

## FIX-N-FAX #45

### CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION

No. 45

Date: June 1964

#### **Power Brake Testing Operations**

1. Vacuum Leak in the Released Position: With the transmission in neutral or park position, stop the engine and wait one minute. Apply the brake several times. Each application should provide less and less assist following normal depletion of reserve vacuum. The number of applications on reserve vacuum assist will depend on how hard the pedal is pressed and how far the pedal travels. If vacuum assist is not present, an air leak is indicated.
2. Unit Operation. After depleting the reserve vacuum, place light foot pressure on the pedal and start the engine. If the power system is functioning properly, the pedal will fall away slightly, as vacuum is restored.
3. Vacuum Leak in the Holding Position. With the transmission in neutral or park position, stop the engine while holding a moderately heavy load steadily on the brake pedal. After one minute, release and apply the pedal several times. If there is no vacuum assist during this test, but the system was normal during test number 1 above, there is an air leak within the unit. Some units on this test will leak air internally if the pedal is light. This is a normal condition.
4. Hydraulic Leak Test. Depress the brake pedal with light effort while the engine is running, maintaining constant pressure. If the pedal falls noticeably in one minute, the hydraulic system is leaking. If the pedal has a spongy feel when applying the brakes, air may be present in the hydraulic system. Road test the vehicle, making a brake application at about 40 mph to determine if the vehicle stops evenly and quickly. If the system tests are satisfactory and the brake pedal travels to within one (1) inch of the floor pan, the brake shoes will require an adjustment or replacement.
5. Actuation System Inspection.
  - a) Inspect for free operation and return of the brake pedal. If binding exists, check all pivot points for binding and lubricate or free up as required.
  - b) Inspect the stoplight switch for proper setting and operation.

- c) Inspect the master cylinder for proper fluid level.
- d) Inspect the vacuum line and connections at the intake manifold and the vacuum check valve for possible leaks.

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