

COMPACT LOADER WITH ACCESSORIES

SL45B - SL55BH

WORKSHOP MANUAL

12202

IMPORTANT: *The information contained in this manual are valid at printing time. As the Manufacturer continuously improves his products, some information may not be updated. In case of discrepancies, apply to Sales and Service Department.*

FIAT KOBELCO CONSTRUCTION MACHINERY S.p.A. - ENGINEERING
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SECTION 00 – GENERAL INFORMATION

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SAFETY PRECAUTIONS**CAUTION**

Unsafe operating practices and improper use of the skid steer and its attachments on the part of the operator can result in injuries. Observe the following safety precautions at all times:

1. For servicing, the skid steer should be on level terrain, engine stopped with the wheels blocked or the entire skid steer solidly supported with the wheels off the ground before servicing any component of the drivetrain.
2. For servicing under the operator's seat, raise the seat and pan assembly up to the raised latched position and securely latch.
3. Do not operate the skid steer unless the seat is latched in the operate position.
4. Do not service the skid steer with a raised boom unless the boom is resting on the boom lock pins.
5. Do not service the skid steer with the engine running unless the skid steer is properly and securely supported with all four wheels off the ground.
6. Use caution when servicing the unit around moving parts.
7. Do not tilt the boom and cab without proper instruction.
8. Do not tilt the boom and cab without using the proper cab tilting tool.
9. Reinstall all shields removed for service.
10. Never loosen any hydraulic connections before relieving the pressure in the hydraulic system.
11. Wear eye protection such as goggles, etc.
12. Wear ear protection such as ear plugs, etc. When you feel the noise level is uncomfortable.
13. If any servicing or adjustments require the battery to be disconnected, disconnect the (-) negative ground cable.
14. When servicing electrical components, disconnect the (-) negative ground cable.
15. If the electronic instrument cluster (eic) requires removal from the dash area or the skid steer, disconnect the (-) negative ground battery cable. This will shut off power to the eic and prevent damage to the eic board or blowing the 5-amp fuses if the board is accidentally grounded.
16. If welding is required on the skid steer, disconnect the (-) negative ground cable. failure to disconnect the battery may result in damage to the EIC (Electronic Instrument Cluster) monitoring system and other electrical components.
17. If welding is required on an attachment, remove the attachment from the skid steer.
18. Give complete and undivided attention to the job at hand so that complete control of the skid steer is maintained at all times.
19. Drive slowly over rough ground and on slopes; keep alert for holes, ditches and other irregularities that may cause the skid steer to overturn.
20. Avoid steep hillside operation which could cause the skid steer to overturn.
21. Never transport a loaded bucket at full height. Operate the skid steer with the load as low as possible until it becomes necessary to raise the boom to discharge the load into a truck, container, etc.
22. Reduce speed when turning so there is no danger of the skid steer overturning.
23. Never drive up or back up a hill or incline with a raised boom or the skid steer could overturn.
24. Always look behind you before backing the skid steer.
25. Maintain proper transmission oil level to prevent loss of hydrostatic braking.
26. Do not allow passengers to ride on the skid steer at any time.
27. Do not allow children to operate the skid steer or ride on the skid steer at any time.
28. Do not allow anyone to operate the skid steer without proper instruction. OSHA requires that all operators be instructed on the proper operation of the machine before they operate the unit.
29. Do not operate the skid steer in any position other than while in the operator's seat with the seat belt securely fastened.

SPECIFICATIONS**MODEL****SL45B**

ENGINE MANUFACTURER	NEW HOLLAND
MODEL	N844 Diesel
CYLINDERS	4
ASPIRATION	NATURAL
CYCLE	4 STROKE
BORE AND STROKE	84 × 90 mm (3.31" × 3.54")
DISPLACEMENT	1995 cu. cm (121.7 cu. in.)
COMPRESSION RATIO	22 to 1
SPEEDS	
-FAST (no load)	3130 to 3180 RPM
-IDLE (no load)	900 to 1000 RPM
HORSEPOWER	
(SAE GROSS)	42.5 @2900 RPM
(SAE NET)	40.0 @2900 RPM
TORQUE - (mfg. rating) Gross	126 N·m (93 ft. lbs.)
VALVE CLEARANCE	
-Intake (cold)	0.2 mm (0.008 in.)
-Exhaust (cold)	0.2 mm (0.008 in.)
FIRING ORDER	1-3-4-2
FUEL CONSUMPTION	
(approximate at continuous full load)	9.5 LPH (2.5 US. GPH)
IGNITION TYPE	Compression
GRADEABILITY (Intermittent duty)	30 Degrees All Directions
FUEL SYSTEM	
Type of fuel	Diesel
Injection type	Indirect
Cleaning system	Inline filter replaceable Inline water trap
CAPACITIES	
Cooling system	10.3 L (10.8 US. qt.)
Cooling system pressure	Radiator cap 48.3 kPa (7 psi)
Fuel tank	52.9 L (14 US. gal.)
Hydraulic reservoir	14.8 L (3.9 US. gal.)
Chain case (final drive - per side)	6.8 L (1.8 US. gal.)
Gearbox (per box)	0.95 L (1 US. qt.)

TROUBLESHOOTING**ENGINE WILL CRANK BUT DOES NOT START**

CAUSE	CORRECTION
Faulty key switch	Correct the connection and/or replace switch
Blown 5-amp electronic ignition fuse (cab fuse panel)	Replace fuse
Fuel solenoid not operating	Check solenoid for battery voltage and correct
Insufficient charging or complete discharging of the battery	Charge or replace battery
Lack of fuel	Fill fuel tank
Air mixed in the fuel system	Bleed the air
Clogged fuel filter	Replace
Irregular and faulty fuel supply (electric fuel pump)	Check power supply; check fuse in fuse panel; check for corroded internal components (replace pump and in-line filter if corroded)
Irregular and faulty fuel supply (injection pump trouble)	Repair in an authorized service shop
Glow plug not heating	Failure of the glow plug; replace
Improper viscosity of the lubricating oil	Inspect and replace
Clogged air cleaner	Clean or replace
No compression	Repair in a service shop

ENGINE WILL NOT CRANK OR START

CAUSE	CORRECTION
Seat belt not fastened	Buckle seat belt
Faulty key switch	Correct the connection and/or replace switch
Insufficient charging or complete discharging of the battery	Charge or replace battery
Blown 5-amp electronic battery fuse (engine fuse panel)	Replace fuse
Blown 15-amp key main fuse (engine fuse panel)	Replace fuse
Open in W/O (white-orange) wire between the seat/seat belt connector and start interlock relay	Check and repair as required
Faulty start interlock relay	Check and repair as required

IRREGULAR RUNNING OF THE ENGINE

CAUSE	CORRECTION
Air mixed in the fuel system	Bleed the air from the system
Uneven fuel injection (faulty fuel injection pump)	Repair at authorized shop
Clogged fuel filter	Replace
Defective governor	Check and correct
Engine itself defective	Repair in a service shop

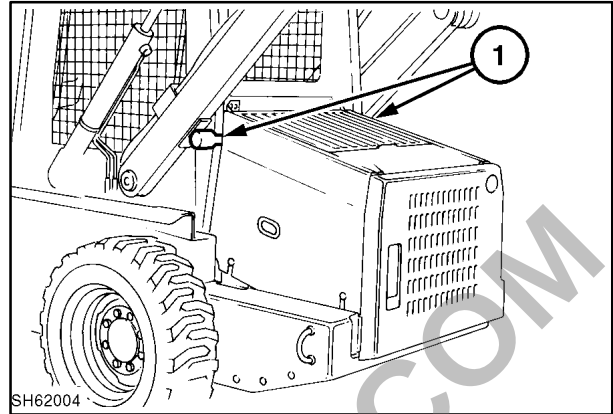
Op. 10 001 10**ENGINE REMOVAL**

The engine can be removed from the loader by two methods:

Method 1: Removing the rear door, radiator, oil cooler, and support as an assembly.

Method 2: Tilting the cab and boom forward to gain access.

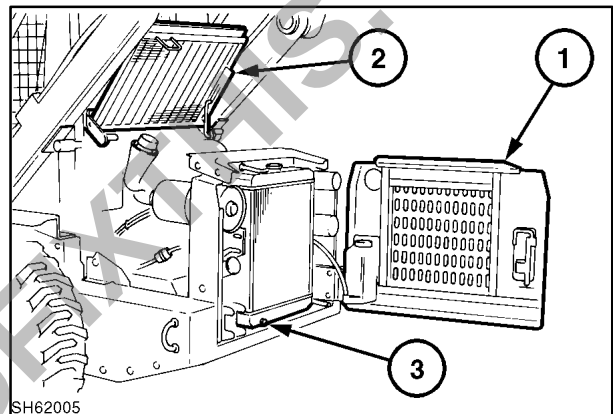
For either method, raise and support the boom on the boom lock pins, 1, to access the engine area.



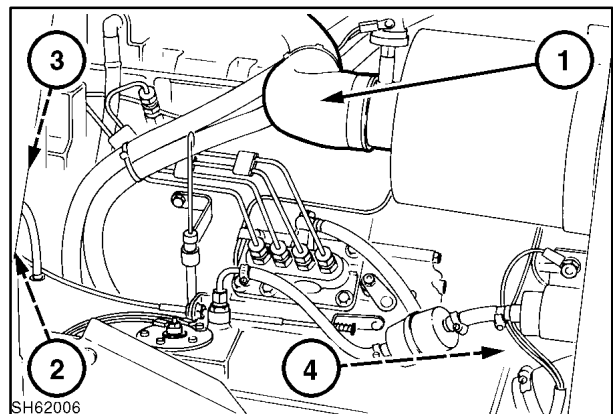
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METHOD 1**(Without Tilting Cab)**

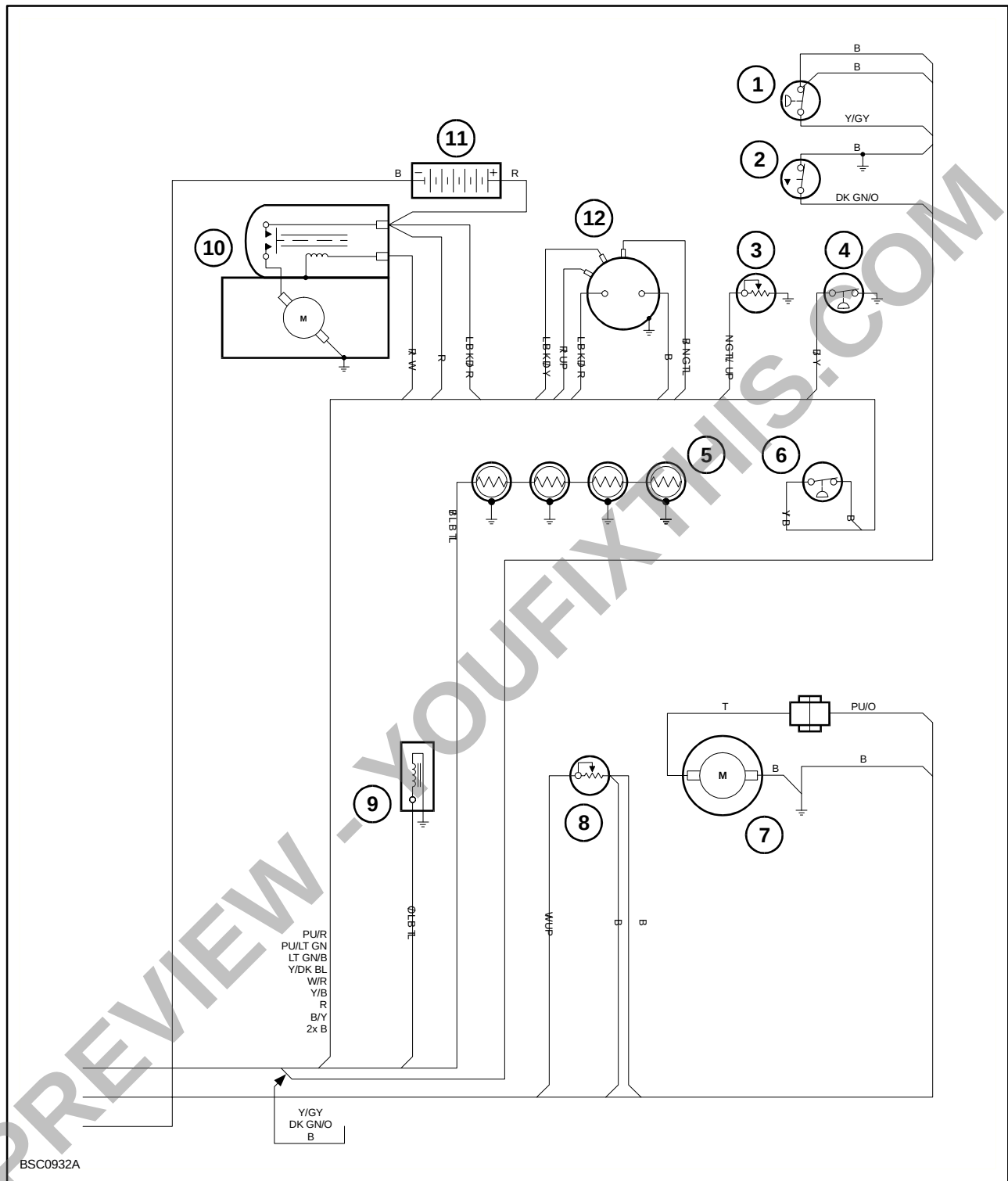
1. Open rear door, 1. Remove the top engine hood, 2, and both the right and left engine side covers.
2. Remove the battery.
3. Drain the cooling system, radiator, and engine block, 3.
4. Remove the upper and lower radiator hoses from the engine block and plug the hoses with plastic plugs.
5. Remove the air cleaner hose, 1, from the intake manifold and cap.
6. Unplug the engine wire harness from the main harness, 2, and ground wires from the engine bellhousing, 3.
7. Unhook the control valve hydraulic oil return line at the oil cooler and cap, 4.



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ENGINE COMPONENTS ELECTRICAL DIAGRAM

- | | |
|--------------------------------------|----------------------|
| 1. Hydraulic oil pressure switch | 7. Fuel pump |
| 2. Hydraulic oil filter switch | 8. Fuel level sender |
| 3. Engine coolant temperature sender | 9. Fuel solenoid |
| 4. Engine oil pressure switch | 10. Starter |
| 5. Glow plugs | 11. Battery |
| 6. Air filter vacuum switch | 12. Alternator |

Inspection Item	Standard Dimension	Standard Value	To Be Repaired	Allowable Limit	Remarks
ALTERNATOR					
Type	MITSUBISHI (12V-40A)				
Rotor shaft bending			0.0028" (0.07 mm)		
Slip rings					
Diameter	0.894" (22.7 mm)		0.871" (22.1 mm)		
Diameter eccentric wear			0.002" (0.05 mm)	0.08" (0.02 mm)	
Surface condition			If dirty or damaged correct with emery cloth.		
Brush length	0.728" (18.5 mm)			2.0" (5.0 mm)	
Brush spring pressure	1.169 lbs. (530 g)	1.036-1.300 (470-590 g)		0.60 lbs. (270 g)	

TORQUE SPECIFICATIONS

COMPONENT	Setting/Remarks
Bearing holder bolts- hex hole type	18-22 ft. lbs. (24-30 N·m)
- hex bolt type	36-40 ft. lbs. (49-54 N·m)
Rear plate bolts	10-13 ft. lbs. (14-18 N·m)
Flywheel housing bolts	18-21 ft. lbs. (24-28 N·m)
Flywheel bolts	43-51 ft. lbs. (58-69 N·m)
Connecting rod nuts	36-40 ft. lbs. (49-54 N·m)
Suction filter bolt	7-9 ft. lbs. (9-12 N·m)
Sump bolts	7-9 ft. lbs. (9-12 N·m)
Crankshaft pulley nut	203-246 ft. lbs. (275-333 N·m)
Cylinder head bolts	72-76 ft. lbs. (98-103 N·m)/oiled
Injection pump bolts	7-9 ft. lbs. (9-12 N·m)
Injection pump nuts	7-9 ft. lbs. (9-12 N·m)
Rocker arm nuts	20-29 ft. lbs. (27-39 N·m)/4-cylinder engines
Head cover nuts	9-12 ft. lbs. (12-16 N·m)/4-cylinder engines
Cooling fan bolts	7-9 ft. lbs. (9-12 N·m)
Oil pipe banjo bolts	7-9 ft. lbs. (9-12 N·m)
Oil sump drain bolt	22-29 ft. lbs. (30-39 N·m)
Injection nozzle	43-51 ft. lbs. (58-69 N·m) IDI engines
Injection pipe	11-18 ft. lbs. (15-24 N·m)
Thermo switch	18-22 ft. lbs. (24-30 N·m)
Oil pressure switch	11-15 ft. lbs. (15-20 N·m)
Glow plug	11-15 ft. lbs. (15-20 N·m)
Stop solenoid	11-15 ft. lbs. (15-20 N·m)
Oil relief valve	44-51 ft. lbs. (60-69 N·m)
Smokeset nut (max fuel)	15-19 ft. lbs. (20-26 N·m)
Adjusting screw nuts	9-12 ft. lbs. (12-16 N·m)

AVOID ACCIDENTS

Most accidents, whether they occur in industry, on the farm, at home or on the highway, are caused by the failure of some individuals to follow simple and fundamental safety rules or precautions. For this reason **MOST ACCIDENTS CAN BE PREVENTED** by recognising the real cause and doing something about it before the accident occurs.

Regardless of the care used in the design and construction of any type of equipment there are conditions that cannot be completely safeguarded against without interfering with reasonable accessibility and efficient operation.

Carefully read indications, cautions and safety warning quoted in the "SAFETY RULES" section.

A careful operator is the best insurance against an accident.

The complete observance of one simple rule would prevent many thousand serious injuries each year.

That rule is:

Never attempt to clean, oil or adjust a machine while it is in motion.



ATTENTION

On machines having hydraulically, mechanically and/or cable controlled equipment (such as showels, loaders, dozers, scrapers etc.) be certain the equipment is lowered to the ground before servicing, adjusting and/or repairing.

If it is necessary to have the equipment partially or fully raised to gain access to certain items, be sure the equipment is suitably supported by means other than the hydraulic lift cylinders, cable and/or mechanical device used for controlling the equipment.

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CRANING THE SKID STEER

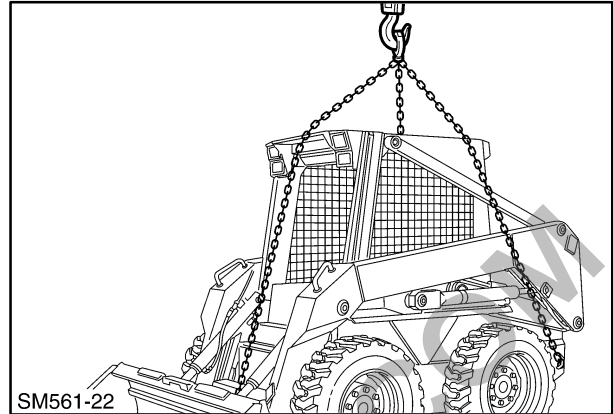
If the skid steer is inoperative and located in an area where it cannot be loaded onto a truck or trailer, the unit may be craned to load the unit.

To crane the skid steer, only use chain or cable with a rated capacity to handle the weight of the model skid steer being craned. Refer to "Specifications" in this manual for the operating weight of the model skid steer being craned. Use three chains minimum of 3.66 m (12') long to prevent sharp angles and damage to the skid steer cab, boom, and lifting chains.

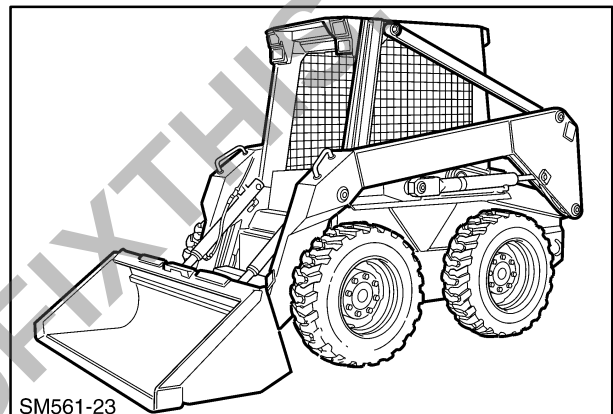
Remove any attachment except a standard bucket from the skid steer boom attaching plate.



Do not lift any attachments on the skid steer mounting plate that weigh 272 kg (600 lbs.) or more. Lift such attachments separately.

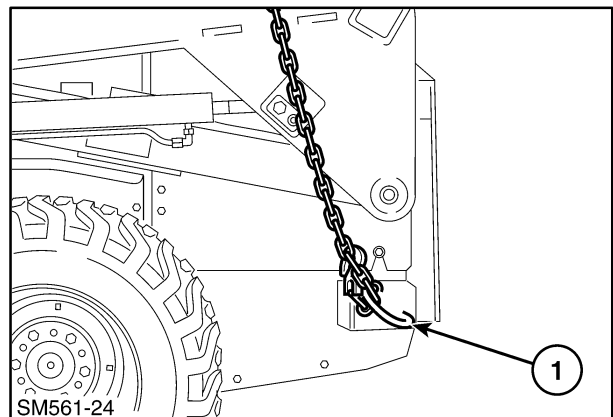


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The lifting points at the rear of the skid steer, 1.



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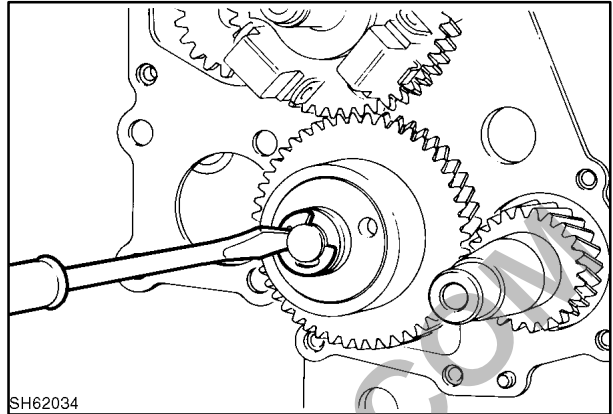
Op. 10 230 24**GEAR COVER AND GOVERNOR ASSEMBLY**

Remove the securing bolts and lift the cover assembly off the locating dowels.

NOTE: Remove the fuel injection pump first.

IDLER GEAR AND OIL PUMP ASSEMBLY

Remove the retaining ring. Remove the entire assembly.



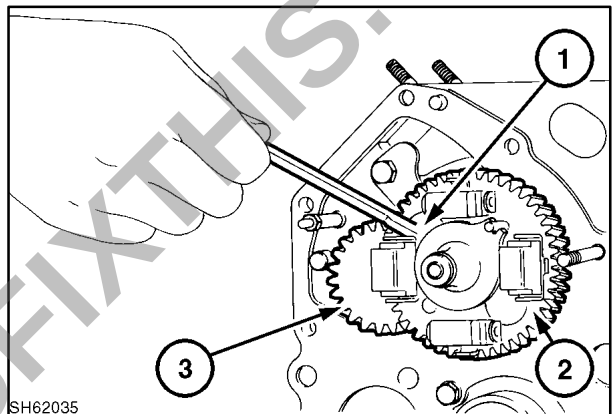
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Op. 10 230 20**CAMSHAFT ASSEMBLY, TACHOMETER DRIVE**

1. Using the access hole in the cam gear, remove the keeper plate, 1.
2. Slide the cam shaft, 2, with the flyweight retainer out of the camshaft bore.
3. Pull the tachometer drive shaft, 3, from its bore.

NOTE: The tachometer drive is not used for the EIC Board Tach.

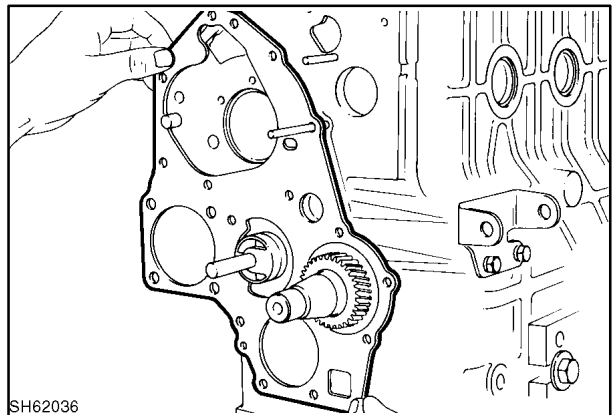


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Op. 10 102 46**FRONT END PLATE ASSEMBLY**

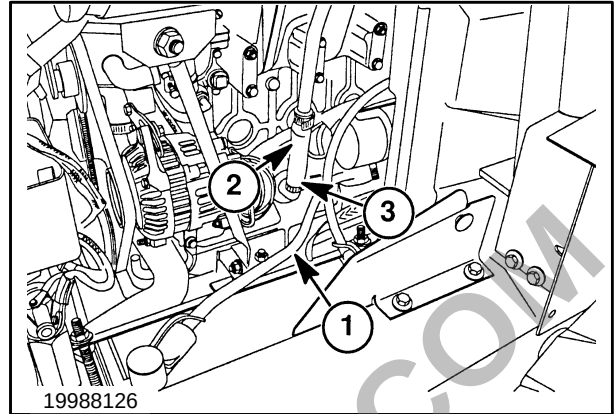
Remove the retaining bolts and lift the front plate off its locating dowels. Remove the gasket and discard.



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7. Reconnect the battery making sure the positive (+) battery cable, 1, on SL55BH models routes away from the turbocharger hose, 2, and the hose clamp, 3.
8. Reverse the clamp, 3, to avoid unnecessary wear on cables and hoses.



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HOW TO OPERATE THE ENGINE AFTER OVERHAUL

1. Check the quantity of the coolant, engine oil, and fuel.
2. Disconnect the wiring harness connector at the engine stop solenoid.
3. Move the hand throttle lever to the low, 1/3-throttle position.
4. Turn the key switch to the start position (rotate the starting motor) until the oil pressure lamp goes off (about 20 - 30 seconds).
5. Connect the wiring harness connector at the engine stop solenoid.
6. Move the hand throttle lever to the 1/3 - to 1/2-throttle position, start the engine, and operate at no more than 1500 RPM.
7. Adjust the low speed 1500 RPM with the engine running and warm up for 30 minutes. At the same time:
 - Check for abnormal sound
 - Check for temperature coolant
 - Check temperature of engine oil
 - Check leak of engine oil, coolant, and fuel
 - Check color of exhaust gasA gradual running-in of the overhauled engine is necessary for delivery of the lubricating oil to the bearings, etc.
8. Refer to the turbocharger section of this manual for information on operating a turbocharged engine after overhaul.

SECTION 27 – REAR DRIVE AXLE (GEARBOXES)

Chapter 1 – Gearboxes

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HYDROSTATIC PUMPS**Op. 29 100 40****REMOVAL**

The hydrostatic pump assembly can be removed from the top and front or the cab and boom can be tilted forward for more access, refer to Section 00 for the cab tilting procedure.

To remove the hydrostatic pump assembly without tilting the cab forward:

1. Lower the boom and bucket to the lowered position, resting on the ground or remove any attachment and raise the boom and rest on the boom lock pins, 1.

**CAUTION**

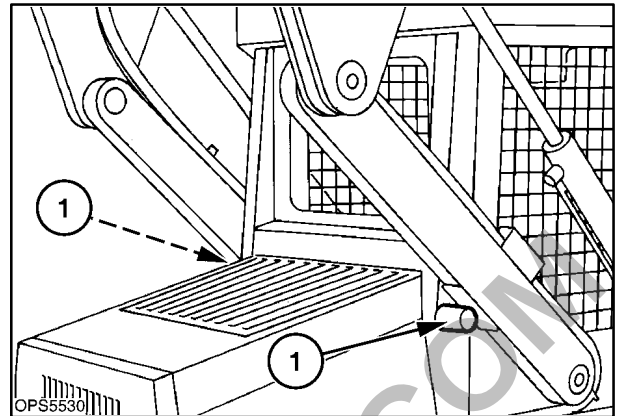
Never work under a raised boom unless it is properly supported by the boom lock pins.

Never work under a raised boom with an attachment. Always remove the attachment from the loader.

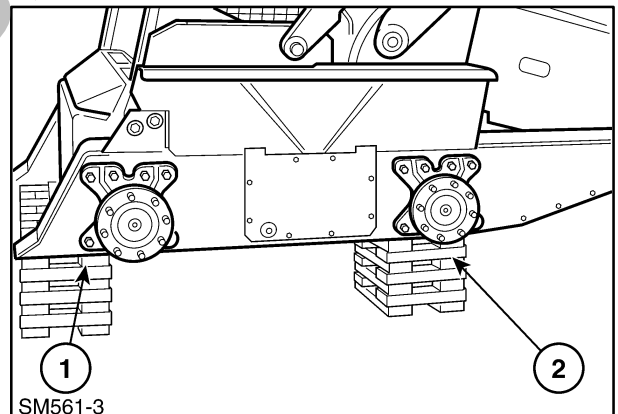
2. Stop the engine, turn the ignition key to the run position and operate the boom and bucket control pedals to relieve pressure in the boom and bucket circuits. Turn off the key.
3. Put the Service/Run switch in the "SERVICE" position.
4. Engage the parking brake.
5. Securely block the skid steer at 1 and 2, with all four wheels off the ground. Refer to Section 00 for more detailed information on properly supporting a skid steer.

**CAUTION**

Failure to securely support the skid steer could result in movement of the loader causing serious injury or damage to the equipment.



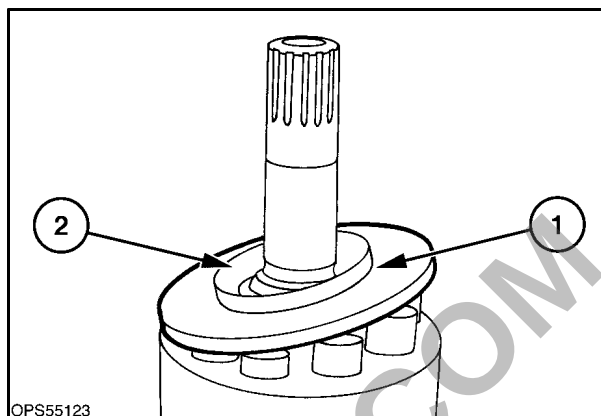
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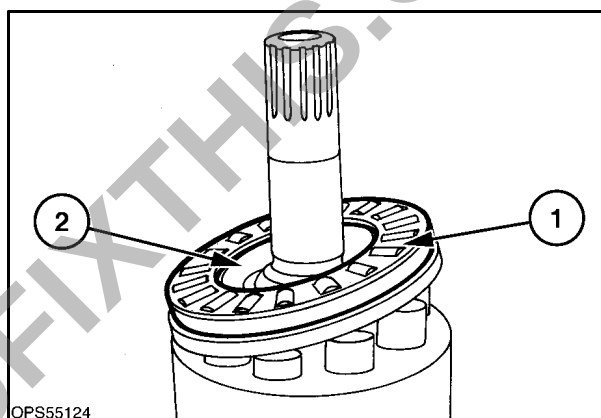
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4. Lubricate the piston race assembly, 1, and place it on the pivot, as shown, with the bearing locating ring, 2, up.



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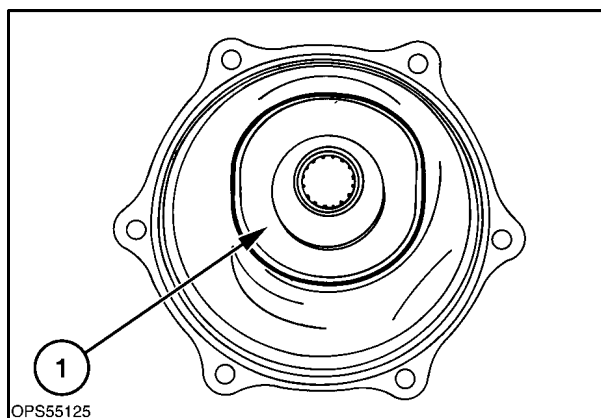
5. Lubricate the thrust bearing, 1, and install it over the bearing race at 2.



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6. Insert the outer bearing race into the housing, 1. The bearing race must be inserted squarely into the recess in the housing.

NOTE: The dull or unfinished side of the bearing race MUST be inserted into the housing first.



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Op. 29 130 06

**DRIVE CONTROL ADJUSTMENT
PROCEDURE**

If the machine creeps (tires rotate slowly with steering control in neutral) and the transmissions make a noise indicating they are being slightly stroked, a neutralizing adjustment is required.



To make a neutralizer adjustment, block the machine off the ground so that the wheels turn freely. Raise the boom and place it on the boom lockpins. When the engine is running, stay clear of the rotating wheels.

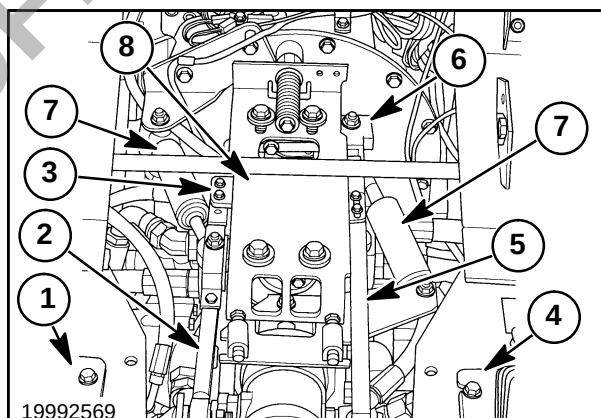
To make any transmission control linkage adjustments, first block the loader off the ground with the boom in the raised position resting on the boom lockpins. Unlatch the seat and raise it to the up locked position to access the transmission area.



Never work under a raised seat unless it is securely latched in the raised position.

Control lever, 1; link, 2; and arm, 3, control the right side. Control lever, 4; link, 5; and arm, 6 control the left side. There are shock absorbers, 7, connected to the steering linkage to dampen the hydraulic vibration from the control levers and the operator's hands. The neutralizer plate, 8, is spring loaded to return the arms, 3 and 6, to their neutral position.

When the operator strokes both control levers in the same direction, the operator can release one lever and the unit will still run straight until the levers are stroked differently to change direction or both levers are released and then the unit will neutralize.



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Foot or hand control and control valve spool lock solenoids:

Pretest instructions:

- * Hydraulic oil reservoir oil at proper oil level
- * Operator in seat
- * Service/Run switch in "RUN" position
- * Seat belt fastened
- * Ignition switch in the "ON" position

STEP	TEST	RESULT	PROBABLE CAUSE AND CORRECTION
1	Solenoid Solenoid plunger should move from valve spool.	YES NO	System OK Check for battery voltage at solenoid wire connection, if OK replace solenoid. If not OK go to next step.
			Set in seat and buckle seat belt in sequence, if not OK check operation of seat belt buckle. If OK go to next step.
			Check wires from solenoid to EIC board, if OK go to next step.
			Check EIC board operation

Electronic instrument cluster (EIC) hydraulic oil temperature light:

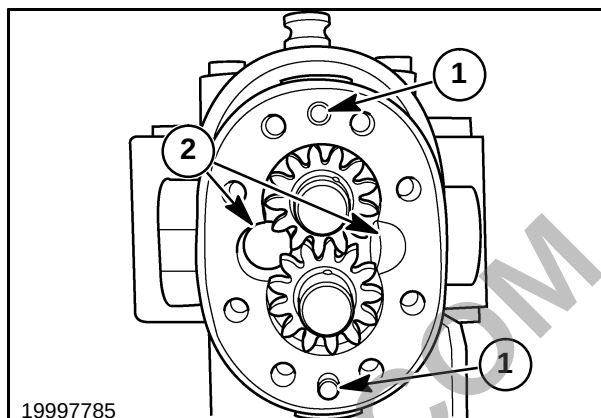
Pretest instructions:

- * Hydraulic oil reservoir oil at proper oil level
- * Operator in seat
- * Service/Run switch in "RUN" position
- * Seat belt fastened
- * Ignition switch in the "ON" position
- * Engine running half throttle, 1500 RPM

STEP	TEST	RESULT	PROBABLE CAUSE AND CORRECTION
1	Electronic instrument cluster (EIC) Hydraulic oil temperature light should be off	YES NO	System OK Check hydraulic oil temperature, if OK go to step 3. If not OK go to next step.
2			Check oil cooler and radiator for restricted air flow.
3			Check oil temperature sender for proper operation.

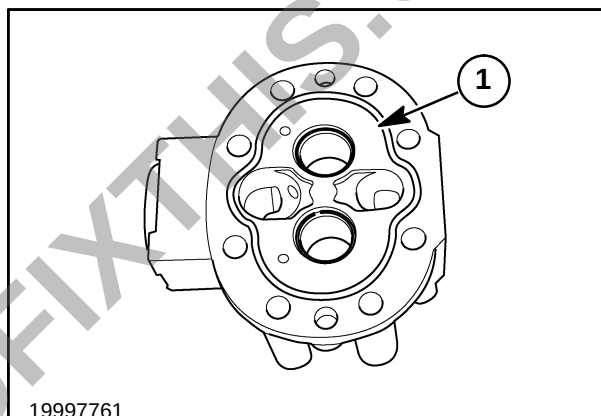
6. Make sure the dowel pins, 1, are in place and install the body on the plate with the half-moon cavities, 2, in the body facing out away from the plate. Check that the reference marks made during disassembly align correctly.

NOTE: The small half-moon cavity, 2, must be on the pressure side of the pump.



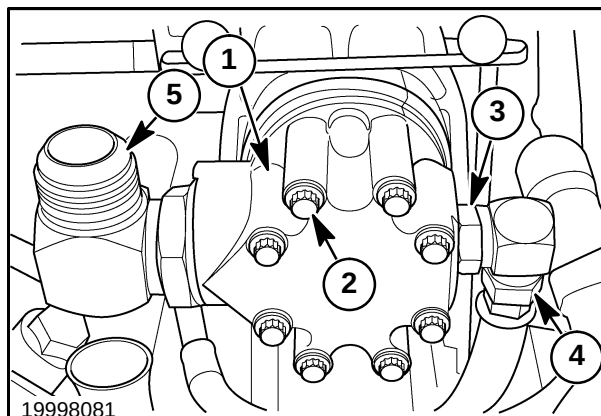
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7. Install a new O ring, 1, in the back plate.



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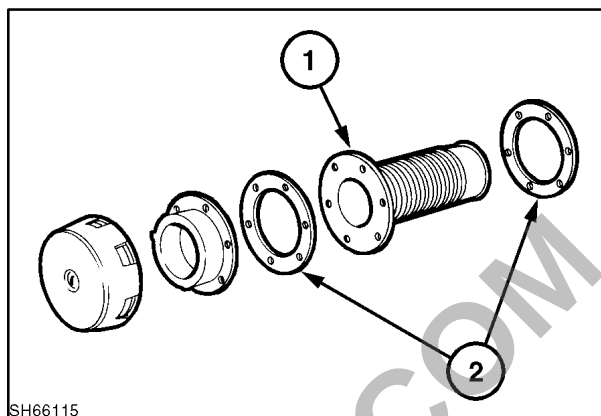
8. Install the pump back plate, 1, over the gear shafts. Check that the reference marks made during disassembly align correctly.
9. Install the housing hardware with the eight bolts, 2, and sealing washers. Tighten the bolts evenly in a criss-cross pattern to 34 - 38 N·m (25 - 28 ft. lbs.).
10. Install the high pressure port fitting, 3, and the high pressure line, 4. Tighten the high pressure line connections securely.
11. Install the suction tube port fitting, 5, and turn the fitting up. Add SH/CG4 10W-30 oil to fill the bottom of the hydraulic pump.



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Back flush the screen, 1, with a clean solvent and blow dry with low-pressure air.

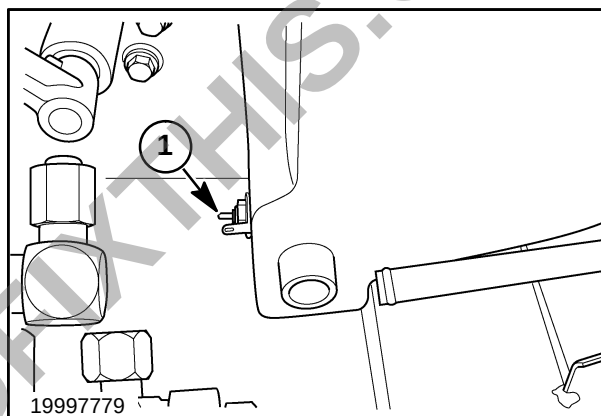
Reinstall the screen assembly making sure the screen is sealed between the screen and reservoir neck with gaskets, 2. Use a silicone sealer with gaskets to seal between the screen and reservoir is recommended.



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The hydraulic reservoir is equipped with a temperature sender, 1, which allows the EIC (Electronic Instrument Cluster) to monitor the hydraulic oil temperature and signal the operator of an oil overheat condition.

IMPORTANT: Do not over tighten the sender or damage to the reservoir may occur.



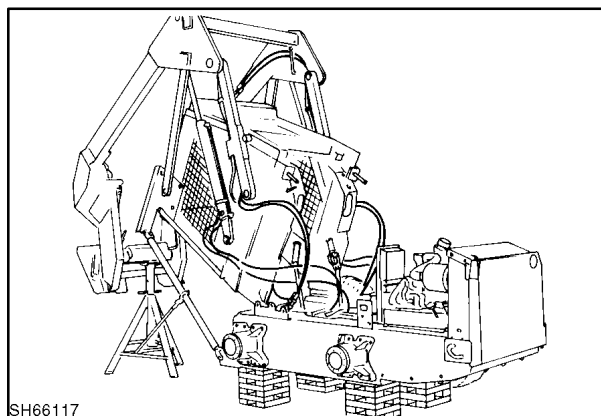
252

Op. 35 300 10

OIL RESERVOIR REMOVAL

To access the reservoir, open the rear door and remove the right engine side shield.

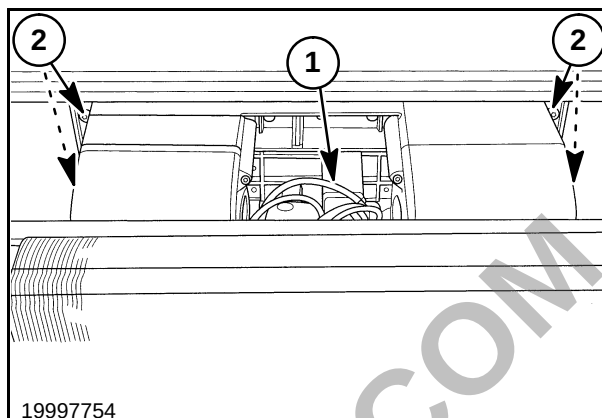
To remove the reservoir from the loader, the cab and boom must be tilted forward. Refer to "Section 00" For the cab tilting procedure.



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Op. 50 104 20**Heater Fan Assembly Replacement**

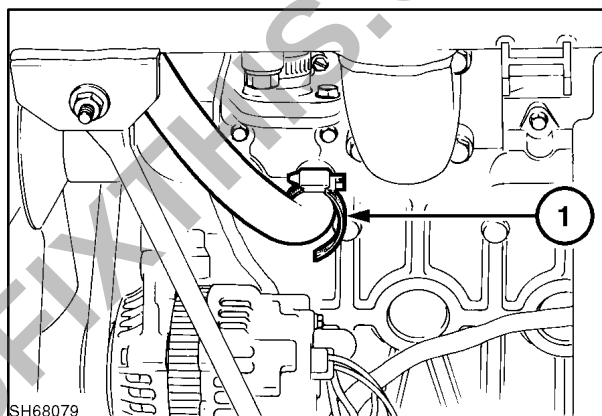
1. Remove the heater core retaining hardware and pivot the core away from the fan support.
2. Disconnect the fan power wire, 1.
3. Remove the retaining hardware for the fan and motor assembly, 2.



9

Op. 50 100 10**Heater Hose to Engine Connections**

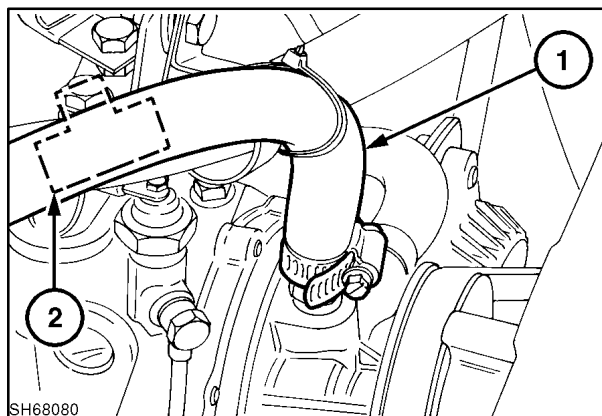
1. Heater hose from the heater core to the front plug, 1.



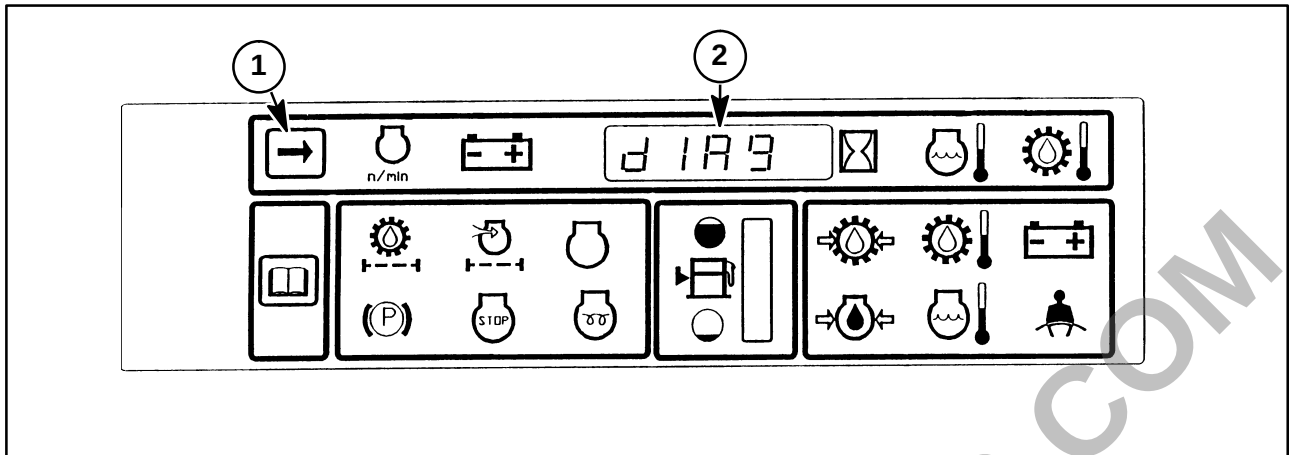
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2. Heater hose from the heater shutoff valve to the plug in the top of the water pump at 1.

NOTE: If the heater is installed on an SL55BH turbo-charged loader, this hose will be at the tee at 2.



11



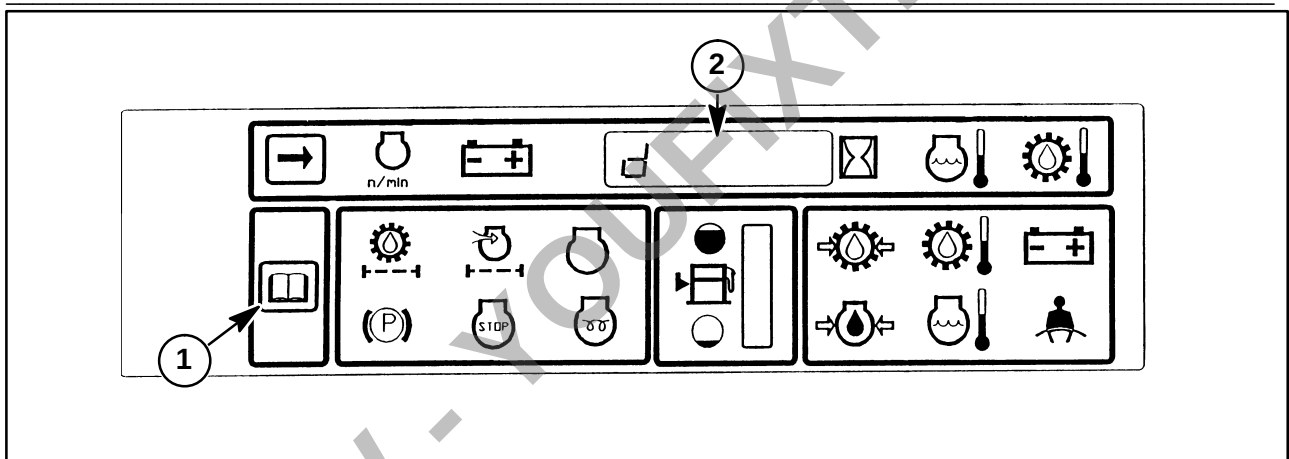
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EIC Diagnostics and Setup Items

With display showing "LOC__" for lock.

Diagnostics Mode

1. Press and release the "ARROW" switch, 1;
- "dIag" will appear in the character display, 2.



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2. Press and hold the "OPEN BOOK" switch, 1, until a low case "d" appears in the character display, 2, release the "OPEN BOOK" switch. The EIC is now in Diagnostics.

Each individual monitored circuit can now be tested for proper operation.

When in Diagnostics and any circuit is activated the EIC board will light all lights and an audible alarm will sound.

The Diagnostic test will not verify the performance of a sensor or sender. Only the EIC board and wires to the sender or sensor are tested.

The following circuits can be tested:

1. EIC board bulbs
2. EIC board circuits
3. EIC board arrow and open book switches
4. Audible beeper
5. Engine air filter circuit
6. Hydraulic oil filter circuit
7. Hydrostatic transmission charge pressure circuit
8. Engine oil pressure circuit
9. Engine Coolant temperature circuit
10. Transmission/hydraulic oil temperature circuit
11. Fuel level circuit
12. Seat switch(es) and circuit
13. Seat belt switch and circuit
14. Service/Run switch

SEAT AND SEAT BELT SWITCH WIRING

Ref	Color	Destination	Battery Voltage
1	LTGN	To EIC Board Pin #11 (large connector)	Seat Belt Buckled
2	T	From Seat Switch(es)	Sit in Seat
3	T	To Seat Belt switch	Sit in Seat
4	LTGN/R	From Electronics 5A Fuse (engine panel)	All Times
5	T	To Service/Run Switch	Sit in Seat

Op. 55 201 15

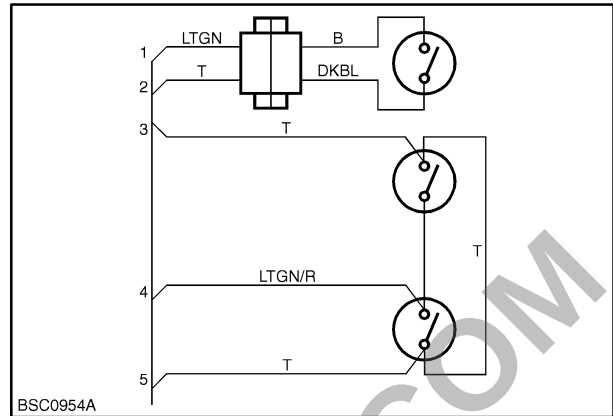
SEAT SWITCH REMOVAL

1. Disconnect the negative (–) battery cable.
2. Raise the seat and securely latch in the raised latched position, 1.

**CAUTION**

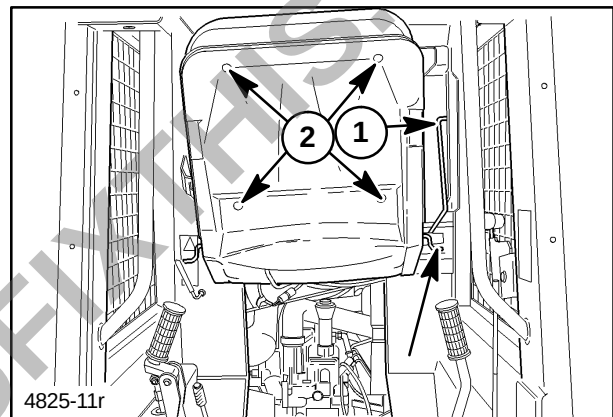
Never work under a raised seat unless it is securely latched in the raised position.

3. Remove the seat retaining hardware, 2.
4. Holding the seat in place, lower the seat pan and seat and unplug the seat switch(es).
5. Remove the seat from the loader.
6. Disconnect the wire harness from the switch(es) by releasing the latch away from the switch.
7. Remove the switch(es) from the seat pan. The standard seat uses one switch, 1, and the deluxe seat uses two switches, 2.



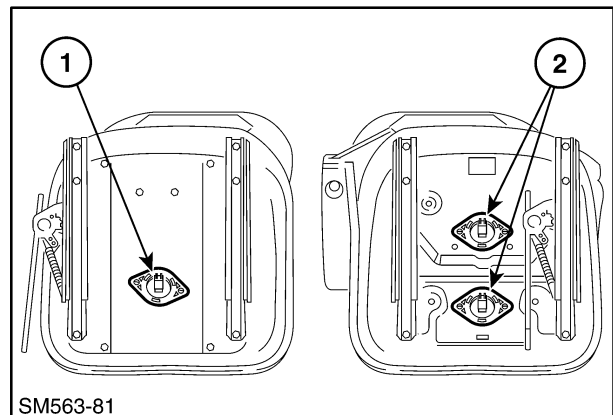
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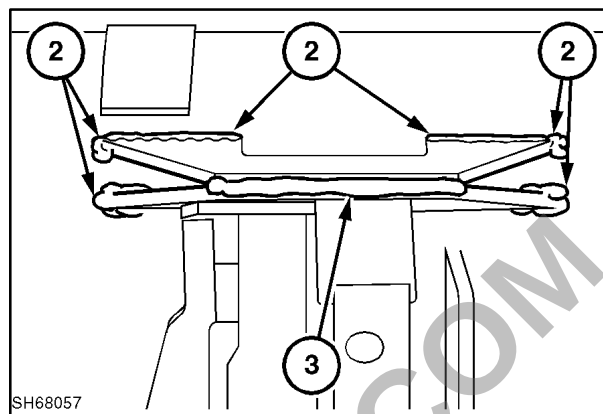
UNSTABLE CHARGING CIRCUIT

FAULT LOCATION	POSSIBLE CAUSE	CORRECTION
Wiring	Loose connection or open wire	Repair or replace
Alternator	Loose drive belt	Repair
	Short in rotor coil	Replace
	Short in stator coil	Replace
	Insufficient brush contact	Repair or replace
	Broken brush or spring	Replace
	Loose connections	Repair
Regulator	Defective regulator	Replace
	Loose connection at alternator and regulator	Repair or replace

ABNORMAL NOISE OF ALTERNATOR

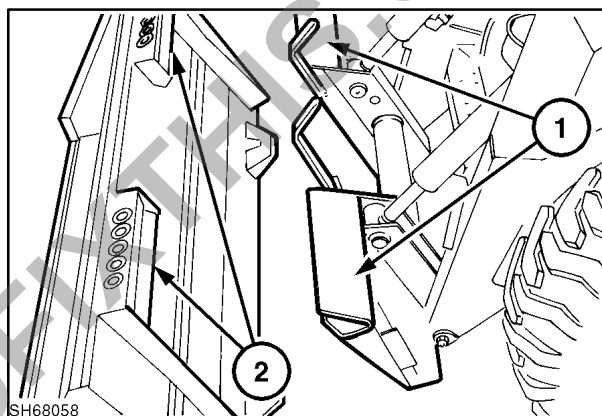
FAULT LOCATION	POSSIBLE CAUSE	CORRECTION
Alternator	Loose mounting hardware	Repair
	Defective bearings	Repair or replace
	Rotor core and stator in contact	Replace
	Defective diode	Replace
	Short in stator coil	Replace

10. Weld the plates to the bucket at 2; also weld the two plates at 3.
11. Reinstall the bucket quick-attach plate to the loader boom with the pins previously removed.



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12. Attach the bucket to the loader by engaging the top of the plate, 1, under the lip of the bucket at 2. Curl the bucket back to allow the bucket to contact the loader quick-attach plate and engage the latch handles and pins, making sure the latch pins engage the bucket plates properly.



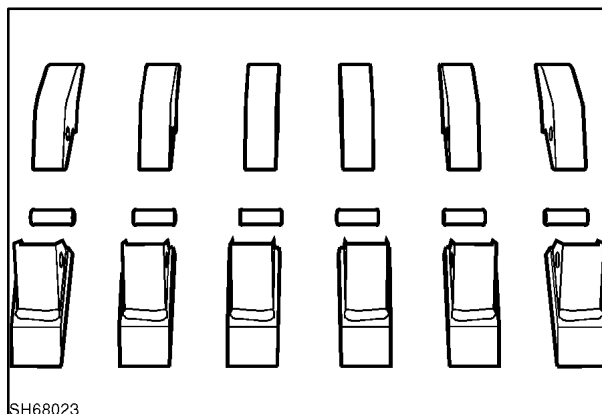
22

Op. 82 100

DIRT TOOTH KIT INSTALLATION

Bucket Dirt Tooth Kit

The dirt tooth kit consists of six teeth that are welded to the bucket cutting edge as indicated below. The teeth are used when rough digging conditions are anticipated to break up the material for easier bucket filling. The teeth are intended to be used only on dirt and foundry or low-profile buckets.



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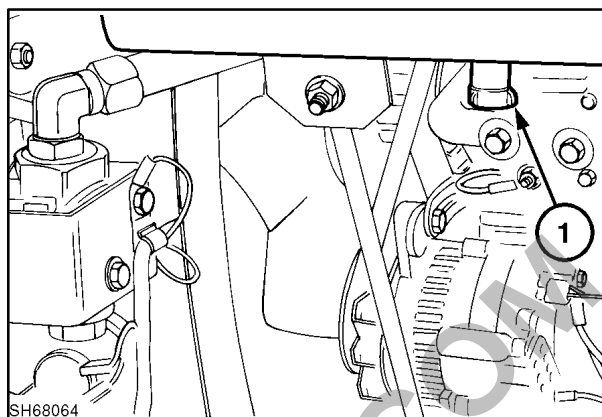
Aspirator or Spark Arrester Muffler Cleaning

Clean the muffler every 250 hours of use to ensure proper operation and prolong muffler life.

1. To clean the muffler, first move the loader to an area clear of any flammable material.
2. Allow the engine and muffler to cool before cleaning the muffler.
3. Remove the plug, 1, and allow the accumulated particles to drain from the muffler; a wire or stiff bottle brush might help to begin the particles to drain.
4. Start the engine and idle in neutral, alternate between low and high idle engine speeds for a couple of minutes to thoroughly clean the muffler.
5. Turn off the engine and allow the muffler to cool, then reinstall the drain plug.

**CAUTION**

Clean the precleaner or spark arresting mufflers in an area clear of flammable material. Allow the engine and muffler to cool before removing and reinstalling the drain plug.



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