Form No.
907846

SL5635
and SL6635
Series II
Skid Loaders



Service Manual

GEHL

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General Information

The above alert symbol means:

- ❑ **ATTENTION!**
- ❑ **BECOME ALERT!**
- ❑ **YOUR SAFETY IS INVOLVED!**

It stresses an attitude of "Heads Up for Safety" and can be found throughout this service manual and on the machine itself.

Before you operate this equipment, read and study the following information. In addition, make sure that every individual who operates or works with this equipment is familiar with these precautions.

The Gehl Company ALWAYS considers the user's safety when designing its machinery and guards exposed moving parts for the user's protection. However, some areas cannot be guarded or shielded in order to assure proper operation. Furthermore, the Operator's Manual and the decals on the machine warn of additional hazards and should be read and observed closely.

This section of the manual includes procedures, which when followed, will allow safe performance of service procedures:

- ❑ **Mandatory Safety Shutdown Procedure**
- ❑ **Lift Cylinder Liftarm Support Device**
- ❑ **Roll Over Protective Structure (ROPS)/Falling Objects Protective Structure (FOPS) and Lock Mechanism**
- ❑ **Loader Raising & Lowering Procedures**
- ❑ **Relieving Hydraulic Pressure**

Signal Words

DANGER

"DANGER" indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

"WARNING" indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

"CAUTION" indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. May also alert against unsafe practices.

Additional Safety Reminders

Read and understand the service manual and all decals before maintaining, adjusting or servicing this equipment.



Doors, Guards and Shields - Some photographs in this manual may show doors, guards and shields open or removed for illustration purposes only. BE SURE all doors, guards and shields are in their proper operating positions BEFORE starting engine to operate unit.

Damaged or Worn-out Parts - For safe operation, replace damaged or worn-out parts with genuine Gehl service parts, BEFORE operating this equipment.

Attachments - Gehl skid loaders are designed and intended to be used only with Gehl Company attachments or approved referral attachments. The Gehl Company cannot be responsible for personal safety if the loader is used with a non-approved attachment.



Battery Safety - To avoid injury from a spark or short circuit, disconnect the negative battery cable (-) before servicing any part of the electrical system. Do not tip the battery more than 45° to avoid spilling electrolyte.

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SPECIFICATIONS

	5635SX	5635SXT/DXT	6635SXT/DXT
Make of Engine	Deutz	Deutz (Turbo)	Deutz (Turbo)
Model	F4M1011F	BF4M1011F	BF4M1011F
Fuel	Diesel	Diesel	Diesel
Displacement	178 CID (2,9 L)	178 CID (2,9 L)	178 CID (2,9 L)
Horsepower	60 hp (44,8 kW) @2650 rpm	80 hp (58 kW) @2650 rpm	80 hp (58 kW) @2650 rpm
Horsepower - Net (ISO 9249)	56 hp (41,8 kW) @ 2500 rpm	75 hp (56 kW) @ 2500 rpm	75 hp (56 kW) @ 2500 rpm
Torque - Maximum	130 ft-lbs (176 N•m) @ 1800 rpm	176 ft-lbs (239 N•m) @ 1800 rpm	176 ft-lbs (239 N•m) @ 1800 rpm
*SAE-Rated Operating Load	1900 lbs (862 kg)	1900 lbs (862 kg)	2350 lbs (1066 kg)
Operating Weight	7170 lbs (3252 kg)	7170 lbs (3252 kg)	7530 lbs (3416 kg)
Shipping Weight	5925 lbs (2688 kg)	5925 lbs (2688 kg)	6250 lbs (2835 kg)
Capacities: Fuel Tank	19 US gal (72 L)	19 US gal (72 L)	24 US gal (91 L)

Specifications below apply to all 5635 and 6635 Series II models	
Capacities	
Hydraulic Reservoir	16 US gal (60,5 L)
Chaincases (each)	8 US quarts (7,6 L)
Engine Oil	10.5 US quarts (10 L)
Electrical	
Battery	12 volt DC with 950 CCA
Starter	12 volt DC (2,3 kW)
Alternator	55 A
Hydraulic System	
Main Hydraulic System Pressure	3000 psi (207 bar)
High-Flow Hydraulic System Pressure	2900 psi (200 bar)
Standard Flow Rate (Single)	23 gpm (87 L/min)
High-Flow Rate (Dual - DX models)	36 gpm (136 L/min)
Travel Speed - Single Speed	0 to 8.5 mph (0 to 13,7 km/h)
Travel Speed - Two-Speed Option	0 to 12.5 mph (0 to 20,1 km/h)

Tire Options	
12 x 16.5 - 10 ply	Heavy Duty Flotation tires
14 x 17.5 - 12 ply	High Clearance Flotation tires
33 x 15.5 x 16.5 - 12 ply	Extra Wide Heavy Duty tires
8 x 16	Solid Rubber tires
10 x 31	Solid Rubber tires
10 x 33	Solid Rubber tires
8.25 x 15	AirBoss Segmented Industrial tires
12 x 16.5	AirBoss Segmented Flotation tires

Buckets and Capacities			
Width - inches (millimeters)	**Bucket Description**	**Capacity (Heaped)**	
68 inches (1727 mm)	Dirt/Construction	15.0 cubic feet	0,42 cubic meters
68 inches (1727 mm)	Utility	19.0 cubic feet	0,54 cubic meters
72 inches (1829 mm)	Dirt/Construction	20.4 cubic feet	0,58 cubic meters
72 inches (1829 mm)	Utility	27.0 cubic feet	0,77 cubic meters
72 inches (1829 mm)	Utility/Snow	32.1 cubic feet	0,91 cubic meters
90 inches (2286 mm)	Snow	41.3 cubic feet	1,17 cubic meters

*Operating load rated with a 68 inch (1727 mm) dirt/construction bucket in accordance with SAE J818.

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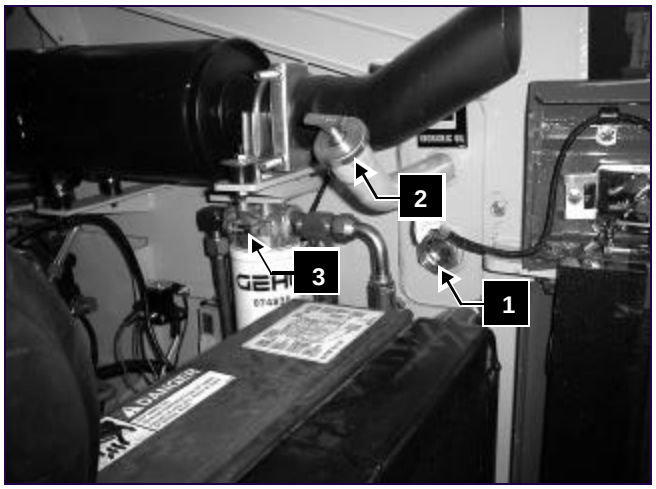


Fig. 3-1 Hydraulic oil level indicator (1), hydraulic oil fill (2), and hydraulic filter indicator (3).

General Information

WARNING

NEVER service this unit when any part of the machine is in motion. ALWAYS BE SURE to exercise the MANDATORY SAFETY SHUTDOWN PROCEDURE (see *Safety* chapter) BEFORE servicing this equipment.

Routine lubrication is an important factor in preventing excessive part wear and early failure. Loader and engine operation depends on using correct grade, high-quality lubricating oils. This chapter and the chart below list locations, temperature ranges and type of recommended lubricants to be used when servicing this machine. In

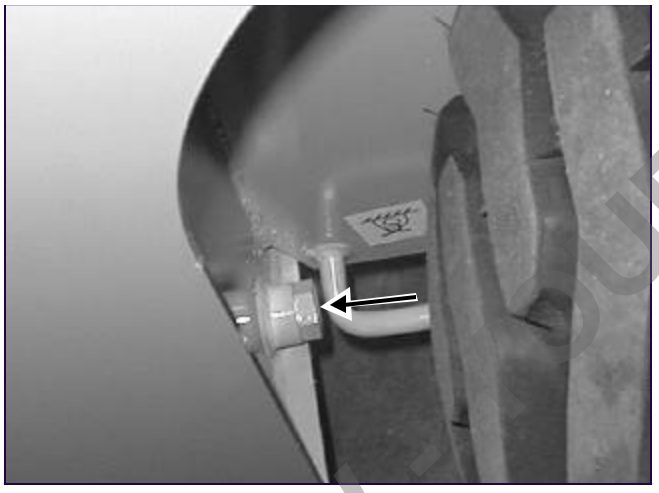


Fig. 3-2 Hydraulic oil drain plug located behind the right rear tire.

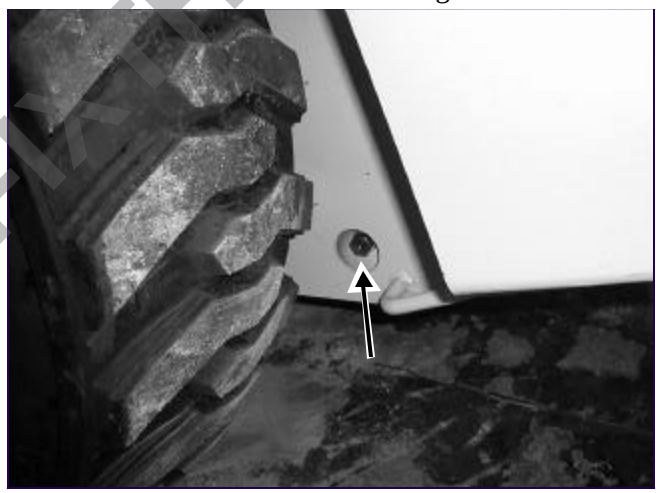


Fig. 3-3 Remote engine oil drain plug located behind the left rear tire.

Hydraulic System Reservoir	Chaincases	Grease Fittings	Crankcase Oil (Deutz Diesel Engine)
Use a Mobil DTE 15M, or Petro-Canada Premium HVI60, or equivalent which contains anti-rust, anti-foam, and anti-oxidation additives & conforms to ISO VG46-68. Capacity: 16 Gallons (60,5 L)	Use SAE motor oil. Capacity (ea. side): 8 Quarts (7,6 L)	Use lithium-based grease	✪ Below 32°F (0°C) use SAE Grade* 10 or 10W-30 ✪ Above 32°F (0°C) use SAE Grade* 15W-40 *Service Classification: API - CF-4/CG-4 Capacity: 10.5 Quarts (10 L)

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Introduction

Gehl SL5635/6635 Series II skid loaders have a welded steel chassis. Maintenance, service and repair can be performed through standard access panels. The right rear chassis riser serves as the hydraulic reservoir and the left rear chassis riser serves as the fuel tank.

Two side cases provide mounting for the drive motors and for the front and rear axles. The side cases also serve as sealed housings for the drive chains and sprockets. Oil is used inside these cases to ensure the chains always receive proper lubrication.

The liftarm and the lift and tilt cylinders are mounted with pivot pins. Capscrews are used to secure the pivot pins. A Rollover Protective Structure/Falling Objects Protective Structure (ROPS/FOPS) is standard for operator safety, and both the seat and restraint bar include interlock switches.

Rollover & Falling Objects - Protective Structure (ROPS/FOPS) Components

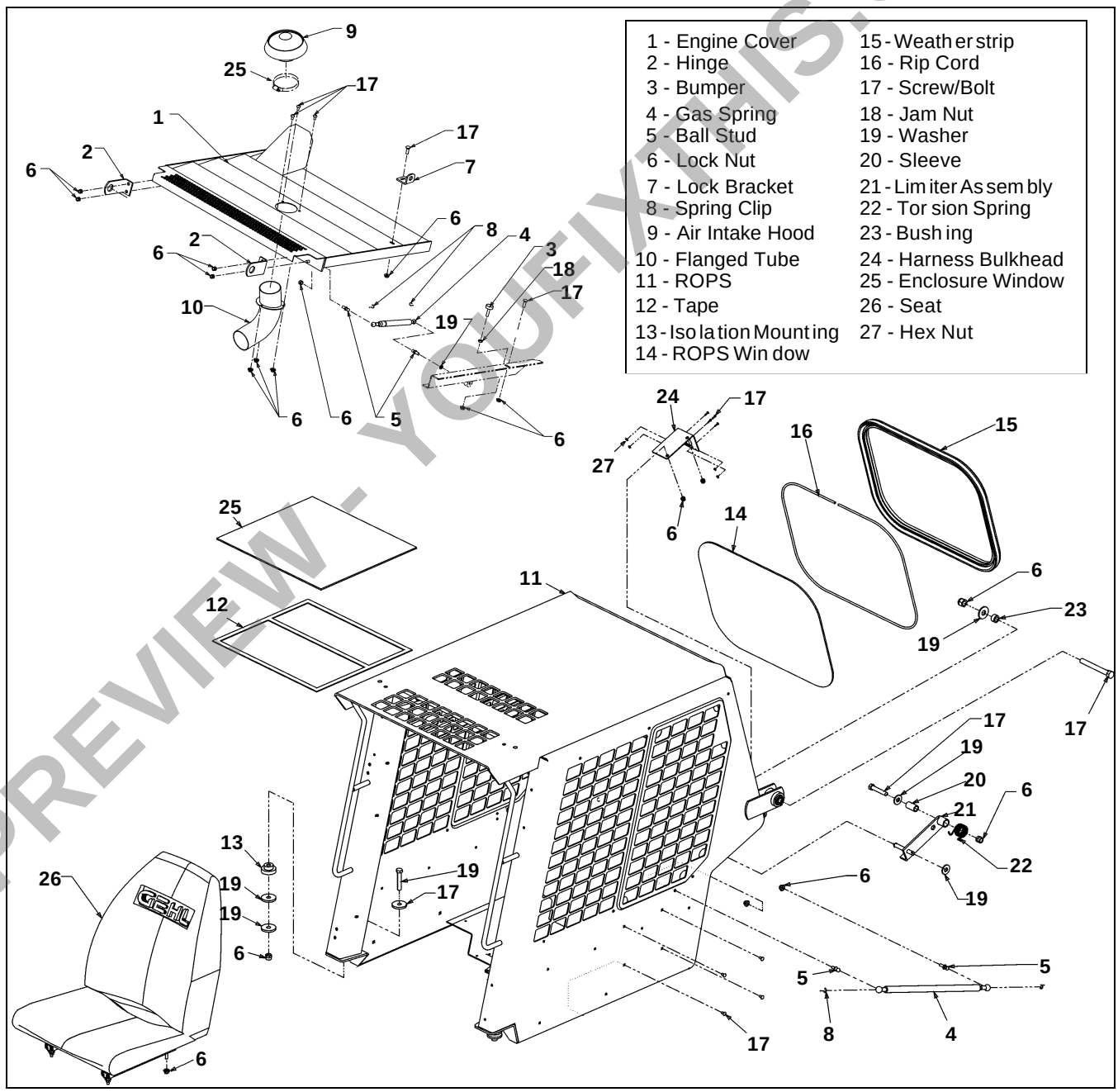


Fig. 4-1 Assembly view of ROPS components.

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Fig. 2-1 The lock pin secures the liftarm support device underneath and inside the liftarm in the "storage" position.



Fig. 2-2 Press in and hold the lock pin button and pull it out of the liftarm, allowing the support device to rest on the lift cylinder.



Fig. 2-3 Start the loader and raise the liftarm until the support device drops onto the lift cylinder rod end, above the lift cylinder.

Liftarm Support Device

WARNING

BEFORE leaving the operator's compartment to work on the loader with the liftarm raised, ALWAYS engage the liftarm support device. Turn the keyswitch to OFF, remove the key and take it with you.

Many service procedures require a raised liftarm to allow easier access to loader components. For operator and service personnel safety, a liftarm support device is standard on GEHL skid loaders. Used as a cylinder block, it helps prevent a raised liftarm from unexpectedly lowering.

BE SURE to engage the liftarm support device whenever the liftarm is raised. When the device is not being used, secure it to the anchor on the underside of the liftarm using the lock pin and retainer provided.

The liftarm support device is a safety device which must be kept in proper operating condition at ALL times.

The following procedures outline the correct way to engage and disengage the liftarm support device.

Liftarm Support Device Engagement

1. Lower liftarm until contact with loader frame.
2. Turn the keyswitch to the OFF position to stop the engine.
3. Leave operator's compartment. Press in and hold lock pin button to release its locking mechanism. Remove lock pin holding support device up against liftarm. Allow support device to come down into contact with lift cylinder. **Figs. 2-1 and 2-2**
4. Return to the operator's compartment and restart the engine.
5. Use lift control to raise liftarm until lift arm support device drops over the end of the lift cylinder and around cylinder rod. Slowly lower liftarm until free end of support device contacts top end of lift cylinder. **Figs. 2-3 and 2-4**
6. Make sure the support device is secure against the cylinder end. Then, stop the loader engine, remove the key and leave the operator's compartment.

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Troubleshooting Guide

The following troubleshooting guide lists potential hydrostatic system problems, as well as possible causes hand remedies, for GEHL SL5635/6635 Series II skid loaders.

When a problem occurs, don't overlook simple causes. A malfunction can be caused by something as simple as low oil level. After a mechanical failure has been corrected, be sure to locate and correct the cause of the problem.

IMPORTANT

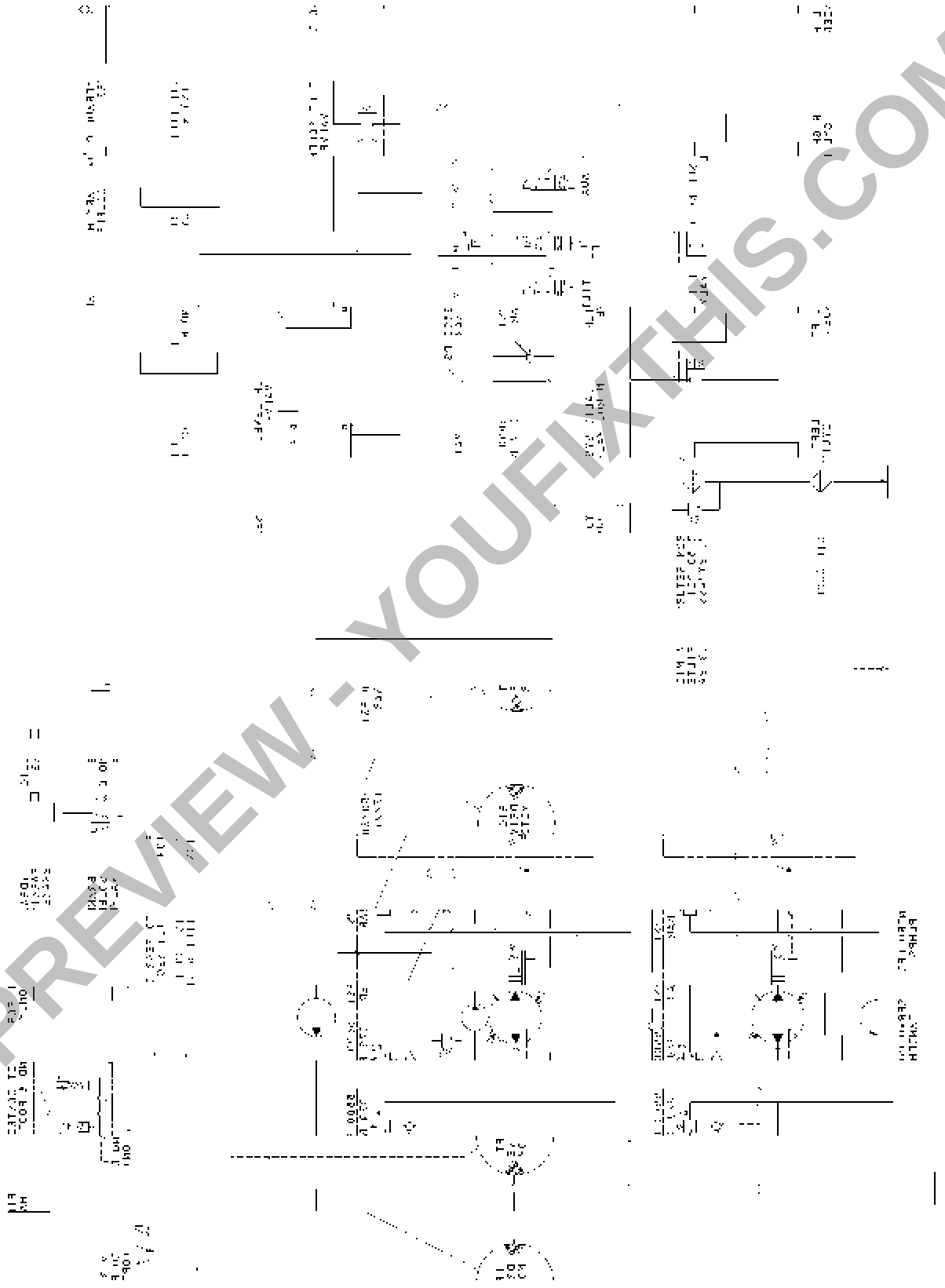
Do Not attempt to service or repair major hydrostatic system components, such as the hydrostatic pumps or drive motors, unless authorized to do so by your GEHL Dealer/Distributor. Any unauthorized repair will void the warranty.

Problem	Possible Cause	Remedy
No response from the hydrostatic drive or the lift/tilt systems.	Hydraulic oil viscosity is too high.	Allow longer warm-up or replace oil with the proper viscosity oil.
	Hydraulic oil supply is too low.	Check for low oil level in reservoir. Add oil as needed.
	Hydrostatic pump drive is disconnected. Drive coupling failure.	Check for broken or worn pump Drive Coupling and replace, as needed.
Traction drive will not operate in either direction.	Parking brake is engaged.	Disengage parking brake.
	Hydraulic oil supply too low.	Check for low oil level in reservoir. Add oil if necessary.
	Control rod linkage disconnected.	Check linkage connection at control levers and neutral centering mechanisms. Reconnect linkage.
	Low or no charge pressure.	See hydrostatic pump manual.
	Hydrostatic pump relief valves are malfunctioning.	Inspect and clean the relief valves. Replace them as needed.
Drive wheels do not turn in proper direction for T-bar movement.	High pressure hydraulic hoses between hydrostatic pump and drive motors are connected wrong.	Reconnect hoses to proper ports on the drive motors. Refer to schematic and figures in hydrostatic chapter.

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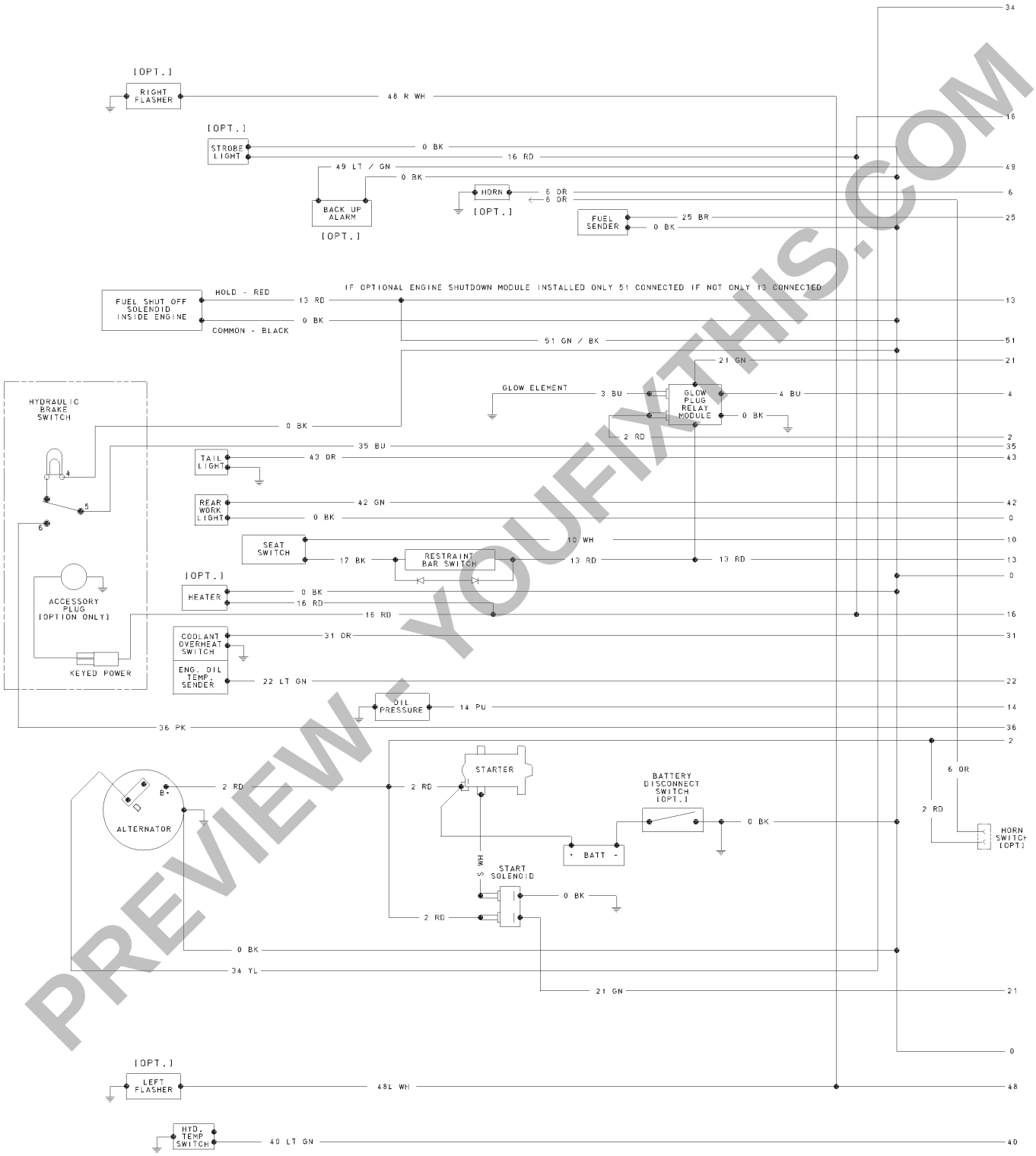
Hydraulic/Hydrostatic System Schematic, SL5635/6635 SX models



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Electrical System Schematic



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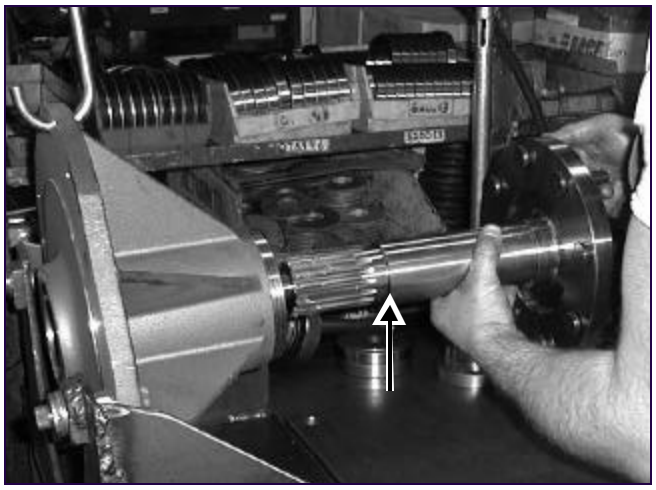


Fig. 5-17 Remove/install the axle shaft.

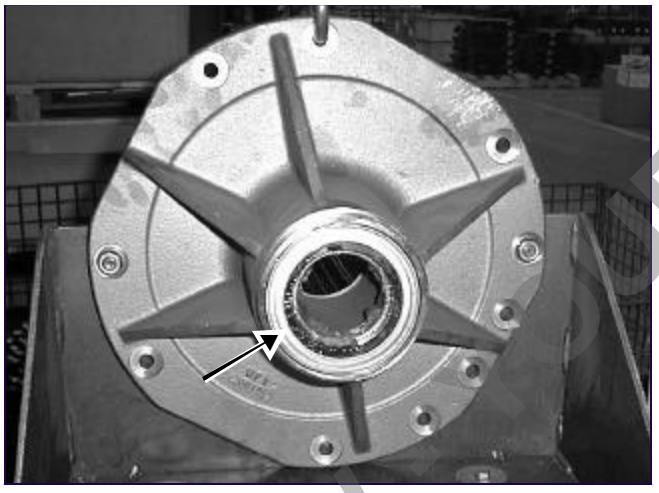


Fig. 5-18 Oil seal and outer bearing left in the axle housing.

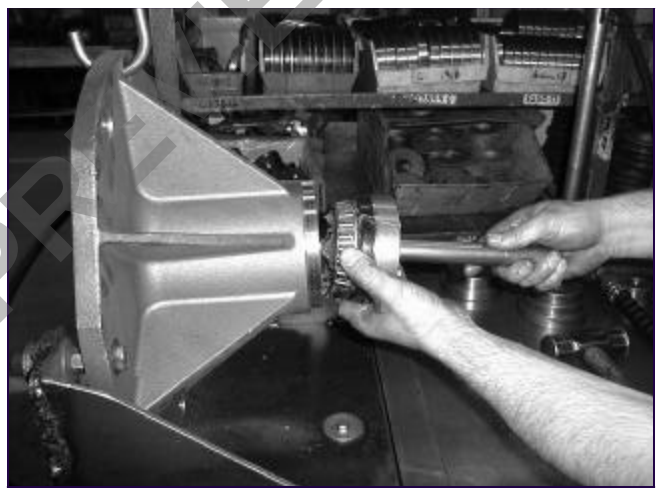


Fig. 5-19 Installing the oil seal and outer bearing.

4. Install inner bearing and washer/spacer. **Fig. 5-16**
5. Install V-ring seal with the lip of it oriented towards the axle housing. **Fig. 5-16**
6. Slide the sprocket onto the axle shaft. **Fig. 5-15**

NOTE: Front axle sprockets are installed with the sprocket to the outside. Rear axle sprockets are installed with the sprocket to the inside. Refer to the procedure in this chapter for correct orientation of components. **Fig. 5-11**

7. Install axle nut. Torque axle nut to 150 ft-lbs (200 N•m). Check axle shaft for end play and adjust as needed. **Fig. 5-20**
8. Install a cotter pin to secure axle nut (tighten axle nut to line up hole for cotter pin). **Fig. 5-14**
9. Mount the axle housing assembly on the chassis per the procedure in this chapter.

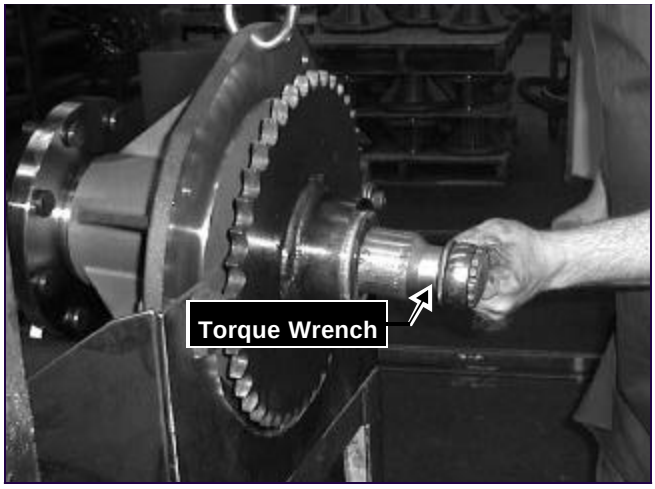


Fig. 5-20 After reassembly, torque the axle nut to 150ft-lbs (200 N•m).

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