

Pressure Adjustments

For: L90F-622

LUMBERJACK

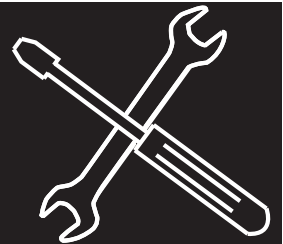


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Refer to document 61-542-047622 Assembly and Operation (A & O) Guide while following the pressure setting instructions in this document. The A & O Guide provides minimum and maximum pressure settings. Always adjust pressures close to the maximum setting.

CAUTION

To help prevent injury to personnel or damage to the Lumberjack, read the safety information in section 2 of your service manual before performing any maintenance.

TRANSMISSION CIRCUIT PRESSURE TEST

See Figures 1, 2, & 3

Tools Used: 500 psi oil pressure gauge (digital pressure gauge "0 to 8700" PSI kit available, part number 906601).

Procedure: Attach gauge to each pressure test port.

NOTE: Oil Temperature should be between 180° F before reading pressures on transmission circuit. See Transmission Warm Up procedure in A & O guide 61-542-047622

Transmission

Location: Under boom below removable access plate.

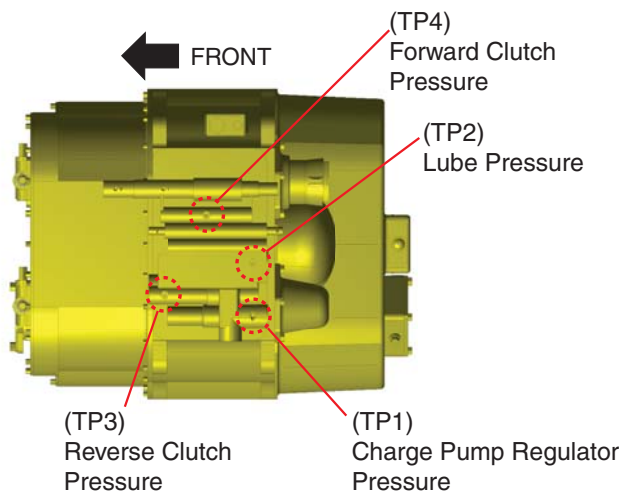


Figure 1 - Top View of Transmission

- A. Charge Pump Regulated Pressure Port
- B. Lube Pressure Port
- C. Reverse Clutch Pressure Port
- D. Forward Clutch Pressure Port

1. Park on firm level surface and lower carriage to ground.
2. Engage parking brake, turn engine off.

3. Connect 500 psi gauge to charge pump regulator pressure test port (TP)1(see Figure 1).
4. Power engine ON and check transmission pressure. See A & O guide for correct pressure and engine rpm.
5. Engine OFF, remove gauge and install gauge at lube pressure TP2 (see Figure 1).
6. Power engine ON and check lube pressure. See A & O guide for correct pressure and engine rpm.
7. Engine OFF, remove gauge and install gauge at reverse clutch pressure TP3 (see Figure 1).
8. Power engine ON and check reverse clutch pressure in 1st,2nd,3rd and 4th gear with foot on brake. See A & O guide for correct pressure and engine rpm.
9. Engine OFF, remove gauge and install gauge at forward clutch pressure TP4 (see Figure 1).
10. Power engine ON and check forward clutch pressure in 1st,2nd,3rd and 4th gear with foot on brake. See A & O guide for correct pressure and engine rpm.

Torque Converter

Location: Directly below valve plate.

11. Engine OFF, remove gauge and install gauge at converter out pressure TP5 (see Figure 2).
12. Power engine ON and check converter out pressure. See A & O guide for correct pressure and engine rpm.

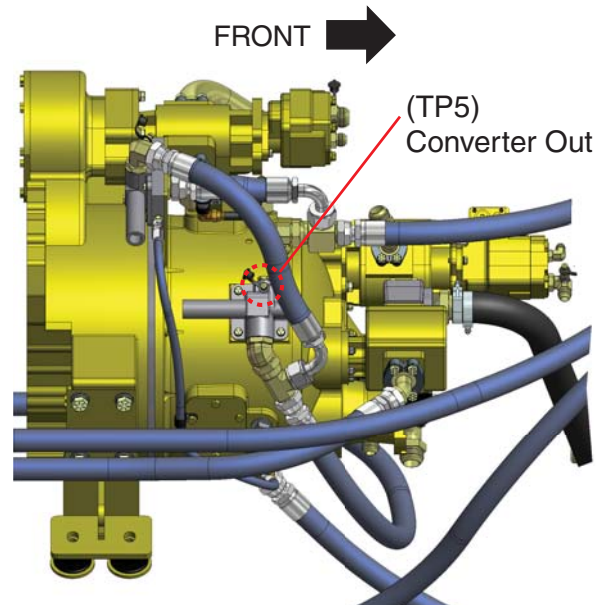


Figure 2 - Top View of Converter

Transmission Circuit Pressure test Continued.

Transmission Fluid Cooler

Location: Rear, under chassis.

13. Engine OFF, remove gauge and install gauge at cooler in TP7 (see Figure 3).
14. Power engine ON and check cooler in pressure. See A & O guide for correct pressure and engine rpm.
15. Engine OFF, remove gauge and install gauge at cooler out TP6 (see Figure 3).
16. Power engine ON and check cooler out pressure. See A & O guide for correct pressure and engine rpm.

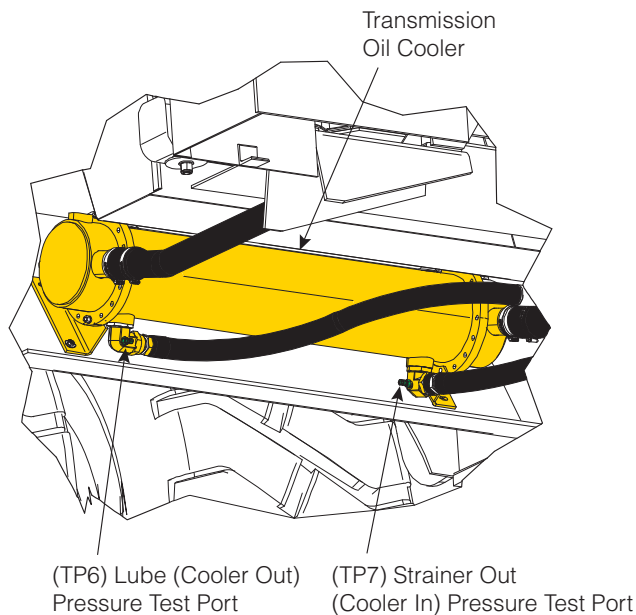


Figure 3 - Transmission Cooler

ACCUMULATOR CHARGE MANIFOLD

⚠ CAUTION

To help prevent injury to personnel or damage to the Lumberjack, read the safety information in section 2 of your service manual before performing any maintenance.

Procedure: Brake and pilot pressure settings/test.

⚠ WARNING

Always stand in a safe location and in view of the operator when using a pressure gauge.

Pressure Setting

Accumulators and brake manifold are located on the LH side, inside on the chassis wall.

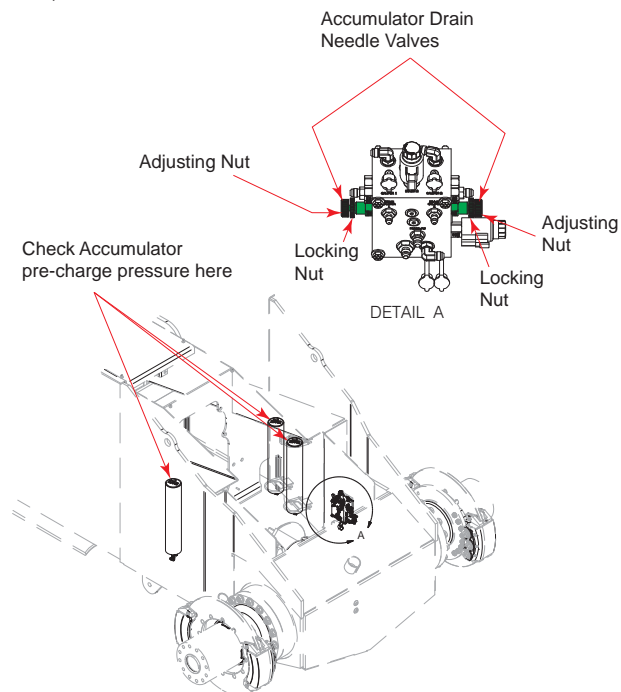


Figure 4 - Accumulators & Brake Manifold

1. Park on firm level surface and lower carriage to ground.
2. Engage parking brake, turn engine off.
3. Open accumulator drain needle valves on brake manifold to relieve hydraulic pressure (see Figure 4). Turn the locking nut counterclockwise (CCW) until it is against the adjusting nut. Turn the locking nut and adjustable nut CCW all the way out.

4. Verify accumulators have correct nitrogen charge of 1500 psi (see Figure 4).
5. Close accumulator drain needle valves (see Figure 4).

IMPORTANT! In order to properly close the needle valve, turn the locking nut CCW until it is against the adjusting nut. Turn the adjusting nut with locking nut clockwise (CW) until it stops. Turn the locking nut CW until it stops and is hand tight (see Figure 4).

6. Power engine on, implement pilot switch on, machine at idle, hydraulic oil temperature 100F minimum.
7. Locate accumulator charge manifold on RH side of machine under chassis, near converter.

⚠ CAUTION

Always shut down machine before installing or removing pressure gauge from test port .

8. Engine OFF, attach pressure gauge at test port TP1.
9. Engine ON, temporarily set (5) pilot supply cartridge to 550-750 psi (see Figure 5).
10. Engine OFF, attach pressure gauge at TP4 (see Figure 5).
11. Engine ON, set (11) Pilot Operating reducing cartridge to 450 +/- 25 psi.

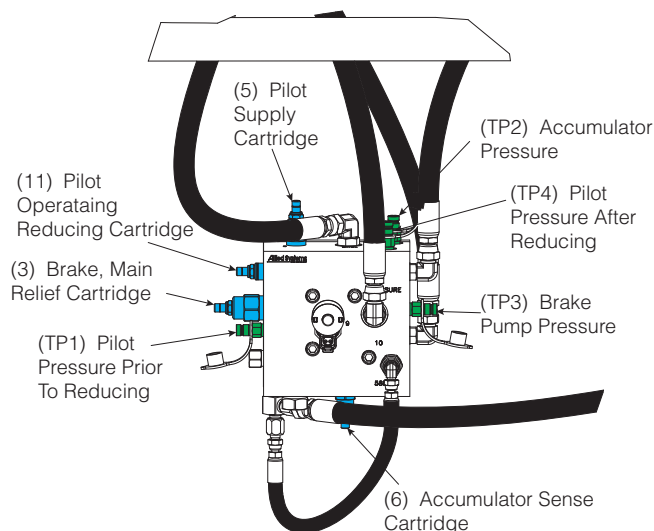


Figure 5 - Accumulator Charge Manifold

12. Engine OFF, attach pressure gauge at TP1.
13. Engine ON, set (5) pilot supply cartridge to 450 +/- 25 psi.
14. Engine OFF, attach pressure gauge at TP2.
15. Engine ON, temporarily set (6) accumulator sense valve cartridge to 3300-3500 psi, (may require increasing the setting of the (3) brake, main relief valve cartridge).
16. Engine OFF, attach pressure gauge at TP3.
17. Engine ON, set (3) brake main relief cartridge to 3100 +/- 25 psi.
18. Engine OFF, attach pressure gauge at TP2.
19. Engine ON, set (6) accumulator sense cartridge to 2900 +/- 25 psi (High Limit).

Test

1. Engine OFF, attach pressure gauge at TP2, accumulator circuit (see Figure 5).
2. Engine ON, idle.
3. Open one needle valve on brake manifold, commonly located in the differential compartment of the chassis (see Figure 5).
4. Check Accumulator pressure high (unload pressure) and low (reset pressure).
 - Unload pressure, 2900 +/- 25 psi.
 - Reset pressure, 2425-2525 psi (nominally 85% +/- 1% and +/- 25 psi of unload pressure).
 - Properly shut needle valve on brake manifold.
 - Turn engine off, key off.
5. Check Pilot Supply with engine off.
 - Place pressure gauge on TP4, pilot pressure circuit.
 - Engine OFF, pressure should be at 0 psi.
 - With the key in the ON position (engine OFF) and implement pilot switch on, pressure should be 450 +/- 25 psi.
 - Engine OFF, attach pressure gauge on TP2, accumulator pressure.
 - The accumulator pressure will decrease by a rate of 200 +/- 100 psi per minute until the accumulator charge pressure is reached at which point the accumulator pressure will drop to 0 psi.

VALVE ADJUSTMENTS

See page 7

CAUTION

To help prevent injury to personnel or damage to the machine, read the safety information in section 2 of your service manual before performing any maintenance.

WARNING

Never rely on the hydraulic system to support any part of the machine during maintenance. NEVER stand under a component that is supported only by the hydraulic system. Make sure it is resting on its mechanical stops or safety stands. If necessary, support components with appropriate safety stands.

WARNING

Always stand in a safe location and in view of the operator when using a pressure gauge.

Hoist/Tilt Valve Adjustments

Tools Used: Adjustable wrench, 5/32 allen wrench, two 5000 psi oil pressure gauges (digital pressure gauge "0 to 8700" PSI kit available, part number 906601).

Location: Under boom on Valve Plate.

Procedure:

Set hoist/tilt valve pressure in the following order:

1. Park on firm level surface and lower carriage to ground.
2. Engage parking brake, engine OFF.

CAUTION

Always shut down machine and relieve pressure in implements before installing or removing pressure gauge from test port.

Note: Before setting pressures, refer to 61-542-047622 A & O Guide for engine RPM recommendation.

3. Attach an oil pressure gauge to hoist base test port TP1 (see page 7).

4. Engine ON, adjust (1) main hoist/tilt relief to less than 100 psi (see page 7).

5. Adjust (1) main hoist/tilt relief to 3500 psi.

Note: Before setting pressures, refer 61-542-047622 A & O Guide for engine RPM recommendation.

6. Adjust (2) hoist cylinder base circuit relief to the value listed in your A&O guide.

7. Engine OFF, set key to ON position. Relieve pressure in hoist cylinder circuit.

8. Attach oil pressure gauge to hoist stem TP2.

9. Engine ON, adjust (3) hoist cylinder stem circuit relief to the value listed in your A&O guide.

10. Engine OFF, set key to ON position. Relieve pressure in hoist cylinder circuit.

11. Attach oil pressure gauge to tilt cylinder base TP3 (see page 7).

12. Engine ON, adjust (4) tilt cylinder stem circuit relief to the value listed in your A&O guide.

13. Engine OFF, set key to ON position. Relieve pressure in tilt cylinder circuit.

14. Attach oil pressure gauge to tilt cylinder stem TP4.

15. Engine ON, adjust (5) tilt cylinder base circuit relief to the value listed in your A&O guide.

16. Engine OFF, set key to ON position. Relieve pressure in tilt cylinder circuit.

17. Attach oil pressure gauge to hoist base TP1 (see page 7).

18. Engine ON, adjust (1) main tilt/hoist relief to the value listed in your A&O guide.

WARNING

Never rely on the hydraulic system to support any part of the machine during maintenance. NEVER stand under a component that is supported only by the hydraulic system. Make sure it is resting on its mechanical stops or safety stands. If necessary, support components with appropriate safety stands.



WARNING

Always stand in a safe location and in view of the operator when using a pressure gauge.

LH Holddown/ Kickoff Adjustments

Tools Used: Adjustable wrench, 5/32 allen wrench, one 5000 psi oil pressure gauges (digital pressure gauge “0 to 8700” PSI kit available, part number 906601).

Location: Under boom on Valve Plate.

Procedure: Adjust LH holddown/kickoff pressure in the following order:

1. Park on firm level surface and lower carriage to ground.
2. Engage parking brake, engine off. Relieve pressure in holddown cylinder circuit.

CAUTION

Always shut down machine and relieve pressure in implements before installing or removing pressure gauge from test port.

Note: Before setting pressures, refer to 61-542-047622 A & O Guide for engine RPM recommendation.

3. Attach an oil pressure gauge to LH holddown/kickoff TP5 (see page 7).
4. Engine ON, adjust (6) main LH main holddown/kickoff relief to less than 100 psi.
5. Adjust (6) main LH main holddown/kickoff relief to 3500 psi.

Note: Before setting pressures, check 61-542-047622 A & O Guide for engine RPM recommendation.

6. Adjust (9) LH stem end kickoff circuit relief to the value listed in your A&O guide.
7. Adjust (10) LH base end kickoff circuit relief to the value listed in your A&O guide.
8. Adjust (8) LH stem end holddown circuit relief to the value listed in your A&O guide.
9. Adjust (7) LH base end holddown circuit relief to the value listed in your A&O guide.
10. Adjust (11) LH stem end auxiliary circuit relief to the value listed in your A&O guide.

11. Adjust (12) LH base end auxiliary circuit relief to the value listed in your A&O guide.
12. Adjust (6) main LH main holddown/kickoff relief to the value listed in your A&O guide.

RH Holddown/Kickoff Adjustments

Tools Used: Adjustable wrench, 5/32 allen wrench, one 5000 psi oil pressure gauges (digital pressure gauge “0 to 8700” PSI kit available, part number 906601).

Location: Under boom on Valve Plate.

Procedure:

Set RH holddown/kickoff pressure in the following order:

1. Park on firm level surface and lower carriage to ground.
2. Engage parking brake, engine off. Relieve pressure in holddown cylinder circuit.

CAUTION

Always shut down machine and relieve pressure in implements before installing or removing pressure gauge from test port.

Note: Before setting pressures, refer to 61-542-047622 A & O Guide for engine RPM recommendation.

3. Attach an oil gauge to RH holddown/kickoff test port TP6 (see page 7).
4. Engine ON, adjust (13) main RH main holddown/kickoff relief to less than 100 psi.
5. Adjust (13) main RH main holddown/kickoff relief to 3500 psi.

Note: Before setting pressures, check 61-542-047622 A & O Guide for engine RPM recommendation.

6. Adjust (17) RH stem end kickoff circuit relief to the value listed in your A&O guide.
7. Adjust (15) RH base end kickoff circuit relief to the value listed in your A&O guide.
8. Adjust (16) RH stem end holddown circuit relief to the value listed in your A&O guide.

9. Adjust (14) RH base end holddown circuit relief to the value listed in your A&O guide.
10. Adjust (19) RH stem end auxiliary circuit relief to the value listed in your A&O guide.
11. Adjust (18) RH base end auxiliary circuit relief to the value listed in your A&O guide.
12. Adjust (13) main RH main holddown/kickoff relief to the value listed in your A&O guide.

