

1445F, 1745F, 1845 and 2345F Tractors

OPERATOR'S MANUAL

1445F, 1745F, 1845F and 2345F Tractors

OMFG6380557 Issue L9 (ENGLISH)

DCEO-Mannheim

European Version

Printed in U.S.A.



DCY



OMFG6380557



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 100 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 tractor is designed solely for use in customary agricultural or similar 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 tractor 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 tractor 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.

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INHOM-1445FCFGE-110888

Identification Views



FG 21857

Tractor 1445F with Roll Guard

FG21857-1445FAFGE-260687



FG 27 089

Tractor 2345F with Operator's Cab

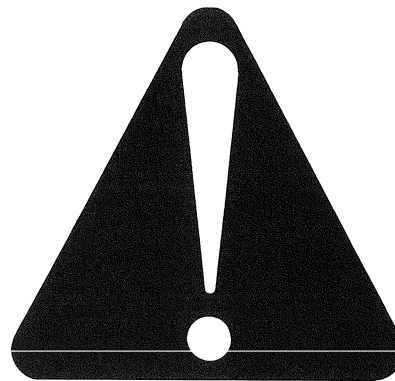
FG27089-1445FAFGE-110888

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

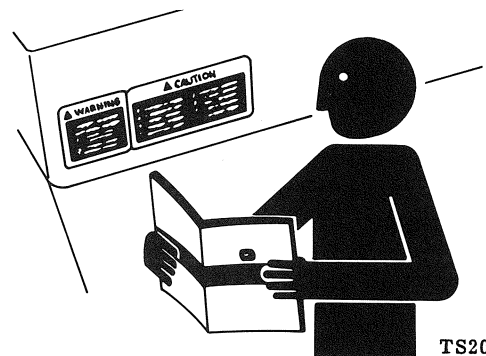
T81389-ESPD AE-260188

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.

Learn how to operate the machine and how to use the controls before starting work. During work is too late! 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.



TS201

TS201-ESPD AE-260188

UNDERSTAND SIGNAL WORDS

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

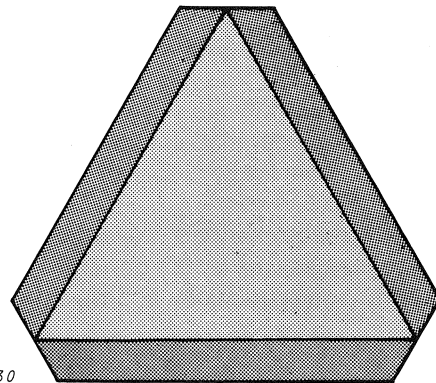
Safety signs with signal words DANGER or WARNING are typically located near specific hazards.

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

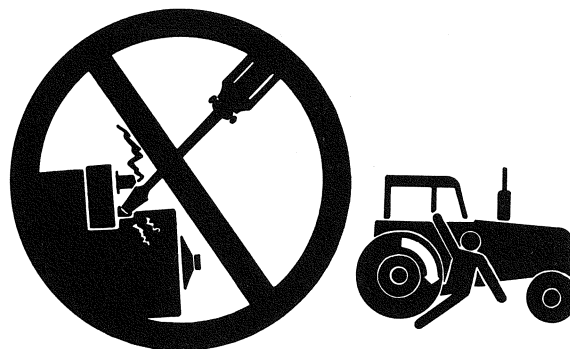
H28930-ESDAE-160288

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 ground. Start engine only from operator's seat, with the transmission in neutral or "Park".



TS177

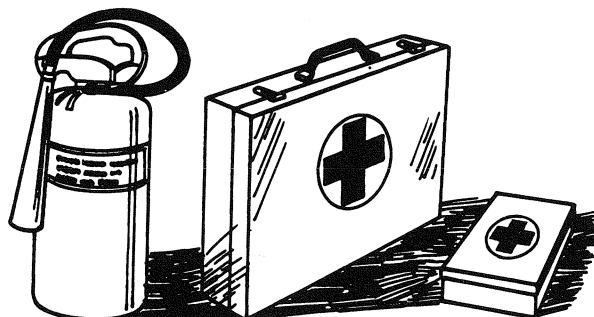
TS177-ESDAE-260188

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

TS206-ESDAE-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.



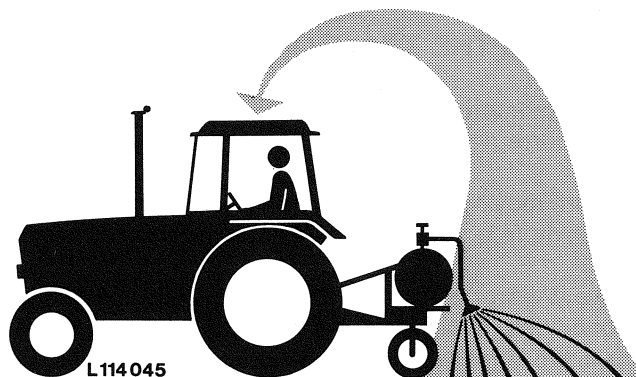
TS202

TS202-ESPD AE-260188

HANDLE CHEMICALS PROPERLY

Follow instructions given in the implement operator's manual and those given by chemical manufacturer when using agricultural chemicals.

The dust prefilter of the operator's cab is not designed to filter out harmful chemicals. For this purpose an activated carbon filter is available.



L114045

L114045-1445FAFGE-110888

STORE ATTACHMENTS SAFELY

Stored attachments such as dual wheels, cage wheels and loaders can fall and cause serious injury or death.

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



TS 219

TS219-ESPD AE-160288

Safety (Operation)

CHECK MACHINE SAFETY

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

SAFETY-ESPD AE-260188

DRIVING THE TRACTOR

Operate tractor 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.

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. Do not attempt to turn the machine with the differential lock engaged. When driving down slopes, never depress the clutch and change gear!

Attach implements and trailers to the tractor only using the prescribed drawbars or hitches. Attach trailers and implements correctly. Always ensure that trailers and implements cannot roll away.

When making turns with towed or mounted implements, always take into consideration the width and inertia of the implement.

Reduce your ground speed when driving the tractor 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 tractor to tip, particularly on hillsides.

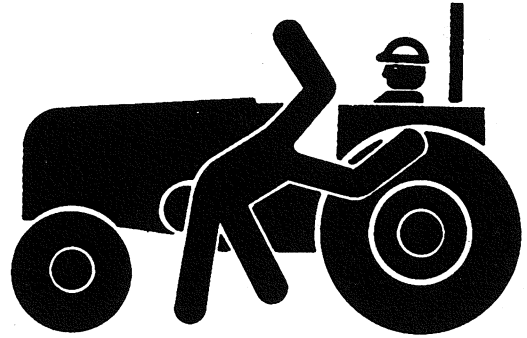
FAHROM-ESPDE-110888

KEEP RIDERS OFF MACHINE

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

Riders on machine are subject to injury such as being struck by foreign objects and being thrown off of 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.



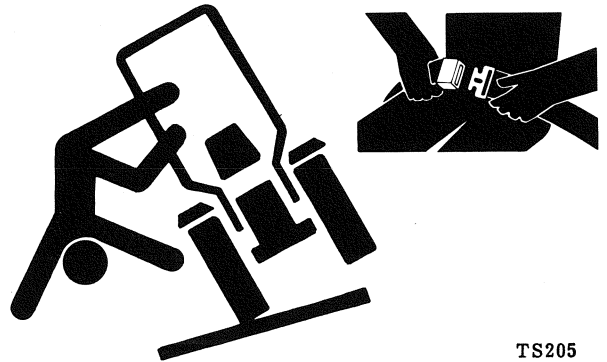
TS213

TS213-ESPDAE-140388

USE SEAT BELT PROPERLY

Use a seat belt when operating the machine with a roll-over protective structure (ROPS) to minimize the risk of injury from an accident such as an overturn.

Do not use a seat belt if operating without a ROPS.



TS205

TS205-ESPDAE-260188

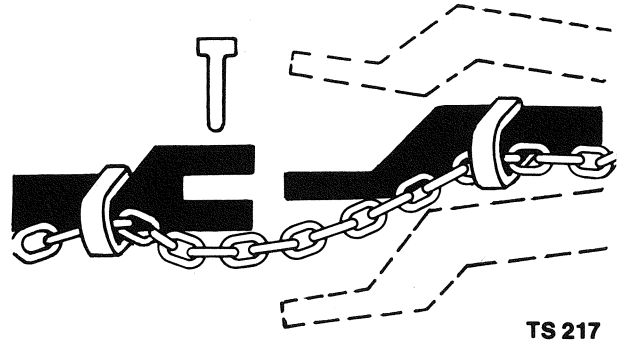
USE A SAFETY CHAIN

A safety chain will help control drawn equipment should it accidentally separate from the drawbar while transporting.

Using appropriate adapter parts, attach the chain to the tractor drawbar support or other specified anchor location. Provide only enough slack in the chain to permit turning.

See your John Deere dealer for a chain with a strength rating equal to or greater than the gross weight of the towed machine.

Do not use the safety chain for towing!



TS217-ESPD AE-140388

STAY CLEAR OF ROTATING DRIVELINES

Entanglement in rotating driveline can cause serious injury or death. When operating with the PTO, no-one must be allowed to remain in the vicinity of the rotating PTO stub shaft or drive shaft. Always ensure that the guards for PTO drive shaft, PTO stub shaft and drive shaft guards are in position and that rotating shields turn freely.

Wear close-fitting clothing. Stop the engine and be sure PTO driveline is stopped before making adjustments, connections or cleaning out PTO-driven equipment.

As soon as PTO drive shaft has been removed, reinstall guard over PTO stub shaft.



TS198-ESPD AE-160288

REDUCE SPEED WHEN TOWING LOADS

Braking to stop towed loads from transport speeds can cause the towed load to swerve and upset. Reduce speed if towed load weighs more than the tractor and is not equipped with brakes.

Follow recommended speed-weight ratio guidelines for towed loads not equipped with independent brakes:

Maximum speed is 30 km/h (18 mph) when towing load equal to or less in weight than the tractor.

Reduce speed to 15 km/h (9 mph) when towing load more than the tractor weight.

Do not tow loads exceeding double the tractor weight.

Use additional caution when towing loads under adverse surface conditions, when turning and on inclines.

SAFETY-1445FAFGE-110888

FRONT-WHEEL DRIVE

Front-wheel drive greatly increases traction. This means that the tractor can be driven on steeper slopes, increasing the possibility of a tip over. Driving forward out of a ditch or up a steep slope could cause tractor to tip over to the rear. Therefore reverse out of these situations whenever possible.

Never drive near the edge of a gully or steep embankment – it might cave in!

SAFETY-1445FBFGE-110888

BALLASTING FOR SAFE GROUND CONTACT

Operating, steering and braking performance of tractor can be considerably affected by attached implements, trailers or ballast weights.

To maintain the necessary ground contact, ballast the tractor as necessary.

Observe the maximum permissible axle loads and total weights.



ES 114 061

ES114061-ESPDAE-220688

OPERATING THE ENGINE

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

When starting the engine, rockshaft control lever must
be in "lower" position.



ES 118 711

ES118711-ESPD AE-220688

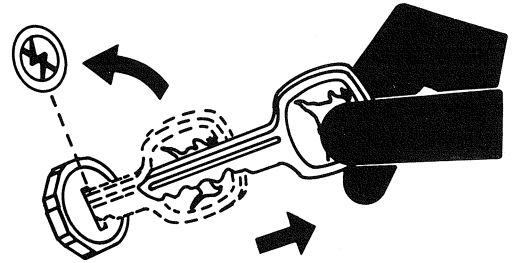
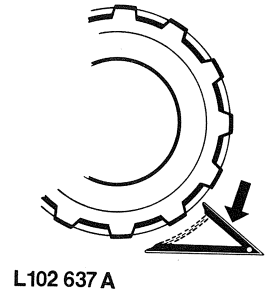
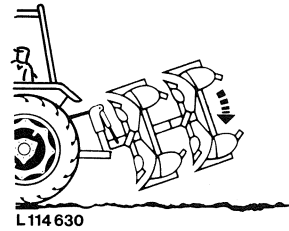
PARKING AND LEAVING THE TRACTOR

Lower mounted implement(s) or equipment to the ground before leaving the tractor.

When leaving the tractor and/or implements, shut off engine, engage range and gear shift levers as well as handbrake, remove main switch key and lock the operator's cab (when equipped). Position chock blocks.

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

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



TS 230

L114630, L102637A, TS230-1445FAFGE-110888

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.



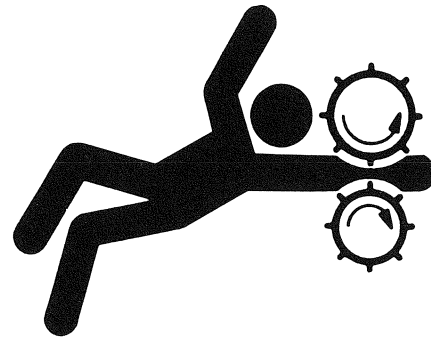
TS218

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.



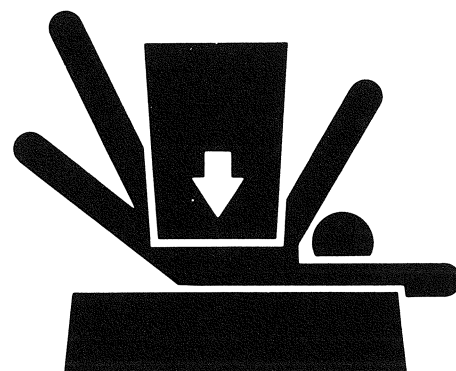
TS228

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.



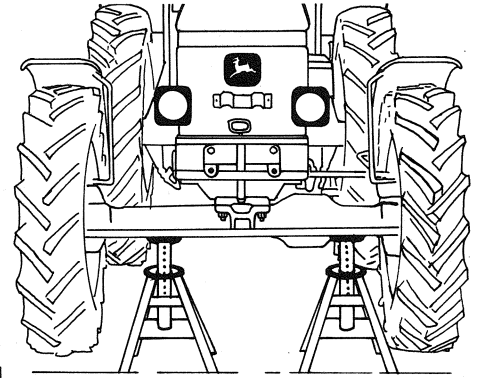
TS229

TS229-ESPD AE-160288

SERVICE FRONT-WHEEL DRIVE TRACTOR SAFELY

When servicing front wheel drive tractor with rear wheels supported off ground, always support front wheels in a similar manner. This is necessary to avoid accidents in case the front wheel drive is engaged by mistake.

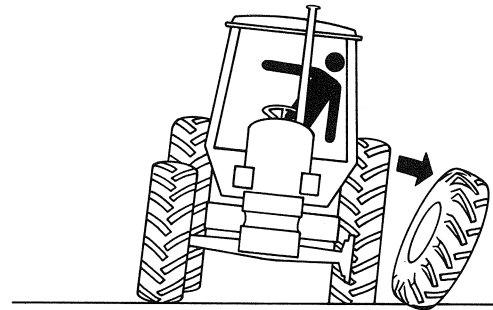
L 103 961



L103961-1445AAFGE-260687

RETIGHTEN WHEEL NUTS

Retighten machine wheel nuts at the intervals specified in section "Break-In Period" and "Service".



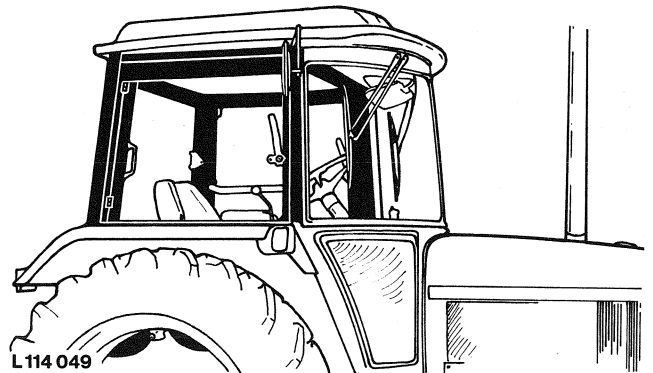
ES 114 062

ES114062-ESPD AE-220688

KEEP CAB/ROPS INSTALLED PROPERLY

Make certain all parts are reinstalled correctly if the cab or roll-over protective structure (ROPS) is loosened or removed for any reason. Tighten mounting bolts to specified torque.

Protection offered by cab or ROPS will be impaired if subjected to structural damage, involved in an overturn incident or altered in any way by welding, bending, drilling or cutting. A damaged cab or ROPS should be replaced, not reused.



L 114 049

L114049-ESPD AE-140388

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.

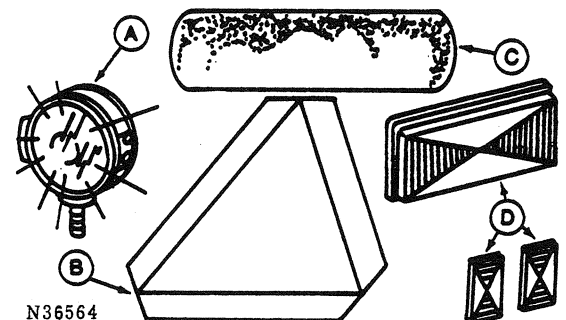
Keep safety items in good condition. Replace missing or damaged items.

A-Lights

B-Slow moving vehicle emblem

C-Reflector tape

D-Reflectors



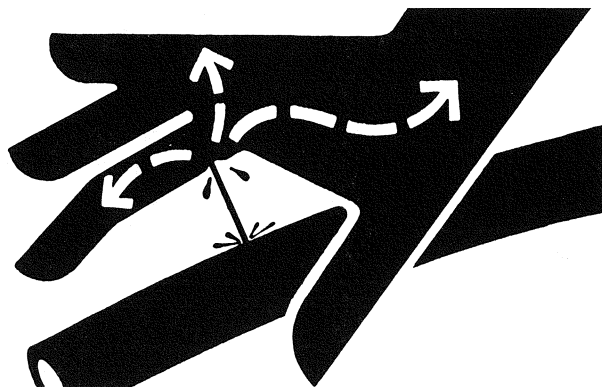
N36564

N36564-ESPD AE-260188

AVOID HIGH-PRESSURE FLUIDS

Escaping fluid (fuel or hydraulic oil) under pressure 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 to search for leaks.

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.



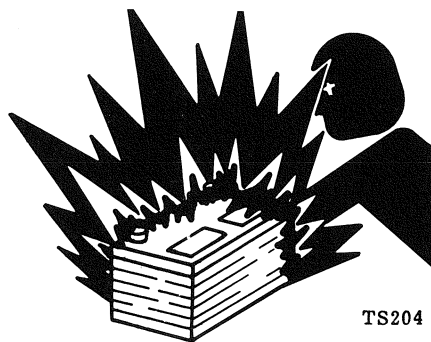
X9811-ESPD AE-260188

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.

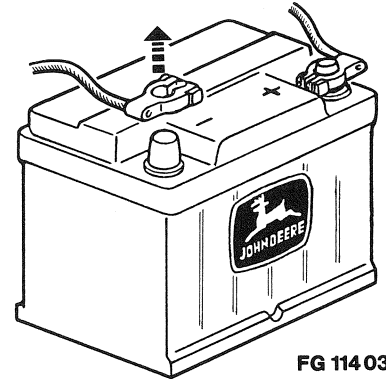


TS204

TS204-ESPD AE-260188

DISCONNECT ELECTRICAL CIRCUIT

Disconnect battery ground cable before carrying out any electrical repairs or welding on the machine. See also under important notes for "Alternator" in section "Service – Electrical System".



FG 114 038

FG114038-1445FAFGE-110888

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:

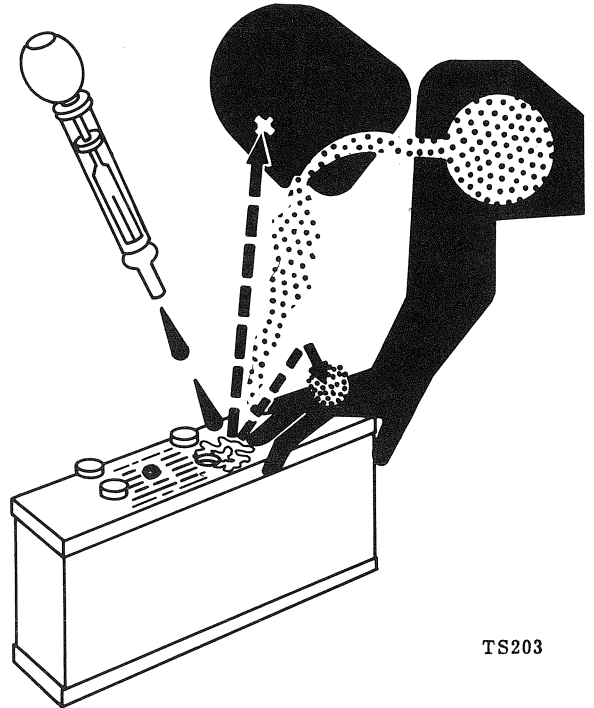
1. Filling the batteries in a well-ventilated area.
2. Wearing eye protection and rubber gloves.
3. Avoiding breathing in the fumes when electrolyte is added.
4. Avoiding spilling or dripping electrolyte.
5. Using the proper jump start procedure.

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-ESPD AE-160288

MOUNTING TIRES SAFELY

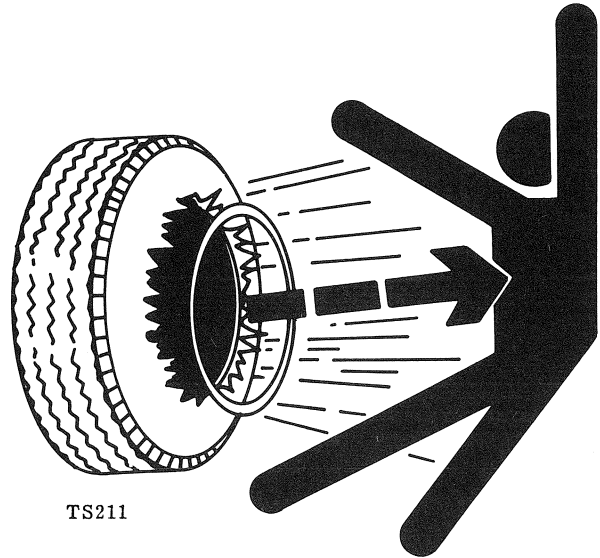
Explosive separation of a tire and rim parts can cause serious injury or death.

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.



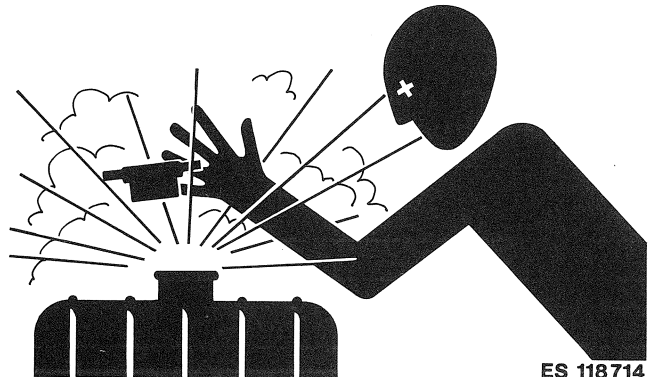
TS211-ESPD AE-160288

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-220688

AVOID HARMFUL ASBESTOS DUST

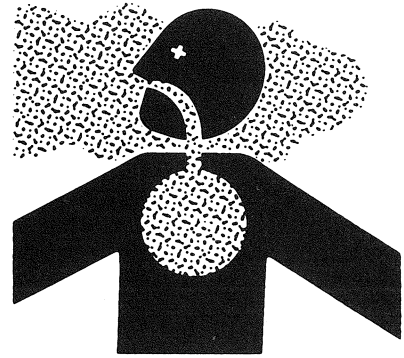
Avoid breathing dust that may be generated when handling components containing asbestos fibers. Inhaled asbestos fibers may cause lung cancer.

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.

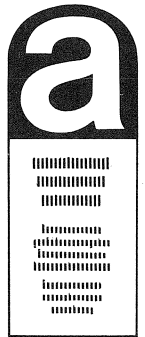
Avoid creating dust. Never use compressed air for cleaning. Avoid brushing or grinding of asbestos-containing materials. When servicing, wear an approved respirator. A special vacuum cleaner is recommended to clean asbestos. If not available, wet the asbestos-containing materials with a mist of oil or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

Keep bystanders away from the area.

Please note designations on spare parts.



TS 220



L 114 051

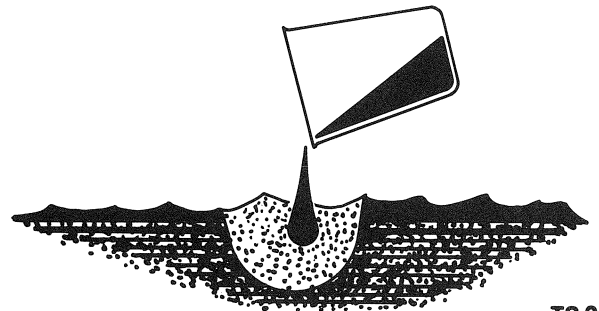
TS220.L114051-ESPD AE-170388

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.



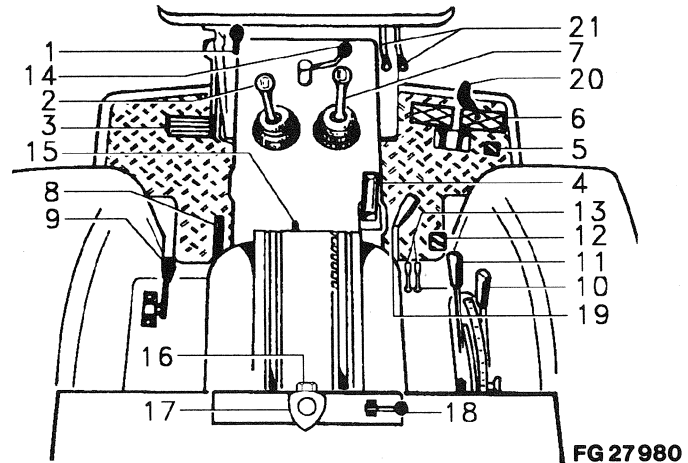
TS 222

TS222-ESPD AE-140388

Controls and Instruments

- 1-PTO clutch lever
- 2-Range shift lever
- 3-Clutch pedal
- 4-Handbrake lever
- 5-Foot throttle
- 6-Brake pedals
- 7-Gear shift lever
- 8-PTO shift lever
- 9-Front wheel drive shift lever (tractors with front wheel drive)
- 10-Rockshaft control lever
- 11-Rockshaft selector lever
- 12-Rear differential lock pedal

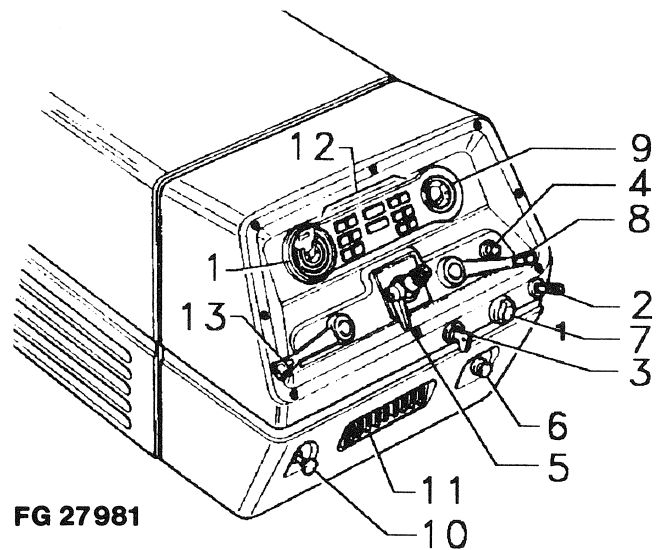
- 13-Selective control valve lever (special equipment)
- 14-Super creeper shift lever (special equipment on tractors with 16/8 gear transmission)
- 15-Lever for horizontal adjustment of operator's seat
- 16-Rear seat stop screw
- 17-Adjusting knob of seat suspension
- 18-Crank for height adjustment of seat
- 19-PTO speed selector lever (special equipment)
- 20-Coupler for brake pedals



Operator's Seat and Hydraulic Lever Cover Removed for Illustration Purposes

FG27980-1445FAFGE-111189

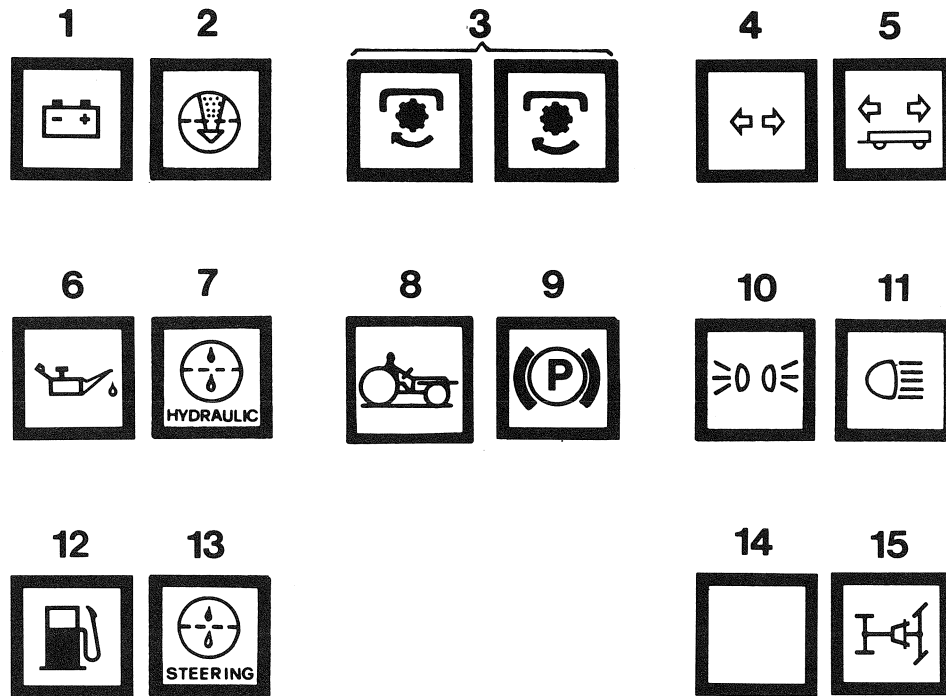
- 1-Speed-hour meter
- 2-Turn signal switch and light signal
- 3-Main switch
- 4-Hazard warning light switch
- 5-Steering wheel adjusting lever
- 6-Socket
- 7-Light switch and horn
- 8-Hand throttle lever
- 9-Fuel and coolant temperature gauge
- 10-Engine shut-off knob
- 11-Fuse box
- 12-Indicator lights
- 13-Creeper (20% reduction) shift lever (special equipment on tractors with 6/8 gear transmission)



FG 27981

FG27981-1445FAFGE-111189

INDICATOR LIGHTS



FG 114 068

- 1–Alternator indicator light (red) – this light must go out as soon as the engine has been started
- 2–Dry-type air cleaner restricted (red)
- 3–PTO disengaged (red)
- 4–Turn signal indicator light (green)
- 5–Trailer turn signal indicator light (green)
- 6–Engine oil pressure indicator light (red) – this light must go out as soon as the engine has been started
- 7–Hydraulic oil filter clogged (orange)

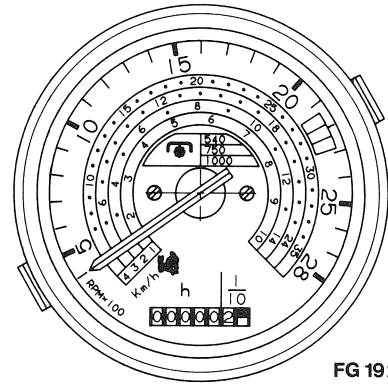
- 8–Roll guard folded forward (red)
- 9–Handbrake applied (red)
- 10–Parking lights indicator light (green)
- 11–Full beam indicator light (blue)
- 12–Fuel reserve indicator light (red)
- 13–Filter of hydrostatic steering clogged (red)
- 14–Not used
- 15–Front wheel drive engaged (orange)

SPEED-HOUR METER

On the outer scale of the instrument the engine speed is indicated in rpm.

The four inner scales indicate the ground speed of the tractor in km/h for the four gears of the fast range.

In addition, three marks on outer scale show engine speeds required to obtain PTO speeds of 540, 750 or 1000 rpm (depending on the tractor model). In the lower part of the instrument the operating hours are indicated.



FG 19210

FG19210-1445FAFGE-260687

COOLANT TEMPERATURE AND FUEL GAUGE

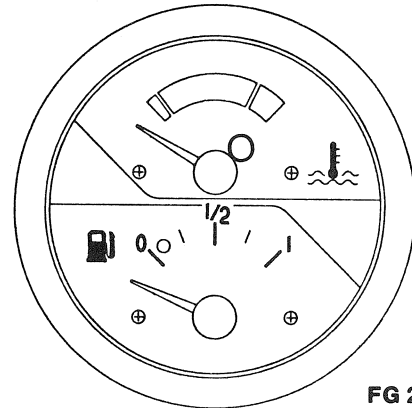
The upper scale shows coolant temperature on three coloured sectors:

BLUE – During the warm-up period of the engine the indicator should be within this sector,

GREEN – During normal operation the indicator should remain in this sector

RED – In this sector the indicator should only be for a short time under high engine load and in hot weather. If this is not the case and the indicator still points to the red sector, the engine cooling system has to be checked.

The lower scale shows fuel level in tank.



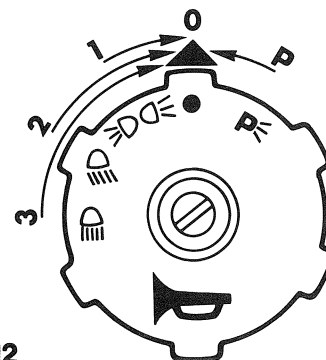
FG 27987

FG27987-1445FAFGE-111189

LIGHT SWITCH AND HORN

- P–Parking light
(key can be removed)
- 0–Off
- 1–Parking light
- 2–Dipped headlights
- 3–Full beam headlights

Press light switch to sound the horn.

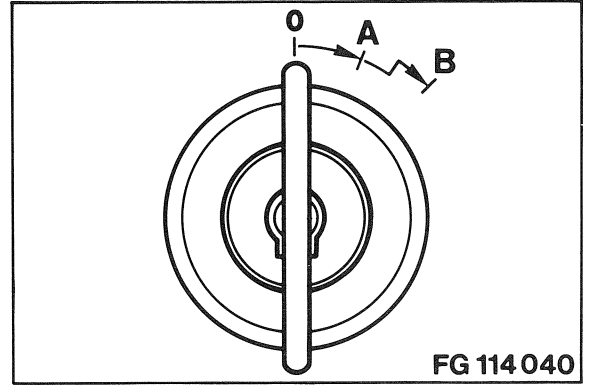


FG 19212

FG19212-1445FAFGE-260687

MAIN SWITCH

0—Off (key can be removed)
A—All circuits on
B—Start engine (when released, key
will return to position A)



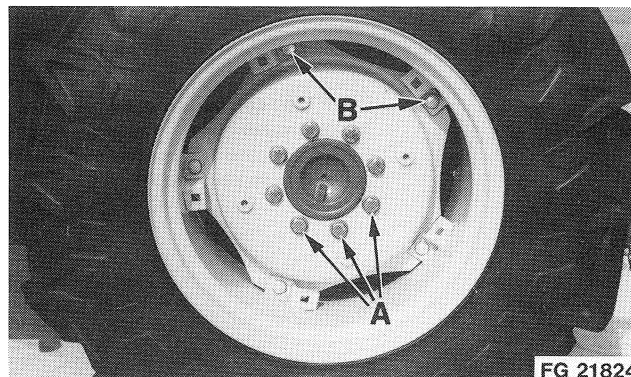
FG114040-1445FAFGE-260687

Break-In Period

AFTER FIRST 4 AND 8 HOURS OF OPERATION

Tighten Rear Wheel Retaining Bolts

Tighten bolts (A) and (B) to 245 Nm (180 ft-lb).



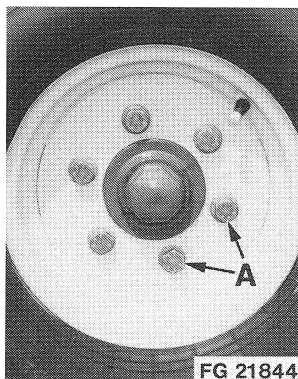
FG 21824

FG21824-1445FAFGE-260687

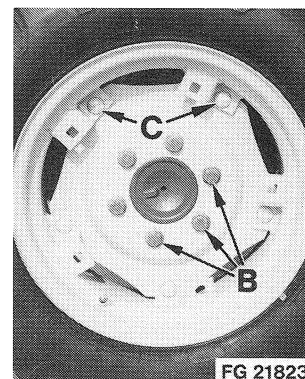
Tighten Front Wheel Retaining Bolts (Torques Vary Depending On Tractor Equipment)

Tighten bolts (A) and (B) to 196 Nm (145 ft-lb).
Tighten bolts (C) depending on bolt head diameter as follows:

- Bolt head dia. 19 mm (0.75 in.): 98 Nm (72 ft-lb)
- Bolt head dia. 22 mm (0.87 in.): 147 Nm (108 ft-lb)
- Bolt head dia. 24 mm (0.94 in.): 245 Nm (180 ft-lb)



FG 21844

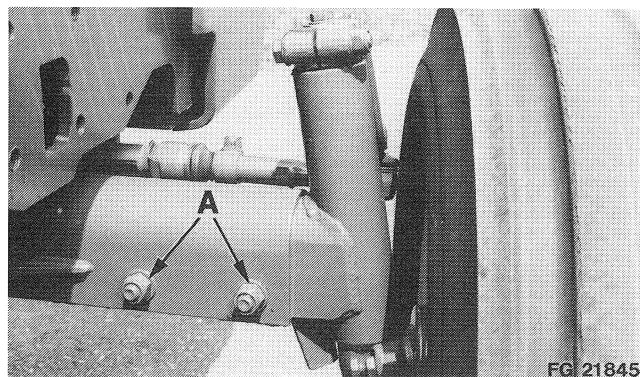


FG 21823

FG21844 FG21823-1445FAFGE-260687

Adjustable Front Axle

Tighten attaching screws (A) to 59 Nm (44 ft-lb) torque.

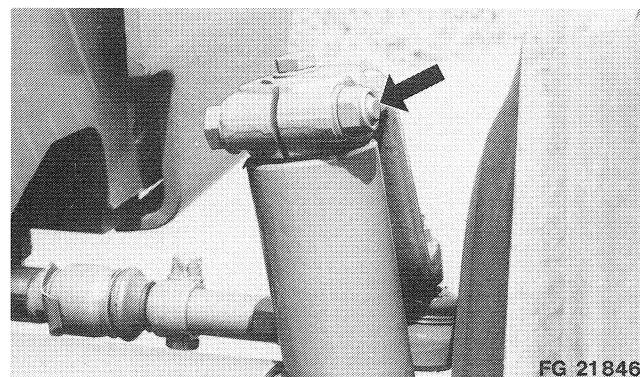


FG 21845

FG21845-1445FAFGE-260687

Steering Arm Attaching Screws

Tighten attaching screws to 88 Nm (65 ft-lb) torque.

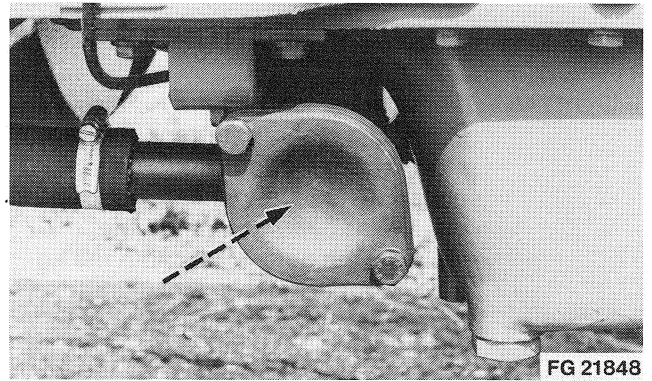


FG 21846

FG21846-1445FAFGE-260687

AFTER THE FIRST FIFTY HOURS OF OPERATION

Clean transmission oil filter (see "Service – Transmission").



FG 21848-1445FAFGE-260687

WITHIN FIRST 100 HOURS OF OPERATION

Operate engine at normal loads.
Avoid light loads.
Avoid excessive engine idling.
Check torque of wheel retaining bolts frequently.
Check engine crankcase oil level frequently.

NOTE: During the break-in period a higher-than-usual oil consumption should be considered as normal.

EINOM-940ALE-010286

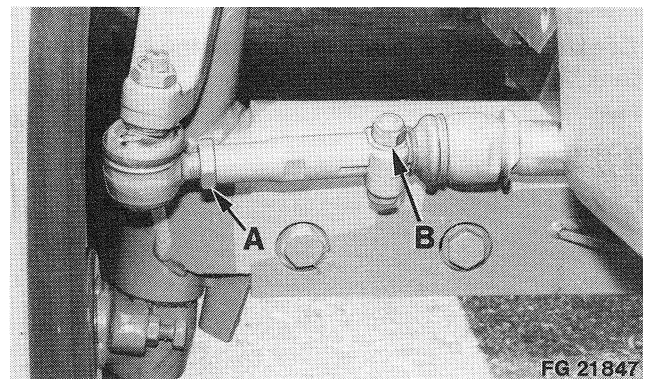
AFTER FIRST 100 HOURS OF OPERATION

On tractors with two wheel drive as well as on tractors with additional front wheel drive check screws (A) and (B) for correct torque.

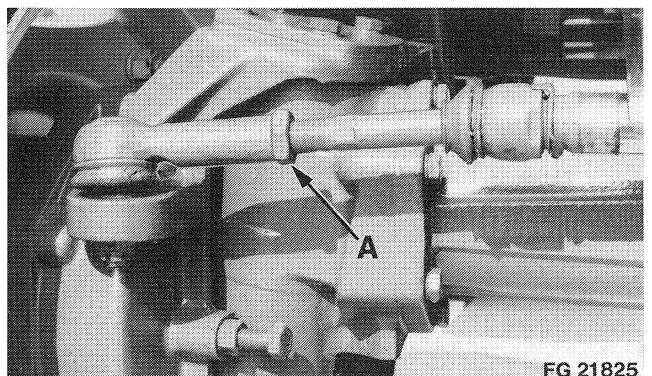
Change engine oil.
See "Service – Engine".

Replace engine oil filter element.
See "Service – Engine".

Change front axle oil.
See "Service – Axles and Wheels".



FG 21847



FG 21825

FG21847,FG21825-1445FAFGE-260687

Operating the Engine

STARTING ENGINE WITH A SLAVE BATTERY

IMPORTANT: If the engine is to be run for a short time without battery (using a slave battery for starting), do not, under any circumstances, interrupt the circuit by switching off the main switch before stopping the engine by means of the fuel injection pump shut-off cable. Do not raise

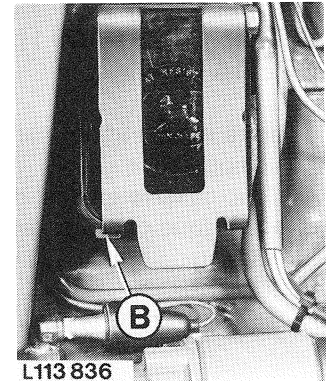
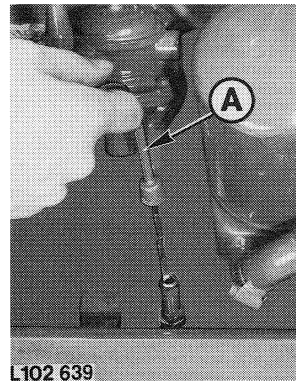
engine speed above 1000 rpm. Furthermore, use additional current (lights) while engine is running. Insulate battery end of disconnected starter cable properly to avoid damage to both alternator and regulator.

MOTOM-2140ALE-010885

PRESTARTING CHECK

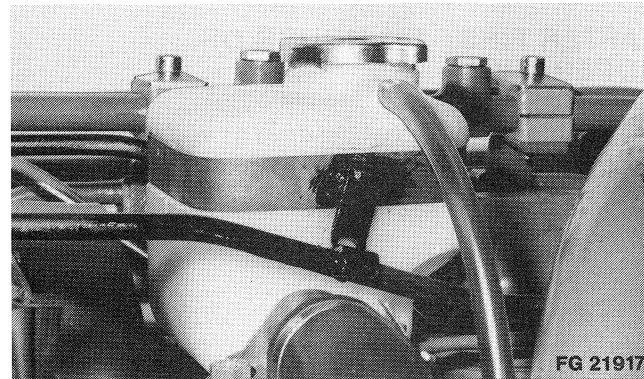
Engine oil level should be between both marks on dipstick (A). Do not start engine when oil level is below low mark on dipstick.

Drain water and sediment deposits from fuel filter at drain plug (B).



L102639 L113836-1550ALE-010986

Coolant should be level with mark at the expansion tank.



FG21917-1445FAFGE-260687

STARTING THE ENGINE



CAUTION: Never operate the engine in a closed building. Make sure there is plenty of ventilation.
Danger of asphyxiation!



CAUTION: To prevent accidents, the engine can only be started with clutch pedal depressed and PTO shift lever in neutral position.

Gear shift lever and PTO shift lever must be in neutral position and the engine shut-off knob must be pushed in before starting the engine.

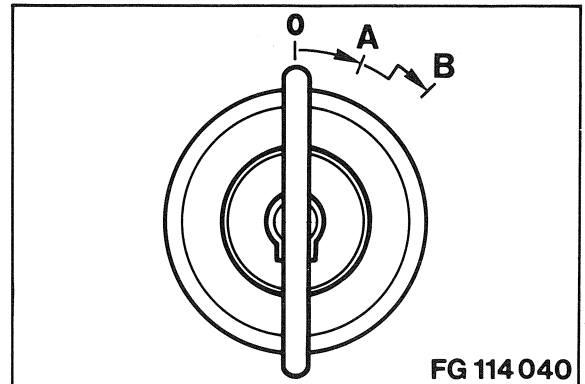
Depress clutch pedal, making sure that PTO shift lever is in neutral position.

Open hand throttle lever approximately one half of its travel.

Turn key in main switch to position (A); alternator indicator light and engine oil pressure indicator light must go on.

Turn key to position (B) and release it as soon as the engine has started.

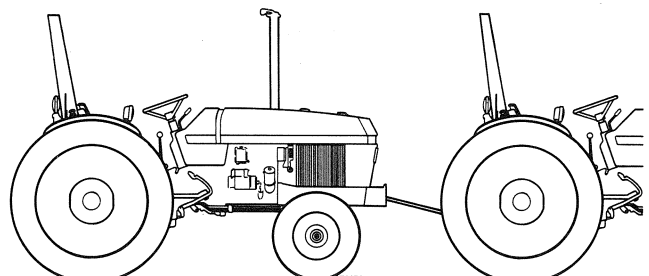
NOTE: Do not operate starter more than 20 seconds at a time. Wait at least one minute before trying again.



FG114040-1445FAFGE-110888

TOWING THE TRACTOR TO START

Should the tractor be started by towing or pushing, then use 6th, 7th or 8th gear only. Do not tow the tractor at a speed greater than 15 km/h (10 mph) .



L107 401A

L107401A-2450ALE-010586

ENGINE WARM-UP PERIOD

Do not place tractor under full load until engine has reached operating temperature. Run engine at half load until operating temperature has been obtained.

MOTOM-940ALE-010286

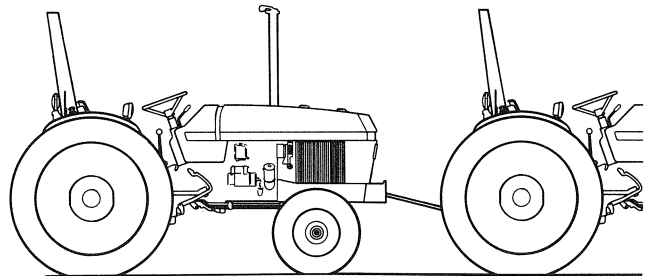
TOWING THE TRACTOR



CAUTION: Never tow the tractor at a speed greater than 15 km/h (10 mph).

Shift both gear and range shift levers to neutral position.

IMPORTANT: When towing tractor, switch off front wheel drive (when equipped).



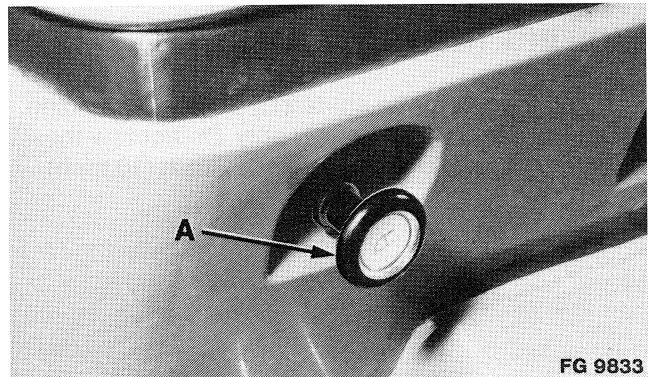
L107 401A

L107401A-1445AFGE-110888

STOPPING THE ENGINE

Pull shut-off knob (A) until the engine has stopped.

NOTE: With engine not running the key in the main switch should remain in position 0 to avoid discharging of the battery. In case the parking lights are needed, turn the light switch to position P (see "Controls and Instruments").



FG 9833

FG09833-1445FAFGE-260687

PARKING THE TRACTOR

Always try to park tractor on level ground and apply handbrake. When parking uphill also shift into first gear, when parking downhill also shift into first reverse gear. In addition to that use a chock block.



FG 21858

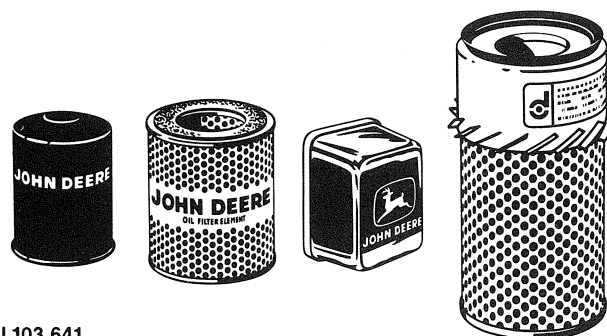
FG21858-1445FAFGE-260687

Operating the Tractor

REDUCE FUEL CONSUMPTION

Service Correctly

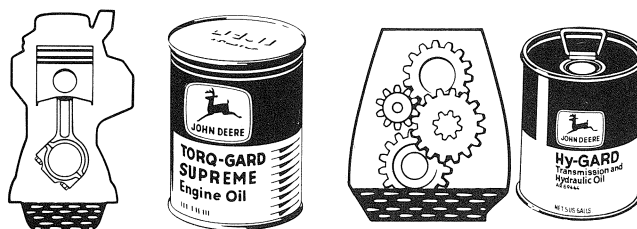
Replace air, fuel, engine oil and transmission/hydraulic oil filter elements at correct specified service periods (see section "Service").



L103 641

L103641-3640ALE-260484

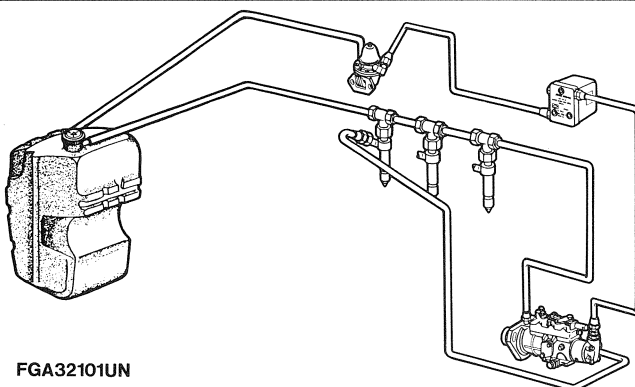
Use recommended oils and lubricants only (see section "Fuel, Lubricants, Hydraulic Oil and Coolant").



L103 642

L103642-2140ALE-010885

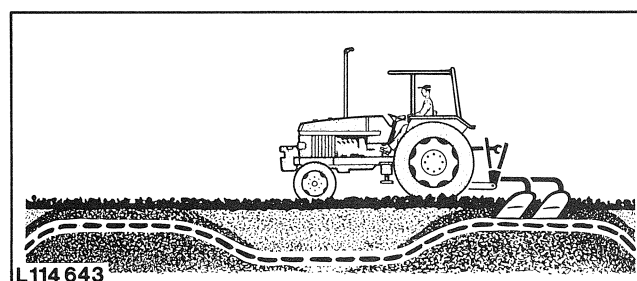
Have the fuel system checked regularly by your JOHN DEERE dealer.



FGA32101UN

FGA32101UN-1445FAFGE-111189

Have function of rockshaft checked regularly by your JOHN DEERE dealer .

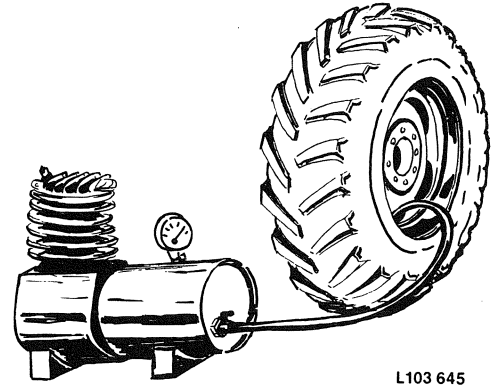


L114 643

L114643-1445FAFGE-110888

Drive with Correct Tire Pressures

Adapt tire pressures to type of work and ground conditions (consult your JOHN DEERE dealer or local tire agent).



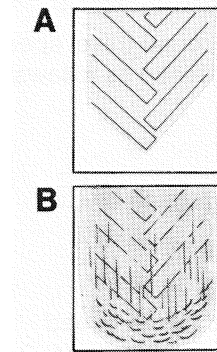
L103 645

L103645-3640ALE-260484

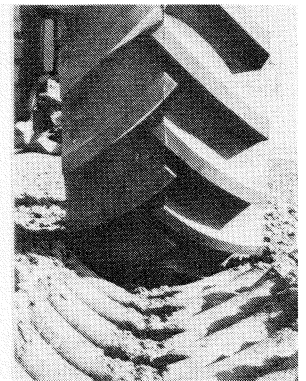
Choose Correct Ballast

Choose ballast to obtain 10 to 15% wheel slip. Use no more ballast than necessary, reduce ballast for light work.

- A—Too much ballast
- B—Too little ballast
- C—Correct ballast



L103646



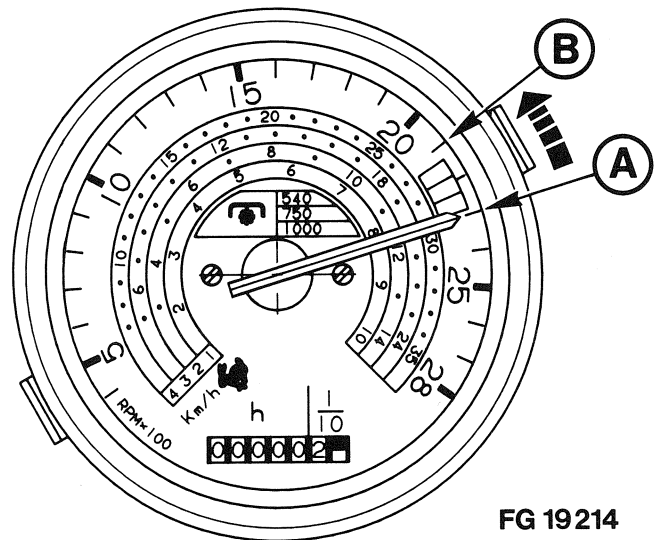
L103646-3640ALE-260484

Select Correct Gear

Always drive in the highest possible gear with reduced engine speed.

Choose a gear so that engine speed (A) with engine not under load, drops 150 to 250 rpm when engine is placed under load (B).

NOTE: With light work, reduce engine speed below 2000 rpm. Select a gear so that engine speed drops 200 to 300 rpm when operating.



FG 19214

FG19214-1445FAFGE-260687

SELECT CORRECT GROUND TRAVEL SPEED

Number of gears on tractors with:

Standard synchronized transmission
with reduction gear:
8 forward gears, 4 reverse gears

Creeper Transmission:
16 forward gears, 8 reverse gears

Gears should be selected so as to avoid a permanent overloading of the engine. Ground travel speeds with engine running at rated speed are shown on the following pages.

Should you wish to determine ground travel speed at other engine speeds, then proceed as follows:

$$\frac{\text{Desired engine speed}}{\text{Rated engine speed}} = \text{Conversion factor}$$

The conversion factor multiplied by the speed shown in the table opposite gives the ground travel speed at the desired engine speed.

Example:

Ground travel speed at rated speed (2300 rpm) according to table 8.19 km/h; Desired engine speed: 1300 rpm

$$\frac{1300 \text{ rpm}}{2300 \text{ rpm}} = 0.57$$

$$8.19 \text{ km/h} \times 0.57 = 4.67 \text{ km/h}$$

Should you wish to determine engine speed at a desired ground travel speed, proceed as follows:

$$\frac{\text{Desired ground travel speed}}{\text{Ground travel speed in table}} = \text{Conversion factor}$$

The conversion factor multiplied by the rated speed gives you the desired engine rpm.

Example:

$$\frac{5 \text{ km/h}}{8.19 \text{ km/h}} = 0.61$$

$$2300 \text{ rpm} \times 0.61 = 1403 \text{ rpm}$$

GROUND TRAVEL SPEEDS, HIGH VERSION
TIRES: 11,2-28

				1200		1400		1600		1800		2000		2300		2400	
				km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph
A			1	0,72	0.45	0.84	0.52	0,96	0.60	1,08	0.67	1,20	0.75	1,38	0.86	1,44	0.89
			2	1,03	0.64	1,20	0.75	1,37	0.85	1,54	0.96	1,71	1.06	1,97	1.22	2,05	1.27
			3	1,77	1.10	2,07	1.29	2,36	1.47	2,66	1.65	2,95	1.83	3,39	2.11	3,54	2.20
			4	2,56	1.59	2,99	1.86	3,41	2.12	3,84	2.39	4,27	2.65	4,91	3.05	5,12	3.18
			1	4,10	2.55	4,79	2.98	5,47	3.40	6,15	3.82	6,84	4.25	7,86	4.89	8,21	5.10
			2	5,85	3.64	6,83	4.24	7,80	4.85	8,78	5.46	9,75	6.06	11,22	6.97	11,70	7.27
			3	10,10	6.28	11,78	7.32	13,47	8.37	15,15	9.42	16,84	10.47	19,36	12.03	20,20	12.55
			4	14,61	9.08	17,05	10.60	19,48	12.11	21,92	13.62	24,36	15.14	28,01	17.41	29,23	18.17
			1	1,72	1.07	2,00	1.24	2,29	1.42	2,58	1.60	2,86	1.78	3,29	2.04	3,44	2.14
			2	2,45	1.52	2,86	1.78	3,27	2.03	3,67	2.28	4,08	2.54	4,70	2.92	4,90	3.05
			3	4,23	2.63	4,93	3.06	5,64	3.51	6,34	3.94	7,05	4.38	8,10	5.03	8,46	5.26
			4	6,12	3.80	7,14	4.44	8,16	5.07	9,18	5.71	10,20	6.34	11,72	7.28	12,23	7.60
B			1	0,57	0.35	0,67	0.42	0,76	0.47	0,86	0.53	0,96	0.60	1,10	0.68	1,15	0.71
			2	0,82	0.51	0,95	0.59	1,09	0.68	1,23	0.76	1,36	0.85	1,57	0.98	1,63	1.01
			3	1,41	0.88	1,65	1.03	1,88	1.17	2,12	1.32	2,35	1.46	2,70	1.68	2,82	1.75
			4	2,04	1.27	2,38	1.48	2,72	1.69	3,06	1.90	3,40	2.11	3,91	2.43	4,08	2.54
			1	3,27	2.03	3,82	2.37	4,36	2.71	4,91	3.05	5,45	3.39	6,27	3.90	6,54	4.06
			2	4,66	2.90	5,44	3.38	6,22	3.87	7,00	4.35	7,77	4.83	8,94	5.56	9,33	5.80
			3	8,05	5.00	9,39	5.84	10,74	6.67	12,08	7.51	13,42	8.34	15,43	9.59	16,10	10.10
			4	11,65	7.24	13,59	8.45	15,53	9.65	17,47	10.86	19,42	12.07	22,33	13.88	23,30	14.48
			1	1,37	0.65	1,60	0.99	1,83	1.14	2,05	1.27	2,28	1.42	2,62	1.63	2,74	1.70
			2	1,95	1.21	2,28	1.42	2,60	1.62	2,93	1.82	3,25	2.02	3,74	2.32	3,91	2.43
			3	3,37	2.09	3,93	2.44	4,49	2.79	5,06	3.14	5,62	3.49	6,46	4.01	6,74	4.19
			4	4,88	3.03	5,69	3.54	6,50	4.04	7,31	4.54	8,13	5.05	9,35	5.81	9,75	6.04
C			1	0,10	0.06	0,11	0.07	0,13	0.08	0,14	0.09	0,16	0.10	0,18	0.11	0,19	0.12
			2	0,14	0.09	0,16	0.10	0,18	0.11	0,20	0.12	0,23	0.14	0,26	0.16	0,27	0.17
			3	0,24	0.15	0,28	0.17	0,31	0.19	0,35	0.22	0,39	0.24	0,45	0.28	0,47	0.29
			4	0,34	0.21	0,40	0.25	0,45	0.28	0,51	0.32	0,57	0.35	0,65	0.39	0,68	0.42
			1	0,55	0.34	0,64	0.40	0,73	0.45	0,82	0.51	0,91	0.57	1,05	0.65	1,09	0.68
			2	0,78	0.48	0,91	0.57	1,04	0.65	1,17	0.73	1,30	0.81	1,49	0.93	1,56	0.97
			3	1,35	0.84	1,57	0.98	1,79	1.11	2,02	1.26	2,24	1.39	2,58	1.60	2,69	1.67
			4	1,95	1.21	2,27	1.41	2,60	1.62	2,92	1.81	3,24	2.01	3,73	2.32	3,89	2.42
			1	0,23	0.14	0,27	0.17	0,31	0.19	0,34	0.21	0,38	0.24	0,44	0.27	0,46	0.29
			2	0,33	0.21	0,38	0.24	0,44	0.27	0,49	0.30	0,54	0.34	0,63	0.39	0,65	0.40
			3	0,56	0.35	0,66	0.41	0,75	0.47	0,84	0.52	0,94	0.58	1,08	0.67	1,13	0.70
			4	0,81	0.50	0,95	0.59	1,09	0.68	1,22	0.76	1,36	0.85	1,56	0.97	1,63	1.01

FGA33302UN

A-Normal range
B-Splitter (20% reduction)
C-Super creeper

GROUND TRAVEL SPEEDS, HIGH VERSION
TIRES: 12,4-28

				1200		1400		1600		1800		2000		2300		2400	
				km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph
A			1	0,75	0.47	0.88	0.55	1,00	0.62	1,13	0.70	1,25	0.78	1,44	0.89	1,50	0.93
			2	1,07	0.67	1,25	0.78	1,43	0.89	1,61	1.00	1,78	1.11	2,05	1.27	2,14	1.33
			3	1,85	1.15	2,16	1.34	2,46	1.53	2,77	1.72	3,08	1.91	3,54	2.20	3,70	2.30
			4	2,67	1.66	3,12	1.94	3,57	2.22	4,01	2.49	4,46	2.77	5,13	3.19	5,35	3.33
			1	4,28	2.66	5,00	3.11	5,71	3.55	6,43	4.00	7,14	4.44	8,21	5.10	8,57	5.33
			2	6,11	3.80	7,13	4.43	8,15	5.07	9,17	5.70	10,18	6.33	11,71	7.28	12,22	7.59
			3	10,55	6.56	12,31	7.65	14,06	8.74	15,82	9.83	17,58	10.93	20,22	12.57	21,10	13.11
			4	15,26	9.48	17,80	11.06	20,35	12.65	22,89	14.23	25,43	15.80	29,25	18.18	30,52	18.97
			1	1,79	1.11	2,09	1.30	2,39	1.49	2,69	1.67	2,99	1.86	3,44	2.14	3,59	2.23
			2	2,56	1.59	2,98	1.85	3,41	2.12	3,84	2.39	4,26	2.65	4,90	3.05	5,12	3.18
			3	4,42	2.75	5,15	3.20	5,89	3.66	6,62	4.11	7,36	4.57	8,46	5.26	8,83	5.49
			4	6,39	3.97	7,45	4.63	8,52	5.30	9,58	5.95	10,65	6.62	12,24	7.61	12,78	7.94
B			1	0,60	0.37	0,70	0.44	0,80	0.50	0,90	0.56	1,00	0.62	1,15	0.71	1,20	0.75
			2	0,85	0.53	1,00	0.62	1,14	0.71	1,28	0.80	1,42	0.88	1,64	1.02	1,71	1.06
			3	1,47	0.91	1,72	1.07	1,96	1.22	2,21	1.37	2,46	1.53	2,82	1.75	2,95	1.83
			4	2,13	1.32	2,49	1.55	2,84	1.77	3,20	1.99	3,55	2.21	4,09	2.54	4,26	2.65
			1	3,42	2.13	3,98	2.47	4,55	2.83	5,12	3.18	5,69	3.54	6,55	4.07	6,83	4.24
			2	4,87	3.03	5,68	3.53	6,49	4.03	7,31	4.54	8,12	5.05	9,34	5.80	9,74	6.05
			3	8,41	5.23	9,81	6.10	11,21	6.97	12,61	7.84	14,01	8.71	16,12	10.02	16,82	10.45
			4	12,16	7.56	14,19	8.82	16,22	10.08	18,25	11.34	20,27	12.60	23,32	14.49	24,33	15.12
			1	1,43	0.89	1,67	1.04	1,91	1.19	2,14	1.33	2,38	1.48	2,74	1.70	2,86	1.78
			2	2,04	1.27	2,38	1.48	2,72	1.69	3,06	1.90	3,40	2.11	3,91	2.43	4,08	2.54
			3	3,52	2.19	4,11	2.55	4,69	2.91	5,28	3.28	5,87	3.65	6,75	4.20	7,04	4.38
			4	5,09	3.16	5,94	3.69	6,79	4.22	7,64	4.75	8,49	5.28	9,76	6.07	10,18	6.33
C			1	0,10	0.06	0,12	0.07	0,13	0.08	0,15	0.09	0,17	0.11	0,19	0.12	0,20	0.12
			2	0,14	0.09	0,17	0.11	0,19	0.12	0,21	0.13	0,24	0.15	0,27	0.17	0,29	0.18
			3	0,25	0.16	0,29	0.18	0,33	0.21	0,37	0.23	0,41	0.25	0,47	0.29	0,49	0.30
			4	0,36	0.22	0,42	0.26	0,47	0.29	0,53	0.33	0,59	0.37	0,68	0.42	0,71	0.44
			1	0,57	0.35	0,67	0.42	0,76	0.47	0,86	0.53	0,95	0.59	1,09	0.68	1,14	0.71
			2	0,81	0.50	0,95	0.59	1,09	0.68	1,22	0.76	1,36	0.85	1,56	0.97	1,63	1.01
			3	1,40	0.87	1,64	1.02	1,87	1.16	2,11	1.31	2,34	1.45	2,69	1.67	2,81	1.75
			4	2,03	1.26	2,37	1.47	2,71	1.68	3,05	1.90	3,39	2.11	3,90	2.42	4,06	2.52
			1	0,24	0.15	0,28	0.17	0,32	0.20	0,36	0.22	0,40	0.25	0,46	0.29	0,48	0.30
			2	0,34	0.21	0,40	0.25	0,45	0.28	0,51	0.32	0,57	0.35	0,65	0.40	0,68	0.42
			3	0,59	0.37	0,69	0.43	0,78	0.48	0,88	0.55	0,98	0.61	1,13	0.70	1,18	0.73
			4	0,85	0.53	0,99	0.62	1,13	0.70	1,28	0.80	1,42	0.88	1,63	1.01	1,70	1.06

FGA33303UN

A-Normal range
B-Splitter (20% reduction)
C-Super creeper

GROUND TRAVEL SPEEDS, HIGH VERSION
TIRES: 13,6-24

				1200		1400		1600		1800		2000		2300		2400	
				km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph
A			1	0,71	0.44	0,83	0.52	0,95	0.59	1,07	0.67	1,19	0.74	1,37	0.85	1,43	0.89
			2	1,02	0.63	1,19	0.74	1,36	0.85	1,52	0.94	1,69	1.05	1,95	1.21	2,03	1.26
			3	1,75	1.09	2,05	1.27	2,34	1.45	2,63	1.63	2,92	1.81	3,36	2.09	3,51	2.18
			4	2,54	1.58	2,96	1.84	3,38	2.10	3,81	2.37	4,23	2.63	4,86	3.02	5,08	3.16
			1	4,07	2.53	4,74	2.95	5,42	3.37	6,10	3.79	6,78	4.21	7,79	4.84	8,13	5.05
			2	5,80	3.60	6,77	4.21	7,73	4.80	8,70	5.41	9,67	6.01	11,12	6.91	11,60	7.21
			3	10,01	6.22	11,68	7.26	13,35	8.30	15,02	9.33	16,69	10.37	19,19	11.93	20,02	12.44
			4	14,48	9.00	16,90	10.50	19,31	12.00	21,73	13.51	24,14	15.00	27,76	17.25	28,97	18.00
			1	1,70	1.06	1,99	1.24	2,27	1.41	2,55	1.58	2,84	1.77	3,26	2.03	3,40	2.11
			2	2,43	1.51	2,83	1.76	3,24	2.01	3,64	2.26	4,05	2.52	4,65	2.89	4,86	3.02
			3	4,19	2.60	4,89	3.04	5,59	3.47	6,29	3.91	6,98	4.34	8,03	4.99	8,38	5.21
			4	6,06	3.77	7,07	4.39	8,08	5.02	9,09	5.65	10,11	6.28	11,62	7.22	12,13	7.54
B			1	0,57	0.35	0,66	0.41	0,76	0.47	0,85	0.53	0,95	0.59	1,09	0.68	1,14	0.71
			2	0,81	0.50	0,95	0.59	1,08	0.67	1,22	0.76	1,35	0.84	1,55	0.96	1,62	1.01
			3	1,40	0.87	1,63	1.01	1,86	1.16	2,10	1.31	2,33	1.45	2,68	1.67	2,80	1.74
			4	2,02	1.26	2,36	1.47	2,70	1.68	3,03	1.88	3,37	2.09	3,88	2.41	4,05	2.52
			1	3,24	2.01	3,78	2.35	4,32	2.68	4,86	3.02	5,40	3.36	6,21	3.86	6,48	4.03
			2	4,62	2.87	5,39	3.35	6,16	3.83	6,94	4.31	7,71	4.79	8,86	5.51	9,25	5.75
			3	7,98	4.96	9,31	5.79	10,64	6.61	11,97	7.44	13,30	8.27	15,30	9.51	15,96	9.92
			4	11,55	7.18	13,47	8.37	15,39	9.56	17,32	10.76	19,24	11.96	22,13	13.75	23,09	14.35
			1	1,36	0.85	1,58	0.98	1,81	1.12	2,04	1.27	2,26	1.40	2,60	1.62	2,71	1.68
			2	1,94	1.21	2,26	1.40	2,58	1.60	2,90	1.80	3,23	2.01	3,71	2.31	3,87	2.41
			3	3,34	2.08	3,90	2.42	4,45	2.77	5,01	3.11	5,57	3.46	6,40	3.90	6,68	4.15
			4	4,83	3.00	5,64	3.51	6,44	4.00	7,25	4.51	8,06	5.01	9,26	5.76	9,67	6.01
C			1	0,09	0.06	0,11	0.07	0,13	0.08	0,14	0.09	0,16	0.10	0,18	0.11	0,19	0.12
			2	0,14	0.09	0,16	0.10	0,18	0.11	0,20	0.12	0,23	0.14	0,26	0.16	0,27	0.17
			3	0,23	0.14	0,27	0.17	0,31	0.19	0,35	0.22	0,39	0.24	0,45	0.28	0,47	0.29
			4	0,34	0.21	0,39	0.24	0,45	0.28	0,51	0.32	0,56	0.35	0,65	0.40	0,68	0.42
			1	0,54	0.34	0,63	0.39	0,72	0.45	0,81	0.50	0,90	0.56	1,04	0.65	1,08	0.67
			2	0,77	0.48	0,90	0.56	1,03	0.64	1,16	0.72	1,29	0.80	1,48	0.92	1,54	0.96
			3	1,33	0.83	1,56	0.97	1,78	1.11	2,00	1.24	2,22	1.38	2,56	1.59	2,67	1.66
			4	1,93	1.20	2,25	1.40	2,57	1.60	2,89	1.80	3,22	2.00	3,70	2.30	3,86	2.40
			1	0,23	0.14	0,26	0.16	0,30	0.19	0,34	0.21	0,38	0.24	0,43	0.27	0,45	0.28
			2	0,32	0.20	0,38	0.24	0,43	0.27	0,49	0.30	0,54	0.34	0,62	0.39	0,65	0.40
			3	0,56	0.35	0,65	0.40	0,74	0.46	0,84	0.52	0,93	0.58	1,07	0.67	1,12	0.70
			4	0,81	0.50	0,94	0.58	1,08	0.67	1,21	0.75	1,35	0.85	1,55	0.96	1,62	1.01

FGA33301UN

A—Normal range
B—Splitter (20% reduction)
C—Super creeper

GROUND TRAVEL SPEEDS, HIGH VERSION
TIRES: 13,9-24

				1200		1400		1600		1800		2000		2300		2400	
				km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph
A			1	0,75	0.47	0,88	0.55	1,00	0.62	1,13	0.70	1,25	0.78	1,44	0.89	1,50	0.93
			2	1,07	0.67	1,25	0.78	1,43	0.89	1,61	1.00	1,78	1.11	2,05	1.27	2,14	1.33
			3	1,85	1.15	2,16	1.34	2,46	1.53	2,77	1.72	3,08	1.91	3,54	2.20	3,70	2.30
			4	2,67	1.66	3,12	1.94	3,57	2.22	4,01	2.49	4,46	2.77	5,13	3.19	5,35	3.33
			1	4,28	2.66	5,00	3.11	5,71	3.55	6,43	4.00	7,14	4.44	8,21	5.10	8,57	5.33
			2	6,11	3.80	7,13	4.43	8,15	5.07	9,17	5.70	10,18	6.33	11,71	7.28	12,22	7.59
			3	10,55	6.56	12,31	7.65	14,06	8.74	15,82	9.83	17,58	10.93	20,22	12.57	21,10	13.11
			4	15,26	9.48	17,80	11.06	20,35	12.65	22,89	14.23	25,43	15.80	29,25	18.18	30,52	18.97
			1	1,79	1.11	2,09	1.30	2,39	1.49	2,69	1.67	2,99	1.86	3,44	2.14	3,59	2.23
			2	2,56	1.59	2,98	1.85	3,41	2.12	3,84	2.39	4,26	2.65	4,90	3.05	5,12	3.18
			3	4,42	2.75	5,15	3.20	5,89	3.66	6,62	4.11	7,36	4.57	8,46	5.26	8,83	5.49
			4	6,39	3.97	7,45	4.63	8,52	5.30	9,58	5.95	10,65	6.62	12,24	7.61	12,78	7.94
B			1	0,60	0.37	0,70	0.44	0,80	0.50	0,90	0.56	1,00	0.62	1,15	0.71	1,20	0.75
			2	0,85	0.53	1,00	0.62	1,14	0.71	1,28	0.80	1,42	0.88	1,64	1.02	1,71	1.06
			3	1,47	0.91	1,72	1.07	1,96	1.22	2,21	1.37	2,46	1.53	2,82	1.75	2,95	1.83
			4	2,13	1.32	2,49	1.55	2,84	1.77	3,20	1.99	3,55	2.21	4,09	2.54	4,26	2.65
			1	3,42	2.13	3,98	2.47	4,55	2.83	5,12	3.18	5,69	3.54	6,55	4.07	6,83	4.24
			2	4,87	3.03	5,68	3.53	6,49	4.03	7,31	4.54	8,12	5.05	9,34	5.80	9,74	6.05
			3	8,41	5.23	9,81	6.10	11,21	6.97	12,61	7.84	14,01	8.71	16,12	10.02	16,82	10.45
			4	12,16	7.56	14,19	8.82	16,22	10.08	18,25	11.34	20,27	12.60	23,32	14.49	24,33	15.12
			1	1,43	0.89	1,67	1.04	1,91	1.19	2,14	1.33	2,38	1.48	2,74	1.70	2,86	1.78
			2	2,04	1.27	2,38	1.48	2,72	1.69	3,06	1.90	3,40	2.11	3,91	2.43	4,08	2.54
			3	3,52	2.19	4,11	2.55	4,69	2.91	5,28	3.28	5,87	3.65	6,75	4.20	7,04	4.38
			4	5,09	3.16	5,94	3.69	6,79	4.22	7,64	4.75	8,49	5.28	9,76	6.07	10,18	6.33
C			1	0,10	0.06	0,12	0.07	0,13	0.08	0,15	0.09	0,17	0.11	0,19	0.12	0,20	0.12
			2	0,14	0.09	0,17	0.11	0,19	0.12	0,21	0.13	0,24	0.15	0,27	0.17	0,29	0.18
			3	0,25	0.16	0,29	0.18	0,33	0.21	0,37	0.23	0,41	0.25	0,47	0.29	0,49	0.30
			4	0,36	0.22	0,42	0.26	0,47	0.29	0,53	0.33	0,59	0.37	0,68	0.42	0,71	0.44
			1	0,57	0.35	0,67	0.42	0,76	0.47	0,86	0.53	0,95	0.59	1,09	0.68	1,14	0.71
			2	0,81	0.50	0,95	0.59	1,09	0.68	1,22	0.76	1,36	0.85	1,56	0.97	1,63	1.01
			3	1,40	0.87	1,64	1.02	1,87	1.16	2,11	1.31	2,34	1.45	2,69	1.67	2,81	1.75
			4	2,03	1.26	2,37	1.47	2,71	1.68	3,05	1.90	3,39	2.11	3,90	2.42	4,06	2.52
			1	0,24	0.15	0,28	0.17	0,32	0.20	0,36	0.22	0,40	0.25	0,46	0.29	0,48	0.30
			2	0,34	0.21	0,40	0.25	0,45	0.28	0,51	0.32	0,57	0.35	0,65	0.40	0,68	0.42
			3	0,59	0.37	0,69	0.43	0,78	0.48	0,88	0.55	0,98	0.61	1,13	0.70	1,18	0.73
			4	0,85	0.53	0,99	0.62	1,13	0.70	1,28	0.80	1,42	0.88	1,63	1.01	1,70	1.06

FGA33304UN

A—Normal range
B—Splitter (20% reduction)
C—Super creeper

GROUND TRAVEL SPEEDS, LOW VERSION
TIRES: 11,2-24

				1200		1400		1600		1800		2000		2300		2400	
				km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph
A			1	0,71	0.44	0.83	0.52	0,95	0.59	1,07	0.67	1,18	0.73	1,36	0.85	1,42	0.88
			2	1,01	0.63	1,18	0.73	1,35	0.84	1,52	0.94	1,69	1.05	1,94	1.21	2,03	1.26
			3	1,75	1.09	2,04	1.27	2,33	1.45	2,62	1.63	2,92	1.81	3,35	2.08	3,50	2.18
			4	2,53	1.57	2,95	1.83	3,37	2.09	3,80	2.36	4,22	2.62	4,85	3.01	5,06	3.14
			1	4,05	2.52	4,73	2.94	5,41	3.36	6,08	3.78	6,76	4.20	7,77	4.83	8,11	5.04
			2	5,78	3.59	6,75	4.20	7,71	4.79	8,67	5.39	9,64	5.99	11,08	6.89	11,56	7.18
			3	9,98	6.20	11,64	7.23	13,31	8.27	14,97	9.30	16,64	10.34	19,13	11.89	19,96	12.41
			4	14,44	8.97	16,85	10.47	19,25	11.96	21,66	13.46	24,07	14.96	27,68	17.20	28,88	17.95
			1	1,70	1.06	1,98	1.23	2,26	1.40	2,55	1.58	2,83	1.76	3,25	2.02	3,39	2.11
			2	2,42	1.50	2,82	1.75	3,23	2.01	3,63	2.26	4,03	2.50	4,64	2.88	4,84	3.01
			3	4,18	2.60	4,87	3.03	5,57	3.46	6,27	3.90	6,96	4.33	8,01	4.98	8,36	5.20
			4	6,04	3.75	7,05	4.38	8,06	5.02	9,07	5.64	10,07	6.26	11,59	7.20	12,09	7.51
B			1	0,57	0.35	0,66	0.41	0,76	0.47	0,85	0.53	0,94	0.58	1,09	0.68	1,13	0.70
			2	0,81	0.50	0,94	0.58	1,08	0.66	1,21	0.75	1,35	0.84	1,55	0.96	1,62	1.01
			3	1,39	0.86	1,63	1.01	1,86	1.16	2,09	1.30	2,32	1.44	2,67	1.66	2,79	1.73
			4	2,02	1.26	2,35	1.46	2,69	1.67	3,03	1.88	3,36	2.09	3,87	2.41	4,03	2.50
			1	3,23	2.01	3,77	2.34	4,31	2.68	4,85	3.01	5,39	3.35	6,19	3.85	6,46	4.01
			2	4,61	2.87	5,38	3.34	6,15	3.82	6,91	4.29	7,68	4.77	8,83	5.49	9,22	5.73
			3	7,96	4.95	9,28	5.77	10,61	6.59	11,93	7.41	13,26	8.24	15,25	9.48	15,91	9.89
			4	11,51	7.15	13,43	8.35	15,35	9.54	17,27	10.73	19,18	11.92	22,06	13.71	23,02	14.31
			1	1,35	0.84	1,58	0.98	1,80	1.12	2,03	1.26	2,25	1.40	2,59	1.61	2,71	1.68
			2	1,93	1.20	2,25	1.40	2,57	1.60	2,89	1.80	3,22	2.00	3,70	2.30	3,86	2.40
			3	3,33	2.07	3,89	2.42	4,44	2.76	5,00	3.11	5,55	3.45	6,38	3.97	6,66	4.14
			4	4,82	3.00	5,62	3.49	6,42	3.99	7,23	4.49	8,03	4.99	9,24	5.74	9,64	5.99
C			1	0,09	0.06	0,11	0.07	0,13	0.08	0,14	0.09	0,16	0.10	0,18	0.11	0,19	0.12
			2	0,13	0.08	0,16	0.10	0,18	0.11	0,20	0.12	0,22	0.14	0,26	0.16	0,27	0.17
			3	0,23	0.14	0,27	0.17	0,31	0.19	0,35	0.22	0,39	0.24	0,45	0.28	0,47	0.29
			4	0,34	0.21	0,39	0.24	0,45	0.28	0,51	0.32	0,56	0.35	0,65	0.40	0,67	0.42
			1	0,54	0.34	0,63	0.39	0,72	0.45	0,81	0.50	0,90	0.56	1,03	0.64	1,08	0.67
			2	0,77	0.48	0,90	0.56	1,03	0.64	1,16	0.72	1,28	0.80	1,48	0.92	1,54	0.96
			3	1,33	0.83	1,55	0.96	1,77	1.10	1,99	1.24	2,22	1.38	2,55	1.58	2,66	1.65
			4	1,92	1.19	2,24	1.39	2,56	1.59	2,88	1.79	3,21	2.00	3,69	2.29	3,85	2.39
			1	0,23	0.14	0,26	0.16	0,30	0.19	0,34	0.21	0,38	0.24	0,43	0.27	0,45	0.28
			2	0,32	0.20	0,38	0.24	0,43	0.27	0,48	0.30	0,54	0.34	0,62	0.39	0,64	0.40
			3	0,56	0.35	0,65	0.40	0,74	0.46	0,83	0.52	0,93	0.58	1,07	0.67	1,11	0.69
			4	0,81	0.50	0,94	0.58	1,07	0.67	1,21	0.75	1,34	0.83	1,54	0.96	1,61	1.00

FGA33403UN

A-Normal range
B-Splitter (20% reduction)
C-Super creeper

GROUND TRAVEL SPEEDS, LOW VERSION
TIRES: 12,4-24

				1200		1400		1600		1800		2000		2300		2400	
				km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph
A			1	0,74	0.46	0,87	0.54	0,99	0.62	1,12	0.70	1,24	0.77	1,43	0.89	1,49	0.93
			2	1,06	0.66	1,24	0.77	1,42	0.88	1,59	0.99	1,77	1.10	2,04	1.27	2,12	1.32
			3	1,83	1.14	2,14	1.33	2,45	1.52	2,75	1.71	3,06	1.90	3,51	2.18	3,67	2.28
			4	2,65	1.65	3,10	1.93	3,54	2.20	3,98	2.47	4,42	2.75	5,09	3.16	5,31	3.30
			1	4,25	2.64	4,96	3.08	5,67	3.52	6,38	3.97	7,09	4.41	8,15	5.07	8,50	5.28
			2	6,06	3.77	7,07	4.39	8,08	5.02	9,09	5.65	10,11	6.28	11,62	7.22	12,13	7.54
			3	10,47	6.51	12,21	7.59	13,95	8.67	15,70	9.76	17,44	10.84	20,06	12.47	20,93	13.01
			4	15,14	9.41	17,66	10.98	20,19	12.55	22,71	14.11	25,24	15.69	29,02	18.04	30,28	18.82
			1	1,78	1.11	2,08	1.29	2,37	1.47	2,67	1.66	2,97	1.85	3,41	2.12	3,56	2.21
			2	2,54	1.58	2,96	1.84	3,38	2.10	3,81	2.37	4,23	2.63	4,86	3.02	5,08	3.16
			3	4,38	2.72	5,11	3.18	5,84	3.63	6,57	4.08	7,30	4.54	8,40	5.22	8,76	5.44
			4	6,34	3.94	7,39	4.59	8,45	5.25	9,51	5.91	10,56	6.56	12,15	7.55	12,68	7.88
B			1	0,59	0.37	0,69	0.43	0,79	0.49	0,89	0.55	0,99	0.62	1,14	0.71	1,19	0.74
			2	0,85	0.53	0,99	0.62	1,13	0.70	1,27	0.79	1,41	0.88	1,62	1.01	1,69	1.05
			3	1,46	0.91	1,71	1.06	1,95	1.21	2,19	1.36	2,44	1.52	2,80	1.74	2,92	1.81
			4	2,11	1.31	2,47	1.54	2,82	1.75	3,17	1.97	3,52	2.19	4,05	2.52	4,23	2.63
			1	3,39	2.11	3,95	2.45	4,52	2.81	5,08	3.16	5,65	3.51	6,50	4.04	6,78	4.21
			2	4,83	3.00	5,64	3.51	6,44	4.00	7,25	4.51	8,06	5.01	9,26	5.76	9,67	6.01
			3	8,34	5.18	9,73	6.05	11,12	6.91	12,51	7.78	13,90	8.64	15,99	9.94	16,69	10.37
			4	12,07	7.50	14,08	8.75	16,09	10.00	18,10	11.25	20,12	12.50	23,13	14.38	24,14	15.00
			1	1,42	0.88	1,66	1.03	1,89	1.17	2,13	1.32	2,36	1.47	2,72	1.69	2,84	1.77
			2	2,02	1.26	2,36	1.47	2,70	1.68	3,03	1.88	3,37	2.09	3,88	2.41	4,05	2.52
			3	3,49	2.17	4,07	2.53	4,66	2.90	5,24	3.26	5,82	3.62	6,69	4.16	6,98	4.34
			4	5,05	3.14	5,89	3.66	6,74	4.19	7,58	4.71	8,42	5.23	9,68	6.02	10,10	6.28
C			1	0,10	0.06	0,12	0.07	0,13	0.08	0,15	0.09	0,17	0.11	0,19	0.12	0,20	0.12
			2	0,14	0.09	0,17	0.11	0,19	0.12	0,21	0.13	0,24	0.15	0,27	0.17	0,28	0.17
			3	0,24	0.15	0,28	0.17	0,33	0.21	0,37	0.23	0,41	0.25	0,47	0.29	0,49	0.30
			4	0,35	0.22	0,41	0.25	0,47	0.29	0,53	0.33	0,59	0.37	0,68	0.42	0,71	0.44
			1	0,57	0.35	0,66	0.41	0,75	0.47	0,85	0.53	0,94	0.58	1,09	0.68	1,13	0.70
			2	0,81	0.50	0,94	0.58	1,08	0.67	1,21	0.75	1,35	0.84	1,55	0.96	1,62	1.01
			3	1,39	0.86	1,63	1.01	1,86	1.16	2,09	1.30	2,32	1.44	2,67	1.66	2,79	1.73
			4	2,02	1.26	2,35	1.46	2,69	1.67	3,02	1.88	3,36	2.09	3,87	2.41	4,03	2.50
			1	0,24	0.15	0,28	0.17	0,32	0.20	0,36	0.22	0,40	0.25	0,45	0.28	0,47	0.29
			2	0,34	0.21	0,39	0.24	0,45	0.28	0,51	0.32	0,56	0.35	0,65	0.40	0,68	0.42
			3	0,58	0.36	0,68	0.42	0,78	0.48	0,88	0.55	0,97	0.60	1,12	0.70	1,17	0.73
			4	0,84	0.52	0,98	0.61	1,13	0.70	1,27	0.79	1,41	0.88	1,62	1.01	1,69	1.05

FGA33401UN

A-Normal range
B-Splitter (20% reduction)
C-Super creeper

GROUND TRAVEL SPEEDS, LOW VERSION
TIRES: 375/70-20

				1200		1400		1600		1800		2000		2300		2400	
				km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph
A			1	0,70	0.44	0,81	0.50	0,93	0.58	1,05	0.65	1,16	0.72	1,34	0.83	1,39	0.86
			2	0,99	0.62	1,16	0.72	1,32	0.82	1,49	0.93	1,66	1.03	1,90	1.18	1,99	1.24
			3	1,72	1.07	2,00	1.24	2,29	1.42	2,57	1.60	2,86	1.78	3,29	2.04	3,43	2.13
			4	2,48	1.54	2,89	1.80	3,31	2.06	3,72	2.31	4,14	2.57	4,76	2.96	4,96	3.08
			1	3,98	2.47	4,64	2.88	5,30	3.29	5,96	3.70	6,63	4.12	7,62	4.74	7,95	4.94
			2	5,67	3.52	6,62	4.11	7,56	4.70	8,51	5.29	9,45	5.87	10,87	6.76	11,34	7.05
			3	9,79	6.08	11,42	7.10	13,05	8.11	14,68	9.75	16,31	10.14	18,76	11.66	19,57	12.16
			4	14,16	8.80	16,52	10.27	18,88	11.73	21,24	13.20	23,60	14.67	27,14	16.87	28,32	17.60
			1	1,66	1.03	1,94	1.21	2,22	1.38	2,50	1.55	2,77	1.72	3,19	1.98	3,33	2.07
			2	2,37	1.47	2,77	1.72	3,16	1.96	3,56	2.21	3,96	2.46	4,55	2.83	4,75	2.95
			3	4,10	2.55	4,78	2.97	5,46	3.39	6,15	3.82	6,83	4.24	7,85	4.88	8,19	5.09
			4	5,93	3.69	6,92	4.30	7,90	4.91	8,89	5.53	9,88	6.14	11,36	7.06	11,85	7.36
B			1	0,56	0.35	0,65	0.40	0,74	0.46	0,83	0.52	0,93	0.58	1,06	0.66	1,11	0.69
			2	0,79	0.49	0,92	0.57	1,06	0.66	1,19	0.74	1,32	0.82	1,52	0.94	1,58	0.98
			3	1,37	0.85	1,59	0.99	1,82	1.13	2,05	1.27	2,28	1.42	2,62	1.63	2,73	1.70
			4	1,98	1.23	2,31	1.44	2,64	1.64	2,97	1.85	3,30	2.05	3,79	2.36	3,96	2.46
			1	3,17	1.97	3,70	2.30	4,23	2.63	4,75	2.95	5,28	3.28	6,07	3.77	6,34	3.94
			2	4,52	2.81	5,27	3.28	6,03	3.75	6,78	4.21	7,53	4.68	8,66	5.38	9,04	5.62
			3	7,80	4.85	9,10	5.66	10,40	6.46	11,70	7.27	13,00	8.08	14,95	9.29	15,60	9.70
			4	11,29	7.02	13,17	8.19	15,05	9.35	16,93	10.52	18,81	11.69	21,63	13.44	22,57	14.03
			1	1,33	0.83	1,55	0.96	1,77	1.10	1,99	1.24	2,21	1.37	2,54	1.58	2,65	1.65
			2	1,89	1.17	2,21	1.37	2,52	1.57	2,84	1.77	3,15	1.96	3,63	2.26	3,78	2.35
			3	3,27	2.03	3,81	2.37	4,35	2.70	4,90	3.05	5,44	3.38	6,26	3.89	6,53	4.06
			4	4,72	2.93	5,51	3.42	6,30	3.92	7,09	4.41	7,87	4.89	9,06	5.63	9,45	5.87
C			1	0,09	0.06	0,11	0.07	0,12	0.07	0,14	0.09	0,15	0.09	0,18	0.11	0,19	0.12
			2	0,13	0.08	0,15	0.09	0,18	0.11	0,20	0.12	0,22	0.14	0,25	0.16	0,26	0.16
			3	0,23	0.14	0,27	0.17	0,30	0.19	0,34	0.21	0,38	0.24	0,44	0.27	0,46	0.29
			4	0,33	0.21	0,39	0.24	0,44	0.27	0,50	0.31	0,55	0.34	0,63	0.39	0,66	0.41
			1	0,53	0.33	0,62	0.39	0,71	0.44	0,79	0.49	0,88	0.55	1,01	0.63	1,06	0.66
			2	0,76	0.46	0,88	0.55	1,01	0.63	1,13	0.70	1,26	0.78	1,45	0.90	1,51	0.94
			3	1,30	0.81	1,52	0.94	1,74	1.08	1,96	1.22	2,17	1.35	2,50	1.55	2,61	1.62
			4	1,89	1.17	2,20	1.37	2,51	1.56	2,83	1.76	3,14	1.95	3,61	2.24	3,77	2.34
			1	0,22	0.14	0,26	0.16	0,30	0.19	0,33	0.21	0,37	0.23	0,42	0.26	0,44	0.27
			2	0,32	0.20	0,37	0.23	0,42	0.26	0,47	0.29	0,53	0.33	0,61	0.38	0,63	0.39
			3	0,55	0.34	0,64	0.40	0,73	0.45	0,82	0.51	0,91	0.57	1,05	0.65	1,09	0.68
			4	0,79	0.49	0,92	0.57	1,05	0.65	1,18	0.73	1,32	0.82	1,51	0.94	1,58	0.94

FGA33402UN

A-Normal range
B-Splitter (20% reduction)
C-Super creeper

GROUND TRAVEL SPEEDS, LOW VERSION
TIRES: 380/70-24

				1200		1400		1600		1800		2000		2300		2400	
				km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph
A			1	0,77	0.48	0.90	0.56	1,03	0.64	1,16	0.72	1,29	0.80	1,48	0.92	1,55	0.96
			2	1,10	0.68	1,29	0.80	1,47	0.91	1,65	1.03	1,84	1.14	2,11	1.31	2,20	1.37
			3	1,90	1.18	2,22	1.38	2,54	1.58	2,85	1.77	3,17	1.97	3,65	2.27	3,80	2.36
			4	2,75	1.71	3,21	2.00	3,67	2.28	4,13	2.57	4,59	2.85	5,27	3.28	5,50	3.42
			1	4,41	2.74	5,14	3.19	5,88	3.65	6,61	4.11	7,35	4.57	8,45	5.25	8,82	5.48
			2	6,29	3.91	7,34	4.56	8,38	5.21	9,43	5.86	10,48	6.51	12,05	7.49	12,58	7.82
			3	10,85	6.74	12,66	7.87	14,47	8.99	16,28	10.12	18,09	11.14	20,80	12.93	21,71	13.49
			4	15,70	9.76	18,32	11.39	20,94	13.01	23,55	14.64	26,17	16.26	30,10	18.71	31,40	19.52
			1	1,85	1.03	2,15	1.34	2,46	1.53	2,77	1.72	3,08	1.91	3,54	2.20	3,69	2.29
			2	2,63	1.63	3,07	1.91	3,51	2.18	3,95	2.45	4,39	2.73	5,04	3.13	5,26	3.27
			3	4,54	2.82	5,30	3.29	6,06	3.77	6,81	4.23	7,57	4.70	8,71	5.41	9,09	5.65
			4	6,57	4.08	7,67	4.77	8,76	5.44	9,86	6.13	10,95	6.81	12,60	7.83	13,15	8.17
B			1	0,62	0.39	0,72	0.45	0,82	0.51	0,92	0.57	1,03	0.64	1,18	0.73	1,23	0.76
			2	0,88	0.55	1,02	0.63	1,17	0.73	1,32	0.82	1,46	0.91	1,68	1.04	1,76	1.09
			3	1,52	0.94	1,77	1.10	2,02	1.26	2,27	1.41	2,53	1.57	2,91	1.81	3,03	1.88
			4	2,19	1.36	2,56	1.59	2,92	1.81	3,29	2.04	3,66	2.27	4,20	2.61	4,39	2.73
			1	3,51	2.18	4,10	2.55	4,69	2.91	5,27	3.28	5,86	3.64	6,74	4.19	7,03	4.37
			2	5,01	3.11	5,85	3.64	6,68	4.15	7,52	4.67	8,35	5.19	9,61	5.97	10,02	6.23
			3	8,65	5.38	10,09	6.27	11,54	7.17	12,98	8.07	14,42	8.96	16,58	10.30	17,30	10.75
			4	12,52	7.78	14,60	9.07	16,69	10.37	18,77	11.67	20,86	12.96	23,99	14.91	25,03	15.56
			1	1,47	0.91	1,72	1.07	1,96	1.22	2,21	1.37	2,45	1.52	2,82	1.75	2,94	1.83
			2	2,10	1.31	2,45	1.52	2,80	1.74	3,15	1.96	3,50	2.18	4,02	2.50	4,20	2.61
			3	3,62	2.65	4,23	2.63	4,83	3.00	5,43	3.37	6,04	3.75	6,94	4.31	7,24	4.50
			4	5,24	3.26	6,11	3.80	6,99	4.34	7,86	4.89	8,73	5.43	10,04	6.24	10,48	6.51
C			1	0,10	0.06	0,12	0.07	0,14	0.09	0,15	0.09	0,17	0.11	0,20	0.12	0,21	0.13
			2	0,15	0.09	0,17	0.09	0,20	0.12	0,22	0.14	0,24	0.15	0,28	0.17	0,29	0.18
			3	0,25	0.16	0,30	0.19	0,34	0.21	0,38	0.24	0,42	0.26	0,49	0.30	0,51	0.32
			4	0,37	0.23	0,43	0.27	0,49	0.30	0,55	0.34	0,61	0.38	0,70	0.44	0,73	0.45
			1	0,59	0.37	0,69	0.43	0,78	0.48	0,88	0.55	0,98	0.61	1,13	0.70	1,17	0.73
			2	0,84	0.52	0,98	0.61	1,12	0.70	1,26	0.78	1,40	0.87	1,61	1.00	1,67	1.04
			3	1,45	0.90	1,69	1.05	1,93	1.20	2,17	1.35	2,41	1.50	2,77	1.72	2,89	1.80
			4	2,09	1.30	2,44	1.52	2,79	1.73	3,14	1.95	3,49	2.17	4,01	2.49	4,18	2.60
			1	0,25	0.16	0,29	0.18	0,33	0.21	0,37	0.23	0,41	0.25	0,47	0.29	0,49	0.30
			2	0,35	0.22	0,41	0.25	0,47	0.29	0,53	0.33	0,58	0.36	0,67	0.42	0,70	0.44
			3	0,61	0.38	0,71	0.44	0,81	0.50	0,91	0.57	1,01	0.63	1,16	0.72	1,21	0.75
			4	0,88	0.55	1,02	0.63	1,17	0.73	1,31	0.81	1,46	0.91	1,68	1.04	1,75	1.09

FGA33404UN

A-Normal range
B-Splitter (20% reduction)
C-Super creeper

SHIFTING TRANSMISSION GEARS

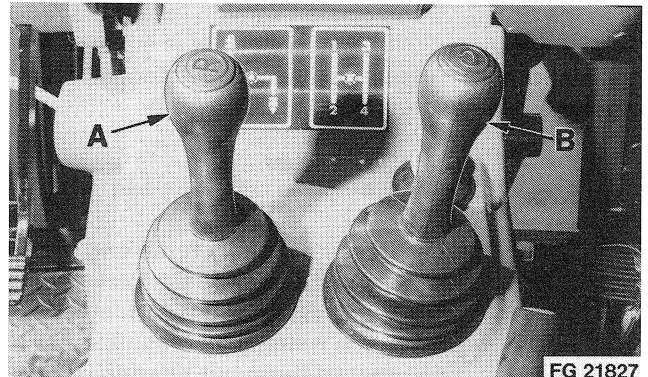
Fully depress clutch pedal when shifting gears. When changing from one range to another, stop tractor and fully depress clutch pedal.

IMPORTANT: Never rest your foot on the clutch pedal with engine running, as this will result in premature wear of throw-out bearing. Depress clutch pedal only as long as it is necessary for smooth gear shifting.

FAHOM-1445FBFGE-260687

SHIFTING 8/4 GEAR TRANSMISSION

The transmission has 8 forward and 4 reverse gears and is shifted by means of range shift lever (A) and gear shift lever (B).



FG 21827

FG21827-1445FAFGE-260687

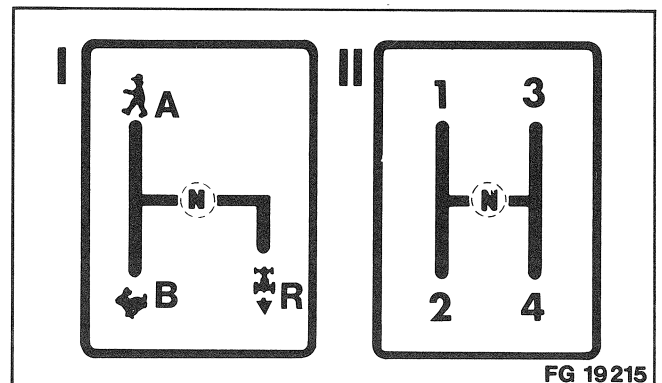
SHIFT POSITIONS

The range shift lever (shifting pattern I) can be moved to the following positions:

A—Slow range
B—Fast range

R—Reverse range
N—Neutral

The gear shift lever (shifting pattern II) can be moved to the four gears and to the neutral position.



FG 19215

FG19215-1445FAFGE-260687

SHIFTING 16/8 GEAR TRANSMISSION (Special Equipment)

The 16/8 transmission is available in two different versions:

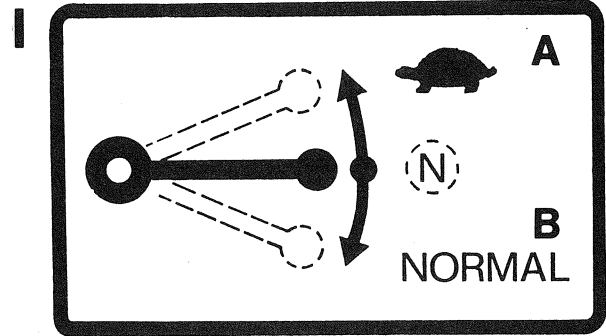
I. In this version the the shift lever for the reduction gear is situated on top of the transmission tunnel. Besides the neutral position, two shifting positions are possible:

A-Super creeper
B-Normal range

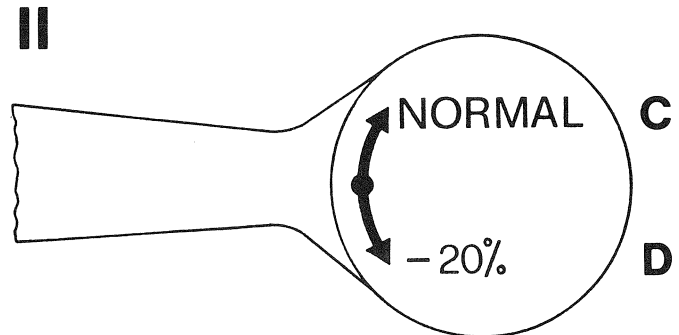
II. In the Splitter transmission version the speed reduction is smaller (- 20%). The shift lever is situated at the instrument panel. Again two shifting positions are possible besides the neutral position:

A-Normal range
B-Splitter (20% reduction)

IMPORTANT: Periodically check if clutch engages at half way of clutch pedal travel. Continuous depressing of the clutch pedal with the engine running will result in premature wear of throwout bearing. Depress clutch pedal only as long as it is necessary.



FG 27982



FG 27983

FRONT WHEEL DRIVE (Special Equipment)

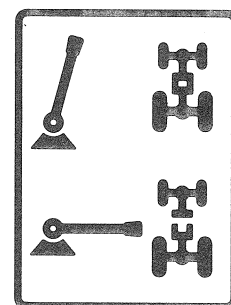
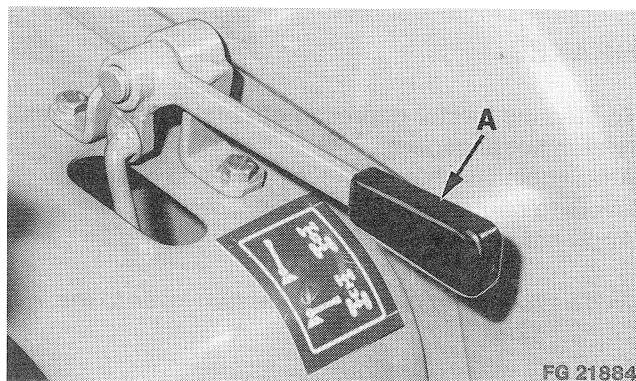
The front wheel drive increases the adherence of the tractor to the ground, especially when working on uneven, muddy and slippery ground; when ploughing or in other adverse conditions.

To engage front wheel drive depress clutch pedal while tractor is moving slowly, then pull lever (A) upward.

When front wheel drive is engaged the corresponding indicator light is on (see "Controls and Instruments").

NOTE: Do not engage front wheel drive under load or when rear wheels are spinning.

NOTE: Do not use front wheel drive while driving on roads or hard ground to avoid increased front tire wear.



FG21884,FG19217-1445FAFGE-260687

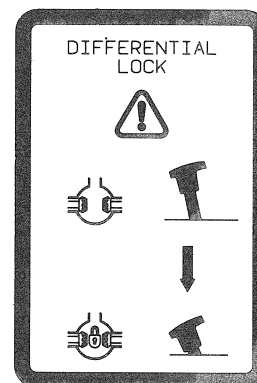
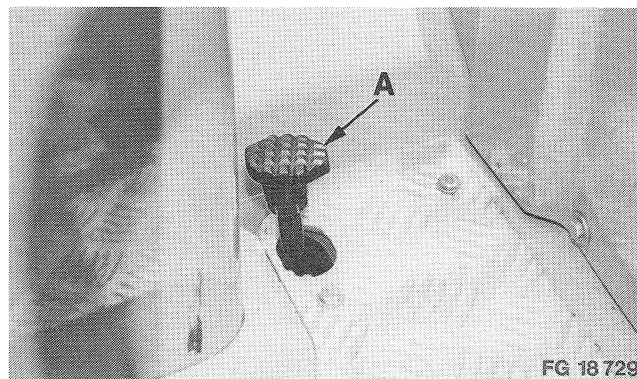
REAR DIFFERENTIAL LOCK



CAUTION: Do not attempt to turn the tractor with the differential lock engaged. If the differential lock does not disengage, reduce engine speed.

Use differential lock only in low gears, when one of the rear wheels starts to skid or a steady course is to be maintained. Reduce engine speed before locking the differential.

To lock the differential depress pedal (A). When pedal is released the differential lock will disengage automatically.



FG18729,FG19218-1445FAFGE-110888

BRAKES

To stop the tractor depress both brake pedals equally (clutch not engaged).

After engine is shut off move range and gear shift levers to neutral position.

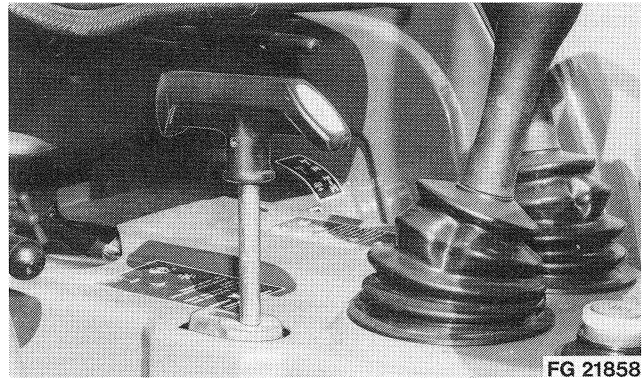
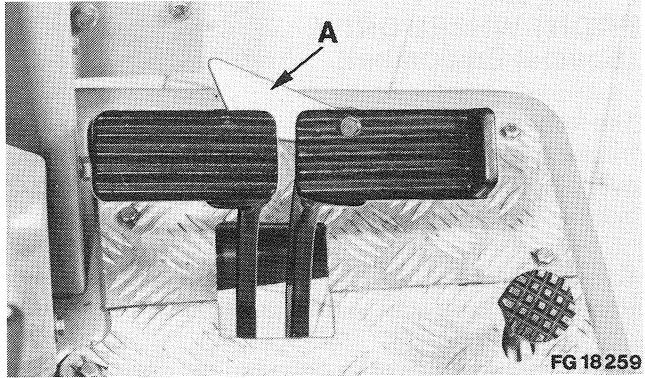
Apply handbrake.

NOTE: To loosen parking brake, turn lever to the side.

The brake pedals can be coupled by means of coupler (A) or used individually (coupler released) to assist in negotiating sharp turns.



CAUTION: Brake pedals must be coupled together when driving on public roads.



FG18259,FG21858-1445FAFGE-260687

Operator's Platform and Cab

LIGHTING SYSTEM AND HORN

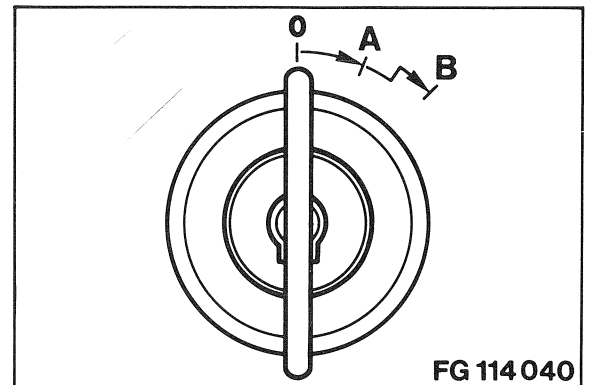
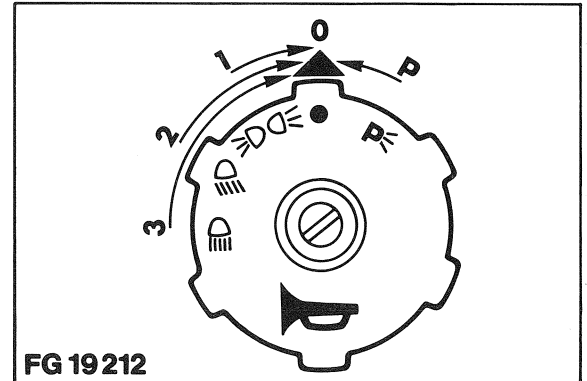
Positions of light switch are:

- P-Parking lights
- 0-Off position
- 1-Parking lights
- 2-Dipped headlights
- 3-Full beam headlights

Press light switch to sound the horn

Headlights can only be turned on when the key in the main switch is in position (A). With key removed, only the parking lights (P) are working.

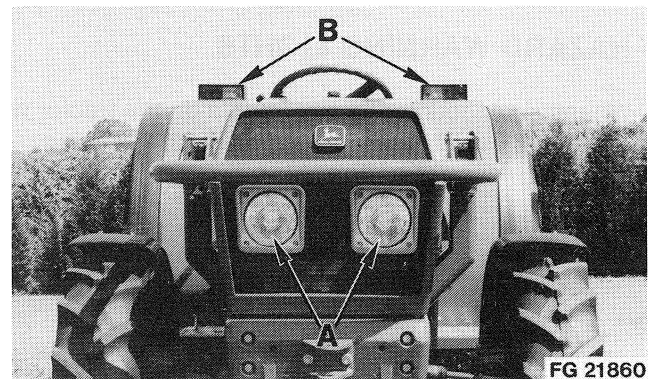
If the parking lights or the full beam headlights are on the corresponding indicator lights will glow (see "Controls and Instruments").



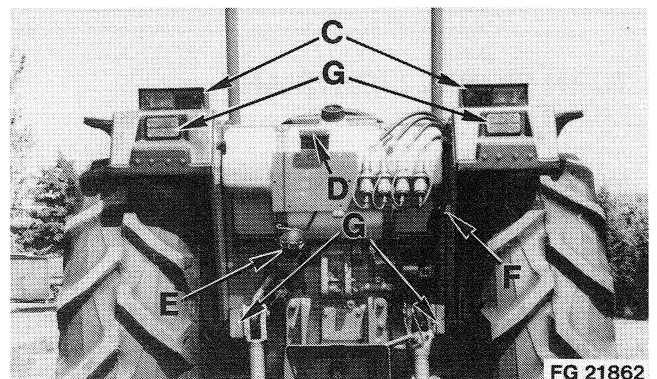
FG19212,FG114040-1445FAFGE-260687

LIGHTING (Tractors without Cab)

- A-Headlights
- B-Turn signal and parking lights



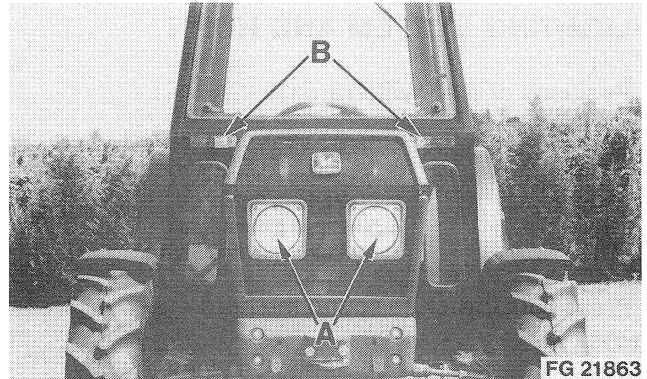
- C-Tail, stop and turn signal lights
- D-Registration plate light
- E-Socket for trailer lighting
- F-Socket for work light
- G-Reflector



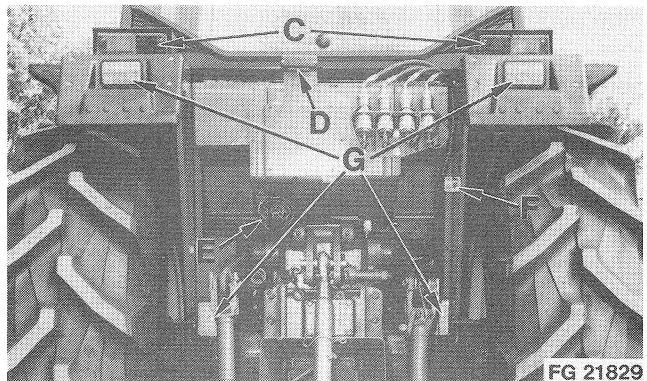
FG21860,FG21862-1445FAFGE-260687

LIGHTING (Tractors with Cab)

A—Headlights
B—Turn signal and parking lights



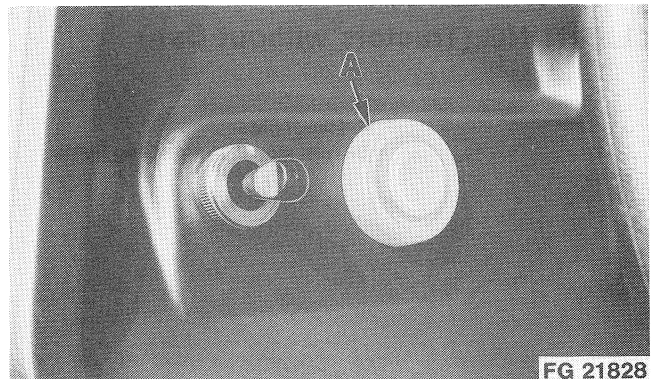
C—Tail, stop and turn signal lights
D—Registration plate light
E—Socket for trailer lighting
F—Socket for work light
G—Reflector



FG21863,FG21829-1445FAFGE-110888

HAZARD WARNING LIGHTS

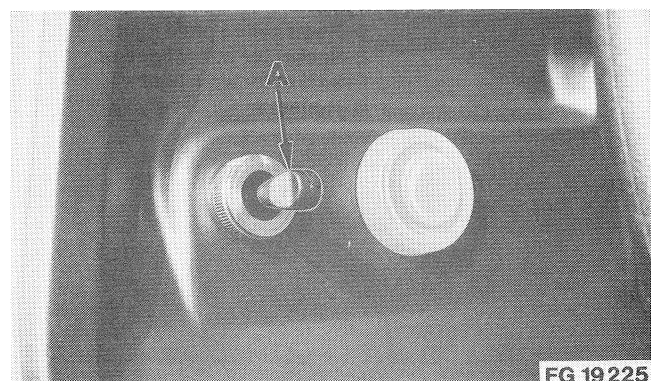
Whenever encountering any trouble on the tractor when driving on public roads, switch on hazard warning lights by means of button (A).



FG21828-1445FAFGE-260687

TURN SIGNAL LIGHTS AND LIGHT SIGNAL

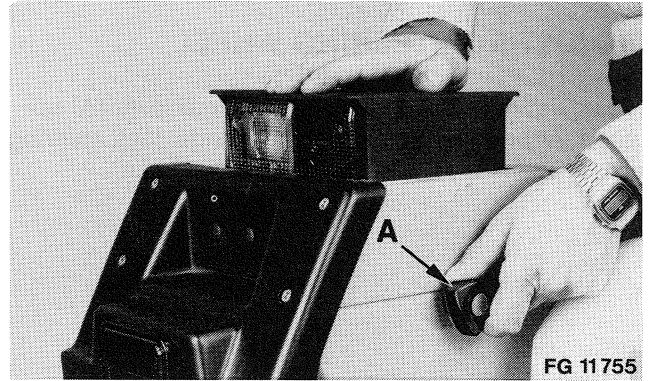
Move switch (A) to the right or left to turn on the right-hand or left-hand turn signal. To actuate light signal press switch upward.



FG19225-1445FAFGE-260687

SINKING TAIL LAMPS

When operating in low crop cultivations (vineyards, orchards etc.) with branches extending at low level from ground, it may be necessary to sink the tail lamps to protect them from damage. Pull knob (A) and push lamp unit downward; releasing the knob will lock the lamp.



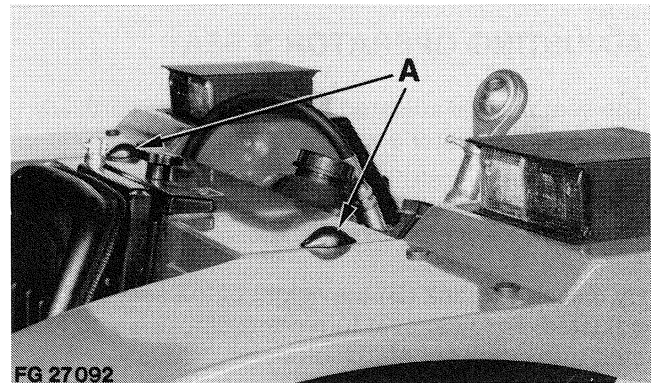
FG 11755

FG11755-1445FAFGE-260687

SWITCHING OFF PARKING LIGHT AND FRONT TURN SIGNAL LIGHTS

A switch is located underneath each protecting cap (A). When activated (by mounting cab) the front parking light and the front turn signal lights are switched off.

Before mounting cab, remove the two protecting caps (A). When cab is installed the switches turn off front parking and turn signal lights and only the lights at the cab are visible.

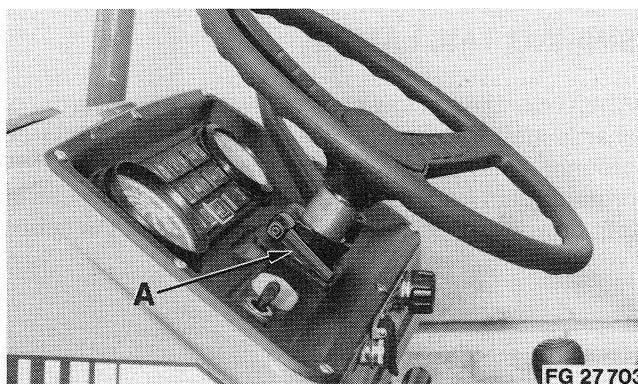


FG 27092

FG27092-144FAFGE-110888

ADJUSTING STEERING WHEEL

To adjust height of steering wheel, pull lever (A) upward. After adjustment has been made, lock steering wheel again by ressing lever (A) downward.



FG27703-1445FAFGE-110888

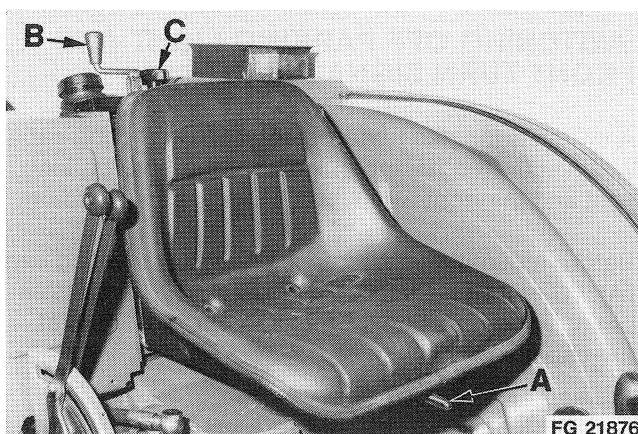
ADJUSTING OPERATOR'S SEAT

The seat may be adjusted horizontally and vertically and to suit operator's weight.

For horizontal adjustment, slide seat forward or backward after loosening lever (A).

By means of crank (B) the height of the seat can be adjusted. To lower seat turn crank clockwise, to raise seat turn crank counterclockwise.

By turning knob (C) the seat suspension can be adjusted to the operator's weight. Turn knob clockwise for softer suspension and counterclockwise for harder suspension.



FG21876-1445FAFGE-260687

ROLL GUARD



CAUTION: A protective roll-guard is incorporated in each operator's cab. On this construction, as well as roll guard on tractors not equipped with cab, do not, under any circumstances, modify structural members by welding on additional parts, drilling holes, grinding etc. Disregarding this instruction can affect the rigidity of the roll-guard.

A tractor roll-over may place a severe stress on the roll guard. Therefore, replace if structural members have been bent, buckled or otherwise damaged.



FG19235,FG27527-1445FAFGE-110888

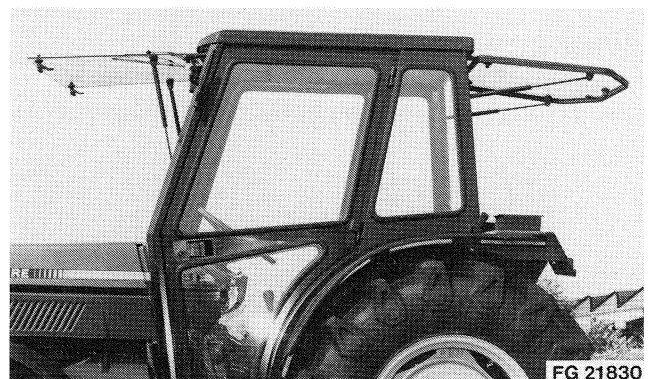
OPERATOR'S CAB – OPTIONAL EQUIPMENT

- Sound absorbing inside lining
- Fan
- Pesticide filter
- Rear windscreen wiper
- Front and rear windscreen washing system
- Heating system
- Lock with key

OPEROM-1445FAFGE-111189

OPENING WINDOWS

Windscreen and rear window (if equipped) can be opened.



FG21830-1445FAFGE-110888

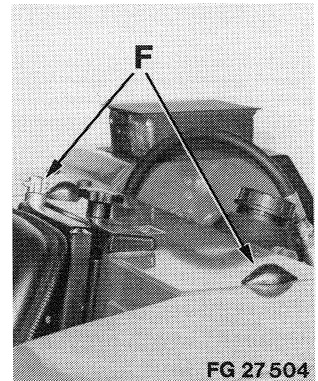
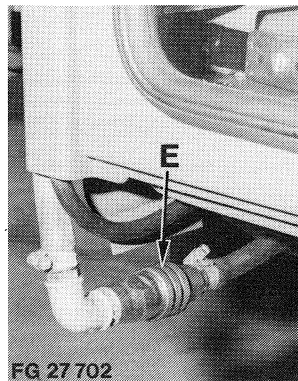
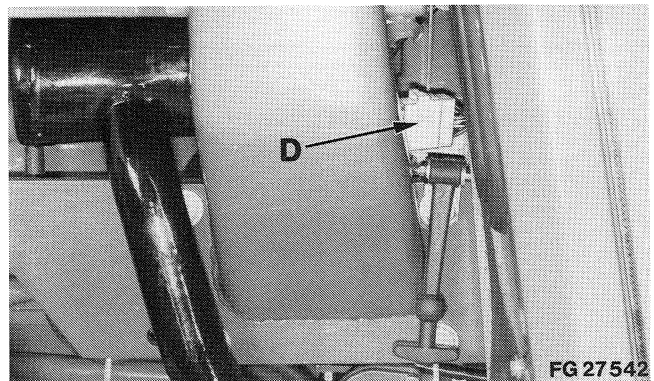
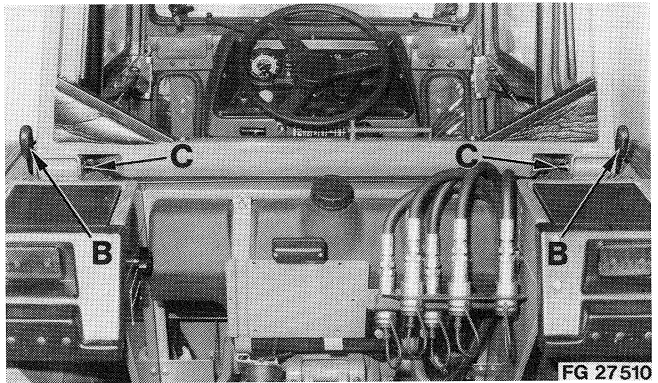
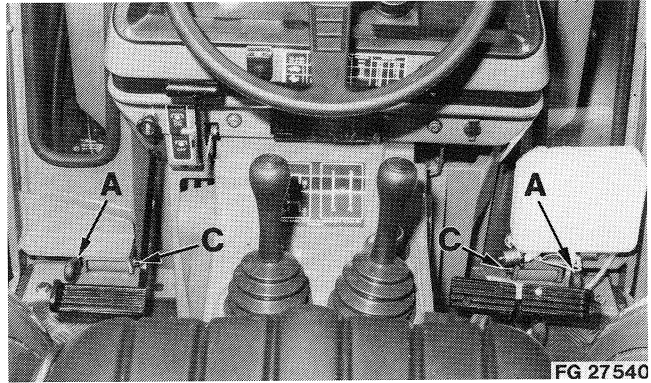
REMOVING OPERATOR'S CAB

To remove operator's cab proceed as follows:

- After removing pins (C) pull front (A) and rear (B) bolts out of cab support.

NOTE: If it is hard to remove bolts loosen cab support attaching screws.

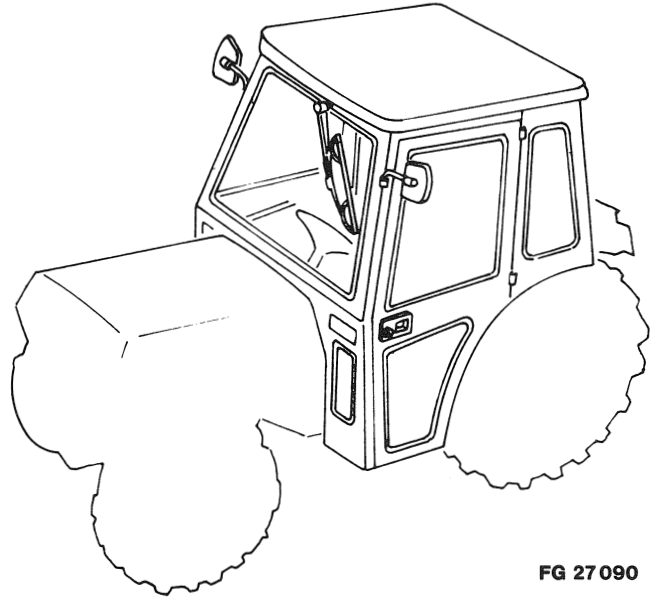
- To interrupt power supply of cab disconnect connector (D) at the left-hand side.
- On cabs equipped with heater, disconnect the quick couplers (E) of the heater hoses underneath the steps.
- Remove cab.
- Install the two protecting caps (F)



INSTALLING OPERATOR'S CAB

To install cab reverse removal procedure.

Subsequent installation of a cab on a tractor without cab should be carried out by your JOHN DEERE dealer.



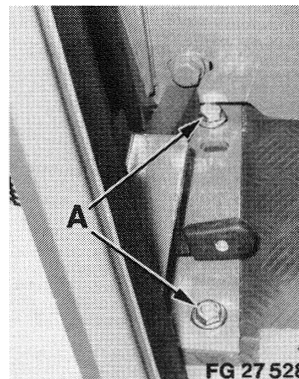
FG 27090

FG27090-1445FAFGE-110888

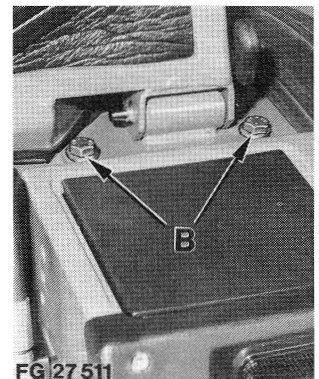
TORQUES FOR HARDWARE

Regularly check torques of all cab and roll guard attaching screws

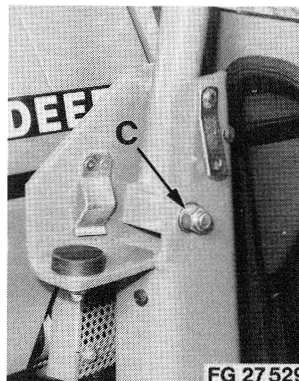
A-Cab attaching screws, front	90 Nm (66 ft-lb.)
B-Cab attaching screws, rear	90 Nm (66 ft-lb.)
C-Roll guard attaching screws	100 Nm (74 ft-lb.)
D-Roll guard support attaching screws	140 Nm (103 ft-lb.)



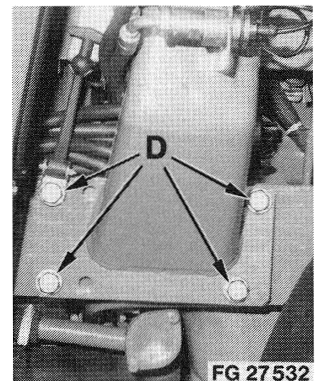
FG 27528



FG 27511



FG 27529



FG 27532

FG27528,FG27511,FG27532,FG27529-1445FAFGE-110888

Wheel Treads, Tires and Ballast

ADJUSTABLE FRONT AXLE (Tractors without Front Wheel Drive)

The front axle can be adjusted at each end to three different positions in increments of 60 or 100 mm (2.36 or 3.94 in.).

SPUOM-1445FAFGE-260687

ADJUSTING FRONT WHEEL TREAD (Tractors without Front Wheel Drive)

Adjustment may be carried out at the axle or at the wheels.

When wheels are used for tread adjustment, wheel disk position in relation to rims can be altered. It is also possible to reverse the wheels.

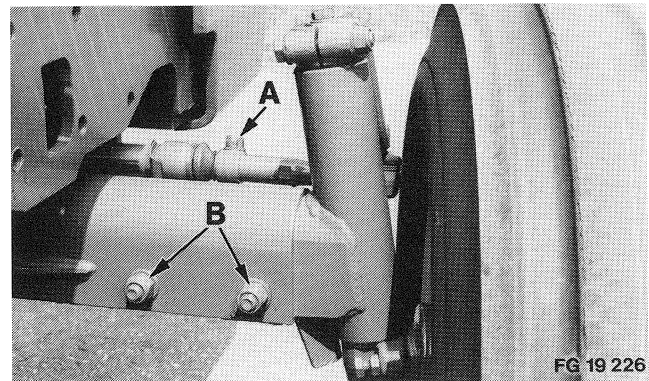
For adjustment, proceed as follows:

Block up front end of tractor.
Do not place jack under engine oil pan!

Remove tie rod clamp bolt (A) and axle bolts (B). Reposition axle ends to the desired front wheel tread. Reinsert axle bolts and tighten to 59 Nm (44 ft-lb) torque.

Adjust tie rods to front wheel tread, reinsert clamp bolt and tighten to 39 Nm (29 ft-lb).

Check toe-in and adjust, if necessary.



FG 19 226

FG19226-1445FAFGE-260687

ADJUSTING FRONT WHEEL TREAD (Tractors with Front Wheel Drive)

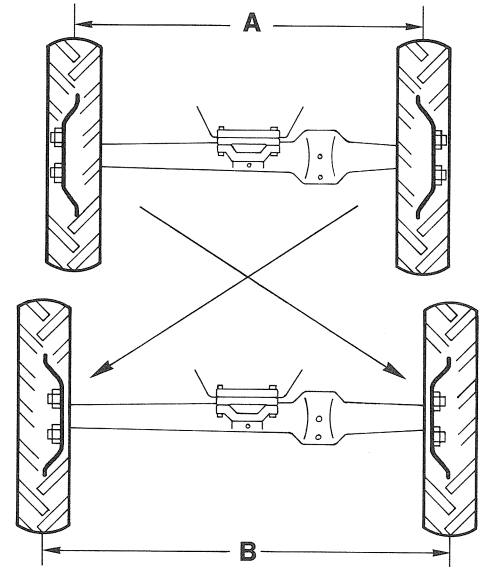
Different wheel treads are obtained by changing wheel disk position in relation to rims or by reversing wheels.

Adjusting Front Wheel Tread With Reversible Rims

By reversing the complete front wheel two different wheel treads can be obtained. The cupped wheel disk facing outward gives the narrow tread (A). The cupped wheel disk facing inward gives the wider tread (B).

When changing to another tread, install left-hand wheel on right-hand side and right-hand wheel on left-hand side of tractor.

The arrow on side wall of tire must always point in direction of forward rotation.

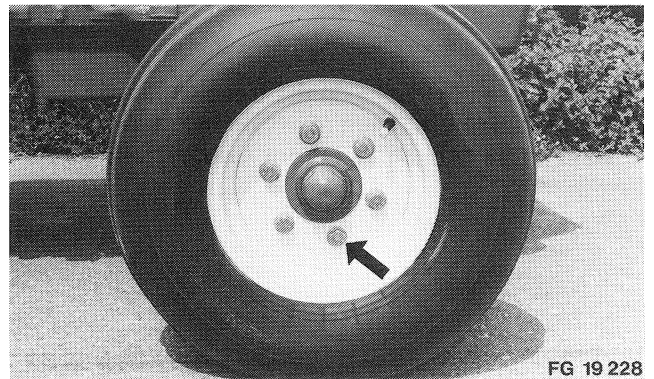


L 19151

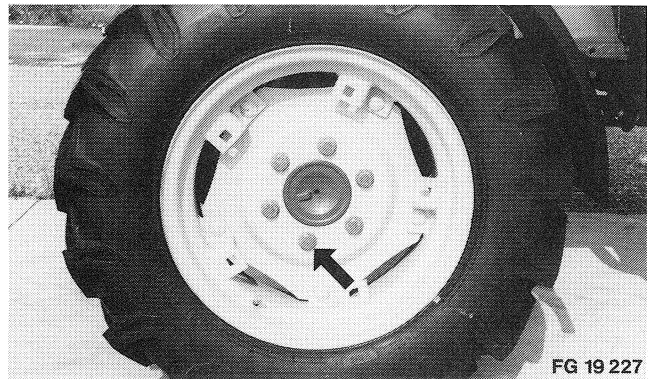
L19151-1445FAFGE-260687

TIGHTENING FRONT WHEEL ATTACHING NUTS

After having adjusted front wheel tread, tighten front wheel attaching nuts (arrowed) to specified torque (see "Break-In Period").



FG 19 228



FG 19 227

FG19228,FG19227-1445FAFGE-260687

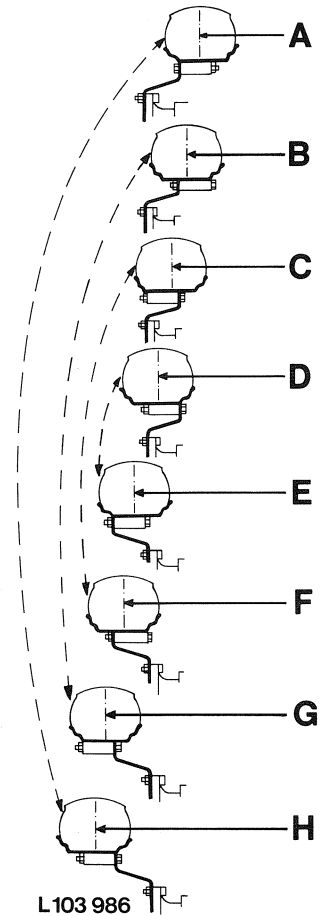
FRONT WHEEL TREAD WIDTHS (Tractors without Front Wheel Drive)

Position of rims and wheel disks

Tire size	A	B	C	D	E	F	G	H
6,50-16	1.06 m (42 in.)	1.08 m (43 in.)	1.16 m (46 in.)	1.19 m (47 in.)	1.15 m (45 in.)	1.18 m (47 in.)	1.26 m (50 in.)	1.29 m (51 in.)
7,00-12*	1.14 m (45 in.)				1.20 m (45 in.)			
7,50-16**	1.05 m (41 in.)	1.09 m (43 in.)	1.16 m (46 in.)	1.20 m (47 in.)	1.15 m (45 in.)	1.19 m (47 in.)	1.25 m (49 in.)	1.29 m (51 in.)

*High Version **Low Version

By adjusting the front axle the tread width can be increased by 100 mm (4 in.) or 140 mm (5.5 in.). See "Adjustable Front Axle".



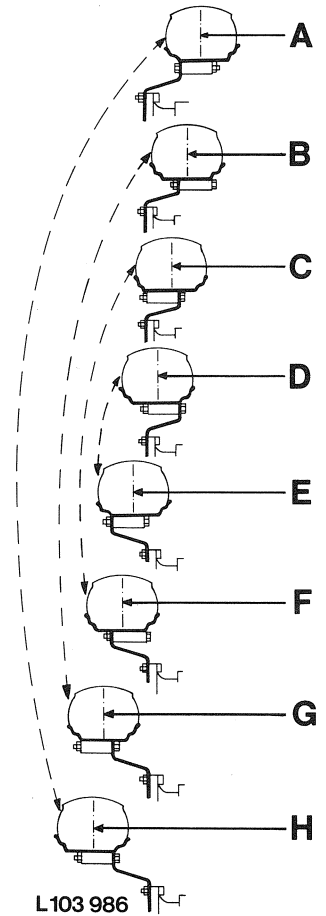
L103986-1445FAFGE-111189

FRONT WHEEL TREAD WIDTHS (Tractors with Front Wheel Drive)

Position of rims and wheel disks

Tire size	A	B	C	D	E	F	G	H
6,50-16*	1.13 m (45 in.)	1.28 m (50 in.)	1.17 m (46 in.)	1.33 m (52 in.)	1.29 m (51 in.)	1.44 m (57 in.)	1.33 m (52 in.)	1.49 m (59 in.)
9,0/75-16*	1.15 m (45 in.)	1.32 m (52 in.)	1.25 m (49 in.)	1.43 m (56 in.)	1.19 m (47 in.)	1.37 m (54 in.)	1.30 m (51 in.)	1.47 m (58 in.)
10,0/75-15,3*	1.25 m (49 in.)				1.37 m (54 in.)			
31/12,5-15*	1.27 m (50 in.)				1.35 m (53 in.)			
260/80-15,5*	1.18 m (46 in.)				1.44 m (57 in.)			
7,50-18**								
8,25-16**								
250/80-18**	1.15 m (45 in.)	1.29 m (51 in.)	1.25 m (49 in.)	1.39 m (55 in.)	1.26 m (50 in.)	1.39 m (55 in.)	1.36 m (54 in.)	1.49 m (59 in.)

*High Version **Low Version



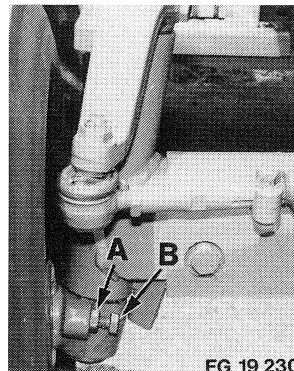
L103 986

L103986-1445FBFGE-111189

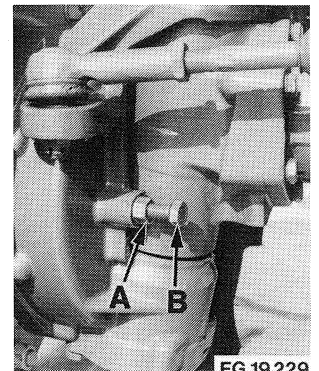
LIMITING FRONT WHEEL STEERING ANGLE

Steering angle is limited as follows:

Loosen nuts (A).
Turn wheels to right-hand or left-hand stop. Turn
out screws (B) until they contact axle carrier.
Tighten nuts (A).



FG 19 230



FG 19 229

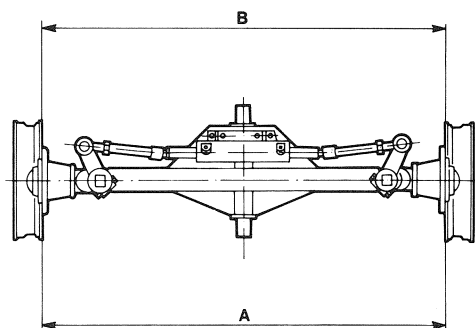
FG19230,FG19229-1445FAFGE-260687

CHECKING FRONT WHEEL TOE-IN

Measure front and rear of front wheels from rim flange to rim flange at hub height .

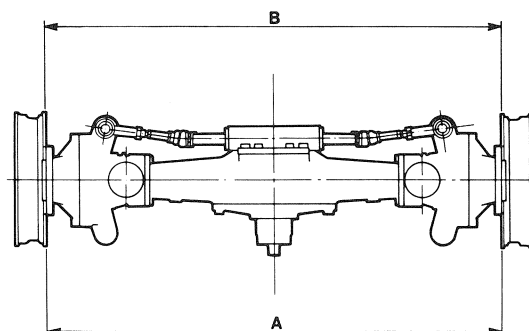
Correct toe-in is:

– 4 to 6 mm (0.16 to 0.24 in.)
more in rear (A) than in front (B).



FG 19 219

$$A = B + 4 \div 6 \text{ mm}$$



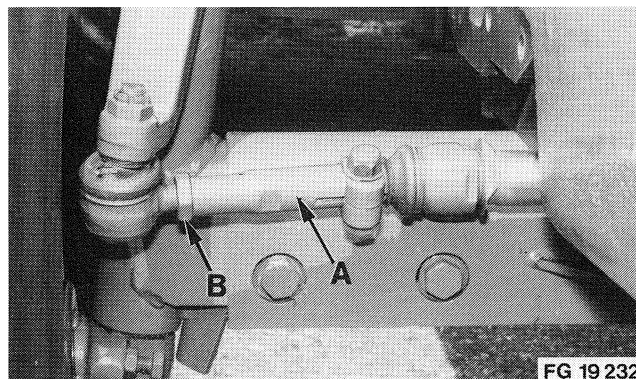
FG 19 220

$$A = B + 4 \div 6 \text{ mm}$$

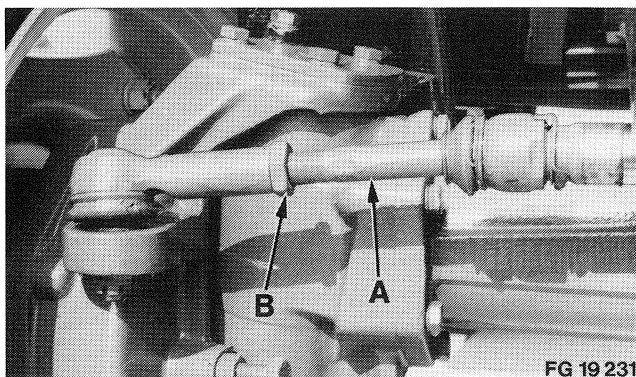
FG19219,FG19220-1445FAFGE-260687

ADJUSTING FRONT WHEEL TOE-IN

Before adjusting toe-in, make sure that steering cylinder piston rods are equally extended on both sides. Loosen nut (B) and turn ball joint (A) until specified toe-in is obtained. Tighten nut (B).



FG 19 232



FG 19 231

FG19232,FG19231-1445FAFGE-260687

ADJUSTING REAR WHEEL TREAD

Four different rear wheel treads can be obtained by varying the wheel disk position on the rim. Additional four treads can be obtained by reversing the complete wheels.

When reversing the wheels, make sure that the arrow on side wall of tire points in the direction of forward rotation of tire.

After adjustment has been completed, tighten wheel nuts to specified torque (see "Break-In-Period").

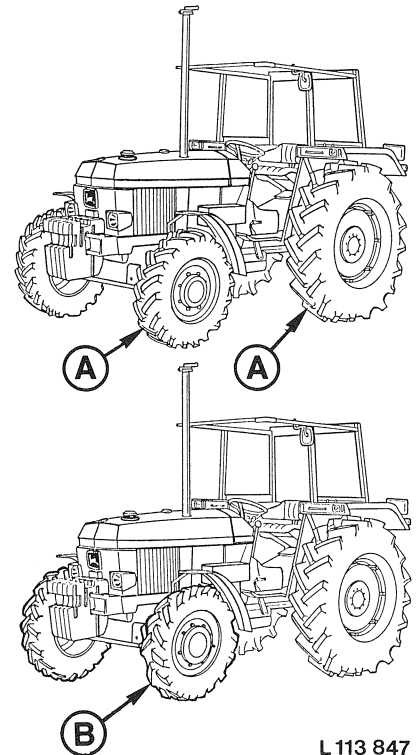
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DIRECTION OF TIRE ROTATION

When mounting or changing tires, make sure arrow on side wall of tires points in the direction of forward travel (A).

When on tractors with front wheel drive the main function is transport or front loader operation turn tires against usual rolling direction of tire lugs (B). Tire life is increased by 25 to 30% and better traction achieved.

Because of reduced traction and tire self-cleaning effect this arrangement is not recommended for field work under wet conditions.



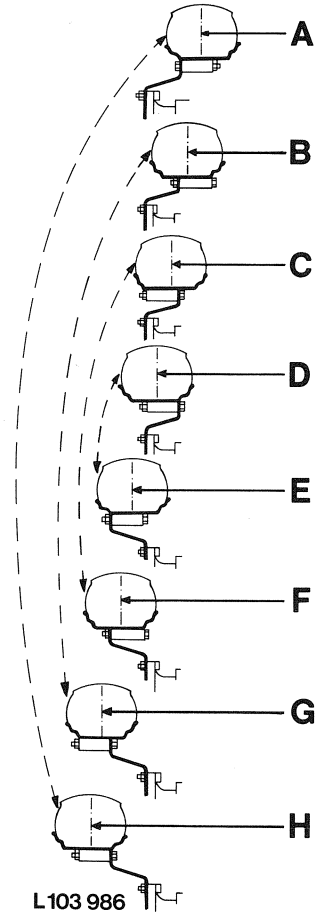
L 113 847

L113847-1550ALE-000986

REAR WHEEL TREAD WIDTHS

Position of rims and wheel disks

Tire size	A	B	C	D	E	F	G	H
11,2-24* 12,4-24*	1.04 m (41 in.)	1.12 m (44 in.)	1.15 m (45 in.)	1.23 m (48 in.)	1.32 m (52 in.)	1.40 m (55 in.)	1.43 m (56 in.)	1.51 m (59 in.)
44-18,00-20*	1.24 m (49 in.)				1.31 m (52 in.)			
380/70-24*		1.09 m (43 in.)	1.18 m (46 in.)	1.21 m (48 in.)	1.34 m (53 in.)	1.37 m (54 in.)	1.46 m (57 in.)	1.49 m (59 in.)
11,2-28** 12,4-28**	1.04 m (41 in.)	1.12 m (44 in.)	1.16 m (46 in.)	1.24 m (49 in.)	1.32 m (52 in.)	1.40 m (55 in.)	1.44 m (57 in.)	1.52 m (60 in.)
13,6-24**	1.06 m (42 in.)	1.09 m (43 in.)	1.18 m (47 in.)	1.21 m (48 in.)	1.34 m (53 in.)	1.37 m (54 in.)	1.46 m (57 in.)	1.49 m (59 in.)
14,9-24**		1.09 m (43 in.)	1.18 m (47 in.)	1.21 m (48 in.)	1.34 m (53 in.)	1.37 m (54 in.)	1.46 m (57 in.)	1.49 m (59 in.)



*High Version **Low Version

L103986-1445FCFGE-111189

Federal Republic of Germany Only

When driving on public roads, tractor must have narrowest tread for tires installed (see table). This must not be exceeded!

SPUOM-1445FFFGE-260687

**TIRE COMBINATIONS
(Tractors without Front Wheel Drive)**

A	B		
	6.50-16	7.00-12	7.50-16
11.2-24	—	x	—
11.2-28	x	—	—
12.4-24	—	x	—
12.4-28	—	—	x
13.6-24	x	—	—
14.5-20	—	x	—
14.9-24	—	—	x
380/70-24	x	—	—

FG 114 423

A—Rear Wheels

B—Front Wheels

FG114423-1445FAFGE-260687

TIRE COMBINATIONS (Tractors with Front Wheel Drive)

A	B							
	6.50-16	7.50-18	8.25-16	9.0/75-16	10.0/75-15.3	31/12.50-15	250/80-18	280/60-15.5
11.2-24	x	-	-	-	-	-	-	-
11.2-28	-	-	x	-	-	-	-	-
12.4-24	-	-	-	x	-	-	-	-
12.4-28	-	x	-	-	-	-	-	-
13.6-24	-	-	x	-	-	-	-	-
14.5-20	-	-	-	-	-	-	-	x
14.9-24	-	x	-	-	-	-	x	-
44/18.00-20	-	-	-	-	-	x	-	-
380/70-24	-	-	-	-	x	-	-	-

FGB03901UN

A—Rear Wheels

B—Front Wheels

In order to achieve maximum drawbar pull and to maintain proper steerability it is absolutely necessary to comply with the tire combination charts. Apart from this, correct tire combinations

reduce tire wear and fuel consumption. Should front wheel tires show excessive wear in comparison with the rear tires they must be replaced in order to maintain the predetermined tire ratio.

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TIRE PRESSURES

Long life and satisfactory performance of tires depend on proper tire inflation. Under-inflation leads to rapid wear. Over-inflated tires reduce traction and increase wheel slippage.

As correct tire pressures depend on the one side from working conditions and load, and on the other side from tractor model, tire size and manufacturer, we recommend you approach your JOHN DEERE dealer or tire company for advice. The tire pressures shown should therefore be considered as a standard guide only. Tire pressures shown are for field operation. If you are operating 20% or more on roads, increase tire pressures according to manufacturer's specifications.

Front Wheels (without front wheel drive)

Tires:

6.50-16 = 310 kPa (3.1 bar; 44 psi)
7.00-12 = 250 kPa (2.5 bar; 36 psi)
7.50-16 = 230 kPa (2.3 bar; 33 psi)

Front Wheels (with front wheel drive)

Tires:

6.50-16 = 200 kPa (2.0 bar; 28 psi)
7.50-18 = 230 kPa (2.3 bar; 33 psi)
8.25-16 = 160 kPa (1.6 bar; 23 psi)
9.0/75-16 = 260 kPa (2.6 bar; 37 psi)
10.0/75-15.3 = 310 kPa (3.1 bar; 44 psi)
250/80-18 = 250 kPa (2.5 bar; 36 psi)
280/60-15.5 = 220 kPa (2.2 bar; 31 psi)

Rear Wheels

Tires:

11.2-28 = 180 kPa (1.8 bar; 26 psi)
14.5-20 = 120 kPa (1.2 bar; 17 psi)
All other tires = 160 kPa (1.6 bar; 23 psi)

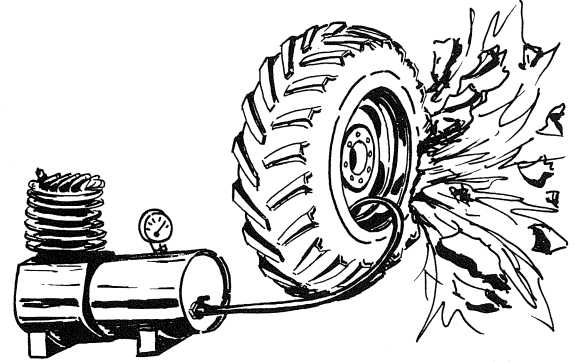
SPUOM-1445FGFGE-260687

SERVICE TIRES SAFELY

Failure to follow proper procedures when mounting a tire on a wheel or rim can produce an explosion which may result in serious bodily injury or death. **DO NOT** attempt to mount a tire unless you have the proper equipment and experience to perform the job safely. Have it done by your JOHN DEERE dealer or a qualified tire repair service.

When sealing 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 necessary safety precautions, are contained in JOHN DEERE Fundamentals of Service (FOS) Manual 55, Tires and Tracks, available through your JOHN DEERE dealer. Such information is also available from tire manufacturer agents.



Z 20924

Z20924-2140ALE-010885

SELECTING BALLAST

Safety and performance of your tractor depend upon correct ballasting of front axle (front weights), and rear axle (wheel weights, filling tires with water).



CAUTION: When determining front and rear axle ballast, make sure maximum permissible axle loads as well as maximum permissible total weight (including implements) are not exceeded.

Comply with local regulations regarding installation and maximum permissible number of weights.

GEWOM-3640ALE-000185

BALLASTING REAR WHEELS

Rear wheel ballast should be chosen so as to give 10 to 15% wheel slippage when operating. Field tests have shown that maximum horsepower available at the drawbar occurs in this range.

Ballast should never exceed the weight required to provide traction for loads within the 4th gear operating capacity of the tractor. Do not add too much ballast. Remove ballast if tractor engine labors when pulling heavy loads in the three lower gears.

Too little ballast leads to:

- Excessive wheel spin and reduced traction
- Increased tire wear
- High fuel consumption

Too much ballast leads to:

- Increased rolling resistance and reduced traction
- Overloading of tires and transmission
- Soil compaction
- High fuel consumption

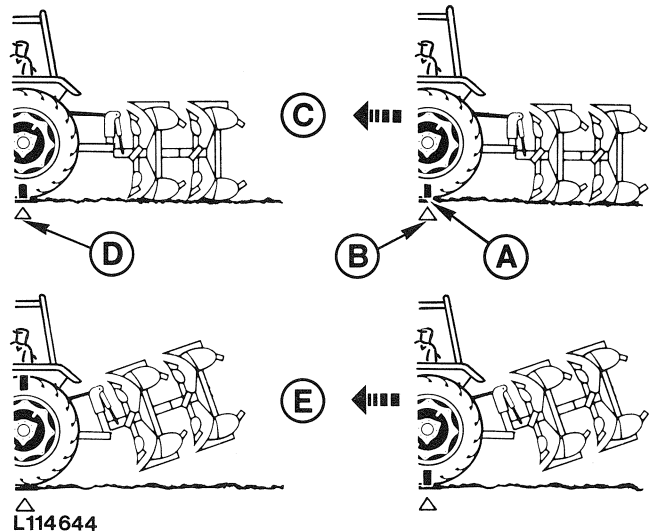
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MEASURING REAR WHEEL SLIP

1. Mark tire (A)
2. Mark starting point on the ground (B)
3. Drive tractor forward with implement lowered until ten revolutions of the rear wheel have been made (C)
4. Again place a marker in the ground (D)
5. Now raise implement and drive again between the two markers on the ground. Note number of revolutions made between the two markers (E)

The number of revolutions give the following percentage of wheel slip:

- 10 revolutions = 0% wheel slip
- 9.5 revolutions = 5% wheel slip
- 9 revolutions = 10% wheel slip
- 8.5 revolutions = 15% wheel slip
- 8 revolutions = 20% wheel slip
- 7.5 revolutions = 25% wheel slip
- 7 revolutions = 30% wheel slip



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REAR WHEEL WEIGHTS

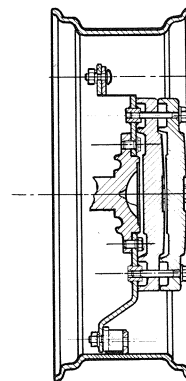
Two cast iron rings per wheel, weighing 70 kg (154 lb), give a total weight of 140 kg (309 lb). Further individual rings can be added, each one weighing 35 kg (77 lb).

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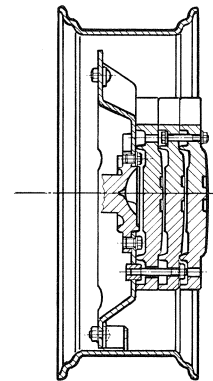
INSTALLING REAR WHEEL WEIGHTS

Attach the first two weights to wheel disk by means of four studs.

If a further weight is needed, remove outer weight again and install four attaching screws. Reinstall outer weight and attach additional weight by means of screws. Tighten screws and studs.



FG 19221



FG 19222

FG19221,FG19222-1445FAFGE-260687

FRONT WHEEL WEIGHTS

Up to four cast iron plates, each one weighing 33 kg (73 lb), with a total weight of 132 kg (292 lb) can be used.

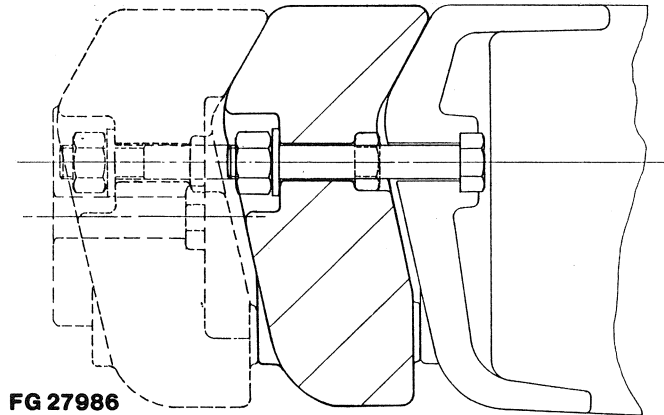
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INSTALLING FRONT WHEEL WEIGHTS

Installing first weight:

- Remove front hitch.
- Remove basic weight by inserting the two screws (supplied with the weights) from the inside.
- Reinstall basic weight
- Install first front weight on the two screws mentioned above.

For installation of additional front weights repeat the above steps but do not install them on the basic weight but on previously installed one.



FG27986-1445FAFGE-111189

FILLING TIRES WITH LIQUID BALLAST

To fill a tire, jack up the wheel and turn it so that tire valve is in top position. Remove the valve insert and screw water valve on valve stem. While the water enters, air escapes through the lateral bore in the water valve. Stop filling tire when water drains from the vent hole of the valve. Filling a tire takes 15 to 30 minutes, depending on tire size. Then remove water valve and screw in air valve. Pump tire to normal inflation pressure.

If low temperatures are expected, an anti-freeze solution should be used. Tire manufacturers recommend a mixture of water and calcium chloride.

The anti-freeze solution may be sucked from an elevated tank. To speed up the filling operation, a pump may be used (flush pump with clear water afterwards). The quantities of water and calcium chloride required are given in the chart on the next page. Put calcium chloride into the water - not vice versa. Do not fill the radiator with this anti-freeze solution.

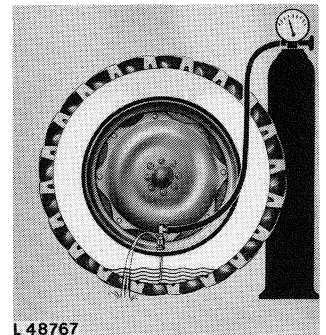


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DRAINING THE TIRES

Jack up wheel. Remove the air valve and let the water run out.

In order to clear the remainder of the water from the tire, insert the drain tube with the hose extension and pump air into the tire. The air pressure will push the remainder of the water out of the tire.



L48767-2140ALE-010885

WEIGHTS WITH LIQUID BALLAST

The ballast weight listed in the chart opposite is based on a filling with liquid up to the tire valve in top center position.

Weights shown refer to one tire.

Fill tires with a solution consisting of water and calcium chloride (70 to 72%). Concentration should be as follows:

down to -10°C (14°F)

0.2 kg (0.44 lb) per liter (0.22 gal.) of water;
weight of solution 1.11 kg (2.45 lb) per liter.

down to -20°C (-4°F)

0.3 kg (0.66 lb) per liter (0.22 gal.) of water;
weight of solution 1.16 kg (2.56 lb) per liter.

down to -30°C (-22°F)

0.4 kg (0.88 lb) per liter (0.22 gal.) of water;
weight of solution 1.21 kg (2.67 lb) per liter.

Tire Size	Quantity of Solution required (Liters)	Weight of Solution (kg)
11.2-24	70	81
11.2-28	90	104
12.4-24	80	93
12.4-28	110	128
13.6-24	120	139
14.5-20	125	145
14.9-24	150	174
380/70-24	120	139

Weights shown in chart refer to a water – CaCl_2 solution offering protection against freezing down to -20°C (-4°F).

SPUOM-1445FKFGE-260687

Rockshaft and Three-Point Hitch

GENERAL INFORMATION

The transmission oil is used to operate rockshaft. Oil delivery is accomplished by means of an engine-driven gear pump.

The forces occurring at the center link during rockshaft operation are cushioned by an elastic blade.

The following methods of rockshaft operation may be selected:

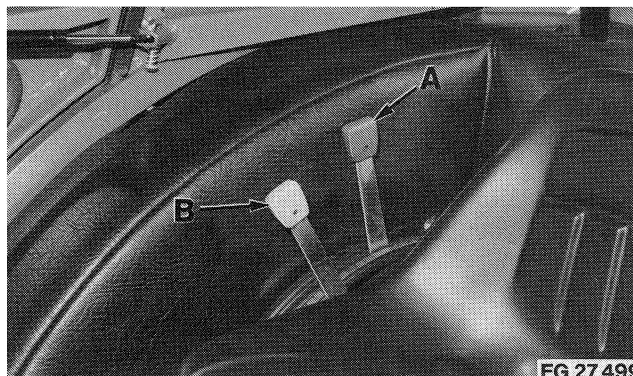
- Depth control
- Load control
- Float position
- Load-and-depth control

REGOM-1445FAFGE-260687

CONTROL LEVER

A—Control lever
B—Selector lever

Move levers forward to lower implement and rearward to raise implement.



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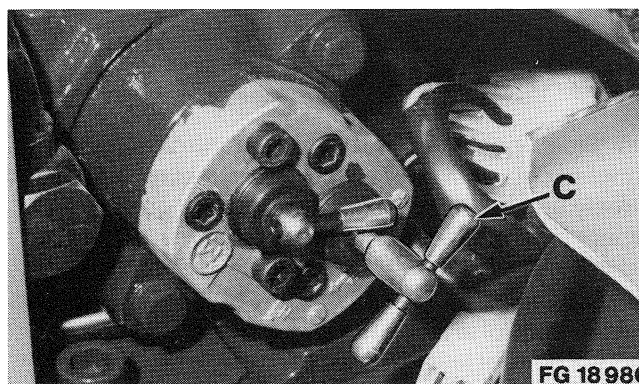
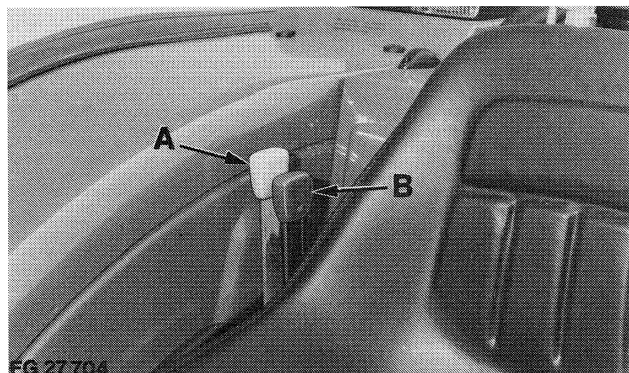
TRANSPORTING MOUNTED IMPLEMENTS



CAUTION: Always make sure that implement is properly attached to three-point hitch.

With a mounted implement, raise implement fully by moving both control levers (A) and (B) all the way to the rear.

NOTE: To prevent accidental raising or lowering of implement, the lift links may be locked in highest position for additional safety. For this purpose, completely close cock (C) on hydraulic oil distributor located below operator's seat.

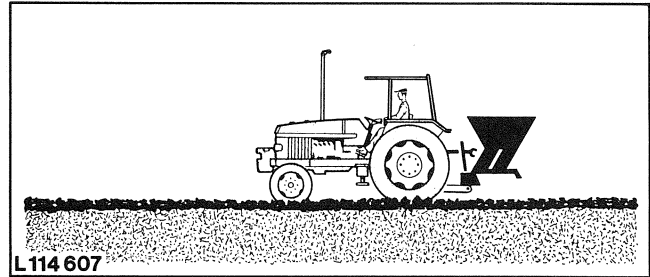


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DEPTH CONTROL

Depth control is recommended when a certain implement position in or above the ground has to be maintained (e.g. for fertilizer spreaders, side-delivery rakes, mowers).

- Move selector lever all the way to the rear.
- Move control lever forward to lower implement or rearward to raise implement. Lever position corresponds to implement height.



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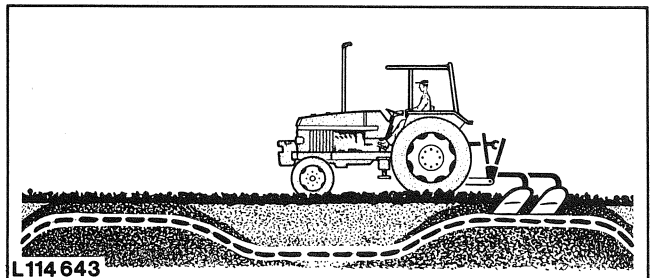
LOAD CONTROL

In load control the rockshaft automatically maintains a constant pulling power.

Working depth varies with soil density or ground contour. When the load increases, implement is raised. When load decreases, implement is lowered.

Load control is recommended for implements without gauge wheels, skids etc. (plows, harrows, cultivators etc.).

- Move control lever all the way to the rear
- Lower or raise implement by means of selector lever

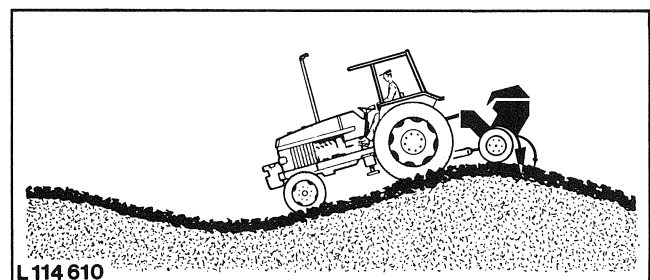


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“FLOAT” POSITION

In “Float” position (for rockshaft controlled implements with gauge wheel) the implement can move freely up and down and thus follow the ground contours independent of the tractor.

- Move selector lever all the way to the rear;
- move control lever all the way forward.
- Use control lever to lower or raise implement.

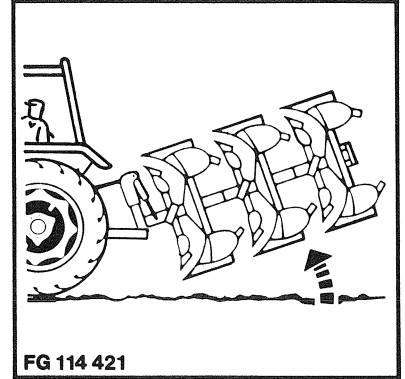


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LOAD-AND-DEPTH CONTROL

This control prevents the implement from rising above a predetermined height.

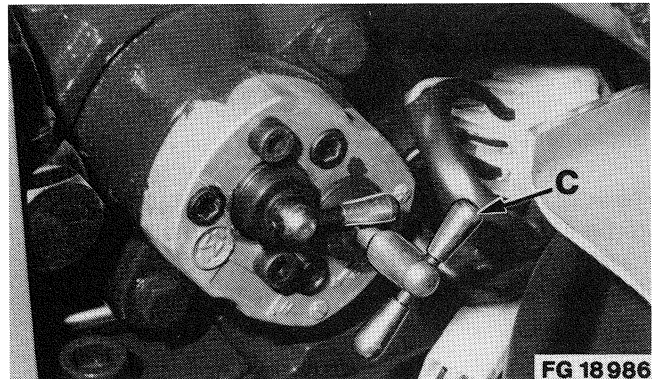
- Adjust implement operating height by means of control lever
- Use selector lever to lower implement to the ground.
- After field operation, raise implement by means of selector lever to predetermined height.



FG114421-1445FAFGE-260687

ADJUSTING RATE OF IMPLEMENT DROP

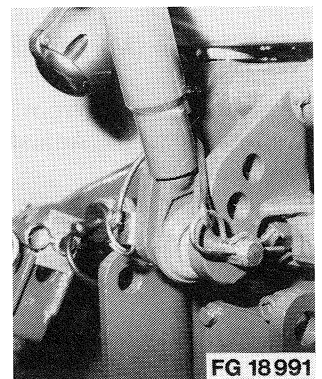
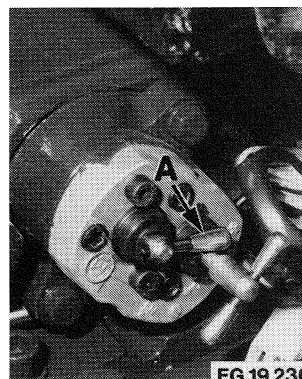
The rate at which the rockshaft and implement will drop is controlled – independent of the control lever – by turning cock (C) on hydraulic oil distributor located below operator's seat.



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ADJUSTING ROCKSHAFT SENSITIVITY

Fine adjustment of rockshaft sensitivity is carried out by means of adjusting device (A). Turning it clockwise increases sensitivity, turning it counterclockwise reduces sensitivity. If this adjustment is not sufficient, relocate center link in one of the lower bores to increase sensitivity. To decrease sensitivity, position center link in one of the upper bores.



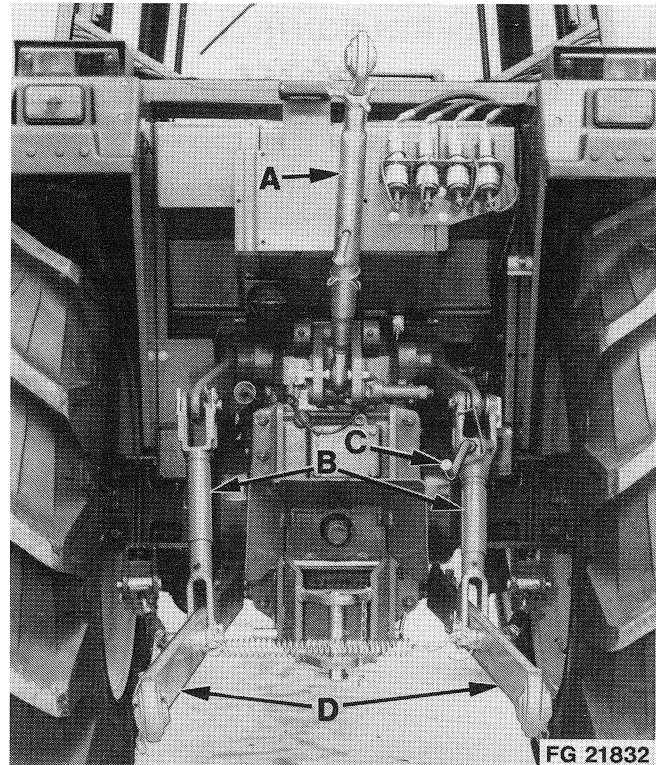
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THREE-POINT HITCH COMPONENTS

- A—Center link
- B—Lift links
- C—Adjusting handle for lift links
- D—Draft links

Rear-mounted implements can be attached and controlled precisely by means of the three-point hitch.

Tractors are equipped with flat steel draft links.



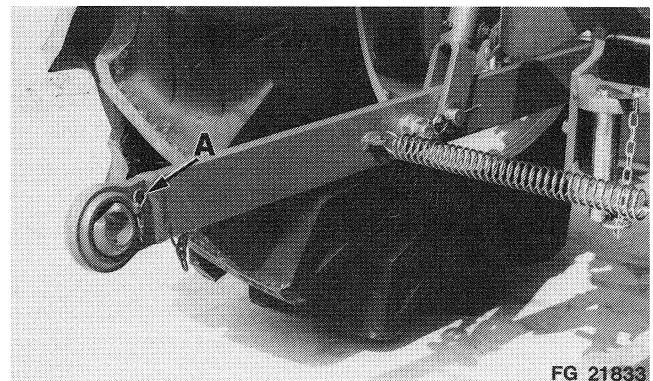
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FLAT STEEL DRAFT LINKS

This type of draft link can be used for category I or II implements.

To adapt draft links to implement type, bushings have to be exchanged after removing spring pin (A).

For center link adaptation, simply turn ball-shaped bushing.



FG21833-1445FAFGE-260687

LEVELING IMPLEMENT

To level implement from side-to-side, adjust the right-hand lift link. Adjust the center link to level fore-and-aft.

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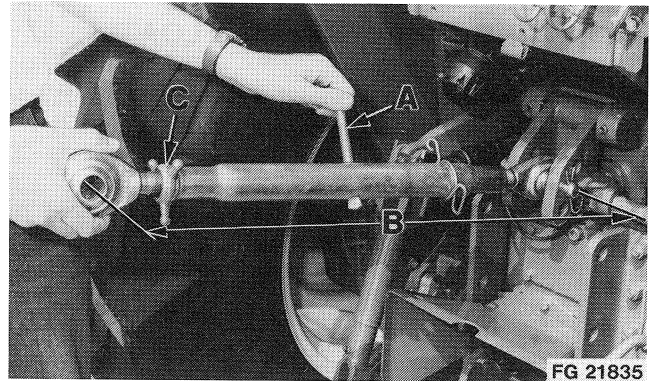
CENTER LINK

Length of center link can be adjusted by means of adjusting lever (A) after loosening special nut (C).

The length (B) must be between 590 mm (23.23 in.) and 720 mm (28.35 in.). Do not exceed these limits.

After adjustment is completed, tighten special nut (C).

Connect center link to implement mast and secure with pin.



FG21835-1445FAFGE-260687

LIFT LINKS

A greater transport clearance is obtained by shortening the links. Extra working depth is obtained by lengthening the links.

To adjust right-hand lift link, raise lock (A) and turn crank (B) until desired length has been obtained. Lock lift link.

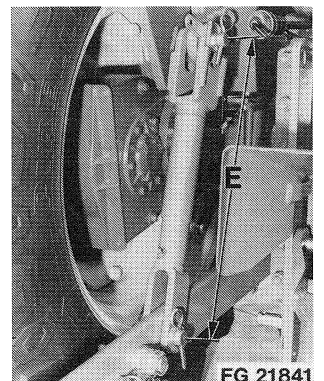
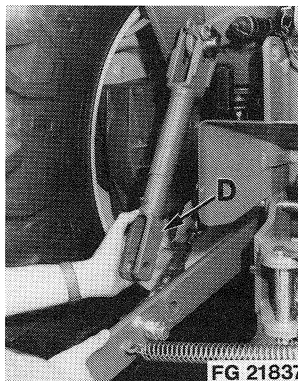
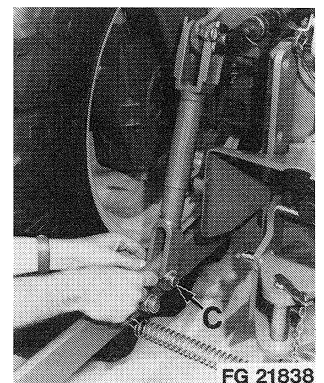
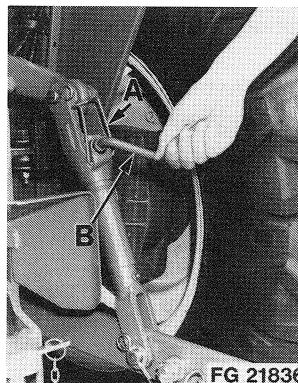
To adjust left-hand lift link, remove pin (C) and turn yoke end (D) in or out as required. Insert pin (C) and secure with cotter pin.

Length of links (E) must be kept within the following limits:

Minimum length: 385 mm (15.16 in.)

Maximum length: 455 mm (17.91 in.)

NOTE: The lift link dimensions quoted above are with lift links locked in draft links (no vertical float).

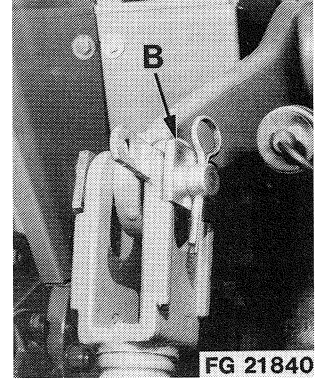
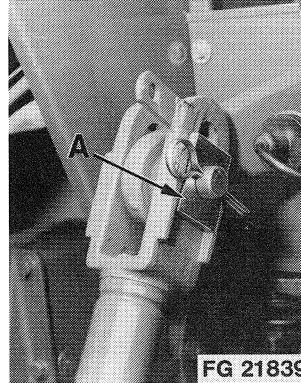


FG21836,FG21838,FG21841,FG21837-1445FAFGE-260687

ADJUSTING FOR VERTICAL FLOAT

Depending on the position of the steel plate, draft links can be adjusted to allow for vertical float or to lock out float.

A—Steel plate in position for vertical float
B—Steel plate in position for no float



FG21839.FG21840-1445FAFGE-260687

ATTACHING 3-POINT HITCH AND DRAWN IMPLEMENTS



CAUTION: Do not stand between tractor and implement unless handbrake is firmly applied.

IMPORTANT: When attaching 3-point hitch mounted or drawn implements for the first time, make a trial to be sure the cab will not be damaged in any position of the implement. With hitch-mounted implements pay attention to the highest lift position, with drawn implements be careful when driving and making sharp turns.

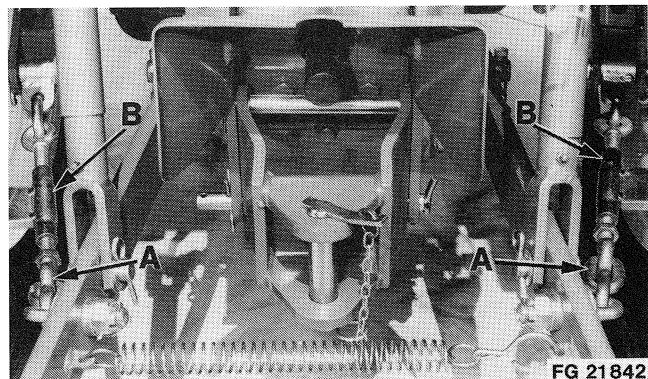
If a swinging drawbar is installed, set it in the front, short position. It can also be swung to the left or right and secured.

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STABILIZER CHAINS

With these chains, draft links can be stabilized. The chain adjustment can be carried out without using any tools.

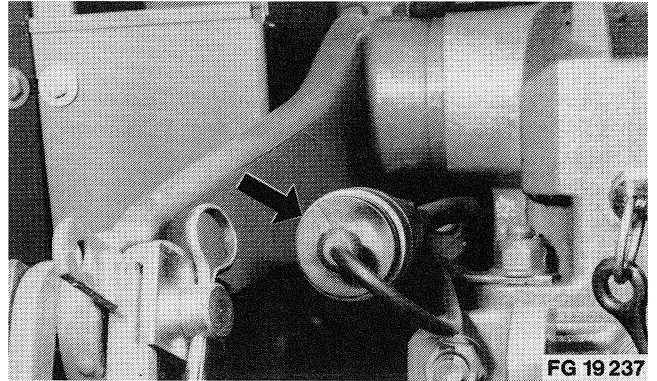
A—Stabilizer chains
B—Tensioners



FG21842-1445FAFGE-260687

PRESSURE-FREE OIL RETURN LINE

This line, fitted with a quick coupler, is used for returning pressure-free hydraulic oil when implements with hydraulic motor are mounted on tractor.

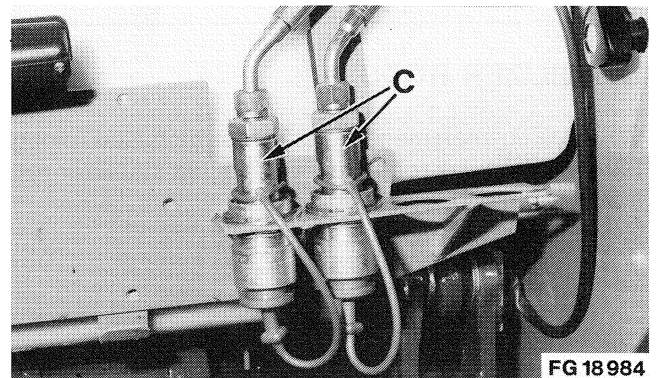
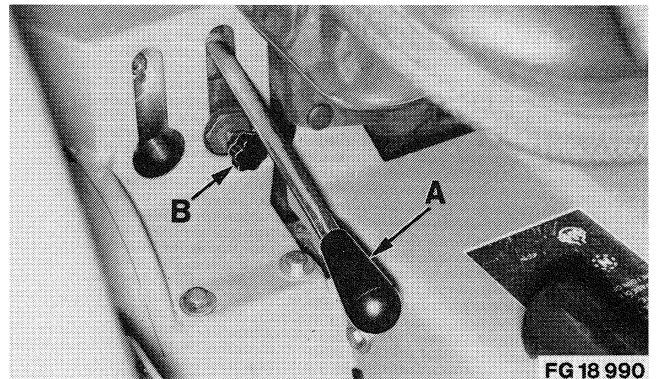


FG19237-1445FAFGE-260687

SELECTIVE CONTROL VALVES (Special Equipment)

The tractors may be equipped with selective control valves to operate single- or double-acting hydraulic cylinders.

- A—Control lever
- B—Adjusting screw
- C—Quick couplers



FG18990,FG18984-1445FAFGE-260687

Optional Equipment

FRONT FENDERS

To prevent foreign material to be thrown up at high ground speed, the use of front fenders is recommended.

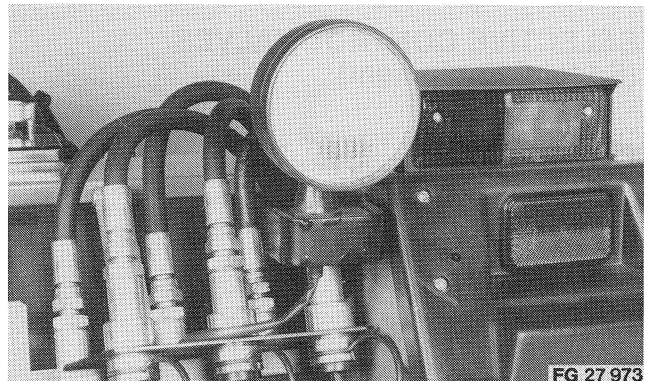


FG 27 977

FG27977-1445FAFGE-110888

REAR WORK LIGHT

To ensure a better control of mounted implements when working in the dark, the adjustable rear work light should be used.

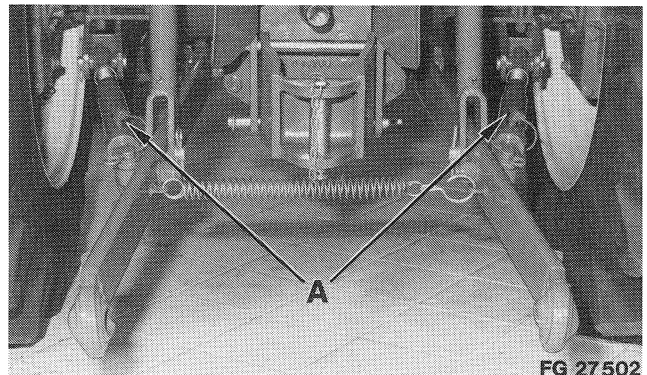


FG 27 973

FG27973-1445FAFGE-110888

STABILIZER RODS

When using implements which must be raised (ploughs, harrows etc.) it is recommended to use stabilizer rods instead of the stabilizer chains.

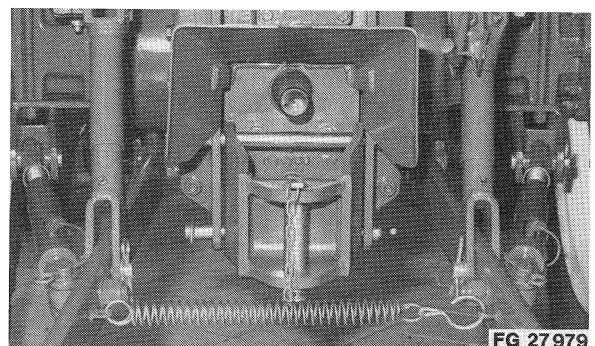


FG 27 502

FG27502-1445FAFGE-110888

TRAILER HITCH (Cat. C)

This hitch is recommended when using one-axle trailers with swivelling tongue.

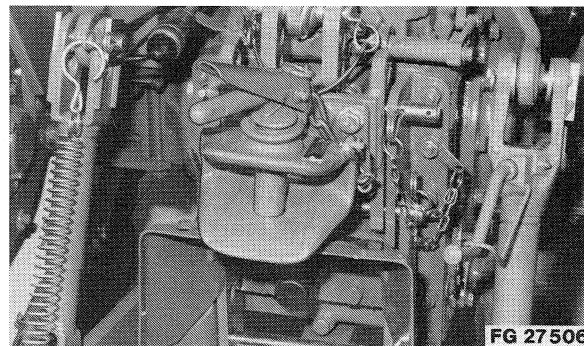


FG 27 979

FG27979-1445FAFGE-110888

TRAILER HITCH “ROCKINGER” TYPE

This type of trailer hitch is designed for one-axle trailers with rigid tongue. It allows the tongue to follow the ground contour.

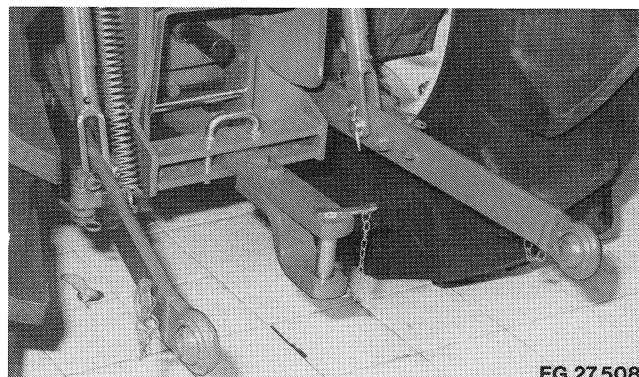


FG 27 506

FG27506-1445FAFGE-110888

SWINGING DRAWBAR (CAT. A)

The swinging drawbar is recommended for trailers with medium tongue loads e. g. trailers with two or more axles.



FG 27 508

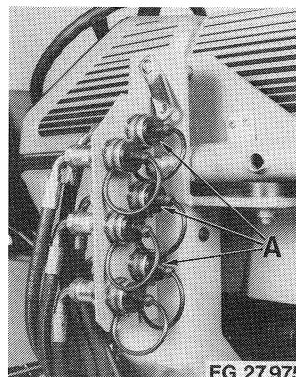
FG27508-1445FAFGE-110888

SELECTIVE CONTROL VALVES WITH HYDRAULIC COUPLERS

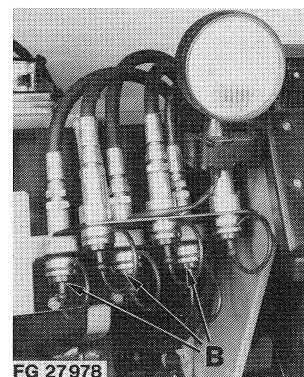
Up to 6 hydraulic hose couplers can be installed on the tractor; 3 to the front (A) and 3 to the rear (B).

The selective control valves (C and D) connected to these hydraulic couplers can be single or double acting; with reduced return flow when working with an implement in float position (following ground contours), or reduced inlet for implements with their own selective control valve or hydraulic motors.

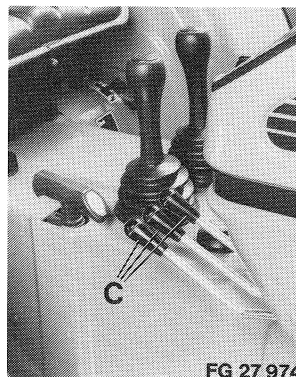
NOTE: As standard equipment the tractor has a pressure-free oil return line to the transmission case (see “Pressure-Free Oil Return Line” in section “Rockshaft and Three-Point Hitch”). When using selective control valves with reduced inlet, the return line of implement must be connected to the pressure-free oil return line.



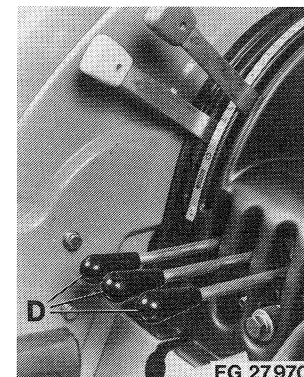
FG 27 975



FG 27 978



FG 27 974

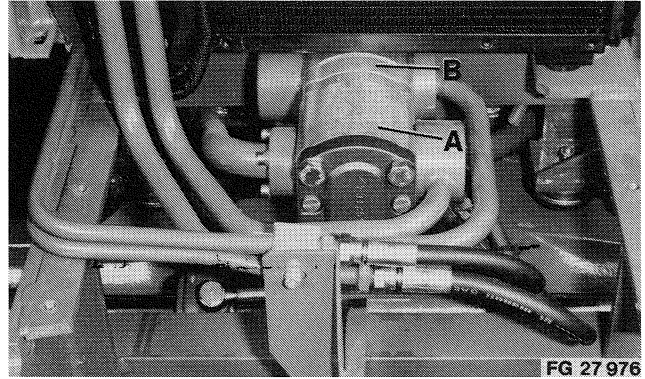


FG 27 970

FG27975,FG27978,FG27970,FG27974-1445FAFGE-110888

DUAL HYDRAULIC PUMP

The dual hydraulic pump consists of two hydraulic pumps (A and B), connected to each other. It is an absolute necessity for the simultaneous operation of two independent hydraulic functions or hydraulic functions with reduced inlet (e. g. hydraulic motors or implements with their own selective control valve).



FG27976-1445FAFGE-110888

Power Take-Off

PTO GUARD

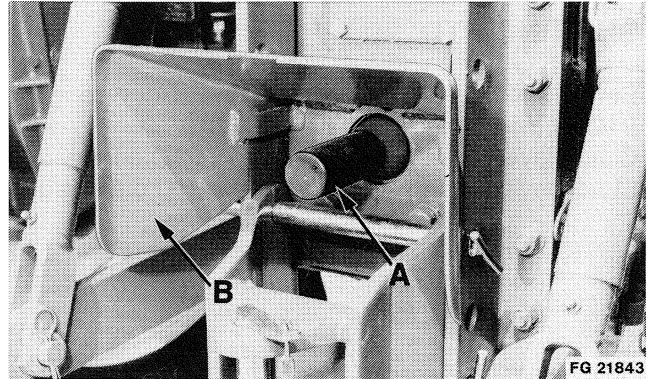


CAUTION: Remove PTO guard (A) only when the PTO is to be used.

As soon as PTO-driven implement has been removed, reinstall guard over PTO stub shaft!

Never operate PTO unless master shield (B) is installed.

To avoid accidents, engine can only be started when PTO shift lever is in neutral position.



FG21843-1445FAFGE-260687

PTO OPTIONS

The tractor may be equipped with the following PTO options:

- 540 rpm PTO
- 540/750 (540/540E) rpm PTO
- 540/1000 rpm PTO

PTO shaft profile is 1-3/8".

ZAPFOM-1445FAFGE-260687

PTO SPEEDS

Standard PTO speeds are obtained with the following engine speeds:

- 540 rpm PTO at 2160 engine rpm
- 750 rpm PTO at 2250 engine rpm
- 1000 rpm PTO at 2214 engine rpm

ZAPFOM-1445FBFGE-260687

SHIFTING PTO

Before shifting PTO by means of lever (A), disengage PTO by means of clutch lever (B).

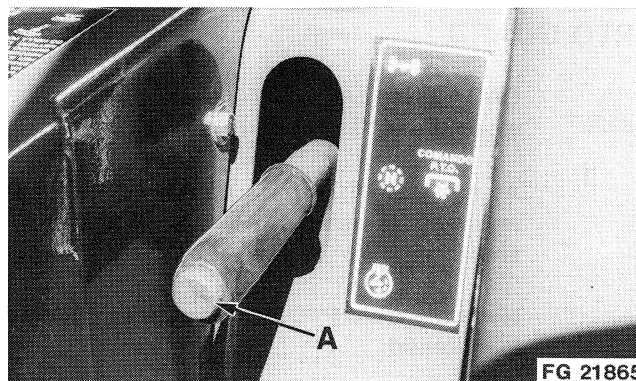
Clutch lever (B) in upper position = PTO engaged

Clutch lever (B) in lower position = PTO disengaged

NOTE: To move clutch lever (B), pull ring (C) upward. The ring locks the clutch lever to avoid accidental PTO engagement.

Shift lever (A) of rear PTO can be moved to three different positions:

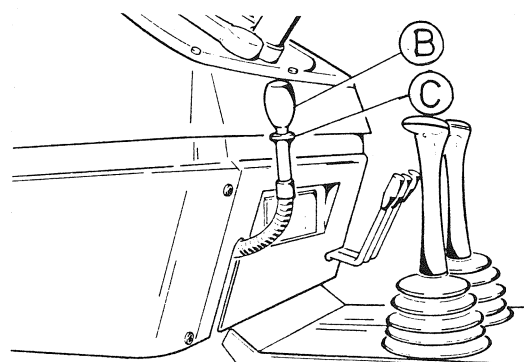
- Neutral
- Upper position = ground speed PTO
- Lower position = continuous-running PTO



FG 21865



FG19243



FG 27984

FG21865,FG27984,FG19243-1445FAFGE-111189

Ground Speed PTO

The ground speed PTO is synchronized with transmission gears. It is used for trailers with drive wheels and other implements requiring synchronized PTO operation.

Continuous-Running PTO

The continuous-running PTO is driven directly by the engine. PTO speed is independent of tractor ground speed. Thus implements can be operated with tractor stationary or in motion.

NOTE: Disengaging PTO repeatedly will result in premature failure of throw-out bearing. Therefore, disengage PTO only as long as required for moving PTO shift lever to desired position.

ZAPFOM-1445FAFGE-110888

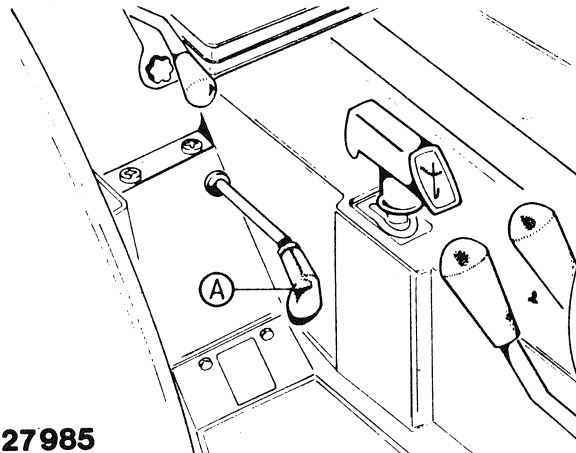
CHANGING PTO SPEED

PTO speed selector lever (A) has two different positions:

Lever (A) in front position = 750 or 1000 rpm

Lever (A) in rear position 540 rpm

The selector lever has an internal stop so that it can not be moved out of the selected position by vibrations etc.



FG 27985

FG27985-1445FAFGE-111189

SPEED RATIO WHEELS – GROUND SPEED PTO

Speed ratio wheels – ground speed PTO
(high version):

540 rpm PTO = 7.38 rear wheel revolutions
750 rpm PTO = 9.84 rear wheel revolutions
1000 rpm PTO = 13.33 rear wheel revolutions

Speed ratio wheels – ground speed PTO
(low version):

540 rpm PTO = 7.77 rear wheel revolutions
750 rpm PTO = 10.36 rear wheel revolutions
1000 rpm PTO = 14.04 rear wheel revolutions

ZAPFOM-1445FAFGE-111189

ATTACHING PTO DRIVEN EQUIPMENT



CAUTION: Shut off engine and disengage PTO before attaching PTO driven equipment.

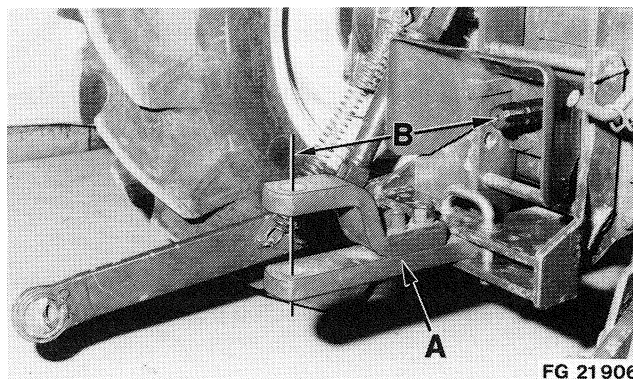
1. Align swinging drawbar (A) with PTO shaft and lock in position.
2. Distance (B) from end of PTO shaft to hole in drawbar end should be 305 mm (12 in.).



CAUTION: High-inertia implements do not become stationary immediately when PTO is disengaged. Allow sufficient time for implement to “coast down” to a halt after having disengaged the PTO.



CAUTION: Always make sure the tractor engine is stopped, equipment lowered to the ground, and PTO disengaged before attempting to clean out, adjust or lubricate a PTO driven machine, hitch or universal joint. Never engage PTO with engine shut off.



FG21906-1445FAFGE-260687

Fuel, Lubricants, Oil and Coolant

FUEL



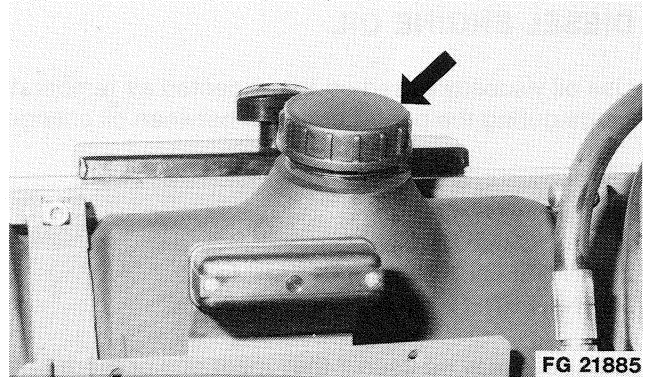
CAUTION: Never fill tank when engine is running. During filling of tank, smoking is strictly prohibited!

Quality and cleanliness of fuel are important factors in obtaining dependable performance and satisfactory engine life. Use a commercial diesel fuel (ISO 1585).

Fill the fuel tank at the end of each day's operation to prevent condensation and freezing during cold weather.

In winter use special winter fuel or add some anti-gelling compound to the fuel to maintain its proper viscosity.

IMPORTANT: The fuel tank is vented through filler cap (see arrow). If a new filler cap is required, always replace it with an original vented cap.



FG21885-1445FAFGE-110888

FUEL STORAGE

Importance of proper fuel storage cannot be stressed too highly. Many engine difficulties can be traced to dirty fuel and fuel that has been in storage too long. To keep fuel system in its most efficient condition, keep all dirt, scale, water, and other foreign matter out of fuel. Avoid storing fuel for a long period of time.

Fuel should be stored in a convenient place outside of buildings.

BETOM-2140ALE-010885

DIESEL ENGINE OIL

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

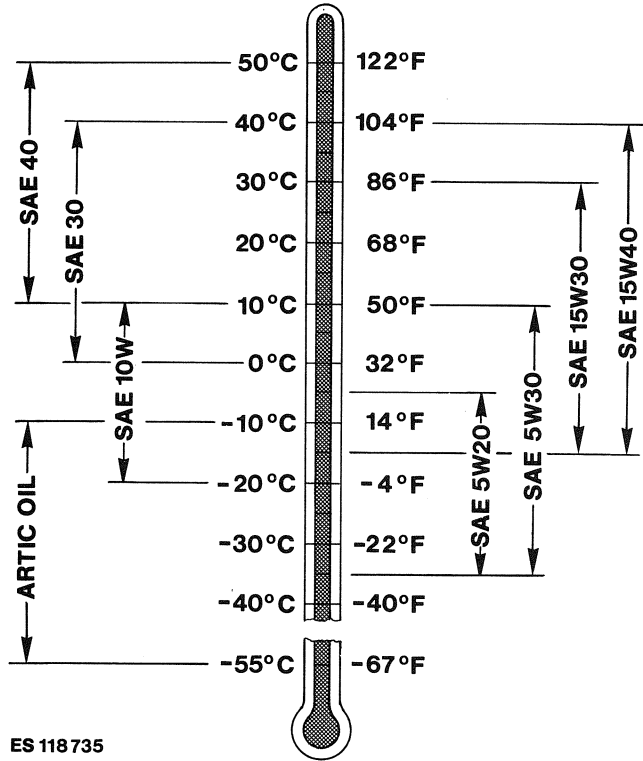
The following oils are preferred:

JOHN DEERE ENGINE OIL
JOHN DEERE UNIVERSAL FARM OIL
JOHN DEERE TORQ-GARD SUPREME®

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

- API Service Classifications 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.



ES 118735

ES118735-ESPD AE-251088

TRANSMISSION AND HYDRAULIC OIL

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

The following oils are preferred:

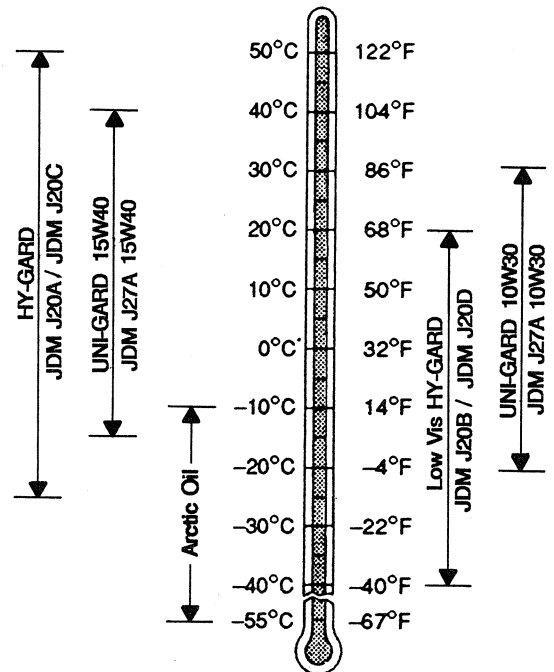
- John Deere HY-GARD®
- John Deere Low Viscosity HY-GARD®
- John Deere UNI-GARD™

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

- John Deere Standard JDM J20C
- John Deere Standard JDM J20D
- John Deere Standard JDM J27A
- John Deere Standard JDM J20A
- John Deere Standard JDM J20B

IMPORTANT: Do not use engine oil for this application.

Oils meeting Military Specification MIL-L-46167B may be used as arctic oils.



FX100030

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FX100030

R11,ANTI

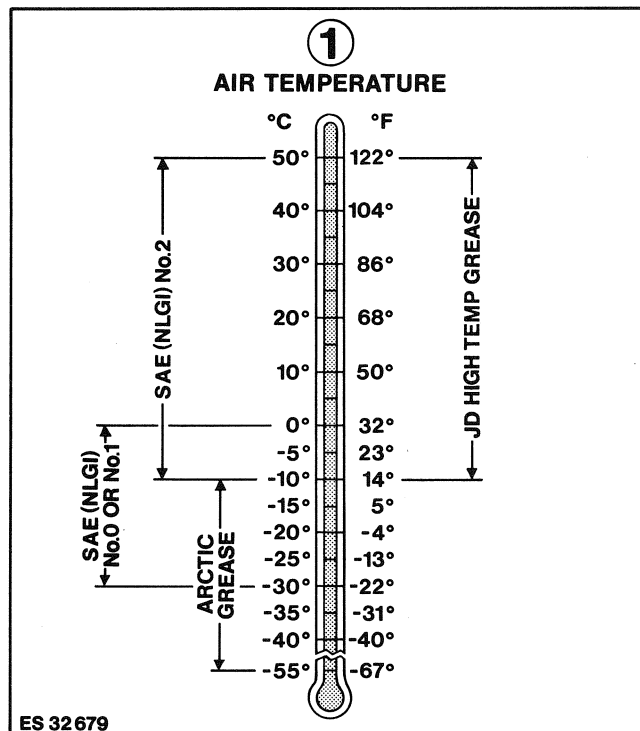
-19-11JUN92

EP MULTIPURPOSE GREASE

JOHN DEERE High Temperature EP Grease is recommended for all grease fittings. If other greases are used, use:

–SAE EP Multipurpose Grease

At temperatures below -30°C (-22°F) use Arctic Grease (MIL-G-10924 C).



ES32679-1640ALE-070483

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.

BETOM-1640CLE-070483

STORING LUBRICANTS

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

BETOM-1640DLE-070483

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 3% 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

Lubrication and Periodic Service

SERVICE INTERVALS



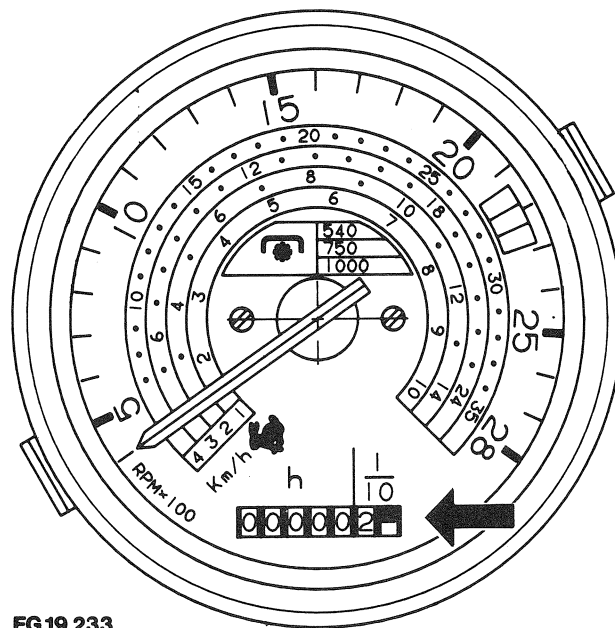
CAUTION: Do not lubricate or adjust the tractor while the engine is running.

The intervals at which the various parts should be checked, lubricated, serviced or adjusted are based on the actual hours of operation as shown on the speed/hour meter. The meter operates whenever the engine is running and shows the accumulated hours of engine operation.

Always check to make sure that the speed/hour meter is serviceable.

The "Lubrication and Periodic Service Timetable" is for normal working conditions. The time period should be shortened when operating under adverse conditions.

IMPORTANT: After having serviced, cleaned or repaired your tractor, always reinstall any safety guards or shields removed before operating.



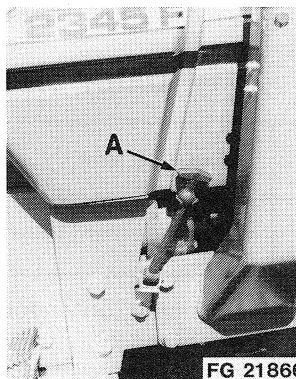
FG19 233

FG19233-1445FAFGE-110888

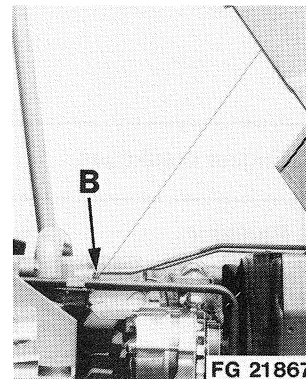
OPENING HOOD

Loosen hood fasteners (A) on both sides and open hood.

Unhook hook (B) and place hood in vertical position for easier access to air cleaner and battery.



FG 21866



FG 21867

FG21866,FG21867-1445FAFGE-260687

LUBRICATION AND PERIODIC SERVICE TIMETABLE

Component	Description	Lubricant	Section
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AS REQUIRED

Air cleaner	Clean primary filter element		Air Intake System
Cab filters	Clean		Miscellaneous
Brakes	Bleed foot brakes and adjust handbrake		Brakes
Operator's seat	Lubricate sliding surfaces	A*	Miscellaneous
Air cleaner restriction indicator	Clean		Air Intake System
Clutch	Check pedal free level		Miscellaneous
Radiator	Clean		Cooling System

DAILY OR EVERY 10 HOURS

Engine crankcase	Check oil level	B*	Engine
Radiator	Check coolant level		Cooling System
Front axle	Lubricate (only necessary when operating in extremely wet and muddy conditions)	A*	Axles and Wheels
Fuel Filter	Drain sediment and water deposits		Fuel System

A* = Lubricating grease

B* = Engine Oil

Component	Description of Service	Lubricant	Section
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EVERY 50 HOURS
(in addition carry out 10 hour service)

Air cleaner unloading valve	Clean and check		Air intake system
Transmission and hydraulic system	Check oil level and replace filter element after first 50 hours of operation	C*	Transmission
Tires	Check tire pressures and conditions of tires		Wheel treads, tires and ballast
Front axle	Lubricate	A*	Axles and wheels

EVERY 100 HOURS
(in addition carry out 10 and 50 hour service)¹⁾

Battery	Check level of electrolyte, clean cable connections and batteries		Electrical system
Front axle (tractors with F.W.D.)	Check oil level. Drain and refill with fresh oil after the first 100 hours of operation	C*	Axles and wheels
Cab dust prefilter	Replace		Miscellaneous

A* = Lubricating grease

C* = Transmission/hydraulic oil

¹⁾ Replace crankcase filter element and oil after the first two 100 hours of operation. Thereafter replace filter element and oil after every 200 hours of operation.

LUBRICATION AND PERIODIC SERVICE TIMETABLE

Component	Description	Lubricant	Section
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EVERY 200 HOURS

(in addition carry out 10, 50 and 100 hour service)

Engine crankcase ¹⁾	Drain and refill	B*	Engine
Engine crankcase filter ¹⁾	Replace filter element Replace with a JOHN DEERE element		Engine
Alternator V-belt	Check belt tension		Engine
3-point hitch	Lubricate grease fittings	A*	Miscellaneous

¹⁾ Replace crankcase filter element and oil after the first two 100 hours of operation. Thereafter replace filter element and oil after every 200 hours of operation.

EVERY 300 HOURS

(operating hours of filter)

Cab activated carbon filter	Replace		Miscellaneous
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EVERY 500 HOURS

(in addition carry out 10, 50 and 100 hour service)

Fuel transfer pump	Clean strainer		Fuel system
Transmission/hydraulic oil filter ¹⁾	Clean filter element		Transmission
Air intake hoses	Check connections		Air Intake System
Engine speeds	Have engine speeds checked and if necessary, adjusted by your JOHN DEERE dealer		Engine
Engine valves	Have valve tappet clearances checked		

¹⁾ Replace transmission/hydraulic filter element after the first 50 hours of operation

A* = Lubricating grease

B* = Engine oil

LUBRICATION AND PERIODIC SERVICE TIMETABLE

Component	Description	Lubricant	Section
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EVERY 1000 HOURS

(in addition carry out 10, 50, 100, 200 and 500 hour service)

Transmission and hydraulic system	Drain and refill with fresh oil	C*	Transmission
Front axle (tractors with F.W.D.)	Drain and refill with fresh oil	C*	Axles and Wheels
Fuel filter	Replace filter element		Fuel System
Front wheel bearings (tractors without F.W.D.)	Have bearings cleaned, repacked and adjusted by your JOHN DEERE dealer		
Starting motor	Have starting motor checked by your JOHN DEERE dealer		
Hydraulic pump	Have stroke control valve filter cleaned by your JOHN DEERE dealer		

EVERY 2000 HOURS

(in addition carry out 10, 50, 100, 200, 500 and 1000 hour service)

Fuel injection nozzles	Have fuel injection nozzles checked by your JOHN DEERE dealer.		
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EVERY SPRING AND AUTUMN

Engine crankcase	Drain and refill with fresh oil. Replace filter element	B*	Engine
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EVERY TWO YEARS

Thermostats	Have thermostats replaced by your JOHN DEERE dealer.		
Cooling system	Drain, flush and refill.		Cooling System

B* = Engine oil

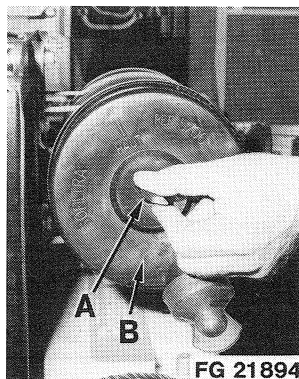
C* = Transmission/hydraulic oil

Service – Air Intake System

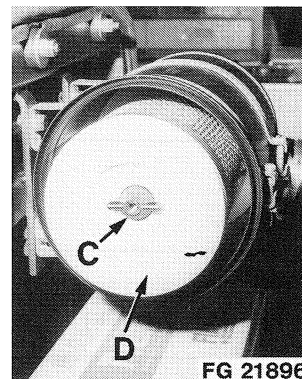
REMOVING AIR CLEANER ELEMENT

If the air cleaner indicator light glows during operation, remove and clean filter element.

Remove wing nut (A) and cover (B). Loosen wing nut (C) and remove filter element (D).



FG 21894



FG 21896

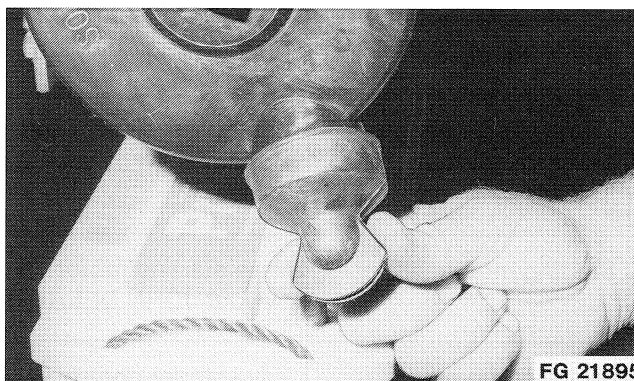
FG21894 FG21896-1445FAFGE-260687

CLEANING RUBBER DUST UNLOADING VALVE

When servicing the air cleaner always remove and clean the rubber dust unloading valve.

The valve must always be installed with slot facing direction of travel.

IMPORTANT: Do not operate engine without air cleaner element or rubber dust unloading valve installed.



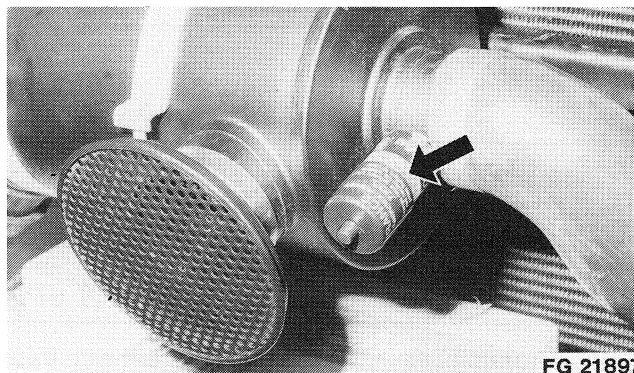
FG 21895

FG21895-1445FAFGE-260687

AIR CLEANER RESTRICTION INDICATOR

The red area, visible in window (see arrow), shows the degree of air cleaner restriction.

If window is completely red, remove and clean air cleaner element.

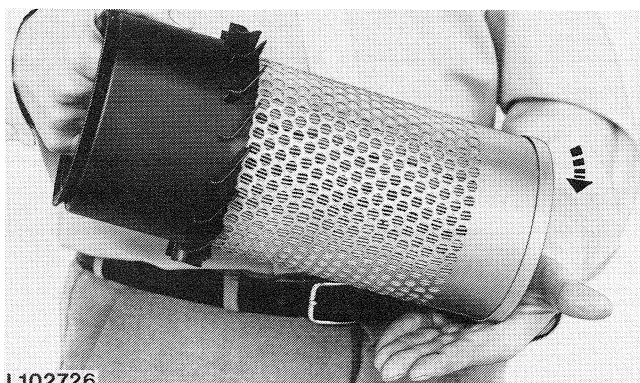


FG 21897

FG21897-1445FAFGE-260687

CLEANING PRIMARY FILTER ELEMENT

When the element must be serviced in the field, tap it on the palm of your hand as a temporary measure. Then thoroughly clean when you return to your service area.

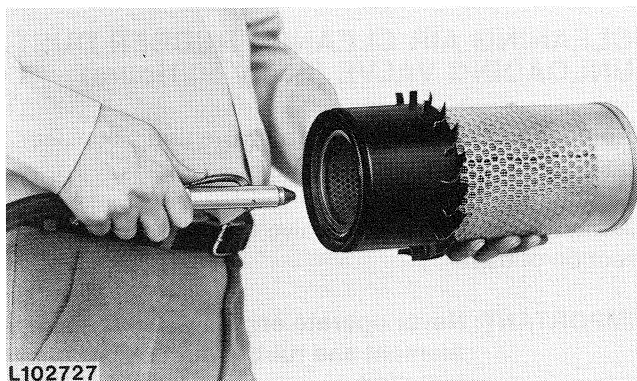


L102726

L102726-940ALE-010286

Dusty Element

If tapping element does not remove dust, blow out dust with compressed air (not to exceed 200 to 300 kPa (2 to 3 bar; 28 to 43 psi) by inserting nozzle inside of element and blowing from the inside of the filter to the outside.



L102727

L102727-1445FAFGE-111189

Oily or Sooty Element

Wash element in a solution of lukewarm water and JOHN DEERE filter cleaner (R 36757).

Rinse element thoroughly as shown from the inside with clean water from hose having maximum water pressure of 200 kPa (2 bar; 28 psi). Shake excess water from element and allow it to dry approximately 24 hours at a temperature not above 80°C (176°F).

Install a replacement filter element for this period.

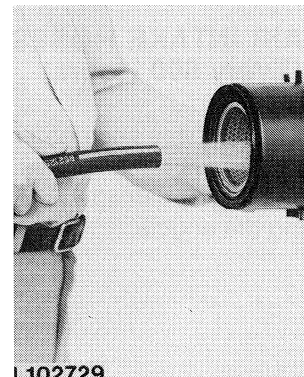
IMPORTANT: Never install a damp element. Never use compressed air to dry a wet element.

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 gasket is in a serviceable condition.

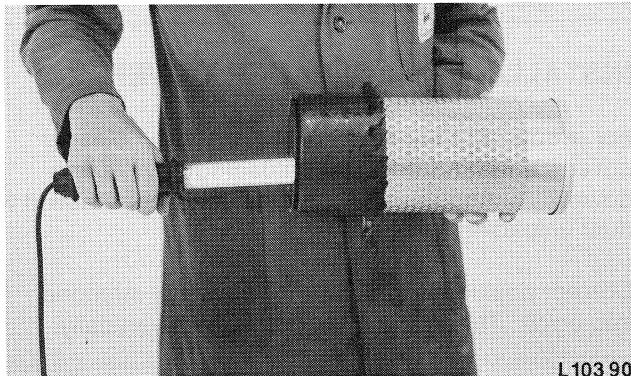
Replace filter element if the air cleaner indicator light continues to glow.



L102728



L102729



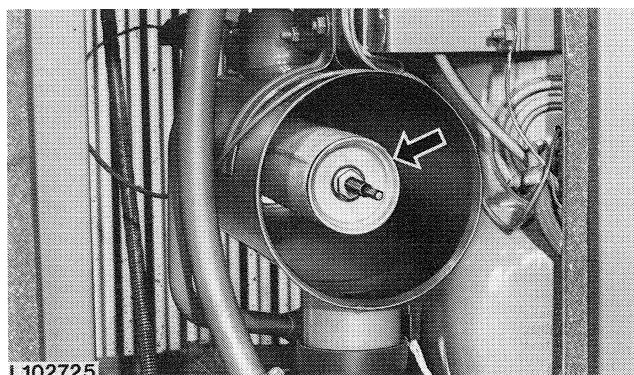
L103 909

L102728,L102729,L103909-1445FAFGE-260687

SECONDARY (SAFETY) ELEMENT

This filter element must be replaced when damaged, and with every third change of air cleaner primary element.

IMPORTANT: Always replace secondary (safety) filter element, do not attempt to clean.



L102725

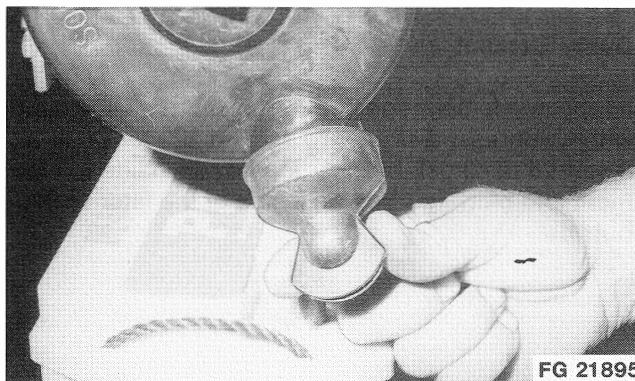
L102725-940ALE-000286

CLEANING AIR CLEANER RUBBER DUST UNLOADING VALVE (Every 50 Hours)

Remove rubber dust unloading valve and clean. Replace, if damaged.

Always replace unloading valve with slot facing direction of travel.

IMPORTANT: Never operate engine without air cleaner element and rubber dust unloading valve installed.

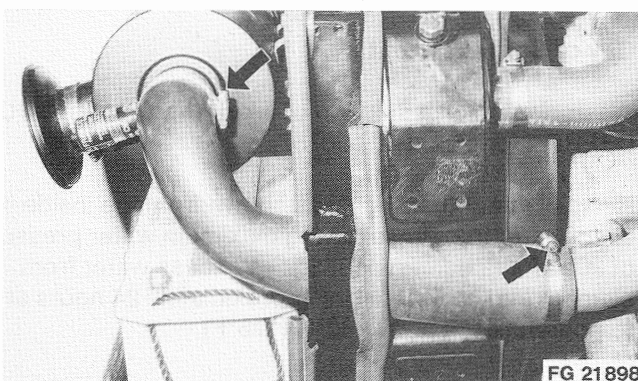


FG21895-1445FBFGE-260687

AIR INTAKE HOSES (Every 500 Hours)

Check hoses and tighten clamps.

Leaking or damaged hoses are the cause of dirt entering the engine.

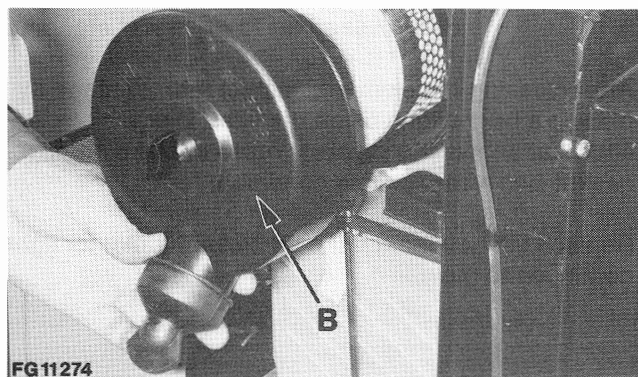


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INSTALLING AIR CLEANER COVER

For proper air cleaner operation, install air cleaner cover (B) with rubber dust unloading valve facing downward. Accumulated dust can only be removed with dust unloading valve in this position.

Correct position is indicated by an arrow stamped into cover. This arrow must point down vertically.



FG11274-1445FAFGE-110888

Service – Brakes

ADJUSTING BRAKES

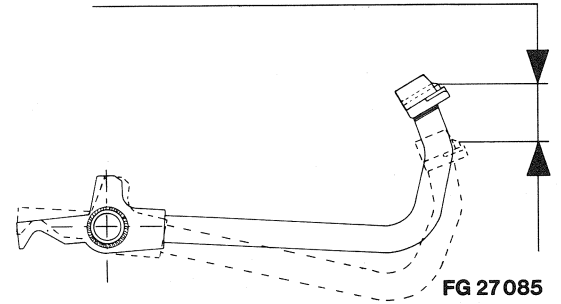
Foot Brakes

Braking action should start after a brake pedal free travel of 35 to 40 mm (1.4 to 1.6 in.).

Loosen nut (A) and adjust sleeve (B) to obtain specified brake pedal free travel. Tighten nut (A).

NOTE: This adjustment must be carried out on both brake pedals to ensure equal braking action.

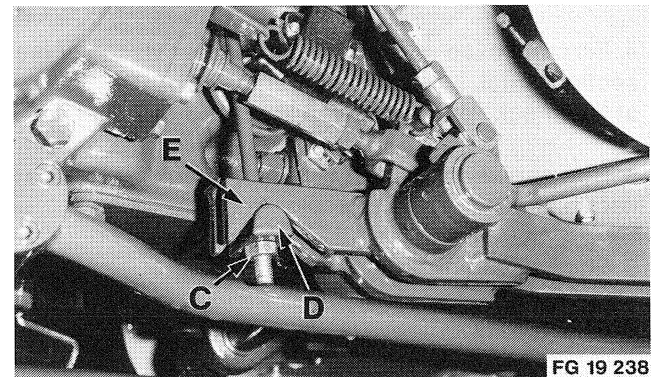
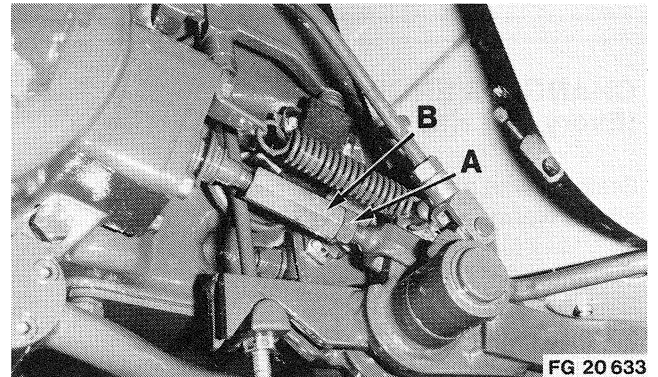
35–40 mm



Handbrake

The handbrake must be effective when the handbrake lever is pulled out to the second or third notch.

For adjustment, pull out handbrake lever and turn nut (C) until stop (D) lightly contacts operating lever (E).



FG27085,FG20633,FG19238-1445FAFGE-110888

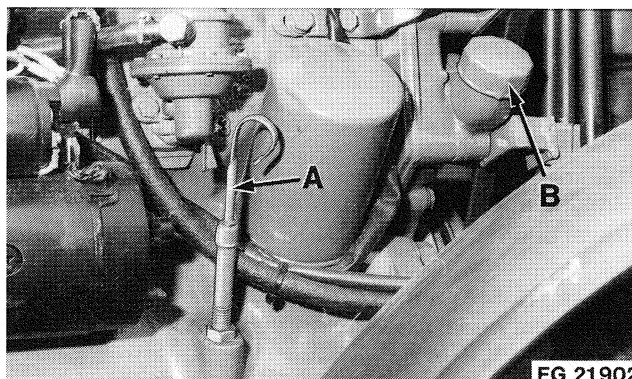
Service – Engine

CHECKING ENGINE CRANKCASE OIL LEVEL (Every 10 Hours)

If oil level is at or below bottom mark on dipstick, add sufficient oil to bring level to top mark on dipstick.

Do not operate engine with oil level at bottom mark on dipstick.

A–Dipstick
B–Oil filler neck



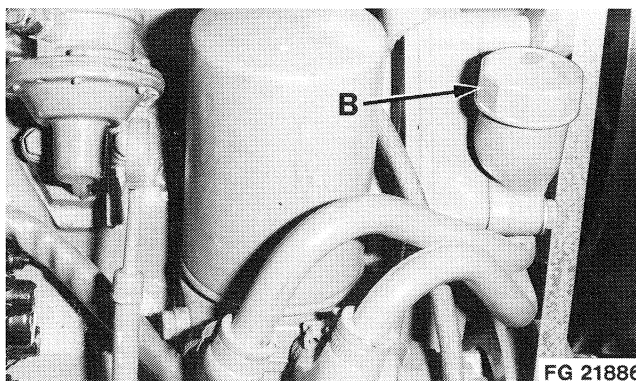
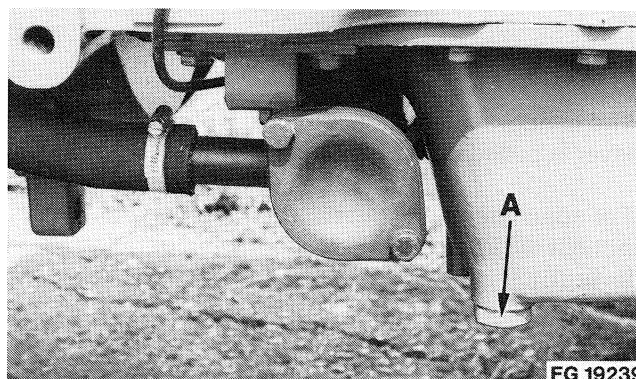
FG21902-1445FAFGE-260687

CHANGING ENGINE OIL (Every 200 Hours)

Drain oil with engine shut off, however with engine oil still warm.

1. Remove crankcase drain plug (A).
2. While crankcase is draining, replace filter element.
3. Install drain plug (use new seal ring).
4. Fill crankcase with fresh oil of proper viscosity (see section "Fuel, Lubricants, Oil and Coolant") at filler neck (B). Capacity: 6 liters (1.3 U.S.gal.)
5. Run engine for a short time and check for leaks at filter base and drain plug.
6. Shut off engine.
7. Check oil level.

IMPORTANT: Also change oil at any seasonal change in temperature when oil of a new viscosity is required.



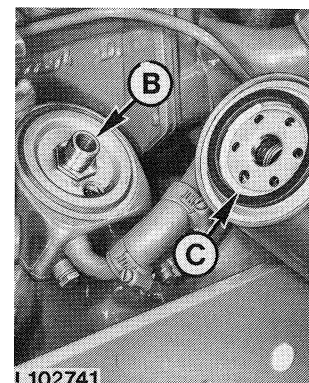
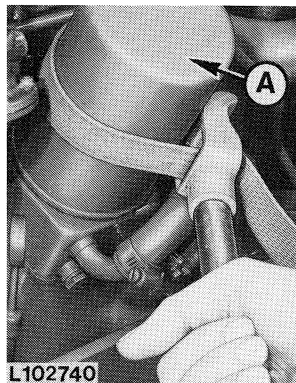
FG19239,FG21886-1445FAFGE-260687

CHANGING ENGINE CRANKCASE FILTER ELEMENT (Every 200 Hours)

Remove filter element (A) (turn anticlockwise) and clean mounting surface (B).

Apply a thin film of oil to sealing ring (C) of filter. Tighten filter element until sealing ring touches mounting surface and then turn an additional 1/2 to 3/4 turn. Do not overtighten!

Start engine and check filter seat for leaks.



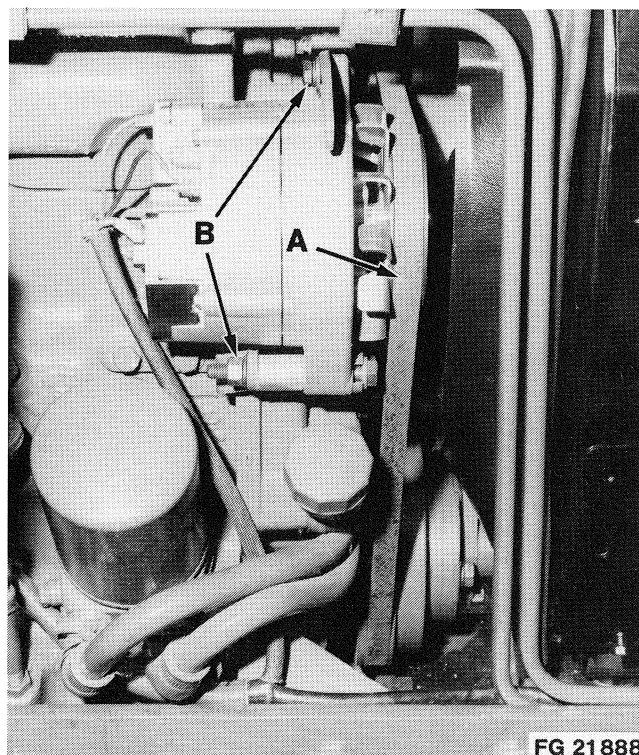
L102740, L102741-2140ALE-000885

ADJUSTING ALTERNATOR V-BELT TENSION (Every 200 Hours)

Adjust so that 90 N (20 lb) pull midway between pulleys will deflect belt (A) 20 mm (3/4 in.)

To adjust, loosen both cap screws (B) and swing out alternator at the top. Retighten cap screws.

New belts must be run in for at least 10 to 15 minutes. Then recheck belt tension and adjust if necessary.



FG21888-1445FAFGE-260687

CHECKING ENGINE SPEEDS (Every 500 Hours)

Warm up engine and use speed-hour meter to check engine speeds.

Slow idle (approx.) 800 rpm

Fast idle

1445F/1745F/2345F (approx.) 2300 rpm

1845F (approx.) 2400 rpm

Have engine speeds adjusted by your JOHN DEERE dealer, if necessary.

MOTOM-1445FAFGE-260687

Service – Cooling System

CHECKING COOLANT LEVEL (Every 10 Hours)



CAUTION: Do not remove expansion tank cap until coolant temperature is below its boiling point.
Danger of being scalded!

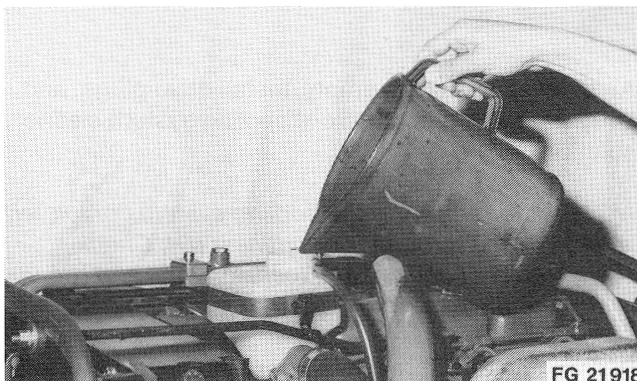
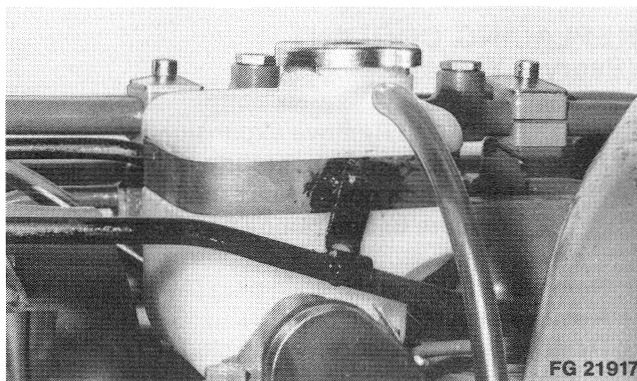
When the engine is hot, open cap carefully to relieve pressure before removing it completely.

Coolant should be maintained at a level with mark on expansion tank.

Shut off engine before topping up with coolant.

For correct coolant mixture, see “Fuel, Lubricants, Oil and Coolant”.

Check cooling system for leaks and clean radiator.



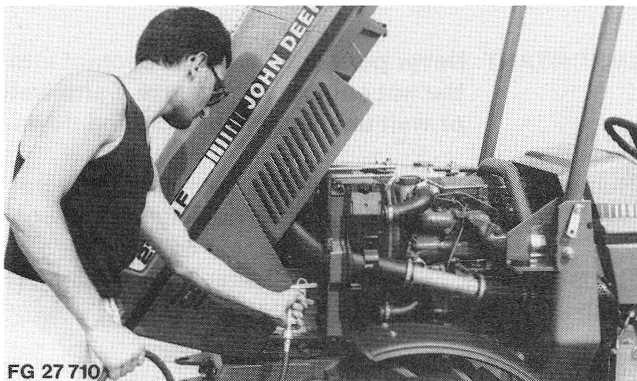
FG21917,FG21918-1445FAFGE-260687

CLEANING RADIATOR

If radiator is dirty, clean as follows:

1. Clean front part of radiator with compressed air.
2. Start engine and clean radiator from the front, using water from a hose. Suction effect of the fan will completely remove dirt.

IMPORTANT: Keep radiator clean to avoid overheating of engine.



FG27710-1445FAFGE-110888

REPLACING COOLANT (Every 2 Years)



CAUTION: Remove expansion tank cap only when coolant temperature is below boiling point. Then open cap carefully to relieve pressure before removing cap completely.

1. Remove cylinder block drain plug (A)
2. Remove radiator drain plug (B).
3. Remove engine oil cooler drain plug (C).
4. Remove radiator filler plug (D) and expansion tank cap.

As soon as system is empty, install drain plugs, and fill system with a commercial cooling system cleaner solution.

NOTE: After emptying the cooling system completely, refill it through filler opening (D). Check level of coolant at expansion tank and top up to the mark if necessary.

Run engine until it reaches operating temperature. Stop the engine and drain cooling system.

Reinstall drain plugs. Fill the cooling system with clean water.

IMPORTANT: Never pour cold water or coolant into the hot engine. Always use warm water or wait until engine has cooled down.

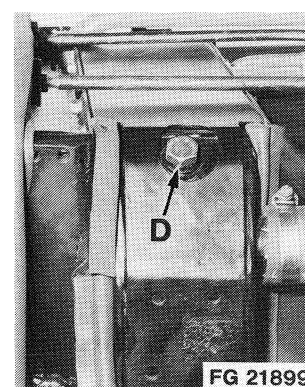
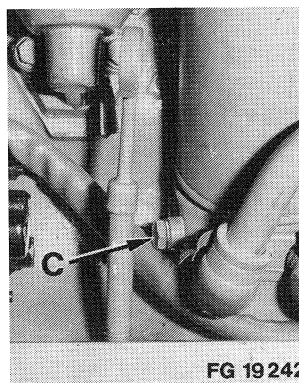
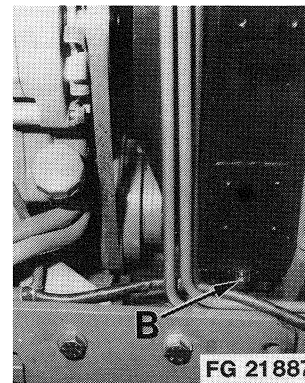
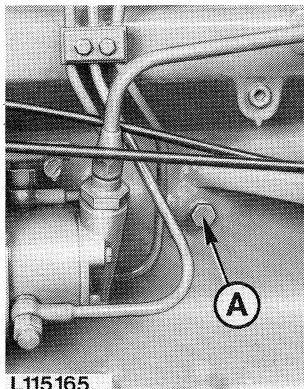
Run engine again until it reaches operating temperature. Then stop engine and drain cooling system again.

Reinstall plugs. Fill system with specified coolant (see section "Fuel, Lubricants, Oil and Coolant").

Run the engine until it reaches operating temperature. This will allow thermostat to open and will assure that solution is circulated throughout entire cooling system.

Recheck coolant level. It should be up to the mark at the expansion tank.

For efficient operation, the radiator screen must be kept clean. Remove any dust or oil and carefully straighten any bent fins.



Service – Axles and Wheels

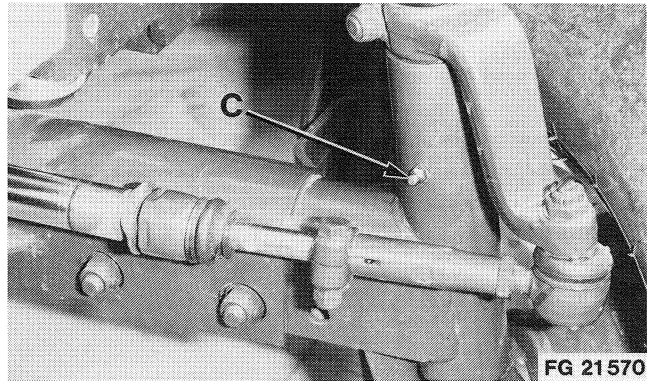
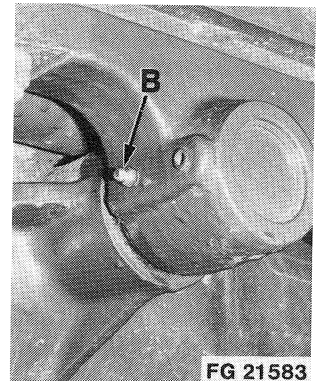
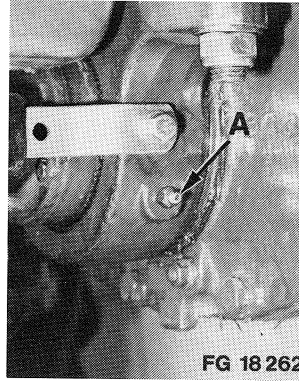
LUBRICATING FRONT AXLE (Every 50 Hours)

IMPORTANT: When working under very wet and muddy conditions, carry out this service after every ten hours of operation .

Lubricate grease fitting (A) of oscillating support on tractors without front wheel drive, or grease fitting (B) of oscillating support on tractors with front wheel drive. Lubricate grease fitting (C) at axle knuckle on both sides of front axle (tractors without front wheel drive).

Use JOHN DEERE EP multipurpose grease.

IMPORTANT: Thoroughly clean all grease fittings prior to lubricating and replace damaged grease fittings immediately.

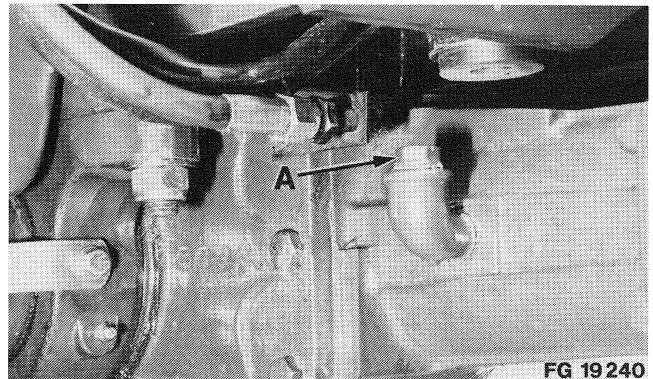


FG18262.FG21583.FG21570-1445FAFGE-260687

CHECKING FRONT AXLE OIL LEVELS (Tractors with Front Wheel Drive – Every 100 Hours)

Axle Housing Oil Level

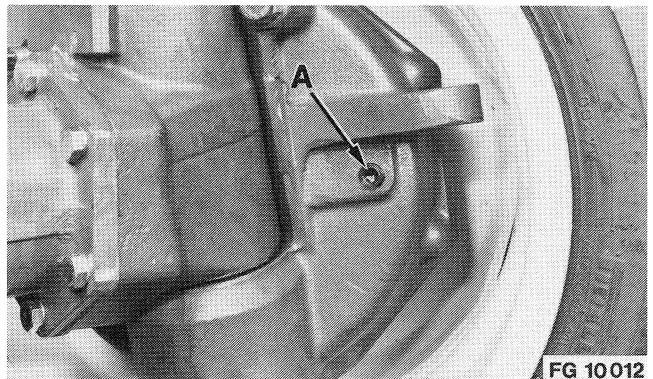
Remove level plug (A). Oil should be level with plug bore. If necessary, top up with oil. Always use transmission oil.



FG19240-1445FAFGE-260687

Final Drives Oil Level

Check oil level regularly. Remove plug (A). If no oil escapes from plug bore add transmission oil until it escapes from bore.



FG10012-1445FAFGE-260687

CHANGING FRONT AXLE OIL (Tractors With Front Wheel Drive – Every 1000 Hours)

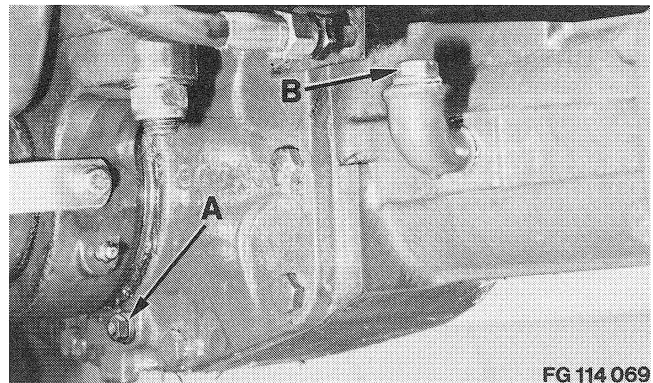
Replace oil in axle housing after the first 100 hours of operation. Then replace regularly every 1000 hours thereafter, however at least once a year, whichever occurs first. Always use transmission oil.

Drain oil immediately after having operated the tractor when the oil is still warm.

WAROM-1445FAFGE-260687

Draining and Filling Axle Housing

1. Remove drain plug (A) and drain oil into a suitable container.
2. Reinstall drain plug and tighten securely.
3. Remove filler plug (B). Fill with fresh oil up to level of plug bore (approx. 4.5 liters; 1 gal.). Reinstall plug.



FG114069-1445FAFGE-110888

Service – Fuel System

CHECKING FUEL FILTER (Every 10 Hours)

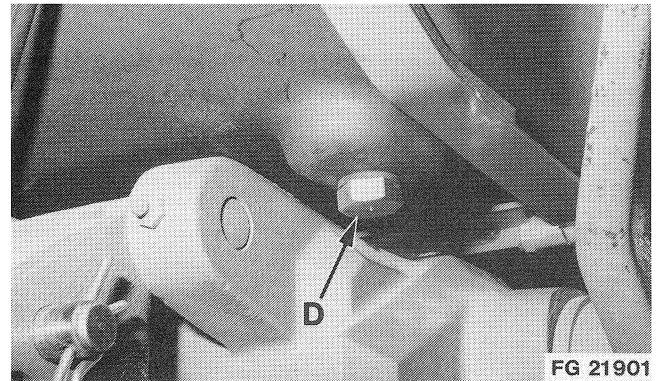
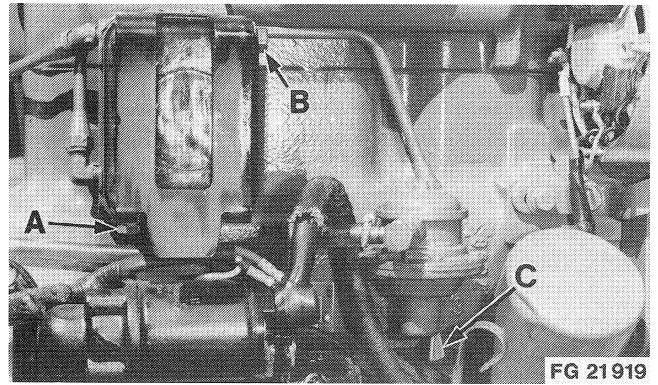
Should water or sediment deposits have settled in filter, proceed as follows:

1. Loosen drain plug (A).
2. Loosen bleed screw (B).
3. Retighten drain plug as soon as water and sediment deposits have drained off.
4. Pump fuel transfer pump primer lever (C) until all air has been bled from fuel filter.
5. Retighten bleed screw.

If water was present in fuel filter, also loosen drain plug (D) under the fuel tank. Having drained off water and sediment deposits, tighten drain plug by hand.

A–Drain plug
B–Bleed screw

C–Transfer pump primer lever
D–Drain plug (fuel tank)



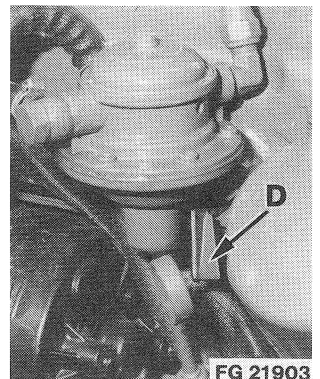
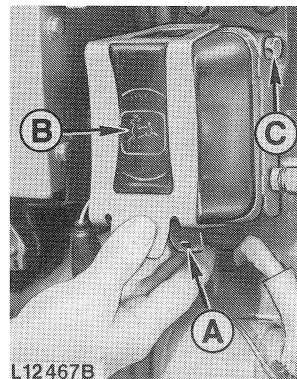
FG21919,FG21901-1445FAFGE-260687

REPLACING FUEL FILTER ELEMENT (Every 1000 Hours)

1. Unhook filter retaining spring (A) and remove filter (B).
2. Place new filter element against filter body and install retaining spring.
3. Loosen bleed screw (C).
4. Pump fuel transfer pump primer lever (D) until fuel flows free from air bubbles. Tighten bleed screw.

A–Filter retaining spring
B–Filter

C–Bleed screw
D–Transfer pump primer lever



NOTE: If the primer lever will not pump fuel and no resistance is felt at upper end of stroke, turn engine with starter to change position of fuel pump drive lobe on camshaft. When bleeding is completed, be sure to leave primer lever at lowest point of stroke.

L12467B,FG21903-1445FAFGE-260687

BLEEDING THE FUEL SYSTEM

The fuel system must be bled whenever the fuel tank has been run dry (see “Replacing Fuel Filter Element”, steps 3 and 4).

If the engine will still not start after carrying out this work, then proceed as follows:

Using two open-ended spanners, loosen the three fuel lines at injectors.

Set hand throttle at fast idle speed.

Turn engine by means of starting motor until fuel flows free from air bubbles at the loosened fuel line connectors.

Retighten fuel lines.

KRAOM-940ALE-010286

Service – Transmission/Hydraulic System

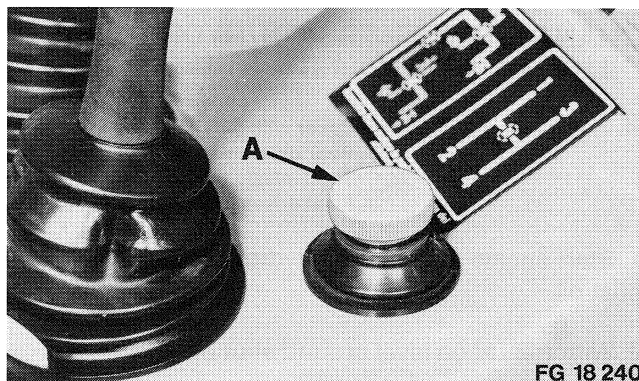
CHECKING TRANSMISSION/HYDRAULIC SYSTEM OIL LEVEL (Every 50 Hours)

IMPORTANT: Check oil level when oil is cold. When possible in the morning after the tractor has been standing all night.

1. Tractor on level ground.
2. Range shift lever in neutral position and handbrake applied.
3. Draft links lowered.
4. Pull out cover with dipstick (A) and wipe clean.
5. Insert cover with dipstick, remove and check oil level.

If oil level is below top mark on dipstick, add oil through filler neck to upper mark on dipstick.

NOTE: Clean the transmission/hydraulic system filter element after the first 50 hours of operation. Then clean element regularly every 500 hours thereafter.



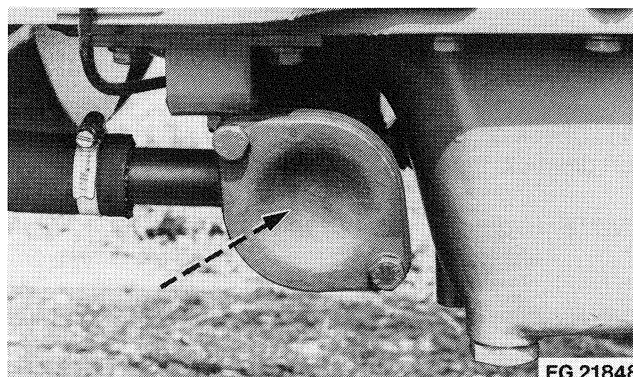
FG 18 240

FG18240-1445FAFGE-260687

CLEANING TRANSMISSION/HYDRAULIC OIL FILTER (Every 500 Hours)

After the first 50 hours of operation and thereafter every 500 hours, but in any case whenever the corresponding indicator light lights up, clean the filter element on the right-hand side of the engine. Wash element in petrol, let it dry and reinstall. With tractor on level ground and rockshaft lowered, top up oil to the mark on the dipstick. After 1000 hours of operation, when changing transmission/hydraulic oil, replace filter.

NOTE: Depending on the type of implements to be attached, the tractor can be equipped with a second filter (on the left-hand side of the engine).



FG 21848

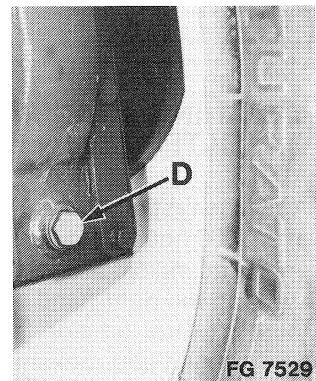
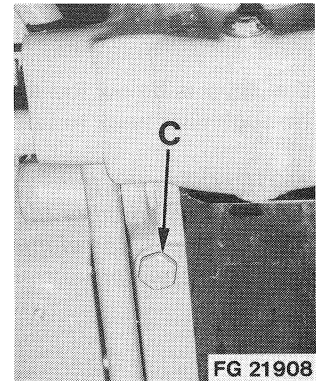
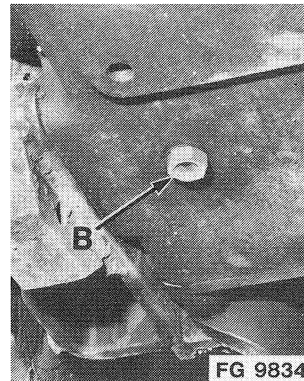
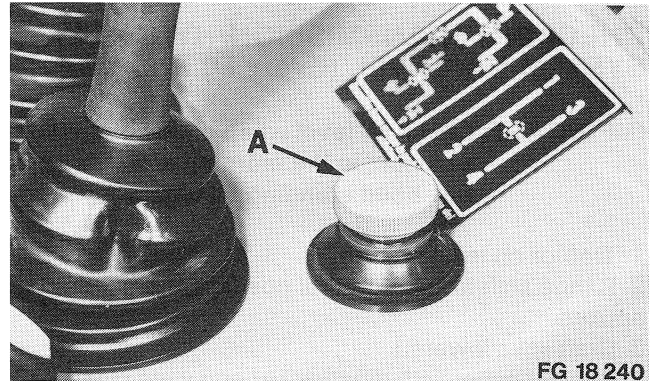
FG21848-1445FAFGE-260687

CHANGE TRANSMISSION/HYDRAULIC OIL (Every 1000 Hours)

- A—Cover with dipstick
B—Rear differential drain plug
C—Transmission drain plug
D—Final drives drain plug

1. Start engine and operate hydraulic functions to heat oil.
2. With tractor on level ground shut off engine.
3. Apply handbrake.
4. Lower draft links.
5. Remove drain plugs (B), (C) and (D) and drain oil in a container.
6. Replace transmission/hydraulic oil filter element.
7. Reinstall filter and drain plugs.
8. Refill system through filler hole (A) with transmission/hydraulic oil (approx. 38 l; 8.4 gal.).
9. Wait for a short time until oil has been distributed in the system, then check oil level with dipstick (A).
10. Run engine briefly and operate hydraulic functions. Shut off engine and wait five minutes.
11. Check oil level. It should be level with upper mark on dipstick. If not, correct oil level.

NOTE: Hydraulic system and hydraulic steering system are operated with the oil of the transmission.

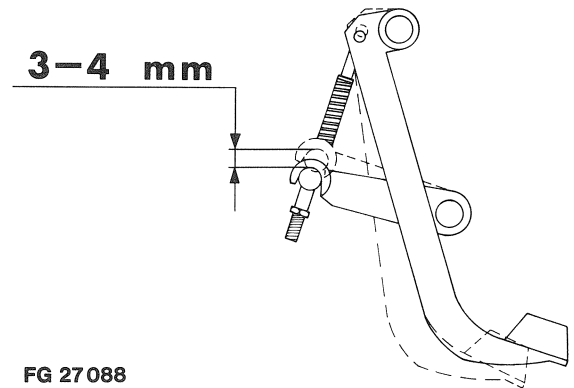


Service – Miscellaneous

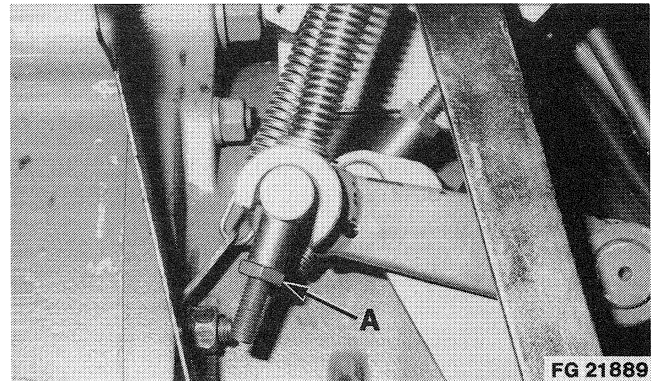
CHECKING AND ADJUSTING CLUTCH PEDAL FREE TRAVEL

Periodically check clutch pedal free travel as described below to ensure proper clutch operation.

1. Remove cover at the side.
2. When depressing clutch pedal, free travel must be 3 to 4 mm (1/8 to 5/32 in.).
3. If free travel is not correct, turn adjusting nut (A) downward to increase free travel. Turn nut upward to make it smaller.
4. Reinstall cover at the side.



FG 27088



FG 21889

FG27088,FG21889-1445FAFGE-110888

CHECKING AND ADJUSTING PTO CLUTCH FREE TRAVEL

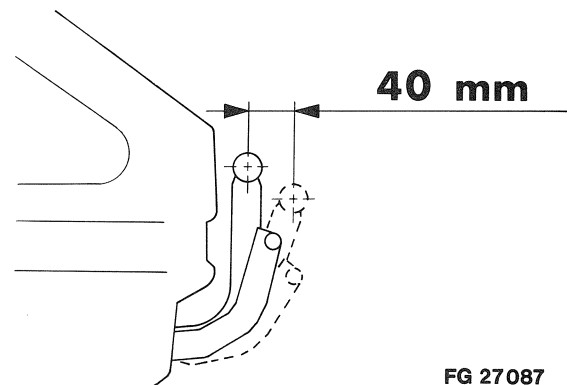
Periodically check PTO clutch lever free travel. It should not be less than 40 mm (1-37/64 in.).

If free travel is not correct, adjust as follows:

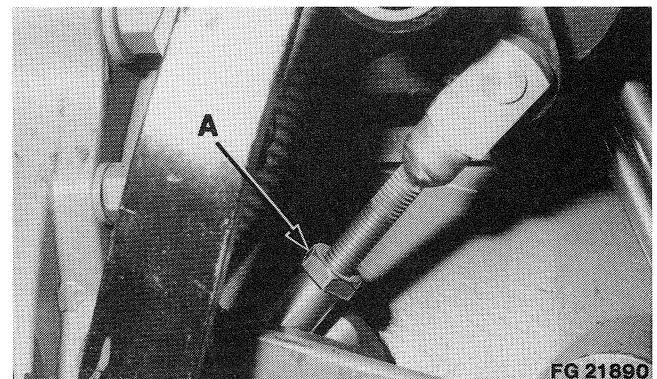
Remove cover at the side.

Turn adjusting nut (A) upward to increase free travel, turn nut downward to make it smaller.

Reinstall cover at the side.



FG 27087

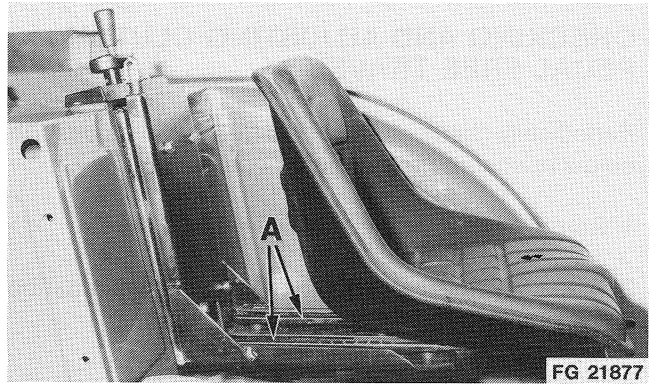


FG 21890

FG27087,FG21890-1445FAFGE-110888

OPERATOR'S SEAT

Lubricate slide rails (A) with JOHN DEERE EP multi-purpose grease.

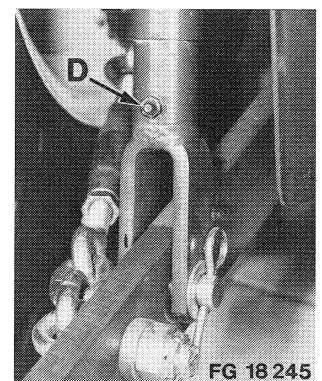
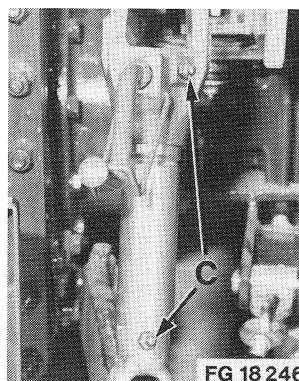
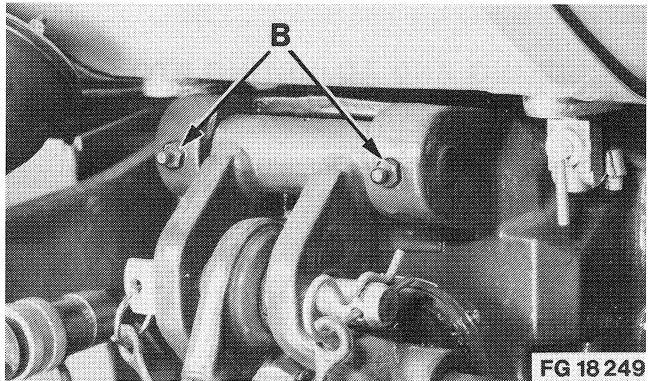
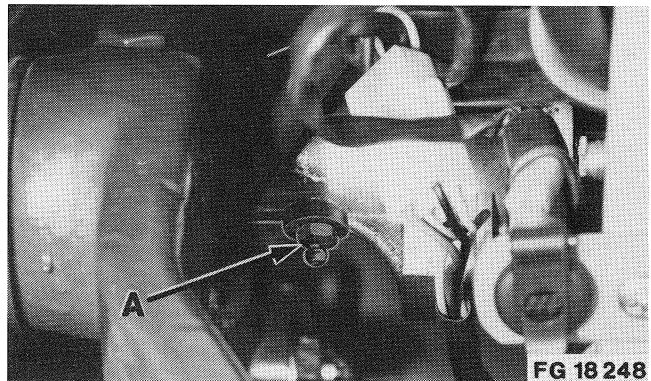


FG21877-1445FAFGE-260687

LUBRICATING 3-POINT HITCH (Every 200 Hours)

Lubricate grease fittings (A), (B), (C) and (D) with several strokes of grease gun, using JOHN DEERE EP multipurpose grease.

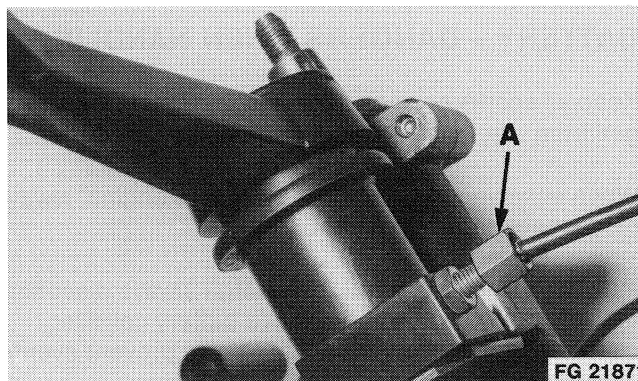
- A-Rockshaft
- B-Center link suspension
- C-Right-hand lift link
- D-Left-hand lift link



FG18248,FG18249,FG18245,FG18246-1445FAFGE-260687

ADJUSTING HAND THROTTLE LEVER

If the top and bottom stop of the hand throttle lever do not correspond with the minimum and maximum engine speed, the lever has to be adjusted. To increase lever travel turn in adjusting screw (A), to decrease travel turn screw out.



FG 21871

FG21871-1445FAFGE-260687

CLEANING OR REPLACING CAB AIR FILTERS

Depending upon working conditions (amount of dust and use of ventilation system), remove cab pre-filter and clean with compressed air. To remove pre-filter, push down locking tabs (A).

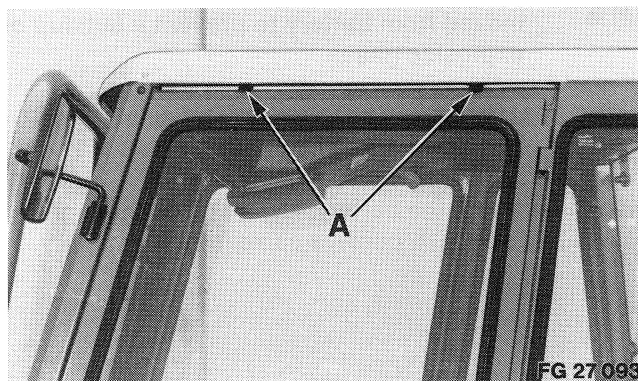
Replace pre-filter every 100 operating hours.

Install activated carbon filter when working with pesticides or other chemicals. Remove carbon filter afterwards and store in a well-sealed container in a dry place.

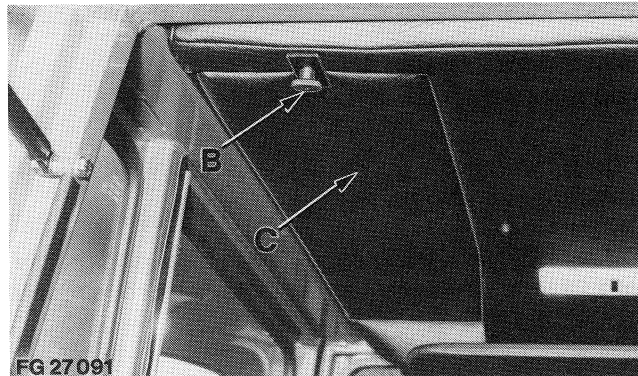
If stored properly, the activated carbon filter has to be replaced every 300 operating hours only, it must not be cleaned. Observe the relevant environmental protection regulations when disposing used carbon filter elements.

A paper dust filter element may be used instead of the activated carbon filter element. Depending on the operating conditions clean the filter element with compressed air (directed from the clean side).

To change carbon or dust filter, loosen knob (B) and remove filter cover (C). Replace filter element and re-install cover.



FG 27 093



FG 27 091

FG27093,FG27091-1445FAFGE-070390

Service – Electrical System

BATTERY – DANGERS WHEN HANDLING

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

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

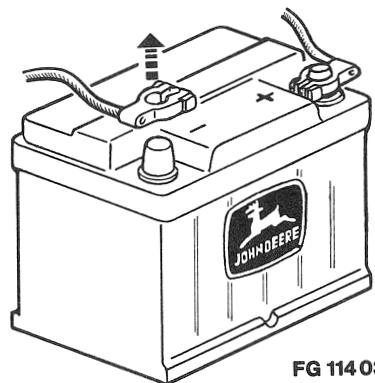
If the battery needs a quick recharge always disconnect battery ground cable and remove battery cell filler caps before connecting the charger to prevent eventual damage to the electrical system.



CAUTION: All plastic covers must be removed from battery to prevent a buildup of explosive gases.

IMPORTANT: Always keep battery clean and free from dust and chaff.

When removing the battery, always disconnect ground cable first and then positive cable from the battery.



FG 114038

FG114038-1445FAFGE-260687

BATTERY – CHECKING SPECIFIC GRAVITY

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

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

NOTE: In tropical areas, use a 1.23 kg/l full charge reading.



L 30935

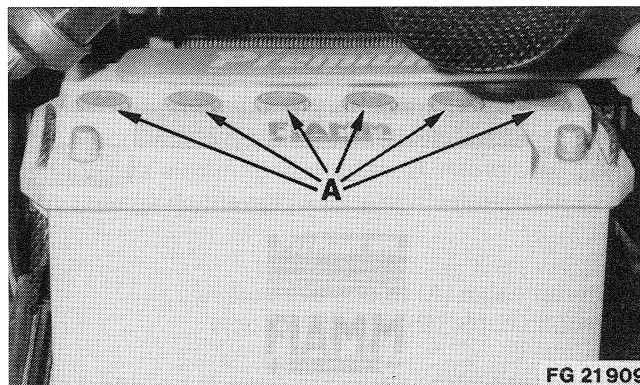
L30935-2140ALE-010885

BATTERY – CHECKING LEVEL OF ELECTROLYTE (EVERY 100 HOURS)

Remove filler caps (A).

Level of electrolyte should be above battery plates. Fill battery cells to bottom of filler neck using distilled water. Check vent holes in battery caps making sure they are free.

If battery terminal connections are corroded, remove corrosion with a stiff bristle brush and then coat terminals with petroleum jelly.



FG 21909

FG21909-1445FAFGE-260687

REMOVAL OF BATTERY

The battery is installed under the hood in front of the radiator.

To remove battery proceed as follows:

Loosen hood fasteners on both sides of the hood and unhook hook at the engine to open hood as far as possible.

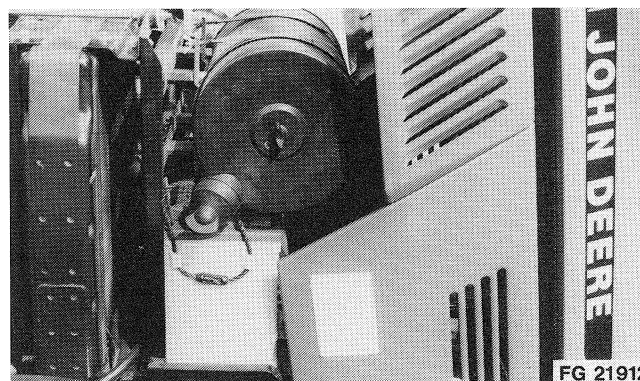
Remove air cleaner.

Disconnect ground cable.

Disconnect positive cable and insulate cable end.

Remove bracket and lift out battery.

Install battery, reversing removal procedure.



FG 21912

FG21912-1445FAFGE-260687

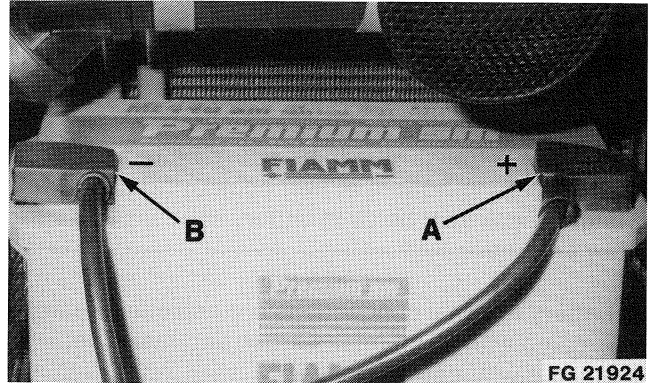
INSTALLING THE BATTERY

Before installing the battery, make sure terminals and connectors are clean. If necessary, clean thoroughly with a wire brush. Coat battery terminals and connectors with petroleum jelly as a prevention against corrosion.

- 1-Starter cable (A) to positive pole
- 2-Ground cable (B) to negative pole

Connect ground cable last to prevent any short circuit.

IMPORTANT: Make sure batteries are connected to the proper poles. Reversed polarity will result in damage to the electrical system.

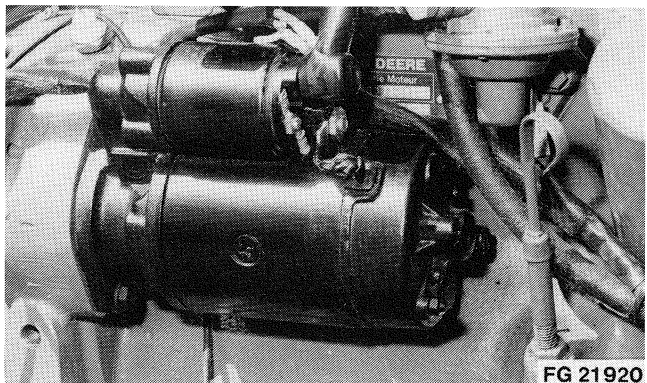


FG21924-1445FAFGE-260687

STARTING MOTOR

If the starter fails to operate after the starter switch has been operated, the complete starter system must be thoroughly checked. Check specific gravity of battery with a hydrometer and make sure that no cable is broken, or chafed through and that no cable connection is loose or corroded.

If the above checks fail to improve the operation of the starter, see your JOHN DEERE dealer.



FG21920-1445FAFGE-260687

ALTERNATOR

Cable connections

- red cable to B + (A).
- violet cable to D + (B).

If the engine is to be run for a short time without battery (using a slave battery for starting), do not, under any circumstances, interrupt the circuit by switching off the key switch before stopping the engine by means of the fuel pump shut-off cable. Further it is recommended to use additional current (lights) while engine is running. Do not run engine at a speed above 1000 rpm.

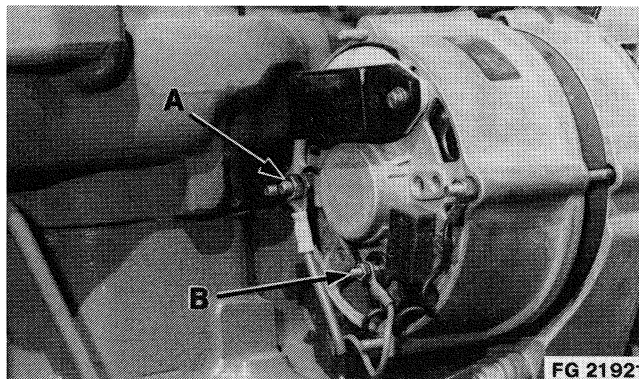
With battery removed and starting by means of a slave battery, insulate battery end of disconnected starter cable properly to avoid damage to alternator and regulator.

With the engine running, do not short-circuit or ground (even momentarily) alternator and regulator terminals.

Connect battery or battery charger in the proper polarity. If they are improperly connected (" + " and " – "), the rectifier diodes will be immediately destroyed.

Before carrying out electrical welding jobs on the tractor, disconnect both cables at alternator. Connect ground terminal of welding apparatus directly to the part being welded.

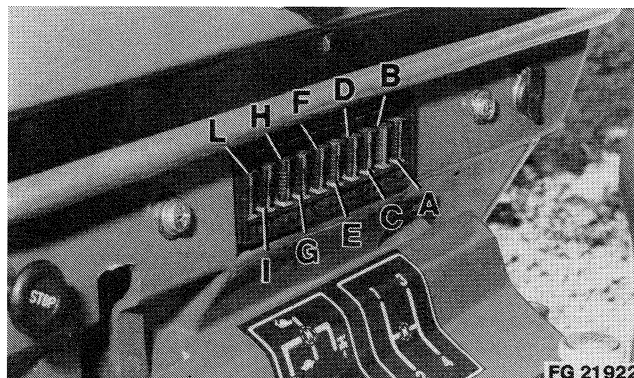
Before carrying out repairs on electrical system, disconnect battery ground cable. This will avoid the danger of a short circuit.



FUSES

The fuses are located in the fuse box underneath the dash panel.

- A–Not allocated
- B–Hazard warning light, horn, light signal
- C–Indicator lights for: engine oil pressure, PTO, front wheel drive, fuel reserve, coolant temperature, roll guard, instrument lighting
- D–Turn signal lights
- E–Brake lights, alternator
- F + G–Parking lights
- H + I–Dipped headlight
- J–Full beam headlight



Before replacing a blown fuse, find out and eliminate the trouble causing the short circuit.

All fuses are 8 ampere fuses except fuse B, which is a 15 ampere fuse.

FG21922-1445FAFGE-110888

HEAD- AND TAIL LIGHTS

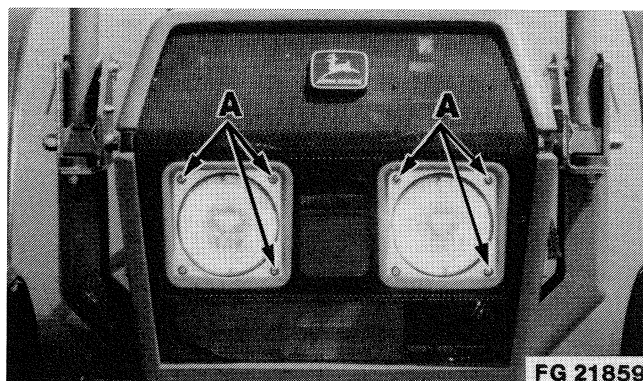
Blown lamps must be replaced with new lamps having the same power rating as the original ones.

BELOM-1445FAFGE-260687

ADJUSTING HEADLIGHTS

Adjust headlights by means of screws (A).

NOTE: When driving on public roads more frequently, the headlight adjustment should be carried out in a specialized workshop to avoid blinding other drivers.



FG21859-1445FAFGE-260687

Tractor Storage

STORAGE FOR LONGER PERIOD

Drain, flush and refill the cooling system with fresh coolant. For proper composition of coolant see section "Fuel, Lubricants, Oil and Coolant".

Do not store the tractor with the crankcase or transmission case filled with dirty oil. If necessary, drain oil and replace filter element. Drain the oil when hot. Operate engine for a few minutes before adding rust inhibitor.

To protect engine, fuel system, transmission and hydraulic system, use the AR 41785 rust inhibitor available from your JOHN DEERE dealer. The above part no. includes one can of rust inhibitor, masking tape and protective caps to cover all engine openings.

1. Add 205 cm³ (7 oz.) of rust inhibitor to the engine oil.
2. Add 180 cm³ (6 oz.) of rust inhibitor to oil in transmission/hydraulic system
3. Drain fuel tank. Pour 150 cm³ (5 oz.) of rust inhibitor into the empty tank and add approx. 10 liters (2.6 U.S. gals.) of fuel. Start engine and operate it at fast idle for 15 to 20 minutes to distribute mixture through the entire fuel system. While the engine is idling, operate the complete hydraulic system several times. Shut off engine in time to leave some fuel in the tank. Then allow the engine to cool down for 15 to 20 minutes.
4. Prepare 15 cm³ (0.5 oz.) of rust inhibitor for each cylinder. Remove plug of intake manifold or connecting pipe of starting fluid adapter at the intake manifold, whichever applies.

Inject rust inhibitor into the intake manifold. Pull out shut-off knob, move hand throttle to slow idle position and crank engine with starter several times.

However, do not allow the engine to start. Otherwise the whole procedure must be repeated.

After the rust inhibitor has been added, the engine may not be started again.

IMPORTANT: Rust inhibitor agents evaporate very easily. For this reason, seal all openings after the inhibitor has been added. Also, keep the inhibitor container always closed.

Fill the fuel tank.

Remove and clean the battery and add distilled water, if necessary. Charge the battery and store in a cool, dry place where it will not freeze. Keep battery fully charged during storage. Seal all openings such as the vent tube and exhaust outlet.

Wash the exterior and painted surfaces of the tractor, using clear, cold water. Wipe them dry with a soft cloth.

Replace or repair worn or damaged parts. Between working seasons is a good time to paint your tractor.

Store the tractor in a dry, protected place. If the tractor is stored outside, cover it with a water-proof tarpaulin.

Block up the tractor so that tires do not touch the ground. Protect tires from heat and sunlight.

REMOVING TRACTOR FROM STORAGE



CAUTION: Before starting the tractor engine, be sure there is plenty of ventilation. Never operate the tractor in a closed building. Danger of asphyxiation!

Remove all protective coverings. Check tire inflation and remove blocks.

Install battery and connect positive cable and ground cable (negative terminal grounded). Check alternator belt tension.

Check transmission and hydraulic system oil level.

See that fuel tank is filled.

Check coolant level in radiator.

Check crankcase oil level.

Carry out 500-hour check.

With engine shut-off knob pulled out, turn engine with starter for several seconds so that engine oil pressure builds up.

Push in engine shut-off knob and start engine.

EINOM-1445FAFGE-110888

Trouble Shooting

HYDRAULIC SYSTEM

Hydraulic system fails to function

Low oil supply –
Fill system with proper oil to mark on dipstick.

Restricted filter –
Replace filter.

Dirt in hydraulic pump –
Check filter for clogging.

Jerky operation of rockshaft

Restricted intake filter of pump –
Clean filter or replace.

Air in intake line of pump –
Check lines, connections and seals.

System leaking

Air in system –
Check oil level.

Cavitation in pump –
Clean intake parts.

Noisy pump

Cavitation in pump –
Clean intake parts (restricted line and filter).

Pump overheated

Pressure too high –
Reduce pressure.

Cavitation in pump –
Clean intake parts (restricted line and filter).

Hitch too active

Selector lever in Load Control position –
Place selector lever in Load and Depth Control position.

Direction of remote cylinder travel is reversed

Improper hose connections –
Reverse hose connections.

Remote cylinder will not lift load

Excessive load –
Adjust auxiliary springs on implement or reduce load.

Hose coupler not completely engaged –
Attach hoses to coupler correctly.

Air in remote cylinder –
Bleed cylinder.

ENGINE

Engine hard to start or will not start

No fuel –
Fill tank with fuel.

Restricted fuel filter –
Replace filter element.

Crankcase oil too heavy –
Use oil of proper viscosity.

Engine knocks

Insufficient oil –
Add oil.

Fuel injection pump incorrectly timed –
See your dealer.

Engine overheats

Low coolant level –
Fill radiator to proper level.
Check radiator and hoses for loose connections and leaks.

Loose or defective fan belt –
Adjust belt tension.

Cooling system needs flushing –
Flush cooling system.

Engine oil pressure too low

Low engine oil level –
Add engine oil.

High oil consumption

Oil of too low viscosity –
Drain and refill with oil of correct viscosity.

Oil leaks –
Check for leaks in lines and around gaskets.

High fuel consumption

Improper type of fuel –
Use proper fuel.

Improper valve clearance –
See your dealer.

Fuel injection nozzles dirty or damaged –
See your dealer.

Engine incorrectly timed –
See your dealer.

Engine emits black or grey exhaust smoke

Improper type of fuel –
Use proper fuel.

Restricted air cleaner –
Service air cleaner.

Defective muffler –
Replace muffler.

Fuel injection nozzles dirty or damaged –
Have your JOHN DEERE dealer check the injectors.

Engine emits white smoke

Improper type of fuel –
Use proper fuel.

Cold engine –
Warm up engine to normal operating temperature.

Engine incorrectly timed –
See your dealer.

Defective thermostat –
Remove and check thermostat.

ELECTRICAL SYSTEM

Battery will not charge

Loose or corroded connections –
Clean and tighten battery connections.

Sulfated battery –
Check specific gravity of battery. Check
electrolyte level of battery.

Loose or defective alternator belt –
Adjust belt tension or replace belt.

Starter inoperative

Loose or corroded connections –
Clean and tighten loose connections.

Low battery output –
Check and recharge battery.

Starter cranks slowly

Low battery output –
Check and recharge battery.

Crankcase oil too heavy –
Use proper viscosity oil.

Loose or corroded connections –
Clean and tighten loose connections.

STOOM-1445FCFGE-260687

Specifications

ENGINE

Engine power at rated engine speed

Net (according to DIN 70020)

Tractor 1445F	31 kW (42 PS)
Tractor 1745F	35 kW (48 PS)
Tractor 1845F	41 kW (56 PS)
Tractor 2345F	49 kW (67 PS)

Max. torque

Tractor 1445F at 1300 rpm	152 Nm (112 ft-lb)
Tractor 1745F at 1300 rpm	178 Nm (131 ft-lb)
Tractor 1845F at 1300 rpm	195 Nm (144 ft-lb)
Tractor 2345F at 1500 rpm	244 Nm (180 ft-lb)

Number of cylinders 3

Bore 106.5 mm (4.19 in.)

Stroke 110 mm (4.33 in.)

Displacement 2940 cm³ (179 cu.in.)

Compression ratio 17.8 : 1

Firing order 1-2-3

Intake valve clearance 0.35 mm (0.014 in.)

Exhaust valve clearance 0.45 mm (0.018 in.)

Slow idle 800 rpm

Fast idle

Tractors 1445F, 1745F and 2345F 2460 rpm

Tractor 1845F 2560 rpm

Rated engine speed

Tractors 1445F, 1745F and 2345F 2300 rpm

Tractor 1845F 2400 rpm

Working speed range

Tractors 1445F, 1745F and 2345F 1300-2300 rpm

Tractor 1845F 1300-2400 rpm

Speed for PTO operation

– Rear 540 rpm PTO 2160 rpm

– Rear 750 rpm PTO 2250 rpm

– Rear 1000 rpm PTO 2214 rpm

WEIGHTS

Tractors 1445F, 1745F and 1845F without front wheel drive; tires: front 7.00-12, rear 12.4-24

Front axle load	756 kg (1667 lb)
Rear axle load	1000 kg (2205 lb)
Total	1756 kg (3872 lb)

Tractor 2345F without front wheel drive; tires: front 7.50-16, rear 14.9-24

Front axle load	789 kg (1739 lb)
Rear axle load	1050 kg (2315 lb)
Total	1839 kg (4054 lb)

Tractors 1445F, 1745F and 1845F with front wheel drive; tires: front 9.00/75-16, rear 12.4-24

Front axle load	890 kg (1962 lb)
Rear axle load	1000 kg (2205 lb)
Total	1890 kg (4167 lb)

Tractor 2345F with front wheel drive; tires: front 7.50-18, rear 14.9-24

Front axle load	890 kg (1962 lb)
Rear axle load	1050 kg (2315 lb)
Total	1940 kg (4277 lb)

Max. permissible load (all versions)	3400 kg (7496 lb)
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Maximum permissible static vertical load – on drawbar	1300 kg (2866 lb)
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MAX. PERMISSIBLE AXLE LOADS

NOTE: Specified max. permissible axle loads do not refer to max. permissible tire loads, but to the most advantageous distribution of weight.

Rear axle, low version

– with tires

11.2R24 114 A8	2360 kg (5203 lb)
12.4R24 119 A8	2700 kg (5952 lb)
14.5R20 tubeless	2700 kg (5952 lb)
380/70R24 125 A8	2700 kg (5952 lb)

Front axle, low version without front wheel drive

– with tires

6.50-16 6 PR	1350 kg (2976 lb)
7.00-12 6 PR	1350 kg (2976 lb)

Front axle, low version with front wheel drive

– with tires

6.50-16 6 PR	1350 kg (2976 lb)
9.0/75-16 6 PR	1350 kg (2976 lb)
10.0/75-15.3 6 PR	1350 kg (2976 lb)
280/60-15.5 6 PR	1230 kg (2712 lb)

Rear axle, high version

– with tires

11.2R28 116 A8	2500 kg (5512 lb)
12.4R28 121 A8	2700 kg (5952 lb)
13.6R24 121 A8	2700 kg (5952 lb)
14.9R24 126 A8	2700 kg (5952 lb)

Front axle, high version without front wheel drive

– with tires

6.50-16 6 PR	1350 kg (2976 lb)
7.50-16 6 PR	1350 kg (2976 lb)

Front axle, high version, with front wheel drive

– with tires

7.50-18 6 PR	1350 kg (2976 lb)
8.25-16 4 PR	1350 kg (2976 lb)
250/80-18 8 PR	1350 kg (2976 lb)

ELECTRICAL SYSTEM

Battery	12 V, 92 Ah
Alternator	14 V, 55 A
Starting motor	12 V, 3 kW (4 hp)
Battery terminal grounded	Negative

CAPACITIES

Fuel tank	40.0 L (8.8 gal.)
Cooling system	10.0 L (2.2 gal.)
Crankcase	6.0 L (1.3 gal.)
Transmission/hydraulic system	38 L (8.4 gal.)
Front axle	4.5 L (1 gal.)
Final drive housing (front wheel drive), each	1.3 L (0.3 gal.)

SOUND LEVEL

Max. sound level at operator's ear in accordance with Directive 86/188EEC.

Measurement method in accordance with directive 77/311EEC, Annex II, with cab closed if applicable.

1445F with 2-post roll guard	93,0 dB(A)
1445F cab with sound protection package	92,0 dB(A)
1445F cab with comfort package	95,0 dB(A)
1445F standard cab	98,0 dB(A)
1745F with 2-post roll guard	93,0 dB(A)
1745F cab with sound protection package	92,0 dB(A)
1745F cab with comfort package	95,0 dB(A)
1745F standard cab	99,0 dB(A)
1845F with 2-post roll guard	92,0 dB(A)
1845F cab with sound protection package	92,0 dB(A)
1845F cab with comfort package	96,0 dB(A)
1845F standard cab	100,0 dB(A)
2345F with 2-post roll guard	91,0 dB(A)
2345F cab with sound protection package	91,0 dB(A)
2345F cab with comfort package	94,0 dB(A)
2345F standard cab	96,0 dB(A)

Serial Numbers

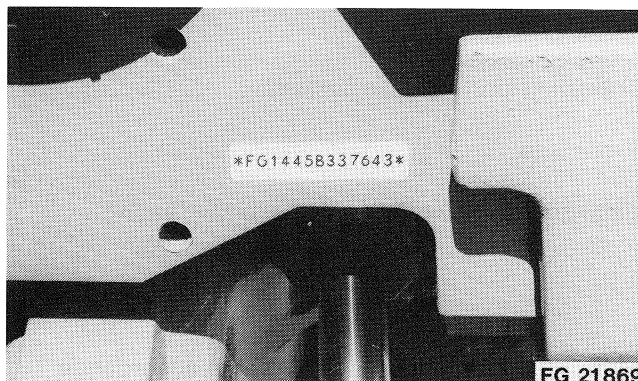
SERIAL NUMBER PLATES

The following illustrations show the serial number plates for tractor major components. The letters and figures on the serial number plates are required for warranty claims and when ordering spare parts. For this reason record these serial numbers in the spaces provided at the bottom of each illustration.

SEROM-3640ALE-190784

PRODUCT IDENTIFICATION NUMBER

The product identification number plate is stamped into the right-hand side of front axle carrier.



FG 21869

FG21869-1445FAFGE-260687

PRODUCT IDENTIFICATION NUMBER PLATE

The product identification number plate is located on the left rear fender next to the knob for sinking the tail lamps.

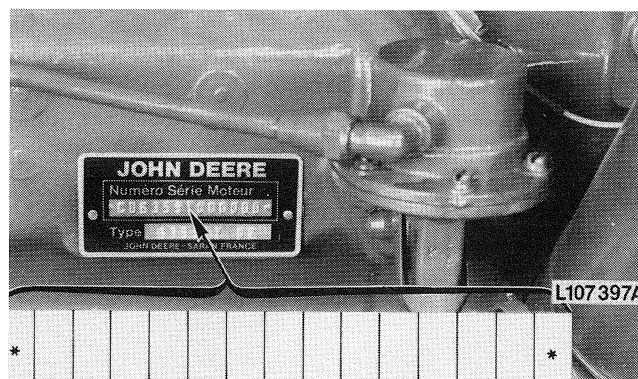


FG 21868

FG21868-1445FAFGE-260687

ENGINE SERIAL NUMBER

The engine serial number plate is located on right-hand side of engine block.

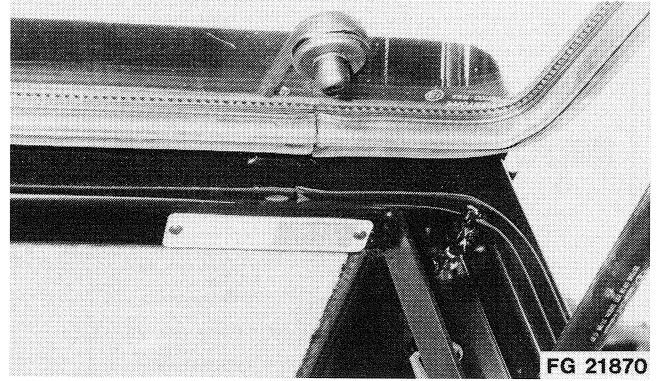


L107397A

L107397A-2140ALE-051285

OPERATOR'S CAB SERIAL NUMBER

The cab serial number plate is located on the frame above the rear windscreen.



FG21870-1445FAFGE-260687

Lubrication and Maintenance Records

50 HOUR SERVICE:

[illegible]

L 112 120

Check oil level of transmission/hydraulic system, clean air cleaner unloading valve, check tire in-

flation pressures, lubricate front axle and check level of engine coolant.

[illegible]

L 112 121

200 HOUR SERVICE:

[illegible]

L 112122

Drain and refill engine crankcase, replace engine crankcase filter element, check alternator fan belt tension, lubricate 3-point hitch, clean cable connections and battery, check level of electrolyte,

check oil level of front axle, check oil level of transmission/hydraulic system, clean air cleaner unloading valve, check tire inflation pressures, lubricate front axle, check level of engine coolant.

L112122-1445FAFGE-260687

300 HOUR SERVICE:	
--	--

[illegible]

L112126

Replace activated carbon filter of operator's cab.

L112126-1445FAFGE-110888

500 HOUR SERVICE:

 h		 h		 h		 h		 h	

L 112 123

Clean transmission/hydraulic oil filter element, clean fuel transfer pump, check connections of air intake hoses, have engine speeds checked, check engine valve tappet clearances, clean cable connections and battery, check level of electrolyte,

check oil level of front axle, check oil level of transmission/hydraulic system, clean air cleaner unloading valve, check tire inflation pressures, lubricate front axle, check level of engine coolant.

L112123-1445FAFGE-260687

1000 HOUR SERVICE:

 h		 h		 h		 h		 h	

L 112 124

Drain and refill transmission/hydraulic system, replace transmission/hydraulic system filter element, replace fuel filter element, drain and refill front axle, check starting motor, clean fuel transfer pump, check connections of air intake hoses, have engine speeds checked, check engine valve tappet clearances, drain and refill engine crankcase,

replace engine crankcase filter element, check alternator fan belt tension, lubricate 3-point hitch, clean cable connections and battery, check level of electrolyte, clean air cleaner unloading valve, check tire inflation pressures, lubricate front axle, check level of engine coolant.

L112124-1445FAFGE-260687

2000 HOUR SERVICE:

 h		 h		 h		 h		 h	

L 112 126

Have fuel injection nozzles checked. Drain and re-fill transmission/hydraulic system, replace transmission/ hydraulic system filter element, replace fuel filter element, drain and refill front axle, check starting motor, clean fuel transfer pump, check connections of air intake hoses, have engine speeds checked, check engine valve tappet clear-

ances, drain and refill engine crankcase, replace engine crankcase filter element, check alternator fan belt tension, lubricate 3-point hitch, clean cable connections and battery, check level of electrolyte, clean air cleaner unloading valve, check tire inflation pressures, lubricate front axle, check level of engine coolant.

L112126-1445FAFGE-260687

SERVICE – EVERY SPRING AND AUTUMN

 h		 h		 h		 h		 h	

Drain and refill engine crankcase

L 112 125

L112125-2140ALE-010885

SERVICE – EVERY 2 YEARS

 h		 h		 h		 h		 h	

L112126

Replace thermostat, flush cooling system and fill with fresh coolant.

L112126-940ALE-010286

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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.

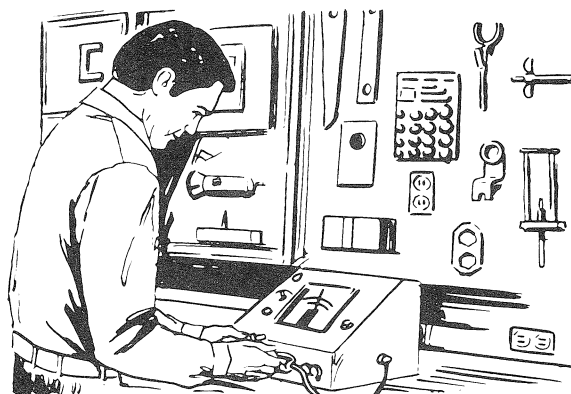
That's why we maintain a large and varied inventory – to stay a jump ahead of your needs.



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

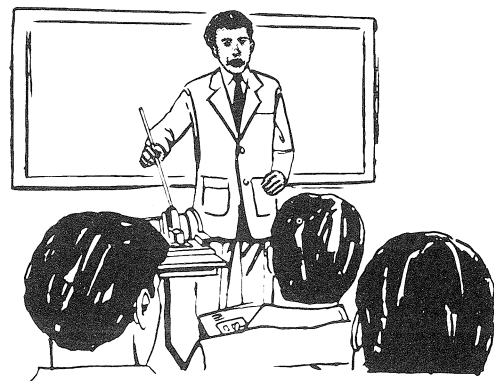
WELL-TRAINED TECHNICIANS

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

