

### ASSEMBLY INSTRUCTION SHEET

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## XJ AW4 ATLAS II SHIFTER

### KIT CONSISTS OF:

| <u>No.</u> | <u>Qty</u> | <u>Part No.</u> | <u>Description</u>               |
|------------|------------|-----------------|----------------------------------|
| 1.         | 1 Kit      | 302010          | ATLAS BAGGED HARDWARE KIT        |
| 2.         | 1 Kit      | 302011          | ATLAS BOOT & KNOB KIT            |
| 3.         | 1          | 302051          | TWIN STICK BASE MOUNT            |
| 4.         | 1          | 302066          | TWIN STICK TUBE XJ 3.5"          |
| 5.         | 1          | 302080          | STUD BOLT 1/2"-13 x 7"           |
| 6.         | 7"         | 303100          | 3/8" HEAT SHRINK                 |
| 7.         | 3          | 303121          | HEX JAM NUT 1/2"-13 PLATED       |
| 8.         | 1          | 303132          | TWIN STICK HANDLE FRONT          |
| 9.         | 1          | 303133          | TWIN STICK LEVER REAR            |
| 10.        | 2          | 303136          | 3/8"-24 x 4.25" ALL THREAD GRD 5 |



The shift tower in this photo as shown would index onto the D.O.M. tubing and would fit a left drop case. Right drop cases would require the tower to be flip to the other side to index over the D.O.M. tubing.

**As of January 1, 2005, we have changed the design of our shifter tower. We no longer use a set of Zerk fittings on the tower and have omitted the white nylon bushings. The new design uses a Igus black bushing which does not require grease. These bushings are not interchangeable.**

White bushings: 303080 (large) 4 required  
303095 (small) 4 required  
Black bushings: 303081 (large) 4 required  
303096 (small) 4 required

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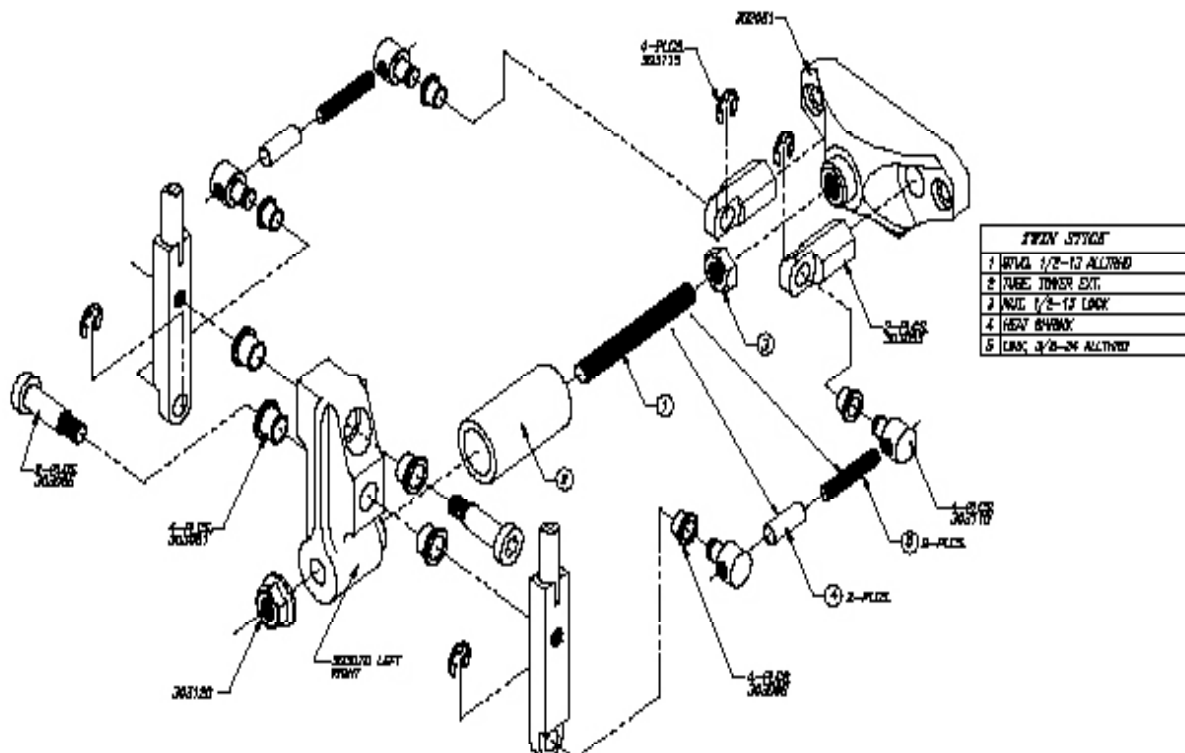
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## XJ AW4 ATLAS II SHIFTER

**This Atlas shifter has been designed for the Jeep Cherokee XJ.**

**Installation Procedures:**

1. Install the shifter base to the face of the Atlas using the three S.H.C.S. 3/8"-16 x 1". These bolts have a sealant patch that will prevent leakage on the threads. This should be done before the Atlas is installed into the vehicle.
2. Install 1/2"-13 all-thread and jam nut to the shifter base.
3. Slide the shifter tower along the all-thread stud until the shifter arms are at the center of your stock floor cutout.
4. Measure between the tower and the base to obtain the correct extension tube length.
5. Remove the tower and install the extension tube.
6. Assemble the shift handles to the shift tower. Also install the zerk fittings to the face of the tower.
7. Install the shift tower assembly to the extension tube using the lock nut on 1/2"-13 all-thread to secure.
8. With the Atlas in neutral and the shift handles parallel with the shift tower, measure the distance for the linkage rods.
9. Connect the shift buttons and heat shrink tubing to the 3/8"-24 all-thread at the distance measured. Make sure that the all-thread is flush with the outside edge of the shift button. Cut all-thread if necessary.
10. Assemble the linkage rods to the shift handle and brass portion of the shift rod and verify the shift handles are parallel to the tower.
11. Install e-clips to retain the buttons to the mating parts.
12. Make sure the brass shift rod ends are not too tight. They should be able to rotate about 1/2 turn in each direction.
13. Modify floor board if necessary.
14. Install rubber boot and boot ring to floorboard.(note: on some twin stick configurations the boot ring may need to be cut in order to fit around the Atlas twin sticks).

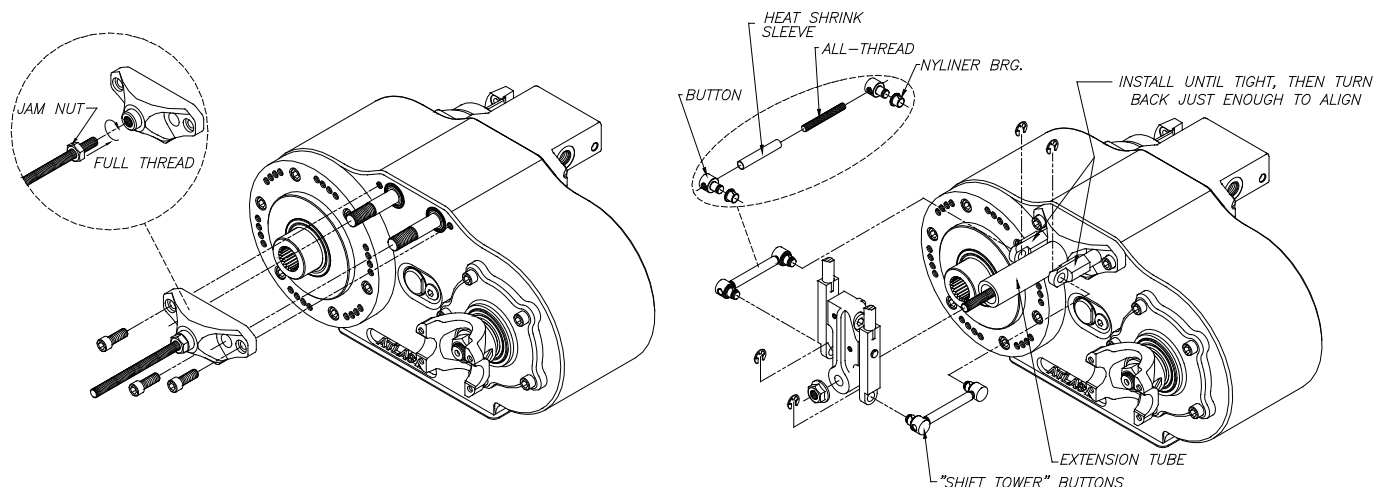


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## XJ AW4 ATLAS II SHIFTER



Rear view of the AW4 automatic.

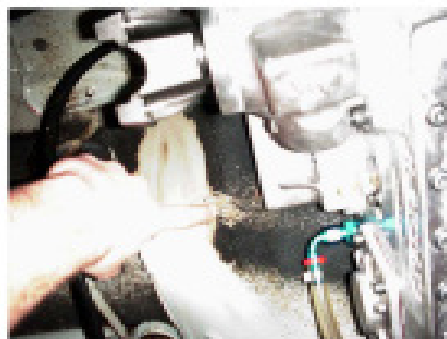


The photo (left) shows the rotation we used to obtain the proper shifter clearance.

The photo (right) shows the minor body modification made for clearance on the Atlas.



The stock output shaft protrudes .500" past the stock adapter housing. To achieve the proper spline engagement on the Atlas a 1" spacer is required, P/N 51-0404.

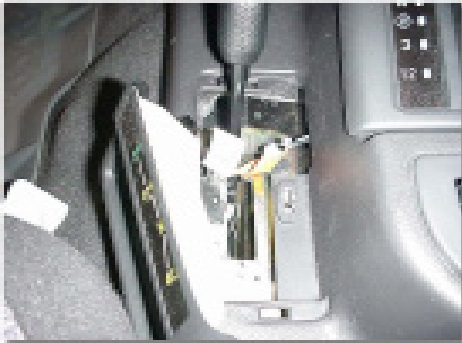


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The photo (right) shows the Jeep console removed and the transfer case linkage removed

The stock console will require disassembly and the stock transfer case linkage will need to be removed.

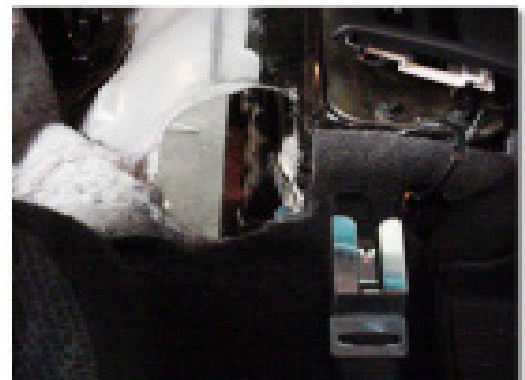


Floorboard modifications are necessary to fit the Atlas twin stick.

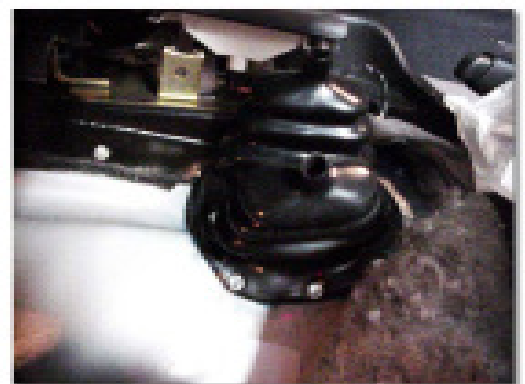
This photo (below) shows 1" of material removed from the right side and front of the stock hole. (.500" needs to be removed from the left side)

Once the floorboard has been modified, it should look like the photo shown here (photo below).

Since the stock floorboard hole is longer than needed, we recommend using a piece of sheet metal to cover the rear 1" section of this stock hole. (photo shown below)



Test fit the Atlas shift handles. If proper clearance has been obtained, screw the rubber boot and ring to the floorboard. Note: The boot ring will need to be cut in half for proper fit to your floorboard.



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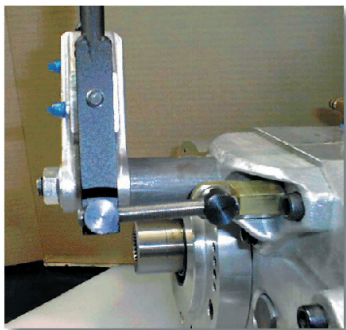
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Since the stock transfer case shift indicator cover will not fit with the Atlas twin-sticks, we modified this cover. Remove the indicator panel and cut the plastic that supported the indicator panel. Ideally the plastic housing that snaps into the console is what you're trying to retain. We purchased a small piece of black plastic



from a local stereo installation shop and cut it to fit our plastic housing. We heated it to fit the contour and glued it into position. We then cut new access holes in the black plastic to fit our twin sticks.



**The shifter problem check list:** When installing the twin stick shifters, there are a few key areas that must be addressed. One of the most commonly asked questions/problem is that "my unit isn't shifting fully into one of the gear ratios". Incorrect adjustment of the shift handles to the linkage rods is normally the cause. With both shift rods in neutral, the linkage rod (connected to the shift handles) must be parallel with the aluminum shift tower. Refer to the photo.

Another concern that we've heard is that "my Atlas seems to be hard to shift". This problem could be one of two areas. The brass shift rod ends that the shifter linkage rods connect to are too tight, causing a binding effect on the shifter linkage. The brass shift rod ends should be installed until tight, then loosened enough to align to the shifter button.

If a unit has a tendency to pop out of gear, an area to check is proper floorboard clearance in relation with the shift handles. This problem mainly occurs on Jeep TJs and XJ's, since floorboard modifications are required. Most reported problems have been overcome by simply providing additional clearance. The problem of popping out of gear can also be caused by incorrect alignment of the shifter handles as previously discussed, and/or a unit in which the detent set screws have been loosened.

The last question/problem is that "my the shifter linkage come apart while in operation". The area in question is the all-thread linkage rods. These rods fit into the two shift buttons. To prevent the all-thread from unscrewing out of the shift buttons, a portion of the heat shrink tubing should have been installed. The heat shrink tubing acts as a jam nut to prevent the all-thread from unscrewing. **DO NOT** use a jam nut on these linkage rods as it will cause binding of the shifter linkage.