WRANGLER, CHEROKEE AND COMANCHE, FRONT AXLE WHEEL HUB CONVERSION KIT

-YA WU-07 5 x 4.5
-YA WU-08 5 x 5.5

THIS KIT IS NOT INTENDED FOR VEHICLES WITH ABS AND YA WU-08 WILL CHANGE BOLT PATTERN TO 5 ON 5.5

THIS KIT INCLUDES NEW BRAKE ROTORS WHICH HAVE BEEN MODIFIED FROM STOCK. THEY MUST BE USED FOR PROPER FITMENT AND OPERATION.

As you read these instructions, you will see NOTES, CAUTIONS and WARNINGS. Each message has a specific purpose. NOTES are additional information to help you complete a procedure. CAUTIONS are safety messages that indicate a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. A CAUTION may also be used to alert against unsafe practice. WARNINGS are safety messages that indicate a potentially hazardous situation, which, if not avoided could result in serious injury. CAUTIONS and WARNINGS identify the hazard, indicate how to avoid the hazard, and advise of the probable consequence of not avoiding the hazard. PLEASE WORK SAFELY!

SAFETY PRECAUTIONS

CAUTION

READ INSTRUCTIONS THOROUGHLY BEFORE BEGINNING INSTALLATION.

This sheet provides guidelines to install the Spin Free Hub Converstion Kit (Figure 3). There are NOTES, CAUTIONS, and WARNINGS which should be followed during installation to avoid possibility of personal injury or damage to the vehicle. During installation, standard safety precautions and equipment should be used where appropriate. Because the skill and experience of the installer and the tools used can vary widely, it is impossible to anticipate all conditions under which this installation is made or to provide cautions for all possible hazards. If your installation varies from the instruction, you must be completely satisfied that your safety or the operation of the vehicle will not be compromised.

NOTE: If you have questions concerning the installation of the Spin Free Hub Conversion Kit, call Randy's Ring & Pinion at 1-800-347-1188 for assistance.

APPLICATIONS

The Spin Free Hub Conversion Kit is designed to fit Wrangler, Cherokee and Comanche Jeeps.

FEATURES

Eliminates steering drag caused by front locking differentials in YJ's, TJ's and XJ's

High strength selectable locking hubs

Serviceable bearing and seals

TOOLS AND MATERIALS NEEDED

Jack	½" Drive Socket Set
Jack-stands	4-Lug Socket for Dana 44 (Fig 1)*
Torque Wrench	Safety Goggles
13mm 12 Pt. ½" Drive Socket	Shop Rags
*Snap-on PN S8695C or similar	

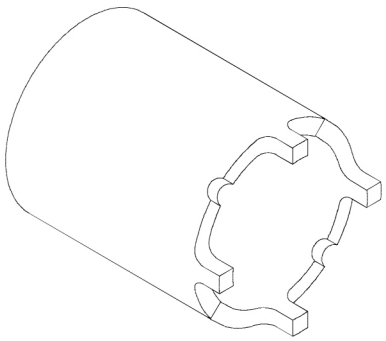
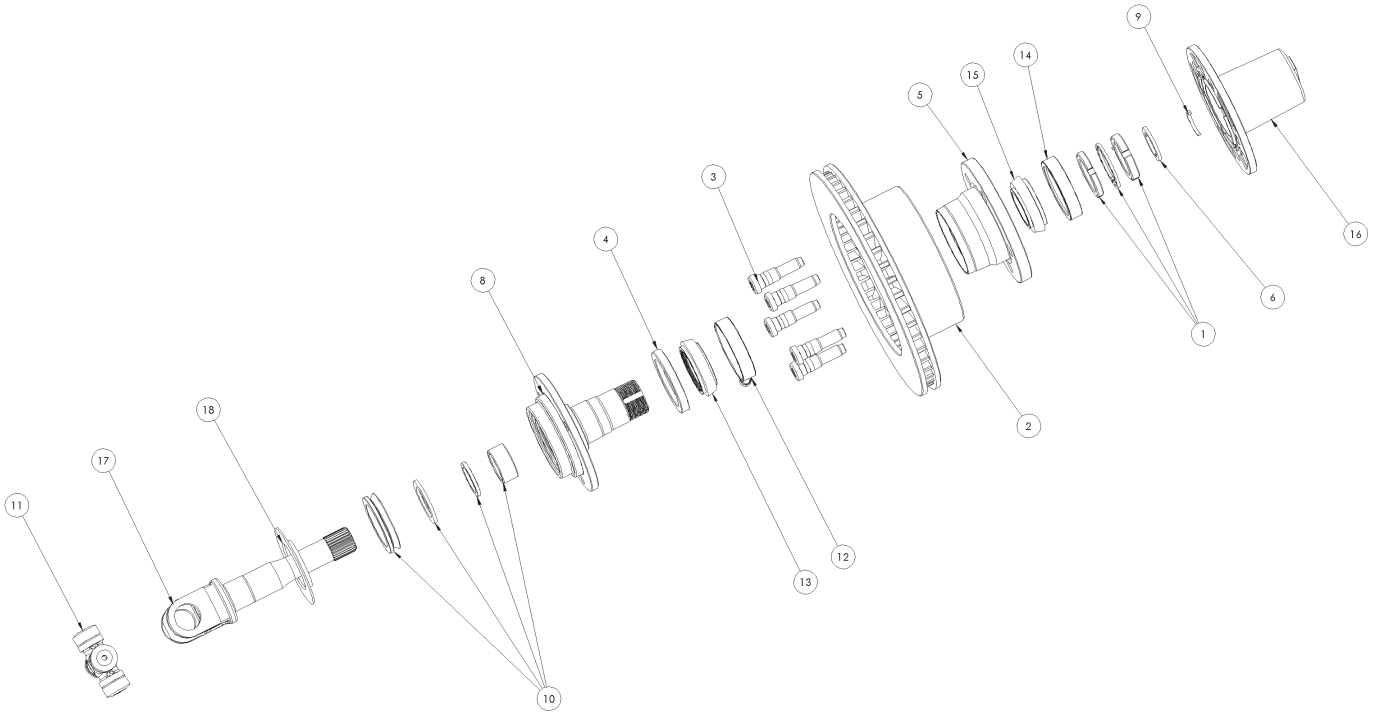
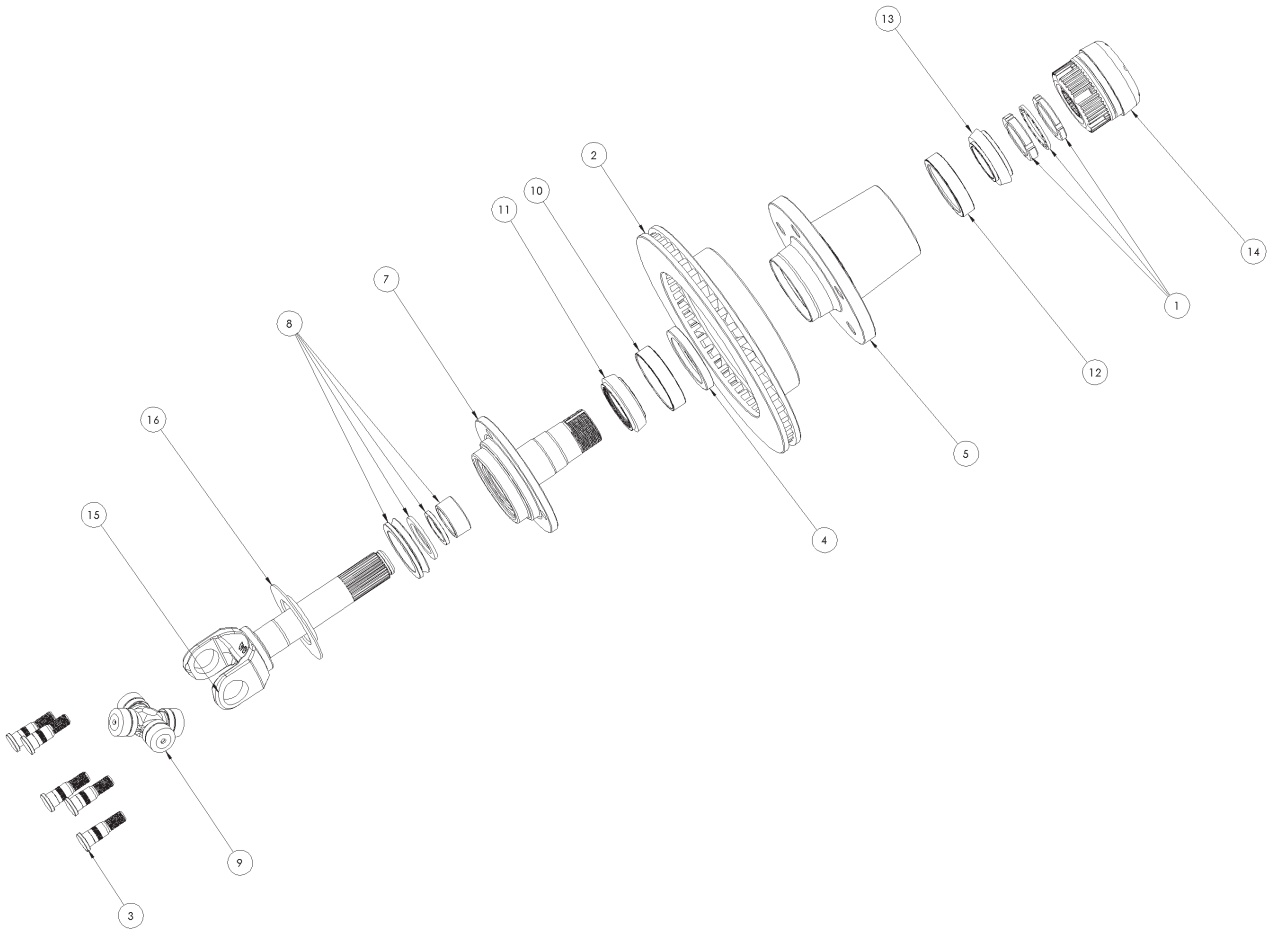


Figure 1. 4-Lug socket.



ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	2	AK-D44-NUTS-CJ	D44 SPINDLE NUTS
2	2	COM-D30-RASSY-02	BRAKE ROTOR
3	10	COMSTUD279	WHEEL STUD
4	2	COMW36332	HUB SEAL
5	2	COMW36891	WHEEL HUB
6	2	COMW37891	SPINDLE WASHER
7	1	COMW38361	SPACER/ACTUATOR
8	2	COMW62553	SPINDLE
9	2	DS 42768	HUB SNAP RING
10	2	DS 706527	BRG & SEAL KIT
11	2	DS U-760	U-JOINT
12	2	TK LM102910	BRG RACE
13	2	TK LM102949	BRG CONE
14	2	TK LM501310	BRG RACE
15	2	TK LM501349	BRG CONE
16	2	WRN37780	HUBLOCK SET
17	2	YA W37774	YUKON HARDCORE 27SPL AXLE
18	2	YSPBF-016	DUST SHIELD

Figure 2. YA WU-07.



ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	2	AK-D44-NUTS-CJ	D44 SPINDLE NUTS
2	2	COM-D30-RASSY-03	BRAKE ROTOR
3	10	COMSTUD149	WHEEL STUD
4	2	COMW36332	HUB SEAL
5	2	COMW36990-T	WHEEL HUB
6	1	COMW38361	SPACER/ACTUATOR
7	2	COMW62569	SPINDLE
8	2	DS 706527	BRG & SEAL KIT
9	2	DS U-760	U-JOINT
10	2	TK LM102910	BRG RACE
11	2	TK LM102949	BRG CONE
12	2	TK LM501310	BRG RACE
13	2	TK LM501349	BRG CONE
14	1	WRN60165	WARN 19 SPL LOCKOUTS
15	2	YA W38248	INNER FRONT AXLE
16	2	YSPBF-016	DUST SHIELD

Figure 3. YA WU-08.

WARNING

Raised vehicles can cause falling particles**. WEAR SAFETY GOGGLES.** Falling particles can cause eye injury.

Improperly supported vehicles can fall**. DO NOT USE A JACK TO SUPPORT THE VEHICLE. USE JACK STANDS IN PAIRS TO SUPPORT THE VEHICLE. USE JACKS OR JACK STANDS ONLY ON A HARD, STABLE, AND LEVEL SURFACE. DO NOT EXCEED THE RATED CAPACITY OF A JACK OR JACK STANDS.** An unstable vehicle can fall and cause a crushing injury.

A rolling vehicle can cause jackstands to tip. Before working under vehicle, **VERIFY THAT THE PARKING BRAKE IS SET, THE TRANSMISSION IS IN PARK (AUTOMATIC) OR REVERSE (MANUAL) AND THE REAR WHEELS ARE CHOCKED.** A tipping jackstand or vehicle can cause injury.

DISASSEMBLY

NOTE: The following instructions are for doing one side of the axle. Both sides of the axle can be done simultaneously.

1. Start the engine. Shift the transfer case into one of the 4WD modes. Leave transfer case in the position throughout entire wheel hub conversion installation. This will aid installation of the axle shafts
2. Turn the ignition key OFF. Put transmission in Park (automatic) or Reverse (manual).
3. Set the parking brake and chock the rear wheels.
4. Raise the front end and support it on 2 jack stands.
5. Remove the tire and wheel assembly.

WARNING

Brake pads may contain asbestos. **NEVER CLEAN BRAKE SURFACES WITH COMPRESSED AIR. AVOID INHALING ANY DUST FROM THE BRAKE SURFACE. USE A COMMERCIALLY AVAILABLE BRAKE CLEANING FLUID**. Asbestos has been found to be a cancer causing agent.

6. Remove the caliper and hang it from the frame or suspension with a piece of wire, being careful not to strain the brake hose. Do not hang calipers from brake hoses.
7. Remove 3 bolts retaining the original hub (using 13 mm 12 pt socket). Take care not to damage the bolts as they will be reused in the kit. Do not disassemble the bearing assembly from axle shaft. See Figure 4. (For location reference only)
8. Remove factory brake rotor.

NOTE: Refer to your authorized Jeep Technical Service Manual for removal instructions.

9. Remove axle shafts, brake shield, and unit bearing. This may take some force depending on the amount of rust, salt, or corrosion present. Take caution when removing the shaft assembly not to damage the inner shaft seals. See Figure 4. (For location reference only)

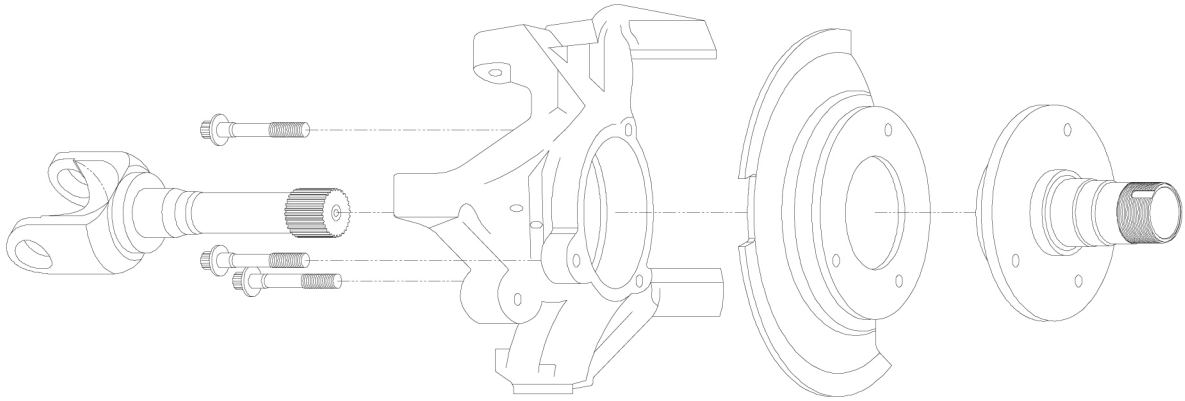


Figure 4. Exploded knuckle

WARNING

Press parts under stress can break**. WEAR SAFETY GOGGLES.** Broken parts can cause eye injury.

9. Separate the original inner shaft from the outer shaft by removing the u-joint.

NOTE: Refer to your authorized Jeep Technical Service Manual for removal instructions.

10. Install shield to outer axle shaft (both components supplied with kit). See Figure 5.

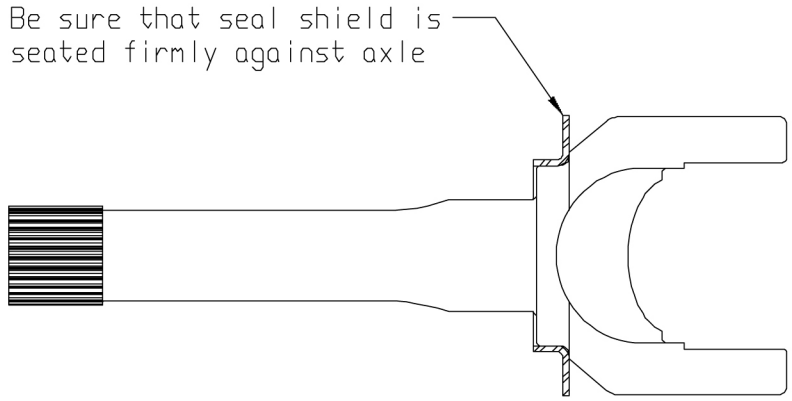


Figure 5. Stub axle and seal shield.

11. Install u-joint and outer axle shaft (both supplied in kit) to inner axle shaft.
12. While supporting axle assembly to keep from pushing loose material into differential, slide axle assembly into differential being careful not to damage the inner seal.

13. Place thrust washer I.D. chamfer side towards Yoke. See Figure 3.
14. Place V-seal (thick side towards yoke) on axle shaft. See Figure 3.
15. Install spindle bearing and seal into spindle. Make sure the spindle seal is placed cup side, facing away from needle bearing. This seal is held in by grease only.
16. Clean mating surfaces between steering knuckle and spindle. You may need to use a die grinder equipped with flapper wheel, depending on the amount of rust or corrosion present.
17. Place dust shield on to the steering knuckle.
18. Place spindle over outer axle shaft and bolt on to steering knuckle. Torque 3 bolts to 75 ft. lbs. See Figure 4.

ROTOR TO WHEEL HUB INSTALLATION

1. Place the brake rotor on the wheel hub aligning the holes. See Figure 6.
2. Press the studs into the holes.

NOTE: Make sure head of stud firmly contacts the brake rotor flange

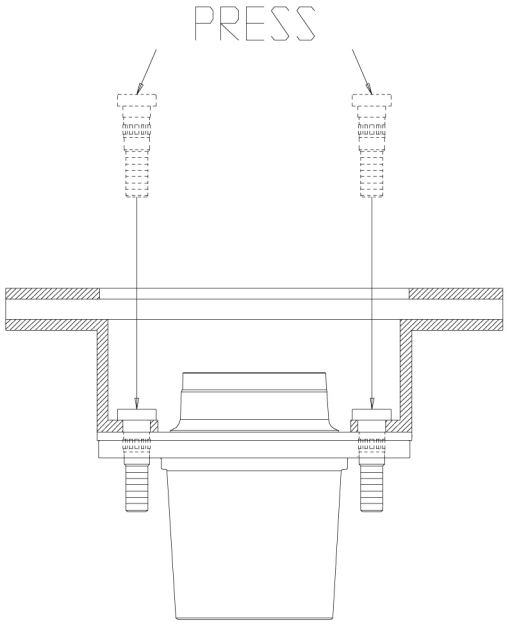


Figure 6. Stud press diagram

BEARING INSTALLATION

1. Inspect inside of wheel hub and clean if necessary.
2. Press wheel bearing races into the new wheel hubs. Bearing races must be full seated in the hubs.
3. Pack wheel hub inner diameter (Figure 7, Flag 4) with wheel bearing grease.
4. Apply a coating of grease to the inside diameter of the bearing cups.

5. Pack the inner wheel bearing cone (LM102949) with wheel bearing grease. Use a wheel bearing packer if possible. To pack by hand, place a large amount of grease in the palm of your hand and force the edge of the bearing into the grease so that it fills with grease. Continue until the whole bearing is coated with grease. Apply additional grease with fingers.
6. Install packed bearing into cup on inboard side of wheel hub. (Figure 7, Flag 1)
7. Apply additional grease around back side of installed bearing. (Figure 7, Flag 2)
8. Fill large radial seal cavity with grease. Press large radial seal into seat of inboard side of wheel hub. (Figure 7, Flag 2) Seal may protrude slightly from wheel hub.

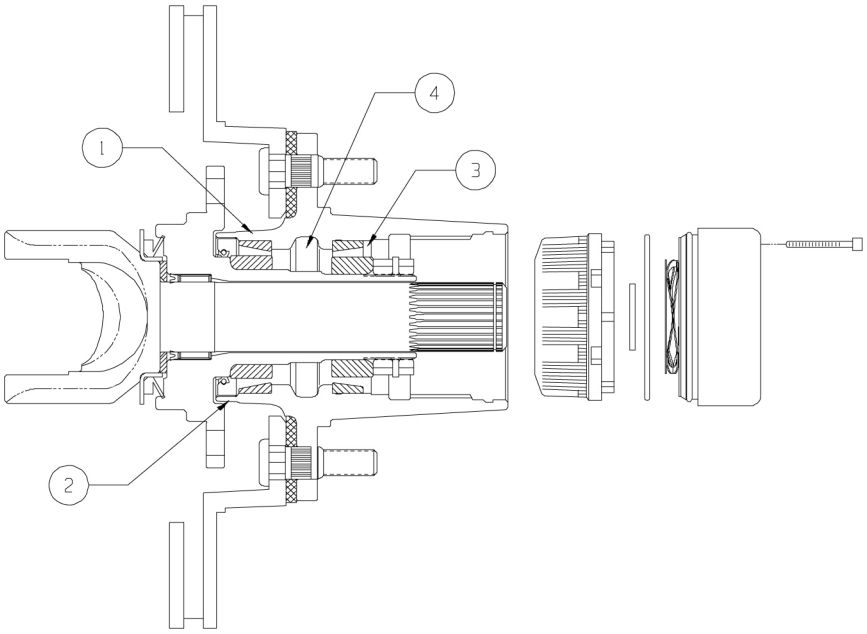


Figure 7. Bearing and seal installation.

9. Pack outer bearing (LM501349) with grease using the same technique described in step 4.
10. Install outer bearing (Figure 7, Flag 3).

WHEEL HUB INSTALLATION

1. Apply a light coating of grease to the shank of the spindle.
2. Slide wheel hub assembly onto spindle.

NOTE: Keep wheel hub aligned with spindle so bearings don't wedge on spindle.

3. Thread inner spindle nut on to spindle making sure the pin on the spindle nut is facing away from the vehicle.

4. Using hub spindle nut socket (See Figure 1) and torque wrench torque nut to 50 ft-lb. Rotate wheel back and forth while tightening the nut. This helps seat the bearings.

WARNING

Excess force can cause tool slippage or breakage and damage to the nut. **DO NOT OVERTORQUE NUTS.** Broken or slipping wrenches can cause eye or other injury.

5. Loosen the nut ¼ turn (90 degrees).
6. Re-tighten the locknut to 15-20 ft. lbs.
7. Do not over torque the spindle nut.
8. Install lock washer on spindle. Use care to align the pin in the inner nut with the hole in the washer. The washer may be flipped if the hole does not align with the pin.
9. Thread outer nut on spindle. See Figure 3.
10. Torque outer nut to 125 to 150 ft-lb.

NOTE: All free clearance should be removed from the bearings. If not, repeat procedure.

11. YA WU-07 kit only: install spindle washer over outer axle and seat against spindle. Install hub snap ring onto inboard side of axle shaft splines. Force may be needed to push axle assembly outward to install snap ring.
12. Install premium lockout hubs with the instructions provided with them.
13. Install brake caliper.
14. Install wheels and tires. Snug lug nuts.

WARNING: Check lug nuts for proper amount of thread engagement on the wheel stud. The minimum amount of engagement is equal to the diameter of the stud. If the minimum amount of engagement is not achieved then it is possible to use special AMERICAN RACING Lug nuts P/N 831142 (1/2-20 Acorn Shank) to help achieve the minimum amount required. It is the installers responsibility to check lug nut compatibility and engagement.

15. Double check ALL bolts and nuts.
16. Lift vehicle. Remove jack-stands. Lower vehicle to ground.
17. **Torque** lug nuts per **manufacturer's** specifications.

WARNING: After 50 miles and 500 miles all nuts and bolts should be checked. Re-torque lug nuts to manufactures specifications. Always re-torque lug nuts after hard trail use.

OPTIONAL – Permanent Engagement of Vacuum Actuator -OPTIONAL

To secure axle shaft engagement permanently you may elect to complete the following.

Step 1 - Remove vacuum actuator from front axle assembly.

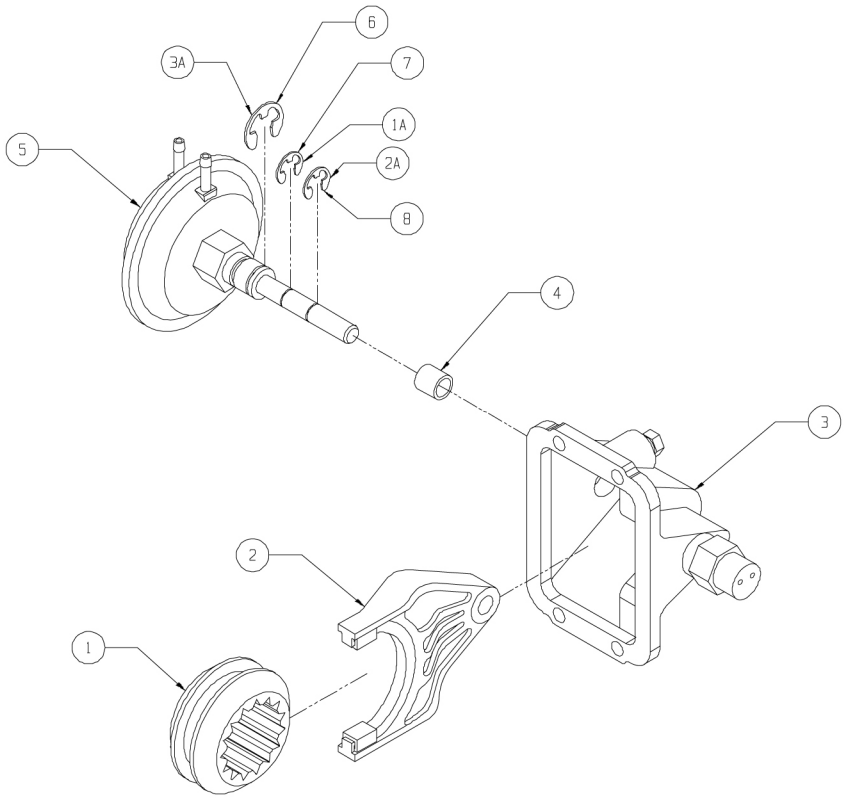


Figure - 8

Step 2 - Remove 3 "e-clips" from inside actuator housing as shown in Figure 8. (See Flag 1A, 2A and 3A)

Step 3 - Slide out vacuum actuator form actuator housing. (Figure 8, Flag5)

Step 4 - Slide brass spacer on to vacuum actuator piston. (Figure 8, Flag 4)

Step 5 - Insert shift fork arm into housing being sure that arm is facing in the correct position. (Figure 8, Flag 2)

Step 6 - Insert vacuum actuator with brass spacer into housing being sure to slide through shift fork. (Figure 8, Flag 4 and 5)

Step 7 - Snap in large "e-clip" on to vacuum actuator housing in area indicated. (Figure 8, Flag 3a)

Step 8 - Extend vacuum actuator piston so that it is fully extended.

Step 9 - Slide brass spacer so that it is against vacuum actuator body.

Step 10 - Insert 1 small "e-clip" so that brass collar is "trapped" between both the vacuum housing and the "e-clip".

Step 11 - Slide engagement arm so that it is against 1st small "e-clip".

Step 12 - Insert 2nd small "e-clip" so that engagement arm is "trapped" between both "e-clips".

Step 13 - Make sure all 3 "e-clips" are seated firmly to prevent them from falling off.

Step 14 - Attach gear engagement ring onto spline in axle.

Step 15 - Reattach assembled locker housing to axle housing being sure that engagement arm is seated firmly onto engagement ring.

Step 16 - Firmly secure mounting bolts to axle housing per Jeep maintenance manual torque specifications..