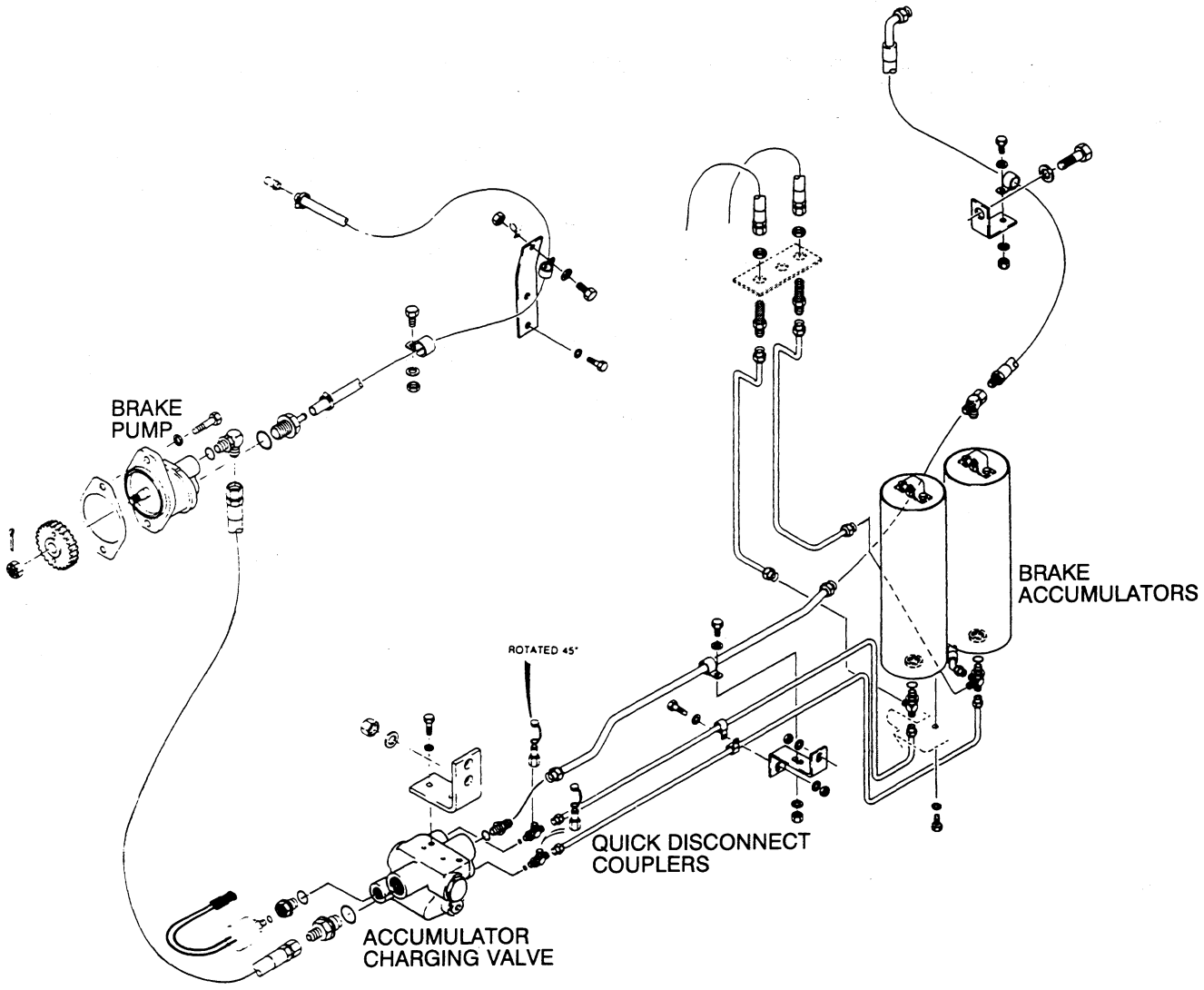
ACCUMULATOR INSTALLATION



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ACCUMULATOR VALVE

Removal

1. Park the machine on a level surface and lower the loader bucket to the floor. Stop the engine and put blocks on both sides of each tire to prevent machine movement.

2. Make sure the brake accumulators are completely discharged. Push down and release one of the brake pedals 30 times.

3. Open the right engine access door. Connect a drain hose to the quick disconnect couplings in each brake circuit to release any pressure in the brake circuit. See the illustration on page 7.

4. Open the engine access door on the left side of the machine and turn the master disconnect switch to OFF.

5. Clean the accumulator valve and lines.

6. Put identification tags on all lines that are connected to the accumulator valve.

7. Connect a vacuum pump to the hydraulic reservoir. Start the vacuum pump.

8. Disconnect the lines from the accumulator valve. Put caps on all lines that are disconnected from the accumulator valve.

9. Stop the vacuum pump and remove.

10. Remove the mounting bolts for the accumulator valve and remove the accumulator valve.

Installation

1. Installation of the accumulator valve is the reverse of removal.

2. See Section 7002 and bleed the brake system.

3. Check the hydraulic reservoir oil level and add oil as required. See Section 1002 for the correct oil.

BRAKE PUMP

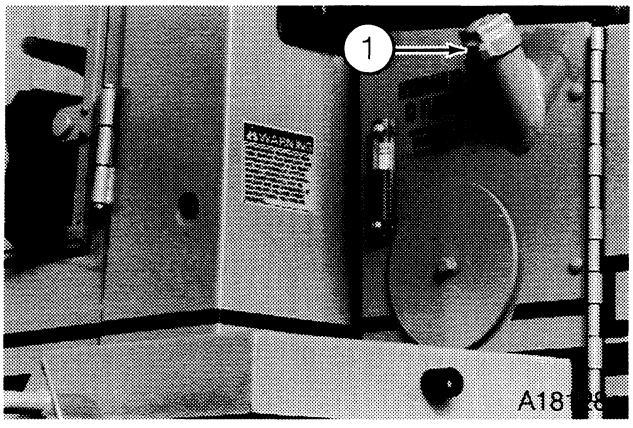
Removal

1. Park the machine on a level surface and lower the loader bucket to the floor.

2. Stop the engine and put blocks at the front and rear of each tire to prevent movement of the machine.

3. Open the engine access door on the left side of the machine and turn the master disconnect switch to OFF.

4. Remove the filler cap from the hydraulic reservoir and connect a vacuum pump to the reservoir.



1. Hydraulic Reservoir Filler

5. Open the engine access door on the right side of the machine and clean the brake pump and lines connected to the brake pump.

6. Put identification tags on all lines that are connected to the brake pump.

7. Start the vacuum pump. Disconnect the lines that are connected to the brake pump.

8. Put caps on all lines that are disconnected from the brake pump.

9. Stop the vacuum pump.

10. Remove the mounting bolts from the brake pump and remove the pump.

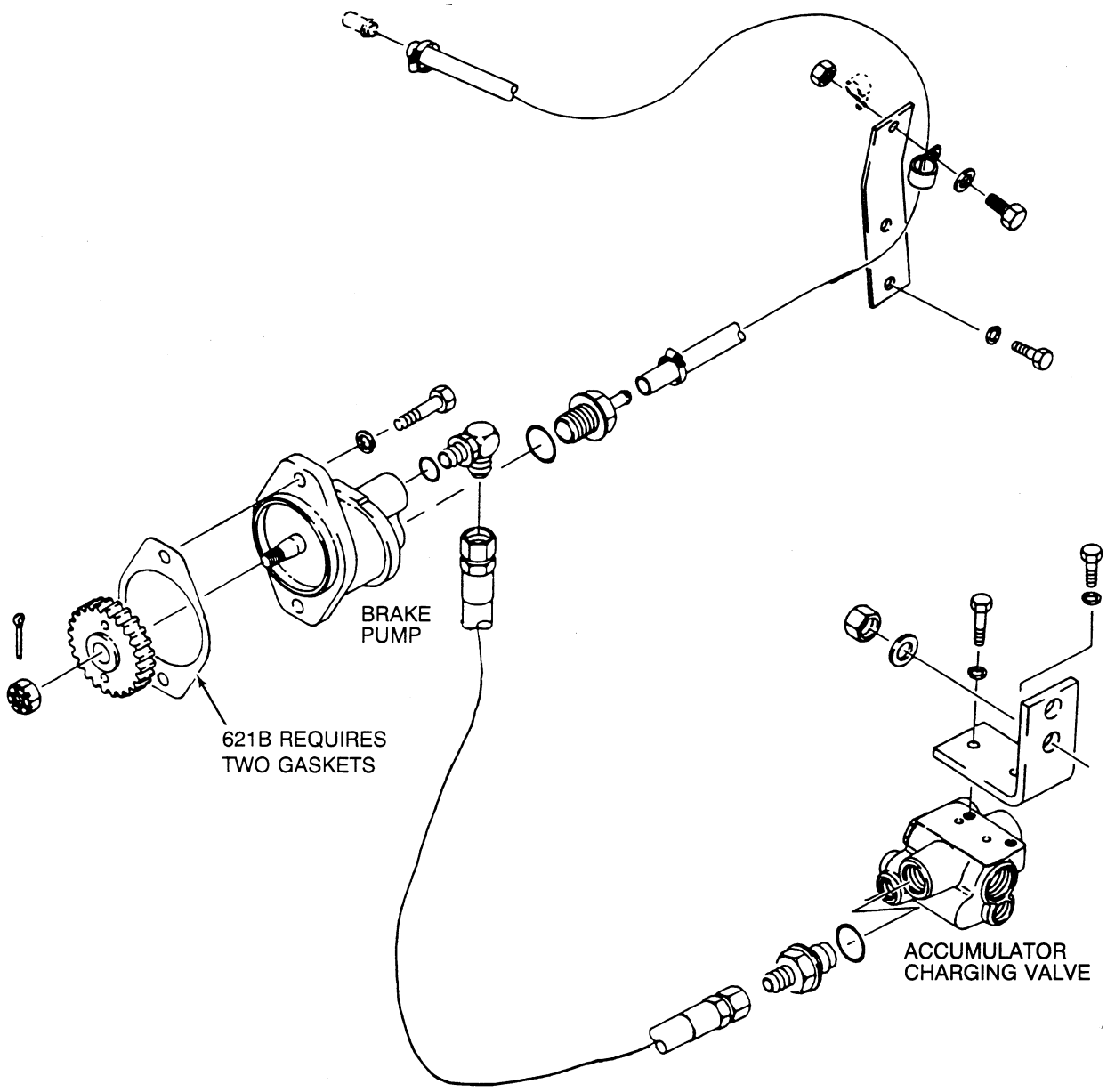
Installation

1. Installation of the brake pump is the reverse of removal. Use a new gasket(s) when installing the brake pump.

2. See Section 7002 and bleed the brake system.

3. Check the hydraulic reservoir oil level and add oil as required. See Section 1002 for the correct oil.

BRAKE PUMP INSTALLATION



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Section

7002

HYDRAULIC BRAKE TROUBLESHOOTING

621B, 721B and 821B Loaders
XT and Z-Bar Models

CASE CORPORATION

Rac 8-99880

Printed in U.S.A.
February, 1993

TABLE OF CONTENTS

SPECIFICATIONS

Brake pump output ..... 4.4 gpm at 2500 psi at 2200 rpm (16.6 L/min at 17 237 kPa, 170 bar at 2200 r/min)

Brake relief valve pressure..... 2700 to 3000 psi (18 616 to 20 685 kPa, 185 to 207 bar)

Accumulator nitrogen charge pressure ..... 800 to 825 psi (5516 to 5688 kPa, 55 to 57 bar)

Accumulator hydraulic cut out pressure..... 2515 to 2615 psi (17 340 to 18 030 kPa, 173 to 180 bar)

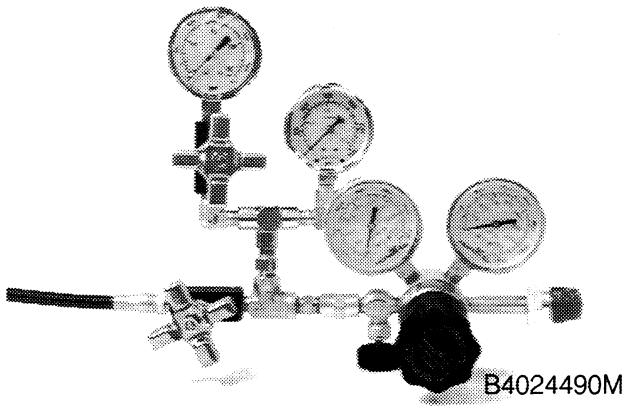
Accumulator valve cut in pressure ..... 1415 to 1515 psi (9 756 to 10 446 kPa, 98 to 104 bar)

Low brake pressure warning switch ..... 1150 to 1350 psi (7 929 to 9 308 kPa, 79 to 93 bar)

Transmission declutch switches cut out pressure ..... 800 to 1000 psi (5 516 to 6 895 kPa, 55to 69 bar)

SPECIAL TOOL

The special tool is used to check and to charge the accumulator with nitrogen.



CAS-10899 Nitrogen Charging Kit

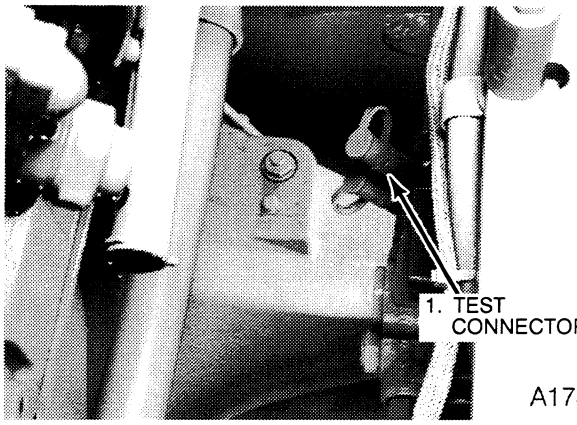
TROUBLESHOOTING THE HYDRAULIC BRAKE SYSTEM

NOTE: *The hydraulic brake schematic is included in the hydraulic schematic. See Section 8002.*

STEP 1

Make sure the oil level in the hydraulic reservoir is correct. Remove all pressure from the brake system by pushing and releasing the brake pedal many times with the engine stopped, until there is no pressure on the pedal.

STEP 2



Install two 3000 psi (20 685 kPa, 207 bar) pressure gauges to the test connectors on the accumulator charge valve. Make sure the hoses on the gauges are long enough so the gauges can be read while seated in the cab.

NOTE: *The gauges can not be connected if pressure remains in the system.*

STEP 3

Start and run the engine at low idle while reading the pressure gauges. The pressure must increase on both gauges until 2515 to 2615 psi (17 340 to 18 030 kPa, 173 to 180 bar) is reached. This is the accumulator charge valve cut out pressure. It is normal for the pressure to drop slightly once the cut out pressure is reached.

STEP 4

With the engine running, push and release the brake pedal several times while reading the drop in pressure on the gauges. The pressure drop may not be equal, but as the lowest pressure reaches 1415 to 1515 psi (9 756 to 10 446 kPa, 98 to 104 bar) the system pressure must start to increase.This is the valve cut in pressure. If the cut in pressure is not within specifications, try changing the cut out pressure (but stay within specifications). Raising or lowering the cut out pressure will raise or lower the cut in pressure. If raising or lowering the cut out pressure does not put the cut in pressure within specifications, change the accumulator charge valve.

NOTE: *If the pressure on one of the pressure gauges is lower than specified, the problem can be a bad accumulator valve. if both gauges show low pressure, try to adjust the pressure regulating screw in the accumulator charge valve (see Page 6). If a problem continues, the cause can be a bad accumulator charge valve or a bad pump. See Page 8 for the pump test.*

STEP 5

Shut off the engine, then turn the key to the ON position. Push and release the brake pedal several times while reading the pressure on the gauges. Each push and release of the pedal will result in a slight drop in pressure, but not necessarily equal on the two gauges. As the lowest pressure reaches 1150 to 1350 psi (7 929 to 9 308 kPa, 79 to 93 bar) the brake warning lamp and alarm buzzer must actuate. If the warning lamp and alarm buzzer fail to work, test the low brake pressure warning switches and electrical circuit. If the warning lamp and alarm buzzer actuate at a higher or lower pressure than specified, test the low brake pressure warning switches and replace as needed.

STEP 6

Continue to slowly push and release the brake pedal several times until the gauge pressure suddenly drops to zero. The last pressure reading before the drop to zero is the nitrogen charge pressure in the accumulator. Test the pressure in both accumulators. If the pressure is below 800 to 825 psi (5 516 to 5 688 kPa, 55 to 57 bar), charge the accumulator. See Page 5

NOTE: *Cold temperature can cause a drop in pressure.*

CHECKING THE NITROGEN CHARGE IN THE ACCUMULATOR

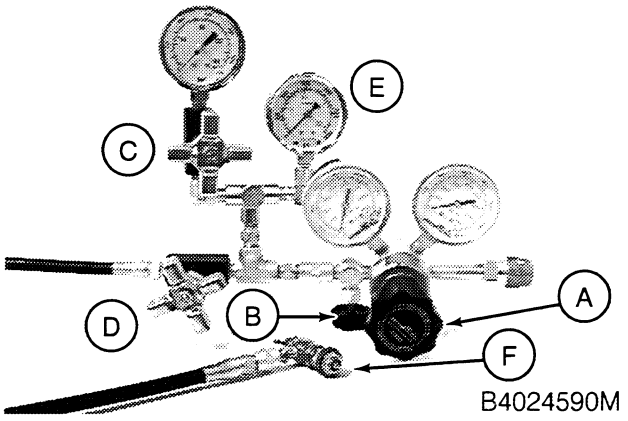
1. Make sure that the oil side of the accumulator is completely discharged by doing the following:

   a. Stop the engine.

   b. Push down and release the brake pedal many times to release the pressure.

2. Connect a drain hose to the test connector in each brake circuit to release any pressure in the brake circuit. See the illustration on Page 4 for the location of the test connectors.

3. Close valves B and C on the nitrogen charging kit.



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4. Turn the stem out of valve F until the stem stops.

5. Remove the cap screws and guard from the accumulator.

6. Remove the cap from the valve stem on the accumulator.

7. Connect valve F to the valve stem for the accumulator.

8. Make sure that valve D is open.

9. Turn the stem into valve F and read the pressure gauge E.

10. The pressure must be 800 to 825 psi (5516 to 5688 kPa, 55 to 57 bar). If the pressure is too low, charge the accumulator with dry nitrogen.

CHARGING THE ACCUMULATOR WITH DRY NITROGEN

Check the pressure in the accumulator according to the instructions above. Keep the nitrogen charging kit connected to the accumulator.

1. Close (turn counterclockwise) valve A and open valve B. Close valves C and D.

2. Turn the stem out of valve F until the stem stops moving. Disconnect valve F from the valve stem on the accumulator.

3. Connect the nitrogen charging kit to a dry nitrogen tank.

4. Slowly turn valve A clockwise and read gauge E until the pressure is 800 to 825 psi (5516 to 5688 kPa, 55 to 57 bar). Stop turning valve A.

5. If the pressure increases above 825 psi (5688 kPa, 57 bar), quickly open and close valve D and read gauge E. If the pressure is still too high, close valve A (turn counterclockwise) a small amount and quickly open and close valve D. The pressure shown on gauge E is the charge pressure.

6. Connect valve F to the valve stem on the accumulator. Turn the stem into valve F until the stem stops moving and open valve D to charge the accumulator.

7. After the accumulator stops charging, turn the stem out of valve F until the stem stops moving.

8. Close valve B and disconnect the nitrogen charging kit from the valve stem in the accumulator.

9. Install the cap on the valve stem. Install the guard and cap screws.