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INSTALLATION MANUAL

AEROFLOW PERFORMANCE

BULLET 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 Bullet 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.

This Aeroflow Performance Bullet shifter will propel your classic shifter into the modern age. With the good looks and easy to use functions which allows for a triggerless ratchet shift makes it the most dependable shifter on the market.

To access your park, neutral and reverse gears you simply lift the gear shifter straight up and pull forward to let the handle drop into the desired gear. This reverse lockout safety feature means you won't be accidentally over-shifting into reverse while making a pass at the strip. To use the ratcheting function of the Bullet shifter, shift into low gear, launch the vehicle and hit the shifter forward when it's time to shift.

The unique flat billet top plate design allows the Bullet shifter to be used in both right- and left-hand drive configurations! (Left Hand Drive kit sold separately). The top plate, shifter stick and billet gear knob with interchangeable inserts sits atop the black plastic console base which can be trimmed to fit. The black plastic slide cover built into the top plate finishes off the Bullet shifter to give your interior the OEM look while retaining that classic tough muscle car look.

The Bullet shifter includes a LED lit gear position indicator in the top plate, a micro-switch 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 brackets and transmission shifter levers to suit the following automatic transmissions:

- TH350, TH400, 700R4, 200R4, 4L60, 4L60E - 4L80E without PRNDL switch.
- Ford C4, C5, C6.
- Chrysler 1966 and later Torqueflite A727 and A904.

The following bracket and levers kits are sold separately and designed to work with all Bang Shift performance shifters.

- GM 4L60E, 4L65E, 4L80E, 4L85E with PRNDL switch brackets sold separately, AF72-9052.
- GM Powerglide brackets sold separately, AF72-9051.
- Ford AOD brackets sold separately, AF72-9055.

Overall dimensions

Length - 280mm (11.02")

Width - 80mm (3.14')

Height 280mm (11.02")

DESCRIPTION	QUANTITY	DESCRIPTION	QUANTITY
SHIFTER KNOB ASSEMBLY	1	1/4" FLAT WASHERS	12
SHIFTER ASSEMBLY	1	1/4-20" BOLT (UHL 1-1/4")	4
LIMITER PIN	1	1/4-20" BOLT (UHL 1/2")	1
5' SHIFTER CABLE	1	1/4-20" HEX NUT	6
MICRO SWITCH	2	4-40 PAN HEAD SLOTTED SCREW (UHL 1-1/4")	2
CHRYSLER / AMC SELECTOR LEVER	1	SPLIT LOCK WASHER #4	2
CHRYSLER / AMC CABLE BRACKET	1	4-40 HEX NUT	2
FORD C4 and C6 SELECTOR LEVER	1	1/4" SPLIT LOCK WASHER	5
FORD C4 CABLE BRACKET	1	1/4-20" BOLT (UHL 1-1/2")	1
FORD C6 CABLE BRACKET	1	5/16-18" BOLT (UHL 1")	2
GM TH & ELECTRONIC (NO PRNDL SWITCH) SELECTOR LEVER	1	RUBBER GROMMET	1
GM TH & ELECTRONIC (NO PRNDL SWITCH) CABLE BRACKET	1	5/16" FLAT WASHER	2
CABLE SWIVEL	1	7/16" I.D. SPACER (1/4" LONG)	2
BLACK PLASTIC SHIFTER BASE COVER	1	10-32 JAM NUT (COMES INSTALLED ON CABLE END)	1
INDICATOR BULB HOLDER & BRACKET	1	1/4" I.D. E-CLIP	5
INDICATOR T-10 LED LIGHT BULB	1	1/16" COTTER PIN (1" LONG)	1
2 SPEED FORWARD INDICATOR WINDOW	1	1/4" FEMALE WIRE TERMINAL (BLUE ACCEPTS 16-14 AWG)	4
3 SPEED FORWARD INDICATOR WINDOW	1		
4 SPEED FORWARD INDICATOR WINDOW	1		
2 SPEED REVERSE INDICATOR WINDOW	1		
3 SPEED REVERSE INDICATOR WINDOW	1		
4 SPEED REVERSE INDICATOR WINDOW	1		

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

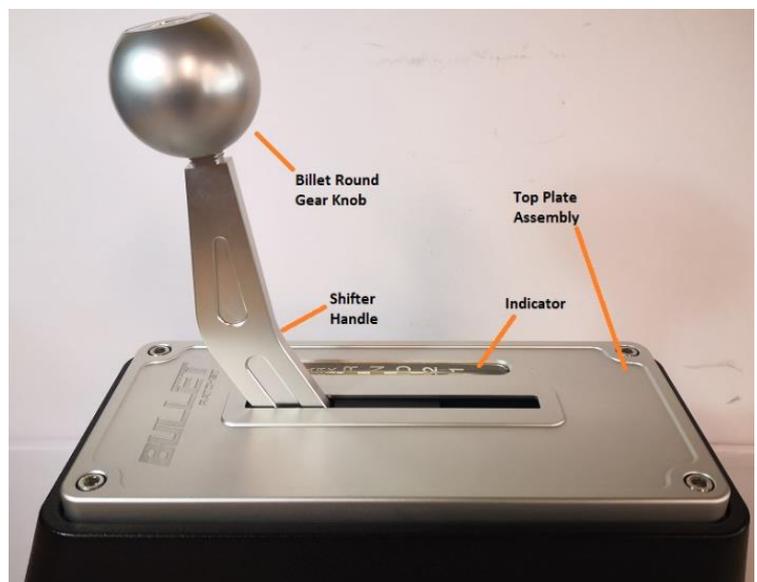
Contact: Aeroflow Performance on

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



ASSEMBLING & DISASSEMBLING OF BULLET SHIFTER

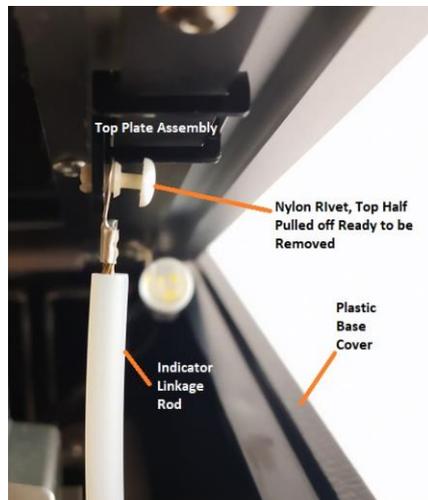
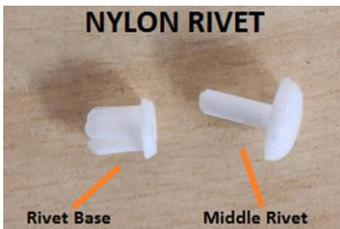
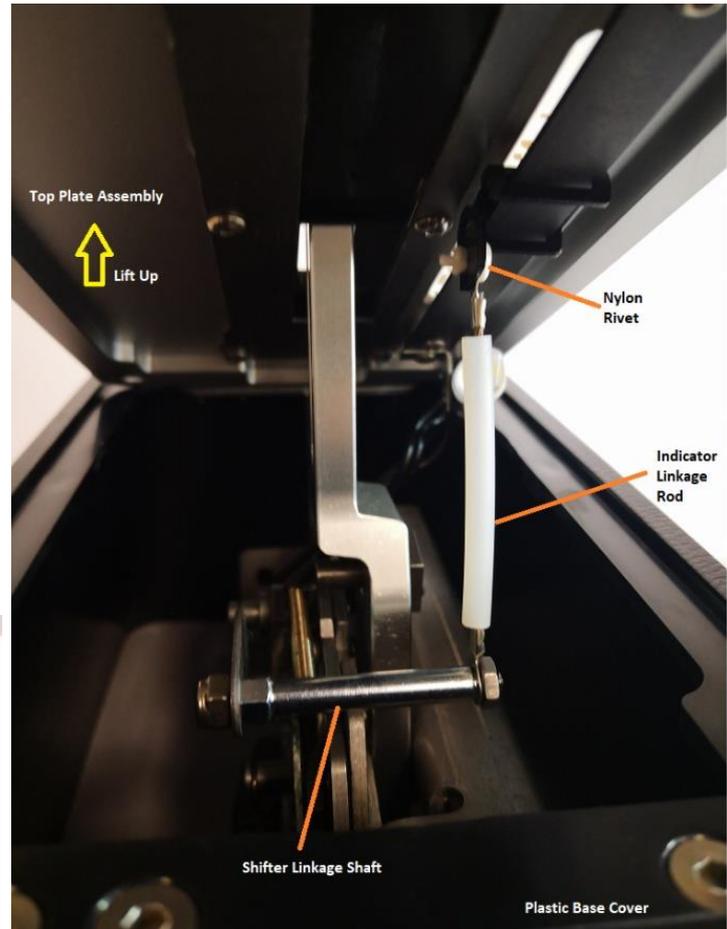
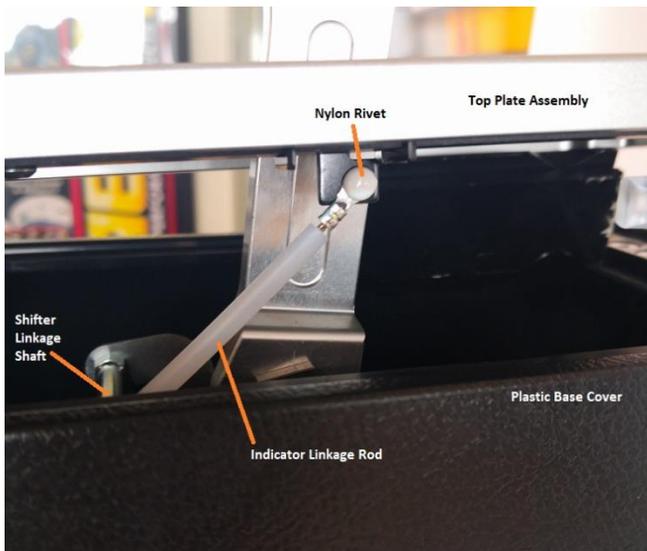
1. This procedure outlined below is a guideline to disassembling and reassembly of your Bullet shifter from Aeroflow Performance.
2. Remove the billet round gear knob from the shifter assembly which will unscrew from the shifter handle.

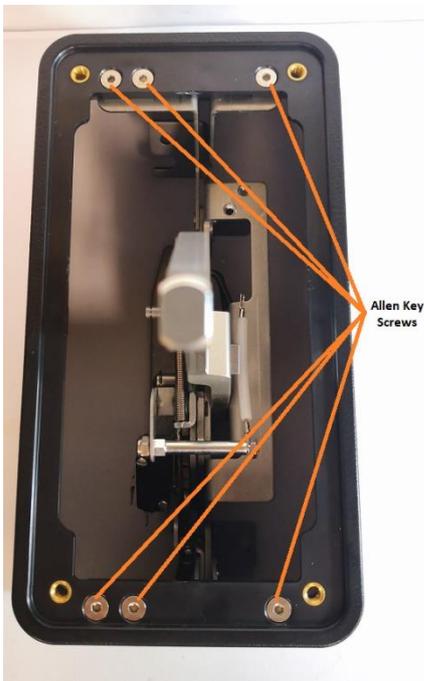




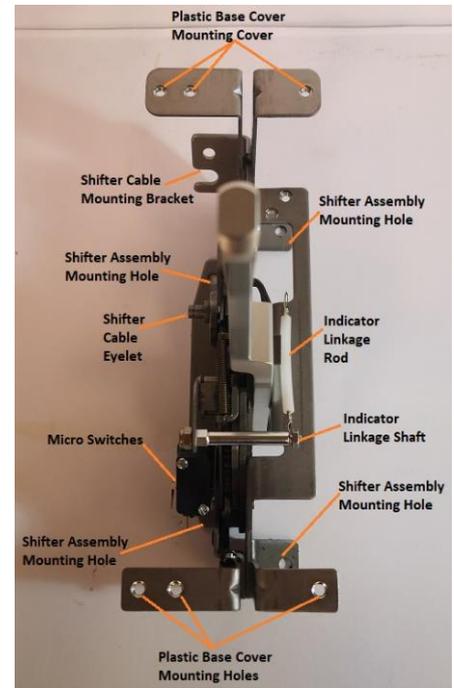
3. Remove the top plate assembly by unscrewing the four allen key screws on the top of the shifter base assembly.

4. Slowly lift top plate assembly away from the black plastic base cover and shifter assembly. Enough to gain access to the indicator linkage rod that is attached to the shifter assembly. The linkage rod eyelet is held in place with a nylon rivet on the top plate assembly. Removing the nylon rivet is done in two steps: first push the middle part of the nylon rivet out then slide the rivet base clip out from the indicator window cover mounting hole.





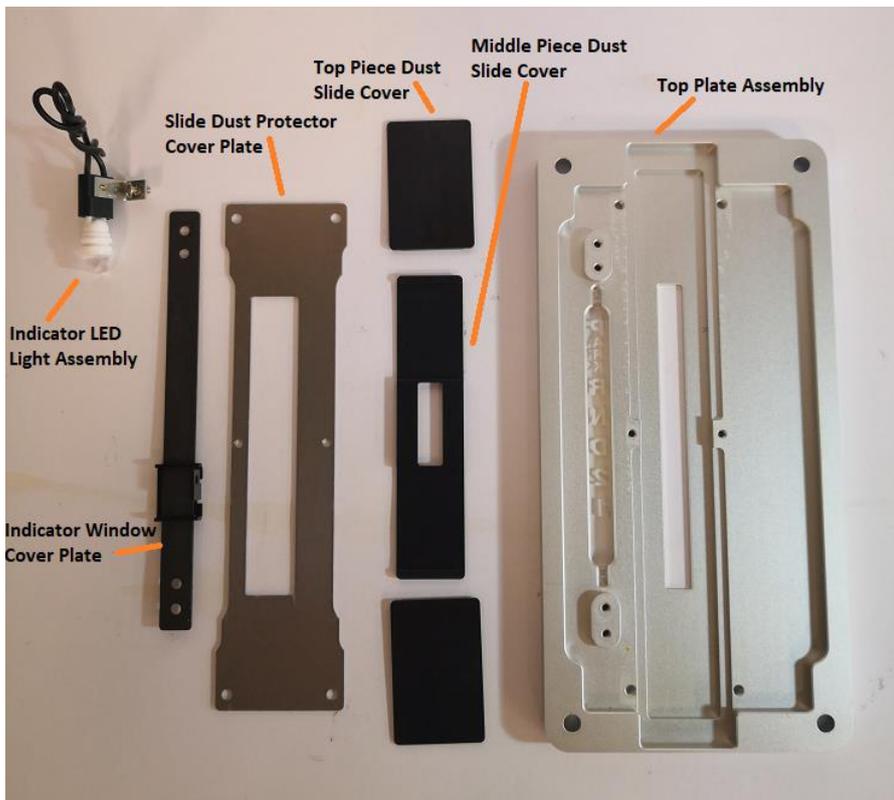
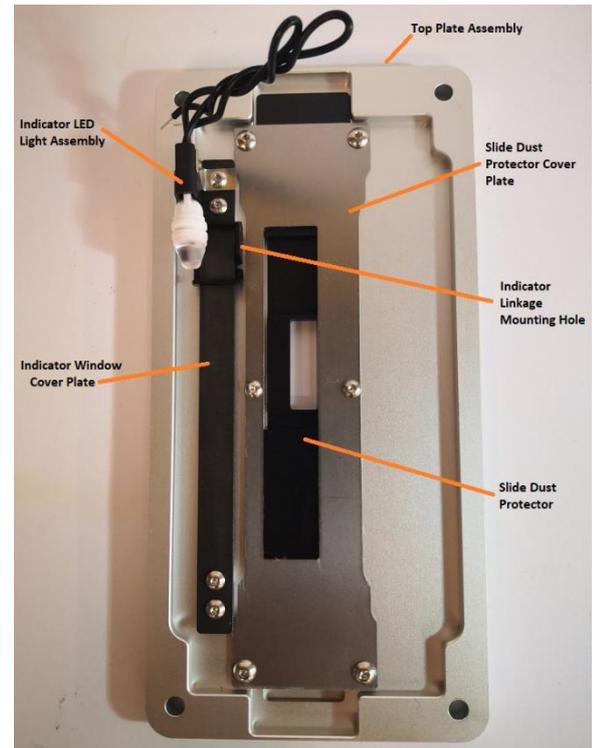
5. Set aside the top plate assembly and move onto removing the black plastic base cover from the shifter assembly. Remove all 6 allen key bolts and lift off the black plastic cover from the shifter assembly.



6. Now the shifter assembly is bare. To reassemble the bullet shifter, follow the steps in reverse.

DISASSEMBLING TOP PLATE OF BULLET SHIFTER

1. Once the billet top plate assembly has been removed from the shifter assembly. You will notice the indicator window cover plate with attached linkage mounting hole, slide dust protector and cover and indicator LED light is all built into the top plate assembly.
2. Remove the one allen key bolt holding in the indicator LED light assembly from the top plate assembly and set aside.
3. Remove the remaining three allen key bolts holding in the indicator window cover plate. Once this is removed from the top plate assembly the indicator window can be changed.



- Remove the 6 allen key bolts holding down the slide dust protector cover plate. Lift the cover plate off to access the plastic dust slide protectors. The dust slide covers are in three different sections. The middle piece should be removed first and the bottom pieces removed last. To reassemble ensure to reverse this order and place the bottom pieces into the top plate assembly first.
- Now the top plate assembly is bare. To reassemble the top plate assembly of the bullet shifter, follow the steps in reverse.

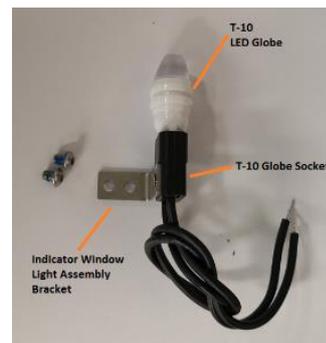
Micro Switches



To change or adjust the two micro switches installed into the shifter assembly. Disassemble the shifter assembly as per the ASSEMBLING & DISASSEMBLING OF BULLET SHIFTER. Once the shifter assembly is bare and you can gain access to both micro switches. Using a flat head screw driver and a spanner to hold the nut underneath. Undo both screws from the assembly. The micro switches will now be free from the shifter assembly to adjust or replace. Reassemble the Bullet shifter once you have finished installing or adjusting your micro switches.

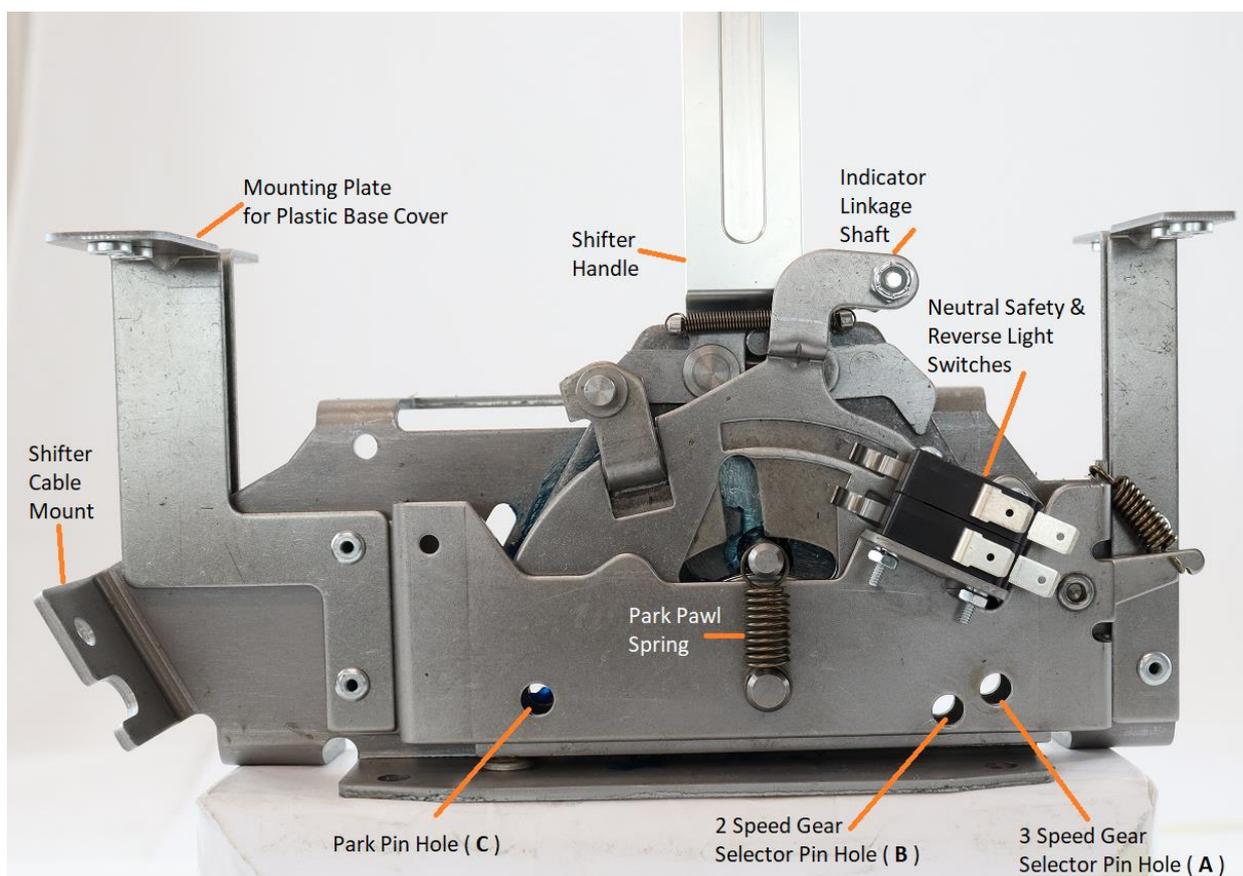
Indicator Window Light

To change the indicator window light bulb. Remove the shifter gear knob and the top plate assembly from the shifter. 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 top plate assembly to the shifter. 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 Bullet shifter comes standard to suit a forward pattern 3 speed transmission. If your transmission is different, you will be required to change the indicator window to suit your application. Remove the Billet Round Gear Knob, remove the four allen key screws holding the top plate assembly and lift off the top plate assembly from the shifter. Disassemble the indicator window cover plate from the top plate assembly. The indicator window will be held on by the two small tabs. The indicator window must be removed from the top face 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 indicator cover plate, top plate assembly and gear knob to complete the change of the indicator window.



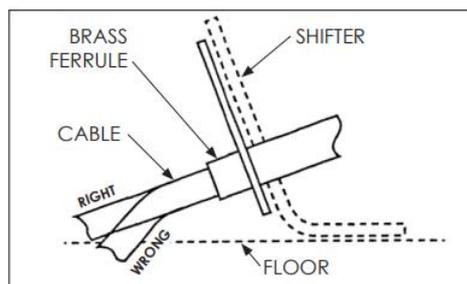
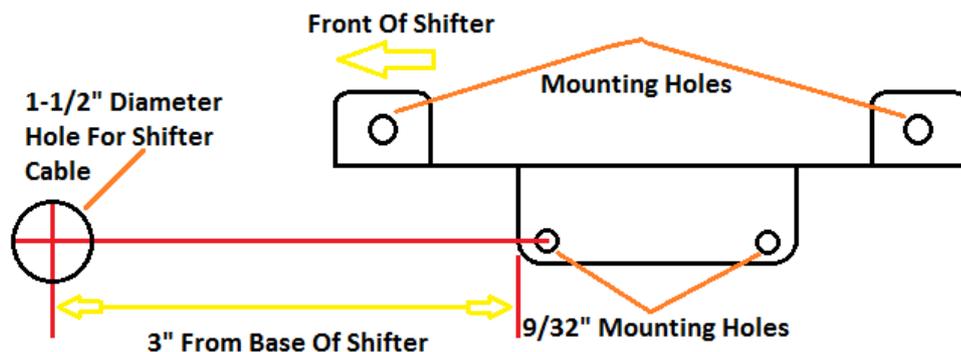
INSTALLATION OF BULLET SHIFTER

If you are installing this shifter with a GM four speed automatic transmission, you must remove both the 2 speed and 3 speed selector pins and the C-Clips in the shifter assembly. Removing this selector pin gives the shifter four forward positions rather than three. For GM Powerglide options you must place the selector pin in hole (B) to allow the use of only two forward gears (requires Powerglide bracket & lever kit AF72-9051 sold separately) .

The Ford or Chrysler three speed automatic transmissions install the selector pin into hole (A), since these transmissions have only three forward positions. If you are installing this shifter with a Ford or Chrysler four speed automatic transmission you must install the park selector pin and the C-Clips in hole (C). This Park pin limits the shifter travel into the Park position, so that it does not stretch the cable since Ford and Chrysler transmissions have less travel between Reverse and Park than GM transmissions do.

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

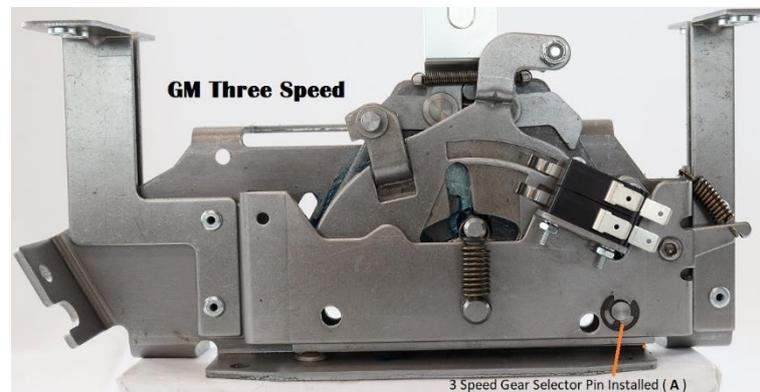
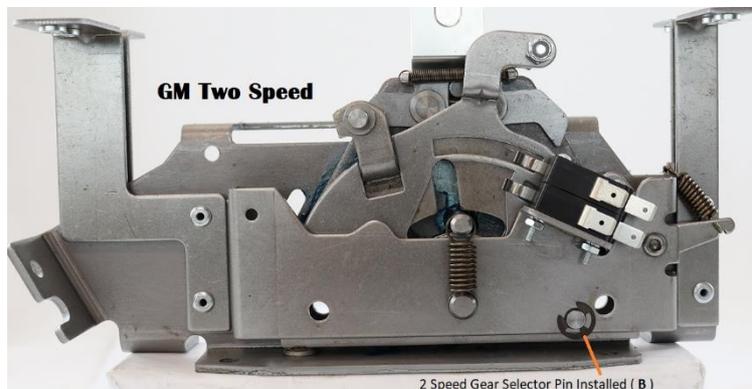
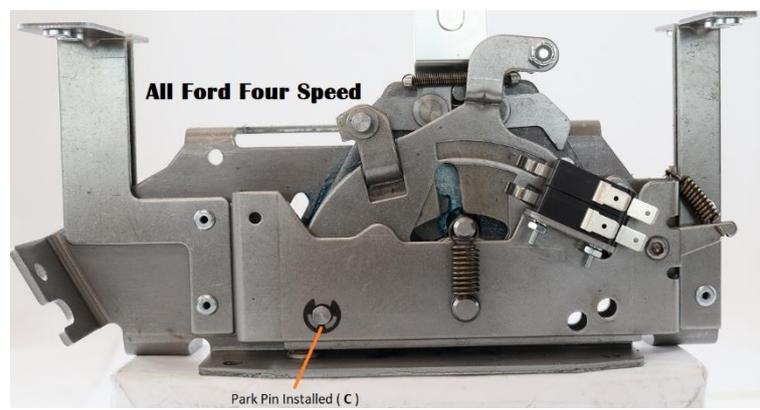
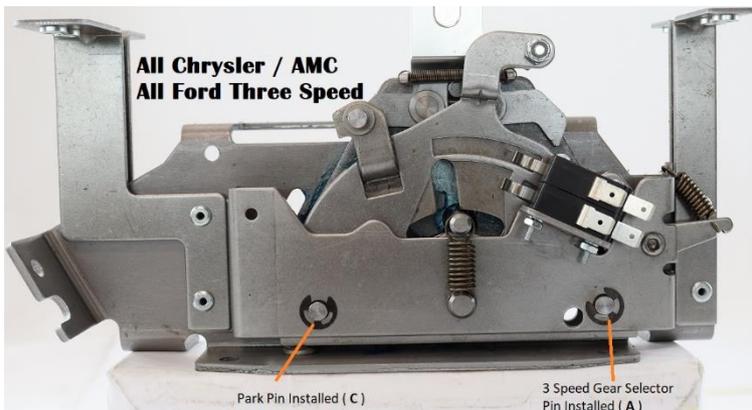
1. Remove the stock shifter linkage from the vehicle.
 - I. For column shifters: Remove all rods, levers or cables from the column and transmission. Place the column shift lever into the PARK position. Remove the pin holding the shift lever into the column and remove the lever assembly.
 - II. For console 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 BULLET SHIFTER.
3. Pull the carpet (if installed) away from the area where the shifter will be mounted. Temporarily thread the handle onto the shifter and 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 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 1/4" 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 3" (76mm) from the front of the shifter mounting base to mark the centre of the shifter cable hole. Drill or cut a 1-1/2" (38.10mm) hole for the cable to run through the floor, 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.
 - I. After this hole has been cut ensure to deburr 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.



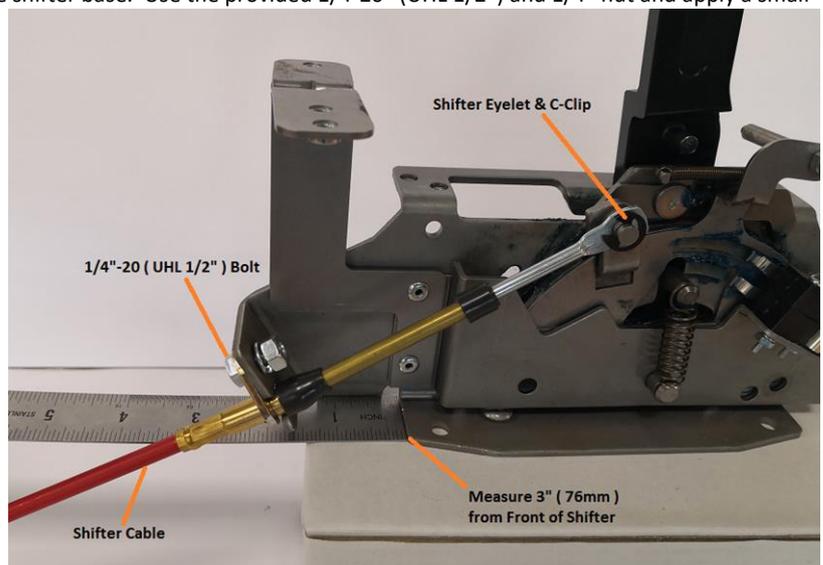
6. Return the carpet (if installed) and cut the holes for the shifter mounting holes. Next cut a 1-1/2" slit in the carpet for the cable to go through.

7. The Park and Gear Selector pins must be now be installed into the shifter for your application. The Park limiter pin must be used with all Chrysler / AMC and Ford transmissions to avoid stretching the shifter cable. As the GM transmissions have a longer selector travel. Please refer to the chart below:

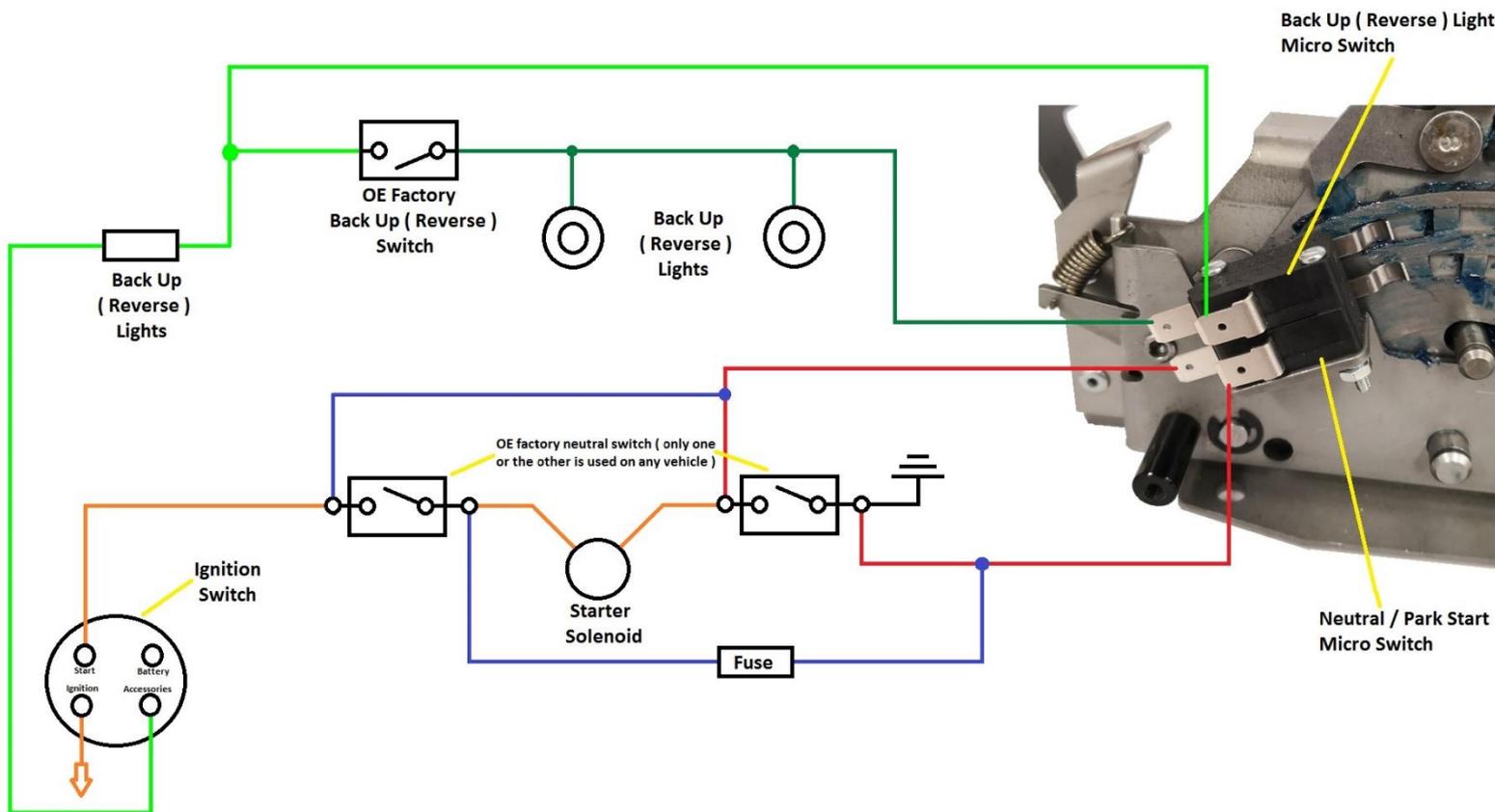
TRANSMISSION	PARK PIN (C)	3 SPEED GEAR SELECTOR PIN (A)	2 SPEED GEAR SELECTOR PIN (B)
All Chrysler / AMC	Installed Pin	Installed Pin	No Pin Installed
All Ford Three Speed	Installed Pin	Installed Pin	No Pin Installed
All Ford Four Speed	Installed Pin	No Pin Installed	No Pin Installed
GM Two Speed	No Pin Installed	No Pin Installed	Installed Pin
GM Three Speed	No Pin Installed	Installed Pin	No Pin Installed
GM Four Speed	No Pin Installed	No Pin Installed	No Pin Installed



8. 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.



9. 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 SAFETY 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.



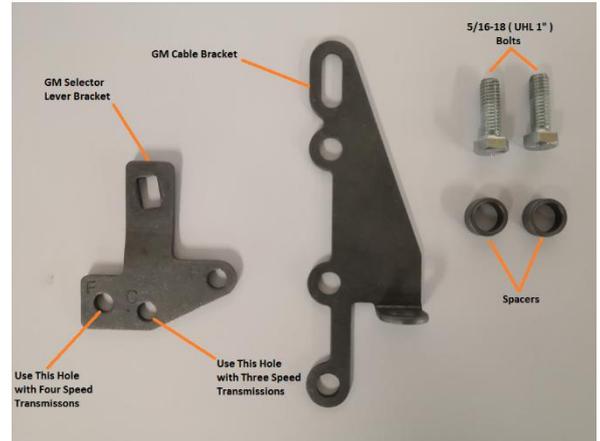
10. Slide the cable through the hole in the floor. Bolt the shifter into position using the four 1/4-20" (UHL 1-1/4") bolts, lock washers and 1/4" nuts (if required install the twelve 1/4" flat washers to level out the shifter). Do not bend the shifter mount tabs as this will interfere with the operation of the shifter mechanisms.
11. 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.
12. Depending on the model of the transmission of your application following the below steps for GM, Ford or Chrysler.

SHIFTER BRACKETS INSTALL LIST

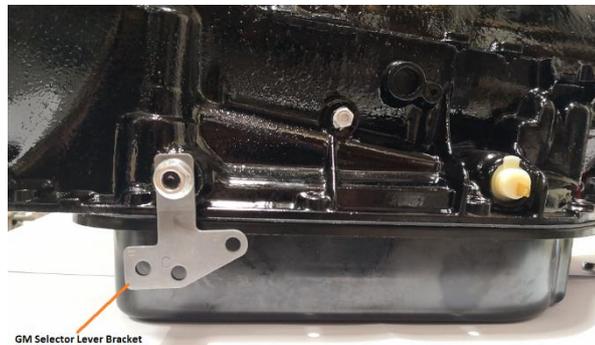
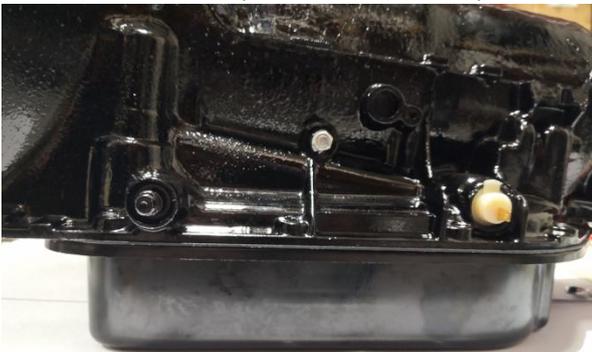
These installations listed below are general guidelines based off each manufacturer's transmissions. Installations may vary between each year and model transmission.

GENERAL MOTORS (TH200, TH250, TH350, TH400, TH700, 4L60, 4L60e, 4L65e)

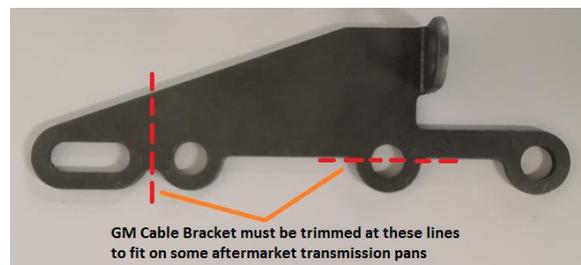
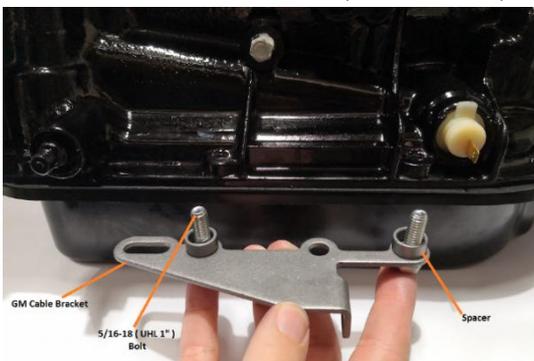
1. Get the GM selector lever and cable bracket from the parts kit supplied.
2. Disconnect the stock linkage bracket from the side of the transmission. Remove and retain the selector lever nut. Remove and discard the selector lever and shifter linkage.



3. Install the selector lever bracket using the stock selector lever nut, and tighten the nut to 23 ft-lbs (30 Nm) torque. The lever should travel smoothly back and forth, with a positive "click" in each detent.

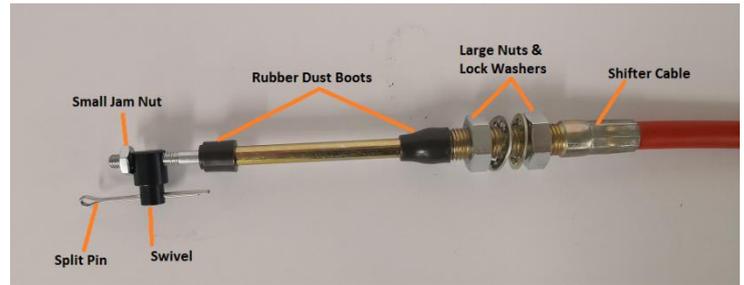
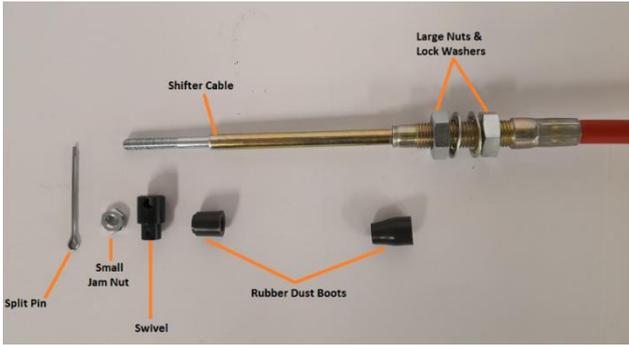


4. Route the shifter cable to avoid kinks and sharp bends to allow a smooth operation. Route the cable away from hot engine or exhaust parts. We recommend the use of a heat guard or heat shield to protect the shifter cable from extreme heat components on the vehicle. Be sure to correctly secure your shifter cable so it does not contact any moving objects.
5. Remove the two oil pan bolts to the rear of the selector shaft. Get the GM cable bracket and determine which cable bracket holes will be used on your transmission.
6. Install the GM cable bracket using either the factory OEM oil pan bolts or the supplied 5/16"-18 (UHL 1") bolts only use these supplied bolts if you plan to run the spacers also supplied.
 - I. For stamped steel pans, install the two spacers between the pan and bracket.
 - II. For cast aluminium pans with thick pan rails, the bracket may need to be trimmed to fit and the spacers are not used.

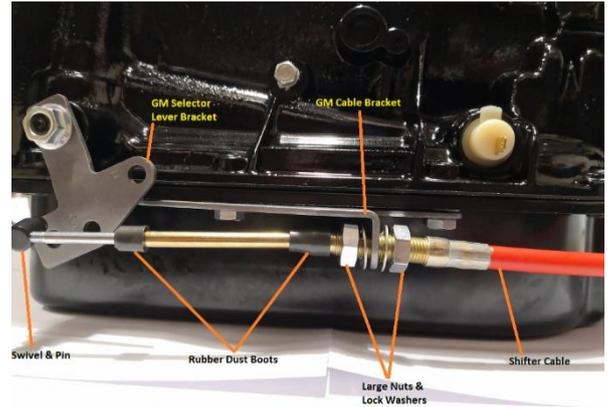


7. Tighten the bolts to 9 ft-lbs (12 Nm) torque.
Note: Do not over-tighten the bolts, as this can damage the transmission pan and gasket.

- To attach the shifter cable to the cable bracket, remove the small jam nut, two small rubber dust boots, and one of the large nuts and lock washer from the cable. Then insert the cable through the cable bracket, reinstall the lock washer and nut on the cable (loosely at this stage, to allow room for adjustment), and reinstall the two rubber dust boots.



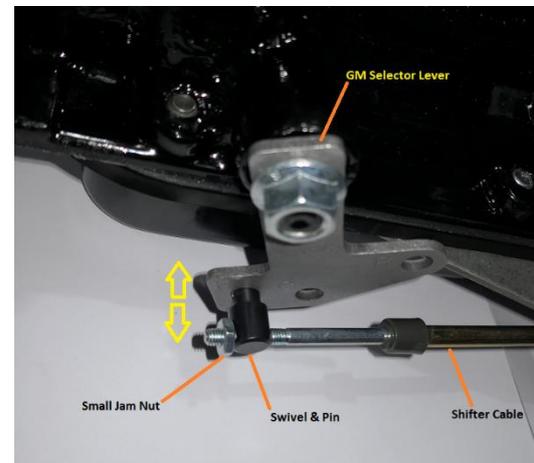
- Thread the swivel & pin onto the cable to about the middle of the threaded section, then reinstall, but do not tighten the jam nut at this stage. Before proceeding, verify that forward gear selector pin and C-Clips are installed in the correct position that is required for your application.



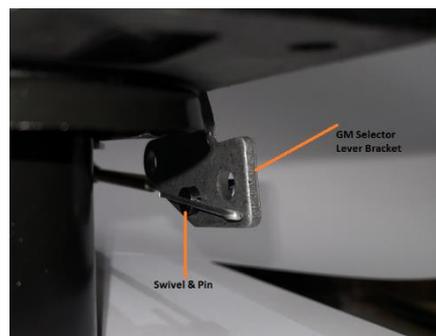
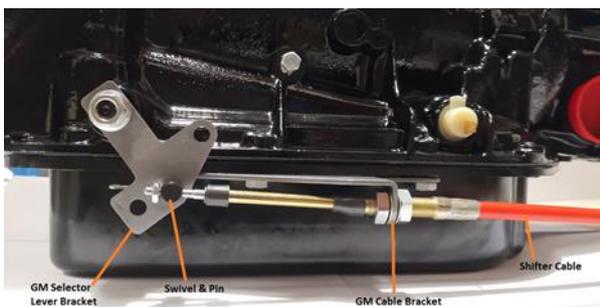
- Move the transmission selector lever by hand to the full rear position (Low). Shift the shifter mechanism to the Low gear position (ratcheted all the way back). Adjust the large nuts on the cable so that the swivel will slide into the hole on the selector lever. Tighten the large nuts completely. Be 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 correct hole in the shift lever is used as shown in the step 1.

- Leave the swivel out of the hole and move the selector lever to Park, all the way forward. Also move the shifter to Park position. Reinsert the swivel into the hole in the selector lever. Check to see that the swivel will slide freely in and out of the 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 hole in the lever.



- Move the shifter back to the Low gear position and check that the swivel will still slide easily in and out of the hole in the selector lever. (If you do not use the correct hole in the lever, it will be impossible to correctly adjust the cable). Operate the shifter through all the gear positions. Check to make sure the swivel will slide in and out of the selector lever hole in each gear position. The shift cable is now correctly adjusted. Install the split pin supplied into the swivel and split the ends around in a loop to hold the swivel into place.

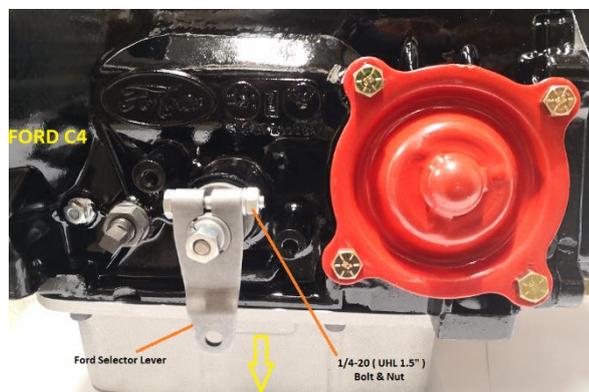
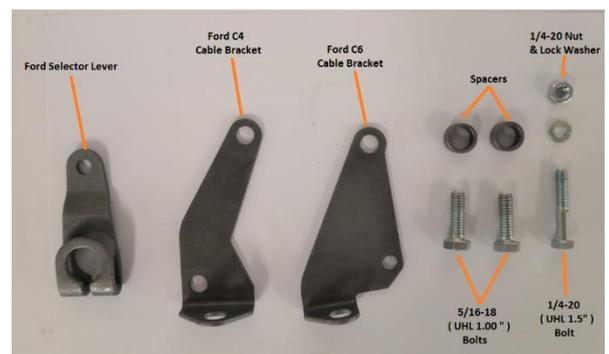


If you have a problem, DO NOT FORCE THE SHIFTER, this will damage the cable, the shifter or the transmission.
Simply start at the beginning and carefully check all your steps.

13. The factory neutral safety and backup light switches may be located on the shifter (either factory mounted steering column or console mounted shifter) or it may be mechanical in the steering column that prevents the key from turning to the Start position unless the shifter is in the Park or the Neutral position. If the key will not turn to the Start position unless the stock shifter is in Park or Neutral, you have a mechanical interlock, otherwise you have a neutral safety switch. Disconnect the battery ground cable to prevent shorts.
14. If you have a neutral safety switch, locate and identify the neutral safety wires (engine will not crank unless these wires are connected together). Extend the wires from the GM switch to the shifter. Strip off the insulation of the wires and install the slip-on terminals supplied in the kit. Crimp the terminals onto the wires. Connect the neutral safety wires to the LOWER switch and the backup light wires to the UPPER switch. Tape the terminal connections and all other connections to prevent shorts.
15. If you have a mechanical interlock cut the wire that goes from the Start position on the ignition switch to the solenoid on the starter. Run wires from both ends of the cut wire to the Bullet shifter. Put the slip-on terminals on the ends of the lengthened wires and crimp the terminals onto the wires. Connect the wires to the LOWER switch on the shifter. The backup light switch is usually located on the steering column behind the instrument panel. Lengthen these wires and run them to the UPPER switch on the shifter. Tape the terminal connections and all other connections to prevent shorts.
16. Reconnect the battery ground cable, disconnect the coil wire and set the parking brake. Check the switch operation by attempting to start the motor in each shifter position. The starter must crank only when the shifter is in the Park or the Neutral position. Check the backup light operation when the shifter is shifted to the Reverse position. Adjust the switches if required. Reconnect the coil wire.
17. Proceed to FINISHING INSTALLATION to finish the installation of your Bullet shifter.

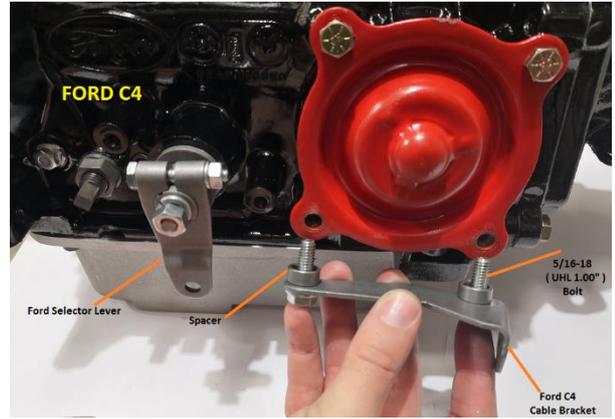
FORD (C4 , C6)

1. Remove the nut and the lock washer holding the downshift linkage onto the downshift lever shaft from the transmission. The downshift lever is the outer lever on C4 and C6 transmissions. Pull the lever off the shaft and allow the linkage to hang free. Remove and discard the stock shifter linkage rods from the transmission. Some transmissions (depending on model and year) will have a neutral safety/backup light switch on the transmission shift lever. If your transmission is equipped with this switch, remove the two bolts holding the switch in place and slide it off the shift shaft. Disconnect the switch at the factory plug and discard it.
2. Install the Ford selector lever supplied in the kit. **Note:** The Ford selector lever must point downward for correct operation. If the shifter lever on your transmission points down, you will have to remove the lower part of the shifter lever arm by cutting it off to clear the Ford selector lever supplied. Install the Ford selector lever onto the shifter shaft of the transmission. Align the Ford selector lever so when it points straight down it travels in equal arcs in both directions from the center. Tighten the 1/4"-20 (UHL 1.5") bolt and the nut. The Ford selector lever should travel smoothly from front to back with a positive click in each gear position.



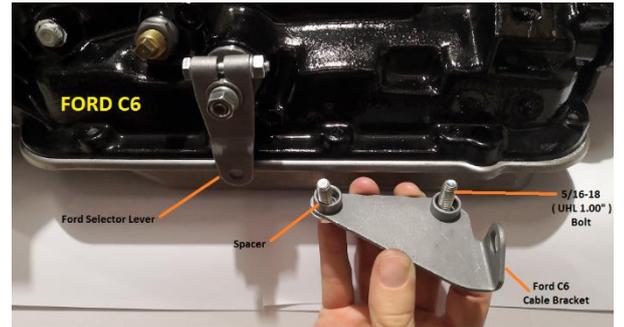
3. To correctly install the Ford cable bracket onto the transmission for C4 transmissions only.

- I. Remove the two lower bolts from the rear servo cover. Install the Ford cable bracket in position on the two lower bolts of the rear servo. The spacers must be used for this application to space out the cable bracket correctly to align with the selector shaft. Two new 5/16-18 (UHL 1.00") bolts are supplied to replace the two OE bolts from the rear servo that are no longer required. Reinstall the two servo cover bolts with the correct Ford C4 cable bracket and both spacers slotted in-between the cable bracket the rear servo cover. Tighten to 12-13 ft. lbs (16-17 Nm) **NOTE:** Do not overtighten as this can damage the servo cover.

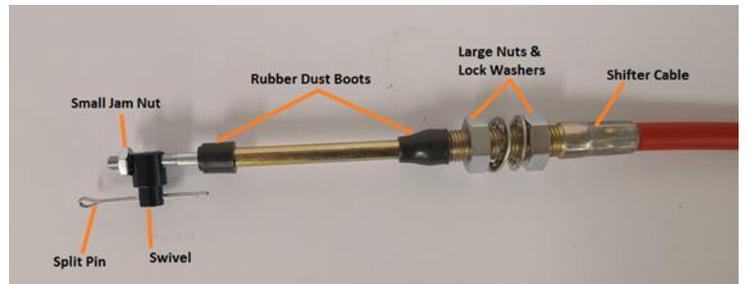
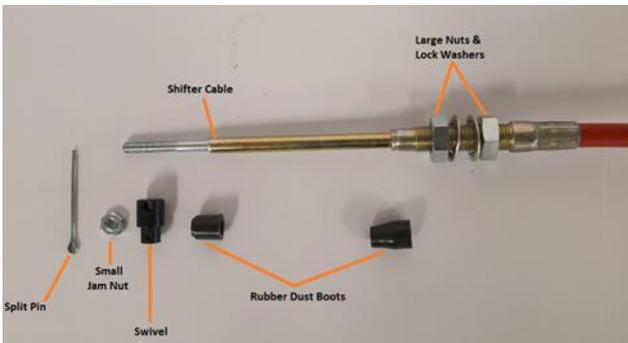


4. To correctly install the Ford cable bracket onto the transmission for C6 transmissions only.

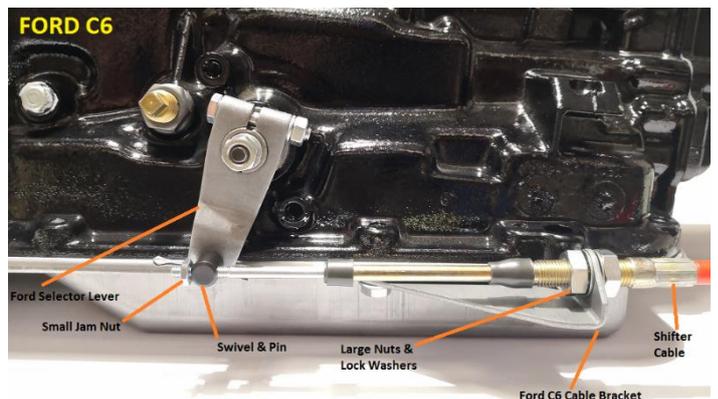
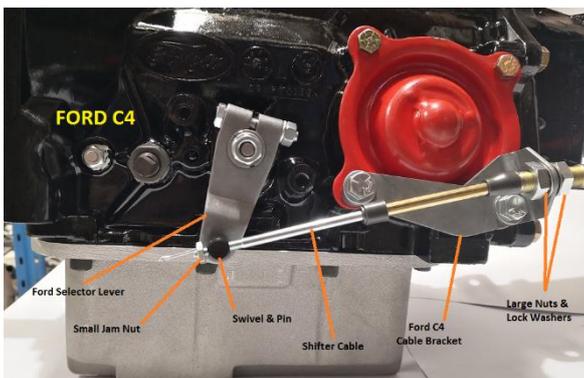
- I. Remove the two transmission oil pan bolts from the left rear corner of the transmission oil pan. Install the Ford cable bracket into position with the two spacers provided in the kit between the pan and the bracket. If your transmission is equipped with a cast aluminium transmission oil pan or your transmission oil pan has thick rails, these spacers do not have to be used and the factory oil pan bolts can be reused. If using the spacers install the two supplied 5/16-18" (UHL 1.00") bolts and tighten to 12-13 ft. lbs (16-17 Nm). Do not overtighten as this can damage the transmission pan gasket.



- 5. 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.
- 6. 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 centre of the threaded portion.

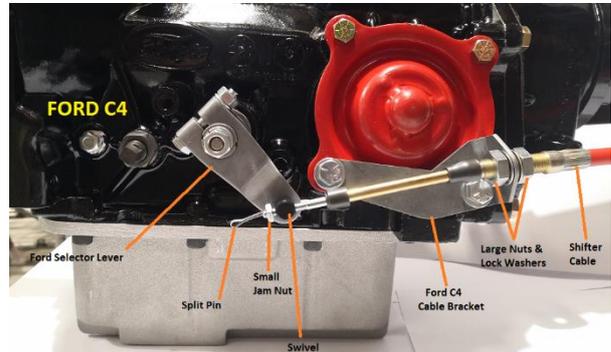
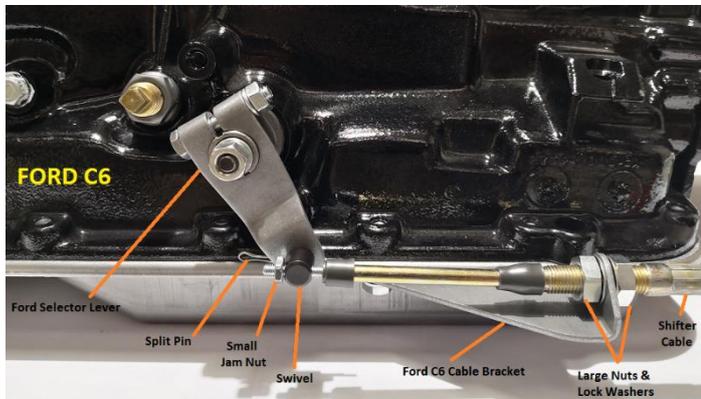


- 7. Move the transmission Ford selector lever by hand all the way to the rear position (Low Gear). Shift the shifter assembly to the Low Gear position. Adjust the large nuts on the cable so that the swivel will slide into the hole on the selector lever. Tighten the large nuts completely. Be sure that the swivel will slide freely in and out of the hole in the selector lever.

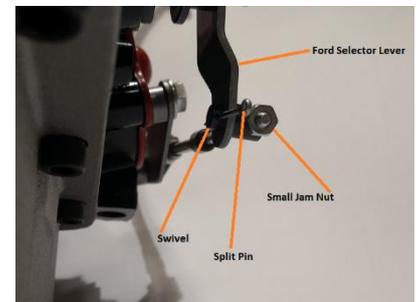


- With the swivel in the selector lever, shift the shifter to the Park position, as far forward as the shifter will go without forcing it. The shifter lever on the transmission should be all the way forward. Check to see that the swivel will slide freely in and out of the hole in the lever in this position. If it does not slip in freely, adjust the swivel slightly until it will slip into the hole in the lever in both Low and Park positions. Operate the shifter through all the gear positions. Check to make sure the swivel will slide in and out of the selector lever hole in each gear position. The shifter cable is now correctly adjusted. Install the split pin supplied into the swivel and split the ends around in a loop to hold the swivel into place. Reinstall the downshift linkage, tightening the nut securely.

If you have a problem, DO NOT FORCE THE SHIFTER, this will damage the cable, the shifter or the transmission. Simply start at the beginning and carefully check all your steps.

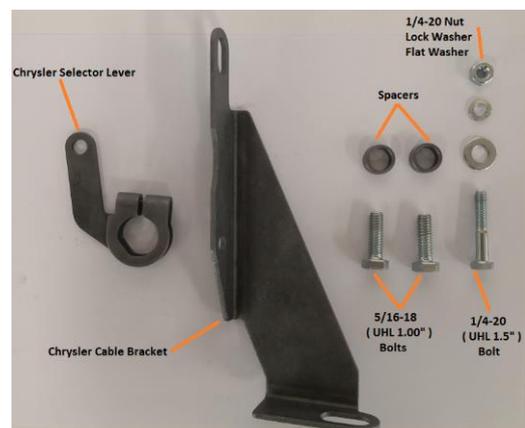
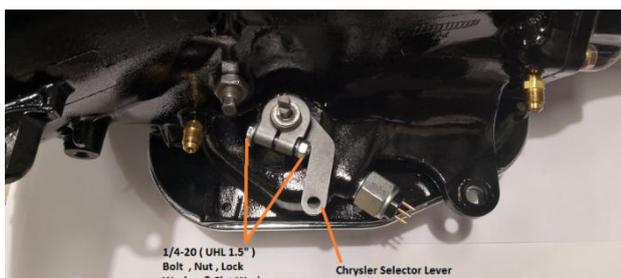


- On the C4 transmission it is necessary to completely remove the stock neutral safety/backup light switch. To install the supplied neutral safety/back up switches provided disconnect the battery ground cable to the neutral safety and the reverse light switches. Locate and identify the neutral safety wires (engine will not crank unless these wires are connected together). Extend the wires from the Ford switch to the shifter. Strip off the insulation of the wires and install the slip-on terminals supplied in the kit. Crimp the terminals onto the wires. Connect the neutral safety wires to the LOWER switch and the backup light wires to the UPPER switch. Tape the terminal connections and all other connections to prevent shorts.
- Reconnect the battery ground cable, disconnect the coil wire and set the parking brake. Check the switch operation by attempting to start the motor in each shifter position. The starter must crank only when the shifter is in the Park or the Neutral position. Check the backup light operation when the shifter is shifted to the Reverse position. Adjust the switches if required. Reconnect the coil wire.
- Proceed to FINISHING INSTALLATION to finish the installation of your Bullet shifter.

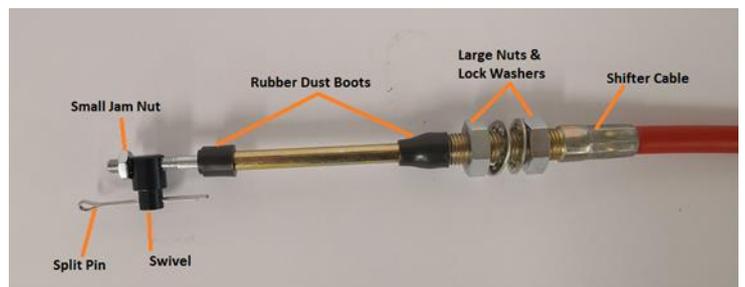
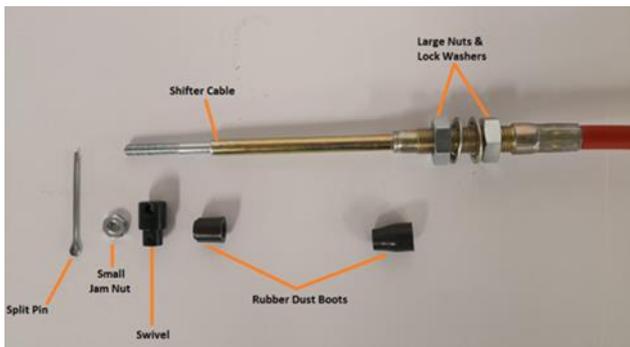
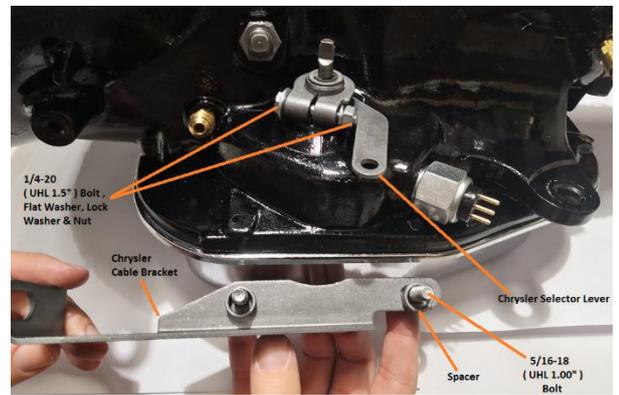


CHRYSLER

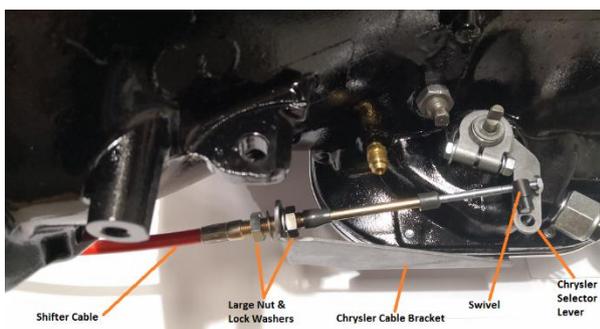
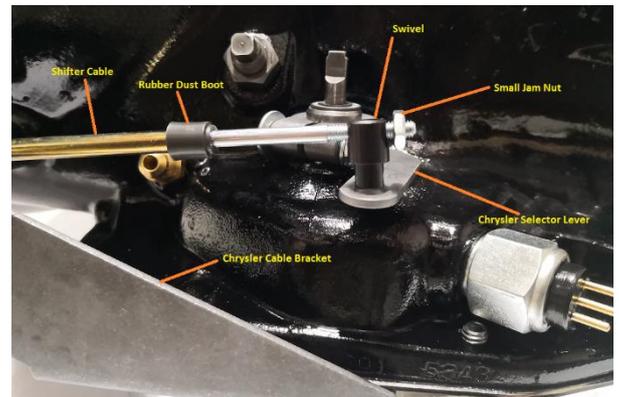
- Loosen the pinch bolt on the throttle lever on the transmission. This is the lever on the small diameter shaft. Pry the lever off and allow the linkage to hang free. Remove and discard the stock shifter lever and the stock shifter linkage. Install the Chrysler selector lever in position with the supplied 1/4-20 (UHL 1.5") bolt with the flat washer, lock washer and nut. Tighten the bolt around the Chrysler selector lever. Make sure the lever is not pushed down that it is touching the transmission case. This will cause the lever to bind on the case. The lever should travel smoothly from front to back with a positive click in each gear position. Reinstall the stock throttle lever into position on the small diameter shaft and tighten the pinch bolt securely. The throttle lever must operate smoothly



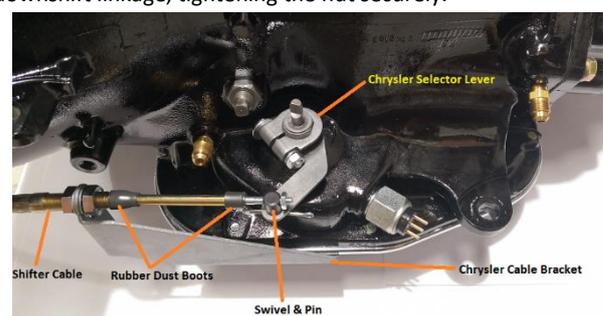
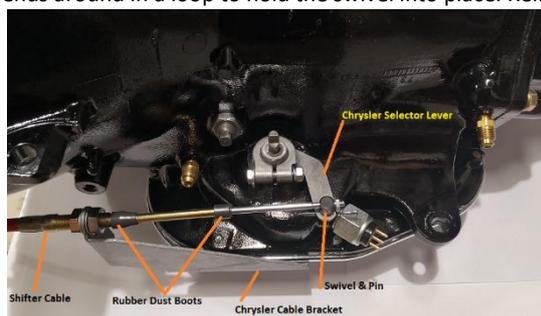
- Remove the two transmission oil pan bolts directly below the shifter lever. Install the Chrysler cable bracket into position with two spacers between the pan and the bracket. (If your transmission is equipped with a cast aluminium oil pan these spacers do not have to be used). Install the two supplied 5/16-18" (UHL 1.00") bolts and tighten to 12-13 ft. lbs 16-17 Nm). Do not overtighten as this can damage the transmission pan gasket.
- 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.
- 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 Chrysler 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.



- Move the transmission Chrysler selector lever by hand all the way to the rear position (Low Gear). Shift the shifter assembly to the Low Gear position. Adjust the large nuts on the cable so that the swivel will slide into the hole on the selector lever. Tighten the large nuts completely. Be sure that the swivel will slide freely in and out of the hole in the selector lever.



- With the swivel in the selector lever, shift the shifter to the Park position, as far forward as the shifter will go without forcing it. The shifter lever on the transmission should be all the way forward. Check to see that the swivel will slide freely in and out of the hole in the lever in this position. If it does not slip in freely, adjust the swivel slightly until it will slip into the hole in the lever in both Low and Park positions. Operate the shifter through all the gear positions. Check to make sure the swivel will slide in and out of the selector lever hole in each gear position. The shifter cable is now correctly adjusted. Install the split pin supplied into the swivel and split the ends around in a loop to hold the swivel into place. Reinstall the downshift linkage, tightening the nut securely.

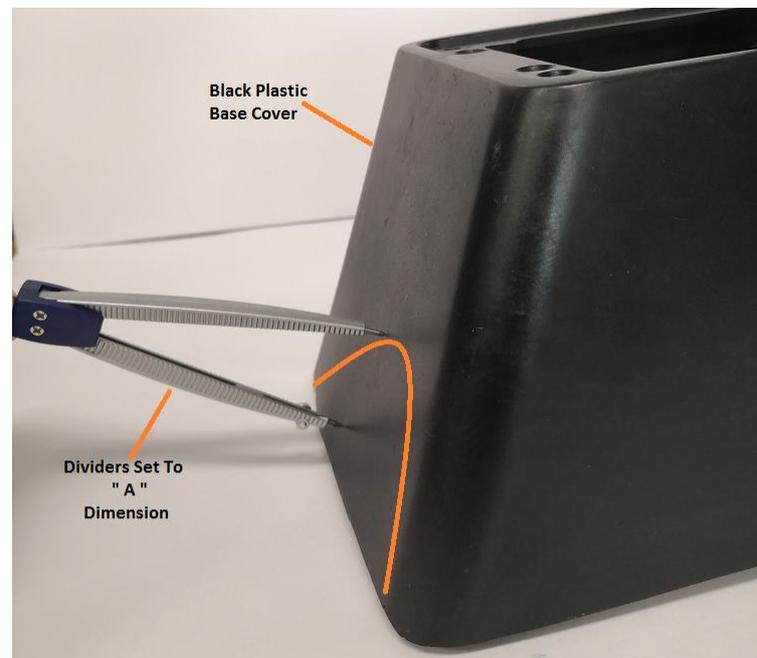
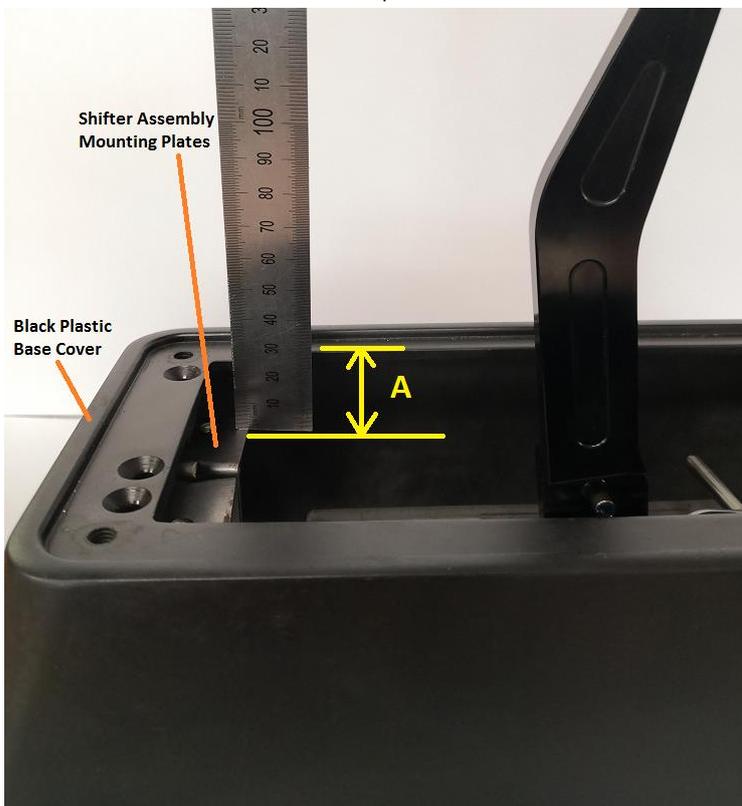


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7. Early Chrysler transmissions from 1966-1968 the neutral safety switch will continue to function as normal. It will not be necessary to hook up the neutral safety switch wires on the shifter or use the switches provided.
8. The backup safety switch must be wired in to the shifter for the reverse lights to function. Disconnect the battery ground cable before wiring the backup light switch. Locate the original backup light switch on the steering column or the console shifter. Run these wires to the UPPER switch on the Bullet Shifter. Reconnect the ground wire and check the light for proper operation. Adjust the switches on the shifter if required.
9. Late Chrysler transmissions from 1969-onwards the neutral safety switch and backup switch will continue to function as normal. It will not be necessary to hook up the neutral safety switch wires on the shifter or use the switches provided.
10. Proceed to FINISHING INSTALLATION to finish the installation of your Bullet shifter.

FINISHING INSTALLATION

1. The bottom of the black plastic base cover may need to be trimmed to match the contour of the vehicle floor depending on the application. The inside of the base cover top flange must rest on the two mounting plates of the shifter assembly.
2. Place the black plastic base cover over the shifter assembly. Hold the tower level, with its bottom edge resting on the highest point on the floor that it will touch. Use a ruler to measure the dimension "A" — the distance from the shifter assembly mounting plates for the base cover to the underside of the plastic base cover. Set a pair of dividers at the dimension "A." While holding the plastic base cover in position, use the dividers to scribe a line on the base cover to match the floor's contour. Remove the plastic base cover and cut away the material below the scribed line. Make small cuts, gradually working closer to the line, and continuing to check the base cover fit to the floor and shifter as you go. Once the base cover is trimmed to fit, install the plastic base cover with the allen key screws to secure it into place.



3. Move to the billet top plate to assemble the indicator led light and socket holder.
4. 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.
5. Install the appropriate indicator window into the billet top plate. Depending on your transmission which may be 2, 3 or 4 speed. The supplied indicator windows are for forward and reverse pattern transmissions.
6. Carefully thread the billet shifter gear knob all the way onto the lever and hand-tighten. NOTE: Avoid cross-threading! The knob should spin freely onto the lever with no resistance.

7. 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.

BULLET SHIFTER OPERATION

The Aeroflow Bullet shifter operates in straight gate mode from PARK through to DRIVE. Once in DRIVE, the shifter operates in ratchet shift mode between all forward gear positions and NEUTRAL.

NOTE: The shifter positions referred to below apply to forward pattern transmissions (P-R-N-D-2-L). Reverse pattern transmissions (P-R-N-L-2-D) will alter your shifter positions.

From the PARK position, lift the shifter lever and pull it back into the REVERSE position. Once in the REVERSE position, the lever is simply pulled back into the NEUTRAL position. Once in NEUTRAL position pull back once more to the DRIVE position. From this position it will drop in ratchet shift mode.

To shift the transmission in ratchet shift mode, simply pull backwards or push forwards the shifter handle to a full stop then release it, allowing it to return to its "centred" position. Repeat this action until the transmission is in the desired gear. It will only operate in the ratchet shift mode between the FORWARD and NEUTRAL gears.

To get to the PARK position from the DRIVE position, lift the shifter handle all the way up and push it all the way forward to the PARK position. To get into the PARK position from REVERSE position, simply push the lever all the way forward. To get into park from NEUTRAL go back to the DRIVE position then lift the shifter handle all the way up and push it all the way forward to the PARK position.

To get into the REVERSE position (whether from PARK or DRIVE positions), lift the shifter handle to clear the Reverse Lockout and move the shifter handle to the REVERSE position.

To get into the NEUTRAL position, from the PARK position, lift the shifter handle and move it to the NEUTRAL position. From the REVERSE position, simply pull the shifter handle back into NEUTRAL. To get NEUTRAL from DRIVE simply ratchet forward.

To get into the DRIVE position, you do not have to lift the shifter handle unless you are in the PARK position.

NOTES:

- If you release the shifter handle while pushing it forward out of the DRIVE position, it will stop at the NEUTRAL position and you will need to return to DRIVE then lift it up again to go into the REVERSE position.
- If you hold the shifter handle up fully while pushing it forward out of the DRIVE position, you can move directly into the REVERSE or PARK positions.

Congratulations! Your Aeroflow Performance Bullet 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