



SILVER SPORT
Transmissions

MUSTANG

1964¹/₂ - 1970



T5 5-SPEED

MANUAL TO MANUAL

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 – MAA-00101 Inspection and Correction of Bellhousing to Crankshaft Runout
2. All kits – MAA-00100 Driveshaft Measuring Procedure
3. MAM-00201 Hydraulic Kit Instructions for FORD

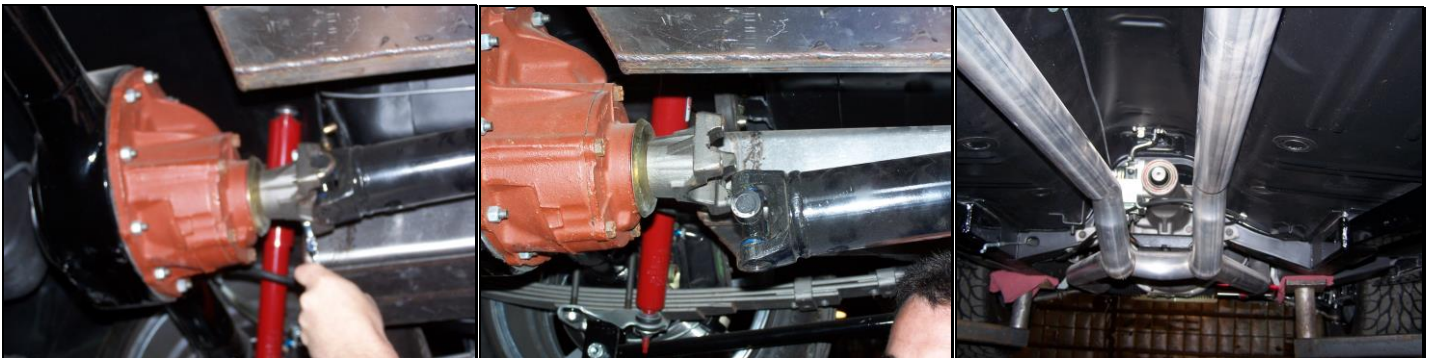
Your invoice lists the individual hardware packs and where they are used.

NOTE: Transmission **must** 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 5). 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 at **888-609-0094** for help.

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

A. REMOVE EXISTING EQUIPMENT

1. Disconnect negative (-) battery cable.
2. Remove breather assembly and fan shroud.
3. Place shifter in neutral. Remove shift boot and lever.
4. Remove console, if equipped.
5. Raise car securely on lift or jack stands. 6 ton stands are usually taller and will give you more room under the car. 18 inches or more of working room is recommended.
6. 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. Measure driveshaft length. If you need additional help determining your driveline angle, call Silver Sport Transmissions' Customer Service at 888-609-0094.
7. Remove exhaust, parking brake linkage/cable, as required, for working clearance.
8. Remove underbody plate (convertible only).
9. Unbolt starter and set aside.
10. Remove clutch linkage at torque arm to clutch fork.
11. Remove bellhousing dust cover.
12. Disconnect driveshaft from differential and remove from car.
13. Remove shifter assembly.
14. Remove speedometer cable.
15. Disconnect reverse lamp wiring.
16. Secure rear of engine with hydraulic jack.
17. Unbolt transmission isolator from the crossmember and remove crossmember.
18. Secure transmission (jack recommended) and unbolt from bellhousing, then move rearward and remove from vehicle.
19. Remove bellhousing and clutch unit.
20. Remove clutch fork and release bearing from bellhousing. Inspect fork and pivot for wear. Contact Silver Sport Transmissions or your local parts supplier if replacements are needed.
21. Inspect flywheel ring gear teeth (no cracks, chips, wear), and friction surface (no cracks). Silver Sport Transmissions strongly suggests removing flywheel and having it resurfaced, then dynamically balanced at a reputable automotive machine shop **unless** the engine was externally balanced with the flywheel installed.
22. Remove pilot bushing using removal tool (not supplied).



B. TEST FITMENT

1. Bell housing should still be temporarily installed on engine. No clutch or flywheel is necessary for this step.
2. You may need to remove the shifter from the transmission for clearance for the shifter opening. Measure from front of transmission to the shifter location. Use this measurement under the car and measure from the bellhousing to the shifter opening to determine if you need to clearance the opening. If you are using an adaptor plate you will need to include it in your measurement. If you have a SST STX shifter remove the shifter at the base, DO NOT remove the two bolts holding the tower to the base, doing so will cause a leak.



3. Lower rear of engine and install transmission to bell housing using 7/16"-14 X 1-1/2" bolts and lock washers provided (HWM-PACK A). Support the transmission with a jack.
4. Attach isolator mount to transmission using (2) 1/2"-13 x 1" bolts and lock washers provided (HWM-PACK D).
5. Raise the transmission enough to be able to install the new crossmember under the isolator mount.
6. Temporarily install the new crossmember to the torsion bar crossmember using your original bolts. Do not install nuts onto the bolts at this point.
NOTE: The holes on the crossmember bar U-brackets may require elongating to fit since the frame channel on these cars are over 50 yrs old, they tend to tweak.
7. Lower transmission with isolator mount onto the new crossmember. Install the crossmember to isolator finger tight with 7/16" flat washers, lock washers, and nuts. (HWF-PACK A).
8. Verify there is at least 1/4" of clearance between all; points on the transmission and car body.
9. Once proper tunnel clearance to T5 transmission has been verified, paint exposed sheet metal surfaces for corrosion protection. It is also recommended to seal the cut opening with seam sealer or durable silicon sealant.
10. Now it is time to measure for your driveshaft. Ensure the rear suspension is weighted as the car will be as it is being driven. Take your length measurement and your U-joint dimensions as instructed on the Driveshaft Order Form in your instruction packet, and call Silver Sport Transmissions with those dimensions at (888)609-0094.

C. TRANSMISSION INSTALATION

1. After the final clearance check and the driveshaft measurements have been recorded, remove the transmission and bellhousing to complete the remaining work.
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 approx. 2 quarts, 24 ounces of transmission fluid until fluid runs out of the fill hole with the vehicle level. Reinstall the fill plug after adding fluid. Use pipe sealant - but do not over tighten the tapered pipe plug until head is flush with boss.



3. Install new pilot bearing assembly into crankshaft using a socket of similar diameter to the bearing and a rubber mallet. Pilot bearing is designed to be light press fit (.0005" - .002" press).



Fig 5-1.
Pilot bearing –
Transmission side shown

4. Use the provided 10T alignment tool with large pilot diameter end to center the clutch disk when torquing 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.

5. With the bellhousing still removed from the engine, install clutch fork and new SST release bearing in the bellhousing if using mechanical clutch linkage. If you purchased the SST hydraulic system with your transmission, the hydraulic release bearing will already be installed and you will not be using a clutch fork.

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.

6. Install bell housing 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

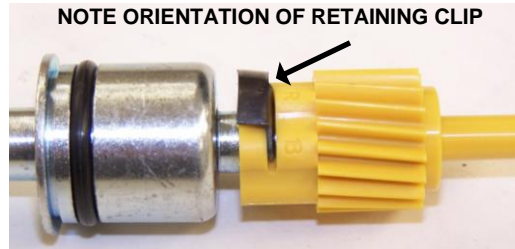
It is an absolute **requirement** that **runout** is **checked** and **corrected PRIOR** to installing the transmission. The runout specification for all of Silver Sport's kits is **0.005" (5 thousandths of an inch) MAXIMUM**. You **MUST** document the results **PRIOR** to installation of transmission 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.

7. 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. **DO NOT** draw the transmission up to the bellhousing by tightening the transmission-to-bellhousing bolts!

NOTE: MECHANICAL LINKAGE ONLY If the transmission stops approximately 1/2 inch away from seating fully against the bellhousing, install and **finger-tighten** bellhousing to transmission bolts. Connect clutch linkage and have a helper depress the clutch pedal slightly while pushing transmission forward to facilitate alignment of clutch disk to input shaft and pilot bearing. **DO NOT** 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.

8. Once the transmission is fully seated by hand against the bellhousing, fasten with 7/16" x 1" bolts and washers provided (HWM-PACK A) and torque to 50 lb.-ft.
9. Raise up transmission until contact is made with the tunnel.
10. Reinstall new crossmember using the original hardware to attach to the torsion bar brace. Lower transmission fully onto crossmember and attach crossmember to mount with 7/16" flat washers, lock washers and nuts provided (HWF-PACK A). Confirm no interference to car body or noise will occur as the driveline moves under load and shifter is centered in tunnel hole.
NOTE: The holes on the crossmember bar U-brackets may require elongating to fit since the frame channel on these cars are over 50 yrs old, they tend to tweak.
11. The rubber tailshaft sleeve may be removed at this point (see picture on page 7). 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. It may be helpful to be able to turn the rear wheels. Install rear straps and torque to factory specs: 17 lb.-ft. for 1310/1330 U-bolts; 24 lb.-ft. for 1350 U-bolts (excessive torque can distort bearing cap leading to premature failure). Double check your assembly.
12. Install bellhousing inspection cover and starter.

13. Connect clutch linkage - do not preload mechanical release bearing. Adjust linkage as required. If using SST hydraulic system (available separately), follow instructions provided.
14. Remove red shipping plug from the speedometer cable port (see photo on page 10) and install new speedometer cable with gear, clip and O-ring (HWA-PACK S) into transmission case. See Fig 10-1. Install cable retainer bolt and tighten bolt to 4 lb.-ft. Connect opposite end of cable to speedometer head.



SPEEDOMETER CABLE PORT



REVERSE LIGHT SWITCH



NEUTRAL SAFETY SWITCH



15. The reverse light switch is a black-bodied switch with (2) studs located on the driver's side of the case. 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.
16. The wire pigtail at the top of the main case cover on driver's side 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 can be removed and the neutral safety switch spliced in to your starter circuit between the ignition switch and the starter solenoid if you so choose.
17. Tighten exhaust.
18. Bolt on shifter handle with 3/8"-24 x 1" bolts and lock washers (HWA-PACK L). Use medium strength thread lock compound. Torque to 25 lb.-ft. Confirm shifter motion through all gears.
19. Install upper shift boot and trim ring, and/or console if equipped.
20. Connect throttle linkage to carburetor.
21. Install fan shroud and breather.
22. 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 main case and fill with approximately 2 quarts, 24 ounces of transmission fluid until fluid runs out of the fill hole with the vehicle level. Reinstall the fill plug after adding fluid. Use pipe sealant - but do not over tighten the tapered pipe plug until head is flush with boss.
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 or when moving forward, 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 and Technical Support at 888-609-0094.

SPECIFICATIONS AND MAINTENANCE

TREMEC High Performance Manual Transmission Fluid is endorsed by Tremec for use in all Tremec brand aftermarket performance transmissions. **DEXRON/MERCON ATF (non-synthetic) and Mobil 1 ATF are the ONLY other fluids approved by Tremec.** **The use of ANY other fluid will void your warranty.** 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.

FLUID CAPACITY: Approx. 2 QUARTS, 24 OUNCES (U.S.)

DO NOT EXCEED MAXIMUM INPUT TORQUE:

- T5: 300 lb.-ft. in 4th gear

GEAR RATIOS:

- T5
 - 1ST 2.95
 - 2ND 1.94
 - 3RD 1.34
 - 4TH 1.00
 - 5TH 0.63

CONTACT INFORMATION

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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!**