

ADVANCE ADAPTERS INC.

P.O. Box 247, 4320 Aerotech Center Way

Paso Robles, CA 93447

Telephone: (800) 350-2223 Fax: (805) 238-4201

P/N: 344021

New Item: (07/06)

PAGE 1 OF 4

Page Rev. Date: 04-10-08

ATLAS LEFT DROP ELECTRIC SHIFTER

KIT CONSISTS OF:

No.	Qty	Part No.	Description
1.	1	300378-C	CONNECTOR- 2 PIN WEATHERPAK
2.	1	300378-F	CONNECTOR
3.	1	340510-L	SHIFT LEVER (INSTALLED BY ADVANCE ADAPTERS)
4.	1	340512-L	BRACKET - SHIFT ACTUATOR
5.	1	340560	BUMPER-ACTUATOR BRACKET
6.	1	340561	CLEVIS PIN - ACTUATOR
7.	1	340562	ELECTRIC SHIFT ACTUATOR
8.	1	340570	ROCKER SWITCH - DPDT
9.	15	340571	18GA RED WIRE (PER FT.)
10.	15	340572	18GA BLACK WIRE (PER FT.)
11.	6	340573	SPADE TERMINAL - 16/18 GA
12.	2	340574	RING TERMINAL - 3/16" HOLE - 16/18 GA
13.	1	340575	FUSE HOLDER
14.	1	340576	5 AMP FUSE
15.	1	340580	RELAY SOCKET
16.	1	340615	1/4"-20 x 5/8" BUTTON HEAD CAP SCREW
17.	3	720015	FLAT WASHERS FOR ACTUATOR BRACKET BOLTS
18.	3	723720	3/8"-16 x 3/4" H.H.C.S. BRACKET MOUNTING BOLTS

SPECIAL NOTE:

We do not recommend flat towing vehicles with the Atlas 4 speed because of the planetary housing bearings and the additional needle bearing used in the Atlas. If you must flat tow your vehicle, than we recommend the drive shafts must be removed.

CAUTION: Care should be taken that the electric shifter switch is not operated by accident. In order to make this kit simple, cost effective, and durable, we chose to not use any electronic control. The disadvantage is that the planetary will shift any time you push the button, even if it was an accident. **If you shift the transfer planetary while the vehicle is moving, serious injury, and/or vehicle or transfer case damage are very likely.** For safety reasons, on all manual transmission applications we highly recommend an optional disarm switch should be installed as shown on the wiring diagram. This disarm switch is especially recommended if other people will be driving your vehicle. Vehicles with a automatic transmission we highly recommend that you follow the wire diagram and connect the neutral safety switch on the automatic transmission. This allows the reduction box to shift only when it is in neutral.

SHIFTING PROCEDURE: The planetary reduction portion of this box is a non-synchronized unit. **YOU MUST COME TO A COMPLETE STOP BEFORE SHIFTING THE PLANETARY.**

Manual Transmission Shifting Procedure: Stop the vehicle with the clutch depressed. Shift the planetary by holding down the switch for a minimum of 3 seconds. Shift the transmission into the desired gear and resume driving.

Automatic Transmission Shifting Procedure: Stop the vehicle. Shift the transmission to Neutral and wait for the engine to reach idle RPM. Shift the planetary by holding down the switch for a minimum of 3 seconds. A slight clunk may be heard as the planetary re-engages into the new position. Shift transmission back to the desired gear and resume driving. If the planetary shift was not successful, shift the transmission back to neutral and immediately shut off the engine. Once the engine is shut off, repeat the shift with the switch, then restart the engine in neutral and resume driving.

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.

ADVANCE ADAPTERS INC.

P.O. Box 247, 4320 Aerotech Center Way

Paso Robles, CA 93447

Telephone: (800) 350-2223 Fax: (805) 238-4201

P/N: 344021

New Item: (07/06)

PAGE 2 OF 4

Page Rev. Date: 07-15-06

ATLAS LEFT DROP ELECTRIC SHIFTER

PRE-ASSEMBLY & ADJUSTMENT (BEFORE T-CASE INSTALLATION):

1. Apply silicone to the 3/8"-16 bolts and use them with the included flat washers to fasten the shifter bracket to the top of the Atlas. Torque bolts to 25 lb./ft.
2. Remove backing and stick rubber bumper to the back of the inside pocket in the actuator bracket.
3. Slide the motor end of the actuator into the actuator bracket and fasten with the supplied clevis pin.
4. The actuator should be shipped in the fully retracted position. Push the shift lever on the planetary assembly and verify that it is shifted into the rearward position (low range). Adjust the heim joint in the actuator so that the hole in the heim joint lines up with the tapped hole in the lever. Do not install the bolt yet.
5. The adjustment must now be checked in the forward position (high range). Temporarily supply 12 Volts to the actuator by connecting the black to ground and +12 Volts to the red wire. The motor will freewheel once it reaches the end of its travel, so letting the motor run for a few seconds after it stops moving will not damage it.
6. Using the lever, manually shift the planetary lever into the forward position. Now recheck the alignment of the heim joint hole and the tapped hole in the lever. Adjust heim joint position as necessary.
7. Move the actuator to its retracted position. Connect the black wire to +12 Volts and the red wire to ground. Make sure the actuator reaches the fully retracted position by letting it run for a few seconds. Shift the planetary back to its rear position (low range).
8. Recheck the alignment between the actuator heim joint and the tapped hole in the lever, in the rearward position.
9. Repeat steps 4-8 until the heim joint in the actuator line up with the tapped hole in the lever. Now thread the button head cap screw through the heim joint into the lever. Then tighten the jam nut on the heim joint against the actuator. Adjustment is now complete.



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.

ADVANCE ADAPTERS INC.

P.O. Box 247, 4320 Aerotech Center Way

Paso Robles, CA 93447

Telephone: (800) 350-2223 Fax: (805) 238-4201

P/N: 344021

New Item: (07/06)

PAGE 3 OF 4

Page Rev. Date: 02-01-07

ATLAS LEFT DROP ELECTRIC SHIFTER



10. Now is the best time to install the 2 pin connector to the actuator motor wires so that the soldering can be done on the bench and not under the vehicle. The female end of the connector should be used. Slide seals onto the wires, strip the wires, and crimp them to the female connector pins. Next, solder the connection, slide the seals down and fold over the large tabs to retain the seal. Now insert both wires into the connector and snap the clip into place. Refer to the photo left.

TRANSFER CASE INSTALLATION:

Refer to the Atlas manual and twin stick shifter instructions before proceeding onto the transfer case installation.

OIL FILLING:

After installing the sight tube per the instructions in the Atlas manual, add 2-1/2 quarts of included oil while still on the bench. AFTER ADDING OIL AND BEFORE INSTALLING TRANSFER CASE INTO VEHICLE, TIP THE TRANSFER CASE ONTO THE INPUT SHAFT SO THAT THE REAR YOKE POINTS STRAIGHT UP. (This establishes the correct amount of oil in the separate reservoir of the planetary).

NOTE: We have included 3 quarts of Torco oil with the new Atlas 4 speed transfer case. The new 4 speed should only be filled with 2-1/2 quarts of fluid. Three quarts will cause the Atlas to vent out the extra fluid.

WIRING AND SWITCH INSTALLATION:

Note: This kit includes all electrical components that should be needed for a complete installation. The electrical parts are not shipped assembled so that the wiring can be custom tailored to your particular installation. The wiring diagram on the following page illustrates how the switch and actuator need to be connected. The wiring is straight forward but some relevant details are outlined below:

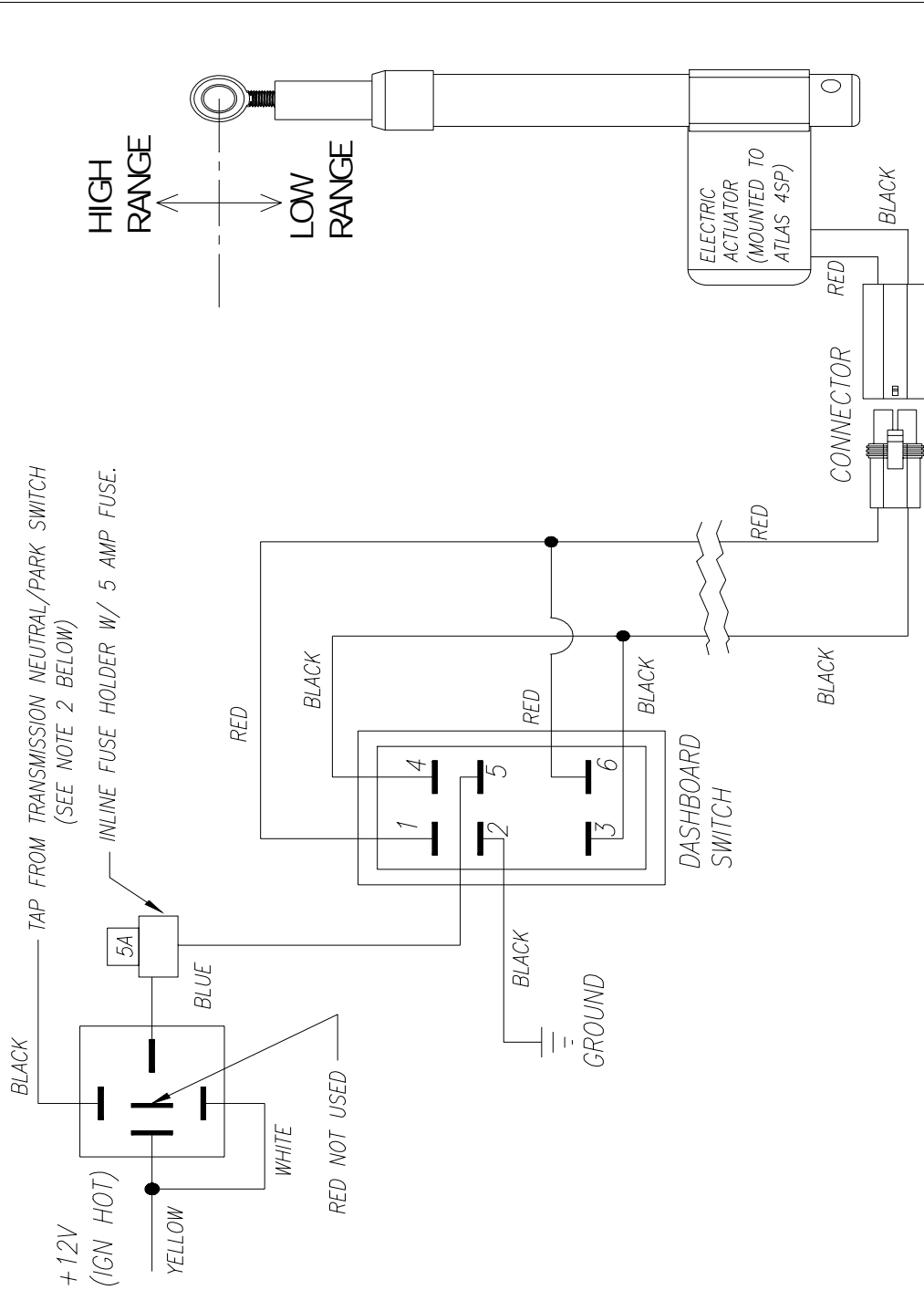
Fuse Holder Assembly: Slide wires through seal in the back of the fuse holder. See photo right. Strip wires, crimp pins to wires, and solder. Slide the pins and wire back into the fuse holder and rotate pin as needed to clip the pin into the holder. Now, install the included 5 amp fuse and fuse holder cover.



Switch Mounting: The switch can be mounted anywhere that is convenient. A location that is near the Atlas twin stick shifter is the best. Pay attention to mount the switch where it cannot be mistaken for something else, and mistakenly operated.

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 LEFT DROP ELECTRIC SHIFTER



NOTES:

1. AN OPTIONAL TOGGLE SWITCH CAN BE USED TO DISARM THE TRANSFER CASE TO PREVENT ACCIDENTAL OPERATION WHILE VEHICLE IS IN MOTION.
2. THIS DIAGRAM IS FOR A GROUND SENSE SAFETY SWITCH(SHIFTS WHEN GROUNDED). THE CONNECTION SHOULD BE SOLDERED AND SEALED USING HEAT SHRINK OR ELECTRICAL TAPE. PLEASE REFER TO SERVICE MANUAL FOR NEUTRAL SAFETY SWITCH WIRE IDENTIFICATION

WIRING DIAGRAM	TITLE: ATLAS 4SP- ELECTRIC SHIFTER	
	APPROVED BY: John U. Partridge	ORIG. D/F: JAW
THIS IS A UNIVERSAL WIRING DIAGRAM. SOME CONNECTIONS WILL BE SPECIFIC TO THE VEHICLE. FOR EXAMPLE, POWER AND GROUND CONNECTION LOCATIONS ARE LEFT TO THE INSTALLER.	DATE: 7-12-06	REV. DATE:
	Advance Adapters INC.	