



## About RV Brakes

Weather conditions impact the performance of RV brakes. When the brakes are applied, the brake friction creates heat that is applied to the drums. During excessively hot weather, this additional heat build up, coupled with hot outdoor temperature, may cause the brakes reaction time to slow. Minimize hard stops during extremely hot temperatures.

Rust may develop on the linings and drum if the RV is stored after driving in wet conditions. When a wet RV is parked with the park brake applied and not released for days, weeks or even months rust may form, bonding the brake pad to the drum or disc. Occasionally you may discover that after the RV has been stored for a period of time that the RV does not move forward when applying slight throttle. Applying more pressure may cause a popping sound and the RV to lurch forward. In the event you suspect that the brakes may be rusted due to moisture, release seized brake in reverse, if space permits.

Prior to disassembling any portion of the brake system, read and understand all recommended procedures required to perform maintenance. Components within the brake system may pose a hazard when not properly disassembled. Use only proper tools and follow the manufacturer's guidelines for recommended replacement parts.

If the drum or rotor has been removed to pack the wheel bearings while performing service work, inspect the drum or rotor for cracking that may result from excessive heat build up, or improper driving technique. Immediately replace a drum or rotor that shows signs of cracking.

Lack of lubrication, or over lubrication, can cause the brakes to experience problems. Lack of lubrication may cause the brake camshaft to stick. Too much lubrication may cause grease to seep onto the brake linings. The use of 'economy brand' lubricant runs the risk of compromising the RV brake system. Use only manufacturer approved lubricant in the recommended quantities.

### Drum Brake Issues

Slow brake application may indicate that the brake camshaft is binding at one or more wheels and will require cleaning and lubricating the brake camshaft, as well as close inspection of the seal leakage. Slow brake release could be an indication that the brake camshaft and bushings are binding or there is a weak or broken shoe return spring.

Brake drag could also be indication that the cam or rollers are flat spotted. Dragging will be evident when one or more of the brakes fail to immediately release when the brake pedal is released. Clean and lubricate the appropriate areas, and replace all worn parts as necessary.

If the RV experiences brake camshaft flip-over, check for worn linings in the drums, worn shoes, rollers, or a worn cam. Any appearance of worn parts will require replacement. Binding of the brake camshaft in the bushings can potentially point to corrosion, lack of lubricant, damaged bushings or impaired journals. Thoroughly clean the area, lubricate with proper lubricant and replace the bushings or journals as needed.

The cam operates during brake application. The force of the push rod of the air chamber is converted from a linear force to a rotary torque by use of the slack adjuster. On the opposite end of the brake camshaft is the S-cam that lifts the cam rollers when rotated. The action spreads the brake shoe ends apart and pivots the shoes about the anchor pin to cause the brake lining to come in contact with the rotating brake drum. Once brake application is released, the return spring pulls the shoes away from the drum.

When inspecting the brake camshaft, look along the spline for cracks and excessive deformation. Replace the spline when necessary. Inspect the camshaft bearing journals for wear or corrosion. If the shaft shows wear or roughness that is visible, or roughness that be detected by touch, replace the shaft. Inspect the cam head for cracks, and the roller surfaces for flat spots, brinelling, or ridges. Take note of any unusual wear patterns that may indicate an out-of-round condition. Replace the cam head if any of these conditions exist.

To lubricate the brakes, lubricate the brake camshaft through the grease fitting on the camshaft bracket with the chassis lube specified by the manufacturer. Lubricate the camshaft brakes every six months, or during each scheduled chassis lubrication.

## Using the Brakes

During descent of a steep grade, place the RV transmission into a lower gear and proceed slowly down the incline using a minimal amount of brake application to reduce the potential of brake overheating. Riding the brakes down a steep grade can create a reduction in the friction between linings and drums to reduce effectiveness, or in cases of extreme heat, brake failure. For best results, use the pac brake, if your RV is so equipped, on a long downgrade.

Keep the area around the brake pedal clear of dirt and debris. Frequently inspect the floor surrounding the foot pedal to remove objects that may become stuck under the pedal.

Adhering to the guidelines of RV weight ratings, particularly the Gross Axle Weight Rating, will help to insure proper operation of the RV brake system. Overloading of one or more axle on the RV will create premature brake wear and tear. In addition to following the motor home's governed weight guidelines, the RV drum brakes must be regularly maintained, including adjustment and lubing of the brake camshaft. Periodic inspection of the brakes, and replacement of worn parts, will work to achieve a proper brake balance that enables all brakes on each axle to perform an equal workload.