ADVANCE ADAPTERS
SINCE NINETEEN SEVENTY ONE

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 Page Rev. Date: 04-06-23
P/N: AB1010 & AB1011

ATLAS INPUT CHANGE OUT KIT

KIT CONSISTS OF: AB1010

No.	Qty	Part No.	Description
1.	1	300499	SEAL-INPUT SHAFT ATLAS DUAL SPRING VITON
2.	1	300490	O-RING-ATLAS TAIL HOUSING
3.	1	300510	BEARING-RADIAL BALL ATLAS FRONT INPUT SHAFT
4.	2	300358	O-RING 121 ATLAS CLUSTER SHAFT (FOR 1.25” IDLER)
5.	2	300366	O-RING CLUSTER SHAFT (FOR 1.50” IDLER)
6.	1	716453	SNAP RING
7.	8	723730	S.H.C.S. 3/8 -16 X 1-1/4 ZINC
8.	1	301400	ATLAS PAN GASKET
9.	1	716455	SNAP RING (USED ON OLDER CASES ONLY)

For installation instructions on the new input shaft look online at
http://www.advanceadapters.com/tech-vault/atlas-2-speed-instructions/

KIT CONSISTS OF: AB1011

No.	Qty	Part No.	Description
1.	1	300500	SEAL-INPUT SHAFT ATLAS
2.	1	300490	O-RING-ATLAS TAIL HOUSING
3.	1	300510	BEARING-RADIAL BALL ATLAS FRONT INPUT SHAFT
4.	2	300358	O-RING 121 ATLAS CLUSTER SHAFT (FOR 1.25” IDLER)
5.	2	300366	O-RING CLUSTER SHAFT (FOR 1.50” IDLER)
6.	1	716453	SNAP RING
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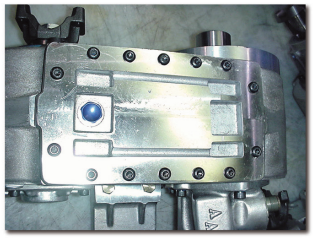
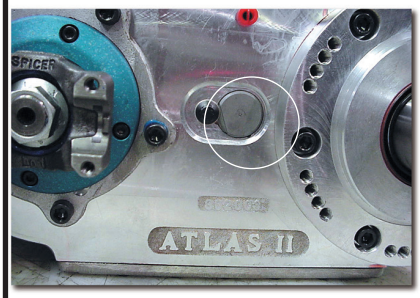
SPECIAL NOTE: The components packaged in this kit have been assembled and machined for specific type of conversions. Modifications to any of the components will void any possible warranty or return privileges. If you do not fully understand modifications or changes that will be required to complete your conversion, we strongly recommend that you contact our sales department for more information. This instruction sheet is only to be used for the assembly of Advance Adapter components. We recommend that a service manual pertaining to your vehicle be obtained for specific torque values, wiring diagrams and other related equipment. These manuals are normally available at automotive dealerships and parts stores.

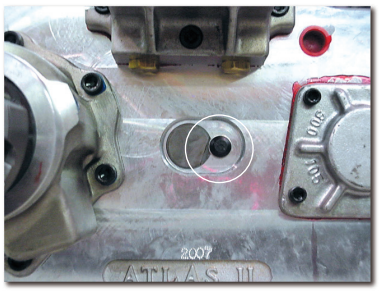
ATLAS INPUT SHAFT CHANGE

4WD vehicles seem to always be in a state of change. You may be changing gear ratios in your axles, going to larger tires, or changing out your transmission. The Atlas is only affected when a transmission is being changed. For example: You may have ordered an Atlas to fit your stock Jeep transmission; however, now you've decided to upgrade to a GM TH400. The Atlas would need the front input changed if you wanted to keep the stock 32 spline TH400 output shaft. The photos below describe this input shaft change out. Note: Atlas 2.0 and 3.0 ratios do not require the cluster gear to be removed.

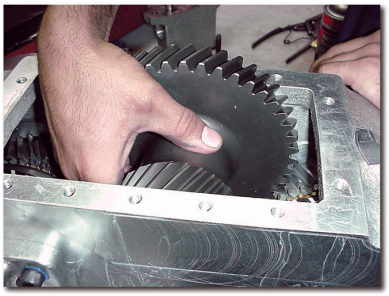
Once the Atlas is removed from the vehicle, drain the oil. Remove the brass elbow on the top of the transfer case. Shift the unit into 4WD low range (both shift rods back into the case). Set the unit upside-down on a work surface. Remove the 14 access cover bolts and the cover itself. The cover is sealed to the case, so it is a little tough sometimes to separate from the case. Once the cover is off, you will need to remove the cluster pin bolts from both the front and rear of the transfer case (photos shown right & left). From the front of the transfer case, push the cluster pin out of the case. You should be supporting the cluster gear with one hand as you push out the cluster pin with the other.

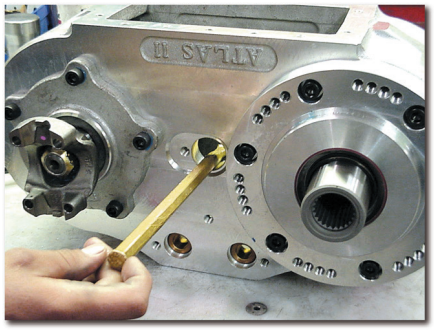


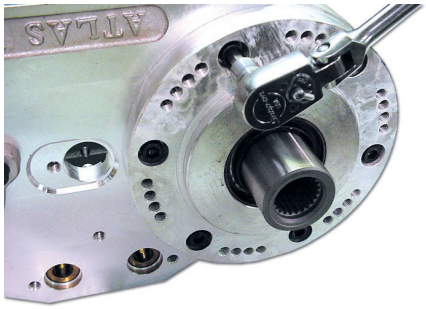




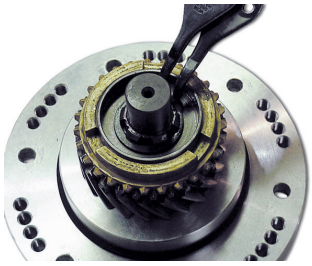
Once the cluster pin is removed, you will need to remove the cluster gear from the case. Be careful so that the caged needle bearings do not fall out of the cluster. Set the cluster gear aside and remove the two thrust washers from the case. These washers fit between the cluster gear and the inside of the case.

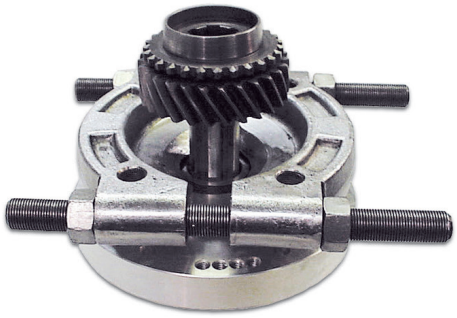




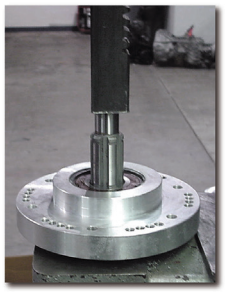


Remove the 6 Atlas input ring bolts and remove the input ring assembly from the transfer case.
Remove the snap ring from the input shaft. This snap ring retains the drive gear to this assembly.



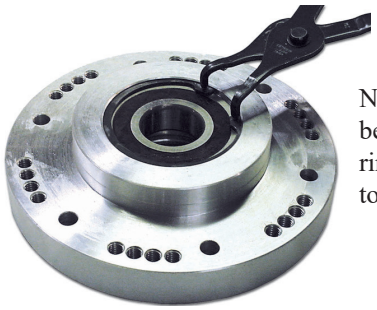


The drive gear is a light press fit onto the input shaft. It is required to be pressed off for disassembly and pressed on for assembly.

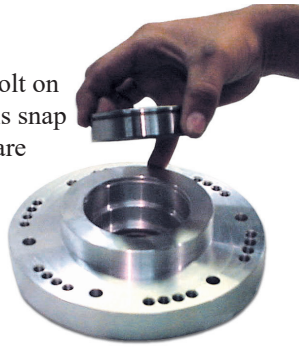


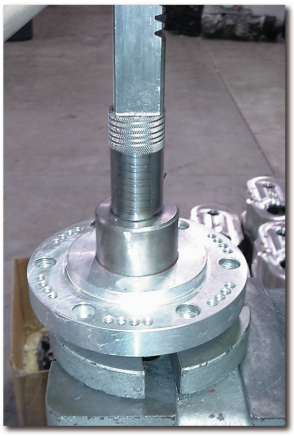
Once the gear is removed, the input shaft can also be removed. Since the input shaft is a press fit onto the front bearing, the shaft is pressed out as shown above.

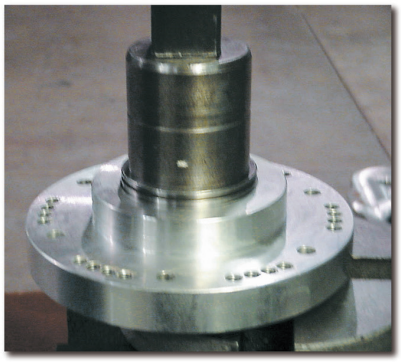
Any time an input shaft is replaced, we recommend changing the front bearing and front seal. If you are changing the front input to a different input spline, a new front seal may be required.

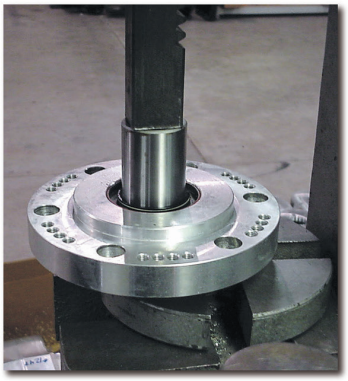


Newer Atlas T/C's use a bolt on bearing reaing retainer, this snap ring is not used. the bolts are torqued to 150 In.lbs.

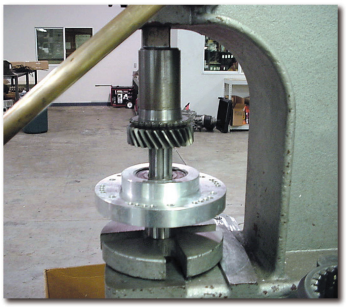








Install the new seal (spring side out) into the input retainer. Press the new bearing and secure it with the snap ring. Lubricate the seal and press the new input shaft into the input ring. Turn the retainer over and press the drive gear onto the new shaft. Once the gear is installed, retain it with the small snap ring. Set the brass synchronizer ring on the gear. Before installing the input assembly onto the transfer case, a new square o-ring must be installed to seal the input ring to the case.



You are now ready to install the input ring to the case assembly. Care should be taken to make sure the brass synchronizer ring lines up properly with the synchronizer dogs. Failure to line these up can cause internal damage to the unit.

Once the input is properly aligned, you will be required to line the 6 counter sunk holes with the case assembly. The input ring only bolts to the case, lining up all 6 holes in one rotation. Once the holes are lined up, install the 6 bolts using Loctite 242 and torque these bolts to 18 ft./lbs. Reinstall the two cluster gear thrust washers into the Atlas case and set the cluster gear into the case. Install the cluster pin, making sure the thrust washers don't fall down into the case. As the pin gets closer to being fully installed, install the small o-ring on the cluster pin. The pin must be installed far enough through the opposite side of the case to expose the other o-ring groove to install the new o-ring and thereby properly sealing the Atlas transfer case. Install the cluster pin bolts on both the front and back of the Atlas case to properly retain the cluster pin, preventing the pin from turning.

Install the new pan gasket and reinstall the 14 access cover bolts. Torque bolts to 8 ft./lbs. Before reinstalling the unit into the vehicle, check it for proper shifting. Reinstall unit as per the installation directions and fill with the recommended fluid.

Helpful hints for installing the Atlas cluster gear.

Grease the back sides of the thrust washers and set the washers into the case. Ensure that the tabs of the thrust washers fit the slots of the Atlas case. The grease help hold the thrust washers in place while the cluster is installed.

Install the cluster pin on one side just enough to hold one on the thrust washers in place. Slip your finger into the cluster pin hole on the opposite side to retain the other washer in place. If the washer falls down you will have to remover the gear and repeat the process. Many times the washer will fall half way down and prevent the cluster pin from going in.

After you succeed in the installation, do a visual check from the access pan to verify that the washers are in place.