



HURST BILLET COMP/PLUS SHIFTER

2011 and up Ford Mustang (V8 & V6 with MT82 manual transmission)

FORM 159 0204 07/11

Catalog #391 0204

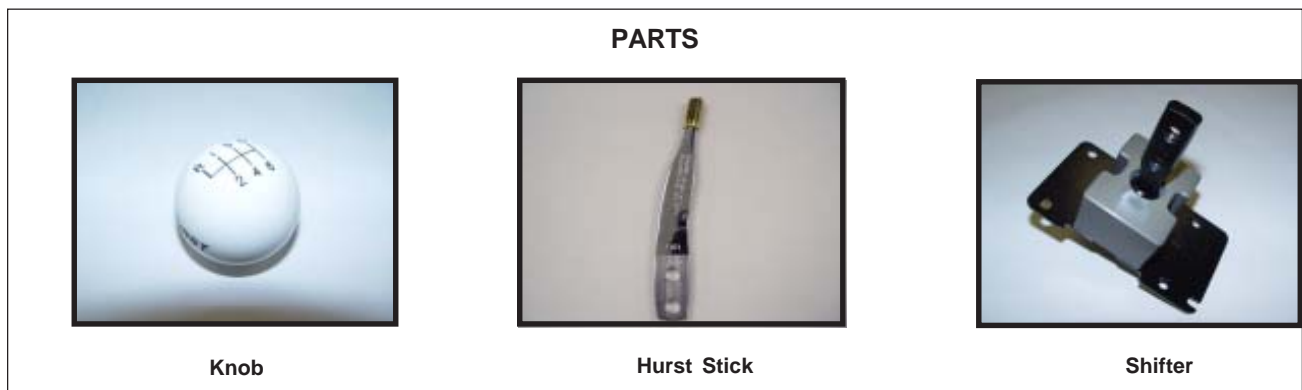
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Thank you for purchasing the Hurst Billet Comp/Plus Shifter. This shifter is constructed of a solid billet steel and chrome plated upper stick, and billet aluminum bearing housing. You can expect reduced shift throw (over 25%), increased strength and better, firmer, yet smoother and more precise feel thanks to extremely tight design and manufacturing tolerance over the stock factory components; all while adding a classic or stock look to your vehicle's interior. In addition, this Hurst Billet Comp/Plus Shifter eliminates the factory push-down style reverse lock-out and changes this function to a high rate spring block. This feature provides the safety of a tactile and obvious shift into the reverse gear without compromising the shift feel and quality of the forward gears as the stock shifter does.

IMPORTANT! Installing the Hurst Billet Comp/Plus Shifter requires moderate mechanical ability. Read this instruction sheet completely first, so that you thoroughly understand it and can become familiar with the procedure before attempting installation. Furthermore, this shifter has been primarily designed as a "competition" and/or "race" shifter. As such, much of the isolation has been removed to give the driver the most direct and positive link to the transmission without compromise. In doing so, this does increase both tactile and sometimes audible levels of vibration. While every effort has been made to reduce the amount of objectionable transmission/driveline noise transmitted into the interior of the vehicle, some vehicles may experience greater amounts than others. If this is possibly objectionable or unsuitable to your intended type or style of driving, return this product to your retailer for refund prior to beginning installation.

WORK SAFELY! Perform this installation on a good clean level surface for maximum safety and with the engine turned "off". Ensure that the parking brake is set and that the vehicle will not move if accidentally started. Allow sufficient time for the vehicle to cool prior to beginning installation.

INSPECT! Using the parts list below, ensure that all parts are present and free from objectionable defects and/or blemishes prior to beginning installation. Every effort has been made to ensure that these parts arrive to you in perfect and non-damaged order. However, Hurst Performance will not accept returned parts due to cosmetic defect after they have been installed in a vehicle.



PARTS(continued)



OEM Mustang Stick



Stick Mounting Screws (2)



Stick Mounting Washers (2)



Posi-Tap Connectors(2)
Butt Connectors (2)



Stick Isolators (2)
Boot Support (2)



Tie Wrap (4)



Lock Nut



Grease



Rear Bushing



Wire (16')



Foam Gasket



Reverse Gear Signal LED

TOOLS

Ratchet



10mm
Deep
Socket



Long
Extension(s)



Pliers &
Cutting
Pliers



Trim
Tool



Wire
Stripper/
Crimper



Hex
Wrench
5/16" &
7/32"



Jack
Stands



Electrical
Tape



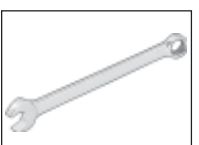
Drill & 1/4"
Drill Bit



Floor
Jack



Wrenches
10mm &
5/8"



Disassembly

STEP 1. Unscrew the shift knob.



STEP 2. Open the center console storage box and starting from the back, carefully unsnap the center console trim cover/cup holder unit from center console by firmly grasping the back edge and pulling directly upward.



STEP 3. Disconnect the traction control/hazard light/trunk release and any other (cup holder lighting, etc.) wiring harness connectors that prevent removal of this center console trim plate. Then remove the console trim plate.

NOTE: It may not be necessary to completely disconnect all wiring harnesses and instead let the trim plate hang off to the side.



STEP 4. Remove the rubber boot that seals the shifter to the tunnel.



STEP 5. Remove the three (3) accessible screws of the four (4) screws holding the shifter to the shifter linkage housing.

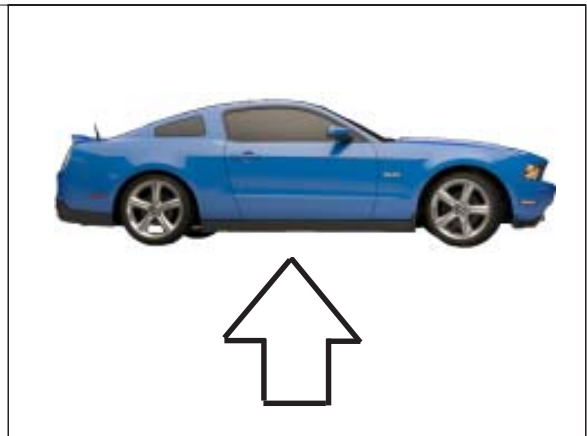
NOTE: The fourth screw is difficult to access from inside the vehicle and will be removed in step 9.

TOOLS: 10mm Deep Socket, Ratchet, & Extension



STEP 6. Carefully raise car for under vehicle access.

TOOLS: Floor Jack & Jack Stands



STEP 7. From underneath the vehicle, unscrew the two (2) mounting nuts holding the rear shifter support bushing bracket.

TOOLS: 10mm Deep Socket, Ratchet, & Extension



STEP 8. Pull the rear bushing bracket off of the tunnel studs. Then firmly work the bushing off of the shifter housing and remove the rear bushing assembly from vehicle.



STEP 9. Unscrew the remaining shifter mounting screw.

TOOL: 10mm Wrench

NOTE: With the removal of the back mounting bushing this screw may be able to be accessed from inside the vehicle in some instances.



STEP 10. From inside the vehicle, remove this shifter.



STEP 11. Trim the tie wraps from the rear bushing assembly and remove the rubber bushing from the bracket.

TOOL: Cutting Pliers



STEP 12. Pry off the lower bushing cup off of the shifter bottom pivot, being careful not to damage the soft plastic as this part will be re-used.

TOOL: Pliers



Assembly

STEP 13. Grease the lower pivot ball of the Hurst shifter.



STEP 14. Place the plastic bushing cup (removed in step 11) onto a hard surface and snap the lower pivot ball of the Hurst shifter into the bushing cup.



STEP 15. The reverse gate spring tension has been set from the factory at the mid-range for the amount of side load required for the driver to engage reverse. In most cases this is the optimum setting. However, it may be adjusted to create more (clockwise) or less (counter-clockwise) lockout spring pressure. Small adjustment increments (no more than 1/4 turn) should be used and then tested.

TOOL: 5/16" Hex Wrench



STEP 16. From inside the vehicle place the supplied Foam Gasket onto the shifter housing base.

NOTE: Position the long notch on the side of the gasket toward the driver and the small notch toward the rear of the vehicle.



STEP 17. Place the Hurst Shifter on top of the foam gasket and shifter housing base and tighten the three (3) accessible screws.

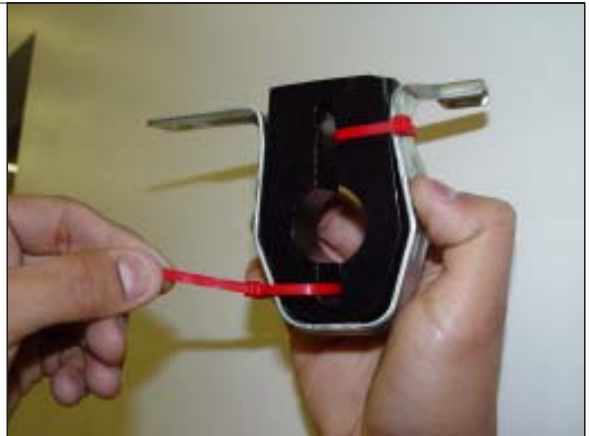
NOTE: Position the long notch on the side of the shifter toward the driver and the small notch & Hurst logo toward the rear of the vehicle. The fourth screw is difficult to access from inside the vehicle and will be installed in step 20.

TOOLS: 10mm Deep Socket, Ratchet, & Extension



STEP 18. Insert the supplied polyurethane rear bushing into the rear bushing bracket and secure it with the two supplied tie wraps. Trim the excess ends.

TOOL: Cutting Pliers



STEP 19. Using the supplied grease, lubricate the inside of the polyurethane bushing.



STEP 20. From underneath the vehicle, install the 4th mounting screw securing the Hurst Shifter to the shifter housing base.

TOOL: 10mm Wrench



STEP 21. Push the rear bushing assembly onto the rear of the shifter base assembly.

NOTE: The longer bracket ear should be installed on the driver's side to center the shifter in the tunnel.



STEP 22. Push the rear bushing assembly onto the mounting studs and tighten the mounting nuts to secure the shifter assembly to the tunnel.

TOOLS: 10mm Deep Socket, Ratchet, & Extension



STEP 23. OEM Upper Stick/Knob Attachment (only):

From inside the vehicle, place the supplied stick mounting washers onto the threads of the mounting bolts and firmly attach the Mustang OEM Stick. Then temporarily screw on the factory shift knob.

TOOL: 7/32" Hex Wrench

NOTE: Two(2) rubber Stick Isolators have been provided and can be sandwiched between the upper and lower stick attachment only if unwanted vibration noise is a problem in the shifter. DO NOT use isolators in competition.



STEP 24. Hurst Chrome Upper Stick/White Knob Attachment (only):

From inside the vehicle, place the supplied stick mounting washers onto the threads of the mounting bolts and firmly attach the Hurst Chrome Upper Stick. Screw on the lock nut, then temporarily screw on the Hurst Knob.

TOOL: 7/32" Hex Wrench

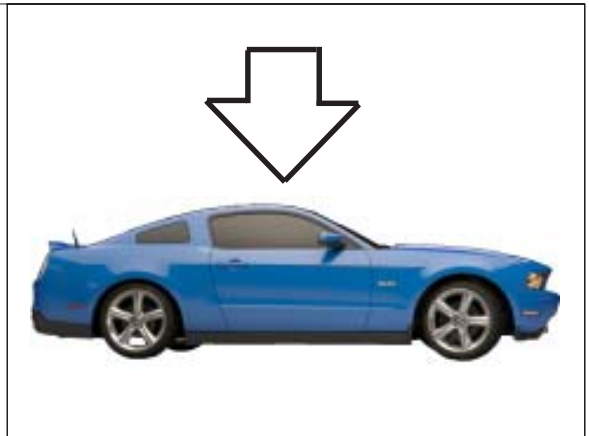
NOTE: Two(2) rubber Stick Isolators have been provided and can be sandwiched between the upper and lower stick attachment only if unwanted vibration noise is a problem in the shifter. DO NOT use isolators in competition.



STEP 25. With the clutch pedal depressed and the vehicle OFF, test the movement of the shifter through all the gears. Pay close attention to the engagement of first and second gear, as well as note the amount of extra force required to access the reverse gate (NOTE: reverse is no longer engaged by pushing down - instead pull harder towards the left side of the vehicle). THERE SHOULD BE AN OBVIOUS AND NOTICABLE DIFFERENCE BETWEEN FIRST GEAR AND THE REVERSE GEAR. Correct any issues (especially if the difference between first and reverse is vague) by reversing the install steps back to step 15. Follow step 15 to adjust shifter prior to vehicle operation.



STEP 26. Carefully lower vehicle.



STEP 27. Remove the knob and lock nut (if used) and replace the rubber boot making sure it seals into the groove of the shift base and around the Hurst Shifter tower.



STEP 28. Work the rubber boot seam onto the shifter access hole edge so that it fully seals the tunnel hole.



STEP 29. Slide the black boot support onto the upper shifter stick (Hurst version shown) and push it down to where it contacts the lower stick.

NOTE: A small amount of grease applied to the inside of the boot support will help it slide onto the stick.



STEP 30. Place the top lip of the rubber boot over the boot support and snug in place with a supplied tie wrap. Trim the excess tail of the tie wrap. (OEM stick shown)

TOOL: Cutting Pliers



STEP 31. Hurst Chrome Stick Install ONLY! (OEM stick and knob users skip to step 33):

Carefully peel the leather shift boot away and off of the plastic boot collar. The plastic collar will not be re-used.



STEP 32. Invert the leather boot and attach it directly to the Hurst chrome upper stick with a supplied tie wrap. Trim the excess tail of the tie wrap.

TOOL: Cutting Pliers

NOTE: Some vehicle models have a larger stick hole through the leather boot. An extra Boot Support has been supplied and can be used by sliding it down the Hurst chrome stick. Attach the leather boot to the Boot Support with the supplied tie wrap in these instances.



STEP 33. Reconnect the traction control/hazard light/trunk release and any other (cup holder lighting, etc.) wiring harness that had previously been disconnected.



STEP 34. Snap the center console trim cover/cup holder unit back into place.



STEP 35. Hurst Chrome Stick Install ONLY! (OEM stick and knob users skip to step 37):

Screw on the lock nut.



STEP 36. Hurst Chrome Stick Install ONLY! (OEM stick and knob users skip to step 37):

Screw on the Hurst Knob and then lock the knob into place by tighten the lock nut up against the knob.

TOOL: 5/8" Wrench



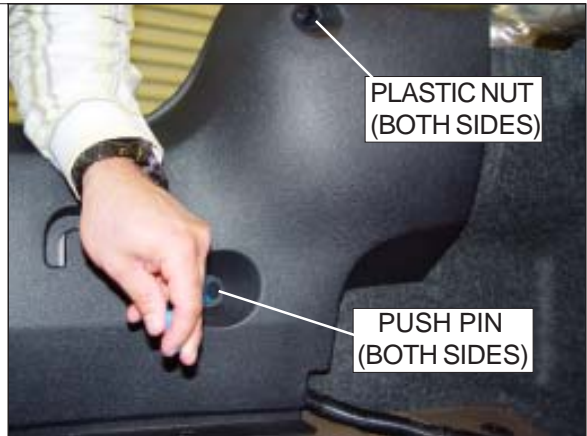
STEP 37. OEM Upper Stick/Knob Attachment (only):

Screw on the OEM Knob.



STEP 38. In the trunk area of the vehicle remove the rear luggage compartment scuff plate by first removing the two (2) push pins and two (2) plastic nuts.

TOOLS: Trim Tool



STEP 39. Remove the rear floor carpet panel and then the rear luggage compartment scuff plate from vehicle.

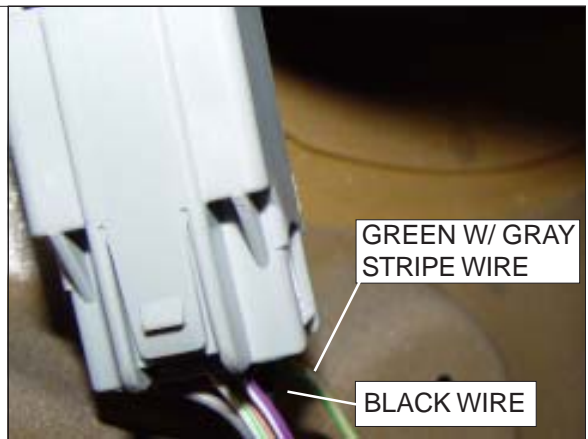


STEP 40. Disconnect the driver's side rear lamp assembly electrical connector.



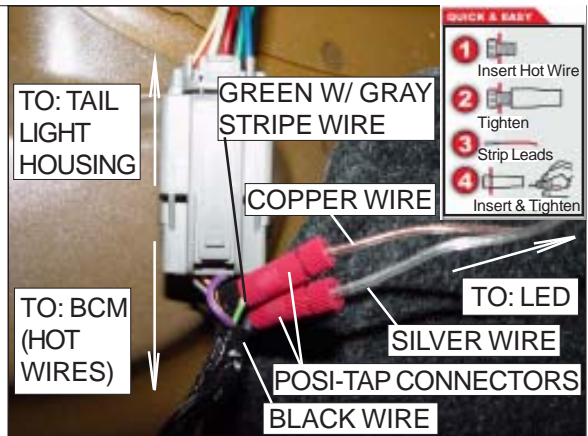
STEP 41. On the female side of the disconnected wiring assembly (BCM side side not the side that leads to the tail light housing) locate the black ground wire and the adjacent green-with-gray-stripe power wire. These wires will be “tapped” in the next step.

NOTE: It may be necessary to peel back some of the existing electrical tape to access the wires.



STEP 42. Using the supplied Posi-Tap connectors attach the copper colored side of the supplied wire to the BCM side wire (green/gray stripe - hot side) and attach the silver colored side of the supplied wire to the ground wire (black - ground/reverse light side) that leads to the connector and tail light housing. Secure loose wire and/or connections with electrical tape.

TOOLS: Electrical Tape



STEP 43. Decide an appropriate mounting location for the Reverse Gear Signal LED and then drill a 1/4” mounting hole.

NOTE: The Reverse Gear Signal LED should be in direct view of the driver, preferably within his/her field of outward vision. The preferred mounting location is on the driver’s side A-pillar trim panel just under the black windshield trim edging. Remove by forcefully but carefully pulling outward. Other mounting locations include on the dash board above speedometer, on the steering column shroud, or on the shifter center console.

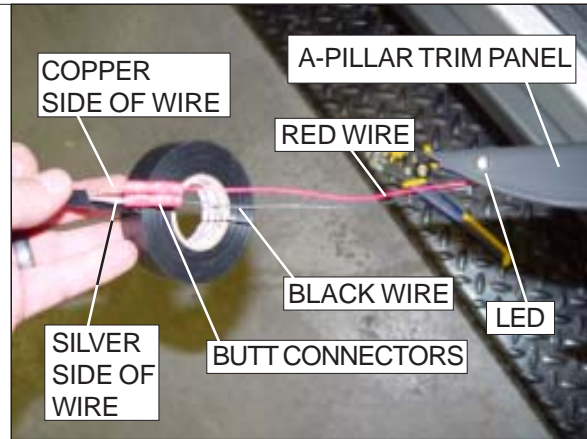


STEP 44. Route the provided and newly installed wire through the vehicle cabin (typically under the carpet) being carefully not to overly stretch the wire and avoiding sharp edges and areas where the wire can be pinched, cut, or frayed; all the way to the Reverse Gear Signal LED mounting location.



STEP 45. Insert the Reverse Gear Signal LED into the mounting hole and then using the supplied Butt Connectors, crimp the red wire to the copper colored side of the wire and the black wire to the silver side of the wire. Secure the butt connectors with electrical tape. And the replace the A-pillar trim panel.

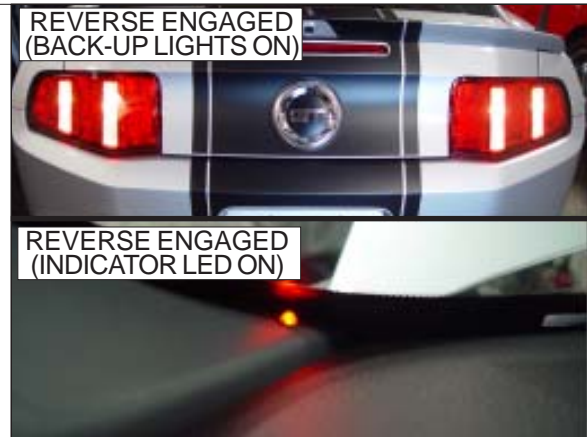
TOOLS: Wire Stripper/Crimper & Electrical Tape



STEP 46. Reconnect the driver's side rear lamp assembly connector and reinstall luggage compartment trim panel. Replace the trunk floor panel and carpet.



STEP 47. Before operating the vehicle, test the shifter through all gears making sure that each gear including reverse and be engaged fully and smoothly without rough movement or binding. Also, ensure that the shifter fully and smoothly self-centers in the neutral position and does not hang in the reverse, 1st-2nd gear, or 5th-6th gear plane. Correct any problems before operating the vehicle. Start the vehicle and carefully test engaging first gear and the reverse gear. Ensure that the Reverse Gear Indicator LED and reverse lights illuminate when the reverse gear is selected. **WARNING!** Failure to easily distinguish between first and the reverse gear can result in damage, injury, and/or death.



STEP 48. Enjoy!



NOTE: The Hurst Billet Comp/Plus Shifter for the Ford Mustang has been designed to fit any of Hurst's sticks, knobs (with 3/8"-16 thread), and handles (with 3/8"-16 thread).

Check the Hurst website at www.hurst-shifters.com for various stick, knob, and handle options:

#163 1401

Hurst white ball shift knob with "H" Hurst logo, universal application



#163 0410

Hurst black billet aluminum ball shift knob with "H" Hurst logo, universal application



#153 4813

Hurst direct fit T-handle (brushed finish)



#538 8575

Hurst original pistol grip handle and stick



#153 6200

Hurst billet pistol grip with 12-volt switch (clear anodized)



#153 6010

Hurst billet pistol grip (black anodized)



#538 8656

Hurst Harddrive Stick short with black Delrin handle



#538 8665

Hurst Harddrive Stick short with brushed aluminum handle



#538 8655

Hurst Harddrive Stick short with anodized titanium handle



Technical Service

A highly trained technical service department is maintained by Hurst Performance to answer your technical questions, provide additional product information and offer various recommendations.

Hurst offers a wide variety of custom T-Handles and knobs that can be used with this shifter to allow the driver to tailor the vehicle to his/hers personal liking. See your local retailer of Hurst products for specific prices.

Technical service calls, correspondence, and warranty questions should be directed to the following address:

Hurst
9142 Independence Ave.
Chatsworth, CA 91311
Phone (818) 483-1366
Monday-Friday 7AM to 4PM PST

