OX ELECTRIC SHIFTER INSTALL MANUAL



FIG. 1 KIT CONTENTS

Description and Operation

The electric shift system uses an electric actuator to drive shifting cable. This eliminates the need to find a place to mount the manual shifter and cable assembly inside the vehicle. The actuator is designed to be mounted outside the vehicle and will resist the harsh environment.

The lock and unlock switch mounted in the vehicle controls the actuator thru a ground signal. The actuator will give a feedback to the switch, illuminating the lock light when the actuator is fully extended to lock position. Once the actuator shifts into lock or unlock position, it requires no power to stay in position.

Just like all **OX** shifting systems the electric shift system can be engaged in motion as long as you are not experiencing wheel spin.

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Installation

1. After Cable is correctly installed in to cover, Install thread adaptor, Jamb nut, and Plunger on long threaded end of cable, ensure wrench flats on thread adaptor are correctly oriented and tighten against cable. Use a non-hardening thread sealant to prevent water entry. Thread plunger on inner cable 7/16" and secure in place with jamb nut.



- 2. Install mount bracket to vehicle in desired position; be sure to consider actuator motor clearance, cable length and suspension travel (compression and dropout).
- 3. Install 7/8-14 jam nut on thread adaptor/cable assembly and place in mount bracket, then using a thread sealant to prevent water entry screw the shift body on the thread adaptor/cable assembly until the end of plunger is 1/8" outside actuator mounting surface then snug Jamb nut as shown in FIG. 3
- **NOTE:** Adjustments should be made with cable installed into differential cover, and differential cover installed on vehicle.
 - 4. Moving adjustment as little as possible, position the shift body to orient the actuator motor to desired position and tighten jam nut. If repositioning shift body moves adjustment away from the 1/8" setting, it may be necessary to fine tune adjustment using plunger and ¼-28 jamb nut. Mount actuator to shift body as shown in FIG. 4



FIG. 3



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- **NOTE:** The switch connector is not factory installed to allow harness to fit through a much smaller hole do not install switch connector until harness is routed.
 - 5. Install switch in desired location and route wire harness from actuator assembly, to switch. Tie wire harness adequately along frame/chassis to ensure no chaffing or sagging, keep routing is away from any heat sources.
 - 6. Connect harness to vehicle. After cutting harness to desire length install terminal ends and fuse holder then connect to switch per FIG. 6 & 7.
- **WARNING:** PAY CLOSE ATTENTION TO SWITCH WIRING IF THE WIRES ARE CROSSED THE ACTUATOR MOTOR **WILL** FAIL.



FIG. 6

BLUE wire terminal to switch, pin 7

GREEN wire terminal to switch, pin 2

BLACK wire terminal to switch, pin 3 and to ground

RED bare wire to 12 volt *ignition switched* power source.



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Page 3

Self-Stripping In-Line Blade Type Fuseholder

Notes:

Installation:

- 1. Cut wires but do not strip insulation from wire ends
- Insert a wire end into one of the wire channels until it butts up against the wire stop
- Fold that half of the connector body over until the element contacts the wire
- Crimp that half of the connector closed with a mechanics (slip joint) pliers
- 5. Repeat steps 2,3 and 4 for the other wire
- Slide fuse all the way into the fuse port (fuse not included)





Custom Wiring Information

The actuator is controlled by switching the ground not the power wire. The following description will assist in custom wiring applications

BE CAREFUL INCORRECT WIRING WILL CAUSE PERMANENT MOTOR FAILURE.

- > Blue wire terminal pin 7 is 12V feedback from the motor for the light in the switch
- > Green wire terminal pin 2 is the switched ground for the motor control.
- > Black wire pin 3 is ground for the motor operation and ground supply for the switch
- > Red 10 amp fused wire is 12 volt power for the motor operation.
- When the motor is powered and there is no ground on the green wire to the motor, the motor will drive to the unlock position.
- When the motor is powered and there is a ground placed on the green wire to the motor, the motor will drive to the locked position.
- When the motor reaches full travel it will feed 12 volts to the blue wire (for the locked light in the switch).

Troubleshooting

Locker fails to lock

Shifting problems that arise on a newer installation are usually due to adjustment issues. The 1/4" adjustment from FIG. 3 is a sensitive adjustment. Make sure the setting is correct.

NOTE: If the adjustment is too tight (less than ¼") the actuator motor could shut down to protect itself from damage. This can be reset by disconnecting the plug or removing power from the actuator.

If actuator motor is inoperative it may need a reset. If a reset doesn't fix actuator operation check the 10 amp fuse and wire harness and switch for faults.

Shifting problems that arise over time are usually cable related. Inspect cable for trail damage burn spots from exhaust chaffing and loose crimps.

Locker fails or is slow to unlock

The **OX** locker will by design not unlock until there is no differential torque applied. If the differential torque is unloaded and the locker is slow or will not disengage the most likely cause is a stiff cable. Inspect cable for trail damage burn spots from exhaust chaffing and loose crimps.

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