

125 Skid-Steer Loader



TECHNICAL MANUAL

125 Skid-Steer Loader

TM1167 (01MAR81) English

John Deere Lawn & Grounds Care Division TM1167 (01MAR81)

> LITHO IN U.S.A. ENGLISH



Section 10 GENERAL

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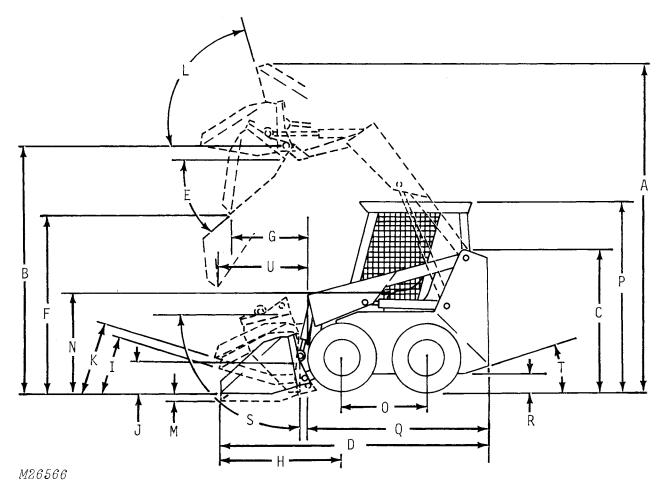
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Group 5 GENERAL SPECIFICATIONS

(Specifications and design subject to change without notice. Wherever applicable, specifications are in accordance with IEMC and SAE standards. Except where otherwise noted, these specifications are based on a unit equipped with 10 x 16.5 4-ply rating steel-ply tires and standard equipment.)

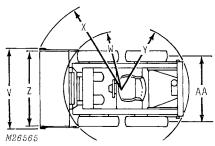
POWER (2800 Engine rpm) Gross	TRAVEL SPEED - (2800 Engine rpm-no tire slip) Forward or Reverse
(2800 Engine rpm) Gross 40 hp (29 83 kW)* Net 38 hp (25 34 kW)*	Two Front Wheels Emergency Foot-Operated Mechanical Parking
Net engine flywheel power is for an engine equipped with fan, air cleaner, water pump, lubricating oil pump, fuel pump, alternator and muffler. The gross engine power is without fan. Gross and net flywheel power ratings are under SAE standard condition of 500-ft. (152 m) altitude and 85°F (29.5°C) temperature and DIN 70 020 conditions (non-corrected). No derating is required up to 10,000 feet (3000 m) altitude.	STEERING T-bar controls forward and reverse, right and left movements through two axial variable piston pumps and two axial fixed piston motors. Turning Radius
*In the international system of units, power is expressed in kilowatts (kW).	from crankshaft - 15 gpm (60.51 Lpm) 2000 psi (138 bar) (13 790 kPa) at 2800 engine rpm.
ISUZU ENGINE Diesel - 4 Cylinder Bore and Stroke	TIRES 10 x 16.5, 4-ply rating, steel cap 15.5 x 15, 8-ply rating, terra 6.50 x 16, solid rubber
Piston Displacement 119 cu. in. (1950 cm³) (20.1 to 1 Compression Ratio 20.1 to 1 Maximum Torque (2000 RPM) 79.6 ft-lb (107.9 N·m)	7 x 15, 6-ply rating, steel cap CAPACITIES Fuel Tank (-120,000) 24 gal. (90.8 L) (120,001-) 18 gal. (68.1 L)
CONTINENTAL ENGINE Gasoline - 4 Cylinder Bore and Stroke	Cooling System
Piston Displacement 112 cu. in. (1836 cm³) Compression Ratio 6.0761 Maximum Torque (1500 RPM 90 ft-lb	Battery 12-volt (Diesel)

(122 N·m)



Specifications are in accordance with IEMC standards. Dimensions are with the QUIK-TATCH 10 cu. ft. heaped (0.28 m³) Earth and Foundry Bucket and 10 x 16.5 Steel Cap Tires

A—Overall height - lift arms raised	146.25 in. (3715 mm)
B—Height to hnge pin (maximum)	108.25 in. (2750 mm)
C—Overall height without ROLL-GARD	59.88 in. (1521 mm)
D—Overall length with bucket	118.75 in. (3016 mm)
E—Dump angle	
F—Dump height	77.62 in. (1972 mm)
G—Reach at maximum height	
H—Reach of bucket on ground	
I —Maximum rollback at ground	
J — Carry position	
K—Maximum rollback at carry position	
L — Maximum rollback - lift arms fully raised	
M—Digging depth	0 in.
N—Height to seat	42.75 in. (1086 mm)
O-Wheelbase	
P—Overall height with ROLL-GARD	82.75 in. (2102 mm)
Q—Overall length - less bucket	90.25 in. (2292 mm)
R—Ground clearance	7 in. (178 mm)
S—Maximum grading angle	94°
T—Angle of departure	
U—Reach at specified height	22.25 in. (565 mm)



AΑ	
\	

V —Bucket width
W —Front clearance circle 44.75 in. (1137 mm) (less bucket) radius
X —Front clearance circle 75.5 in. (1918 mm) (with bucket) radius
Y —Rear clearance circle 51.25 in. (1302 mm) (radius)
Z —Overall width less bucket 59.12 in. (1502 mm)
AA—Tread 48.87 in. (1241 mm)
Operating Capacity (-120,000)

(Specifications and design subject to change without notice.)

ADDITIONAL STANDARD EQUIPMENT

Muffler Transistorized Voltage Regulator Engine Heat Shield Belly Pans Adjustable Seat with Seat Belt

ROLL-GARD Canopy with Side Screens Radiator Guard with Rubber Latches Hand and Foot Brake Canopy Mounted Lift Arm Locks QUIK-TATCH Mounting Frame

Gauges:

Engine Oil Pressure (-10,604)

Coolant Temperature (-10,604)

Electric Hour Meter

Ammeter (-10,604)

Fuel

Glow Plug Indicator (Diesel)

Air Restriction Indicator

Hydraulic Vacuum (-10,604)

Indicator Lights (10,605-)

Group 10 PREDELIVERY, DELIVERY, AND AFTER-SALE SERVICES

TEMPORARY STORAGE

After receiving your loader from the factory and before putting the machine into temporary storage, perform the following checks:

For long term storage (over 30 days) information, consult your Operator's Manual.

- 1. Check battery electrolyte level and charge the battery, if necessary.
- 2. Check the level of coolant in the radiator. The coolant should be maintained at a level midway between the radiator core and filler neck.
 - 3. Fill the fuel tank.
- 4. Check crankcase oil level. Oil should be at top mark of dipstick after loader has been shut down for 10 minutes.
- 5. Relieve hydraulic pressure by stopping engine, lowering all equipment and operating control levers until system fails to respond.
- 6. Check torque on wheel lug nuts. Tighten nut to 90 ft-lbs (122 N·m) torque.
- 7. Reduce shipping pressure of all tires to inflation pressure listed below.

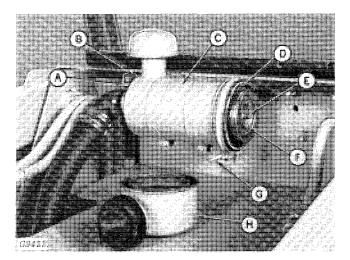
Tire Size	Ply Rating	Inflation Pressure
10 x 16.5	4	40
7 x 15	6	35
15.5 x 15	8	45

PREDELIVERY SERVICE

Because of the shipping factors involved, plus extra finishing touches that are necessary to promote customer satisfaction, proper predelivery service is of prime importance to the dealer and the customer.

Use the following list when preparing a unit for delivery to the customer.

1. Air Cleaner



A—Restriction Indicator B-Reset Button

C-Air Cleaner Body

D-Element

E-Gasket F-Wing Nut

G---Clamp H-Dust Cap

Fig. 1-Air Cleaner

Check air cleaner restriction indicator. If the restriction indicator is locked in red position, check and clean air filter element. Replace element, if necessary.

2. Check Air Intake Hoses

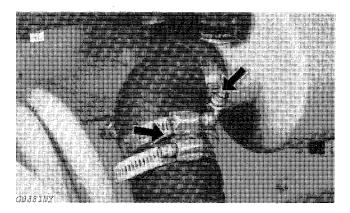


Fig. 2-Hose Clamps

Check clamps on hoses which connect air cleaner to engine. Tighten hose clamps where necessary to prevent dirt from entering engine. Inspect hoses for cracks.

Loose connections Yes No

3. Fuel Tank

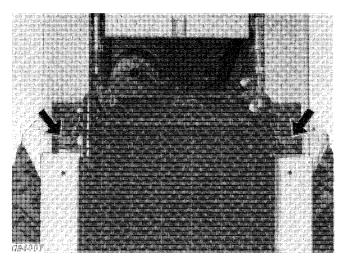


Fig. 3-Fuel Tanks

Check fuel tank level. If fuel level is low, add sufficient fuel to fill fuel tank. Fuel tank capacity is 24 U.S. -120,000) and 18 U.S. gal. (68.1 gal. (90.8 L) (L) (120,001-

Fuel level checked Yes No Yes No Fuel added

4. Fuel Filter (Diesel)

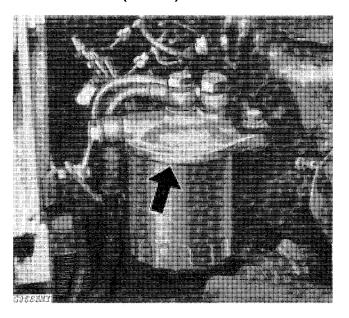
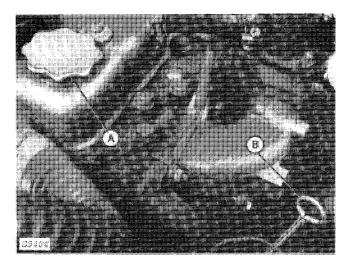


Fig. 4-Fuel Filter

Check fuel filter for loose connection and hand tighten if necessary.

Loose fuel filter Yes No

5. Crankcase Oil Level



A-Crankcase Filler Cap

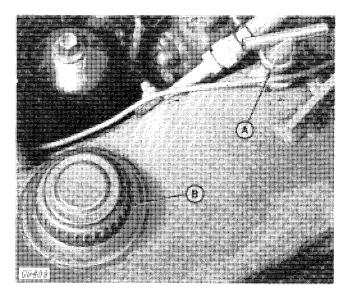
B—Crankcase Dipstick

Fig. 5-Crankcase Filler Cap and Dipstick

Check crankcase oil level with unit on level ground and engine off. If oil level is at or below bottom mark on dipstick, add sufficient oil of the proper viscosity and type specified on page 10-15-2 to bring oil level between marks on dipstick. Do not operate engine with oil level below the bottom mark.

Crankcase oil level checked Yes No Oil added Yes No

6. Hydraulic Reservoir Oil Level



A-Hydraulic Dipstick

B-Hydraulic Filler Cap

Fig. 6-Hydraulic Dipstick and Filler Cap

Check oil level in loader hydraulic reservoir. Level should be midway between low and high marks.

Hydraulic oil level at proper level

Yes No

7. Radiator

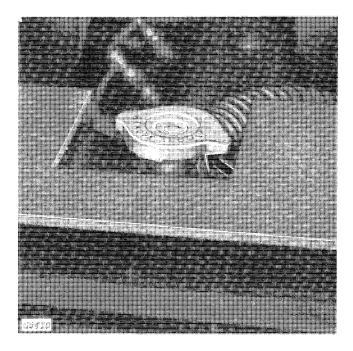


Fig. 7-Radiator Filler Cap

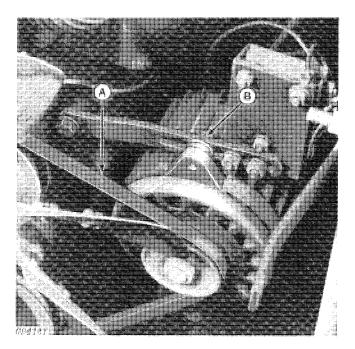
CAUTION: Do not remove radiator filler cap until the coolant temperature is below its boiling point. Then loosen cap slowly to the stop to relieve any excess pressure before removing cap completely.

Check the level of coolant in the radiator. Coolant should be maintained at a level midway between the radiator core and filler neck. Add permanent type antifreeze if cold weather is anticipated.

Radiator coolant level checked Yes No

Coolant or antifreeze added Yes No

8. Alternator Belt Tension



A-Fan Beit

B-Adjustment Screw

Fig. 8-Alternator Fan Belt

IMPORTANT: Do not pry on the rear alternator housing as this may damage the alternator.

The fan belt on the loader should have a 3/4-inch (19.1 mm) deflection with 20 pounds (89 N) tension.

Alternator fan belt tension

lbs. (N) spring tension

inch (mm) flex

Alternator fan belt adjusted

Yes N

No

9. Battery

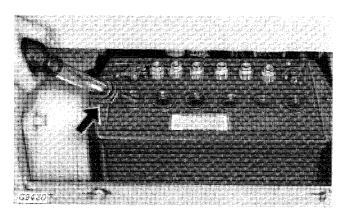


Fig. 9-Battery

Check battery electrolyte level. If distilled water is not available, use clean soft water. Avoid use of hard water. Remove foreign material from top of battery. Tighten terminal connections and coat terminals with petroleum jelly. Clean vent holes in battery caps.

Battery electrolyte level checked	Yes	No
Terminal connections checked	Yes	No

10. Tire Pressure

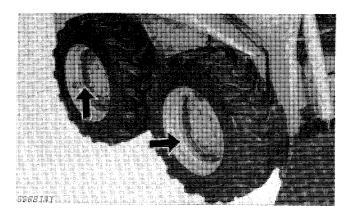


Fig. 10-Tires

Check air pressure in tires with an accurate gauge having 1-pound (.0689 bar) (6.895 kPa) graduations.

All tires must be identical in psi rating.

Tire Size	Ply Rating	Inflation Pressure
10 x 16.5	4	40 psi (2.75 bar) (275.8 kPa)
7 x 15	6	35 psi (2.41 bar) (241.3 kPa)
15.5 x 15	8	45 psi (3.1 bar) (310.3 kPa)
Tire pressure	checked	Yes No

11. Wheel Lug Nuts

The wheel lug nuts must be tightened to 90 ft-lbs (122 $N \cdot m$).

Wheel lug nuts tight Yes

12. Check Seat Operation

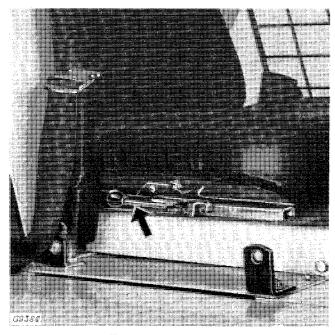


Fig. 11-Adjustment Lever

Check the distance from seat to control pedals and move seat forward or rearward for correct position.

Seat adjusted

Yes No

13. T-Bar Lever Control

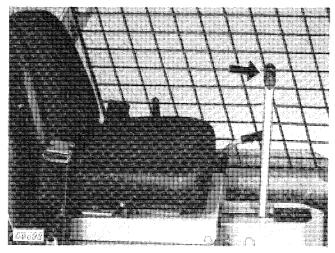
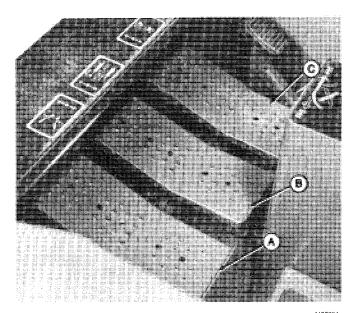


Fig. 12-T-Bar Lever

Check forward, rearward, left-hand and right-hand movement by moving T-bar lever control from neutral position forward and rearward, and turning from side to side.

No

14. Check Boom, Bucket and Auxiliary Pedal Operation



A—Boom Pedal

B—Auxiliary Pedal

C-Bucket Pedal

Fig. 13-Boom, Bucket and Auxiliary Pedals

The boom control pedal is located on the floor of the loader on the left-hand side.

To raise the boom, push down on the rear of the boom control pedal.

To lower boom push down on the front of the boom control pedal.

NOTE: When raising or lowering the boom, the boom control lever will always return to the neutral position when released.

To position the boom in the float position, move the control pedal all the way down on the front of the control pedal to the detent position. Pedal will remain in the float (detent) position until manually returned to neutral.

CAUTION: To avoid free-fall of load when lowering boom, do not fully depress boom control pedal. Carry load as low as possible. Never make sharp maneuvers with boom in raised position.



CAUTION: When parking, always lower the boom to the ground before dismounting.

The bucket control pedal is located on the floor of the loader on the right-hand side.

To curl the bucket inward or raise the front of the forks, push down on the rear of bucket control pedal.

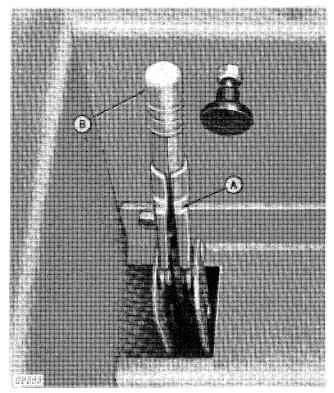
To dump bucket or lower front of forks, depress front of bucket control pedal.

The auxiliary pedal is standard on loaders beginning with Serial No. 120,001 and up. It is optional on all other loaders. The auxiliary pedal operates the teeth on a trencher, the fork on a grapple or the auger on a post hole digger.

Push down on rear of pedal and engage lock for continuous operation. To release pedal, push down on rear of pedal, disengage lock and allow pedal to return to neutral.

Boom control pedal operational Yes No Bucket control pedal operational Yes No Auxiliary control pedal operational Yes No

15. Check Brake Operation (Serial No. -120,000)



A-Brake Handle

B-Adjustment Knob

Fig. 14-Parking Brake

The brake handle is on the right side of the loader. Pull the brake handle rearward to set the brake. To release the brakes, push the brake handle forward.

If the brakes are slipping, turn the adjustment knob on the brake handle clockwise to tighten the brake.

This should be done while the loader is on level ground, the transmission is in neutral, the engine is stopped and the parking brake handle is down.

(Serial No. 120,001-

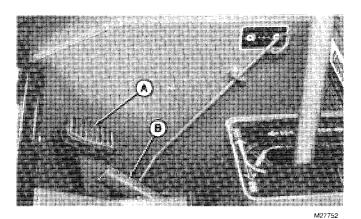


Fig. 15-Parking Brake

A-Brake Pedal

The parking brake should hold when the brake lock engages the second rachet tooth. To adjust brake:

B-Brake Lock

Remove locking mechanism and right-hand floor plate.

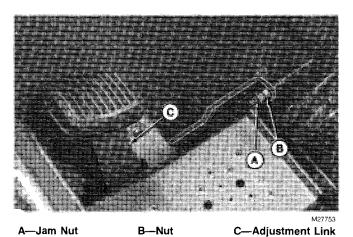


Fig. 16-Adjusting Nut

Back off jam nut (A) and tighten nut (B). Tighten jam nut (A).

If additional take-up is needed, move clevis pin to next hole in adjustment link. Be sure jam nut is tightened before replacing floor plate.

Assemble floor plate and locking mechanism in the reverse order.

Parking Brake Adjusted

Yes No

16. Checking Instruments and Gauges

When operating the loader check the engine coolant temperature gauge, oil pressure gauge, hydraulic vacuum gauge and ammeter.

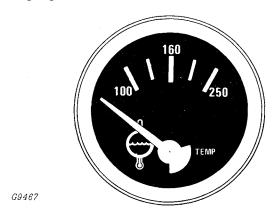


Fig. 17-Water Temperature Gauge

rater remperature Gauge

G9467

The water temperature gauge indicates the temperature of engine water coolant.



Fig. 18-Oil Pressure Gauge

The oil pressure gauge gives the oil pressure of the engine.

Fig. 19-Hydraulic Vacuum Gauge

The hydraulic vacuum gauge measures the hydraulic oil in inches of mercury. If the needle of the gauge is in the red zone after 30 to 45 minutes of operation, change the hydraulic oil filters.

IMPORTANT: Filters are to be changed every 100 hours of operation. This gauge is for added protection. If the filters are not changed, recirculation of foreign material in the system will cause damage to the pump, valves, and cylinders.

NOTE: Both filters must be changed.

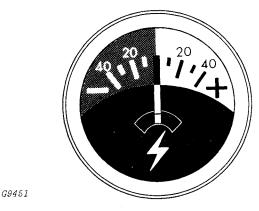


Fig. 20-Ammeter

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If the ammeter needle is pointing straight up or in the "plus" area, the alternator is charging.

If the needle goes into the "minus" area with the engine operating, stop the engine and determine the cause.

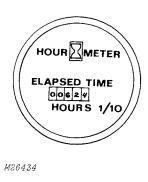
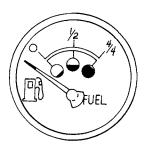


Fig. 21-Hour Meter

The hour meter shows accumulated service in hours and tenths of hours. Use the meter to determine the lubrication and periodic service requirements.



M26435

Fig. 22-Fuel Gauge

Fuel gauge indicates amount of fuel in tank.

M26435



Fig. 23-Warning Lights

M26436

The warning lights will light when the alternator isn't charging, oil pressure is low, or engine temperature is high. The oil indicator lamp and alternator indicator lamp should glow when key switch is turned to start position.

NOTE: Alternator indicator lamp will glow at idle speed but will go out when idle speed is raised.

A warning buzzer accompanies engine oil pressure lamp. Any time buzzer sounds, stop loader immediately and determine the cause. As a test, buzzer should sound every time key switch is turned on with engine stopped, since engine oil pressure is zero.

LUBRICATION

All grease fittings were properly lubricated and checked before the loader left the factory. However, to insure proper customer satisfaction, check each fitting shown in the following pages and lubricate it, if necessary, with John Deere Multi-Purpose Lubricant.

1. Lift Arm and Cylinder Lubrication

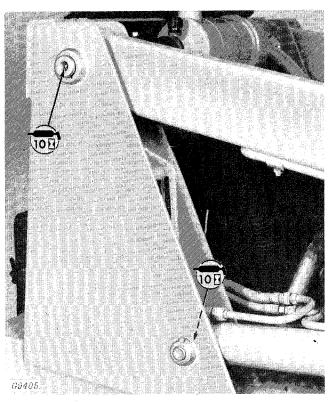


Fig. 24-Lift Arm Lubrication

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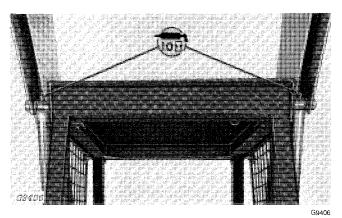


Fig. 25-Cylinder Pivot Points

Lubricate pivot points and lift arm cylinder grease fittings every 10 hours of operation with two strokes of grease gun containing John Deere Multi-Purpose Lubricant.

2. Tilt Cylinders and Pivot Points

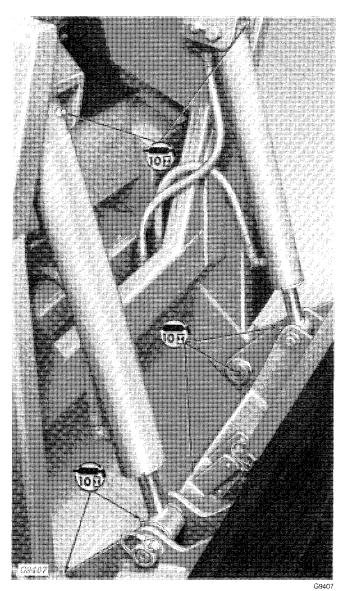


Fig. 26-Tilt Cylinder and Pivot Points

Lubricate pivot points and tilt cylinder grease fittings every 10 hours of operation with two strokes of grease gun containing John Deere Multi-Purpose Lubricant.

3. Engine Chain Coupler (Diesel) (Serial No. -120,000)

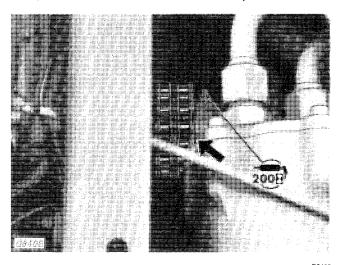


Fig. 27-Engine Chain Coupler

Lubricate engine chain coupler grease fitting every 200 hours of operation with two strokes of grease gun containing Moly Grease or equivalent.

DELIVERY SERVICE

A thorough discussion of the operation and service of a new machine at the time of delivery helps to assure complete customer satisfaction. Proper delivery should be an important phase of a dealer's program. A portion of the John Deere Delivery Receipt emphasizes the importance of proper delivery service.

It is a well-known fact that many complaints have arisen simply because the owner was not shown how to operate and service the new machine properly. Enough time should be devoted, at the customer's convenience, to introduce the owner to the new Skid-Steer Loader and explaining how to operate and service it.

The following procedure is recommended before the technician and owner complete the delivery acknowledgements portion of the Delivery Receipt.

Using the operator's manual as a guide be sure that the owner understands these points thoroughly:

- 1. The importance of safety.
- 2. The importance of lubrication and periodic services.
- 3. The importance of the break-in period.
- 4. Controls and instruments.
- 5. How to start and stop the engine.
- 6. All functions of the hydraulic system.

After explaining and demonstrating the above features, have the owner sign the Delivery Receipt and give the owner the operator's manual.

10-10

AFTER-SALE INSPECTION

The purchaser of a new John Deere machine is entitled to a free inspection at some mutually agreeable time within the warranty period after the equipment has been "run-in," usually at approximately 100 hours of machine operation. The terms of this aftersale inspection are outlined on the customer's John Deere Delivery Receipt.

The purpose of this inspection is to make sure that the customer is receiving satisfactory performance from the machine. At the same time, the inspection should reveal whether or not the machine is being operated, lubricated, and serviced properly.

If the recommended after-sale service inspection is followed, the dealer can eliminate a needless volume of service work by preventing minor irregularities from developing into serious problems later on. This will promote strong dealer-customer relations and present the dealer an opportunity to answer questions that may have arisen during the first few days of operation.

Group 15 LUBRICATION

GENERAL INFORMATION

Illustrated below is the periodic service chart which is mounted on the loader heat shield. More detailed information on servicing the loader can be found in the current Skid-Steer Loader Operator's Manual.

Use the operator's manual and the periodic service chart as references when servicing the loader. Remind your customer to thoroughly read the operator's manual before attempting to service or operate the loader.

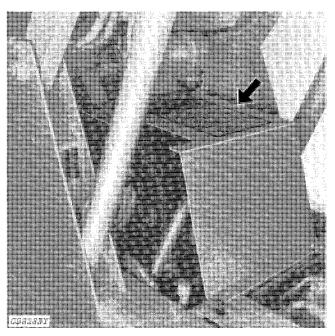


Fig. 1-Lubrication Chart

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LUBRICANTS

M26506

Engine Oil

TEMPERATURE CHART

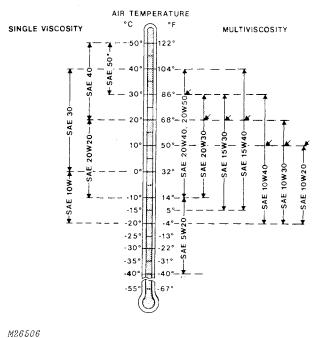


Fig. 2-Temperature Chart

John Deere TORQ-GARD SUPREME™ engine oil is recommended. If other oils are used, they must be premium quality engine oils meeting performance requirements of:

- -API Service Classification CD/SC
- Military Specification MIL-L-2104C

For low temperature operation, where oils meeting the above requirements may not be available in appropriate viscosity grade, oils meeting the performance requirements of API Service Classification CS/SC or Military Specification MIL-L-46152 may be used, but at a shorter drain interval.

Quality engine oils are blended, so additives are neither required nor recommended.

NOTE: Some increase in oil consumption may be expected when SAE 5W-20 oil is used. Check oil level frequently.

Hydraulic Oil

Use John Deere All-Weather Hydrostatic Fluid, John Deere HY-GARD® Transmission and Hydraulic Oil, or an equivalent Type "F" Automotive Automatic Transmission Fluid.

Grease

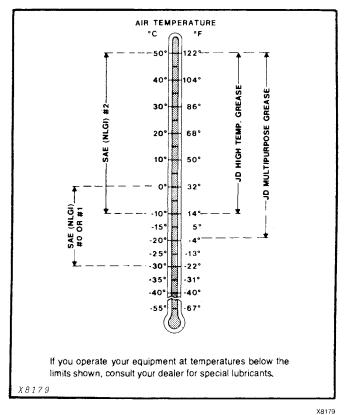


Fig. 3-Grease Chart

John Deere Multipurpose Grease is recommended in all grease fittings. If other greases are used, use SAE Multipurpose Grease containing 3 to 5 percent molybdenum disulfide.

Use grease as shown in temperature chart.

Section 20 DIESEL ENGINE

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