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P/N: 50-9420

ALLISON 1000 SERIES TRANS TO 29 spline to Atlas t/c

KIT CONSISTS OF:

No.	Qty	Part No.	Description
1	1	300619	RELUCTOR SENSOR
2	1	300623	RELUCTOR
3	1	51-6912	ATLAS & NP205 FORD/GM SENSOR ADAPTER ALLISON
4	1	51-9553	ADAPTER- NP270 FORD TO ALLISON GM
5	1	52-0220A	SHAFT-29 SPL FEMALE X FORD NP205 31 SPL SHORTENED
6	6	723704	LOCK WASHER 3/8 ZINC
7	6	723722	H.H.C.S. 3/8 -16 X 1-1/4 (GR5) zinc
8	6	723762	BOLT 3/8 -16 X 3.25" SHCS ZNC (ALLISON ADAPTERS)
9	3	300617A	SET SCREWS FOR RELUCTOR RING

The Atlas must have an A31S input shaft. This allows for the proper shaft length with the spud shaft and the Allison main shaft. The spud shaft has a 29 spline female with a male 31 spline. The Atlas also requires a standard case configuration "not a GM version".

The Allison transmission requires a rear output speed signal. If the Atlas transfer case is equipped with a VSS tailhousing and then shifted into the low ratio, it has the option to disengage the power to the rear axle (also called a front dig). The Allison transmissions computer recognizes this as a problem (power coming into the transmission but none coming out to the rear axle). The VSS Atlas tailhousing should not be used on these applications.

The Allison transmissions computer shifts the Allison into neutral. The modified tailhousing thus allows a signal to the computer no matter what the Atlas is doing, allowing normal operations to the transmission. Once again we do not know if this causes any other issues as of yet with the vehicle.

The reluctor ring will need to be slipped onto the Atlas input. Before tightening the set screws, trial fit the 51-6912 adapter onto the front of the Atlas (the rotation does not matter at this time). With the adapter set on the transfer case, install the 300619 reluctor sensor into the adapter casting. Locate the 300623 reluctor with the set screws facing towards the transmission and the 40 teeth centered with the sensor. Note: This gap between the reluctor and the sensor should be around 0.010" to 0.012". Once the gap is confirmed and the location of the reluctor is obtained you can remove the adapter housing, making sure not to disturb the position of the clamp on the shaft. With the clamp now exposed, tighten the set screws to clamp the reluctor to the Atlas input shaft. [Loctite on these set screws is recommended.](#)

Determine the correct transfer case rotation for your application

Make sure that the 4L80E output shaft and the Atlas input shaft do not bottom out. **DO NOT FORCE THE ADAPTERS TOGETHER.** If assistance is needed, please feel free to call the phone number listed above.

Note on gap adjustment: This clearance should be 0.012" +/- 0.002". This clearance may be adjusted slightly by adjusting torque used to snug the sensor. The transmission will not shift correctly if this tolerance is not correct.

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.