

Instruction Sheet for Hubs/Drums/Bearings

CAUTION

You must follow the maintenance procedures to prevent damage to important structural components. Damage to certain structural components such as wheel bearings can cause the wheel end to come off of the axle. Loss of a wheel end while the trailer is moving can cause you to lose control and lead to an accident, which can result in serious injury or death.

Hub Removal - Standard Bearings

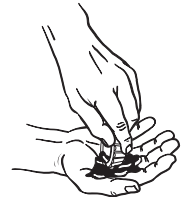
Whenever the hub equipment on your axle must be removed for inspection or maintenance the following procedure should be utilized.

1. Elevate and support the trailer unit per manufacturers' instructions.
2. Remove the wheel.
3. Remove the grease cap by carefully prying progressively around the flange of the cap. If the hub is an oil lube type, then the cap can be removed by unscrewing it counterclockwise while holding the hub stationary.
4. Remove the cotter pin from the spindle nut or, in the case of E-Z Lube™ versions, bend the locking tang to the free position. For E-Z Lube™ axles produced after February 2002, a new type of retainer is used. Gently pry off retainer from the nut and set aside.
5. Unscrew the spindle nut (counterclockwise) and remove the spindle washer.
6. Remove the hub from the spindle, being careful not to allow the outer bearing cone to fall out. The inner bearing cone will be retained by the seal.
7. For 7,200 lb. and 8,000 lb. axles, a hub puller should be used to assist in drum removal.

Bearing Lubrication - Grease

Along with bearing adjustment, proper lubrication is essential to the proper function and reliability of your trailer axle. Bearings should be lubricated every 12 months or 12,000 miles. The method to repack bearing cones is as follows:

1. Place a quantity of grease into the palm of your hand.
2. Press a section of the widest end of the bearing into the outer edge of the grease pile closest to the thumb forcing grease into the interior of the bearing.
3. Repeat this while rotating the bearing from roller to roller.
4. Continue this process until you have the entire bearing completely filled with grease.
5. Before reinstalling, apply a light coat of grease on the bearing cup.



Bearing Lubrication - Oil

If your axles are equipped with oil lubricated hubs, periodically check and refill the hub as necessary with a high quality hypoid gear oil to the level indicated on the clear plastic oil cap. The oil can be filled from either the oil fill hole, if present, in the hub or through the rubber plug hole in the cap itself.

Recommended Wheel Bearing Lubrication Specifications

Grease:

| | |
|-----------------------|--------------------------------------|
| Thickener Type | Lithium Complex |
| Dropping Point | 215°C (419°F) Minimum |
| Consistency | NLGI No. 2 |
| Additives | EP, Corrosion & Oxidation Inhibitors |
| Viscosity Index | 80 Minimum |

Approved Sources:

| | |
|---------------------------|-----------------------------------|
| Mobil Oil | Mobilgrease HP, Mobilith AW2 |
| Exxon/Standard | Ronex MP |
| Kendall Refining Co. | Kendall L-427 |
| Ashland Oil Co. | Valvoline Multipurpose GM |
| 76 Lubricants | 76 Multiplex EP |
| Citgo Petroleum | Lithoplex MP#2 |
| Mystik | Mystik JT-6 Hi Temp Grease |
| Pennzoil Product Co. | Premium Wheel Bearing Grease 707L |

Oil:

SAE 90, SAE 80W-90, SAE 75W-90

Approved Sources:

| | |
|-------------------------|------------------------|
| Union Oil Co. | Unocal MP Gear Lube |
| Exxon Co. USA | Gear Oil GX 80W-90 |
| Mobil Oil Corp | Mobilube SHC 75W-90 |
| Pennzoil Prod. Co. | Gear Plus 80W-90 GL-5 |
| | Gear Plus Super 75W-90 |

Note: The convenient lubrication provisions of the E-Z Lube™ and the oil lubrication must not replace periodic inspection of the bearings.

Bearing Adjustment and Hub Replacement

If the hub has been removed or bearing adjustment is required, the following adjustment procedure must be followed:

1. After placing the hub, bearings, washers, and spindle nut back on the axle spindle in reverse order as detailed in the previous section on hub removal, rotate the hub assembly slowly while tightening the spindle nut to approximately 50 lbs.-ft (12" wrench or pliers with full hand force).
2. Then loosen the spindle nut to remove the torque. *Do not rotate the hub.*
3. Finger tighten the spindle nut until just snug.
4. Back the spindle nut out slightly until the first castellation lines up with the cotter key hole and insert the cotter pin (or locking tang in the case of E-Z Lube™).
5. Bend over the cotter pin legs to secure the nut (or locking tang in the case of E-Z Lube™).
6. Nut should be free to move with only restraint being the cotter pin (or locking tang).

For axles using the new nut retainer:

1. Finger tighten the nut until just snug, align the retainer to the machined flat on the spindle and press the retainer onto the nut. The retainer should snap into place. Once in place, the retainer/nut assembly should be free to move slightly.
2. If the nut is too tight, remove the retainer and back the nut off approximately one twelfth of a turn and reinstall the retainer. The nut should now be free to move slightly.
3. Reinstall grease cap.

E-Z Lube™ Lubrication

The procedure is as follows:

1. Remove the rubber plug from the end of the grease cap.
2. Place a standard grease gun onto the grease fitting located in the end of the spindle. Make sure the grease gun nozzle is fully engaged on the fitting.
3. Pump grease into the fitting. The old displaced grease will begin to flow back out the cap around the grease gun nozzle.
4. When the new clean grease is observed, remove the grease gun, wipe off any excess, and replace the rubber plug in the cap.
5. Rotate hub or drum while adding grease.

Nev-R-Lube™ Drum Removal

Whenever the hub equipment on your axle must be removed for inspection or maintenance, the following procedure should be utilized.

1. Elevate and support the trailer unit per manufacturer's instructions.
2. Clean and inspect spindle shaft. Apply a light coating of anti-seize lubricant to the spindle shaft prior to assembling drum.
3. Install drum assembly onto spindle (*Do Not FORCE*).
4. Install steel washer onto spindle end.
5. Start self-locking nut onto spindle thread by hand. Complete installation using a 1½" or 17/16" socket and torque wrench. Nut should be torqued to 145-155 lb.-ft. (this torque will set the internal bearing adjustment, no other adjustments are to be made).
6. Install "torque instruction" washer onto end of spindle.
7. Install "external" snap ring onto end of spindle to retain washer.
8. Inspect assembly for excessive end play, noise, and rotation restriction prior to mounting final wheel end hardware.

Nev-R-Lube™ Bearing End Play Inspection

The following lists the maximum axial end play for each of the sizes of Nev-R-Lube™ bearings and the amount of tilt that can be expected. Since there are a large number of wheel and tire combinations in use on trailers, the tilt is expressed in inches per inch. The movement as measured at the tire tread can be found by the following method:

Example: if the tilt value is shown as .003" per inch and the tire measures 30" in diameter, simply multiply .003" X 30" = .090" which is the total expected movement at the tires' outer diameter.

| Bearing size | End play | Resultant tilt value |
|--------------|-------------|----------------------|
| 35 MM | .005" axial | .003"/ per inch |
| 42 MM | .006" axial | .005"/ per inch |
| 50 MM | .008" axial | .004"/ per inch |

It is important to note that most mounted tires will deflect fairly easily when enough hand pressure is applied while shaking the tire. Excessive pressure will result in the perception that the bearings' tilt is greater than it actually is. This same phenomenon will occur when checking any wheel end, even those equipped with conventional bearing sets.

