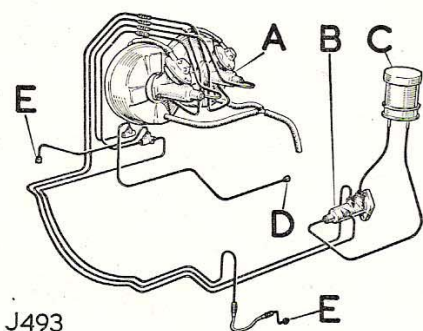


## Section L — BRAKING SYSTEM

### Brief description of the modified braking system on the Rover 2000

In order to comply with US Federal Standards the braking system is now of the dual braking type, alterations having been made to the master cylinder, servo unit layout and the necessary pipelines; wheel cylinders and calipers remain unaltered.



Layout of dual braking system

- A—Lockheed Type 7 servo units
- B—Tandem master cylinder
- C—Fluid reservoir
- D—Brake pipes to rear calipers
- E—Brake pipes to front calipers

The master cylinder, which is operated by the brake pedal, is of the tipping valve and centre valve tandem cylinder type. This type consists of two independent cylinders in series, one operating the front brakes and the other operating the rear brakes. Two Lockheed type 7 servo units are employed, the foremost one for the front brakes and the rearmost one for the rear brakes, in conjunction with the tandem cylinder. This twin system provides greater safety in that should one system fail the other will provide an effective brake.

The system is fed by a divided-type fluid reservoir, which also serves to feed the clutch master cylinder on TC models.

**Note:** Particular care must be taken to ensure correct recoupling of pipelines to the respective unions, particularly at the junctions on the base unit.

### Operating principle of the $\frac{7}{8}$ in. (22 mm) diameter tandem master cylinder

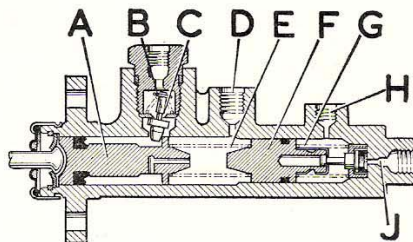
When brake pedal pressure is applied, the push rod moves a primary plunger 'A' up the cylinder bore and allows a spring-loaded tipping valve 'B' to return to centre, thereby closing the primary supply port 'C'.

Further movement of the primary plunger 'A' results in hydraulic pressure being transmitted through outlet port 'D' to the caliper pistons of the front brakes via the front servo unit.

At the same time, the pressure created acts in conjunction with the increasing force of the intermediate spring 'E' to overcome the stronger secondary spring 'G', thus actuating a secondary plunger 'F'; initial movement of the secondary plunger 'F' closes off the centre valve 'J' supply port and hydraulic pressure is transmitted through outlet port 'H' to the cylinders of the rear caliper via the rear servo unit.

In case of a failure in either chamber of the brake master cylinder or in either of the hydraulic circuits, mechanical contact takes place within the cylinder and the remaining chamber builds up to the normal pressure to operate the brakes, front or rear, as the case may be.

Recuperation of the master cylinder is effected when the brake pedal is released, allowing the two plungers to return under the influence of the intermediate and secondary springs. The centre valve will open as the seal comes off its seating face; and the tipping valve will tip, thereby allowing the primary supply port to open.



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Cross-sectional view of tandem master cylinder

- A—Primary plunger
- B—Tipping valve
- C—Primary supply port
- D—Front outlet port
- E—Intermediate spring
- F—Secondary plunger
- G—Secondary spring
- H—Rear outlet port
- J—Centre valve supply port

**Note:** The rear outlet port (H) is shown on top of the cylinder body for ease of explanation, whereas in actual fact it is located at 90° to the front outlet port (D)