

## *WJ AUTO TRANS. ATLAS SHIFTER*

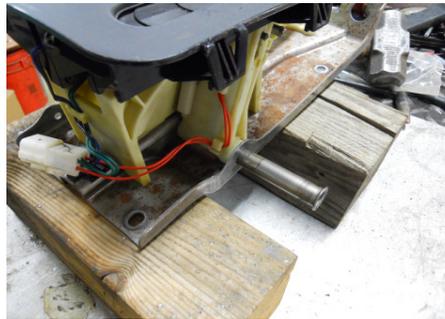
### **KIT CONSISTS OF:**

<b>No.</b>	<b>Qty</b>	<b>Part No.</b>	<b>Description</b>
1	1	302051	BASE- ATLAS TWIN STICK MOUNT
2	1	302080	STUD BOLT 1/2 -13 X 7 B7
3	1	303120	Serrated-Flange Hex Locknut 1/2 - 13 zinc
4	1	303121	NUT-1/2-13 HX JAM BLACK ZINC
5	1	303303	RETAINER- SHIFTER BODY BARREL
6	2	303305	BARREL- ATLAS SHIFTER CABLE
7	1	303307	ATLAS CABLE BRACKET
8	2	303309-1	CABLE-ATLAS SHIFTER 48 LENGTH 1 TRAVEL (green or purple cables)
9	4	303312	BUSHING- IGUS 3/8
10	2	303313	ROD END- FEMALE 1/4 -28
11	2	303316	NUT- ATLAS CABLE RETAINER OUTER
12	2	303317	NUT- CABLE SHIFTER- JAM 1/4-28
13	1	303325	TUBE- ATLAS SHIFTER EXTENSION 4.25
14	1	303334	CABLE SHIFTER BOTTOM COVER
15	6	303341	BOLT- 1/4 -28 x 5/8 B.H.C.S.
16	1	303344	Pivot Dowel Pin (Ground) 2.25
17	1	303347	HOUSING- ATLAS WJ CABLE SHIFTER
18	1	303348F	HANDLE MOUNT- FRONT HANDLR LEFT SIDE
19	1	303348R	HANDLE MOUNT-REAR CONTROL RIGHT SIDE HANDLE
20	1	303349F	KNOB- WJ ATLAS FRONT KNOB
21	1	303349R	KNOB- WJ ATLAS KNOB
22	3	340615	BOLT- 1/4 -20 X 5/8 Button Head Socket Cap Screw
23	1	42R609	SPRING- WAVE
24	3	42R617	BOLT- 1/4 -20 X 3/8 B.H.C.S. plain
25	2	42R701	PIVOT PIN MOUNT
26	4	722546	SCREW-TEK HEX SELF DRILLING W/NEO #10- 16 X 1
27	3	723731	S.H.C.S. 3/8 -16 X 1 ZINC
26	2	723753	F.H.C.S. 3/8 -16 X 1-1/4

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The photo (LEFT) shows the Jeep WJ console and photo below shows the shifter removed.



With the shifter removed, pull the pivot pin to remove the transfer case handle. A section of the shifter base must be removed to allow for the new Atlas shifter box.

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Reinstall the pivot pin and trim. The pivot pin that holds the transmission shifter will need to be welded in place. Remove the transfer case sliding cover as it will not work with the twin stick. You can get the brush material like the Jeep TJ's used and install it to the console.



A hole in the floor will need to be cut also, set the shifter in place and draw a mark around the cutout from the shifter that you removed earlier. You can over size it a bit so the cable box fits nice into the section that the old shifter was located in.

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### ASSEMBLY

#### Transfer Case End: (see photo next pages)

Bolt the twin stick base to the transfer case with the 3/8"-16 socket head cap screws. Thread the 1/2"-13 all thread completely into the twin stick base. Install the 1/2"-13 jam nut. Tighten the jam nut against the twin stick base. Slide the extension tube and the extension tube bracket over the all thread and fasten with the 1/2"-13 serrated lock nut.

Remove one of the 5/8" jam nuts and slide the cable through the extension tube bracket. Loosely re-install the 5/8" jam nut to hold the cable in place. Remove the 1/4" nut from the cable end and discard. Slip the 303316 outer nut cap over the cable end and then thread the 303317 cable nut on to the 1/4-28 cable end. The cable nut must be set at a distance that when the cable end is inserted into the Atlas shift rail, the cable end bottoms out in the shift rail. The nuts are then adjusted to the front face of the shift rail. Once the cable nut is adjusted correctly, slip the nut cap over the cable nut and onto the Atlas shift rail. Tighten the cap nut to retain the cable end to the Atlas shift rail. Use caution when turning the cap nut, making sure it does not turn the inner cable nut. Once the assembly is fastened together you should only see about 1/4" of the 1/4-28 threads coming out of the nut cap. Repeat this step on the second cable.

Once both cables are connected, the cable outer housing needs to be set to the cable mount bracket. Shift the transfer case into low range for this adjustment. The easiest way is to use a long punch and a dead blow hammer, set the punch (flat tip) on the nut cap and tap the punch lightly with the hammer. It should pop into the low gear ratio. Turning the yoke can confirm that you're in low gear. Once both shift rails are in low gear you can adjust the outer cable housing.

Loosen the large jam nuts on the cable. Apply some force on the outer housing of the cable pulling away from the transfer case. The cable is a 1" travel and the Atlas shift rail is .960". With the Atlas in low range and the outer housing of the cable extended entirely the other direction, you can now set the jam nuts to the extension tube bracket knowing that the travel of both components is correct. Repeat this on the second cable.

Shift the Atlas back into neutral so when you get to the shifter box assembly and handle orientation, it is easy to see the correct alignment.



New shift rails with clearance holes drilled



support tube and bracket installed



Cable being installed through the bracket

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Remove the 1/4" jam nut and install the nut cap over the cable.



Install the cable nut on the cable threads.



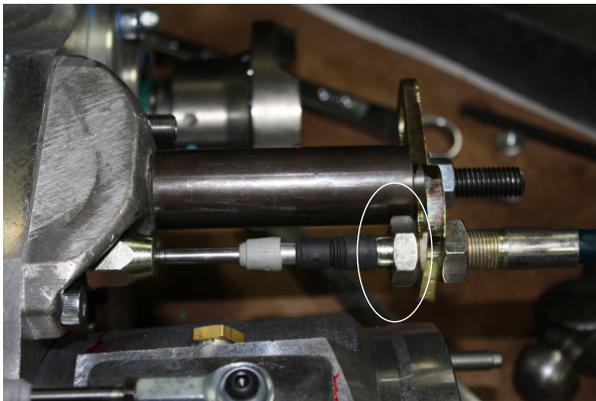
The cable should bottom out in the shift rail and the cable nut should be flush against the face of the shift rail.



Once the cable nut has been adjusted, slide the nut cap over the shift rail and tighten to retain the cable to the shift rail. Shift the transfer case into low range (shift rail pushed inward) to set the outer cable housing.



The outer cable housing now needs to be set. Pull the outer housing away from the transfer case. The inner cable should be fully extended.



With the cable fully extended in this direction you will now need to secure the 5/8" jam nuts to the bracket of the transfer case. Since the cable has a bit more travel than the Atlas needs, we recommend to thread on (circled) nut first to the bracket and then give it one addition full turn which will pull the outer cable housing back slightly. Then snug the front nut. Once both nuts are snug to the bracket, tighten them with a wrench. Before moving up to the shifter box, shift transfer case back to neutral.



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Assemble the shifter box and install the wave washer on the pivot shaft between the two handles.



The Igus bushings must be **pressed** into the shift handle. A arbor press or a light hand with a hammer works well. Once the bushings are installed the pivot pin gets installed through the handle.



Install the pin mounts. (note these photos show a assembly of a similar kit that uses the same mounting hardware but different handles)



Once both pivot pin mounts are installed, The pivot pin should be flush with the outside edge of the pin mounts. Install the handle assembly into the shifter housing making sure the handles are pointing forward or in the same direction as where the cable will be mounted (see photo).

Once assebled test fit into the new acces hole cut into the floor and check fitment around the aotomatic shifter. The new cable box should fit below the rear space on the floor of the WJ.

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### Shifter End:

1. Remove 1 of the 5/8" jam nuts and the lock washer from each cable and discard.
2. Slide the Barrel Retainer plate over both shifter cables, then thread both cable barrels onto the shift cables.
3. Now thread the heim joints onto the shift cables inner rod and tighten the jam nuts. (This should look like the photos to the right.)
4. Using a mallet, hammer the pivot bushings into the shifter handles. Start the bushing into the handle, hold the handle with the bushing side down on the table, hit the top side of the handle with the dead blow hammer to install the bushing. Repeat for the remaining bushings.
5. Assemble the shifter body. See the last two pages for help on this.
6. Slide the heim joint to meet the tapped hole in the shift handle and insert the bolt from the bottom of the shifter box to secure the handles to the cables.
7. Slide the cable barrel retainer plate up the shifter body and fasten it with the 1/4"-20 button head cap screws (Note: Do not fully tighten these cap screws).
8. With the transfer case in neutral and the shifter box assembled, you will need to adjust the handles in the shifter box. Make sure the 5/8" jam nut is not tight against the cable barrel. By turning the cable barrel with a set of pliers it will move the outer cable housing inward or outward and thus move the handle forward or backwards in the shifter box. Since the cables are set correctly down at the



transfer case and the transfer case is now in neutral. The goal is, the handles should be adjusted to create a 90 degree angle with the orientation of the handles to the top of the shifter box. When the shifter is adjusted properly, tighten the jam nuts and the cable barrel retainer plate screws.

9. Once adjusted install the bottom cover using the supplied button head cap screws and apply a bead of RTV silicone to seal the two.



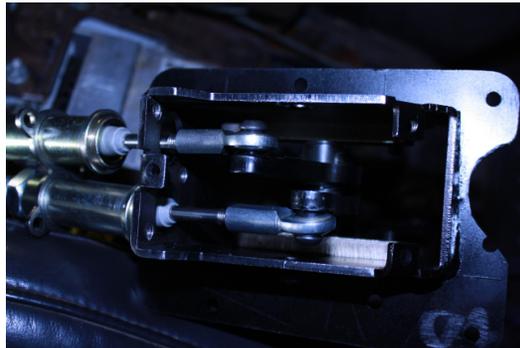
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Cables routed up through the new hole in the floor.



Cables connected to the new box and then test fitted and shifted to make sure the shift throw clears the slot.



Final install photos.

