



SECTION VII

AIR BRAKE SYSTEMS

INTRODUCTION

Your motorhome is equipped with dual service air brake systems, with integral fail/safe operation; and manual/automatic rear spring (parking) brakes. As shown in the air brakes system diagram in Section X, the service brakes are completely independent systems, each including a reservoir and separate distribution lines and valves. A separate reservoir is also supplied for the rear spring brakes, which function independently of the service brakes. All three reservoirs are pressurized from a single compressor. Both service brake systems are brought into operation each time the brake treadle is depressed to slow or stop the coach. Reservoir pressure for each service brake system is monitored by a respective pressure gauge on the front panel; system failure(s) are indicated by low pressure readings, illumination of the LOW AIR failure lamp, located above the odometer, and by sounding of the low air warning buzzer.

OPERATION

When the coach is parked, and the engine off, the rear spring brakes will normally be set by operating the parking brake. The spring brakes cannot be fully released until the air pressure is above 90 psi. These brakes are in the released position when the control is pulled out. In the event that there is a loss of air pressure, the spring brakes will set automatically, at the brake-applied position, and will not release until the air reserve has again built up to the required value. Consequently, there will be a normal delay, after the coach is first started, before the compressor builds up sufficient pressure in the three reservoir tanks, before the brakes can be released and the coach driven. When the brake treadle is depressed, to slow or stop the coach, reservoir air is applied simultaneously to both front and rear service brakes to effect the braking action. The spring brakes are held in a released position by the air pressure supplied from the associated reservoir tank.

CAUTION

Do not attempt to drive the coach until system pressure is 90 to 105 psi.

BRAKE FAILURES

Brake system failures are protected against by a combination of fail/safe features. Each service braking system, front and rear, has a backup capability in the form of the rear spring brakes in the event of partial or total system failures. If the front brakes fail, operating the brake treadle activates both the rear service brakes and the rear spring brakes, providing sufficient braking action to effectively stop the coach. Under these conditions, the spring brakes do not lock in, as in a normal released position, but instead their application is "modulated" in the same manner as the service brakes, thereby providing a normal braking "feel". If a failure occurs in the rear, the front and rear spring brakes provide braking action.

In the unlikely event of a failure where both service braking systems are disabled, the rear spring brakes will apply automatically and bring the vehicle to a stop. As a safety factor, the coach should not be moved until any type of brake failures are corrected.

NOTE

With the front brake system service reservoir fully charged, enough air pressure is available to provide for four full releases of the rear spring brakes. This will allow the coach to be brought to a safe position until repairs can be accomplished.

ADDITIONAL AIR-OPERATED EQUIPMENT

Besides providing the compressed air supply for the coach braking systems, the compressor also provides the air supply for the entry step, side-slide mechanism on driver's and co-pilot's seats, gene-



rator tray, and steering wheel tilt mechanism — all via separately-controlled solenoid switches operated from the dashboard, or at other locations throughout the coach. (This compressed air source is furnished from the front right side reservoir.) For example, the compartment located just inside the entry door contains switches for the generator tray and entry door step (also controlled at the dashboard). Also, a compressed air outlet fitting and air gun is contained in the center storage compartment on the left side of the coach, convenient for blowing out the water system, inflating tires, and so on.

COMPRESSED AIR SYSTEM AIR DRYER

The air dryer unit collects and removes moisture and contaminants from the compressor air output before the air reaches the reservoirs. This unit is different from a reservoir drain or an aftercooler in that it provides dry air for the brake system by eliminating the possible accumulation of condensate in the system reservoirs. This assures a long maintenance-free life for air brake system compo-

nents due to the removal of system contaminants.

The air dryer is located between the compressor discharge (output) line and the compressed air reservoirs. A safety valve mounted in the air dryer housing assembly protects against excessive pressure buildup. The desiccant cartridge and pleated paper oil filters are easily removable and replaceable as a complete serviceable unit. The desiccant "beads" which provide the drying action have a large capacity for absorption due to their combined surface area. In addition, an internal thermostatically-controlled heating element prevents freezeups on the purge drain valve when the unit is used during sub-freezing temperatures.

Purging of the dryer is automatic, exhausting combined oil and water residue to the atmosphere. At the same time that the contaminants are purged the reverse air flow across the desiccant material removes the accumulated moisture and reactivates the desiccant. Cartridge replacement should be accomplished at 12-month periods; sooner, if the cartridge has become contaminated.