

## HYDROSTATIC POWER TRAIN

## TESTS AND ADJUSTMENTS

## TESTS AND ADJUSTMENTS

## CHARGE PUMP FLOW AND PRESSURE TEST—AT CHARGE PUMP

## Reason:

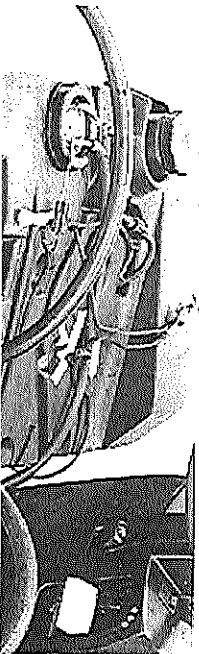
To check condition of charge pump and setting of the charge pump relief valve.

## Test Equipment:

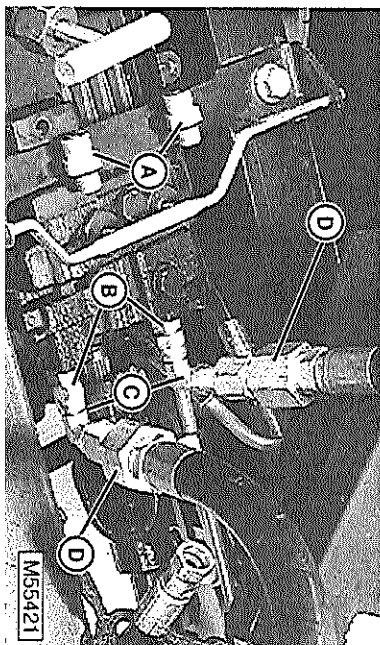
- JT01765 Consumer Products Hydraulic Fitting Kit
- JT05469 Flowcharter Kit
- JT03216 Connector, 9/16-18 M 37° x 9/16-18 M ORB
- JT03341 Elbow, 90° 9/16-18 M 37° x 9/16-18 F 37°
- JT03342 Coupler, 3/4" F NPT x 9/16-18 F 37°

## Procedure:

1. Remove fender deck. Support fuel tank to one side.
2. Disconnect the pressure and return line from the charge pump housing.



Copyright © Deere & Company, all rights reserved.



3. Remove the ORB fittings and install JT03216 and JT03341.

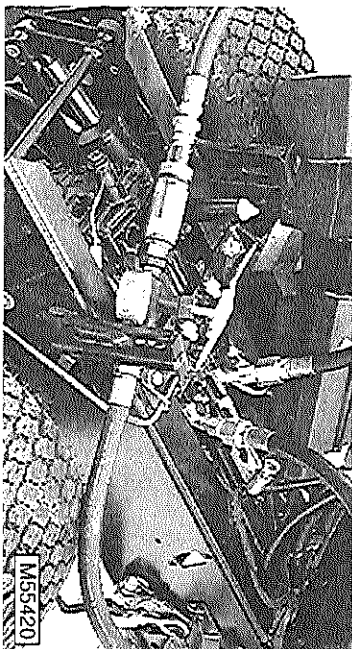
- |   |   |
|---|---|
| A—ORB Connectors<br>(removed from charge pump)        | C—JT03341 Elbow, 90°<br>9/16-18 M 37° x 9/16-18 F 37° |
| B—JT03216 Connector,<br>9/16-18 M 37° x 9/16-18 M ORB | D—JT03342 Coupler,<br>3/4" F NPT x 9/16-18 F 37°      |

**IMPORTANT:** After connecting flowmeter, keep disconnected lines away from drive shaft.

4. Connect flowmeter inlet hose to pump outlet (right-hand side).
5. Connect return hose of flowmeter to return port (left-hand side).

## Flow Test Procedure:

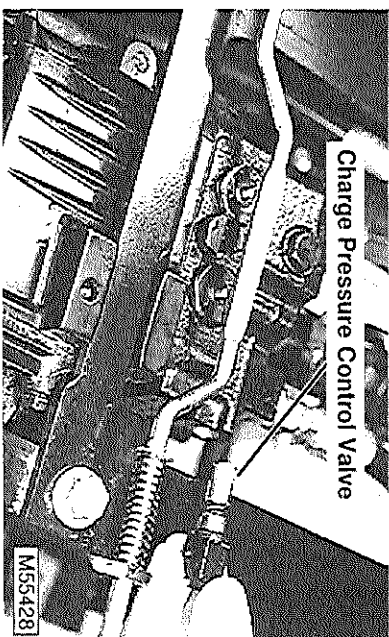




1. Open flowmeter control valve.
2. Start engine and run at wide open throttle. Oil must be at normal operating temperature.
3. Observe flowmeter reading.

**Results:**

- If pump flow is above 13.0 L/m (3.5 gpm), pump is in good condition.



- If there is no pump flow, check:  
—drive shaft not turning input shaft.

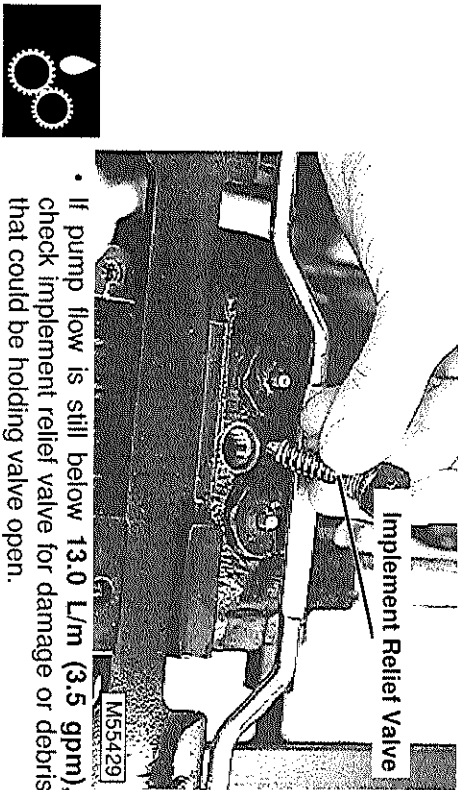
9/23/99

6 - 27

## TESTS AND ADJUSTMENTS

### HYDROSTATIC POWER TRAIN

- sheared charge pump drive key,
- charge pressure control valve stuck closed, or
- lube reduction valve modulation orifice plugged.
- If pump flow is below **13.0 L/m (3.5 gpm)**, foamy or erratic, check:
  - hydraulic oil level, replace filter and repeat test.
  - transaxle vent not plugged, filter seal for leaks.
  - oil ring at inlet of charge pump for leak in case passage between filter and charge pump.
  - if dipstick is loose.
  - if O-ring is damaged.



- If pump flow is still below **13.0 L/m (3.5 gpm)**, check implement relief valve for damage or debris that could be holding valve open.
- Replace pump and repeat test.

#### Pressure Test Procedure:

1. Flowmeter still connected as in flow test.
2. Start engine and run at wide open throttle.
3. Close flowmeter valve. Observe pressure reading.

#### Results:

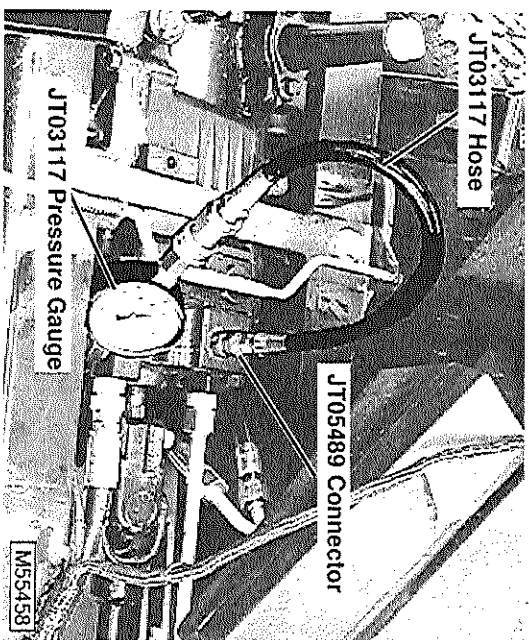
## CHARGE PRESSURE TEST—USING PRESSURE GAUGE (OPTIONAL)

#### Test Equipment:

- JT05489 Connector, 7/16-20 x M 37°
- 1/2-20 M ORB
- JT03017 Hose
- JT03117 13,790 kPa (2000 psi) Pressure Gauge

#### Procedure:

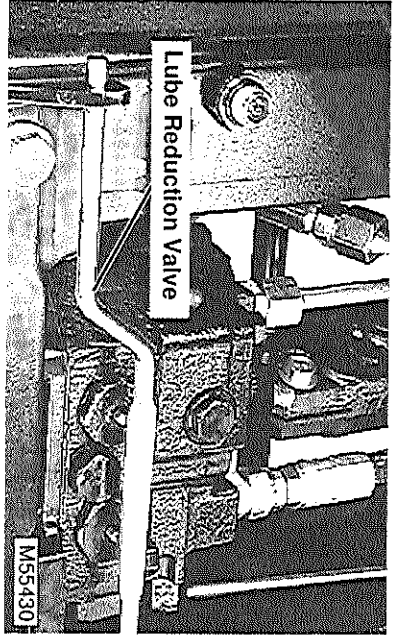
1. Remove plug from top of charge pump housing.



2. Install JT05489 Connector.
3. Connect JTO3017 Hose with JT03117 Pressure Gauge.
4. Run engine at wide open throttle.

Copyright © Deere & Company, all rights reserved.

- If pressure is within 6371—7350 kPa (924—1066 psi), pump and valve are in good condition.
- If pressure is below 6371—7350 kPa (924—1066 psi), shim implement relief pressure spring. If pressure cannot be increased, check charge pump for damage.



- If pump seems in good condition, check condition of lube reduction valve modulation orifice for plugging.
- Replace charge pump and repeat test.

**6 - 28**

5. Move hydraulic control lever to raise or lower position. Hold until pump pressure is in relief.
6. Observe gauge reading.

**Specification:**

Implement Relief Pressure ..... 6371—7350 kPa  
 (924—1066 psi)  
 Charge Pressure..... 1965—2255 kPa  
 (285—327 psi)

9/23/99