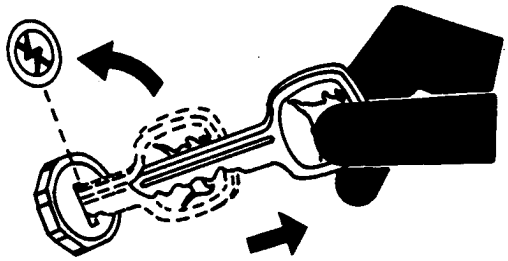
Contents

Continued on next page

PARK MACHINE SAFELY

Before working on the machine:
- Lower all equipment to the ground.
- Shift transmission to PARK.
- Engage park brake if equipped.
- Stop the engine and remove the key.
- Disconnect the battery ground strap.
- Hang a “DO NOT OPERATE” tag in operator station.



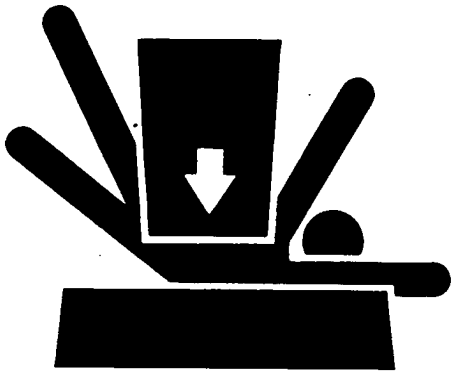
TS230 -UN-24MAY89

LV,PARK -19-03MAR98

SUPPORT MACHINE PROPERLY

Always lower the attachment or implement to the ground before you work on the machine. If you must work on a lifted machine or attachment, securely support the machine or attachment.

Do not support the machine on cinder blocks, hollow tiles, or props that may crumble under continuous load. Do not work under a machine that is supported solely by a jack. Follow recommended procedures in this manual.



TS229 -UN-23AUG88

DX,LOWER -19-04JUN90

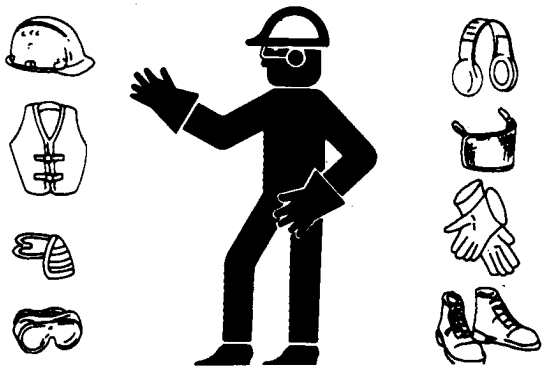
WEAR PROTECTIVE CLOTHING

Wear close fitting clothing and safety equipment appropriate to the job.

Prolonged exposure to loud noise can cause impairment or loss of hearing.

Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable loud noises.

Operating equipment safely requires the full attention of the operator. Do not wear radio or music headphones while operating machine.



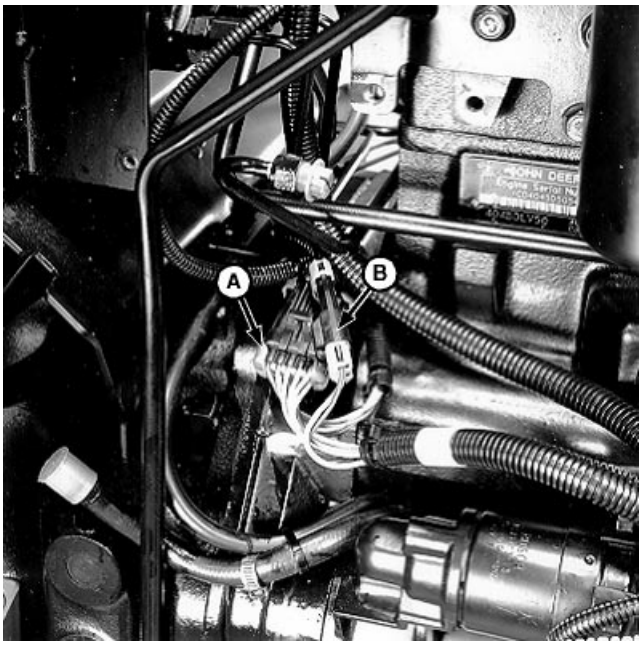
TS206 -UN-23AUG88

DX,WEAR -19-10SEP90

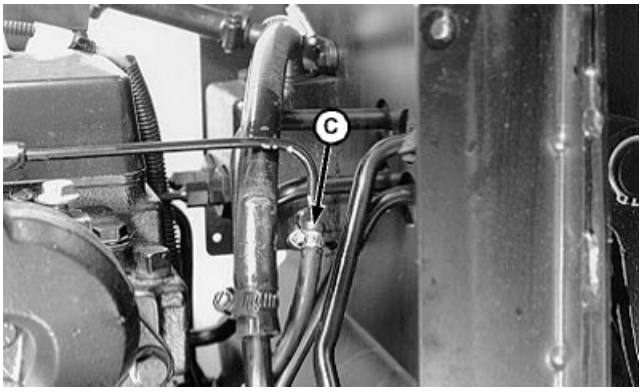
12. Connect wiring connectors (A and B).

13. Connect fuel return hose (C).

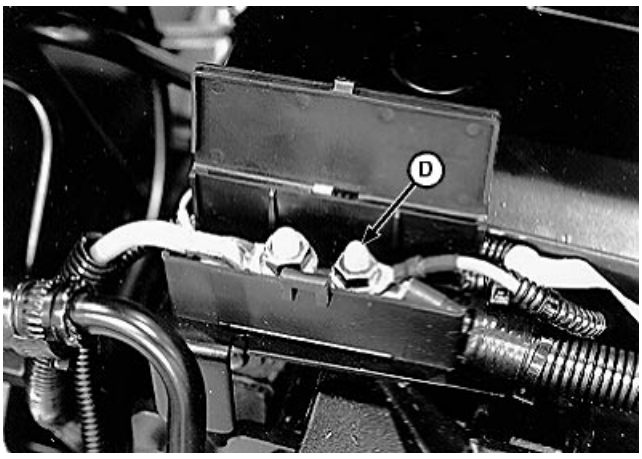
14. Connect red wire lead #002C on right-side post (D) of fuse link junction block.



LV2290 -UN-16DEC97



LV2291 -UN-18DEC97

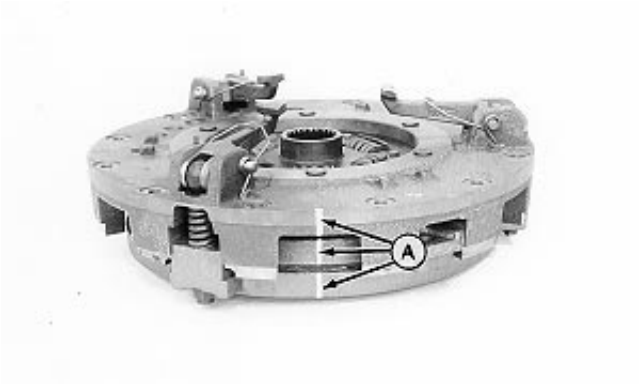


LV2293 -UN-16DEC97

LV,17162005,A12-19-02MAR98

DISASSEMBLE AND INSPECT CLUTCH ASSEMBLY

1. Put index marks (A) on pressure plates to aid in assembly.



LV,17165011,A4 -19-02MAR98

A—Spring Pin (3 used)
B—Adjuster (3 used)
C—Bushing (3 used)
D—Bushing (3 used)
E—PTO Clutch Finger
F—Pin (3 used)
G—Pin (3 used)
H—Spring (3 used)
I—Washer (3 used)
J—Spring (3 used)
K—Conical Washer (3 used)
L—Lock Nut (3 used)
M—Pad (3 used)
N—Spring (3 used)
O—PTO Clutch Front Pressure Plate
P—PTO Clutch Disk
Q—PTO Clutch Rear Pressure Plate
R—Spring Washer
S—Ring
T—Torsional Drive Plate

NOTE: Spring pins (A) must be pulled from bore to remove.

PTO clutch finger assemblies are serviced as separate kits. Kits are available through the parts catalog.

2. Disassemble parts (A—T).

3. Inspect all parts for wear or damage. Replace as necessary.

SPECIFICATIONS

Minimum Thickness
PTO Clutch Disk . . . . . 5.50 mm (0.220 in.)

4. Replace lock nuts (L).

5. Clean any rust or oil from drive surfaces of plates (O and Q). Inspect drive surfaces for distortion, checking cracks and heat damage.

6. Replace clutch disk if friction surfaces are contaminated with grease or oil or if thickness of disk is not within specifications.

LV,17165011,A5 -19-02MAR98

ASSEMBLE MFWD DIFFERENTIAL CARRIER ASSEMBLY

IMPORTANT: If the ring gear and pinion assembly, pinion bearings or the differential carrier housing have been replaced, it will be necessary to calculate for thickness of shim (B) to adjust cone point.

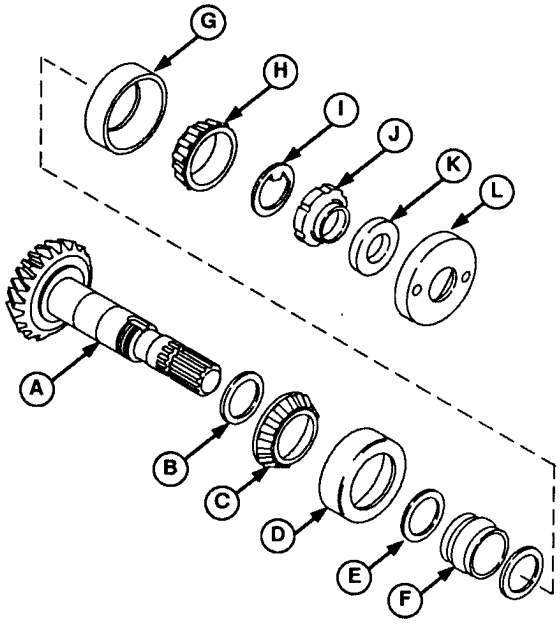
1. If either the ring gear and pinion assembly, pinion bearings or carrier housing are replaced, cone point will require adjusting. Continue to step 2.

If all the components are reused, no adjustment is required. Go to step 10. Use original shim value.

2. Install the differential side bearing end caps and cap screws. Tighten cap screws to 266 N·m (196 lb-ft).

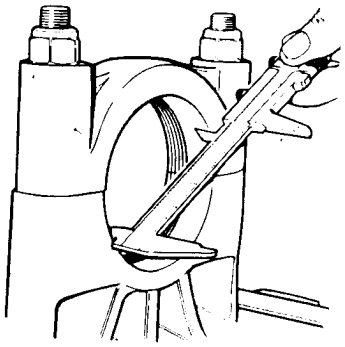
3. Measure the side bearing bore using an internal micrometer or vernier gauge. Record the reading obtained.

4. Remove end caps.



LV551AE -UN-09MAR92

A—Pinion Shaft
B—Shim
C—Bearing Cone
D—Bearing Cup
E—Washer (2 used)
F—Collapsible Spacer
G—Bearing Cup
H—Bearing Cone
I—Washer
J—Pinion Nut
K—Seal
L—Cover



LV301A -UN-09MAR92

LV,17165035,A35-19-02MAR98

REMOVE AND INSTALL HYDRAULIC PUMP—5410 AND 5510

1. Disconnect negative (—) cable at battery.

NOTE: Close all openings with caps and plugs.

2. Disconnect hydraulic lines (A) and suction hose (B).

NOTE: Provide adequate support when removing pump mounting screws. Pump weighs approximately 12.7 kg (28 lbs).

3. Remove two cap screws (C).

4. Remove hydraulic pump and O-ring.

5. Make repairs as necessary. (See Disassemble and Inspect procedure in this group.)

IMPORTANT: Always use new O-rings. Damaged or used O-rings may leak.

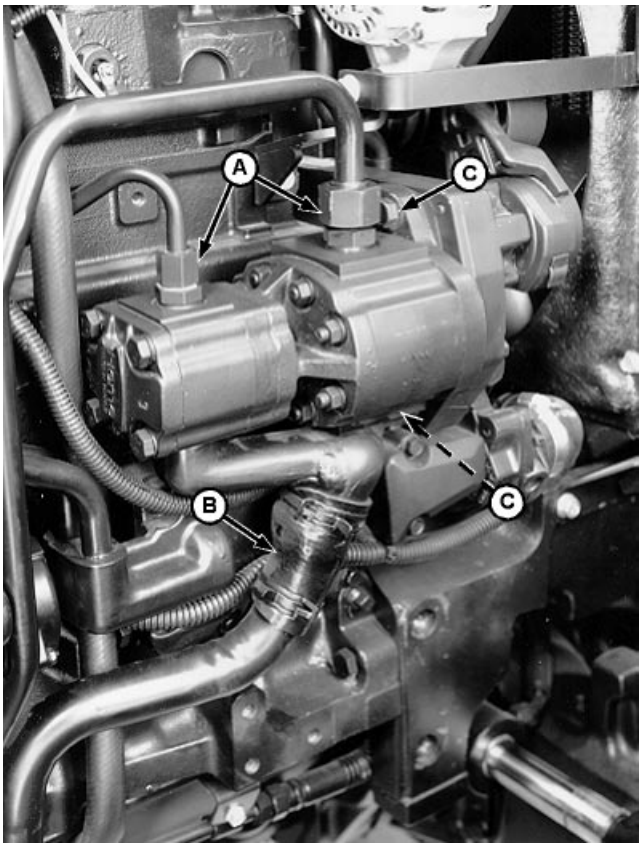
6. Place new O-ring on pump flange. Install pump on engine.

7. Install cap screws (C) and tighten to 50 N·m (37 lb-ft).

8. Connect hydraulic lines (A) and hose (B).

9. Connect negative (—) cable to battery.

10. Start engine and operate machine hydraulics. Check for leaks and adjust transmission/hydraulic oil level.



LV2137 -UN-14MAY97

A—Outlet Lines
B—Suction Hose
C—Cap Screw (2 used)

LV,17167005,A7 -19-02MAR98

70
05
8

13. Check axle end play between points (A and B) to specification using feeler gauges.

14. End play should not exceed 8 mm (0.030 in.) forward and aft.

15. Axle should oscillate freely. Remove or install shims to maintain end play.

16. Tighten cap screws previously installed to 135 N·m (100 lb-ft.)

IMPORTANT: Use new O-rings. Used or damaged O-rings will leak.

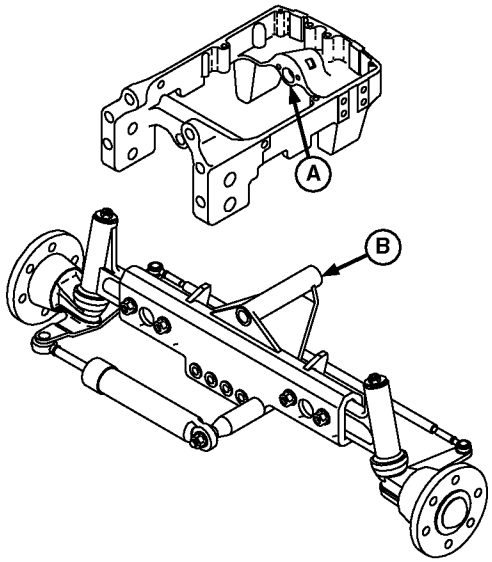
17. Install new O-rings and connect hydraulic hoses.

18. Install wheels. Tighten cap screws to specifications.

19. Lubricate front axle pivot pin grease fittings with multipurpose grease.

SPECIFICATIONS

Wheel Cap Screws	175 N·m (135 lb-ft)
Axle End Play	8 mm (0.30 in.)



LV1494 -UN-02FEB96

LV,8005HA,A2A -19-02MAR98

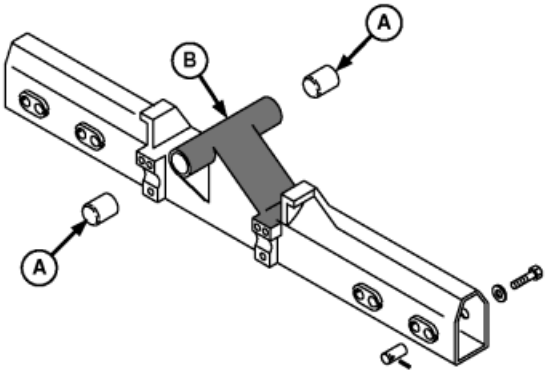
INSPECT AND REPLACE PIVOT PIN AND BUSHINGS—2WD AXLE

1. Inspect pivot pin and bushings for wear or damage. Replace if necessary.

2. Remove bushings (A) from axle using a blind hole puller set.

NOTE: Make sure lubrication holes in bushings (A) align with lubrication holes in axle pivot (B).

3. Install new bushings flush with axle surface using a bushing, bearing and seal driver set.



LV004AE -UN-09JUN97

LV,8005HA,A3 -19-02MAR98

INSTALL EVAPORATOR/HEATER CORE

1. Check condenser tray (directly under evaporator/heater core) to make sure drain outlets are not plugged.

2. Flush evaporator core if evaporator was air tested.

3. If evaporator was completely flushed or replaced with a new unit, and no major system leaks were found, add 60 mL (2.0 oz) of refrigerant oil before installation. If leaks are found in the system, check refrigerant oil charge. (See Determine Correct Refrigerant Oil Charge in this group.)

NOTE: Install new O-rings at all A/C connections during assembly. Used or damaged O-rings will leak.

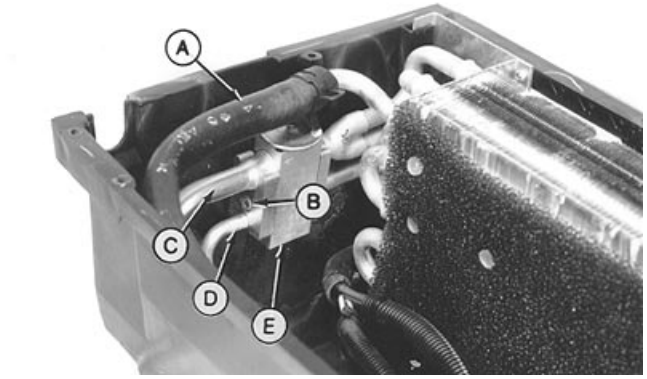
4. Assemble the expansion valve (E) to the evaporator core and install the evaporator/heater core in the housing. Route wire harness through housing and install grommets (F and G) as shown.

5. Connect tubes (C and D) to expansion valve (E) and install clamping plate with allen screw (B).

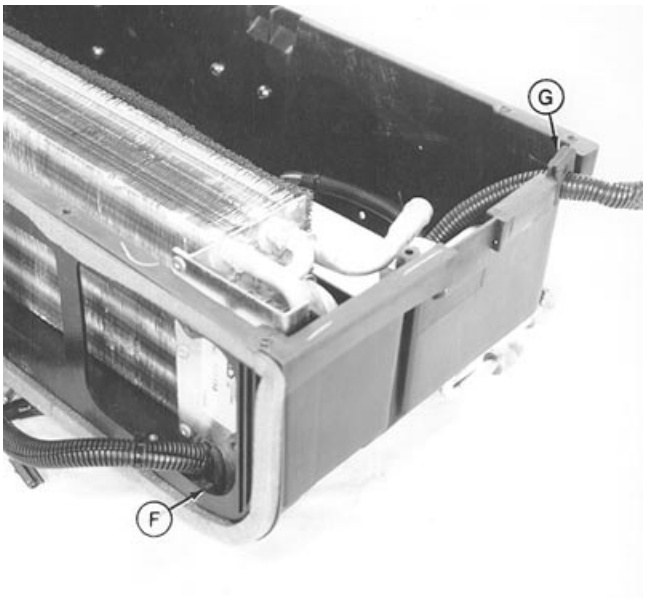
6. Connect coolant inlet hose (A) and outlet hose to heater core tubes.

7. Install right-side blower motors. (See procedure in this group.)

8. Install evaporator/heater core housing cover. (See procedure in this group.)



LV1448 -UN-05DEC95



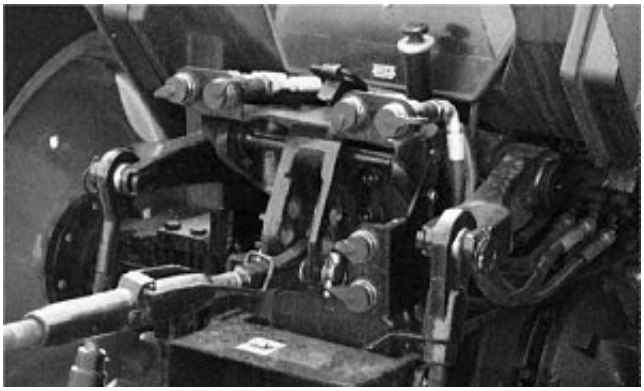
LV1449 -UN-05DEC95

A—Inlet Hose
B—Allen Screw
C—Tube
D—Tube
E—Expansion Valve
F—Grommet
G—Grommet

90
20
24

LV,17169020,A9 -19-02MAR98

HYDRAULIC SYSTEM CHECK


LV432 -UN-03FEB92

CONDITIONS:
- Engine running.
- Hydraulic oil at operating temperature.
- Transmission in park position.

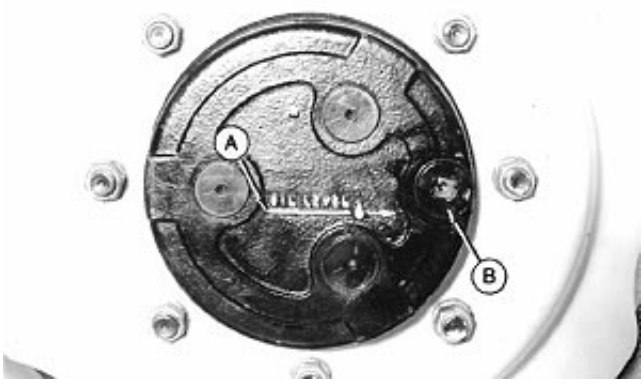
PROCEDURE:
- Check on and under machine for signs of hydraulic oil leakage. (Engine not running.)
- Operate all hydraulic controls.

NORMAL:
- No oil leakage.
- Hydraulic controls operate smoothly through entire range of function.

IF NOT NORMAL:
- Repair oil leaks.
- Replace damaged oil lines.
- Repair hydraulic components as required.
- Go to Section 270, Group 15 for diagnosis, tests and adjustments.
- Go to Section 70 for component repair or replacement.

LV,21010HA,A8 -19-06MAR92

MFWD OIL CHECK



LV439 -UN-03FEB92

CONDITIONS:
- Machine parked on level ground.
- OIL LEVEL arrow (A) parallel to ground.
- Transmission in park position.
- Key switch in off position.

PROCEDURE:
- Remove filler plug (B).
- Observe level of oil.

NORMAL:
- Oil level even with bottom of filler plug hole.

IF NOT NORMAL:
- Drain excess oil or add oil to proper level.

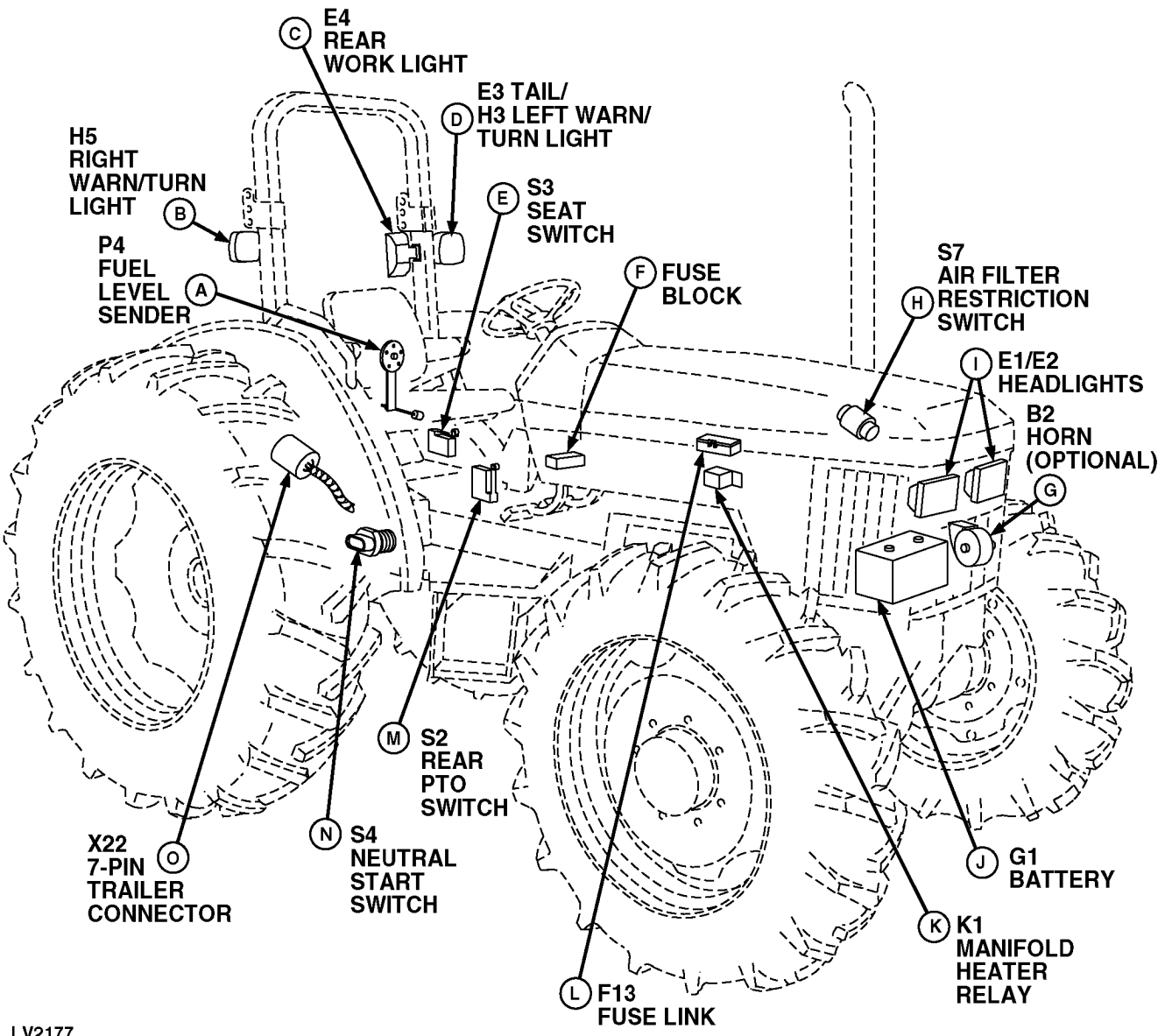
LV,21010HA,A9 -19-13DEC94

ENGINE USES EXCESS FUEL

CONDITIONS:
- Transmission in park.
- PTO disengaged.
- Key switch OFF.
- Fuel/air system repair in CTM104 or CTM125.
- Fuel/air tests and adjustments found in this group.

Test Location	Normal	If Not Normal
1. Air cleaner.	No excess restriction in elements.	Clean or replace elements.
2. Fuel tank.	Correct grade of clean diesel fuel.	Replace with correct fuel.
3. Fuel system.	No leaks in lines, tank, filter or fittings.	Repair or replace defective parts.
4. Turbocharger (5310 and 5510).	Operates smoothly.	Check vanes and bearings. Check clearances.
5. Injection nozzles.	Correct spray pattern/opening pressure when tested. See CTM104 or CTM125.	Clean, repair, adjust or replace as required.
6. Injection pump.	Properly timed.	Adjust pump timing.
7. Load or implement (not shown).	Within horsepower range of tractor.	Reduce load. Adjust implement.

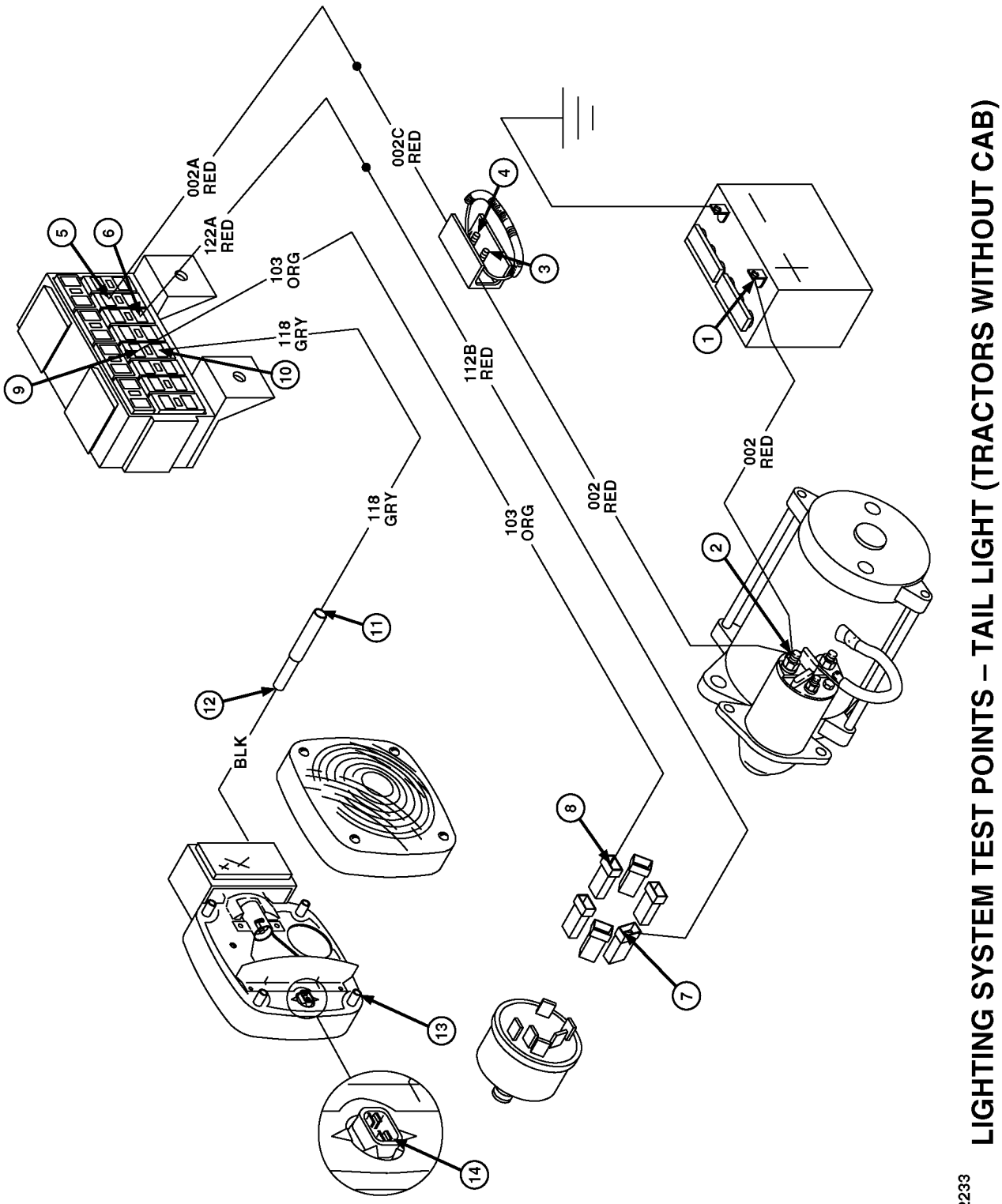
LV,171622015,16-19-02MAR98



MACHINE ELECTRICAL COMPONENTS – 5210-5410 W/O CAB

Slide LV2177

LV,171624005,7 -19-02MAR98



Slide LV2233

LV,171624015,43-19-02MAR98

BATTERY VOLTAGE AND SPECIFIC GRAVITY TESTS

REASON:
To determine condition of battery.

EQUIPMENT:
- Voltmeter or JT05685 Load Tester
- Hydrometer

PROCEDURE:
1. Clean battery terminals and top of battery.

2. Inspect battery terminals and case for breakage or cracks.

3. Check electrolyte level in each battery cell. Add clean, soft water as needed. If water is added, charge battery for 20 minutes at 10 amps.

4. If battery has been charged, remove surface charge by turning load knob of tester clockwise until ammeter reads 100 amps. Hold for 15 seconds then turn load knob to off.

5. Check battery voltage with voltmeter or Load Tester.

6. Check and record specific gravity of each cell with a hydrometer.

SPECIFICATIONS:
- Minimum battery voltage ... 12.4 volts.
- Minimum specific gravity ... 1.225 with less than 50-point variation.

RESULTS:
- Battery voltage less than 12.4 VDC, charge battery and test again. See CHARGE BATTERY in this group.

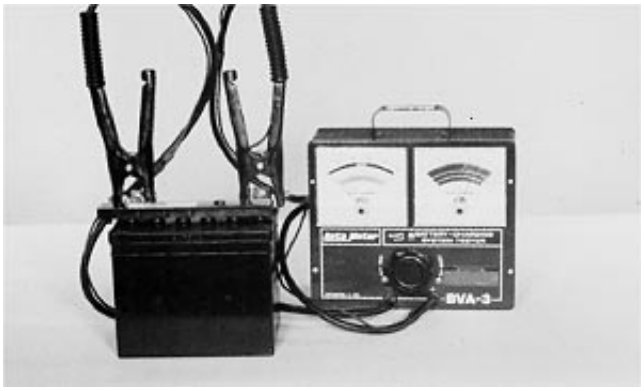
- Battery voltage more than 12.4 VDC, load test battery. See BATTERY LOAD TEST in this group.

- All cells less than 1.225 with less than 50-point variation, charge battery at 10-amp rate and test again. See CHARGE BATTERY in this group.

- All cells more than 1.225 with less than 50-point variation, load test battery. See BATTERY LOAD TEST in this group.

- More than 50-point variation: replace battery.

- If battery fails voltage or specific gravity test after charging, replace battery.



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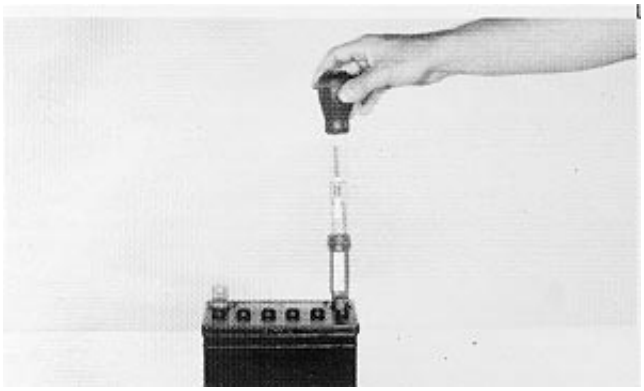

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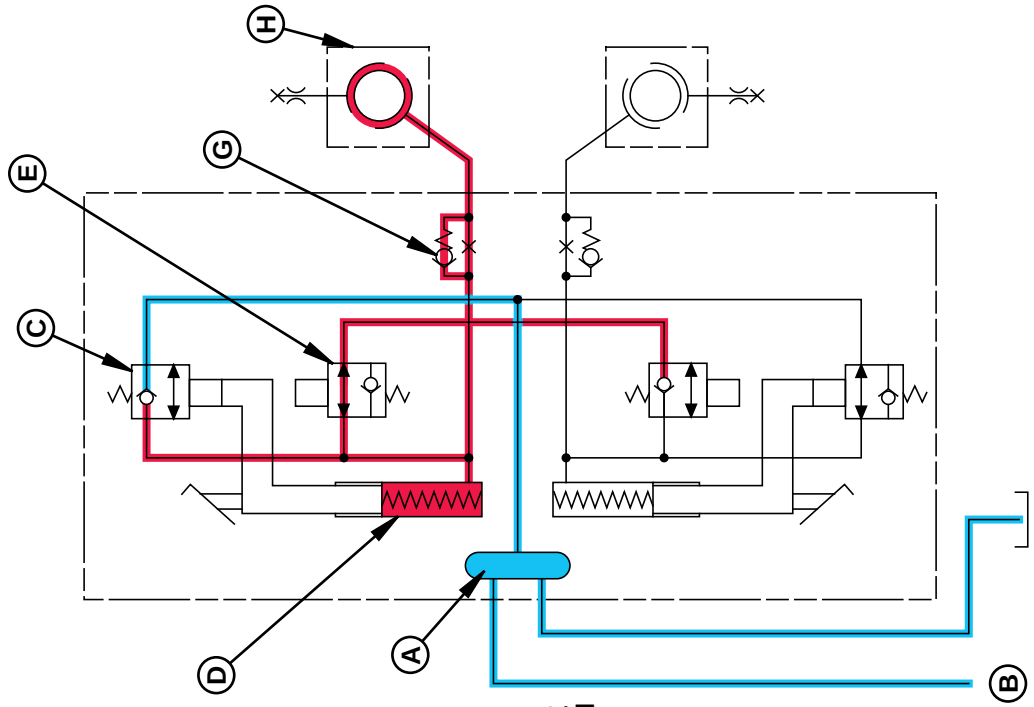

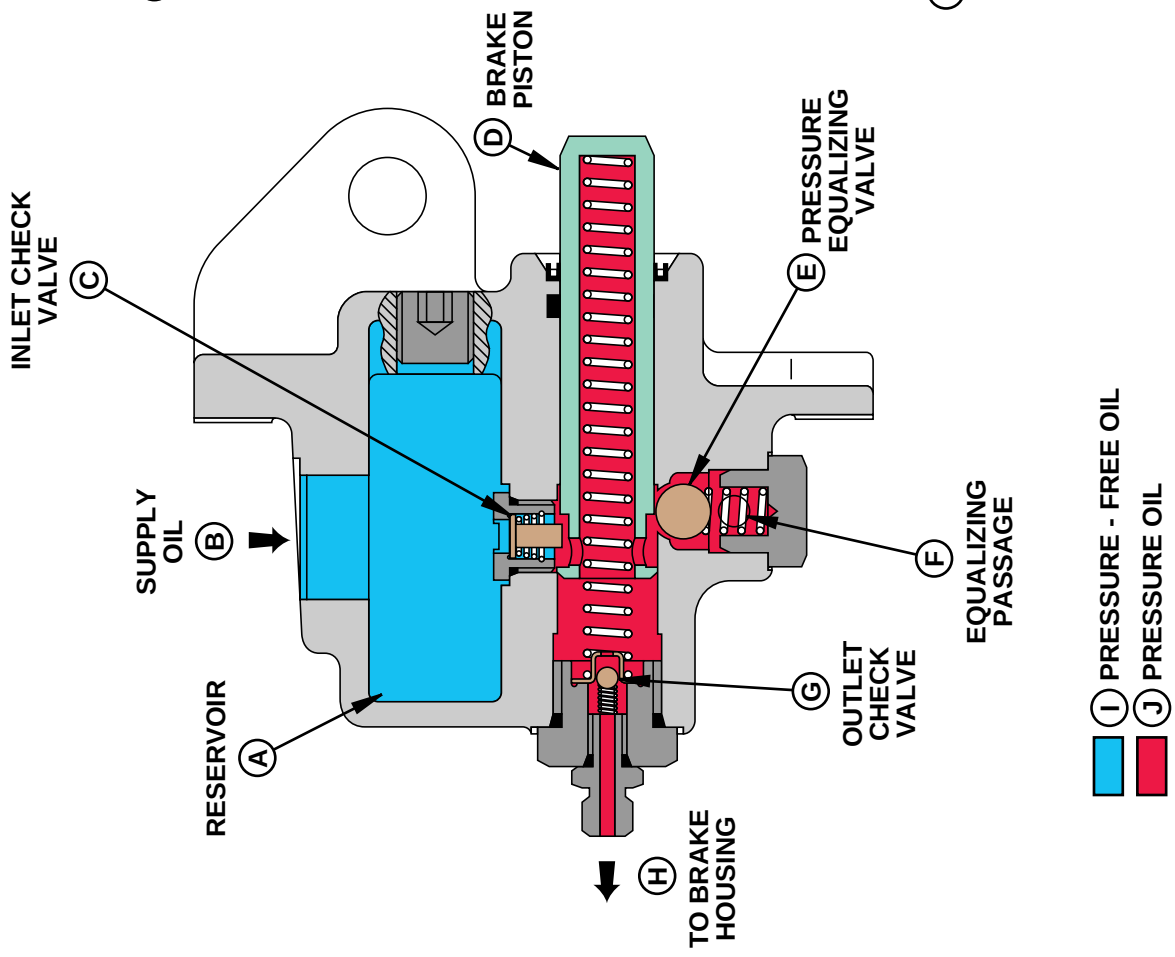

BRAKE VALVE OPERATION—BRAKE PEDAL DEPRESSED

LVC321AE -19-07APR97

LVC321AE

260
10
13

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LV,26010HA,A11 -19-02MAR98