



### **DANA 35 OX Locker**

This is your OX Locker installation manual for the Jeep DANA 35 rear. Please note before installation you need: an installation kit which includes bearings, shims, ring gear bolts, etc. You must use this manual in conjunction with your vehicle's service manual. Professional installation by a certified mechanic is recommended.

**Note:** Depending on the year, make, and model of your vehicle, some deviations and modifications may be needed during installation: 1) routing of the cable 2) placement of the shifter.

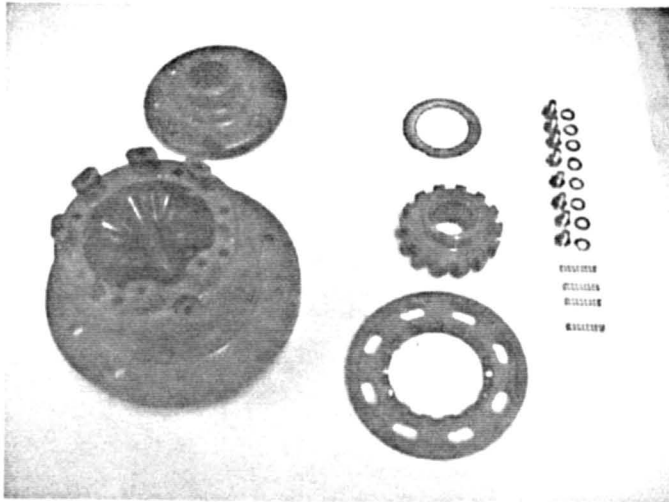
**The OX Locker is proudly made in the USA – PATENT PENDING**

If you have any installation questions please write, call, or e-mail:

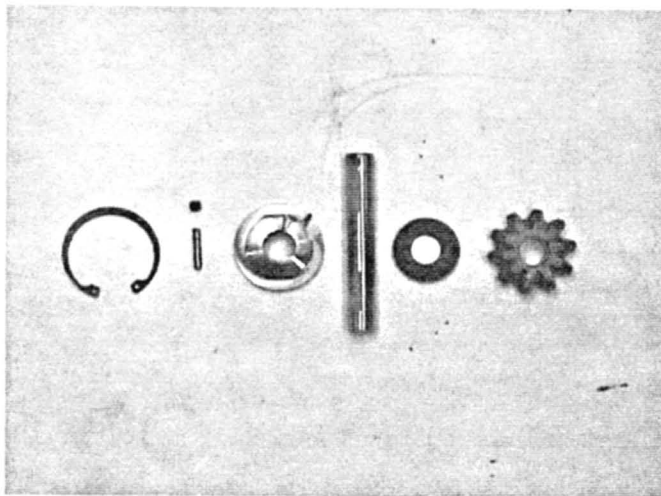
**DriveTrain Direct**  
1477 Davril Circle  
Corona CA 92880  
Phone: (888) 584-4327  
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# Carrier Assembly

OX Locker needs final assembly. Remove all packaging including any tie wraps. Pictures show the parts that need to be assembled:

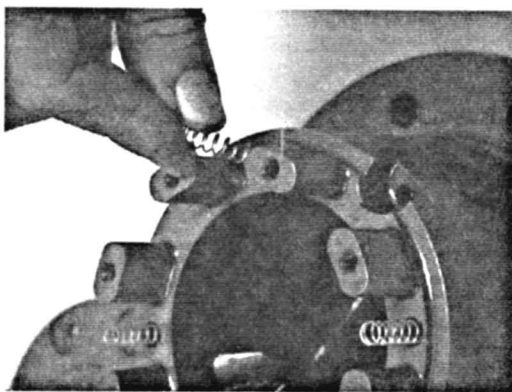


- 8 – bolts, 1/4-28 thread
- 1 - small carrier cap
- 1 - locking ring gear
- 1 4 - springs
- 8 - spring washers
- 1 - thrust washer
- 1 - locking side gear
- 1 - big carrier cap (attached to carrier)



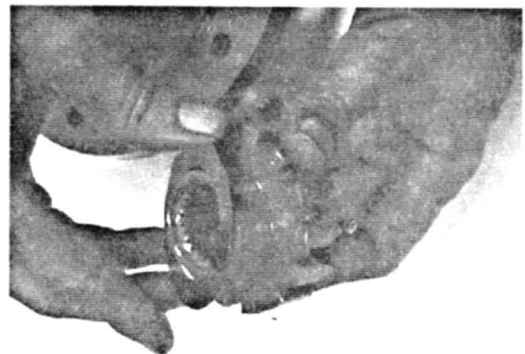
- 1 - long shaft
- 1 - snap ring
- 1 - spider gear cap
- 1 - spider gear washer
- 1 - spider gear
- 1 - dowel pin
- 1 - set screw

1.



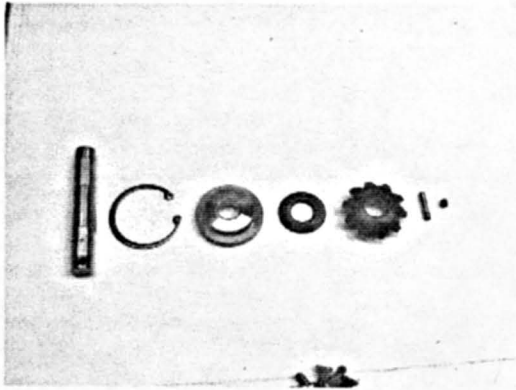
Install the 4 springs in the 4 chamfered holes.

2.



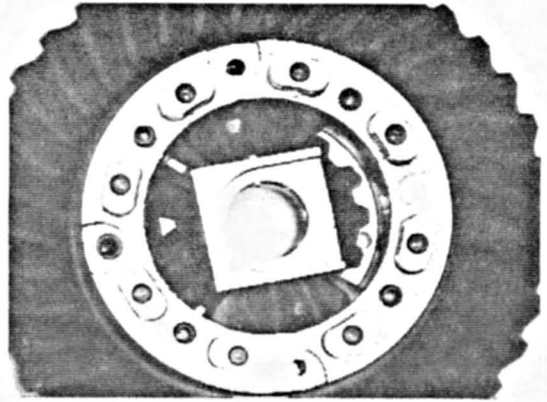
Install thrust washer behind locking side gear.

3.



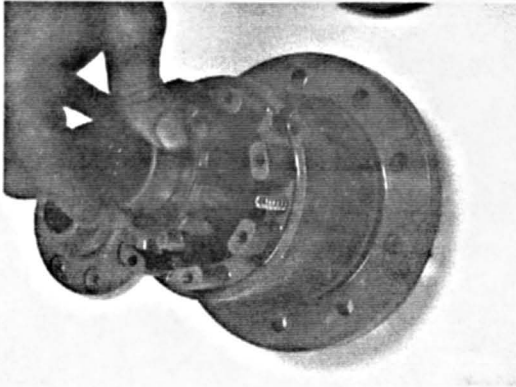
Remove the small cap, locking ring, locking gear and the following parts shown – set screw, dowel pin, shaft, spider gear (on opened end) spider gear washer, spider gear cap and snap ring.

4.



Your carrier should now look like this – open on one side with the shaft and spider gear missing. This will enable you to install your axles and c-clip later through these procedures.

5.



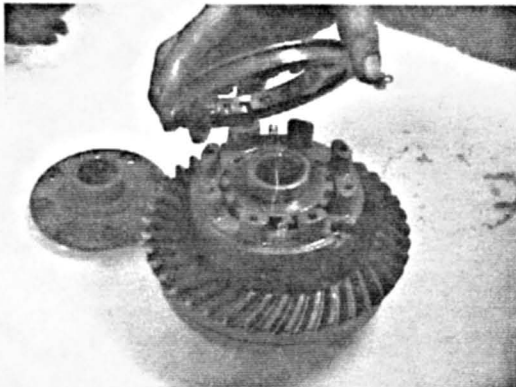
Install locking side gear with gears facing engagement with spider gears

6.



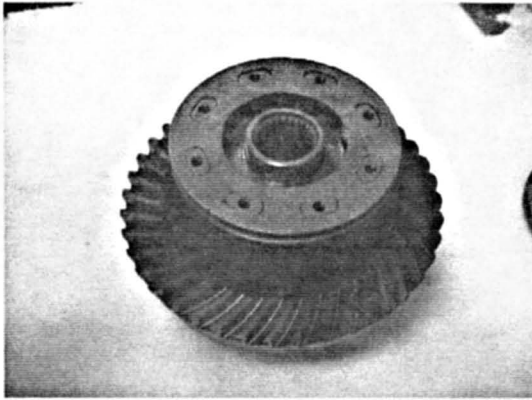
Slide the ring gear around the carrier.

7.



Install locking ring gear with gears facing engagement with locking side gear

8.



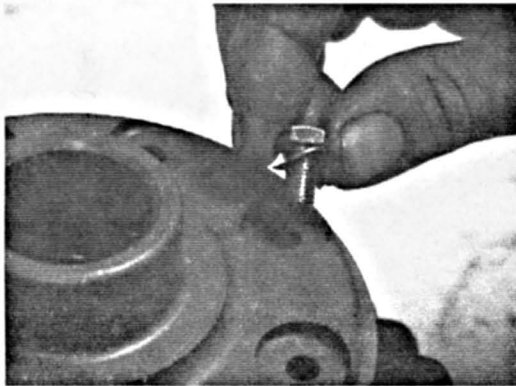
The flat side must be facing up!

9.



Install small carrier cap – align holes, make sure it slides into locking side gear smoothly. **NOTE: Make sure this cap sits flush with all 8 cams – if cap is not flush, it could cause severe damage to the carrier**

10.



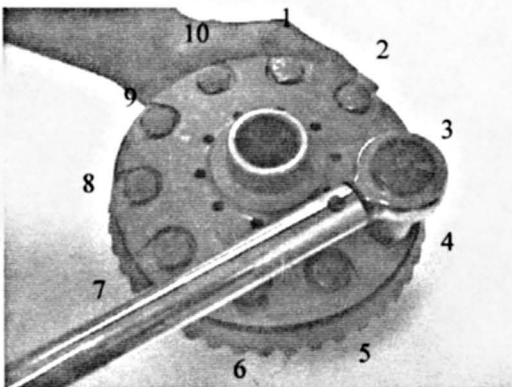
Install the 1/4 bolts and spring washers. Apply high strength loctite to bolts.

11.



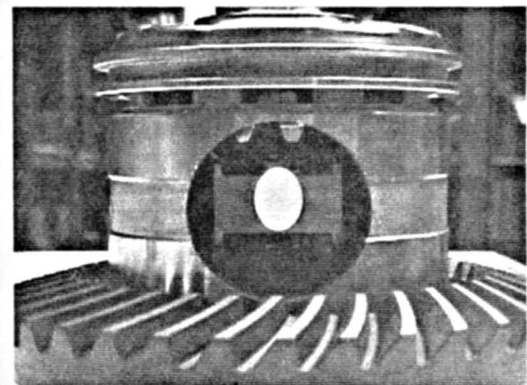
Torque 1/4 bolts to 12 FT LBS. Note: when tightening, tighten the bolts in the following pattern: 1 – 5 – 7 – 3 – 8 – 4 – 6 – 2

12.



Install your bolts from your original ring gear – we recommend you install new bolts. Torque them to 80 FT LBS using the following pattern: 1 – 6 – 8 – 3 – 10 – 5 – 7 – 2 – 9 – 4 Note: ring gear is a tight fit on the carrier.

13.

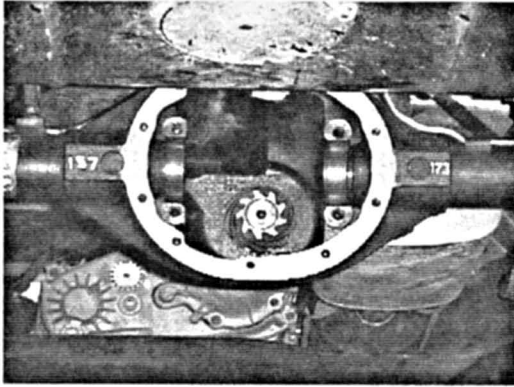


The carrier should now look like this. Note: make sure the spider gear washer is clear on the opposite side of the opened end, so that you can later install the shaft.



# OX Locker Installation – D35

1.



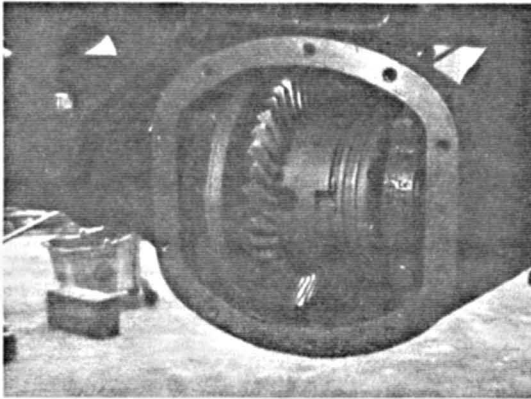
Remove tires, brakes, rotors, and axles in accordance with your vehicle's manufacturer's service manual (MSM). Drain oil then remove carrier. Now is a good time to check seals and clean entire housing.

2.



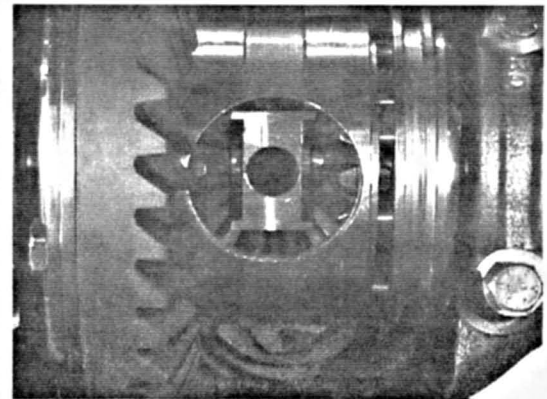
Install your bearings and shims in accordance with your MSM. Note: installation kit not included – bearings, shims, etc.

3.



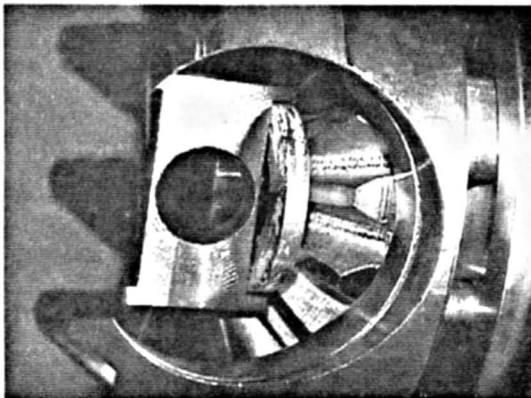
Check your pattern in accordance with your MSM. Note: gear set up should be done by a certified mechanic

4.



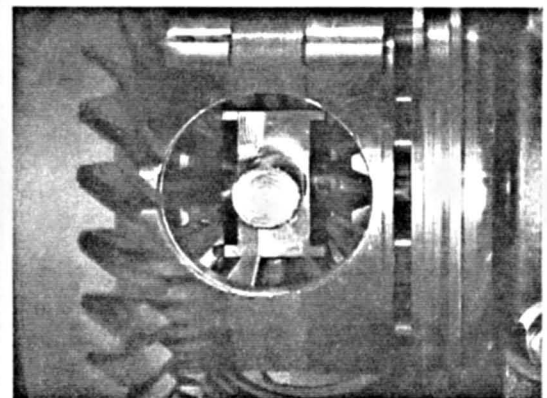
Rotate the carrier with opened end facing out so that you can install the c-clips.

5.



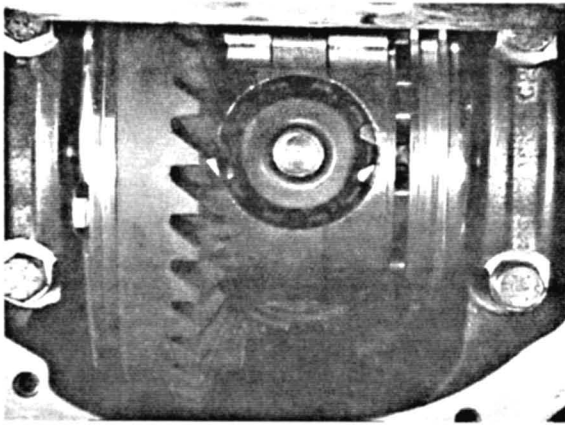
Push axles in and install the c-clips, once this is done pull axles out some until they are properly in place.

6.



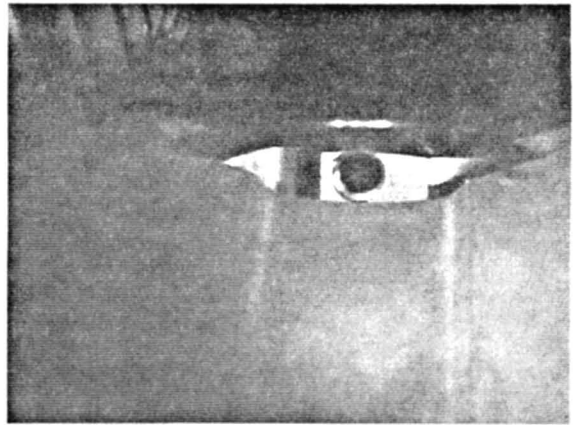
Install the shaft. Careful - the end with the cross hole should be on this end. The cross hole should be parallel from the pinion gear (run North and South from this picture), AND shaft should not be pushed all the way through. Leave some extending out this end - this will enable you to install the spider gear cap and dowel pin and set screw.

7.



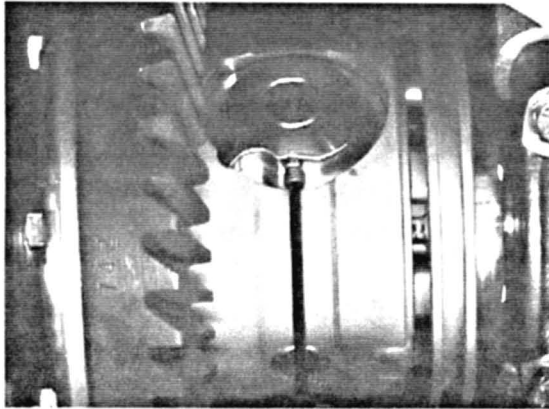
Insert the spider gear and washer.

8.



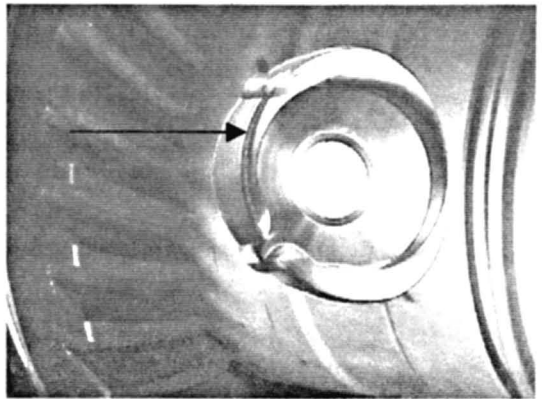
Install the spider gear cap (align the key into the groove in the carrier) - do not push the cap all the way down so that you have room to install the dowel pin.

9.



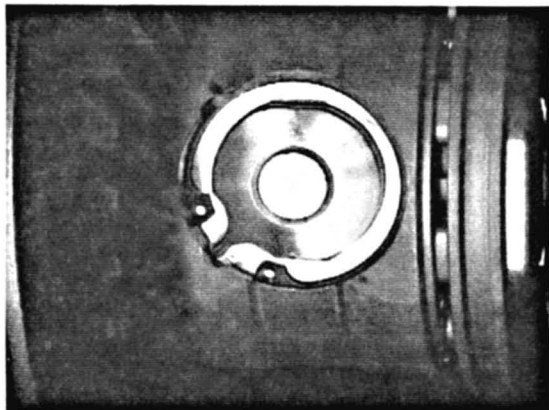
Install the dowel pin and then the set screw. Add high strength lock-tite to the set screw first.

10.



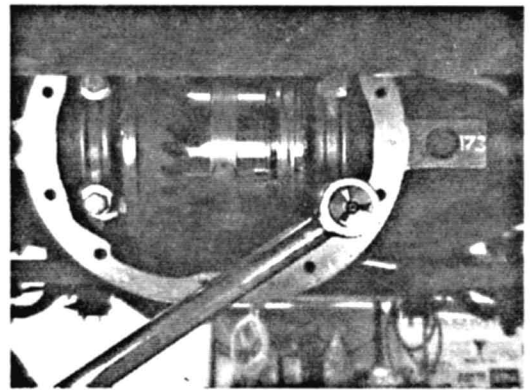
Push the spider gear cap in until you see the groove where the snap ring will be placed.

11.



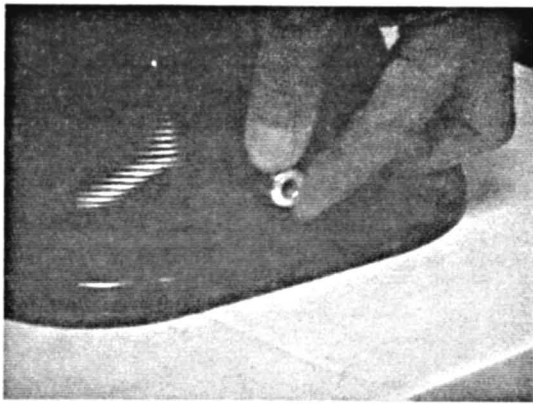
Install the snap ring into the groove. Make sure the snap ring is fitted properly into the groove!

12.



Torque bearing caps to 80 FT LBS. Install axles, rotors, brakes, and tires in accordance with your MSM.

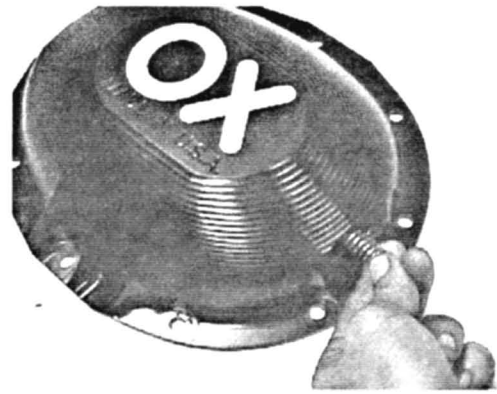
13.



**MANUAL SHIFTER OPTION**

**SKIP THIS STEP IF YOU WANT THE SPRING LOADED OPTION**

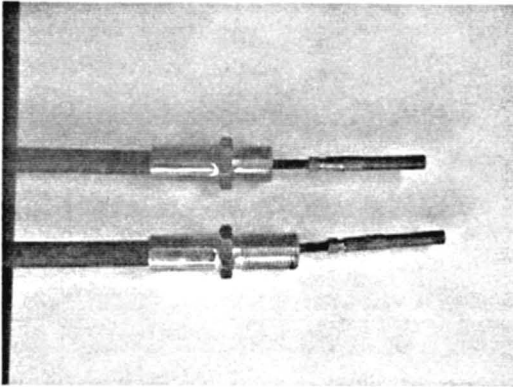
Insert aluminum spacer into the cover. Push it all the way in until it bottoms out.



**SPRING LOADED SHIFTER OPTION:**

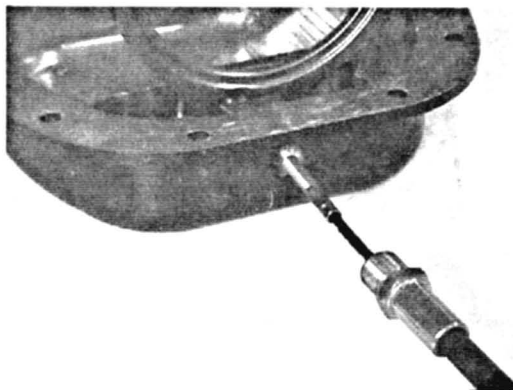
If you want to spring load the shifter so that it can automatically go into lock, insert the spring instead of the spacer here. **NOTE:** When operating the spring loaded shifter, just lift from the unlock position, slightly shift it into lock and leave it alone. When the wheels differentiate, the shifter will automatically fall into the lock position. **WARNING:** Keep shifter area clear, since it can easily go into lock position if bumped or pushed accidentally.

14.



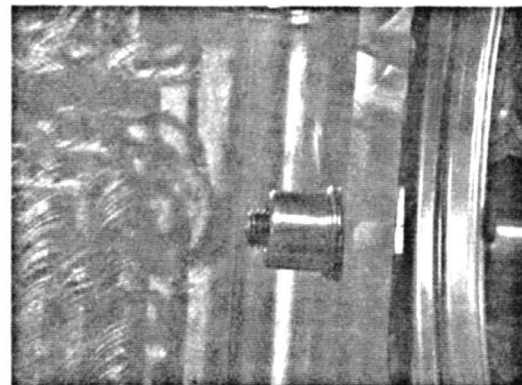
The cable has a short fitting and a long fitting. Short fitting goes into the cover.

15.



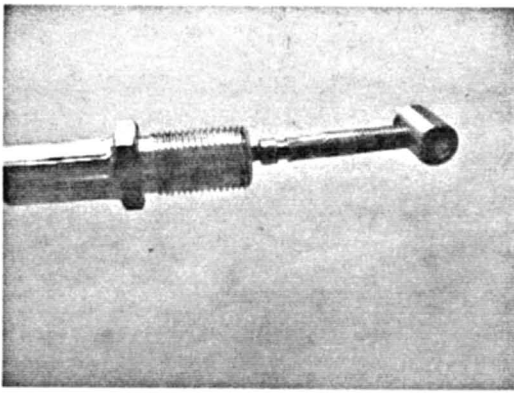
Install fitting into the cover. Screw the cable rod in first and then the fitting as needed.

16.



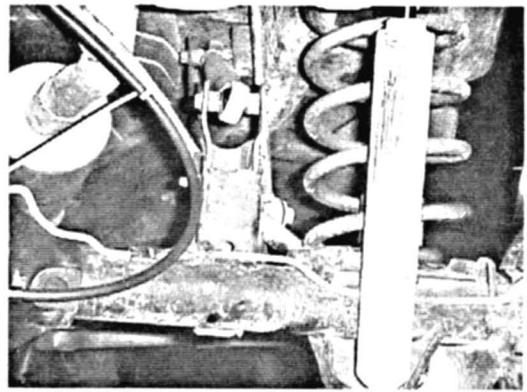
Leave about 2 – 3 threads out of the piston that slides in the cover.

17.



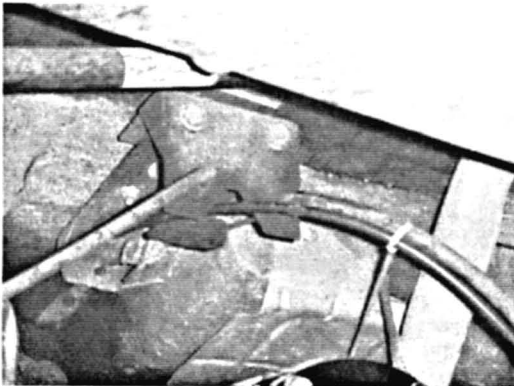
Remove the shifter rod pin from the cable so you can slide it into the shifter box. First run the cable through the vehicle.

18.



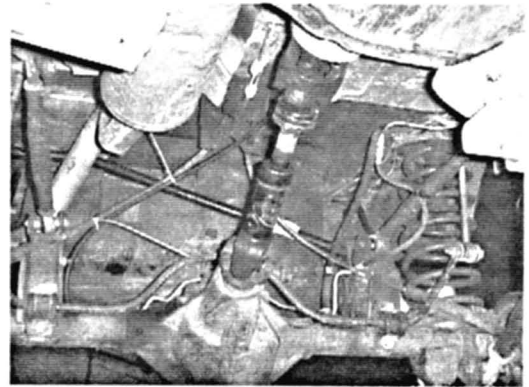
Route the cable side by side with the emergency cable on the right hand. Note: keep away from the exhaust.

19.



Follow through beside the e-brake cable. Note: do not tie OX cable to the e-brake mechanism!

20.



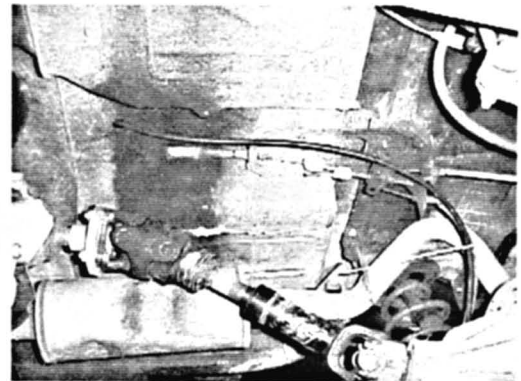
Follow the routing as shown.

21.



Open a 7/8" hole through the floorboard. Note: for best results, open hole 16" to the rear of where you are going to install the shifter box. Add a grommet (not included) between cable and hole.

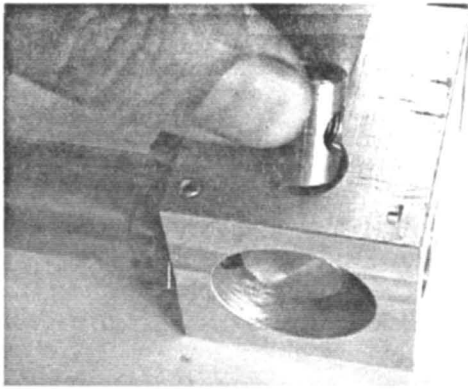
22.



Give the cable plenty of slack to allow for articulation.

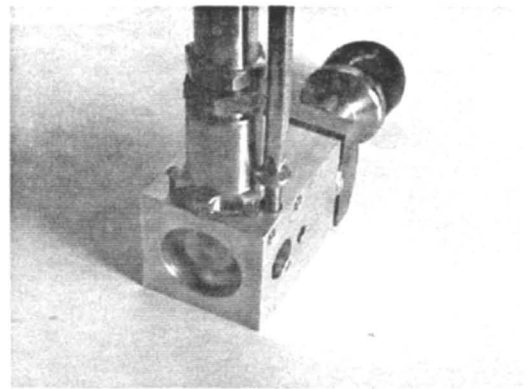


23.



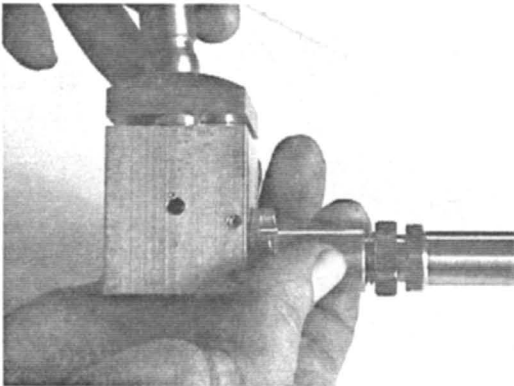
Place the cable rod pin into the shifter.

24.



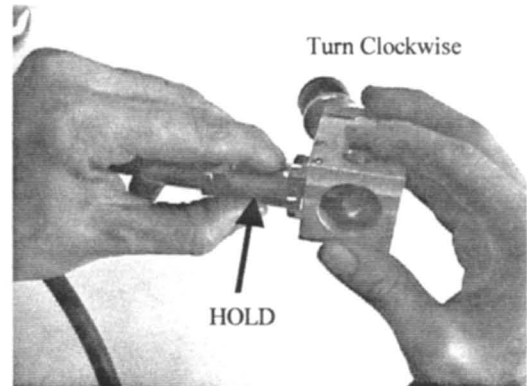
Remove the 2 locking screws before beginning the cable – shifter installation.

25.



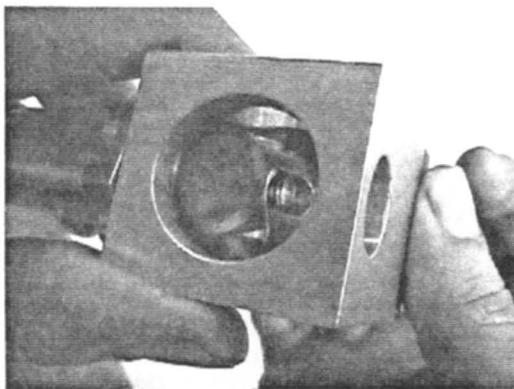
Turn the swivel fitting into the long fitting. Make sure that the locking nut is between the two fittings.

26.



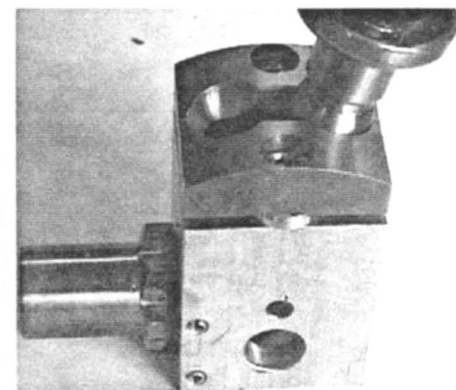
When the cable rod reaches the shifter, hold the swivel fitting and turn the shifter box clockwise.

27.



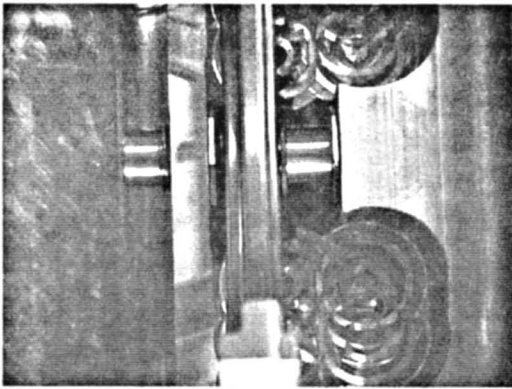
Some threads should be showing out of the back of the shifter.

28.



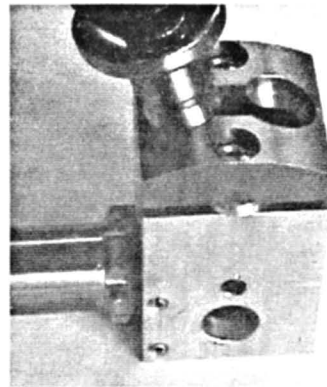
Place the shifter in the locked position. Verify that the fork traveled as seen in next photo.

29.



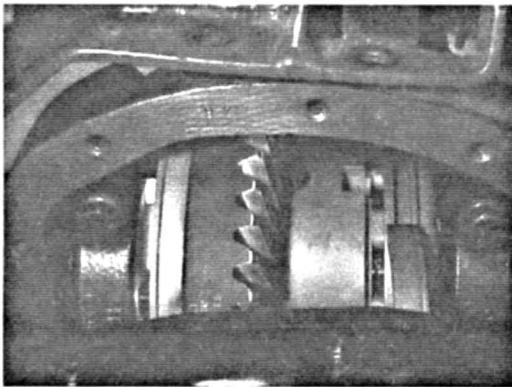
The fork should be against the inner middle wall of the cover. If not, adjust appropriately by turning swivel fitting to the right.

30.



Now place the shifter in the unlock position. The cover is to be installed next.

31.



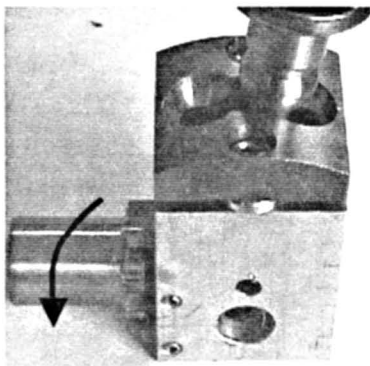
Install cover on to the differential. Make sure the fork slides on the locking ring.

32.



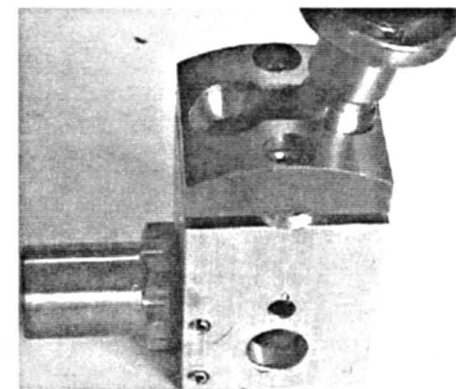
Install diff cover bolts supplied and torque to 30 FT LBS. Note: Use gasket or sealant in accordance with your MSM.

33.



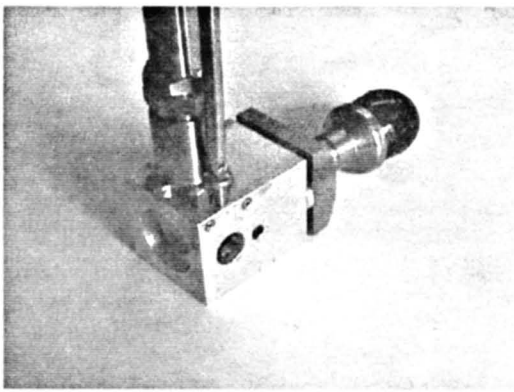
Rotate your rear left tire. Do this by hand with your vehicle securely lifted. Place the shifter in the lock position. If your shifter won't lock correctly as shown, turn the swivel fitting to the left until the shifter falls into the locking position. Note: see step 25

34.



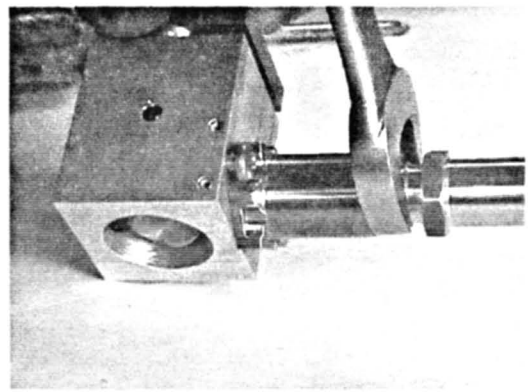
Once the cover, cable, and shifter are connected to each other, place the shifter in the lock position.

35.



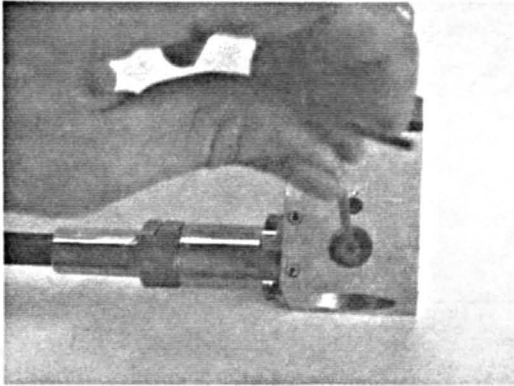
Install the lock screws and tighten.

36.



Tighten the lock nut. DO NOT over tighten.

37.



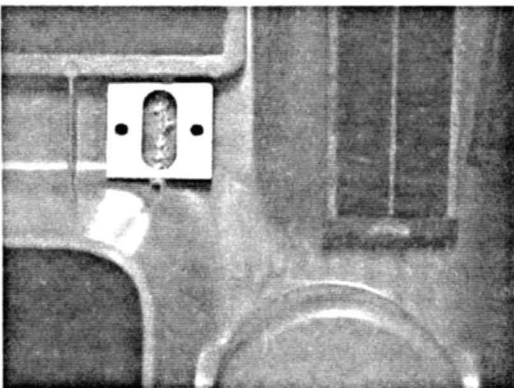
Once your locker is adjusted tighten the nylon set screw on the side of the shifter.

38.



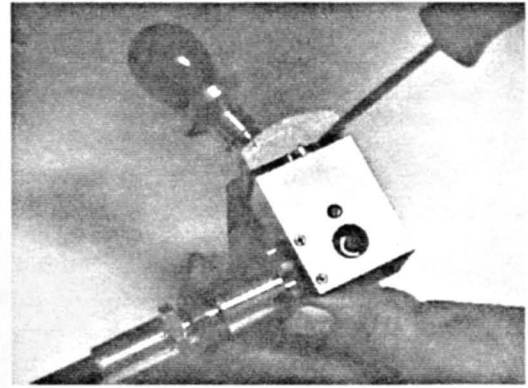
Remove the center console. One bolt is under the shifter boot, one under the cup holder, 2 inside the storage container, and one on the rear right side.

39.



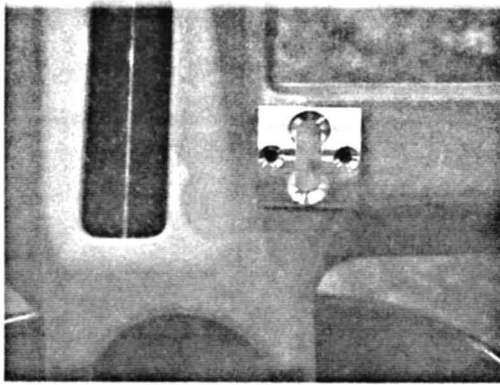
Use the yellow template to cut out where you are going to place your shifter. Make sure that it doesn't interfere with the regular shifter, and make sure the cable has some slack compensating for articulation. Also, make sure the shifter is installed on a firm area

40.



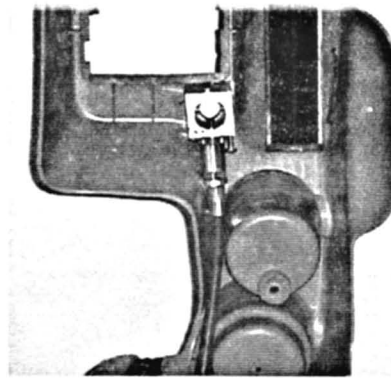
Remove the upper unit and remove the washers. These washers were only there to help set up the shifter. They simulate the thickness of where the shifter is being placed. If the shifter is placed in some other area, compensate the thickness appropriately.

41.



Place the upper part of the shifter in to the area just cut. This should be a firm area.

42.



This is what the cable would look like from the bottom. Try not to make any sharp bends to the cable. Note: This is our recommendation for Jeep TJs 1997 through 2000 manual transmission. Other makes and model and automatics need to be routed differently and cannot be placed inside the console.

43.



Place the console back in and bring cable with bottom part of shifter upward onto the console. Make sure to line up the upper and lower parts correctly. If you try to force them together by screwing it and they are not properly aligned, the thread in the lower unit will strip!

44.

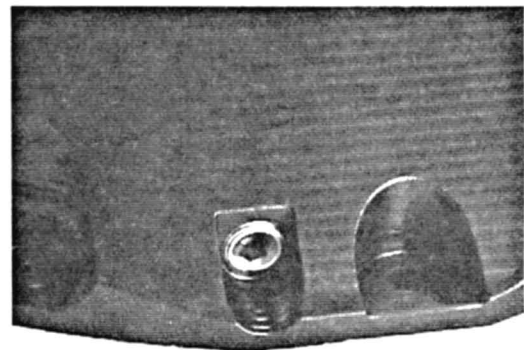


Install the rest of the assembly. Loctite the thread before you place the knob on for good. Before you loctite the knob, ensure that the shifter moves without any interference.

## OX Locker installation Notes:



When installing the knob, use low strength loctite. Don't thread all the way down. Make sure first that the shifter can shift clear.



When draining oil, use bottom drain plug. If you remove the cover you have to readjust the shifter.

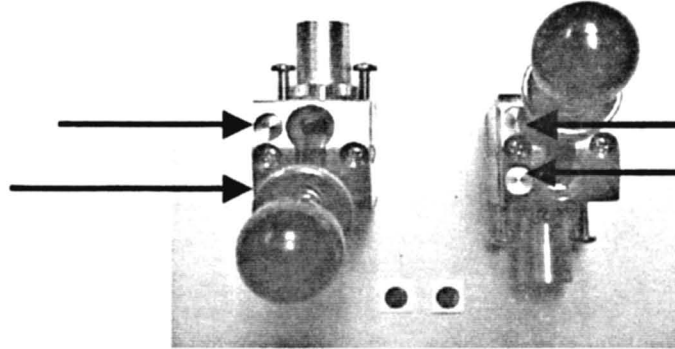


Front

Rear

Red dot (unlocked position)

Green dot (locked position)



Green dot (locked position)

Red dot (unlocked position)

Place the green sticker in the locked position hole and place the red sticker in the unlocked position hole. Will vary depending on front or rear installation.



## OX Locker™ Limited Warranty

ONE YEAR limited warranty on manufacturer defects:

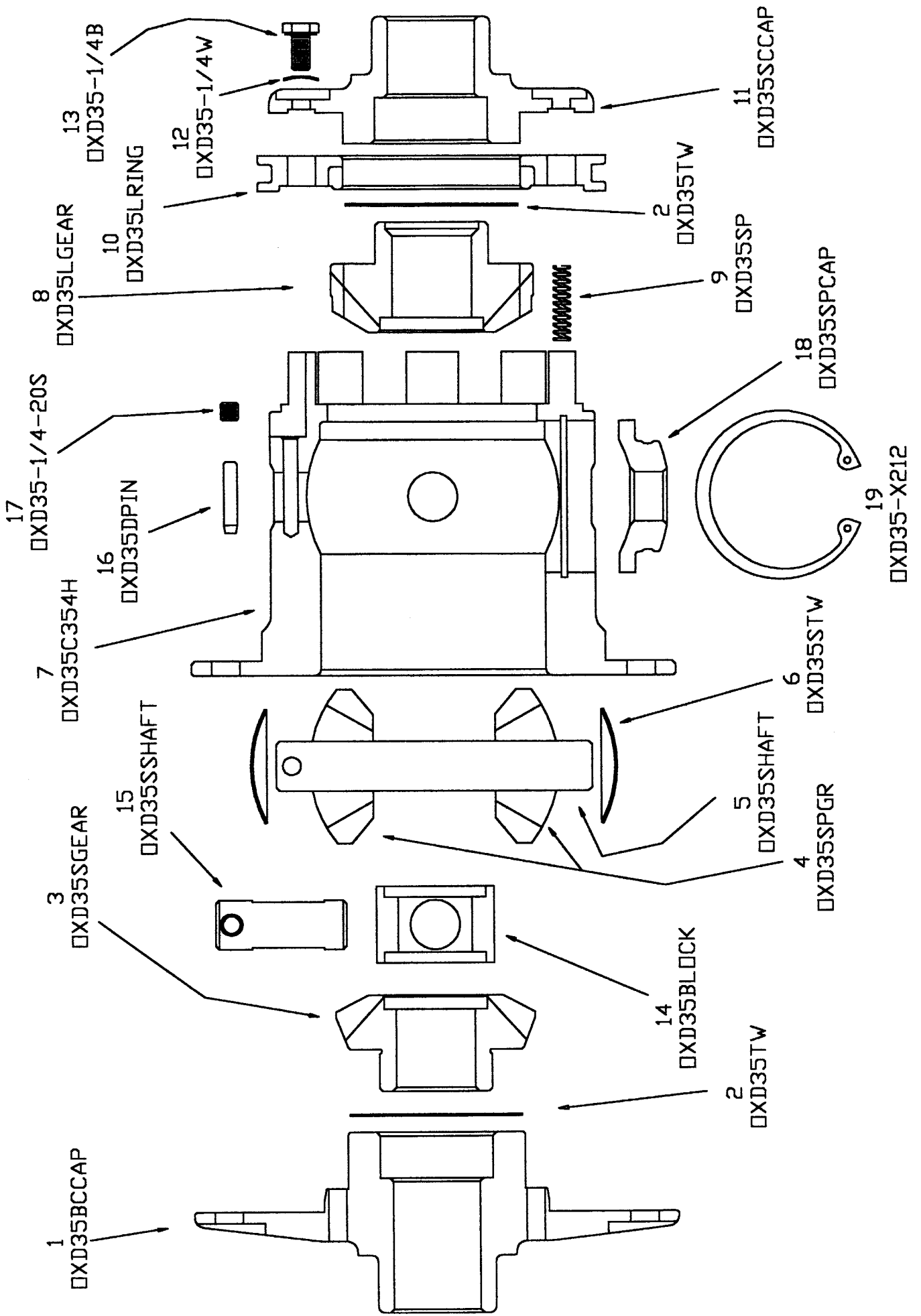
- This warranty covers only parts originally supplied by Ox Trax, Inc. if they are shown to have a manufacturer's defect. All parts must be returned to DriveTrain Direct and if upon inspection by Ox Trax, Inc., they were installed correctly in their intended application and were not mistreated they will be repaired or replaced.
- This warranty does not cover vehicles with modified high-horsepower engines (modified beyond the original manufacturer's recommendation).
- Ox Trax, Inc. recommends professional installation by a qualified mechanic. Purchaser/user assumes all risks and liabilities in connection therewith.
- Installation and use of these parts constitutes acceptance of all the above stipulations. If the purchaser/user does not agree to these terms, the OX Locker should not be installed and returned to the supplier.
- TO REDEEM your coverage you must return the defective part(s) along with your claim #. Claim # can only be obtained by calling or e-mailing DriveTrain Direct. Ox Trax, Inc. will make a complete evaluation of your claim before validating it. (888) 584-4327 OR [oxtrax@drivetraindirect.com](mailto:oxtrax@drivetraindirect.com)
- Note: Ox Trax, Inc. recommends tires not larger than 33" dia.

OX Locker™ - Patent Pending

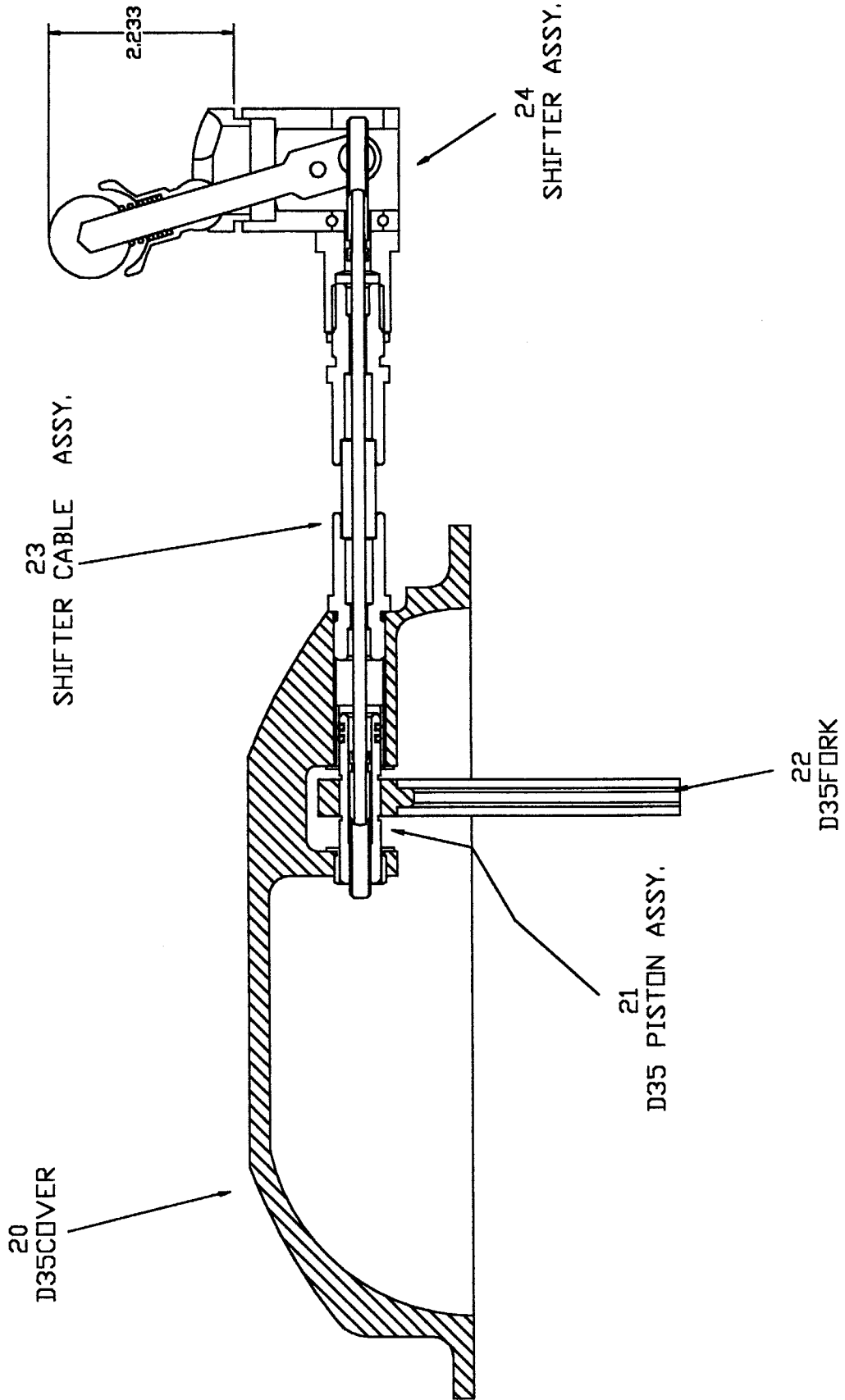
## Parts List for D35 OX Locker

| <b>Item</b> | <b>Part number</b>  | <b>Part name</b>       | <b>Qty.</b> |
|-------------|---------------------|------------------------|-------------|
| 1.          | d35bccap            | big carrier cap        | 1           |
| 2.          | d35tw               | thrust washer          | 2           |
| 3.          | d35sgear            | side gear              | 1           |
| 4.          | d35spgr             | spider gear            | 2           |
| 5.          | d35shaft            | cross shaft            | 1           |
| 6.          | d35stw              | cross thrust washer    | 2           |
| 7.          | d35c354h            | carrier                | 1           |
| 8.          | d35lgear            | locking gear           | 1           |
| 9.          | d35sp               | spring                 | 4           |
| 10.         | d35lring            | locking ring           | 1           |
| 11.         | d35sccap            | small carrier cap      | 1           |
| 12.         | d35-1/4w            | 1/4" washer            | 8           |
| 13.         | d35-1/4b            | 1/4" bolt              | 8           |
| 14.         | d35block            | center block           | 1           |
| 15.         | d35sshft            | short shaft            | 1           |
| 16.         | d35dpin             | dowel pin              | 1           |
| 17.         | d35-1/4-20s         |                        |             |
| 18.         | d35spcap            | spider cap             | 1           |
| 19.         | d35-x212            | snap ring              | 1           |
| 20.         | d35cover            | differential cover     | 1           |
| 21.         | d35piston assy.     | piston assembly        | 1           |
| 22.         | d35fork             | shift fork             | 1           |
| 23.         | shifter cable assy. | shifter cable assembly | 1           |
| 24.         | shifter assy.       | shifter assembly       | 1           |

# OXD35 SCHEMATIC



# DXD35 SCHEMATIC





## Service

1. An initial oil change at 1500 miles is recommend. After this periodic oil changes should be done in accordance with the vehicles owners manual.
2. If differential is immersed in deep water the oil could get water contamination. An oil change is recommended.

## Cable Installation Recommendation

1. Use a fuel line hose on rubbing surfaces.
2. Cut hose on one side, slip over cable, and use a tie wrap on each end to hold it in place.

## Shifter Installation Recommendation

1. If installing the shifter through the floor board, plug all holes to ensure that the shifter box is water tight.
2. Add a small amount of RTV between the lower unit of the shifter box and the floor board.

## How To Engage And Disengage

1. The OX Lockers™ can engage and disengage by simply shifting from (U)unlocked, to (L) locked while traveling in a straight line. **The OX Lockers™ cannot engage or disengage while the drive train is under load or bind, such as wheel spinning or turning a tight corner.**
2. The OX Lockers™ is intended to be engaged only when the terrain ahead requires extra traction control.
3. To engage the locker on rough or slippery terrain (while the vehicle is traveling at low speed), slowly move the shifter into the (L) position. To disengage (while the vehicle's drive train is not under load), move the shifter into the (U) position.
4. The OX Locker™ can be engaged or disengaged at any speed.

## Troubleshooting

Problem      The locker pops out of the locked position when creating stress as by turning  
Solution      You have very little engagement – readjust the engagement.

Problem      You cannot engage the locker into the locked position  
Solution      You have too much engagement – readjust the engagement

Problem      The locker seems to be properly adjusted, but after a few cycles it loses its  
adjustment  
Solution      You have too much slack in the cable – readjust

Tip            In the unlock position, turn the hub on the shifter while rotating your right tire until you see that the locker starts to lock. Back up just a little until it unlocks again. This will give you the most engagement. Shift to the lock position to make sure that it locks properly

**WARNING: Do not engage the OX Lockers™ on highways or high traction surfaces, this makes the steering very difficult and puts unnecessary strain on the drive train.**