RS6-42
RS8-42 / RS8-44
RS10-44 / RS10-55
RS12-42

GEHL

Form No.
913233
Revision C
Jan. 2014

Telescopic Handlers





Service Manual

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SAFETY

The above Safety Alert Symbol means **ATTENTION! ALWAYS BE ALERT! YOUR SAFETY IS INVOLVED!** It stresses an attitude of "safety awareness" and can be found throughout this Operator's Manual and on the machine itself.

Before operating this equipment, read and study the following safety information. In addition, be sure that everyone who operates or works with this equipment is familiar with these safety precautions.

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. It may also alert to unsafe practices.

Gehl Company ALWAYS takes the operator's safety into consideration when designing its machinery, and guards exposed moving parts for his/her protection. However, some areas cannot be guarded in order to assure proper operation. Further, this Operator's Manual, AEM Safety Manual and decals on the machine warn of additional hazards, and should be read and observed closely.

REMEMBER! It is the owner's responsibility for communicating information on the safe use and proper maintenance of this machine! This includes providing understandable interpretations of these instructions for operators who are not fluent in reading English.

It is the responsibility of the operator to read and understand the Operator's Manual and other information provided and use the correct operating procedure. Machines should be operated only by qualified operators.

MANDATORY SAFETY SHUTDOWN PROCEDURE

BEFORE cleaning, adjusting, lubricating or servicing the unit:

1. **Stop machine on a level surface. (Avoid parking on a slope, but if necessary, park across the slope and block the tires.)**
2. **Fully retract the boom and lower the attachment tool to the ground. Idle engine for gradual cooling.**
3. **Place controls in neutral and apply parking brake.**
4. **Shut off the engine and remove the key.**

ONLY when you have taken these precautions can you be sure it is safe to proceed. Failure to follow the above procedure could lead to death or serious bodily injury.

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Torque Specifications

Use these torque values when tightening GEHL hardware (excluding: locknuts and self-tapping, thread-forming and metal screws) unless otherwise specified.

Unified National Thread	Grade 2		Grade 5		Grade 8	
	Dry	Lubed	Dry	Lubed	Dry	Lubed
8-32	19*	14*	30*	22*	41*	31*
8-36	20*	15*	31*	23*	43*	32*
10-24	27*	21*	43*	32*	60*	45*
10-32	31*	23*	49*	36*	68*	51*
1/4-20	66*	50*	9	75*	12	9
1/4-28	76*	56*	10	86*	14	10
5/16-18	11	9	17	13	25	18
5/16-24	12	9	19	14	25	20
3/8-16	20	15	30	23	45	35
3/8-24	23	17	35	25	50	35
7/16-14	32	24	50	35	70	55
7/16-20	36	27	55	40	80	60
1/2-13	35	35	75	55	110	80
1/2-20	40	40	90	65	120	90
9/16-12	55	55	110	80	150	110
9/16-18	60	60	120	90	170	130
5/8-11	75	75	150	110	220	170
5/8-18	85	85	180	130	240	180
3/4-10	130	130	260	200	380	280
3/4-16	150	150	300	220	420	320
7/8-9	125	125	430	320	600	460
7/8-14	140	140	470	360	660	500
1-8	190	190	640	480	900	680
1-14	210	210	710	530	1000	740

Metric Course Thread	Grade 8.8		Grade 10.9		Grade 12.9	
	Dry	Lubed	Dry	Lubed	Dry	Lubed
M6-1	8	6	11	7	13.5	10*
24M8-1.25	19	14	27	20	32.5	24*
M10-1.5	37.5	28	53	39	64	47
M12-1.75	65	48	91.5	67.5	111.5	82
M14-2	103.5	76.5	145.5	108	176.5	131
M16-2	158.5	117.5	223.5	165.5	271	200

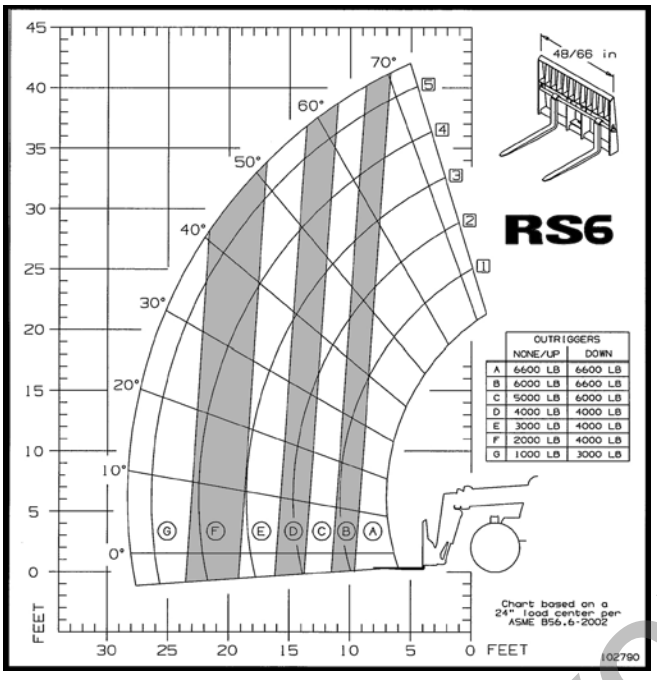
* *All torque values are in lb-ft. except those marked with an *, which are in lb-in.*
For metric torque value (Nm), multiply lb-ft value x 1.355, or lb-in value x 0.113.

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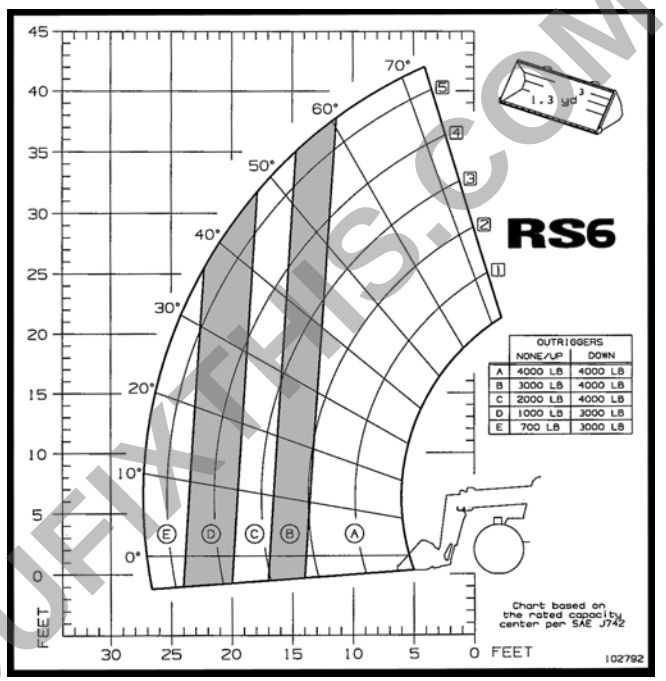
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RS6-42 Load Zone Charts

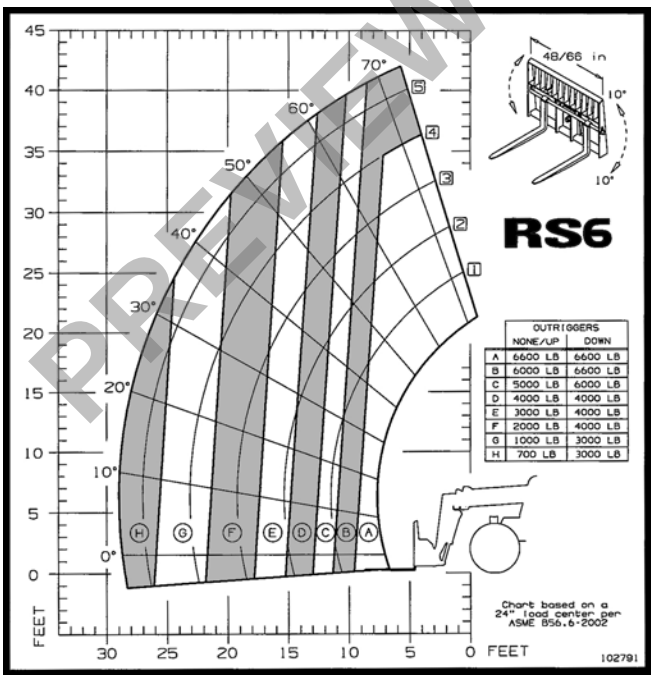
Decal 102790
Standard Carriage



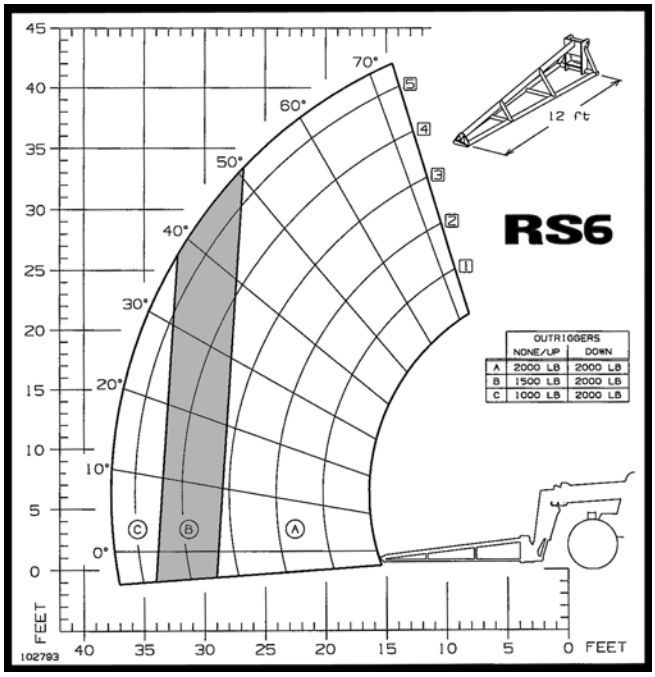
Decal 102792
1.3-Cu.-Yd. Bucket



Decal 102791
Rotating Carriage



Decal 102793
12-Ft. Truss Boom



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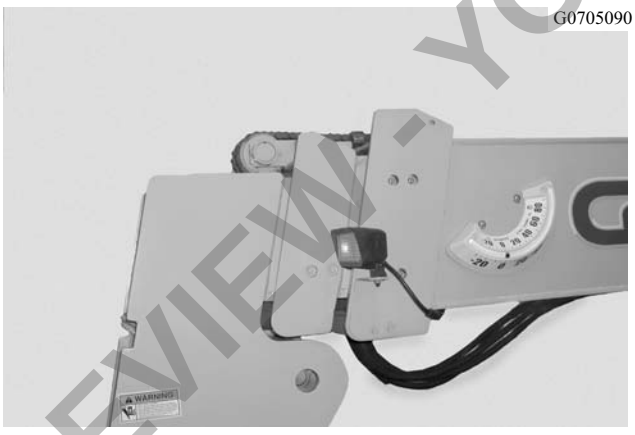
MANDATORY SAFETY SHUTDOWN PROCEDURE

BEFORE cleaning, adjusting, lubricating or servicing the unit:

1. **Stop machine on a level surface. (AVOID parking on a slope, but if necessary, park across the slope and block the tires.)**
2. **Fully retract the boom and lower the attachment tool to the ground. Idle engine for gradual cooling.**
3. **Place controls in neutral and apply parking brake.**
4. **Shut off the engine and remove the key.**

ONLY when you have taken these precautions can you be sure it is safe to proceed. Failure to follow the above procedure could lead to death or serious bodily injury.

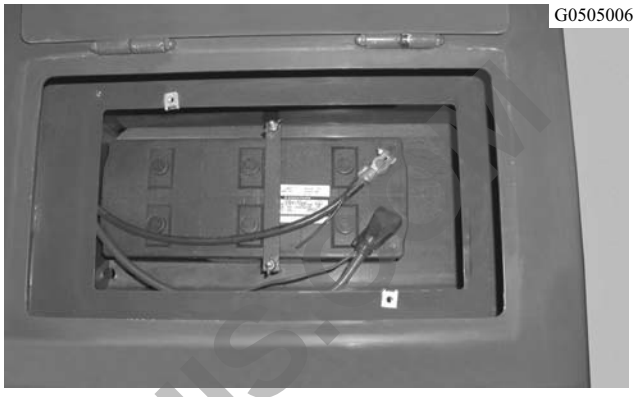
RELIEVING HYDRAULIC PRESSURE


G0705090

1. Fully retract the telescopic boom and raise thetelescopic boom a minimum of 20° to provideclearance for engine removal from the right handside.
2. Install cylinder locks on both boom slavecylinders.
3. Move the boom control joystick in all directionsseveral times to relieve hydraulic pressure inthose circuits.
4. Perform mandatory shutdown procedures.

ENGINE REMOVAL

STEP 1


G0505006

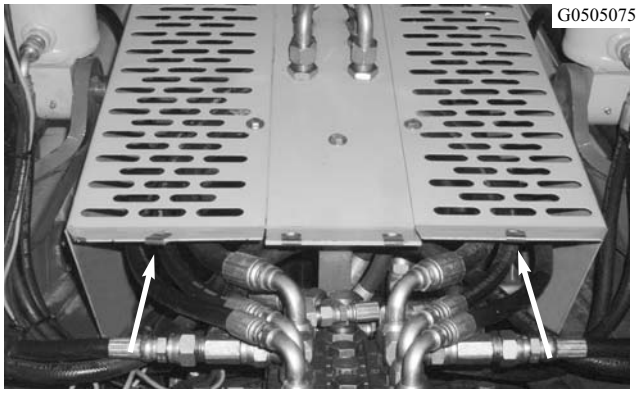
Disconnect the negative (-) battery cable from thebattery.

STEP 2


G0605071

Remove the rear hood. Complete Steps 10 and 11 of Section 800 for the correct procedures.

STEP 3


G0505075

Remove the radiator covers. Complete Steps 14, 15 and 16 of Section 800 for the correct procedures.

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STARTER CIRCUIT TROUBLESHOOTING

The engine does not start. Does the starter engage and turn over the engine?

YES

Is there 12 volts of current at the fuel shut off solenoid?

YES

Check the fuel system pressure before replacing the fuel solenoid.

NO

Is the fuel shut off solenoid fuse open?

YES

Replace the fuel shut off fuse.

NO

Repair or replace the wires between the fuel shut offsolenoid and the fuse.

NO

Is the transmission shift lever in neutral?

YES

Is the battery fully charged?

NO

Move the shift lever to the neutral position.

YES

Is the battery properly grounded?

NO

Charge or replace the battery.

YES

Is the ignition fuse open?

NO

Replace the battery ground cable.

YES

Replace the ignition fuse.

NO

Is there 12 volts at the power terminal of the ignition fuse?

YES

Is the gear selector fuse open?

NO

Replace the 60 amp in-line fuse between the battery terminal of the starter relay and the fuse box.

YES

Replace the gear selector fuse.

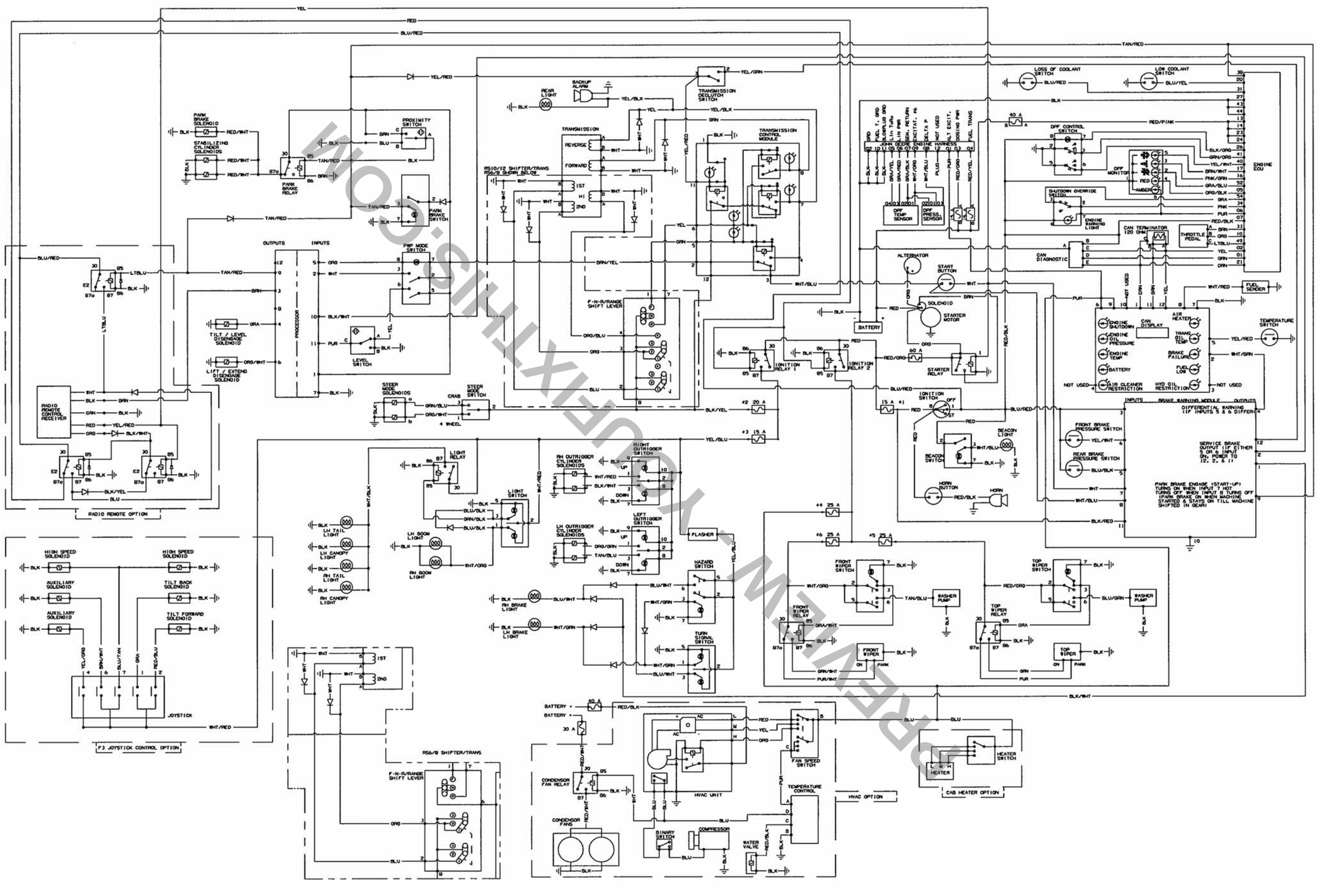
NO

With the key switch ON, is there 12 volts to the power terminal of the gear selector fuse?

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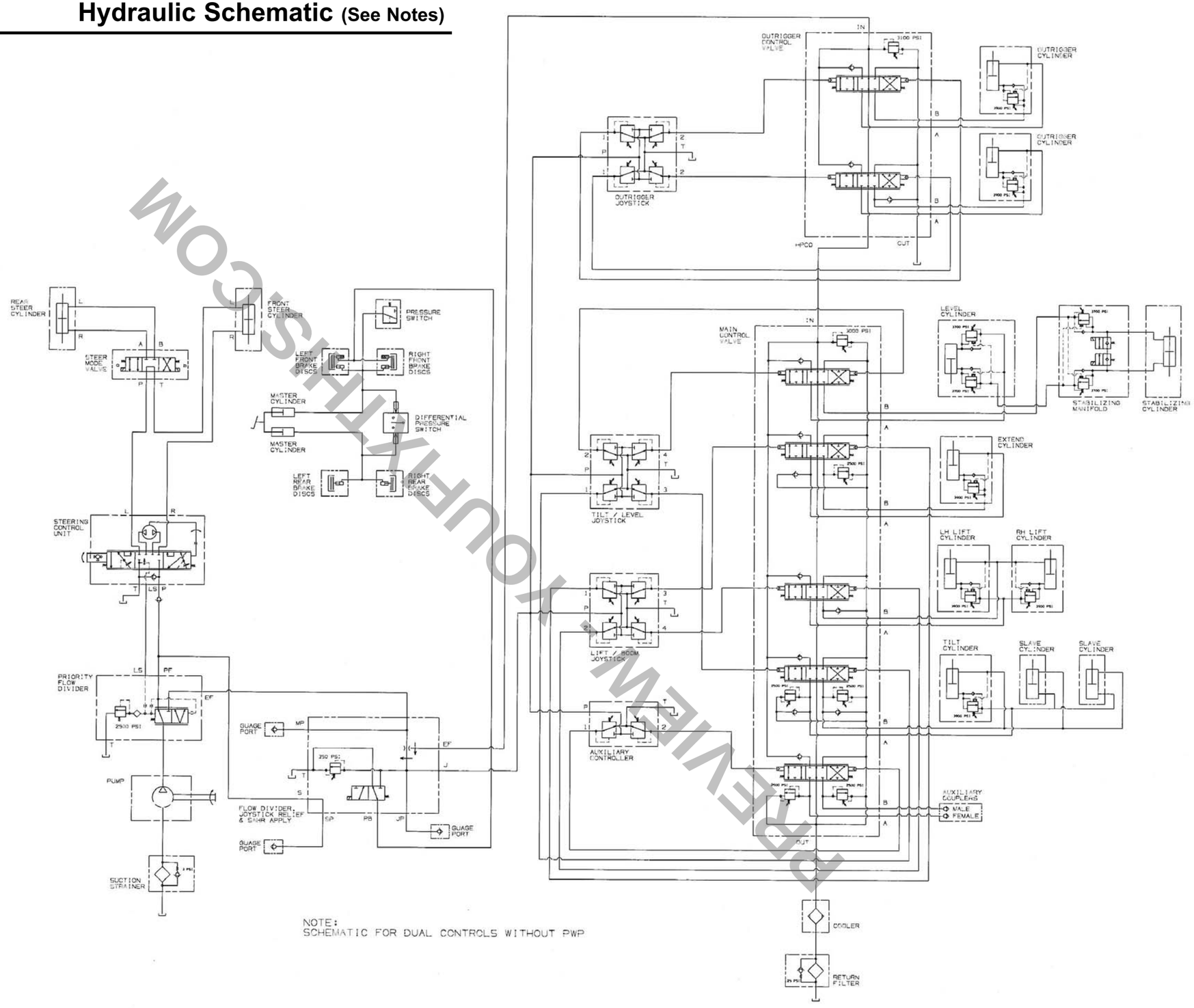
Electrical Schematic w/ Radio Remote



WORKSHOP MANUAL

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Hydraulic Schematic (See Notes)



NOTE:
SCHEMATIC FOR DUAL CONTROLS WITHOUT PWP

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GENERAL INFORMATION

It is necessary to retorque the front double chain assembly after fifty (50) hours of operation. Failure to do so may allow the single chain to become slack, which can result in the chain jumping off the sheave. If this should occur, it could result in severe damage to the intermediate boom section.

MANDATORY SAFETY SHUTDOWN PROCEDURE

BEFORE cleaning, adjusting, lubricating or servicing the unit:

1. **Stop machine on a level surface. (AVOID parking on a slope, but if necessary, park across the slope and block the tires.)**
2. **Fully retract the boom and lower the attachment tool to the ground. Idle engine for gradual cooling.**
3. **Place controls in neutral and apply parking brake.**
4. **Shut off the engine and remove the key.**

ONLY when you have taken these precautions can you be sure it is safe to proceed. Failure to follow the above procedure could lead to death or serious bodily injury.

LEAF CHAIN ADJUSTMENT

STEP 1

With the engine running, lower the boom and level it according to the boom angle indicator, which should then read 0°.

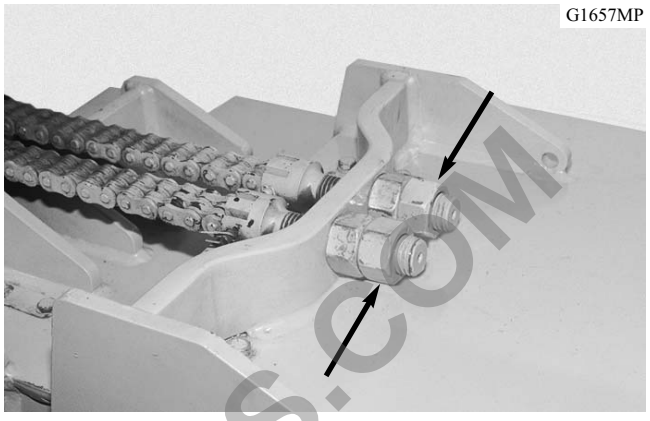
STEP 2

Extend the boom to its maximum reach.

STEP 3

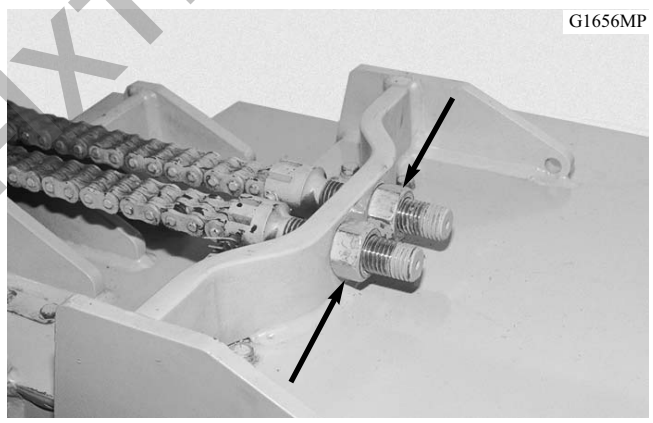
Retract the boom 6 inches (152 mm) to ensure that tension is being applied to the single chain.

STEP 4



Loosen and remove the outer nut, from the chain clevis (both sides).

STEP 5



Torque each chain to 30 ft.-lbs. (41 Nm) using the inner nut.

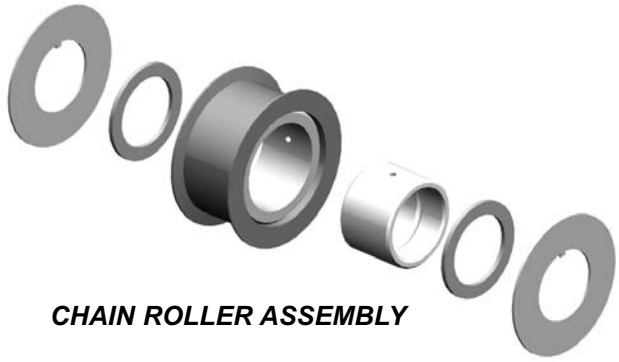
STEP 6

Reinstall the outer nut and tighten against the inner nut. If either of the chains have twisted while torquing, use a wrench on the inner nut only to turn the nut and chain to its proper position.

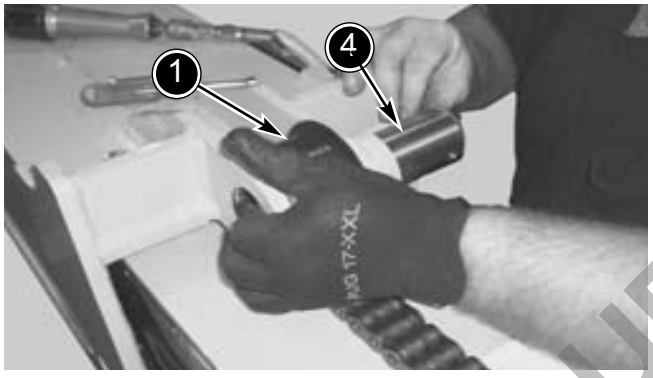
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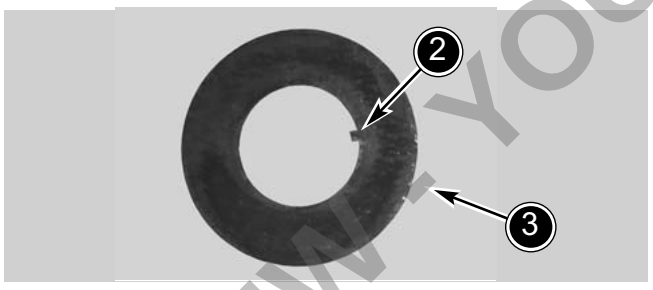
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STEP 23



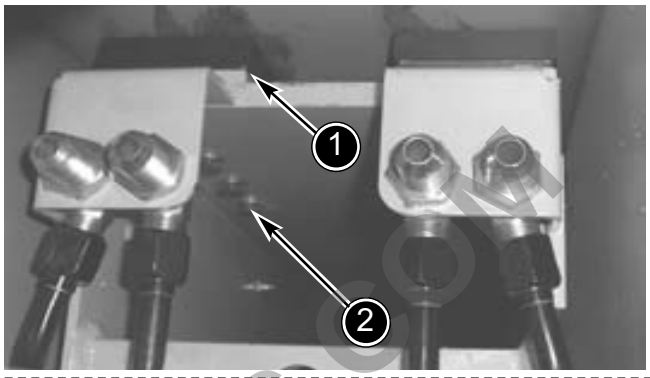
CHAIN ROLLER ASSEMBLY

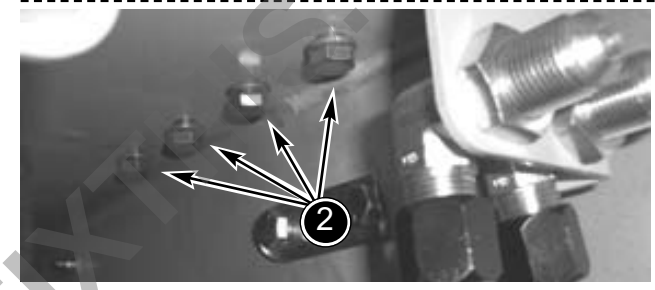




Reinstall the chain roller assembly (1) on front of the 2nd intermediate boom. Be sure the tab (2) on the hardened washers (3) are aligned with the groove in chain roller pin (4). Secure the chain roller pin to the 2nd intermediate boom with a bolt and lock nut (not shown).

STEP 24





Reinstall both top slide pads (1) on the rear of the inner boom using eight bolts and lock washers (2) (four per side). Use Loctite® 271 (red) Thread Lock (or equivalent) on the threads of the bolts and tighten to 30 ft.-lbs. (40 Nm) torque.

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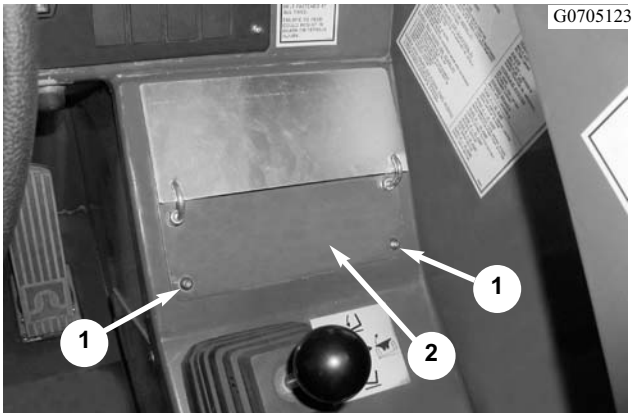
GENERAL	SECTION
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Hood and Cover Removal and Installation	800

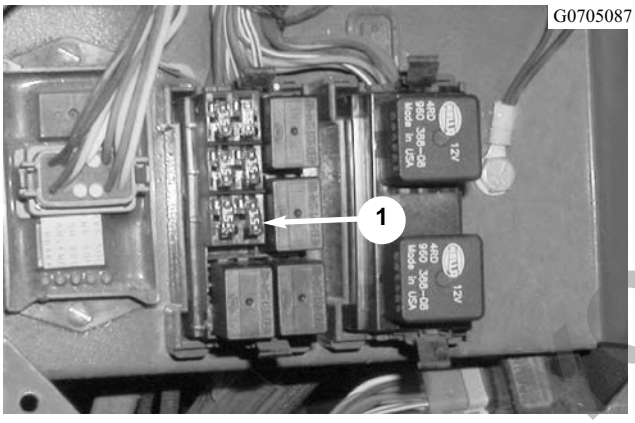
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FUSE POWER TESTS

STEP 3

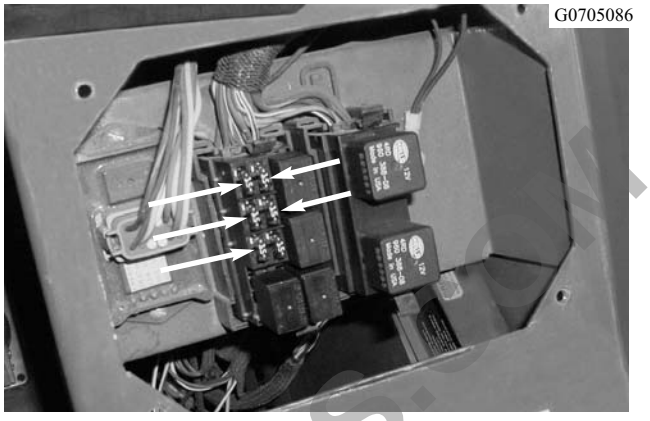




Remove the two upper and lower screws (1) and the fuse panel cover (2). Connect the positive (+) test lead to the bottom terminal of Fuse 1 to test for battery 12-volt power to the fuse panel. The multimeter should read 12 to 13 volts.

If there is no voltage, replace the 60-amp in-line fuse under the starter relay, or repair or replace the wires between the battery and the fuse panel.

STEP 4



Connect the positive (+) test lead to the front (topside) terminal of Fuses 2 through 6. Turn the keyswitch to the ON position. The multimeter should read 12 to 13 volts.

If there is no voltage, proceed to Step 12.

IGNITION RELAY TESTS

STEP 5



Connect the positive (+) test lead to the right side terminal (#3) of the relay socket. The multimeter should read 12 to 13 volts.

If there is no voltage, replace the 60-amp in-line fuse under the starter relay, or repair or replace the wires between the relay socket and the battery.

If there is 12 to 13 volts, proceed to the next step.

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CONTROL AND PARK BRAKE PILOT PRESSURE TROUBLESHOOTING

Test the pressure at the controller inputs of the main control valve. Does the pressure gauge read 350 psi (24 bar)?

YES

Repair or replace the control solenoidor control spool affected.

NO

Test the pressure at the JP port of the flow divider. Does the pressure gauge read 350 psi (24 bar)?

YES

Repair or replace the joystick control.

NO

Test the pressure at the PB port of the priority flow divider. Does the pressure gauge read 350 psi (24 bar)?

YES

Apply the park brake. Does the pressure gauge read 350 psi (24 bar)?

YES

Repair the park brake cylinders.

NO

Replace the flow divider.

NO

Test the pressure at the EF port of the priority flow divider. Does the pressure gauge read 3000 psi (207 bar)?

YES

Replace the flow divider.

NO

Remove and bench test the hydraulic pump. Does the hydraulic pump meet specifications?

YES

Replace the priority flow divider.

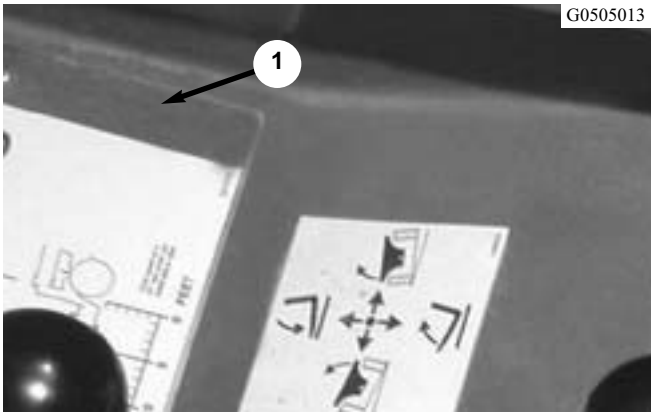
NO

Repair or replace the pump.

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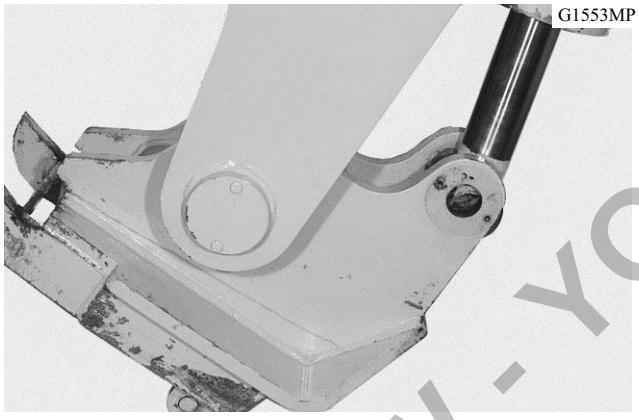
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STEP 13



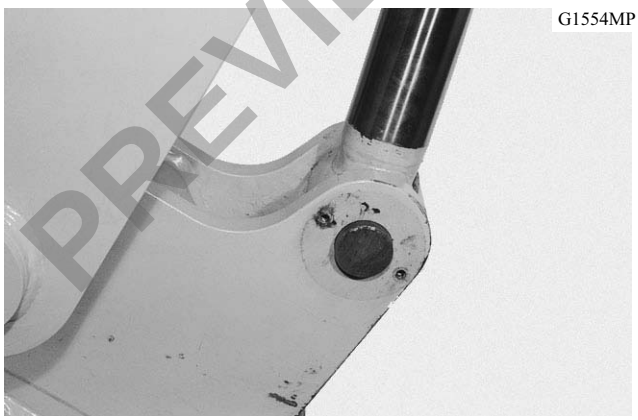
Start the engine. The park brake must be ON. Pull back on the joystick (to raise the boom approximately 2 feet). Shut the engine off.

STEP 14



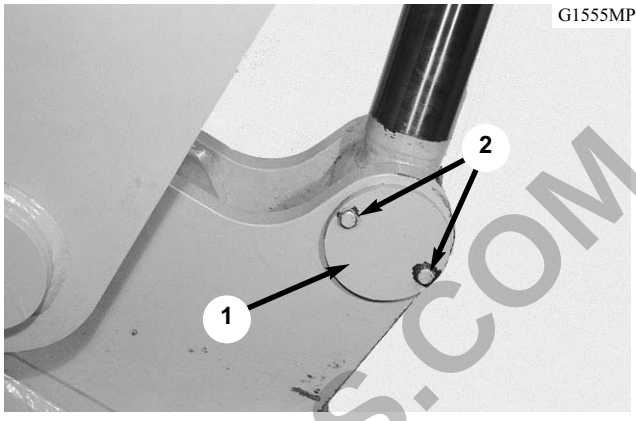
Rotate the bracket and align the rod end of the cylinder with the bracket cylinder mount.

STEP 15



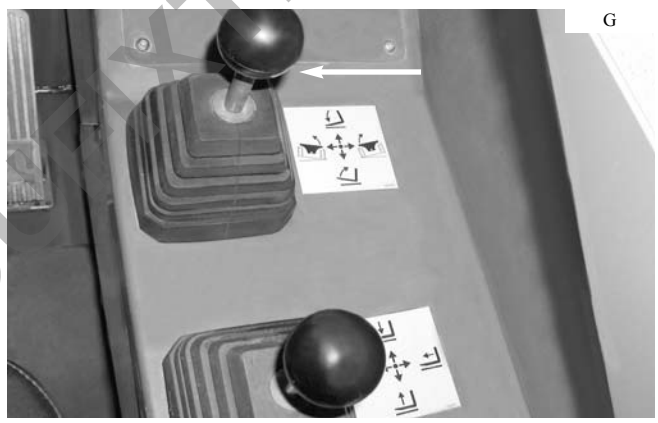
Install the lower pivot pin.

STEP 16



Install the retainer plate (1) and two bolts (2). Use Loctite® 271 (red) or equivalent, on the bolts.

STEP 17



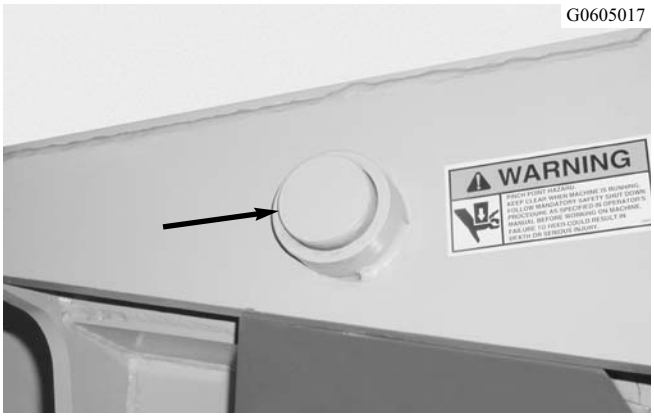
With the park brake on and engine running, fully retract the tilt cylinder by moving the joystick to the left. Move the joystick to the right to fully extend. Repeat this procedure several times to remove air from the hydraulic system, and to check for any hydraulic oil leaks.

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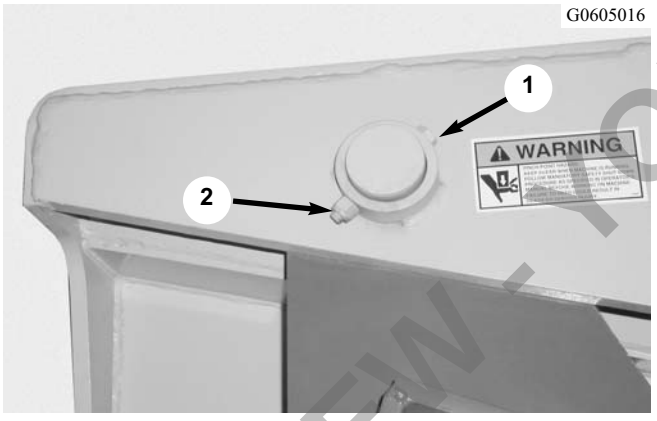
BOOM ASSEMBLY INSTALLATION

STEP 21



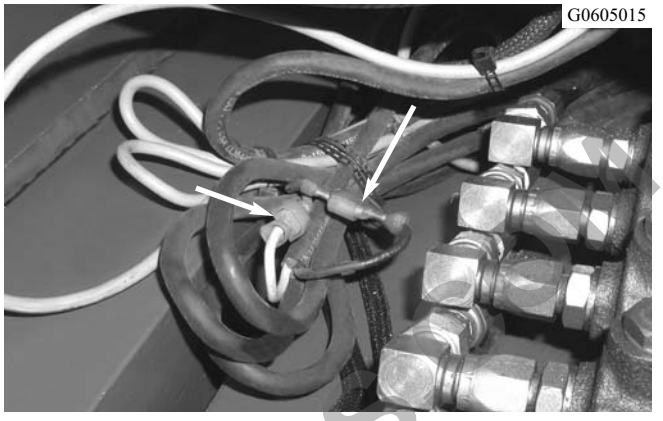
Lower the boom assembly into position. Install the rear pivot shaft so the end of the pin with the retainer bolt hole is facing out, and aligned with the retainer bolt hole in the frame.

STEP 22



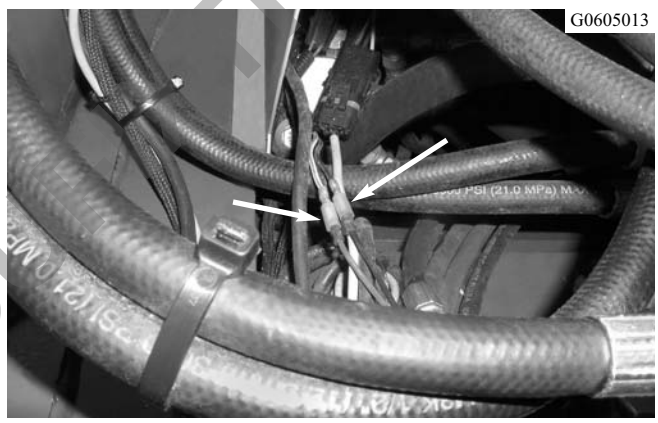
Install and tighten the retainer bolt (1) and nut (2) in the pivot pin.

STEP 23



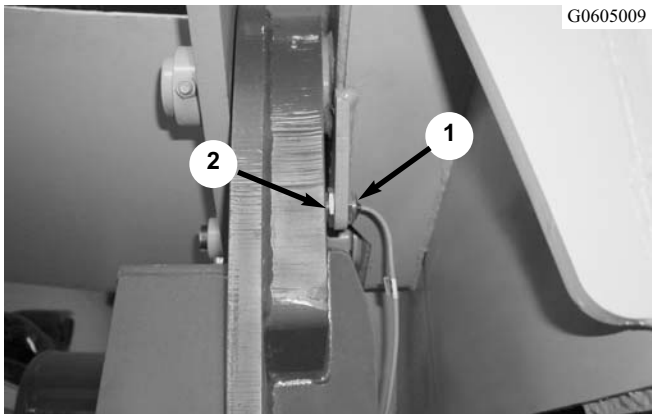
Connect the two boom electrical auxiliary wires.

STEP 24



Connect the two boom light wires.

STEP 25



Install the proximity switch (1) and lock nut (2).

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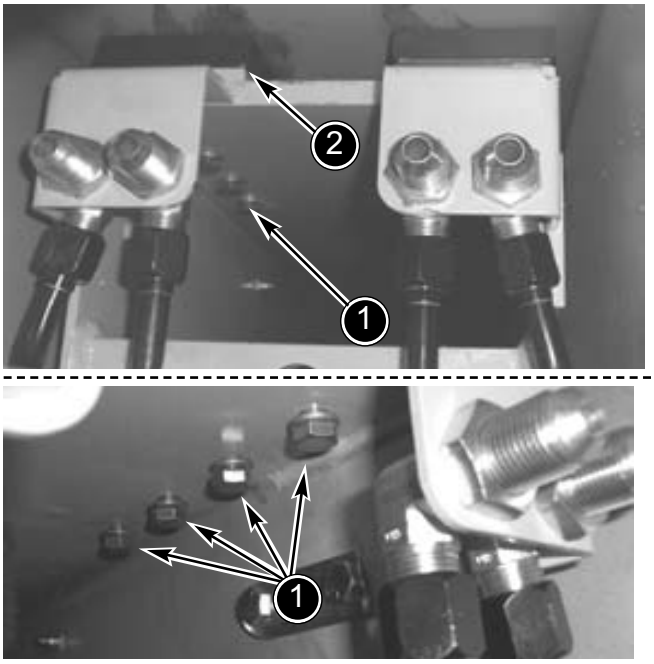
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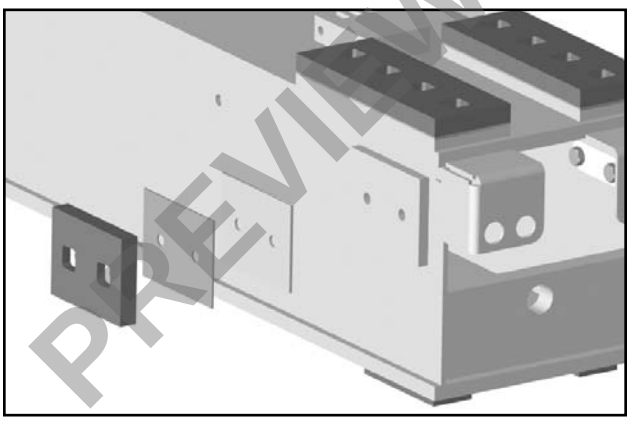
STEP 105



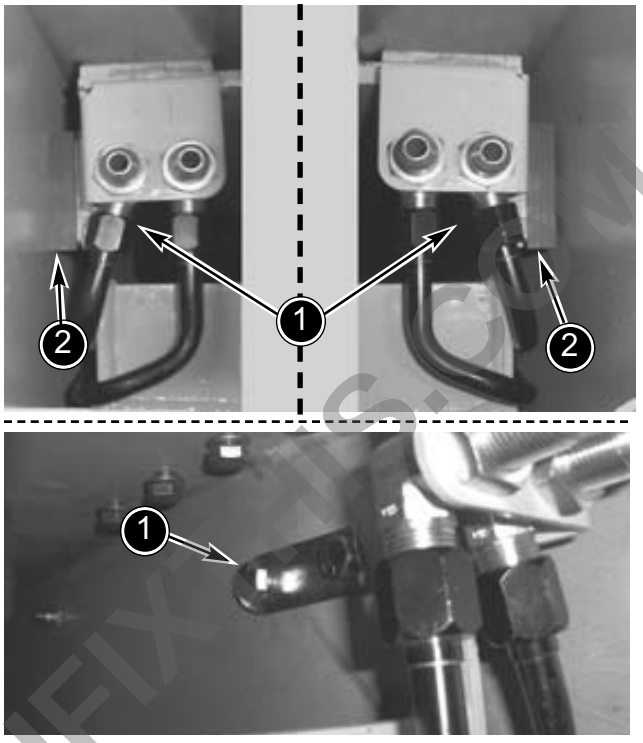
Loosen and remove eight bolts and lock washers (1) (four on each side) from the slide pads on the top-rear inner boom. Remove both top-rear slide pads and shims from the inner boom.

NOTE: *Do not install the new top slide pads at this time; continue to the next step. The installation steps for the rear inner boom top slide pads resume at Step 127.*

INNER BOOM REAR - SIDE PADS



STEP 106



Loosen and remove all four bolts and two lock plates (1) from the two rear side slide pads on the inner boom. Remove the two side slide pads and shims from both sides of the rear-inner boom.

NOTE: *Do not install the new side slide pads at this time; continue to the next step. The installation Steps for the rear inner boom side slide pads resume at Step 128.*

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