CHRYSLER CORP. TANDEM DUAL PISTON MASTER CYLINDER

Dodge (1967-74)
Plymouth (1974)

NOTE — Some models use other units. See Bendix/Delco-Moraine Tandem Dual Piston Master Cylinders in this Section.

DESCRIPTION

Chrysler tandem dual piston master cylinder is a single casting with front and rear piston and a separate reservoir and outlet for each piston. Rear piston is operated by a push rod connected to brake pedal. Front piston is operated by rear piston. In a combination drum and disc brake system, reservoir which feeds disc brakes is larger, to correspond with larger size of disc brake caliper cylinders. Master cylinder outlet which feeds drum brakes has a residual valve under tube seat. Disc brake outlet has no valve, since disc brakes must not have any residual pressure. *NOTE — Master cylinder used with 4-wheel drum brakes has residual pressure valves and springs in both brake line outlets.* Failure in either front or rear system does not result in failure of entire system.

ADJUSTMENT

BRAKE PEDAL

On vehicle equipped with adjustable brake pedal push rod, turn adjusting rod in or out to obtain brake pedal free travel of 1/16", measured at center of pedal pad. After adjustment, make sure relief port in cylinder is open with brake pedal in fully disengaged postion.

BRAKE WARNING/METERING VALVE

If pressure loss occurs in one side of system, piston in valve will move toward failed side and latch in that position. This will cause warning light to come on and stay on until system is repaired. After repairing and bleeding system, applying brakes with moderate force will hydraulically recenter piston and turn off warning light.

REMOVAL & INSTALLATION

MASTER CYLINDER

Removal — Disconnect front and rear hydraulic brake lines at master cylinder. On vehicles equipped with manual brakes, disconnect brake pedal push rod at brake pedal. Remove master cylinder attaching bolts and remove master cylinder from vehicle.

Installation — Position master cylinder on vehicle and install cylinder attaching bolts. Connect front and rear hydraulic brake lines to cylinder and install brake pedal push rod, if removed. Fill reservoir with clean brake fluid and bleed entire brake system. *See Hydraulic Brake Bleeding in this Section.*

BRAKE WARNING/METERING VALVE

Removal — Disconnect brake warning light wire at valve assembly switch. Remove hydraulic brake lines at metering valve. Remove metering valve retaining bolts and remove combination valve/switch from vehicle.

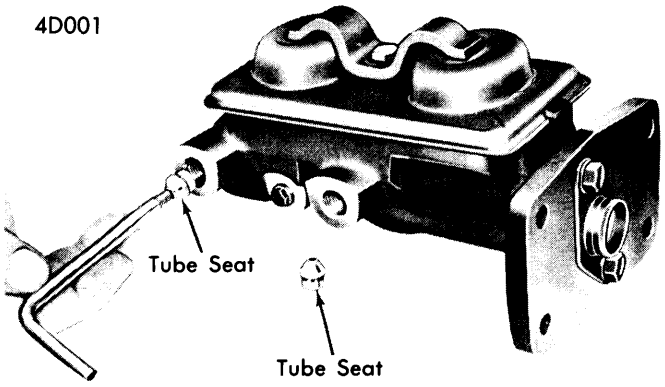
Installation — To install, reverse removal procedure, bleed entire brake system (See Hydraulic Brake Bleeding in this Section) and adjust valve (See Brake Warning/Metering Valve Adjustment).

OVERHAUL

MASTER CYLINDER

Disassembly — 1) Remove master cylinder cover and diaphragm, then drain fluid from reservoirs. Remove rear piston retainer and remove rear piston assembly from cylinder bore. Remove front piston stop screw, then turn cylinder assembly so that forward end is up and lightly tap open end on bench to remove front piston. *NOTE — If front piston assembly sticks in bore of cylinder, apply air pressure to forward brake tube outlet of cylinder to force piston out. If air pressure is used to remove piston, new cups must be installed at time of reassembly.*

2) Remove rubber cups from pistons, noting positon of cup lips. *CAUTION — Do not remove primary cup of rear piston. If cup damaged, manufacturer recommends replacement of piston assembly.* Using suitable tool (T109-178), remove tube seats by threading tool into seat and tapping against tool to remove seat from housing. Remove residual pressure valve(s) and spring(s) from housing. Discard all used rubber parts.



REMOVING TUBE SEAT

Inspection — Clean master cylinder using suitable solvent, and dry with compressed air. Inspect cylinder bore for signs of scoring, pitting, and corrosion. Light scratches and corrosion may be removed, using crocus cloth. Deeper scratches or scoring may be removed by honing cylinder bore, providing bore diameter is increased no more than .002".

Reassembly — 1) Dip all parts, except housing, in clean brake fluid prior to assembly. Carefully work piston cup onto front end of front piston with lip of cup facing away from piston. Install "O" ring and rear cup on rear end of front piston. Install cup retainer and piston return spring on front end of piston, then install front piston assembly into bore of cylinder.

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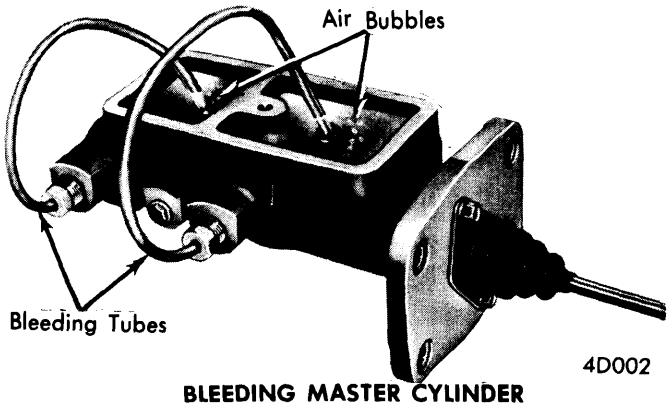
2) Carefully install piston cup on rear end of rear piston. Insert rear piston assembly into bore of cylinder, being careful to center spring retainer of rear piston over shoulder of front piston. Hold piston in seated positon, then install rear piston stop, brake pedal push rod (if removed), and dust boot on end of cylinder. Install front piston stop bolt and gasket and tighten securely. Insert residual pressure valve(s) and spring(s) into outlet bore(s), and install brake tube seats.

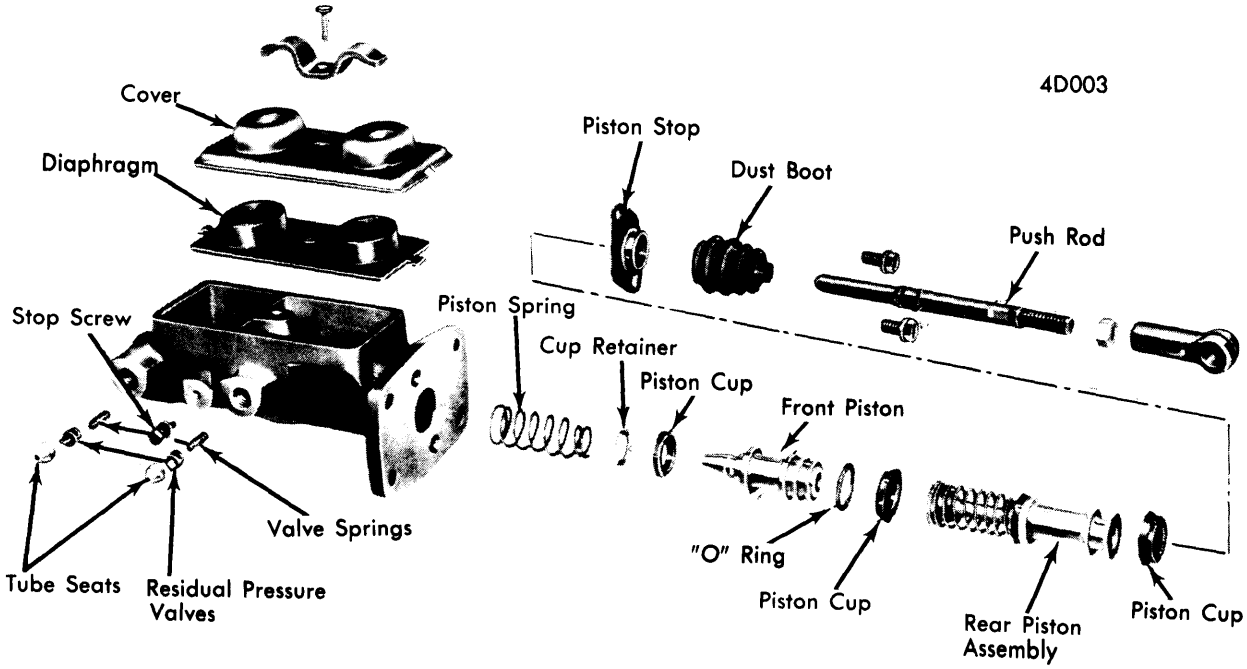


BLEEDING MASTER CYLINDER

3) Clamp master cylinder in a vise, being careful not to damage housing, and bleed cylinder as follows: Attach suitable bleeding tubes (C-4029) to outlet ports of cylinder, with ends of tubes in master cylinder reservoirs. Fill reservoirs with clean brake fluid and depress push rod slowly. Allow pistons to return to normal position under spring pressure. Repeat procedure until all air bubbles are expelled. Remove bleeding tubes, and install cylinder cover and diaphragm. Remove cylinder from vise.

BRAKE WARNING/METERING VALVE

Warning/Metering valve should be replaced if found to be defective. Metering valve and Brake Warning light switch are separate units and each is serviced as a separate unit only.



MASTER CYLINDER ASSEMBLY (TYPICAL)