



40 Huntingwood Drive Huntingwood NSW 2148

Phone: (02) 8825 1999 Website: www.aeroflowperformance.com

INSTALLATION MANUAL

AEROFLOW PERFORMANCE

ATTACK SHIFTER

WARNING!

BEFORE PROCEEDING WITH INSTALLATION PLEASE READ INSTRUCTIONS CAREFULLY. THIS PRODUCT REQUIRES DETAILED KNOWLEDGE OF AUTOMOTIVE SYSTEMS. WE RECOMMEND THAT THIS INSTALLATION BE CARRIED OUT BY A QUALIFIED AUTOMOTIVE TECHNICIAN.

The shifter mechanism is precision-assembled at our factory. Any modification or disassembly of the shifter will void its warranty, and can cause it to malfunction.

Installation of this shifter may require modification or complete removal of your vehicle's console, depending on the space available in your vehicle.

INTRODUCTION

Congratulations on your purchase of this quality Aeroflow Performance Attack shifter. Aeroflow Performance products cannot and will not be responsible for any damage, or other conditions resulting from misapplication of the parts described herein. However, it is our intention to provide the best possible products for our customer, products that perform properly and satisfy your expectations. Should you have any questions? Please call technical support at +61 2 8825 1900 and have the product part number on hand when calling.

The Bang Shift by Aeroflow Attack gate shifter has every feature you need for race orientated competition use and all street applications. The rugged construction of a heavy-duty steel base with a hardened steel gate plate ensures consistent, precise spring-loaded gate action. Detent activation is controlled by a trigger lever that is pulled in towards the gear shift handle to activate.

This Attack shifter is compatible with forward or reverse pattern valve bodies with any 2 speed automatic transmissions.

To back up the incredible gate mechanism inside this Attack shifter, it is encased in a full billet bolt together bespoke outer cover to give that high quality finish. Featuring a bolt on top plate with a rubber insert to keep unwanted dirt and dust out of the mechanism. Each Attack shifter is specifically designed for right hand drive vehicles.

For more information or technical enquires

Contact: Aeroflow Performance on

Phone: (02) 8825 1979 Website: www.aeroflowperformance.com

The pistol grip handle attached to the shifter stick is a handy two-piece bolt together design that allows interchangeable billet side plates to be purchased separately. Along with a matching reverse lockout handle that only requires one hand to operate and complies with NHRA/IHRA safety rules.

The Attack shifter includes a LED lit gear position indicator in the top plate, two micro-switches for reverse lights and a neutral safety switch preventing accidental starts when in gear all to keep the engineer happy and your vehicle safe.

Included with this kit is an Aeroflow Performance 5-foot-long race shifter cable, all necessary hardware, detailed instructions for an easy installation you can do at home, cable bracket and transmission shifter lever to only suit GM Powerglide.

PARTS LIST

DESCRIPTION	QUANTITY	DESCRIPTION	QUANTITY
SHIFTER ASSEMBLY	1	9/32" I.D. FLAT WASHERS (THICKNESS 5/64")	12
5 FOOT RACE SHIFTER CABLE	1	1/4-20" BOLT (UHL 1-7/32")	4
MICRO SWITCH	2	1/4-20" BOLT (UHL 1/2")	1
GM POWERGLIDE SELECTOR LEVER AND PIN	1	1/4-20" HEX NUT	6
GM POWERGLIDE CABLE BRACKET	1	1/4" I.D. SPLIT LOCK WASHER	5
2-SPEED FORWARD PATTERN INDICATOR WINDOW	1	#4 SPLIT LOCK WASHER	2
2-SPEED REVERSE PATTERN INDICATOR WINDOW	1	1/4-20" BOLT (UHL 1-1/2")	1
BILLET SIDE PLATE PASSENGER BLANK	1	5/16-18" BOLT (UHL 1")	2
BILLET DRIVERS SIDE PLATE BLANK	1	7/16" I.D. SPACER (9/32" LONG)	2
		10-32 JAM NUT (COMES INSTALLED ON CABLE END)	1
		1/4" I.D. C-CLIP	3
		1/16" COTTER PIN (1" LONG)	1
		1/4" FEMALE WIRE TERMINAL (BLUE ACCEPTS 16-14 AWG)	4
		CABLE SWIVEL	1
		INDICATOR BULB HOLDER & BRACKET	1
		INDICATOR T-10 LED LIGHT BULB	1
		RUBBER GROMMET	1
		5/16" FLAT WASHER	2

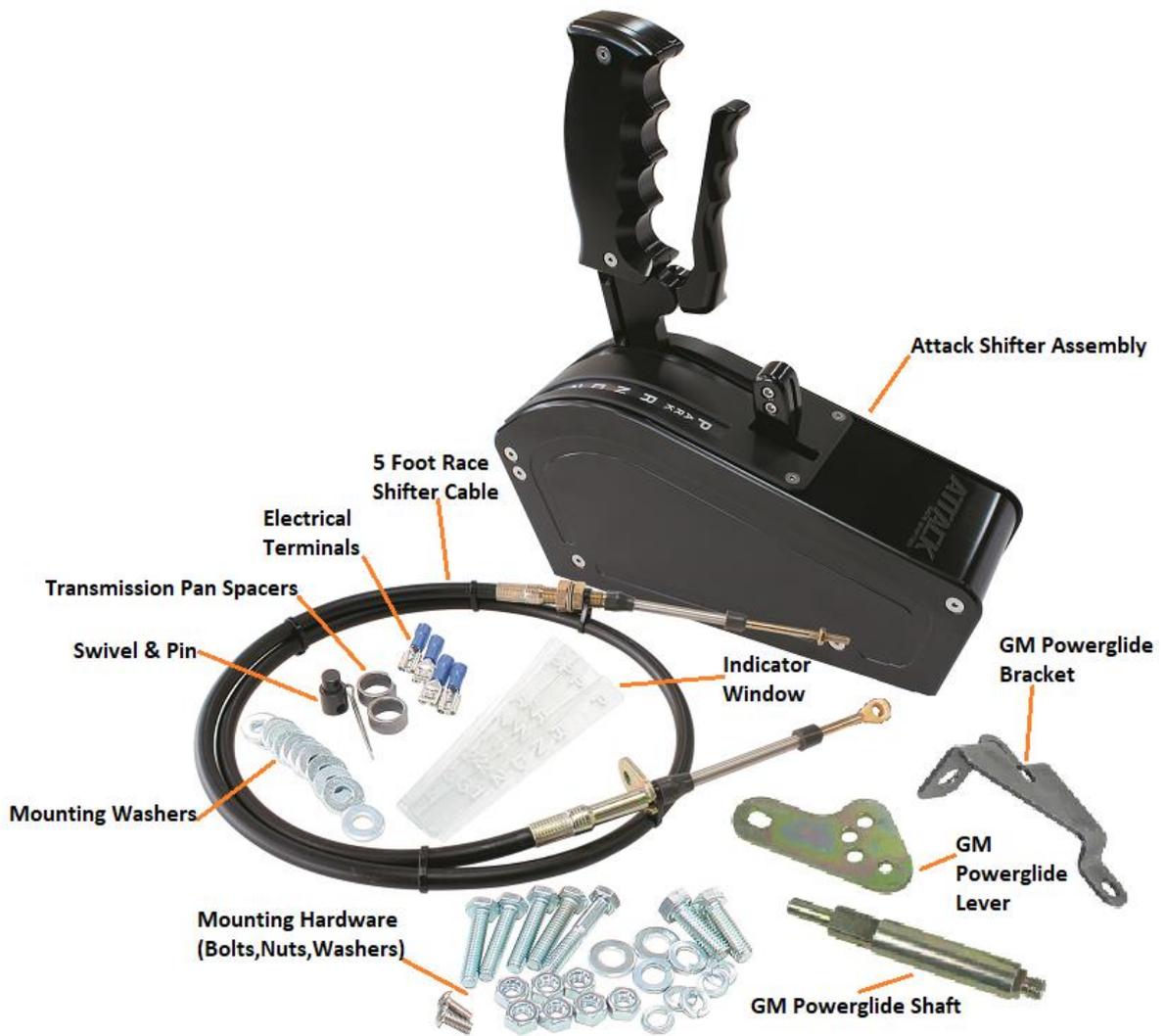
SAFETY WARNINGS

- AVOID SERIOUS INJURY OR DEATH BY CRUSHING! When you raise the vehicle to work under it, securely support it on a lift or jack stands. NEVER work under a vehicle that is supported only by jacks. DO NOT attempt installation until you are confident the vehicle is safely secured.
- Perform this installation with the engine turned off and negative battery terminal is off
- This shifter uses a cable to shift the transmission only. It is NOT intended or designed to operate a locking steering column.
- PERIODIC INSPECTION AND MAINTENANCE OF YOUR SHIFTER IS RECOMMENDED TO ENSURE THAT THE MECHANISM IS WELL LUBRICATED, FREE FROM DIRT OR RUST AND THAT THE CABLE IS PROPERLY ADJUSTED. LACK OF MAINTENANCE COULD RESULT IN A FAILURE INCLUDING A FAILURE OF THE REVERSE LOCKOUT SAFETY FEATURE.

For more information or technical enquires

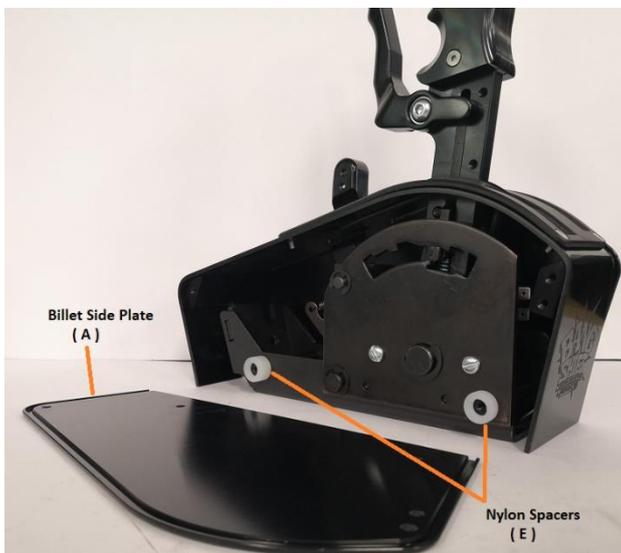
Contact: Aeroflow Performance on

Phone: (02) 8825 1979 Website: www.aeroflowperformance.com



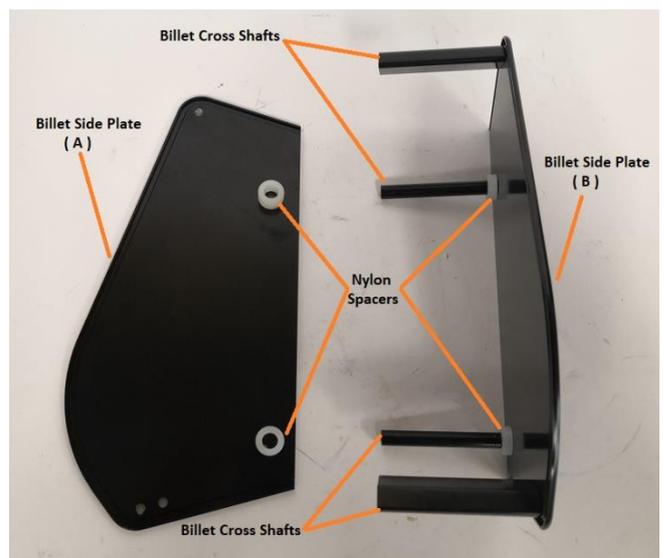
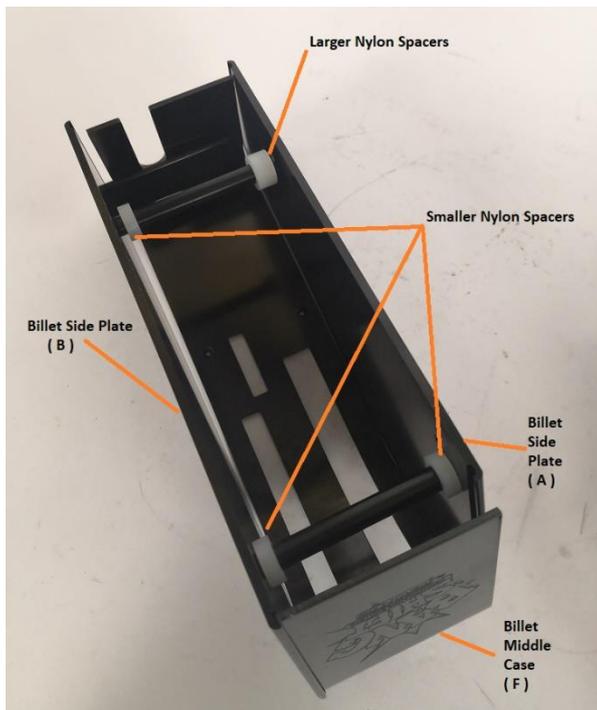
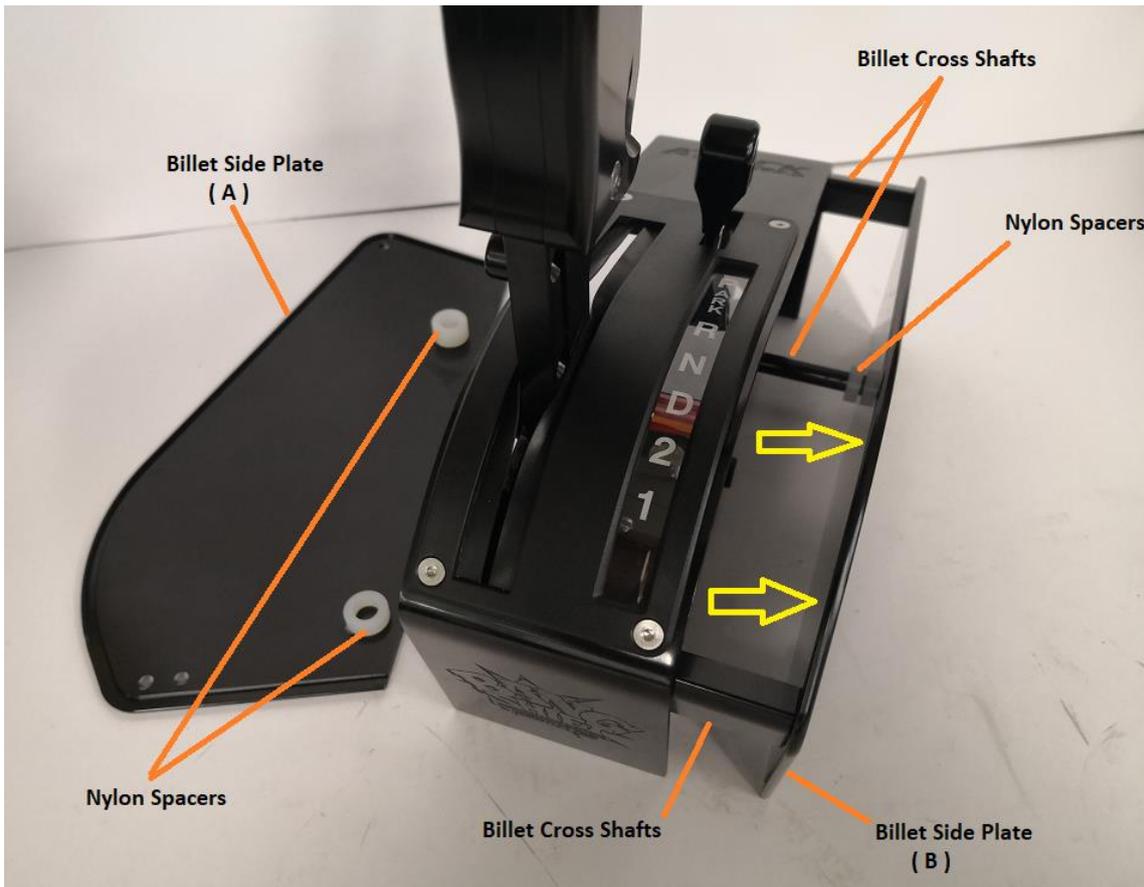
ASSEMBLING & DISASSEMBLING ATTACK SHIFTER

1. This procedure outlined below is a guideline to disassembling and reassembly your Attack shifter from Aeroflow Performance.
2. Remove all five allen key screws on the driver's side billet side plate (A) on the base assembly of the shifter.

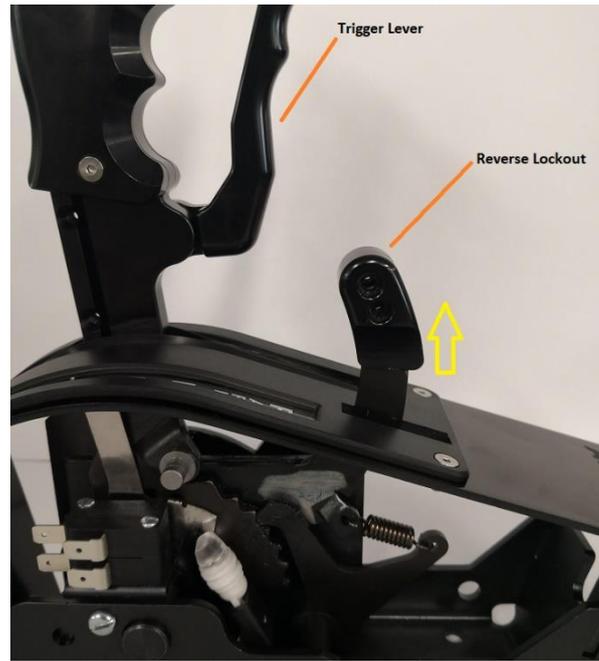


3. Remove and set aside the billet side plate (A). Also note when removing this billet side plate the nylon spacers (E) attached to the shifter. Ensure not to lose them as they are required for reinstallation.

4. Slide the passenger side billet side plate (B) away from the shifter assembly. You will see that the four billet cross shafts will still be attached the billet side plate (B). Two more nylon spacers on two of the billet shafts will be attached. Ensure not to lose these as they will be required for reinstallation.
 - I. Note the position of the nylon spacers in each corner for reassembly.



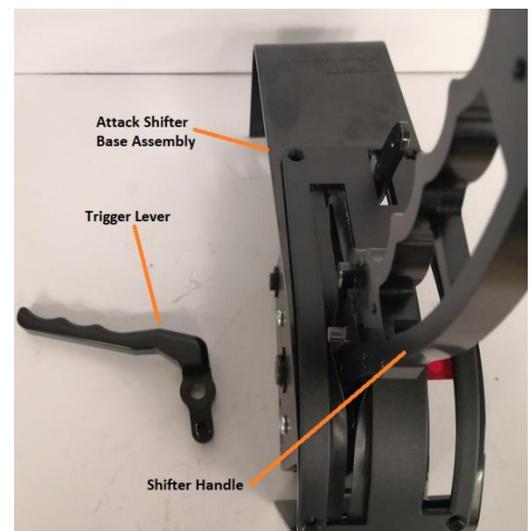
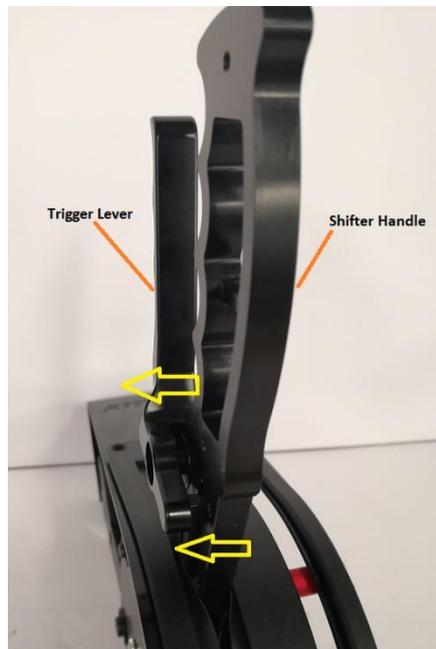
- Remove the reverse lockout handle from the shifter by unscrewing the two allen key screws on the side and slide the reverse lockout handle upwards to remove.



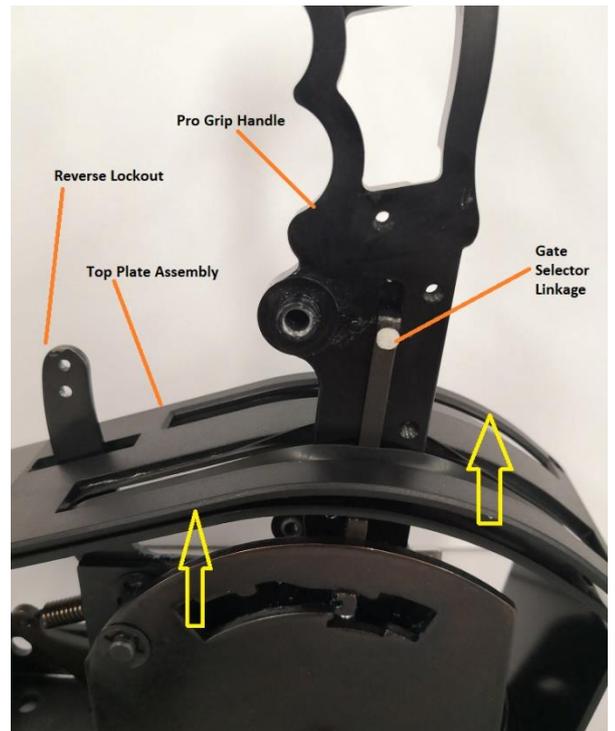
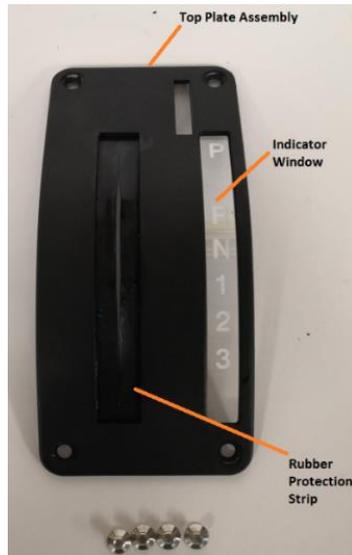
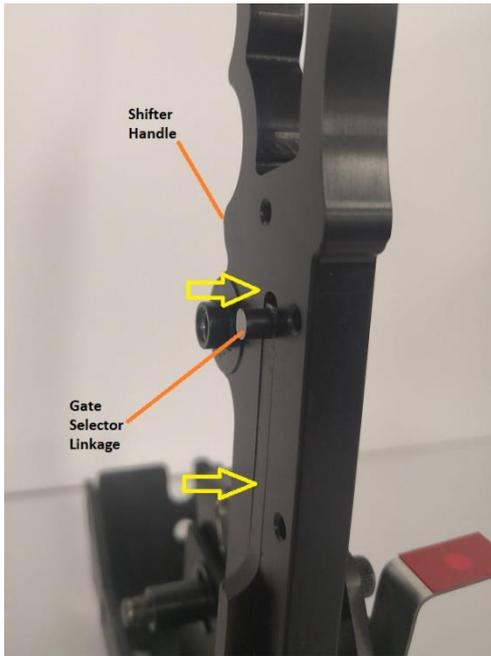
- Moving to the pro grip handle and trigger lever on the Attack shifter. Remove the passenger side billet pro grip side plate (C) by unscrewing the two allen key screws.
- To remove the driver's side pro grip side plate (D), undo the two allen key screws holding in the driver's side pro grip side plates and set both pro grip side plates aside.



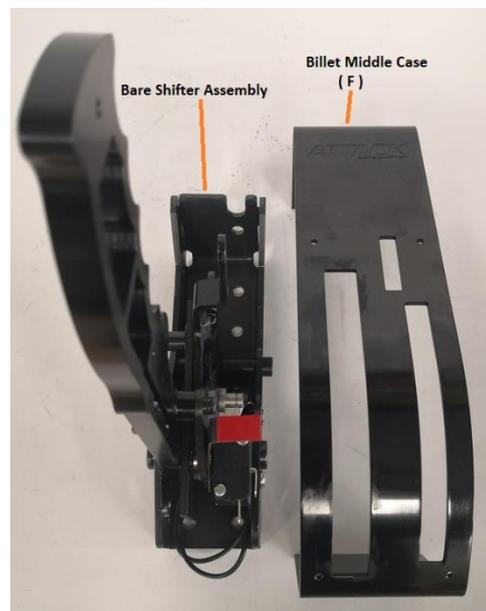
- To remove the Trigger lever handle from the shifter handle. Unscrew the one allen key holding the lever onto the handle.
- Slide the Trigger lever away from the shifter handle and set aside.



- Remove the top plate assembly by unscrewing the four allen key screws on the top of the shifter base assembly. To lift the top plate past the gate selector linkage you will be required to push the gate selector linkage into the groove of the shifter handle to allow enough clearance for the top plate to past above it. Lift the top plate over the shifter handle stick and set aside.



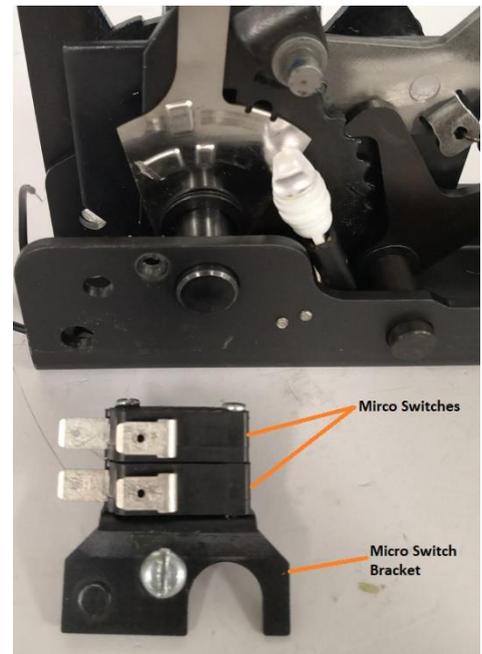
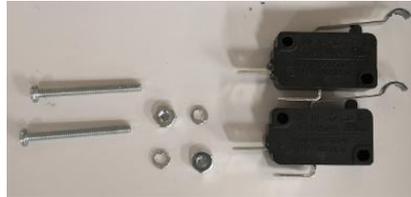
- Moving onto the final piece of the disassembly the billet middle casing (F). Position the shifter into the Neutral Position. Push the gate selector linkage into the shifter handle and lift the middle casing (F) up over the shifter handle and reverse lockout.



- Now the shifter assembly is bare. To reinstall the billet cover, follow the steps in reverse.

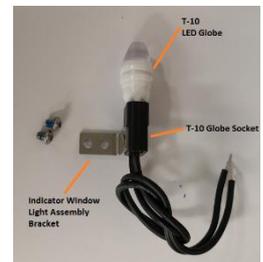
Micro Switches

To change or adjust the two micro switches installed into the shifter assembly. Remove the driver's side billet side plate (A) by removing all the allen key screws and removing the side plate from the shifter assembly. You should now be able to see both micro switches. Remove the flat head screw holding the bracket with the micro switches attached. Using a flat head screw driver and a spanner to hold the nut underneath. Undo both screws from the bracket assembly. The micro switches will now be free from the shifter assembly to adjust or replace. Reinstall the bracket into the shifter assembly and the driver's side billet side plate once you have finished installing or adjusting your micro switches.



Indicator Window Light

To change the indicator window light bulb. Remove the driver's side billet side plate (A) by removing all the allen key screws and removing the side plate from the shifter assembly. You should now be able to gain access to the globe which should just pull out from the holder. Install the new bulb and test before reinstalling the driver's side billet side plate. If the new bulb doesn't light up when powered on remove it and turn it 180° as the LED is polarity sensitive. The LED globe included in this shifter is able to be dimmable with the use of an external controller to adjust the brightness.



Indicator Window

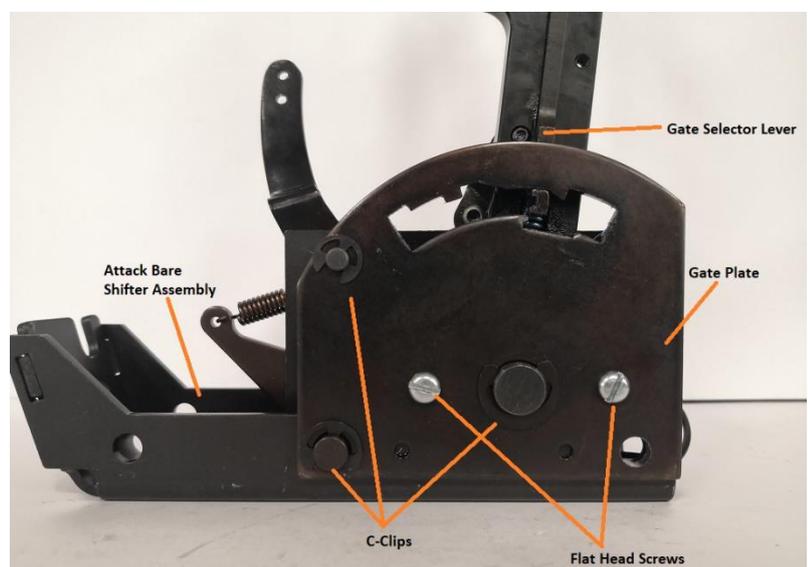
The Attack Shifter comes standard to suit a forward pattern 2 speed transmission. If your transmission is different, you will be required to change the indicator window to suit your application. Remove the reverse lockout billet cover, both pro grip billet side plates and the trigger lever from the shifter handle. Remove the four allen key screws holding the top plate assembly and lift off the top plate assembly from the shifter. The indicator window will be held on by the two allen keys screws on the driver's side of the top plate assembly. Swap the indicator window out to suit your application (various indicator windows are supplied in the kit or sold separately). Reinstall the top plate assembly, both pro grip billet side plates, the Trigger lever and reverse lockout cover once you have finished installing the indicator window.

Gate Plate

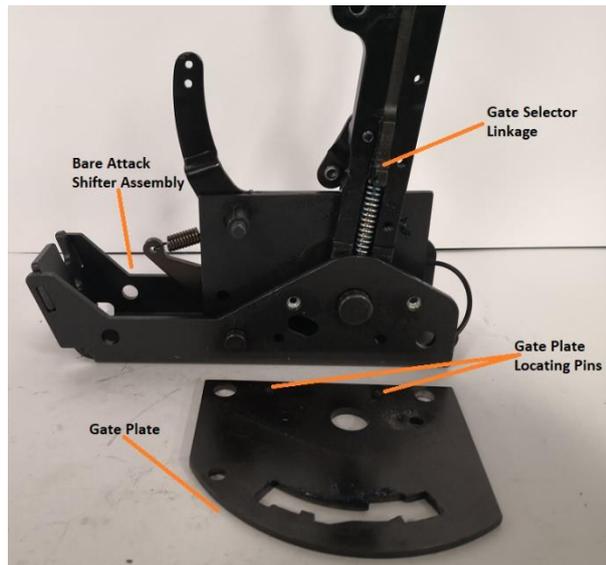
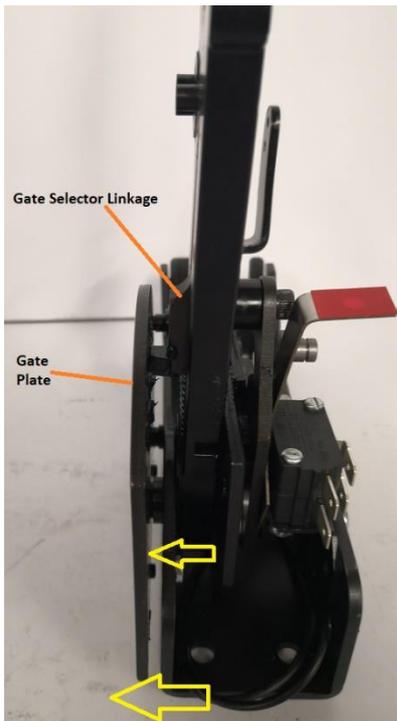
The Attack shifter has interchangeable gate plates to suit various automatic transmission applications. This shifter is preinstalled to suit a GM Powerglide transmission which features two speeds in either forward or reverse pattern valve bodies. We have gate plates sold separately to suit three speed in forward or reverse pattern and four speed to suit forward pattern.

Below is a guide on the replacement of these gate plates if you change to a different automatic transmission.

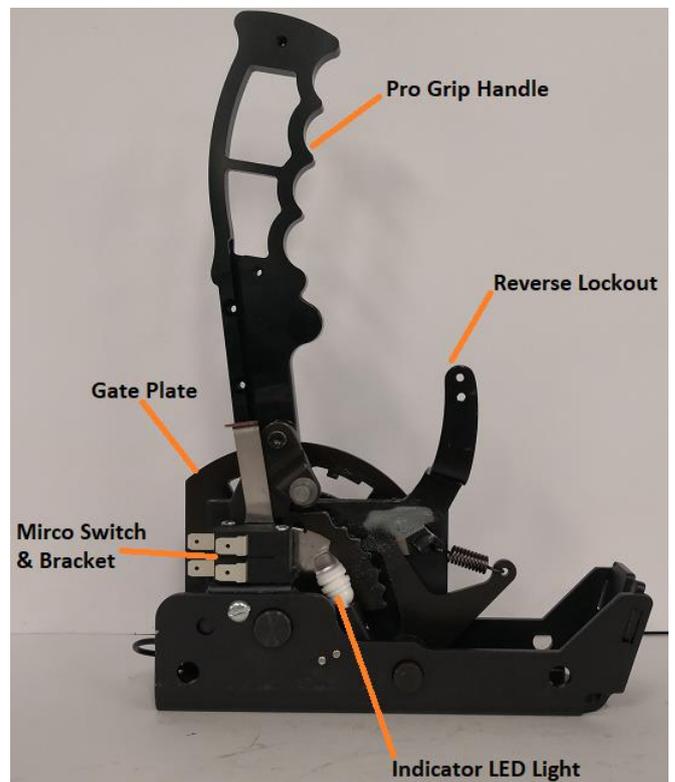
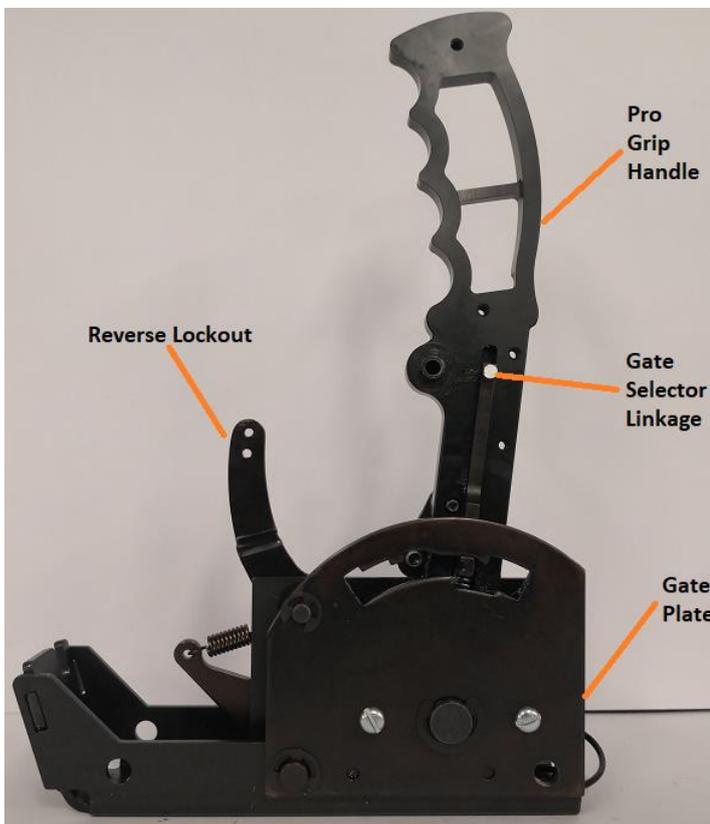
1. Disassemble the Attack shifter following the steps (ASSEMBLING & DISASSEMBLING ATTACK SHIFTER) to a bare shifter assembly.
2. Remove all three C-Clips from that hold the gate plate onto the shifter.
3. Remove both flat head screws from the shifter.



4. Pull off the gate plate pulling away from the shifter assembly and select the required gate plate for your application.
 - I. Note: the gate selector linkage is located directed behind and is held into place by the gate plate. Take note of the position of this gate selector linkage before removing the gate plate.
 - II. When removing the gate plate hold the gate selector linkage against the shifter handle to stop it from falling out.



5. Reinstall the gate plate with the flat head screws. Tighten down both screws ensuring the gate plate is correctly seated. Two locating knobs are located on the gate plate to ensure it is seated correctly onto the shifter assembly.
6. Reinstall the three C-Clips removed from step 2.
7. Check operation of the shifter and reassemble the Attack shifter to complete the installation.

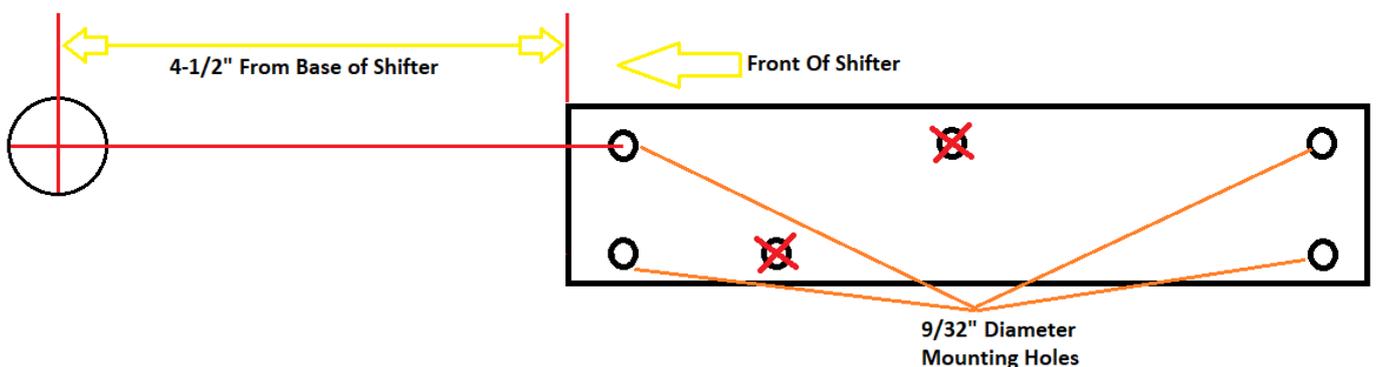
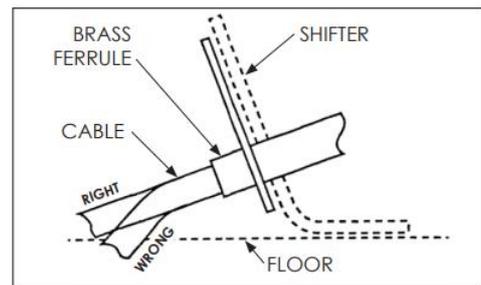
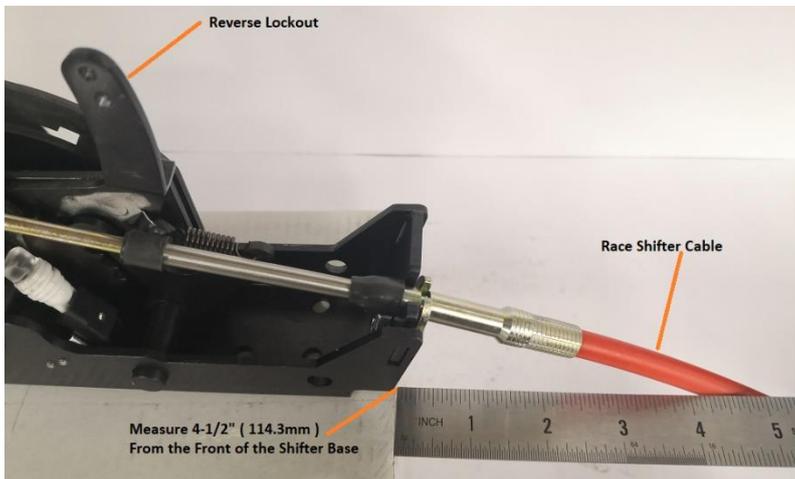


INSTALLATION OF ATTACK SHIFTER

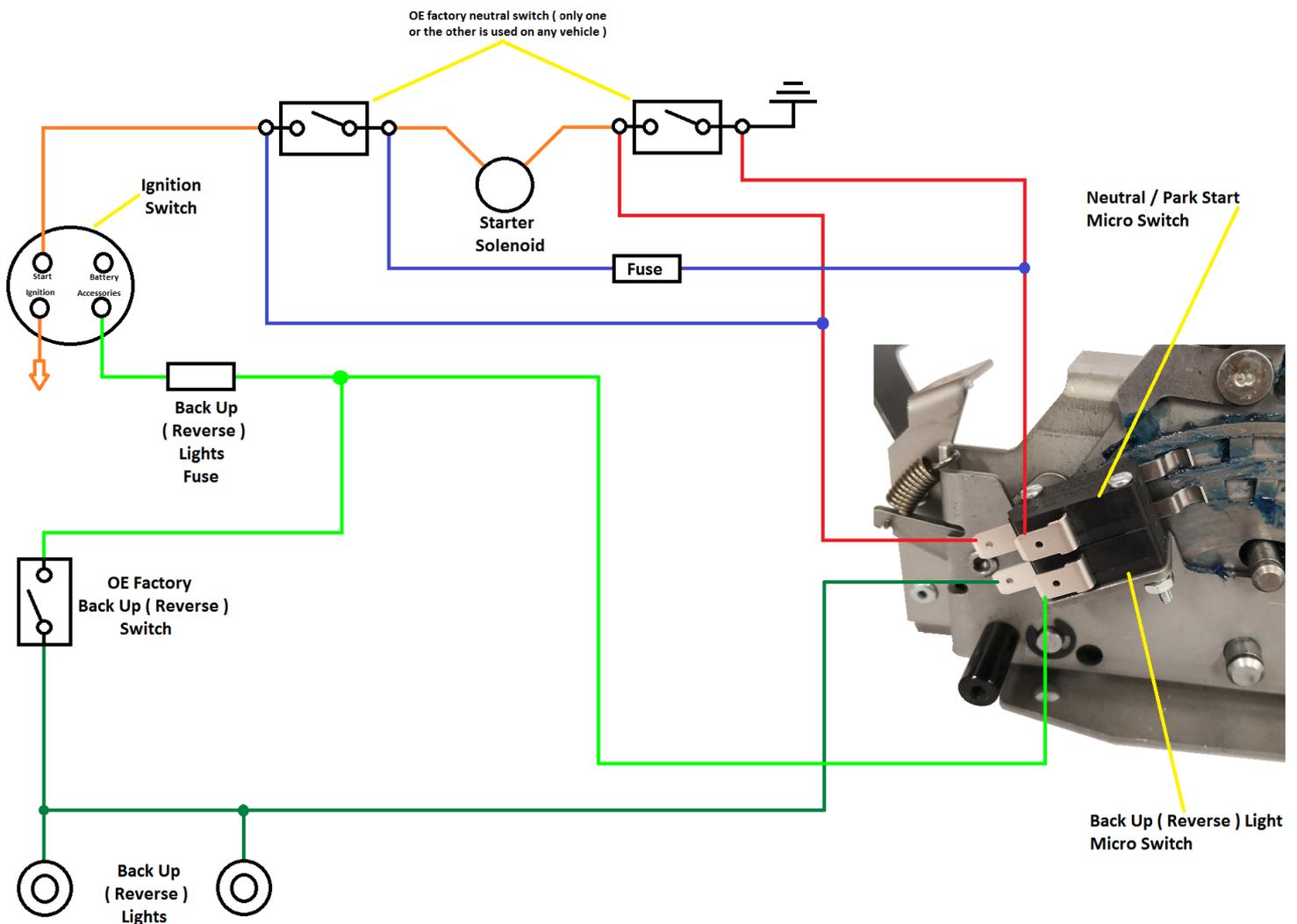
This Attack shifter includes the two-speed gate plate pre-installed, a cable bracket and the Powerglide special lever without the throttle valve shaft hole. For use with trans brakes and full manual valve bodies only.

This procedure outlined below is a guideline to mounting your Attack shifter from Aeroflow Performance.

1. Remove the stock shifter linkage from the vehicle.
 - I. For column shifters: Remove all rods, levers or cables from the column and transmission. Place the column shift lever into the PARK position. Remove the pin holding the shift lever into the column and remove the lever assembly.
 - II. For console shifters: Remove the shifter mechanism from the console. Disconnect the rod/cable from the transmission. Remove the cable bracket if equipped. If there is any cable or linkage it must be placed into the PARK before removing.
 - III. While removing the stock shifter be sure to check for any neutral safety or back up light switches and wiring. Label all wires to simplify installation later on.
2. Disassemble the shifter to a bare assembly for mounting following the steps from the ASSEMBLING & DISASSEMBLING ATTACK SHIFTER.
3. Pull the carpet (if installed) away from the area where the shifter will be mounted. Temporarily place the shifter into the desired position. Make sure the shifter handle will clear both console and seats when in operation both forward and rearward positions. When the shift handle is pulled fully forward and fully rearward, there must be at least 1" (25.4mm) clearance between the shifter and seat or console. Once it is in a convenient location for ease of operation. When you are satisfied mark the position of the 4 mounting holes of the shifter to the floor.
4. Drill the 4 mounting holes with a 9/32" drill bit through the floor. Put the shifter into place. The shifter may require shims to level the shifter out. The twelve 9/32" flat washers that are provided in the kit are designed to fit between the shifter and the floor if necessary. Temporarily hold the shifter in place with the four 1/4-20" (UHL 1-1/4") bolts.
5. To drill the hole for the shifter cable to run through the floor. Measure 4.5" (114.3mm) from the front of the shifter mounting base to mark the centre of the shifter cable hole. This is assuming the floor area forward of the shifter is at the same height as the base of the shifter. This distance will change if the cable goes through the floor at a different level to the base of the shifter. Drill or cut a 1-1/2" (38.10mm) hole for the cable to run through the floor. You may also choose to only drill a 3/16" (5mm) hole to fit the shifter cable through the floor, in this case the supplied rubber grommet will not work and it is recommend to place rubber around the hole to protect the shifter cable.
 - I. After this hole has been cut ensure to de blur all edges and install the supplied rubber grommet to protect the cable from rubbing against the metal.
 - II. If the floor is only made from thin material ensure to support the floor with extra bracing to reinforce and provide a stable mounting platform for the shifter cable.
 - III. Do not kink the cable anywhere along its length or it will lock up. The cable should be kept straight for at least 2" (50.8mm) after it leaves the brass ferrule though the floor.



6. Return the carpet (if installed) and cut the holes for the shifter mounting holes. Next cut a 1-1/2" slit in the carpet for the cable to go through.
7. Install the shifter cable to the shifter assembly. Secure the cable eye to the shifter pin with the 1/4" ID C-clip first. Then secure the cable mount tab to the outside surface of the shifter base. Use the provided 1/4-20" (UHL 1/2") and 1/4" nut and apply a small amount of thread locking fluid to the bolt. Install the C-Clip to secure the shifter cable in place onto the shifter assembly.
8. The two micro switches provided are preinstalled onto the shifter mechanism with the 4-40 pan head slotted screws (UHL 1-1/4") with lock washers and 4-40 hex nuts to hold them into place.
 - I. Ensure to check the correct placement of each switch and they are wired correctly. The bottom micro switch is the NEUTRAL SAFTEY SWITCH which closes in NEUTRAL and PARK only. The top micro switch is the BACKUP LIGHT SWITCH which closes in REVERSE only.
 - II. The micro switch mounting holes normally allow the required positioning for proper activation. However, if necessary, the switch arms may be carefully bent.
 - III. Adjust the switches by loosening the screws and sliding the switches to the correct positions as required. Then retighten the screws to secure the switches.
 - IV. DO not over tighten these screws only tighten until the lock washer is squeezed flat. Over tightening will damage the micro switches.
 - V. Always check the operation of these micro switches before attempting to drive or operate the vehicle. Disconnect an appropriate ignition source for testing. Attempt to start the car in each gear on the shifter. It should only crank the car over in the PARK and Neutral positions and not in any drive gear such as REVERSE or DRIVE.
 - VI. Ensure the backup lights on the rear of the vehicle correctly illuminate in the REVERSE gear only.



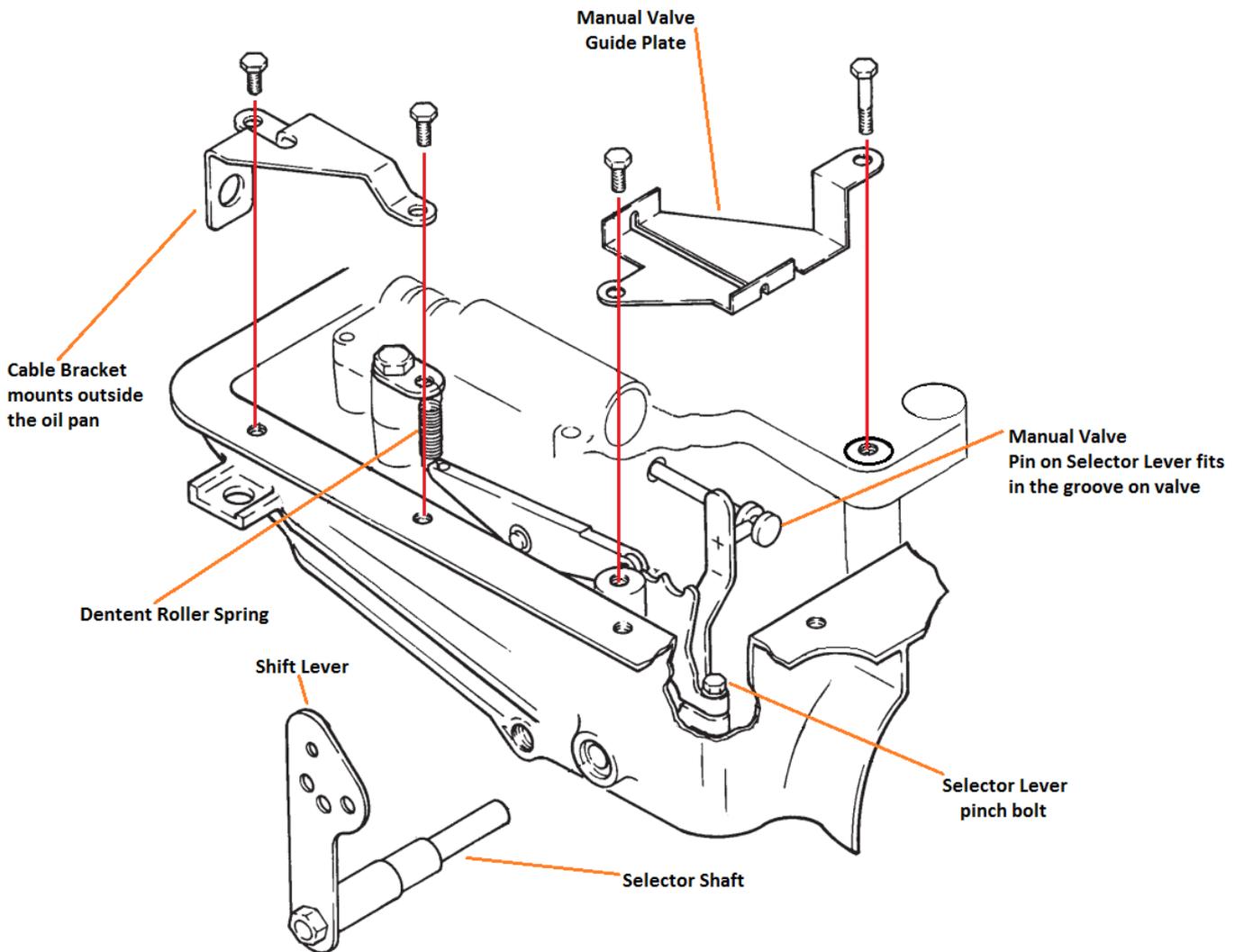
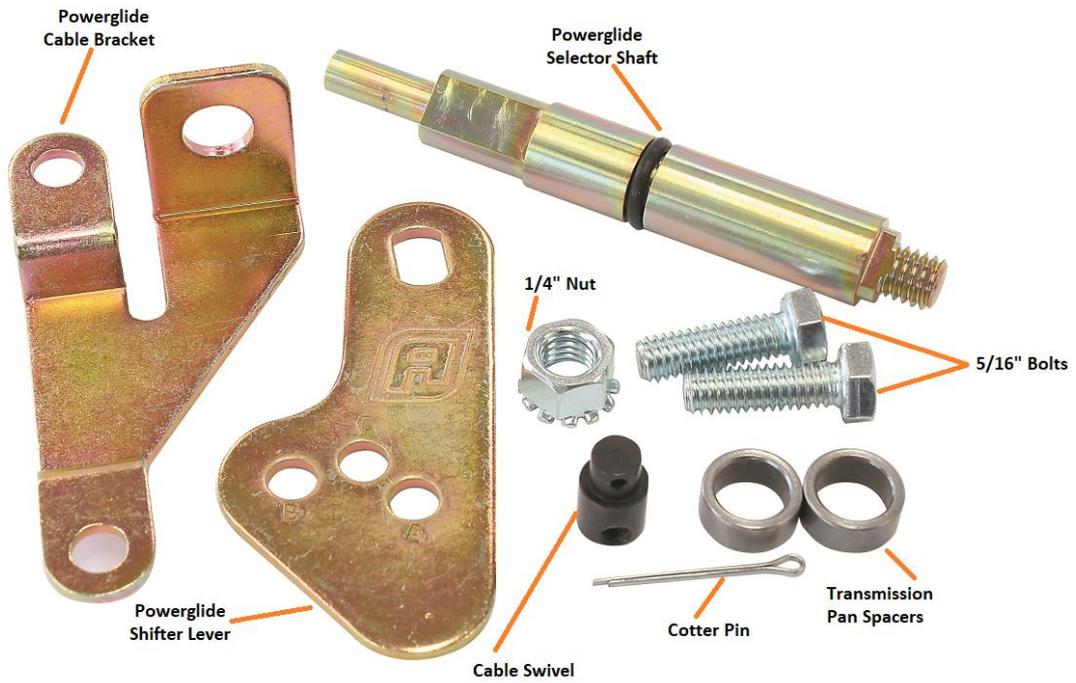
9. Slide the cable through the hole in the floor. Bolt the shifter into position using the four 1/4-20" (UHL 1-1/4") bolts, lock washers and 1/4" nuts (if required install the twelve 1/4" flat washers to level out the shifter). Do not bend the shifter mount tabs as this will interfere with the operation of the shifter mechanisms.

10. Route the shifter cable based on your application and setup.
 - I. Avoid any sharp bends which may kink or otherwise damage the cable and not allow smooth operation. Large, wide loops give the shifter cable smoother operation which will improve the shifter cable life. Generally, the cable will route forward and loop back down the opposite side of the transmission to the shift lever and then route around the rear of the transmission and then up to the shifter cable bracket & lever.
 - II. Use clamps or mounting tabs to secure the cable housing to prevent any contact with vehicle components.
 - III. We recommend to heat sleeve or build a heat shield around the shifter cable to ensure it is protected against hot components such as exhaust systems. As heat will severely damage the shifter cable housing causing it to melt or become brittle over time.
 - IV. Seal the cable hole in the floor to keep out exhaust fumes, water, dust etc. out of the cabin of the vehicle with the supplied rubber grommet.

SHIFTER BRACKET INSTALL LIST

GENERAL MOTORS (POWERGLIDE)

1. Disconnect the stock linkage bracket from the side of the transmission. This Powerglide shifter lever has no provision for a throttle linkage.
2. Drain the transmission oil from the transmission oil pan. **Caution** : Be sure the transmission is cool before attempting to drain the oil. Remove the oil pan and set it aside.
3. Remove the manual valve guide plate by removing the two bolts. Unhook and remove the detent roller spring. Allow the detent roller to pivot out of the way. Note how the pin on the manual valve selector engages the groove in the manual valve.
4. If your transmission has a throttle valve lever on the outside of the shifter lever, loosen the inner pinch bolt on the throttle lever. Slide the throttle lever and the shaft out of the transmission. Remove the inner throttle valve lever. Discard these parts.
5. Loosen the pinch bolt on the selector lever. Do not remove the pinch bolt. Slightly pry the manual valve lever and slide the selector shaft from the transmission. Discard the selector shaft.
6. Install the Powerglide selector shaft into the transmission with the lever pointing down. Hold the stock selector lever in position in the case, engage the pin on the selector lever with the manual valve and rotate the shaft until the flat on the shaft engages the serrations on the lever. Push the lever firmly into the transmission until the lever stops on the shoulder of the shaft. Tighten the pinch bolt securely.
7. Install the manual valve guide plate in place. Make sure that the pin on the selector lever is engaged in the groove in the manual valve. Install the two bolts and tighten to 12-13 ft. lbs (16-17 Nm). Install the detent roller spring. Hook the spring to the detent roller and the tab. The selector lever must travel freely and smoothly from front to back with a positive click in each gear position.
8. Clean the transmission oil pan and scrape the old gasket off the pan and the case. Install the oil pan with a new gasket. Install the oil pan bolts except for the two center bolts on the passenger side of the pan. Tighten the pan bolts to 8ft.lbs (10.85 Nm). Do not overtighten the oil pan bolts as this can damage the pan gasket.
9. Install the cable bracket into position with the two remaining pan bolts. Install the Powerglide lever onto the shaft with the lever pointing down. If your cable comes from the front the lever is installed pointing upwards. You will have to make your own cable bracket for this installation.
10. Route the shifter cable to avoid kinks and sharp bends to allow a smooth operation. Route the cable away from hot engine or exhaust parts. We recommend the use of a heat guard or heat shield to protect the shifter cable from extreme heat components on the vehicle. Be sure to correctly secure your shifter cable so it does not contact any moving objects.
11. Remove the small jam nut, two small rubber dust boots, one large nut, and a large lock washer from the threaded end of the shifter cable. Slide the end of the shifter cable into the Ford cable bracket. Install the large nut and the lock washer loosely over the end of the cable. Reinstall the two small rubber dust boots onto the end of shifter cable. Install the swivel on the threaded end of the cable and position it in the center of the threaded portion.
12. Move the transmission selector lever by hand to the full rear position (Low Gear). Operate the shifter lever to the Low gear position (ratcheted all the way back). Adjust the large nuts on the cable so that the swivel will slide into the hole in the selector lever that is labelled with an A mark stamped into it. Tighten the large nuts completely. Be sure that the swivel will slide freely in and out of the hole in the selector lever. Note: The shifter will not operate correctly unless the "A mark stamp " hole in the shift lever is used.
13. Leave the swivel out of the hole and move the selector lever to Park, all the way forward. Also ratchet the shifter to Park position (all the way forward). Reinsert the swivel into the "A mark stamp "hole in the selector lever. Check to see that the swivel will slide freely in and out of the "A mark stamp "hole in the selector lever in this position. If it does not slip in freely, adjust the swivel slightly until it will slip into the "A mark stamp " hole in the lever.
14. Move the shifter back to the Low gear position and check that the swivel will still slide easily in and out of the " A " hole in the selector lever. Operate the shifter through all the gear positions. Check to make sure the swivel will slide in and out of the " A " selector lever hole in each gear position. The shift cable is now correctly adjusted. Install the cotter key supplied with the shifter into the swivel and spread the key ends.

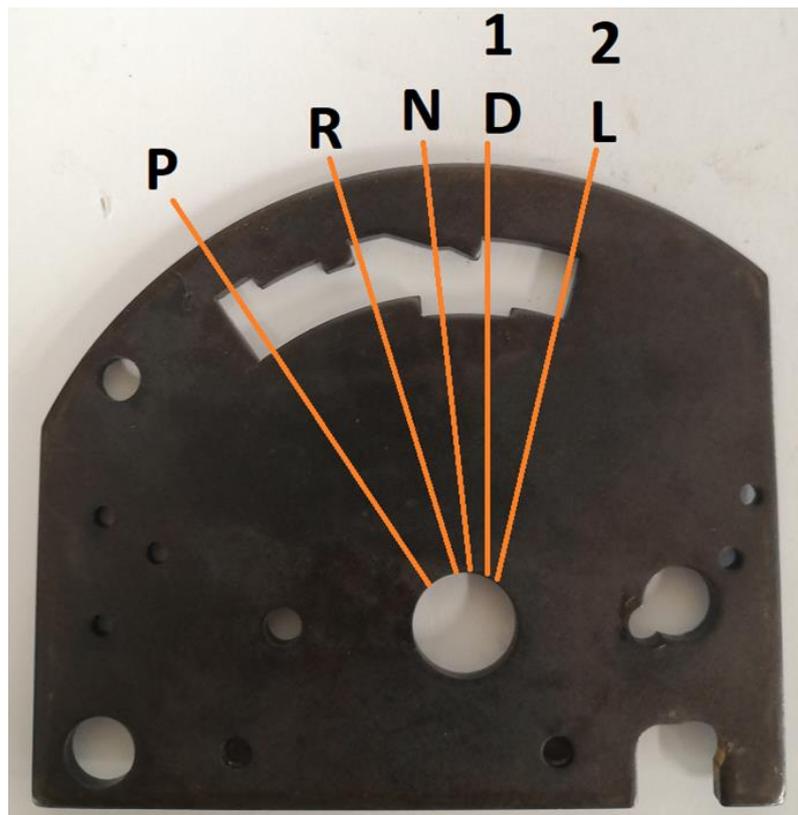


FINISHING INSTALLATION

1. With the shifter assembly bolted to the floor and shifter cable and micro switches installed be sure the shifter operates correctly in all gears.
2. Move to the top plate to assemble the correct indicator window for your application. The supplied indicator windows are for forward pattern and reverse pattern transmissions (all variations are sold separately)
3. To wire the indicator LED globe and socket assembly. Run a power wire from an appropriate source. The vehicle's instrument light circuit is a good place to start. Connect it to the one of the wires of the socket assembly. Connect the other unused wire to a suitable chassis ground. Ensure to use correct soldering technique and heat shrink all electrical connections. Secure all wires away from any moving components of the shifter assembly and also from any heat source that may be present. Install the T-10 LED globe and check to see if the globe illuminates when the lights of the vehicle are switched on. If the globe does not illuminate remove and turn the globe 180 degrees and reinstall into the socket assembly.
4. Reassemble the billet middle case, top plate assembly, billet side plates, billet pro grip side plates, Trigger lever and reverse lockout handle to the shifter assembly.
5. Following the below checklist to ensure each step was carried out correctly before a road test is carried out
 - Shifter is in a convenient position for drivers reach and ample room around the shifter for the range of motion required.
 - Shifter cable is connected to the shifter pin and shifter cable housing is securely fastened to the shifter base.
 - Shifter assembly is securely mounted to the floor.
 - Shifter cable is routed clear of any areas of extreme heat, correctly heat shielded if required and does not have any kinks and allowed to move freely.
 - The appropriate selector lever is used and installed on the transmission.
 - The cable bracket bolts are tightened to 12-13 ft-lbs (16 Nm)
 - Shifter is properly adjusted, cable boots are installed, cable nuts are tightened and swivel is secured with jam nut and split pin.
 - The neutral safety switch is connected and properly adjusted to prevent engine start in FORWARD and REVERSE drive gears.
 - Shifter moves freely into and out of all positions, as described in Shifter Operation.

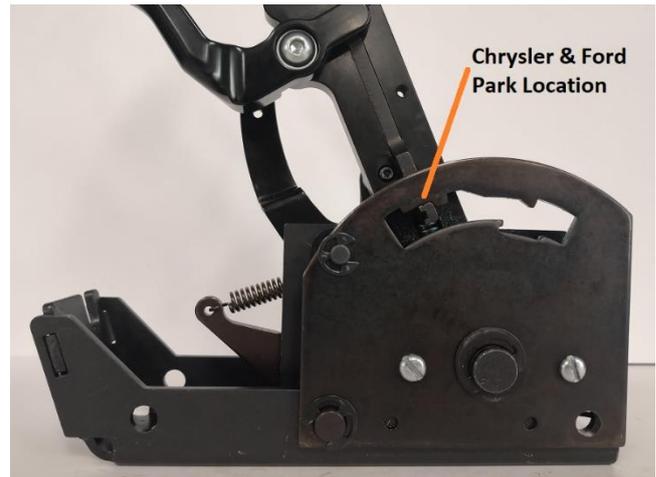
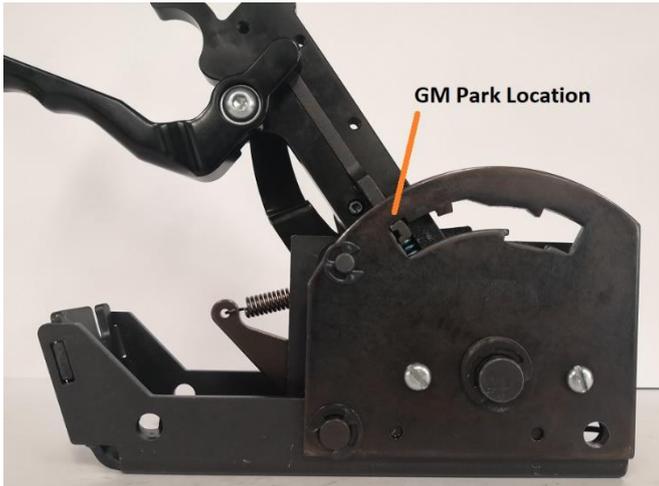
CAUTION: *If your shifter is not working properly do not attempt to drive your car! Verify you have followed all instructions. If the shifter is defective return it to the place it was purchased from.*

ATTACK SHIFTER OPERATION



The Attack shifter is a gate style shifter. This Attack shifter has two PARK positions

- 1) For GM transmissions (the shifter handle is in the fully forward position)
- 2) For Chrysler and Ford transmissions (the shifter handle is in one position back from the above position)



Each gate plate has various shift movements depending on application.

FORWARD PATTERN 2 speed gate:

PARK to LOW: Pull the trigger lever in, then pull the shift lever all the way back, releasing the trigger lever when passing through REVERSE.

LOW to DRIVE: Push the shifter handle forward until it stops.

DRIVE to LOW: Pull the shifter handle all the way back.

LOW or DRIVE to NEUTRAL: Pull and hold the trigger lever, push the shifter handle forward until it stops, then release the trigger lever (allowing the spring-loaded gate selector linkage to move to the top of the gate opening).

NEUTRAL to REVERSE: Push-and-release the reverse lockout lever forward, then push the shifter handle forward until it stops.

PARK: Pull the trigger lever, then push the lever FULLY FORWARD until it stops.

REVERSE PATTERN 2 speed gate:

PARK to FIRST: Pull and hold the trigger lever, pull the shifter handle back until it stops at FIRST, then release the trigger lever.

FIRST to SECOND: Pull the shifter handle all the way back.

SECOND to FIRST: Push the shifter handle forward until it stops.

SECOND or FIRST to NEUTRAL: Pull and hold the trigger lever in, push the shifter handle forward until it stops, then release the trigger lever (allowing the spring-loaded gate selector linkage to move to the top of the gate opening).

NEUTRAL to REVERSE: Push-and-release the reverse lockout lever forward, then push the shift lever forward until it stops.

PARK: Pull the trigger lever, then push the shifter handle FULLY FORWARD until it stops.

Congratulations! Your Aeroflow Performance Attack shifter is now installed and ready to use.

IMPORTANT: RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE

For more information or technical enquires

Contact: Aeroflow Performance on

Phone: (02) 8825 1979 Website: www.aeroflowperformance.com