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SPECIFICATIONS

	7600	7800
Make of Engine	Yanmar	Yanmar (Turbo)
Model	4TNE106	4TNE106T
Fuel	Diesel	Diesel
Displacement	269 CID (4,41 L)	269 CID (4,41 L)
Horse power - Net	90 hp (67,1 kW) @ 2500 rpm	110 hp (82 kW) @ 2500 rpm
Peak Torque	240 lbf-ft (325 N•m) @ 1600 rpm	301 lbf-ft (408 N•m) @ 1600 rpm
*SAE Rated Operating Load	3150 lbs (1429 kg)	3600 lbs (1633 kg)
Operating Weight	9745 lbs (4420 kg)	9955 lbs (4515 kg)
Shipping Weight	8040 lbs (3650 kg)	8175 lbs (3710 kg)

Specifications below apply to all 7600 and 7800 models	
Capacities	
Hydraulic Reservoir	15 US gal (56,8 L)
Chaincases (each)	3 US gal (11,4 L)
Engine Oil	14.8 US qts (14 L)
Fuel Tank	29.5 US gal (112 L)
Electrical	
Battery	12 volt DC with 950 CCA
Starter	12 volt DC (2,3 kW)
Alternator	55 A
Hydraulic System	
Hydraulic System Pressure	3300 psi (228 bar)
Standard Auxiliary Flow Rate (Single)	2-29 gpm (8-110 L/min)
High-Flow Auxiliary Flow Rate (Dual)	40 gpm (151 L/min)
Travel Speed - Single Speed	0 to 8.0 mph (0 to 13 km/h)
Travel Speed - Two-Speed (optional on 7600)	0 to 14 mph (0 to 22,5 km/h)

Tire Options	
14 x 17.5	Foam-Filled 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
12 x 35	Solid Rubber tires

Buckets and Capacities			
Width - inches (millimeters)	**Bucket Description**	**Capacity (Heaped)**	
82 inches (2083 mm)	Dirt/Construction	21.0 cubic feet	0,59 cubic meters
82 inches (2083 mm)	Dirt/Construction	27.0 cubic feet	0,76 cubic meters
48 inches (1219 mm)	Pallet Fork	N/A	N/A

*Operating load rated with a 82 inch (2083 mm) dirt/construction bucket in accordance with SAE J818.

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General Information

The above safety 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 decals on the machine.

Before operating or working on this machine, read and study the following safety information. In addition, be sure that every individual who operates or works with this equipment is familiar with these safety precautions. It is essential to have competent and careful operators, who are not physically or mentally impaired, and who are thoroughly trained in the safe operation of the machine and the handling of loads. It is recommended that the operator be capable of obtaining a valid motor vehicle operator's license.

The use of skid steer loaders is subject to certain hazards that cannot be eliminated by mechanical means, but only by exercising intelligence, care and common sense. Such hazards include, but are not limited to, hillside operation, overloading, instability of the load, poor maintenance and using the equipment for a purpose for which it is not intended or designed.

The Gehl Company ALWAYS considers the operator's safety when designing its machinery and guards exposed moving parts for the operator'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 Object Protective Structure (FOPS) Lock Mechanism, Loader Raising and Lowering Procedures, and 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 illustrative 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 operator 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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Fig. 2-1 The lock pin secures the liftarm support device on the rear link of the liftarm.



Fig. 2-2 Press in and hold the lock pin button and pull it out of the rear link.

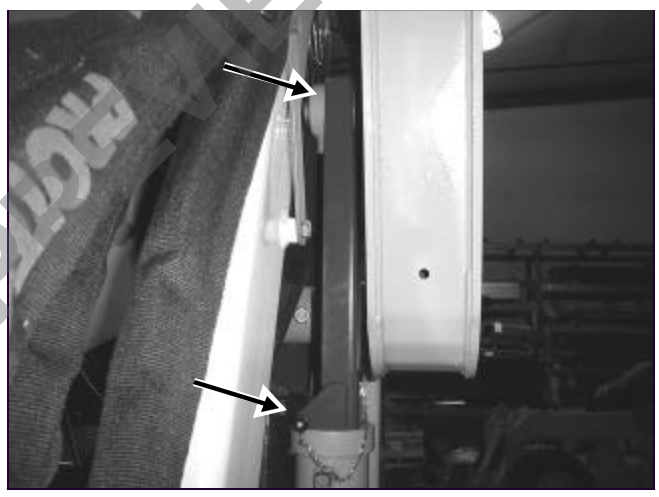


Fig. 2-3 The liftarm support device rests on top of the lift cylinder base on one end, and cradles the rod end of the lift cylinder on the other end.

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 liftarm support device whenever the liftarm is raised. When the device is not being used, secure it to left side of the timing link using the lock pin and cradle 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.

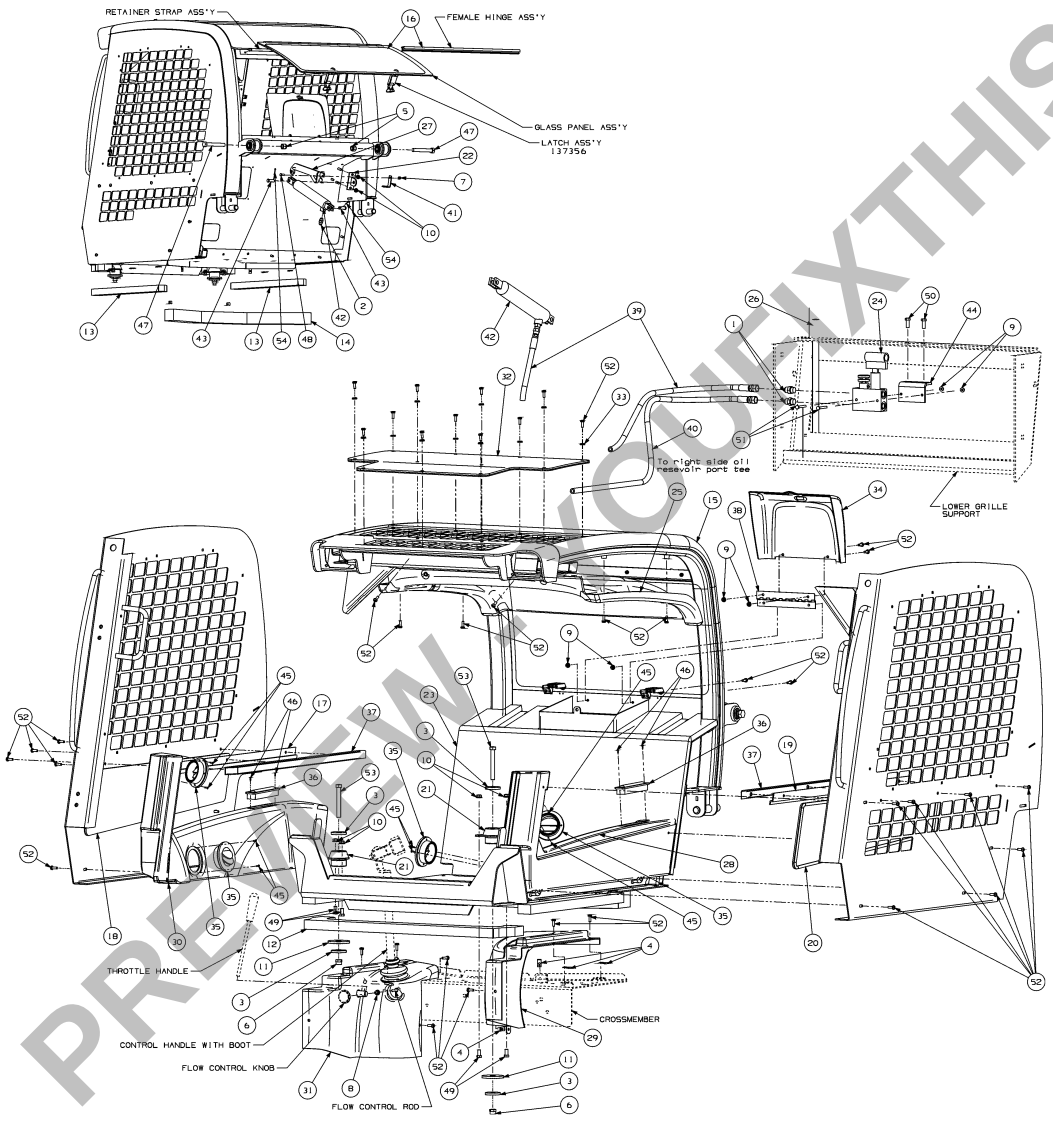
Liftarm Support Device Engagement

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 against timing link. Remove support device. **Figs. 2-1, 2-2**
4. Return to operator's compartment and restart engine. Use lift control to completely raise liftarm. Turn keyswitch to the OFF position to stop engine.
5. Leave operator's compartment. Vertically install support device around lift cylinder rod with u-shaped end up and out. Secure support device to lift cylinder rod with attached lock pin. **Fig. 2-3**
6. Return to operator's compartment and restart engine. Lower liftarm against support device. Then, stop the loader engine, remove the key and leave the operator's compartment.

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



1 - Straight Fitting
2 - Straight Fitting
3 - Washer
4 - Speed Nut
5 - Locknut
6 - Locknut
7 - Locknut
8 - Grommet
9 - Locknut
10 - Locknut
11 - Snubber Washer
12 - Seal Pad
13 - Seal Pad
14 - Seal Pad
15 - ROPS
16 - Rear Window
17 - Window Clamp
18 - Lower Window
19 - Window Clamp
20 - Lower Window
21 - Isolation Mount
22 - ROPS Pivot
23 - Deck Cover
24 - Pump Assembly
25 - Headliner
26 - Handle Tube
27 - Lock Assembly
28 - Upper Console
29 - Lower Console
30 - Upper Console
31 - Lower Console
32 - Skylight
33 - Sealing Washer
34 - Box Cover
35 - Round Louver
36 - Nozzle Louver
37 - Support Assembly
38 - Piano Hinge
39 - Pressure Hose
40 - Pressure Hose
41 - Lock Lift Bar
42 - Hydraulic Cylinder
43 - Clevis Pin
44 - Bracket
45 - Phillips Screw
46 - Phillips Screw
47 - Capscrew
48 - Capscrew
49 - Capscrew
50 - Capscrew
51 - Capscrew
52 - Phillips Screw
53 - Capscrew
54 - Cotter Pin

Fig. 4-4 Assembly view of ROPS components.

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Introduction

This chapter covers removal, installation, assembly, and adjustment procedures for standard and optional control equipment on Gehl SL7600/7800 skid loaders.

Equipment Identification

Because there are a variety of options available for SL7600/7800, it is IMPORTANT to properly identify equipment BEFORE beginning service procedures. Illustrations and photographs are provided with procedures to aid in servicing this equipment.

Hand/Foot Controls

On loaders with "Hand/Foot controls," left and right drive control handles operate independently of each other. Pushed forward together moves the loader forward, but push either one further forward than the other and the loader turns. Separate foot pedals control lift and tilt functions of liftarm and bucket. Engine speed is controlled with hand throttle lever located right of operator's seat. A lock pin is located on right control handle and controls auxiliary hydraulics. A flow control knob below handle manually adjusts hydraulic flow. On high flow models, a lever on crossmember activates high flow hydraulics and a panel light.

T-Bar Controls

On loaders with "T-Bar controls," the left T-Bar controls forward and reverse directions of hydrostatic drive motors (traction control) and pumps for both sides of loader. The right T-Bar controls lift and tilt functions of liftarm and bucket. For control of engine speed, foot and hand throttles are standard. A pivoting foot pedal control is standard on floor for control of standard flow auxiliary hydraulics. A flow control knob below right control handle manually adjusts hydraulic flow. On high flow models, a lever on crossmember activates high flow auxiliary hydraulics and a panel light.

Dual Hand Controls

On loaders with "Dual Hand controls," left and right drive control handles with pivoting grips operate independently of each other. Pushed forward together moves loader forward, but push either one further forward than the other and the loader turns. The left control handle also operates lift functions of liftarm. The right control handle also operates tilt functions of bucket. Engine speed is controlled by hand and/or foot throttles. Standard flow auxiliary hydraulics is controlled by a foot pedal. A flow control knob below right control handle manually adjusts hydraulic flow. On high flow models, a lever on crossmember activates high flow auxiliary hydraulics and a panel light.

Two-Speed Control

Two-speed loaders have a high and low speed option. The two-speed option is controlled by a button switch in left control handle and lights a panel light. More information may be found in the *Electrical* chapter of this manual.

Hydraglide™ Ride Control

The Hydraglide™ Ride Control option on loaders is controlled by a button switch in right control handle and lights a panel light. More information may be found in the *Hydraulics* chapter of this manual.

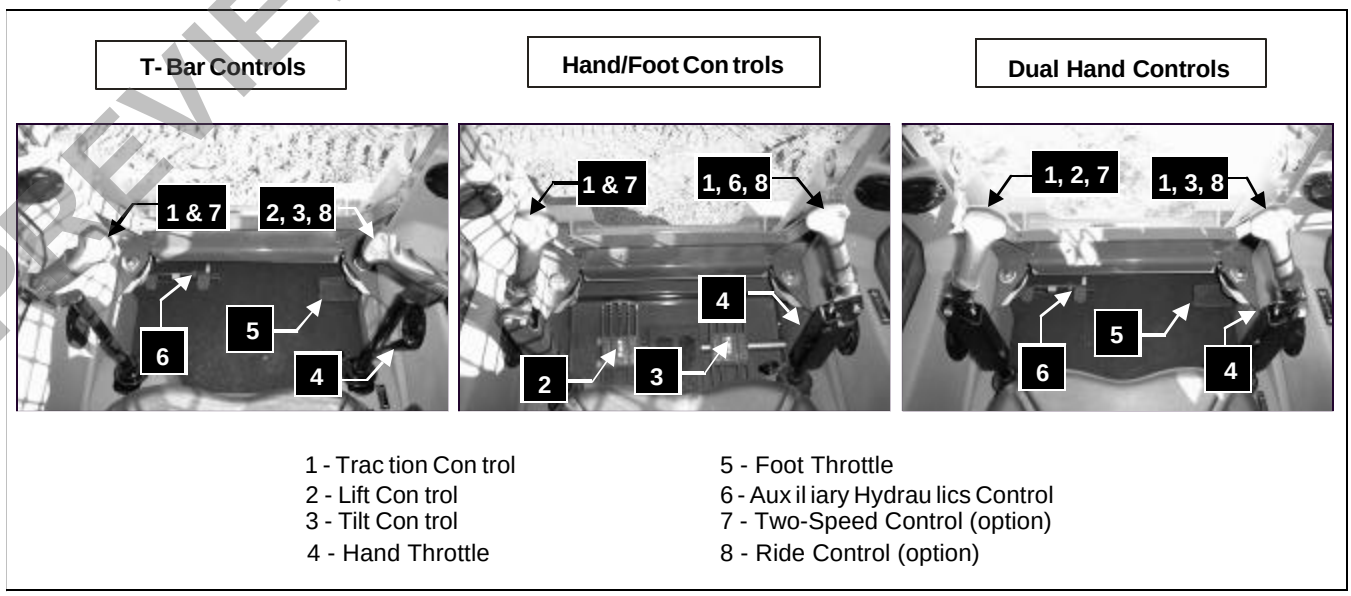


Fig. 6-1 Con trol lo ca tions on T- Bar, Hand/Foot and Dual Hand con trols.

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Troubleshooting Guide

The following troubleshooting guide lists potential hydrostatic system problems, as well as possible causes and remedies, for Gehl SL7600/7800 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

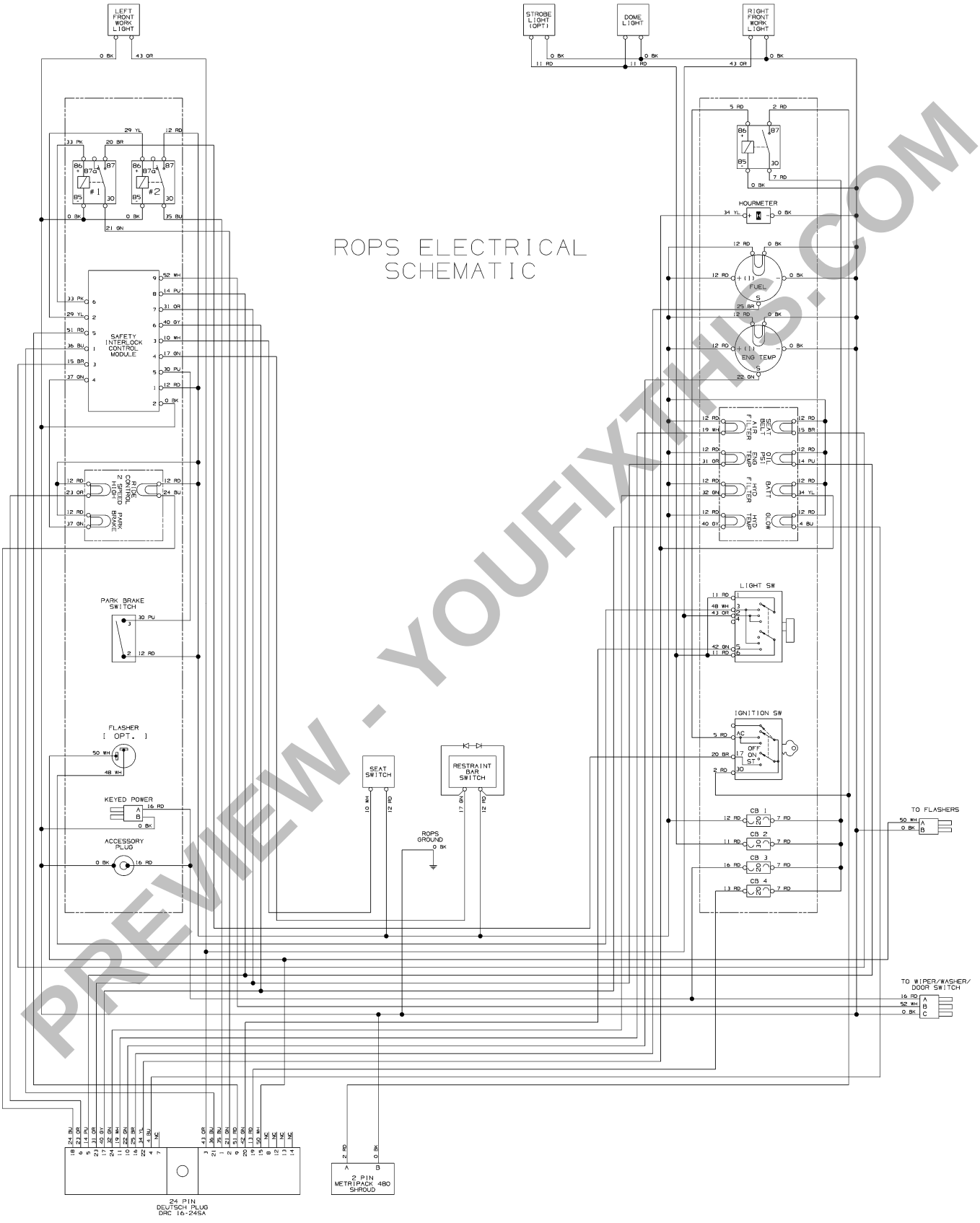
DO NOT attempt to service or repair major hydrostatic system components, such as the hydrostatic pumps or drive motors, unless authorized to do so by your Gehl dealer. Any unauthorized repair will void the warranty.

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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Electrical System Schematic



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Drive Chain Adjustment

Skid loader drive chain tension should be checked every 250 hours of operation.

Adjustment Procedure

⚠ WARNING

BEFORE beginning this service procedure, perform the following SAFETY procedures:

- ❑ **Shut off the engine.**
- ❑ **Raise and securely block the loader so all four tires are off the ground.**

(For detailed instructions, refer to the *Safety* chapter in this manual).

1. Remove wheels and tires on side of loader serviced.
2. Remove 18 machine screws on chaincase access cover (between tires) to gain access to drive chain. **Fig. 5-2**
3. Correct chain deflection is ½" @ 20 lbs (13 mm @ 89 N) - halfway between the sprockets.
4. To adjust chain tension, loosen eight locknuts on two axles on one side of the loader. Using a spreader bar push axles outward in their slots to tighten chain. **Figs. 5-3, 5-4**
5. After proper chain tension is obtained, retighten locknuts on axle. Axle housing locknuts should be torqued to 280 ft-lbs (380 N•m).
6. Remove spreader bar.

NOTE: The drive chain must have a minimum of ½" (13 mm) deflection, overtightening causes premature drive chain and sprocket wear.

7. Remove front fender cover to expose the chaincase breather vent. Remove vent. **Fig. 5-2**
8. Refill chaincase oil level (SAE motor oil) until oil is up to oil level check plug. Reinstall chaincase access covers using oil-resistant RTV sealant between cover and chaincase.
9. Reinstall tires. Wheel nut torque is: 180 ft-lbs (244 N•m).
10. Repeat adjustment procedure for other side.

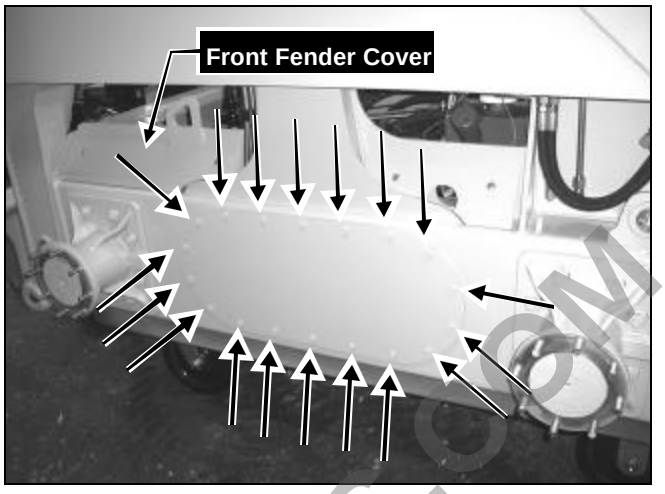


Fig. 5-2 Remove machine screws on the chaincase access cover located between the wheels of the skid loader (tires removed for clarity).

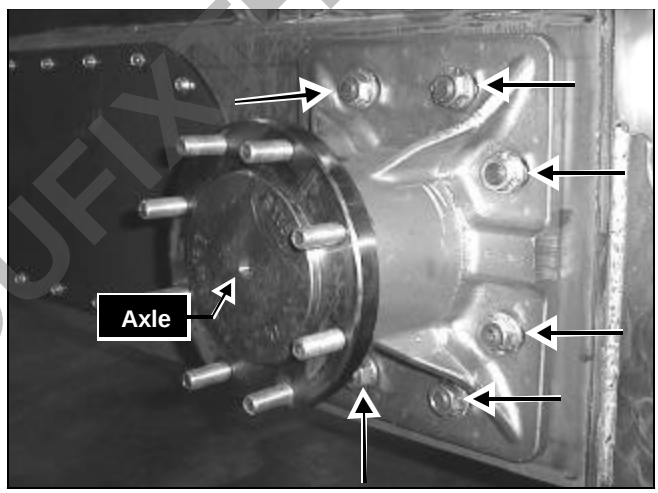


Fig. 5-3 Six of eight (6 of 8) locknuts on the axle to loosen for chain adjustment (tire removed for clarity).

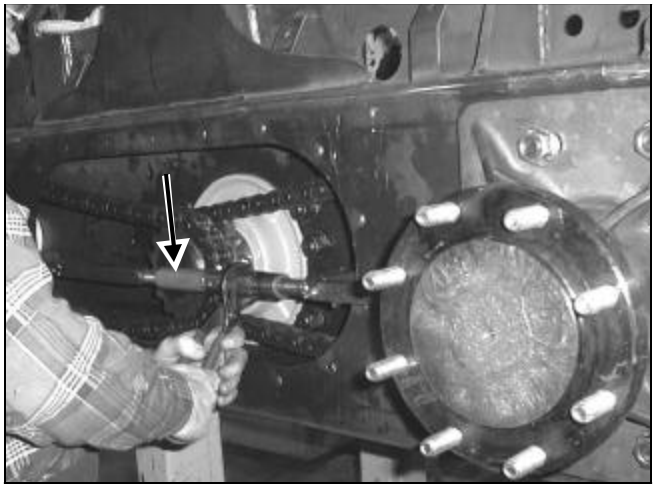


Fig. 5-4 Use a spreader bar to increase the distance between axles.

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4. BEFORE disconnecting hydraulic hoses and tubes from the drive motor, mark each hose/tube and the port where it attaches to the drive motor (hoses/tubes can then be correctly reattached during installation).
5. Disconnect four hydraulic hoses on each single speed drive motor. Disconnect five hydraulic hoses on each two-speed drive motor. **Figs. 7-21, 7-22**
6. Remove eight hex nuts and washers on eight capscrews attaching the drive motor to the chaincase. Remove the drive motor with a suitable hoist. **Fig. 7-23**

Installation Procedure - Follow all WARNINGS first, then reverse the removal steps*

* Scrap off old gasket material and apply new sealant to mating surface of the drive motor before reassembly to the chassis. **Fig. 7-24**

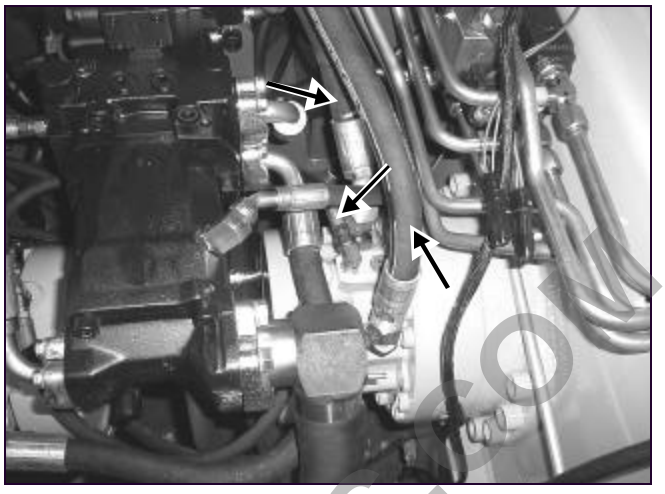


Fig. 7-22 Disconnect all hoses on the left drive motor. Check for hoses connected underneath.

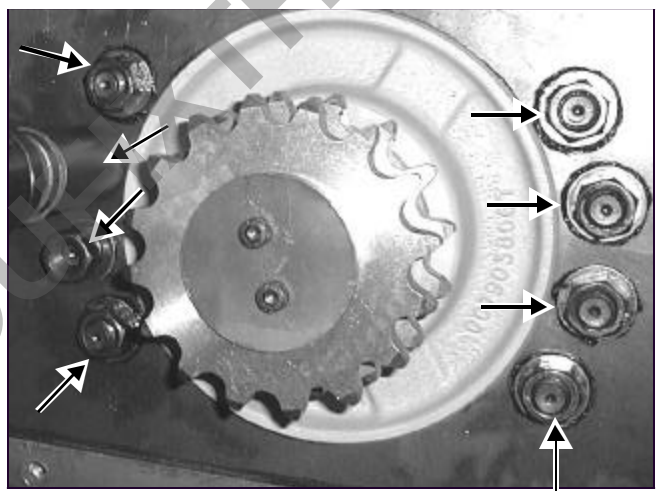


Fig. 7-23 Remove eight hex nuts and washers securing the drive motor to the chassis.

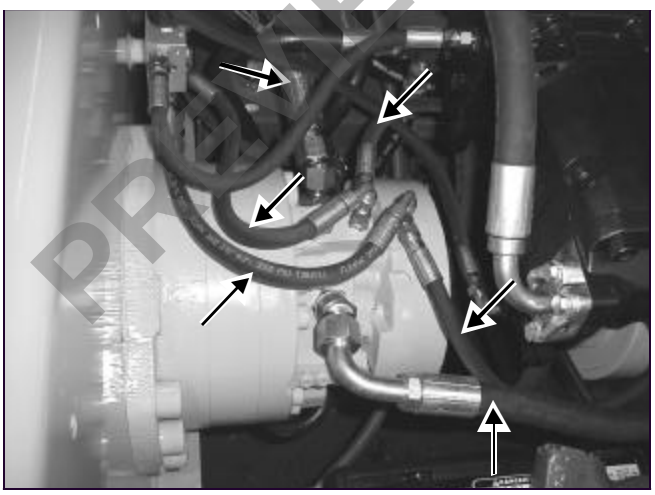


Fig. 7-21 Disconnect all hoses on the right drive motor. Check for hoses connected underneath.

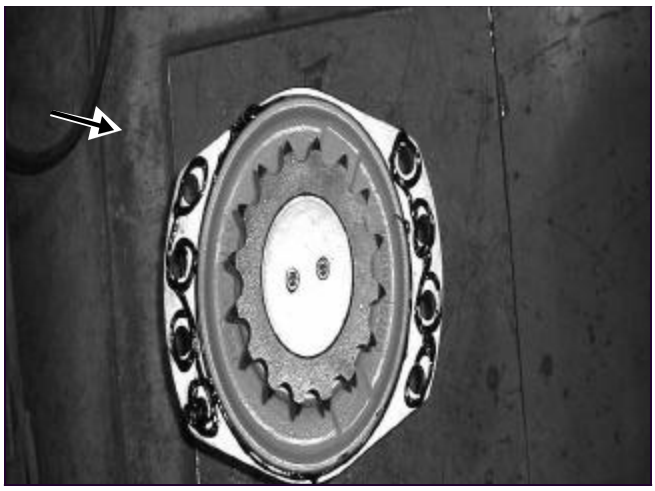


Fig. 7-24 Install new sealant on drive motor before reinstalling into the skid loader.

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