

# SILVER SPORT Transmissions

# **MOPAR E-BODY 1970-1974 MOPAR B-BODY 1971-1974**



## **TKX 5-SPEED**

## TRANSMISSION CONVERSION INSTALLATION MANUAL



FOLLOW FACTORY SERVICE MANUAL (FSM) RECOMMENDED SAFETY PRECAUTIONS. TRANSMISSION REMOVAL AND INSTALLATION IS A LABOR INTENSIVE JOB, WHICH CAN RESULT IN SERIOUS INJURY OR DEATH IF CAUTION IS NOT TAKEN. PLEASE BE CAREFUL PERFORMING THIS JOB, OR HAVE A PROFESSIONAL PERFORM THE JOB FOR YOU. REFER TO FACTORY SERVICE MANUAL (FSM) FOR ADDITIONAL DETAILS OF THE PROCEDURES BELOW, AS REQUIRED.

FOR BOLT TORQUE SPECIFICATIONS, REFER TO YOUR FACTORY SERVICE MANUAL.

The material herein is the intellectual property of Silver Sport Transmissions ("SST") and is to be used by SST customers or their authorized installers for the sole purpose of installing SST-supplied transmissions and related parts. Under no circumstances shall the manual or any portion thereof be copied, duplicated, distributed or incorporated in any written or printed document without the express written approval of Silver Sport Transmissions.

#### Before you start:

Test drive the vehicle, if possible, before you begin. Pay attention to noise and vibration and record your observations. At the end of the installation, perform another test drive to compare.

In addition to this manual, you should have received instructions for checking your bellhousing runout. The bellhousing runout must be checked (and corrected if necessary) for Tremec's warranty coverage.

You should also verify the parts you received. Compare the received items to the detailed invoice provided in your shipment.

#### PLEASE READ ALL INSTRUCTIONS BEFORE INSTALLATION

In addition to these instructions, you should receive the following instructions based on your order, **if applicable**:

- 1. All kits Inspection and Correction of Bellhousing to Crankshaft Runout MAA-00101
- 4 Speed hump Floor Hump Sheet Metal Installation Instructions MAM-01401
- 3. Manual Pedal Installation Instructions MAM-01501
- 4. Hydraulic Kit Instructions for MOPAR MAM-00201
- 5. Firewall Stiffener kit Hydraulic Kit Supplement MAM-00501

Your invoice lists the individual hardware packs and where they are used.

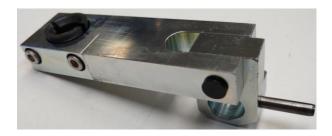


#### A. INSTALL SHIFT LINK ON TRANSMISSION

- 1. Remove the transmission from the box.
- 2. Remove the rail shipping sleeve from the shifter rail of the transmission.



3. Locate the shift link from your kit.



4. Position the shift link so that the hole in the shift link lines up with the hole in the rail.







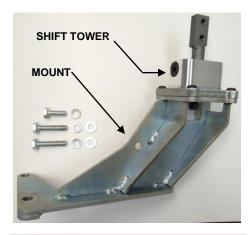
5. Drive or press the roll pin into the shift link so it engages the hole in the rail.

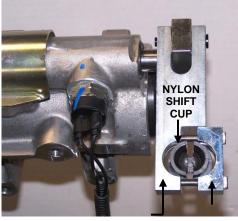




#### B. INSTALL SHIFT TOWER AND MOUNT

- 6. Loosen the bolts on the horizontal shift link at the rear of the transmission and pull the link clamp away from the horizontal shift link. It is not necessary to remove it completely, but you will need a gap of 3/8" or so between the horizontal shift link and the link clamp.
- 7. Apply a light coat of grease to the inside of the nylon shift cup.
- 8. Position the nylon shift cup so that the slots in it line up with the split between the horizontal shift link and link clamp, as pictured.
- 9. Place the shift tower and mount in position on the transmission and insert the ball at the bottom of the shifter stub into the nylon shift cup. Push up on the nylon shift cup and the horizontal shift link until the nylon shift cup snaps into place around the ball.
- 10. Install the short M10 -1.5 x 25mm bolt and lock washer loosely through the bolt hole in the mount and into the transmission tailhousing.
- 11. Position the transmission mount under the shifter mount and use the 2 provided M10-1.5 x 50mm bolts, lock washers and flat washers to fasten the mount to the transmission.
- 12. Make sure that the slots in the nylon shift cup are still lined up with the split between the horizontal shift link and the link clamp as pictured. Push the nylon shift cup forward so that it is fully seated in the horizontal shift link and slide the link clamp forward on the bolts so that it meets the horizontal shift link. There should be no gap between the horizontal shift link and the link clamp at this point.
- 13. Tighten the bolts on the horizontal shift link.
- 14. Temporarily bolt the shifter handle to the shifter stub. Shift the transmission into each gear and check for interference between the horizontal shift link and the mount. If the horizontal shift link touches the mount in any gear, loosen the (3) mount bolts and move the mount slightly to gain clearance. Re-tighten the mount bolts and check again.





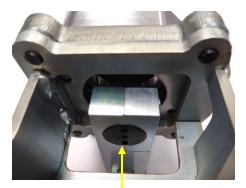
HORIZONTAL SHIFT LINK

LINK CLAMP









NOTE ORIENTATION OF SLOTS IN NYLON SHIFT CUP

NOTE: Transmission <u>must</u> be test shifted before installation. Due to jostling during shipping, some transmissions will not shift properly when removed from the box. Please make sure that the gear selector will move into each of the (6) possible positions while rotating the input shaft and checking for output shaft rotation. The rubber sleeve may need to be removed from the output shaft to allow it to turn more easily (see photo on page 6). If the input shaft will not turn, slide the clutch disc over the input shaft and jerk the clutch disc left and right to break it free. If this does not correct the issue, call Silver Sport Transmissions' Technical Support at 888-609-0094 for further assistance.

THIS CANNOT BE CORRECTED WITH THE TRANSMISSION INSTALLED IN THE CAR!
TEST SHIFT FIRST!

## C. REMOVE EXISTING EQUIPMENT (IF FACTORY MANUAL CAR SKIP TO SECTION C)

- 1. Disconnect negative (-) battery cable.
- 2. If equipped with console, remove to permit disconnecting and removing floor shift components. If equipped with key/steering wheel lock, the linkage must be locked in position to permit key removal and turning steering wheel at all times. If column shift, remove linkage at steering column. Remove linkage from transmission.
- 3. Remove engine breather assembly, throttle linkage, ignition cap and components and any other items that would restrict lowering the back of the engine for transmission removal.
- 4. Remove the automatic dipstick tube bracket from its attachment at the engine. Some vehicles will permit removal of the dipstick tube from the transmission while others are removed with the transmission. Fluid may drain from the transmission at this point if the dipstick tube is removed.
- 5. Remove the transmission kickdown cable/linkage and brackets from the engine and vehicle. If a column shift, remove linkage between steering column and transmission and any associated brackets.
- 6. If equipped, remove vacuum modulator vacuum line from its connection at the engine and plug the engine vacuum source.
- 7. Remove fluid cooling lines at radiator and transmission. Fluid may drain. Plug the radiator connections.
- 8. Locate and disconnect the neutral safety switch wiring and backup light wiring, if equipped. Tag for future reuse during manual transmission installation.
- 9. Remove the automatic brake pedal. Depending on the vehicle and the under-dash access, pedal removal may require removal of the front seat, under-dash facia and or dropping the steering column. If the new pedal kit includes a new pedal support bracket, the original pedal bracket will also need to be removed. Retain all parts until the new pedals are installed.



- 10. Locate the factory clutch rod hole used for standard transmission vehicles. The hole generally has a factory rubber plug sealing it and is located behind the factory insulating/carpeting material.
- 11. Raise car securely on lift or jack stands (6-Ton recommended).
- 12. Measure and record the existing stock driveline angles with the weight of the vehicle supported by the rear axle. This information may be helpful later. Much has been written about driveline angles and how to determine them, and there is a lot of great information available online from multiple websites. If you need additional help determining your driveline angle, call Silver Sport Transmissions' Customer Service at 888-609-0094.
- 13. Loosen exhaust at manifold and remove as required for working clearance and to allow the engine to drop during transmission removal.
- 14. The emergency brake cable may need to be disconnected for working clearance.
- 15. Remove the driveshaft at the differential and transmission, if necessary, and remove driveshaft from vehicle.
- 16. Unbolt starter and set aside.
- 17. Remove speedometer cable.
- 18. Remove torque converter dust cover.
- 19. Remove the torque converter to flex plate fasteners. The engine will need to be rotated manually to access all the fasteners. (**NOTE**: The battery should have already been disconnected as directed in step number 1 to prevent accidental startup)
- 20. Secure rear of engine with hydraulic jack.
- 21. Remove bolts from transmission isolator at the crossmember and raise engine slightly to remove weight from crossmember.
- 22. Secure and support transmission (transmission jack recommended) and remove the crossmember.
- 23. Remove the bellhousing bolts holding transmission to the engine, lowering back of engine and transmission, as required, permitting access to all bolts.
- 24. Move transmission and torque converter rearward as a unit and disengage the transmission bellhousing from dowel pins. Continue moving rearward until the transmission unit can be lowered and removed from the car.
- 25. Remove the flex plate from the crankshaft.

#### D. REMOVE EXISTING EQUIPMENT (FACTORY MANUAL CAR)

- 1. Disconnect negative (-) battery cable.
- 2. Place transmission in neutral. Remove shifter knob and boot.
- 3. Remove console. Note location and orientation of all components and wiring.
- 4. Remove front seats and carpet.
- 5. Remove engine cooling fan and fan shroud.
- 6. Remove breather assembly & ignition cluster cover/distributor cap from engine.
- 7. Raise car securely on lift or jack stands (6-Ton recommended).
- 8. Measure and record the existing stock driveline angles with the weight of the vehicle supported by the rear axle. This information may be helpful later. Much has been written about driveline angles and how to determine them, and there is a lot of great information available online from multiple websites. If you need additional help determining your driveline angle, call Silver Sport Transmissions' Customer Service at 888-609-0094.
- 9. Loosen exhaust at manifold pipe.
- 10. Unbolt starter and set aside.
- 11. Remove drive shaft at rear differential pinion yoke and remove from car.
- 12. Remove bell housing dust cover/inspection cover.



- 13. Remove linkage pin & clip at torque arm to clutch fork.
- 14. Remove shifter assembly.
- 15. Remove speedometer cable.
- 16. Remove exhaust pipes as required for working clearance and permit engine to drop.
- 17. Unbolt transmission isolator and remove crossmember.
- 18. The emergency brake cable may need to be disconnected for working clearance.
- 19. Disconnect backup switch wiring.
- 20. Secure rear of engine with hydraulic jack.
- 21. Secure transmission (jack recommended) and unbolt 4 speed transmission from bellhousing, then move rearward in vehicle and remove.
- 22. Remove manual transmission bellhousing, clutch pressure plate and clutch disk.
- 23. Remove manual transmission clutch fork and release bearing from bellhousing. Inspect release bearing, fork, and pivot ball stud for wear. Contact Silver Sport Transmissions for replacement or repair.
- 24. Inspect flywheel ring gear teeth (no cracks, chips, wear), and friction surface (no cracks). Silver Sport Transmissions strongly suggests removing flywheel and having it surfaced, then dynamically balanced at a reputable automotive machine shop **unless** the engine was externally balanced with the flywheel installed.
- 25. Remove the manual transmission pilot bushing.

#### E. INSTALL NEW EQUIPMENT (IF FACTORY MANUAL CAR SKIP TO SECTION E)

• If your car is an automatic, a column shift 3-speed, or the vehicle was previously converted from such to a-4 speed, a factory reproduction 4-speed tunnel hump must be installed in the vehicle before proceeding. It is necessary for proper alignment and use of the Silver Sport Transmissions sheet metal cutting template and sheet metal that are provided in the kit. The 4-speed tunnel hump also provides additional tunnel clearance for your new transmission. Contact Silver Sport Transmissions to purchase a reproduction 4-speed tunnel hump if you do not have one. Console-equipped cars will require a 4-speed top plate, available from many restoration parts suppliers. The automatic console base can be retained.

**NOTE:** The amount of tunnel clearance that exists can vary from car to car. Once the factory 4-speed hump is installed in your car, Silver Sport Transmissions strongly recommends trial fitting your transmission before cutting your tunnel to install the TKX sheet metal. Some cars will only require minor dimpling, or a much smaller area to be cut. Silver Sport Transmissions' template and sheet metal is designed to be large enough to allow the TKX to fit in most if not all vehicles of this type, with plenty of clearance in the tunnel. Your car may not require as much clearance as our modification provides.

- 1. For all vehicles, install new pedals and pedal supports bracket and components. See supplied diagram with pedals if applicable.
- 2. If a Silver Sport hydraulic system is to be installed, refer to the appropriate portions on the installation manual for mounting of the hydraulic master cylinder.
- 3. If the original style mechanical linkage (clutch rod, Z bar, Z bar mounts, fork rod) is to be used, install the components per the Factory Service Manual for the particular vehicle. Note: On some vehicles, the frame side Z bar support is not bolted in but must be welded in.



- 4. To locate the shifter hole for vehicles whose kit did not include a shifter hole location on the template or in the sheet metal, the following procedure can be used to locate the shifter hole. Temporarily install the bellhousing to the engine and raise the engine to approximate final elevation. Measure from the bellhousing mounting face of the transmission to the center of the shift lever location, including offset from the centerline of the transmission. Transfer this dimension to the underside of the floor pan by measuring from the transmission mounting face of bellhousing down the underside of the floor pan and mark the shift lever location, including offset. Measure the square section of the shift tower and transfer this to the underside of the floor pan. Drill a pilot hole and center the 4-speed hump over the pilot hole. Once the 4-speed hump has been fitted, cut out the required area. It would be good to temporarily install the transmission to verify the accuracy of the work. NOTE: Confirm nothing is in the way inside or under the vehicle during cutting. Remove the bellhousing from the engine and lower the engine.
- 5. Complete the remaining installation per the instruction manuals provided with the transmission kit.

#### F. TEST FITMENT AND TUNNEL MODIFICATION

- 1. Temporarily install bellhousing to engine. No clutch or flywheel is necessary for this step.
- 2. Lower engine, and install transmission to bellhousing using HWM-PACK A. Support the transmission with a jack.
- 3. Attach isolator mount to transmission using hardware pack HWM-PACK EB.
- 4. Raise the transmission enough to be able to install the new crossmember under the isolator mount. If you did not install the new sheet metal and the transmission contacts the tunnel before it rises far enough to get the crossmember in place, check for interference on the passenger's side towards the front. If the transmission is contacting the tunnel in the area that is cut out in the photos on the previous page, return to the "SHEET METAL INSTALLATION" section above and install the new sheet metal.
- 5. Bolt the new crossmember to the front side of the torsion bar support in the car using hardware pack HWM-PACK C.
- 6. Lower transmission with isolator mount onto the new crossmember.
- 7. The next step is to determine if your car will need any spacers in order to achieve an acceptable driveline angle. Ensure that the rear suspension is weighted as the car will be when it is being driven. Pull a string from the center of the transmission tailshaft to the center of your differential pinion to simulate the driveshaft and measure the angle of the string. Also measure the transmission angle, the pinion angle, and calculate your driveline angles to determine if you need to add spacers to raise the rear of the transmission (see step F-12). Acceptable driveline angles are between 1/2 degree and 4 degrees front and rear on these cars with a SST 5-speed. Your kit includes (2) spacers that can be installed between the transmission shifter mount and the isolator mount: (2) 1/4" spacers. This makes it possible to raise the transmission anywhere from 1/4" to 1/2" in quarter-inch increments. If your car requires one or more spacers, install the spacer(s) and then measure and recalculate your new driveline angles.

NOTE: Some cars have an undesirable pinion angle from the factory. If you find this to be the case with your vehicle, now is the time to correct it. It may be necessary to add shims or wedges to your rear end to achieve an acceptable pinion angle.



8. Once you have achieved front and rear angles within the 1/2 to 4 degree range, check for interference with floor tunnel, especially on the passenger's side towards the front of the transmission. You will need a minimum of 1/4" of clearance between the transmission and the tunnel. An easy way to check areas that you cannot see is to use a length of rubber hose that is 1/4" outside diameter. Loop it over the transmission at the bellhousing and see if you can slide it all the way to the tailhousing. If the transmission has less than 1/4" clearance at any point in the tunnel, you may be able to "massage" the tunnel with a hammer and dolly to prevent cutting the tunnel. If you did not install the new sheet metal and you cannot create enough clearance with the transmission at the correct height, the new sheet metal will need to be installed. Return to the "SHEET METAL INSTALLATION" section above. If you have sufficient clearance, continue with the installation.

#### G. TRANSMISSION INSTALLATION

1. This is a good time to take the driveline measurement, per the driveshaft instruction sheet, as long as the total weight of the car is still supported on the axles to provide an accurate measurement. After the final clearance check and the driveshaft measurements, remove the transmission and bellhousing to complete the remaining work.

If you are getting your driveshaft from someone other than Silver Sport Transmissions the measurement from the machined aluminum face of the transmission to the center line of the front U-joint is 3.5" for linkage clearance. The largest front U-joint to be used is a 1330.

- 2. Reinstall the rubber sleeve on the output shaft if it was removed during test shifting to help prevent fluid leakage during the installation. Fill transmission with 2 quarts, 20 ounces of transmission fluid, or until fluid runs out of hole with the vehicle level. Reinstall the fill plug after adding fluid.
- 3. Remove your original pilot bushing or bearing (if equipped) using a pilot bearing removal tool. Clean the inside of the **larger** diameter recess in your crankshaft hub. This recess is the pilot bore for the nose of an automatic transmission torque converter. The new custom pilot bearing assembly will fit into this larger recess; an original equipment style pilot bushing or bearing will not work with the SST 5-speed. Install the new SST pilot bearing assembly using a bearing driver or a socket of similar diameter to the outer bronze bushing of the new bearing assembly. Make sure the bearing assembly is installed with the needle roller bearing protruding out towards transmission (see photo below). Gently tap bearing fully into crankshaft until the outer bearing face is flush with crankshaft face.





4. Install bellhousing and inspect for proper alignment to crankshaft using dial indicator or test indicator (SST can provide these tools at extra cost). See "Inspection and Correction of Bellhousing To Crankshaft Alignment" provided with your instruction packet. Make sure to record your runout data in a safe place, as it will be required in the event of a warranty issue. Mark offset dowel pin position if used to correct bellhousing runout, and carefully remove the bellhousing.



5. Use the provided 26T alignment tool to center the clutch disk when applying torque to the pressure plate bolts. Install the bolts with medium thread locking compound per clutch instructions and tighten in a star pattern, one turn at a time to prevent distorting the pressure plate fingers, until the cover is snug against the flywheel. Torque the bolts to 35 lb.-ft. in a star pattern.

NOTE: When installing the pressure plate and clutch disk onto the flywheel, NEVER use power or air tools. Using power or air tools will cause the flanges of the pressure plate to distort. This will in turn cause uneven pressure plate finger heights, which will lead to inconsistent or unsuccessful clutch releases. See MAA-05000 clutch installation instructions for more details.

**NOTE:** If using a diaphragm-style pressure plate, it will be necessary to remove the large over-center spring from the clutch pedal. The over-center spring can hold the clutch disengaged or cause unusual fluctuations at the clutch engagement and release points. If using a three-finger style pressure plate, the over-center spring will be retained.

- 6. Lower rear of engine as far as possible (required for new transmission installation).
- 7. With the bellhousing still removed from the engine, install clutch fork and new SST release bearing in the bellhousing if using mechanical clutch linkage. An original equipment style release bearing will not fit the SST 5-speed. If you purchased the SST hydraulic system with your transmission, the hydraulic release bearing will already be installed.

**NOTE:** Make sure you have the correct clutch fork for your car and engine. Check length by fully engaging the fork in the pivot bracket and release bearing, with the pushrod disconnected from the clutch fork. Verify that the pushrod is aligned with the fork eyelet. Silver Sport Transmissions can provide a new clutch fork, pivot, and boot kit if needed.

8. Install bellhousing to engine, while making sure that there are no hoses, cables, or wires caught between the bellhousing and engine block. Torque the fasteners to the factory specification.

### IMPORTANT !!! Refer to MAA-00101 Inspection and Correction of Bellhousing to Crankshaft Runout

It is an absolute **requirement** that **runout** is **checked** and **corrected PRIOR** to installing the transmission. The runout specification for all of Silver Sport's kits is **0.005"** (5 thousandths of an inch) **MAXIMUM**. You MUST document the results PRIOR to installation of transmission and keep these measurements recorded in a safe place for your transmission warranty. Silver Sport's Customer Service will need this information if a warranty issue arises.

9. Install transmission, using caution when inserting the input shaft into the clutch disc and pilot bearing. Do not allow weight of transmission to rest on assembly until fully engaged (doing so can misalign disc or damage pilot bearing). The rubber tailshaft sleeve may be temporarily removed and the slip yoke inserted to rotate the tailshaft, as required, to facilitate engagement into clutch disk.



NOTE: If the transmission stops approximately 1/2 inch away from seating fully against the bellhousing, install and <u>finger-tighten</u> bellhousing to transmission bolts. Connect clutch linkage and depress pedal lightly while pushing transmission forward to facilitate alignment of clutch disk to input shaft and pilot bearing. <u>DO NOT</u> force the transmission into engagement – damage to the pilot bearing may result. Tighten bellhousing to engine bolts once the transmission is seated against the bellhousing.

10. Once the transmission is fully seated by hand against the bellhousing, fasten with 7/16" x 1-1/2" bolts and washers provided (HWM-PACK A) and torque to 50 lb.-ft.

**WARNING:** THE FOLLOWING CAN CAUSE THE EARS OF THE TRANSMISSION CASE TO BREAK AND IS **NOT** COVERED UNDER WARRANTY (SEE PHOTO):

- a) DRAWING THE TRANSMISSION UP TO THE BELLHOUSING BY THE BOLTS.
- b) NOT TORQUING THE TRANSMISSION-TO-BELLHOUSING BOLTS TO 50 lb.-ft.
- c) NOT HAVING THE TRANSMISSION FULLY SEATED AGAINST THE BELL-HOUSING WHEN TORQUING THE TRANSMISSION-TO-BELLHOUSING BOLTS.



- 11. Raise up engine/transmission until transmission contacts the top of the tunnel.
- 12. Attach the spacer(s) if needed (see step E-7) and the rubber isolator mount to transmission using M10-1.5 x 50mm bolts and lock washers (HWM-PACK EB).
- 13. Install new crossmember using 7/16"-14 x 4-1/2" bolts, washers, and nuts provided (HWM-PACK C) to attach to the frame. Lower transmission fully onto crossmember. Place the emergency brake mounting plate over the isolator mount studs (underneath the crossmember, see photo on page 10) and attach to mount with 3/8" flat washers, lock washers, and nuts (HWM-PACK B). Confirm no interference to car body or noise will occur as the driveline moves under load. Confirm shifter is centered in tunnel hole.
- 14. The rubber tailshaft sleeve must be removed at this point (see step F-2 and photo on pg. 9). Install driveshaft by inserting the slip yoke into the rear of the transmission first. Then position the rear U-joint in the differential U-joint saddles. Install rear straps and torque to factory specs. 17 lb.-ft. for 1310/1330 U-bolts. (excessive torque can distort bearing cap leading to premature failure). Double check your assembly.
- 15. Reinstall bellhousing inspection cover and starter.
- 16. Connect clutch linkage do not preload mechanical release bearing. Adjust linkage as required. If using a SST hydraulic system (available separately), follow instructions provided.
- 17. Wrap tape around speedometer cable ends to prevent damage and keep them clean while routing new speedometer cable to transmission. Remove rubber plug from the speedometer cable port (see photo next page) and install new speedometer cable with gear, clip and O-ring (HWA-PACK S) into transmission case. Install cable retainer bolt and tighten bolt to 4 lb.-ft. Connect cable to speedometer.



#### \*\*\*Speedometer gear will have resistance when turning after assembled\*\*\*



The TKX have provision for electronic speedometer output also. The speed sensor is located on the passenger side of the transmission, directly opposite the mechanical speedometer output. The sensor is a standard two wire Ford, sine wave, with 12 pulses per revolution of output shaft, which equates to roughly 24,000 to 42,000 pulses per mile depending on axle ratio and tire size. For reference, a 26" tire with a 3.73 gear will produce 34,738 pulses per mile. Please refer to your speedometer's installation instructions or contact the speedometer manufacturer for information on connecting and calibrating your electronic speedometer.

REVERSE LIGHT SWITCH



MECHANICAL SPEEDOMETER PORT



**NEUTRAL SAFETY SWITCH** 



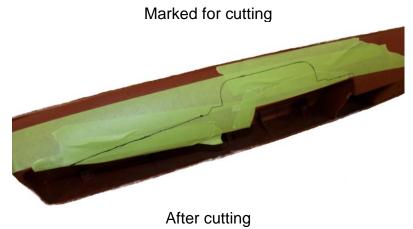
**ELECTRONIC SPEED SENSOR** 





- 18. The reverse light switch is located on the driver's side of the main case and is a black-bodied switch with (2) studs. The switch is a normally open, non-directional switch that will complete the lighting circuit when the transmission is in reverse. SST has provided a two-wire harness with your kit that will attach to the 5-speed reverse light switch. It can be spliced into your car's wiring harness in place of your original switch that was mounted to your 4-speed shift linkage.
- 19. The wire pigtail at the right side of the tailhousing is a neutral safety switch. It is a normally open, non-directional switch that will complete the circuit when the transmission is in neutral. The plastic connector may be removed and the neutral safety switch may be spliced in to your starter circuit between the ignition switch and the starter solenoid if you so choose.
- 20. Tighten exhaust.
- 21. Reinstall shift tower that was removed earlier.
- 22. Bolt on shifter handle with 3/8"x1" bolts and washers provided (HWA-PACK L). Use medium strength threadlock compound. Torque to 25 lb.-ft. Confirm shifter motion through all gears.
- 23. Install front carpet and seat(s).
- 24. Install shifter boot and retainer ring
- 25. If converting from an automatic you may need to modify your console. Cut out the template TMM-00650 and tape and align to console. Trace out line on console to transfer cut line. You may want to use painters tape on the console to aid in marking the console. Install the console after the modification is complete.









- 26. Connect throttle linkage to carburetor.
- 27. Install fan shroud and breather.
- 28. Reconnect the negative (-) battery cable.









#### **FINAL INSTALLATION STEPS**

- 1. If you did not fill the transmission with fluid before installation, remove the fill plug on the passenger's side of the transmission and fill. Reinstall the fill plug after adding fluid.
- 2. Start engine and allow it to idle for a few minutes.
- 3. Check for leaks while warming up.
- 4. Slowly rev engine in neutral and listen for any unusual sounds or vibration.
- 5. Shift through all forward gears with the clutch disengaged (clutch pedal depressed).
- 6. Do not shift into reverse above idle speed, reverse is not synchronized. Shifting into reverse may require shifting into a forward gear first to prevent grinding.
- 7. Test drive at low speeds and low RPM.
- 8. Gradually increase engine RPM and vehicle speed.
- 9. Compare this test drive to the pre-installation test drive.
- 10. Drive conservatively for the first 500-1000 miles for transmission break-in.
- 11. If you experience vibration at highway speeds, verify that there is no body contact with the new transmission. If there is no contact, recheck your driveline angles. If you need further help with diagnosing a vibration, call Silver Sport Transmissions' Customer Service at 888-609-0094.



#### **SPECIFICATIONS AND MAINTENANCE**

TREMEC <u>HighPerformance ManualTransmission Fluid</u> is endorsed by Tremec for use in all Tremec brand aftermarket performance transmissions. **GM Synchromesh (part #88900333; formerly part #12345349) or Pennzoil (part #3501), DEXRON/MERCON ATF (non-synthetic), and Mobil 1 ATF are the ONLY other fluids approved by Tremec.** 

<u>The use of ANY other fluid will void your warranty.</u> Silver Sport Transmissions recommends that the fluid be replaced after the first 500-1000 miles of normal driving, and then every 30,000 miles thereafter. It is acceptable to use the less-expensive DEXRON/MERCON fluid for the break-in period and then replace it with the Tremec HP MTF or GM Synchromesh.

FLUID CAPACITY: 2.7 QUARTS (U.S.)

DO NOT EXCEED MAXIMUM INPUT TORQUE:

TKX: 600 lb.-ft. in 4<sup>th</sup> gear

#### **GEAR RATIOS:**

- TKX Wide Ratio
  - 1<sup>ST</sup> 3.27
  - 2<sup>ND</sup> 1.98
  - 3<sup>RD</sup> 1.34
  - 4<sup>TH</sup> 1.00
  - 5<sup>TH</sup> 0.72
- TKX Close Ratio
  - 1<sup>ST</sup> 2.87
  - 2<sup>ND</sup> 1.89
  - 3<sup>RD</sup> 1.28
  - 4<sup>TH</sup> 1.00
  - 5<sup>TH</sup> 0.68

(0.81 OPTIONAL)

#### **CONTACT INFORMATION**

SILVER SPORT TRANSMISSIONS 2250 STOCK CREEK BOULEVARD ROCKFORD, TENNESSEE 37853-3043

> Phone: (865) 609-8187 Toll Free: (888) 609-0094 Fax: (865) 609-8287

#### **WWW.SHIFTS**ST.COM

SILVER SPORT TRANSMISSIONS IS DEDICATED TO YOUR SATISFACTION AND ENJOYMENT OF THIS PRODUCT. PLEASE SEND US PICTURES OF YOUR CAR ALONG WITH A TESTIMONIAL OF HOW YOU RATE THIS PRODUCT. WE WILL BE POSTING MANY CUSTOMER FEEDBACK LETTERS AND PICTURES ON OUR WEBSITE AND BROCHURES.

## ENJOY YOUR SILVER SPORT TRANSMISSION SYSTEM!