

- ☞ The axle assembly should be steam cleaned on the outside to remove dirt, and grease. Before the axle is steam cleaned, place a cover over all openings in the axle assembly. *Examples of openings are breathers and or vents in air chambers.*
- ☞ Block the vehicle.
- ☞ Drain axle lubricant.
- ☞ Disconnect all air lines to the axle.
- ☞ Disconnect inter-axle and main drive shafts.
- ☞ Remove axle stud nuts and axle shafts (If used, remove lock washers and taper dowels). Axle shafts may also be location specific with various wheel equipment. Do not misplace axle shafts from their intended location.

TIP: To loosen dowels, hold a brass drift in the center of the shaft head and strike drift with a sharp blow using a hammer.

CAUTION: Do not strike the shaft head with a steel hammer. Do not use chisels or wedges to loosen shaft or dowels.

- ☞ Remove carrier cap screws, nuts and lock washers.
- ☞ Forward Models Only: Remove output shaft nut and yoke.
- ☞ Remove differential carrier assembly.
- ☞ Remove wheel end bearings and seals.
- ☞ Wash the housing and tubes axles and hubs with solvent. Then rinse everything with water and wipe or blow dry.

There are many suitable commercial solvents available. Kerosene and diesel fuel are acceptable.

WARNING: Gasoline is not an acceptable solvent because of its extreme combustibility. It is unsafe in the workshop environment.

- ☞ Inspect axle housing
- ✓ Visually inspect axle housing for cracks, nicks and burrs on machined surfaces.
- ✓ Check carrier bolt holes and studs for foreign material.
- ✓ Replace damaged fasteners. Look for loose studs or cross threaded holes.

CAUTION: Any damage which affects the alignment or structural integrity of the housing requires housing replacement. Do not repair by bending, straightening or welding. This process can affect the material's properties and cause it to fail completely under load

- ☞ Scrape inside housing to remove any hard deposits. Pay particular attention to the pockets where the tubes join the main housing.

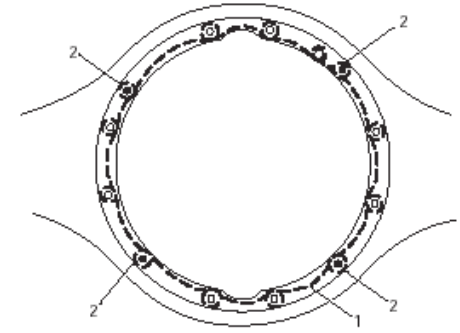
TIP: Use a stiff brush (toilet brush) taped or tied to a old broom handle or a chimney brush to clean inside axle tubes.

- ☞ Wash the housing and tubes and hubs with solvent. Then rinse everything with water and dry immediately with clean rags.
- ☞ Inspect carefully for any deposits remaining and repeat steps 12 and 13 until you are certain it is clean.

NOTE: Most repeat failures are caused by improper or incomplete cleaning.

- ☞ Coat all unpainted surfaces with oil. if not reassembling immediately
- ☞ Inspect replacement unit before installing. to ensure
 - ☑ Axles fit properly
 - ☑ Ratio verified.
 - ☑ Air lines, electrical hook ups
 - ☑ Case mounting pattern
- ☞ Wipe axle both housing mating surfaces with brake cleaner or alcohol and dry.

- ☞ Apply 0.125-inch (3 mm) diameter continuous bead of the silicone gasket material around one surface. Also apply the gasket material around the edge of all fastener holes on that surface as shown in the illustration



1 - Apply silicone gasket in this pattern
2 - Stud locations (varies by model)

CAUTION: The amount of silicone gasket material applied must not exceed 0.125-inch (3 mm) diameter bead. Too much gasket material can block lubrication passages and result in damage to the components.

NOTE: Compound will set in about 20 minutes. Install carrier before compound sets or re-apply.

TIP: To assist in installing complete differential carrier, use two pieces of threaded rod (usually 5/8"-11 UNC) threaded into carrier cap screw holes. Rod should be approximately 6" long. Use these to pilot the carrier into the housing.

- ☞ Install differential carrier assembly to axle housing using lock washers, cap screws and nuts. Torque to manufacturers specification.
- ☞ Install axle housing cover and output shaft bearing parts if equipped
- ☞ Install input and output yoke (if equipped) and self-locking nut. Tighten to specified torque
- ☞ Install wheel hubs, axle shafts and axle stud nuts

- ☞ Connect main and inter-axle drive shafts. Ensure drive shafts are properly phased.
- ☞ Lubricate U-joints.
- ☞ Connect air lines to differential.
- ☞ Install wheel hubs, axle shafts and axle stud nuts
- ☞ Add axle lubricant.

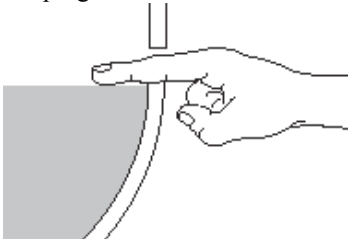
NOTE: Differential Lubricants and transmission lubricants differ.
Check manufactures specifications

Wheel Ends with a Oil Fill Hole.

- Rotate the wheel end hub until the oil fill hole is up.
- Remove the oil fill plug.
- Pour 1/4 litre of axle sump lubricant into each hub through the wheel end fill hole.
- Install oil fill plug and tighten to specified torque.

Wheel End without Oil Fill Hole

- Raise one side of the axle 6 inches or more.
- Hold axle in this position for a few minutes.
- Lower and repeat for the other side.
- With axle level surface, fill housing with oil to bottom of plug.



- ☞ Check axle assembly for proper differential action before operating vehicle. Wheels must rotate freely and independently.
- ☞ Road test vehicle to bring axle lubricant up to temperature.
- ☞ Recheck joints, drain and fill plugs for leakage. Re-tighten as necessary.
- ☞ Change oil at 3,000 - 5,000 km then 40,000 - 50,000 or 6 months whichever occurs first. If equipped with a filter ~ change it regularly.

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**Replacing
a
Differential**

