AXIS PRODUCTS, INC	**Tip Sheet** **Bearing Maintenance**	
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This Tip Sheet outlines bearing maintenance schedule and techniques. This maintenance schedule and associated techniques are designed to limit wear, detect damage, and prevent failure of critical components. Damage to or failure of critical components can result in catastrophic failure (wheel separation) of the axle assembly. Therefore, proper bearing maintenance is critical to safe trailer operation.

The recommended service interval is to inspect and repack bearings every 6 months or 6,000 miles.

Maintenance requirements may vary based on product application and usage.

Warning

Please read and fully understand this procedure prior to performing any bearing maintenance. This manual outlines general directions for bearing maintenance using tested effective techniques. Additionally, all common and accepted safety practices are to be followed in performing this procedure. Hazards exist if the procedure is improperly performed. Incorrectly performing this procedure can result in property damage, personal injury, or loss of life. If you have any questions or concerns regarding safely performing this procedure, seek trained professional assistance. Neither Allmand Bros. Inc. nor Axis Products, Inc. are in any way responsible or liable for damages or injury resulting from the performance of this procedure or its outcome.

Component Identification

Hub Types

Idler Axle- std. hub assembly
Drum Brake Axle- hub/drum assembly
Disc Brake Axle- hub/rotor assembly

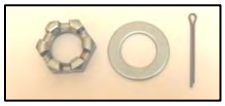
The bearing maintenance for all types of hubs is the same. However, when maintaining hub drums, or disc brake rotors, care must be taken to avoid contaminating brake shoe contact surface of drum or brake disc.

Example: std hub

Example: hub drum

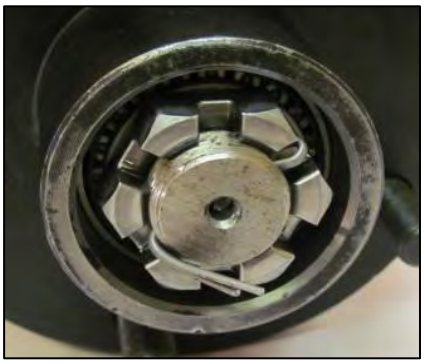
Spindle Nut Retainer
Spindle nuts are locked in place using either:

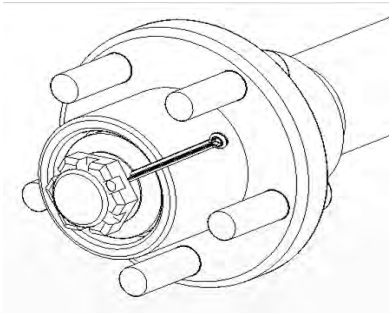
Cotter Pin (with O-Washer)

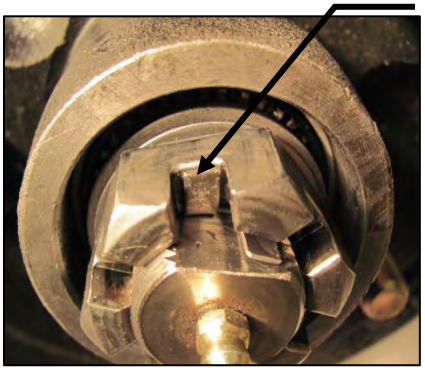


Or

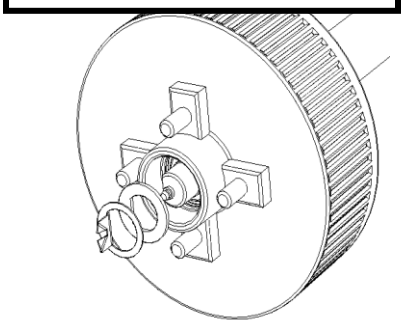
Tang Washer (with D- Shaped Washer)







Note: tab bent upward to prevent nut from turning.



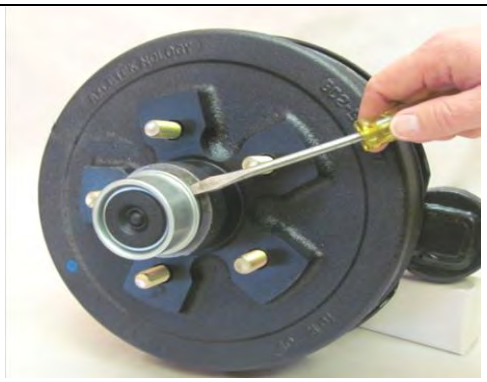
Bearing Maintenance Procedure

Note:

To avoid parts becoming contaminated with dirt or debris, use care during the disassembly and assembly processes.

1-Remove Grease Cap

Using a screwdriver, carefully pry OFF grease cap.



2-Remove Spindle Nut Lock Device
Tang Washer
Bend washer tab clear of slot in castle nut.

OR
Cotter Pin
Bend cotter pin straight and remove.

3-Remove Spindle Nut

Remove spindle nut and collect washer(s).

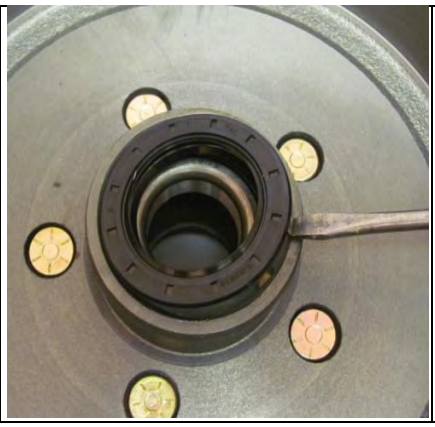
4-Remove Hub Assembly

Pull hub/drum off of spindle.

Clean and inspect spindle and brake assembly (if equipped).

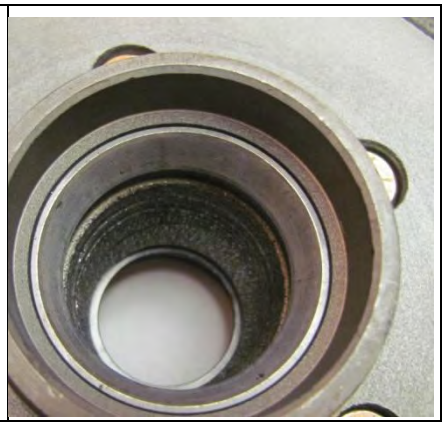
5-Remove Grease Seal

Carefully pry seal out of hub using a seal remover or screwdriver. Do not drive the seal out by hitting the bearing since this may damage the bearing.



6-Inspect Bearing Races

Clean and inspect the bearing races for signs of pitting, rust, or other damage.
(If undamaged, skip to step 9.)



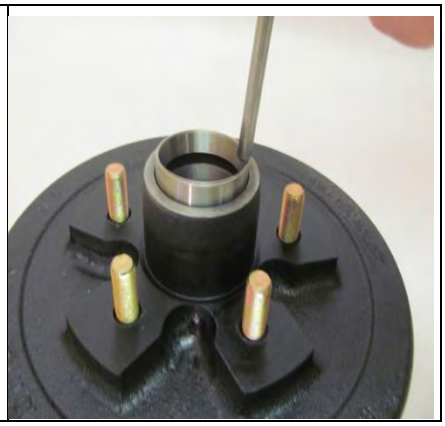
7-Remove Bearing Race(s)

If damaged, remove races using a brass or mild steel punch to avoid damaging the hub.

8-Install New Race(s)

Carefully drive new race evenly into place. Ensure that it is fully seated.

Note: replace races and bearings as sets.



9-Clean Bearings

Note: If bearings and races are being replaced, skip to next step.

Remove grease from bearing cones using a suitable solvent. Dry with a lint free cloth.

Examine for signs of damage, corrosion, and wear.

Warning: Do not use compressed air to clean or dry the bearing.

10-Repack Bearings

1) Place a quantity of grease into the palm of 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 while rotating the bearing from roller to roller.
4) Continue until the entire bearing is filled with grease.
5) Before installing, apply a light coat to bearing cup (race).

Note: Do not pack hub full of grease.

Wheel bearing grease specification:

- Quality high temperature lithium base wheel bearing grease that meets NLGI#2

Recommended Lithium Wheel Bearing Greases:

- Mobil Oil- Mobile Grease HP
- Exxon- Renox MP
- Kendall Refining Co.- Kendall L-427
- Ashland Oil Co.- Valvoline Val-plex EP

11-Install New Grease Seal

Install a new seal every time a bearing cone is removed.

Prior to installation, ensure inside diameter of seal mating surface is clean.

This is a press fit operation. Use a wood block or seating tool to drive the new seal in place.

12-Install Hub Assembly

Carefully position hub/drum onto spindle. Use care not to damage seal or spindle threads.

13-Install Washer(s)
Ensure outer bearing is seated and
Install O-washer (cotter pin spindle)

Or

Install D-washer and Tang washer (D-Flat Spindle)

14-Install Spindle Nut

Thread spindle nut onto spindle. While slowly spinning the hub, torque to approx. 50 ft-lbs.

15-Adjust Hub Torque

Loosen spindle nut slightly to remove the torque.

Do not allow the hub to rotate.

Then tighten nut to finger tight.

16-Align Cotter Pin Hole or Washer Tab

Align nearest slot in castle nut with cotter pin hole or locking tab on tang washer.

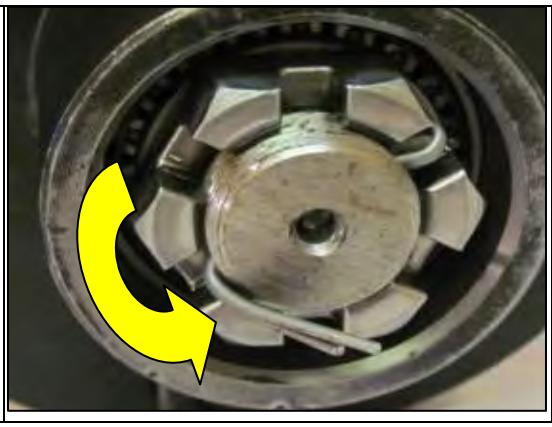
This is usually accomplished by loosening the spindle nut slightly.

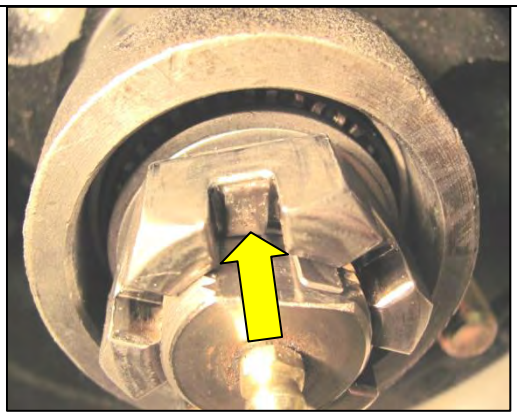
17-Install Cotter Pin or Bend Tab of Tang Washer

Install and bend a new cotter pin.

or

Fully bend tab of tang washer into slot in castle nut.

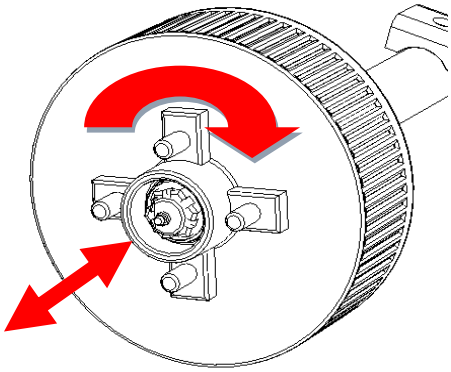




18-Check Hub Adjustment

Critical
With spindle nut installed, the hub should rotate freely with no more than .012" end play.

Note: With cotter pin installed or tang washer bent the nut should be free to move slightly.

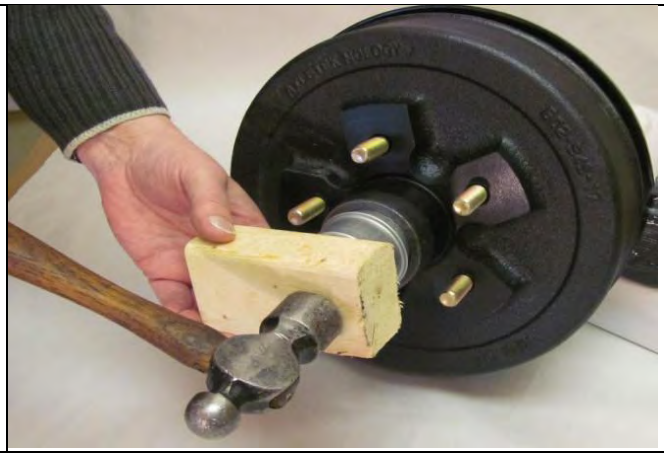


19-Install Grease Cap

Verify installation of cotter pin or tang washer.

Drive grease cap evenly into hub until fully seated.

Using a block of wood prevents damage.



Replacement Bearing and Seal Chart

Axle Capacity	Spindle Diameter	Inner (Bearing/ Cup)	Outer (Bearing/ Cup)	Seal Number
2,000 lbs	1”	44643 / 44610	44643 / 44610	12192TC
2,200 lbs	1-1/16”	44649 / 44610	44649 / 44610	15192TC
3,500 lbs	1-1/16” & 1-3/8”	68149 /6 8111	44649 / 44610	171255TC
6,000 lbs	1-1/4” & 1-3/4”	25580 / 25520	15123 / 15245	21333TC
7,000 lbs	1-1/4” & 1-3/4”	25580 / 25520	14125 / 14276	21333TC

Other Replacement Parts

Spindle Nut (castle) (1”-14 6 slot)	786722016140
Cotter Pin	786940000000
Round (“O”) Washer	786930200000
“D-Shaped” Washer	786930000000
Tang Washer	770963120000