



Competition/Plus Shifter

1999-2003 Jeep Wrangler
with NV-3500 5-Speed Transmission

Catalog # 391 0140

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.
2. Remove shift lever knob by carefully prying the shift pattern indicator cover up with a small flat blade screwdriver. Use a 15mm socket to remove the retainer nut under the cover. Remove knob by turning counter-clockwise.
3. Remove upper shifter boot by grasping bottom fold of boot and pulling upward out of console.
4. Using a small flat blade screwdriver, carefully pry out the "on/off" switch for passenger side air bag located on console. **Do not disconnect.** This switch will need to be pushed through console opening during removal.

FIG. 1



TRANSFER CASE
SELECTOR LEVER
BRACKET

THIS SCREW MUST
BE REMOVED IN
ORDER TO REMOVE
TUNNEL COVER

5. Using a 10mm socket, remove screws securing the console to the floor tunnel. **Note: Most consoles are fastened with screws that are typically located under the shift boot or hidden under the cup holder, air bag switch or other snap-in covers.** Place transfer case selector lever into 4L and pull console up and out.
6. Using a 7mm socket or wrench, remove four (4) screws that secure the rubber lower boot to the floor pan tunnel cover. Slide rubber sleeve and lower boot up and off of factory shifter.
7. Using a 8mm socket or wrench, loosen screws that secure transfer case selector lever bracket to floor pan. (Refer to fig.1). **Note: These screws are threaded into nutserts secured to the floor pan that have a tendency to turn while loosening. If nutserts start turning before screws become loose, prying up on the bracket will help facilitate removal of the screws.** After loosening the screws, only one (1) screw will need to be completely removed in order to remove the floor pan tunnel cover.
8. Remove the screws that secure tunnel cover to floor pan using a 8mm socket or wrench and remove cover. **Note: One (1) screw must be removed from the transfer case selector lever bracket in order to remove this cover.** Removing cover may be somewhat difficult due to self-adhesive foam, which seals the cover to the floor pan.
9. Remove four (4) bolts from factory shifter base using a 8mm socket and remove shifter assembly from transmission by pulling up and out. (Refer to fig. 2).

FIG. 2

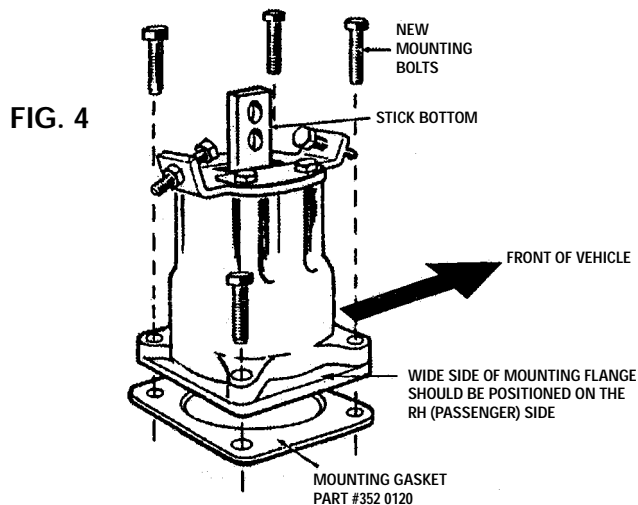


COMPETITION/PLUS SHIFTER INSTALLATION

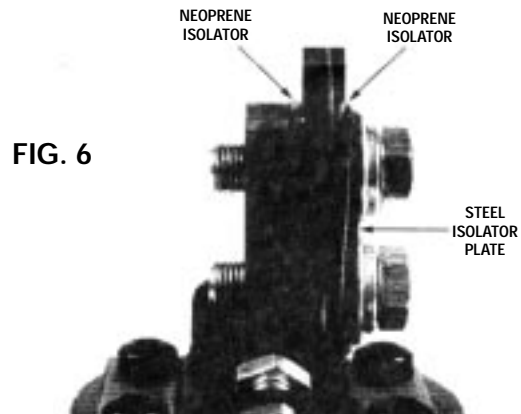
- Un-bolt and remove chrome plated shifter stick from shifter base assembly noting which side of the stick bottom it is fastened to.
- Clean shifter mounting surface on transmission and position new mounting gasket (supplied) in place. (Refer to fig. 3).



- Install Hurst Competition Plus Shifter base assembly onto transmission making sure that machined ball on stick bottom fits properly into shift selector socket inside transmission. **Note: For mounting identification purposes, the shifter base assembly must be installed with the wide side of the housing mounting flange positioned to the RH (passenger) side.** (Refer to fig. 4).



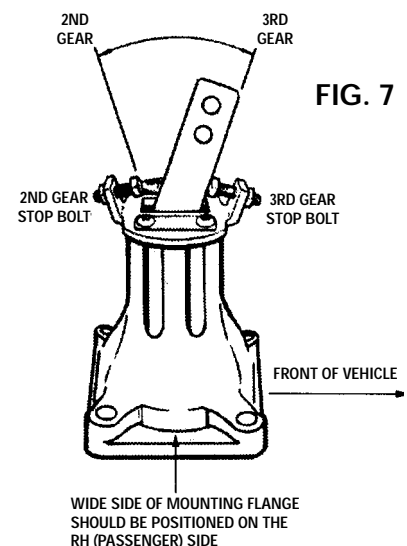
- Install four (4) new hex head mounting bolts (supplied) and using a 10 mm wrench or socket, tighten evenly to 10-12 lbs. ft. torque. (Refer to fig. 5).
- Place one (1) neoprene isolator (supplied) between shifter stick bottom and chrome plated stick. Place other neoprene isolator against outer side of chrome plated stick. Place steel isolator plate (supplied) against neoprene. (Refer to fig. 6). **Important! Re-install chrome plated stick to the same side of stick bottom that it was previously removed from.** Fasten upper stick-to-stick bottom in shifter base assembly using bolts and washers



- previously removed, and tighten bolts to 30-35 lbs. ft. torque. Bolt heads with washers should be against steel isolator plate. **Note: This isolator is optional for installations where transmission noise is transmitted through the shifter stick and may be annoying.**
- Test shifter operation. Move stick through entire gearshift pattern making sure that it engages each gear fully and that stick moves freely from side to side in "neutral" position.

SHIFTER STOP BOLT ADJUSTMENT

- Turn adjuster bolts located in stop bolt frame so that heads are away from shifter stick. Pull stick firmly into 2nd gear and hold securely. Back rear stop bolt out until head contacts stick. Hold bolt secure with 9/16" wrench and tighten jam nut using a 9/16" wrench. (Refer to fig. 7). Repeat adjustment on forward stop bolt. Push stick firmly into 3rd gear, and hold securely. Back forward stop bolt out until head contacts stick. Hold bolt secure with wrench and tighten jam nut.



OPTIONAL ADJUSTMENT OF SHIFTER STICK TENSION

Shifter stick tension can be made "softer" by removing the smaller spring (inner) from each side of shifter stick.

CAUTION: WEAR SAFETY GLASSES FOR EYE PROTECTION. SUDDEN RELEASE OF SPRINGS THAT ARE UNDER COMPRESSION IS DANGEROUS. RELEASE SPRINGS CAREFULLY.

IMPORTANT: REMOVE SPRINGS ONE SIDE AT A TIME. SHIFTER CAN BECOME DIS-ASSEMBLED IF BOTH SIDES ARE REMOVED AT THE SAME TIME.

Loosen both Torx head screws using a No. 30 Torx head driver bit. Remove one screw and slide retainer away to expose springs. Remove inner (smaller) spring only. Replace retainer and screw. Tighten both screws to 125-150 inch pounds. Repeat this procedure on opposite side.

(Refer to fig. 8). **NOTE:** If you are not satisfied with the "softer" shifter stick tension, re-install inner springs.

OPTIONAL ADJUSTMENT OF SHIFTER STICK TENSION

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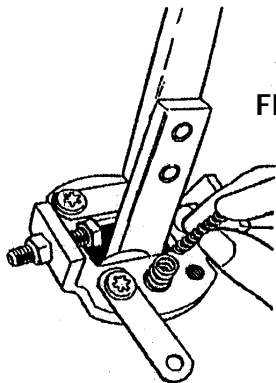


FIG. 8

MODIFICATION OF FLOOR PAN TUNNEL COVER

17. Before replacing the tunnel cover, you will need to make a slight modification to the cover. Using a pair of metal snips, cut a notch in the front end of the cover for clearance at the front shifter stop bolt

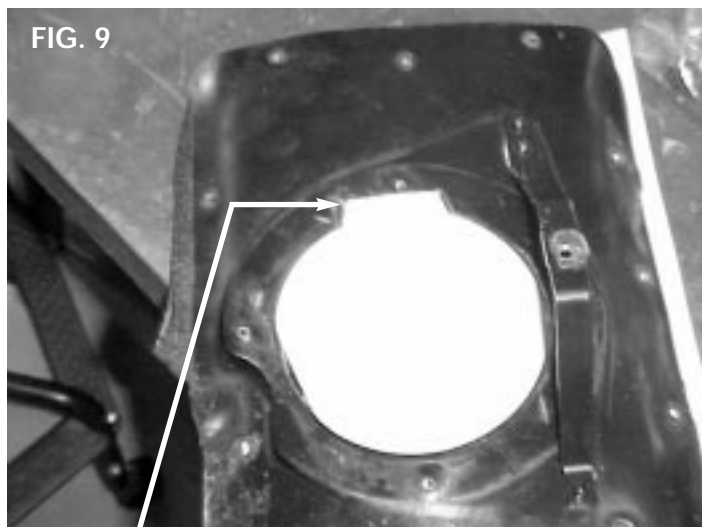


FIG. 9

CUT NOTCH FOR CLEARANCE

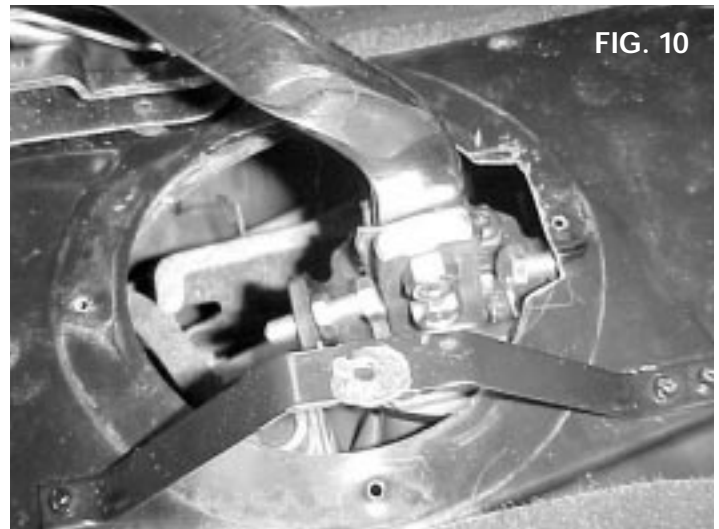


FIG. 10

and bracket. (Refer to figs. 9 & 10). Use a file to clean the cut edge of any burrs. Check fitment of cover but do NOT replace at this time.

18. Remove knob from shifter stick. Slide rubber enclosure (supplied) over the shifter stick and stop bolt frame. Secure at top and bottom using plastic tie straps supplied. (Refer to fig. 11). **IMPORTANT!** This rubber enclosure must be installed to prevent dirt and moisture from entering shifter base housing which can cause premature wear of shifter.

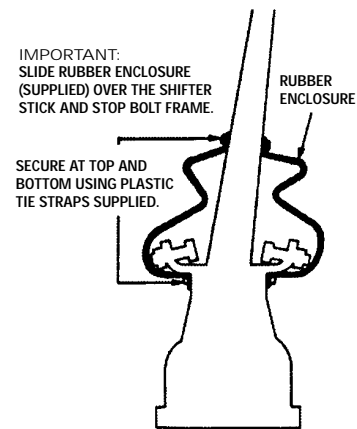


FIG. 11

19. Replace floor pan tunnel cover and align mounting holes making sure that foam seal is properly in place. Re-install screws previously removed and tighten securely. **Note:** If foam seal cannot be reused, apply a bead of silicone sealer/caulk to the underside of the cover to create a tight weather proof seal.

20. Tighten transfer case selector lever bracket screws securely.

21. Slide factory rubber lower boot over shifter stick and align mounting holes to the floor pan tunnel cover. Re-install screws and tighten securely. (Refer to fig. 12). **Note: If the forward mounting screw hole was eliminated during the modification of the floor pan tunnel cover, you will need to drill a new hole in the mounting flange of the boot and into the floor pan cover to install this screw.**
22. Replace console making sure that you bring the airbag switch through it's opening. Fasten console securely with screws previously removed and push airbag switch firmly into place.
23. Slide upper shift boot over shifter stick and down into console aligning properly and pushing firmly into place.
24. Install Hurst knob onto shifter stick, turn to desired position and tighten jam nut against knob.



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. See your local retailer of Hurst products for specific prices.

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

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Cleveland, Ohio 44144
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NOTE: RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE