CHANCE MANUFACTURING CO., INC.

Number: #51
Date: 1-31-73
Superceeds:
Number:
Date:

America's Largest Manufacturer of Amusement Rides

Service Information

Effective Serial Numbers:

Ride: TURBO **Subject:** SEAT SOCKET REINFORCEMENT

TURBO OWNERS:

This service kit is a follow up for a letter that was sent to all TURBO owners, letter dated August 31, 1972. In that letter all owners were advised that they should inspect the tub support socket, on the end of each sweep, for possible cracks developing between the two mounting holes. After inspecting the sockets, the owners were requested to report their findings to Wayne Fearey, Engineering Department, Chance Manufacturing Company.

Due to the lack of response to our August 31, 1972 letter, the cracks that were discovered on one ride were considered to be an isolated case, and therefore, no kit was issued for the other rides at that time.

However, recently we have received reports of cracks developing on other rides. The parts provided with this kit will strengthen the tub sockets to eliminate the possibility of any future cracks developing. Install the parts per drawings below. After parts are added to the sockets, it will be necessary to use new pins to secure the tubs. New pins are included in the kit. For replacement pins, order pin #390-52463.

The cost of these parts will be absorbed by Chance Manufacturing Company. However, to insure that these parts are installed, we are charging a nominal fee for the kit. The cost of the kit is $275.00. After the new parts are installed, ship the old seat pins back to us and you will be issued credit for the original cost of the kit.

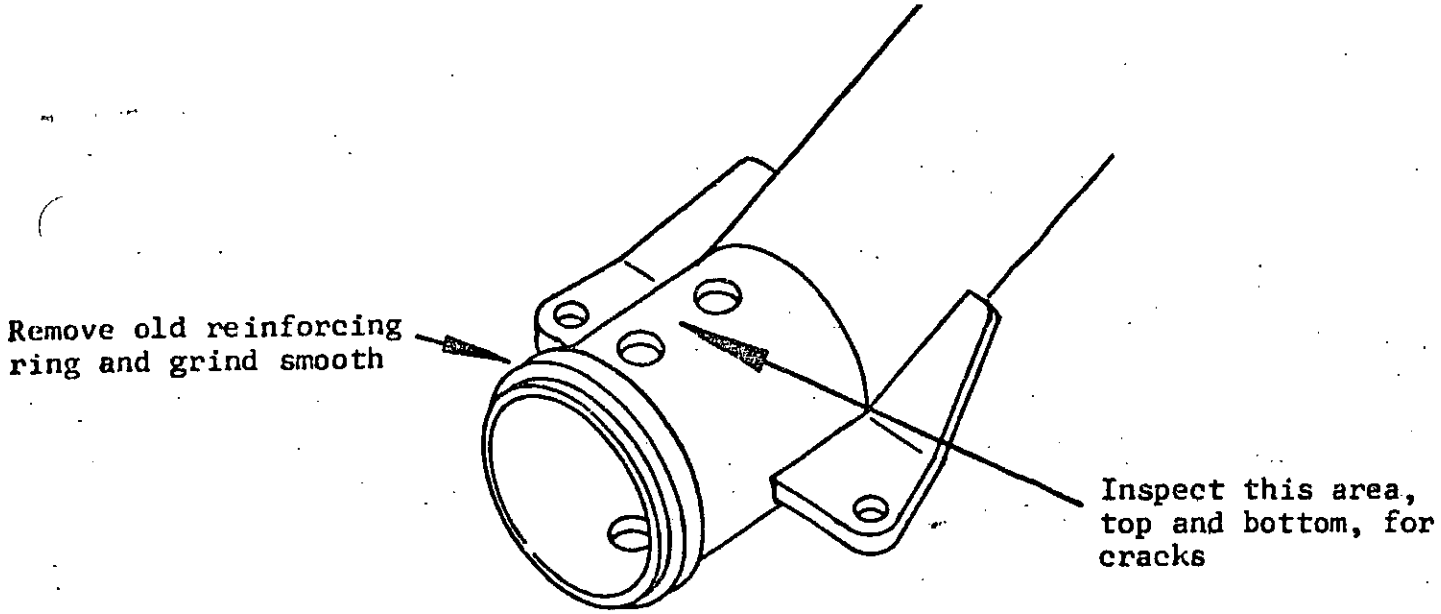
NOTE:

IN the interest of safety, it is imperative that this kit be ordered immediately, and that the parts be installed as soon as possible after receiving them.

PARTS INCLUDED IN KIT

390-52463	Taper Pin	(40)	1099000-2	Band	(20)
290-52387	Hair Pin	(40)	1099000-3	Plate	(40)

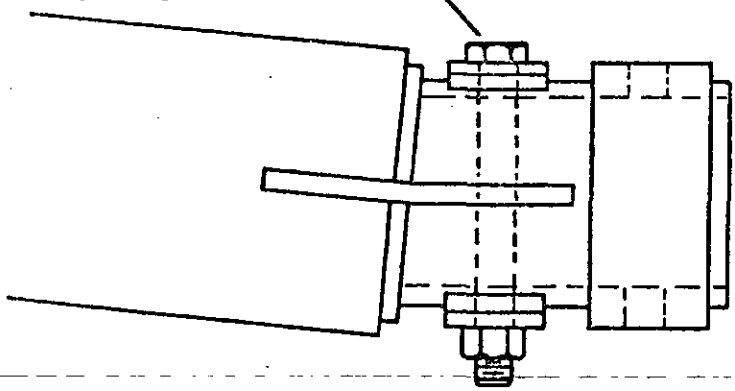
Factory and General Office, 4219 Irving, P.O. Box 12328 Wichita, Kansas 67277 Area Code (316) 942-7411
Sales Office: 1103 Ross Ave., Dallas, Texas 75202 Area Code (214) 742-3802



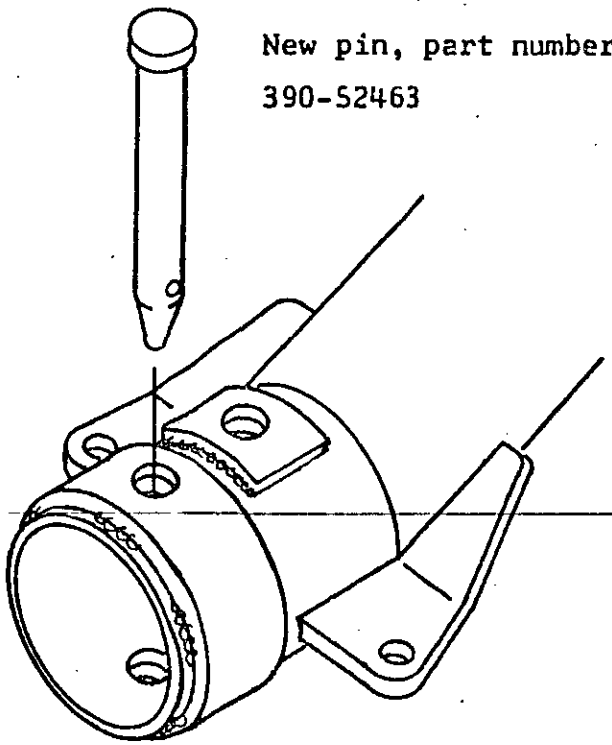
EXISTING SWEEP END

Position new parts and tack weld.

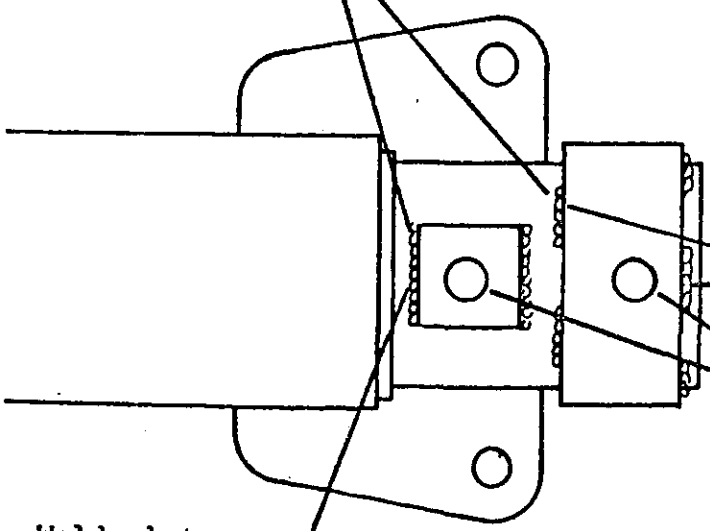
Use a bolt to secure plates to sweep tightly before welding in place



New pin, part number 390-52463



1/4" WELD TYPICAL



SWEEP END AFTER MODIFICATION

Skip weld around ring in approximately 4 places each side

Skip welds should be staggered

Align holes to locate parts

Weld plates Front & Rear

Number: 75

Date: 9-3-74

Supersedes:

America's Largest Manufacturer of Amusement Rides

SERVICE BULLETIN

Effective Serial Numbers:

Ride: TURBO

Subject: WHEEL BRAKE CONVERSION

We are now offering a kit to convert the existing disc braking on each wheel of the TURBO to a new system which uses the hydraulic drive motors to brake the wheels as well as drive them.

The new system is operating on several rides and has proven far superior, particularly for maintenance.

The kit is being offered in two versions, one being less costly and easier to install, but having a delivery time of approximately six months from date we receive your order. The other version is slightly harder to install and costs a little more, but is available for normal delivery schedules.

Both versions consist of the same components except for the Directional Control Valves. Version One replaces the base section of valve, which means the wiring going to the solenoids does not have to be disturbed. Version Two replaces the entire valve, necessitating the removal and reinstallation of the wiring for the solenoids.

Kits are priced at $1,043.21* for Version One and $1,293.21* for Version Two. Both include all necessary parts for conversion.

*Prices subject to change without notice.

NOTE

The existing disc brakes now on the TURBO can be left intact, and simply disconnected. This will allow them to be rewired** at the factory at a later date so they can be used as parking or holding brakes only.

**Rewiring of existing disc brakes is not included in the kit prices quoted above.

PARTS INCLUDED IN BOTH KITS

QUANTITY	PART DESCRIPTION	PART NUMBER
1	Manifold Assy.	1098611-1
1	Manifold Assy.	1098611-2
4	Hose Assy.	1098611-4
1	Hose Assy.	1098611-5
1	Hose Assy.	1098611-6
1	Close Nipple	1 1/4 NPT - M.P.
1	Tee	1 1/4 NPT - M.P.
1	Bushing	1 1/4 x 3/4 NPT
1	Adapter	290-01319
2	3000# Press Gauge	290-29628
2	Needle Valve	290-84410

PARTS FOR VERSION ONE ONLY

2	Directional Control Valve Base	DG3S4068C

PARTS FOR VERSION TWO ONLY

2	Directional Control Valve	290-84526

TOOLS REQUIRED

Assortment of Open End Wrenches
Allen Wrench Set
Teflon Tape or Pipe Sealant
Screwdrivers - Slot and Phillips
Wire Cutters
Wire Nuts and Electrical Tape
Rags - Oil Soak - Bucket

Removal of Existing Plumbing

1. Tag hoses going to hydraulic motor as shown in illustration.

   Trace lines going to back side of panel blocks and mark ports to match hoses.

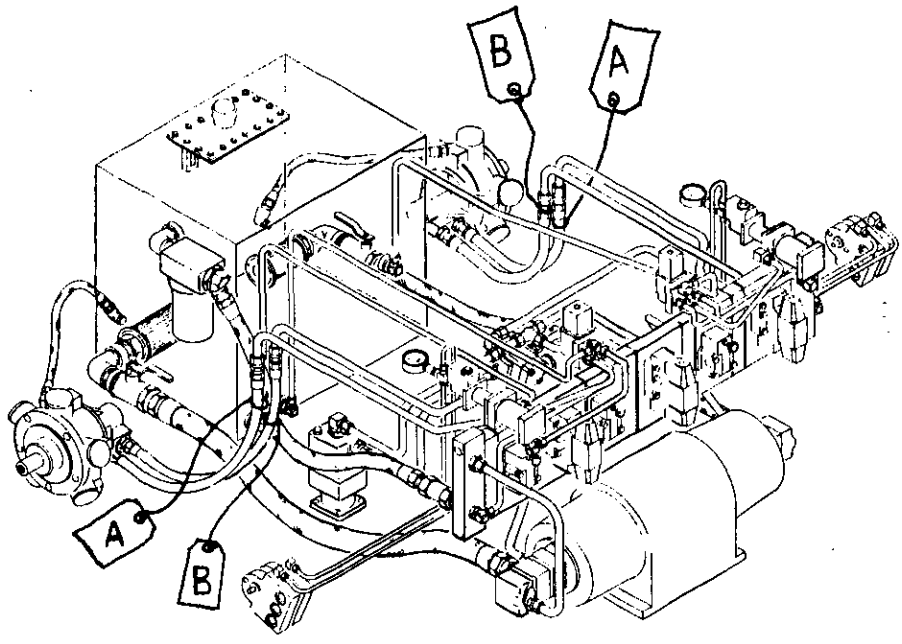
2. Disconnect hoses where they join hard tubing and drain fluid into bucket.

3. Disconnect tubing from back of panel blocks and discard tubing.

4. Loosen the return line hose from Check Valve. Unscrew Check Valve and install tee, 1 1/4 to 3/4 bushing and close nipple between panel blocks and Check Valve. Install Check Valve making sure it is installed with arrow pointing towards Hydraulic Filter.

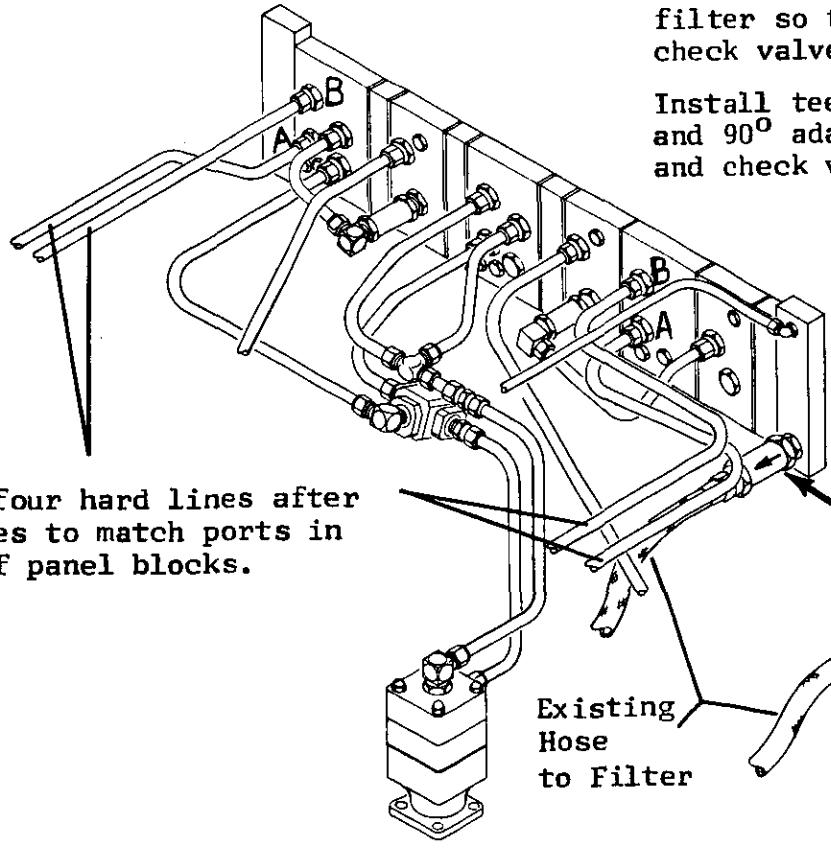
   Connect return line to Check Valve.

   Screw 3/4-90° adapter in pipe bushing, bottom of tee.

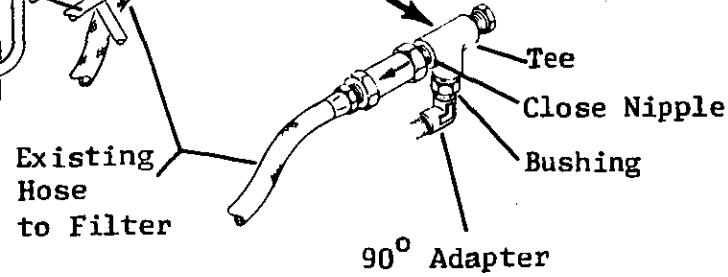


Loosen the return line hose at the filter so the hose and existing check valve can be removed.

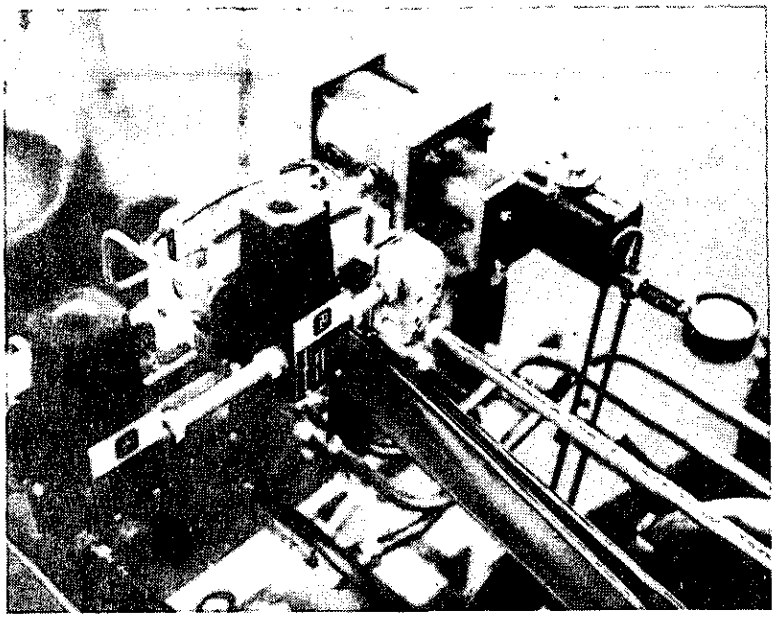
Install tee, close nipple, bushing and 90° adapter between panel blocks and check valve.



Remove the four hard lines after tagging hoses to match ports in rear side of panel blocks.



Reinstall check valve and return line hose going to filter.

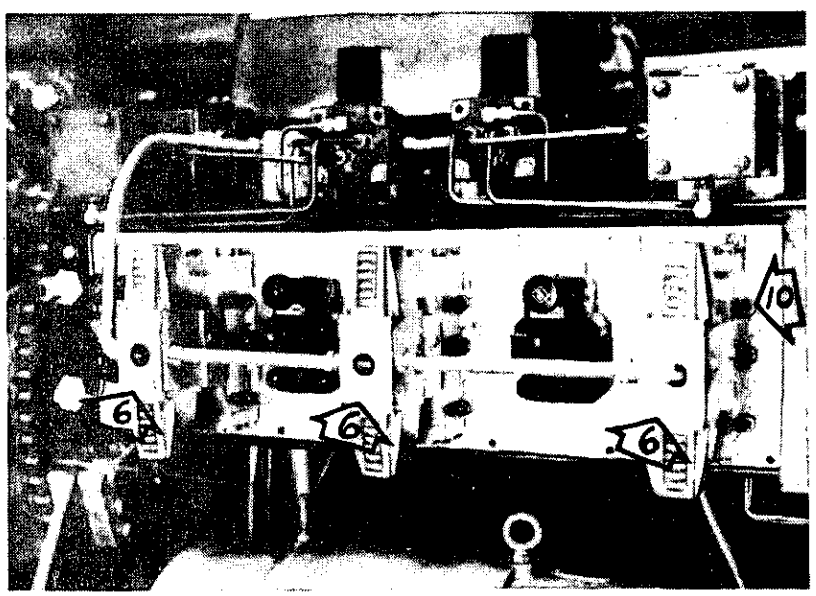


5. Remove the cover plate from the Hydraulic Brake Valves. Disconnect the wires going to the Valve Solenoid. Screw Wire Nuts or tape leads going to valves and replace valve cover plate.

Steps 6 through 15 are for Version Two kit #75, Replacing Entire Directional Control Valve.

6. Remove the cover plates from the three Directional Control Valves on the front side of panel blocks.

7. Identify the leads going into each valve by placing tape on them and marking with letters or numbers. Alternate method is to make a diagram using the wire colors as a code.



8. Starting on the right hand valve, disconnect wiring and pull back through middle valve. Do middle valve in the same manner.

9. On the left hand valve, disconnect the wiring conduit at the elbow going into the valve.

   Pull wiring back through valve.

10. Remove the bolts securing valve to panel blocks and remove valve allowing wiring to pull through elbow and out of the valve.

11. Remove right hand valve in like manner.

Do Not Remove Middle Valve

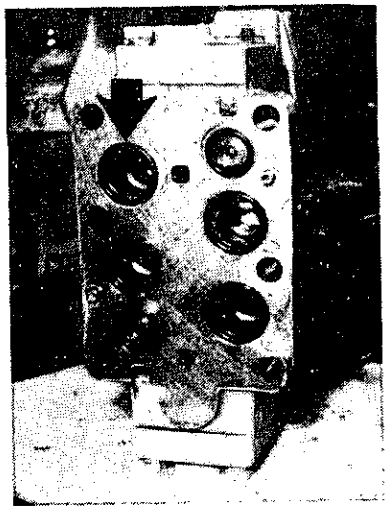
12. Clean surface of panel blocks where valves mount and bolt new right hand valve in position.

    New valves are identical, so either one can go on the right side.

13. Remove the conduit elbow from old valve and install in new valve.

14. Thread wiring through elbow and position valve in place, securing with bolts.

15. Route wiring to middle and right hand valves connecting wires to solenoids to match old valves.

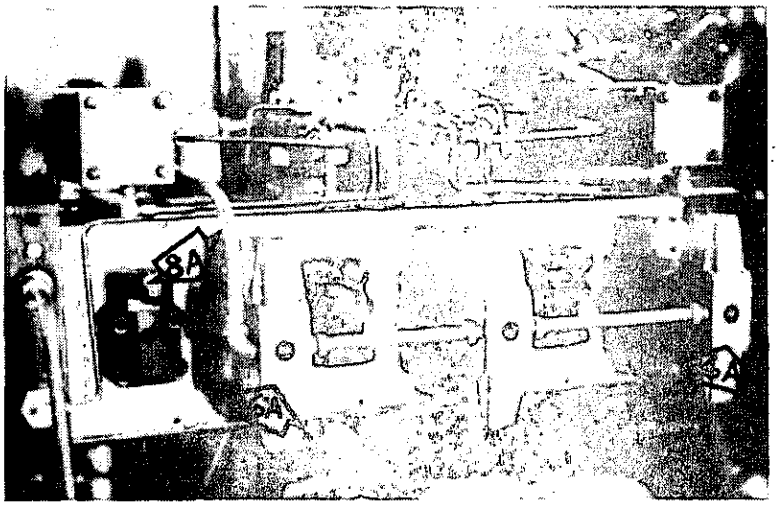


CAUTION

When installing new valves, make sure valve is positioned so the holes in the base of the valves and holes in panel block align.

Also make sure there is an O' ring in the seat around each hole in valve base.

Steps 6A through 12A are for Version One kit #75, Replacing Base Section only of Directional Control Valves.



6A. Remove the cover plates from the two outer directional control valves.

7A. Remove the four socket head cap screws that bolt the solenoid section of the valve to the base section.

8A. Remove bolts securing the base section of valve to the panel blocks.

NOTE

Support the solenoid section of valve while removing base section.

9A. Install new base sections, making sure all O' rings are in position between panel blocks and base.

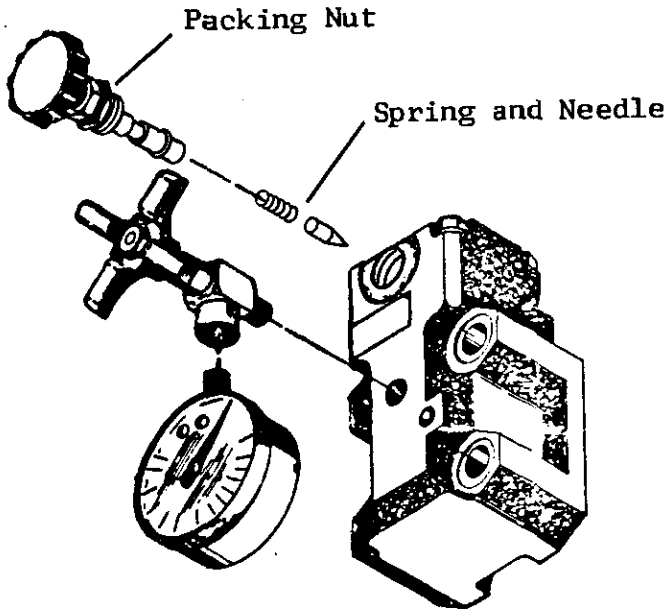
10A. Secure solenoid section of valve to base section, again making sure O' rings are in seats.

11A. Change the base section for the other solenoid valve in the same manner.

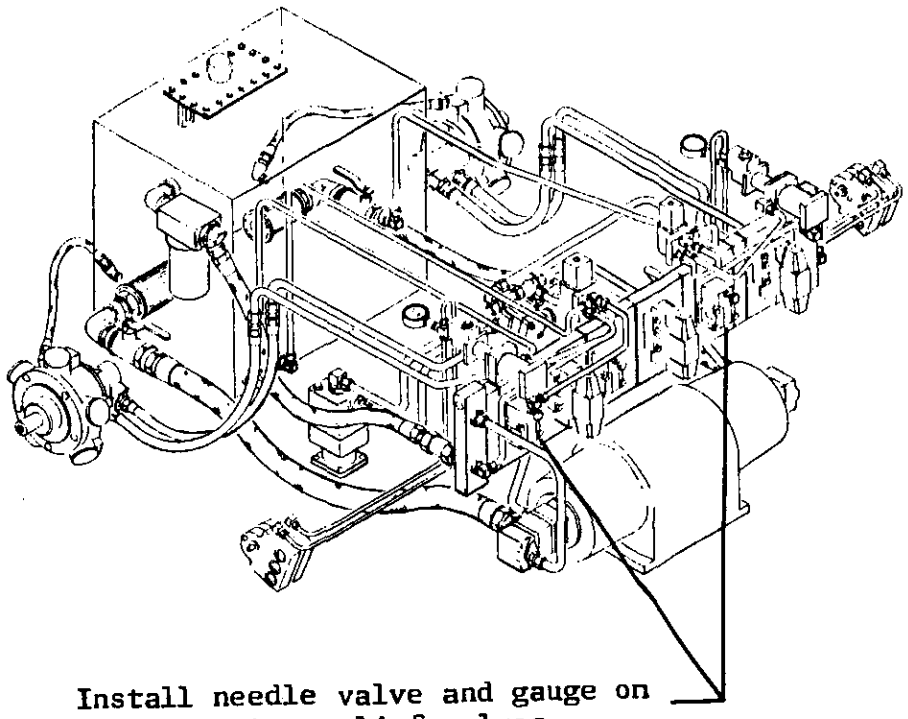
12A. Proceed to Step 16.

Steps 16 and 17 are for the left and right hand relief valves.

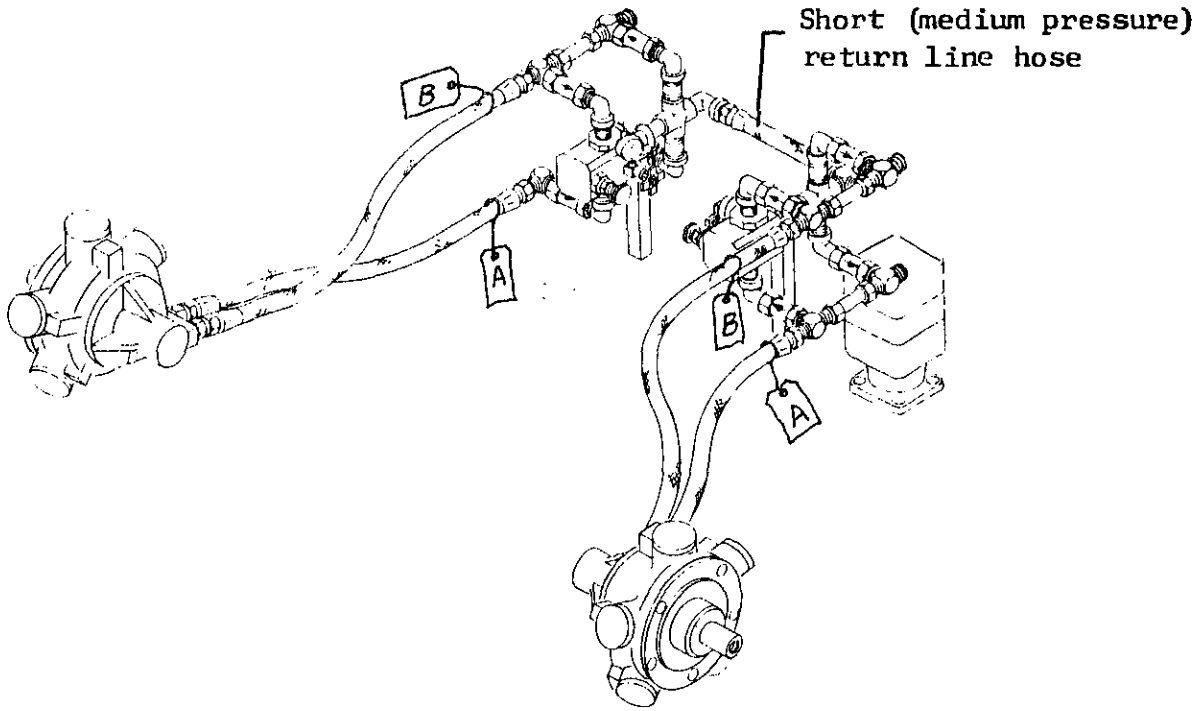
16. Loosen the packing nut on the relief valve adjustment knob and unscrew knob assembly, taking care not to lose the spring under the adjustment stem.



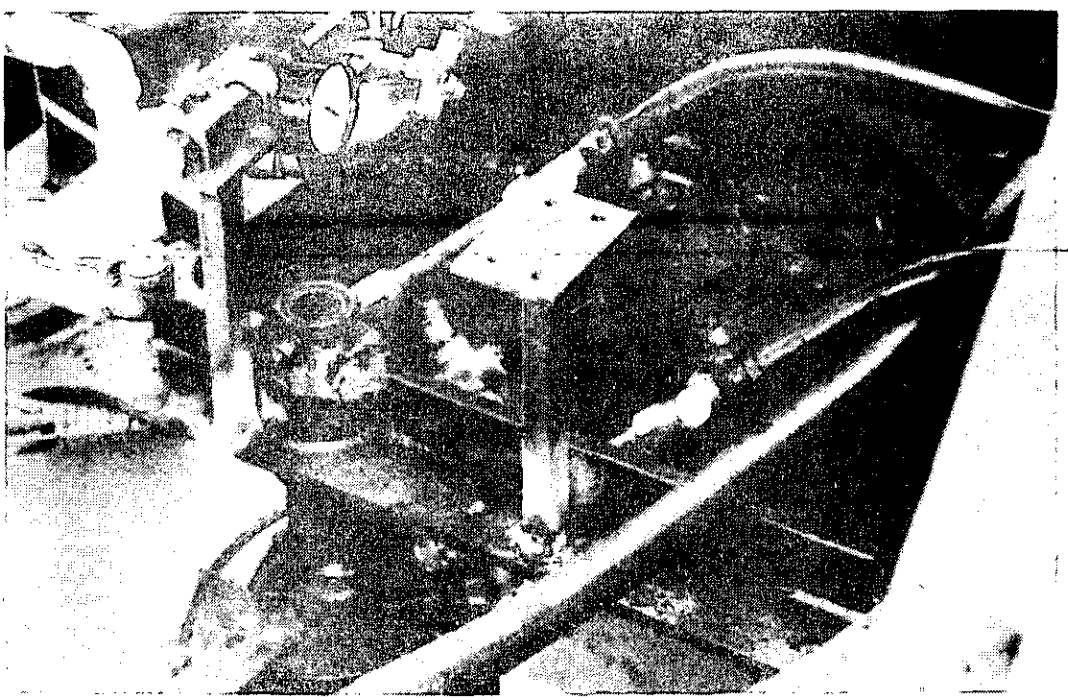
17. Remove the socket head plug and install needle valve and gauge. Reinstall adjustment knob, making sure spring seats against adjustment stem.



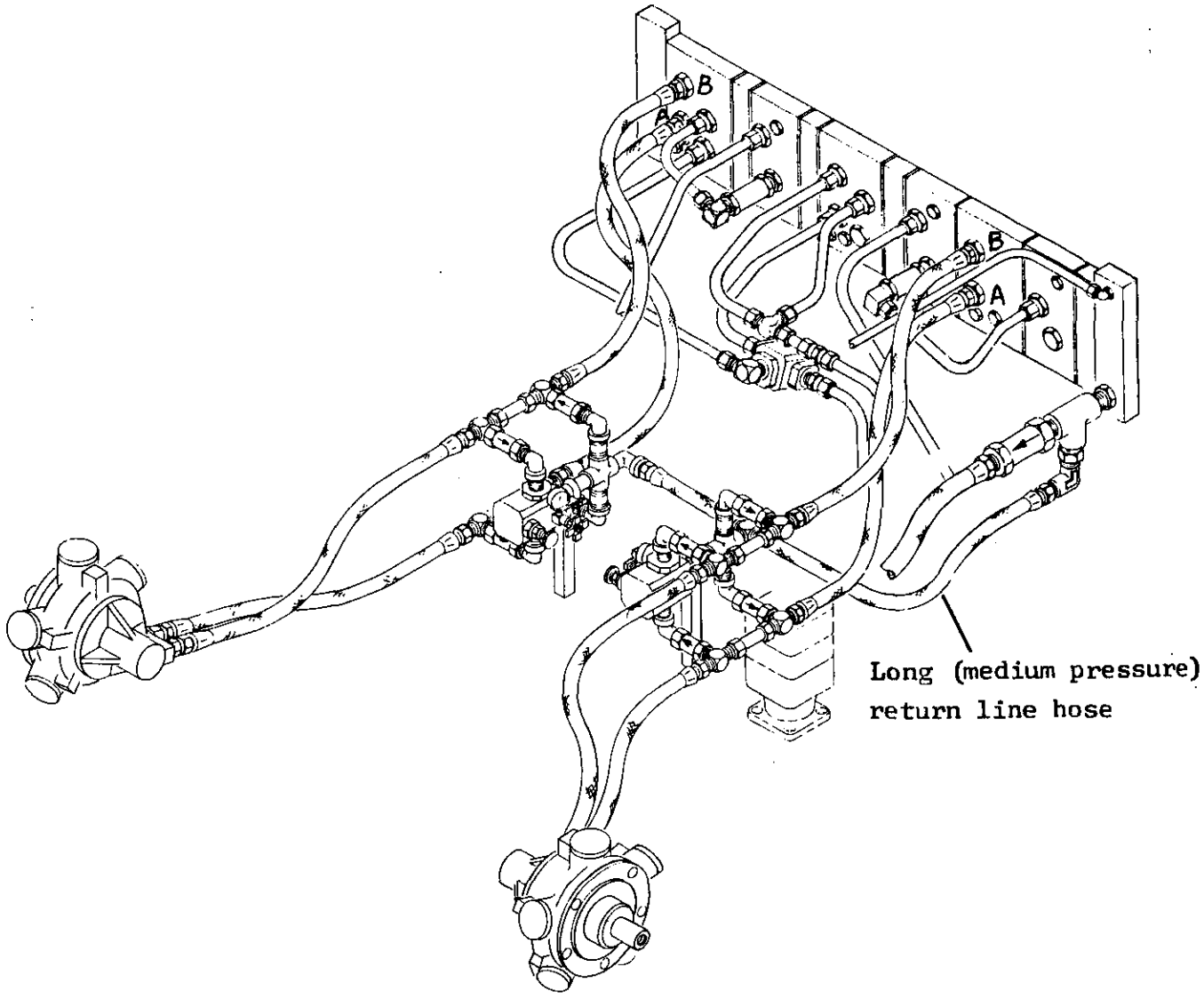
Install needle valve and gauge on the two outer relief valves.



18. Connect the two manifold assemblies together with the short (medium pressure) return line hose (hand tight) as shown. Position manifolds under the turret tube and connect the hoses (hand tight) from the hydraulic motors.



19. Support each manifold so the support tube is resting on the bridge plate of the turret and weld hangers in place.



20. Connect the long (medium pressure) return line hose to the tee next to the panel blocks (Ref. Step 4). Route hose to the tee connecting the two manifold assemblies together.

21. Connect hoses from bottom tees of manifold assemblies to bottom ports in panel block and tighten.

22. Connect hoses from top tees on the manifold assemblies to upper ports in panel blocks.

23. Tighten all connections completed so far.

24. After all connections have been completed, etc., the ride can be erected for operation. However, there will have to be someone on the turret section to perform final adjustments.

25. Activate the switch controlling wheel drive and observe pressure gauge on the relief valve mounted front side of panel blocks. Gauge should have maximum reading of 1600 PSI. If not, adjust relief valve according to instructions below.

If wheel does not rotate at all or if directional control valve shifts hard or squeals, the choke block located between valve sections will have to be adjusted (see below).

26. With the wheel turning, deactivate switch, while observing pressure gauge on relief valve on the new manifold assemblies. The gauge should have a maximum reading of 2000 PSI while the wheel is stopping. Adjust gauge accordingly.

NOTE

In order for manifolds to function for braking, the relief valve on the manifold must be set for a higher setting than the relief valve located on the front side of the panel blocks.

27. Adjust reliefs and directional control valve for the other wheel in the same manner.

28. After all adjustments are complete, close all needle valves behind pressure gauges.

If needle valves are not closed, the pressure gauges will be short lived, making future adjustments difficult.

RELIEF VALVE ADJUSTMENT

Loosen the jam nut on the adjustment knob stem and turn knob until desired setting is obtained. Tighten jam nut back down against valve body.

DIRECTIONAL CONTROL VALVE CHOKE ADJUSTMENT

The choke on the directional control valve will have to be adjusted if any of the following symptoms occur.

A. Failure to Shift
B. Shifts too Hard (Loud clunking noise)
C. Shifts too Slow (Vibration plus delay)

There is a separate adjustment for each direction of shifting. Adjust as necessary.

1. Loosen the lock nut around set screw. Adjust set screw, clockwise will make it shift faster, counterclockwise will slow it down.