

Wheel Bearings – Grease Pack vs. Oil Bath

Steer axle hubs have either a Grease Pack or Oil Bath bearing lubrication. A grease pack is located inside the hub and next to the bearings, and as the name implies, is packed with wheel bearing grease for stability. Heat will affect most types of grease. A grease pack is particularly vulnerable to heat damage to contamination of the grease from worn linings that allow brake or metal particles to enter the grease. Contamination of the grease pack can affect proper performance of the seals, bearings and the spindle.

Units with an oil bath hub have a front axle lubricated with oil. When the bearings are moving, they are swimming in oil. Front seals on the oil bath hub should be regularly inspected for oil leaks. If a seal becomes compromised and oil leaks from the hub, the front axle and bearings could be damaged.

Oil bath hub systems use no grease and are instead designed to rely on fluid. Each time the wheel moves in an oil bath system, the bearings are moving in oil. Oil bath hub systems eliminate the need to repack wheel bearings. Oil leakage present at the hub may indicate that a seal at the oil bath hub needs to be replaced. Seals are very important in the oil bath hub system to ensure oil does not leak from the hub.

Oil bath and grease pack hubs are visibly different. If the front axle is equipped with oil bath hubs, the center of the wheel cap will have a hole in the cover allowing you to see the oil level in the hub. If the axle is a grease pack, you will not see a hole in the wheel cap or a hub cover half filled with oil.

At each stop, on long trips, walk around the motor home and touch the hubs with a bare hand. Generally, if it is too uncomfortable for a prolonged touch, the hub may be overheating. An overheated hub will usually emit a burning odor. Changes in temperature, or any sign of excessive temperature, should be promptly investigated for potential repair.

Lubricant used in the bearings will protect components from excess heat and corrosion, reduce friction and prevent metal-to-metal contact. To ensure proper wheel bearing operation, adhere to the component manufacturer's recommended replacement lubricant. All-purpose lubricant may be less expensive, but could damage the wheel bearings over time from exposure to improper viscosity or harmful additives.

Coaches that utilize the grease pack on the front steer axle require careful adherence to the OEM specifications when repacking the bearings. Once the hub and bearings are removed, all old grease should be thoroughly cleared away to allow for cleaning of the inner and outer bearings using solvent. After cleaning, the inner and outer bearings and races are carefully inspected for pitting and scalding. Once everything checks out, the bearings are repacked and put back into place using a new seal. All used oil and solvent must be properly disposed. For best results, have the wheel bearings serviced by a qualified RV chassis technician.

An effective way to check the wheel bearings on grease packed steer axles is to remove the outer bearings and check the grease inside of the cavity. Front wheel bearings can be checked when the tires are off from the ground by turning the tire around and listening for noise, and then moving the tire up and down to check movement of the wheel bearing.

Water contamination is damaging to both oil bath and grease pack systems. Moisture can occur when the RV is not being driven and cause condensation to form in the grease and oil. Traveling in high humidity can also generate increased moisture exposure to oil bath and grease pack systems. Excess winter climates including rain or freezing weather conditions are additional factors that make annual maintenance of the RV wheel bearings very important.

Rear Axle Assembly

Rear axles and gears are lubricated by oil bath. The rear housing contains heavy weight oil that bathes the rear end gears and bearings at the end of the axles. Axle seals keep the oil in the housing. The rear axle seals may show excess wear by leaking oil onto the inner side of the rear wheels or wheel rim. From the opposite side you are checking, look under the coach at the sidewall of the rear tire. If you see oil residue on the rim or tire, the seal may be defective. The tire should be removed and the axle seal checked to make sure it is not leaking. A failed seal will let the lubrication out of the system and may cause severe damage to the rear wheel bearings and main axle gears. Oil level in the rear axle assembly should be regularly checked as part of routine maintenance.