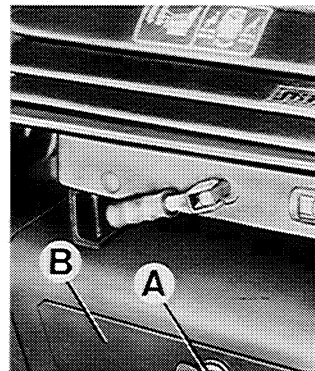
To adjust height of seat, grip seat with both hands and lift upward (three detent positions). Should the seat be raised above the third detent position, seat will return to lowest position.



Z109554, Z109555-1188AZE-000987

STORAGE BOX IN SEAT BASE

A—Lock
B—Cover
C—Cover opened

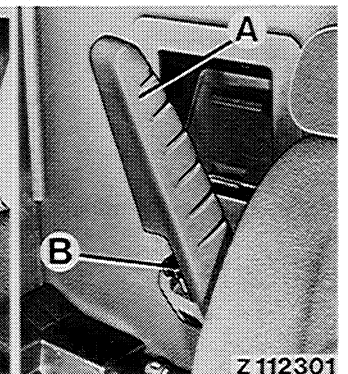
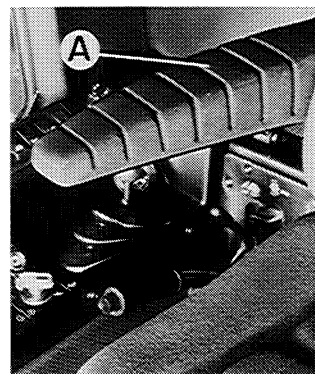


Z109556-1188AZE-010987

ARMREST ADJUSTMENT

Adjust angle of armrest (A) by means of adjusting screw (B).

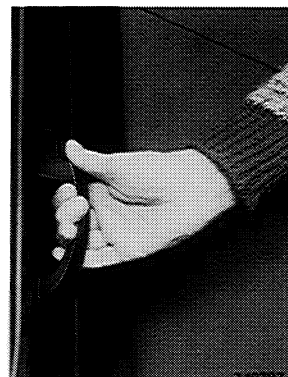
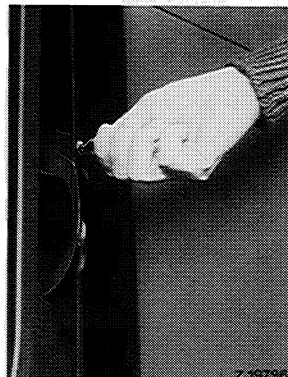
Armrest height can also be adjusted at the hinge.



Z112301-1166AZE-150488

CAB DOOR

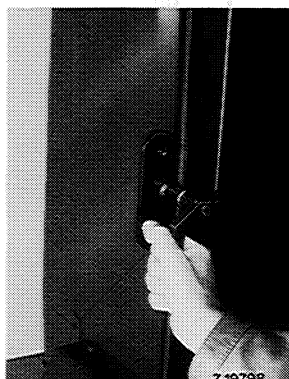
Unlock door and open.



Z19796,Z19797-1065AZE-150883

CAB SIDE WINDOW

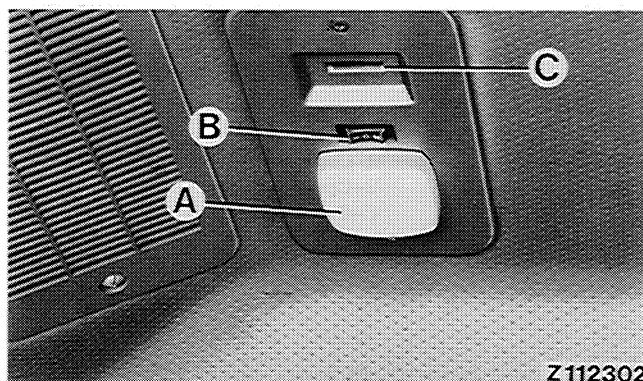
To open, unlatch window.



Z19798,Z19799-1065AZE-150883

CAB LIGHTING

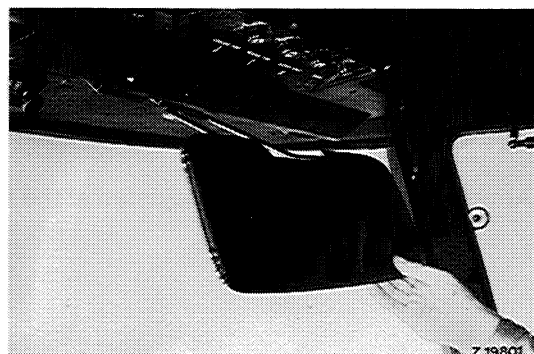
A—Dome light
B—Dome light switch
C—Console light



Z112302-1188AZE-010987

SUN VISOR

Adjust to suit conditions.



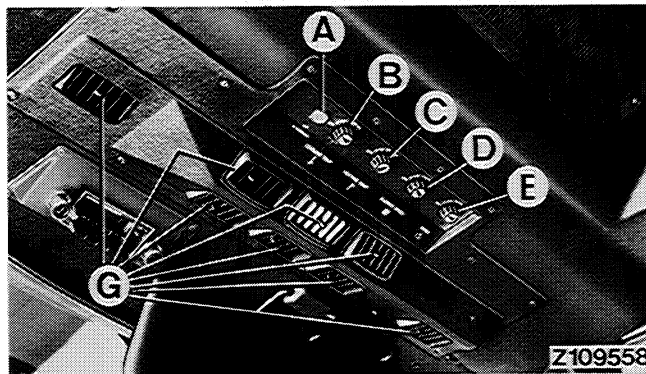
Z19801-1065AZE-150883

OPERATOR'S CAB CONTROLS

Various controls are provided for the heating, fan and air conditioning systems as well as for certain other equipment.

A—Indicator light
(safety switch of air
conditioning system)
B—Air conditioning switch
C—Heater switch

D—Fan switch
E—Windshield wiper switch
— Position 1: Upper wiper
— Position 2: Lower wiper
(special equipment)
G—Adjustable air louvers (8)



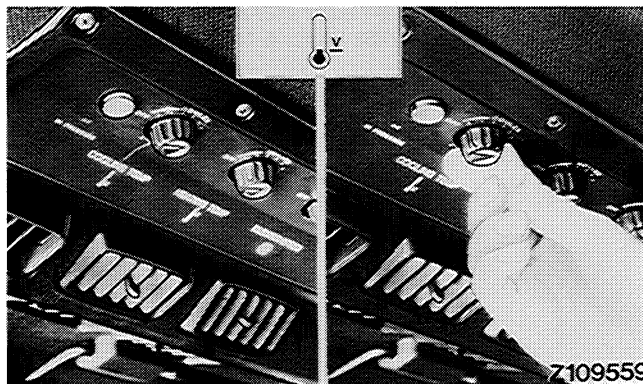
Z109558-1166AZE-150488

AIR CONDITIONING SYSTEM

Before switching on the air conditioning system, the fan must be operating.

Adjust temperature by means of switch.

IMPORTANT: Operate air conditioning system several times during the year (even in the cooler seasons) to ensure lubrication of the system's moving parts.



Z109559-1166AZE-070191

HEATER

Adjust heater by means of knob.

Before switching on the heater, fan must be operating.



Z19804-1065AZE-000883

HEATER SHUT-OFF VALVE

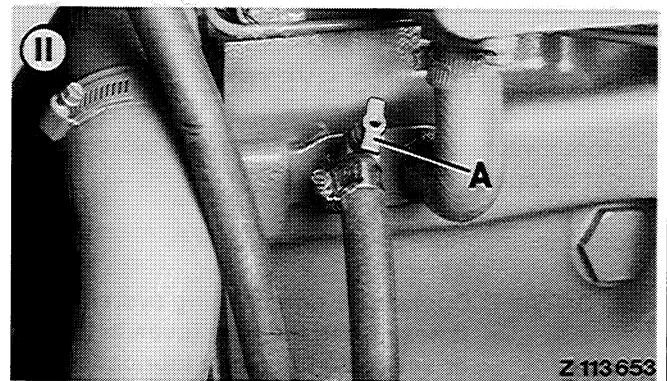
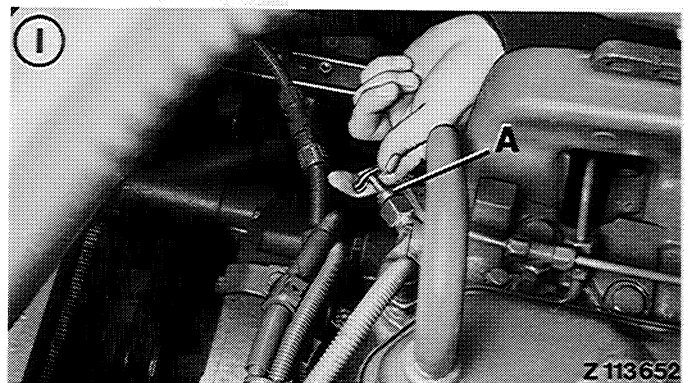
In summer months disconnect the heater system from engine cooling system by closing shut-off valve (A) on engine block.

Reopen shut-off valve when cab heating is required.

A-Shut-off valve

*I-Heater shut-off valve
1166SII, 1166SII Hydro/4, 1174SII,
1174SII Hydro/4, 1177SII*

*II-Heater shut-off valve
1177SII Hydro/4, 1188SII Hydro/4*

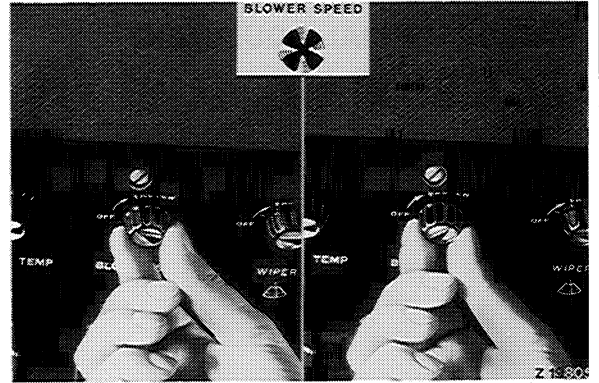


Z113652,Z113653-1166AZE-070191

FAN

A three-speed switch controls the fan which slightly pressurizes the cab. To attain highest fan speed, turn switch clockwise as far as it will go.

IMPORTANT: Pressurizer fan must be operating whenever heater or air conditioning system are in use.

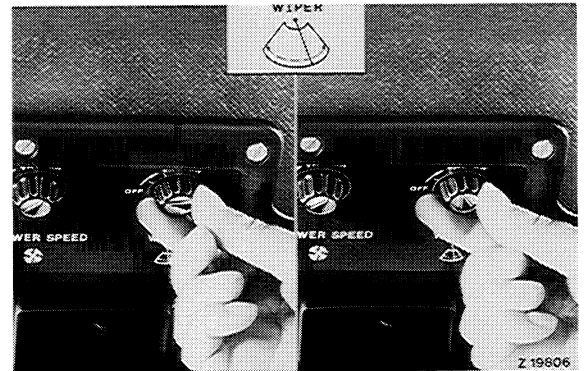


Z19805-1065AZE-000883

WINDSHIELD WIPER

The windshield wiper switch has two positions:

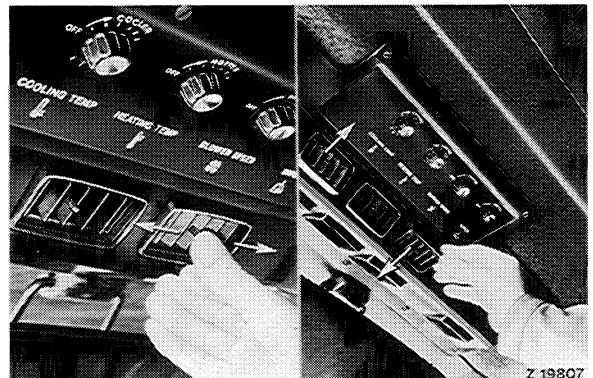
- Position 1: Upper windshield wiper
- Position 2: Lower windshield wiper (special equipment)



Z19806-1166AZE-150488

ADJUSTABLE AIR LOUVERS

Adjust louvers to prevent misting of windows.

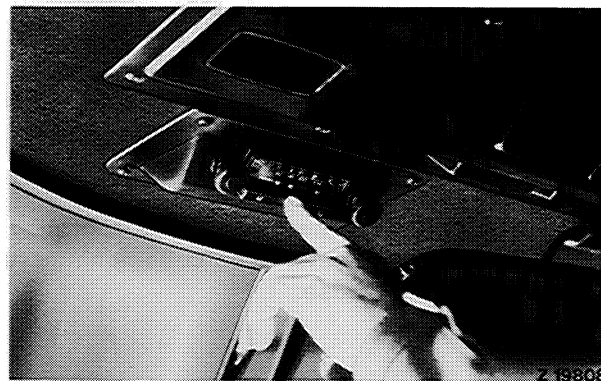


Z19807-1065AZE-000883

RADIO (SPECIAL EQUIPMENT)

The combine may be equipped with a radio.

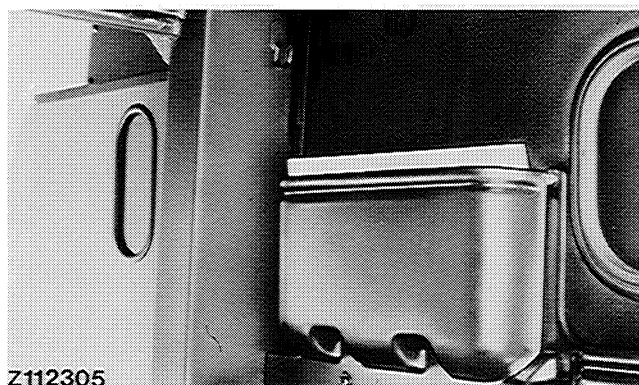
For radio operation, refer to manufacturer's instructions.



Z19808-1065AZE-000883

STORAGE RACK

A storage rack is provided on rear cab wall, offering space for your operator's manual.

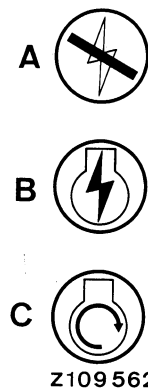


Z112305-1188AZE-010987

Lighting System and Signals

STARTER SWITCH POSITIONS

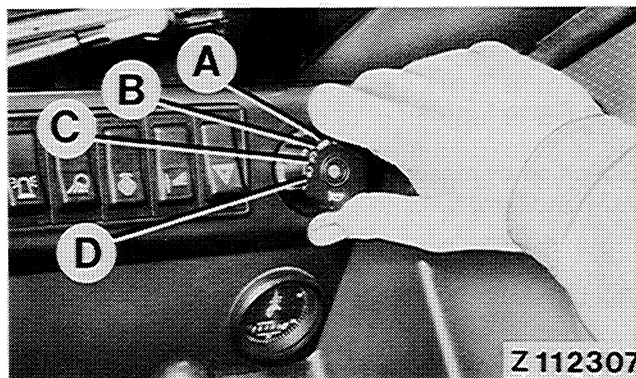
A—All electrical circuits off
B—All electrical circuits on
C—Operate starting motor



Z109562, Z112306-1188AZE-010987

COMBINED SWITCH FOR LIGHTING AND HORN

A—Off
B—Parking lights
C—Low-beam headlights
D—Full-beam headlights

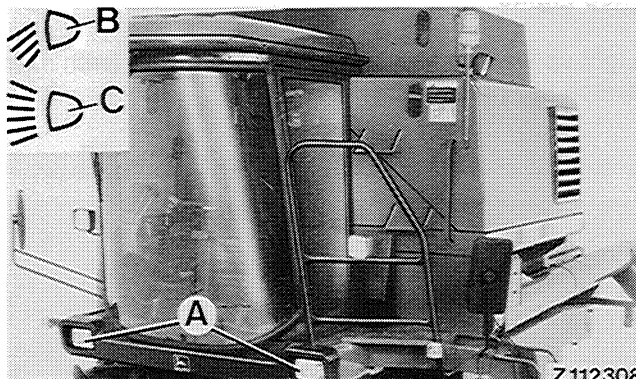


Z112307-1188AZE-010987

HEADLIGHTS

Dimmed and full-beam headlights are provided. Always dim headlights in case of oncoming traffic.

A—Headlights
B—Dimmed headlights
C—Full-beam headlights



Z112308-1188AZE-010987

WORK LIGHTS (Special Equipment)

Switch on work lights (A) by means of switch (B).



Z113654-1166AZE-150488

TURN SIGNAL AND CLEARANCE LIGHTS, FRONT

Clearance Lights

Clearance lights light up as soon as parking lights, low or full-beam headlights are switched on.

Turn Signal Lights

Switch on by means of turn signal switch (for right or left-hand turn).



Z112310-1188AZE-000987

TURN SIGNAL, TAIL AND STOP LIGHTS, REAR

Turn Signal Lights

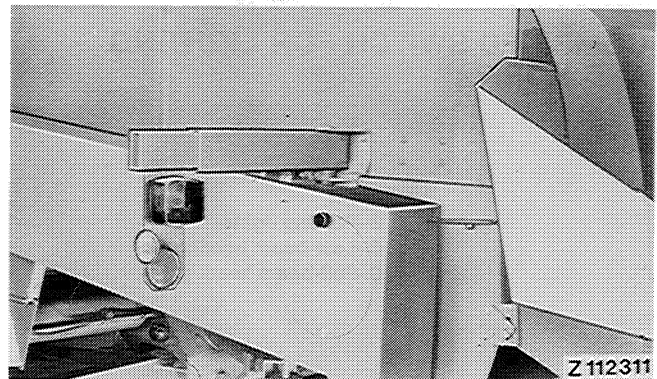
Switch on by means of turn signal switch (for right or left-hand turn).

Tail Lights

Light up in all light switch positions.

Stop Lights

Light up when brake pedals are depressed (with main switch key pressed inwards).

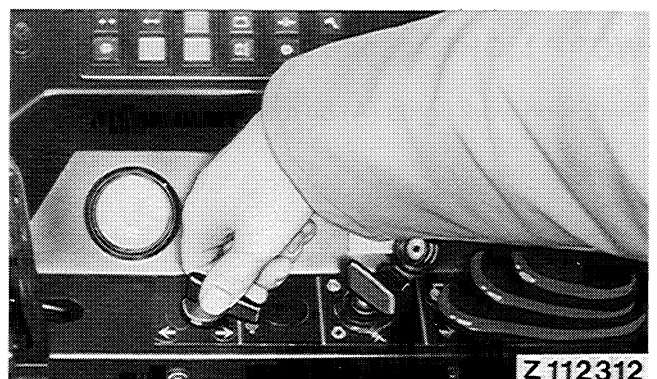


Z112311-1188AZE-000987

TURN SIGNAL SWITCH

Operate turn signal switch when driving on public roads.

IMPORTANT: The turn signal switch is not self-cancelling.

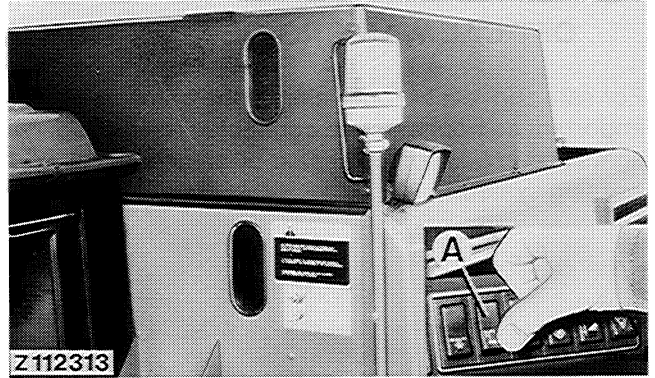


Z112312-1166AZE-150488

REVOLVING HAZARD WARNING LIGHTS (FOR ROAD TRAVEL)

In some countries revolving hazard warning light(s) must be switched on when driving on public roads.

Switch on these lights by means of switch (A).

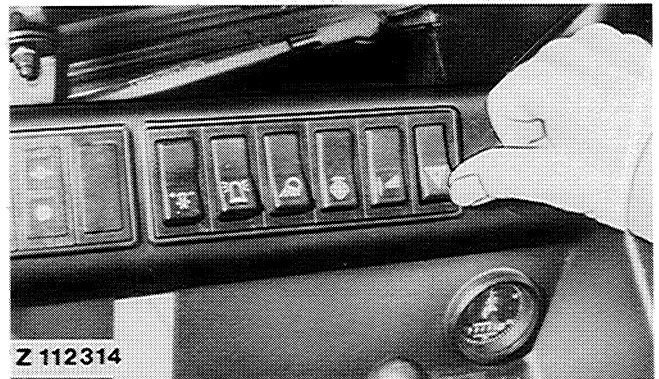


Z112313-1188AZE-010987

USING HAZARD WARNING LIGHTS

In certain countries a hazard warning light system is required. Always switch on these lights (if equipped) when stopping the combine for any unusual reason on side of a public road.

Switch on these lights by means of hazard warning light switch.



Z112314-1188AZE-000987

HORN

Depress button to sound horn (combined switch for lights and horn).



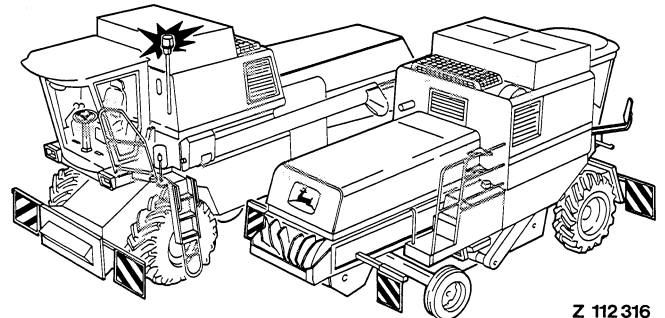
CAUTION: For safety reasons, sound horn before operating the combine.



Z112315-1188AZE-010987

WARNING SIGNS

Combines with a width of more than 3 meters (10 ft.) using public roads (with special permission), must be equipped with additional front and rear warning signs.



Z112316-1188AZE-000987

Warning Devices and Monitors

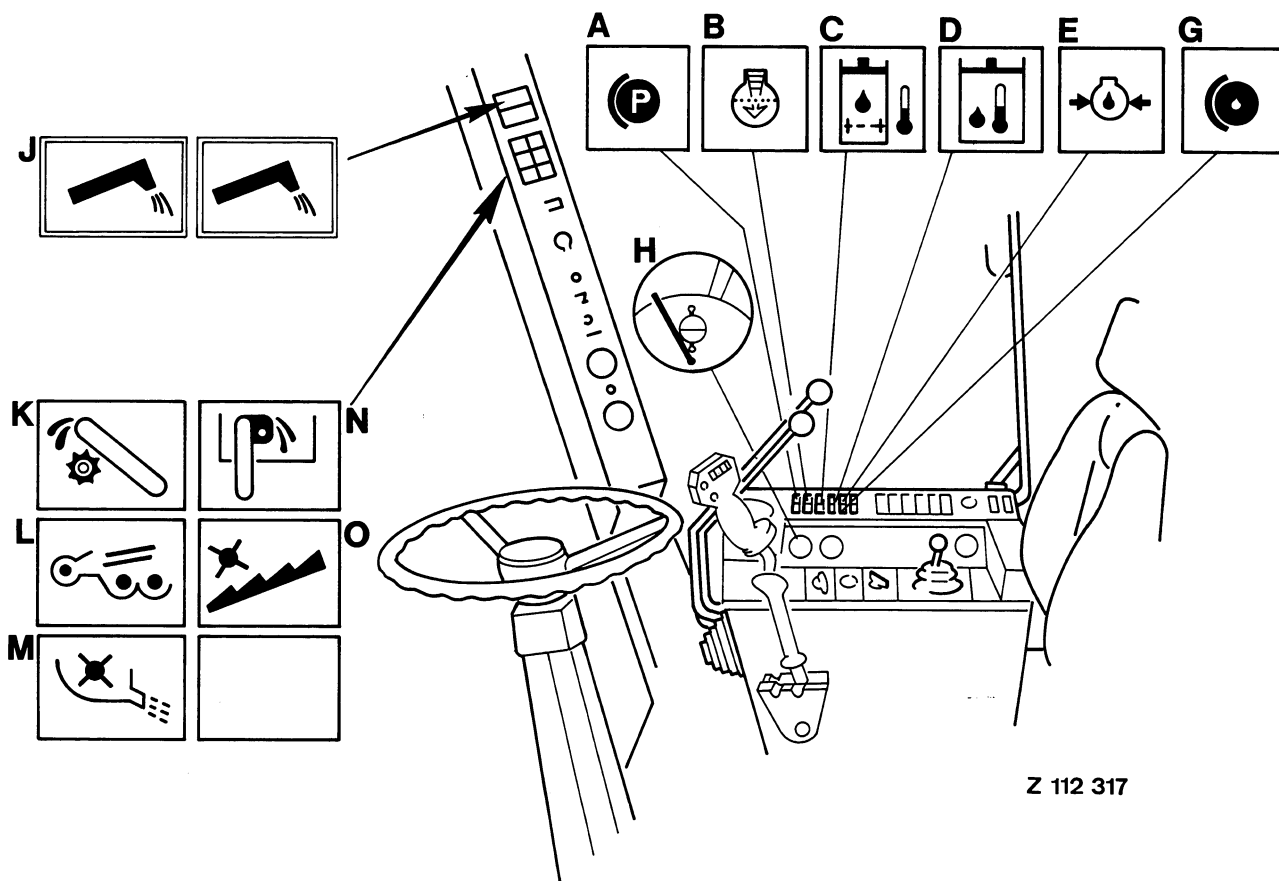
OPTICAL WARNING DEVICES WITH WARNING TONE – GENERAL INFORMATION

For safe and reliable operation of the combine, important components are connected to warning lights and in addition protected by an acoustical warning system.

Should the shrill continuous tone of the warning buzzer be heard when operating, this indicates a malfunction at the component indicated by the warning light.

WARNOM-1065AZE-001084

WARNING LIGHTS WITH WARNING BUZZER



Z 112 317

A–Parking brake (with gear engaged)
B–Air cleaner
C–Hydraulic oil filter, hydraulic oil temperature
D–Oil temperature of hydrostatic system
E–Engine oil pressure

G–Brake oil reservoir
H–Coolant temperature (when needle moves into red zone)
J–Grain tank when full (for five seconds)

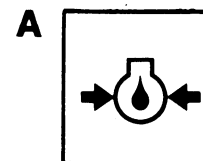
K–Tailings elevator
L–Cleaning shoe
M–Straw chopper speed (special equipment)
N–Clean grain elevator
O–Straw walkers

Z112317-1166AZE-150488

WARNING DEVICES IN DASH

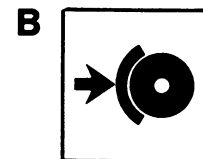
A—No engine oil pressure

- Shut off engine immediately
- Remedy the fault



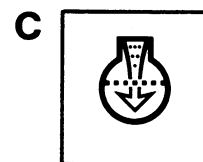
B—Parking brake applied (with gear engaged)

- Release parking brake



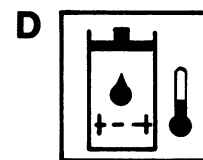
C—Air cleaner partially restricted or clogged

- Clean filter element
- Remove restriction

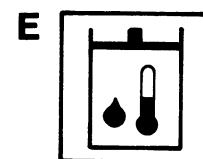


D—Hydraulic oil filter clogged

- Replace oil filter

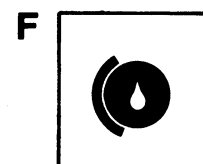


- Hydraulic oil temperature too high (if indicator light continues to glow at engine idle speed)
- Shut off engine immediately; remedy fault



E—Hydrostatic system oil too hot

- Select a lower speed range to obtain a more efficient hydrostatic drive performance

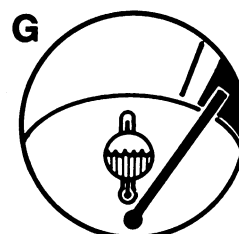


F—Brake oil level low

- Top up reservoir with specified oil
- Check for leaks and repair when necessary

G—Engine coolant temperature too high (needle in red zone)

- Run engine for a short period under no load. If coolant temperature does not drop, shut off engine, check for cause and remedy the fault



Z 113 655

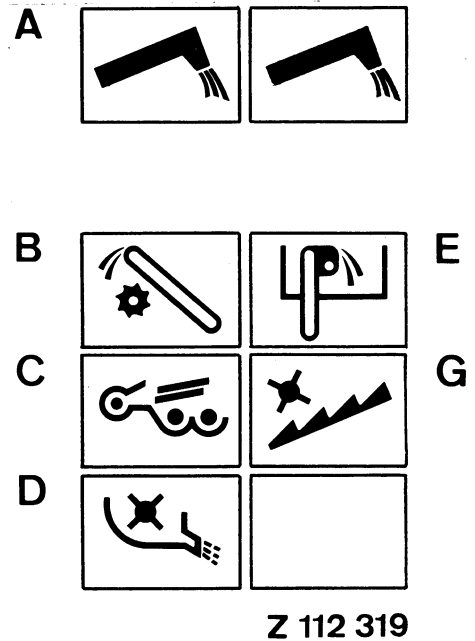
WARNING DEVICES IN CORNER POST

Grain tank full – red indicator light glows (warning signal sounds for five seconds)
– Empty grain tank

Component shaft speed drop
– Stop combine and check component indicated

A–Grain tank indicator light
B–Tailings elevator
C–Cleaning shoe drive
D–Straw chopper
(special equipment)
E–Clean grain elevator
G–Straw walkers

NOTE: For further details, refer to “Low Shaft Speed Monitor System”.



LOW SHAFT SPEED MONITOR SYSTEM – GENERAL INFORMATION

The low shaft speed monitor system located in the corner post indicates with glowing lamp and shrill continuous warning tone when one of the protected component drive shafts is operating at less than its designed speed.

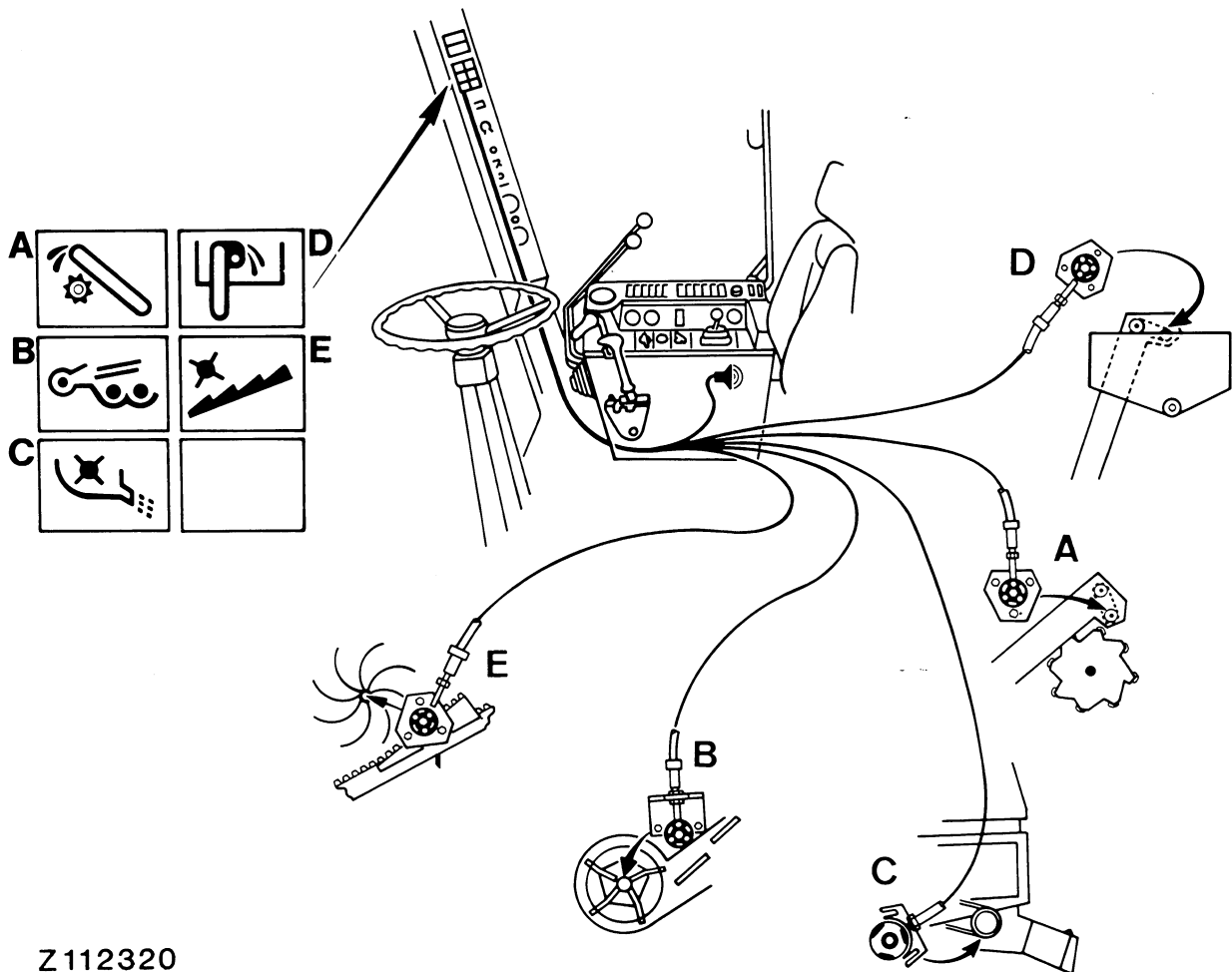
With the engine shut off, switch key pressed inward (electrical circuits "on") and separator engaged, all four or five warning lights must glow and warning buzzer must be heard.

With engine running (at fast idle) and separator engaged, all warning lights should be "off" and warning buzzer should cease.

When the engine speed is reduced with separator engaged, warning light for straw chopper should light up first, followed by the warning lights for the elevators, cleaning fan (depending on position of fan switch) and straw walkers.

WARNOM-1166AZE-150488

LOW SHAFT SPEED MONITOR SYSTEM – PROTECTED COMPONENTS



Z 112320

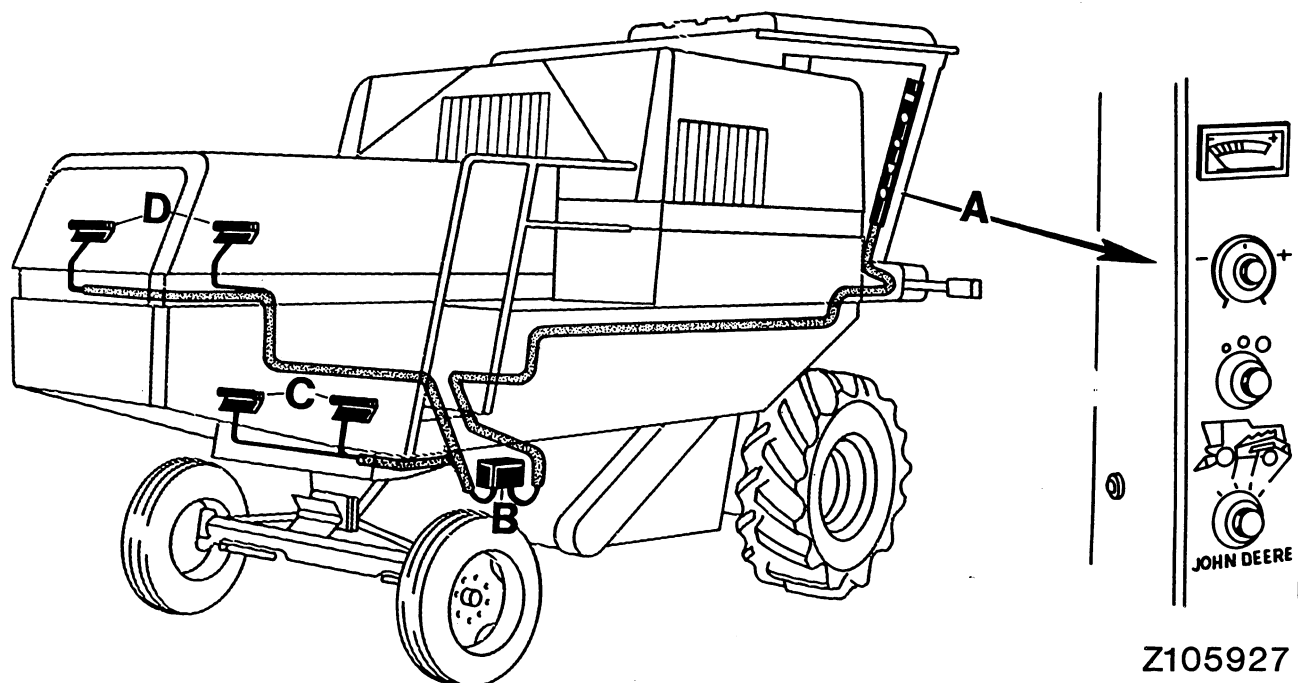
A–Tailings elevator
B–Cleaning shoe drive

C–Straw chopper
(special equipment)

D–Clean grain elevator
E–Straw walkers

Z112320-1166AZE-150488

HARVEST PERFORMANCE MONITOR



Z105927

Harvest Performance Monitor Components

A—Control panel

B—Preamplifier circuit box

C—Cleaning shoe sensors

D—Straw walker sensors

General Information

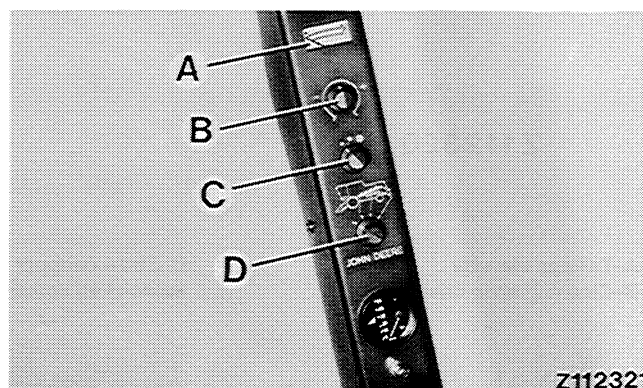
The harvest performance monitor with its sensors located on cleaning shoe and straw walkers determines grain loss by measuring a representative sample of losses over the cleaning shoe and straw walkers. Grain size is taken into account by the grain size adjuster. A change in loss rate is indicated by the control panel meter. The measurement does not show losses in kg/ha, % or other dimensions.

After the operator has adjusted the combine and cutting platform to an acceptable loss level, taking into account the crop and field conditions, the monitor can be set to this level (for details refer to "Adjusting the Harvest Performance Monitor"). The harvest performance monitor enables the operator to use maximum combine capacity within the performance range selected by him. The control panel shows the operator whether to increase or decrease ground speed.

Z105927-1188AZE-010987

Control Panel Components

- A—Meter
- B—Meter zone adjustment
- C—Grain size adjustment
- D—Sensor selection



Z112321

Z112321-1188AZE-010987

AREA COUNTER (Optional Equipment)

The 1100 area counter performs a variety of functions. These functions are divided into two groups.

Group 1:

- Time
- Area
- Speed (km/h)

Group 2

- Time
- Meters

Only one group can be used at any one time.

All the functions in the selected group can be performed over the whole period, regardless of the display. This means for example that ground speed can be monitored while area and time are being recorded.

In the event of power failure, all the data inputs and recorded values are memorized.



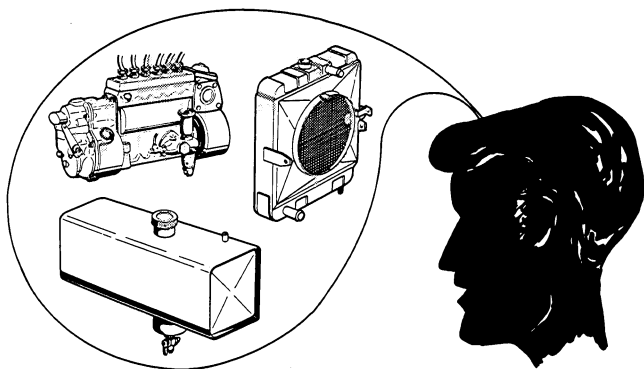
Z118723-1166AZE-160790

Pre-Starting Checks

DAILY CHECKS ON COMBINE

Before operating combine check:

- Engine
- Cooling system
- Hydraulic system
- Fuel system etc.



Z 19821 A

Z19821A-1065AZE-311084

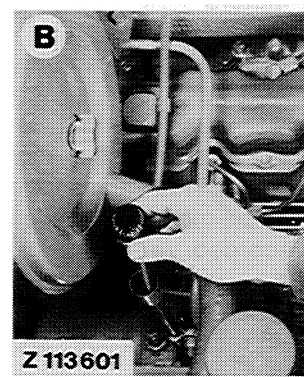
CHECKING ENGINE OIL LEVEL

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

Oil level should be kept between the upper and lower marks. Always check oil level with combine parked on level ground.

A-Dipstick
(1166SII, 1166SII Hydro/4,
1174SII,
1174SII Hydro/4, 1177SII)

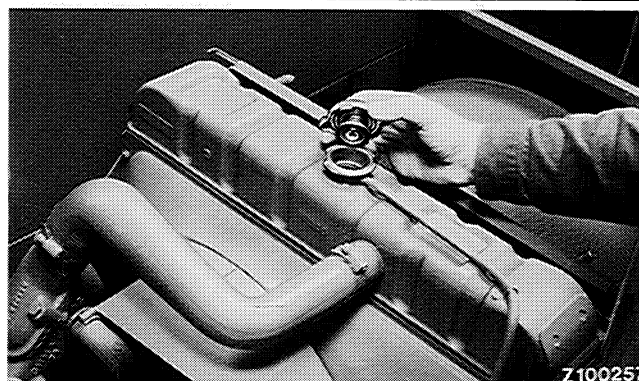
B-Dipstick
(1177SII Hydro/4,
1188SII Hydro/4)



Z113600.Z113601-1166AZE-070191

CHECKING COOLANT LEVEL

Remove radiator filler cap. Coolant level should be approx. 20 – 30 mm (3/4 – 1-1/4 in.) below upper edge of header tank.

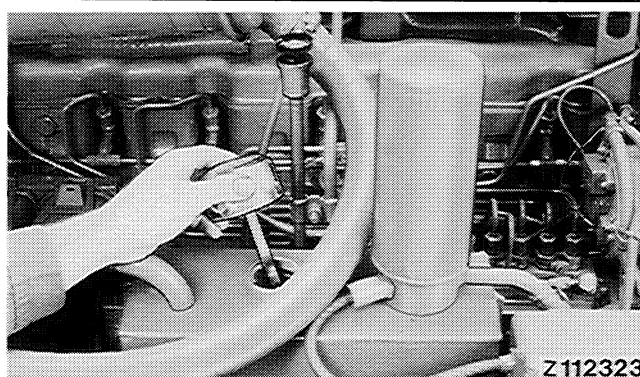


Z100257-1166AZE-150488

CHECKING HYDRAULIC OIL LEVEL

Retract all hydraulic cylinders and lower cutting platform to the ground.
Check oil level.

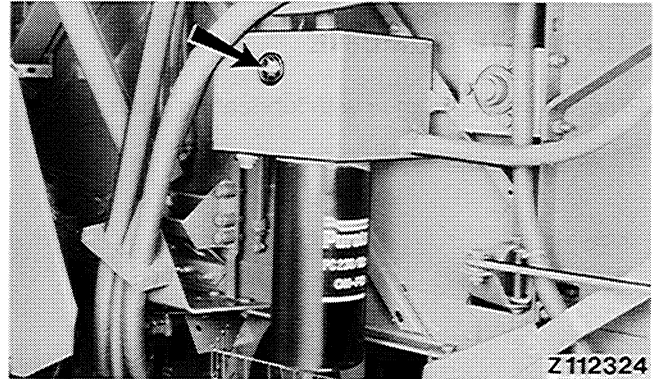
Oil level must be between upper and lower marks.



Z112323-1166AZE-150488

CHECKING HYDROSTATIC OIL LEVEL

Oil level must be visible in sight glass.

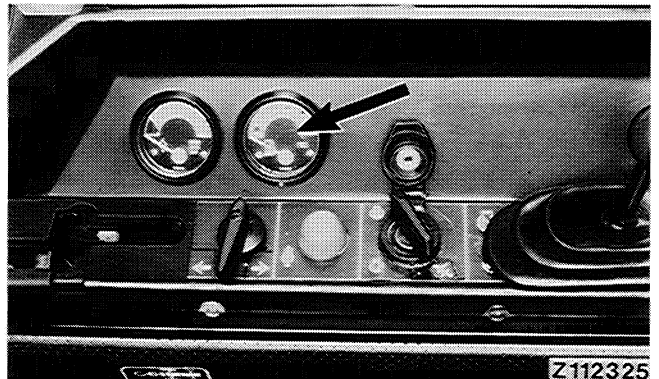


Z112324-1166AZE-150488

CHECKING AMOUNT OF FUEL IN TANK

With main switch on, check fuel gauge.

- Fill the fuel tank.

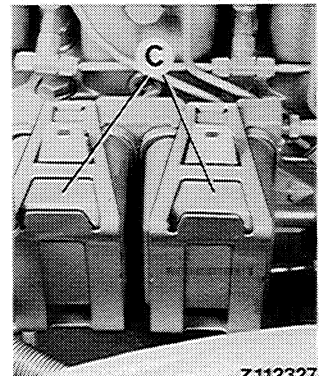
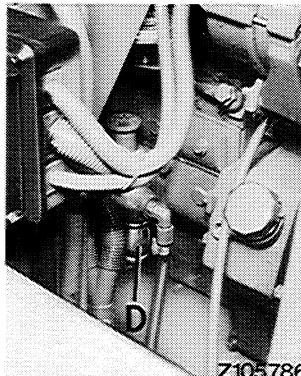
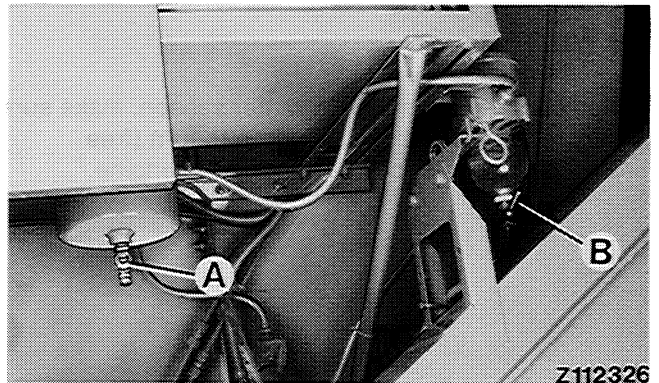


Z112325-1188AZE-010987

FUEL SYSTEM

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

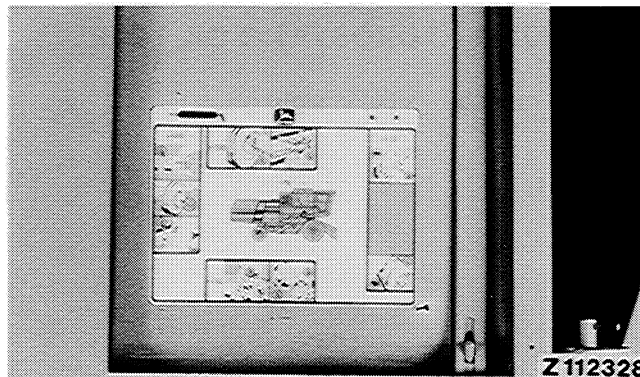
- A–At fuel tank sump
- B–At water trap
- C–At fuel filter
- D–At sight glass of mechanical fuel transfer pump (1177SII Hydro/4, 1188SII Hydro/4)



Z112326,Z112327,Z105786-1166AZE-150488

LUBRICATE COMBINE

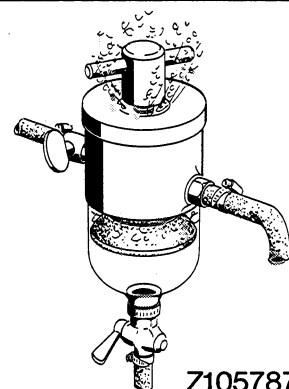
Proceed in accordance with lubricating chart.



Z112328-1188AZE-010987

AFTER LONGER STORAGE PERIOD

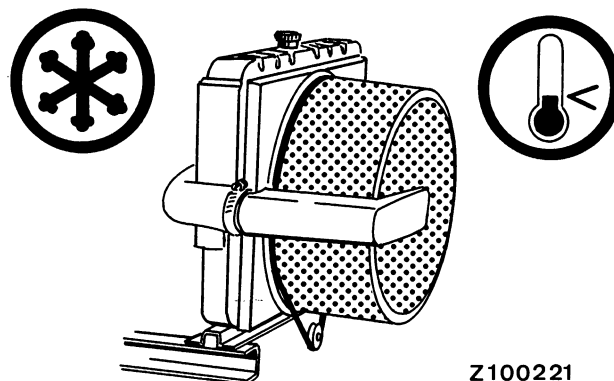
Bleed fuel system.
See "Service – Fuel System".



Z105787-1065AZE-001084

IN WINTER

When operating combine in winter season, make sure rotary radiator screen drive is free to turn (free from ice and snow) before starting the engine.



Z100221-1055AZE-150883

Operating the Engine

BEFORE STARTING THE ENGINE

Safety



CAUTION: Before starting the engine, make sure there is plenty of ventilation and everybody is standing clear of the combine.

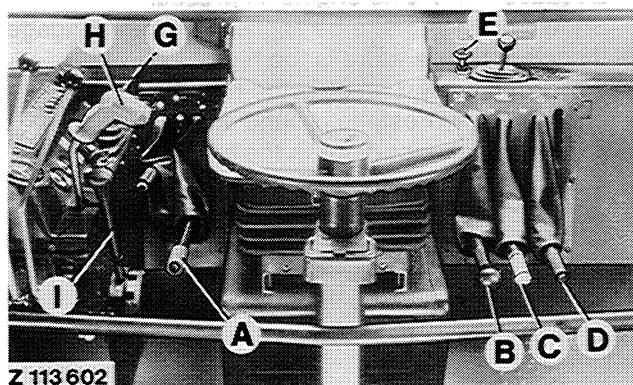


Z19828

Z19828-1188AZE-010987

Control Lever Positions

- Apply parking brake (A)
- Disengage cutting platform lever (B)
- Disengage separator drive lever (C)
- Disengage grain tank unloading auger lever (D)
- Push in fuel injection pump shut-off knob (E)
- Move hydrostatic ground speed drive lever (H) to neutral position
- Move gear shift lever (I) to neutral position



Z 113 602

A–Parking brake lever
B–Cutting platform lever
C–Separator drive lever
D–Unloading auger lever
E–Fuel injection pump shut-off knob
G–Throttle lever
H–Hydrostatic ground speed drive lever
I–Gear shift lever

Z113602-1166AZE-150488

Starter Switch Key

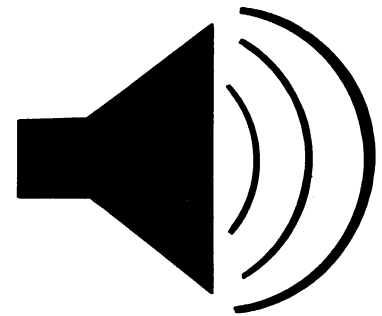
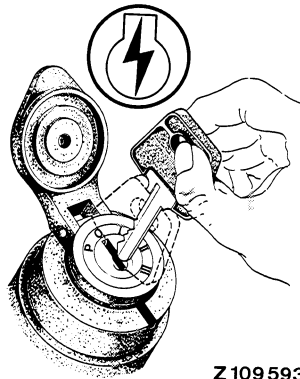
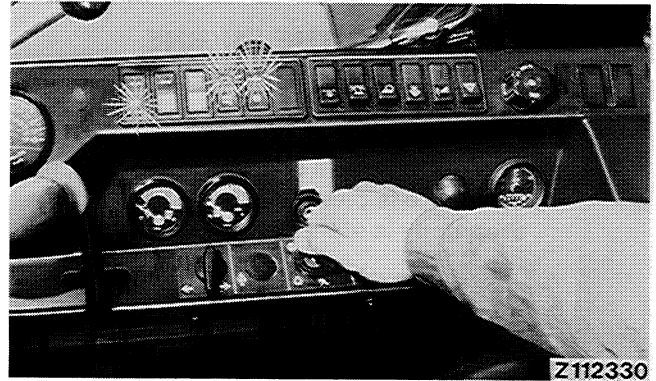
Press key into switch and turn to position I.
The following indicator lights will glow:

- Alternator indicator light
- Engine oil pressure indicator light
- Parking brake indicator light (only when a transmission gear is engaged)

In addition, the acoustical warning system will be activated:

- Because there is no engine oil pressure
- Should parking brake be applied with gear engaged
- If coolant temperature is too high
- If hydrostatic system oil is too hot
(only with hydrostatic ground speed drive)
- If there is not enough oil in the brake reservoir
- If air cleaner is restricted

The horn sounds also when the straw warning device is activated.



STARTING THE ENGINE

Completely depress clutch pedal.

Turn starter key through positions I and II to position III to operate starting motor – engine turns at starting motor speed.

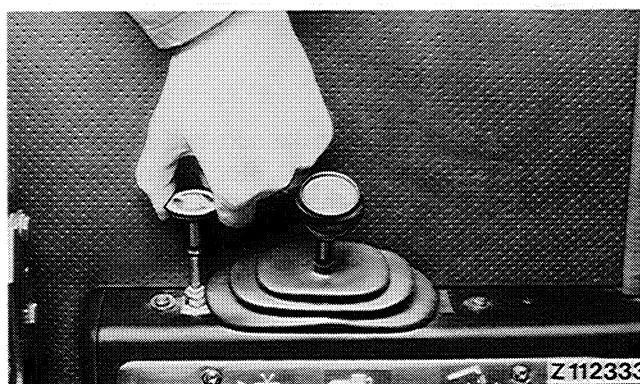
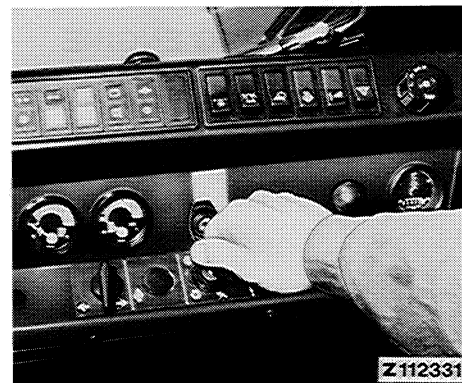
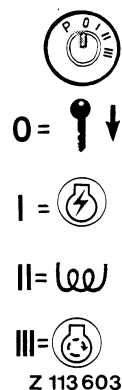
NOTE: At ambient temperatures below 5°C (40°F), use the cold weather starting aid.

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

Do not operate starting motor (starter key in position III) for more than 30 seconds at a time.

IMPORTANT: If engine does not start within 30 seconds, wait at least two minutes before trying again. Do not try to start engine more than four times.

NOTE: If engine has not been run for a longer period, pull injection pump shut-off cable (1177SII Hydro/4 and 1188SII Hydro/4 only). Turn over engine with starting motor until the engine oil pressure indicator light goes out.

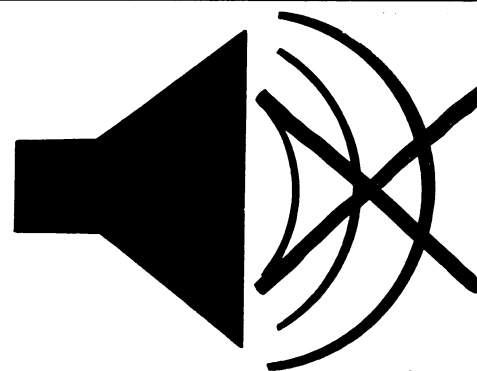


Z113603,Z112331,Z112333-1166AZE-160790

AFTER STARTING ENGINE

Acoustical Warning System

After starting the engine, all warning signals should cease – if not, check and remedy the fault.

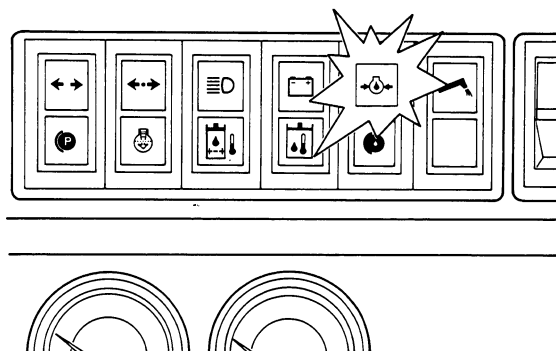


Z 35632

Z35632-1188AZE-010987

Oil Pressure Indicator Light

After starting the engine, make sure red oil pressure indicator light goes out – if not, stop engine immediately, check and remedy the fault.



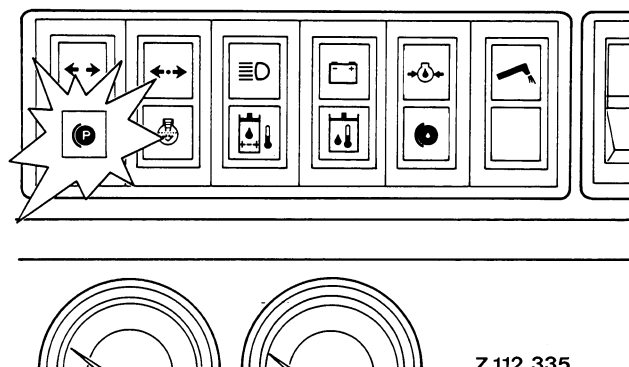
Z 112 334

Z112334-188AZE-000987

Remaining Indicator Lights

After starting the engine, all other indicator lights should go out.

NOTE: The parking brake indicator light will go out after releasing parking brake. Should other indicator lights continue to glow, check and remedy the fault.



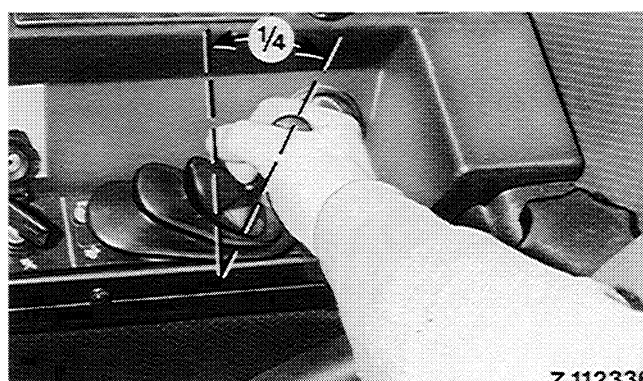
Z 112 335

Z112335-1188AZE-010987

Warming up Engine

After starting the engine, move throttle lever approx. 1/4 of the way towards the "Hare" symbol (approx. 1500 rpm). Run a cold engine for approx. one to two minutes at this speed. In the winter season increase this warming up period to two to four minutes.

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



Z 112336

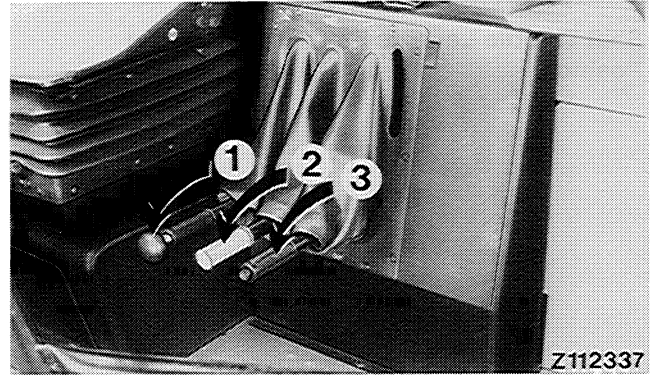
Z112336-1188AZE-000987

STOPPING THE ENGINE

IMPORTANT: Never stop the engine abruptly after operating under full load.

Disengage the Following Drives

1. Cutting platform
2. Separator
3. Grain tank unloading auger

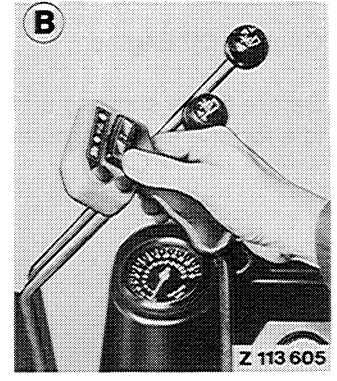
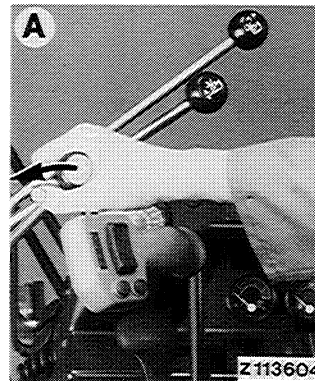


Z112337-1188AZE-010987

Lower Cutting Platform

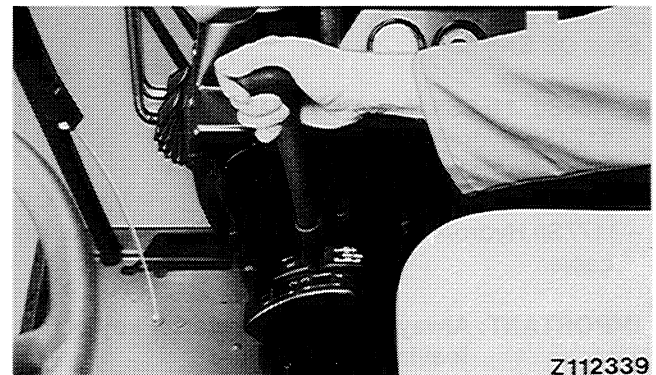
A-1166SII, 1166SII Hydro/4,
1174SII, 1174SII Hydro/4

B-1177SII, 1177SII Hydro/4,
1188SII Hydro/4



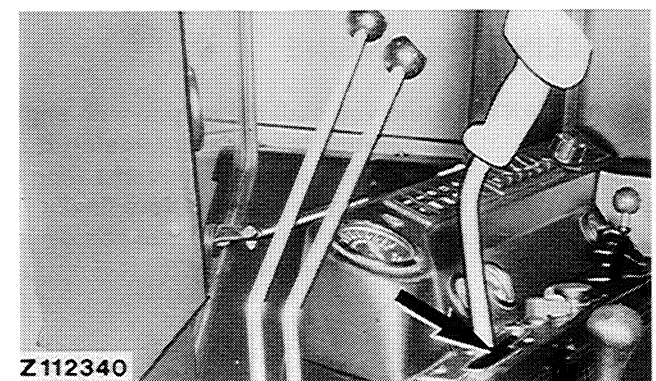
Z113604 Z113605-1166AZE-070191

Place Gear Shift Lever in Neutral Position



Z112339-1188AZE-010987

Place Hydrostatic Ground Speed Control Lever in Neutral Position



Z112340-1188AZE-010987

Shift Throttle Lever to Slow Idle (Tortoise) Position

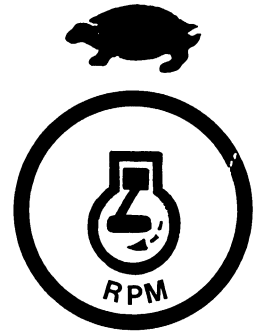


Z112341

Z112341-1188AZE-010987

Cooling Off Engine

Before finally shutting off the engine, run at slow idle for one to two minutes.



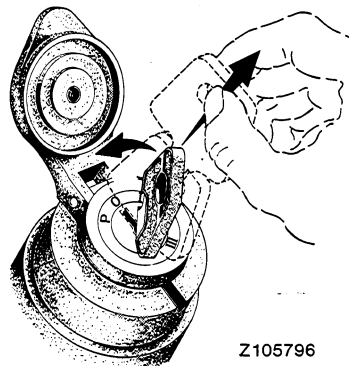
Z19842

Z19842-1065AZE-150883

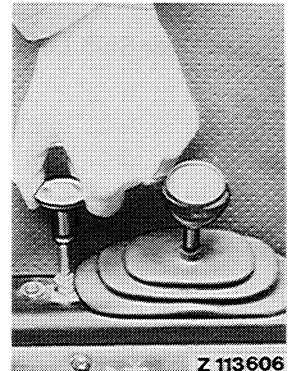
Shut Off Engine

- 1166SII, 1166SII Hydro/4, 1174SII, 1174SII Hydro/4, 1177SII:
Turn starter key to position "0"
- 1177SII Hydro/4, 1188SII Hydro/4: Pull out shut-off cable

IMPORTANT: Always remove the starter key before leaving the combine.



Z105796



Z113606

Z105796, Z113606-1166AZE-070191

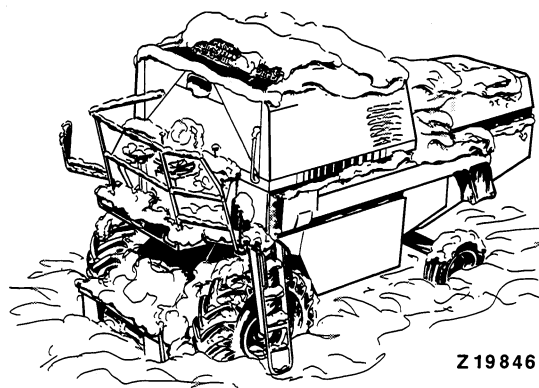
STALLING THE ENGINE

IMPORTANT: Should you stall the engine with engine at operating temperature, restart it immediately to prevent overheating of certain engine parts. Before finally shutting off the engine, run at slow idle for one to two minutes.

COLD WEATHER OPERATION

General Information

Special preparations are required when operating the combine in cold weather.



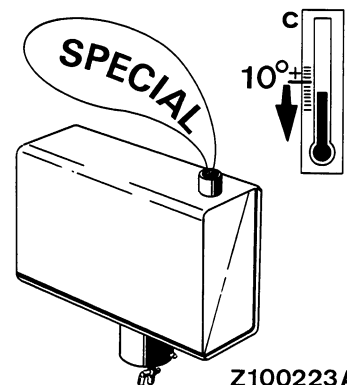
Z19846

Z19846-1188AZE-010987

Fuel System

Fill the fuel tank at the end of each day's operation and especially at the end of the harvesting season. This will prevent condensation and the resulting corrosion.

When harvesting in the cold winter months (e.g. maize) with ambient temperatures below 10°C (50°F), use special winter fuel or add some anti-gelling compound to the fuel to maintain its proper viscosity.



Z100223A

Z100223A-1055AZE-150883

Engine Coolant

For composition and use of engine coolant, refer to "Fuel, Lubricants, Hydraulic Oil, Coolant and Capacities".

MOTOROM-1188BZE-010987

STARTING THE ENGINE WITH ETHER STARTING AID (Special Equipment: 1177SII Hydro/4, 1188SII Hydro/4)

Starting Aid Button

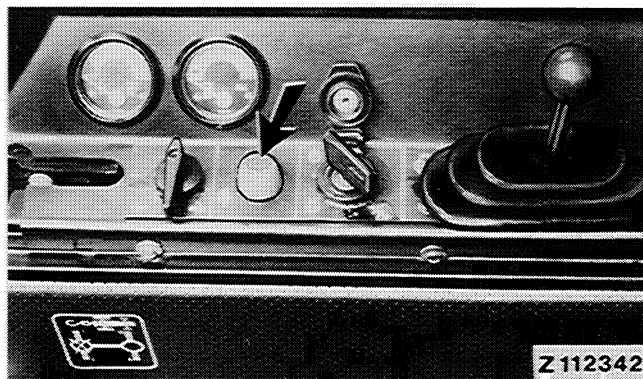
While turning engine with the starting motor, depress the starting aid button (never longer than one second). Inject the ether starting fluid in small amounts only, as otherwise serious engine damage may result.

IMPORTANT: To prevent dust etc. from entering the air intake system, keep starting fluid can in position at all times (even when empty).

Replacing Starting Fluid Can

Unscrew knurled nut sufficiently to remove empty can. Remove the safety cap and spray button from new can. Install new can and retighten knurled nut.

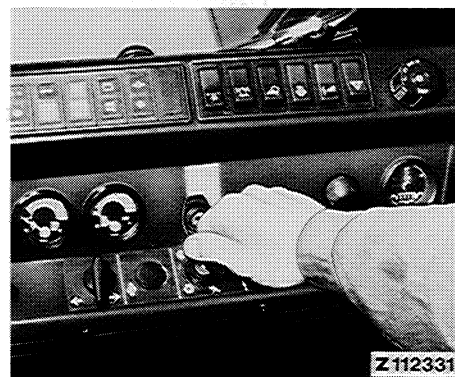
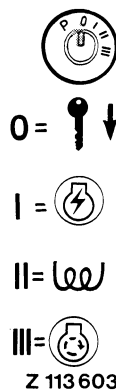
Make sure that full starting fluid cans are not exposed to severe heat.



Z112342, Z19852-1166AZE-160790

STARTING ENGINE WITH THERMOSTART STARTING AID (Special Equipment: 1166SII, 1166SII Hydro/4, 1174SII, 1174SII Hydro/4, 1177SII)

- Open throttle lever approximately 1/3 of its travel.
- Turn starter switch from position I to position II and hold in this position for 15 – 20 seconds.
- Quickly turn starter switch to position III. As soon as engine starts, turn switch back to position II. Hold in this position until engine runs smoothly.
- Turn starter switch back to position I.



Z113603, Z112331-1166AZE-070191

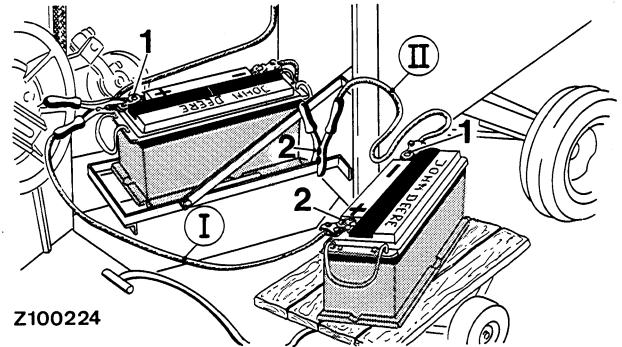
STARTING THE ENGINE BY MEANS OF A BOOSTER BATTERY

In very severe cold weather it may be necessary to connect an additional 12 volt battery in parallel with the 12 volt system on the combine.



CAUTION: Gas given off by batteries is explosive. Avoid sparks or open flames near the batteries. Make sure batteries are properly connected (ground cable to negative pole and starter cable to positive pole).

IMPORTANT: Reversed polarity may result in severe damage to the electrical system. Always connect ground cable to negative pole last.



Z100224

Z100224-1055AZE-000883

STARTING WITH A SLAVE BATTERY

1. Connect slave battery
2. Start engine and run until alternator indicator light goes out
3. Disconnect and remove slave battery
4. Only now switch on lighting system (when required)

IMPORTANT: These instructions for starting the combine apply only in the case of an emergency.

MOTOROM-1188CZE-010987

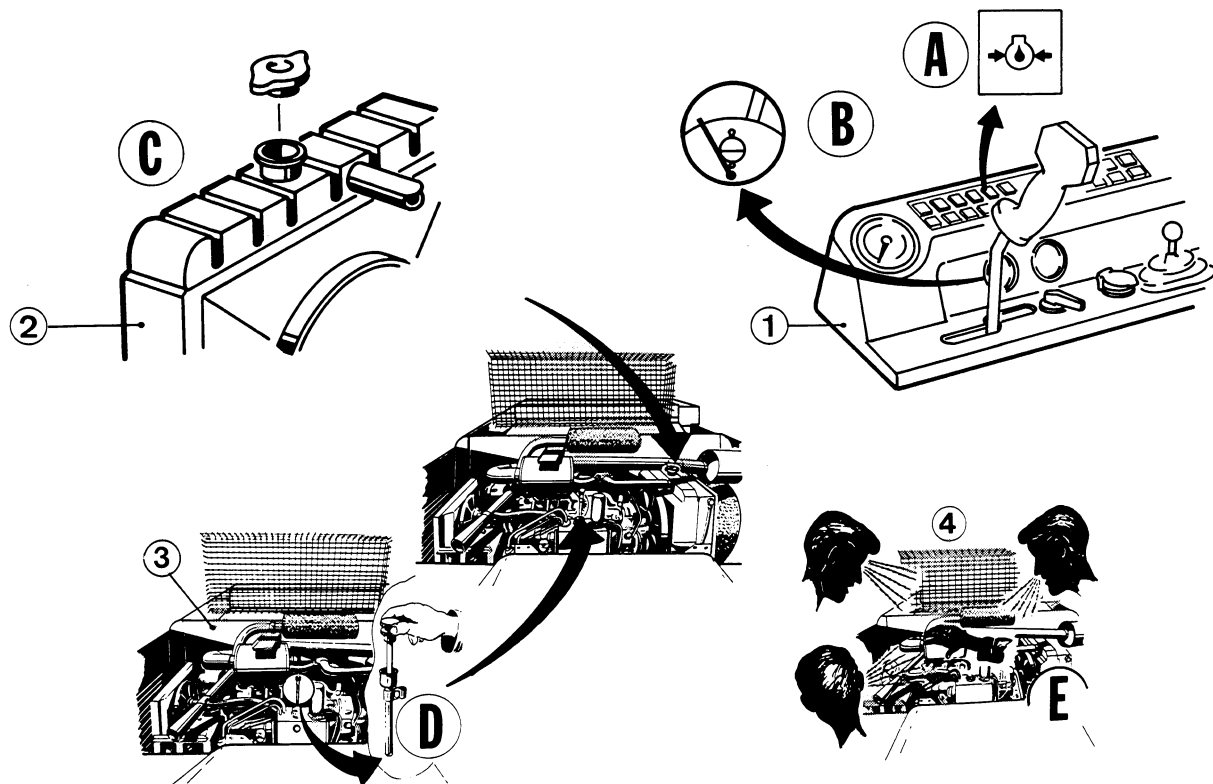
OPERATING IN TROPICAL CONDITIONS

For composition and use of engine coolant, refer to "Fuel, Lubricants, Hydraulic Oil, Coolant and Capacities".

MOTOROM-1188DZE-010987

Break-In Period

ENGINE



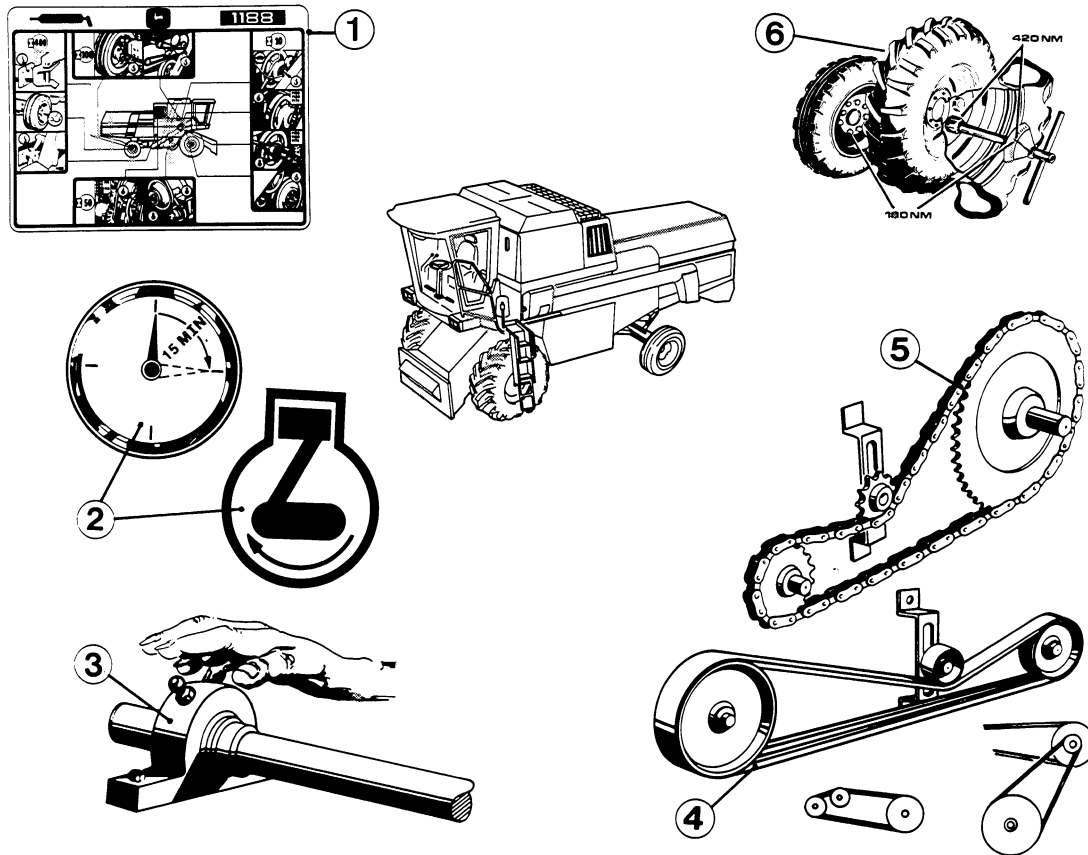
Z 112 343

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

1. Watch engine oil pressure (A) and coolant temperature (B) closely. If gauge needle rises to the red warning zone, reduce engine load. Unless needle quickly drops, stop the engine and determine the cause.
2. Check coolant level (C) more frequently. Watch for any signs of leaks.
3. Check engine oil level (D) more frequently. Watch for any signs of leaks.
4. Until you become thoroughly familiar with the sound and feel of your new combine (see E), stay extra attentive and alert.
5. Avoid too light or too high engine loads as well as unnecessary engine idling (never more than five minutes).
6. Refer to service instructions.

Z112343-1188AZE-010987

COMBINE



Z 112 344

1. With engine stationary, grease all lubricating points.

2. Run engine for approximately 15 minutes and engage and disengage the various control levers. Should any undue noises be heard, then IMMEDIATELY disengage separator throw-out lever and shut off engine. Determine and remedy the fault before restarting the engine and engaging the separator drive.

3. When all drives are running satisfactory, then run engine for approximately 15 to 30 minutes with all drives engaged. Then disengage all drives and shut off the engine.

Check all shaft bearings for overheating.

4. Check tension of all V-belts. Adjust, if necessary.

5. Check tension of all drive chains. Adjust, if necessary.

6. Retighten front wheel attaching nuts to 420 Nm (304 ft-lb) torque.

Retighten rear wheel attaching bolts to 180 Nm (120 ft-lb) torque.

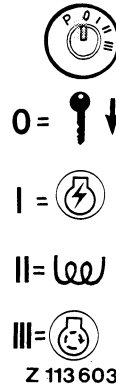
After the First Few Hours of Operation

Recheck tension of all V-belts and chains.

Driving the Combine

STARTING THE ENGINE

Refer to "Operating the Engine".



Z113603, Z112331-1166BZE-150488

RAISE HARVESTING UNIT

Raise cutting platform or corn head to highest position for transporting or as high as necessary for field operation.

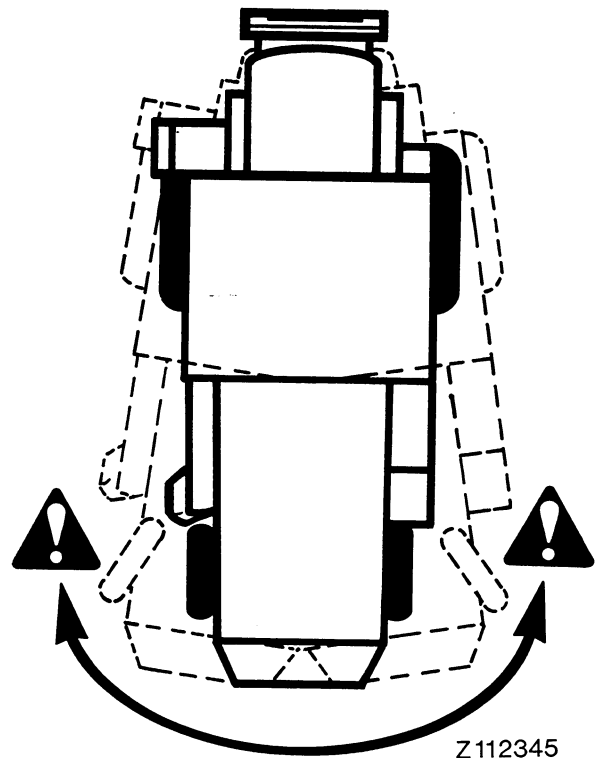
FAHROM-1188AZE-010987

STEERING AND DRIVING



CAUTION: Combine swings out when changing direction. Take care!

The steering wheels are located at the rear of combine. Therefore, familiarise yourself with the different steering characteristics.



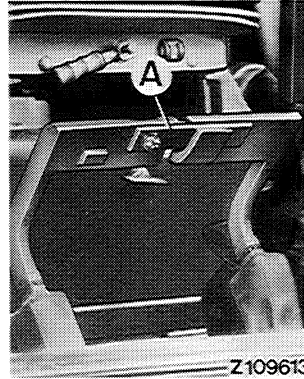
Z112345-1188AZE-000987

OPERATING FOOT BRAKES

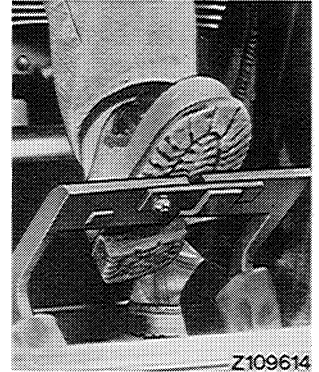
During Road Travel



CAUTION: Couple brake pedals by means of pedal coupler (A) when driving on public roads.



Z109613



Z109614

Z109613.Z109614-1188AZE-010987

During Field Travel

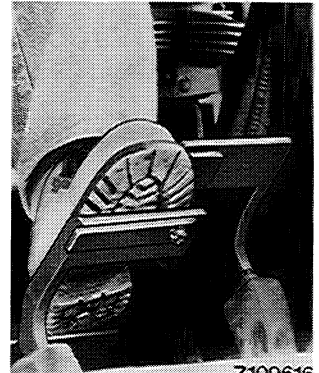
When negotiating sharp turns, use individual brakes to assist steering. For this purpose, swing pedal coupler (A) upward.



CAUTION: When stopping the combine, always operate both brake pedals simultaneously.



Z109615



Z109616

Z109615.Z109616-1188AZE-000987

OPERATING THE CLUTCH

Depress clutch pedal to engage a gear. Never operate clutch pedal when combine is moving to engage another gear. This will result in damage to shifting mechanism.



CAUTION: Never depress clutch pedal when driving downhill.



Z109591

Z109591-1065BZE-000186

ENGAGING A GEAR

After depressing the clutch pedal:

- Engage 4th gear for road travel
- Select a suitable gear for field operation

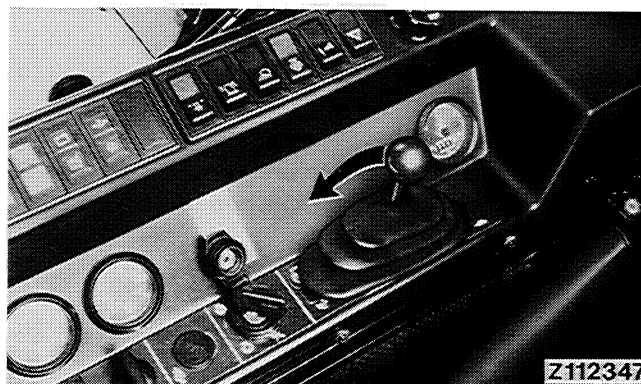


Z 112346

Z112346-1188AZE-010987

OPERATING HAND THROTTLE LEVER

Shift hand throttle lever from "slow idle" (tortoise) to "fast idle" (hare) position.



Z112347-1188AZE-010987

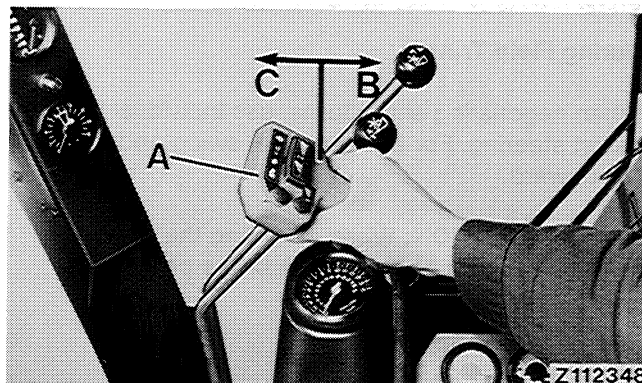
DRIVING THE COMBINE WITH MECHANICAL GROUND SPEED DRIVE

Forward Travel

Shift ground speed control lever (A) to slowest speed (B). Slowly release clutch pedal and shift lever (A) forward (C) until the desired ground speed has been obtained.



CAUTION: Adapt ground speed to road or field conditions.



Reverse Travel

With engine running, shift ground speed control lever (A) to slowest speed (B).

With combine stationary, depress clutch pedal, engage reverse gear and slowly release the clutch pedal.

NOTE: When depressing clutch pedal, ground speed drive will change to slow speed.

Z112348-1188AZE-010987

DRIVING COMBINES WITH HYDROSTATIC GROUND SPEED DRIVE

Forward Travel

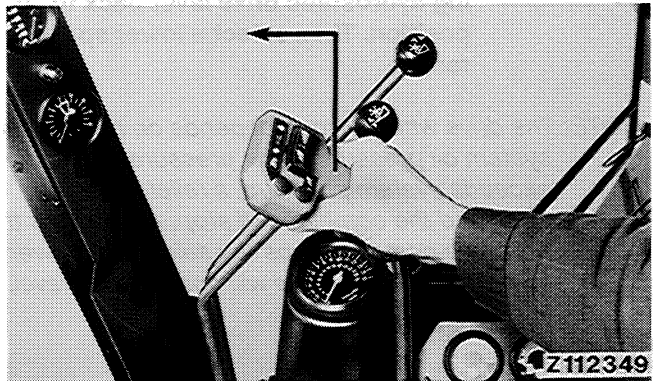
With hydrostatic drive lever in "O" position, select a suitable gear.

- 4th gear for road travel
- 2nd or 3rd gear for field operation

Slowly shift hydrostatic drive lever forward from "O" to forward travel position.



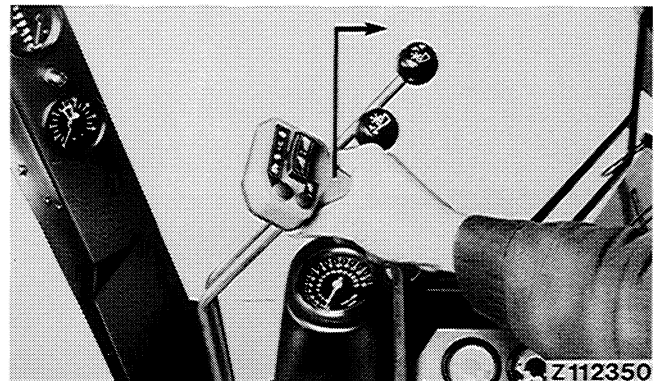
CAUTION: Always adapt ground speed to road or field conditions.



Z112346,Z112349-1188AZE-010987

Reverse Travel

Slowly shift hydrostatic drive lever from "O" to the rear until desired ground speed has been obtained.

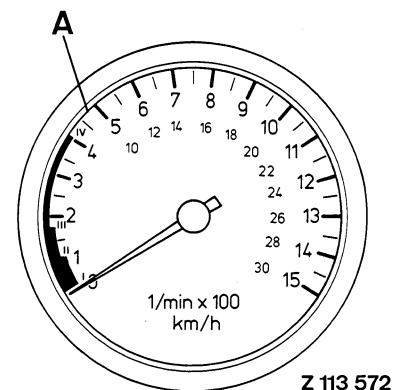


Z112350-1188AZE-010987

Choosing Correct Travel Speed

Never select a speed lower than the minimum speed for the individual speed range. For the minimum continuous speed see Specifications. It is always better to choose a lower speed range as this will give more efficient hydrostatic drive performance.

IMPORTANT: The orange zone of multi-tachometer (A) shows the minimum speed for each speed range.



Z113572-1188BZE-010987

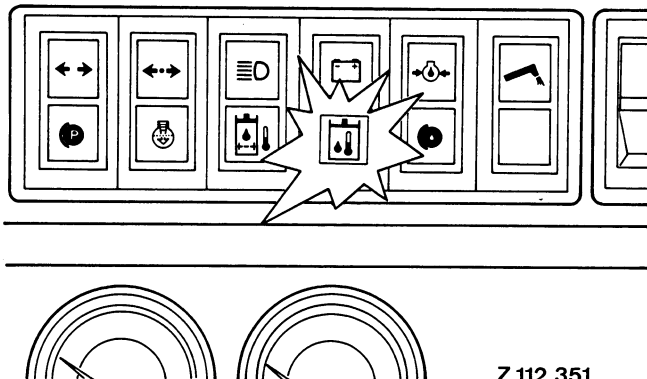
Avoid Overheating the Hydrostatic System

When hydrostatic oil temperature is too high, indicator light (A) will glow and at the same time a buzzing sound will be heard.

In this case select a lower speed range, giving more efficient hydrostatic system operation and reducing the oil temperature.

IMPORTANT: With ground speed drive stalling, never wait longer than 5 seconds before shifting hydrostatic drive lever back to "0" position. Then select a lower speed range.

NOTE: The drive wheel torque depends on hydrostatic system oil pressure. If the pressure demand exceeds system pressure, a relief valve will open and the combine will stop. As soon as the pressure demand drops (by selecting a lower speed range), combine will continue to travel.



4-WHEEL DRIVE – SWITCH OPERATION

The 4-wheel drive system is designed for use in poor traction conditions or when needed to improve steering control.

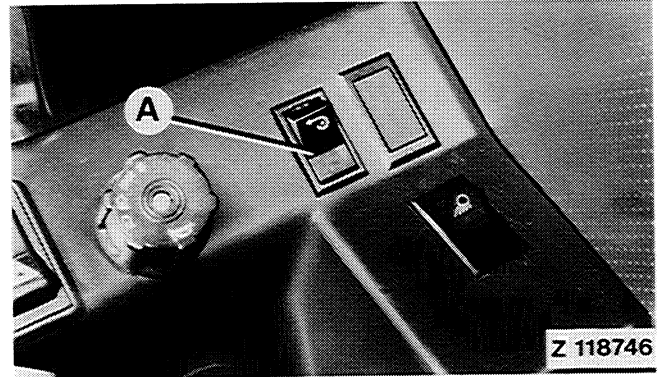
To engage the drive, press switch (A) on the marked end (symbol).

To disengage, press switch on the unmarked end.

It is not necessary to engage power rear wheel drive for driving combine, except for high ground speeds in soft or muddy conditions.

It is normal for front wheels to spin before rear wheels spin in most conditions. When this occurs, shift the combine into third gear. In extremely muddy conditions, it may be necessary to apply both brakes momentarily to increase hydrostatic pressure.

IMPORTANT: Do not switch 4-wheel drive on or off while driving combine in fourth gear (road gear) at maximum travel speed. Move hydrostatic control lever to a position midway between neutral and max. before switching 4-wheel drive on or off.



Z118746-1166AZE-160790

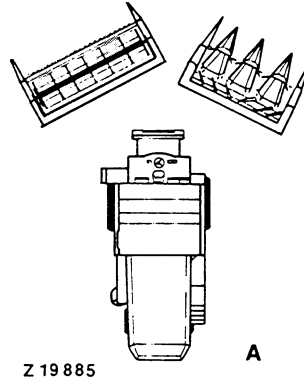
Transporting the Combine

TRANSPORTING UNDER OWN POWER

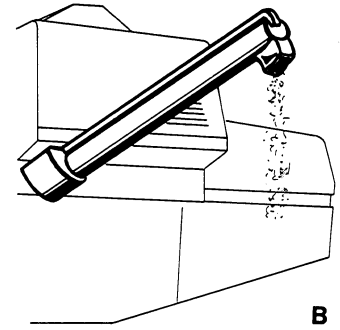
Harvesting Unit and Grain Tank

Remove cutting platform or corn head (A).
The lock of the control lever must be engaged or the electric cutting platform height control system must be switched off.

Empty grain tank (B).



Z 19 885



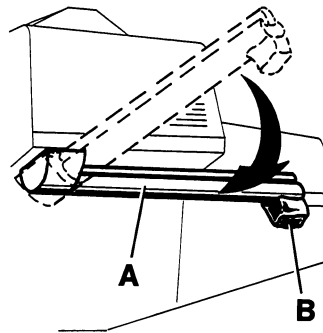
Z 19 886 A

Z19885,Z19886A-1166AZE-150488

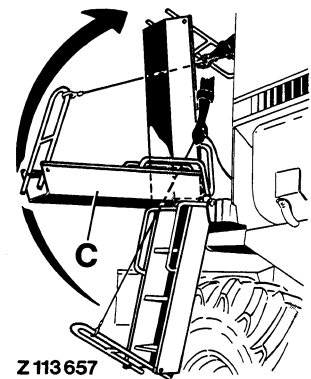
Unloading Auger and Access Ladder

Swing in unloading auger (A). Push in unloading auger deflector (B)

Fold the operator's platform access ladder upward and secure (C).



Z 113656



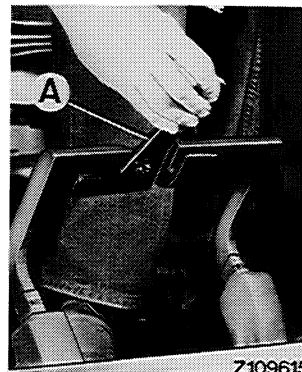
Z 113657

Z113656,Z113657-1166AZE-150488

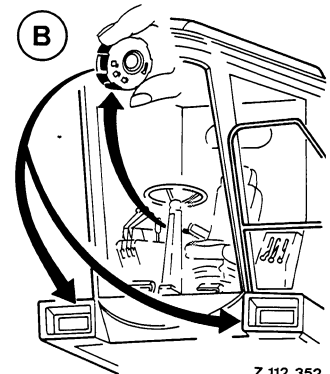
Brake Pedals and Lighting

Couple brake pedals (A) for driving on public roads.

Switch on lighting system when necessary (B).



Z109615



Z 112 352

Z109615,Z112352-1188AZE-010987

General Driving Hints

Refer to "Driving the Combine".

IMPORTANT: Move straw chopper distributor plate to transport position.

TRANSOM-1188AZE-010987

TOWING THE COMBINE

General Information

Prepare combine as shown under "Transporting under Own Power".



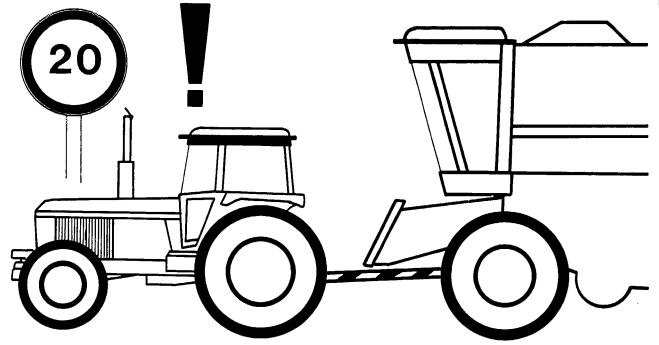
CAUTION: Never tow combine with a wire rope. Always use a suitable tow bar. Connect tow bar to towing eye on front axle.

Tow combine at a safe and suitable speed, not to exceed 20 km/h (12 mph).

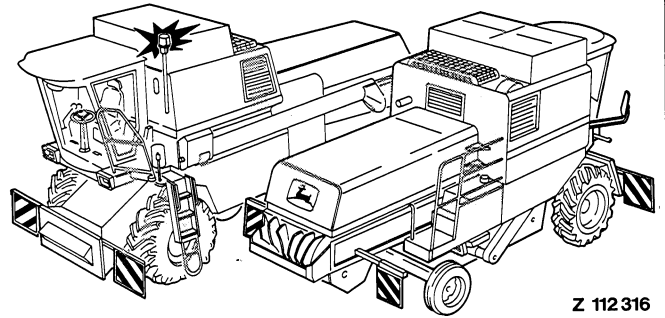
IMPORTANT: Towing at speeds higher than 20 km/h (12 mph) could damage tires, transmission and final drives.

Comply with local traffic regulations when towing the combine:

e.g. Turn on flashing warning lights, display warning signs etc.



Z 19896



Z 112316

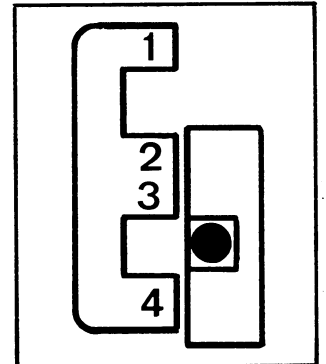
Z19896, Z112316-1188AZE-010987

Place Gear Shift Lever in Neutral Position

IMPORTANT: Move gear shift lever to the position shown (also see decal on front axle).



Z112354



Z110138

Z112354, Z110138-1188AZE-010987

Release Parking Brake

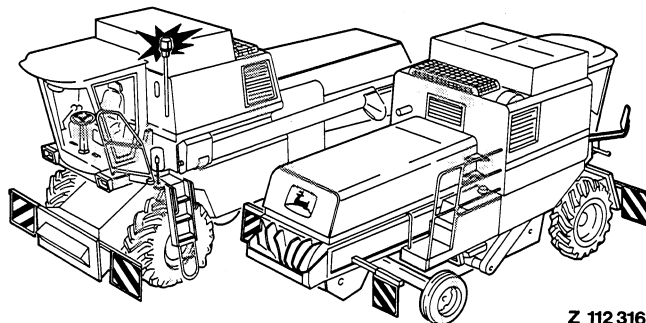


Z112355

Z112355-1188AZE-010987

TRANSPORT WITHOUT HEADER

In certain countries, the total combine width must not exceed 3 m (10 ft.). In this case, the header must be removed and transported separately.

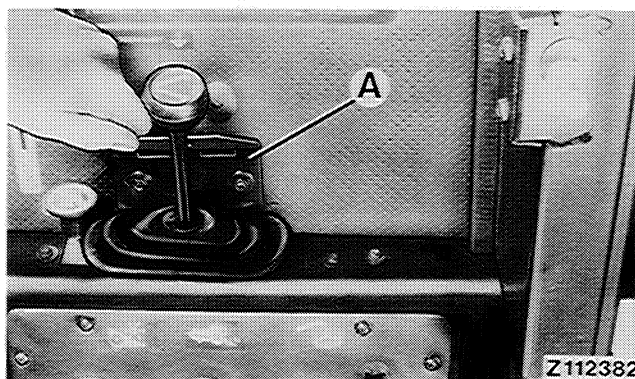


Z 112316

Z112316-ESPDAE-030588

GRAIN TANK UNLOADING AUGER TRANSPORT POSITION

Empty the grain tank. Swing unloading auger inward to transport position and lock lever in transport position by means of transport locking device (A).



Z112382

Z112382-1166AZE-150488

Cutting Platform Adjustments

SECURING CUTTING PLATFORM

Disengage Electrical Cutting Platform Height Control (1177SII, 1177SII Hydro/4, 1188SII Hydro/4)

Move switch (A) to disengaged position (electrical cutting platform height control system off).

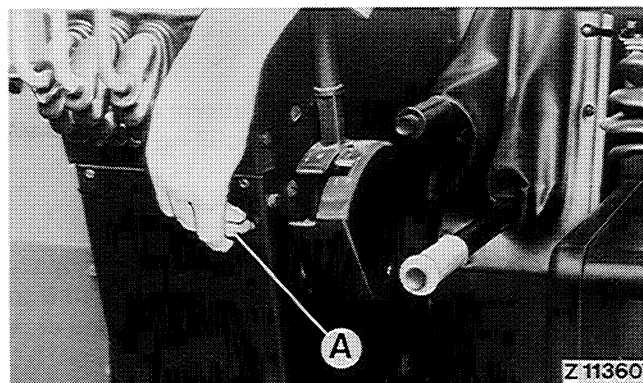


Z112356-1166AZE-160790

Lock Mechanical Cutting Platform Height Control Lever (1166SII, 1166SII Hydro/4, 1174SII, 1174SII Hydro/4)

Lock the height control lever in position by pressing locking lever (A) downwards.

To unlock the height control lever, pull locking lever (A) upwards.



Z113607-1166AZE-070191

LOCKING CUTTING PLATFORM LIFT CYLINDERS

When working under the cutting platform, install safety strap (A) against cutting platform lift cylinders.

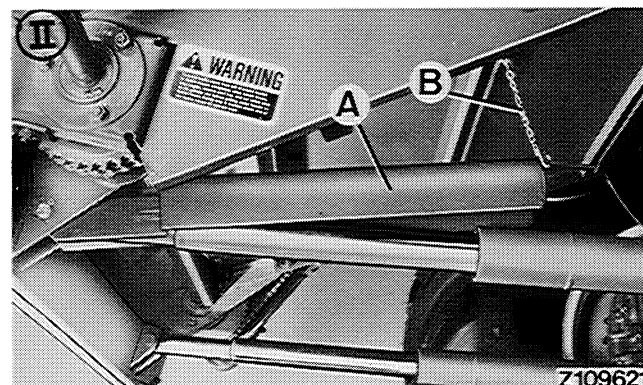
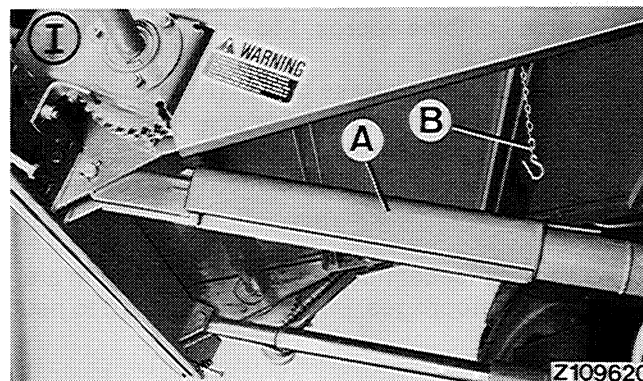
Before combining, secure safety strap (A) with chain (B) in storage position.

- A-Safety strap
- B-Chain
- I-Lift cylinder locked
- II-Lift cylinder unlocked



CAUTION: Always lock cylinders when working under cutting platform.

NOTE: Depending upon type of combine and country in which the combine is to be operated, one or two safety straps may be installed.

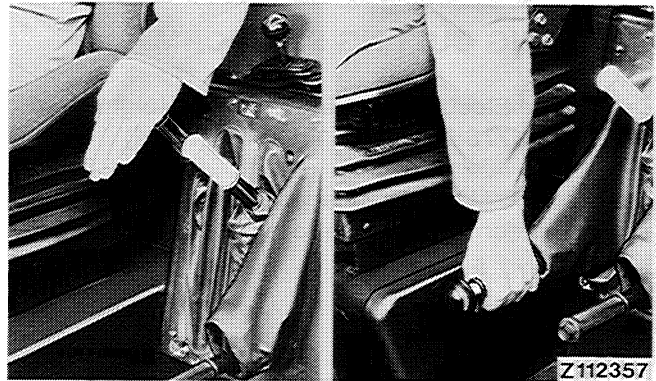


Z109620, Z109621-1166AZE-150488

CUTTING PLATFORM DRIVE (THROW OUT LEVER)

IMPORTANT: The throw out lever has a quick-release button. Strike button with palm of your hand and lever will drop immediately to disengaged position.

Raise lever – cutting platform engaged
Lower lever – cutting platform disengaged



Z112357-1188AZE-000987

HYDRAULIC REVERSER

1. With obstructions on cutting platform or in feeder house, immediately disengage cutting platform drive.

2. Disengage separator drive.

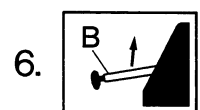
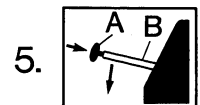
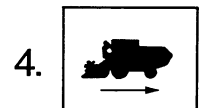
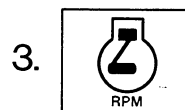
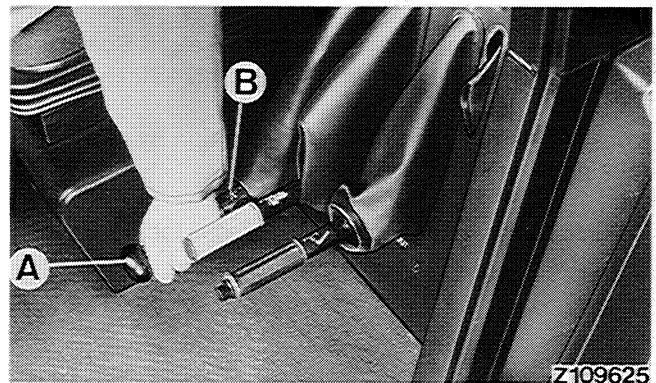
IMPORTANT: When straw chopper is running, operate combine until the chopper is free from obstructions before disengaging separator drive.

3. Reduce engine speed.

4. Reverse combine approx. 1 to 2 meters (3 to 6 ft.).

5. Disengage quick-release button (A) on cutting platform lever (B) and press lever down against stop. Hold in this position for the period of reversing (feeder house and cutting platform are reversed with this process).

6. As soon as feeder house and cutting platform are free from stoppages, pull lever (B) upward to neutral position.



Z105923

Z109625,Z105923-1065AZE-000186

CUTTING PLATFORM HEIGHT CONTROL

Electrical Control System

(1177SII, 1177SII Hydro/4, 1188SII Hydro/4)

Activate electrical height control system by means of switch (A).

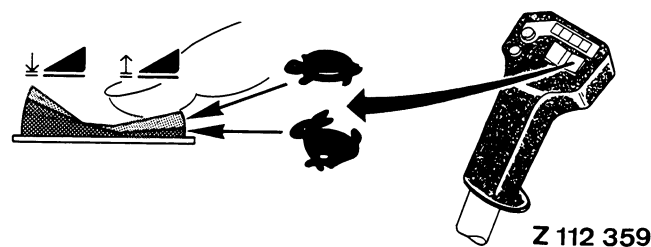
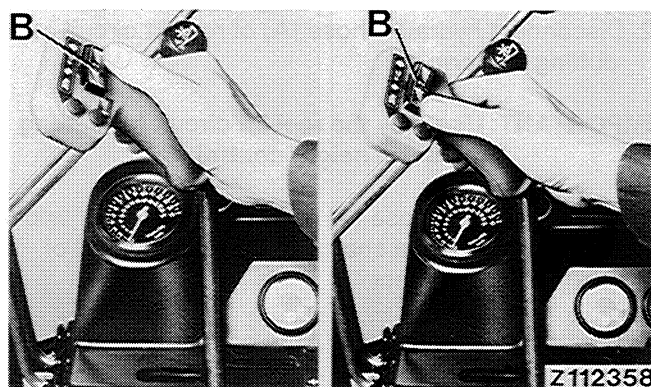
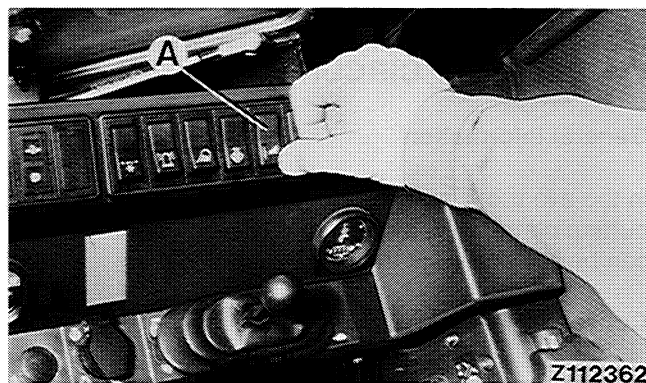
Press toggle switch (B) to the right to raise cutting platform.

- 1st position: raise platform slowly
- 2nd position: raise platform quickly

Press toggle switch (B) to the left to lower cutting platform.

- 1st position: lower platform slowly
- 2nd position: lower platform quickly

NOTE: Cutting platform height control system functions only when combine engine is running.

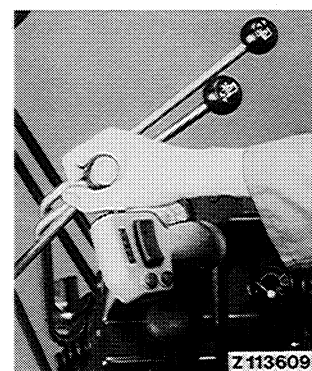
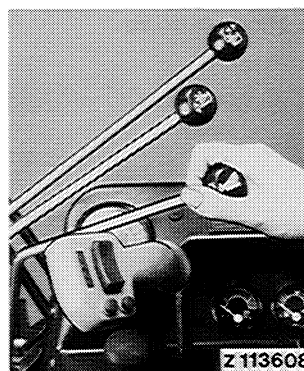


Z112362,Z112358,Z112359-1166AZE-160790

Mechanical Control System (1166SII, 1166SII Hydro/4, 1174SII, 1174SII Hydro/4)

Pull back lever – raise cutting platform

Push forward lever – lower cutting platform



Z113608,Z113609-1166AZE-070191

ADJUSTING CUTTING PLATFORM HEIGHT VIA REEL LIFT CIRCUIT

General Information

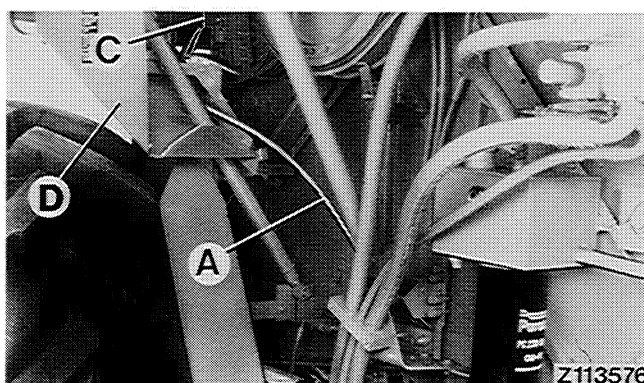
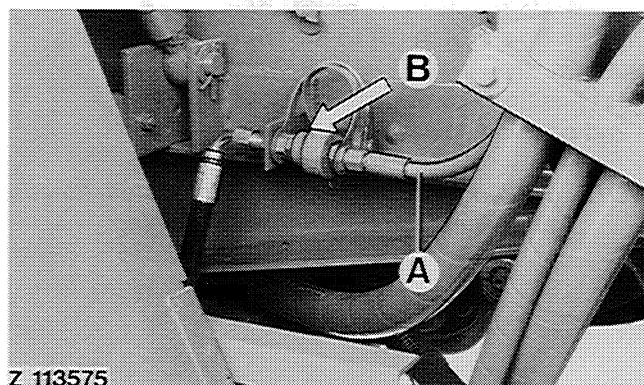
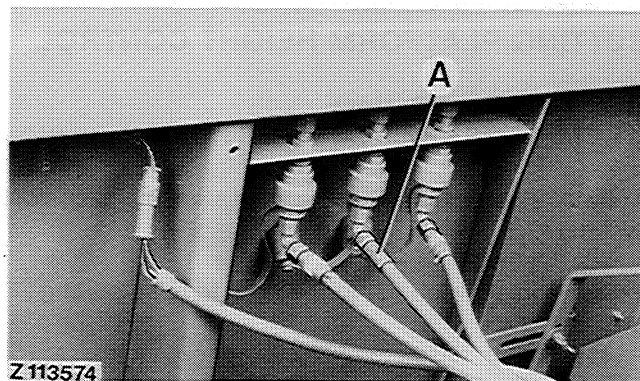
In the event of a malfunction in the electro-magnetic cutting platform lift system, the cutting platform height can be regulated via the reel lift circuit.

Conversion Work

1. Adjust reel height to suit harvesting conditions.
2. Disconnect hydraulic hose (A) of reel lift circuit at cutting platform.

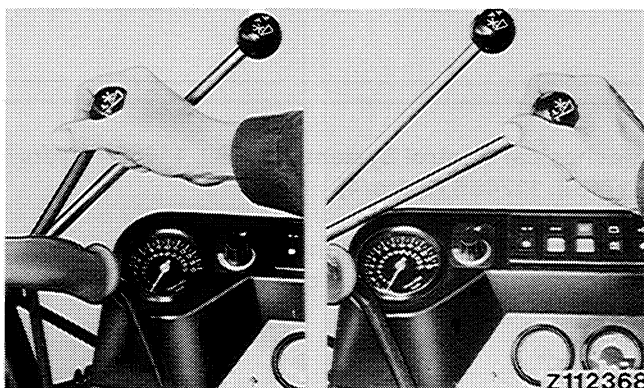
IMPORTANT: Use only the reel lift circuit for cutting platform height control.

3. Route hydraulic hose (A) above the sheave of upper feeder house drive shaft and through bracket of guard (D) to the rear.
4. Connect hydraulic hose (A) to coupler (B).
5. Secure hydraulic hose (A) above sheave of upper feeder house drive shaft by means of tie (C).



Cutting Platform Height Adjustment

Pull back lever – raise cutting platform
Push forward lever – lower cutting platform

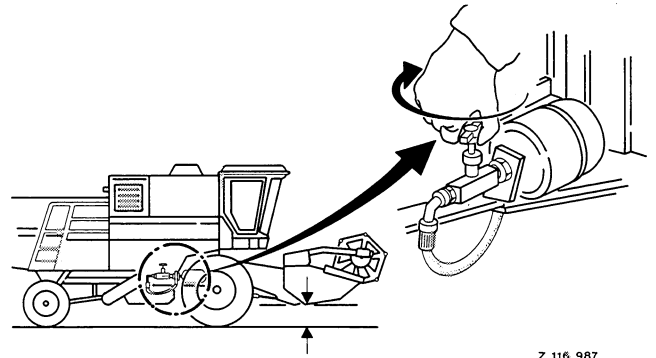


CUTTING PLATFORM FLOAT (NORMAL HARVESTING CONDITIONS)

When operating with harvesting unit not touching ground (standing crops, maize), the second accumulator should be deactivated by closing restrictor valve.

IMPORTANT: Make sure harvesting unit is raised before closing restrictor valve.

NOTE: When operating with varying harvesting conditions (standing/down crops), open restrictor valve 1/4 to 1/2 turn.



Z 116 987

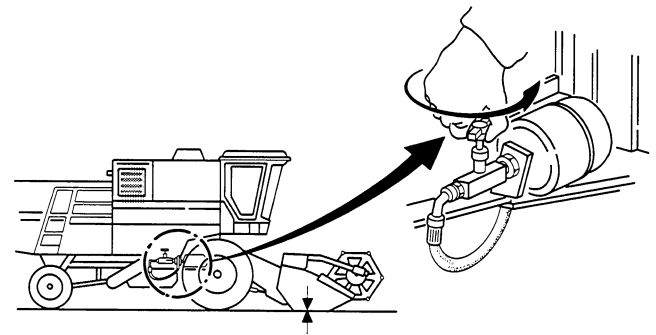
Z116987-1166AZE-051289

CUTTING PLATFORM FLOAT (DOWN CROPS)

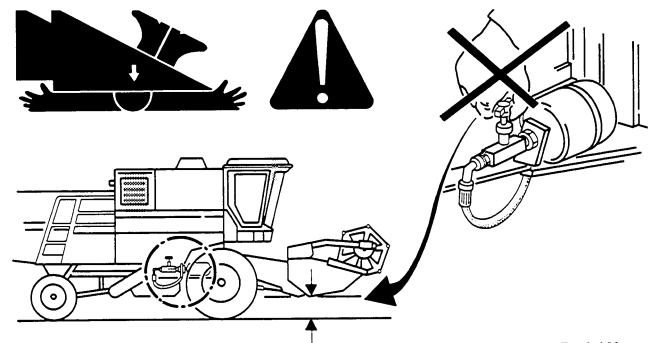
When operating with harvesting unit touching ground, the second accumulator must be activated by opening restrictor valve.



CAUTION: Before opening restrictor valve, lower harvesting unit to the ground.



Z 116 988



Z 116 989

Z116988,Z116989-1166AZE-051289

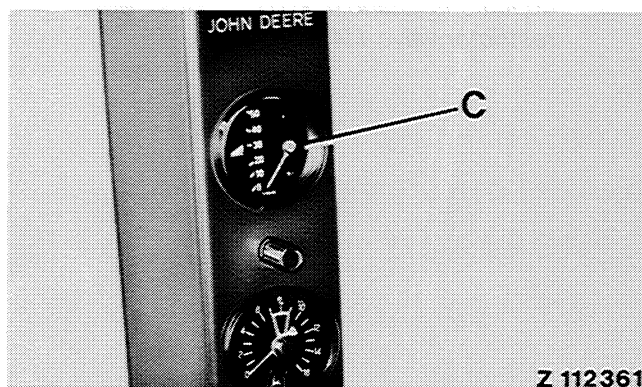
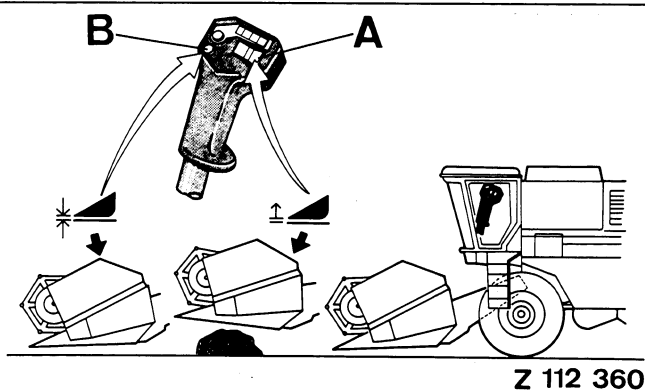
AUTOMATIC HEADER HEIGHT RESUME CONTROL (Combines with Electric Header Height Adjustment only)

General Information

With this feature, the cutting platform can be slightly raised (e.g. in stony fields) or lowered (down crops) by means of toggle switch (A).

When button (B) is pressed, cutting platform will automatically return to the preset height.

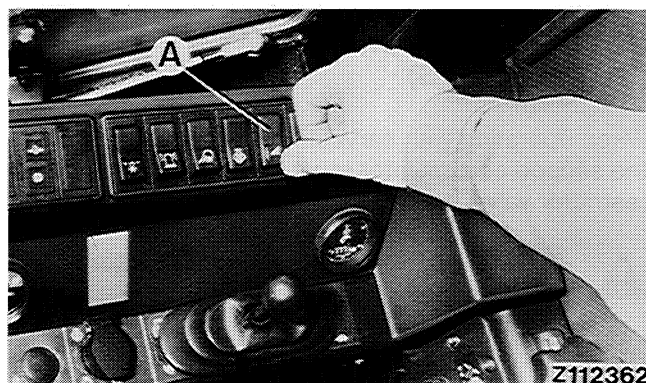
The automatic header height resume control works only within the range of cutting platform height indicator (C).



Z112360,Z112361-1166AZE-160790

Switching on Header Height Resume Control

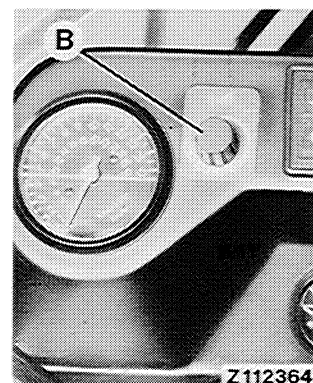
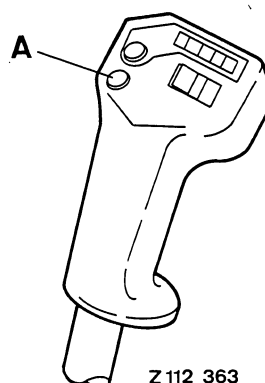
Depress toggle switch (A) to second position.



Z112362-1188AZE-010987

Adjusting Cutting Platform Height

1. Activate automatic header height resume control by pressing button (A).
2. Adjust desired cutting platform height by means of knob (B).



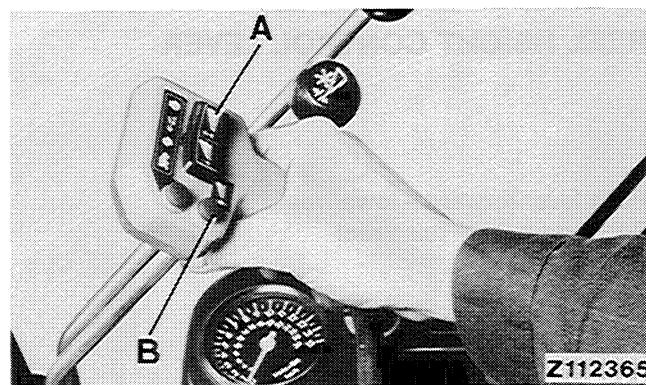
Z112363,Z112364-1188AZE-000987

Operation of Header Height Resume Control

Raise or lower the cutting platform by means of toggle switch (A).

When button (B) is pressed, cutting platform will automatically return to the preset height.

IMPORTANT: Open restrictor valve of second accumulator 1/2 turn maximum.



Z112365-1166AZE-051289

SETTING CUTTING PLATFORM PRESSURE GAUGE

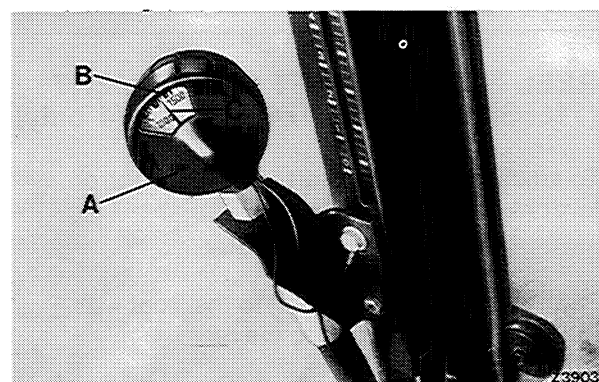
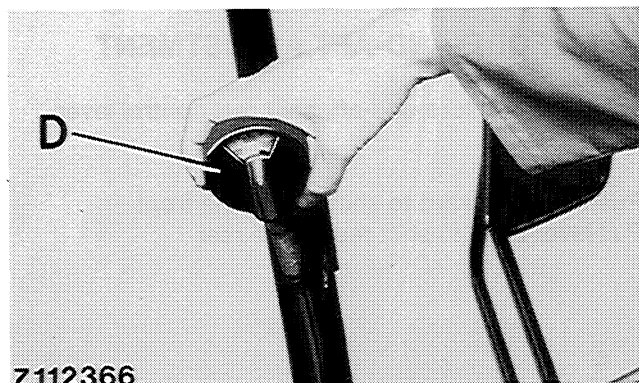
Special Equipment on Combines Without Cab

To set pressure gauge for field operation, proceed as follows:

Lower cutting platform until it is approx. 2.5 to 15 cm (1 to 6 in.) above the ground. Adjust plastic cover (A) so that the right-hand mark (B) covers indicator (C) of gauge (D).

When operating, lower cutting platform until pressure is reduced approximately 50 to 150 psi (350 to 1050 kPa; 3.5 to 10.5 bar) depending upon field conditions. This guarantees maximum guidance of the cutting platform with minimum ground surface pressure. Cutting platform will not drop below its preset height.

- A-Plastic cover
- B-Right-hand mark
- C-Indicator
- D-Gauge



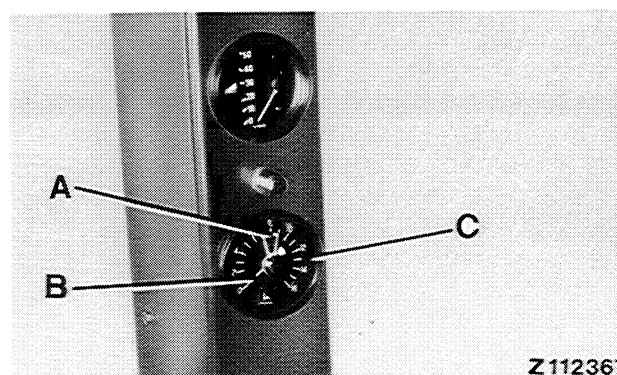
Z112366,Z39032-1188AZE-000987

On Combines with Cab

Lower cutting platform until it is just above ground.

Align right-hand edge of adjustment window (A) with needle (B) of gauge (C).

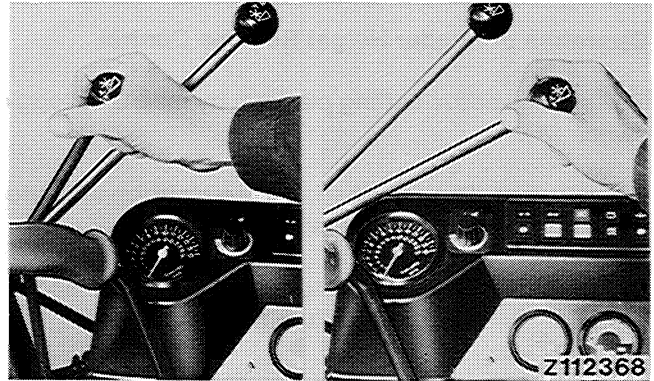
When operating the cutting platform, the needle should move within the range of the adjustment window.



Z112367-1188AZE-000987

REEL HEIGHT CONTROL LEVER

Push lever forward – lower reel
Pull lever back – raise reel

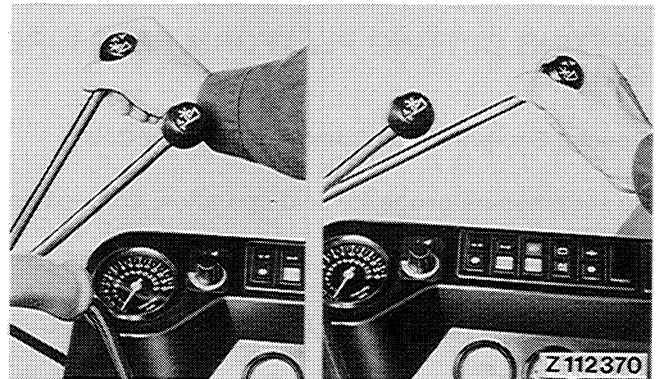


Z112368-1188AZE-010987

REEL FORE-AND-AFT ADJUSTMENT

To adjust reel fore-and-aft, shift reel control lever.

Push lever forward to shift reel to the front
Pull lever back to shift reel to the rear

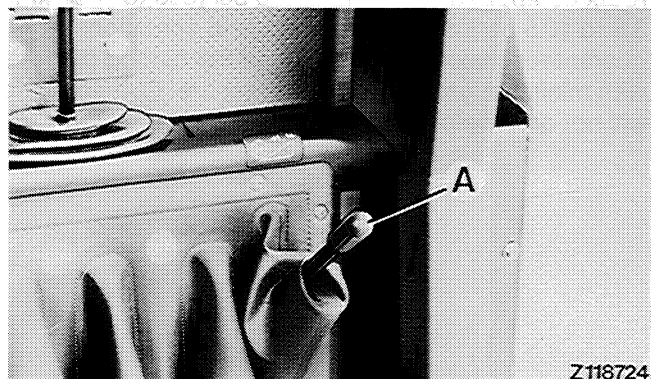


Z112370-1188AZE-000987

REEL FORE-AND-AFT ADJUSTMENT (1166SII Hydro/4, 1174SII Hydro/4 only)

To adjust reel fore-and-aft, shift reel control lever (A).

Push lever down – shift reel to the front
Pull lever up – shift reel to the rear



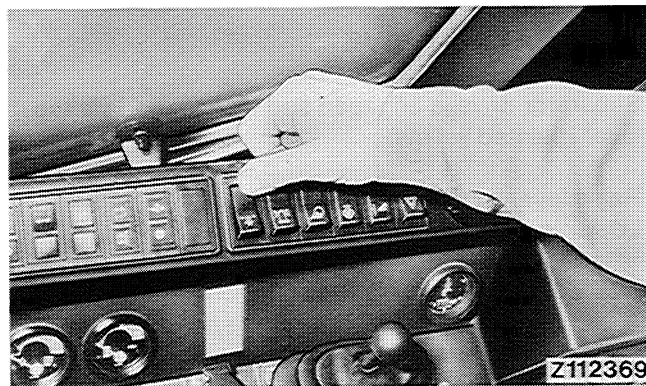
Z118724-1166AZE-070191

REEL SPEED CONTROL WITH ELECTRIC MOTOR

The reel speed is adjusted by a rocker switch which operates an electric motor.

IMPORTANT: Operate the switch only when the reel is rotating.

Upper switch position – reel turns faster
Lower switch position – reel turns slower

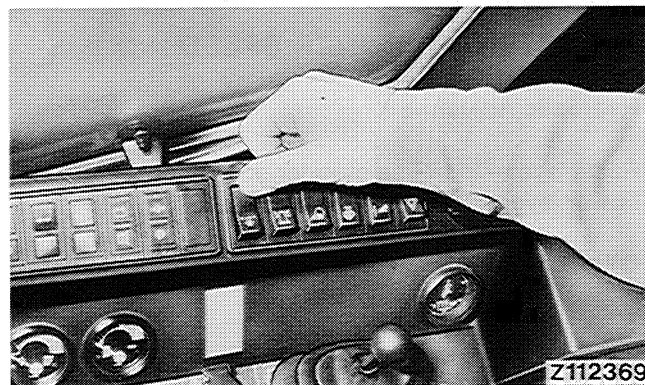


Z112369-1166AZE-150488

REEL SPEED CONTROL WITH HYDROSTATIC MOTOR (Optional Equipment)

On combines equipped with hydrostatic reel drive, the reel speed is also controlled via a rocker switch which operates an electric motor to adjust a hydraulic valve.

Upper switch position – reel turns faster
Lower switch position – reel turns slower

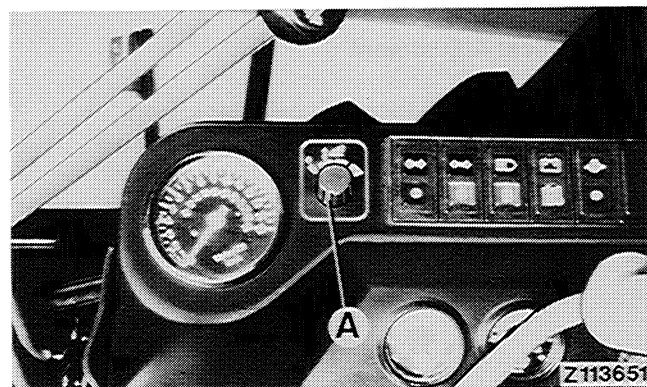


Z112369-1188BZE-000987

DIAL-A-MATIC AUTOMATIC HEADER HEIGHT CONTROL (Optional Equipment)

DIAL-A-MATIC automatic height control is designed for use with 900 Series Flex Platforms.

The correct relation of header to ground is maintained automatically over uneven ground. Most adjustments can be made in the cab with four-position switch (A). Refer to the header Operator's Manual for additional information.



Z113651-1166AZE-150488

Combine Field Adjustments

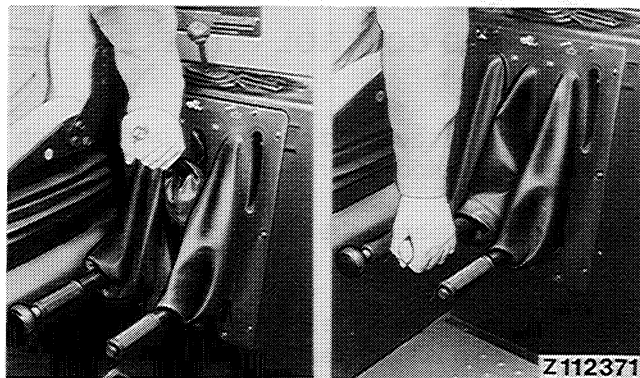
SEPARATOR DRIVE

Separator drive is engaged and disengaged via the main lever (painted yellow):

Raise lever – separator engaged
Lower lever – separator disengaged

NOTE: When engaging separator drive:

- Run engine at half rated speed
- Slowly raise main lever
- Increase engine rpm to full load speed



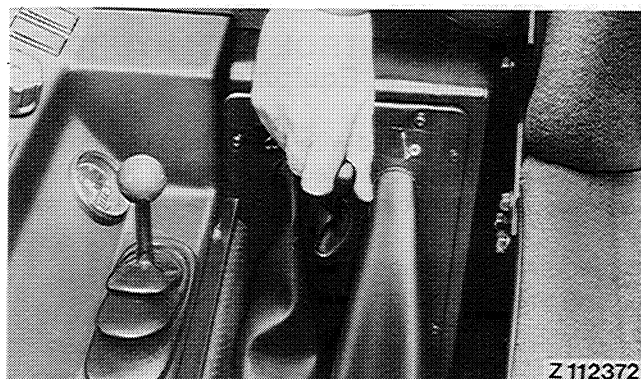
Z112371-1166AZE-150488

ADJUSTING CYLINDER SPEED

Hydraulic Adjustment

Raise lever – Increase cylinder speed
Lower lever – Decrease cylinder speed

Cylinder speed is displayed on the multi-tachometer.



Z112372-1166AZE-070191

Mechanical Adjustment

Turn knob to left – Increase cylinder speed
Turn knob to right – Decrease cylinder speed

Cylinder speed is displayed on the multi-tachometer.

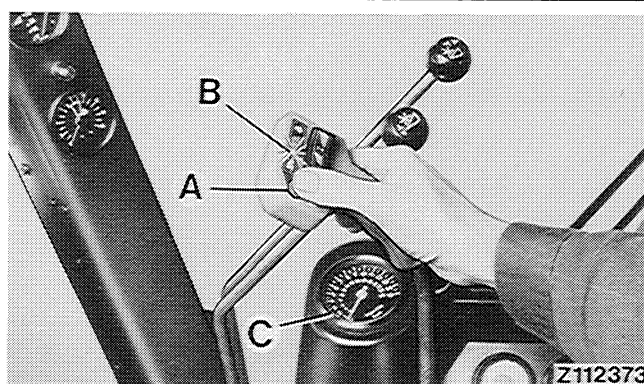


Z113610-1166AZE-070191

CYLINDER SPEED INDICATOR SCALE

Press button (A) until symbol (B) for cylinder speed lights up.

Read cylinder speed on outer scale of multi-tachometer (C) (figure shown x 100).



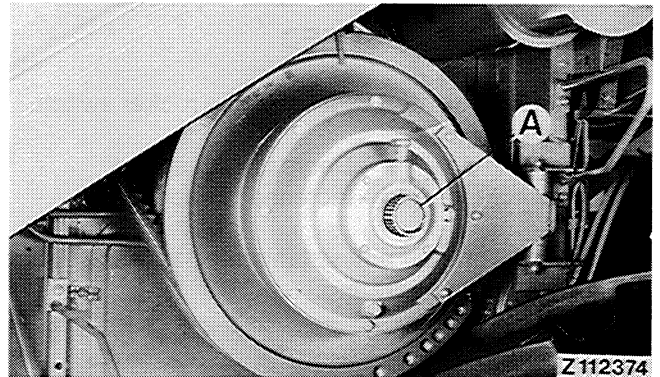
Z112373-1188AZE-000987

CYLINDER DRIVE WITH REDUCTION GEAR (Special Equipment)

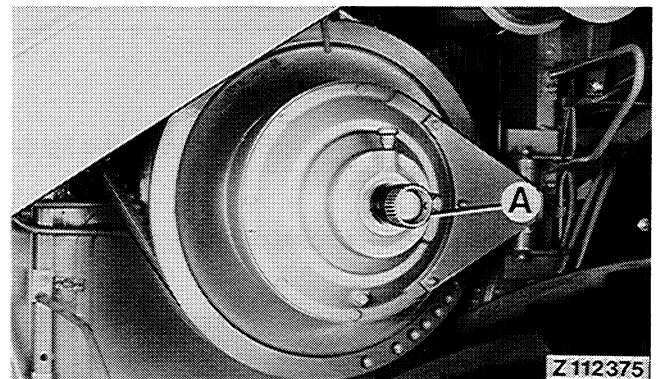
With the reduction gear, cylinder speed can be reduced by approx. 50% (when harvesting maize).

Cylinder speed range is as follows:

Shifter collar (A) pushed in for speeds 380 to 1100 rpm



Shifter collar (A) pulled out for speeds 150 to 420 rpm

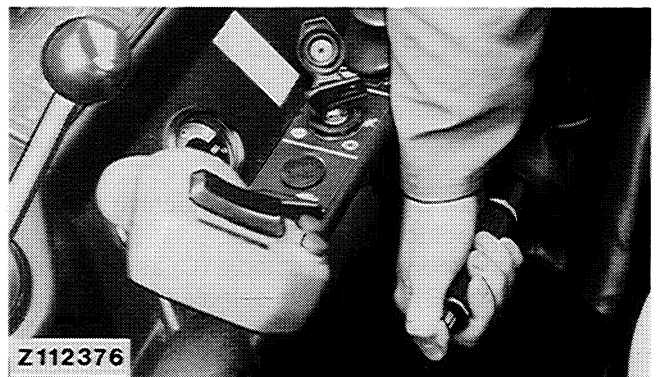


Z112374,Z112375-1188AZE-000987

CONCAVE CLEARANCE

To adjust concave clearance:

Lower lever – Increase clearance
Raise lever – Decrease clearance



Z112376-1188AZE-000987

CONCAVE CLEARANCE INDICATOR (A)

The indicator shows clearance at the entrance to the concave.



Z112291-1188BZE-000987

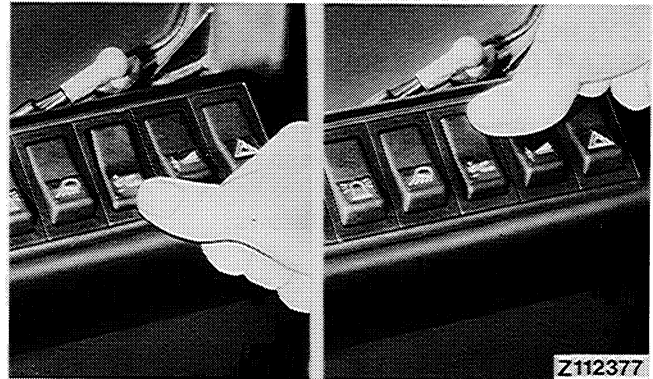
ADJUSTING FAN SPEED

Fan speed is adjusted by means of a rocker switch.

Lower switch position – Decrease fan speed

Upper switch position – Increase fan speed

IMPORTANT: Never adjust fan speed unless separator is operating.



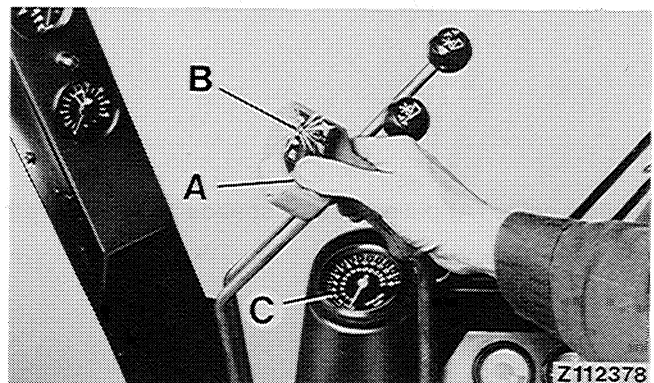
Z112377

Z112377-1188AZE-000987

CHECKING FAN SPEED

Press button (A) until symbol (B) for fan speed lights up.

Read fan speed on outer scale of multi-tachometer (C) (figure shown x 100).



Z112378

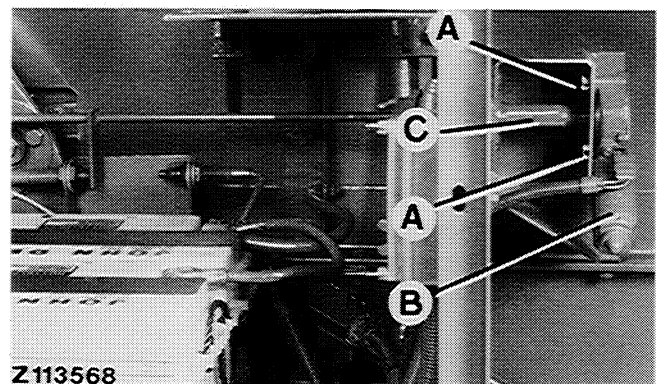
Z112378-1188AZE-000987

MECHANICAL FAN SPEED ADJUSTMENT

In the event of failure of the electric fan speed adjusting system, fan speed may be adjusted mechanically. Proceed as follows:

Disengage straw chopper. Loosen attaching screws (A) and remove electric motor (B).

Using suitable pliers, adjust spindle (C) as necessary. Reinstall motor (B) to maintain spindle setting.



Z113568

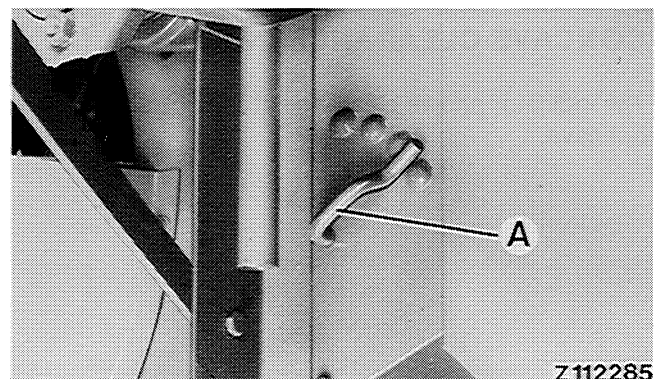
Z113568-1188AZE-000987

CHANGING DIRECTION OF FAN BLAST

Change direction of fan blast by adjusting position of windboard lever (A) on left-hand side of combine.

A—Windboard adjusting lever

NOTE: The adjustment shown in illustration opposite is the factory adjustment.



Z112285

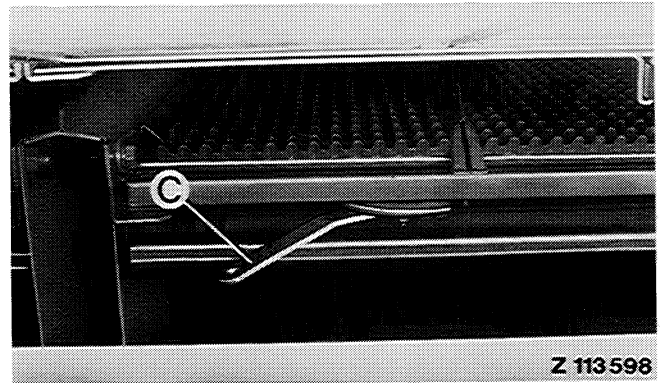
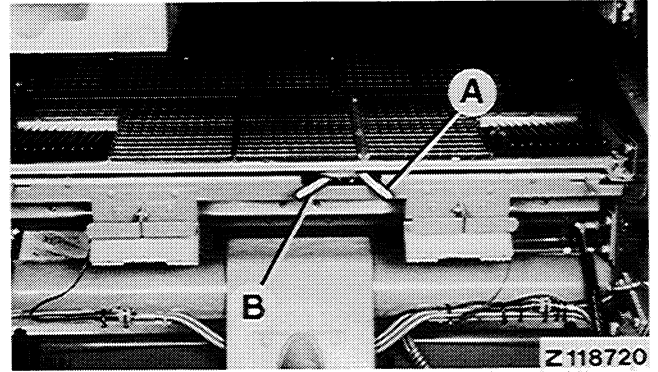
Z112285-1188AZE-000987

CHAFFER AND SIEVE ADJUSTMENT

To adjust the sieves, chaffer and chaffer extension there are three adjusting levers. Adjust as required, see also "Combine Settings Chart".

- A—Chaffer adjusting lever
- B—Chaffer extension adjusting lever
- C—Sieve adjusting lever

Chaffer and Sieve Adjusting Levers, Tailboard Lowered



Z118720, Z113598-1166AZE-160790

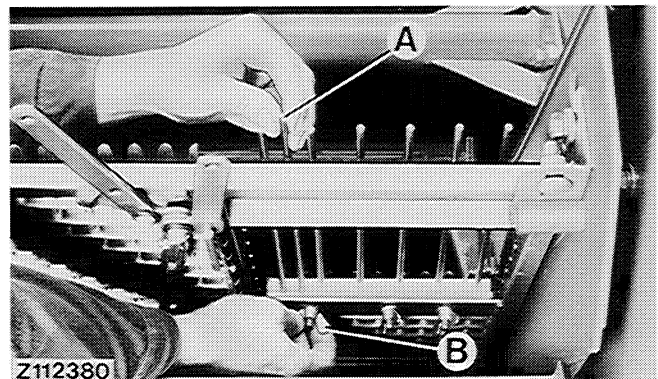
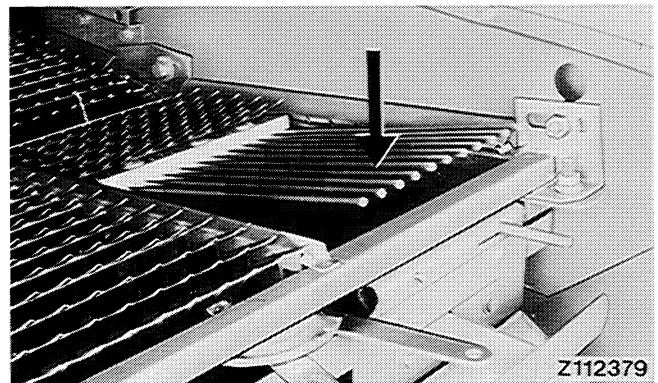
CHAFFER EXTENSION INSERTS (SLOPE MASTER)

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

Vary the openings in the inserts to suit the harvesting conditions, type of crop and combine tilt by adding or removing fingers (A) after loosening wing nut (B).

NOTE: Combine is delivered from the factory with 11 fingers installed in the chaffer extension.

The 1188SII Hydro/4 Combine is equipped with four inserts, having 6 fingers each.



Z112379, Z112380-1166AZE-160790

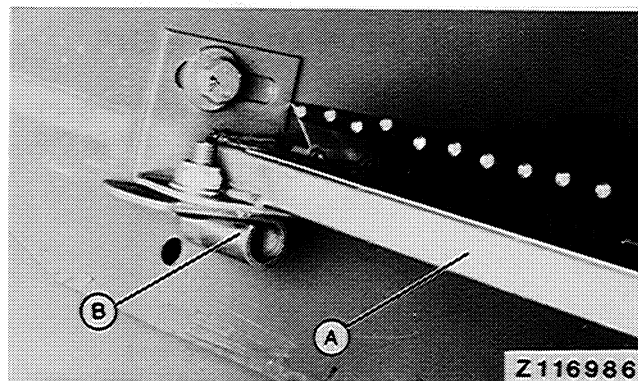
ADJUSTING CHAFFER EXTENSION

In certain harvesting conditions, flow of material is improved when moving chaffer extension to a less steep position.

For adjustment, open tailboard and loosen attaching bolts of chaffer extension (A) on both sides.

Move extension to desired position and tighten bolts.

For the two lowest positions, turn sleeve (B) 180°.



Z116986-4435HYAZE-311089

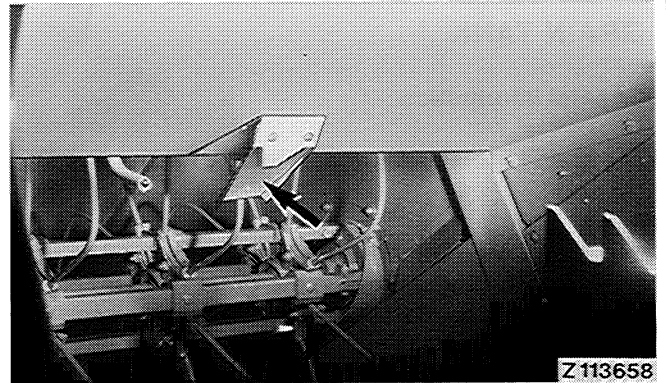
Straw Warning Devices

STRAW WARNING DEVICES – DAILY CHECKS

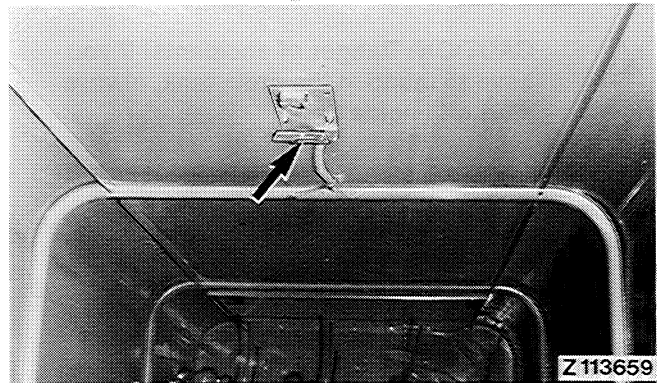
Check the straw warning devices daily with the engine not running before operating the combine.

Press contact by hand, thereby contacting the solenoid switch to make sure signal horn sounds correctly.

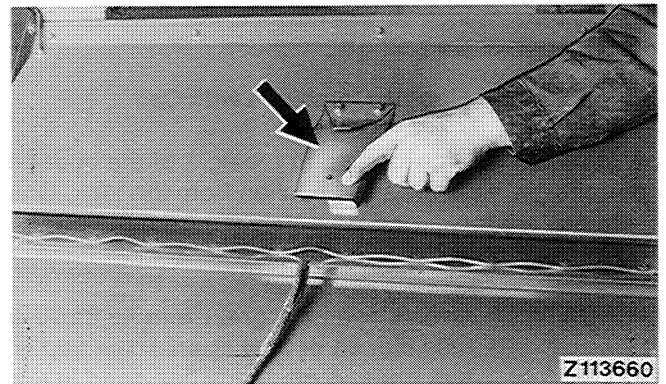
Straw Warning Device – In Front of Cross Shaker



Straw Warning Device – Above the Straw Walkers



*Straw Warning Device – Above the Straw Deflector
at End of Straw Hood*



Z113658,Z113659,Z113660-1166AZE-150488

Grain Tank and Unloading Auger

GRAIN TANK

General Information

The grain tank is easily accessible by means of steps (A) and (B).



CAUTION: For functional reasons, the forwarding augers in the grain tank cannot be completely covered. When clogged use a rod, and when taking grain samples (on combines without cab only) use a small scoop or something similar.

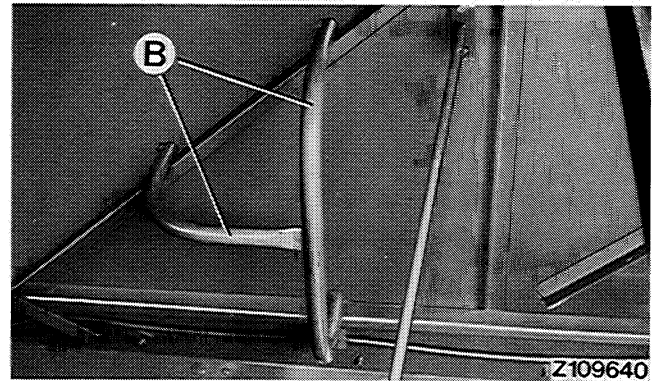
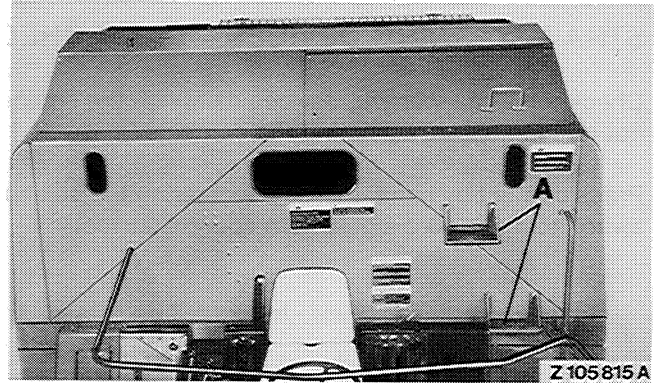


CAUTION: Danger of accidents! If you have to stand in the grain tank, always shut off engine first.

A—Steps (on outside of grain tank)

B—Steps (inside grain tank)

NOTE: Combines with grain tank extension (special equipment) are equipped with a ladder inside grain tank.

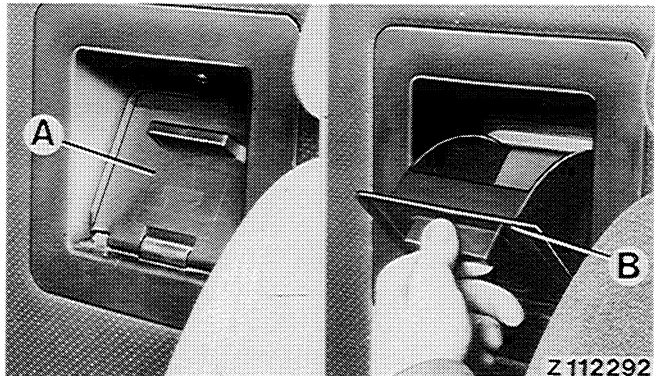


Z105815A, Z109640-1188AZE-000987

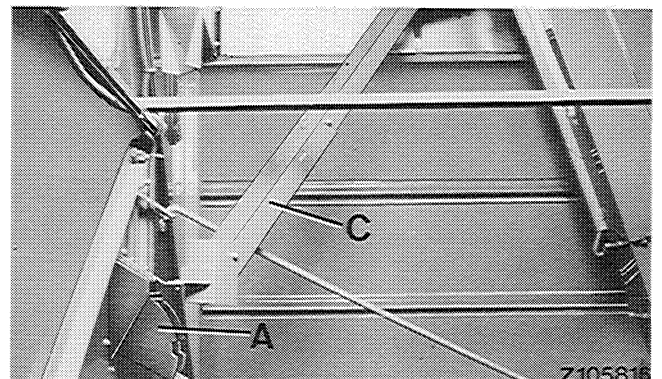
Grain Sample Flap on Combines with Cab

A grain sample flap located to the right of the operator permits grain samples to be taken from the tank. Grain samples are forwarded via a slide (C) from the clean grain elevator to the sample flap.

IMPORTANT: Always keep the grain sample flap either fully closed or fully open. If the flap is half open, particularly fine seed is able to escape.



A—Sample flap closed
B—Sample flap open
C—Slide



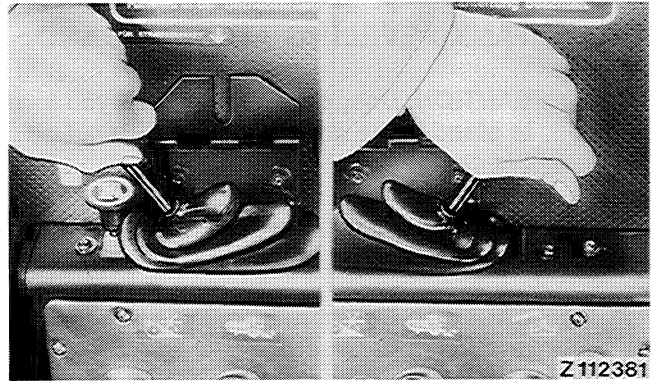
Z112292, Z105816-1188AZE-000987

UNLOADING AUGER HYDRAULIC SWING LEVER

Lever to swing unloading auger in and out:

Move lever inward – Swing in unloading auger

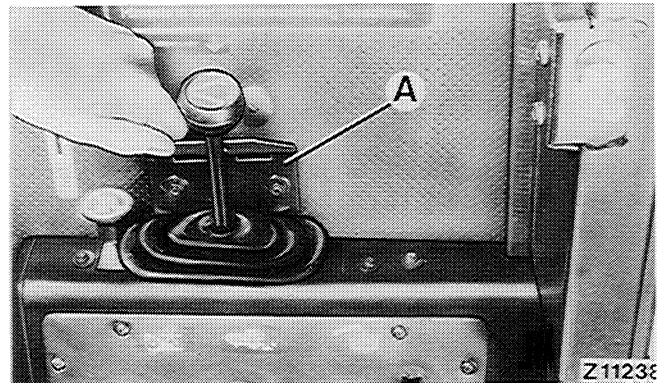
Move lever outward – Swing out unloading auger



Z112381-1188AZE-010987

LOCKING UNLOADING AUGER SWING LEVER

In certain countries, the road traffic regulations specify an unloading auger swing lever locking device. Lock lever by means of strap (A) to prevent unintentional movement when driving combine on public roads.



Z112382-1188AZE-000987

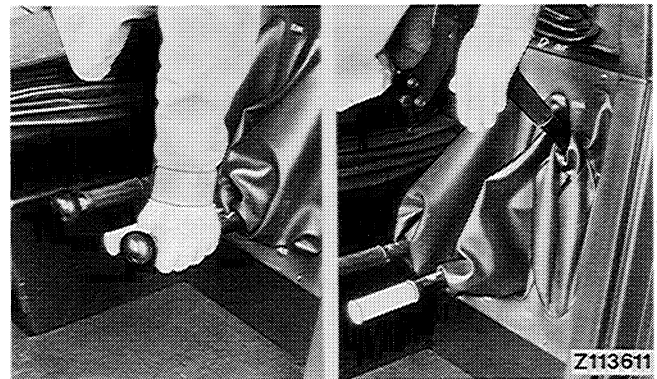
GRAIN TANK UNLOADING AUGER LEVER

IMPORTANT: Control lever has a quick-release button. Strike button with palm of your hand and lever will drop immediately to the disengaged position.

Pull lever upward – Unloading auger engaged

Push lever downward – Unloading auger disengaged

NOTE: The grain tank can be emptied even with engine running and separator drive disengaged, as the two drives are independent of one another.



Z113611-1166AZE-150488

GRAIN TANK LEVELING AUGER GUARD

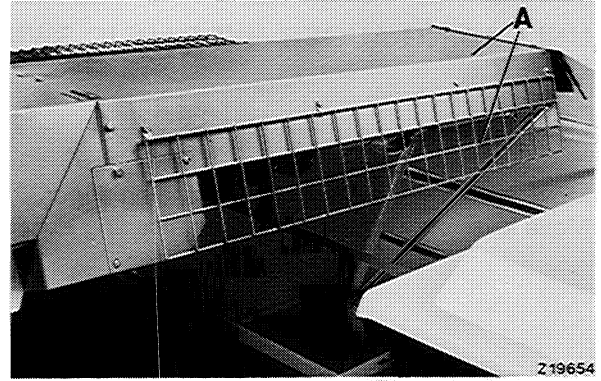


CAUTION: Danger of accidents! If you have to stand in the grain tank, always shut off the engine first.

Always have the grain tank leveling auger guard (A) in place when operating the combine.



CAUTION: Do not remove the grain tank leveling auger guard.

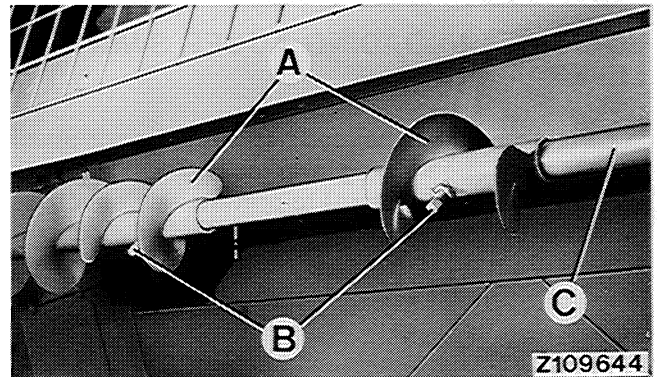


Z19654-1065AZE-001084

GRAIN TANK LEVELING AUGER

With insufficient distribution of crop in grain tank:

Adjust auger flights (A) after having slackened the set screws (B) on shaft (C) to give equal distribution in the tank.



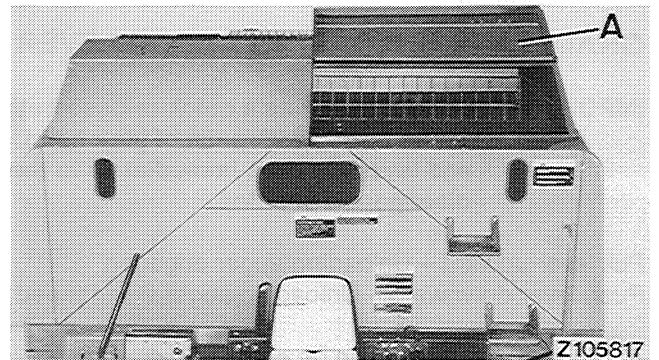
Z109644-1065AZE-000186

GRAIN TANK COVER

A grain tank cover is available as special equipment.

Access to grain tank is via hinged cover (A).

Grain Tank Cover (A) Open



Z105817-1065AZE-001084

GRAIN TANK EXTENSION WITH COVER (1177SII, 1177SII Hydro/4, 1188SII Hydro/4)

Tank capacity is increased by means of one large and one small grain tank extension with integrated cover.

Access to grain tank is via hinged cover (A).

Grain Tank Cover (A) Open



Z105818-1166AZE-160790

DEFLECTOR FOR GRAIN TANK UNLOADING AUGER

Move auger deflector (A) from its transport to working position.

Loosen wing nuts (B), push up deflector (A) firmly and retighten wing nuts.

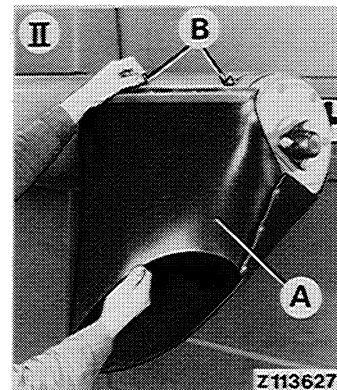
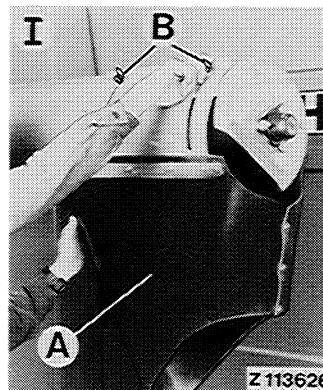
NOTE: Always return unloading auger deflector to the transport position before driving the combine on public roads.

A—Auger deflector

B—Wing nuts

I—Transport position

II—Working position

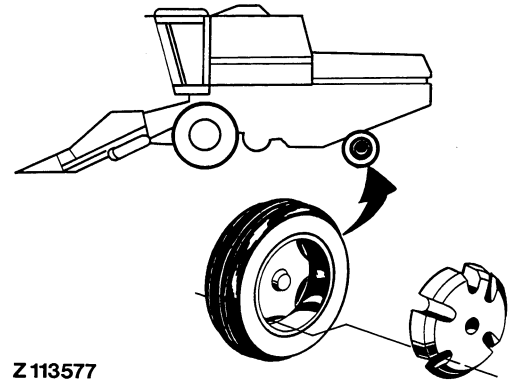


Z113626,Z113627-1166AZE-150488

Ballast Weights and Straw Spreader

REAR WHEEL WEIGHTS

Depending upon equipment installed on the combine, it may be necessary to install rear wheel weights.

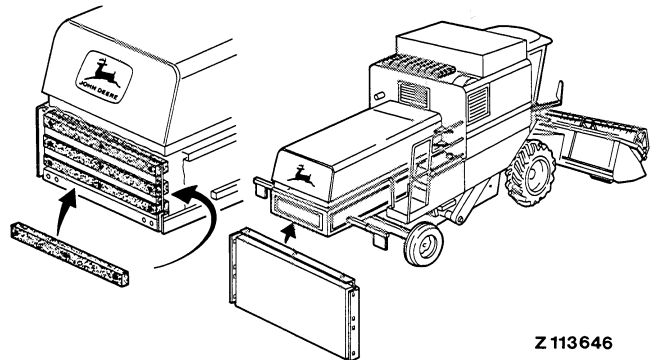


Z113577-1188AZE-010987

HOOD WEIGHTS

Depending upon the equipment installed on the combine, it may be necessary to install hood weights.

Either one set (installed in the end of the hood) or two sets (second set installed from inside hood) are available as required.



Z113646-1166AZE-150488

STRAW SPREADER – INSTALLED (Special Equipment)

The straw spreader enables even spreading of the straw over a wide area behind the combine.

When windrowing the straw, remove the spreader drive belt, hub and blades.



CAUTION: Do not allow anyone to stand behind the straw spreader when it is running. Always keep drive belt guards and guard rail installed.

NOTE: Machines with 4 straw walkers have one rotor, machines with 5 or 6 straw walkers have two rotors.

ZUSAOM-1166AZE-150488

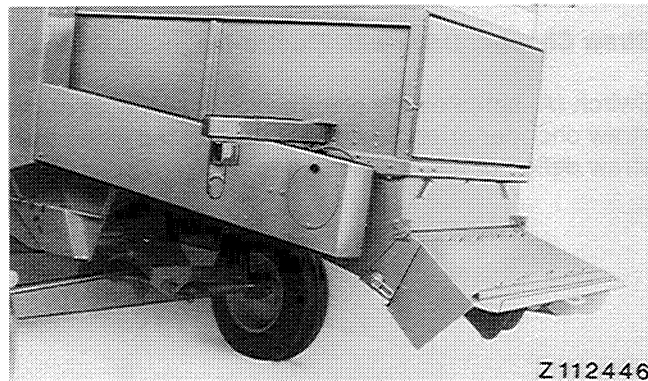
Straw Chopper

GENERAL INFORMATION

Combines may be equipped with a straw chopper (special equipment).



CAUTION: Prevent accidents. Disengage straw chopper drive and shut off engine before attempting to carry out adjustments or service. Never walk or stand behind the combine with straw chopper engaged.



Z112446

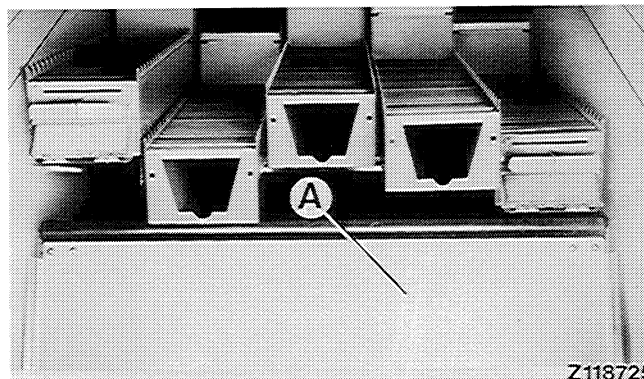
Z112446-1188AZE-000987

ENGAGING STRAW CHOPPER

Deflector Sheet

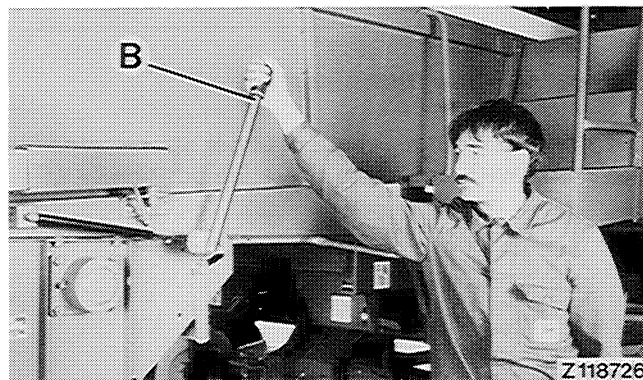
Move deflector sheet (A) located in straw hood to the front position by shifting lever (B).

NOTE: If straw accumulates in the straw walker area, move deflector sheet (A) completely forward to remove straw.



Z118725

A-Deflector sheet
B-Deflector sheet lever



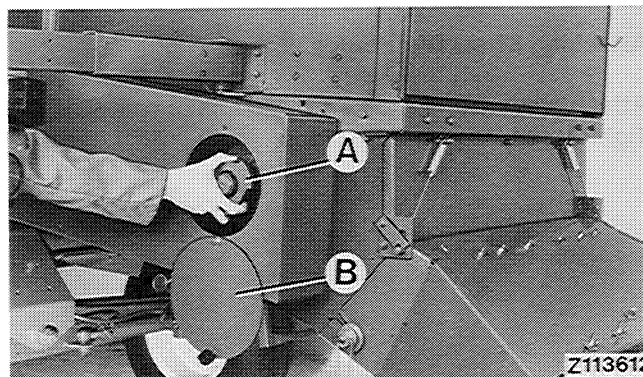
Z118726

Z118725, Z118726-1166AZE-160790

Direct-Drive Straw Chopper (1166SII, 1166SII Hydro/4)

With directly driven straw chopper, engage dog clutch (A).

Finally close opening with cover (B).

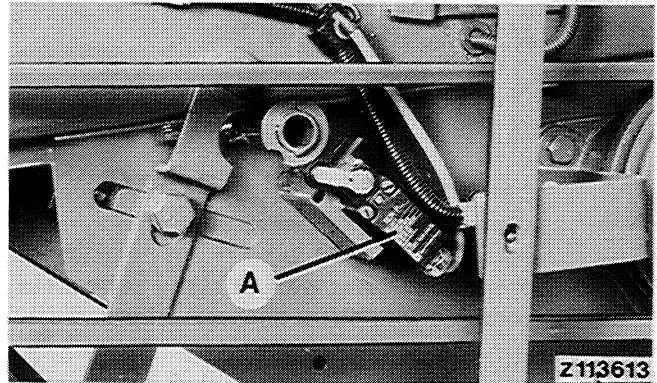


Z113612

Z113612-1166AZE-160790

Straw Chopper Drive with Electro-Magnetic Clutch

Switch (A) actuates the electro-magnetic clutch of the straw chopper drive. Switch (A) is actuated when the straw deflector sheet is swung to the front position.

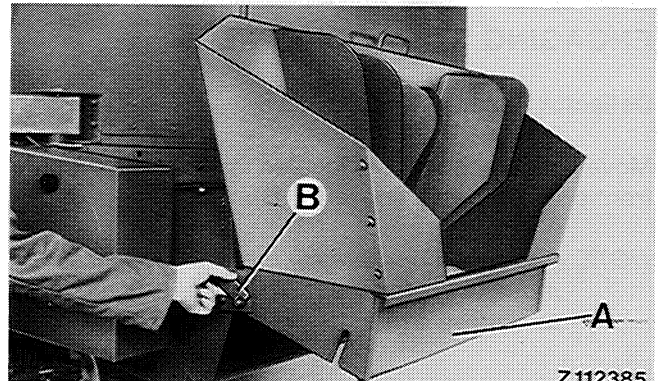


Z113613-1166AZE-160790

MOVING STRAW DISTRIBUTOR INTO OPERATING POSITION

Unlocking Straw Distributor (A)

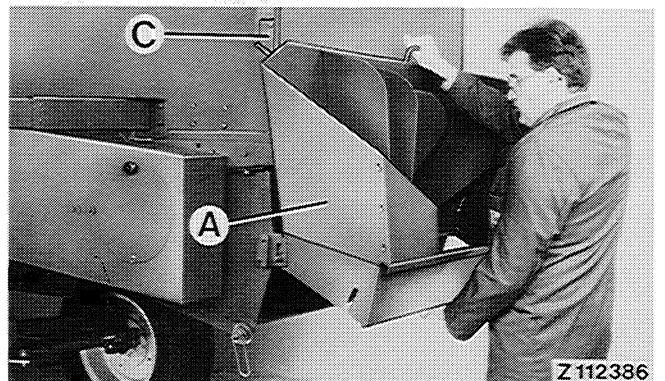
Release latch (B) on each side.



Z112385-1188AZE-010987

Relocating Straw Distributor

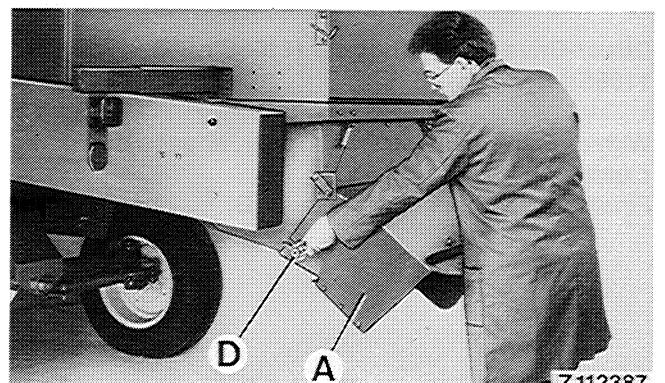
Lift straw distributor (A) out of upper attaching points (C) and move it down into operating position.



Z112386-1188AZE-000987

Attaching Straw Distributor

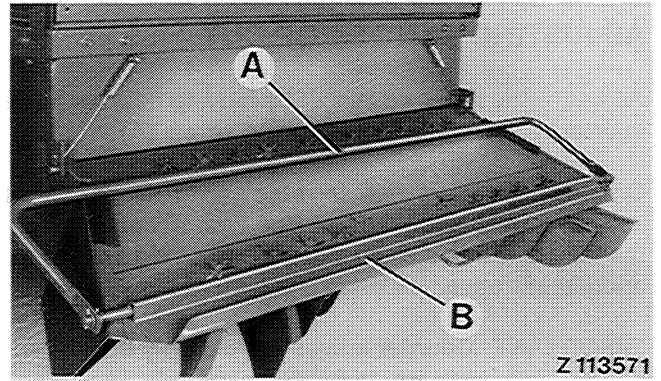
Attach straw distributor (A) by means of pins (D). Tighten securely on both sides.



Z112387-1188AZE-010987

Relocating Guard Rail

If a guard rail (A) is installed, disconnect retaining springs and swing guard rail (A) to the rear until it is located on top of straw distributor (B).

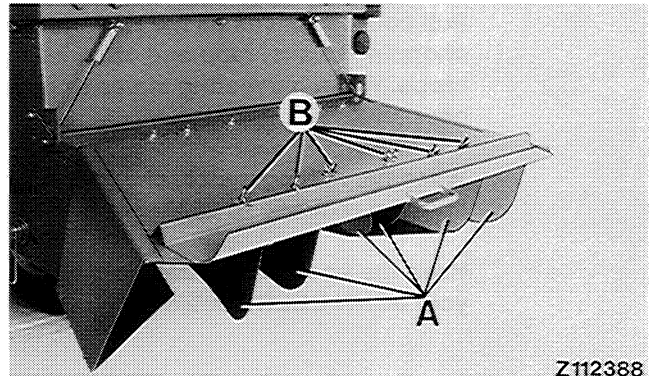


Z113571

Z113571-1188AZE-000987

ADJUSTING STRAW DEFLECTORS

Loosen wing nuts (B) and adjust straw deflectors (A) as required to regulate width of chopped material.



Z112388

Z112388-1188AZE-000987

ADJUSTING LENGTH OF CUT

Adjust to the required length by moving counter knives in or out after loosening attaching screw (A).

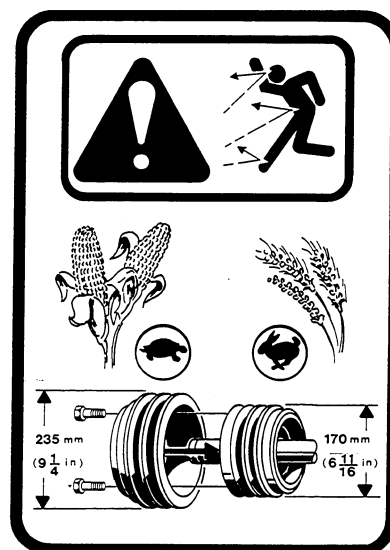
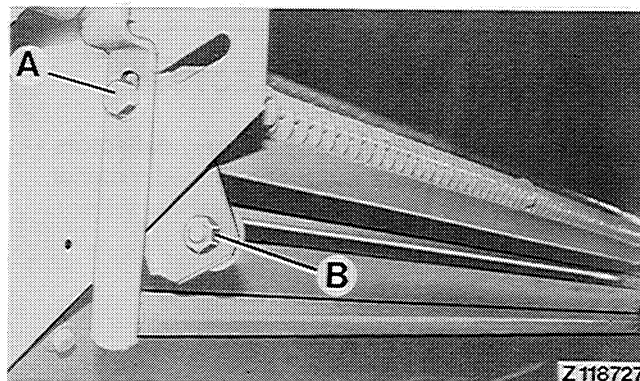
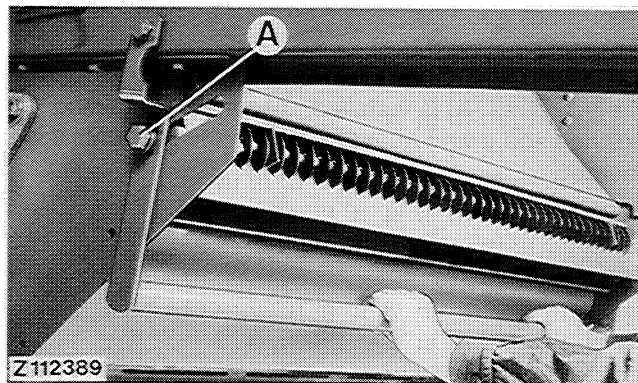
On straw choppers with serrated knives, tilt the counter knives forward so that straw does not become caught on the knives. Do this by slackening attaching screws (A) and (B) at both sides.

IMPORTANT: Counter knives should only be moved inward as far as absolutely necessary to prevent waste of engine power.

Pull counter knives all the way out when chopping beans, rape and other bulky crops. When harvesting maize remove the counter knives.

When harvesting maize, chopper speed must be reduced to 2500 rpm.

Have the speed reduction carried out by your JOHN DEERE dealer.



Z118589

OPERATING STRAW CHOPPER

When engaging separator drive, proceed as follows:

- Run engine at half rated speed
- Slowly raise separator (main) lever
- Increase engine rpm to full load speed

ANSTROM-1065AZE-000186

ELECTRO-MAGNETIC STRAW CHOPPER CLUTCH

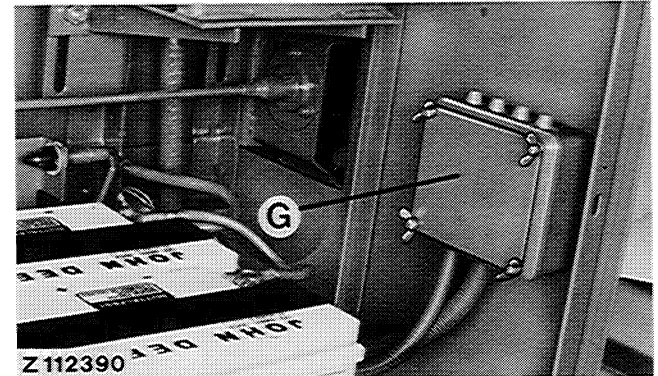
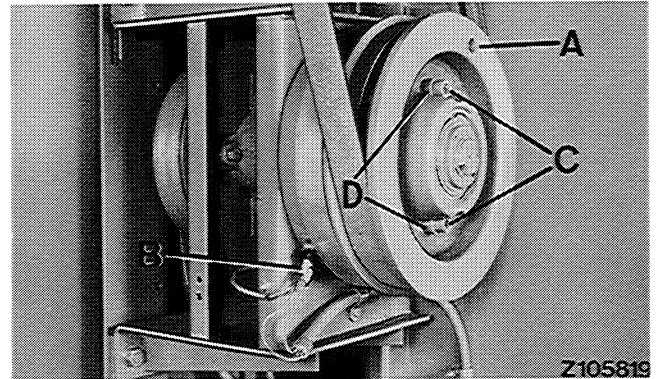
The electro-magnetic clutch is engaged via two switches (see "Service – Straw Chopper"). The straw chopper operates only when both switches are engaged. The straw chopper clutch electrical system has its own current circuit and is protected by a separate fuse (E).

Blocking Electro-Magnetic Clutch Mechanically

Should a breakdown occur in the electro-magnetic clutch (electrical system defect), the clutch can be blocked mechanically for a short time.

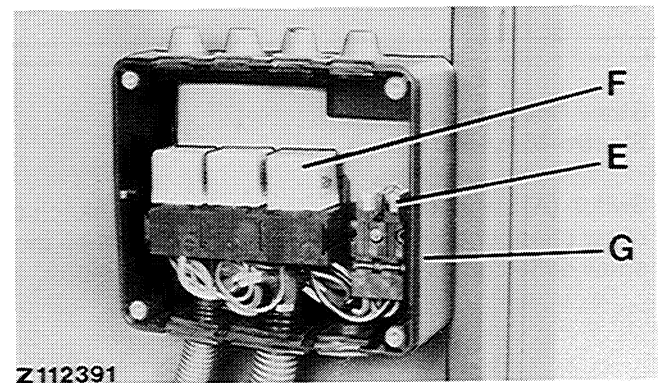
To block the clutch mechanically with engine stationary, remove sleeves (D). Align holes for screws (C) in pulley (A) with corresponding hub holes. Turn screws (C) into pulley as far as possible. Screw heads must touch pulley (A).

IMPORTANT: Permanent operation with clutch blocked mechanically will lead to serious damage. Should a defect occur, have the electro-magnetic clutch repaired immediately.



A–Drive pulley with
electro-magnetic clutch
B–Electrical connection
C–Hex. socket screw (2 used)

D–Sleeve (2 used)
E–Fuse
F–Relay
G–Distributor box

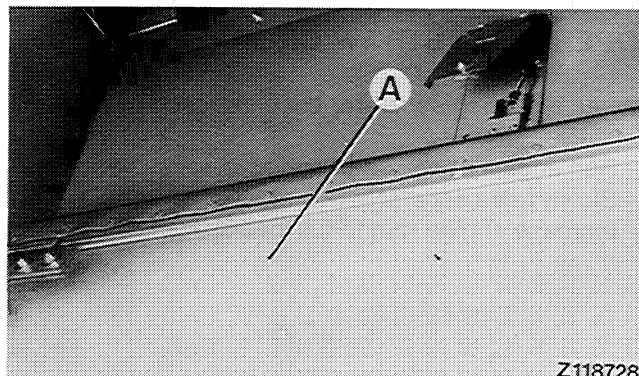


Z105819,Z112390,Z112391-1166AZE-051289

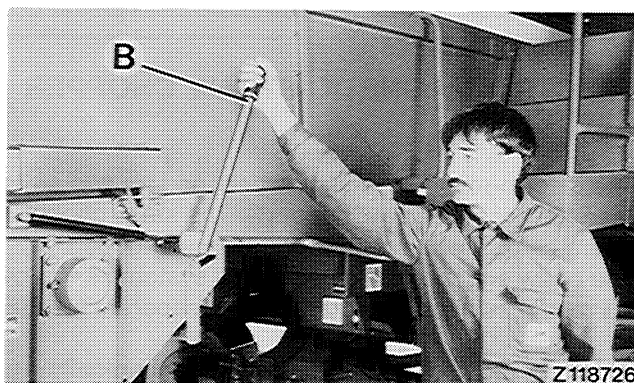
DISENGAGING STRAW CHOPPER

Deflector Sheet

Move deflector sheet (A) to rear position by shifting lever (B).



Z118728



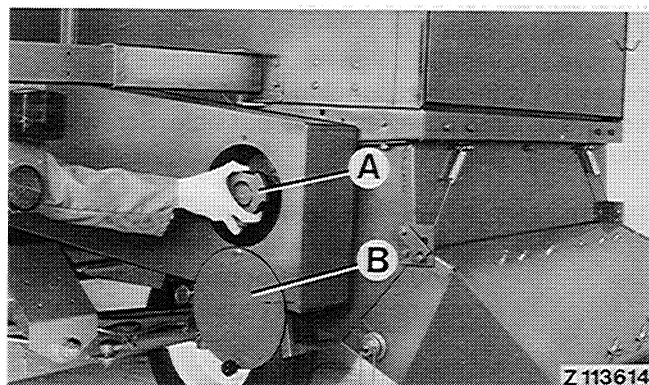
Z118726

Z118728,Z118726-1166AZE-160790

Direct-Drive Straw Chopper

IMPORTANT: With directly driven straw chopper, disengage dog clutch (A).

Finally close opening with cover (B).

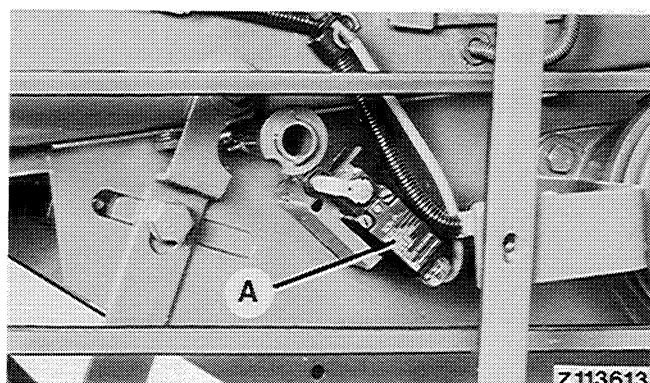


Z 113614

Z113614-1166AZE-160790

Straw Chopper Drive With Electro-Magnetic Clutch

Switch (A) switches off the electro-magnetic clutch of straw chopper drive. Switch (A) is actuated when the straw deflector sheet is swung to the rear position.



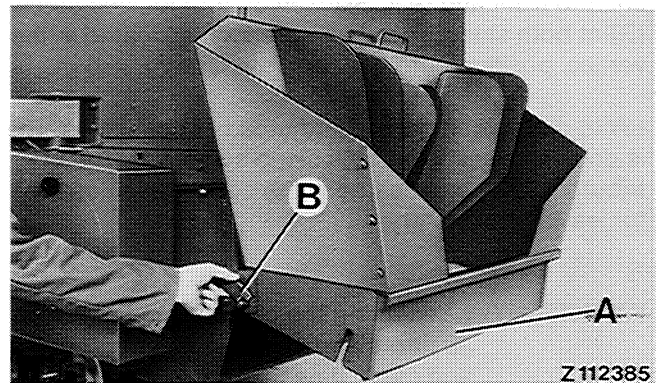
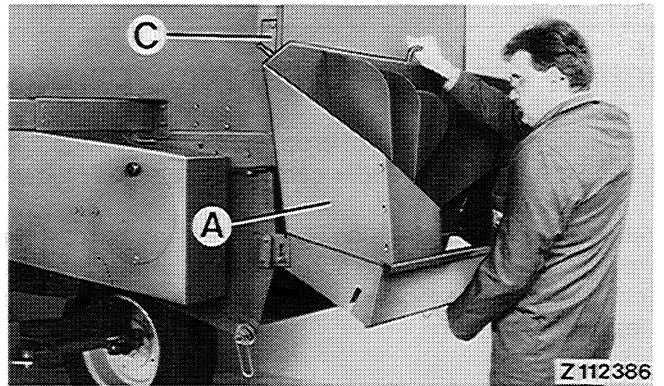
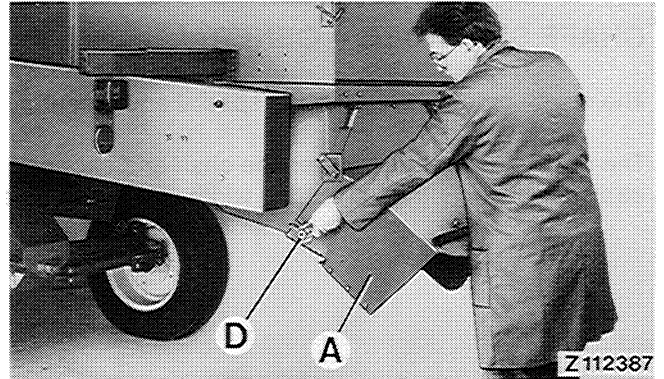
Z113613

Z113613-1166BZE-160790

MOVING STRAW DISTRIBUTOR INTO TRANSPORT POSITION

1. Loosen attaching screws (D) on both sides of straw distributor (A).
2. Swing straw distributor (A) upward and secure by means of brackets (C).
3. Latch straw distributor on both sides (B).

A—Straw distributor
B—Latch
C—Bracket
D—Attaching screw



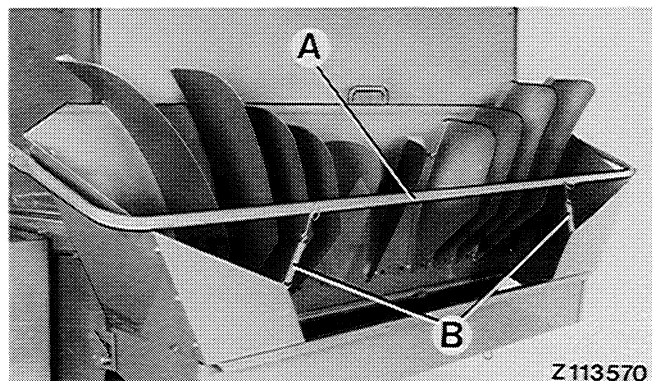
Z112387, Z112386, Z112385-1188AZE-000987

WHEN DRIVING ON PUBLIC ROADS



CAUTION: It is forbidden to drive the combine on public roads with straw distributor in operating position and with the straw chopper engaged.

In certain countries guard rail (A) must be installed in the position shown opposite. Secure guard rail by means of retaining springs (B).



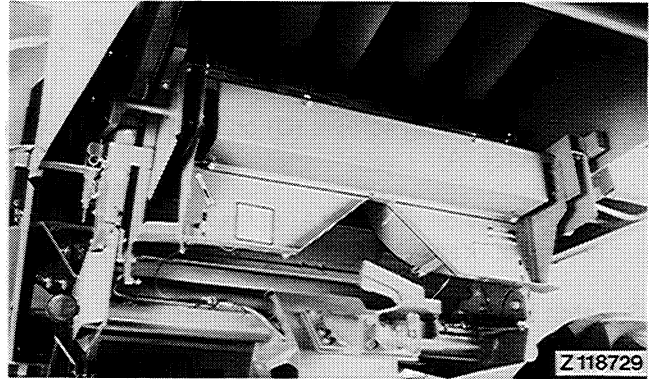
Z113570-1188AZE-010987

Chaff Spreader

CHAFF SPREADER – GENERAL

The chaff spreader is an item of special equipment.

The chaff spreader distributes the chaff and chopped straw evenly over the full cutting width of the combine.



Z118729-1166AZE-160790

CHAFF SPREADER OPERATING POSITION

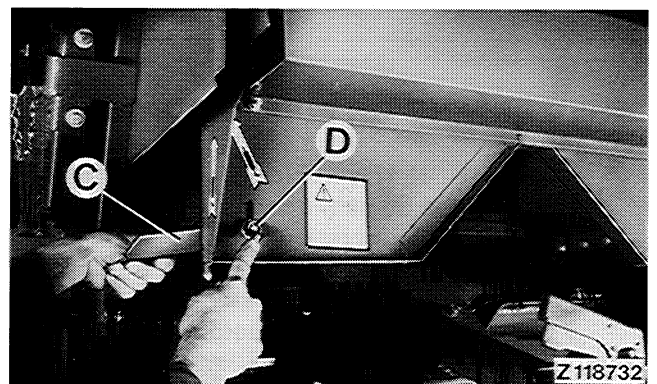
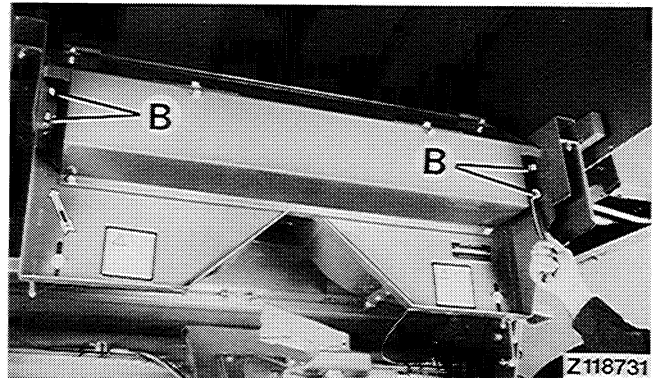
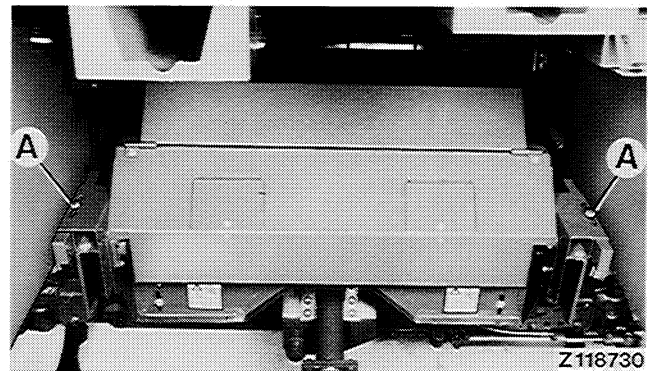
Depending on the type of crop and the harvesting conditions, the chaff spreader can be operated as follows:

–Longitudinally, extending 50 mm (1.97 in.) to front and rear. Slacken off locking screws (A) at both sides. The chaff spreader is located in the central position before leaving the factory.

–With the complete chaff spreader tilted around the drive shaft to front and rear. Slacken off four locking screws (B) at both sides. The chaff spreader is located in the vertical position before leaving the factory.

–With distributor plate (C) adjusted at both sides. This is done by slackening off locking screw (D). The distributor plates are located in the central position before leaving the factory.

IMPORTANT: When using the chaff spreader, check all filters and sieves daily for clogging, and clean if necessary.



Z118730,Z118731,Z118732-1166AZE-160790

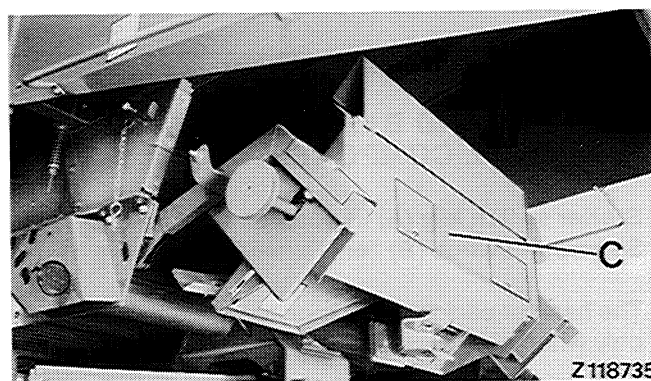
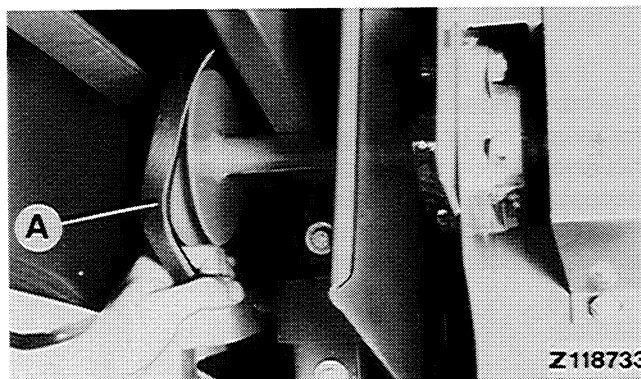
FOLD DOWN CHAFF SPREADER

To adjust the sieve, fold down the chaff spreader.

To do this, take off drive belt (A).

Release lock (B) at both sides.

Fold down the chaff spreader (C).



Z118733,Z118734,Z118735-1166AZE-160790

Harvest Performance Monitor – Adjustments

GENERAL INFORMATION

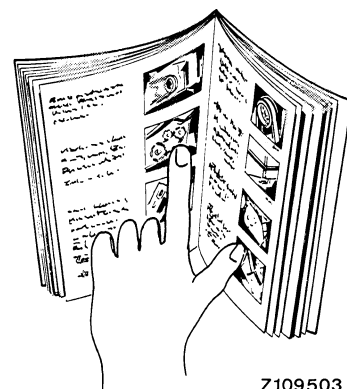
The harvest performance monitor system is used for measuring grain losses. It is not equipment, however, which permits the operator to neglect all necessary adjustments and care with the combine. Incorrect adjustments and poor service automatically lead to loss of grain and poor performance.

The causes for grain loss are described in detail in section "Fundamentals of Combine Harvesting". Particular attention should be paid to "Determining Grain Losses". Take into consideration also the points given under "Prevention of Grain Losses".

LEIKOOM-1188AZE-000987

PREPARATORY ADJUSTMENTS

Before making adjustments to the harvest performance monitor system, always adjust your combine "optimally", taking into consideration crop and ground conditions. See "Fundamentals of Combine Harvesting" for details.



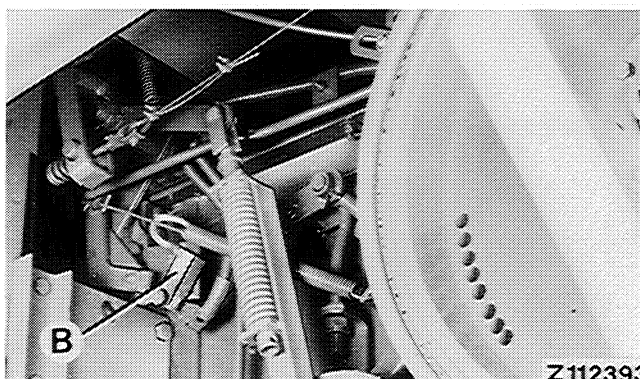
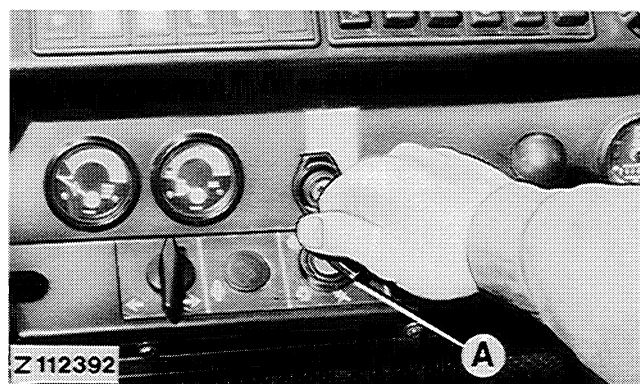
Z109503

Z109503-1188AZE-000987

POSITION AND BASIC FUNCTION OF INDIVIDUAL COMPONENTS

Starter switch key (A) in position I
Separator switch (B) "on"

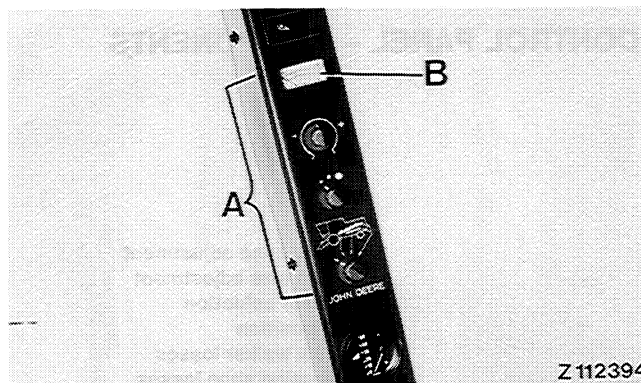
The harvest performance monitor system is activated only when both switches are "on".



Z112392,Z112393-1188AZE-000987

Instruments

Control panel (A), consisting of meter and operating controls for the monitor, is integrated into the front right-hand corner post of the cab. Sensors on the straw walkers and cleaning shoe detect impacts from kernels and transmit these as electrical impulses to a preamplifier, which are then indicated by the needle of meter (B) in the control panel.

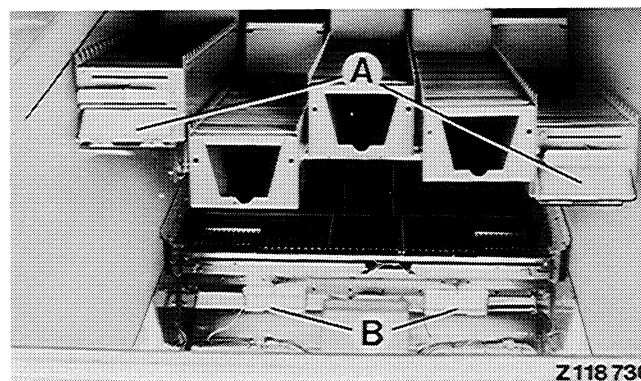


Z112394
Z112394-1188AZE-000987

Sensors

Two sensors are located on outside of cleaning shoe and two on outside of straw walkers. Sensors detect impacts from kernels and transmit them as electrical impulses to the preamplifier.

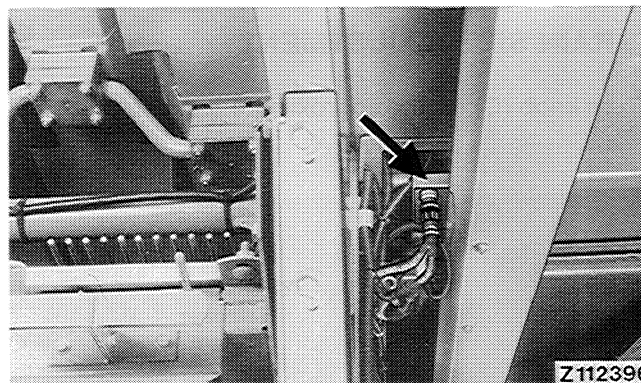
- A—Sensors on outer straw walkers
- B—Sensors on outside of cleaning shoe



Z118736
Z118736-1166AZE-160790

Preamplifier

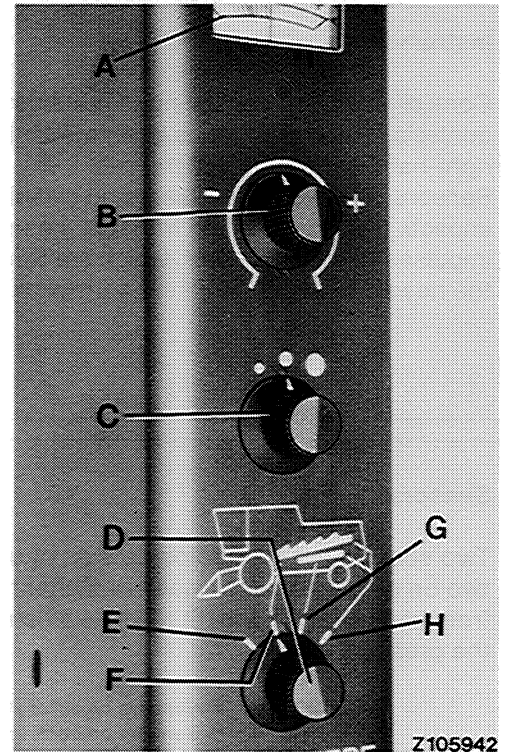
The preamplifier circuit box is located under the rear service platform near right-hand side panel. It receives electrical impulses from the sensors and suppresses or “filters out” impulses caused by impacts on the sensors from straw stems, chaff, etc.



Z112396
Z112396-1188AZE-000987

CONTROL PANEL – COMPONENTS

- A–Meter
- B–Meter zone adjustment
- C–Grain size adjustment
- D–Sensor selection
- E–Off position
- F–Straw walker losses
- G–Cleaning shoe losses
- H–Straw walker and cleaning shoe (total losses)



Z105942-1065AZE-001084

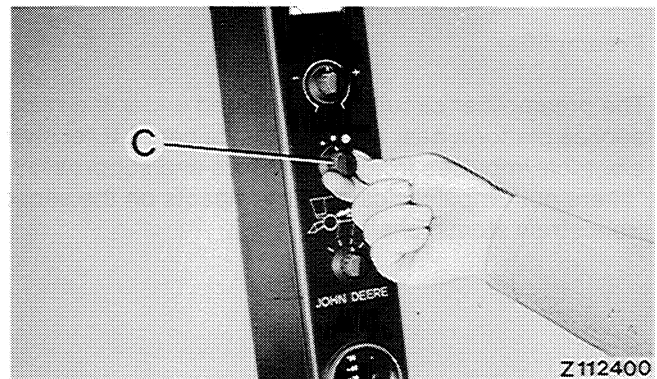
GRAIN SIZE ADJUSTMENT

Turn knob (C) for the approximate grain size.

X–Barley
Oats
Rye
Rice

Y–Wheat
Safflower
Milo grain

Z–Maize
Peas
Soybeans



●	●	●
X	Y	Z

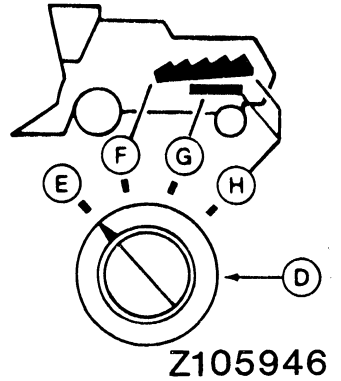
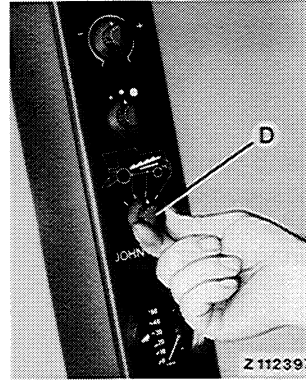
Z105943

Z112400,Z105943-1188AZE-010987

SENSOR SELECTION

Turn knob (D) to the desired position (F,G or H).

- D–Sensor selection knob
- E–Off position
- F–Straw walkers
- G–Cleaning shoe
- H–Straw walkers and cleaning shoe

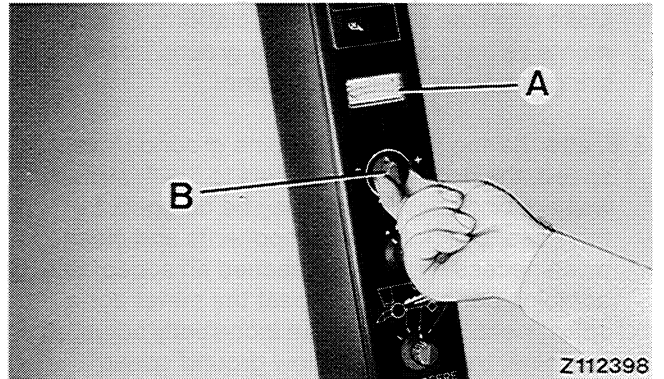


Z112397,Z105946-1188AZE-000987

HARVEST PERFORMANCE MONITOR – ADJUSTMENTS

When the combine has been optimally adjusted for the crop to be harvested, select the most favourable ground travel speed for the existing conditions. There should now be minimum grain loss and good quality grain flow to grain tank. While operating under these conditions, adjust meter zone adjuster (B) to position the needle of meter (A) in center of green zone.

Grain losses will always vary. Consequently the sensors (located on cleaning shoe and straw walkers) will transmit more or less impulses to the meter. Any increase or decrease in cleaning shoe or straw walker losses will cause a change in the signal transmitted to the harvest performance monitor which is indicated by a change in the needle position.



Z112398-1188AZE-000987

HARVEST PERFORMANCE MONITOR – ADJUSTMENTS (Contd.)

Proceed as follows:

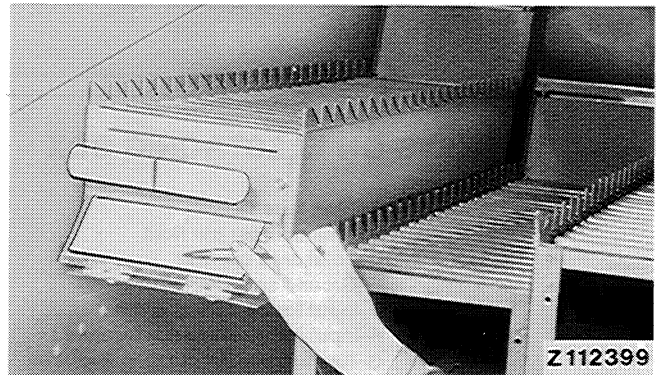
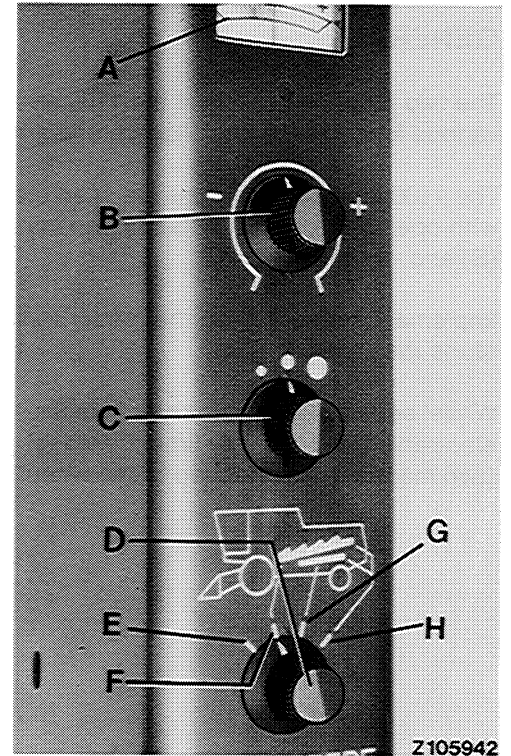
1. If the needle moves to "–" and remains there for more than a few seconds, combine is not operating at maximum productivity. Increase ground speed slightly to bring meter needle into the green zone.
2. If the needle moves to "+" and remains there for more than a few seconds, combine is either incorrectly adjusted for an acceptable loss level or is moving at too fast a ground speed. Make combine and/or cutting platform adjustments as necessary or reduce ground speed to bring needle into the green zone.
3. If, after having reduced combine ground travel speed, the needle again moves to "+", straw walkers or cleaning shoe may be clogged. In this case, check these components and clean, when necessary. Having reached an acceptable combine performance, repeat the meter zone adjustment. Remember, an incorrectly adjusted combine, travelling at a slow ground speed can make meter needle indicate an acceptable loss rate (green zone). By correctly adjusting combine and increasing ground speed, harvesting productivity can be increased.

4. When crop conditions change during the day (down crops or straw moisture) the control meter must be readjusted. Make an occasional loss check to determine whether readjustment is necessary.
5. It takes 15 to 20 seconds for an accumulation of material to pass through the combine. When this occurs, meter needle will move slightly toward "+" and then return to its previous reading after accumulated material has passed through. Ignore these fluctuations.

IMPORTANT: Check harvest performance monitor system several times daily, particularly when changing to another type of crop or as harvesting conditions change and adjust, when necessary. This also includes checking combine for optimum performance and making any necessary adjustments.

OPERATIONAL CHECK OF HARVEST PERFORMANCE MONITOR

1. Turn starter switch to position "I".
2. Engage separator with engine shut off, activating separator switch.
3. Turn meter zone adjustment knob (B) fully clockwise (+).
4. Turn grain size adjustment knob (C) to the small grain position.
5. Turn sensor selection knob (D) to the cleaning shoe symbol (G).
6. Tap the left-hand cleaning shoe sensor with a hard object. Instruct another person to watch the meter needle. Needle should move into green scale. Do not strike sensor too hard.
7. Repeat step 6 for right-hand cleaning shoe sensor.
8. Turn sensor selection knob (D) to the straw walker symbol (H). Check both straw walker sensors in the same way as for the cleaning shoe.
9. Turn on parking lights and check to see that light for meter (A) is "on".
10. Turn off starter switch and disengage separator. Remove starter switch key.
11. If, after completing steps 1 to 9, the system is not operating correctly, see your JOHN DEERE dealer.



Area Counter Operational Settings

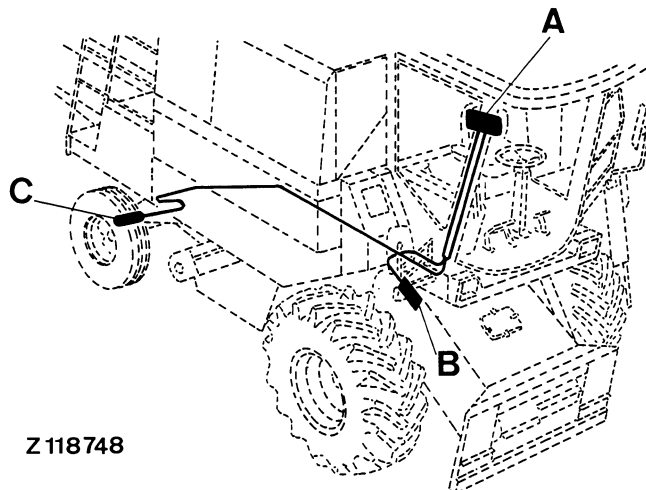
GENERAL

The two function groups of the 1100 area counter enable various functions to be called up one after the other.

The 1100 area counter consists of an electronic box (A) with operating keys and display, the implement sensor (B) and wheel sensor (C).

Implement sensor (B) on the feeder house starts and stops the area counter.

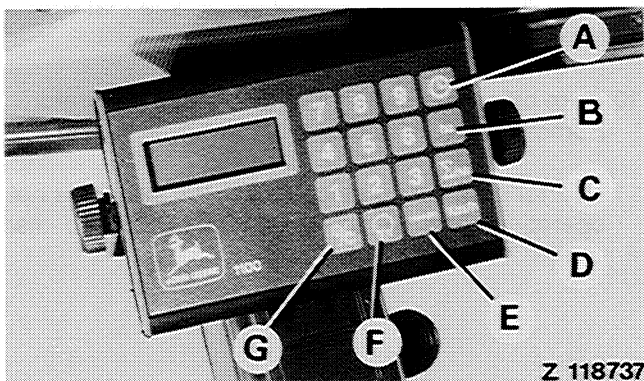
Wheel sensor (C) transmits two electronic signal to electronic box (A) every time the wheel goes round (two magnets are attached to the wheel rim).



Z118748-1166AZE-070191

FUNCTION KEYS ON ELECTRONIC BOX

- A—Time taken
 - B—Area counter per field
 - C—Total area counter
 - D—Ground speed (km/h)
 - E—Input for operating width
 - F—Input for wheel circumference
 - G—Key for zeroing the time and area function
- Display reads "0".



Z118737-1166AZE-160790

PREPARING THE AREA COUNTER

The area counter must be adjusted to suit the combine equipment. This includes the circumference of the rear wheels and the cutting width.

Determine wheel circumference as follows:

1. Draw a line on the ground at the rear wheel and mark the tire where it touches the line.
2. Drive the combine until the wheel has turned at least 10 times.
3. Draw another line on the ground where the tire mark is at its lowest point.
4. Now measure the distance between the two lines. Divide by 10 (or the total number of wheel revolutions). The result is the effective wheel circumference in centimeters.

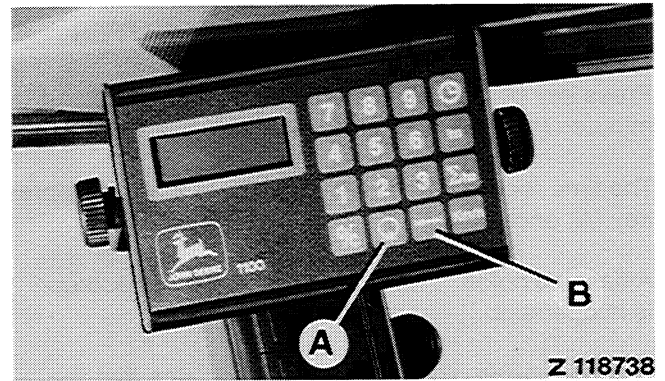
Key in the measured wheel circumference as follows:

1. Press key (A). A zero appears on the left of the display together with the previously keyed-in circumference.
2. Divide the measured wheel circumference (in cm) by 2 and key in the result. The previous figure is canceled automatically.

Key in the cutting width as follows:

1. Press key (B). The previously keyed-in figure appears.
2. Key in the cutting width (in cm).

NOTE: Wheel circumference and cutting width may change whenever the wheels or harvesting unit are changed.



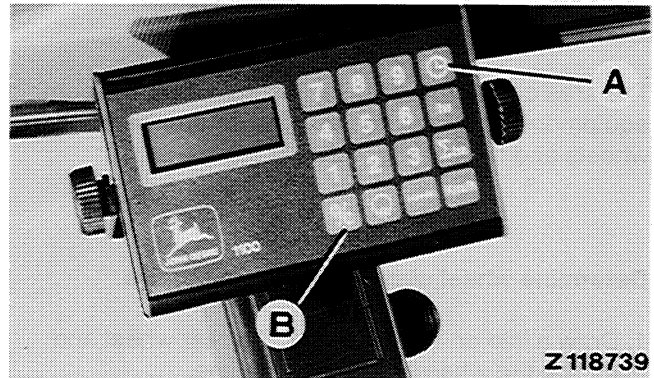
TIME TAKEN IN HOURS AND MINUTES

Press key (A) to call up the time taken in hours and minutes (max. 99 hours and 59 minutes).

The time recorder can be stopped and started by pressing key (A) once again.

A flashing colon ":" indicates that the time recorder is in operation.

A continuously glowing colon ":" indicates that the time recorder is stopped.



Calling up the time function:

1. Press key (A) to call up the last recorded time.

If the colon flashes, the key must be pressed once again before work recommences, otherwise the time recording is stopped (continuously glowing colon).

2. The time recorder can be set to zero by pressing key (B) for at least three seconds.

3. Press key (A) to start the time recorder (flashing colon).

The area counter now records the time in hours and minutes. It continues to record the time even if another function is selected. The time recorder can be started or stopped as required by pressing the key repeatedly (e.g. during rest periods or stoppages).

Z118739-1166AZE-160790

AREA PER FIELD (Trip Counter)

When function key (A) is pressed, the area already covered appears in hectares. Area is displayed to two decimal places from 0 to 99.99 hectares, and subsequently to one decimal place from 100 to 999.9 hectares.

When key (A) is pressed, the latest number of hectares recorded per field appears. The hectare display is set to zero by pressing key (C) for at least three seconds.



Totalizer

When this function key is pressed, the total area already covered appears in hectares (to two decimal places from 0 to 99.99, to one decimal place from 100 to 999.9 hectares and without a decimal place from 1000 to 9999 hectares).

This function is used to add up the area covered over a certain period of time, e.g. a day, week, month, season or year.

When key (B) is pressed, the latest total area covered appears. The area display is set to zero by pressing key (C) for at least three seconds.

The two area counters are now capable of accumulating data. The area counters continue to record the passage of time even if another function is selected. The ground speed function will in any case be selected while the combine is in motion. When the implement sensor is activated, i.e. area counting ceases at the end of the field, an "r" appears.

Once a field has been completed, its area can be ascertained from the monitor by pressing the trip counter. Once the trip counter is set to zero, it is ready to record the area of the next field. The totalizer adds up the area of a series of fields. It displays the total area after work has been completed.

SPEEDOMETER (km/h)

When function key (A) is pressed, the current ground speed appears in km/h to one decimal place.

When the area counter is stopped, an "r" appears at the left of the display.

When the power supply is on, the area counter always indicates the ground speed first.

The ground speed display returns to zero about eight seconds after the combine comes to a complete halt.



Z118741-1166AZE-160790

METER COUNTER

The 1100 area counter can be used to ascertain the dimensions of a particular field.

Adjust the unit as follows:

Press key (A) and key in the digits 9999. When key (B) is pressed, the meter count appears.

The meter counter is set to zero in the same way as the area counter.

The meter counter counts in stages that are related to the wheel circumference input. For example, if the keyed-in wheel circumference is 350 cm, counting proceeds in stages of 3.5 m.



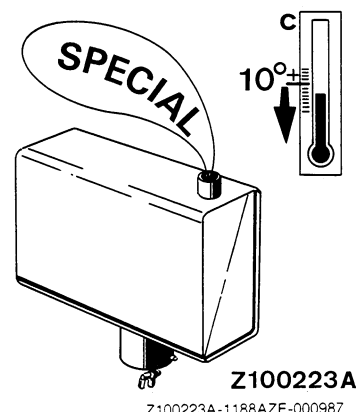
Z118742-1166AZE-160790

Fuel, Lubricants, Hydraulic Oil, Coolant and Capacities

FUEL

Use a commercial, cleanly stored diesel fuel.

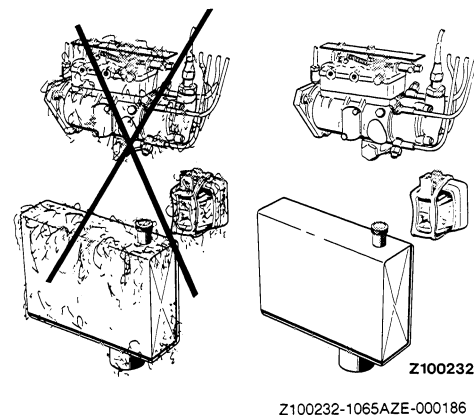
At temperatures below +10°C (50°F) use a special winter fuel or add a suitable anti-gelling compound.



STORING AND HANDLING FUEL

Utmost cleanliness when handling fuel is an important factor in the service life of the engine.

Many engine difficulties can be traced to dirty fuel and fuel that has been in storage too long. Keep dirt, water deposits and all foreign matter away from fuel system.



FILLING THE FUEL TANK

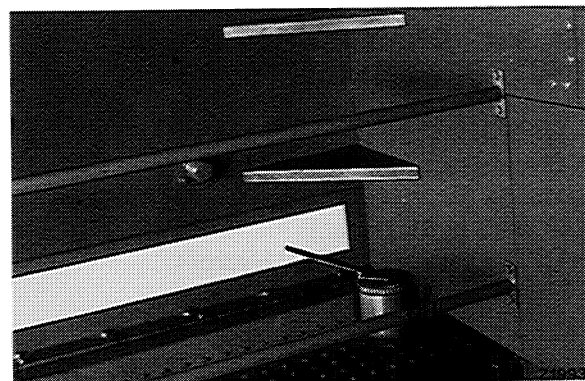


CAUTION: Be careful when handling fuel. Never fill tank when engine is running. During filling of tank smoking is strictly prohibited!

Fill the fuel tank at the end of each day's operation to prevent condensation.

Fuel tank capacity:

- 1166SII, 1166SII Hydro/4, 1174SII, 1174SII Hydro/4:
300 liters (79.25 U.S. gal.)
- 1177SII, 1177SII Hydro/4, 1188SII Hydro/4:
400 liters (105.67 U.S. gal.)



Z19935-1166AZE-070191

DIESEL ENGINE OIL

Use oil viscosity based on the expected air temperature range during the period between oil changes.

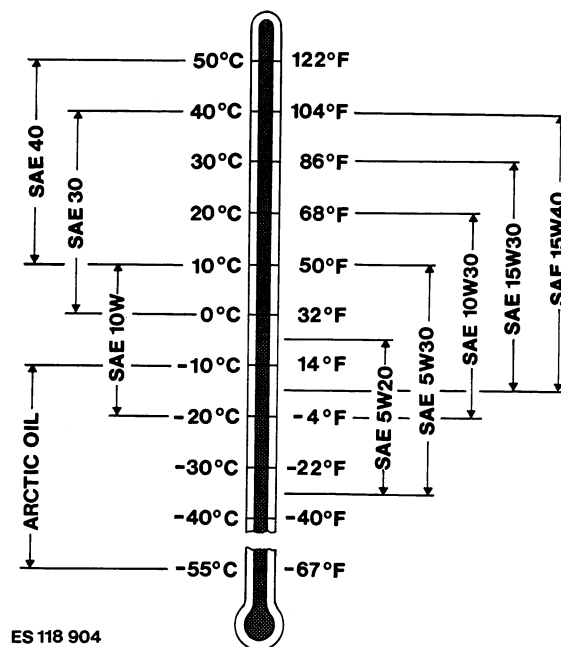
The following oils are preferred:

JOHN DEERE ENGINE OIL
JOHN DEERE UNIVERSAL OIL
JOHN DEERE TORQ-GARD SUPREME® or PLUS 50

Other oils may be used if they meet one or more of the following:

- API Service Classification CE or CD
- Military Specification MIL-L-2104D or MIL-L-2104C
- CCMC Specification D3

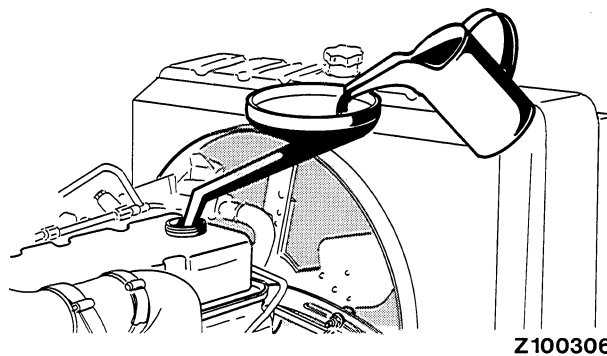
SAE 5W20, SAE 5W30 and arctic oil viscosity grades meeting API Service Classification CC may be used (for arctic oils also MIL-L-46167A), but oil and filter must be changed at one-half the normal interval. Higher oil consumption may be expected.



ES118904-ESPD4E-141288

ENGINE CRANKCASE CAPACITY, INCLUDING FILTER CHANGE

- 1166SII, 1174SII:
13 liters (3.4 U.S. gal.)
- 1166SII Hydro/4, 1174SII Hydro/4 1177SII:
17 liters (4.5 U.S. gal.)
- 1177SII Hydro/4, 1188SII Hydro/4:
20 liters (5.3 U.S. gal.)



Z100306-1166AZE-070191

ENGINE COOLANT

JOHN DEERE Engine Cooling Fluid is filled into the cooling system at the factory. It protects against corrosion and against frost down to -36°C (-35°F).

IMPORTANT: Use only JOHN DEERE Engine Cooling Fluid in the cooling system, independent of the season. Drain system and refill with fresh coolant every 2 years.

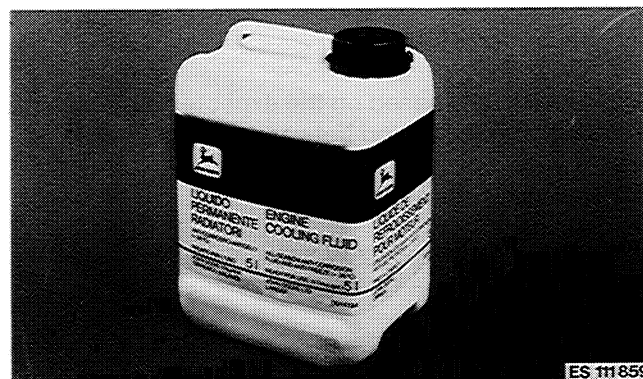
If no JOHN DEERE Engine Cooling Fluid is available use a mixture of 50% ethylene-glycol antifreeze/corrosion inhibitor and 50% clear, soft water. This mixture also provides protection against corrosion and against frost down to -36°C (-35°F).

Never use any cooling system sealing additives.

Operating in Tropical Conditions

If JOHN DEERE Engine Cooling Fluid or Antifreeze is not available, use the following mixture when refilling the cooling system: Use clean soft water and add 30% JOHN DEERE Engine Coolant Conditioner RE23182 (30 ml per liter of water)

IMPORTANT: Drain system and refill with fresh coolant mixture every year. This coolant mixture protects the system against corrosion, but not against frost.



ES 111859

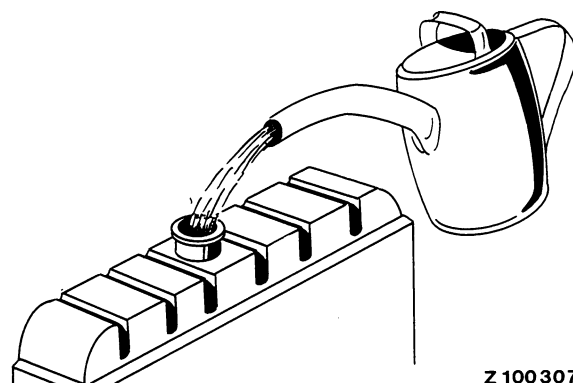


ES 111860

ES111859, ES111860-ESPD1E-010886

CAPACITY OF COOLING SYSTEM

- 1166SII, 1166SII Hydro/4, 1174SII, 1174SII Hydro/4, 1177SII: 30 liters (8 U.S. gal.)
- 1177SII Hydro/4, 1188SII Hydro/4: 34 liters (9 U.S. gal.)



Z 100307

Z100307-1166AZE-070191

TRANSMISSION OIL

Use oil viscosity based on the expected air temperature range during the period between oil changes.

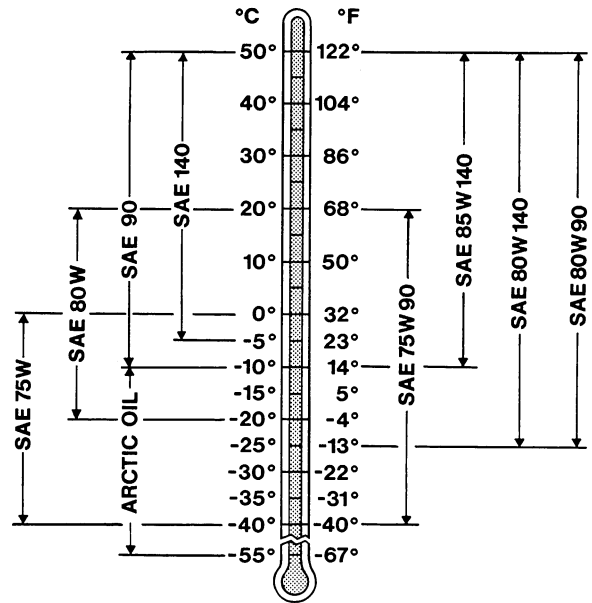
The following oils are preferred:

JOHN DEERE EP OIL 85W-140
JOHN DEERE GL-5 LUBRICANT

Other oils may be used if they meet one or more of the following:

- API Service Classification GL-5
- Military Specification MIL-L-2105D
- Military Specification MIL-L-2105C
- Military Specification MIL-L-2105B

For temperatures below -40°C (-40°F) oils meeting Military Specification MIL-L-46167A should be used.



ES 118 877

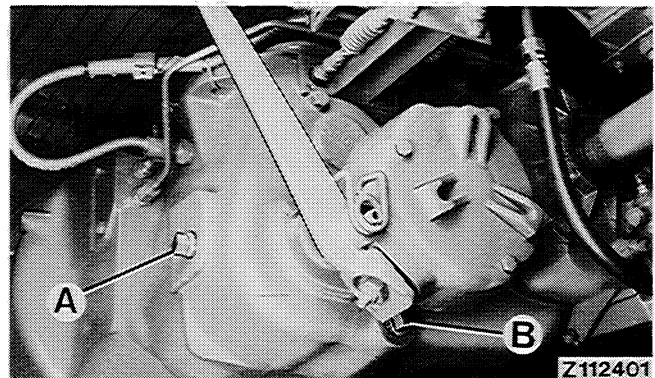
ES118877-ESPD AE-001288

USE OF TRANSMISSION OIL

In Transmission

Capacity: 6.6 liters (1.75 U.S.gal.)

A—Oil filler and level plug
B—Drain plug



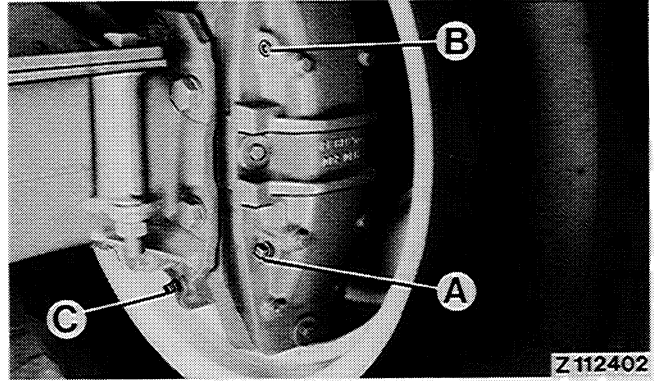
Z112401-1188AZE-010987

USE OF TRANSMISSION OIL (Continued)

In Final Drives

Capacity (each): 2.1 liters (0.55 U.S.gal.)

A—Oil filler and level plug
B—Breather screw
C—Drain plug



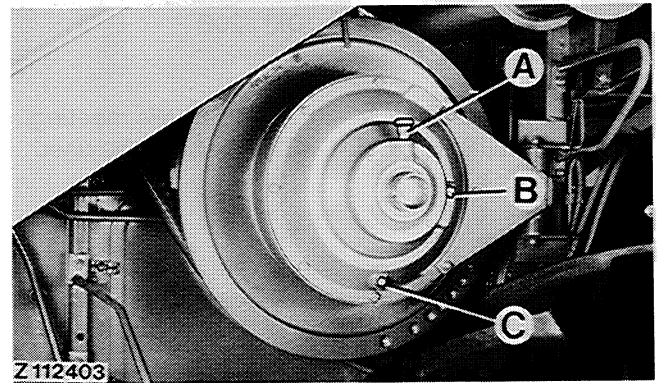
Z112402-1188AZE-010987

In Cylinder Drive Reduction Gear

Capacity: 1.9 liters (0.5 U.S.gal.)

A—Breather
B—Oil filler and level plug
C—Drain plug

*NOTE: Always comply with instructions given under
"Service – Separator".*



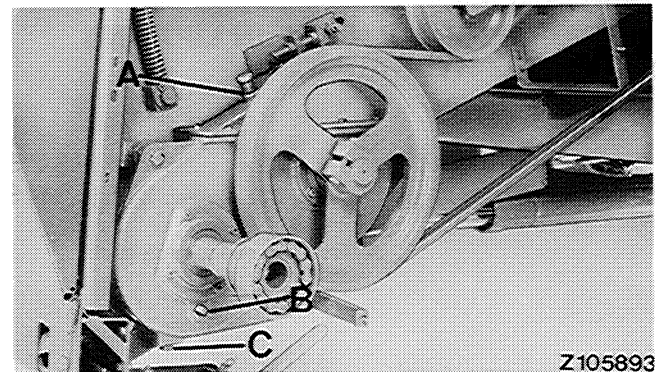
Z112403-1166AZE-150488

In Chain Transmission – Cutting Platform Drive

Capacity: 0.5 liters (0.13 U.S.gal.)

A—Breather and filler plug
B—Oil level plug
C—Drain plug

Guard Removed for Illustration Purposes



Z105893

Check with the feeder house in the topmost position.
Always replace guard after having checked or replaced
oil.

Z105893-1188AZE-160790

HYDRAULIC OIL

Use oil viscosity based on the expected air temperature range during the period between oil changes.

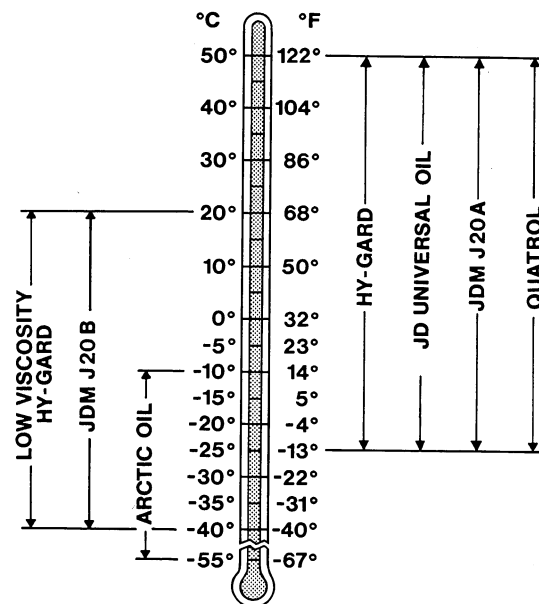
The following oils are preferred:

JOHN DEERE HY-GARD® Transmission/Hydraulic Oil
JOHN DEERE UNIVERSAL OIL

Other oils may be used if they meet one or more of the following:

- John Deere Specification JDM J20A
- John Deere Specification JDM J20B
- QUATROL®

For temperatures below -40°C (-40°F) oils meeting Military Specification MIL-L-46167A should be used.



ES 118 876

ES118876-ESPDBE-160589

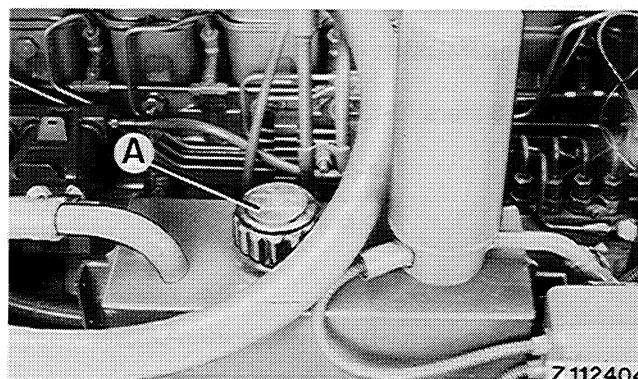
USE OF HYDRAULIC OIL IN LIFT AND STEERING HYDRAULICS

Capacity:

Complete hydraulic system: 25 l (6.6 U.S. gal.)

Reservoir: 20 l (5.3 U.S. gal.)

A—Reservoir cap with dipstick



Z 112404

Z112404-1166AZE-051289

USE OF HYDRAULIC OIL IN HYDRO-STATIC GROUND SPEED DRIVE

Capacity:

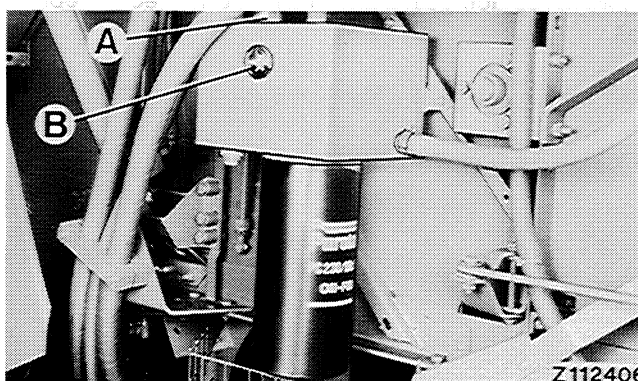
Complete system: 30 liters (7.9 U.S. gal.)

Complete system, four

wheel drive: 36 liters (9.5 U.S. gal.)

Reservoir with filter: 8 liters (2.1 U.S. gal.)

A—Reservoir cap
B—Sight glass



Z 112406

Z112406-1166AZE-070191

USE OF HYDRAULIC OIL IN BRAKE AND CLUTCH OPERATING SYSTEM

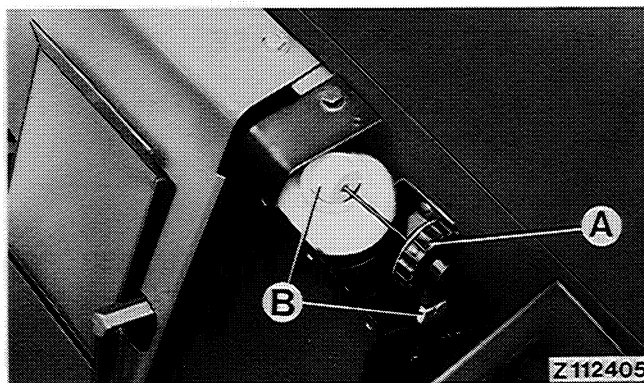
Capacity:

Complete system: 1.5 l (0.4 U.S. gal.)

Reservoir: 0.75 l (0.2 U.S. gal.)

A-Reservoir cap

B-Electrical oil level indicator



Z112405-1166AZE-051289

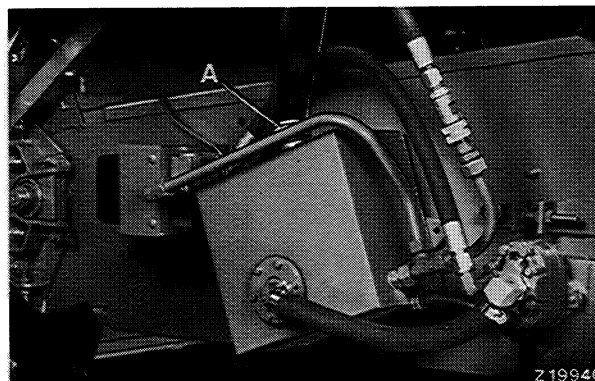
USE OF HYDRAULIC OIL IN HYDRO- STATIC REEL DRIVE

Capacity:

Complete system: 12 l (3.17 U.S. gal.)

Reservoir: 10 l (2.65 U.S. gal.)

A-Reservoir cap



Z19940-1166AZE-051289

EP MULTIPURPOSE GREASE

Use grease based on the expected air temperature range during the service interval.

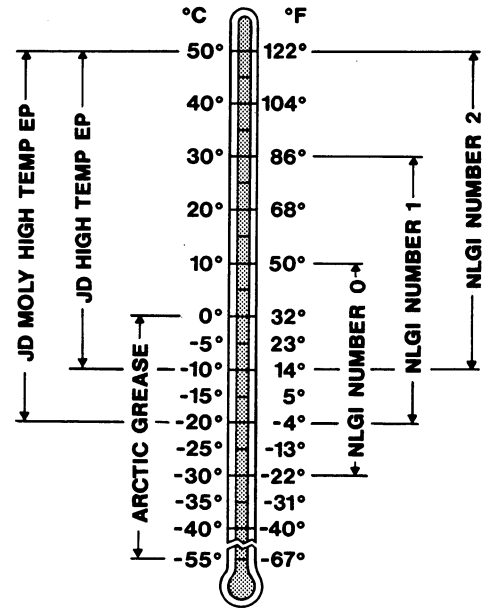
The following greases are preferred:

JOHN DEERE MOLY HIGH TEMPERATURE EP GREASE
JOHN DEERE HIGH TEMPERATURE EP GREASE

Other greases may be used if they meet one or more of the following:

- SAE Multipurpose EP Grease with 3 – 5% molybdenum disulfide
- SAE Multipurpose EP Grease

Greases meeting Military Specification MIL-G-10924C may be used as arctic grease.



ES 118878

ES118878-ESPD AE-141288

USING ALTERNATIVE LUBRICANTS

Conditions in certain geographical areas may require different lubricant recommendations than those printed in the operator's manual. Consult your JOHN DEERE dealer to obtain alternative lubricant recommendations.

Synthetic lubricants may be used if they meet the performance requirements as shown in this operator's manual.

Lubricant additives should not be used.

ALterna-ESPD AE-141288

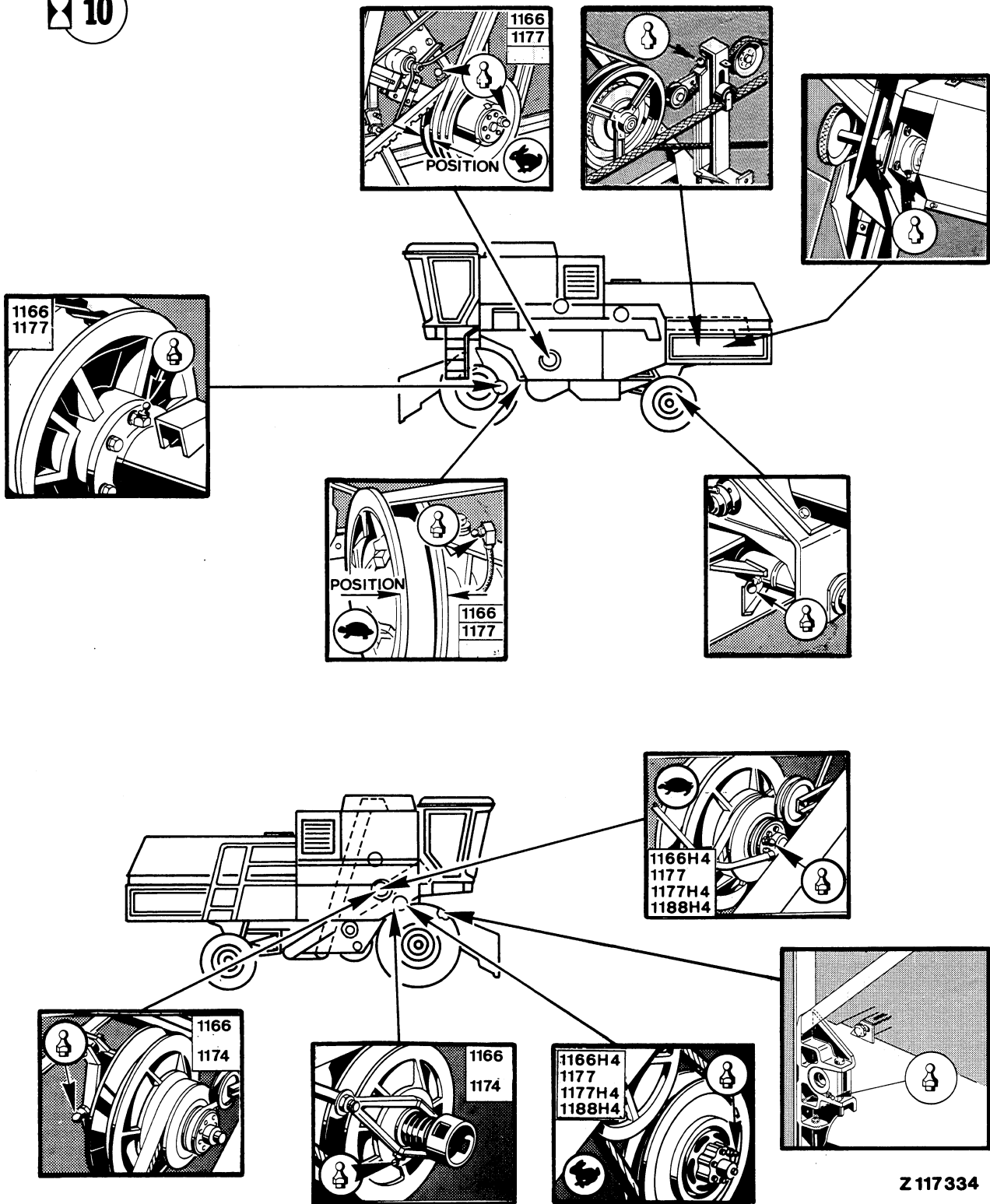
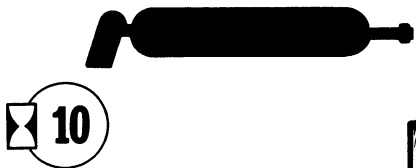
STORING LUBRICANTS

Your combine can only operate at top efficiency if clean lubricants are used. Use clean containers to handle all lubricants. Store them in an area protected from dust, moisture and other contamination.

KRAFTOM-1065CZE-000883

Lubricating Points

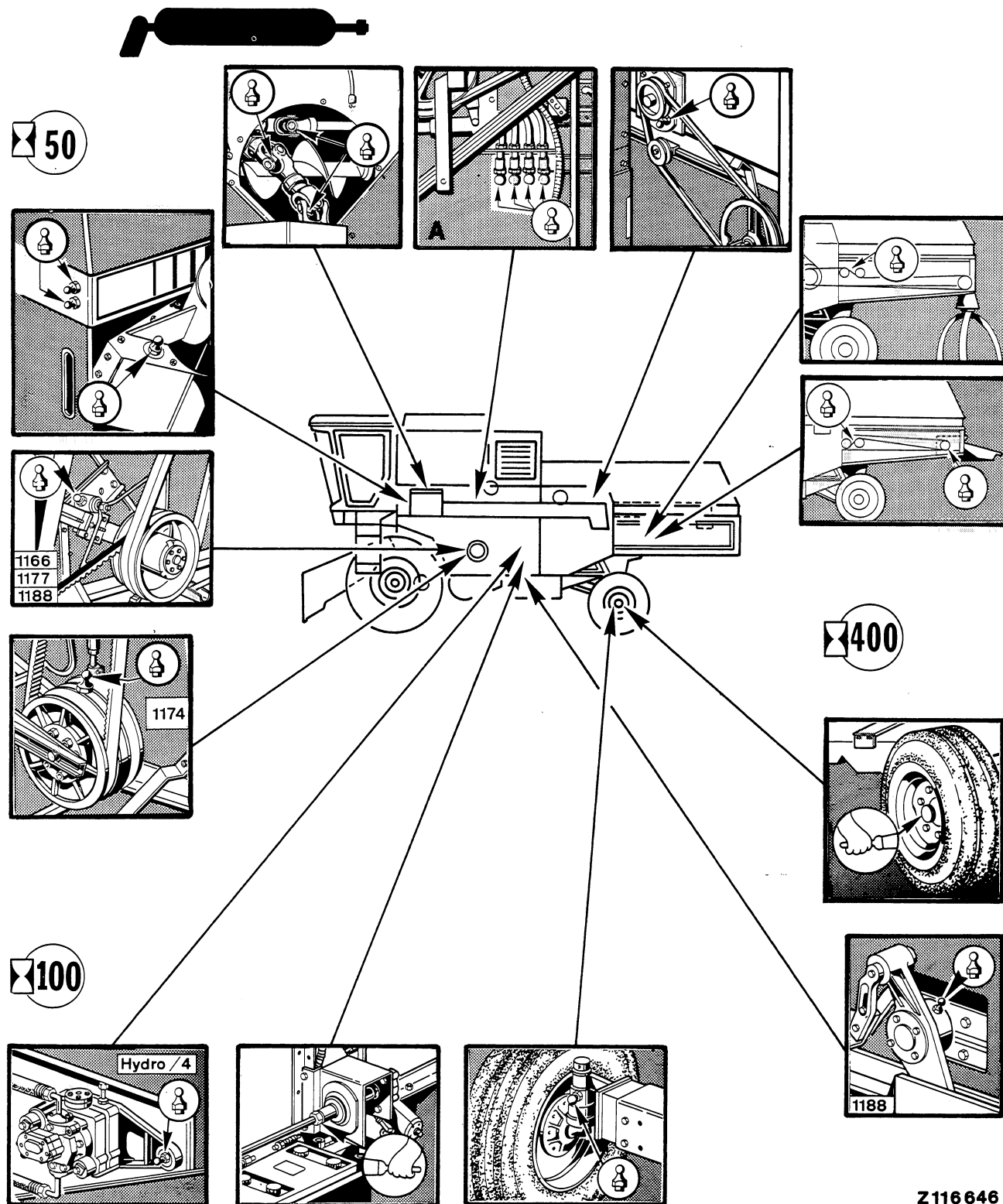
DAILY



Z 117334

Z117334-1166AZE-070191

MISCELLANEOUS - L.H. SIDE



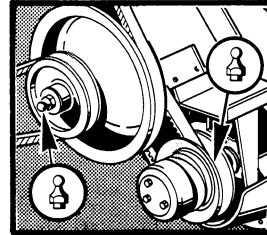
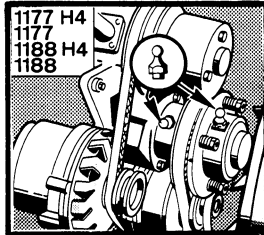
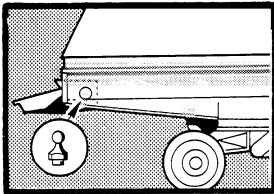
A—On certain combine types only 3 grease fittings

Z116646

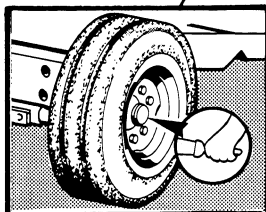
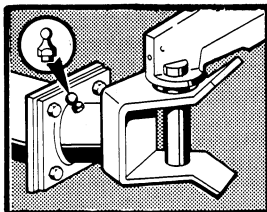
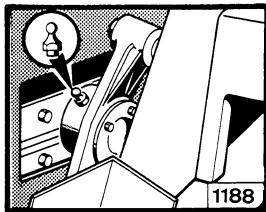
MISCELLANEOUS – R.H. SIDE



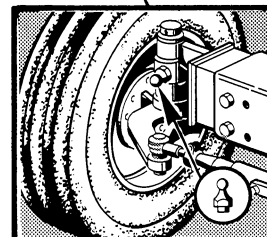
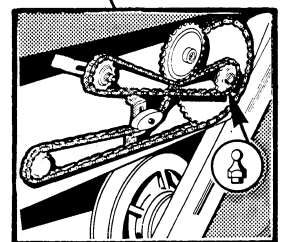
50



400



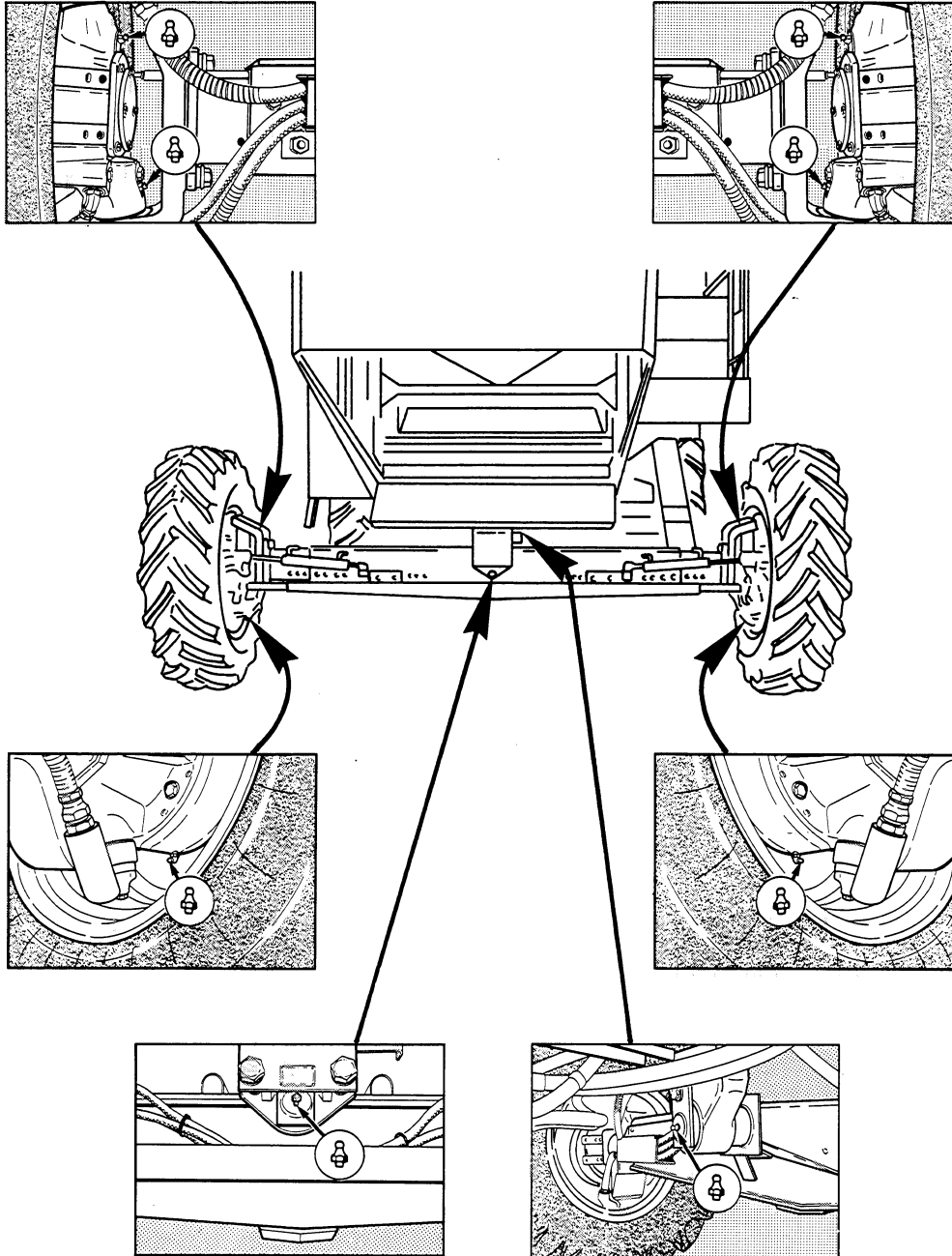
100



Z 113 644

Z113644-1166AZE-150488

FOUR WHEEL DRIVE – REAR AXLE

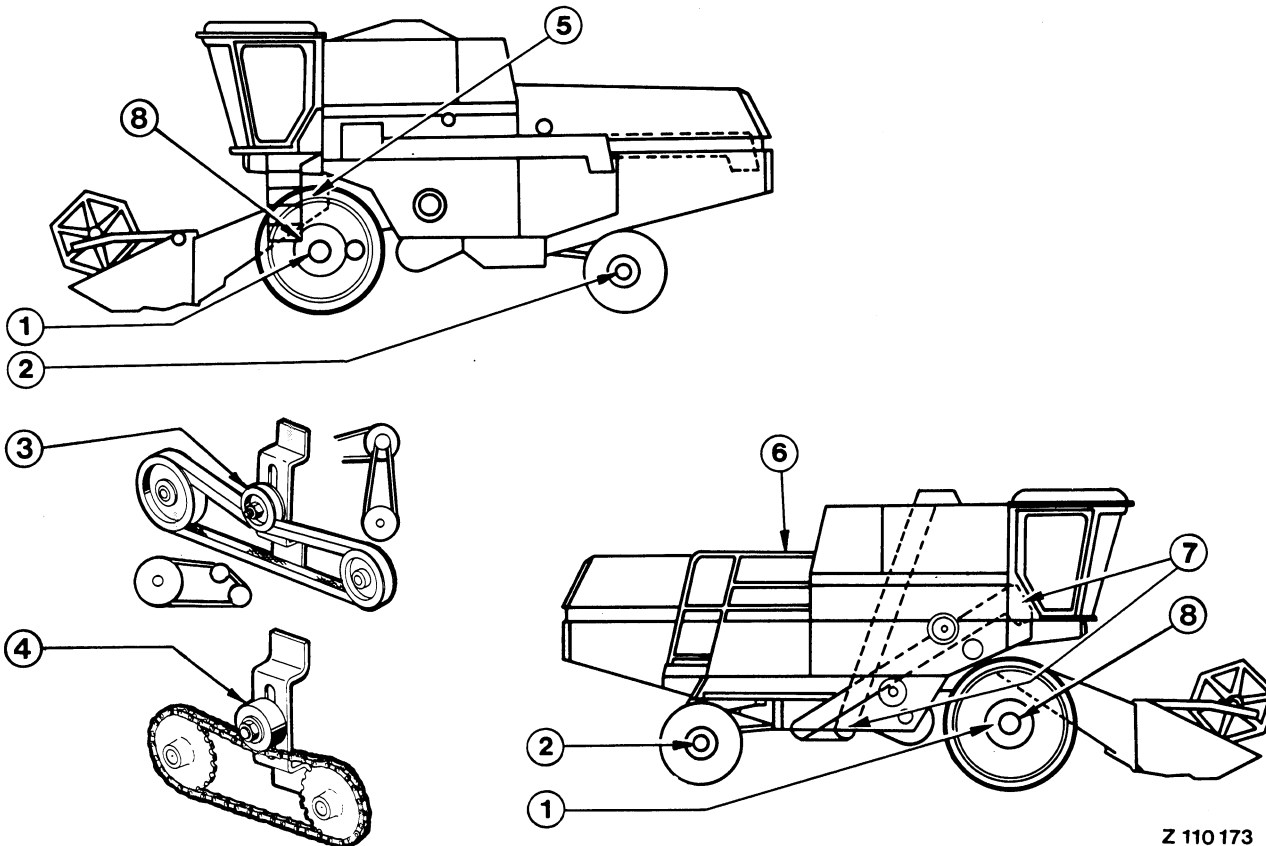


Z 117 335

Z117335-1166AZE-070191

Periodic Services

AFTER THE FIRST FEW HOURS OF OPERATION



Z 110 173

1. FRONT WHEEL ATTACHING NUTS
Tighten to 420 Nm (305 ft-lb) torque.

2. REAR WHEEL ATTACHING SCREWS
Tighten to 180 Nm (130 ft-lb) torque.

3. V-BELTS (when manually adjustable)
Check tension and adjust, if necessary.

4. DRIVE CHAINS (when manually adjustable)
Check tension and adjust, if necessary.

5. FEEDER CONVEYOR SLIP CLUTCH
Adjust slip clutch springs as required.

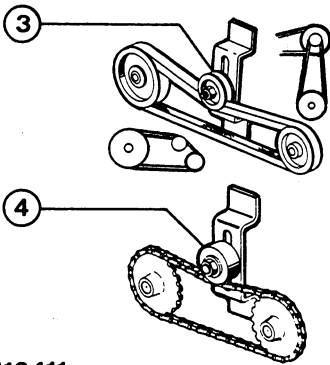
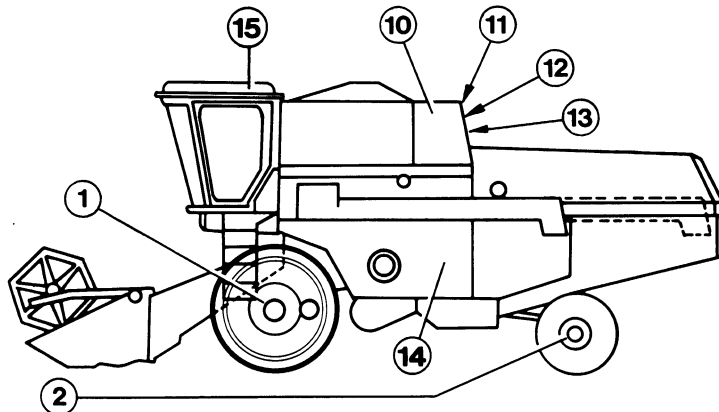
6. CROSS SHAKER TINES
Tighten attaching screws to 50 Nm (36 ft-lb).

7. ELEVATOR SLIP CLUTCH
Adjust slip clutch springs as required.

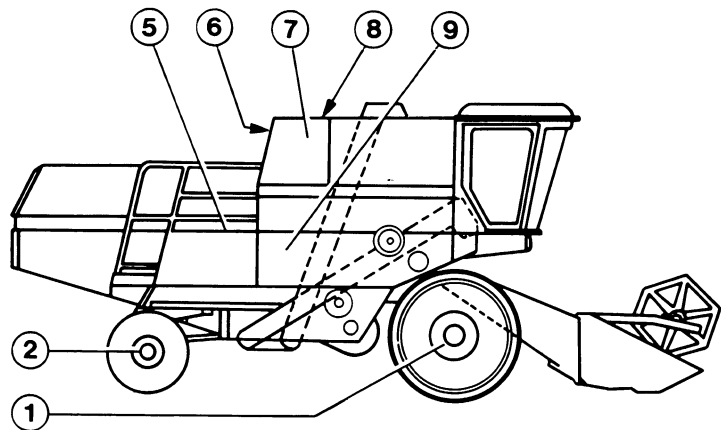
8. FRONT AXLE CARRIER SCREWS
Tighten to 315 – 330 Nm (228 – 235 ft-lb).
– ATTACHING SCREWS, front axle to frame
Tighten to 200 Nm (145 ft-lb).
– FINAL DRIVE ATTACHING SCREWS
For correct torque see “Service –
Transmission, Axles and Wheels”

Z110173-1166AZE-051289

EVERY 10 OPERATING HOURS



Z 112411



1. FRONT WHEEL ATTACHING NUTS

Tighten to 420 Nm (305 ft-lb) (until the first 50 hours of operation have been completed).

2. REAR WHEEL ATTACHING BOLTS

Tighten to 180 Nm (130 ft-lb) (until the first 50 hours of operation have been completed).

3. ALL V-BELTS (when manually adjustable)

Check tension and adjust, if necessary.

4. ALL DRIVE CHAINS (when manually adjustable)

Check tension and adjust, if necessary.

5. FUEL TANK

Fill fuel tank.

6. DRY-TYPE AIR CLEANER ELEMENT

Clean element (only if indicator light glows).

7. ROTATING RADIATOR SCREEN AND RADIATOR

Clean when necessary.

8. ENGINE COOLANT

Check level of coolant and top up as necessary.

9. WATER TRAP (when equipped)

Check sight glass and clean filter, if necessary.

10. CONDENSER (Air Conditioning System)

Clean when necessary.

11. FUEL FILTER

Check for water and sediment deposits.
If necessary, drain water and sediment deposits.

12. HYDRAULIC SYSTEM RESERVOIR

Clean exterior of reservoir and check oil level.

13. ENGINE CRANKCASE OIL

With combine standing on level ground, check level of crankcase oil. Top up when necessary.

14. HYDROSTATIC OIL RESERVOIR

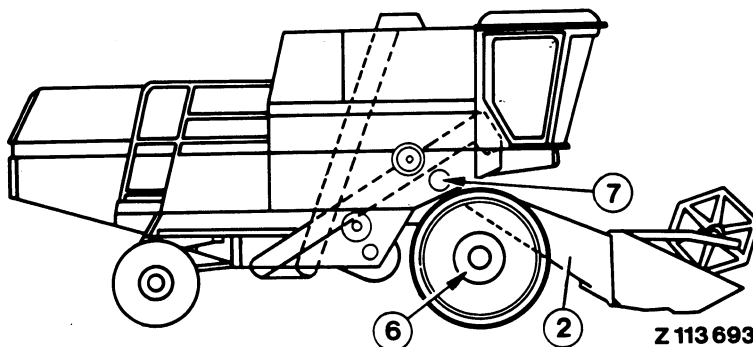
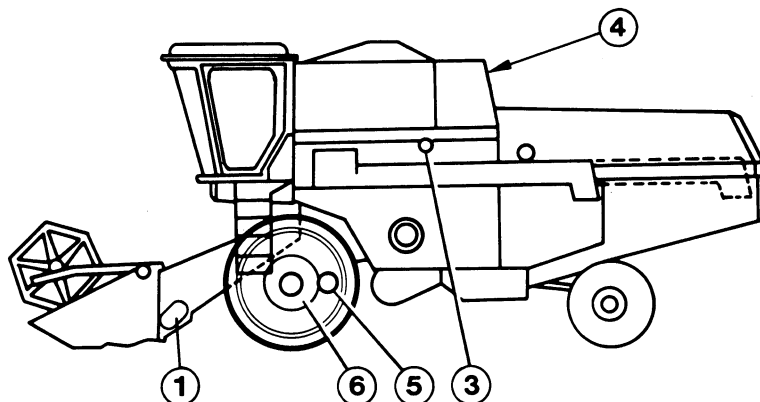
Clean exterior of reservoir and check oil level.

15. PAPER FILTER ELEMENT OF CAB

Clean when necessary.

Z112411-1188AZE-000987

AFTER THE FIRST 100 OPERATING HOURS



Z 113 693

Includes all work shown under "EVERY 10 OPERATING HOURS".

1. TRANSMISSION OIL – CHAIN TRANSMISSION – CUTTING PLATFORM DRIVE

Drain oil from chain transmission of cutting platform drive and refill with fresh oil.

2. HYDRAULIC OIL

Drain hydrostatic reel drive oil and refill with fresh oil.

3. ENGINE CRANKCASE OIL

Drain oil and refill crankcase with fresh engine oil.

4. ENGINE CRANKCASE FILTER

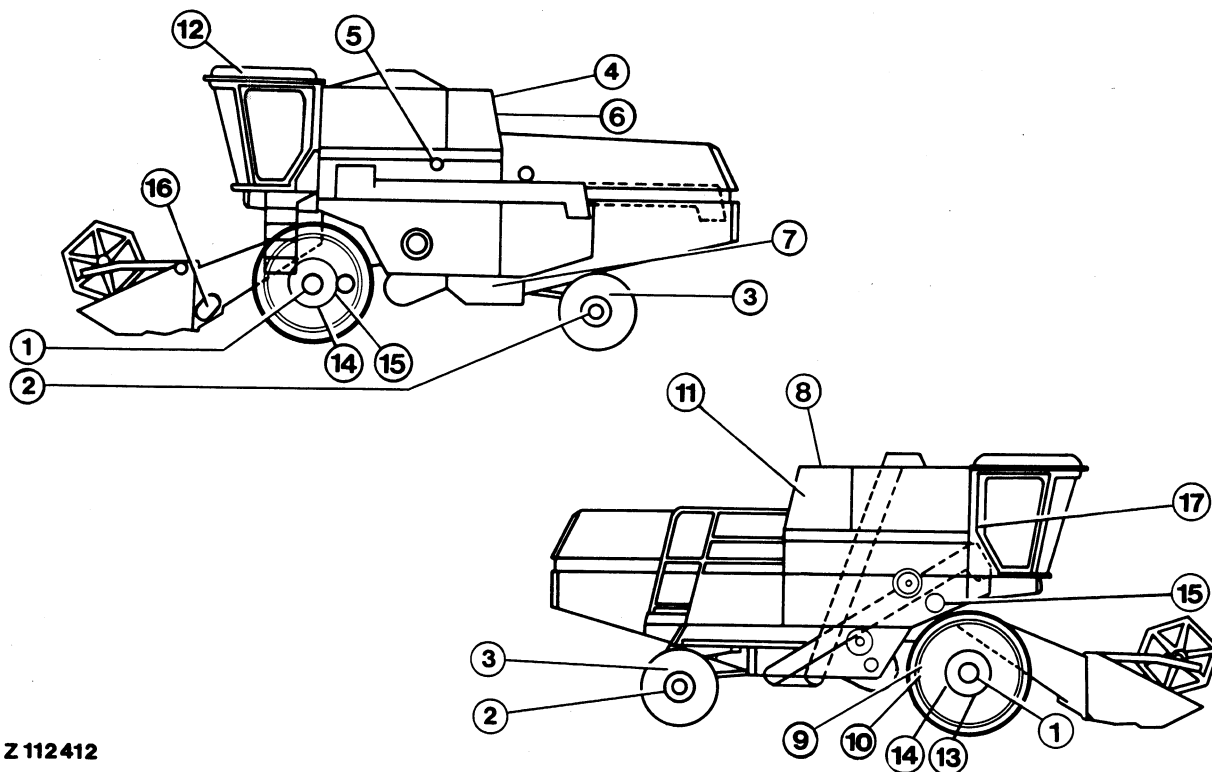
Replace filter element..

5. TRANSMISSION OIL – TRANSMISSION
Drain and refill with fresh oil.

6. TRANSMISSION OIL – FINAL DRIVES
Drain and refill with fresh oil.

7. TRANSMISSION OIL – CYLINDER REDUCTION GEAR
Drain and refill with fresh oil.

EVERY 200 OPERATING HOURS OR AFTER EACH HARVESTING SEASON



Z 112412

Includes all work shown under "EVERY 10 OPERATING HOURS".

1. FRONT WHEEL ATTACHING NUTS –
Tighten to 420 Nm (305 ft-lb).

2. REAR WHEEL ATTACHING BOLTS –
Tighten to 180 Nm (130 ft-lb).

3. STEERING CYLINDER ATTACHING SCREWS –
Tighten to 240 Nm (170 ft-lb).

4. FUEL FILTER ELEMENT – Replace.

5. ENGINE OIL –
Drain oil and fill crankcase with fresh oil.

6. ENGINE CRANKCASE FILTER – Replace.

7. BATTERY ELECTROLYTE –
Check specific gravity. If necessary, recharge
battery and/or top up with distilled water.

8. ENGINE COOLANT – Check coolant level. Top
up with antifreeze/water mixture, if necessary.

9. FOOT BRAKES – Check foot brake adjustment
and correct, if necessary.

10. PARKING BRAKE –
Adjust bowden cable, if necessary.

11. TURBOCHARGER – Check hardware and hose
connections for tightness.

12. AIR CONDITIONING SYSTEM PAPER FILTER
ELEMENT (if equipped) – Clean.

13. TRANSMISSION OIL LEVEL – Check oil level.

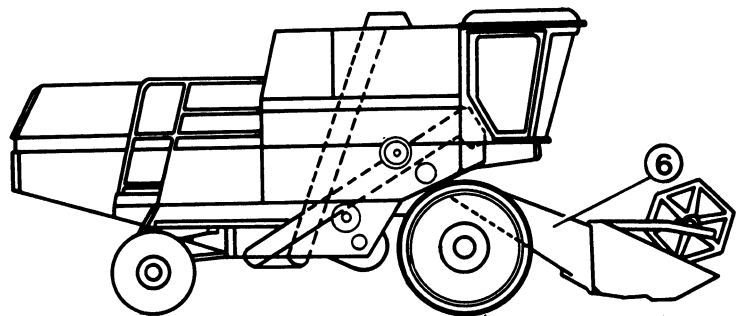
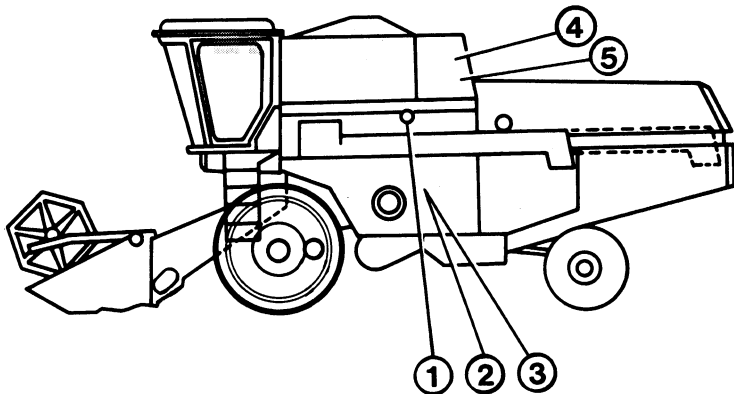
14. FINAL DRIVES OIL LEVEL – Check oil level.

15. OIL LEVEL – CYLINDER REDUCTION GEAR
Check level of oil in cylinder reduction gear.

16. OIL LEVEL – CHAIN TRANSMISSION –
CUTTING PLATFORM DRIVE
Check oil level.

17. BRAKE OIL
Check level of brake oil in reservoir.

EVERY 400 OPERATING HOURS



Z110176

Includes all work shown under "EVERY 10 OPERATING HOURS".

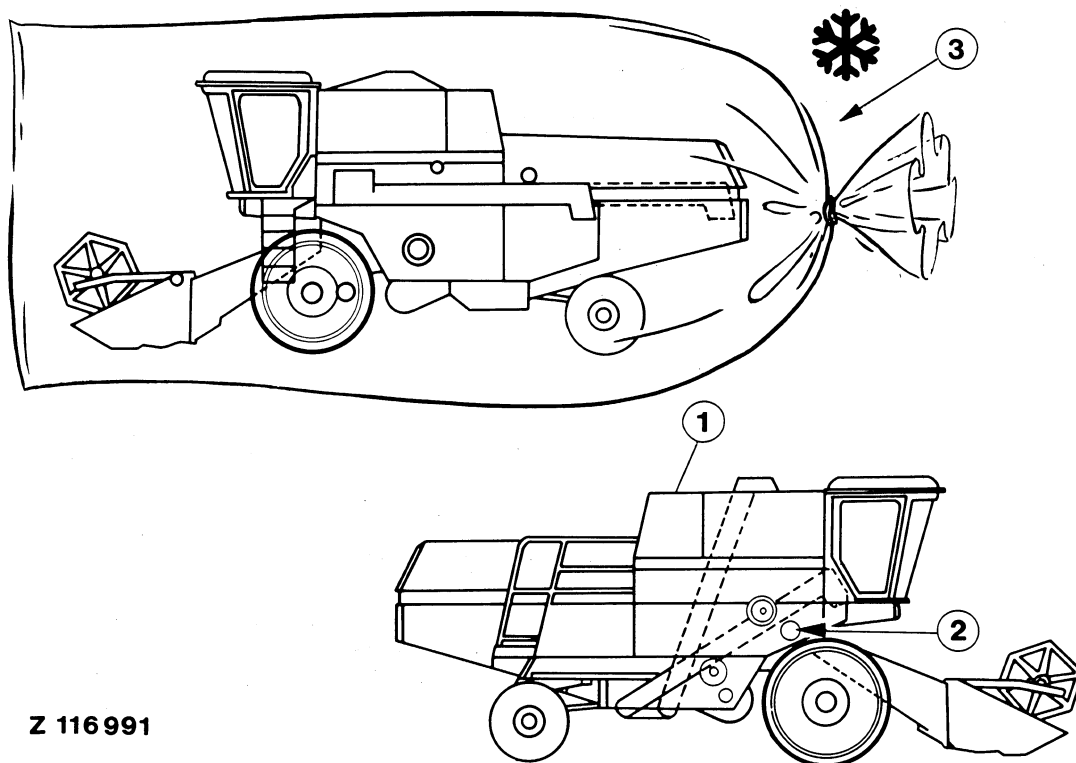
1. HYDRAULIC OIL (Lifting System)
Drain hydraulic oil and refill with fresh oil.
2. HYDROSTATIC SYSTEM OIL
Drain and refill with fresh oil.
3. HYDROSTATIC OIL FILTER
Replace filter.

4. HYDRAULIC OIL FILTER
Replace filter.

5. MECHANICAL FUEL TRANSFER PUMP
Clean.

6. REEL DRIVE HYDROSTATIC OIL AND FILTER
Drain reel hydrostatic drive oil, refill with fresh oil and clean filter.

AFTER THE HARVESTING SEASON



Z 116 991

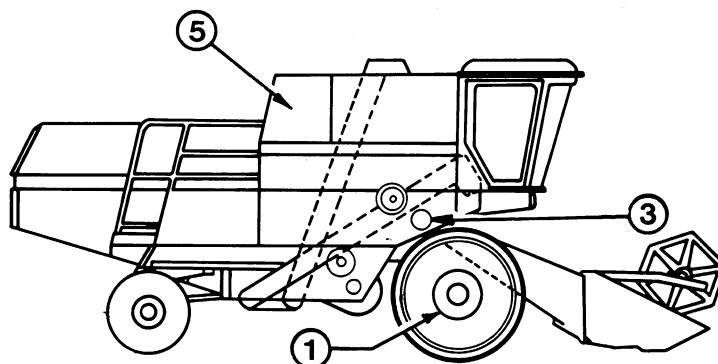
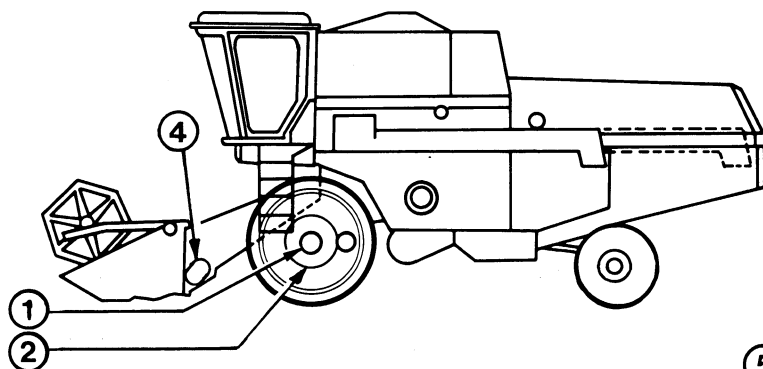
- 1. ROTARY RADIATOR SCREEN AND RADIATOR**
Thoroughly clean radiator screen and radiator.

- 2. VARIABLE CYLINDER DRIVE (Mechanically Adjustable)**
Have drive checked by your JOHN DEERE dealer.

- 3. COMPLETE COMBINE**
Protect combine from corrosion etc. Refer to "Storage".

Z116991-1166AZE-001289

EVERY 800 OPERATING HOURS



Z110 177

1. TRANSMISSION OIL – FINAL DRIVES
Drain and refill with fresh oil.
2. TRANSMISSION OIL – TRANSMISSION
Drain and refill with fresh oil.
3. TRANSMISSION OIL – CYLINDER DRIVE
REDUCTION GEAR
Drain and refill with fresh oil.

4. TRANSMISSION OIL – CHAIN TRANSMISSION
– CUTTING PLATFORM DRIVE
Drain and refill with fresh oil.
5. ENGINE VALVES
Have valve tappet clearances checked, and if
necessary adjusted by your local JOHN DEERE
dealer.

Z110177-1188AZE-000988

EVERY 1200 OPERATING HOURS

Replace primary and secondary engine air filter
elements.

PERI00M-1065AZE-100186

Service – V-Belts and Chains

V-BELTS

When installing V-belts, slacken belt tensioners. Never use force and pry belt over edge of sheave, as this will rupture one or more cords and weaken the belt. V-belts stretch when new. Therefore with a new belt check belt tension several times during the first few days of use. More belts fail from undertension than overtension.

Never use an aggressive cleaner to clean V-belts. Do not use petrol, benzine, turpentine or similar cleaning solvents. Recommended is: Clean belts with a rag dipped in liquid ammonia, soap-suds or with a 1 : 10 glycerine spirit mixture.

The life of a V-belt also depends on condition of V-belt sheaves. A damaged sheave will also damage the V-belt.

A slight fraying of the belt covering does not indicate belt failure. The frayed ends should be cut off.

IMPORTANT: At the end of harvesting season, remove V-belts and store in a cool, dry place to prevent damage from the elements.

WARKEIOM-1065AZE-001084

CHAINS

A chain drive will provide long, trouble-free operation when properly installed and serviced. The following information is important for machine maintenance and keeping repair costs to a minimum.

Check chains frequently during the first few hours of operation. Adjust tensioners to maintain correct tension. The amount of slack in a chain should be approximately 2% of the distance between centers of the drive and driven sprockets.

For example: If distance between center of drive sprocket and driven sprocket is 254 mm (10 in.), slack in chain should be 6 mm (1/4 in.).

This is measured at the center of span of chain opposite the tensioner sprocket. Make sure all slack is removed from tensioner sprocket side of the chain before measuring amount of slack on the opposite side.

Chains which are too slack will cause rapid and excessive wear of chain rollers, sprocket teeth, and possibly machine components which the chain is driving.

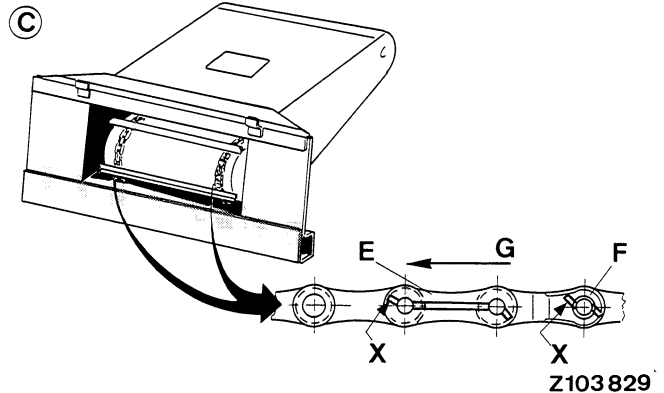
Chains which are tensioned too tight may result in damage to bearings and shafts. Too much chain tension can also cause rapid wear of the chain itself.

NOTE: For the correct service of chains, see also the section "STORAGE".

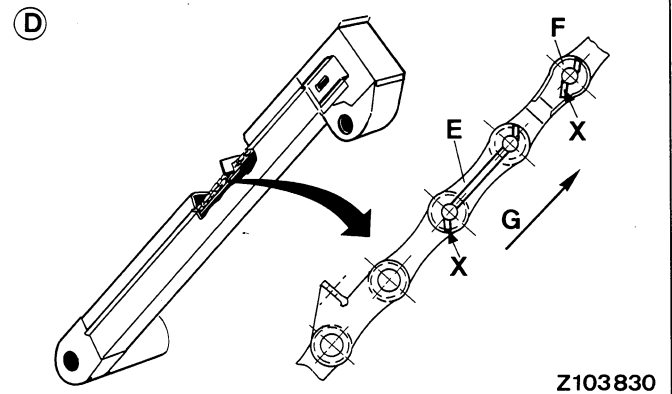
WARKEIOM-1065BZE-001084

DRIVE CHAINS – LOCKING WIRE

Insert drive chain locking wire, depending on position of chain tensioner and running direction of chain. Bend locking wire at "X" 45°.



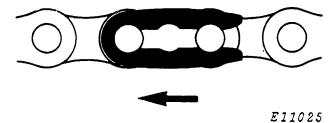
- C–Feeder house conveyor chains
- D–Elevator chains
- E–Chain connecting link
- F–Offset link
- G–Direction of chain travel
- X–Bend locking wire 45°



Z103829, Z103830-1166AZE-150488

DRIVE CHAINS – CONNECTING LINK

Certain chains are connected with a connecting link as shown opposite. Always connect chain as shown with closed end of connecting link towards direction of chain travel.



E11025-1065AZE-311084

CHAIN MAINTENANCE

Maintain drive chains regularly.

This can be done by:

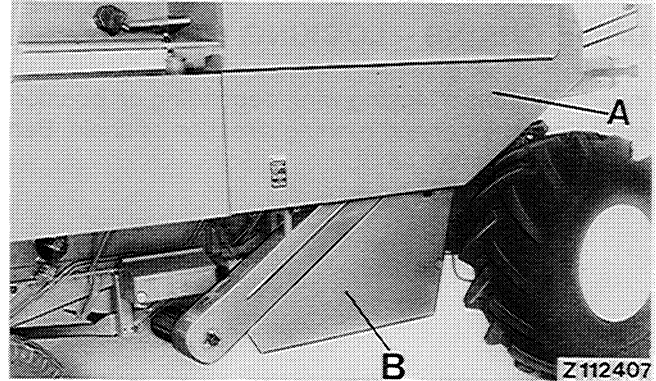
- Lubricating with oil or grease
- Using JOHN DEERE chain spray.

WARKETOM-1065AZE-311084

Service – Opening Side Guards and Inspection Covers

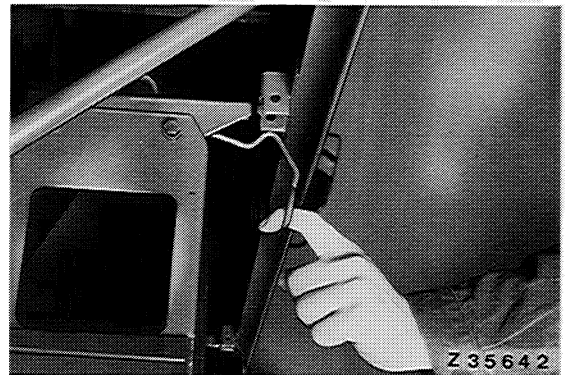
GUARDS – RIGHT-HAND

A–Large side guard
B–Fan guards



Z112407-1188AZE-010987

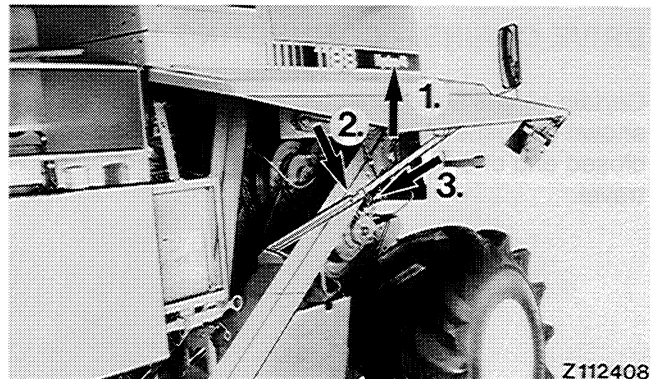
OPEN SPRING CATCH



Z35642-1065AZE-311084

SWING OPEN RIGHT-HAND GUARD

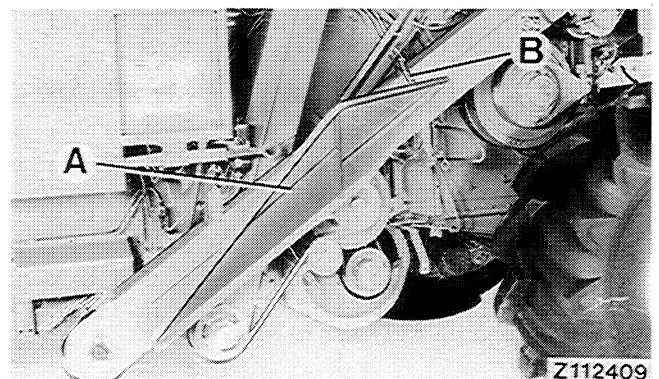
1. Raise guard.
2. Pull down stay.
3. Engage stay.



Z112408-1188AZE-010987

OPEN RIGHT-HAND SIDE FAN GUARD

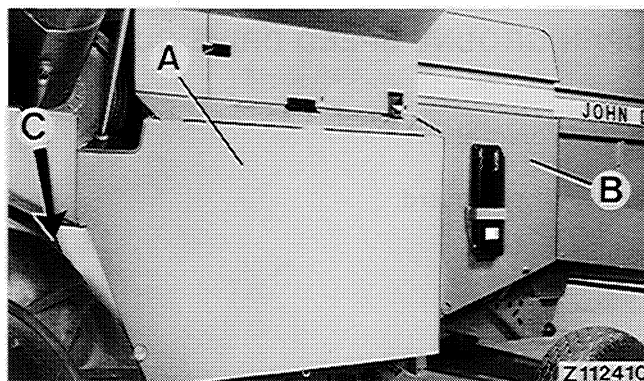
1. Open catch.
2. Swing open guard (A) and secure with spring clip (B).



Z112409-1188AZE-010987

GUARDS – LEFT-HAND

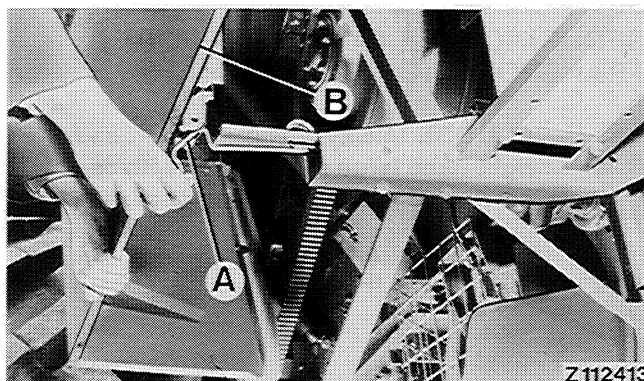
A–Large side guard
B–Rear guard – cross shaker drive
C–Ground speed drive guard



Z112410-1188AZE-010987

OPEN SPRING CATCHES

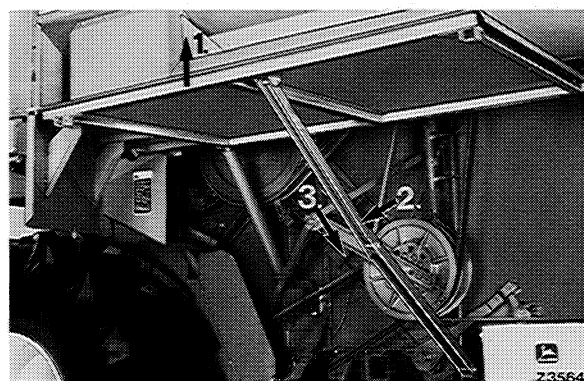
A–Spring catches
B–Large side guard, left-hand



Z112413-1188AZE-010987

SWING OPEN LEFT-HAND GUARD

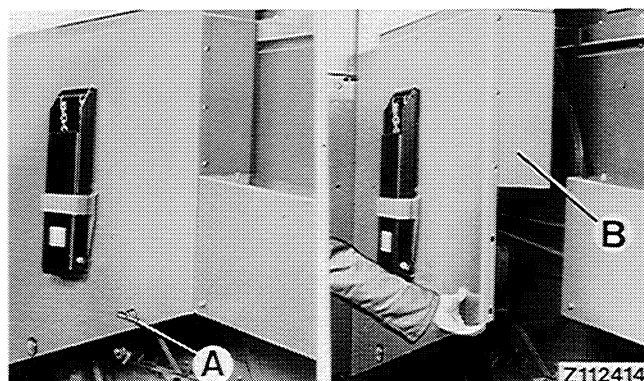
1. Raise guard
2. Pull down stay
3. Engage stay



Z35647-1065AZE-311084

OPEN CROSS SHAKER DRIVE GUARD

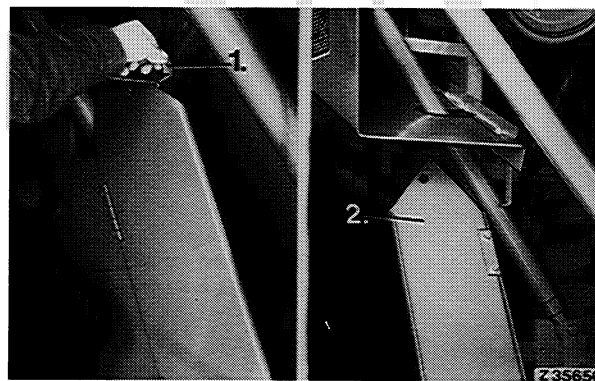
Release catch (A) and swing open guard (B).



Z112414-1188AZE-010987

OPEN GROUND SPEED DRIVE GUARD

1. Open bracket
2. Swing open guard



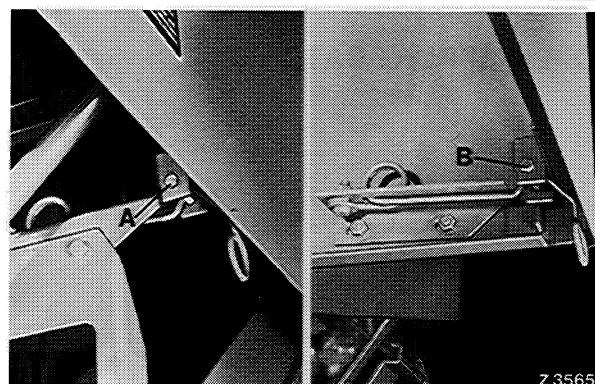
Z35650-1065AZE-311084

SECURING SIDE GUARDS BEFORE TRANSPORTING COMBINE



CAUTION: Always secure the left and right-hand large side guards with cap screws before transporting combine.

A-Right-hand
B-Left-hand



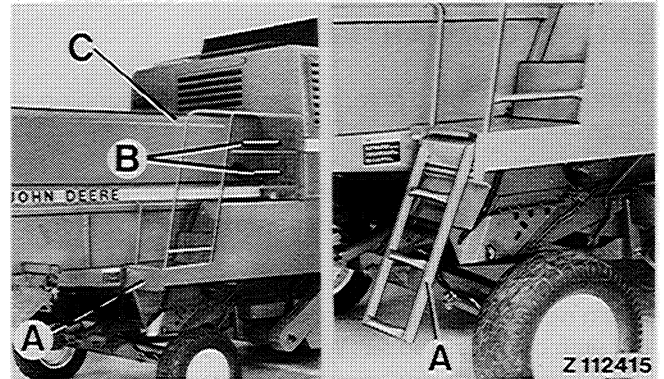
Z35651-1188AZE-010987

Service – Engine

REAR SERVICE PLATFORM

Access to the engine is via the rear service platform after having pulled out ladder (A).

Access to upper cross shaker hood (C) is via the two steps (B). The hood also serves as a service platform.



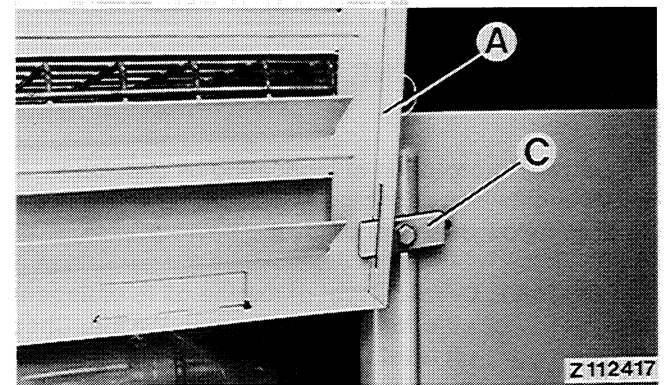
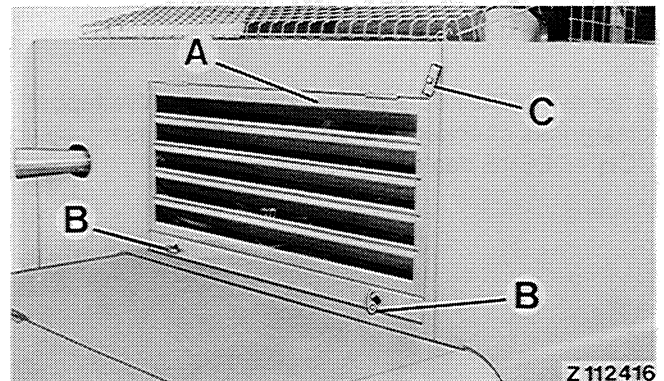
Z112415-1188AZE-000987

ACCESS TO ENGINE FROM THE REAR

Swing open service cover (A) after having opened both catches (B).

Secure service cover (A) by means of latch (C).

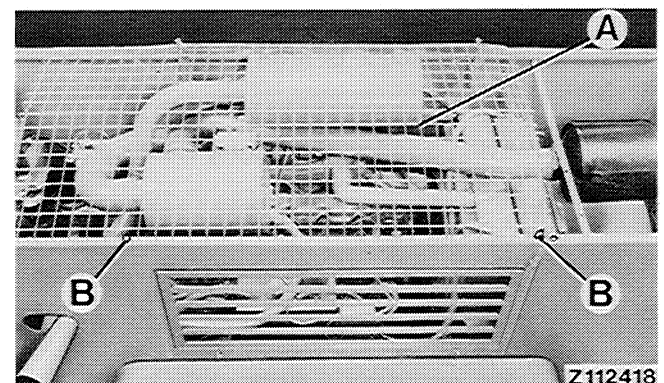
A-Service cover
B-Catches
C-Latch



Z112416,Z112417-1188AZE-000987

ACCESS TO ENGINE FROM ABOVE

Open right and left-hand spring catches (A) and swing wire mesh guard (B) upward.



Z112418-1188AZE-000987

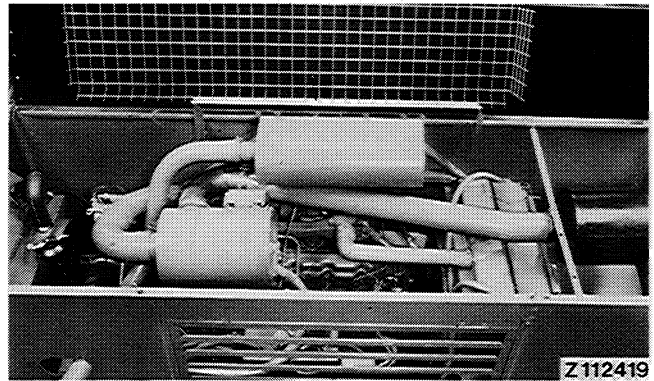
ENGINE COMPARTMENT

Always keep engine compartment and surrounding area clean.



CAUTION: A combination of dirt, oil and chaff in the engine compartment presents a fire hazard.

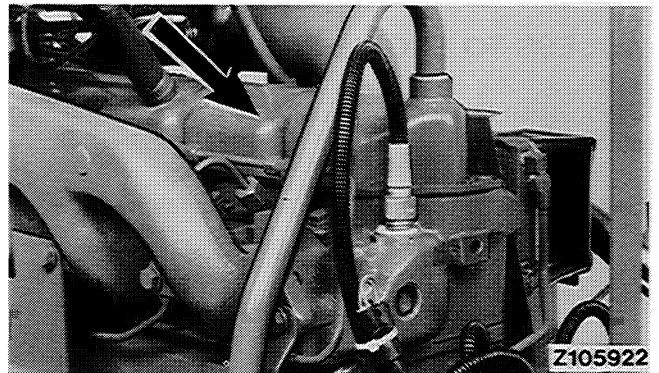
When necessary, clean engine compartment by blowing out with compressed air. Wipe clean any oil deposits.



Z112419-1188AZE-010987

ADJUSTING ENGINE VALVE TAPPETS

After every 800 hours of operation have valve tappet clearances checked and adjusted, if necessary, by your JOHN DEERE dealer.



Z105922-1065AZE-000186

CHECKING ENGINE CRANKCASE OIL LEVEL

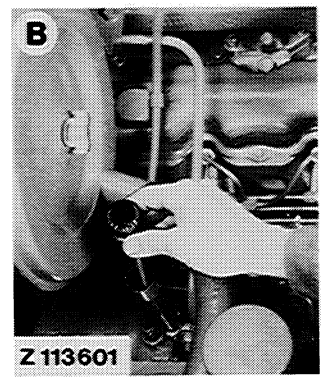
To prevent interruption of lubricating oil circulation when engine is in an inclined position, never allow oil to drop below minimum oil level.

IMPORTANT: Correct level of engine oil is indispensable for long engine service life. Check oil level with combine standing on level ground.

Oil level should be between upper and lower marks on dipstick.

Check engine crankcase oil level after every 10 hours of operation.

Before removing dipstick, thoroughly clean surrounding area.



A-1166SII, 1166SII Hydro/4, 1174SII,
1174SII Hydro/4, 1177SII
B-1177SII Hydro/4, 1188SII Hydro/4

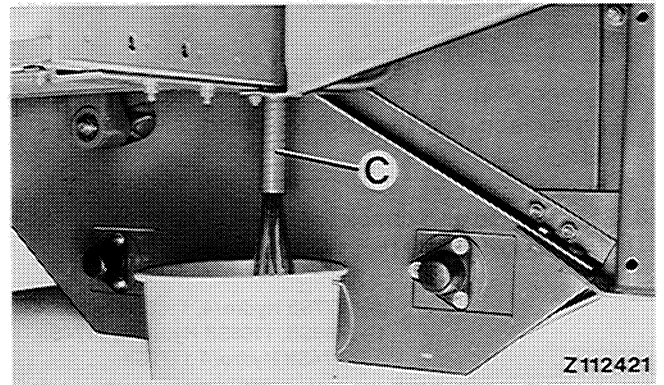
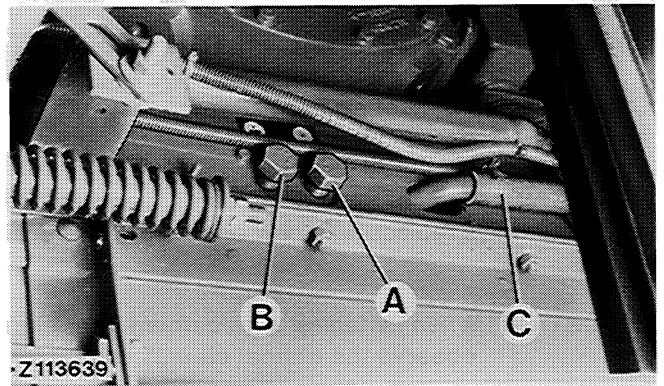
Z113600,Z113601-1166AZE-070191

DRAINING ENGINE OIL

Drain engine oil and refill with fresh oil after the first 100 hours of operation and thereafter every 200 hours or at the end of each harvesting season (whichever occurs first).

Drain oil when engine is hot and with combine parked on level ground. Carefully tighten plug (A) before re-filling crankcase with fresh oil.

A–Hex. plug to drain engine oil
B–Hex. plug to drain hydraulic oil
C–Drain tube

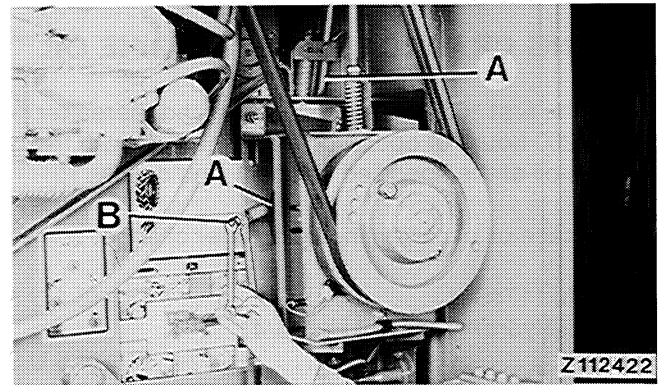


Z113639,Z112421-1166AZE-150488

DRAINING ENGINE OIL FILTER HOUSING (1177SII HYDRO/4, 1188SII HYDRO/4)

At every oil change when engine oil filter is replaced, drain oil filter housing.

A–Oil filter housing drain hose
B–Drain plug



Z112422-1166AZE-160790

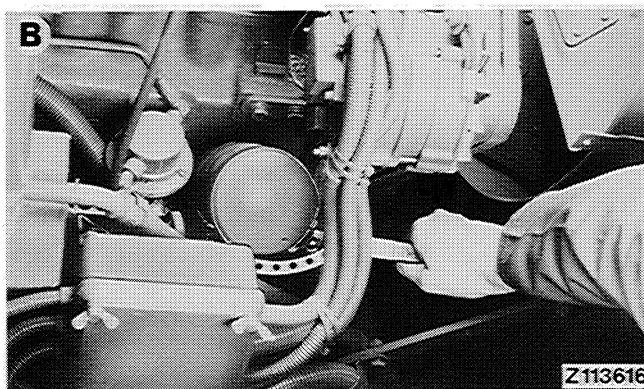
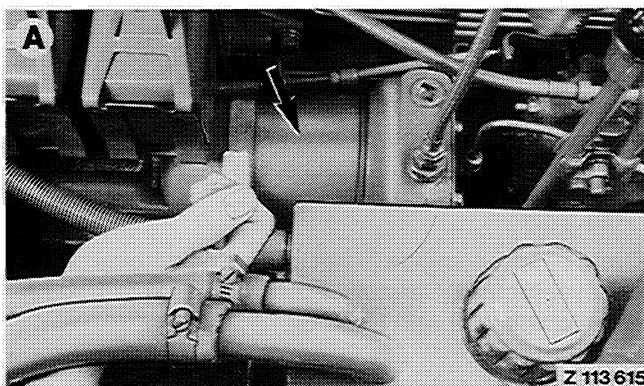
CHANGING ENGINE OIL FILTER ELEMENT

Change engine oil filter element after the first 100 hours of operation and thereafter every 200 hours of operation (with every oil change). Remove filter element by turning counterclockwise and discard. Always replace with new original JOHN DEERE filter element.

IMPORTANT: When installing replacement filter element observe the utmost cleanliness.

1. Use a new seal ring coated with oil when replacing filter.
2. Tighten filter element until seal ring touches mounting surface, and then tighten a further 1/2 to 3/4 turn.
3. Start engine and check for leaks. If necessary, tighten further by hand.

A–1177SII Hydro/4, 1188SII Hydro/4
B–1166SII, 1166SII Hydro/4, 1174SII,
1174SII Hydro/4 1177SII



Z113615,Z113616-1166AZE-070191

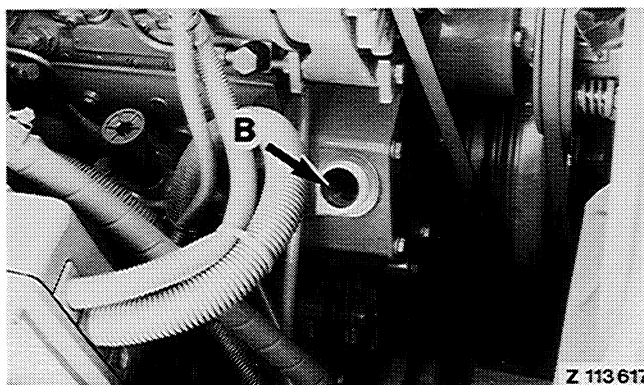
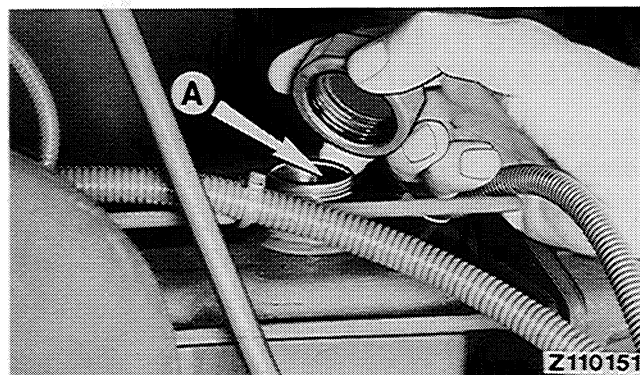
FILLING CRANKCASE WITH ENGINE OIL

After the first 100 hours of operation and thereafter every 200 hours of operation, fill crankcase with fresh engine oil of the specified viscosity and quality.

Crankcase oil capacity, including filter change:

1166SII, 1174SII: 13 l (3.4 U.S. gal.)
1166SII Hydro/4, 1174SII Hydro/4,
1177SII: 17 l (4.5 U.S. gal.)
1177SII Hydro/4,
1188SII Hydro/4: 20 l (5.3 U.S. gal.)

A–1166SII, 1166SII Hydro/4, 1174SII,
1174SII Hydro/4, 1177SII
B–1177SII Hydro/4, 1188SII Hydro/4



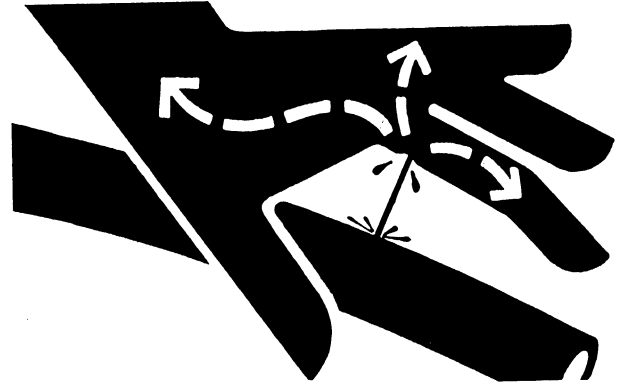
Z110151,Z113617-1166AZE-070191

Service – Fuel System

AVOID INJURY



CAUTION: Escaping diesel fuel under pressure can have sufficient force to penetrate the skin, causing serious personal injury. Before disconnecting lines, be sure to relieve all pressure. Before applying pressure to the system, be sure that all connections are tight and that lines, pipes and hoses are not damaged. Fuel escaping from a very small hole can be almost invisible. If injured by escaping fuel, see a doctor at once.



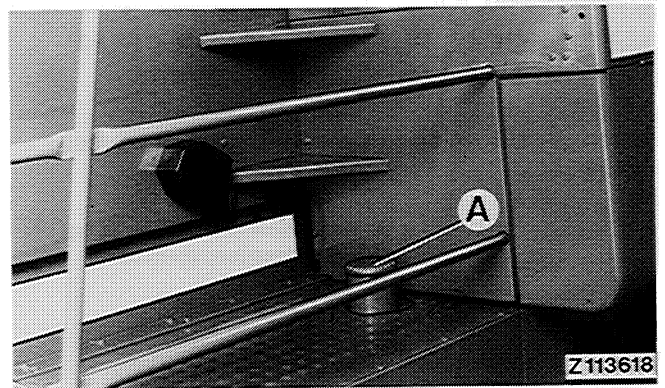
X9811-1068HAZE-000883

FUEL TANK – FILLER NECK

The fuel tank filler neck is closed with a tank cap (A).

The fuel tank is vented through an opening in the cap.

Clean the surrounding area of dust and chaff before removing tank cap.

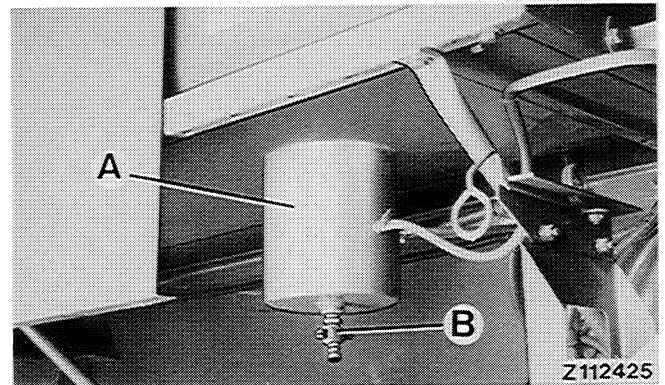


Z113618-1166AZE-150488

FUEL TANK – WATER TRAP

Water and sediment deposits are collected in water trap (A). Before starting daily operations, open drain tap (B) and drain water and sediment. Close the tap when clean fuel starts to flow.

IMPORTANT: In case of highly contaminated fuel, drain water trap several times daily, if necessary.



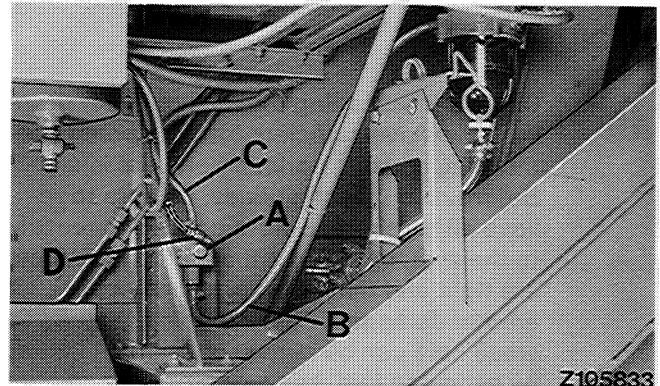
Z112425-1188AZE-000987

ELECTRIC FUEL TRANSFER PUMP

The electrical fuel transfer pump is located at the front next to the fuel tank.

In the event of malfunction, consult your JOHN DEERE dealer.

- A–Electric fuel transfer pump
- B–Suction line
- C–Pressure line
- D–Electric cable

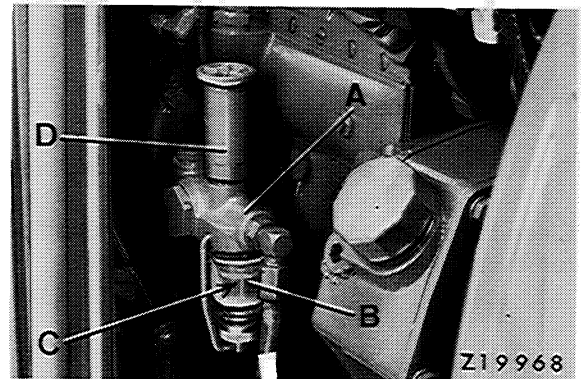


Z105833-1065AZE-001084

MECHANICAL FUEL TRANSFER PUMP (1177SII Hydro/4, 1188SII Hydro/4)

Clean glass bowl when water or sediment deposits are visible.

- A–Mechanical fuel transfer pump
- B–Sight glass (sediment bowl)
- C–Filter screen
- D–Hand primer pump



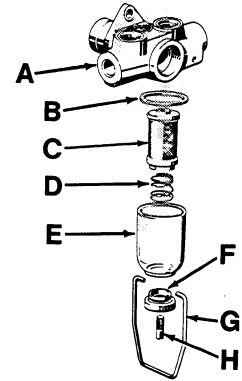
Z19968-1166AZE-160790

CLEANING MECHANICAL FUEL TRANSFER PUMP (1177SII Hydro/4, 1188SII Hydro/4)

Remove and clean sight glass (E). Check gasket (B) for serviceability and replace, if necessary. Having cleaned the mechanical fuel transfer pump, bleed fuel system.

A–Pump body
B–Gasket
C–Filter screen
D–Spring

E–Sight glass (sediment bowl)
F–Knurled clamping nut
G–Bail
H–Stud



Z 19969

Z19969-1188AZE-160790

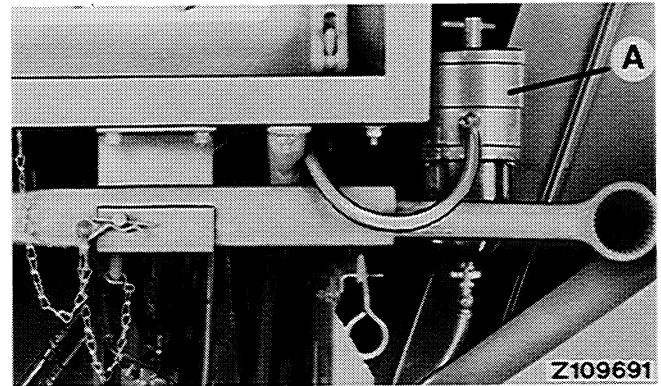
WATER TRAP

The fuel system incorporates a water trap (A). The fuel is filtered as follows:

1st Stage: Separation of solid impurities by centrifugal action of the water trap.

2nd Stage: Floating particles rise with the fuel into top of conical insert and collect on its sloping surface. The larger particles which build up in the course of time gradually sink to the sediment and water deposits collected in the first stage at the bottom of the sight glass.

3rd Stage: Fine filtering of the fuel through the replaceable filter element.



Z109691

Z109691-1065AZE-000186

DRAINING WATER TRAP, CLEANING FILTER

If water and sediment deposits are visible, shut off engine and open drain tap (A). Drain contaminated fuel into a suitable container. Close drain tap (A) as soon as fuel flows free from water and sediment deposits.

For further cleaning of water trap proceed as follows:

Close fuel shut-off tap (B).

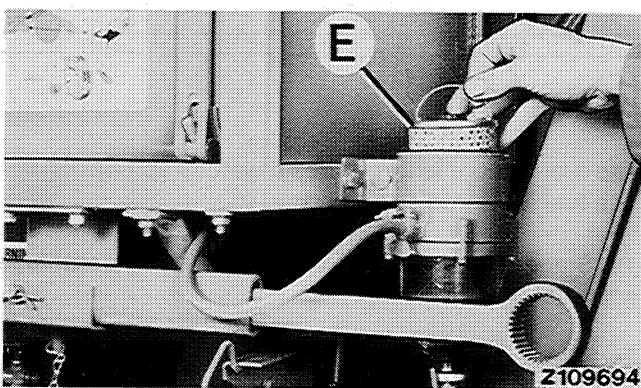
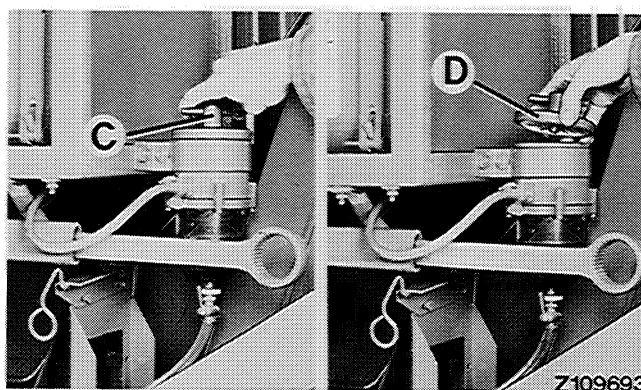
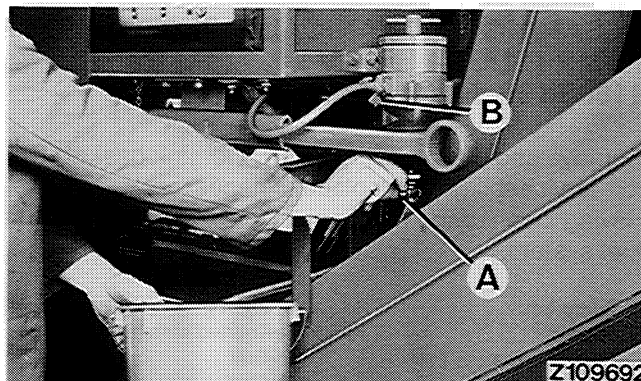
Loosen special screw (C).

Remove filter cover (D).

Remove filter element (E) and clean with clean Diesel fuel. After five to ten cleanings, replace filter element.

Finally reassemble water trap, reversing disassembly procedure.

A–Drain tap
B–Fuel shut-off tap
C–Special screw
D–Filter cover
E–Filter element



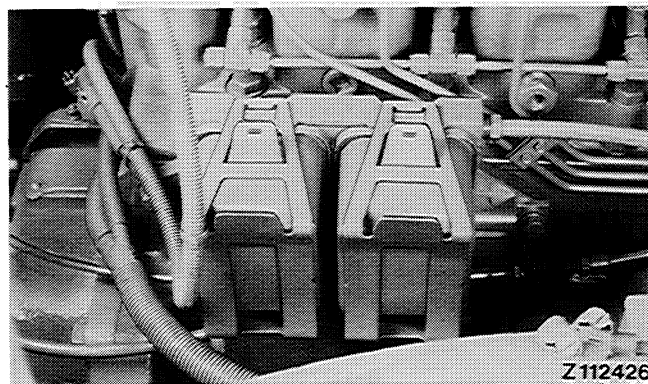
Z109692,Z109693,Z109694-1188AZE-000987

FUEL FILTERS

Replace filter elements as required, but not less than every 200 hours of operation.

Engines of combines 1166SII, 1166SII Hydro/4, 1174SII, 1174SII Hydro/4 and 1177SII are equipped with one fuel filter element.

The engines of combines 1177SII Hydro/4, and 1188SII Hydro/4 are equipped with two fuel filter elements.



Z112426-1166AZE-070191

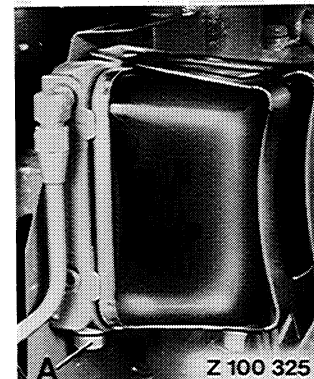
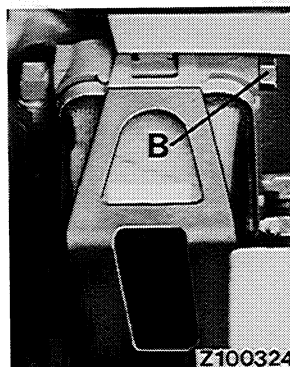
DRAINING FUEL FILTER

When water or sediment deposits are visible, loosen drain plug (A) and bleed screw (B).

Retighten drain plug (A) as soon as fuel flow is free from air bubbles.



CAUTION: To prevent a possible fire hazard, remove the switch key before servicing filters.



Z100324, Z100325-1065AZE-000186

REPLACING FUEL FILTER ELEMENT

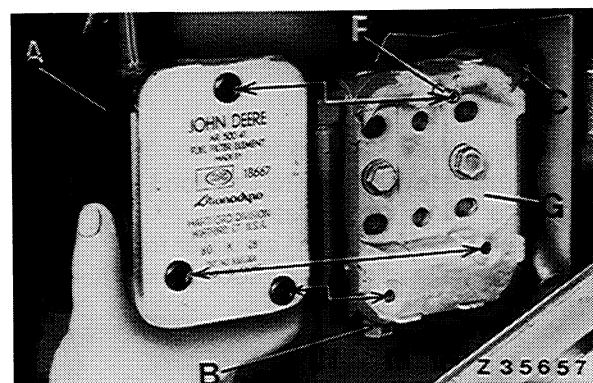
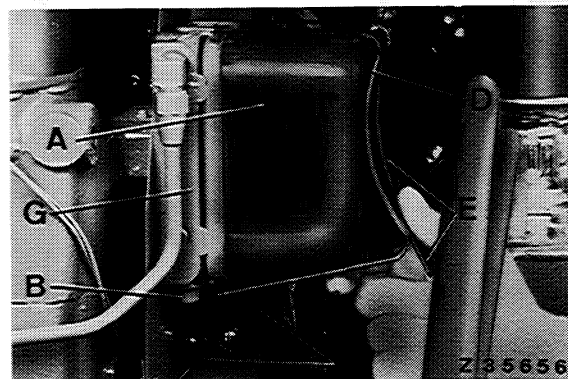
Replace as follows:

1. Drain filter element; see "Draining Fuel Filter".
2. Disengage filter retaining spring (D) by pressing down on tab (E) to disengage top hook of spring.
3. Remove filter element (A) and push new filter element over spring pin (F).
4. Reinstall filter retaining spring (D).
5. Bleed fuel system after each fuel filter change.

IMPORTANT: Any dirt lodged in groove of spring pin (F) or at end of spring pin during filter replacement will be washed into the fuel injection system and may result in severe damage to fuel injection pump or nozzles.

A–Filter element
B–Drain plug
C–Bleed screw
D–Filter retaining spring

E–Tab
F–Spring pin
G–Filter body



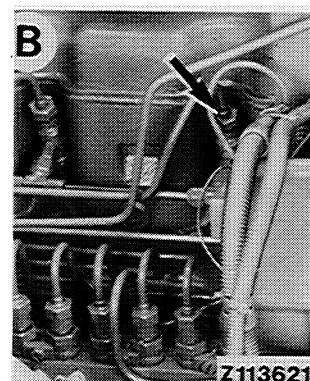
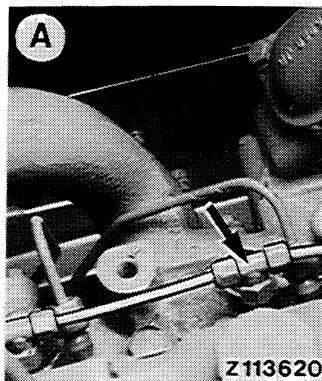
Z35656, Z35657-1166AZE-150488

CHECKING FUEL INJECTION NOZZLES

Whenever faulty or dirty fuel injection nozzles are indicated by abnormal engine operation, see your JOHN DEERE dealer.

IMPORTANT: Do not attempt to remove fuel injection nozzles as special tools are required.

A–1166SII, 1166SII Hydro/4,
1174SII, 1174SII Hydro/4, 1177SII
B–1177SII Hydro/4, 1188SII Hydro/4



Z113620, Z113621-1166AZE-070191

BLEEDING THE FUEL SYSTEM

General Information

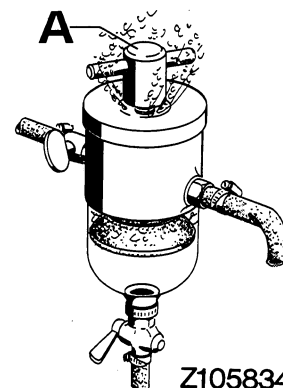
Always bleed the fuel system:

- After every fuel filter element replacement
- Whenever fuel tank has been run dry
- After repairs to the fuel system
- If the engine has been idle for a longer period

WARKRAFTOM-1188AZE-000987

In Vicinity of Fuel Tank

- Make sure that fuel tank is full
- Turn starter switch key to position I – electric fuel transfer pump will operate
- Loosen bleed screw (A) on water trap
- Retighten bleed screw as soon as fuel flow is free from air bubbles.



Z105834-1065AZE-001084

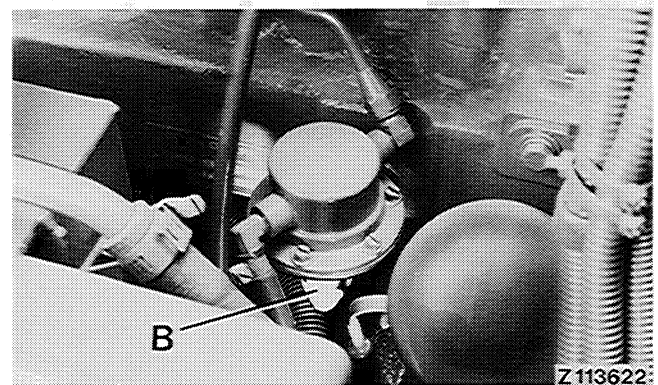
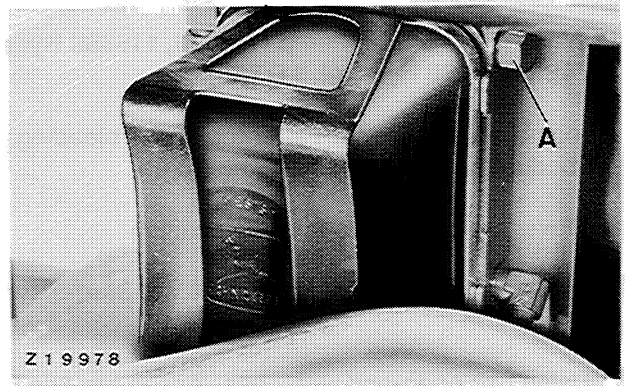
In Vicinity of Fuel Filter (1166SII, 1166SII Hydro/4, 1174SII, 1174SII Hydro/4, 1177SII)

Fuel transfer pump operating (current switched on):

Loosen bleed plug (A)

Pump hand primer lever (B) up and down until the fuel flows out free from air bubbles at the bleed plug.
Retighten bleed plug.

NOTE: If no resistance is felt when moving primer lever, turn engine over with starting motor to change position of primer pump cam. Ensure that primer lever is at the bottom of its stroke after bleeding.



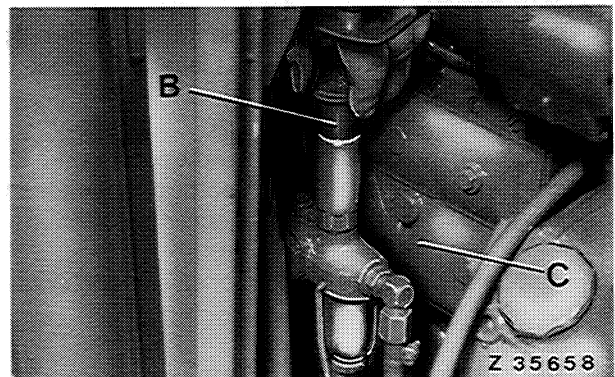
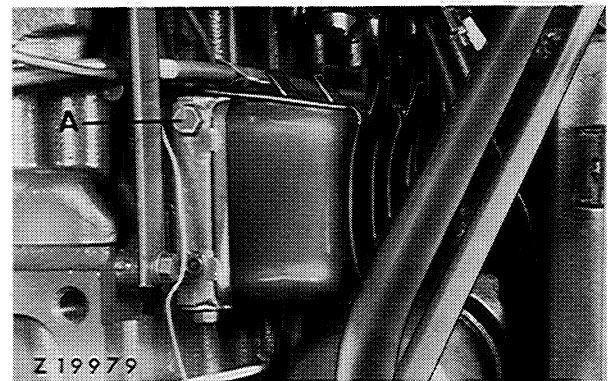
Z19978,Z113622-1166AZE-070191

In Vicinity of Fuel Filter (1177SII Hydro/4, 1188SII Hydro/4)

Electric fuel transfer pump operating:

- Loosen bleed plug (A)
- Unscrew fuel pump primer piston (B) on injection pump (C) and pump piston until fuel flows out free from air bubbles at bleed plug (A). Retighten bleed plug. Screw in primer piston again at lowest point of its stroke.

NOTE: If no resistance is felt when moving the primer piston, turn engine over with starting motor to change position of primer pump cam.

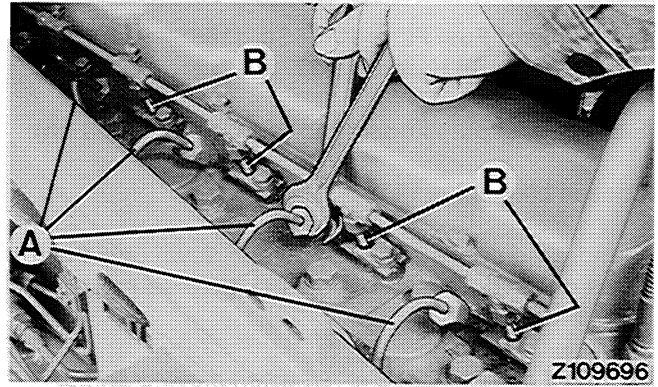


Z19979,Z35658-1166AZE-160790

Behind Fuel Injection Pump (1166SII, 1166SII Hydro/4, 1174SII, 1174SII Hydro/4, 1177SII)

If engine will still not start after the above bleeding procedures, continue as follows:

1. Move throttle lever to fast idle position.
2. Switch on electric fuel transfer pump: Starter switch to position I.
3. Using two open-end wrenches, loosen fuel line (A) on at least three injectors (B).
4. Turn over engine with starter motor until fuel flows free from air bubbles out of loosened fuel injector connections. Retighten connections.

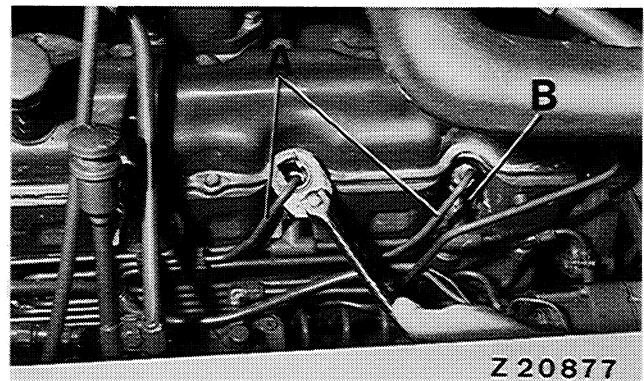


Z109696-1166AZE-070191

Behind Fuel Injection Pump (1177SII Hydro/4, 1188SII Hydro/4)

If engine will still not start having carried out previous steps, proceed as follows:

1. Place throttle lever in slow idle position.
2. Switch on electric fuel transfer pump – starter key to position I.
3. Push fuel injection pump shut-off knob in.
4. Using an open ring ratchet spanner as shown opposite, loosen fuel lines (A) on at least three fuel injectors (B).
5. Unscrew hand primer pump and operate until fuel flows out of loosened fuel injector connections free of air bubbles. Retighten fuel injector connections.
6. Push hand primer to bottom of stroke and screw in position.



NOTE: If engine still does not start, loosen all fuel injector lines and repeat the above procedure.

Z20877-1166AZE-160790

Service – Cooling System

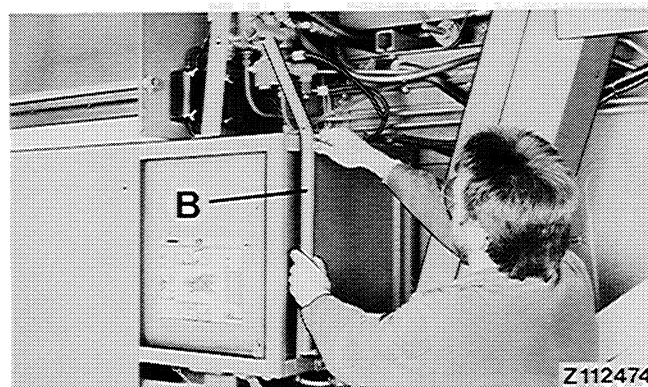
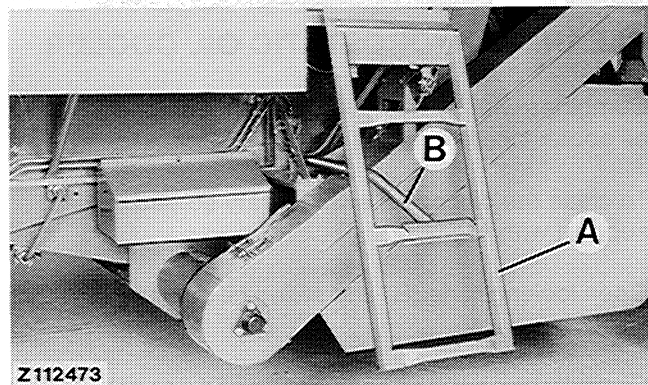
ACCESS – R.H. SIDE OF ENGINE

Pull rear access ladder (A) all the way out.

Connect ladder to fuel tank frame.

Lift stay (B) out of storage bracket.

Insert stay into side panel to support access ladder.



Z112473, Z112474-1188AZE-000987

CLEANING RADIATOR AND ROTARY SCREEN

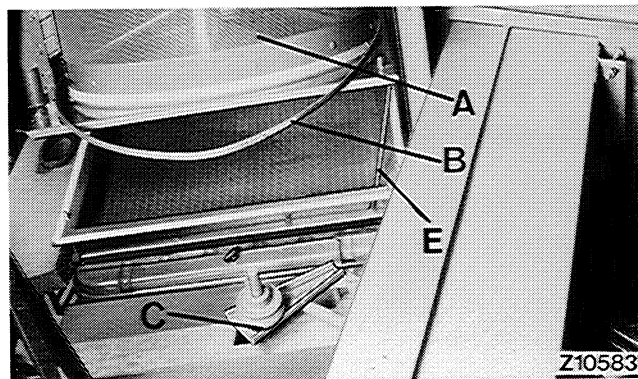
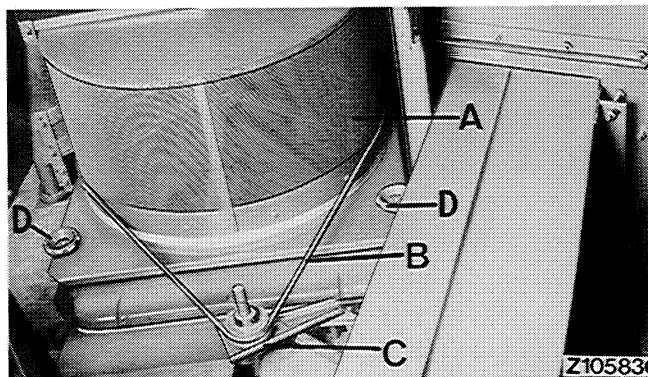
Keep exterior of rotary screen (A) clean. Remove chaff and dust deposits daily. In very dusty harvesting conditions clean several times daily.

For cleaning proceed as follows:

- Remove drive belt (B) from spring-loaded tensioner (C).
- Remove knurled nuts (D).
- Swing rotary screen (A) upward and support with rod (E).
- Clean exterior of radiator with a brush. When very dirty, use compressed air or a weak water jet, directing air or water in opposite direction to normal air flow.

A–Rotary screen
B–Drive belt
C–Spring loaded tensioner

D–Knurled nuts
E–Support rod



Z105836, Z105837-1065AZE-311084

CLEANING HYDROSTATIC OIL COOLER

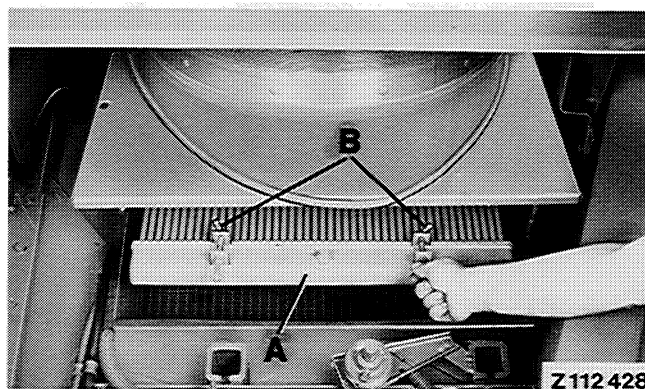
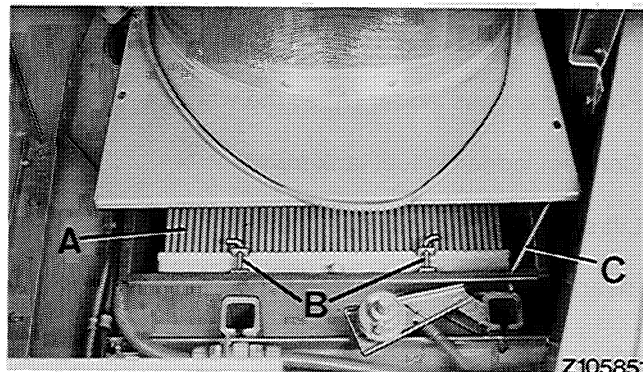
Combines with hydrostatic drive are equipped with an oil cooler located in front of the radiator.

To clean the oil cooler, swing rotary screen upward and support with rod (C).

Open locking rods (B) and swing oil cooler (A) to the front.

Carefully clean tubes of oil cooler and fins of radiator.

A–Oil cooler
B–Locking rods
C–Support rod

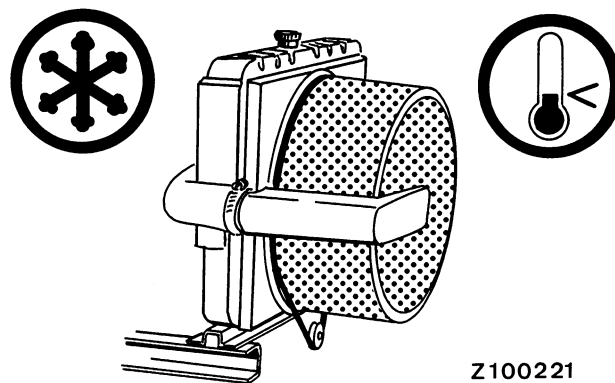


Z105851,Z112428-1188AZE-010987

ROTARY SCREEN – WINTER OPERATION

IMPORTANT: Clean rotary screen before starting the engine when iced or covered with snow. Avoid damage to drive belt.

When operating combine at temperatures below freezing point (0°C; 32°F), make sure that rotary screen is free to turn before starting the engine.



Z100221

Z100221-1055AZE-000883

ENGINE COOLANT

Check Level of Coolant Daily (After Every 10 Hours of Operation)



CAUTION: Remove radiator filler cap only when coolant temperature is below boiling point (wait a few minutes). Then loosen cap slightly to the stop to relieve pressure before removing cap.

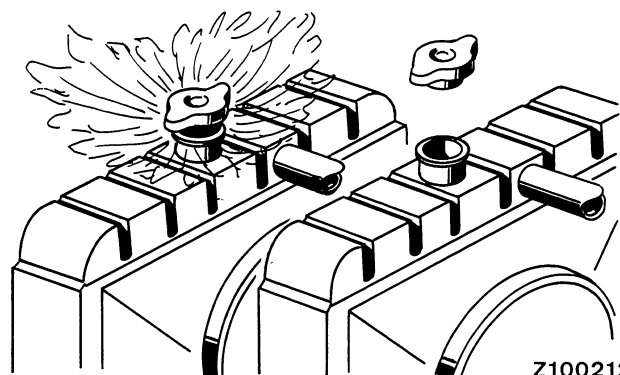
Always shut off engine before checking coolant level.

Check Condition of Coolant

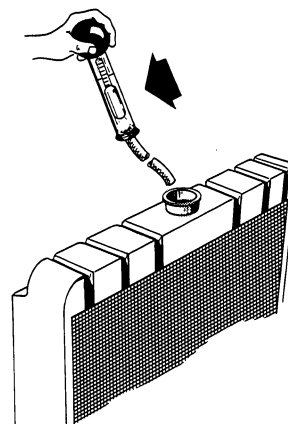
Check condition of coolant mixture before the winter season. Coolant should protect engine against frost down to -36°C (-35°F).

IMPORTANT: Use only John Deere Engine Cooling Fluid in the cooling system, independent of the season. Drain system and refill with fresh coolant every 2 years.

Never use any cooling system sealing additives.



Z100212



Z39443

Z100212,Z39443-1065AZE-001084

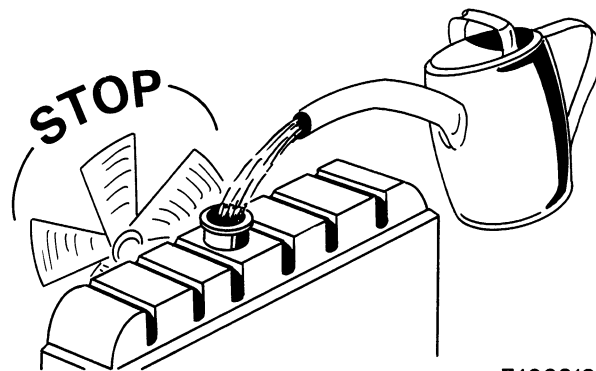
ADDING COOLANT



CAUTION: 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 completely removing cap.

IMPORTANT: Add a recommended coolant (see “Fuels, Lubricants, Hydraulic Oil, Coolant and Capacities”). Never use a cooling system sealing additive. Never pour cold liquid into a hot engine, as this may crack the cylinder head or block. Do not operate engine without coolant.

Add coolant when the cooling system is cold. Coolant level should be approx. 20 – 30 mm (3/4 – 1-1/4 in.) below upper edge of header tank.



Z100213

Z100213-1166AZE-150488

FLUSHING SEQUENCE – COOLING SYSTEM

1. Drain and flush the cooling system at least every two years.
2. Having drained off all coolant, close drain tap or replace plug. Fill system with clean water.
3. Start engine and run until it reaches operating temperature.
4. Turn cab heater on (when equipped), and leave on until you have finished cleaning the system.
5. Stop engine and drain system immediately before rust and sediment deposits settle.
6. Close drain tap or replace plug. Clean system with commercial cooling system cleaner, following the instructions supplied with the cleaner.
7. Drain cooling system cleaner and refill system again with clean water. Shut off engine when water reaches operating temperature and drain system again..
8. Refill system with the specified coolant (see “Engine Coolant”).

IMPORTANT: The cooling system must always be filled with **JOHN DEERE Coolant**, irrespective of the season.

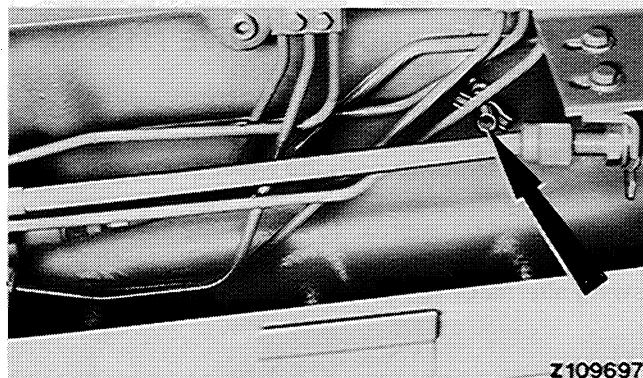
WKUEHLOM-1188AZE-000987

FLUSHING THE COOLING SYSTEM

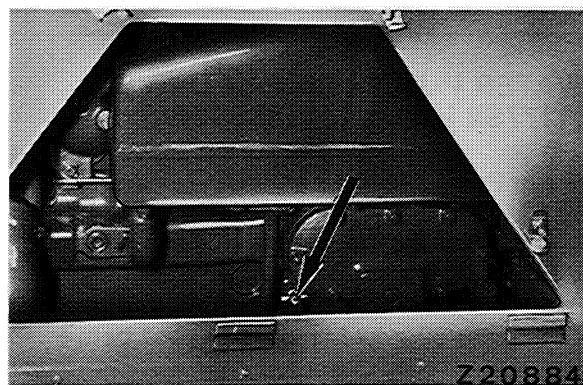
Cylinder Block Drain Tap

*Drain Tap on Cylinder Block of 1166SII,
1166SII Hydro/4, 1174SII, 1174SII Hydro/4 and
1177SII Combines*

NOTE: Some combines are equipped with a drain plug
instead of a drain tap.



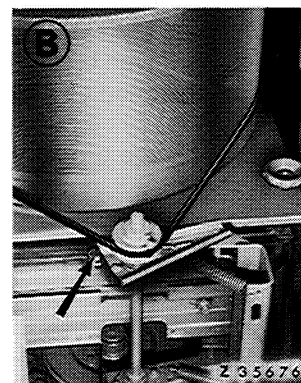
*Drain Tap on Cylinder Block of
1177SII Hydro/4, 1188SII Hydro/4 Combines*



Z109697,Z20884-1166AZE-070191

Radiator Drain Plug

A—Drain plug on radiator of
1177SII Hydro/4, 1188SII Hydro/4
B—Drain plug on radiator of 1166SII,
1166SII Hydro/4, 1174SII,
1174SII Hydro/4 and 1177SII

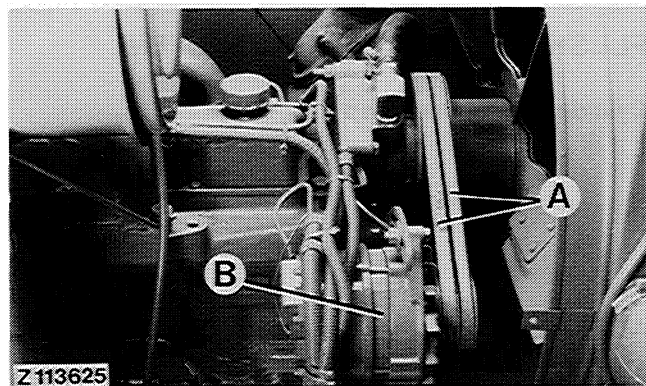


Z35675,Z35676-1166AZE-070191

WATER PUMP AND FAN DRIVE (1166SII, 1166SII Hydro/4, 1174SII, 1174SII Hydro/4, and 1177SII)

Two V-belts (A) drive both the water pump and fan.

There should be approx. 15 mm (19/32 in.) flex when pressing belts between pulleys. To adjust belt tension, swing alternator (B) outwards.



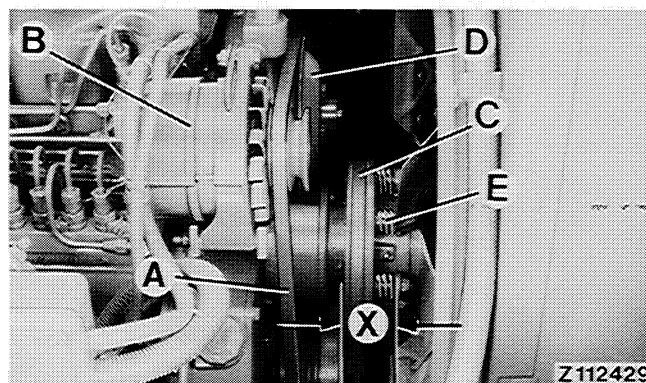
Z113625-1166AZE-070191

WATER PUMP AND FAN DRIVE (1177SII Hydro/4, 1188SII Hydro/4)

Water Pump Drive

V-belt (A) drives water pump (D) and alternator (B). V-belt tension should be just sufficient so that there is no belt slip. There should be a maximum flex of 15 mm (19/32 in.) when pressing belt between pulleys.

To adjust belt tension, swing alternator (B) outwards.



Fan Drive

The fan is driven by a V-belt (C) from the crankshaft. Belt is tensioned by a spring-loaded sheave half.

Springs (E) are properly adjusted when dimension (X) is 61 mm (2-3/8 in.).

- A–V-belt (water pump drive)
- B–Alternator
- C–V-belt (fan drive)
- D–Water pump
- E–Springs
- X–61 mm (2-3/8 in.)

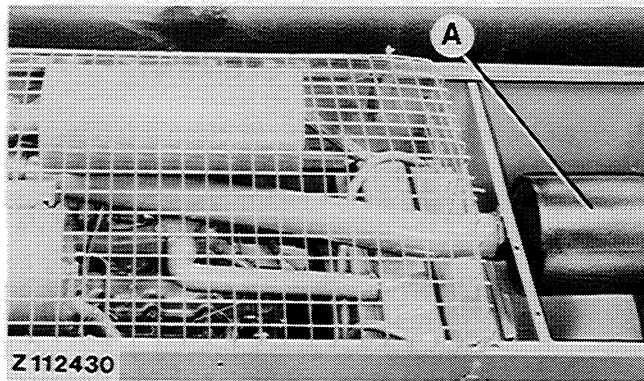
Z112429-1166AZE-160790

Service – Engine Air Intake System

AIR INTAKE PRE-FILTER SCREEN

The pre-filter screen (A) protects the air intake system from chaff and leaves.

Clean pre-filter screen as required.



Z112430-1188AZE-010987

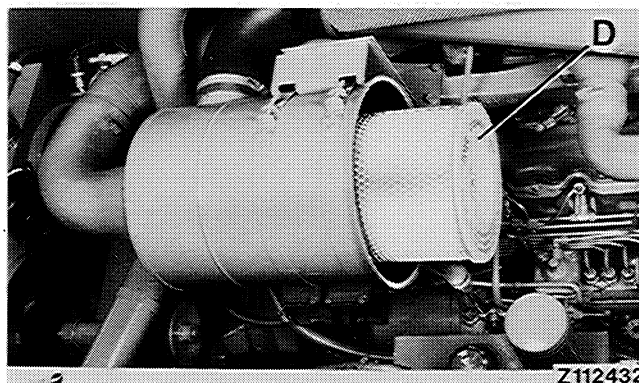
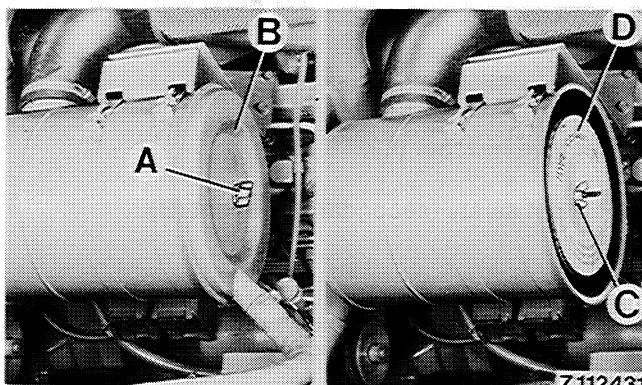
DRY-TYPE AIR CLEANER – REMOVING PRIMARY ELEMENT

IMPORTANT: Remove and clean air cleaner element only when electrical red indicator light glows.

1. Remove wing nut (A) and lift off filter cover (B).
2. Remove wing nut (C).
3. Lift out air cleaner element (D).

IMPORTANT: Never run the engine without air cleaner element installed.

A–Wing nut
B–Filter cover
C–Wing nut
D–Air cleaner (primary) element



Z112431,Z112432-1188AZE-000987

AIR CLEANER (PRIMARY) ELEMENT AND SECONDARY (SAFETY) ELEMENT

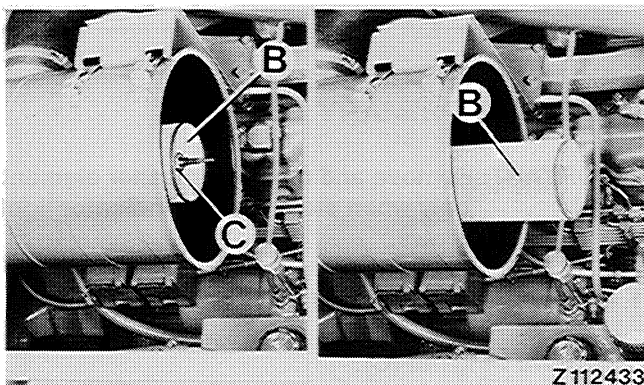
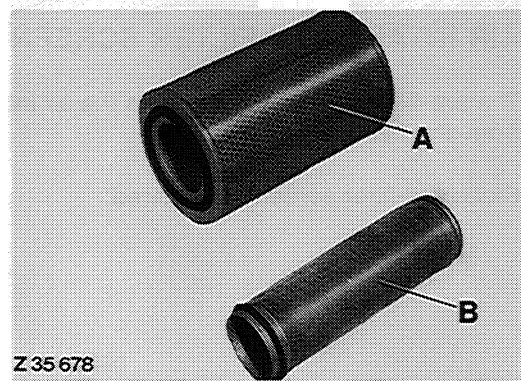
Each air cleaner has a dry-type air cleaner (primary) element (A) and a safety (secondary) element (B). The safety element retains dust that would otherwise pass into the engine if the primary element should rupture.

IMPORTANT: When installing primary and secondary elements, make sure that rubber sealing rings are seated correctly and absolutely clean. Replace both primary element and safety element after six washings. Never attempt to clean safety element.

Removing Safety Element

1. Remove hex. nut (C).
2. Pull out safety (secondary) element (B).

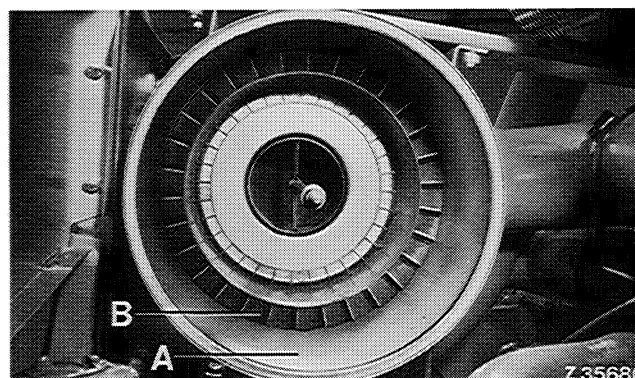
A–Air cleaner (primary) element
B–Safety (secondary) element
C–Hex. nut



Z35678,Z112433-1188AZE-000987

CLEANING AIR CLEANER HOUSING

Before installing new or cleaned element, thoroughly clean inside of air cleaner housing (A) and turbulence ring (B) with a clean, dry cloth.



Z35680-1188AZE-010987

CLEANING AIR CLEANER PRIMARY ELEMENT

Provisional Field Cleaning

If the element has to be serviced in the field, tap it carefully on a soft surface (tire) or palm of your hand as a temporary measure.

IMPORTANT: Tap cleaner element on metal rim only.

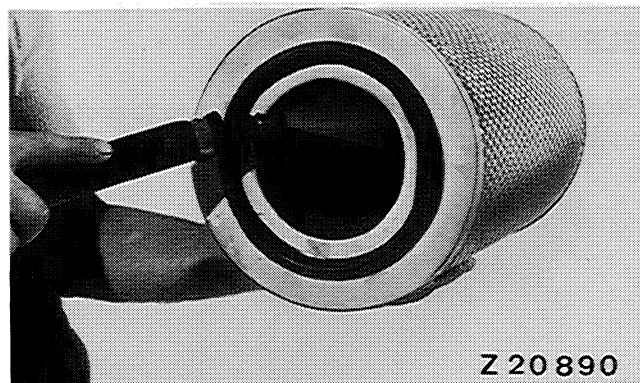


Z20889-1065AZE-001084

Cleaning with Compressed Air

Clean dry element with compressed air. Insert nozzle into element and blow from inside to outside. Pressure should not exceed 600 kPa (6 bar; 85 psi).

Clean with compressed air at least after approx. ten provisional cleanings.



Z20890-1065AZE-001084

Washing Element

First rinse the filter element under running water to remove as much dirt as possible. Then soak element for 15 minutes in lukewarm water, not above 32°C (90°F). If necessary, add a non-alkaline household detergent and wash filter. Rinse filter element in clean, running water with a pressure not exceeding 200 kPa (2 bar; 30 psi). Allow filter element to dry. Do not oven-dry or use drying agents.

**IMPORTANT: Never wash element in fuel or a strong cleaning agent.
Change both primary and secondary air cleaner elements at least every 1200 operating hours.**

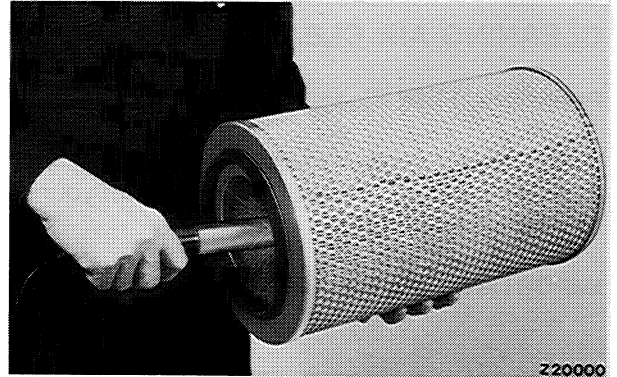


Z20891,Z20892-1188AZE-000987

INSPECTING ELEMENT

After cleaning the element, inspect it for damage by placing a bright light inside the filter. Discard any filter that shows the slightest rupture. Make sure that gasket is serviceable. Replace gasket when necessary.

**IMPORTANT: Never use a wet or damp element.
Do not use compressed air to dry wet filter elements.**

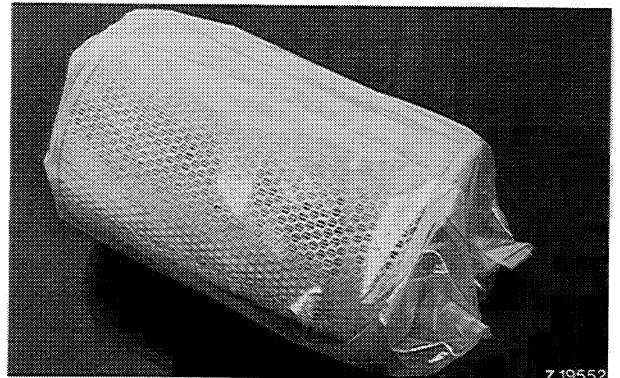


Z20000

Z20000-1188AZE-000987

ELEMENT STORAGE

Store clean, dry element in a plastic bag to protect it against damage and dust.



Z19552

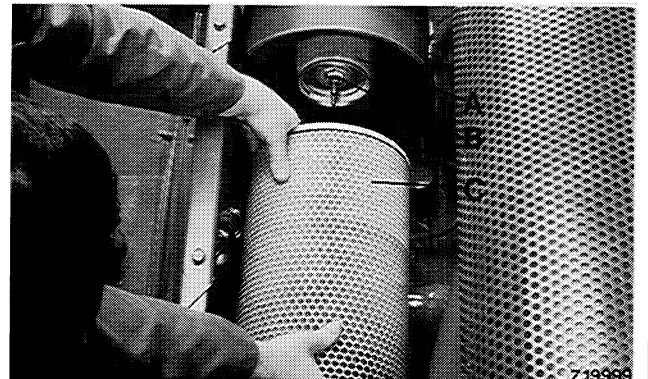
Z19552-1188AZE-000987

INSTALLING AIR CLEANER ELEMENT

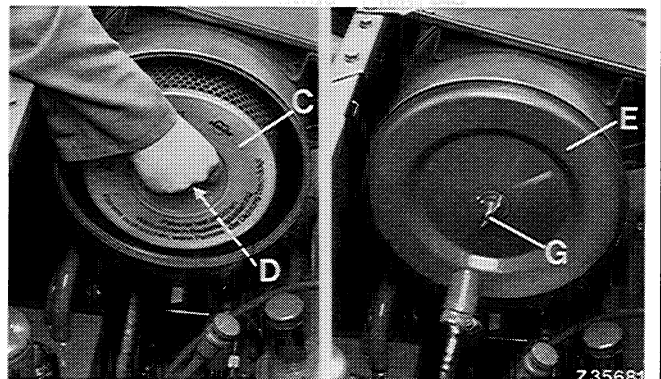
IMPORTANT: Never use a wet or damp element. Make sure that rear rubber sealing ring is absolutely clean and seated correctly.

1. Install safety (secondary) element (A).
2. Tighten hex. nut (B).
3. Install primary element (C).
4. Tighten wing nut (D).
5. Install filter cover (E) and secure with wing nut (G).

A–Safety (secondary) element
B–Hex. nut
C–Primary filter element
D–Wing nut
E–Filter cover
G–Wing nut



Z19999



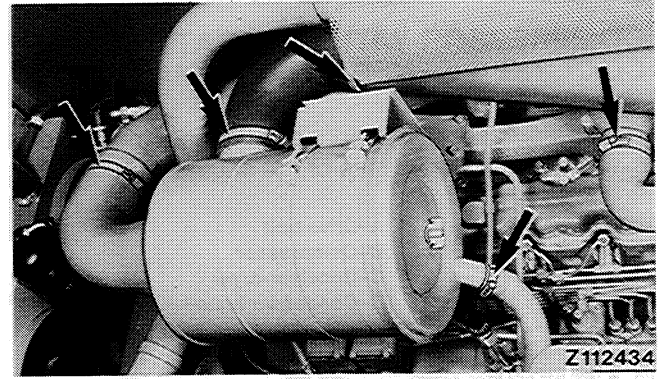
Z35681

Z19999,Z35681-1188AZE-000987

AIR INTAKE LINES

Connections between steel tube and rubber hoses are sealed by hose clamps.

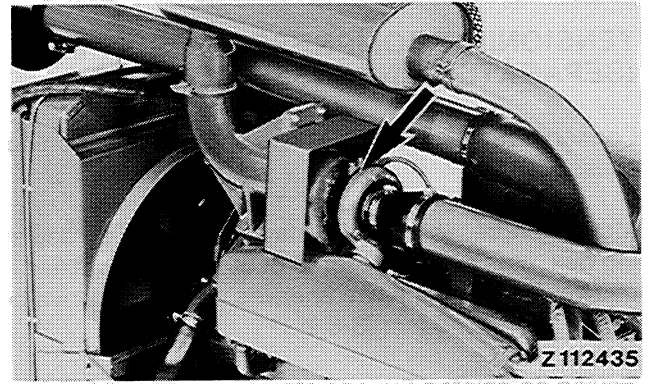
At least once a year, check and make sure that all hose clamps are seated and tightened correctly. When necessary, replace hoses or clamps.



Z112434-1188AZE-010987

TURBOCHARGER

All combine engines are equipped with a turbocharger. Carefully inspect all connections and attaching points of the turbocharger every 200 hours of operation. Make sure there are no oil leaks at turbocharger or lubrication oil feed line.



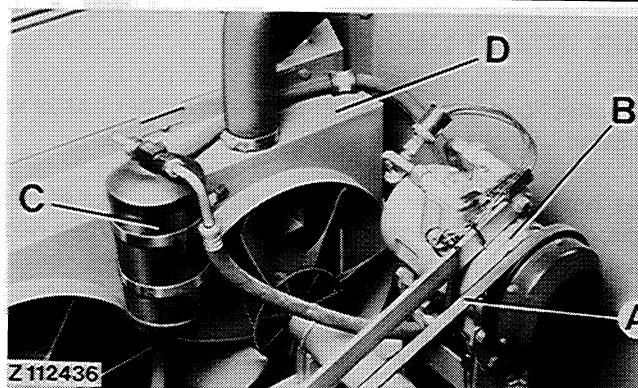
Z112435-1188AZE-000987

Service – Air Conditioning System

COMPRESSOR WITH SEPARATE CONDENSER COOLING – GENERAL INFORMATION

The compressor unit is housed in the engine compartment above the drive side of the engine.

- A–Drive belt
- B–Compressor
- C–Receiver-dryer
- D–Condenser housing



Z112436-1166AZE-150488

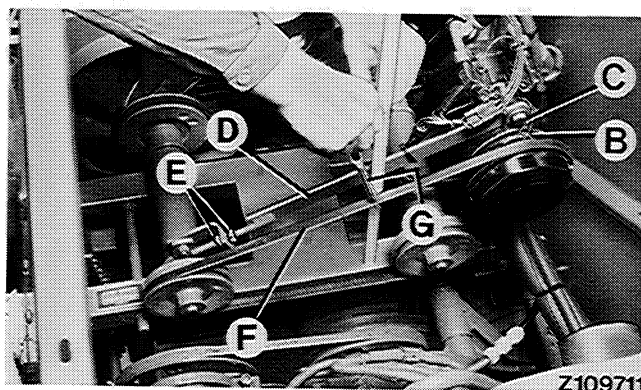
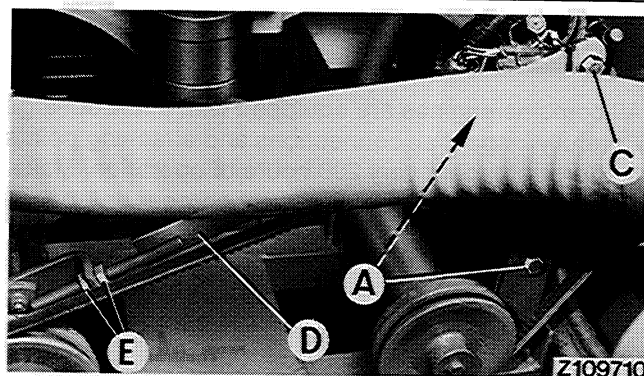
TENSIONING COMPRESSOR DRIVE BELT (SEPARATE CONDENSER COOLING)

Loosen both pivot bolts (A) and cap screw (C) on compressor (B).

Move compressor (B) with stay (D) forward by adjusting hex. nuts (E) until a force of 50 N (11 lb) applied midway between the two sheaves will deflect drive belt (F) by approx. 10 mm (3/8 in.).

Having completed the adjustment, tighten all hardware.

- A–Pivot bolt
- B–Compressor
- C–Cap screw
- D–Stay
- E–Hex. nuts
- F–V-belt
- G–Belt tension gauge

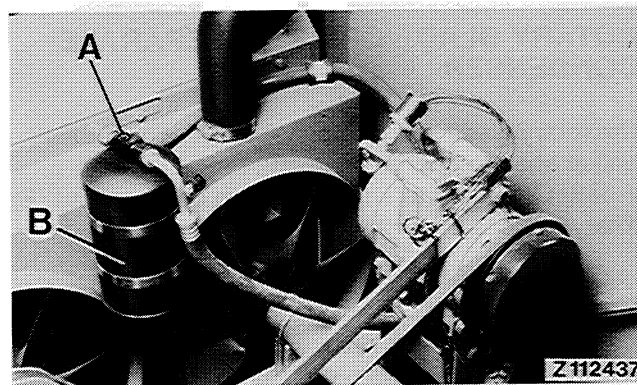


Z109710,Z109711-1166AZE-150488

CHECKING REFRIGERANT LEVEL (SEPARATE CONDENSER COOLING)

Check refrigerant level every 100 – 200 hours. With air conditioning system controls set for maximum cooling and engine running, check sight glass (A) at receiver-dryer (B). If refrigerant appears cloudy or foamy, refrigerant level is low and system should be recharged by your JOHN DEERE dealer.

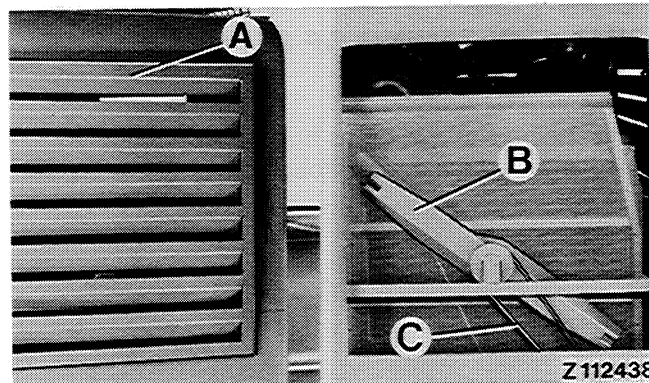
IMPORTANT: R12 refrigerant (containing CFC) damages the ozone layer in the stratosphere. It must not be released into the atmosphere. Therefore do not disconnect lines. Have service and repairs of the air conditioning system carried out only by the John Deere dealer who has the suitable disposal and recycling facilities.



Z112437-1166AZE-070191

AIR INTAKE OPENING OF SEPARATE CONDENSER

A fine-mesh screen (A) covers the air intake opening. Keep screen clean of chaff and leaves. Rotary blade (B) is driven by V-belt (C).

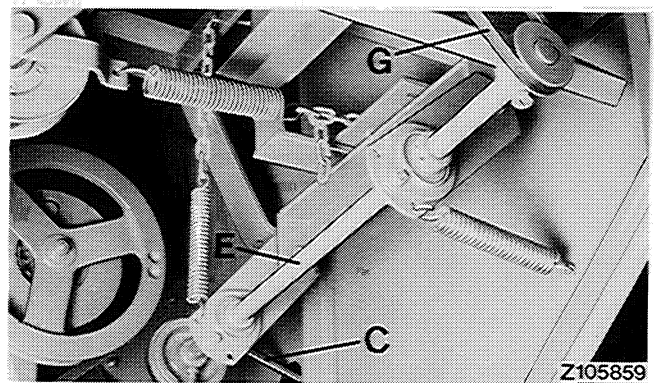
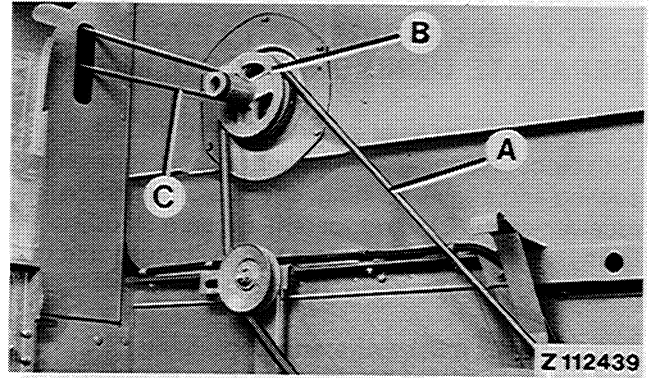


Z112438-1166AZE-150488

ROTARY BLADE DRIVE OF SEPARATE CONDENSER

The rotary blade is driven by V-belt (A) from straw walker shaft to countershaft (B). From there via V-belt (C) to countershaft (E). From countershaft (E) rotary blade is driven by V-belt (G).

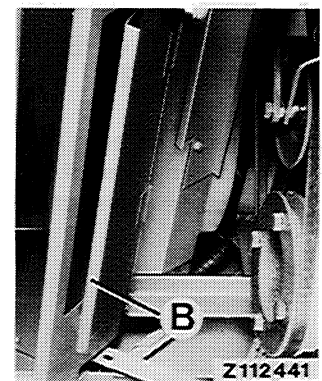
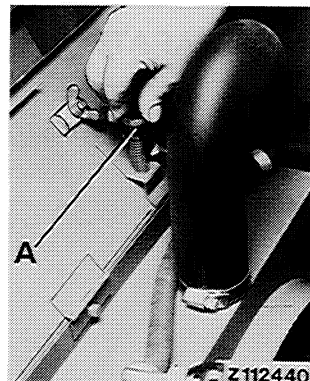
A-V-belt
B-Countershaft
C-V-belt
E-Countershaft
G-V-belt



Z112439.Z105859-1166AZE-150488

SIMPLE CLEANING OF SEPARATE CONDENSER

With engine shut off, press button (A) – collected chaff and dust fall down through cover (B).

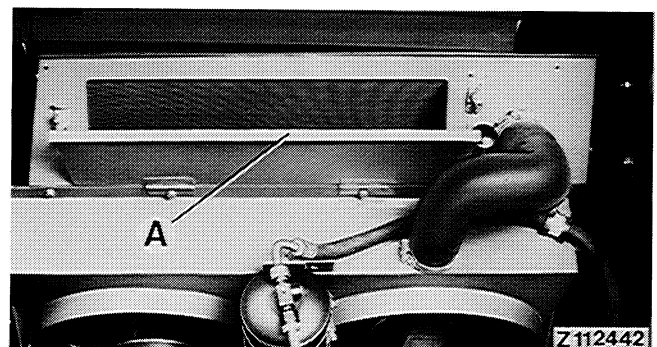


Z112440.Z112441-1166AZE-150488

CLEANING OF HEAVILY SOILED SEPARATE CONDENSER

To clean condenser, open cover (A).
Clean screen and condenser fins using a hand brush.

NOTE: In case of heavy soiling, clean condenser with a water jet and then dry with compressed air.



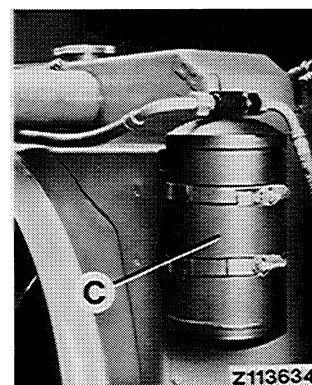
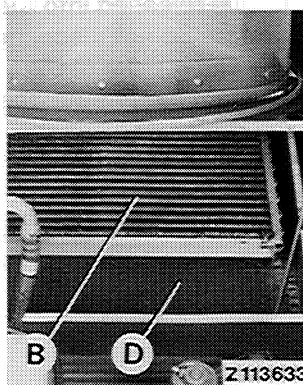
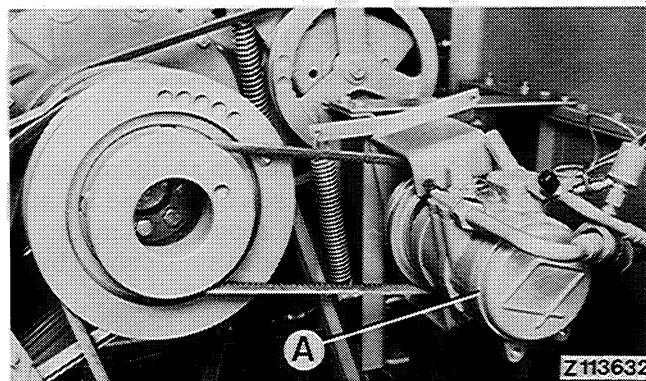
Z112442-1166AZE-150488

COMPRESSOR WITH INTEGRATED CONDENSER COOLING – GENERAL

The various aggregates of the compressor are located as follows:

- Compressor (A) on drive side of engine
- Condenser (B) in front of radiator
- Receiver-dryer (C) on radiator

A–Compressor
B–Condenser
C–Receiver-dryer
D–Radiator

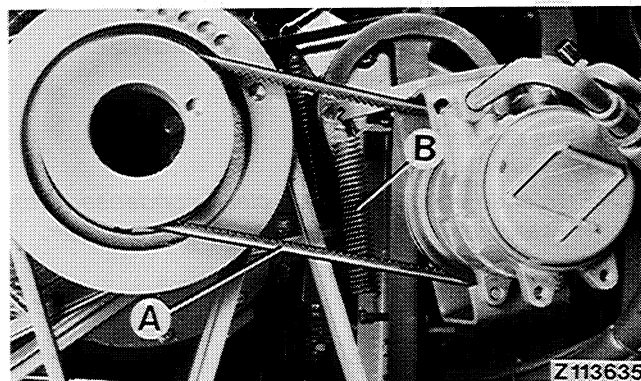


Z113632,Z113634,Z113633-1166AZE-150488

COMPRESSOR DRIVE BELT (INTEGRATED CONDENSER COOLING)

The tension of drive belt (A) is maintained constant by spring (B).

To replace drive belt (A), disconnect spring (B).

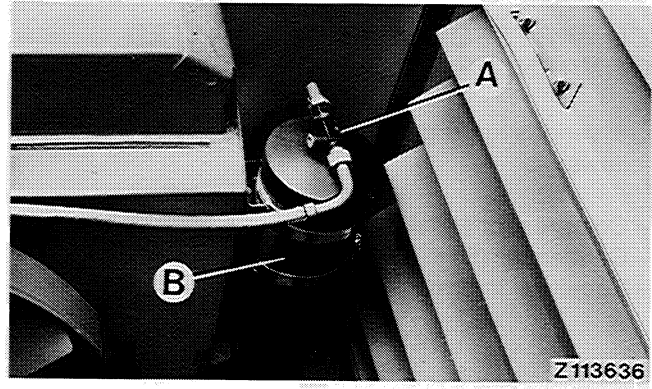


Z113635-1166AZE-150488

CHECKING REFRIGERANT LEVEL (INTEGRATED CONDENSER COOLING)

Check refrigerant level every 100 – 200 hours. With air conditioning system controls set for maximum cooling and engine running, check sight glass (A) at receiver-dryer (B). If refrigerant appears cloudy or foamy, refrigerant level is low and system should be recharged by your JOHN DEERE dealer.

IMPORTANT: R12 refrigerant (containing CFC) damages the ozone layer in the stratosphere. It must not be released into the atmosphere. Therefore do not disconnect lines. Have service and repairs of the air conditioning system carried out only by the John Deere dealer who has the suitable disposal and recycling facilities.

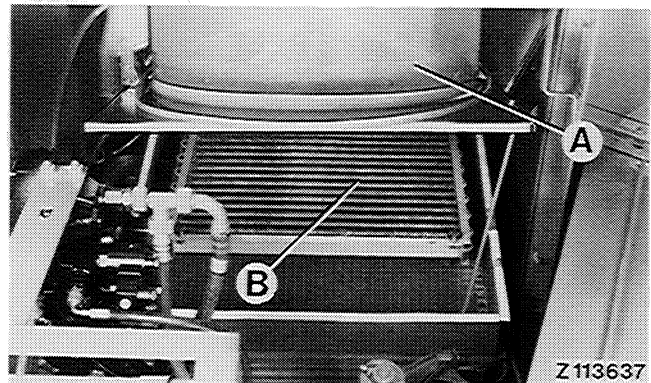


Z113636-1166AZE-070191

CLEANING INTEGRATED CONDENSER

Open rotary screen (A).
Clean fins of condenser (B).

NOTE: In case of heavy soiling, clean condenser with a water jet and then dry with compressed air.



Z113637-1166AZE-150488

PRE-CLEANER SCREENS

Pre-cleaner screens prevent chaff from entering the air conditioning system.

Clean screens by hand or with a brush as required.



Z35668-1065AZE-000883

REMOVING PAPER FILTER ELEMENT (MAIN FILTER)

IMPORTANT: Thoroughly clean paper filter element (with compressed air) every 200 hours of operation. Clean daily when operating under adverse conditions.

NOTE: Replace paper filter element after it has been cleaned six times.

Open special screw (A) of roof cover (B) and support roof cover with rod (C).

Disconnect retaining clips (D) on both sides of filter element.

Remove paper filter element (E).

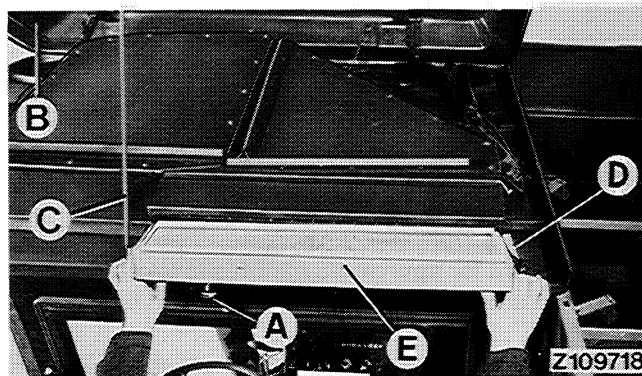
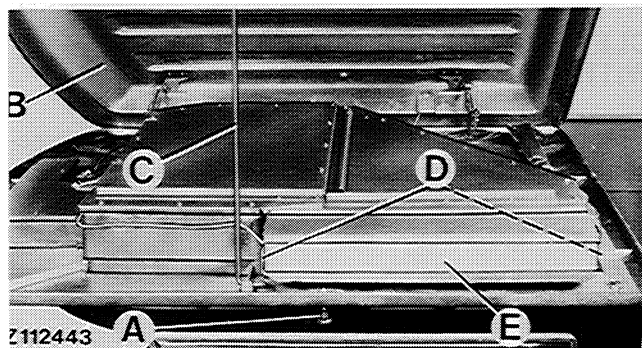
A–Special screw

B–Roof cover

C–Support rod

D–Retaining clip

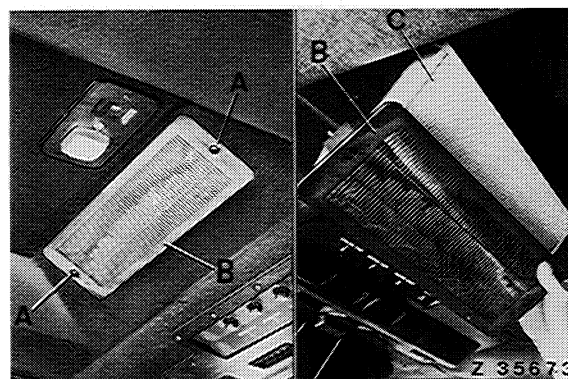
E–Paper filter element



Z112443, Z109718-1188AZE-000987

REMOVE RECIRCULATING FILTER

Remove recirculating filter (C) from inside roof. To do this, remove both screws (A) and retaining grille (B).



Z35673-1065AZE-150883

PROVISIONAL CLEANING OF PAPER FILTER ELEMENT

As a provisional measure when operating, tap element on palm of hand or on a flat, soft surface.

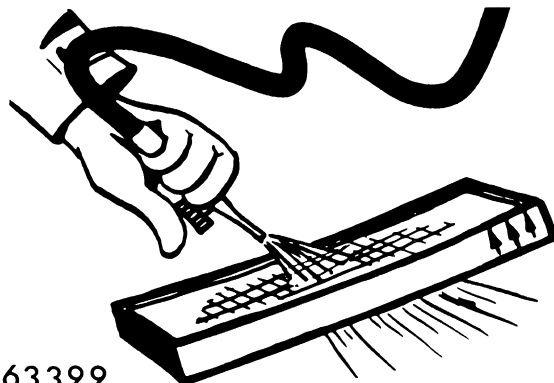


Z 63398

Z63398-1166AZE-070191

CLEANING PAPER FILTER ELEMENT WITH COMPRESSED AIR

Direct compressed air through filter in opposite direction from arrows on filter (maximum pressure: 700 kPa; 7 bar; 100 psi).



Z 63399

Z63399-1166AZE-070191

WASHING THE PAPER FILTER ELEMENT

Hold filter element under running water to remove any coarse dirt.

Soak element for approx. 15 minutes in luke-warm water using a mild non-sudsing detergent. Wash filter.

Rinse filter in warm water (pressure not above 200 kPa; 2 bar; 28 psi). Shake filter and allow to dry in the air.

IMPORTANT: Never wash the filter element in fuel or strong detergents. Never install a wet or damp element.



Z 63400

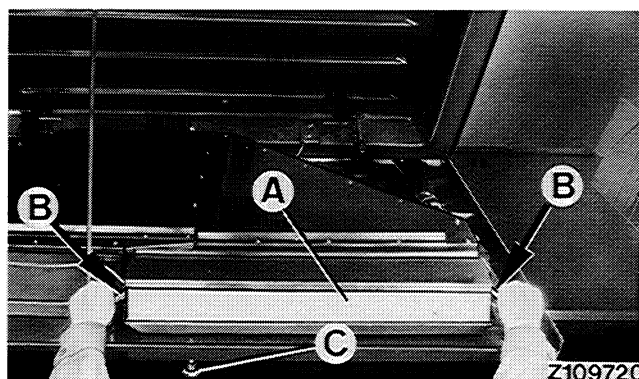
Z63400-1166AZE-070191

REINSTALLING PAPER FILTER ELEMENT (MAIN FILTER)

Install paper filter element (A) with gasket facing upwards.

Secure filter (A) with retaining clips (B).

Close roof and secure with special screw (C).



Z109720

Z109720-1166AZE-070191

CLEANING EVAPORATOR AND HEATER

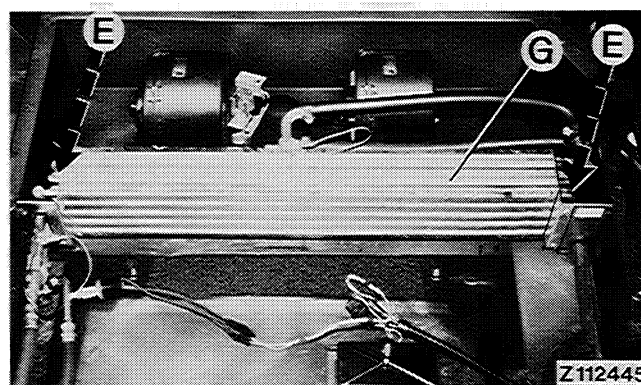
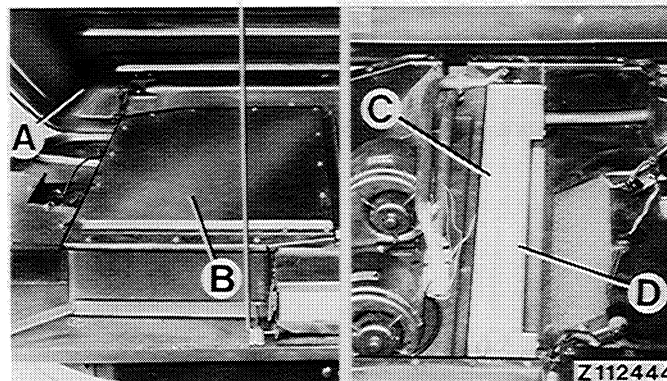
1. Open cab roof (A).
2. Remove cap screws and lift off cover (B).
3. Fins of evaporator (C) and heater (D) may become clogged.

When cooling or heating effect deteriorates, blow radiator fins clean with compressed air.

Should they be very dirty, wash first and then dry with compressed air.

4. Keep condensed water drain hoses and openings free, If necessary, blow clean with compressed air.
5. Make sure evaporator and heater fins are not bent.

A–Cab roof
B–Cover
C–Evaporator
D–Heater
E–Condensed water drain
hose openings
G–Fins

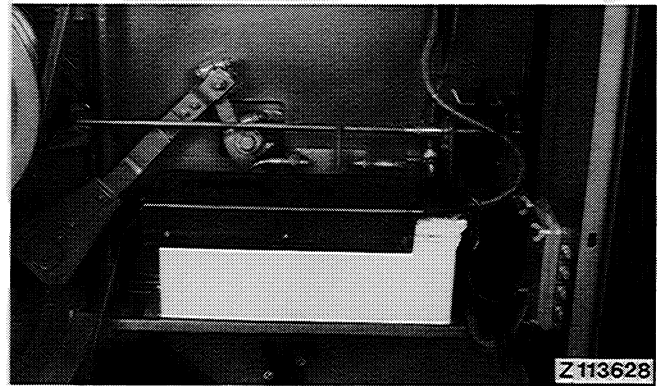


Z112444,Z112445-1166AZE-150488

Service – Electrical System and Lighting

BATTERY (1166SII, 1166SII Hydro/4, 1174SII, 1174SII Hydro/4, 1177SII)

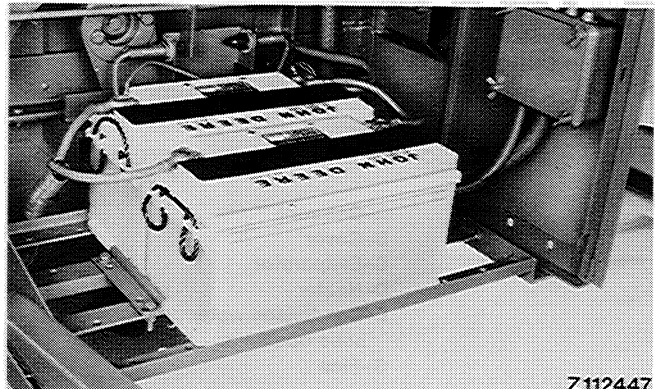
These combines are equipped with one 12 volt (110 Ah) battery.



Z113628-1166AZE-070191

BATTERY (1177SII Hydro/4, 1188SII Hydro/4)

These combines are equipped with two 12 volt (88 Ah) batteries connected in parallel.



Z112447-1166AZE-000790

DANGERS WHEN HANDLING BATTERIES

Keep all sparks or open flames away from batteries as gas from electrolyte is highly flammable.

When servicing the electrical system or engine, always disconnect battery ground cable.

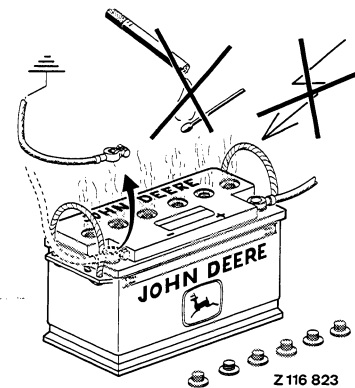
If a battery needs a quick recharge while still installed on combine, always disconnect battery ground cable before connecting the charger. This is to prevent eventual damage to the electrical system. Also remove battery cell filler caps.



CAUTION: Any plastic bag or material must be removed from battery to prevent a build-up of explosive gases.

IMPORTANT: Always keep batteries clean and free from chaff.

When removing batteries, always disconnect the ground cable(s) (–) first and then the positive cable(s) (+).



Z116823-1166AZE-160790

CLEANING BATTERY

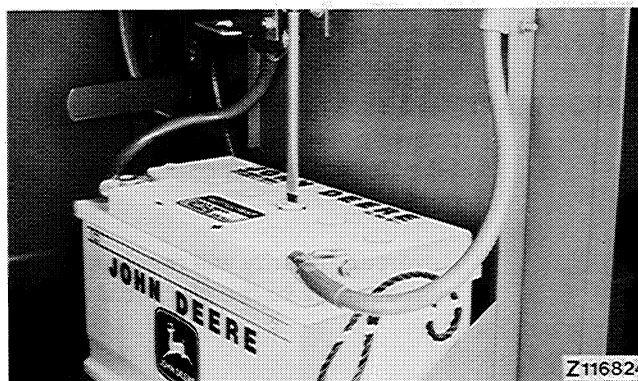
- Wash battery clean weekly.
- Remove any terminal corrosion with a brush.
- Coat battery terminals and cable clamps with petroleum jelly.
- Examine filler cap vent holes to make sure they are free from blockages.

WELEKTROM-1072AZE-000883

CHECKING ELECTROLYTE LEVEL

The battery is maintenance-free. However, level of electrolyte in the battery can be checked. Fill battery cells up to mark using distilled water.

IMPORTANT: Since water and electrolyte will not mix immediately, do not add water in freezing weather unless engine is to be run long enough (30 minutes) to assure thorough mixing of water and electrolyte.



Z116824

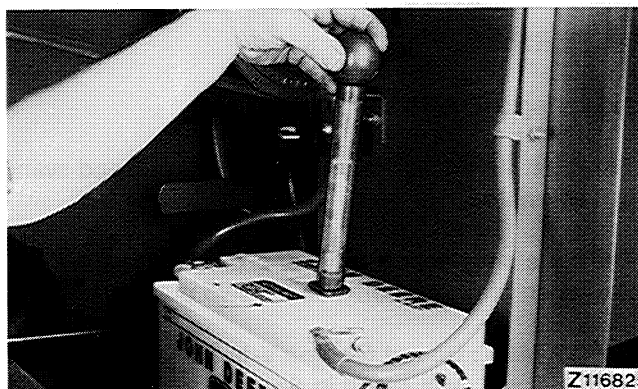
Z116824-1155AZE-010689

CHECKING SPECIFIC GRAVITY

Check the specific gravity of the electrolyte using an accurate hydrometer.

A fully charged battery should have a specific gravity reading of 1.28 kg/l. Recharge battery if reading drops below 1.20 kg/l.

NOTE: A full battery charge in tropical areas is 1.23 kg/l.



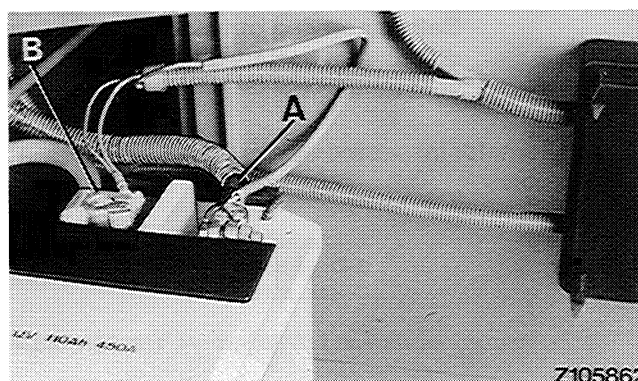
Z116825

Z116825-1155AZE-010689

INSTALLING BATTERY (1166SII, 1166SII Hydro/4, 1174SII, 1174SII Hydro/4, 1177SII)

1. Connect starter cable (A) to positive pole (+) of battery.
2. Connect ground cable (B) to negative pole (–) of battery.

Illustration Shows Battery with Connections for Straw Chopper Operation



Z105862

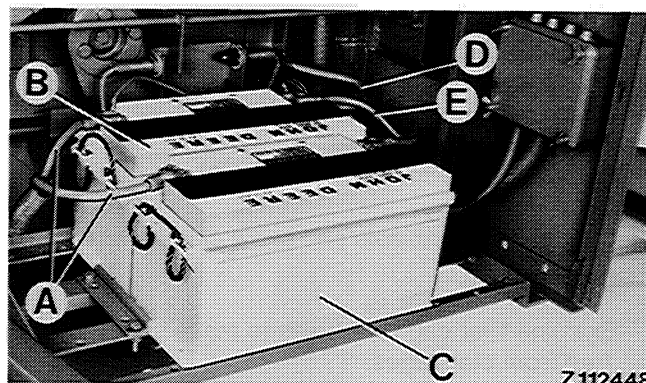
Z105862-1166AZE-070191

INSTALLING BATTERIES (1177SII HYDRO/4, 1188SII HYDRO/4)

1. Connect both positive (+) cables (A) from flexible tubing to positive poles of batteries (B) and (C).
2. Connect negative (ground) cable (D) to negative pole of battery (B) and jumper cable (E) to negative (-) pole of battery (C).

A–Positive cables
B–Battery

C–Battery
D–Ground cable
E–Jumper ground cable



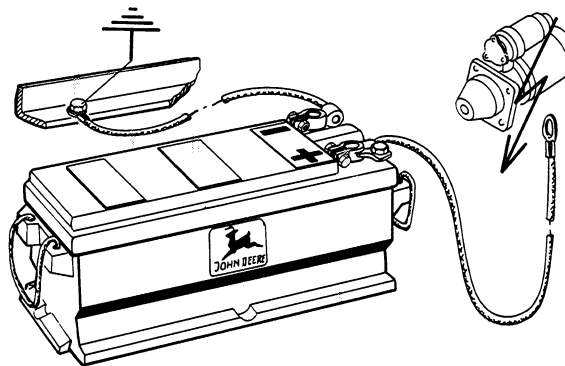
Z112448

Z112448-1166AZE-160790

CONNECT BATTERIES TO CORRECT POLES

IMPORTANT: Make sure batteries are connected to the proper poles. Ground cable to negative (-) pole and starter cable to positive (+) pole.

Reversed polarity will result in permanent damage to the electrical system.



Z19564

Z19564-1188AZE-010987

ALTERNATOR

Adjusting Drive Belt Tension

To adjust V-belts (B), loosen hex. nuts (C) and swing out alternator (A).

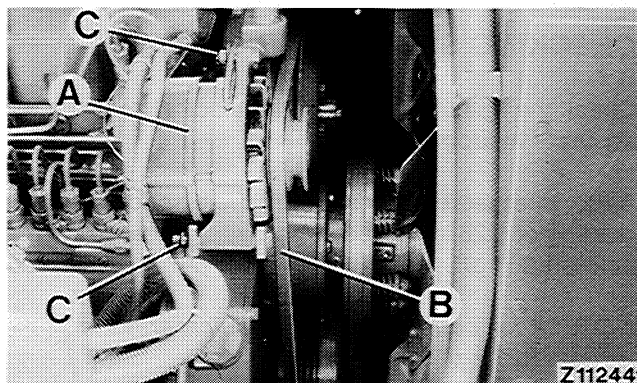
The drive belts should have approx. 15 mm (19/32 in.) flex when pressing between the two pulleys.

IMPORTANT: Do not tension V-belts too tight. This will result in damage to the belts and bearings.

Before carrying out electrical repairs, disconnect battery ground cable to prevent damage.

Have alternator inspected by a qualified serviceman once a year.

A–Alternator
B–Drive belts
C–Hex. nuts



Z112449

Alternator location on 1177SII Hydro/4, 1188SII Hydro/4

Z112449-1166AZE-160790

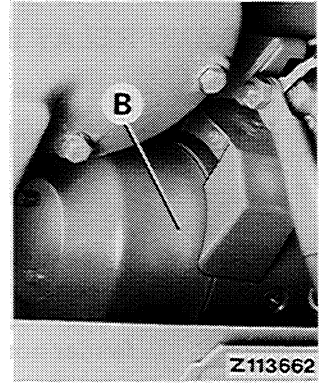
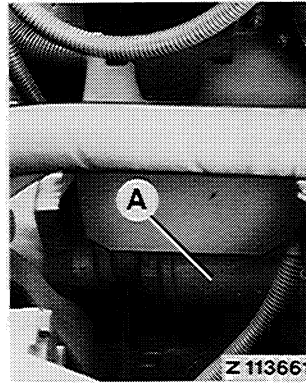
STARTING MOTOR – LOCATION

**1166SII, 1166SII Hydro/4, 1174SII,
1174SII Hydro/4, 1177SII**

Starting motor (A) is located on the rear, right-hand side of the engine below the fuel filter and is protected by a shield.

1177SII Hydro/4, 1188SII Hydro/4

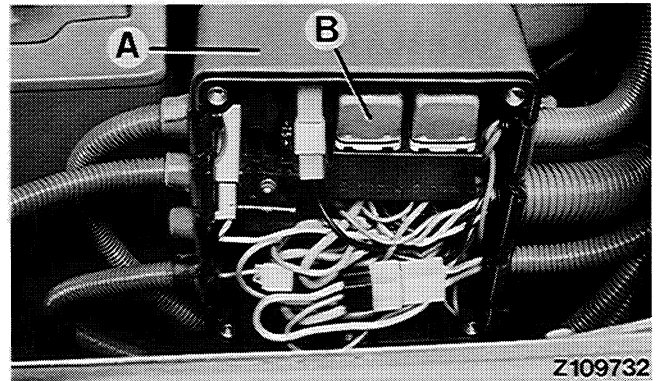
The starting motor (B) is located on the rear, left-hand side of the engine next to the engine oil cooler (access to the starting motor from the grain tank).



Z113661, Z113662-1166AZE-070191

STARTING MOTOR CURRENT RELAY

The starting motor current circuit relay (B) is located in the engine electrical distributor box (A) (access from rear engine service platform).



Z109732-1188AZE-000987

STARTING MOTOR – TROUBLESHOOTING

IMPORTANT: Before carrying out any repairs on the electrical system, always disconnect battery ground cable.

If starting motor fails to operate or operates only sluggishly, the cause may not lie in the starting motor, but in one of the causes shown opposite.

If remedies shown fail to improve starting motor operation, see your local JOHN DEERE dealer. Have starting motor thoroughly inspected by a qualified serviceman once a year.

Loose, dirty or corroded connections

Clean and tighten all connections

Low battery output

Check electrolyte level and specific gravity of batteries. Recharge battery when necessary.

Run down battery

Recharge battery

Engine crankcase oil of wrong viscosity

Drain and refill crankcase with specified oil

Low ambient temperature

Use ether cold weather starting aid

Defective starting motor current relay

Replace relay

WELEKTROM-1188AZE-000987

FUSE AND RELAY BOX

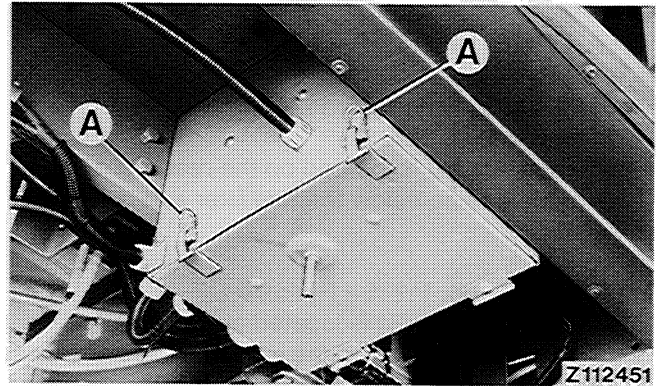
Location:

Under the operator's platform.

To open:

Pull catches (A) downward and open.

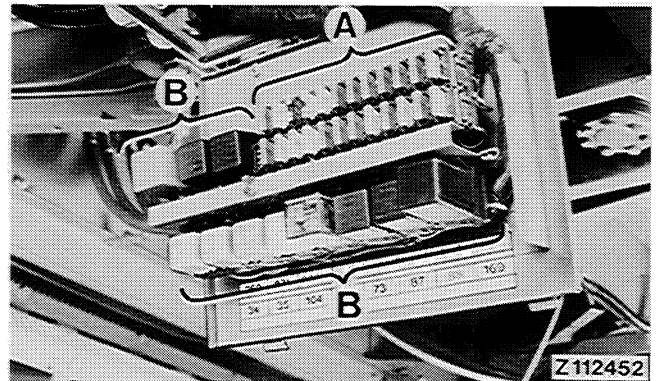
IMPORTANT: Close fuse and relay box immediately after having carried out necessary work. If open, cover will be destroyed when feeder house is raised.



Z112451-1188AZE-000987

FUSES AND RELAYS

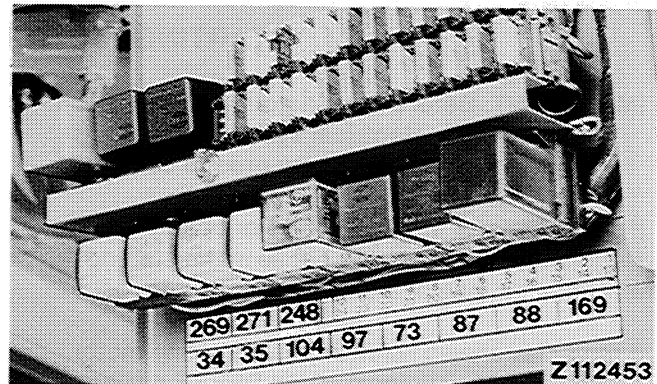
A-Fuses
B-Relay units



Z112452-1188AZE-010987

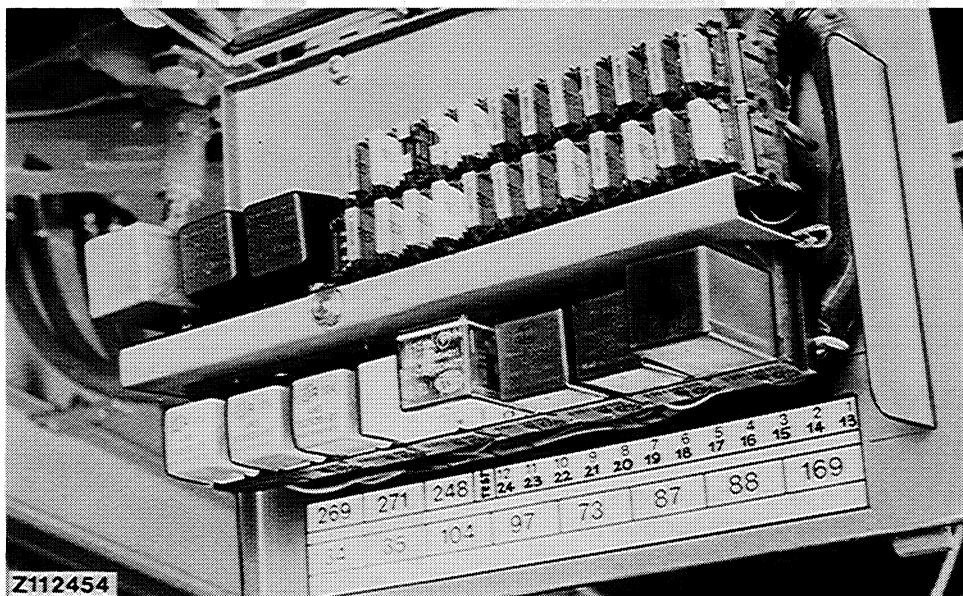
RELAY FUNCTIONS

- 169-Time relay – “grain tank full” warning signal
- 88-Diode block II – acoustical warning system
- 87-Diode block I – acoustical warning system
- 73-Relay – turn signals and hazard warning lights
- 97-Relay – straw warning device
- 104-Relay – work lights
- 35-Relay – basic machine current supply
- 34-Relay – cab current supply
- 269-Time relay – electro-magnetic transmission brake (mechanical ground speed drive only)
- 271-Relay – electro-magnetic transmission brake (mechanical ground speed drive only)
- 248-Relay – cutting platform height control, hourmeter



Z112453-1166AZE-160790

FUSES FOR THE ELECTRICAL SYSTEM

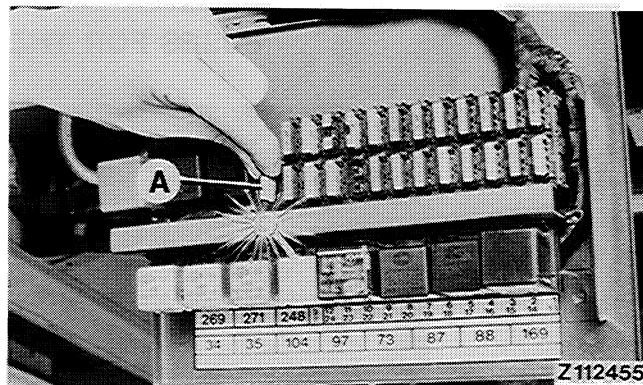


- | | |
|---|--|
| 1–Parking light, l.h. side (7.5 amps.) | 14–Fuel transfer pump (7.5 amps.) |
| 2–Parking light, r.h. side (7.5 amps.) | 15–Stop lights, horn and reel adjustment (15 amps.) |
| 3–Instrument lighting (7.5 amps.) | 16–Four wheel drive (7.5 amps.) |
| 4–Dipped headlight, l.h. side (7.5 amps.) | 17–Electromagnetic control valve (15 amps.) |
| 5–Dipped headlight, r.h. side (7.5 amps.) | 18–Straw chopper, fan speed adjustment (7.5 amps.) |
| 6–Full beam headlight, l.h. side (7.5 amps.) | 19–Harvest performance monitor, grain tank filling gauge (7.5 amps.) |
| 7–Full beam headlight, r.h. side (7.5 amps.) | 20–Low shaft speed monitors (7.5 amps.) |
| 8–Turn signal lights (7.5 amps.) | 21–Operator's cab (25 amps.) |
| 9–Light bar, instruments (7.5 amps.) | 22–Hazard warning lights (15 amps.) |
| 10–Work lights (25 amps.) | 23–Cold weather starting aid (15 amps.) |
| 11–Acoustical warning signal (7.5 amps.) | 24–Electromagnetic transmission brake (7.5 amps.) |
| 12–Relay-cutting platform height adjustment, hour meter (7.5 amps.) | |
| 13–Rotating hazard warning lights (15 amps.) | |

IMPORTANT: Never use stronger fuses than those specified above. If fuses keep blowing in one circuit, consult your JOHN DEERE dealer.

FUSE TESTER

If an electrical circuit is not functioning, insert the corresponding fuse into fuse tester (A). If test light does not come on, the fuse is defective.

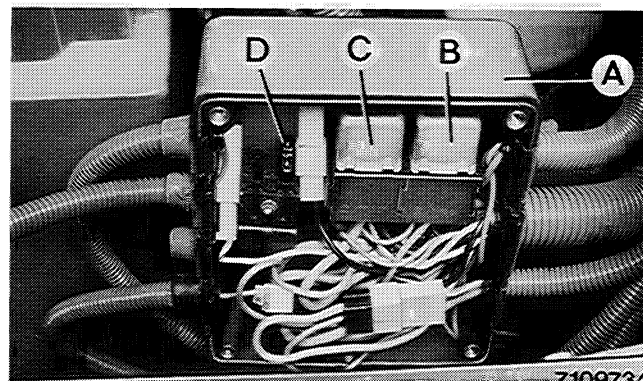


Z112455-1188AZE-000987

FUSE AND RELAY – AIR CONDITIONING SYSTEM

Relay (B) and fuse (D) of the air conditioning system are located in engine electrical distributor box (A) which is accessible from rear engine service platform.

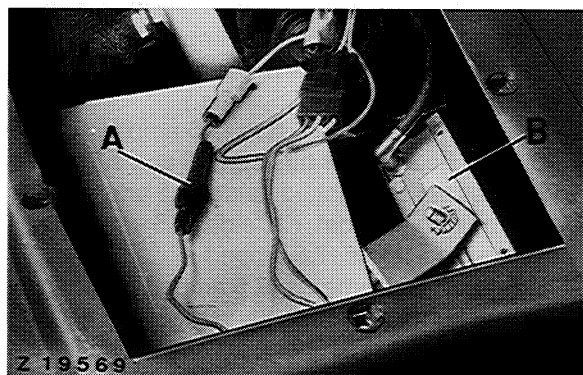
- A-Distributor box
- B-Relay – Air conditioning system
- C-Starting circuit relay
- D-Fuse (7.5 amps.)



Z109734-1188AZE-000987

RADIO FUSE (Access via Roof)

- A-Fuse housing (8 amps.)
- B-Radio

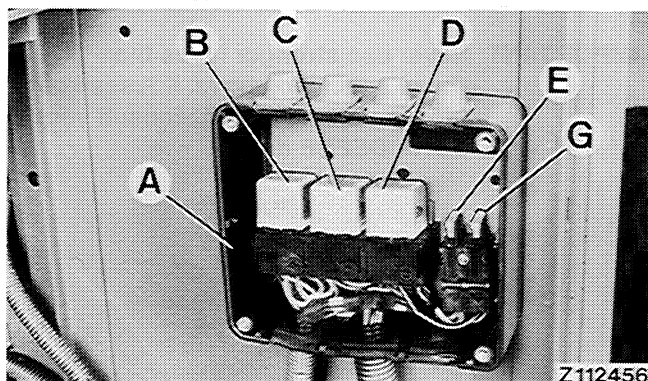


Z19569-1072AZE-000883

FUSES AND RELAYS – STRAW CHOPPER CLUTCH AND FAN SPEED ADJUSTING MOTOR

The fuses and relays are located in distributor box (A) near the battery.

- A-Distributor box
- B-Relay (fan speed adjusting motor)
- C-Relay (fan speed adjusting motor)
- D-Relay (straw chopper clutch)
- E-Fuse (25 amps., fan speed adjusting motor)
- G-Fuse (15 amps., straw chopper clutch)

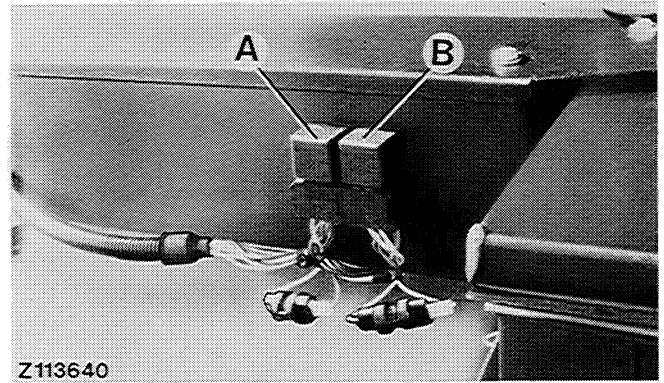


Z112456-1188AZE-010987

RELAYS – WINDSHIELD WIPERS

The relays for upper and lower windshield wipers are located under cab roof.

- A–Relay – Lower windshield wiper
- B–Relay – Upper windshield wiper

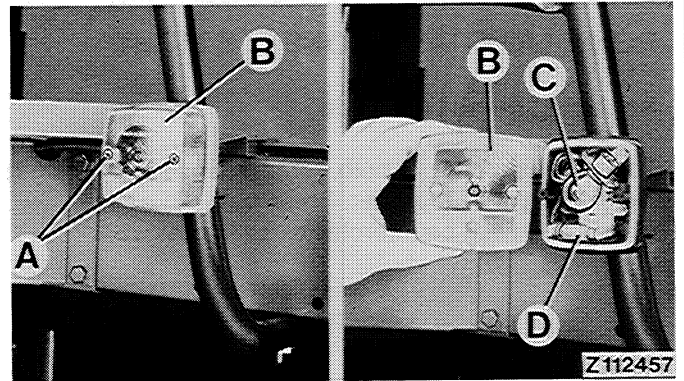


Z113640

Z113640-1166AZE-150488

CLEARANCE AND TURN SIGNAL LIGHTS, FRONT

- A–Retaining screws
- B–Lens
- C–Bayonet socket bulb, turn signal (12 V, 21 W)
- D–Festoon bulb, clearance lights (12 V, 5 W)

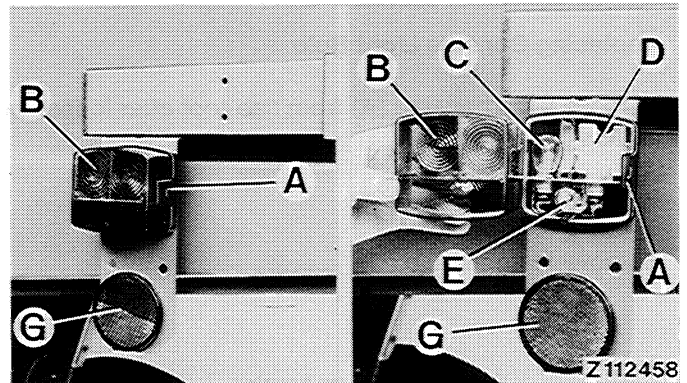


Z112457

Z112457-1188AZE-000987

TAIL, STOP AND TURN SIGNAL LIGHTS, REAR

- A–Retaining strap
- B–Lens
- C–Bayonet socket bulb, turn signal (12 V, 21 W)
- D–Bayonet socket bulb, stop light (12 V, 21 W)
- E–Bayonet socket bulb, tail light (12 V, 10 W)
- G–Reflector



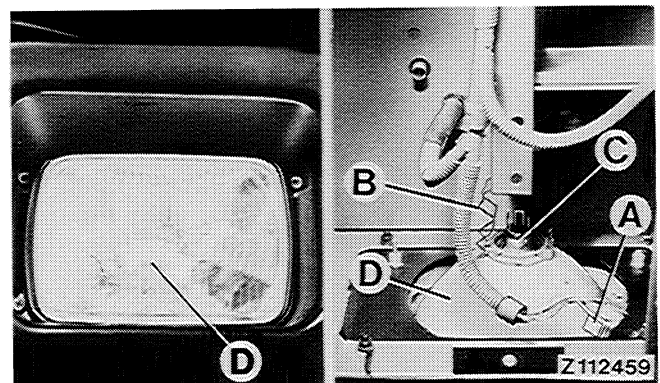
Z112458

Z112458-1188AZE-000987

HEADLIGHTS (1174SII, 1174SII Hydro/4 1177SII, 1177SII Hydro/4, 1188SII Hydro/4)

Disconnect plug (A). Remove locking wire (B). Remove lamp (C) from lamp holder (D).

- A–Plug
- B–Locking wire
- C–Lamp (12 V, 60/55 W)
- D–Lamp holder

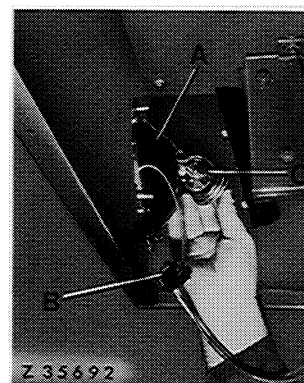
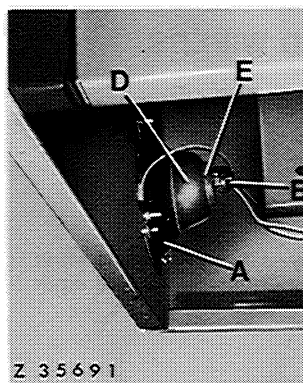


Z112459

Z112459-1166AZE-070191

HEADLIGHTS (1166SII, 1166SII Hydro/4)

A—Headlight assembly, installed
B—Bulb holder
C—Bilux bulb (12 V, 40/45 W)
D—Cap
E—Disk



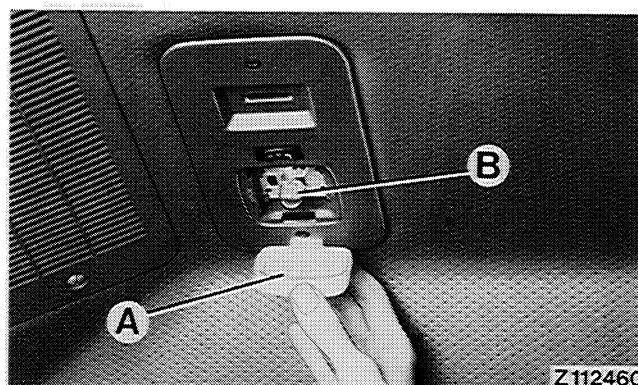
Z35691, Z35692-1166AZE-160790

DOMELIGHT AND CONSOLE LIGHT

Replacing Dome Light Bulb

To remove dome light bulb, remove lens (A) by squeezing sides slightly together. Press bulb (B) slightly inward and twist counterclockwise to remove.

A—Dome light lens
B—Light bulb (12 V, 10 W)



Z112460-1188AZE-010987

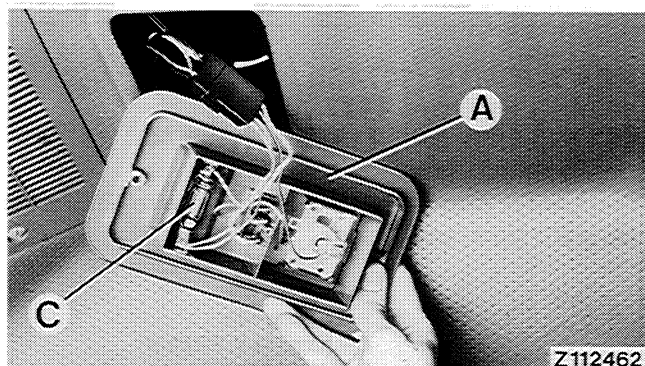
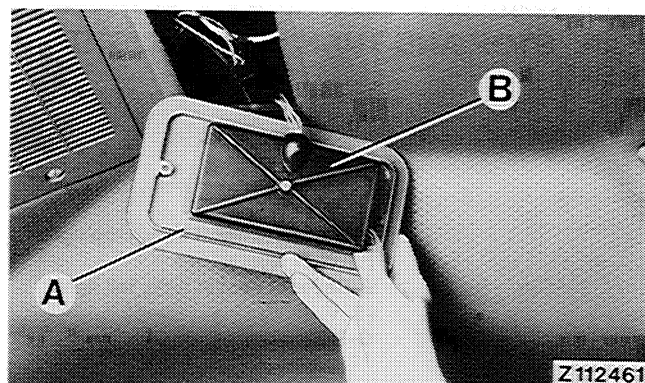
Replacing Console Light Bulb

Remove lamp housing (A) from cab roof after loosening attaching screws.

Remove cover (B).

Remove festoon bulb (C).

A—Lamp housing
B—Cover
C—Festoon bulb (12 V, 5 W)



Z112461, Z112462-1188AZE-010987

Service – Harvest Performance Monitor

HARVEST PERFORMANCE MONITOR – MALFUNCTIONS

Should the results be unsatisfactory after adjusting the harvest performance monitor as described in Section 26, or should a malfunction occur, then consult your JOHN DEERE dealer.

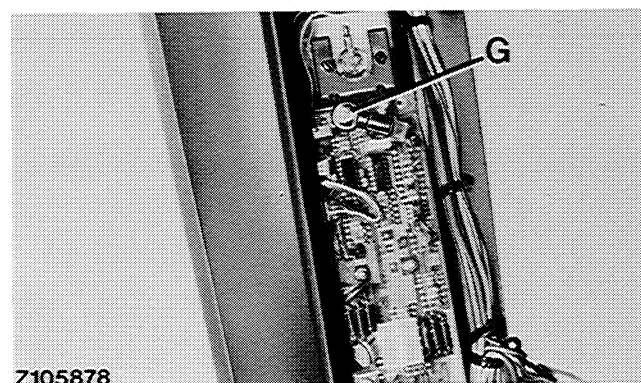
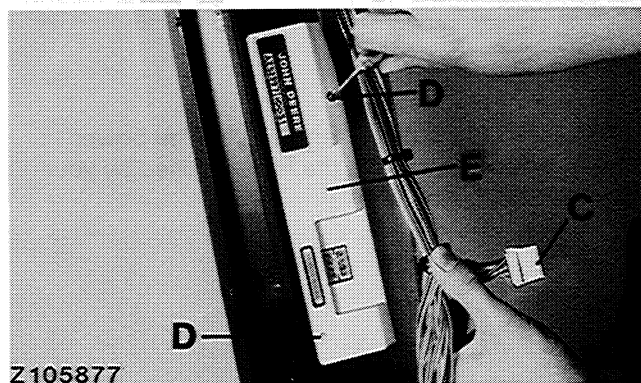
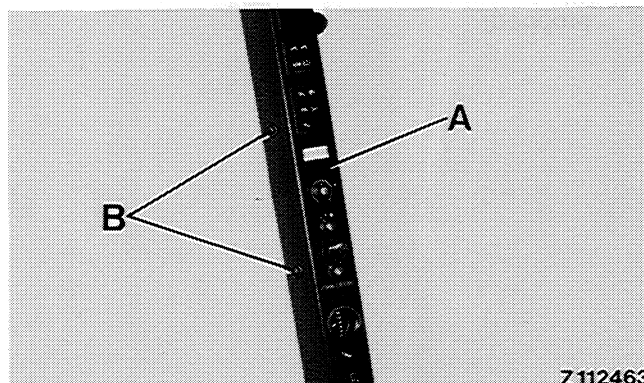
WARTOM-1065AZE-000186

MONITOR LIGHT

Replace 12 V, 2 W bayonet-type bulb as follows:

1. Remove the eleven self-tapping screws (B) from the corner post and lift out control panel assembly (A).
2. Disconnect plug (C) from rear of control panel (A).
3. Remove both attaching screws (D) and lift off cover (E).
4. Remove bayonet type bulb (G).
5. Reassemble and reinstall control panel, reversing removal and disassembly procedure.

A–Control panel assembly
B–Self-tapping screws (11 used)
C–Plug
D–Attaching screws
E–Cover
G–Bulb (12 V, 2 W)



Z112463, Z105877, Z105878-1188AZE-000987

Service – Area Counter

CHECKING THE SYSTEM

If there is reason to suspect that the sensor is malfunctioning, the complete system can be tested as follows:

–Press function key (A) and key in the figure 8 four times.

–Press function key (B); the following displays appear:

“h” when the wheel sensor is activated, and
“r” when the feeder house sensor is activated
 (“r” also appears when the area counter is stopped).



Z118743-1166AZE-160790

FAULT DISPLAY

If the unit displays the letters “FEJL”, the power supply is too weak. Have the fault rectified by your JOHN DEERE dealer.

HEKTAROM-1166AZE-160790

Service – Hydraulic System

TAKE CARE WITH LEAKING PRESSURE LINES AND HOSES



CAUTION: Escaping fluid under pressure (fuel, hydraulic oil) can penetrate the skin causing serious injury. Relieve pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure. Keep hands and body away from pinholes and nozzles which eject fluids under high pressure. Use a piece of cardboard or paper to search for leaks. Do not use your hand.

If ANY fluid is injected into the skin, it must be surgically removed within a few hours by a doctor familiar with this type of injury or gangrene may result.



L 102134

L102134-ESPAE-010688

PRESSURE RELIEF VALVE

The control valve is equipped with a pressure relief valve which is tested and set at the factory. If cutting platform cannot be raised to desired height, pressure relief valve may be defective. If this or a similar defect occurs, consult your local JOHN DEERE dealer.

IMPORTANT: Do not attempt to adjust pressure relief valve.

WARTOM-1065BZE-000186

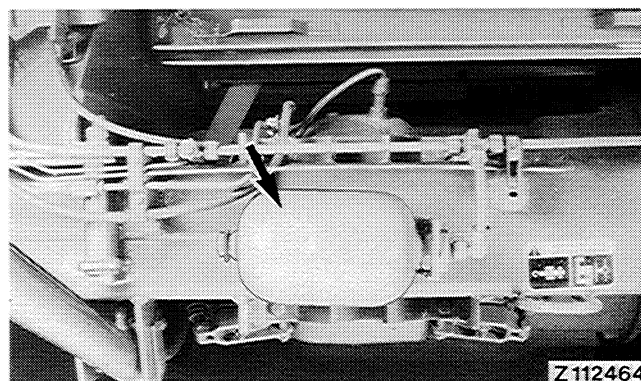
ACCUMULATOR

A large accumulator, incorporated in the cutting platform lift system, allows the platform to follow ground contours.

The accumulator is maintenance-free and not cannot be repaired.



CAUTION: Have the accumulator replaced by your JOHN DEERE dealer. Do not attempt to remove it.



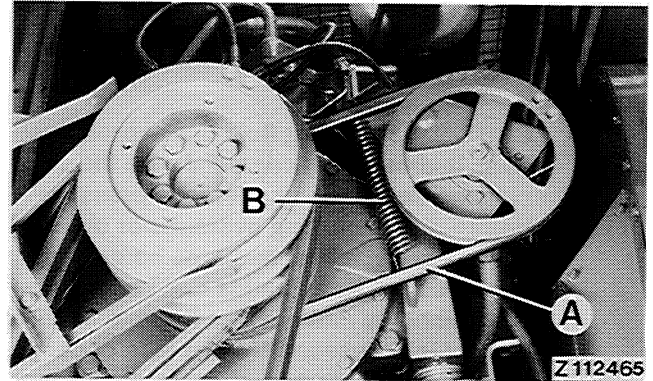
Z 112464

Z112464-1188AZE-000987

HYDRAULIC PUMP – LIFT SYSTEM DRIVE

The hydraulic pump drive belt is tensioned automatically by means of a spring.

To replace V-belt (A), disconnect spring (B).



Z112465-1188AZE-000987

HYDRAULIC PUMP – HYDROSTATIC REEL DRIVE

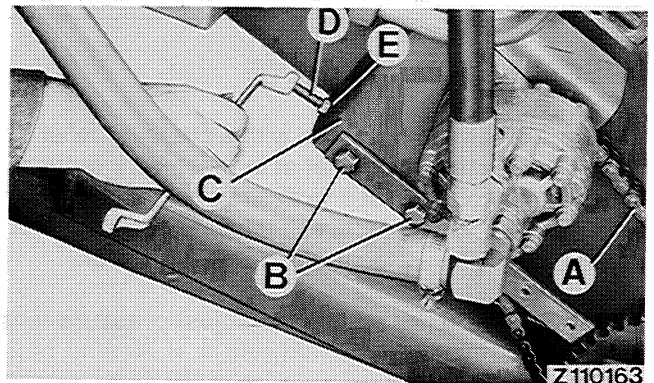
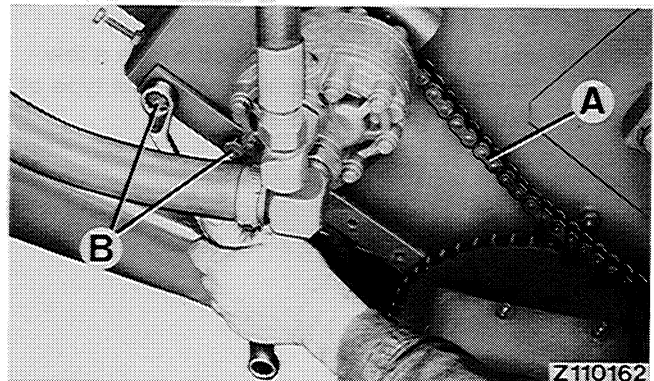
Drive chain (A) drives hydraulic pump of hydrostatic reel drive. Tension drive chain by slackening cap screws (B) and shifting hydraulic pump bracket (C) by means of cap screw (D). Tighten lock nut (E).

IMPORTANT: For correct adjustment of drive chain, see also "Service – Chains".

NOTE: The drive chain is of the endless type. Have chain replaced by your JOHN DEERE dealer, if necessary.

- A–Drive chain
- B–Cap screws
- C–Hydraulic pump bracket
- D–Cap screw
- E–Lock nut

Guards Removed for Better Illustration.



Z110162,Z110163-1065AZE-000186

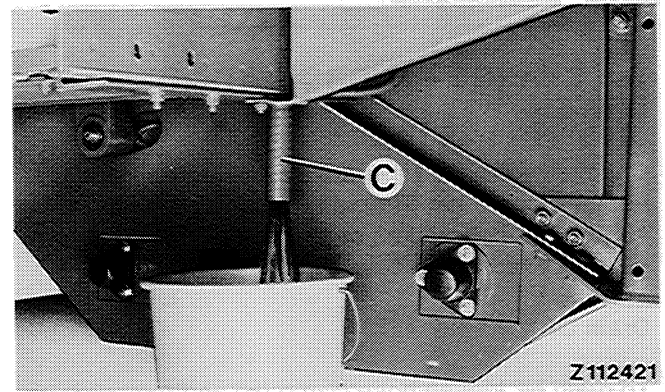
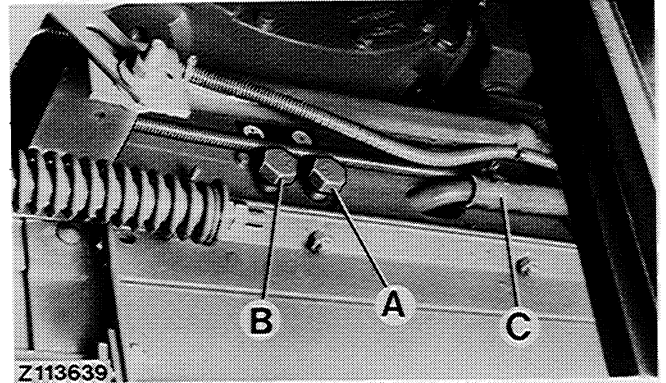
OIL CHANGE – MAIN HYDRAULICS

Change oil after every 400 hours of operation, or at the end of the harvesting season, whichever occurs first.

Carry out hydraulic oil change with cutting platform and reel lowered and unloading auger swung in.

A–Hex. drain plug for engine oil
B–Hex. drain plug for hydraulic oil
C–Drain tube

Loosen drain plug (B) one to two turns and drain oil through drain tube (C) into a suitable container. Tighten drain plug securely.



Z113639, Z112421-1166BZE-150488

REPLACING OIL FILTER – MAIN HYDRAULICS

Replace filter element after every 400 hours of operation, or at the end of each harvest season, whichever occurs first.

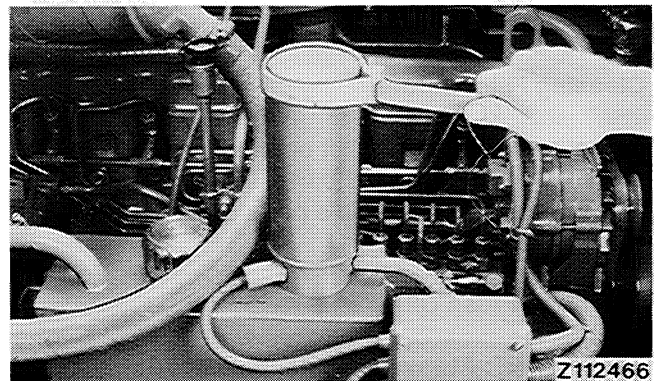
Loosen and remove filter.

Discard filter and replace with a genuine JOHN DEERE filter.

For installation of new filter proceed as follows:

- Coat filter sealing surface with oil
- Tighten filter element until sealing ring touches filter housing sealing surface and then tighten a further 3/4 to 1-1/4 turns. Do not overtighten!
- Start engine and check for leaks. If necessary, tighten filter further by hand.

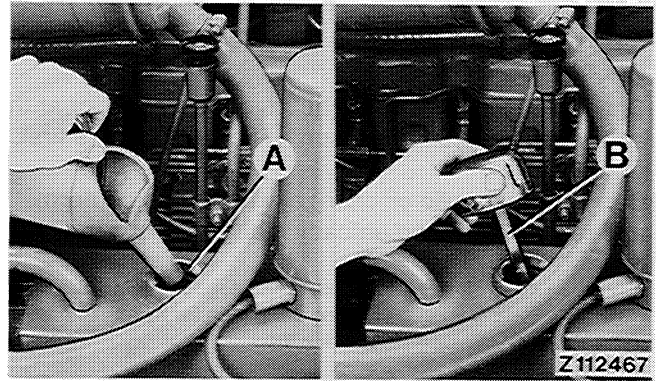
IMPORTANT: Observe utmost cleanliness when installing filter.



Z112466-1188AZE-000987

OIL REFILL – MAIN HYDRAULICS

IMPORTANT: Always use specified oil. Carefully clean area around filler neck (A) before filling reservoir with fresh oil. Fill reservoir until oil level is between the upper and lower marks on dipstick (B).



Z112467-1166AZE-150488

OIL CHANGE – HYDROSTATIC REEL DRIVE

Change hydrostatic reel drive oil after the first 100 hours of operation. Thereafter change oil after every 400 hours of operation, or at the end of the harvest season, whichever occurs first.

Drain Oil

To drain oil, loosen hose clamp (H) and remove plug (A) from drain hose (B). Drain oil into a suitable container.

Always clean filter screen (C) when changing oil.

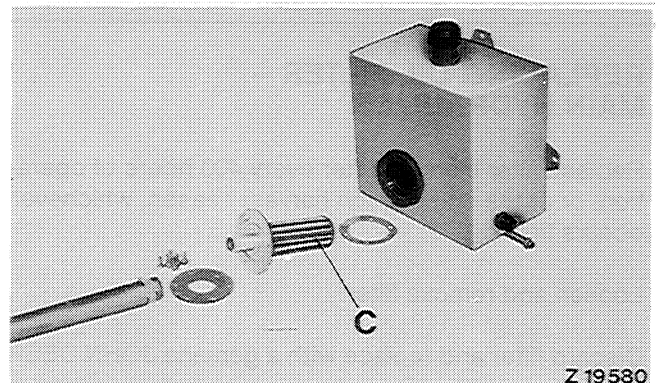
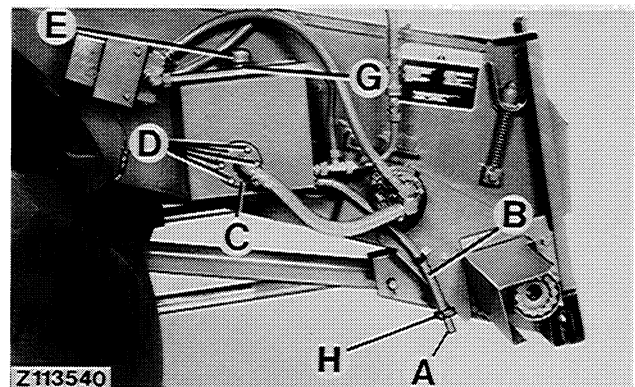
Cleaning Filter Screen

Remove screws (D) and lift out filter screen parts as shown. Carefully clean all parts, using a bristle brush for the screen. Reassemble parts using illustration opposite as a guide.

Refill with Fresh Oil

IMPORTANT: Always use specified oil. Carefully clean area around filler neck (E) before filling with fresh oil. Ensure that oil reservoir is horizontal, then add oil until level is between lower edge of dipstick and oil level mark.

- A–Plug
- B–Drain hose
- C–Filter screen
- D–Cap screws
- E–Filler neck
- G–Filler cap
- H–Hose clamp



Z113540,Z19580-1166AZE-150488

Service – Clutch and Brakes

CLUTCH AND BRAKE OIL RESERVOIR

Use oil meeting specifications only. An electrical warning device is activated when oil level in reservoir is too low. Check oil level every 200 operating hours.



CAUTION: If oil is lost due to leakage, see your JOHN DEERE dealer.

A–Filler cap with float



Z109671-1188AZE-000987

ADJUSTING FOOT BRAKES

Proceed as follows:

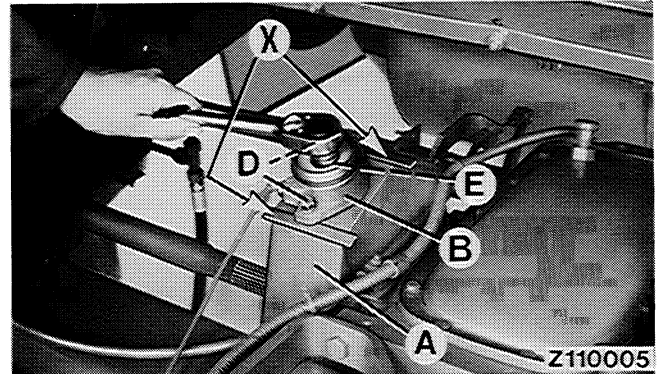
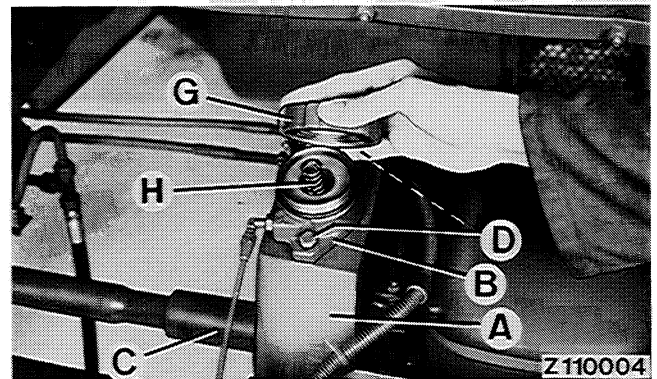
- Gear shift lever in neutral position.
- Loosen and slide back couplings (C) on both ends of final drive shafts.
- Remove protective caps (G), taking care not to lose spring (H).
- Loosen cap screws (D).
- On each side, place a feeler gauge (X) (width approx. 10 mm; 3/8 in; thickness 3 mm; 1/8 in.) between brake housing (A) and cylinder housing (B) next to cap screws (D).
- Tighten adjusting nut (E) until brake is applied.
- Remove gauges (X) and tighten cap screws (D).
- Install protective caps (G) with spring (H).
- Reinstall couplings (C) and secure with roll pins.



CAUTION: This adjustment procedure applies only after the brakes have been run in. After adjustment, check brake pedal travel. In case of excessive travel, see your JOHN DEERE dealer.

A–Brake housing
B–Brake cylinder housing
C–Couplings
D–Cap screws

E–Adjusting nut
G–Protective caps
H–Spring
X–Feeler gauges



Z110004,Z110005-1166AZE-160790

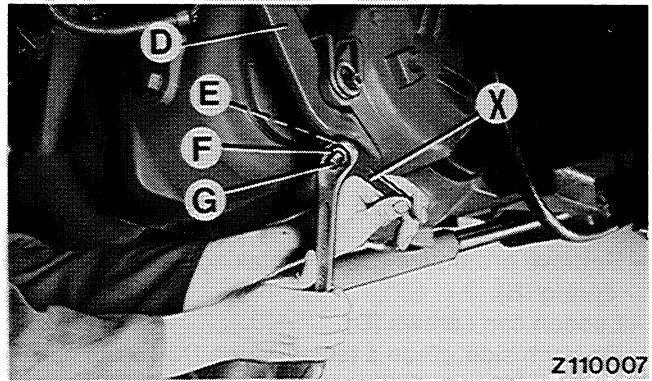
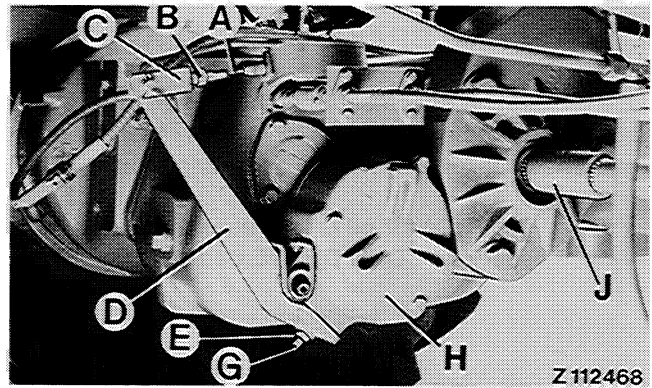
ADJUSTING PARKING BRAKE

Proceed as follows:

- Release parking brake.
- Place gear shift lever in neutral position.
- Loosen and slide back couplings (J) on both ends of final drive shafts.
- Place a 3 mm (1/8 in.) feeler gauge (X) between brake housing (H) and brake lever (D).
- Turn special nut (E) on adjusting spindle (G) until brake is applied. Check by turning final drive shaft.
- Secure special nut (E) by means of lock nut (F).
- After adjustment is completed, remove feeler gauge (X). Reinstall couplings and secure with roll pins.

A–Parking brake cable
B–Hex. nut
C–Yoke
D–Brake lever
E–Special nut

F–Lock nut
G–Adjusting spindle
H–Brake housing
J–Coupling
X–Feeler gauge



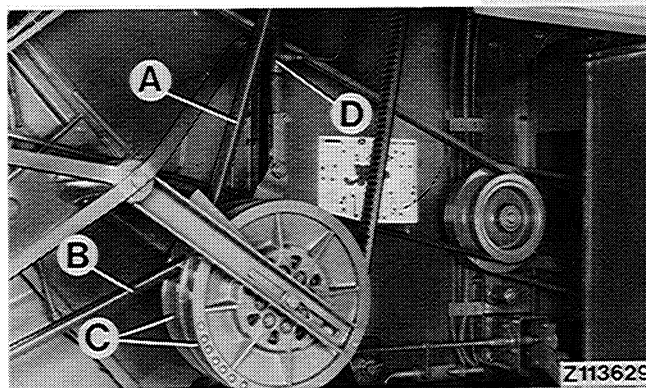
Z112468,Z110007-1166AZE-150488

Service – Power Train

VARIABLE GROUND SPEED DRIVE (GENERAL INFORMATION)

The variable ground speed drive allows ground travel speed to be infinitely varied in each gear. The speed variation is effected hydraulically.

- A—Drive belt from engine to variable drive
- B—Drive belt to transmission
- C—Variable sheave halves
- D—Hydraulic cylinder

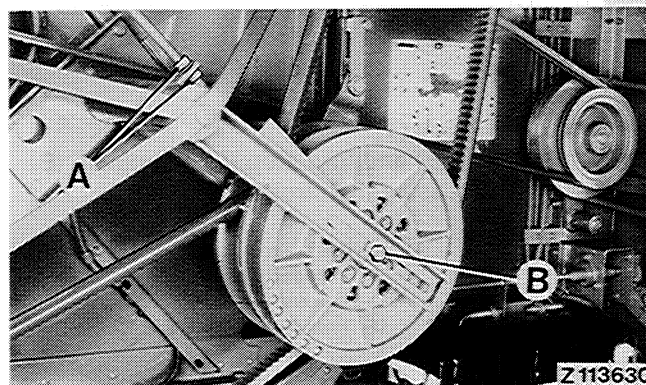


Z113629-1166AZE-070191

ADJUSTING VARIABLE DRIVE BELT TENSION

Check belt tension every 10 operating hours (until the first 50 operating hours have been completed). Adjust if necessary. To adjust, proceed as follows:

- Loosen bearing bolt (B)
- Loosen hex. nuts (A) and turn both nuts clockwise until desired belt tension is obtained.
- Retighten bearing bolt (B) and nuts (A).

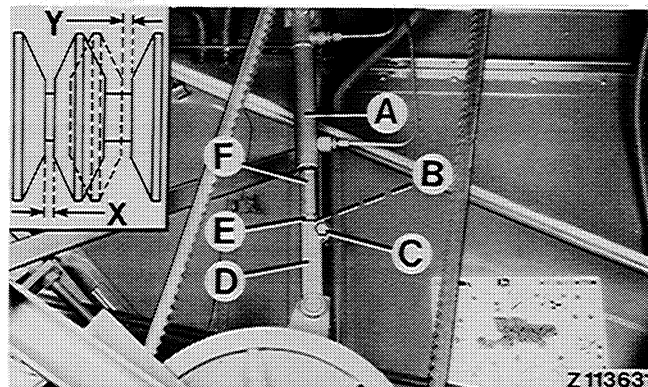


Z113630-1166AZE-070191

VARIABLE GROUND SPEED DRIVE – BASIC ADJUSTMENT

IMPORTANT: When adjusting drive belts, the following two requirements must be satisfied:

1. With the hydraulic cylinder fully retracted, distance (Y) should be 1 to 2.5 mm (0.04 to 0.1 in.).
2. With hydraulic cylinder fully extended, distance (X) should be 1 to 2.5 mm (0.04 to 0.1 in.).



To satisfy the above requirements, a spindle adjusting length of at least 15 mm (0.6 in.) must be maintained.

Correct distances (X) and (Y) as follows:

Increasing Distance (X)

Loosen hex. nut (C) and turn spindle (B) into threaded clamp (D), reducing total length of hydraulic cylinder (A).

Reducing Distance (X)

Loosen hex. nut (C) and turn spindle (B) out of the threaded clamp (D). Make sure that a minimum spindle length (B) of 15 mm (0.6 in.) is maintained. This increases total length of hydraulic cylinder (A).

Increasing Distance (Y)

Loosen hex. nut (E) and turn stop (F) on spindle (B) to the left, reducing the stroke.

Reducing Distance (Y)

Loosen hex. nut (E) and turn stop (F) on spindle (B) to the right, increasing the stroke.

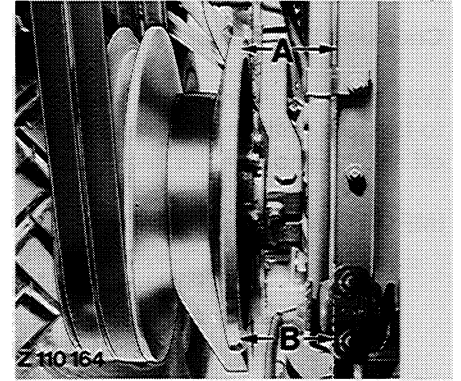
- A-Hydraulic cylinder
- B-Threaded spindle
- C-Hex. nut
- D-Threaded clamp
- E-Hex. nut
- F-Stop
- X-Minimum clearance for inner sheave halves
- Y-Minimum clearance for outer sheave halves

POSI-TORQ GROUND DRIVE – ADJUSTMENTS

Checking Upper Unit

To avoid excessive wear of belts, the variable sheaves must be parallel with side walls of separator.

The two measurements (A) and (B) should not deviate from each other by more than 1.5 mm (1/16 in.).



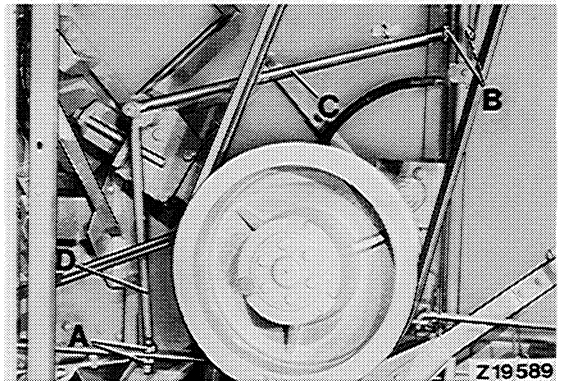
Z110164-1166AZE-070191

Upper Unit Parallel Adjustment

Adjust rods (C) and (D) if sheave measurements deviate by more than the specified maximum of 1.5 mm (1/16 in.)

Adjust hex. nuts (A) and (B) on adjusting rods (C) and (D) until sheaves are parallel to the side walls within the specified limit. Retighten hex. nuts.

- A–Hex. nut
- B–Hex. nut
- C–Adjusting rod
- D–Adjusting rod



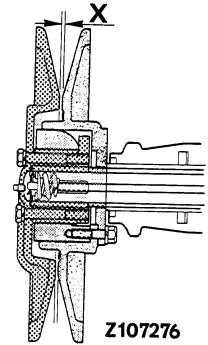
Z19589-1065AZE-100186

Checking Lower Unit

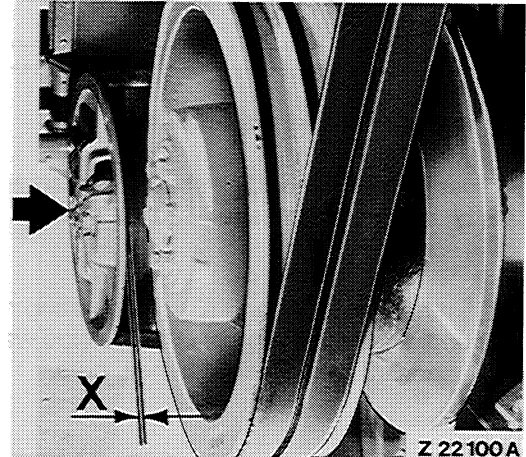
With engine running, shift ground speed control lever to the rear until sheave halves are fully closed. Shut off engine and remove switch key.

IMPORTANT: Clearance (X) must be within specified tolerance, otherwise the belts will be rendered unserviceable. Check clearance after every 50 hours of operation and adjust, when necessary.

X—Clearance 5.0 ± 1.5 mm
($13/64 \pm 1/16$ in.)



Z107276



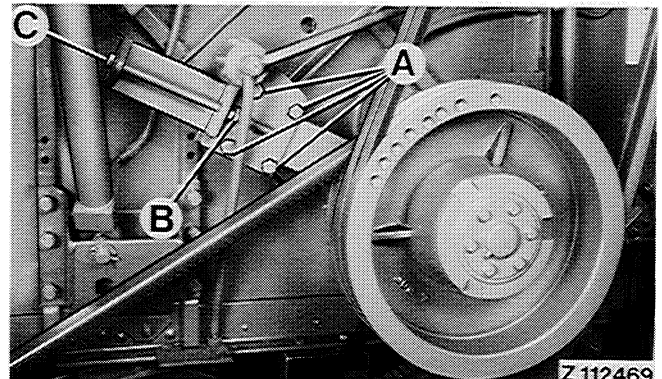
Z 22100A

Z107276.Z22100A-1166AZE-150488

Adjusting Lower Unit

Should clearance not be within specifications, proceed as follows:

Loosen the four cap screws (A) and lock nuts (B). Turn tension screw (C) until specified clearance has been obtained. Finally tighten the four cap screws and lock nuts. Start engine and shift ground speed control lever to rear. Shut off engine and recheck clearance.



Z 112469

Z112469-1188AZE-000987

HYDROSTATIC DRIVE OIL COOLER

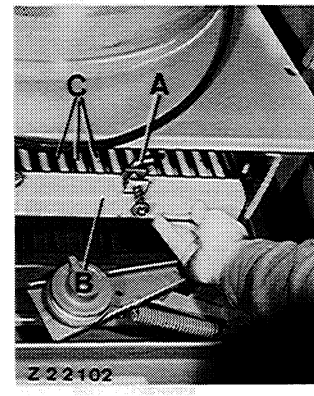
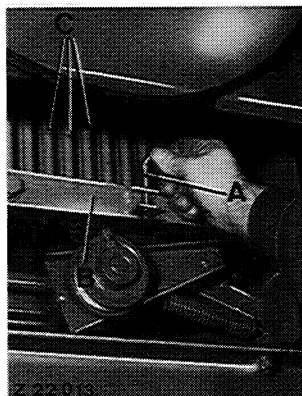
The hydrostatic drive oil cooler is located between the rotary screen and engine radiator.

Access:

Swing rotary screen upward and support.

Lift locking pin (A) and swing oil cooler forward.

Clean tubes (C) of oil cooler (B) regularly.



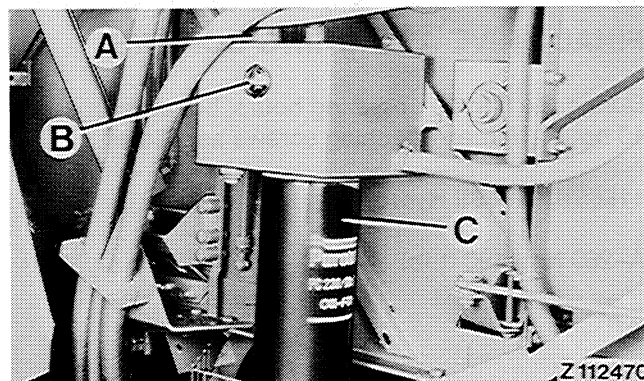
Z22013, Z22102-1065AZE-001084

HYDROSTATIC DRIVE OIL AND FILTER CHANGE

Change oil and oil filter of hydrostatic system after every 400 hours of operation or at the start of the harvesting season, whichever occurs first.

Always have this service carried out by your JOHN DEERE dealer.

A—Oil reservoir cap
B—Sight glass
C—Oil filter



Z112470-1188AZE-010987

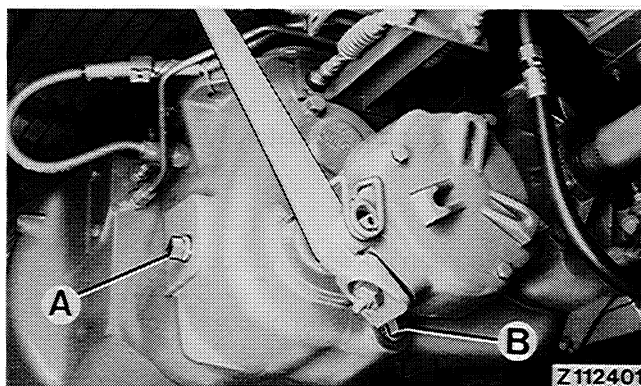
Service – Transmission, Axles and Wheels

TRANSMISSION

Change oil after first 100 hours of operation. Thereafter change oil every 800 hours of operation or before each harvesting season, whichever occurs first. Check oil level every 200 hours of operation.

IMPORTANT: Always use specified oil.

A—Oil filler and level plug
B—Oil drain plug



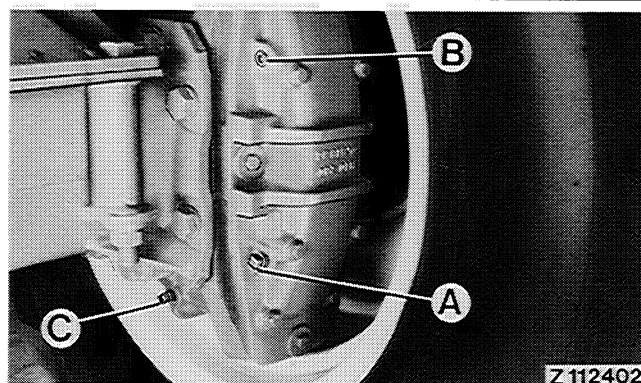
Z112401-1166AZE-150488

FINAL DRIVES

Change oil after first 100 hours of operation. Thereafter change oil every 800 hours of operation or before each harvesting season, whichever occurs first. Check oil level every 200 hours of operation.

IMPORTANT: Always use specified oil.

A—Oil filler and level plug
B—Bleed screw
C—Oil drain plug



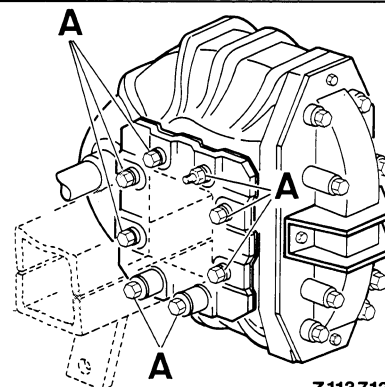
Z112402-1166AZE-150488

FINAL DRIVE ATTACHING SCREWS

During the first 50 operating hours, but at least every 10 hours, tighten attaching screws as follows:

1166SII, 1166SII Hydro/4

A—260 Nm (190 ft-lb)

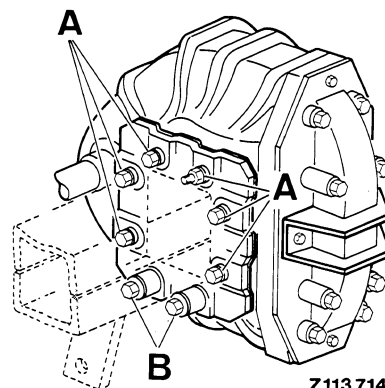


Z113713-1166AZE-160790

1174SII, 1174SII Hydro/4, 1177SII

A—260 Nm (190 ft-lb)

B—400 Nm (290 ft-lb)

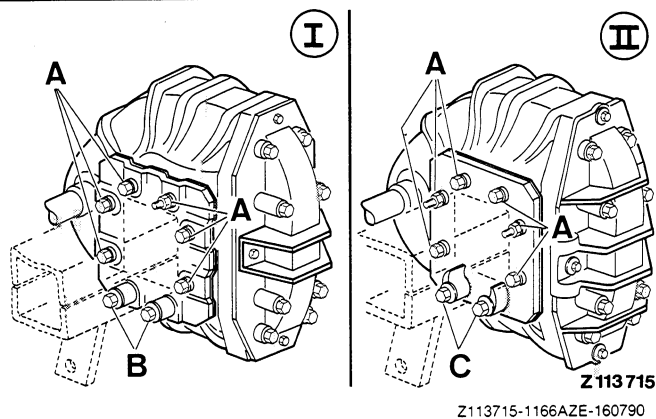


Z113714-1166AZE-070191

1177SII Hydro/4

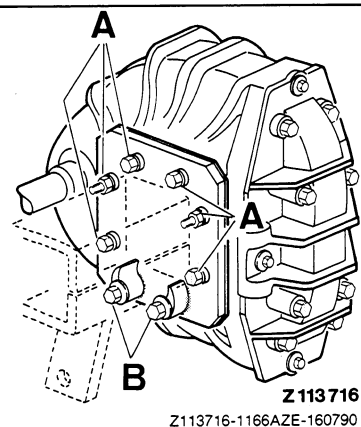
I—Final drive – standard version
II—Final drive – heavy-duty version

A—260 Nm (190 ft-lb)
B—400 Nm (290 ft-lb)
C—550 Nm (400 ft-lb)



1188SII Hydro/4

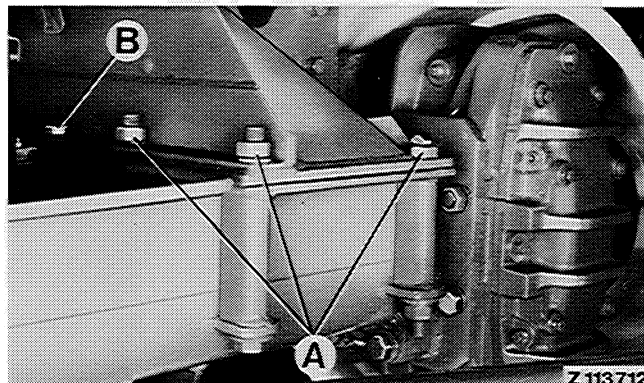
A—260 Nm (190 ft-lb)
B—550 Nm (400 ft-lb)



FRONT AXLE

During the first 50 operating hours, but at least every 10 hours:

- Tighten nuts (A) to 315 – 330 Nm (228 – 235 ft-lb).
- Tighten attaching screw (B) to 200 Nm (145 ft-lb).



Z113712-1166AZE-150488

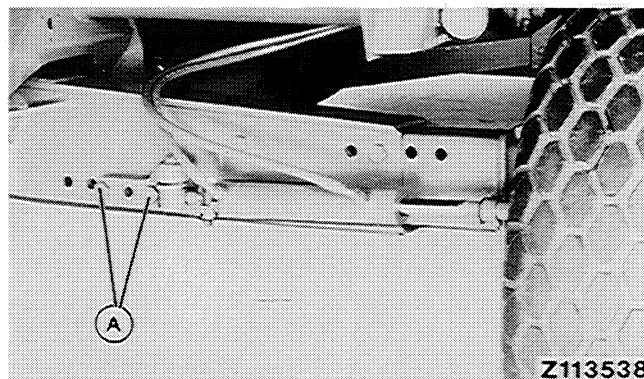
REAR AXLE TOE-IN

If combine is difficult to steer or if the rear wheel tires begin to wear on one side, have toe-in checked by your JOHN DEERE dealer.

WARGEOM-1188AZE-000987

STEERING CYLINDER MOUNTING BOLTS

After the first 10 hours of operation, tighten special nuts of cap screws (A) to 240 Nm (170 ft-lb). Be sure to tighten lock nuts.

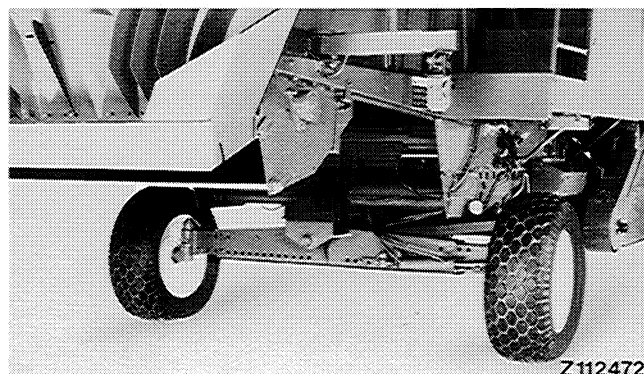


Z113538-1188AZE-000987

REAR WHEEL TREAD

Depending on the tires fitted, rear wheel tread can be varied from 2.08 m (6 ft. 8 in.) to 2.94 m (9 ft. 6 in.).

With widest tread setting, not more than eight pairs of holes may be exposed on each side of the axle.



Z112472-1166AZE-150488

ADJUSTING REAR AXLE WIDTH



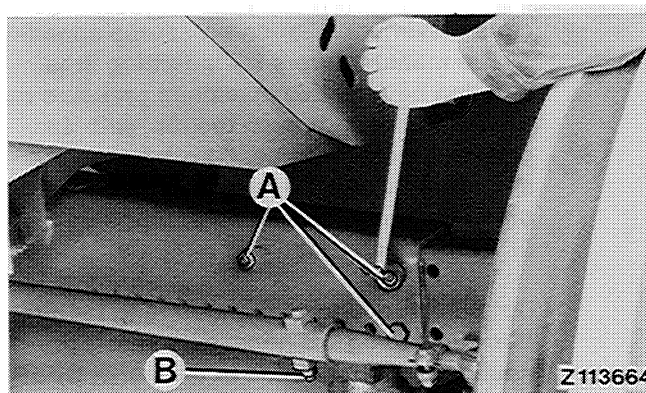
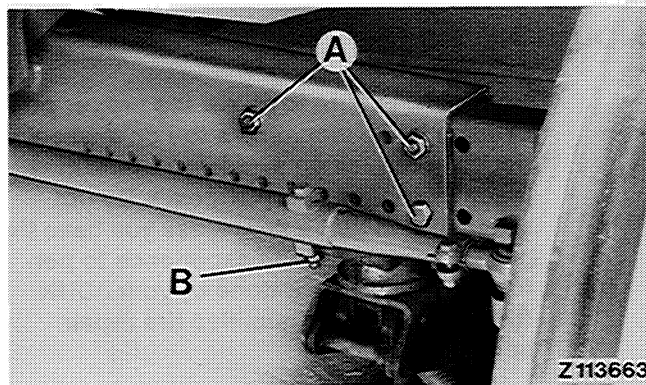
CAUTION: When changing axle widths, rear frame of combine must be raised and supported properly.

L.H. Side

Block up front wheels. Raise rear axle until tire is approx. 2.5 cm (1 in.) off ground. Remove cap screws (A) on l.h. side of rear axle. Also screw out tie rod bolts (B).

Extend axle tube to desired width, then tighten screws (A) and bolts (B). Lower rear axle. Ensure screws (A) are tightened to 240 Nm (170 ft-lb).

When adjusting, do not expose more than eight pairs of holes on each side of axle.



Z113663, Z113664-1166AZE-150488

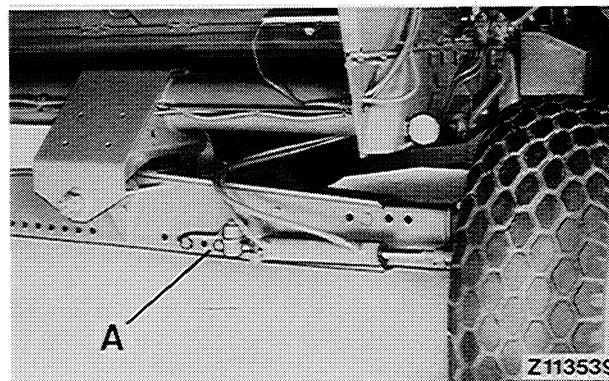
R. H. Side

To adjust r.h. side of axle, proceed as for l.h. side. In addition, disconnect steering cylinder mounting (A) from rear axle.

Narrowest Position of Rear Axle

In order to avoid rear wheels touching combine, following positions of rear axle have to be maintained:

Tire size	Visible number of hole pairs
11.2-24	5
12.5/80-18	4
13.0/65-18	3
14.5/75-20	5



Z113539-1166AZE-150488

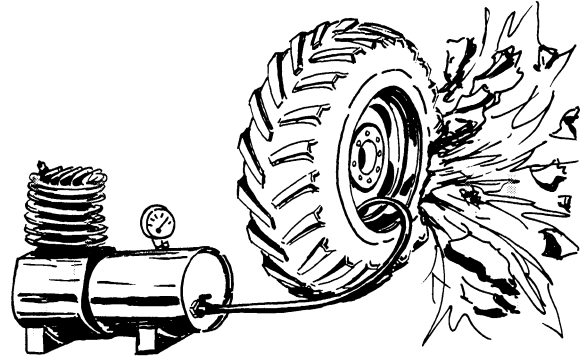
MOUNTING TIRES



CAUTION: Failure to follow the proper procedures when mounting a tire on a wheel or rim can produce an explosion which may result in serious injury or death. Do not attempt to mount a tire unless you have the proper equipment and experience to perform the job. Have it done by your JOHN DEERE dealer or a qualified tire repair service.

When seating tire beads on rims, never exceed maximum inflation pressures specified by tire manufacturers for mounting tires. Inflation beyond this maximum pressure may break the bead, or even the rim, with dangerous explosive force. If both beads are not seated when the maximum recommended pressure is reached, deflate, reposition tire, relubricate bead and reinflate.

Detailed agricultural tire mounting instructions, including the necessary safety precautions, are contained in the JOHN DEERE Fundamentals of Service (FOS) Manual 55, Tires and Tracks, available through your JOHN DEERE dealer. Such information is also available from your local tire manufacturer agents.

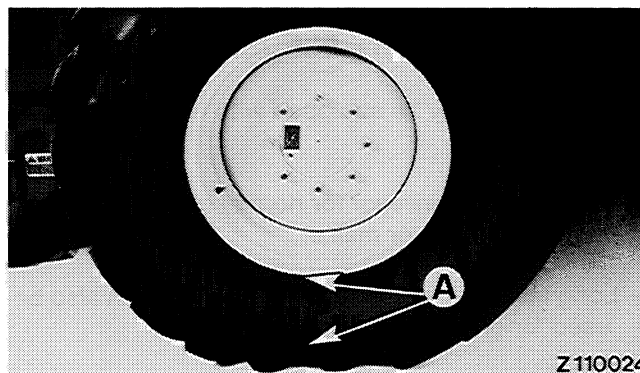


Z 20924

Z20924-1072AZE-000883

TIRE MAINTENANCE

1. Check tires daily for damage (A) and correct tire pressure. Long life and satisfactory performance of the tires depends on proper tire inflation.
2. Have cuts or breaks repaired as soon as possible or change tire.
3. Protect tires from unnecessary exposure to sunlight, petroleum products and chemicals.
4. Drive carefully. Try to avoid rocks and sharp objects.



Z110024

Z110024-1065AZE-000186

TUBELESS TIRES

The majority of front wheel tires, as well as 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.

WGETROM-1072AZE-000883

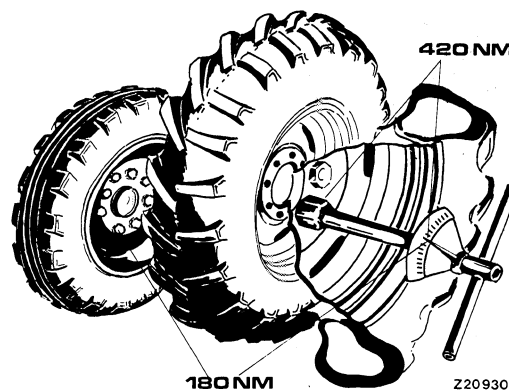
WHEEL BOLTS

Rear Wheels

After the first hour of operation and again after the first 20 to 25 hours of operation, check and tighten rear wheel bolts to 180 Nm (130 ft-lb).

Front Wheels

After the first hour of operation and again after the first 20 to 25 hours of operation, check and tighten front wheel nuts to 420 Nm (305 ft-lb).



Z20930

Z20930-1065AZE-000883

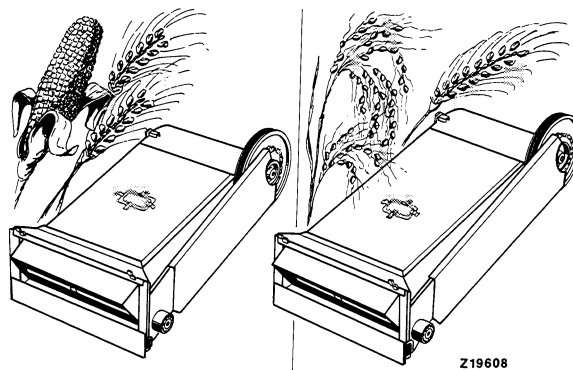
Service – Feeder House

LONG AND SHORT FEEDER HOUSE

The combine may be equipped with two types of feeder house:

- Short feeder conveyor for normal conditions when harvesting grain or maize.
- Long feeder conveyor for rice harvest. Can also be used for grain and maize.

The following service operations apply for both types of feeder house.



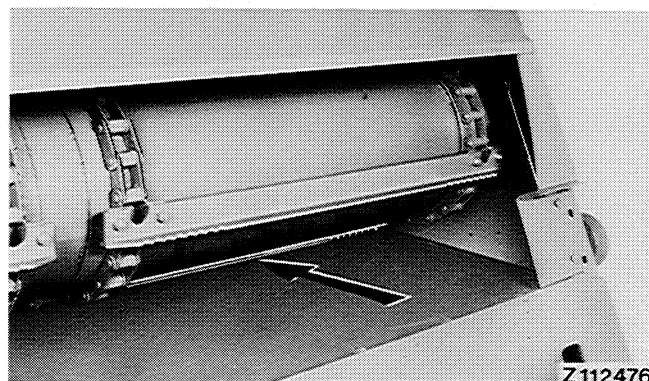
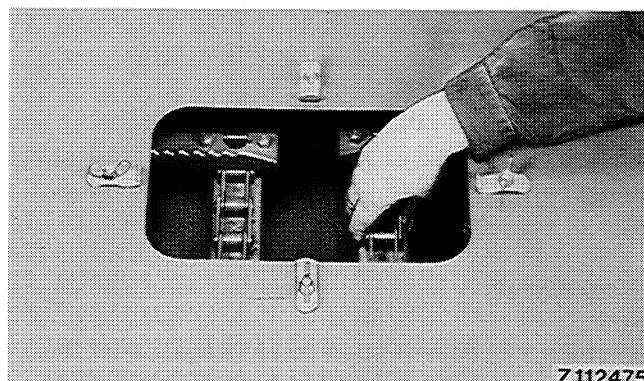
Z19608-1055AZE-000883

TENSION OF FEEDER CONVEYOR CHAIN

Checking Chain Tension

Chain tension is adjusted correctly, when the chain can be raised 30 to 40 mm (1-3/16 to 1-37/64 in.), exerting a force of approx. 300 N (66 lb) halfway between upper and lower feeder conveyor shafts.

A further check is possible with the cutting platform removed. The third slat (as seen from the front) should lightly contact feeder house.

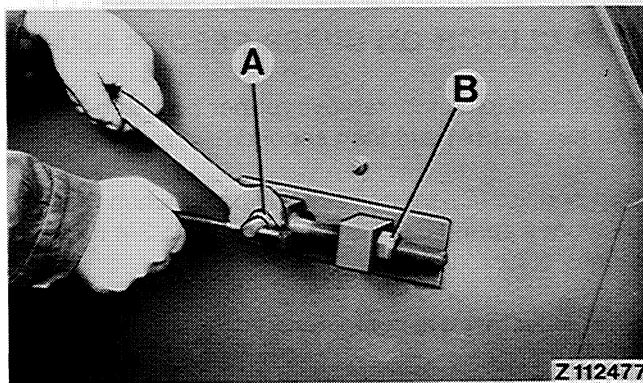


Z112475,Z112476-1188AZE-000987

ADJUSTING TENSION OF FEEDER CONVEYOR CHAIN

To adjust tension of conveyor chain, loosen hex. nut (A) on both sides. Then turn adjusting nut (B) until correct chain tension has been obtained. Finally tighten all nuts.

IMPORTANT: This adjustment must be carried out equally on both sides.



Z112477-1188AZE-000987

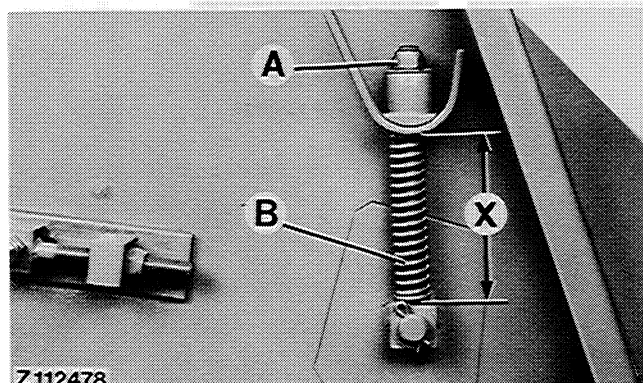
ADJUSTING HEIGHT OF BOTTOM FEEDER CONVEYOR DRUM

The required height depends on the type of crop:

- Normal grain crops: Lower
- Maize, rape etc.: Higher

IMPORTANT: The adjusted length (X) of spring (B) should be 137 to 143 mm (5-25/64 to 5-5/8 in.) for normal grain crops and 107 to 113 mm (4-7/32 to 4-29/64 in.) for rape.

A–Adjusting nut
B–Spring
X–Adjusted length



Z112478-1188AZE-000987

SLIP CLUTCH ON UPPER FEEDER SHAFT

To adjust slip clutch, remove rubber boot and loosen first hex. nut (A) and then second hex. nut (B).

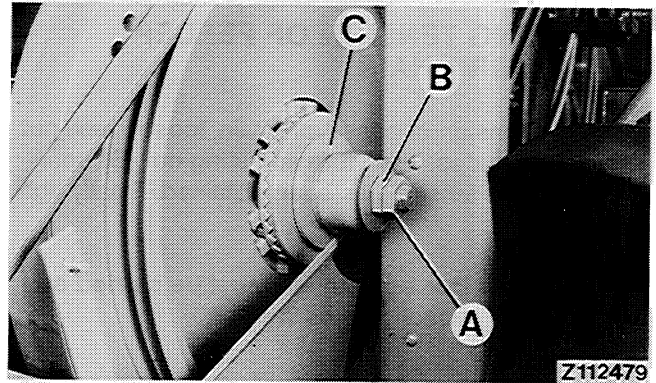
Cup springs (C) are correctly adjusted when the untensioned spring pack is pretensioned a 3/4 turn by means of hex. nut (B).

After adjustment is completed, tighten nut (A) against nut (B).



CAUTION: Make sure that upper guard section is always installed.

A–Hex. nut
B–Hex. nut
C–Cup springs

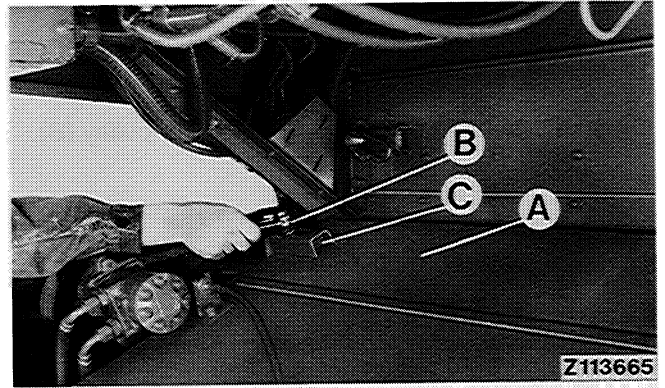


Z112479-1188AZE-000987

UPPER FEEDER HOUSE COVER

When servicing in upper area of feeder house, remove cover (A) by loosening U-bolts (B). Slide latches (C) inward and remove cover. Reverse removal procedure to install cover.

A–Cover
B–U-bolt
C–Latch



Z113665-1166AZE-150488

FEEDER CONVEYOR DRIVE – ENGAGING DEVICE

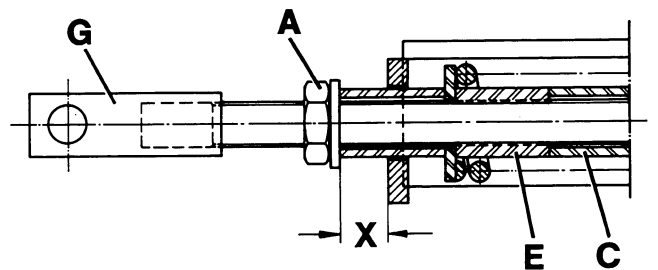
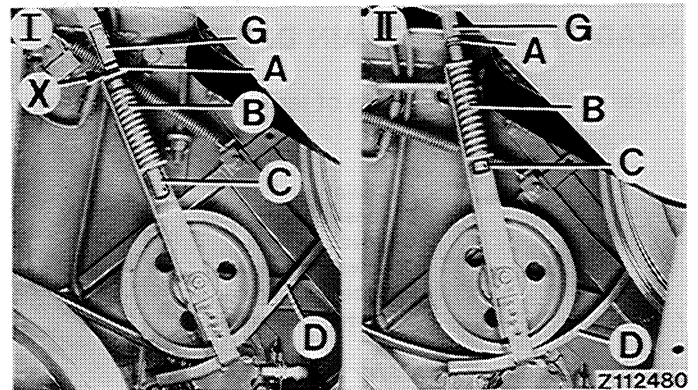
With feeder conveyor drive engaged, V-belt (D) must be well tensioned.

To check: With feeder conveyor drive engaged (Fig. I), dimension (X) should be 10 to 15 mm (0.4 to 0.6 in.).

Correction: Loosen lock nut (A) on adjusting rod (G) and adjust threaded tube (C) until specified dimension (X) is obtained. Tighten lock nut (A).

I–Feeder Conveyor Drive Engaged
II–Feeder Conveyor Drive Disengaged

A–Lock nut
B–Tension spring
C–Tube
D–V-belt
E–Threaded tube insert
G–Adjusting rod
X–Specified dimension



Z113645

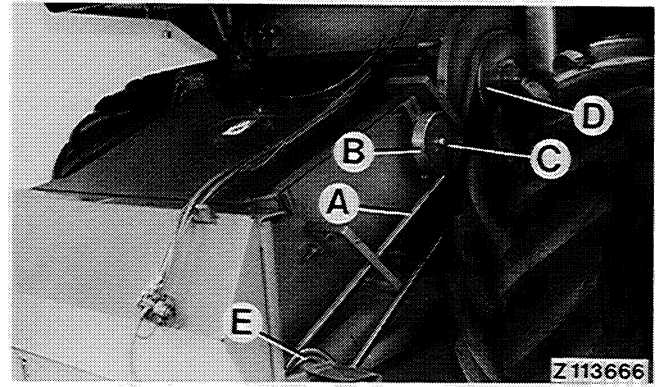
Z112480, Z113645-1166AZE-150488

HEADER DRIVE (SINGLE V-BELT DRIVE)

Tension V-belt (A) by means of tensioner pulley (B).

- A–V-belt
- B–Tensioner pulley
- C–Hex. nut
- D–Drive belt pulley
- E–Lower V-belt pulley

NOTE: Guards removed for better illustration.



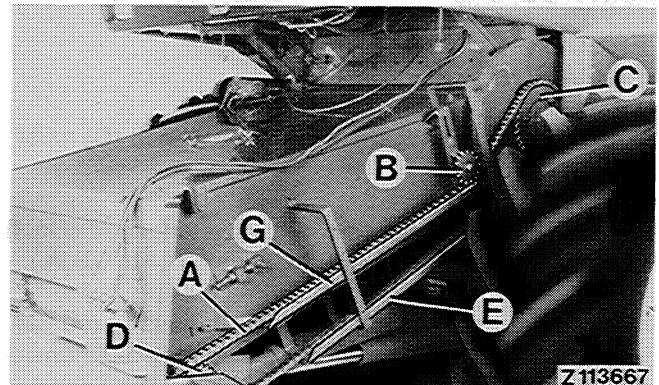
Z113666-1166AZE-160790

HEADER DRIVE – CHAIN DRIVE

Tension chain (A) by means of tensioner sprocket (B).

- A–Chain
- B–Tensioner sprocket
- C–Drive sprocket
- D–Lower sprocket
- E–Upper chain guide
- G–Lower chain guide

NOTE: Guards removed for better illustration.



Z113667-1166AZE-160790

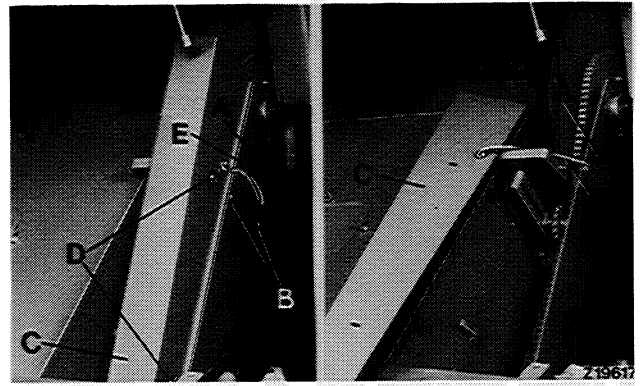
HEADER DRIVE GUARD



CAUTION: Remove header drive guards when adjusting drive only.

Lower guard (A) is attached to guard brackets by means of attaching screws (B).
Hook in upper guard (C) and fasten with two wing nuts (D).

A–Lower guard
B–Attaching screws
C–Upper guard
D–Wing nuts
E–Safety rope

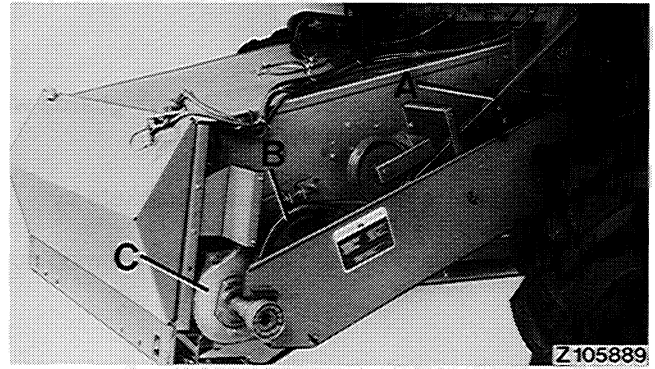


Z19617-1166AZE-160790

HEADER DRIVE (DUAL V-BELT)

A dual V-belt (A), driven from the upper feeder house shaft, drives sprocket (B) of chain transmission (C).

Header Drive – Upper Guard Section Removed for Better View

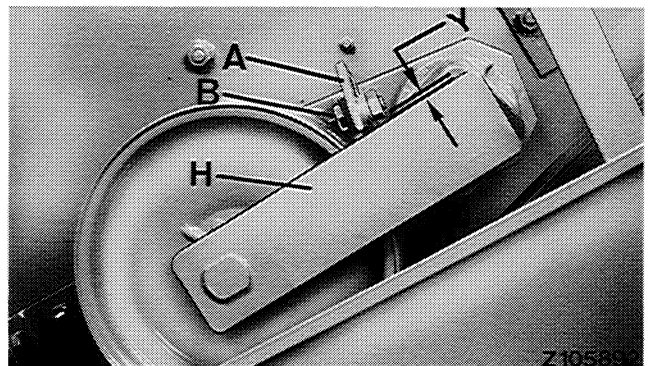
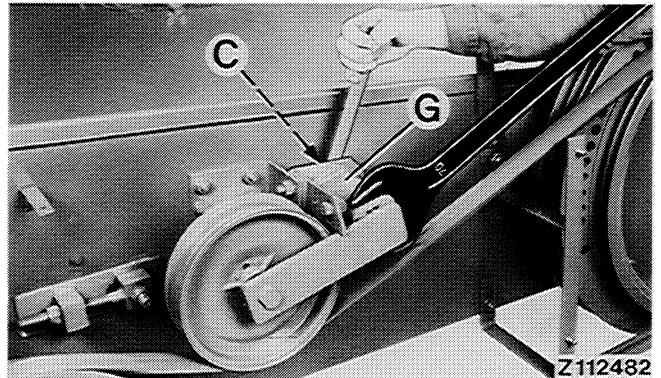
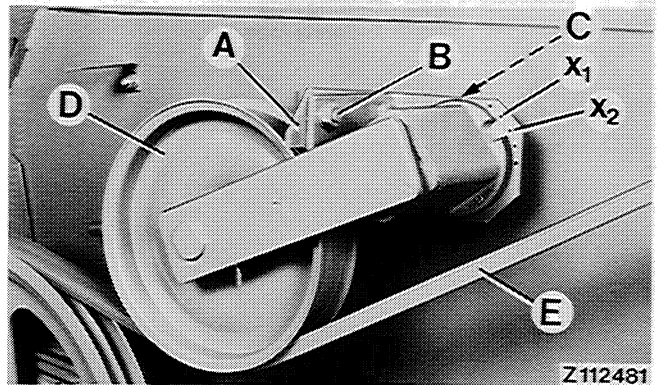


Z105889-1166AZE-160790

ADJUSTING DUAL V-BELT

1. Having loosened cap screws (B), position stop (A) to the top and loosen locking screw (C) behind the bearing plate. Now tensioner pulley (D) can be placed loosely on dual V-belt (E).
2. Using a suitable open-ended spanner (70 mm) or pipe wrench, turn tensioning housing (G) one further marking point (turning one marking point from X1 to X2 corresponds to 15°). To secure tensioner housing (G), tighten locking screw (C) behind the bearing plate to 210 Nm (152 ft-lb).
3. Adjust stop (A) so that there is a clearance (Y) of 5 mm (0.2 in.) between stop and tensioner arm (H).

A–Stop
B–Cap screw
C–Locking screw
D–Tensioner pulley
E–Dual V-belt
G–Tensioner housing
H–Tensioner arm
X1, X2 –Marking points
Y–Clearance of 5 mm (0.2 in.)



Z112481,Z112482,Z105892-1188AZE-000987

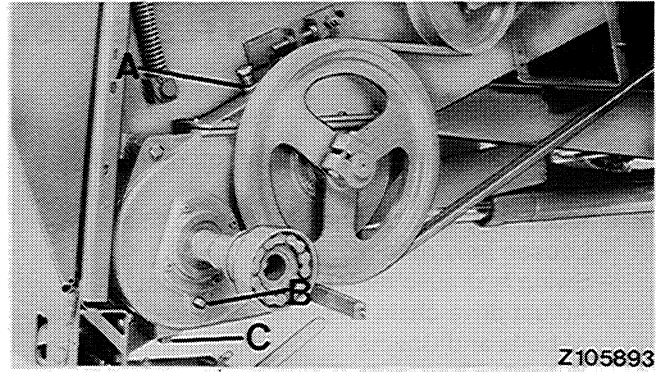
CHAIN TRANSMISSION – CUTTING PLATFORM DRIVE

Replace oil in chain transmission for cutting platform drive after the first 100 hours of operation. Thereafter replace oil after every 800 hours of operation or at the end of the harvesting season (whichever occurs first). Check oil level after every 200 hours of operation. Carry out the check with the feeder house in its highest position.

A–Bleed and filler screw

B–Oil level plug

C–Oil drain plug



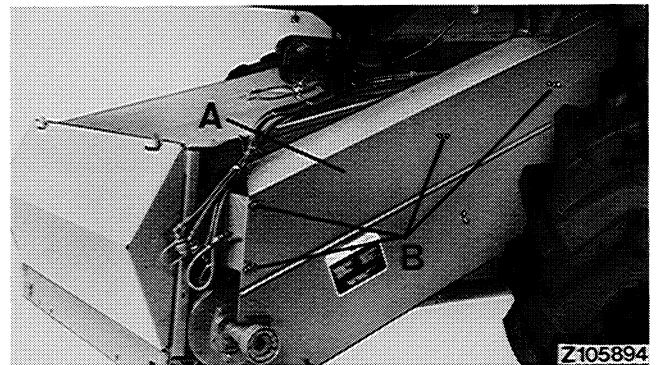
Z105893-1166AZE-160790

HEADER DRIVE GUARD



CAUTION: Remove header drive guard only when adjusting drive.

Secure guard (A) with wing nuts (B).



Z105894-1166AZE-160790

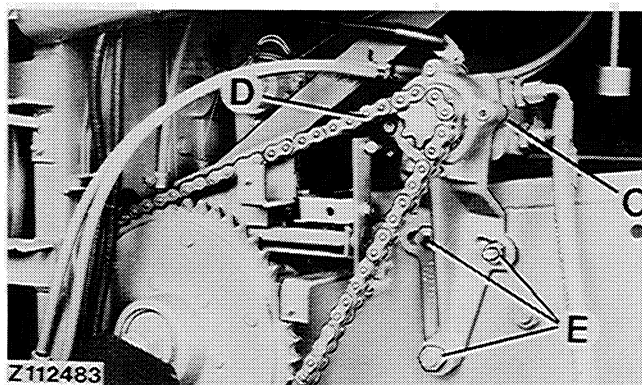
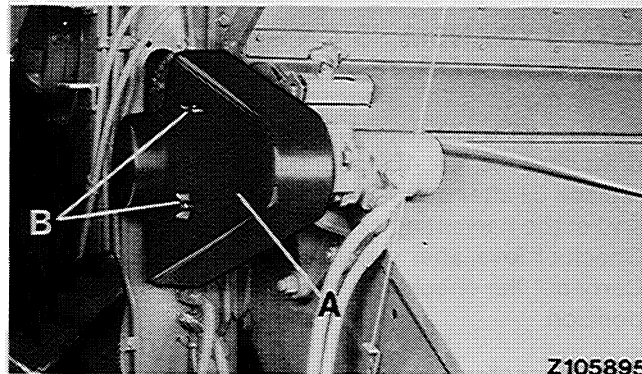
HYDRAULIC REVERSER ON FEEDER HOUSE

Tensioning Drive Chain

1. After removing wing nuts (B), lift off guard (A).
2. If necessary, tension chain (D). To do this:
 - Loosen hex. nuts (E).
 - Swing hydraulic motor (C) to the front
 - Adjust drive chain as explained under “Service – V-belts and Chains”.
 - Retighten hex. nuts (E).
 - Reinstall guard (A) and tighten wing nuts (B).

IMPORTANT: Before starting the new season, have the hydraulic reverser shifting mechanism checked by your JOHN DEERE dealer.

A–Guard
B–Wing nuts
C–Hydraulic motor
D–Drive chain
E–Hex. nuts



Z105895,Z112483-1188AZE-000987

Service – Separator

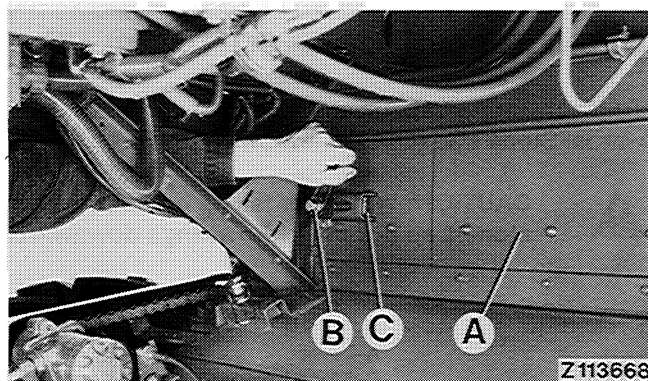
FRONT CYLINDER INSPECTION COVER

To open inspection cover (A), loosen both U-bolts (B) and slide inward together with latches (C). Remove inspection cover (A).

A—Inspection cover

C—Latch

B—U-bolts



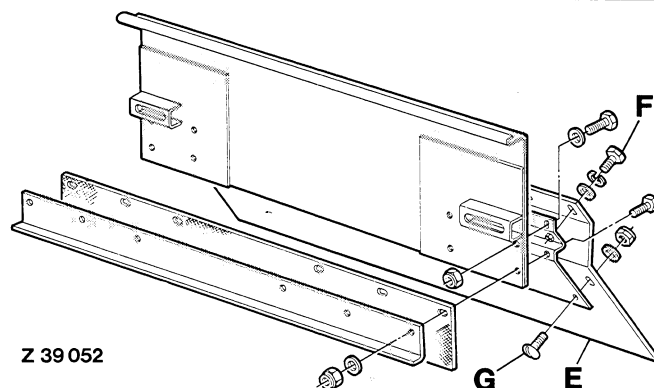
Z113668-1166AZE-150488

CYLINDER INSPECTION COVER

Adapting Cover to Crop Being Harvested

IMPORTANT: Remove deflector sheet extension (E) bolted to inside of inspection cover before harvesting maize. Reinstall extension for grain crops.

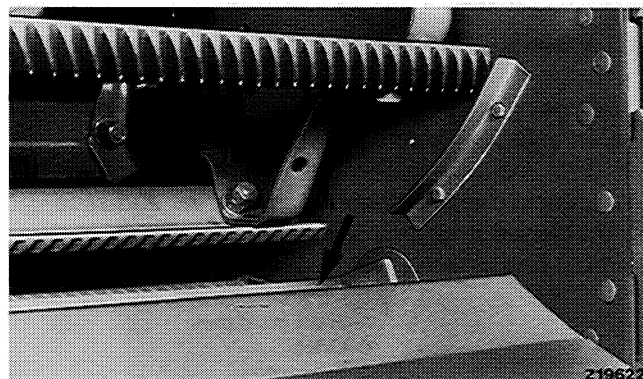
Deflector sheet extension (E) is attached by means of cap screws (F) and special screws (G).



Z39052-1065AZE-100186

STONE TRAP

Empty stone trap periodically.

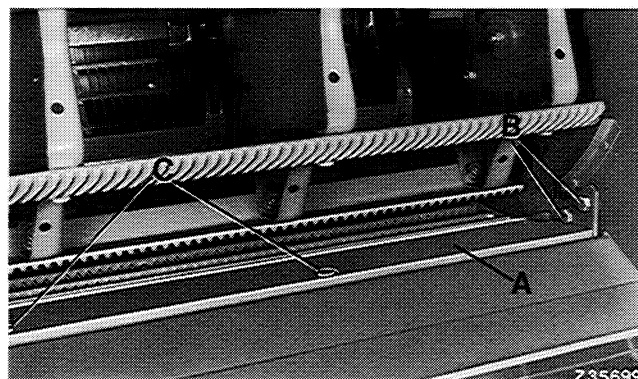


Z19622-1065AZE-150883

STONE TRAP COVER PLATE

Install stone trap cover plate (A) when changing from grain to maize.

Attach stone trap cover plate (A) at each end with cap screws (B) and in the center with cap screws (C).



Z35699-1065AZE-000883

OPENING STONE TRAP BOTTOM PLATE

To empty stone trap, unlatch lever (A) and push upwards. Stone trap (B) can now swing down.

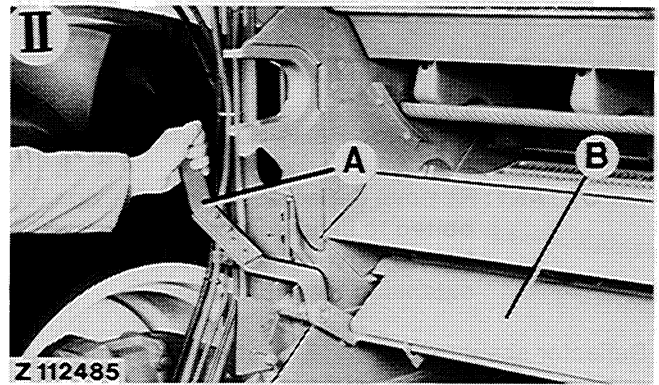
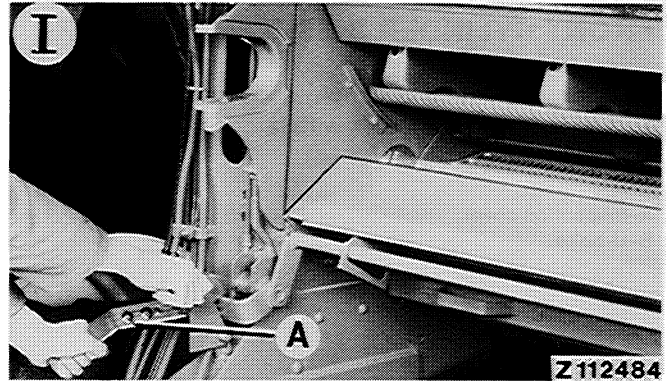


CAUTION: Watch for falling stones when stone trap bottom plate swings downward.

A–Lever
B–Stone trap

I–Bottom Plate Closed
II–Bottom Plate Open

Feeder House Removed for Illustration Purposes



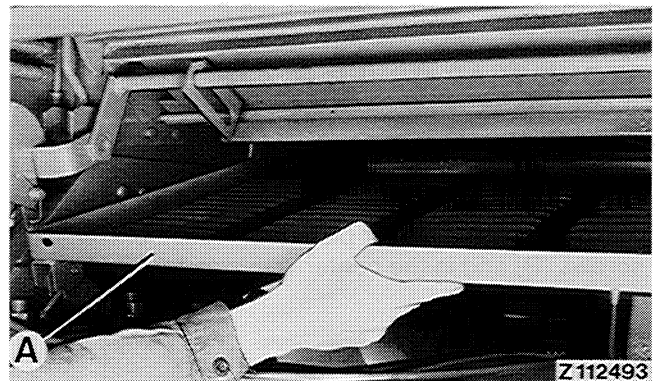
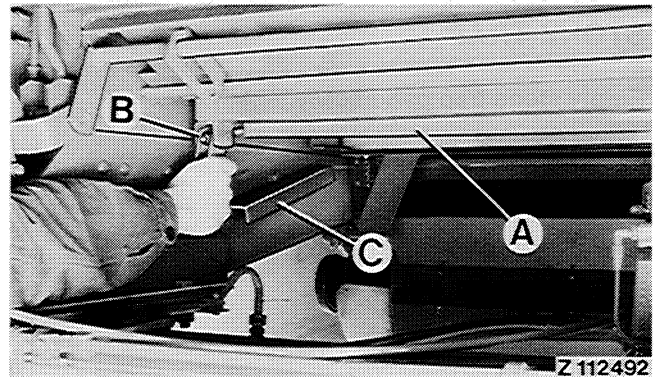
Z112484, Z112485-1188AZE-000987

CLEANING GRAIN PAN

The front grain pan (A) is locked in position by means of left and right-hand latches (B).

To unlock, press latches (B) to the rear and slide front hinged grain pan (A) outwards to support (C). Lift out and clean.

A–Front grain pan
B–Latch
C–Support

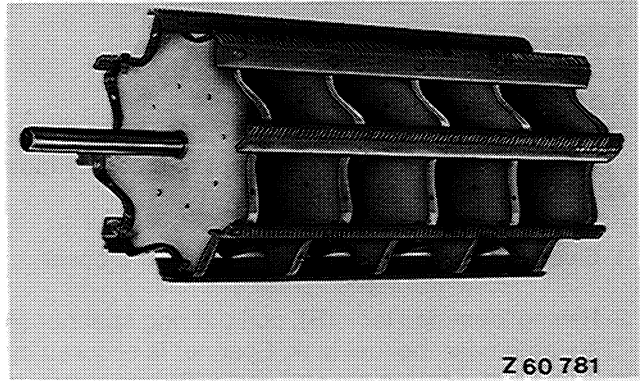


Z112492, Z112493-1188AZE-010987

CYLINDER RASP BARS

The cylinder is equipped with right-serrated and left-serrated rasp bars, installed alternately. When replacing a rasp bar, replace the mating bar on opposite side as well to maintain proper cylinder balance. Rasp bars can be removed or installed without removing cylinder.

IMPORTANT: Retighten replacement rasp bar attaching screws after first 10 hours of operation.



Z 60 781

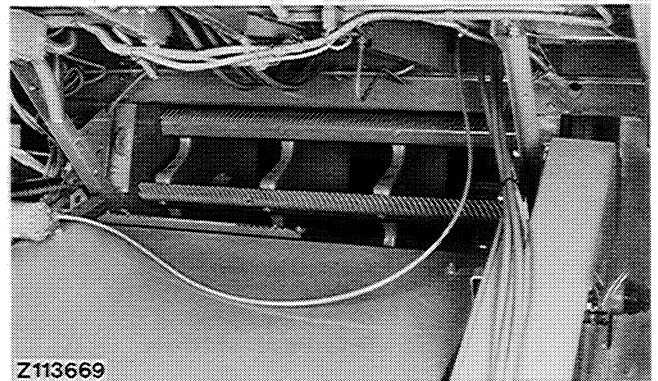
Z60781-1065AZE-001084

TURNING CYLINDER (With Mechanically Adjusted Cylinder Drive)

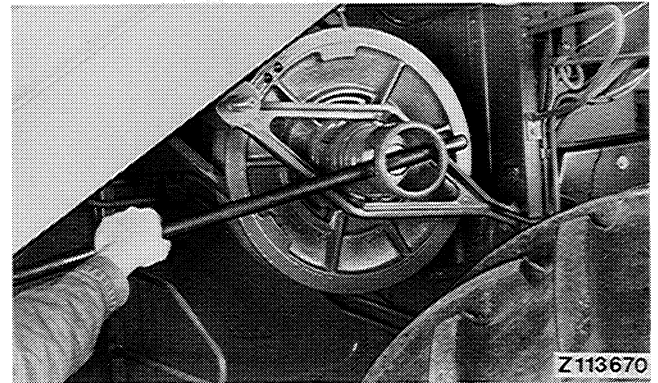


CAUTION: Never attempt to clean cylinder while engine is running.

Open feeder conveyor front cover and turn cylinder, using a suitable lever.



Z113669



Z113670

Z113669,Z113670-1166AZE-160790

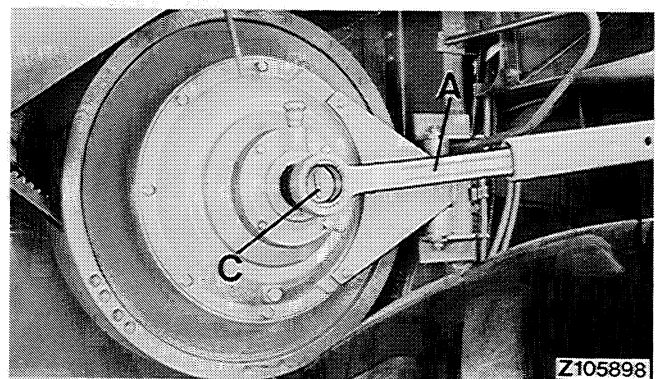
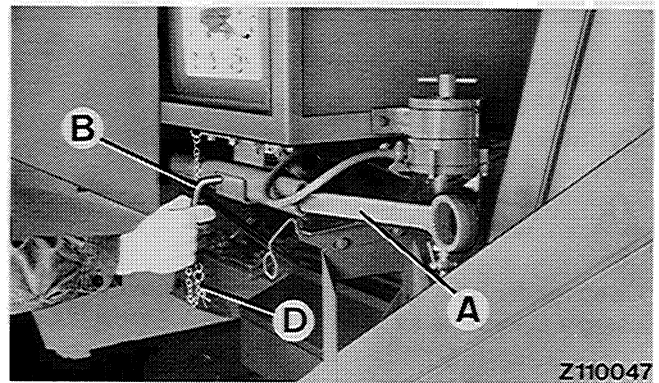
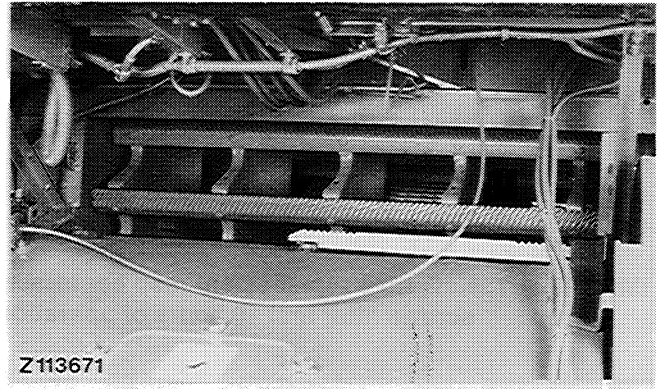
TURNING CYLINDER – SPECIAL EQUIPMENT (With Hydraulically Adjusted Cylinder Drive)



CAUTION: Never attempt to clean cylinder while engine is running.

1. Open feeder conveyor and cylinder front cover.
2. Having loosened lock (B), pull out ring spanner (A) located near the fuel tank. Spanner is secured by means of a spring pin and chain (D).
3. Position ring spanner (A) as shown opposite on stub shaft (C) of cylinder variable drive.
4. Turn cylinder as required.

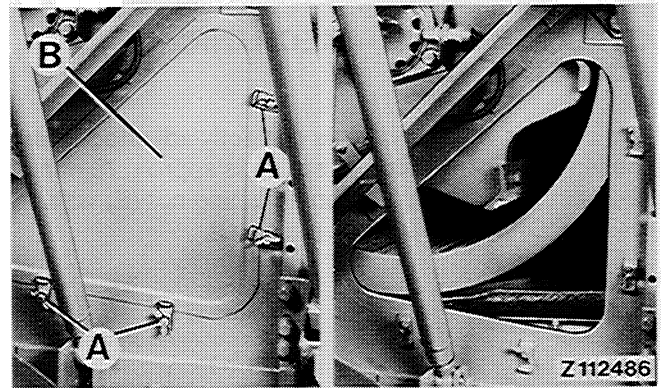
A–Ring spanner
B–Lock
C–Stub shaft
D–Spring pin and chain



SIDE INSPECTION COVERS TO CYLINDER

Remove side inspection covers for servicing cylinder.

Loosen wing nuts (A) and lift out cover (B).

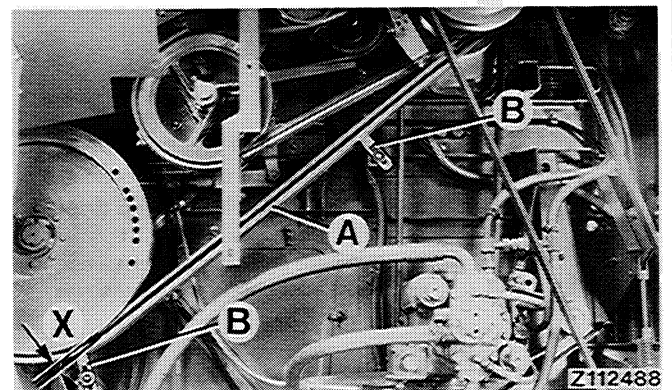


Z112486-1188AZE-000987

SEPARATOR DRIVE – BELT GUIDE

With separator engaged, install belt guide (A) so that there is an even clearance (X) of 2 to 5 mm (5/64 to 13/64 in.) between tensioned belt and guide, as well as at beater drive pulley.

A–Belt guide
B–Slot hole bracket
X–Clearance



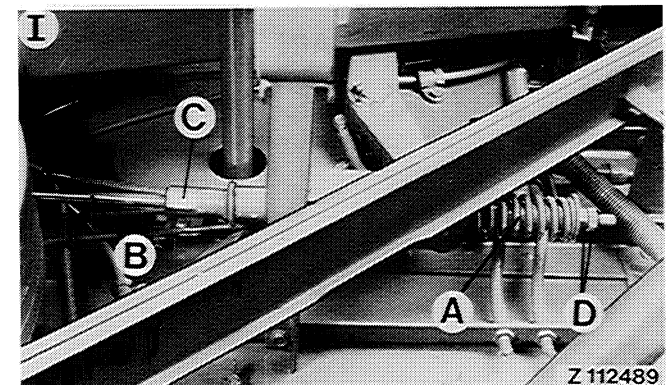
Z112488-1188AZE-010987

SEPARATOR DRIVE – BELT TENSION

Raise throw-out lever.

Belt tension is correct when dimension (X) is approx. 23 to 27 mm (29/32 to 1-1/16 in.). Correct tension by means of adjusting screw (C).

I–Separator disengaged
II–Separator engaged
A–Tension spring
B–Adjusting rod
C–Adjusting screw
D–Lock nuts
X–Control measurement



Z 112489



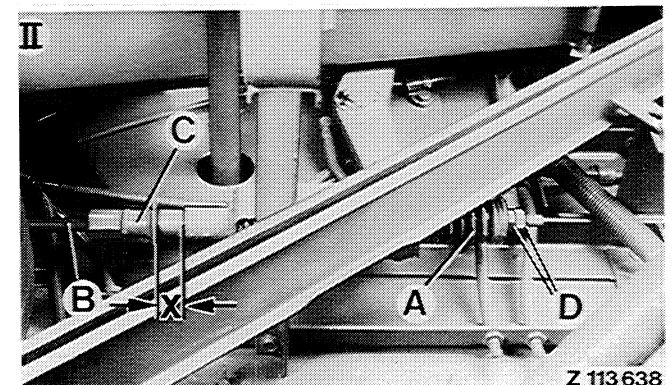
CAUTION: Never engage separator drive until you are absolutely certain that everyone is clear of the combine.

NOTE: Leave separator belt in engaged position, when not operating combine.



CAUTION: Never make adjustments when operating. Danger of accidents!

IMPORTANT: Do not apply wax to the belt.



Z 113 638

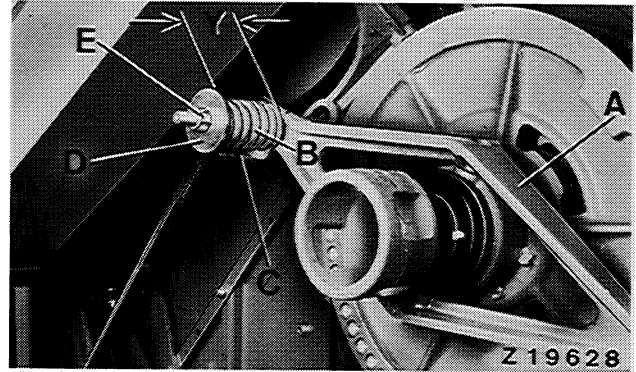
Z112489,Z113638-1166AZE-150488

CYLINDER DRIVE – MECHANICAL ADJUSTMENT

The cylinder variable drive is correctly adjusted when the length of pretensioned spring is approx. 70 mm (2-3/4 in.). To adjust, tighten adjusting nut (E) with washer (D) until level with spacer (C).

A–Adjusting yoke
B–Spring
C–Spacer

D–Washer
E–Adjusting nut
Y–Control measurement 70 mm
(2-3/4 in.)

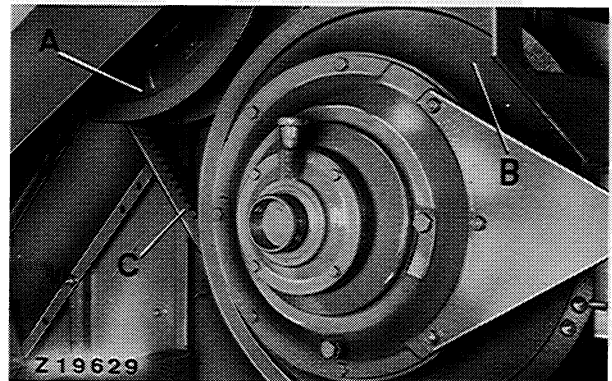


Z19628-1166AZE-160790

CYLINDER DRIVE – HYDRAULIC ADJUSTMENT

IMPORTANT: Adjustments to both sheaves on cylinder and beater variable drive should be performed by your JOHN DEERE dealer.

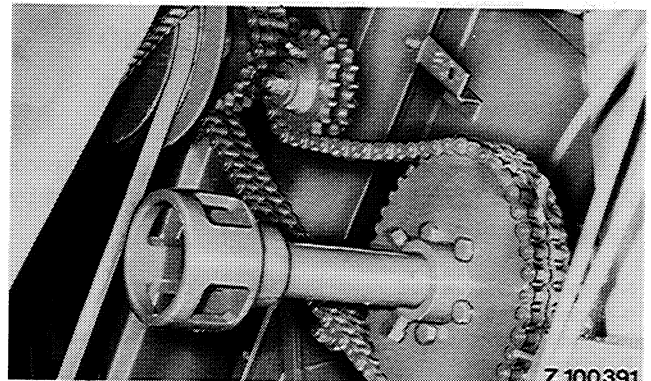
A–Beater shaft variable sheaves
B–Cylinder shaft variable sheaves
C–V-belt



Z19629-1166AZE-160790

CYLINDER DRIVE CHAIN

If cylinder speeds under 500 rpm are required, have a cylinder drive chain installed by your JOHN DEERE dealer.

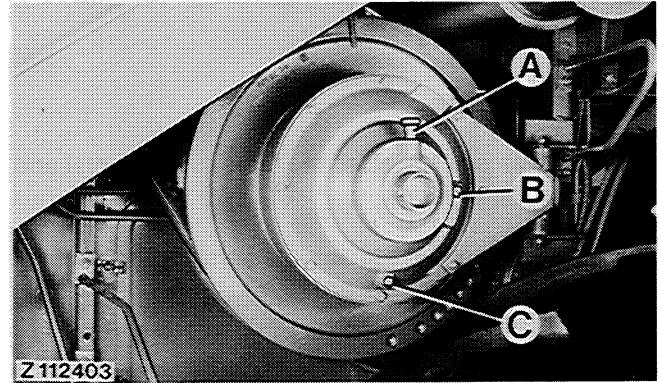


Z100391-1166AZE-160790

CYLINDER DRIVE REDUCTION GEAR

Change oil in cylinder reduction gear after the first 100 hours of operation. Thereafter after every 800 hours of operation or after each harvesting season (whichever occurs first). Check oil level after every 200 hours of operation.

A–Breather
B–Oil filler and level plug
C–Oil drain plug



IMPORTANT: When checking oil level and topping up with oil, variable sheaves must be fully apart. The oil flows very slowly. After approx. 15 mins. check oil level again and top up if necessary.

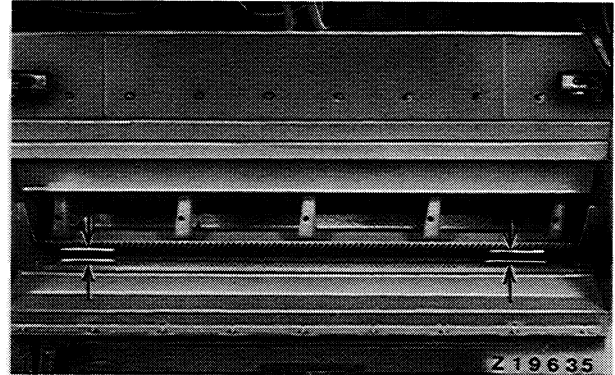
Z112403-1188BZE-000987

CONCAVE SETTINGS

Horizontal Setting

The concave is adjusted at the factory, horizontal and parallel to the cylinder.

Check adjustment at regular intervals, also when fine adjustments have been carried out.



Z19635-1188AZE-010987

Basic Setting

Concave-to-cylinder clearance is set at the factory to approx. 7 to 8 mm (9/32 to 5/16 in.) at the front and approx. 4 to 5 mm (5/32 to 13/64 in.) at the rear with concave clearance adjusting lever engaged in the last but one segment tooth. Maximum permitted deviation is 1 mm (3/64 in.). Measure from top cylinder rasp bar under outer clamping hub.

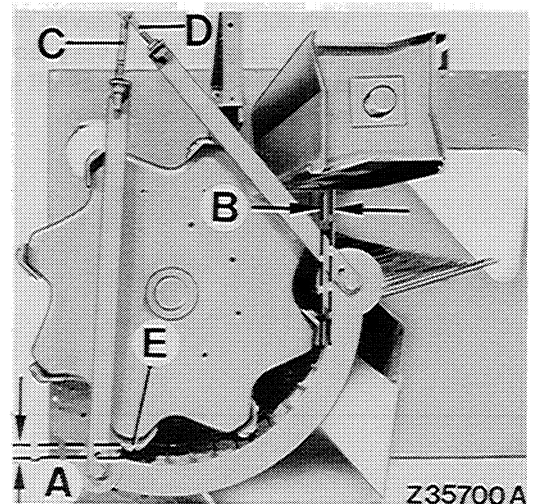
Before checking concave, first open concave fully and then close. This to make sure there is no play in the linkage and to avoid tilting of the concave.

Measuring points are:

- At front, second bar from the front.
- At rear, third bar from the rear.

A–7 to 8 mm (9/32 to 5/16 in.)
B–4 to 5 mm (5/32 to 13/64 in.)
C–Eyebolt, front left-hand
D–Eyebolt, rear left-hand
E–Punch mark

NOTE: Measure from top cylinder rasp bar. This bar is identified by a punch mark (E).



Z35700A-1065AZE-000186

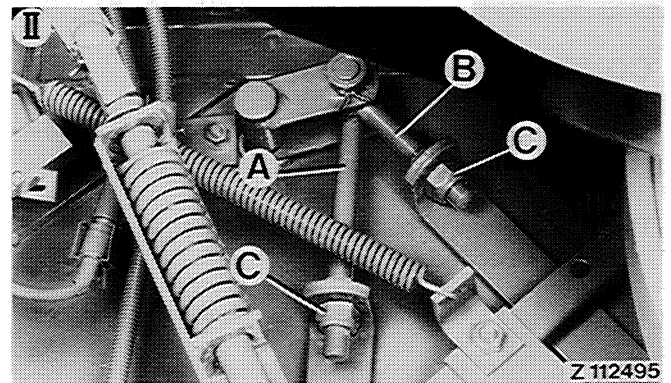
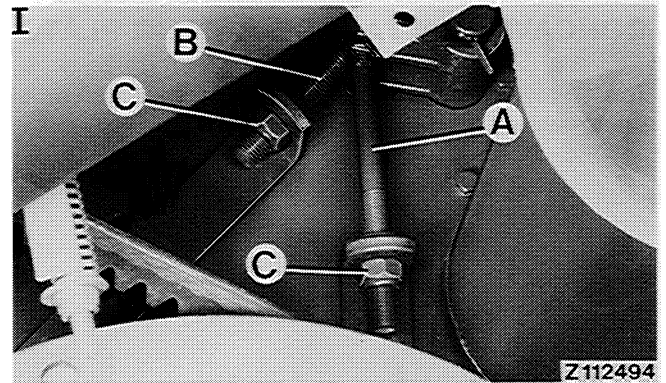
CONCAVE ADJUSTMENTS

IMPORTANT: Concave must always be horizontal and parallel to cylinder. Speed and clearance determine effectiveness of threshing.

For fine adjustment, turn hex. nuts (C) of eyebolts (A) and (B).

A–Eyebolt
B–Eyebolt
C–Hex. nuts

I–Right-hand side
II–Left-hand side

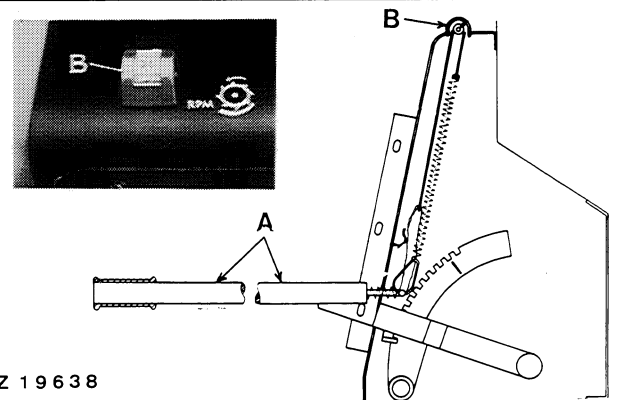


Z112494, Z112495-1188AZE-010987

CONCAVE CONTROL GAUGE

After every basic concave adjustment also adjust the concave control gauge (B).

With lever (A) in lowest position, scale should read "36".



Z 19638

Z19638-1065AZE-150883

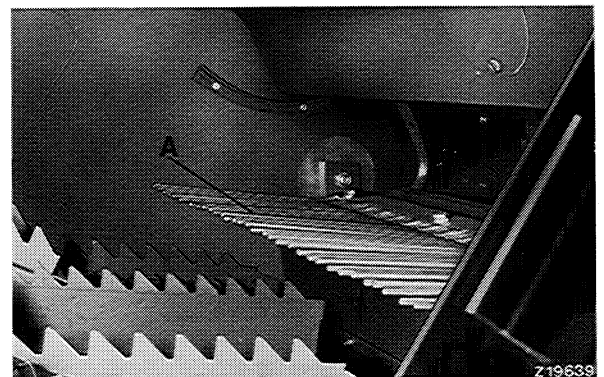
CONCAVE – FINGER RAKE

Finger rake (A) is connected to the upper end of the concave. Two types of finger rake are available:

- for grain
- for maize.

NOTE: When operating under very dry harvesting conditions (brittle straw), it is advisable to cover the finger rake.

A–Finger rake for grain



Z19639-1065AZE-000883

CONCAVE – INSTALL DE-AWNING PLATE

The de-awning plate is supplied for crops which must be de-awned (particularly barley).



Z100392-1055AZE-000883

CONCAVE – FRONT SUPPORT

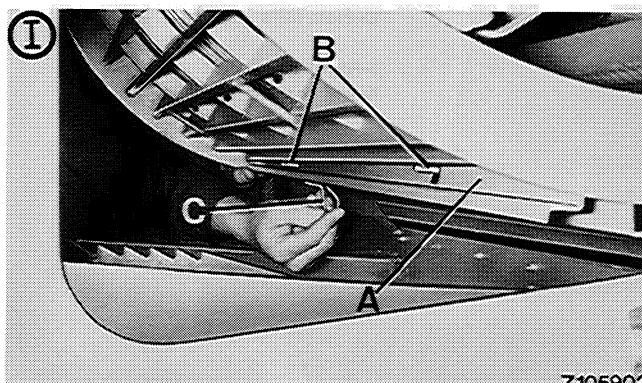
NOTE: On combines already in operation, thoroughly clean front support (B) before installing plate.

The first de-awning plate serves as front support when installing a second de-awning plate.

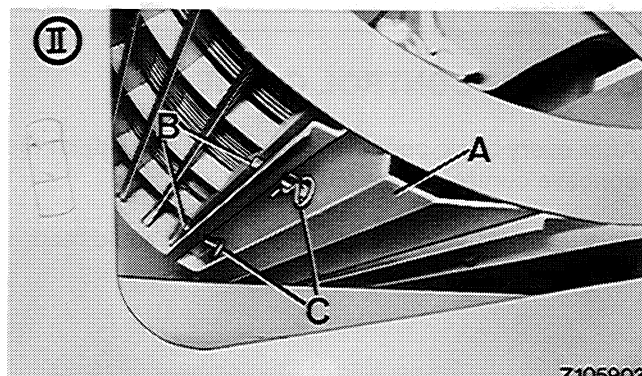
A–De-awning plate
B–Front support
C–Spring pin

I–Installation, Stage 1 – Secure first de-awning plate (A) with spring pin (C) to support (B).

II–Installation, Stage 2 – Second de-awning plate installed and secured with spring pins (C) to supports (B)



Z105902



Z105903

Z105902.Z105903-1188AZE-000987

RICE HARVESTING ATTACHMENT

This attachment consists of the rice cylinder and rice concave.

Threshing of the rice is accomplished through the friction and battering effect of the spiked teeth on rice concave and cylinder.

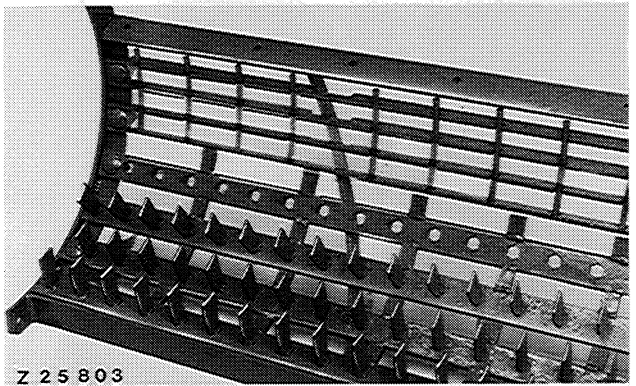
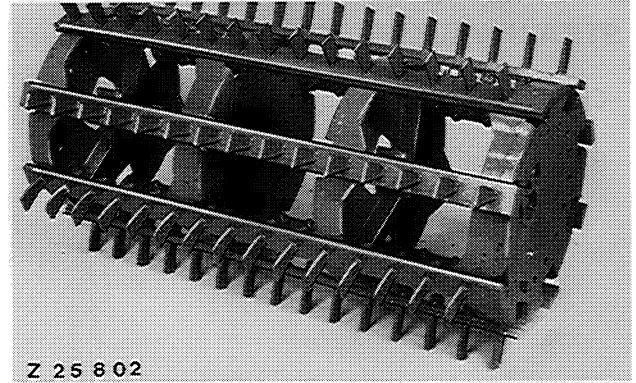
Spiked-Tooth Cylinder

The rice concave can be equipped optionally with three or four rows of spiked teeth.

Replace missing or damaged teeth.

Using a hammer with a piece of hardwood, drive in new teeth. Firmly bolt down teeth. Install teeth with the elongated side to the rear, as seen in direction of rotation.

Rice Concave with Three Rows of Spiked Teeth



Z25802,Z25803-1055AZE-000883

ADJUSTMENT – RICE CONCAVE AND CYLINDER

Adjust cylinder as close to concave as possible (see "Concave Adjustments"). Clearance between cylinder and concave teeth should be at least 4 mm (5/32 in.).

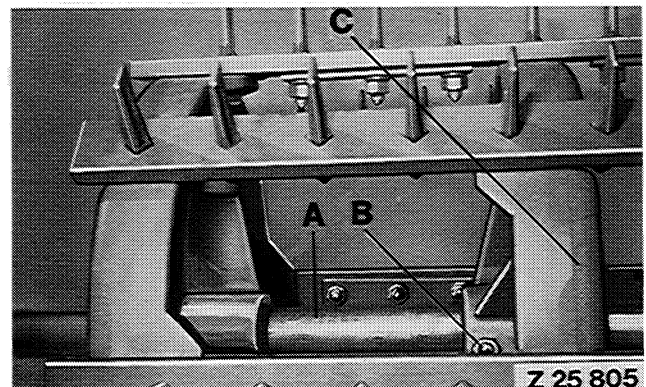
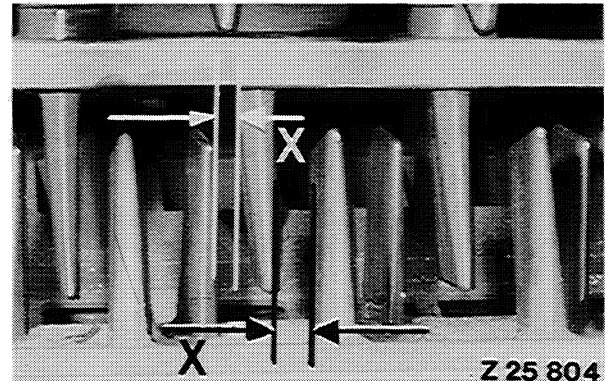
This side clearance of a cylinder spike tooth should be equal in relation to spiked teeth in the first, second, third and, if equipped, the fourth row of concave teeth.

If this clearance is not equal, the rice stalks will pass through unseparated on one side, while rice grains will be crushed and stalks chopped up on the other side.

Adjust by positioning cylinder on separator shaft. After adjustment, lock cylinder on shaft with clamping screw (B).

A–Separator shaft
B–Clamping screw

C–Cylinder hub
X–4 mm (5/32 in.)

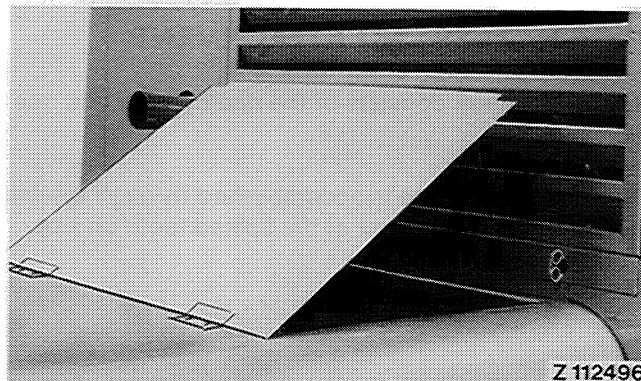


Z25804,Z25805-1055AZE-000883

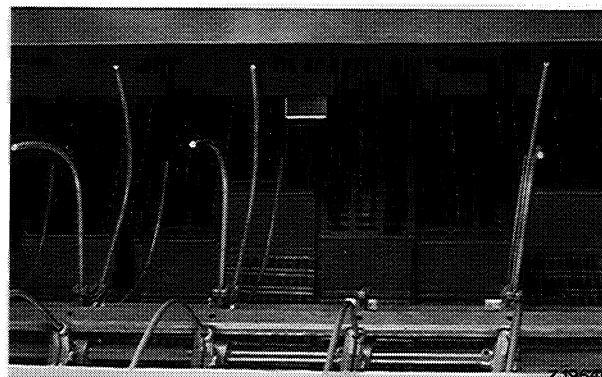
Service – Cleaning Shoe

STRAW WALKER ACCESS (From Above)

- Open cover on straw hood behind engine compartment.
- Remove one to three double tines



Z 112496



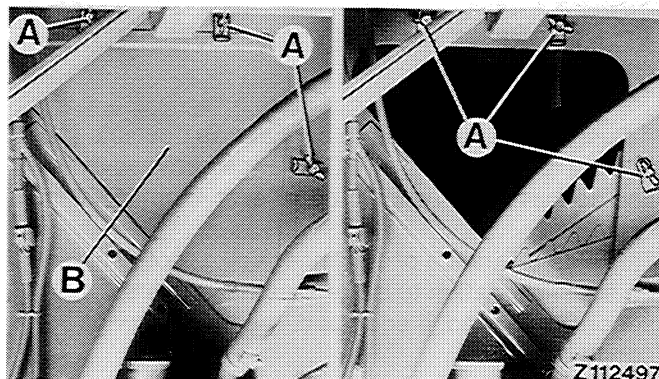
Z 19646

Z112496,Z19646-1188AZE-000987

STRAW WALKER ACCESS (Lateral)

Before servicing beater or straw walkers, remove lateral inspection covers (B) after loosening wing nuts (A).

*Straw Walker Access, L.H. Side –
R.H. Side Similar*



Z 112497

Z112497-1188AZE-000987

STRAW WALKER ACCESS (From the Rear)

Loosen attaching screw (A) on both sides.
Remove cover (B) and place on straw hood.

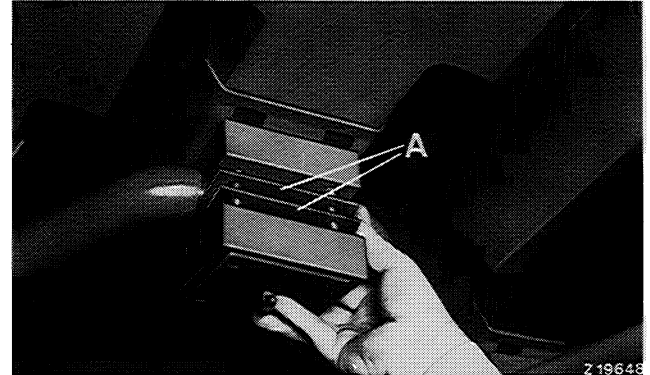


Z 112498

Z112498-1188AZE-010987

ADJUSTING STRAW WALKER BEARINGS

After operating for some time, adjust play of the straw walker wooden bearing halves by removing shims (A).

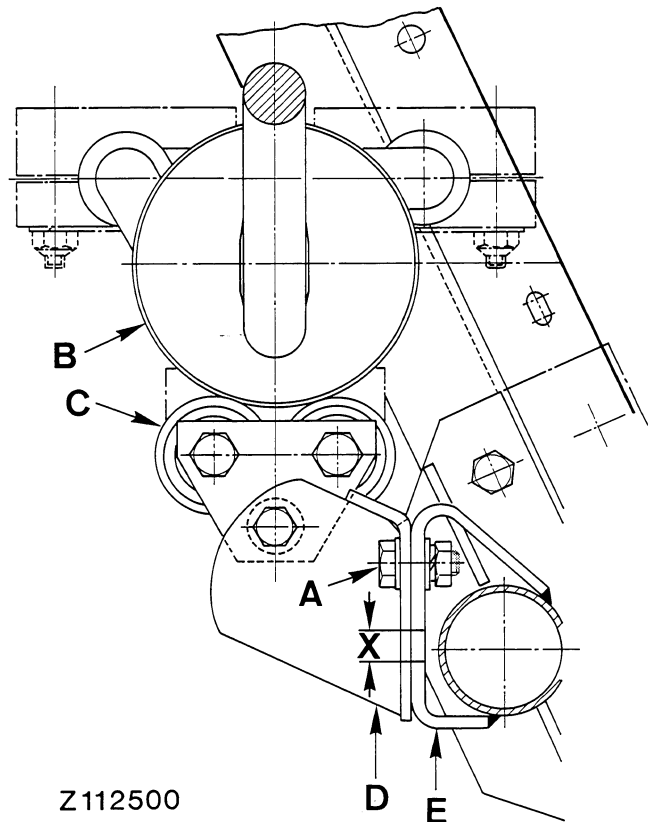
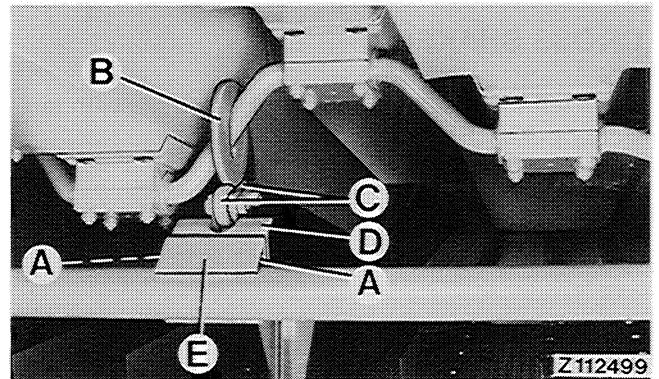


Z19648-1065AZE-001084

STRAW WALKERS – CENTER BEARING ADJUSTMENT (1188SII Hydro/4)

Adjust the rear straw walker shaft with center bearing as follows:

- Position bearing block (D) with roller bearings (C) on guide disk (B).
- Mark crossbar (E) and bearing block (D).
- Make a second mark on crossbar (E) 16 mm (5/8 in.) above the first.
- Raise bearing block (D) with straw walker shaft 16 mm (5/8 in.) up to second mark on crossbar. Install the two attaching screws (A) loosely.
- Align bearing block (D) with roller bearings (C) with guide disk (B) of straw walker shaft.
- Tighten attaching screws (A) to 50 Nm (40 ft-lb).



- A–Attaching screws (2 used)
 B–Guide disk
 C–Roller bearings
 D–Bearing block
 E–Crossbar
 X–16 mm (5/8 in.)

Z112500

Z112499, Z112500-1166AZE-160790

CROSS SHAKER TINES

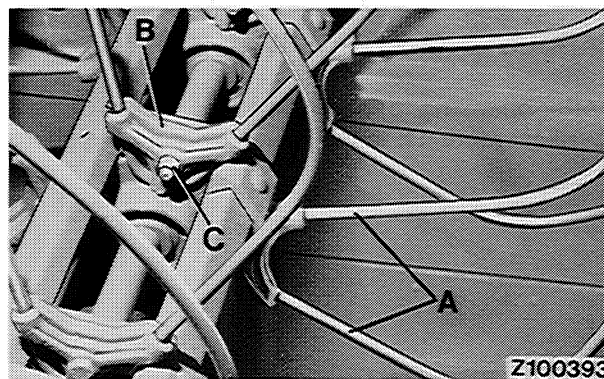
Periodically check spring tines (A) for wear. To replace double-spring tine (A), remove cast iron retainer (B).

IMPORTANT: Tighten hex. nuts (C) of the connecting bolts after first few hours of operation to 65 Nm (47 ft-lb).

A–Double-spring tine

B–Retainer

C–Hex. nut

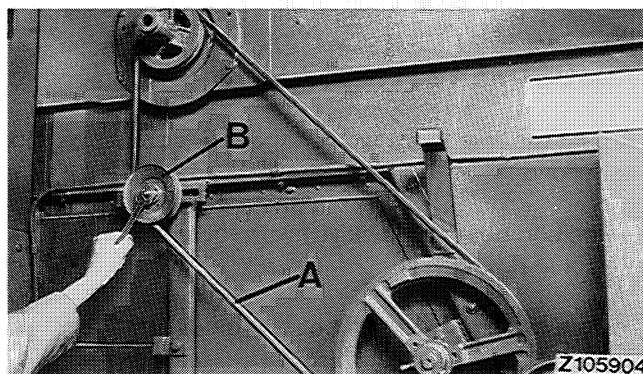


Z100393

Z100393-1166AZE-051289

CROSS SHAKER DRIVE

Open left-hand side door. Adjust V-belt (A) with tensioner pulley (B).



Z105904

Z105904-1065AZE-311084

CURTAINS

Curtain Behind Beater (Standard Equipment)

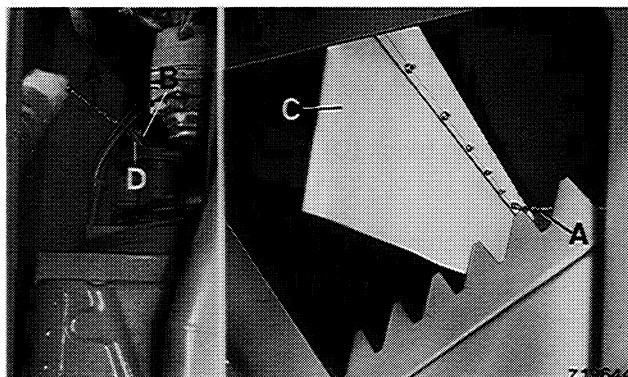
Adjust by means of chain from engine compartment.

A–Adjusting chain

B–Tube guide

C–Curtain

D–Retainer slot



Z19644

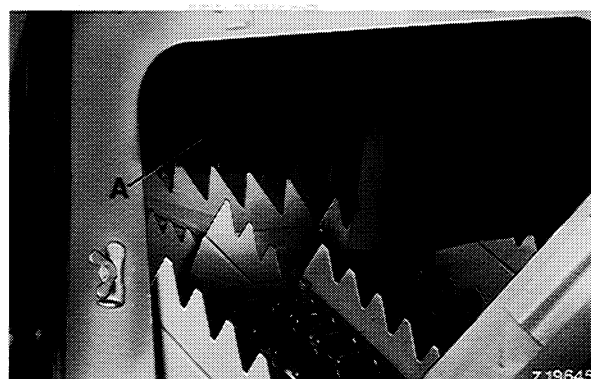
Z19644-1065AZE-001084

Curtain In Front of Cross Shaker (Special Equipment)

Install a second curtain (A) in front of cross shaker for certain crops.

NOTE: Remove adjusting chain from first curtain, pulling chain upwards.

Both curtains should remain fully lowered when harvesting maize.



Z19645

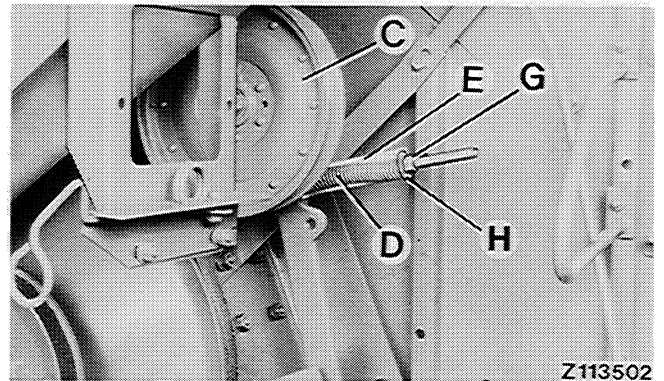
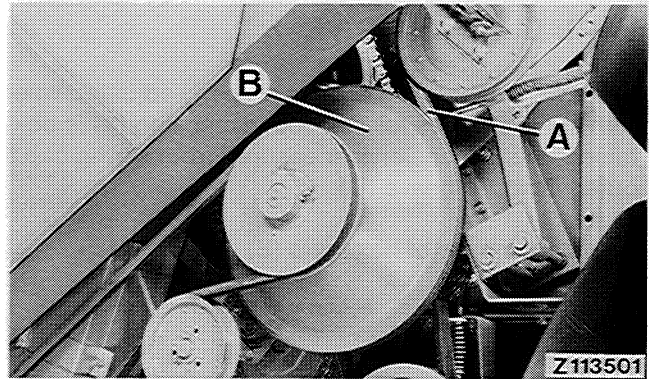
Z19645-1188AZE-000987

MAIN DRIVE – STRAW WALKERS, CLEANING SHOE, FAN AND CLEAN GRAIN ELEVATOR

V-belt (A) between beater pulley and drive pulley (B) is automatically tensioned by means of tensioner pulley (C).

Tension spring (D) of tensioner pulley (C) so that spring cap (H) is flush with adjusting gauge (E). Use hex. nut (G) for spring adjustment.

- A–V-belt
- B–Drive pulley
- C–Tensioner pulley
- D–Spring
- E–Adjusting gauge
- G–Hex. nut
- H–Spring cap



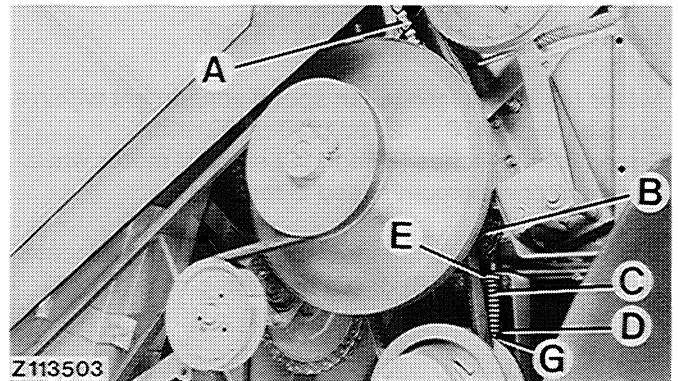
Z113501, Z113502-1188AZE-000987

Chain Drive – Straw Walkers and Cleaning Shoe

Drive chain (A) is tensioned by means of a spring-loaded tensioner sprocket.

Tension spring (C) of tensioner sprocket (B) so that spring cap (D) is flush with adjusting gauge (E). Use hex. nut (G) for spring adjustment.

- A–Drive chain
- B–Tensioner sprocket
- C–Spring
- D–Spring cap
- E–Adjusting gauge
- G–Hex. nut



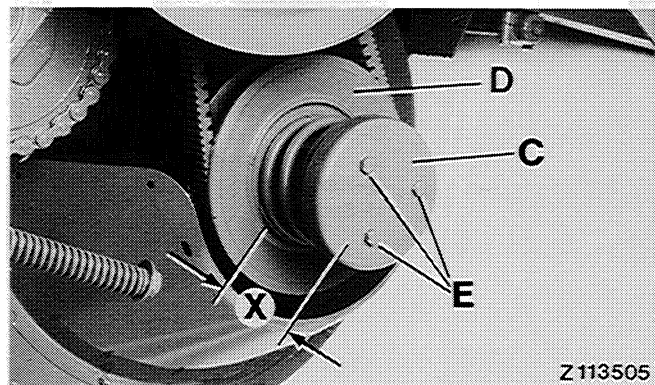
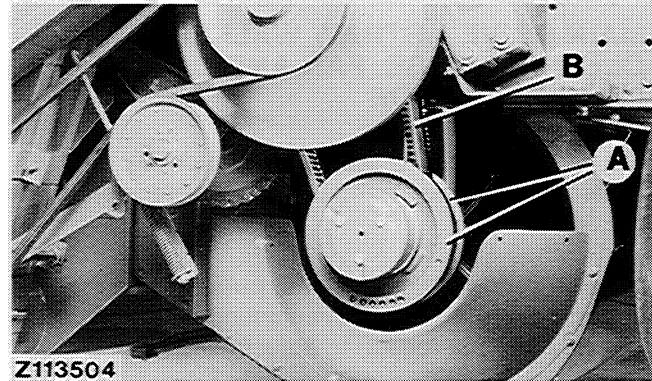
Z113503-1188AZE-010987

VARIABLE FAN DRIVE

The lower variable fan drive is properly adjusted when, with sheave halves fully closed, dimension (X) is obtained; this dimension is measured from spring cap to outer variable sheave (D).

Adjust by means of hex. nuts (E).

- A–Lower variable fan drive
- B–V-belt
- C–Spring cap
- D–Variable sheave
- E–Hex. nut
- X–103 to 105 mm
(4.05 to 4.13 in.)



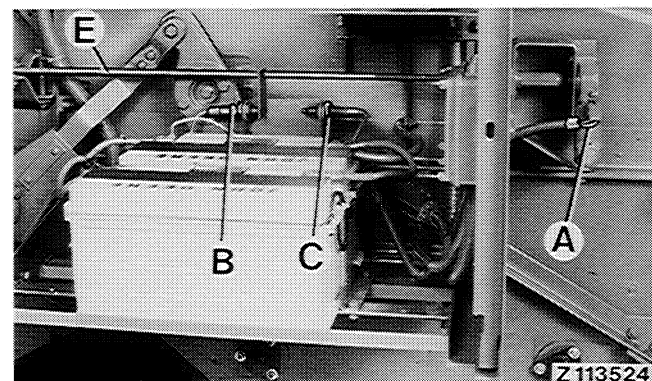
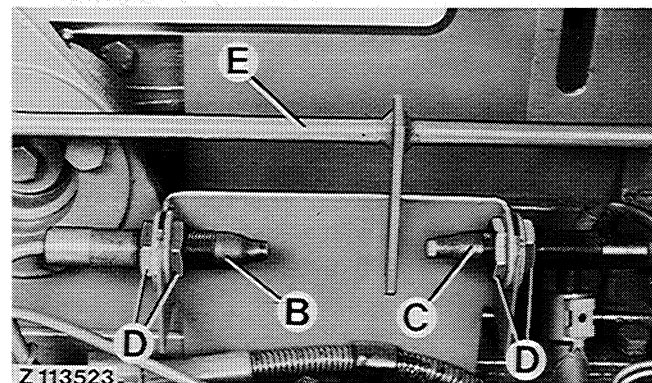
Z113504,Z113505-1188AZE-010987

VARIABLE FAN DRIVE MOTOR

Motor (A) allows infinite fan speed adjustment within a certain range (450 ± 20 to 1200 ± 30 rpm). Speed limit switches (B) and (C) shut off motor when minimum or maximum speed is reached.

If fan speed is not within the specified range, relocate speed limit switch (B) or (C) by turning nuts (D).

- A–Variable fan drive motor
- B–Speed limit switch (minimum speed)
- C–Speed limit switch (maximum speed)
- D–Nut
- E–Adjusting rod

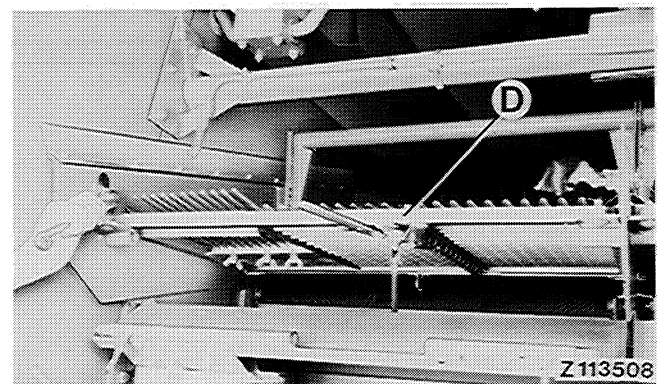
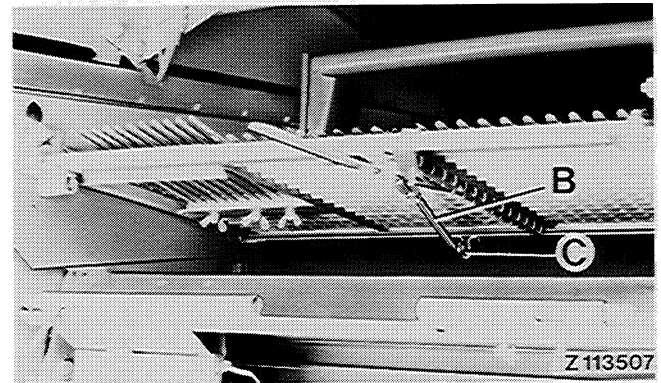
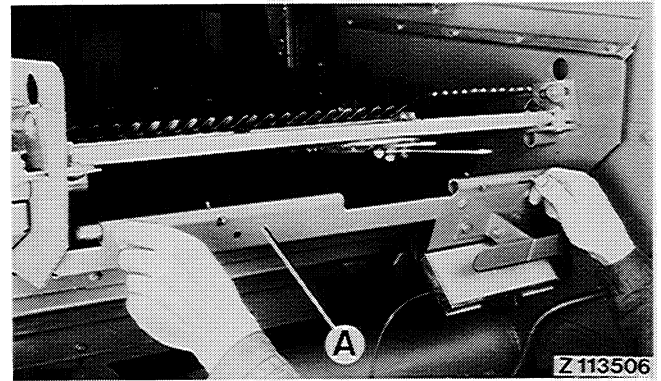


Z113523,Z113524-1188AZE-010987

REMOVE CHAFFER EXTENSION

- Unlatch end cover (A) and swing downward.
- Disconnect linkage (B) at chaffer (C).
- Loosen outer chaffer extension attaching screw. Remove attaching screw from center section.
- Pull out chaffer extension (D).

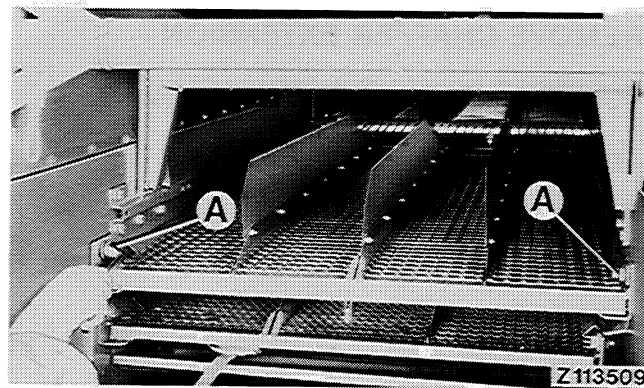
A–Tailboard
B–Linkage
C–Chaffer
D–Chaffer extension



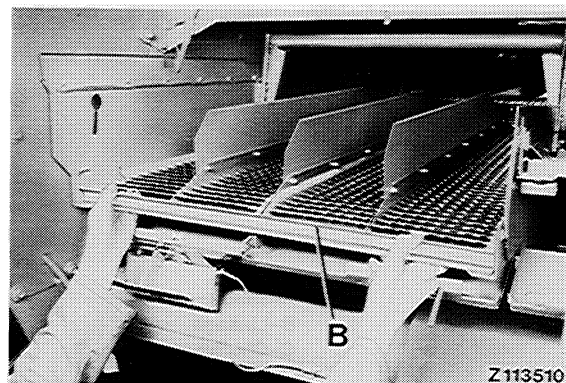
Z113506,Z113507,Z113508-1188AZE-000987

REMOVE CHAFFER

- Remove rear attaching screws (A) of chaffer on both sides.



- Pull out chaffer (B) from the rear.



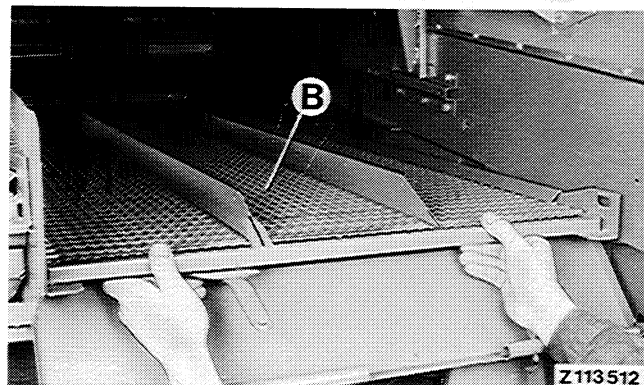
Z113509,Z113510-1188AZE-000987

REMOVE GRAIN SIEVE

- Remove attaching screws (A).



- Pull out grain sieve (B) from the rear.



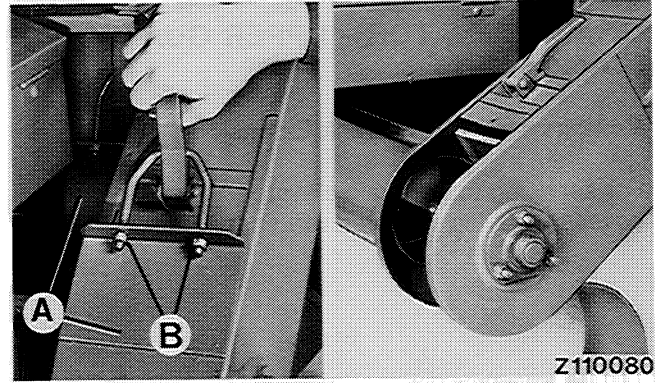
Z113511,Z113512-1188AZE-010987

Service – Elevators and Augers

ELEVATORS – LOWER INSPECTION DOORS

Open doors (A) at end of each harvesting day and when storing combine for a longer period. When changing crops, open doors and thoroughly clean elevators.

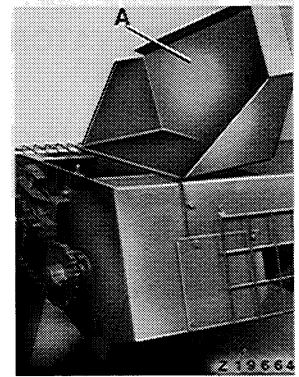
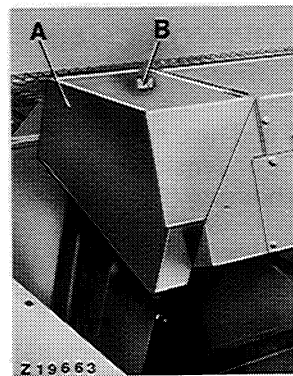
Close doors (A) before starting work. To make sure doors are closed properly, retighten hex. nuts (B), if necessary.



GRAIN ELEVATOR – UPPER GUARD

Combines without Grain Tank Cover

For servicing grain elevator, swing open or remove guard (A) after having removed wing nut (B).

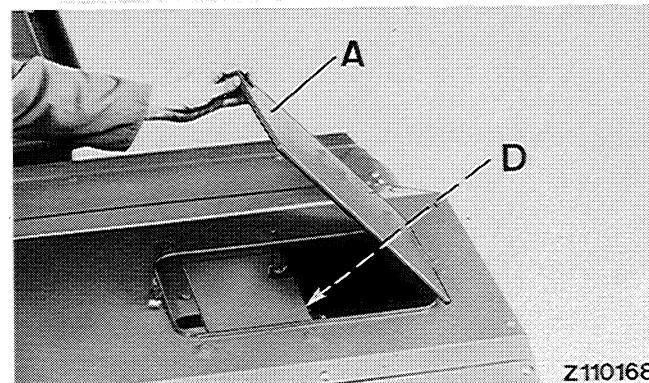
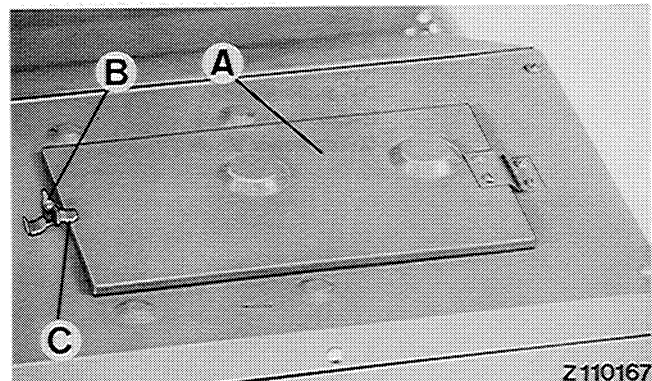


Z19663, Z19664-1065AZE-100186

Combines with Grain Tank Cover

For servicing top of grain elevator (D), swing open cover (A) after having loosened wing nut (B) and opened lock (C).

A–Cover
B–Wing nut
C–Lock
D–Grain elevator top

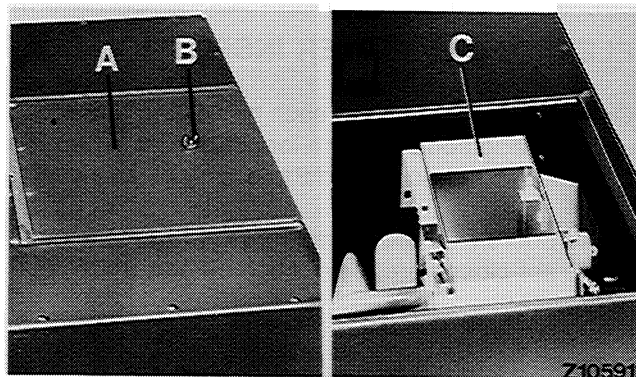


Z110167, Z110168-1188AZE-010987

GRAIN ELEVATOR – UPPER GUARD (Contd.)

Combines with Grain Tank Extension

For servicing top of grain elevator (C), swing open cover (A) having removed wing nut (B).

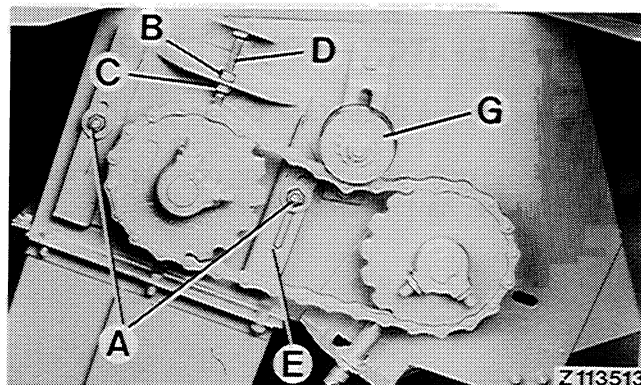


GRAIN ELEVATOR CONVEYOR CHAIN – ADJUSTMENT

Loosen tensioner block (G) and hex. nuts (A). Loosen hex. nut (B) and stop nut (C) on tensioner bolt (D). Change position of bearing housing (E) by turning nuts (B) and (C) in or out.

Adjust both bearing housings equally.

Retighten all hardware. Adjust tensioner block (G).

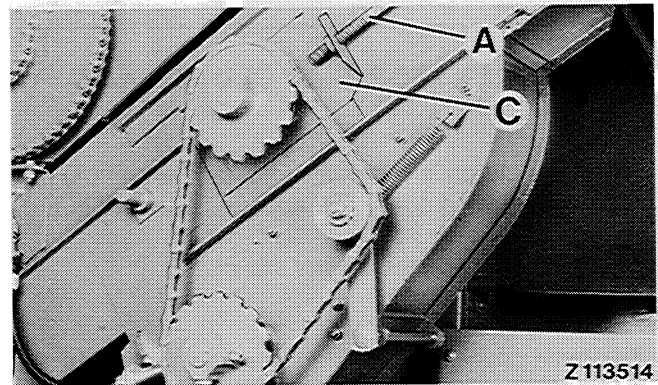
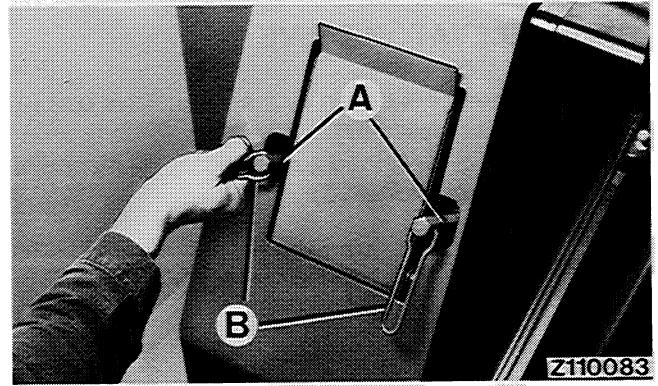


- A–Hex. nut
- B–Hex. nut
- C–Stop nut
- D–Tensioner bolt
- E–Bearing housing
- G–Tensioner block

Z113513-1188AZE-000987

TAILINGS ELEVATOR CONVEYOR CHAIN – ADJUSTMENT

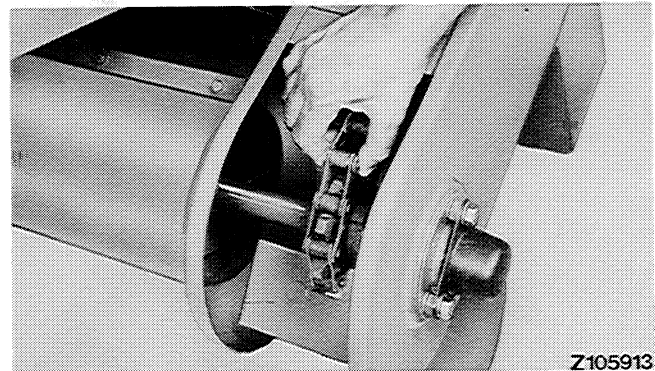
Adjust tensioner screws (A) by means of handles (B) equally on both sides. This changes position of bearing housings (C) in their guides, tensioning chain.



Z110083,Z113514-1188AZE-000987

GRAIN AND TAILINGS ELEVATOR CONVEYOR CHAINS – ADJUSTMENT

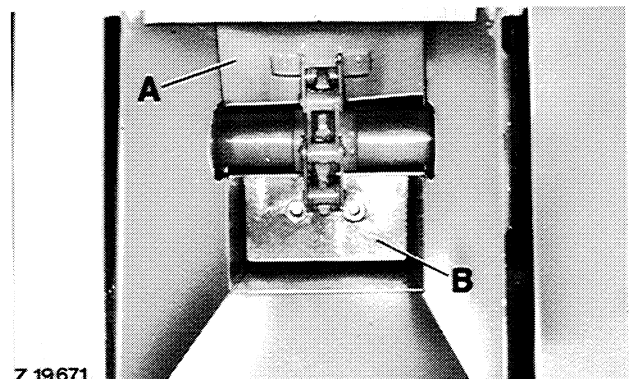
Tension conveyor chains so that at the bottom end of the chain there is 6 to 10 mm (1/4 to 3/8 in.) movement at the first link behind the chain sprocket.



Z105913-1065AZE-100186

STEEL PADDLES FOR ELEVATOR CHAIN (Special Equipment)

When the combine operates in muddy fields or when the crop is heavy with material which tends to pile up in the elevator, install steel paddle (special equipment) on grain or tailings elevator. Install the steel paddles (B) only in sets of three and at equal distances between the rubber paddles (A).

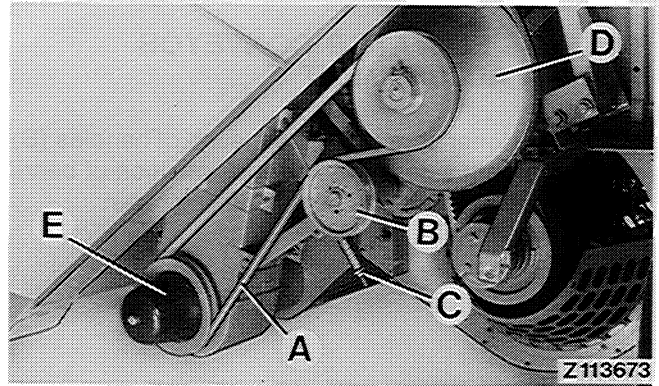


Z19671-1188AZE-010987

GRAIN ELEVATOR DRIVE

The grain elevator is driven by means of drive belt (A) from main drive pulley (D). Drive belt (A) is tensioned automatically by means of spring-loaded tensioner (B).

- A–Drive belt
- B–Tensioner
- C–Spring
- D–Main drive pulley
- E–Cap



Z113673-1166AZE-150488

GRAIN ELEVATOR SLIP CLUTCH AND TENSIONER

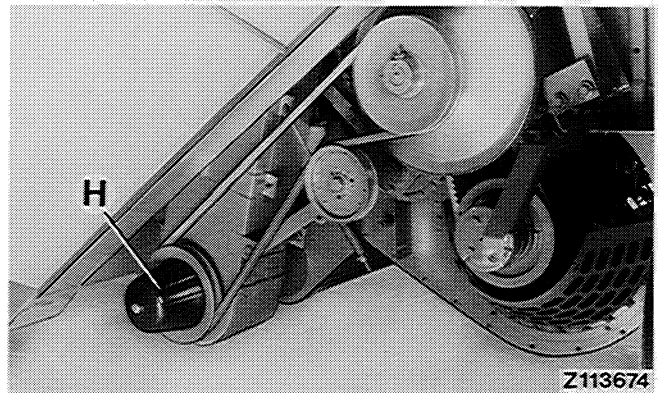
When slip clutch is correctly adjusted, length (A) of slip clutch spring should be approx. 52 mm (2 in.).

NOTE: Do not grease jaws of slip clutch.

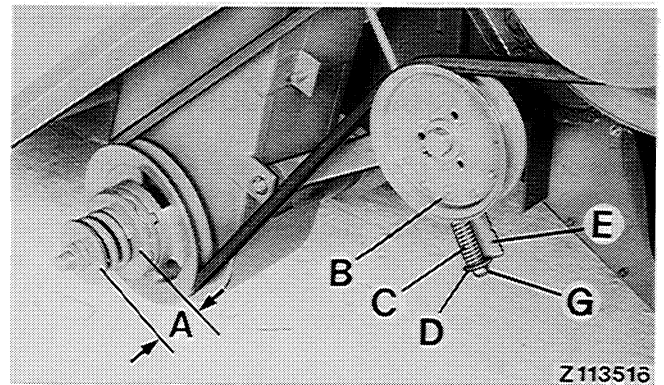
Remove cap (H).

To obtain proper belt tension, spring support (D) must be level with gauge (E). Adjust if necessary by means of hex. nut (G).

- A–Adjusted length 52 mm (2 in.)
- B–Tensioner
- C–Spring
- D–Spring support
- E–Adjusting gauge
- G–Hex. nut
- H–Cap



Z113674



Z113516

Z113674,Z113516-1166AZE-150488

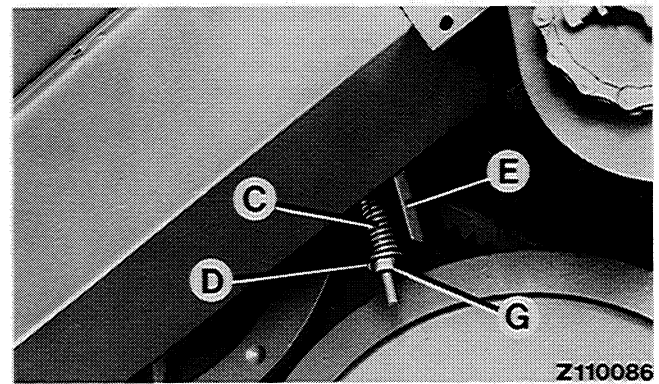
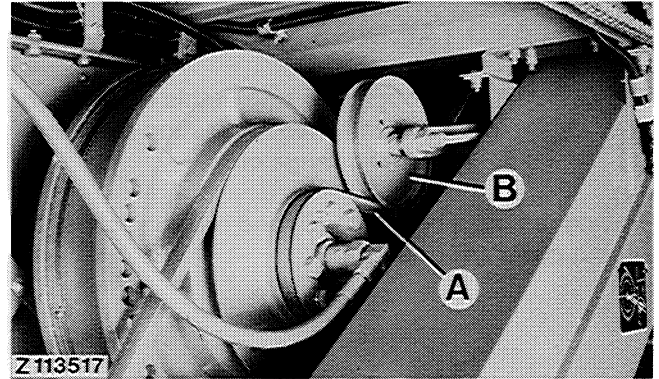
TAILINGS ELEVATOR DRIVE

The beater pulley drives the tailings elevator by means of tailings elevator slip clutch.

V-belt (A) is tensioned automatically by tensioner (B).

To obtain proper belt tension, spring support (D) must be level with gauge (E). Adjust if necessary by means of hex. nut (G).

A–V-belt
B–Tensioner
C–Spring
D–Spring support
E–Adjusting gauge
G–Hex. nut

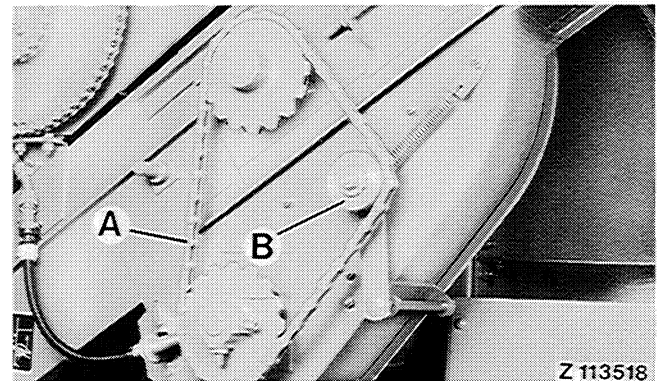


Z113517,Z110086-1188AZE-000987

UPPER TAILINGS AUGER DRIVE

Chain (A) is tensioned by spring-loaded tensioner block (B). Replace tensioner block, if excessively worn.

Guards Removed for Illustration Purposes



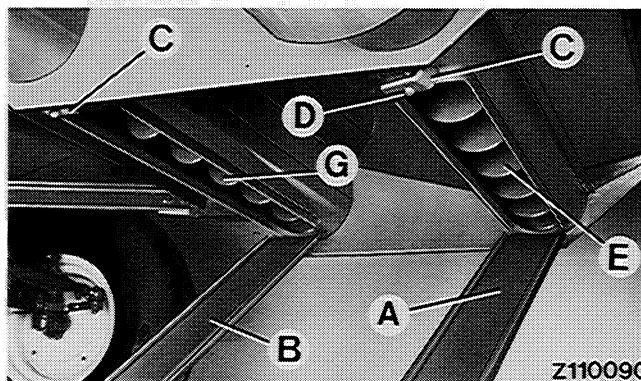
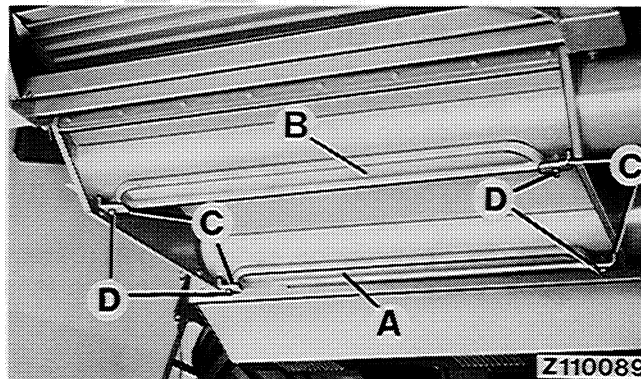
Z113518-1188AZE-010987

GRAIN AND TAILINGS ELEVATOR AUGERS

IMPORTANT: Thorough cleaning in this area is very important when harvesting seed and about to change crop.

Having removed hex. nuts (D) and retaining clips (C), lift out cover (A) or (B).

- A—Grain auger cover
- B—Tailings auger cover
- C—Retaining clips
- D—Hex. nuts
- E—Grain auger
- G—Tailings auger



Z110089,Z110090-1065AZE-000186

Service – Grain Tank, Unloading Auger

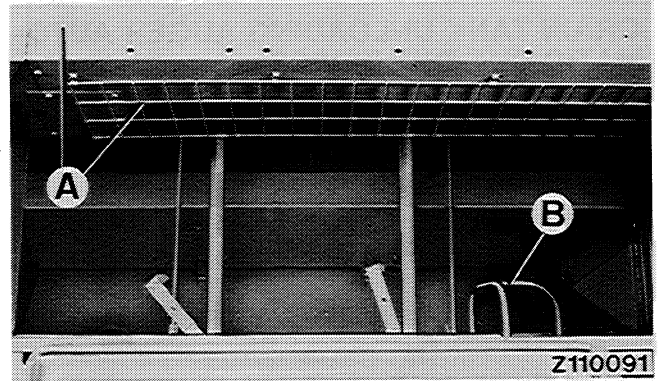
GRAIN TANK LEVELING AUGER GUARD



CAUTION: If for any reason you have to enter the grain tank, then always shut off engine before doing so.
DANGER OF ACCIDENTS!

Grain tank auger guard (A) must always be installed when operating the combine.

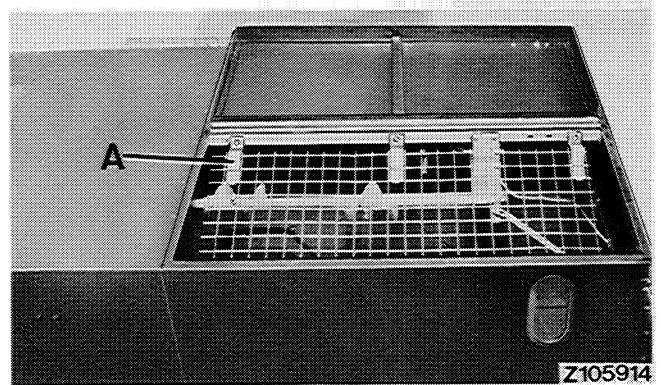
*Grain Tank Leveling Auger Guard on Combine
Without Grain Tank Extension*



CAUTION: Do not remove leveling auger guard. **DANGER OF ACCIDENTS!**

If for any reason you have to enter the grain tank, use steps (B) or the 3-rung ladder.

*Grain Tank Leveling Auger Guard on Combine
With Grain Tank Extension*



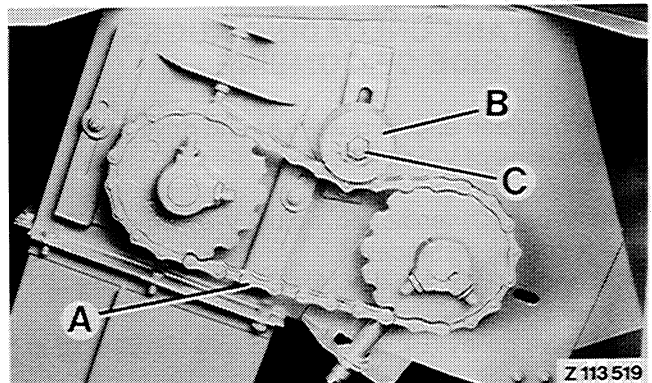
Z110091, Z105914-1188AZE-000987

GRAIN TANK LEVELING AUGER DRIVE

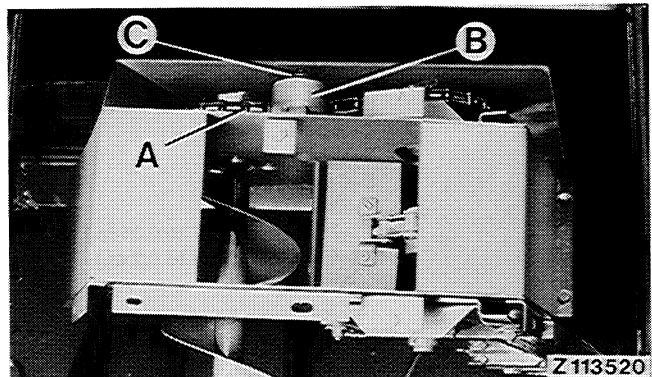
Adjust leveling auger drive chain (A) by means of tensioner (B). Loosen hex. nut (C) and move tensioner as required.

Combine Without Grain Tank Extension

A–Drive chain
B–Tensioner
C–Hex. nut



Combine With Grain Tank Extension



Z113519, Z113520-1188AZE-010987

GRAIN TANK UNLOADING AUGER AUTOMATIC CUT-OUT DEVICE

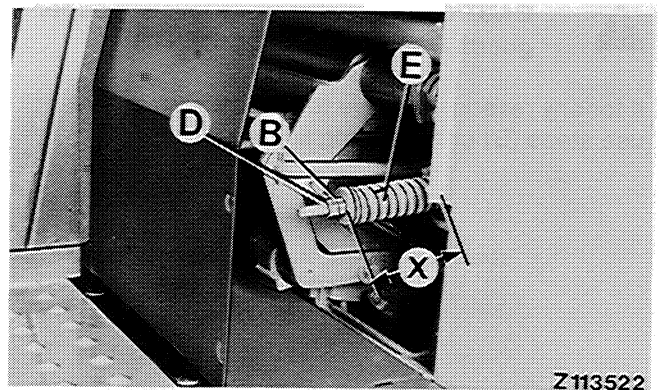
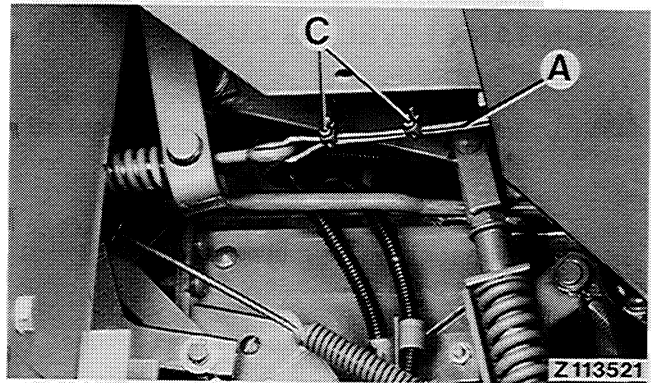
Before adjusting wire rope, remove side panel of l.h. shift lever console and open large l.h. side guard.

Adjust wire rope (A) by means of adjusting nut (B) so that spring length (X) is 70 – 72 mm (2.75 – 2.83 in.).

Having completed adjustment, secure hex. nut (B) with lock nut (D).

If wire rope has stretched too much, shorten rope by means of wire clamps (C).

- A–Wire rope
- B–Adjusting nut
- C–Wire clamps
- D–Lock nut
- E–Tension spring
- X–70 – 72 mm (2.75 – 2.83 in.)



Z113521, Z113522-1188AZE-000987

GRAIN TANK UNLOADING AUGER DRIVE ON L. H. SIDE OF COMBINE

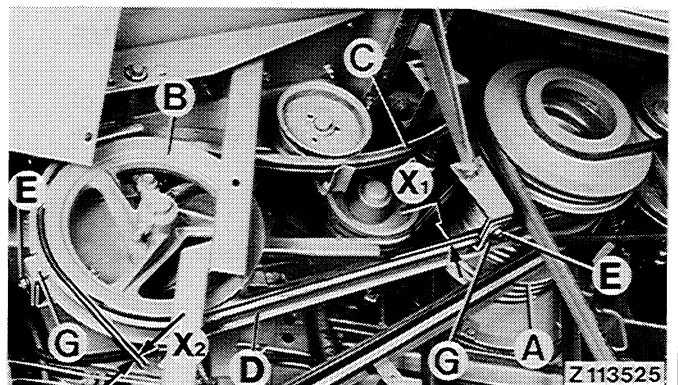
Drive between engine pulley (A) and drive pulley (B) is by means of V-belt (C).

With V-belt (C) tensioned, adjust V-belt guide (D) to the following distances:

- At engine V-belt pulley (A); X1 = 7 to 8 mm (0.27 to 0.31 in.)
- At drive pulley (B); X2 = 4 to 5 mm (0.16 to 0.2 in.)

Adjust V-belt guide (D) at brackets (G) after loosening cap screws (E).

- A–Engine pulley
- B–Drive pulley
- C–V-belt
- D–V-belt guide
- E–Cap screws
- G–Brackets
- X1–7 to 8 mm (0.27 to 0.31 in.)
- X2–4 to 5 mm (0.16 to 0.2 in.)



Z113525-1188AZE-000987

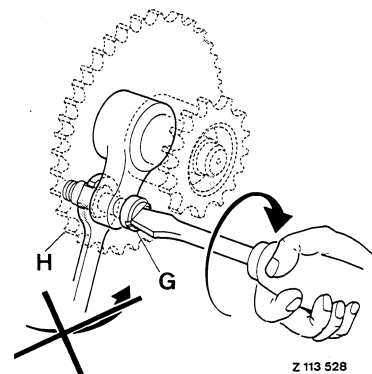
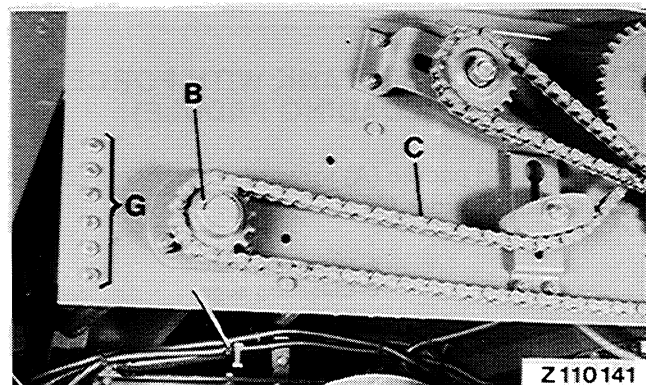
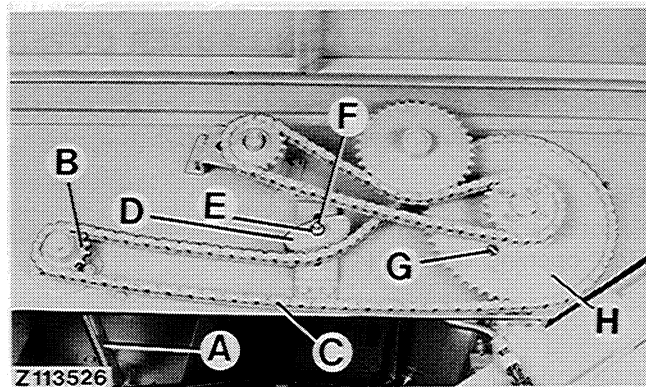
GRAIN TANK UNLOADING AUGER DRIVE ON R. H. SIDE OF COMBINE

Driven countershaft (A) on left-hand side of combine drives sprocket (B). Adjust tension of chain (C) by means of tensioner (D).

To adjust, loosen hex. nut (E) and turn tension screw (F) as required.

IMPORTANT: Shear bolt (G) is an overload safety device. Always replace with an original JOHN DEERE part. Six replacement shear bolts (G) are located in lower grain tank support plate (I). Tighten shear bolt (G) using a screwdriver while holding lock nut with a spanner.

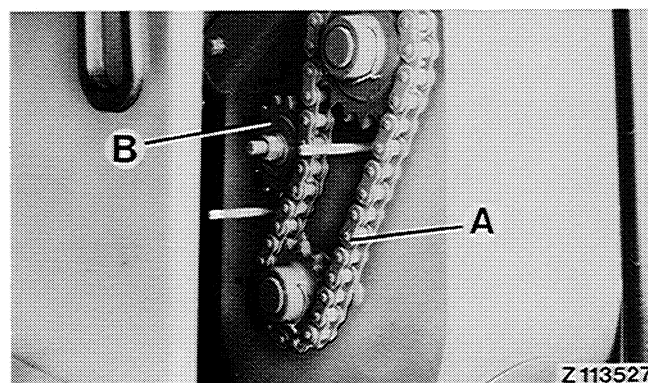
- A-Countershaft
- B-Drive sprocket
- C-Drive chain
- D-Tensioner
- E-Hex. nut
- F-Cap screw
- G-Shear bolt
- H-Chain sprocket, unloading auger shaft
- I-Grain tank support plate



Z113526, Z110141, Z113528-1188AZE-000987

UNLOADING TUBE AUGER DRIVE

Unloading tube auger is driven via grain tank unloading auger by means of chain (A). Adjust tension of chain (A) by means of tensioner sprocket (B). Replace cover.



Z113527-1188AZE-000987

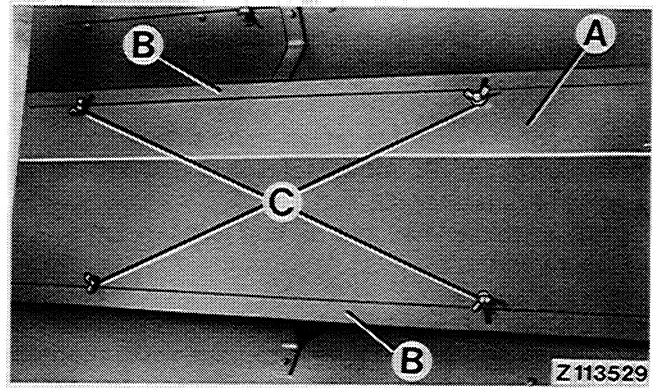
GRAIN TANK UNLOADING AUGER COVER

The sliding sheets (B) of cover (A) can be adjusted as required. To adjust, loosen wing nuts (C).

Basic adjustment:

Front opening 50 mm (1.97 in.)

Rear opening 120 mm (4.72 in.)



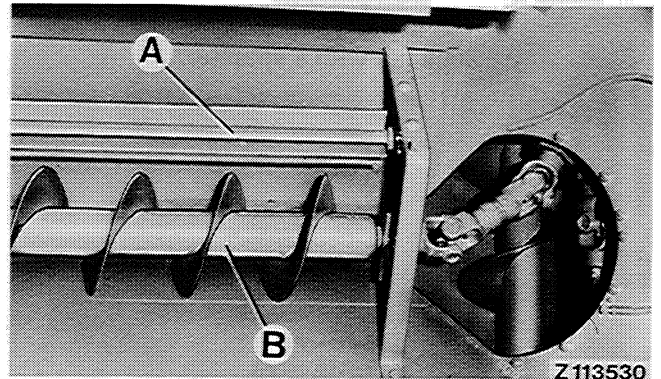
Z113529-1188AZE-010987

EMPTYING GRAIN TANK WITH FORCED DELIVERY (UNLOADING PADDLE)

The unloading paddle (A) forwards crop continually to the unloading auger (B).

A–Unloading paddle
B–Unloading auger

Cover Removed for Illustration Purposes



Z113530-1188AZE-010987

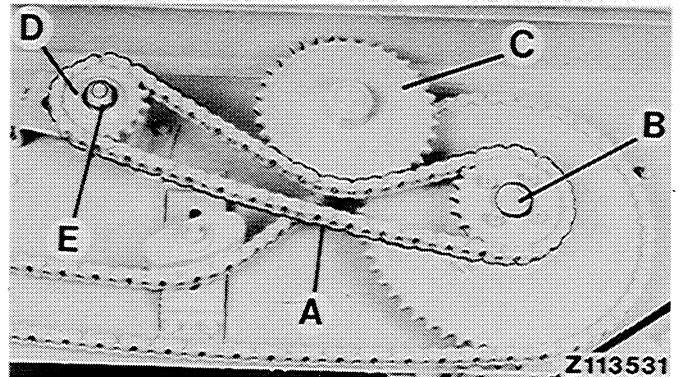
UNLOADING PADDLE DRIVE

The unloading paddle is driven by chain (A) from sprocket (B) of lower unloading auger to sprocket (C).

Chain (A) can be tensioned by shifting sprocket (D) having loosened hex. nut (E).

A–Drive chain
B–Sprocket
C–Sprocket

D–Tensioner sprocket
E–Hex. nut



Z113531-1188AZE-010987

Service – Straw Chopper

REPLACEMENT OF ROTATING KNIVES

IMPORTANT: Note the following to avoid unbalanced straw chopper:

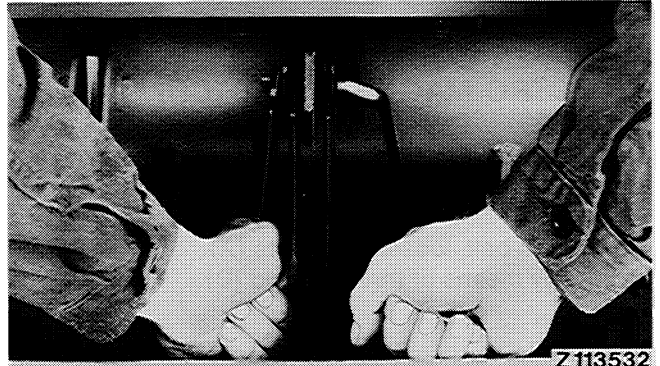
- Excessive vibration may be caused by broken knives. Replace broken knives immediately.
- Rotating knives have approx. the same weight. Do not sharpen blunt knives. Turn or replace them.



CAUTION: Jam the rotor to prevent accidents when replacing knives.

When replacing knife cap screws, use only M10 x 50 screws of 10.9 quality with self-locking nuts. Tighten attaching cap screws to 65 Nm (47 ft-lb).

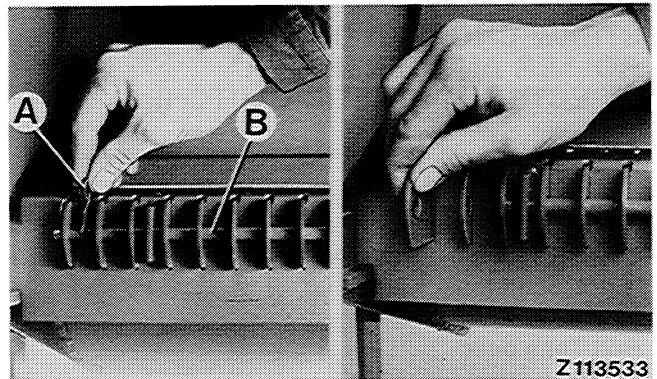
Install screws from the right to the left hand side.



Z113532-1188AZE-000987

REPLACEMENT OF STATIONARY COUNTER KNIVES

Straw choppers are equipped with stationary counter knives, between which the hinged knives engage. To replace knives, remove cotter pin (A) from knife rod (B). Pull rod out far enough until knife to be replaced comes free. Insert new knife and secure all knives with rod again.



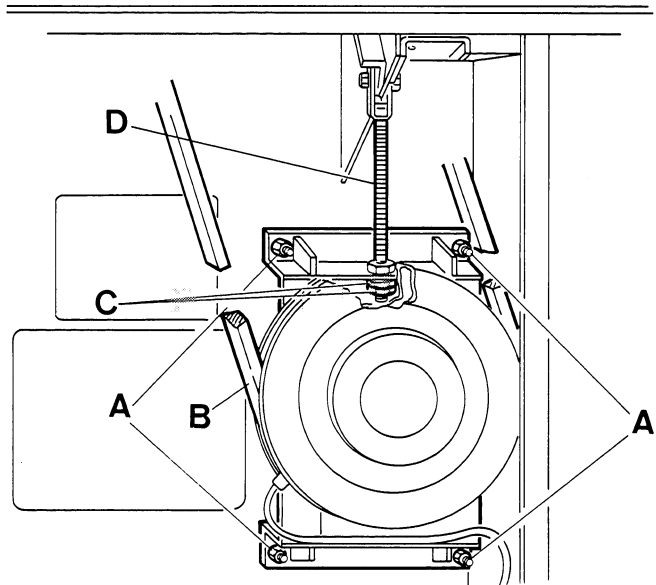
Z113533-1188AZE-000987

TENSIONING DRIVE BELT TO STRAW CHOPPER COUNTERSHAFT (ELECTRO-MAGNETIC CLUTCH)

Drive belt (B) is properly adjusted when flex midway between pulleys is 25 mm (1 in.).

To tension belt, loosen hex. nuts (A).
Adjust by means of threaded rod (D).

- A–Hex. nuts
- B–Drive belt
- C–Hex. nuts
- D–Threaded rod



Z 116 979

Z116979-1166AZE-051289

STRAW CHOPPER DRIVE BELT GUIDE ROLLER AND TENSIONER (ELECTRO-MAGNETIC CLUTCH)

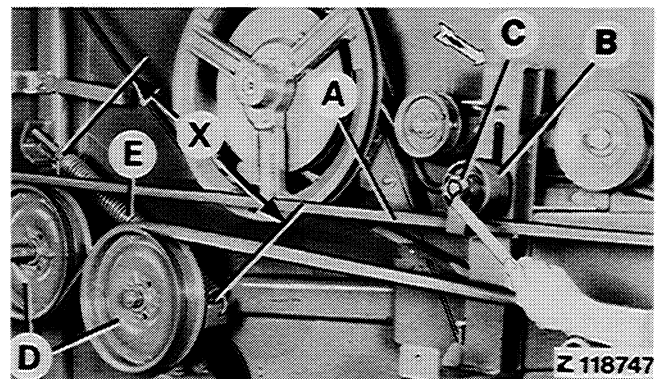
Guide Roller

Adjust guide roller (B) after loosening hex. nut (C) to prevent V-belt (A) from “whipping”. Guide roller (B) is not a belt tensioner.

Belt Tensioner

Automatic belt tensioner (D) is pre-tensioned by means of spring (E). When correctly adjusted for combine operation, measurement (X) between top of square head and last spring coil should be 420 to 440 mm (16.53 to 17.32 in.).

- A–V-belt
- B–Guide roller
- C–Hex. nut
- D–Automatic belt tensioner
- E–Spring
- X–420 to 440 mm (16.53 to 17.32 in.)

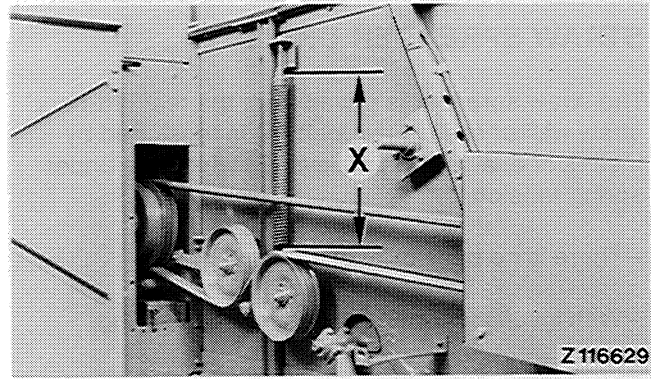


Z 118747

Z118747-1166AZE-160790

STRAW CHOPPER DRIVE BELT – BELT TENSIONER SPRING (Counter- shaft with Direct Drive)

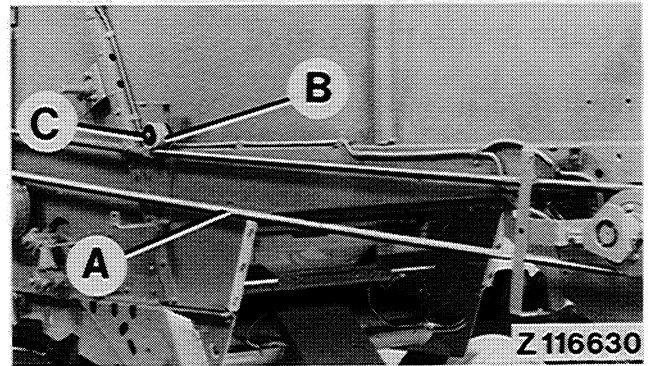
Belt tensioner spring is properly adjusted when spring length (X) is 460 to 480 mm (18 to 19 in.), measured between top of square head and last spring coil.



Z116629-1166AZE-160790

STRAW CHOPPER DRIVE BELT GUIDE ROLLER (Countershaft with Direct Drive)

Loosen hex. nut (C) and adjust guide roller (B) to prevent V-belt (A) from “whipping”. Guide roller (B) is not a belt tensioner.



Z116630-1166AZE-160790

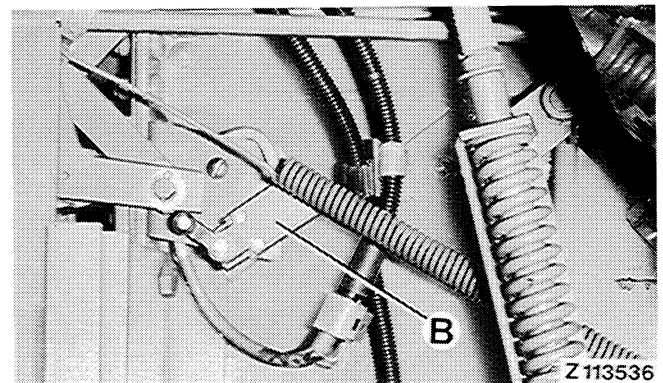
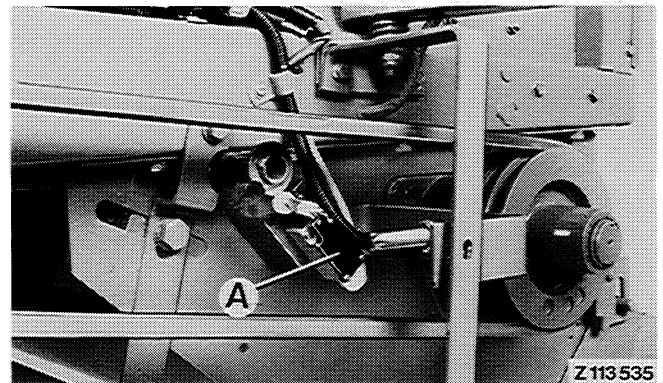
ELECTRO-MAGNETIC CLUTCH SWITCHES

For safe function, two switches are installed :

- Magnetic switch (A) on suspension of straw deflector plate (cover removed for better illustration)
- Switch (B) on separator lever linkage.

NOTE: *The electro-magnetic clutch will function only when both switches are engaged.*

In the event of malfunctions in the electrical system, consult your JOHN DEERE dealer.



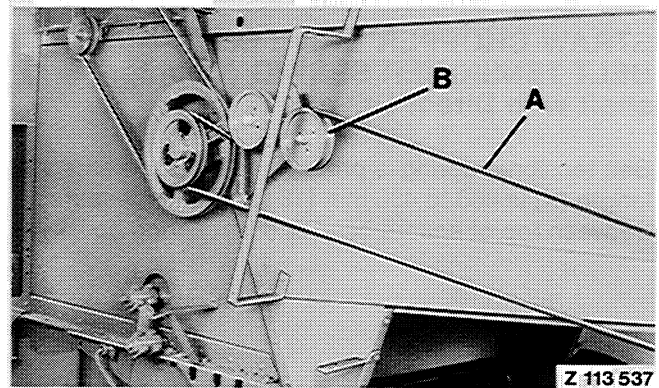
Z113535,Z113536-1188AZE-000987

Service – Straw Spreader, Chaff Spreader

STRAW SPREADER DRIVE

The straw spreader is driven from the rear left-hand straw walker shaft. Drive belt (A) is tensioned by means of dual tension pulleys (B) which are under spring tension.

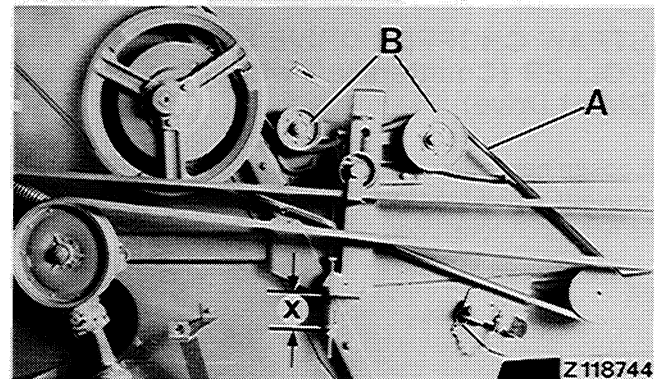
- There is no possibility of adjustment
- With insufficient belt tension, replace spring.



Z113537-1188AZE-010987

CHAFF SPREADER DRIVE

The chaff spreader is driven from the rear left-hand straw walker shaft. Drive belt (A) is tensioned by dual tension pulley (B). When the chaff spreader is centered, spring dimension (X) is 75 mm (2.95 in.).



Z118744-1166AZE-160790

Storage

AFTER THE SEASON

Combine

If possible, store the combine in a dry, sheltered place.

Thoroughly clean the combine inside 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 on the bearings.

Remove all V-belts.

Thoroughly clean all drive belts, but do not use aggressive cleaning agents such as petrol, benzene, turpentine oil or similar cleaning solvents.

Rub down all belts with a cloth dipped in liquid ammonia, soap water or a 1:10 mixture of glycerine and spirits.

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 elevators, leaving upper and lower elevator 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.

Grease threads of adjusting screws etc. Relieve tension in springs.

Touch up all parts where paint is damaged.

Support the platform with blocks to level it or lower platform onto a horizontal dry base. Lower feeder house.

Grease bare metal surfaces of hydraulic cylinder piston rods well and retract rods as far as possible.

Block up combine, taking load off 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 room.

Coat all lever linkages and bearing points without grease fittings with oil. This applies particularly to control lever bearing points under lever consoles.

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.

Engine

If combine is to be stored for some time (during the winter months), engine metal parts must be protected from corrosion and the fuel system must be protected from gummy deposits.

Protect the engine as follows:

Clean outside of engine with a safe solvent.



CAUTION: Do not use petrol.

Drain, flush and refill cooling system with fresh coolant every two years.

Swing radiator rotary screen upward and carefully clean radiator fins, using compressed air or a weak water jet.

Drain engine oil and replace filter element. Drain oil when still warm. Refill crankcase with oil of specified quality and viscosity. Operate engine for a few minutes before adding rust inhibitor.

To protect engine and fuel system, use AR41785 rust inhibitor available from your JOHN DEERE dealer. The above part number includes one can of rust inhibitor, masking tape and protective caps to cover engine openings.

AFTER THE SEASON (Continued)

Add rust inhibitor as follows:

- Add rust inhibitor (for quantity see engine type) to engine oil and run engine for a few minutes.

6359TZ002 = 510 cm³ (31 cu.in.)

6359TZ003 = 390 cm³ (23.8 cu.in.)

6359AZ002 = 510 cm³ (31 cu.in.)

6466AZ004 = 600 cm³ (36.6 cu.in.)

6466AZ003 = 600 cm³ (36.6 cu.in.)

NOTE: This engine oil can be used again at the beginning of the next harvest season for approx. 20 to 25 operating hours. Then drain the oil and refill with fresh engine oil of specified quality and viscosity.

- Drain hydraulic oil reservoir and fill with fresh oil of specified quality. Add approx. 50 cm³ (3.0 cu.in.) of rust inhibitor.
- With the engine running, operate all hydraulic control levers several times.
- Stop the engine and allow it to cool for approx. 15 to 20 minutes.
- Remove plug of intake manifold or connecting pipe of starting aid adapter, whichever applies and inject approx. 90 cm³ (5.5 cu. in.) of rust inhibitor into this opening. At the same time crank engine with starting motor, making sure that the combined throttle and stop lever is in "STOP" position.

IMPORTANT: Make sure the engine does not start during this procedure, otherwise the operation must be repeated.

The engine may not be started again after rust inhibitor has been added.

- Disconnect turbocharger air intake hose and spray 90 cm³ (5.5 cu. in.) of rust inhibitor in intake side of turbocharger. Connect and tighten air intake hose.
- Disconnect turbocharger air discharge hose and spray 90 cm³ (5.5 cu. in.) of rust inhibitor in outlet side of turbocharger. Connect and tighten air discharge hose.

IMPORTANT: Rust inhibitor agents evaporate very easily. For this reason, seal all openings after the inhibitor has been added. Also, keep the inhibitor container closed at all times.

Fill the fuel tank completely.

Remove and clean the battery and store in a cool, dry place where it will not freeze. Charge battery every three months to avoid damage to the plates.

Seal all openings with plugs or greaseproof paper. Remove muffler and seal manifold opening.

Place strips of strong paper between fan belt and pulleys to prevent sticking.

Thoroughly clean engine and spray with anti-rust fluid; then cover engine with a tight-fitting, waterproof tarpaulin.

Air Conditioning System

1. Clean condenser.
2. Remove compressor drive belt and store with combine belts.
3. Raise top panel on cab roof and blow out the evaporator fins with compressed air. Close top panel.

REMOVING COMBINE FROM STORAGE

Combine

Before the beginning of each harvest, the combine should undergo a thorough check. By ensuring that the machine is in really good condition, costly breakdowns will be avoided.

Thoroughly clean the combine inside and out, if this was not done after the last harvest. Reinstall drive belts and V-belts, if removed, and check belt tension.

Adjust chain tension and make sure that chains driving the grain and tailings elevators are clean.

Clean the slip clutches; adjust spring tension (see "Slip Clutches").

Shut the elevator flaps.

Lubricate complete combine in accordance with the lubricating chart. Then run machine at half speed for about an hour. Check all bearings for overheating.



CAUTION: Before starting the combine engine, be sure there is plenty of ventilation. Never operate the combine in a closed building. Danger of asphyxiation!

Check tire inflation.

Go over complete combine and see that all bolts are tight and cotter pins are in place.

Engine

Remove engine tarpaulin, plugs from engine openings, and paper strips between fan belt and pulleys.

Check all seals. Check coolant level in cooling system. Anti-freeze and rust inhibitor should be left in the cooling system during the summer months as a protection against corrosion.

If rust inhibitor was added to the crankcase oil before storing the combine, this oil can be used for approx. 25 hours at the beginning of the new season. Otherwise, drain the oil and fill with oil of specified quality and viscosity (see "Lubricants").

Check the battery. Check battery charge and electrolyte level. If necessary, recharge battery.

Before starting the engine after a longer period of storage, push throttle lever to "STOP" position. Operate starter until green light (engine oil pressure indicator) goes out (after approx. 5 seconds). Then start engine and run for approx. 5 minutes at half-rated speed.

Check all lines and seals for leakages. See your JOHN DEERE dealer, if necessary.

Air Conditioning System

Annual maintenance of air conditioning system is necessary to assure proper performance.

1. Clean or replace dry-type paper filter.
2. Clean or replace foam pad filters in the normal and maximum air recirculators.
3. Open top panel on cab roof and thoroughly clean inside of housing.
4. Install and tension compressor drive belt.
5. Check refrigerant level in the sight glass.
6. It is a good idea to have the entire system checked and the refrigerant cleaned by your JOHN DEERE dealer at the beginning of each season.



CAUTION: The air conditioning system should only be serviced by your JOHN DEERE dealer.

Specifications

CUTTING PLATFORM

See Operator's Manual "Cutting Platform"

TECHANOM-1188AZG-010987

SEPARATOR (1166SII, 1166SII Hydro/4, 1174SII, 1174SII Hydro/4)

Cylinder diameter	610 mm (24 in.)
Cylinder width	
– 1166SII, 1166SII Hydro/4	1040 mm (40.94 in.)
– 1174SII, 1174SII Hydro/4	1300 mm (51.18 in.)
Cylinder speed range	
(Mechanical cylinder variable drive)	470 $\pm$ 40 to 1160 $\pm$ 50 rpm
– with chain drive	190 – 245 – 300 – 345 – 425 rpm
Cylinder speed range	
(Hydraulic cylinder variable drive)	400 $\pm$ 40 to 1100 $\pm$ 50 rpm
– with cylinder drive reduction gear engaged	158 $\pm$ 20 to 420 $\pm$ 25 rpm
Beater speed	850 + 30 rpm

TECHANOM-1166AZE-070191

SEPARATOR (1177SII, 1177SII Hydro/4, 1188SII Hydro/4)

Cylinder diameter	610 mm (24 in.)
Cylinder width	
– 1177SII, 1177SII Hydro/4	1300 mm (51.18 in.)
– 1188SII Hydro/4	1560 mm (61.42 in.)
Cylinder speed range	400 $\pm$ 40 to 1100 $\pm$ 50 rpm
– with reduction gear engaged	158 $\pm$ 20 to 420 $\pm$ 25 rpm
Beater speed	850 + 30 rpm

TECHANOM-1166BZE-160790

SEPARATING UNIT

Walkers:

– 1166SII, 1166SII Hydro/4	4
– 1174SII, 1174SII Hydro/4, 1177SII, 1177SII Hydro/4	5
– 1188SII Hydro/4	6

Walker length 3725 mm (147.5 in.)

Walker stroke 150 mm (5.9 in.)

Shaft speed 155 ± 5 rpm

Total walker area:

– 1166SII, 1166SII Hydro/4	3.88 m ² (41.77 sq-ft.)
– 1174SII, 1174SII Hydro/4, 1177SII, 1177SII Hydro/4	4.85 m ² (52.20 sq-ft.)
– 1188SII Hydro/4	5.80 m ² (62.50 sq-ft)

Total separating area (distance from center of
cylinder shaft to end of straw walkers times width
of straw walkers)

– 1166SII, 1166SII Hydro/4	4.38 m ² (47.15 sq-ft.)
– 1174SII, 1174SII Hydro/4, 1177SII, 1177SII Hydro/4	5.48 m ² (59.00 sq-ft.)
– 1188SII Hydro/4	6.56 m ² (70.61 sq-ft)

Speed of cross shaker 17 rpm

Tine movement frequency of cross shaker 720 strokes/min.

TECHANOM-1166BZE-070191

CLEANING UNIT

Type Reciprocating chaffer and sieves
with blower fan

Chaffer

Type Laminated sheet metal, adjustable
– Standard Slotted hole
– Optional Graepel-type

Width:

– 1166SII, 1166SII Hydro/4 971 mm (38.23 in.)
– 1174SII, 1174SII Hydro/4,
1177SII, 1177SII Hydro/4 1231 mm (48.46 in.)
– 1188SII Hydro/4 2 x 737 mm (2 x 29.02 in.)

Length (with extension) 1850 mm (72.83 in.)

Area (with extension):

– 1166SII, 1166SII Hydro/4 1.80 m² (19.37 sq-ft.)
– 1174SII, 1174SII Hydro/4,
1177SII, 1177SII Hydro/4 2.28 m² (24.54 sq-ft.)
– 1188SII Hydro/4 2.75 m² (29.39 sq-ft.)

Finger bar on grain pan:

– 1166SII, 1166SII Hydro/4 0.22 m² (2.4 sq-ft.)
– 1174SII, 1174SII Hydro/4,
1177SII, 1177SII Hydro/4 0.27 m² (2.9 sq-ft.)
– 1188SII Hydro/4 0.32 m² (3.5 sq-ft.)

Total sieve area:

– 1166SII, 1166SII Hydro/4 3.50 m² (37.7 sq-ft.)
– 1174SII, 1174SII Hydro/4,
1177SII, 1177SII Hydro/4 4.42 m² (47.6 sq-ft.)
– 1188SII Hydro/4 5.25 m² (56.52 sq-ft.)

Fan

Speed range 450 ± 20 to 1200 ± 30 rpm

Adjustable windboard 1 in 3 positions

Chaffer Extension

Type Laminated sheet metal, adjustable, with inserts

CLEANING UNIT – Contd.

Sieve

Type

– Standard	Laminated sheet metal
– optional	Round hole sieves 4, 8, 15, 17 mm (5/32, 5/16, 19/32, 43/64 in.) hole diameter

Width:

– 1166SII, 1166SII Hydro/4	971 mm (38.23 in.)
– 1174SII, 1174SII Hydro/4, 1177SII, 1177SII Hydro/4	1231 mm (48.46 in.)
– 1188SII Hydro/4	2 x 711 mm (2 x 28 in.)

Length	1522 mm (59.92 in.)
--------------	---------------------

Area:

– 1166SII, 1166SII Hydro/4	1.48 m ² (15.9 sq-ft.)
– 1174SII, 1174SII Hydro/4, 1177SII, 1177SII Hydro/4	1.87 m ² (20.2 sq-ft.)
– 1188SII Hydro/4	2.18 m ² (23.5 sq-ft.)

TECHANOM-1166DZE-070191

GRAIN TANK

Unloading rate	3000 l/min (85 bu./min.)
----------------------	--------------------------

Capacity:

– 1166SII, 1166SII Hydro/4	4400 l (125 bu.)
– 1174SII, 1174SII Hydro/4	4800 l (136 bu.)
– 1177SII, 1177SII Hydro/4, 1188SII Hydro/4	
– Standard	4800 l (136 bu.)
– with extension	5600 l (159 bu.)
– with extension	6000 l (170 bu.)

Grain tank unloading auger slewing range	0 – 110°
--	----------

TECHANOM-1166EZE-070191

TIRE PRESSURES

Front Axle – Tire Size

18.4-30 (14 PR)	330 kPa (3.3 bar; 47.5 psi)
18.4-30 (16 PR)	360 kPa (3.6 bar; 51.8 psi)
23.1-26 (12 PR)	210 kPa (2.1 bar; 30.2 psi)
23.1-26 (14 PR)	250 kPa (2.5 bar; 36.0 psi)
23.1-26 (16 PR)	290 kPa (2.9 bar; 41.8 psi)
23.1-26 (18 PR)	330 kPa (3.3 bar; 47.5 psi)
24.5-32 (12 PR)	210 kPa (2.1 bar; 30.2 psi)
28.1-26 (12 PR)	180 kPa (1.8 bar; 25.2 psi)
28.1-26 (14 PR)	210 kPa (2.1 bar; 30.2 psi)
28.1-26 (16 PR)	250 kPa (2.5 bar; 36.0 psi)
30.5R-32	140 kPa (1.4 bar; 20.2 psi)

Rear Axle – Tire Size

10.5/80-18 (8 PR)	300 kPa (3.0 bar; 43.2 psi)
11.2-24 (8 PR)	240 kPa (2.4 bar; 34.6 psi)
12.5/80-18 (6 PR)	190 kPa (1.9 bar; 27.4 psi)
12.5/80-18 (10 PR)	310 kPa (3.1 bar; 44.6 psi)
13.0/65-18 (12 PR)	270 kPa (2.7 bar; 38.9 psi)
14.5/75-20 (6 PR)	180 kPa (1.8 bar; 25.9 psi)
14.5/75-20 (8 PR)	180 kPa (1.8 bar; 25.9 psi)
14.9-24 (6 PR)	140 kPa (1.4 bar; 20.2 psi)
14.9-24 (8 PR)	180 kPa (1.8 bar; 25.9 psi)

TRAVEL SPEEDS AT 20 KM/H (12.5 MPH) – MECHANICAL GROUND SPEED DRIVE

Tires 23.1-26

1st Gear	1.2 – 2.8 km/h; 0.7 – 1.7 mph
2nd Gear	2.4 – 5.5 km/h; 1.5 – 3.4 mph
3rd Gear	4.4 – 10.0 km/h; 2.7 – 6.2 mph
4th Gear	8.9 – 20.0 km/h; 5.5 – 12.5 mph
Reverse gear	2.7 – 6.2 km/h; 1.7 – 3.8 mph

TECHANOM-1166HZE-150488

TRAVEL SPEEDS AT 25 KM/H (15.5 MPH) – MECHANICAL GROUND SPEED DRIVE

Tires 23.1-26

1st Gear	1.5 – 3.5 km/h; 0.9 – 2.2 mph
2nd Gear	3.0 – 6.9 km/h; 1.9 – 4.3 mph
3rd Gear	5.4 – 12.5 km/h; 3.4 – 7.9 mph
4th Gear	10.8 – 25.0 km/h; 6.8 – 15.6 mph
Reverse gear	3.4 – 7.8 km/h; 2.1 – 4.9 mph

TECHANOM-1166IZE-150488

TRAVEL SPEEDS – HYDROSTATIC DRIVE (UP TO 20 KM/H; 12.5 MPH)

Tires 23.1-26

1st Gear	0.4 – 2.6 km/h; 0.25 – 1.6 mph
2nd Gear	1.0 – 5.2 km/h; 0.6 – 3.2 mph
3rd Gear	1.8 – 9.4 km/h; 1.1 – 5.8 mph
4th Gear	4.1 – 19 km/h; 2.5 – 5.6 mph

NOTE: The lower range speed shown is the recommended minimum speed for that range.

TECHANOM-1188IZE-000987

**TRAVEL SPEEDS – HYDROSTATIC DRIVE
(UP TO 25 KM/H; 15.5 MPH)**

Tires 23.1-26

1st Gear	0.4 – 3.3 km/h; 0.25 – 2.1 mph
2nd Gear	1.0 – 6.7 km/h; 0.6 – 4.1 mph
3rd Gear	1.8 – 12.1 km/h; 1.1 – 7.4 mph
4th Gear	4.1 – 24.2 km/h; 2.5 – 15.0 mph

NOTE: The lower range speed shown is the recommended minimum speed for that range.

TECHANOM-1188KZE-000987

CAPACITIES

Fuel tank

– 1166SII, 1166SII Hydro/4, 1174SII, 1174SII Hydro/4	300 l; 79.3 US gal.
– 1177SII, 1177SII Hydro/4, 1188SII Hydro/4	400 l; 105.7 US gal.

Engine crankcase (including oil filter):

– 1166SII, 1174SII	13 l; 3.4 US gal.
– 1166SII Hydro/4, 1174SII Hydro/4, 1177SII	17 l; 4.5 US gal.
– 1177SII Hydro/4, 1188SII Hydro/4	20 l; 5.3 US gal.

Hydrostatic system

– Initial filling	30 l; 7.9 US gal.
– Initial filling - four-wheel drive	36 l; 9.5 US gal.
– Oil tank with filter	8 l; 2.1 US gal.

Transmission case	6.6 l; 1.75 US gal.
-------------------------	---------------------

Final drives (each)	2.2 l; 0.6 US gal.
---------------------------	--------------------

Cylinder drive reduction gear	1.9 l; 0.5 US gal.
-------------------------------------	--------------------

Chain transmission (cutting platform drive)	0.5 l; 0.13 US gal.
---	---------------------

Hydraulic (lift) system

– Initial filling	25 l; 6.6 US gal.
– Hydraulic (lift) oil reservoir	20 l; 5.3 US gal.

Hydrostatic reel drive:

– Initial filling	12 l; 3.18 US gal.
– Hydraulic oil reservoir	10 l; 2.65 US gal.

Cooling system:

– 1166SII, 1166SII Hydro/4, 1174SII, 1174SII Hydro/4, 1177SII	30 l; 8.0 US gal.
– 1177SII Hydro/4, 1188SII Hydro/4	34 l; 9.0 US gal.

ENGINE

Engine type

– 1166SII, 1174SII	CD 6359 TZ 003
– 1166SII Hydro/4, 1174SII Hydro/4	CD 6359 TZ 002
– 1177SII	CD 6359 AZ 002
– 1177SII Hydro/4	RG 6466 AZ 004
– 1188SII Hydro/4	RG 6466 AZ 003

Engine power at rated engine speed, including attachments (according to ECE R24)

– 1166SII, 1174SII	92 kW (125 PS)
– 1166SII Hydro/4, 1174SII Hydro/4	110 kW (150 PS)
– 1177SII	117 kW (160 PS)
– 1177SII Hydro/4	140 kW (190 PS)
– 1188SII Hydro/4	154 kW (210 PS)

Max. torque:

– 1166SII, 1174SII at 1500 rpm	420 Nm (304 ft-lb)
– 1166SII Hydro/4, 1174SII Hydro/4 at 1700 rpm	529 Nm (383 ft-lb)
– 1177SII at 1700 rpm	550 Nm (398 ft-lb)
– 1177SII Hydro/4 at 1600 rpm	698 Nm (505 ft-lb)
– 1188SII Hydro/4 at 1600 rpm	767 Nm (555 ft-lb)

Torque at rated engine speed:

– 1166SII, 1174SII	350 Nm (253 ft-lb)
– 1166SII Hydro/4, 1174SII Hydro/4, 1177SII	440 Nm (318 ft-lb)
– 1177SII Hydro/4	614 Nm (444 ft-lb)
– 1188SII Hydro/4	670 Nm (485 ft-lb)

Number of cylinders	6
---------------------------	---

Bore:

– 1166SII, 1166SII Hydro/4, 1174SII, 1174SII Hydro/4, 1177SII	106.5 mm (4.19 in.)
– 1177SII Hydro/4, 1188SII Hydro/4	116 mm (4.57 in.)

Stroke:

– 1166SII, 1166SII Hydro/4, 1174SII, 1174SII Hydro/4, 1177SII	110 mm (4.33 in.)
– 1177SII Hydro/4, 1188SII Hydro/4	121 mm (4.76 in.)

Displacement:

– 1166SII, 1166SII Hydro/4, 1174SII, 1174SII Hydro/4, 1177SII	5883 cm ³ (359 cu.in.)
– 1177SII Hydro/4, 1188SII Hydro/4	7640 cm ³ (466 cu.in.)

ENGINE – Contd.

Compression ratio:

– 1166SII, 1166SII Hydro/4, 1174SII, 1174SII Hydro/4, 1177SII	17.8:1
– 1177SII Hydro/4, 1188SII Hydro/4	15.5:1

Firing order	1–5–3–6–2–4
--------------------	-------------

Full load speed:

– 1166SII, 1166SII Hydro/4, 1174SII, 1174SII Hydro/4, 1177SII	2500 rpm
– 1177SII Hydro/4, 1188SII Hydro/4	2200 rpm

Fast idle speed:

– 1166SII, 1166SII Hydro/4, 1174SII, 1174SII Hydro/4, 1177SII	2675 + 50 rpm
– 1177SII Hydro/4, 1188SII Hydro/4	2400 ± 50 rpm

Slow idle	1200 ± 50 rpm
-----------------	---------------

SOUND LEVEL

Maximum sound level at operator's ear in accordance with Directive 86/188EEC.

Measurement method in accordance with ISO5131, with cab closed.

1166SII with SG2 cab	83.5 dB(A)
1166SII Hydro/4 with SG2 cab	85.3 dB(A)
1174SII with SG2 cab	84.0 dB(A)
1174SII Hydro/4 with SG2 cab	84.9 dB(A)
1177SII with SG2 cab	83.0 dB(A)
1177SII Hydro/4 with SG2 cab	80.9 dB(A)
1188SII Hydro/4 with SG2 cab	85.0 dB(A)

TECHANOM-1166HZE-070191

Serial Numbers

SERIAL NUMBER PLATES

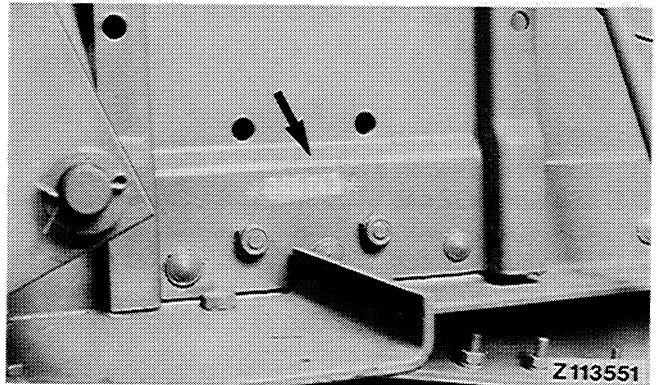
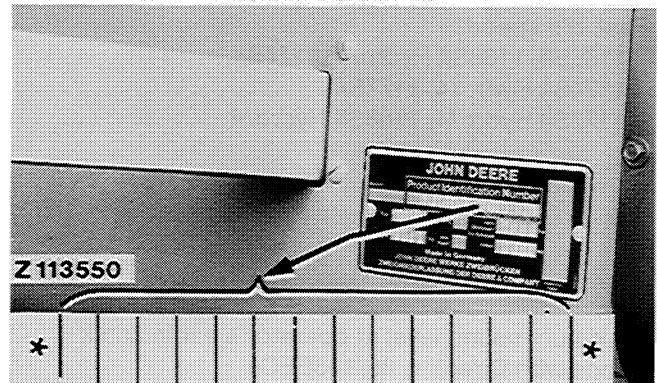
Serial numbers identifying combine components or assemblies are stamped on components or factory serial number plates. These numbers and letters are required when ordering combine or component replacement parts. To ensure that you always have these numbers at hand, enter the appropriate serial numbers in the spaces provided in each illustration.

SEROM-1065AZE-001084

PRODUCT IDENTIFICATION NUMBER

The product identification number plate is located on the right-hand side of the operator's platform.

NOTE: In addition, the last six figures of the product identification number are stamped into the frame above the fan.

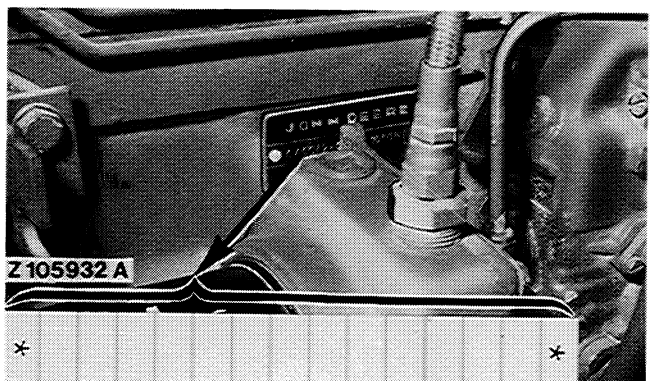


Z113550,Z113551-1188AZE-010987

ENGINE SERIAL NUMBER (Engine Type 6466)

1177SII Hydro/4, 1188SII Hydro/4

The engine serial number plate is located on the right-hand side of the engine block, near the fuel injection pump.

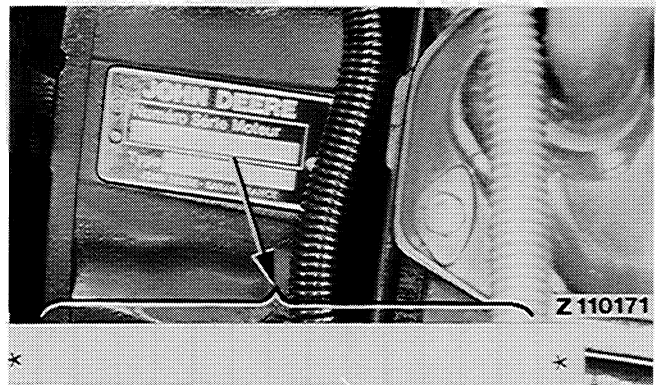
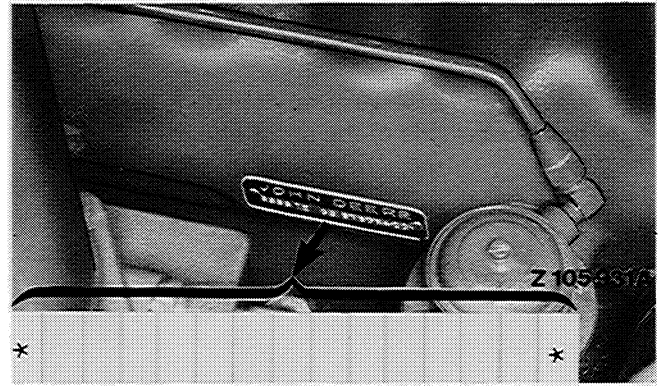


Z105932A-1166AZE-160790

ENGINE SERIAL NUMBER (Engine Type 6359)

**1166SII, 1166SII Hydro/4, 1174SII,
1174SII Hydro/4, 1177SII**

The engine serial number plate is located on the right-hand side of the engine block, near the mechanical fuel transfer pump, and on the flywheel housing.

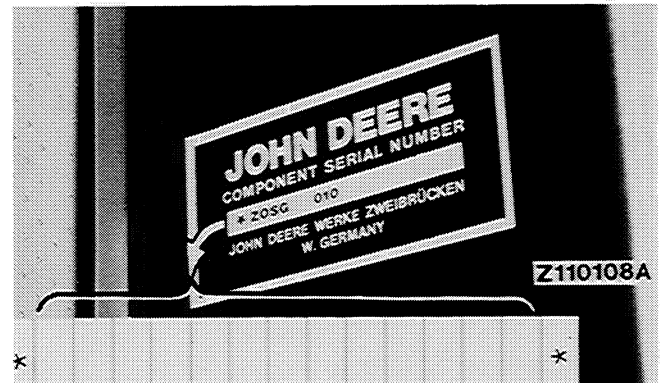


Z105931A, Z110171-1166AZE-070191

OPERATOR'S CAB SERIAL NUMBER

The operator's cab serial number plate is located on the inner side of the left-hand side panel.

NOTE: The operator's cab serial number is the same as that for the air conditioning system.

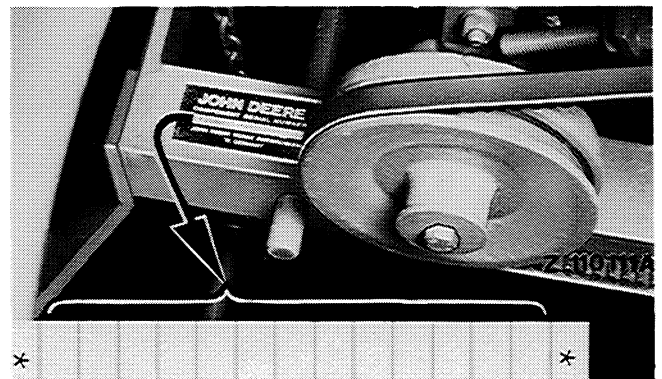


Z110108A-1065AZE-000186

AIR CONDITIONING SYSTEM SERIAL NUMBER (Separate Condenser Cooling)

The air conditioning system serial number plate is located on the right-hand rear corner of the frame.

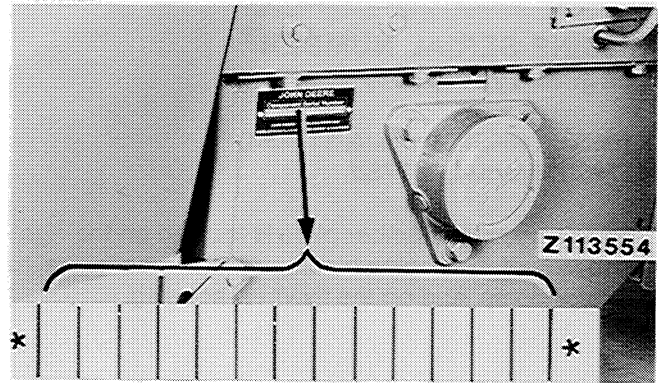
NOTE: The air conditioning system serial number is the same as that for the operator's cab.



Z110111A-1166AZE-150488

STRAW CHOPPER SERIAL NUMBER

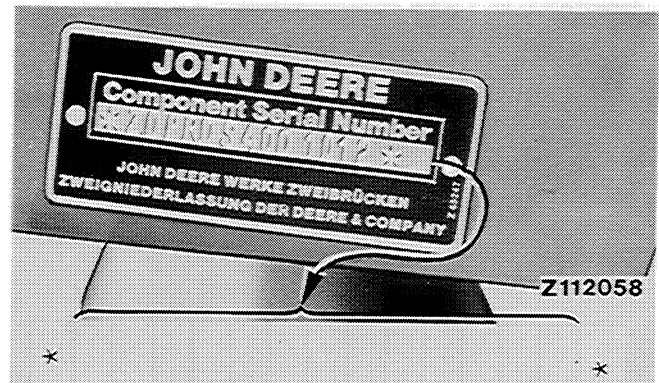
The straw chopper serial number plate is located on the right-hand outer side of the straw chopper.



Z113554-1188AZE-000987

STRAW SPREADER SERIAL NUMBER

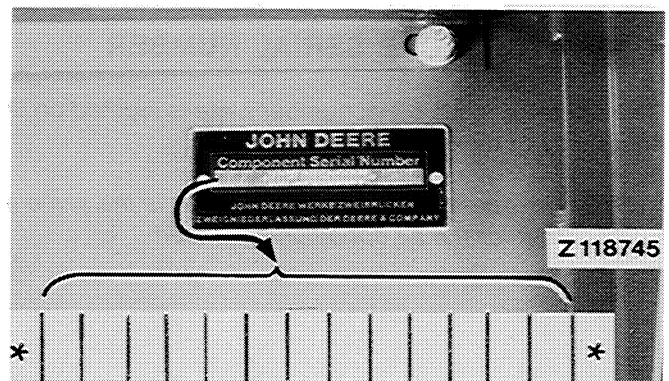
The straw spreader serial number is located on the left-hand side of the straw spreader frame.



Z112058-1188AZE-000987

CHAFF SPREADER SERIAL NUMBER

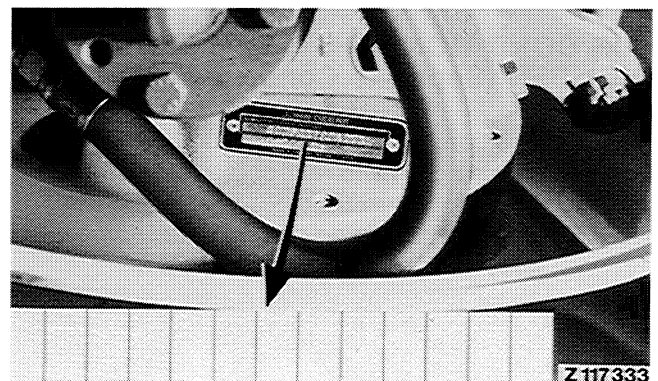
The chaff spreader serial number is located on the right-hand side of the housing towards the rear.



Z118745-1166AZE-160790

SERIAL NUMBER OF WHEEL MOTOR

The serial number is located on the top side of the motor.



Z117333-1166AZG-070191

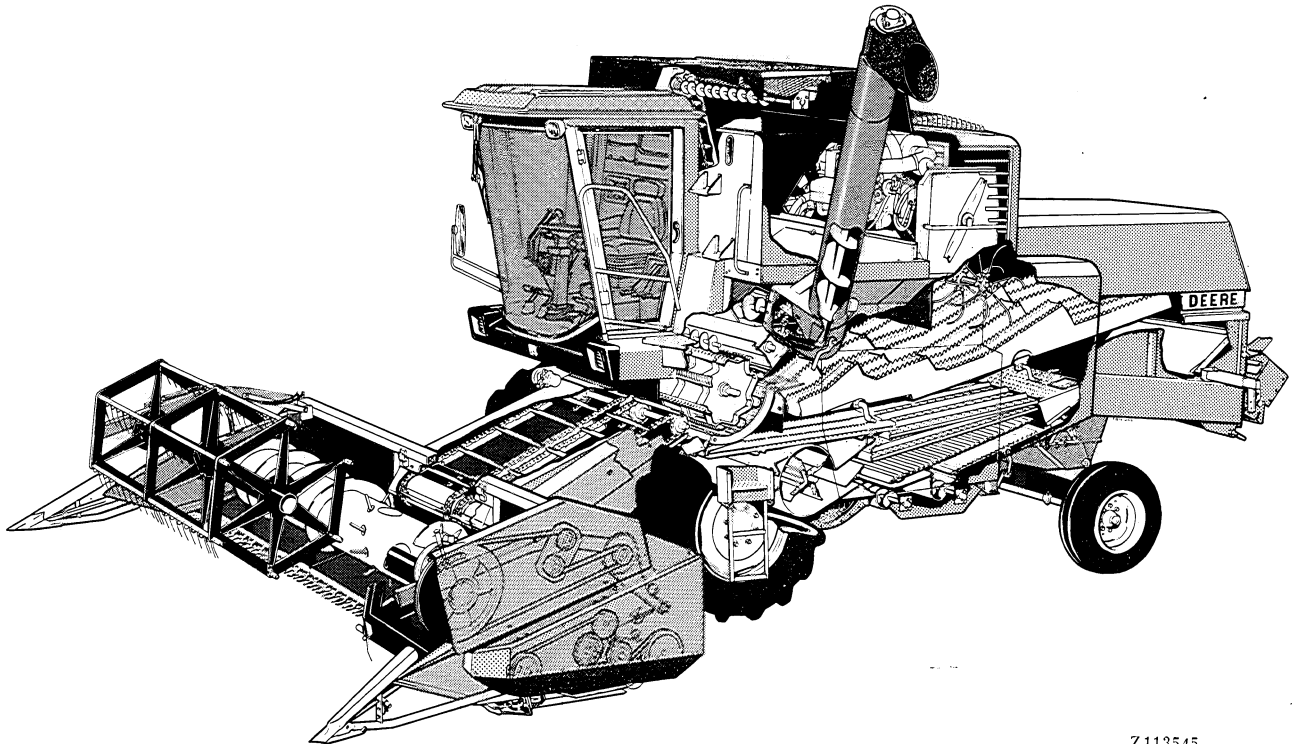
Fundamentals of Combine Harvesting

CHOICE OF HARVESTING TIME

Make sure crop is ripe enough to be harvested, otherwise smooth harvesting operation may be impaired.

GRUNDOM-1188AZE-010987

AVOIDING GRAIN LOSSES



Z113545

Loss of grain or grain damage contribute to loss of profits. Depending upon the harvesting conditions and crop moisture content, perform all necessary adjustments.

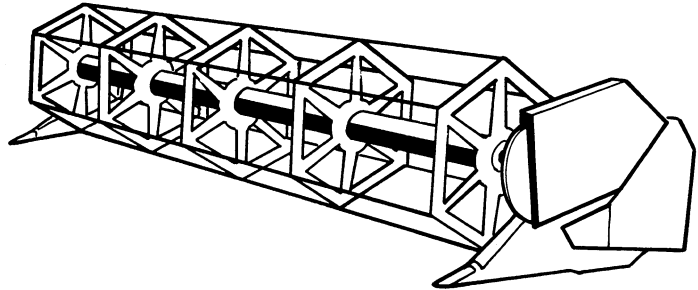
Pay particular attention to the following:

1. Grain losses in front of cutting platform.
2. Excessive tailings.
3. Cracked grain in grain tank.
4. Chaff in grain tank.
5. Grain loss from straw walkers.
6. Grain loss from sieves.
7. Grain losses on the ground.
8. Unthreshed kernels.

Z113545-1188AZE-000987

CUTTING PLATFORM OPERATION

Cutting platform operation is described in a separate operator's manual.



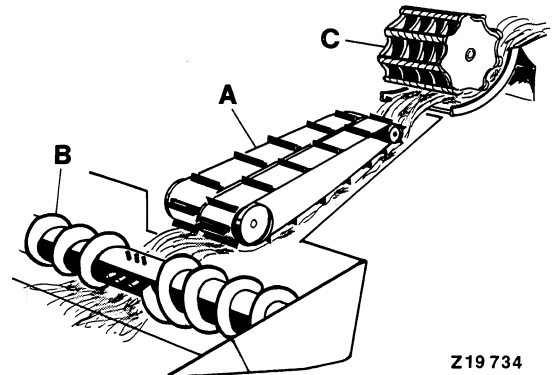
Z19 733

Z19733-1188AZE-010987

FEEDER HOUSE

Operation

Conveyor chain (A) receives the crop from auger (B) and forwards it to the cylinder (C).

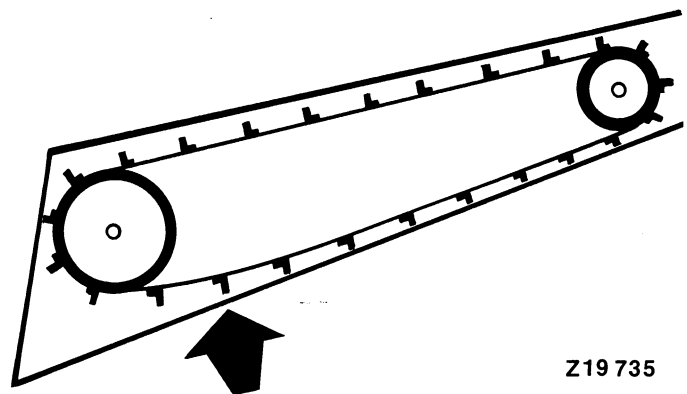


Z19 734

Z19734-1188AZE-010987

Conveyor Chain Adjustment

Adjust tension of conveyor chain so that the chain just touches bottom of housing.

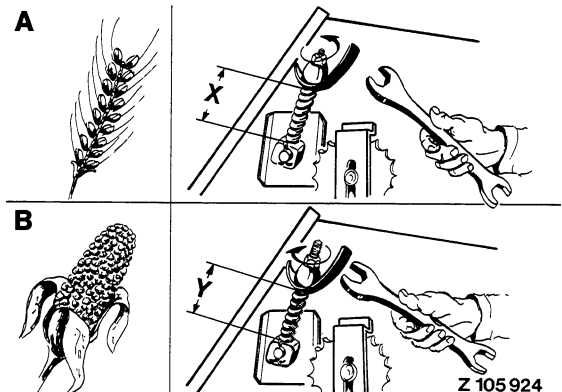


Z19 735

Z19735-1188AZE-000987

Adjusting Lower Feed Drum

A—Grain crops
B—Maize crops
X—140 mm (5-33/64 in.)
Y—110 mm (4-21/64 in.)



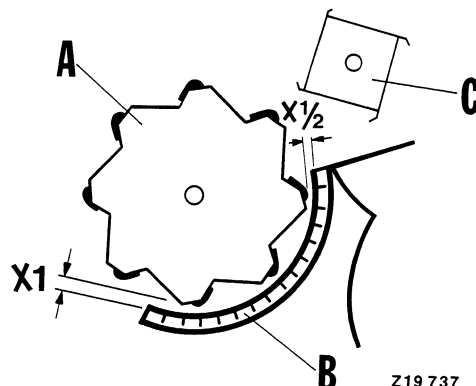
Z 105 924

Z105924-1188AZE-010987

SEPARATOR

The separator is the most important component of the combine and should therefore be adjusted with the greatest care.

A—Threshing cylinder
B—Concave
C—Beater



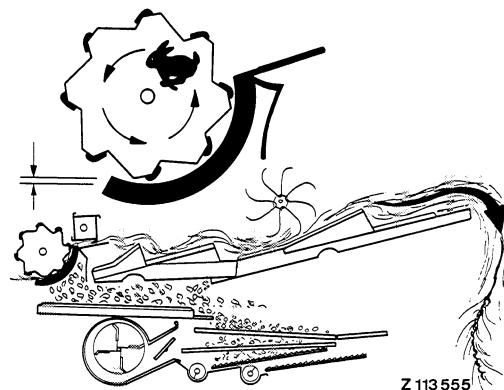
Z19 737
Z19737-1188AZE-010987

ADJUSTMENT OF CYLINDER AND CONCAVE

1. High cylinder speed and narrow concave spacing
– Good threshing action –

Extreme adjustment:

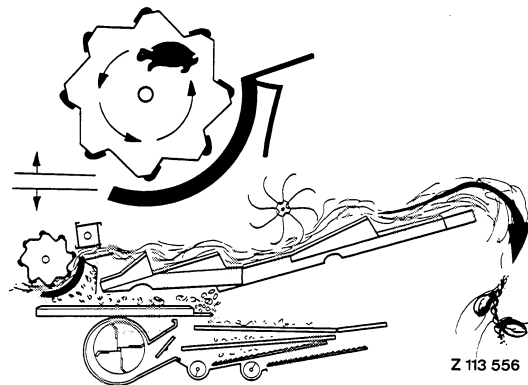
Cylinder speed too high
Concave spacing too narrow
– Overthreshing –



2. Low cylinder speed and wide concave spacing
– Poor threshing action –

Extreme adjustment:

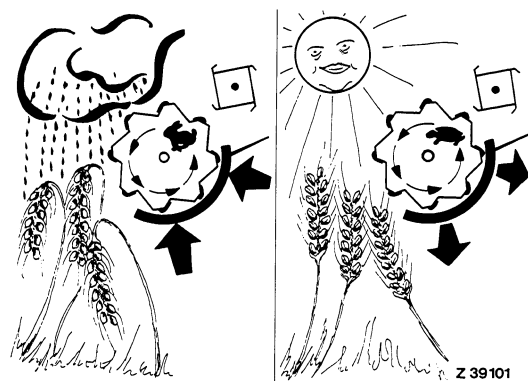
Cylinder speed too low
Concave spacing too wide
– Underthreshing –



3. Basic adjustment

- Moist crop: Increase cylinder speed and/or reduce concave spacing.
- Dry crop: Reduce cylinder speed and/or increase concave spacing.

IMPORTANT: Cylinder speed and concave adjustments are the most important factors in obtaining good harvesting results.

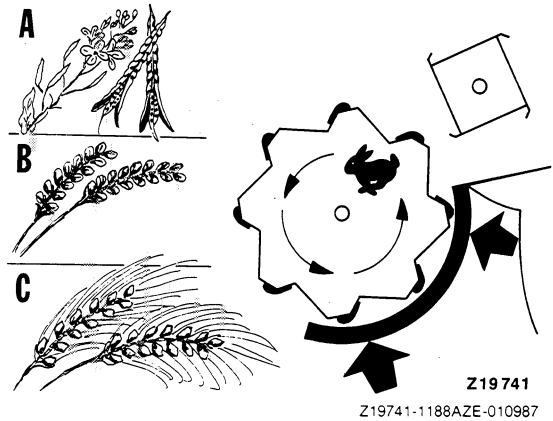


Z113555, Z113556, Z39101-1188AZE-000987

ADJUSTING CONCAVE AND CYLINDER SPEED, FOR NORMAL CROP

Fine seeds and normal grain crops:
High cylinder speed and narrow concave spacing

A—Rape
B—Wheat
C—Barley

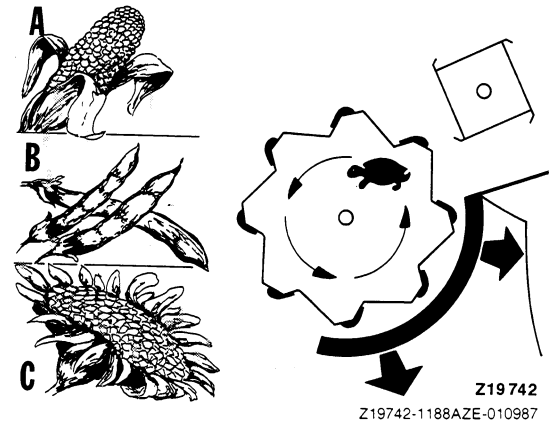


ADJUSTING CONCAVE AND CYLINDER SPEED, FOR COARSE CROP

Coarse crops, e.g. maize or beans:

Low cylinder speed and wide concave spacing

A—Maize
B—Beans
C—Sunflowers



SEPARATING PROCESS

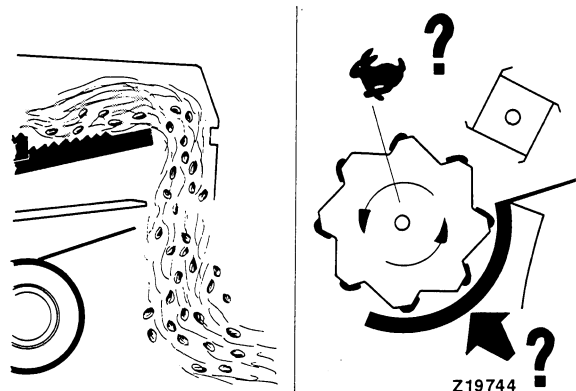
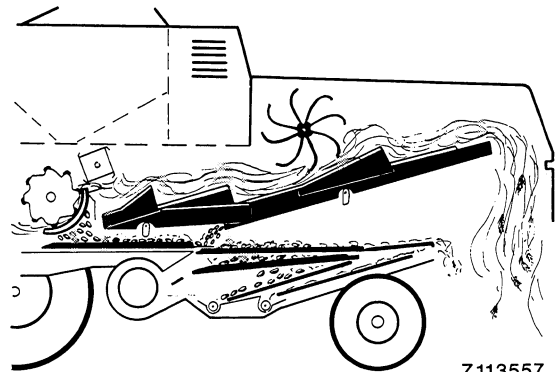
The threshed straw and remaining grain is deflected by the beater and thrown onto the straw walkers. The agitating straw walker action removes the remaining grain which falls onto the grain pan. After the first third of straw walker length, the straw is agitated and spread by the cross shaker. This action results in a saving of additional grain. Finally, the straw reaches the last walker step and falls to the ground.

Avoid “underthreshing” (overloaded straw walkers, separating action too fast).

The grain passes out of the combine with the mass of straw.

Check:

- Concave spacing narrow enough?
- Cylinder speed high enough?



Z113557,Z19744-1188AZE-000987

CLEANING PROCESS

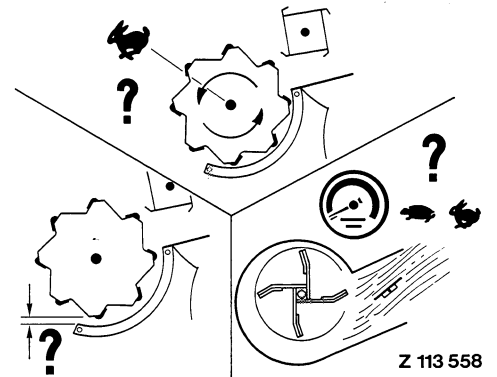
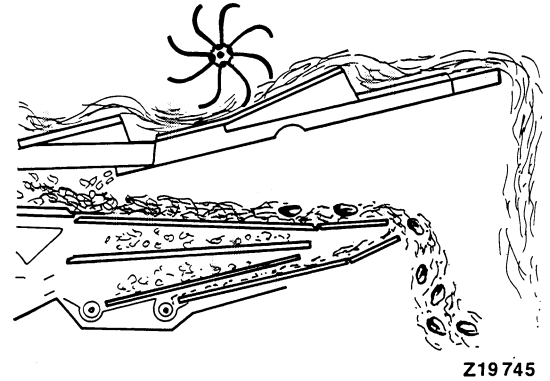
As a result of “overthreshing”, the cleaning unit becomes overloaded, resulting in poor separation of grain from the chaff. A considerable amount of grain is lost, dropping to the ground at the rear of combine.

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

NOTE: The blast should be as strong as possible, but grain loss should be kept to a minimum.

Avoid overthreshing, paying attention to the following:

- Concave spacing too narrow?
- Cylinder speed too high?
- Is blast (direction and intensity) adapted to sieve load?

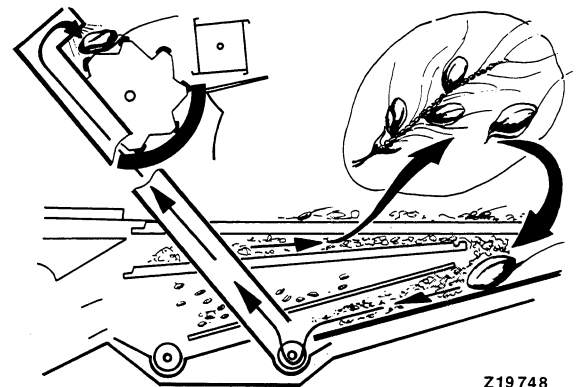
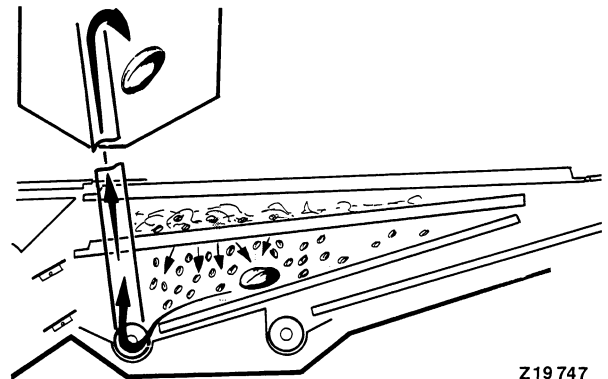


Z19745, Z113558-1188AZE-000987

GRAIN TRANSPORTATION

The grain falls onto the return pan, primarily in the first half of grain sieve, and is passed on to the clean grain auger, grain elevator and finally to the grain tank.

Unthreshed grain heads and a small amount of chaff are moved past the grain sieve end and are forwarded to the lower tailings auger via the return pan. The tailings elevator conveys this material back to the center of threshing cylinder where it is rethreshed.



Z19747, Z19748-1188AZE-010987

EVALUATING THRESHING ACTION

To evaluate threshing action, pay attention to the following:

- Threshed straw
- Grain losses at rear of combine
- Grain tank sample
- Tailings



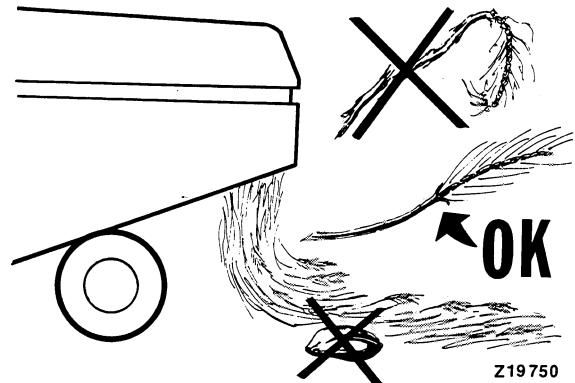
Z113559

Z113559-1188AZE-010987

EXAMINING THRESHED STRAW AND GRAIN LOSSES AT REAR OF COMBINE

Straw should not be broken or chewed.

A minimum amount of grain on the ground.



Z19750

Z19750-1065AZE-150883

GRAIN TANK SAMPLE

There should be very few cracked grains.

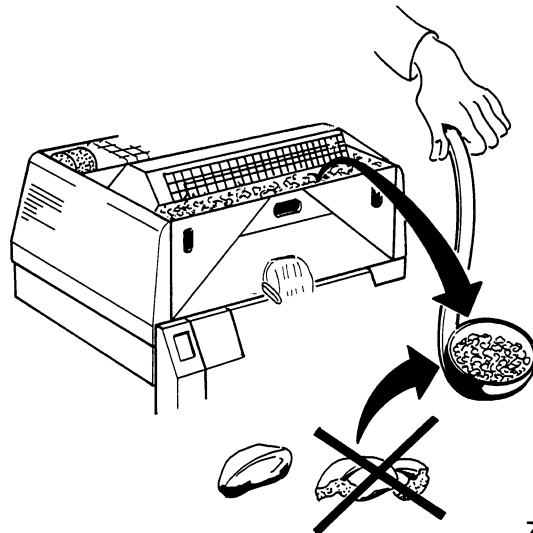


CAUTION: To take a grain sample use a small scoop or something similar.

On combines with operator's cab, open grain sample flap and take a grain sample.

Should grain sample show too many cracked grains, then check the following:

- Excessive tailings?
- Cylinder speed too high?
- Concave spacing too narrow?



Z113560

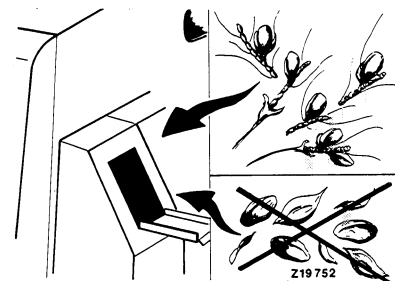
Z113560-1188AZE-000987

CHECKING TAILINGS

Each tailings elevator paddle should not contain much more than a tablespoon of tailings.

The sample must contain mostly unthreshed heads.

The sample should not contain loose grains, straw and chaff.

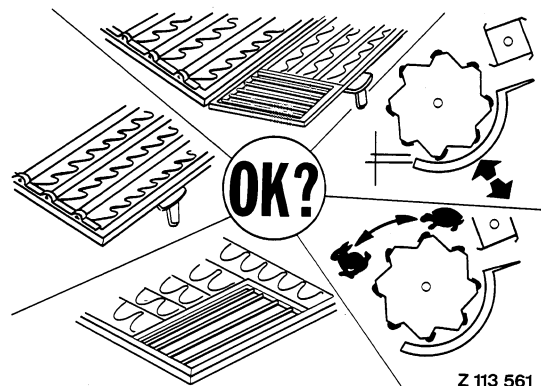


Z19752-1188AZE-000987

TAILINGS PROBLEMS

Check the following:

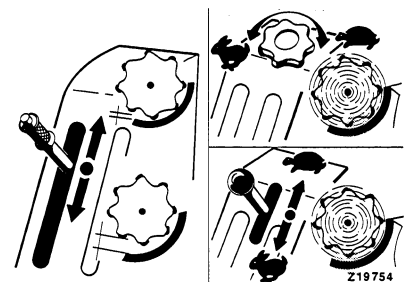
- Correct number of insert fingers of chaffer extension?
- Correct sieve adjustment?
- Position of chaffer extension correct?
- Position of concave correct for crop being harvested?
- Cylinder speed correct?



Z113561-1188AZE-000987

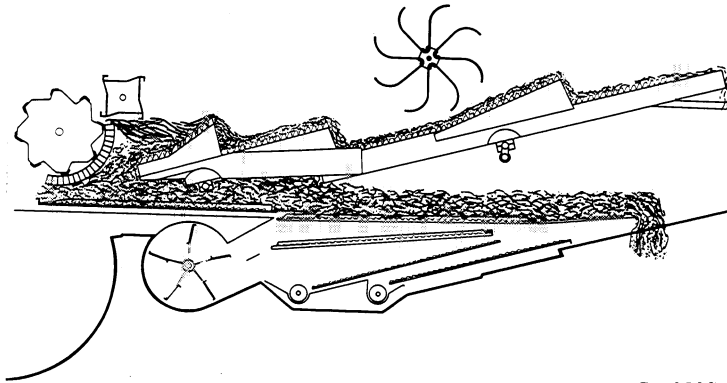
CORRECTING THRESHING PROBLEMS

If threshing action is not satisfactory (excessive tailings, cleaning unit is not adjusted correctly or other problems), refer to the following pages.



Z19754-1065AZE-000883

OVERTHRESHING



Z113562

Overthreshing is caused by too high cylinder speed and too narrow spacing between cylinder and concave.

Overthreshing may be reduced by slowing cylinder speed 5% at a time. Check results of this change before making additional adjustments. Try opening the concave spacing slightly if reducing cylinder speed by 10% has not helped.

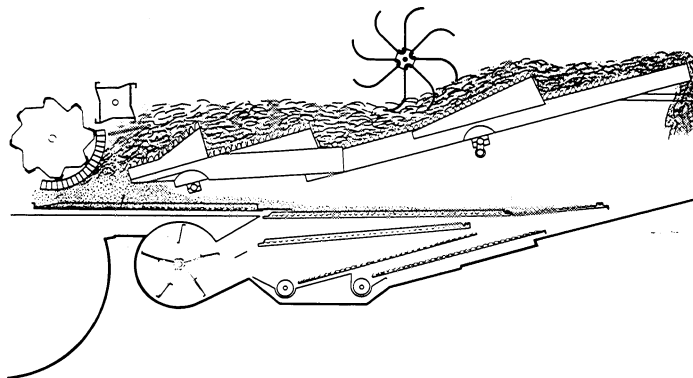
If overthreshing cannot be corrected by these measures, try slowing down the ground speed.

Too much material causes overloading of cylinder and may also cause overthreshing.

IMPORTANT: Always check the result first before carrying out the next adjustment.

Z113562-1188AZE-000987

UNDERTHRESHING



Z113563

Underthreshing is caused by too slow cylinder speed and wide concave spacing.

Try increasing the cylinder speed by 5%.

If this does not correct the problem, narrow the concave spacing slightly.

Check result after each adjustment.

Under certain harvesting conditions (not enough straw) it is possible that the problem will not be remedied. In this case increase ground speed by about half a gear range.

IMPORTANT: Always check the result first before carrying out the next adjustment.

Z113563-1188AZE-010987

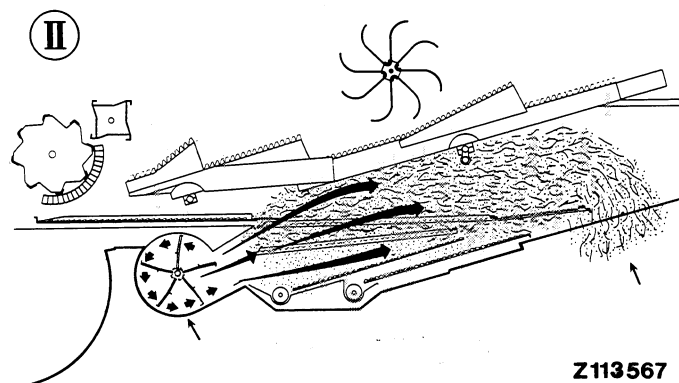
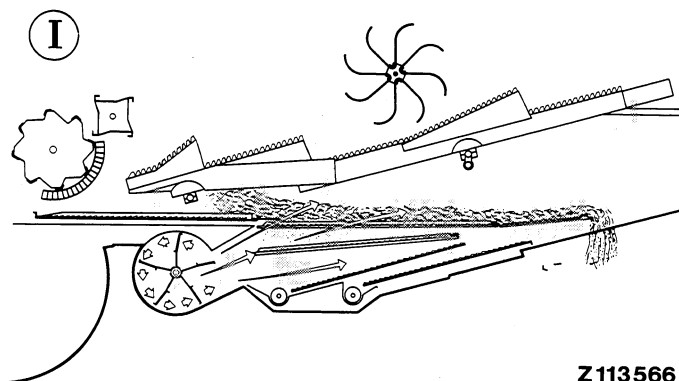
ADJUSTING FAN SPEED

Before adjusting the fan speed, open chaffer and sieve to the maximum recommended openings for the crop being harvested (see Combine Settings Chart). Then start with the lowest fan speed suggested and gradually increase the speed 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 chaffer and if necessary, again to the fan until best results are achieved.

IMPORTANT: Always check the result first before carrying out the next adjustment.

*I – Fan Blast too Low - Insufficient Cleaning
II – Too Much Fan Blast - Loss of Grain*



Z113566,Z113567-1188AZE-010987

ADJUSTING THE CHAFER

Open or close the chaffer just enough so that the grain falls through before passing the length of the chaffer. If the chaffer is opened too wide, it may overload the sieve with chaff and straw and increase the tailings. If the chaffer is not opened wide enough, excess grain will be moved to the tailings and some will be lost out the rear of the combine.

Grain losses in the cleaning unit may be caused by:

1. Too little fan blast or too narrow chaffer openings which results in a layer of straw and chaff on top of the grain.
2. Too much fan blast which will blow the grain over the shoe.

It is important to know which of the mentioned reasons is causing the shoe losses so proper adjustment to the area can be made in which the problem occurs. In the first mentioned case the problem may be caused by overthreshing as well as too little air from the fan. Check the amount and condition of the straw; if the straw appears excessively broken and chewed, the cylinder and concave must be adjusted to reduce overthreshing. If the straw is whole and unbroken, then more air is needed to suspend the straw and chaff so that the grain can drop through the sieve, or the chaffer needs to be opened slightly. Before further adjustments are made check the results.

If too much fan blast is the problem then there will be very little chaff and straw on the shoe. Reduce fan speed and check the results.

ADJU-4435AZE-051288

"SLOPE MASTER" SYSTEM

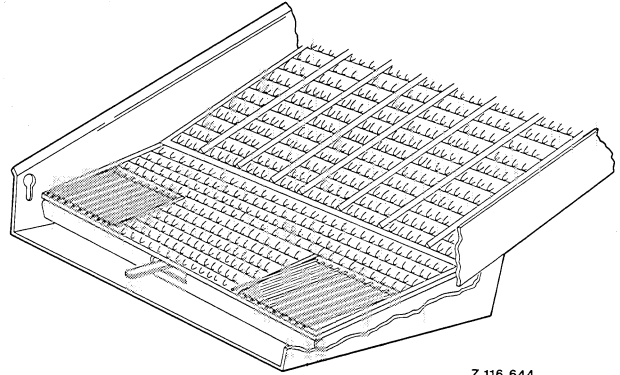
When operating the combine on a slope, special inserts at left-hand and right-hand sides of chaffer extension collect the grain rolling across the separator and return it via the tailings elevator.

Vary the openings in the inserts to suit the harvesting conditions, type of crop and combine tilt by adding or removing fingers.

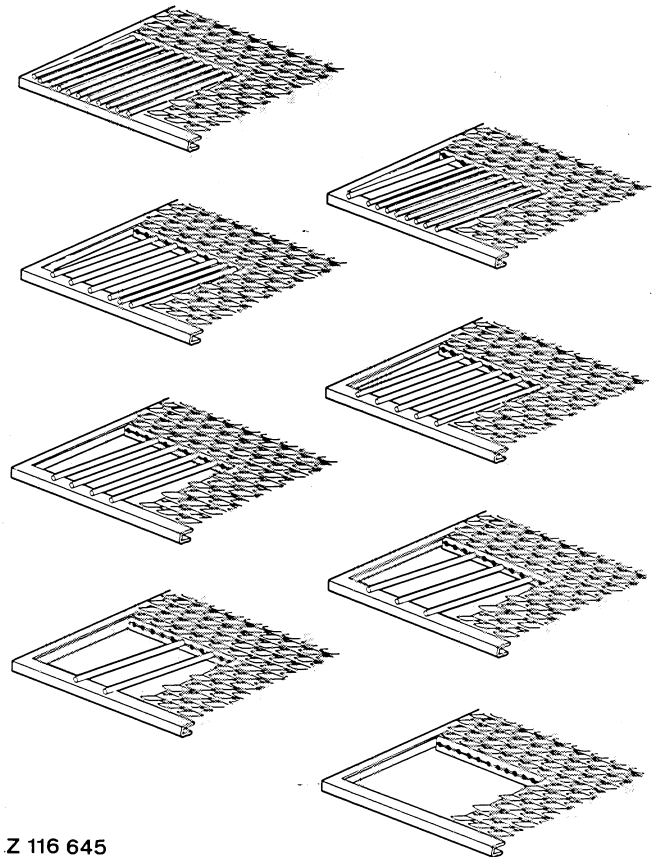
Combine is delivered from the factory with 11 fingers installed in the chaffer extension (combines with four or five straw walkers).

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

The illustrations opposite show a number of the possible installation positions.



Z 116 644



Z 116 645

Z116644,Z116645-1166AZE-051289

ADJUSTING THE SIEVE

Final cleaning is done by the sieve. It must be open far enough to allow the kernels to fall through easily, but not so far that chaff and straw can fall through.

If the sieve is closed too far, the grain will move to the tailings and overthreshing will occur be-

cause of excessive tailings. This may also cause excessive grain damage.

To adjust the sieve, open it until too much foreign material appears in the grain tank and then close the sieve slightly until the grain tank sample is acceptable.

CLEAN-91891CZE-000388

GRAIN LOSS LIMITS

The acceptable minimum is today between 1 and 2%. The estimate of this limit is dependent on the following factors:

- a. Is it possible with the present harvesting conditions to improve combine setting?
- b. Is the harvesting so urgent that present losses of grain have to be accepted?
- c. Has the combine operator sufficient time to carry out the loss-of-grain check?

GRUNDOM-1072AZE-150883

WHAT DOES LOSS OF GRAIN MEAN?

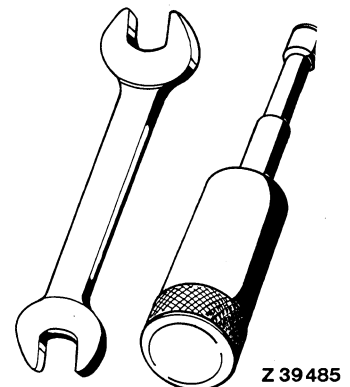
Depending upon grain yield per hectare (example: 5000 kg/hectare), a grain loss of 1% can mean a loss of 50 kg.

When a combine operates with a grain loss of 4% due to incorrect adjustments, this means that 200 kg of grain per hectare is lost.

GRUNDOM-1065BZE-150883

Correct Adjustment = More Money

The examples show that thirty minutes spent in carrying out correct combine adjustments repays itself many times as the above figures for just one hectare show.



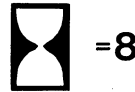
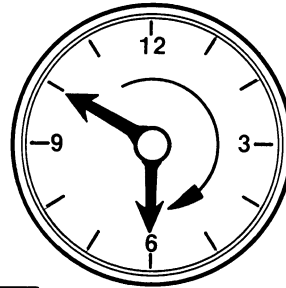
Z 39485
Z39485-1065AZE-000883

Loss Calculation – First Example

Combine operates with a grain loss of 4%. By better adjustments grain losses can be reduced by 1%. Average yield 5000 kg per hectare.

At an operating rate of 2 hectares per hour:
16 hectares in 8 hours.

4% 16 hectares x 200 kg =	3200 kg
3% 16 hectares x 150 kg =	2400 kg
less grain loss =	800 kg



4%=3200 kg

3%=2400 kg

2%=1600 kg

1%= 800kg

Z 19761

Z19761-1065AZE-311084

Loss Calculation – Second Example

Grain losses reduced to 3% in first example are still too high. By reducing ground speed, losses can be reduced to 1.5%.

At an operating rate of 1.8 hectares per hour:
16 hectares in 8 3/4 hours.

3% – 16 hectares x 150 kg =	2400 kg
1.5% – 16 hectares x 75 kg =	1200 kg
less grain loss =	1200 kg

GRUNDOM-1188BZE-000987

Explanation of Examples

8 hours 16 hectares 4% loss =	3200 kg
8 3/4 hours 16 hectares 1.5% loss =	1200 kg
less grain loss =	2000 kg

2000 kg of grain saved corresponds to approximately 3 to 4 hectares in terms of contracting charges.

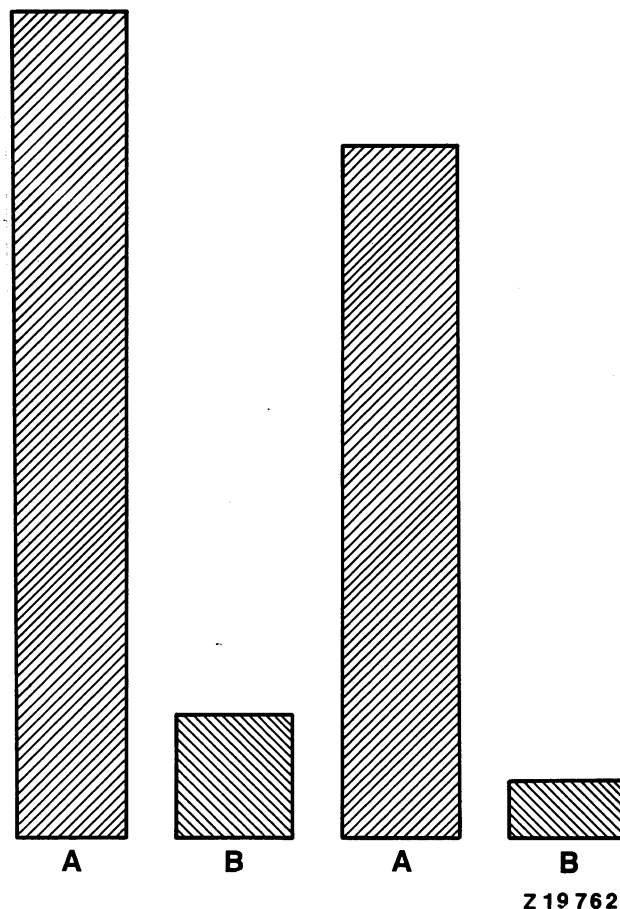
When reducing ground speed and losses, even somewhat higher contracting charges per hectare may be justified.

If the operator or another person checks grain losses three times daily and achieves a reduction of 1 to 1.5%, only thirty minutes is required for this purpose.

However, 1% less grain loss means approx. 800 to 1000 kg saved grain within an eight hour working day.

Naturally the combine can operate even more economically (especially when several combines are working in one field), if checking grain losses and adjusting the combine is carried out by a person other than the operator.

A—Area performance
B—Losses in %

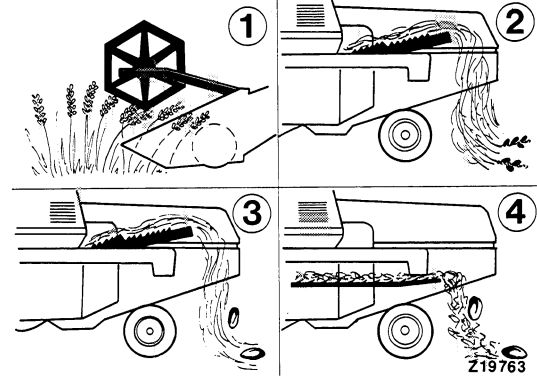


Z19762-1188AZE-010987

DETERMINING GRAIN LOSSES

After adjusting the combine to get the best results, loss of grain still occurring can be split up into four groups:

1. Cutting platform losses
2. Threshing unit losses
3. Straw walker losses
4. Sieve losses

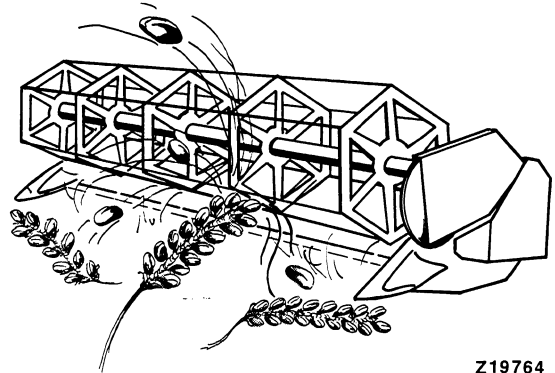


Z19763-1065AZE-311084

CUTTING PLATFORM LOSSES

Cutting platform losses are cut ears which do not get picked up or grain shattered by the reel.

To determine cutting platform losses, compare the number of grains in a certain area before and after the cutting platform has passed through.

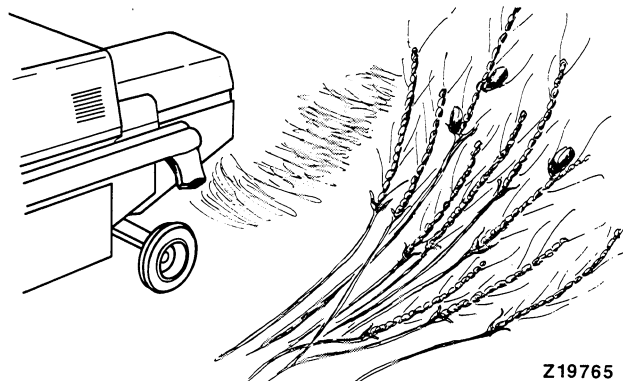


Z19764-1065AZE-150883

THRESHING UNIT LOSSES

Threshing unit losses are those grains which leave the rear end of the machine in partially threshed ears.

To determine threshing unit losses, count number of grains in ten ears which have been threshed. If three grains are found, this corresponds to a loss of 1% (based on an average yield of 30 grains per ear).

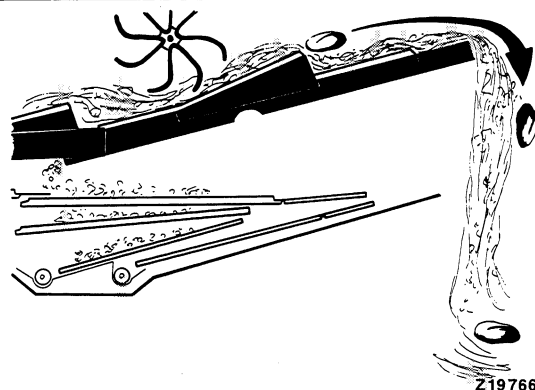


Z19765-1065AZE-311084

STRAW WALKER LOSSES

Straw walker losses are those grains carried with threshed straw over the straw walkers and out of the machine. Avoid underthreshing and excessive tailings.

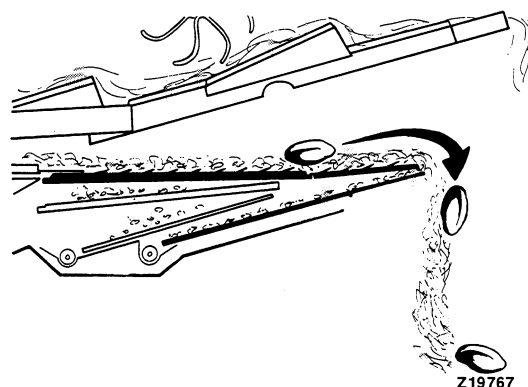
If straw walker losses are not lessened after having adjusted cylinder and concave, then reduce ground speed.



Z19766-1065AZE-150883

SIEVE LOSSES

Sieve losses are those grains which are carried over the sieve and fall onto the ground due to incorrect sieve adjustment. With correct sieve adjustment, losses will be small and remain constant.



Z19767-1188AZE-010987

DETERMINING GRAIN LOSSES

With Wire Frame

Place wire frame (self-manufacture) in front of cutting platform. All grains already lying on the ground inside the frame must be removed.

Drive combine forward.

At the rear of combine within width of separator remove straw from the wire frame.

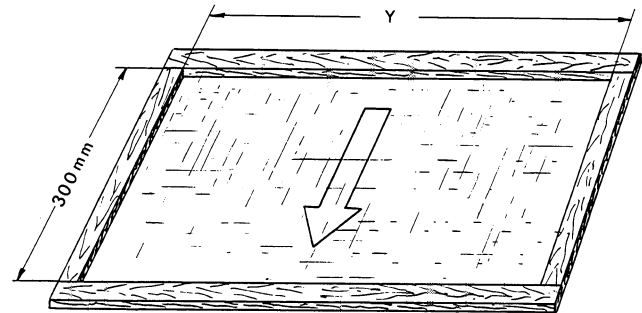
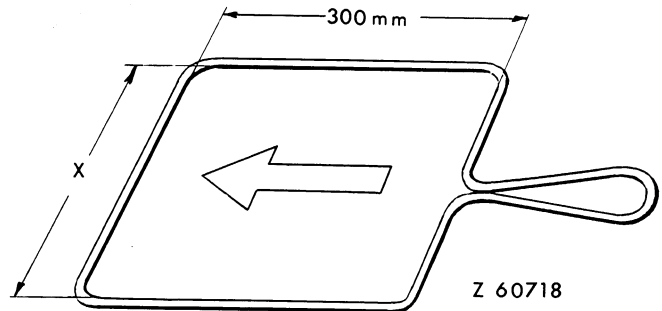
Count number of grains within wire frame and multiply by the number of straw walkers.

X—John Deere straw walker width = 250 mm
(9.8 in.)

With Canvas Frame

Place canvas frame (self-manufacture) on the ground at rear of combine within width of separator (requires assistance of a second person). Drive combine forward. Remove straw from frame and count number of grains in frame.

Y—Larger combine width



GRAIN LOSS CHART

	A	B	C	D	E	F	G	H
I	22	24	27	28	3	5	200	25

0	100	100	100	100			1000	100
6	200	200	200	200	20		2000	200
12	300	300	300	300			3000	300
18	400	400	400	400			4000	400
24	500	500	500	500	60	100	5000	500
30	600	600	600	600			6000	600
36	700	700	700	700	90		7000	700
42	800	800	800	800			8000	800
48	900	900	900	900	120	200	9000	900
54	1000	1000	1000	1000			10000	1000
60	1100	1100	1100	1100	150		11000	1100
66	1200	1200	1200	1200			12000	1200
	1300	1300	1300	1300	180	300	13000	1300
	1400	1400	1400	1400				1400
	1500	1500	1500	1500				1500
	1600	1600	1600	1600				1600

Z 60720 B

A-Wheat
B-Barley

C-Rye
D-Oats

E-Maize
F-Beans

G-Rape
H-Rice
I-Grains/gr.

With the results from grain loss determination (wire or canvas frame) check the table above and ascertain the appropriate weight in grammes for reading diagram.

Note loss in grammes (in example: wheat = 150 grains measured over complete width of separator and 30 cm forward travel gives 7 grammes).

EXPLANATION OF GRAIN LOSS DIAGRAM

Determine estimated harvest yield per hectare in upper half of diagram (example shows 4.5 tons per hectare).

With this figure move horizontally to width of cutting platform (example: 14 ft.).

From this point move vertically to horizontal line which gives loss in grammes and is projected to the left. Read loss in grammes (example: 7 grammes).

Project intersection of horizontal and vertical line to the left and note loss in % (example: 1.3%).

GRUNDOM-1188CZE-010987

EXAMPLE FOR A GRAIN LOSS DETERMINATION

Estimated harvest yield: 4.5 tons per hectare

Cutting platform: 14 ft.

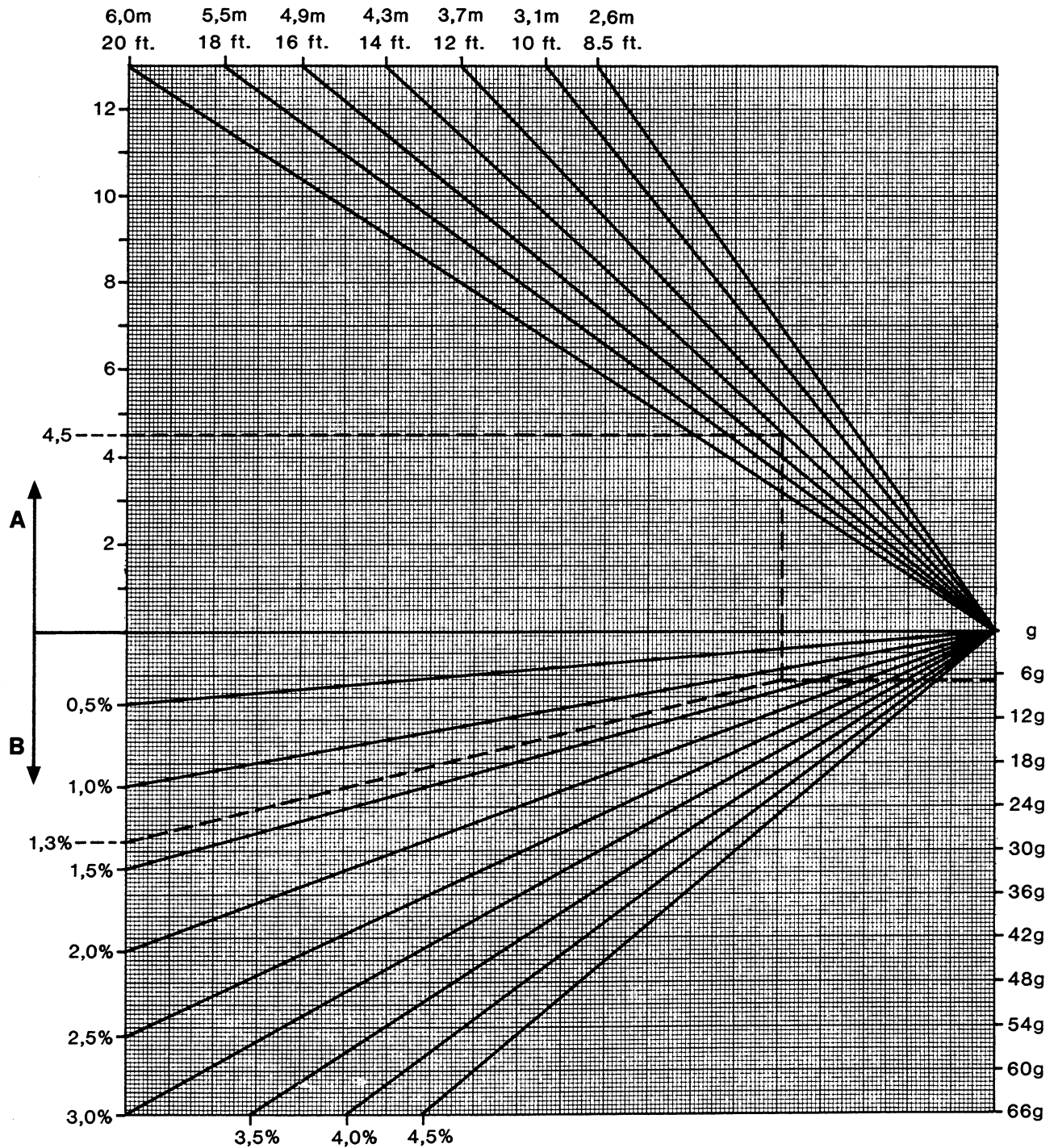
Wheat grains counted (within width of separator at rear of combine and with 30 cm forward travel): 150.

Loss noted : 1.3%

With a yield of 4.5 tons per hectare, 1.3% loss =
58.5 kg / hectare.

GRUNDOM-1188DZE-010987

GRAIN LOSS DIAGRAM



Z 113564

A—Tons per hectare
B—Loss %

Z113564-1188AZE-010987

PREVENTION OF GRAIN LOSSES

When too heavy grain losses are determined the question arises "Where to adjust". No patent remedy can be offered at this stage. The threshing process is so complex that a certain relationship between "adjustment" and "result" must be found.

The combine operator must try, using the section "Combine Settings Chart" and the following paragraphs to obtain the best results.

IMPORTANT: Grain losses rise with the amount of material passing along the straw walkers and therefore can easily be remedied by decreasing combine ground speed. However, do not under-estimate the various combine adjustments to reduce grain losses.

Reduce Straw Walker Losses as Follows:

- Keep openings in straw walkers clean
- Reduce weeds and green material (raise cutting platform)
- Material overthreshed (reduce cylinder speed)
- Straw walkers overloaded (reduce ground travel speed)

Reduce Sieve Losses as Follows:

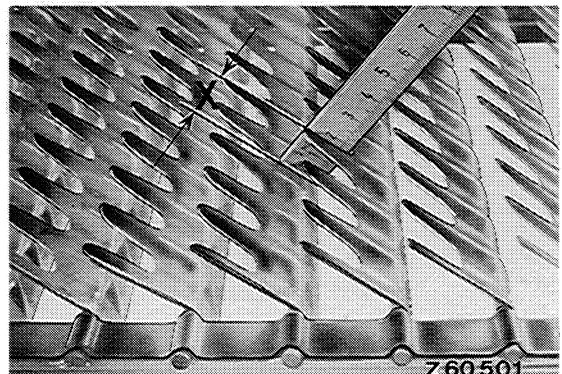
- Increase air blast from cleaning fan if mat of straw has formed on sieves
- Reduce fan speed when grain is blown over cleaning shoe
- Correct air blast by means of windboards. Air is not being properly directed to sieve (causing mat of straw on sieve)
- Open lips of sieve
- Keep sieve clean
- When working in hilly conditions add or remove insert fingers
- Reduce amount of chaff on sieves, avoid overthreshing
- Sieve overloaded, reduce amount of grain over sieves (reduce combine ground speed)

GRUNDOM-1188EZE-000987

THRESHING ADJUSTMENTS

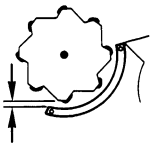
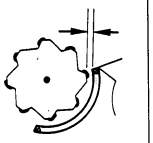
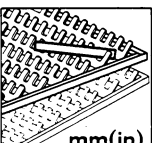
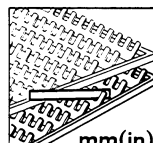
NOTE: The Combine Settings Chart is for average conditions. Varying crop and field conditions may make it necessary to change settings.

Adjust sieve and chaffer to the dimensions (measurement "X") given in the Combine Settings Chart.

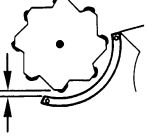
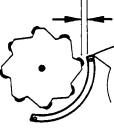
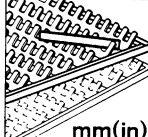
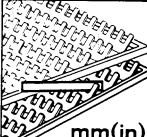


Z60501-1065AZE-150883

COMBINE SETTINGS CHART

	 U/min (rpm)	 mm (in)	 mm (in)	 mm(in)	 mm(in)	 U/min (rpm)
Pinto beans	160–550	20 (0.79)	10 (0.39)	12–19 (0.47–0.75)	9–13 (0.35–0.51)	850–max.
Broad beans	160–500	30 (1.18)	15 (0.59)	12–19 (0.47–0.75)	9–15 (0.35–0.59)	900–max.
Buckwheat	500–1000	14 (0.55)	7 (0.28)	9–19 (0.35–0.75)	6–10 (0.24–0.39)	600–800
Peas	200–550	25 (0.98)	12.5 (0.49)	16–19 (0.63–0.75)	9–13 (0.35–0.51)	750–max.
Flax	800–1100	6 (0.24)	3 (0.12)	8–13 (0.31–0.51)	2–5 (0.08–0.2)	min–700
Barley	700–1100	12 (0.47)	6 (0.24)	12–19 (0.47–0.75)	5–12 (0.2–0.47)	700–max.
Grass seed	700–1100	6 (0.24)	3 (0.12)	10–16 (0.39–0.63)	3–6 (0.12–0.24)	min.–550
Oats	900–1100	14 (0.55)	7 (0.27)	13–19 (0.51–0.75)	6–13 (0.24–0.51)	600–900
Millet	800–1100	10 (0.39)	5 (0.2)	6–13 (0.24–0.51)	3–6 (0.12–0.24)	min.–800
Trefoil (Bird's foot)	800–1100	6 (0.24)	3 (0.12)	6–9 (0.24–0.35)	3–6 (0.12–0.24)	min.–800
Clover	600–1100	6 (0.24)	3 (0.12)	6–16 (0.24–0.63)	2–3 (0.08–0.12)	min.–700
Caraway	500–800	20 (0.79)	10 (0.39)	3–8 (0.12–0.31)	2–3 (0.08–0.12)	min.–700
Lespedeza (Japanese clover)	700–1100	6 (0.24)	3 (0.12)	6–16 (0.24–0.63)	3–9 (0.12–0.35)	min.–700
Lupins	300–600	20 (0.79)	10 (0.39)	6–15 (0.24–0.59)	2–5 (0.08–0.2)	600–1000
Alfalfa	700–1100	6 (0.24)	3 (0.12)	6–12 (0.24–0.47)	2–3 (0.08–0.12)	min.
Maize (Corn grain)	160–700	30 (1.18)	20 (0.79)	11–19 (0.43–0.75)	10–16 (0.39–0.63)	800–max.
Maize/cob mix (Cracked grain)	600–1100	30 (1.18)	10 (0.39)	–	–	800–max.
Maize/cob mix (Whole grain)	300–700	32 (1.26)	14 (0.55)	–	–	800–max.

COMBINE SETTINGS CHART

		 mm (in)	 mm (in)	 mm(in)	 mm(in)	 U/min (rpm)
Rape	400–900	30 (1.18)	15 (0.59)	5–10 (0.2–0.39)	3–5 (0.12–0.2)	min–800
Rice	600–900	14 (0.55)	5 (0.2)	13–19 (0.51–0.75)	4–10 (0.16–0.39)	800–1100
Rye	700–1100	14 (0.55)	7 (0.28)	10–16 (0.39–0.63)	4–8 (0.16–0.31)	800–1100
Beet seed	600–800	16 (0.63)	8 (0.31)	10–19 (0.39–0.75)	8–14 (0.31–0.55)	600–800
Wild saffron	500–800	14 (0.55)	7 (0.27)	12–19 (0.47–0.75)	6–12 (0.24–0.47)	700–1000
Mustard	500–1000	10 (0.39)	5 (0.2)	8–14 (0.31–0.55)	3–9 (0.12–0.35)	600–800
Sunflowers	250–600	30 (1.18)	15 (0.59)	12–19 (0.47–0.75)	10–16 (0.39–0.63)	700–900
Sorghum	500–1100	12 (0.47)	6 (0.24)	10–16 (0.39–0.63)	4–8 (0.16–0.31)	700–1000
Soya beans	300–600	20 (0.79)	10 (0.39)	11–19 (0.43–0.75)	8–12 (0.31–0.47)	800–max.
Wheat	700–1100	14 (0.55)	7 (0.27)	12–19 (0.47–0.75)	3–6 (0.12–0.24)	700–max.
Vetch	500–1000	16 (0.63)	8 (0.31)	9–16 (0.35–0.63)	8–12 (0.31–0.47)	600–800

IMPORTANT: All dimensions in the combine settings chart apply to normal harvesting conditions. Under certain conditions they can be different.

Concave settings are basic settings and should be adjusted according to the various harvesting conditions.

ROUND-HOLE SIEVES

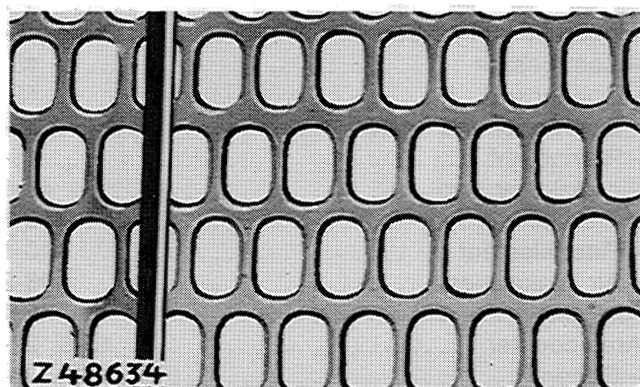
It is an advantage to use round hole sieves when harvesting some special crops under certain conditions. The following sized round-hole sieves are available as special equipment:

4 mm (5/32 in.), 8 mm (5/16 in.), 13.5 mm (17/32 in),
15 mm (19/32 in.) and 17 mm (43/64 in.).

GRUNDOM-1166AZE-150488

SLOTTED CHAFFER

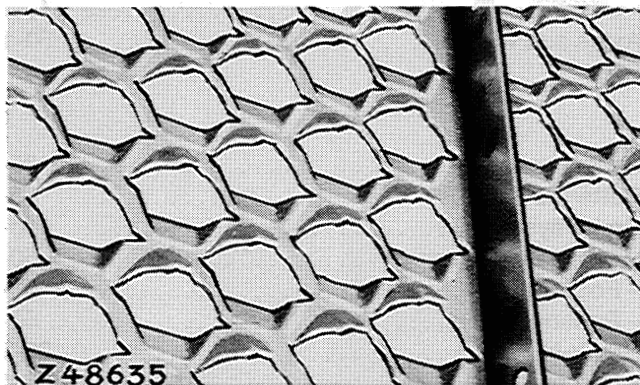
When harvesting maize under damp conditions, replace the adjustable chaffer with a slotted chaffer.



Z48634-1166AZE-150488

GRAEPEL-TYPE CHAFFER

In dry harvesting conditions, the Graepel-type chaffer offers an increased sieve capacity compared with the slotted or adjustable chaffer.

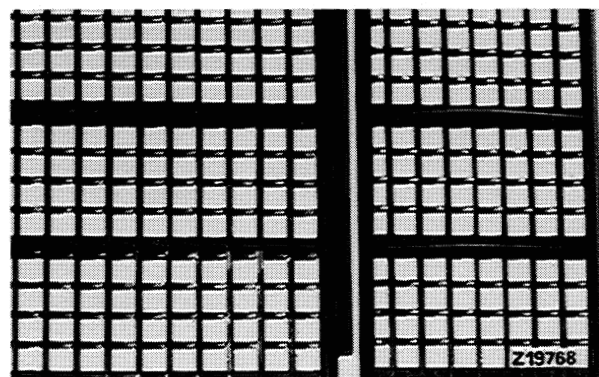


Z48635-1166AZE-150488

SPECIAL CHAFFER

Use a special chaffer for harvesting maize/cob mix.

NOTE: In this case some other modifications have to be carried out (consult your JOHN DEERE dealer).



Z19768-1166AZE-150488

Index

A

Access ladder	10-9
Acoustical warning device	15-1
Adjustments	
– Combine field adjustments	20-33
– Concave	55-18
– Cutting platform	20-24
– Drive belts and chains	35-12
– Foot brakes	50-1
– Grain sieves	20-36
– Parking brake	50-2
– Separator	55-10
– Steering column	10-10
Air conditioning system	10-13, 45-1
– Compressor	45-1
– Condenser	45-2
– Evaporator and heater	45-8
– Refrigerant	45-5
Air intake system	40-19
– Pre-filter screen	40-19
– Filter element	40-19
– Air intake lines	40-23
Alternator	45-11
Area counter	15-6, 27-1
– General	27-1
– Functions	27-3
– Preparations	27-2
– Service	45-19
Axles and wheels	50-10

B

Ballast weights	25-1
Batteries	45-9
Brake system	50-1
– Brake fluid reservoir	50-1
– Foot brakes	50-1
– Parking brake	50-2
Break-in period	20-13
– Engine	20-13
– Combine	20-14

C

Chaff spreader	25-9
– Service	60-4
Clean grain and tailings elevators	55-28
– Elevator chains	55-29
– Augers	55-32
– Inspection doors	55-28
Cleaning shoe	55-21
– Chaffer	20-36, 55-27
– Cross shaker	55-23
– Curtains	55-23
– Fan	55-25
– Grain sieves	55-27
Clutch	50-1
Cold weather operation	20-10
– Fuel system	20-10
– Engine coolant	20-10
– Ether starting aid	20-11
– Thermostart starting aid	20-11
– Booster battery	20-12
– Slave battery	20-12
Combine field adjustments	20-33
– Concave clearance	20-34
– Cylinder drive	20-34
– Cylinder speed	20-33
– Determining grain losses	80-14
– Fan speed and blast	20-35
– Prevention of grain losses	80-20
Combine settings chart	80-21
Concave	20-34
Controls and instruments	10-1
– Operator's platform	10-9
Cooling system	40-13
– Coolant solution	30-3, 40-15
– Flushing cooling system	40-16
Contents	00-1
Cross shaker	55-23
Curtains	55-23
Cutting platform adjustments	20-24
– Drive	20-25
– Height control	20-26
– Hydraulic reverser	20-25
– Pressure gauge	20-30
– Reel height	20-31
– Reel speed	20-32
– Securing cutting platform	20-24
Cylinder	20-33
– Concave-to-cylinder clearance	20-34
Cylinder drive reduction gear	55-16

D

Daily checks on combine	20-1
– Engine oil level	20-1
– Coolant level	20-1
– Hydraulic oil level	20-1
– Hydrostatic oil level	20-2
– Amount of fuel in tank	20-2
– Fuel system	20-2
Dash – instruments	15-2
De-awning plate	55-19
Detailed periodic services	35-5
– After the first few hours of operation	35-5
– Every 10 operating hours	35-6
– After first 100 operating hours	35-7
– Every 200 operating hours	35-8
– Every 400 operating hours	35-9
– After the harvesting season	35-10
– Every 800 operating hours	35-11
– Every 1200 operating hours	35-11
Drives	
– Chaff spreader	60-4
– Chain transmission – cutting platform drive	55-8
– Cleaning shoe	55-21
– Cross shaker	55-23
– Cylinder	55-15
– Fan	55-25
– Feeder conveyor	55-1
– Grain elevator	55-24
– Header	55-5
– Separator	55-10
– Straw chopper	60-1
– Straw spreader	60-4
– Tailings elevator	55-32
– Unloading auger	55-35
Driving the combine	20-15

E

Electrical system	45-9
– Alternator	45-11
– Batteries	45-9
– Fuses and relays	45-13
– Lighting system	10-17, 45-16
– Starting motor	45-12

Engine	40-1
– Access	40-1
– Air intake system	40-19
– Break-in period	20-13
– Coolant	30-3
– Oil	30-2
– Oil and filter change	40-4
– Operating the engine	20-4
– Service	40-1
– Starting the engine	20-6
– Stopping the engine	20-8
– Storage	65-1
– Warming up the engine	20-7
Elevators	55-28
Ether cold weather starting aid	20-11
Evaluating threshing action	80-6
Evaporator	45-8

F

Fan	55-25
Feeder house	55-1
Final drives	50-8
Foot brakes	50-1
Four-wheel drive	20-20
Front axle	50-10
Fuel, lubricants, hydraulic oil, coolant and capacities	30-1
– Fuel	30-1
– Engine oil	30-2
– Engine coolant	30-3
– Transmission oil	30-4
– Hydraulic oil	30-6
– Lubricating grease	30-8
– Storing lubricants	30-8
Fuel system	40-5
– Bleeding the fuel system	40-10
– Fuel filters	40-9
– Fuel tank	40-5
– Fuel transfer pumps	40-6
– Water trap	40-5
Fundamentals of combine harvesting	80-1
Fuses	45-14

G

Grain losses	80-10
Grain sieves	80-10, 55-27
Grain tank	55-34
Grain tank sample	20-39
Grain tank unloading auger	55-35
Grease	30-8
Ground travel speeds	70-6
Guards	35-14

H

Harvest performance monitor	15-5
– General information	15-5
– Preparatory adjustments	15-5
– Position and basic function of components	15-5
– Control panel	15-5
Header drives	55-5
Header height control	20-31
Heater	10-14
Hydraulic oil	30-6
Hydraulic system	45-20
– Hydraulic pump drive	45-21
– Hydrostatic drive oil cooler	50-7
– Hydrostatic reel drive	45-21
– Oil filter	45-22

I

Identification views	00-5
Instruments	10-1

L

Leveling auger	20-41, 55-34
Lighting system and signals	10-17
– Clearance and turn-signal lights	10-18
– Combined switch for lighting and horn	10-17
– Starter switch	10-17
– Headlights	10-17
– Revolving hazard lights	10-19
– Tail, stop and turn-signal lights	10-18
– Turn signal switch	10-18
– Work lights	10-17
Low shaft speed monitor system	15-4
Lubricants	30-1
Lubricating points	35-1

O

Opening guards/side covers	35-14
Operating the engine	20-4
– Starting the engine	20-6
– Stopping the engine	20-8
– Stalling the engine	20-9
Operating the combine	20-15
Operator's platform and cab	10-9
– Controls and instruments	10-1
Operator's seat	10-10
Overthreshing	80-8

P

Periodic services	35-5
– After the first few hours of operation	35-5
– Every 10 operating hours	35-6
– After the first 100 operating hours	35-7
– Every 200 operating hours or after each harvesting season	35-8
– Every 400 operating hours	35-9
– After the harvesting season	35-10
– Every 800 operating hours	35-11
– Every 1200 operating hours	35-11
Posi-Torq variable ground speed drive	50-5
Power train	50-3
Pre-starting checks	20-1

R

Radio	10-16
Rear axle	50-10
Rear service platform	40-1
Reel speed control	20-32
Removing combine from storage	65-3
Rice harvesting attachment	55-20

S

Safety rules	05-1
Securing cutting platform	20-24
Separator	55-10
Serial numbers	75-1
Service	35-5
– Air conditioning system	45-1
– Chaff spreader	60-4
– Cleaning shoe	55-21
– Clutch and brakes	50-1
– Cooling system	40-13
– Electrical system and lighting	45-9
– Elevators and augers	55-28
– Engine	40-1
– Engine air intake system	40-19
– Feeder house	55-1
– Fuel system	40-5
– Grain tank	55-34
– Harvest performance monitor	45-18
– Hydraulic system	45-20
– Opening guards and covers	35-14
– Power train	50-3
– Separator	55-10
– Straw chopper	60-1
– Straw spreader	60-4
– Transmission, axles and wheels	50-8
– V-belts and chains	35-12
Shaft speed monitoring system	15-4
Specifications	70-1
Starter switch	10-17
Starting motor	45-12
Steering column	10-10
Storage	65-1
Straw chopper	25-2, 60-1
Straw deflector	25-3
Straw spreader	60-4
Straw warning device	20-38

T

Thermostart cold weather starting aid	20-11
Threshing losses	80-14
Tire maintenance	50-13
Towing the combine	20-22
Transmission, axles and wheels	50-8
Transmission oil	30-4
Transporting the combine	20-21
Turbocharger	40-23

U

Underthreshing	80-8
Unloading the grain tank	55-35
Unloading augers	55-35
Unloading paddle drive	55-37

W

Warning devices and monitors	15-1
Wheel bolts	50-13
Windshield wipers	10-15
Work lights	10-17

John Deere Service Keeps You on the Job

JOHN DEERE PARTS

We help minimize downtime by putting genuine John Deere parts in your hands in a hurry.

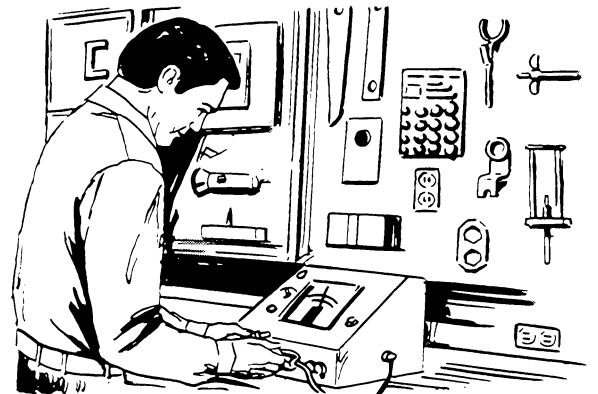
That's why we maintain a large and varied inventory – to stay a jump ahead of your needs.



TS100-ESPD AE-200488

THE RIGHT TOOLS

Precision tools and testing equipment enable our Service Department to locate and correct trouble quickly ... to save you time and money.



TS101-ESPD AE-200488

WELL-TRAINED TECHNICIANS

School is never out for John Deere service technicians.

Training schools are held regularly to be sure our personnel know your equipment and how to maintain it.

Result?

Experience you can count on!



TS102-ESPD AE-200488

PROMPT SERVICE

Our goal is to provide prompt, efficient care when you want it and where you want it.

We can make repairs at your place or at ours, depending on the circumstances.

See us.

Depend on us.

John Deere Service Superiority: We'll be around when you need us.



TS103-ESPD AE-200488

