

DANA 30 MANUAL HUB CONVERSION KIT



PLEASE READ AND UNDERSTAND ALL INSTRUCTIONS BEFORE YOU BEGIN

Your safety and the safety of other motorists is very important. Your Jeep is an off road capable vehicle that readily lends itself to restoration and customization. It is not practical or possible to warn about all hazards associated with your Jeep. Start by familiarizing yourself with all of your vehicle's manufacturers' instructions, warnings, limited warnings and the instructions and warnings accompanying your aftermarket product. To help make informed decisions about safety, the following instructions have provided certain information in the form of "Notices" and "Warnings". This information alerts you to potential hazards that could hurt you or others.

NOTICE

This is a caution against anything which may cause damage to the vehicle or its equipment if the caution is ignored. The Notice includes information about how you can avoid or reduce those risks.

WARNING

This is a signal telling you that you CAN be KILLED or SERIOUSLY HURT if you don't follow the Warning. The Warning includes information about what you must or must not do in order to reduce the risk of injury to yourself and others.

CAUTION

This is a signal telling you that you or others CAN be HURT if you don't follow the instructions. The Caution includes information about how you can avoid those risks.

For Technical Assistance Contact:
OMIX-ADA Tech Support
Email: techsupport@omix-ada.com
Web: www.Omix-Ada.com
Phone: 1-800-449-6649

NOTICE

You will need to use new brake pads with this conversion. This kit contains factory thread pitch of 1/2" x 20 wheel studs. Please verify your lug nuts have the same thread pitch. Wheel center hole must be at least 2.75" in diameter. Verify wheel opening before you begin.

Step 1. Park the vehicle on a flat level area. Before you begin you will need to shift the transfer case into 4wd mode in accordance your factory operating instructions. This will help with alignment of the splines during installation of the axle shafts.

Step 2. With the ignition off and in park (automatic transmission) or reverse (manual transmission) set the Emergency brake and chock the rear wheels to prevent rolling of the vehicle.

Step 3. Raise the front end of the vehicle by the axle. Place two jack stands under each side of the axle to support the vehicle. Both sides may be done simultaneously.

Step 4. Remove the front wheels. Both wheels may be removed at once if vehicle is properly supported.



Step 5. Remove the caliper and support it from the frame with a piece of rope or wire. Do not let calipers hang from the brake hose, this may cause damage to the hose. The calipers are held on with two hex head bolts.



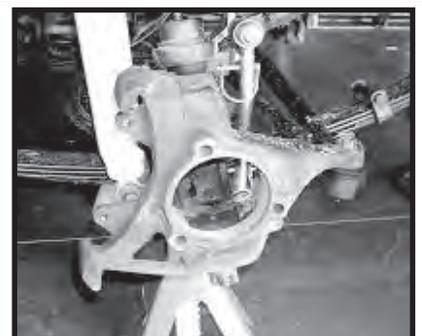
Note: A thread penetrant spray may be needed to help in the removal of the bolts.

Step 6. Remove the brake rotor from the bearing hub. The existing brake rotors will not work with the new Hub Conversion kit.

Replacement rotors are available from Omix-Ada. (part # 16702.13)



Step 7. Remove the hub bearing assembly, axle, dust shield. The axle shaft nut does not have to be removed. Once the (3) 12 point bolts have been removed from the back side of the bearing hub, the axle shaft and bearing hub can be removed as one unit.

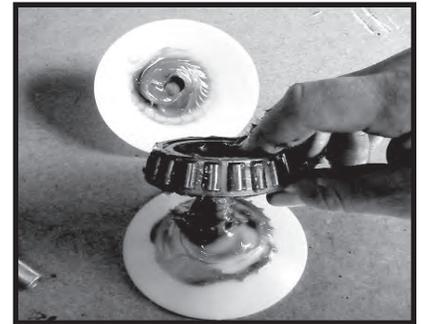


NOTICE A bearing race driver tool or brass punch is required for installation of the bearing races. Damage to the bearing races can cause premature failure of the bearings.

Step 8. Install both races into the new conversion hubs. Note: The larger race is installed on the protruding side of the hub that goes toward the axle knuckle. (part #16707.03) The smaller race is installed on the flat side of the hub. (part #16707.02) Verify each race has been fully seated before you continue.



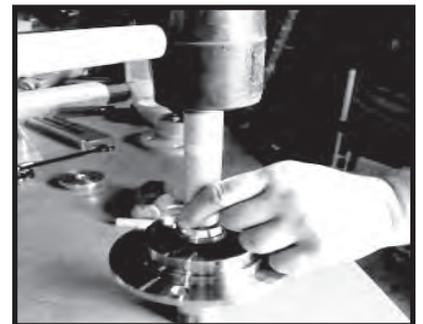
Step 9. Pack the bearings with grease. A marine style waterproof grease is preferred. Bearings should be packed completely with grease. A bearing packer will ease this procedure. The conversion hub does not need to be packed with grease.



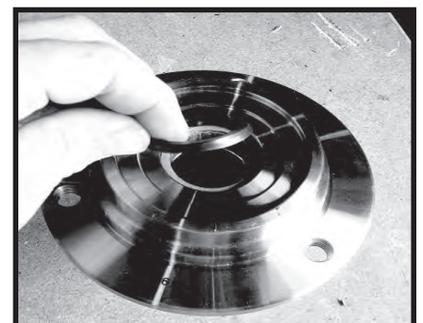
Step 10. Install the rear bearing seal into the conversion hub. Take care to avoid damaging the seals when installing the shafts.



Step 11. Install the caged roller bearing into the back side of the spindle. Bearing should be installed with a proper bearing installer tool. Make sure the bearing is completely seated into the spindle.



Step 12. Install the bearing dust seal into the spindle. The open side of the seal goes inward towards the bearing.



CAUTION U-joints will need to be pressed in. Do not use a hammer to install the caps on the u-joints. While pressing in the u-joints use caution as pressure is applied to assemble the u-joints.

Step 13. Assemble the new Alloy USA shafts. Remove the grease fittings out of the caps before the caps are pressed on. The new u-joints come with both c-clips and full clips. If the full clips are used, they will need to be installed on the u-joint before it is placed in the axle shafts. Once the shafts are assembled, check for any binding. If any binding occurs, the shafts will need to be disassembled and inspected for any damaged or out of place needle bearings.



Note: Kit #12198 Supplied with new inner and outer shafts.
Kit #12194 and #12195 Supplied with new outer shafts only.

The following instructions are for axles equipped with a disconnect only. **KIT #12198 ONLY**

DISASSEMBLY

- Step 1: Remove vacuum actuator assembly. Please refer to your owner's manual for the proper procedure.
- Step 2: Pull both right and left axle assemblies from vehicle. Discard stock two piece axle.
- Step 3: Remove right side outer seal and discard.
- Step 4: Remove differential cover and bearing caps (mark RH,LH). Remove carrier.

Note: Removing differential does not affect your ring and pinion settings as long as the carrier bearings remain attached to the carrier, and pinion is left in axle housing. Be sure to mark bearing caps in relation to the side they were removed from.

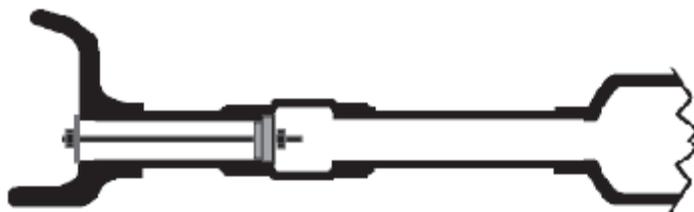
ASSEMBLY

Outer Seal Installation (Note: The following illustrates two different ways to install the new seal.)

(Method 1) - Use threaded rod, large washer, and two nuts.

- Step 1: Clean axle tube bore. Bore can be scraped clean by using the threaded rod and a smaller I.D. flat washer. Insert washer and rod to the end of tube and pull back scraping any dirt and gear oil that may have settled to the bottom of the tube.
- Step 2: Insert threaded rod into axle housing. Slide seal onto rod through disconnect opening. Place large washer onto rod end through opening. Thread nut onto rod. Leave about 1" of rod at end (See Fig.1).
- Step 3: Set seal in seal bore of axle tube (See Fig.1).
- Step 4: Slide large washer onto the rod at the knuckle end and thread nut onto rod. Tighten nuts while checking outer seal to make sure it remains square to the bore. Continue until seal is fully seated.

Figure 1 - (Outer Seal Installation - Method 1)



(Method 2) - Will be necessary to fabricate or buy seal insertion tool as shown (Fig.2)

Step 1: Clean axle tube bore. Bore can be scraped clean by using the threaded rod and a smaller ID flat washer. Insert washer and rod to the end of tube and pull back scraping any dirt and gear oil that may have settled to the bottom of the tube.

Step 2: Using seal insertion tool, drive seal into bore and impact with hammer (See Fig.2). Check seal, through disconnect opening, to ensure seal remains square in tube seal bore.

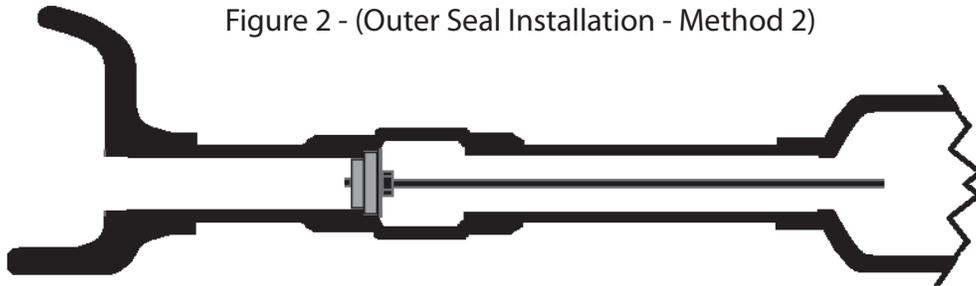


Figure 2 - (Outer Seal Installation - Method 2)

INNER SEAL INSTALLATION - Driver's side

Step 1: Clean axle tube bore. Bore can be scraped clean by using the threaded rod and a smaller I.D. flat washer. Insert washer and rod to the end of tube and pull back scraping any dirt and gear oil that may have settled to the bottom of the tube.

Step 2: Place seal into seal bore through carrier opening. Use a 1-3/8" socket or a correct sized wood block. Impact with hammer until fully seated. Before hitting make sure that the seal is square with seal bore. Refer to owner's manual if needed.

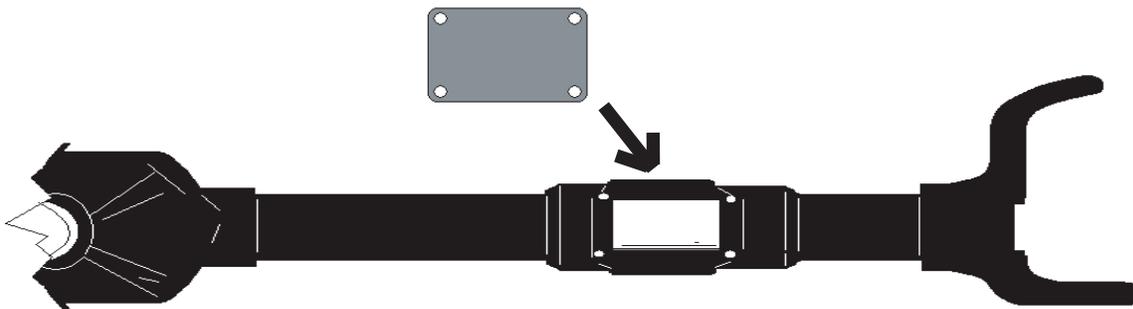
AXLE INSTALLATION

Step 1: Install differential carrier noting correct end cap placement. Tighten to correct ft/lbs, and install cover.

Step 2: Assemble inner and outer axle shafts with u-joints. Insert axle assembly into housing. Take care to avoid damaging seal when installing.

Step 3: Install new Block-Off plate in place of vacuum disconnect cover. Either an O.E. gasket or silicone sealant can be used (Fig.3).

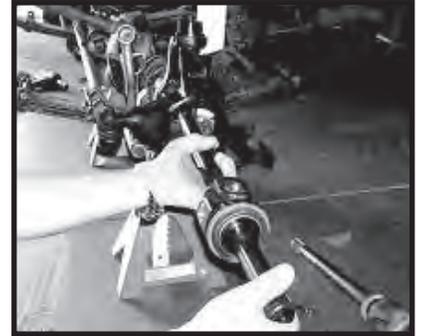
Step 4: Install the differential cover. Either an O.E. gasket or silicone sealant can be used.



Step 14. Install the outer dust shield and dust seal on both outer axel shafts. The metal dust shield is installed with the lip facing outward away from the vehicle. The dust seal is installed with the thicker side towards the metal dust shield.



Step 15. Install both LH, RH axle shaft assemblies into housing. Take care to avoid damaging the seals when installing the shafts.



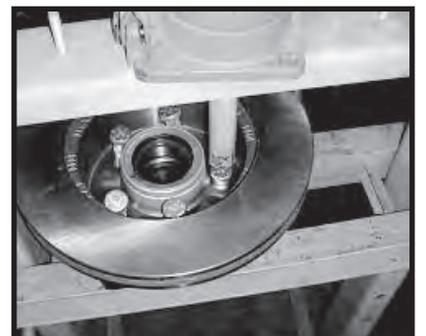
Step 16. Install the plastic fiber washer on the inward side of the spindle. Slide spindle over the outer axle shaft and install into the outer knuckle on the axle housing. The inner part of the washer should taper outward.



Step 17. Bolt the conversion spindle to the knuckle on the axle housing. A small amount of thread locker should be applied to each bolt. Torque each bolt on the spindle to 75 ft-lbs.



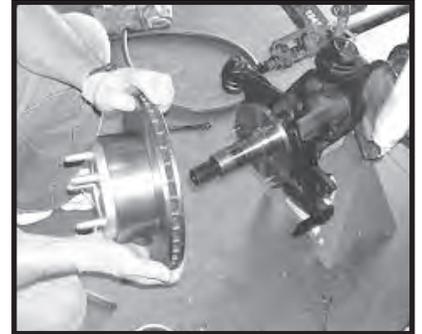
Step 18. Install the conversion hub into the rotor. The hub is installed thru the front side of the rotor. The extending part of the hub should sit inside of the rotor. The wheel studs will be pressed in from the back side of the rotor securing it to the hub. Take care when installing the wheel studs as to not damage the threads.



Step 19. With the rotor and hub assembled, clean the outside surface of the rotor where the brake pads will meet. Used an approved brake cleaner to remove any grease or dirt that may have contacted the surface.



Step 20. Install the hub and rotor assembly onto the spindle. As you are installing the assembly take care as to not damage the rear seal.



Step 21. Install the outer bearing into the hub. When installing the bearing lock nuts, note the difference in the inner nut. The inner nut will have a small pin on the outer surface face. The pin goes outward towards the wheel. Using 4wd spindle nut socket, torque the nut to 50 ft-lbs. Rotate the rotor in both directions to help seat the bearings. Loosen the nut 1/4 of a turn to release slight pressure on the bearings.



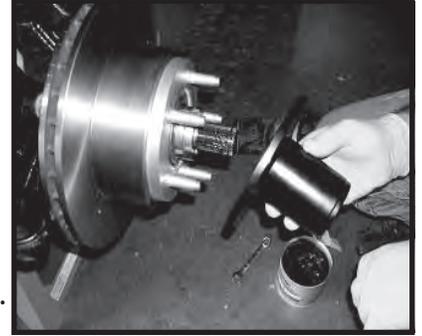
Step 22. Install the lock washer onto the spindle. Align the notch on the inside of the lock washer with the notch cutout in the spindle. The pin on the nut should be aligned with one of the holes in the lock washer. The lock washer may have to be flip over or you may have to slightly tighten or loosen the inner lock nut to align the pin.



Step 23. Install the outer locknut onto the spindle. Torque outer locknut to 125 to 150 ft-lbs. Once all locknuts have been torqued, check for end play. If any end play occurs the procedures with have to be repeated.



Step 24. Install the hub lock onto the spindle. Align the splines and hold the hub lock against the rotor. Rotate the rotor back in for in the free position on the hub lock. Rotor should spin freely. Move the dial on the hub lock into the lock position, as you spin the rotor the shaft should rotate with the rotor. Check both sides for proper function. Install brake calipers and new brake pads. Install both front wheels. Torque luts nuts to the manufacture suggested torque settings. Raise vehicle and remove jack stands. Lower vehicle onto the ground. After 50-100 miles re-check torque on the lug nuts.



No.	Description	QTY	Kit #
16705.13	HUB DANA 30 CONVERSION	2	All
16529.12	SPINDLE DANA 30 CONVERSION	2	All
8126638S	16525.05 U-JOINT SPICER Y/T/Z	2	12195 and 12198
8126637	U-JOINT FRONT AXLE GREASEABLE	2	12194 only
16702.13	ROTOR BRAKE FRT HUB CONVRSION	2	All
15001.65	LOCKING HUBS FORD RANGER 90-97	1	All
10128	CJ D30/SCOUT D44 OUTER 27 SPL	2	12195 and 12198
36617	16523.03 AXLE SHAFT OUTER 72-86	2	12194 only
8127356	BEARING SPINDLE KT D30	2	All
8128285	16512.55 DUST SHIELD=36364	2	All
99STUD7	WHEEL STUD PRESS IN HUB CONVER	10	All
4004815	16527.35 WASHER SPINDLE D44	2	All
4004816	16527.36 NUT SPINDLE INN D44	2	All
5352169	16527.37 NUT SPINLDE OUT D44	2	All
925447	16707.02 CUP FRT HUB INN/OUT	2	All
8127630	16707.03 CUP INN FT HUB 77-86	2	All
3156052	16706.02 BEARING DIFF SIDE D27	2	All
5356661	16706.03 BEARING FRT HUB INNER	2	All
5356675	16708.03 SEAL FRT HUB 77-86	2	All
8127348	16529.10 WASHER =38106	2	All
10113	D30 87-UP TJ RH 32.31 27 SPL	1	12198 only
10124	D30 87-UP LJ/TJ/XJ/YJ 16.5 LH	1	12198 only
DISCOPLATE	Dana 30 Disconnect Cover Plate	1	12198 only
NA470160	27 SPLINE YJ SEAL : 12145 470	1	12198 only
4137732	16527.19 GASKET AXLE DIS CVR	1	12198 only
8121781	16526.02 SEAL OIL INN AXLE D30	1	12198 only