



INSTALLATION INSTRUCTIONS

BILLET/PLUS™ SHORT THROW SHIFTER

1992-2002 Dodge Viper

All models with 6-Speed Manual Transmission

Part Number 391 5055

Thank you for choosing the Hurst Billet/Plus Shifter for your Viper!

This Hurst Billet/Plus 6-speed shifter is designed specifically for racing and features an approximate 30% shorter throw for quicker shifts, precisely balancing distance, effort, comfort, and control to give you the most satisfaction from a performance shifter. You will probably notice a slight increase in effort while shifting due to the shorter throw. It is constructed of a CNC machined BILLET ALUMINUM mounting base and heat treated BILLET STEEL gear selector for ultimate strength. An exclusive oil control seal prevents transmission fluid loss and leakage.

INSTALLATION INSTRUCTIONS

IMPORTANT! Read this instruction sheet completely so that you thoroughly understand it and can become familiar with the procedure before attempting installation.

WORK SAFELY! Perform this installation on a good clean level surface for maximum safety and with the engine turned "off". Apply parking brake and place blocks or wedges in front of and behind both rear wheels to prevent movement in either direction.

CAUTION! To avoid any possibility of bodily injury or damage to vehicle, do not attempt shifter installation until you are confident that vehicle is safely secured and will not move.

FACTORY SHIFTER REMOVAL

1. Place shifter into neutral position, move both seats fully to the rear and remove ashtray.
2. Slide the shift boot down to expose the jam nut under the shifter knob, and using both an adjustable wrench and 3/4" open end wrench, hold the knob and loosen the nut. Remove shifter knob from stick by turning counter-clockwise.
3. Pull the parking brake up to its highest point of travel.
4. Remove the console panel trim plate by carefully pulling it up starting at the rear near the ashtray and working forward.
Note: There are six (6) retainer clips and Velcro securing the trim plate (see fig.1). CAUTION: To prevent breaking, do not use extreme force when removing the trim plate.
5. When console panel trim plate has been released from retainer clips, disconnect the electrical plugs from the cigarette lighter and switches. Set trim panel aside.
6. Using a Phillips head screwdriver, remove two (2) screws from the front top of the console and two (2) from the rear sides of the console (see fig.2).
7. Slide the parking brake boot up and over the handle while removing the center console top.
Note: Twist boot side to side while sliding to aid removal. If additional clearance is required for console removal, pull parking brake handle up further.

8. Using a 1/4" drill bit, remove the factory rubber inner boot by drilling out the eight (8) rivet heads attaching it to the floor tunnel (see fig.3). Use a small drift to punch out the lower portion of rivet if necessary. If rivets spin during drilling procedure, grip rivet heads with Vise-Grips.
Note: We recommend using a cobalt or carbide drill bit for this procedure.

9. You will now need to drill two (2) 3/4" diameter holes in the floor tunnel to gain access to two (2) of the shifter mounting bolts for removal (see dimension in fig.4). **Note: We recommend using a stepped drill bit such as a Unibit available at most hardware and home centers.**

10. **IMPORTANT: In preparation for shifter removal, vacuum all metal chips from interior and make sure there are no chips on transmission in shifter area.**

11. Place shifter in 1st gear position. Using a 3/8" drive extension and 13mm socket, remove four (4) hex head bolts that fasten stock shifter assembly to transmission.
Note: Factory shifter boot tabs might block access to bolts. Discard bolts, new longer ones are supplied. Push shifter forward to release sealant, then lift assembly straight up and off. **Note: you may have some difficulty in removing stock shifter from transmission due to adhesive sealant applied at factory.**

12. Remove and inspect plastic cup bushing inside transmission, replace if worn or damaged. This part is available from Dodge dealers. Re-install bushing in transmission.
IMPORTANT! If plastic cup bushing is retained on factory shifter during removal, remove and replace into transmission receiver. Check to be sure that no metal chips have fallen into transmission.

BILLET/PLUS SHIFTER INSTALLATION

1. Clean shifter mounting surface on transmission and apply RTV or similar sealant on mating surfaces of shifter mounting base and transmission (see fig.5).
2. **IMPORTANT! Be sure plastic cup bushing is present and installed properly into transmission receiver.** Apply lithium grease into plastic cup bushing. Hold shifter upright and rotate assembly 90 degrees clockwise so that engraved Hurst name is toward passenger side (3 o'clock position). Drop assembly down through floor tunnel and into transmission opening and rotate 45 degrees counter clockwise to be able to insert rounded end of stick bottom into plastic cup bushing.
3. Fasten Billet/Plus shifter to transmission using new hex head bolts and flat washers supplied. **Note: DO NOT USE ORIGINAL BOLTS.** Tighten bolts evenly to 15-20 lbs. ft. torque.
4. Move stick through entire gearshift pattern, making sure it engages each gear fully and that stick moves freely from side to side in "neutral" position.

- Slide the factory rubber inner boot onto the shifter stick and down against floor tunnel. Fasten securely with plastic anchors supplied by inserting anchor fully and driving nail flush. **Important: Make sure the opening in the boot is tight around the boot support. If necessary, secure with plastic cable tie (supplied).**
- Insert the two (2) plastic plugs supplied into the 3/4" holes that were drilled in the floor tunnel by pushing in until they snap into place.
- Re-install the parking brake boot by sliding the console panel trim plate over and down onto the handle.
- Replace the two (2) front console screws and the two (2) rear side console screws previously removed.
- Re-connect the electrical plugs to the cigarette lighter and switches in the console panel trim plate. **Note: Make sure that window switch connectors are not reversed.** Carefully align the trim plate retainer clips to their respective slots in the console panel and carefully begin pushing the clips into the slots, working from the top down.

- Install jam nut and shifter ball onto stick. Turn to correct position and tighten jam nut against knob. **Note: This shifter handle does not accept the factory knob but is designed to accept a wide variety of custom T-Handles and knobs, allowing the driver to tailor the vehicle to their personal liking. See your local retailer of Hurst products for availability and specific prices.**

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

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 Phone (216) 688-8300 Ext. 5
 Monday-Friday 8:30 A.M. to 5:00 P.M. E.S.T
 www.hurst-shifters.com

IMPORTANT! RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE

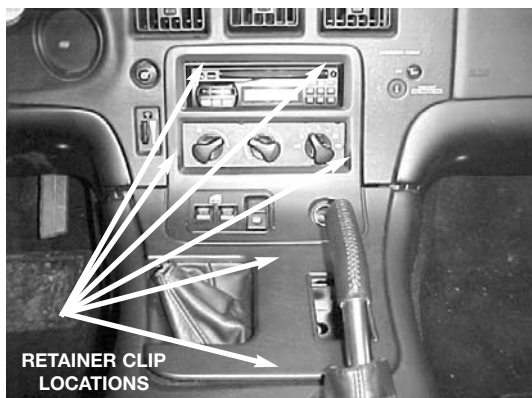


Figure 1



Figure 2

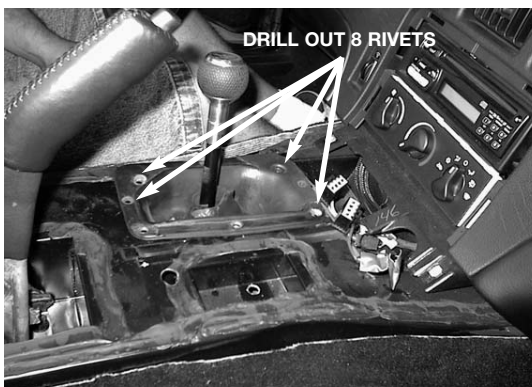


Figure 3



Figure 4



Figure 5