

**SALEEN 6-SPEED
TRANSMISSION &
DRIVESHAFT INSTALL
MANUAL, 2005-07
MUSTANG GT**



PART NUMBER 10-8002-C14949A



***IF YOU ARE NOT EXPERIENCED IN THE
AREA OF AUTOMOTIVE MECHANICS, WE
STRONGLY URGE THAT YOU REFER THIS
INSTALLATION TO A CERTIFIED INSTALLER
OR TECHNICIAN***



Saleen Speedlab 6-Speed Manual Transmission, Clutch & Driveshaft Kit; Installation Guide for 2005-current Mustang 4.6L 3V

Thank you for buying the Saleen Speedlab 6-speed drivetrain for the 2005-current Mustang with the 4.6L 3-valve motor. We appreciate your business, and we hope you enjoy your product.

For your benefit, please read the following instructions completely and thoroughly before attempting to install the drivetrain kit. Many questions we have received from customers about the installation of our products could have been easily solved by information listed in the accompanying installation guide. We want you to enjoy the product in its fully functional state, and reading this tutorial is the first step to getting you on your way to a rarer and better performing Mustang.

NOTE: Please keep all hardware you remove from your stock Mustang until you finish the installation.

Please take caution in installing this kit; the car will be up on jack stands or on a lift; if using jack stands take extra care to properly place them to prevent unsafe working conditions.

Again, thank you for choosing Saleen!

I Removal

1. With the vehicle in neutral and on the lift, remove the exhaust starting at the mufflers. Then remove the over-axle pipes and all exhaust from the first junction behind the catalytic converters and back. (see junction indicated in **Figure 1**).
2. Ensuring the vehicle is in neutral, remove the CV joint bolts and washers from the rear of the driveshaft (**Figure 2**), then remove the driveshaft flange to transmission flange bolts.
3. If it is necessary to pry the driveshaft loose from the transmission flange, do so only in the area shown in **Figure 3** and only using an appropriate tool.
4. Remove the two center bearing bolts and spacers and remove the driveshaft.
5. Disconnect the battery ground cable.
6. Remove the catalytic converter H-pipe.



Figure 1

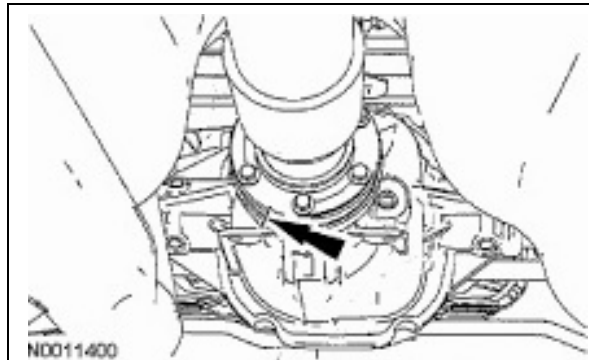


Figure 2

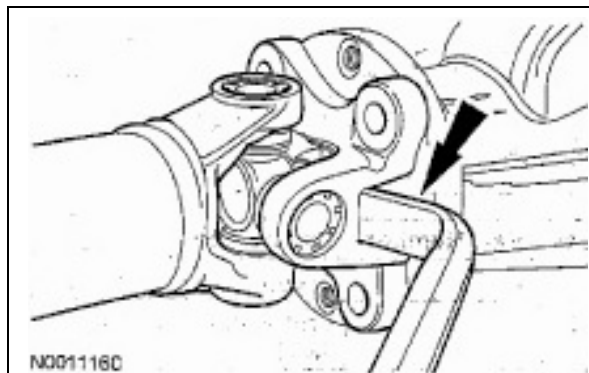


Figure 3

7. Refer to **Figure 6**: remove the starter motor solenoid cap (item 1), then remove the terminal nuts and set the wires aside. Remove the 3 bolts (item 6) and the starter motor
8. Disconnect the shift linkage from the transmission (see **Figure 4**).
9. Disconnect all electrical connectors from the transmission.
10. Secure the transmission on a transmission jack.
11. Remove the center crossmember to transmission bolt (item #1, **Figure 5**), then remove the 4 crossmember to frame bolts (items #2, **Figure 5**).

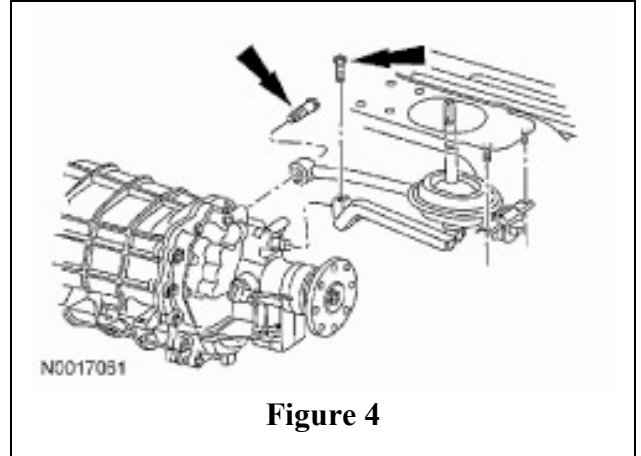


Figure 4

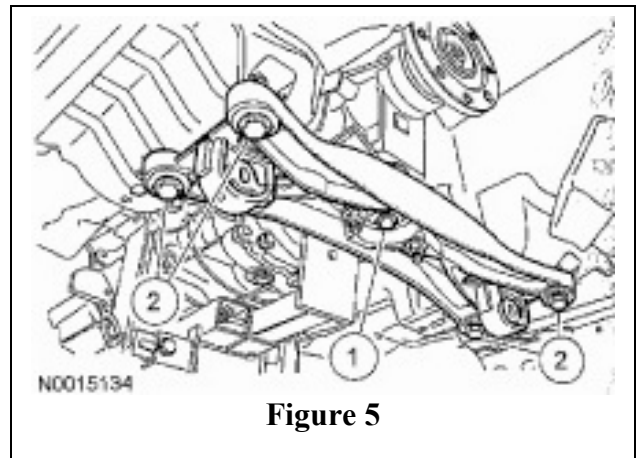


Figure 5

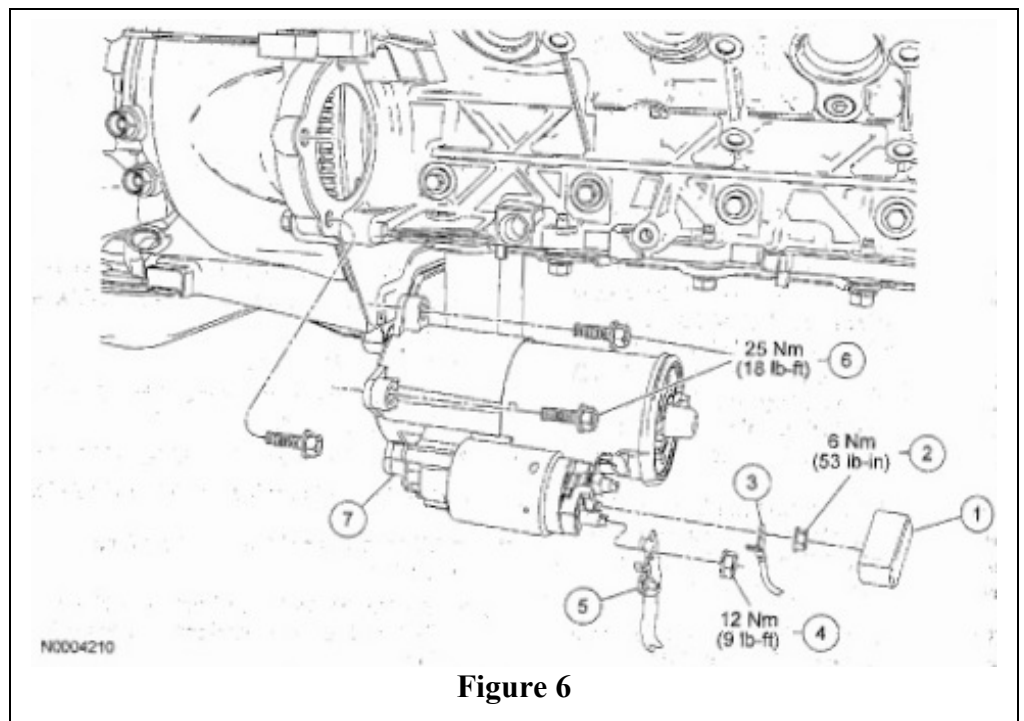


Figure 6

12. Release the clutch hydraulic line clip (**Figure 7**) and separate the connector from the clutch slave cylinder (see item number 5, **Figure 8**).
13. Remove the 8 bolts that secure the transmission to the engine.
14. Pull the transmission away from the engine until the input shaft clears the pressure plate, then lower the transmission (while still on the jack).
15. Remove the 6 pressure plate bolts (see item number 4, **Figure 7** below), then remove the pressure plate (item #4, **Figure 8**) and the clutch disc (item #3).
16. Remove the pilot bearing.
17. Remove the 6 flywheel bolts and remove the flywheel.

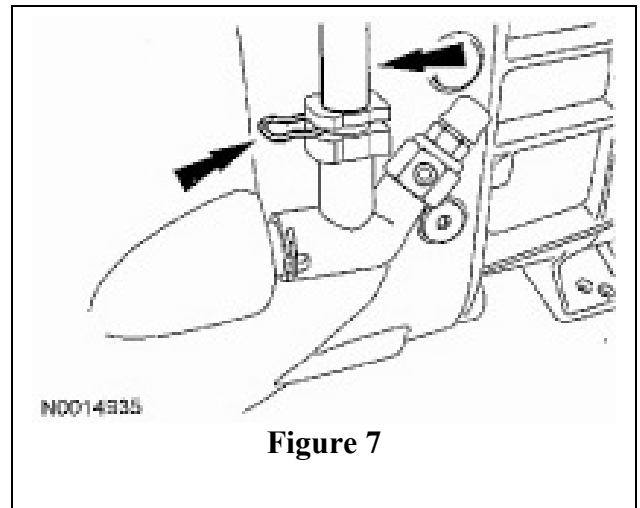


Figure 7

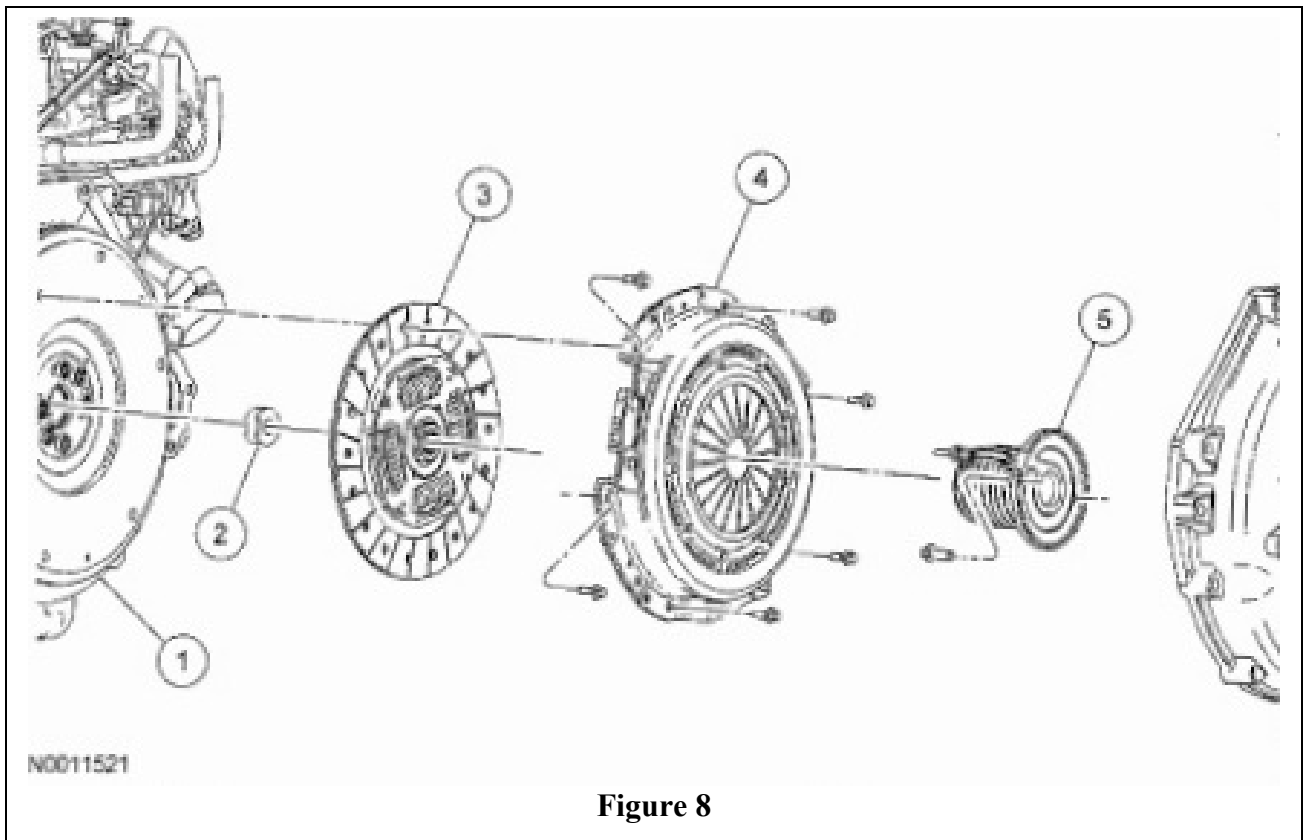


Figure 8



II Clutch, Flywheel & Transmission Installation

Part numbers	Qty
• 06-2701-A13154*	1
• 00-2701-C13434*	1
• 99-2703-C13433*	1
• 06-2703-C13401A	1
• 374-130	8
• 00-2703-C13162*	1
• 374-120	1
• 374-215	1
• 00-2706-C13165*	1
• 00-2706-C13164*	1
• 00-9001-C11057*	8
• 06-2701-C13152A	2
• 00-9001-C07189*	2
• 00-9001-C12272*	8
• 00-9001-C09494*	1
• 06-2701-C14132A	2
• 00-9004-C14160*	4

Tools needed:

- 17MM SOCKET
- 13MM SOCKET
- 16MM SOCKET
- 10MM ALLEN
- TORQUE WRENCH

Order of operations:

1. Install the provided slave cylinder (06-2703-C13401) onto the Saleen transmission with the two slave cylinder bolts from the stock Ford transmission (**Figure 1, 2**). Torque these bolts to **15 ft-lbs**.

NOTE: Make sure the slave cylinder tube points up hill (see **Figure 1**).

2. Install Saleen flywheel to engine crankshaft. Install and tighten the flywheel bolts (374-130) in a star pattern to **59 ft-lbs** using the flywheel holding tool shown in **Figure 3**.
3. **NOTE:** the flywheel for the Extreme car using the Saleen forged crankshaft requires 8 bolts. The flywheel for a 6-speed transmission mounting onto a stock motor with stock Mustang GT crankshaft will take only 6 bolts.



Figure 1



Figure 2

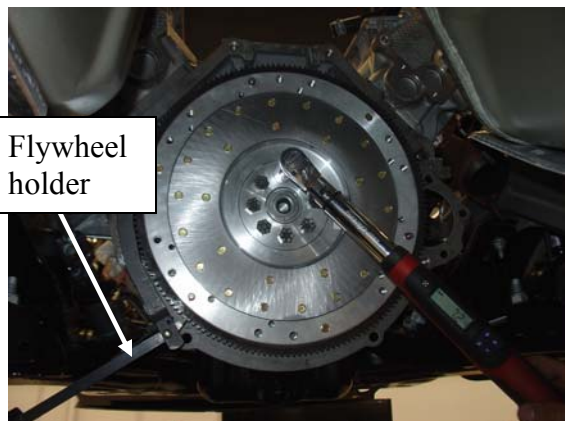


Figure 3

4. Install clutch (00-2703-C13162*) onto flywheel (374-120) using the clutch alignment tool provided in the kit.
(**Figure 4**) Install clutch pressure plate shim (374-215) and pressure plate (**Figure 5**). Install 6 pressure plate bolts and torque to **33 ft-lbs**.
5. Remove stock dowel pins located on the front of the transmission and install 06-2701-C14132 in each location.



Figure 4



Figure 5



Figure 6

NOTE: Before installing the transmission, you will need to install transmission fluid. Saleen recommends DEXTRON 3, and this transmission takes a total of 1 gallon.

6. Position a transmission jack under the transmission. Lift it, and slide it into place. Note that the transmission will slide into place with greater ease if placed in gear. Be sure to put transmission back into neutral once placed into the car. Install the 8 transmission to bellhousing bolts (00-9001-C11057*) and torque to **24 ft-lbs.** (Figure 7)



Figure 7



Figure 8



Figure 9

7. Install transmission cross member.
Install transmission to cross member bolt (00-9001-C09494*) and torque to **25 ft-lbs**. Install the 4 crossmember to frame bolts (00-9001-C12272*) with 4 washers (00-9004-C14160*) and torque to **46 ft-lbs**. (**Figure 10**)
8. Install clutch line connection.
9. Install reverse lockout wiring (see installation manual for reverse lockout harness). Install shifter isolator (06-2705-C13472) into shifter handle (06-2705-C13562). (**Figures 11 & 12**) In order to get the bushing started in the hole, it is necessary to squeeze it oblong and start one edge. Once most of the isolator is in the hole, using a flat screwdriver, apply steady pressure against the lip of the isolator to push it the rest of the way into the shifter handle. During this step, be careful to avoid damaging the isolator. Be sure that the flat side of the shift bushing is on the left side of the lever as it is installed. **Figure 12** shows the appropriate orientation.



Figure 10



Figure 11



Figure 12

13. Insert shifter isolater bushings (06-2705-C13478) into the shifter isolator (**Figure 13**).
14. Apply a dab of Loctite to each bolt. (**Figure 14**)
15. Install the completed shifter handle assembly onto the stick bottom. (**Figure 15**) Be sure that the flat part of the isolator is against the stick bottom as shown. (**Figure 16**) Fasten with 2 bolts (00-9001-C13581*) and 2 washers (00-9004-C11489*) Be sure that the washers do not overlap each other. Tighten with 12 mm socket. **Torque to 18 lb-ft.**



Figure 13

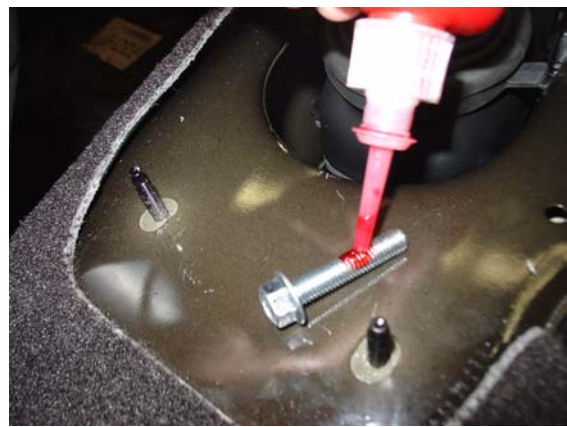


Figure 14



Figure 15

16. Trim the metal frame on the shift boot (00-2705-C13757*) as shown in **Figure 17**. This front section must fit between the brackets attaching the dashboard to the transmission tunnel.
17. Install shift boot over shifter handle. The boot will have to be stretched over the bolts. Align the holes in the rear of the boot with the marks made during cutting the front of the shifter hole.
18. Using a drill and a 5/16" socket, install the self tapping sheet metal screws (00-9011-C13578*) in the rearward holes. Be careful not to strip the screw. Set the clutch down to the lowest setting.
19. Next, install the front sheet metal screws in the locations provided in the front of the shift boot metal frame.



Figure 16



Figure 17



Figure 17

20. Reinstall the center console. First, release the parking brake and replace the center console, reattaching the power outlet electrical connector (**Figure 18**) and aligning the holes in the center console storage area with the studs toward the rear of the car.
21. Replace the 10 mm nuts, tighten by hand. (**Figure 19**)
22. Replace the carpet in the bottom of the of the center console storage compartment. (**Figure 20**)



Figure 18



Figure 19



Figure 20

21. Replace the two 7 mm screws at the front of the center console and tighten by hand. **(Figure 21 & 22)**
22. Install the provided leather shift boot.
23. Install the shifter handle and pull the boot up over the base of the handle.



Figure 21



Figure 22

III Driveshaft Installation

Tools needed:

- Air impact wrench
- 12 pt 12 mm deep wobbly impact socket
- Torque wrench

Order of operations:

1. Before starting, be sure that the transmission is out of gear and the parking brake is released.
2. Remove plug from rear of transmission. **(Figure 1)**
3. Remove cover from end of driveshaft (P/N 06-2702-C13222). **(Figure 2)**
4. Insert the driveshaft into the transmission. **(Figure 3)**



Figure 1



Figure 2

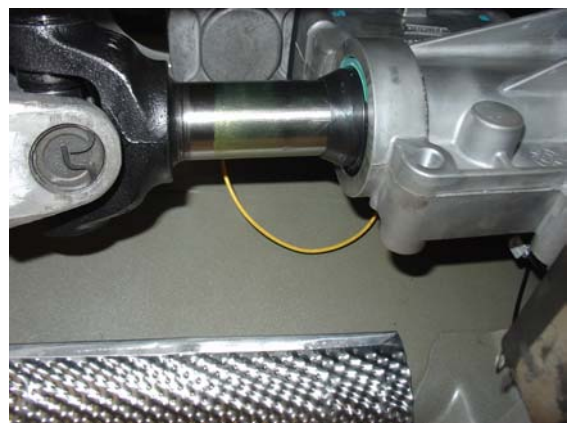


Figure 3

5. While supporting the driveshaft, move to the rear of the vehicle and line up the driveshaft with the pinion flange on the axle. **(Figure 4)**
6. Align the bolt holes for attaching the driveshaft to the axle. **(Figure 5)**
7. Note: Do not reuse the stock bolts from the output flange of the stock transmission. Use 00-9001-C13435*.
8. Apply loctite to the new bolts and start by hand. **(Figure 6 & 7)**



Figure 4

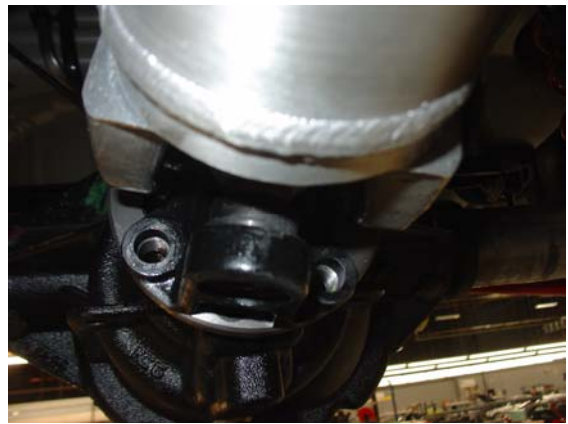


Figure 5



Figure 6

9. Run bolts in with the impact and the 12 mm 12-point (ie, NOT a regular hex socket) wobbly socket. (**Figure 8**)
10. Put the car in a low gear, first or second, and torque the driveshaft to pinion flange bolts to **76 lb-ft.** (**Figure 9**)



Figure 7



Figure 8



Figure 9

IV Reverse Lockout Harness Installation

Tools needed:

- 7mm Nut Driver
- 10 mm Socket
- Drill
- 3/16" Pilot Drill Bit
- Unibit
- Wire Cutters
- WD-40
- Heat gun
- Wire Strippers
- Template 06-3103-C13799A

Part number

Qty

- | | |
|-------------------|---|
| • 372-320 | 1 |
| • 00-9009-C13828 | 1 |
| • Electrical Tape | |



Figure 1

Order of operations:

1. Remove the six 7mm screws retaining the radio bezel. (**Figure 1**)
2. Pull the bottom of the bezel out, then pull the left side, revealing the locking connector for the A/C controls. (**Figure 2**)
3. Unlock and remove the connector for the A/C controls. (**Figure 3**)



Figure 2



Figure 3

4. Unplug the connectors for the instrument panel control, the power outlet and the TCS along the top of the bezel. **(Figure 4)**
5. Remove the bezel.
6. Remove the plastic from the reverse wiring lockout and affix the box to the top of the diecast airbag control module under the dash. **(Figure 5)**
7. Route the Vehicle Speed Sensor (VSS) and Reverse Lockout wiring under the console. **(Figure 6)**



Figure 4



Figure 5



Figure 6

8. Route the power wire through the right side of the console. (**Figure 7**)
9. Remove 10 mm nut from the stud on the passenger side of the airbag control module. (**Figure 8**)
10. Place the ground wire on the stud, replace the nut and tighten by hand. (**Figure 9**)



Figure 7



Figure 8



Figure 9

11. Secure the VSS and the Reverse Lockout wiring to the chassis harness with small zipties. **(Figure 10)**
12. Using a ziptie, attach the wiring harness to the stud located near the passenger side rear of the shifter hole. **(Figure 11)**
13. Trim off the ziptie excess.



Figure 10



Figure 11



Figure 12

14. Route the power wire across to the passenger side kick panel. For the first few inches, route the wire behind the carpet, **(Figure 12)** then attach to the factory harness with zipties along the front of the passenger side footwell **(Figure 13)** to the approximate position shown. **(Figure 14)**
Trim the zipties
15. **If installing this kit with the Saleen supercharger**, attach the power wire for the reverse lockout to the same wire and at the same time as the power wire for the supercharger water pump. Use a butt connector for this connection and cover with heat shrink tube when finished. **If you are not installing a supercharger**, crimp a ring terminal to the end of the power wire for the reverse lockout harness, and attach to the stud for the power lead at the back of the fuse box in the engine bay **(Figure 15)**.



Figure 13

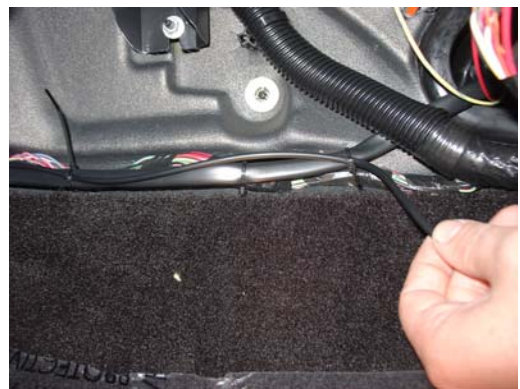


Figure 14



Figure 15

17. Using the template 06-3103-C13799, mark the location for the hole for the grommet at the base of the shifter. (**Figure 16**)
18. Remove the template and drill a 3/16" pilot hole on the mark. A slow drill speed works best with the steel used for the floor of the car. (**Figure 17**)
19. Enlarge the pilot hole to 7/16" with an appropriately sized drill bit or a uni-bit. (**Figure 18**)



Figure 16



Figure 17



Figure 18

20. Deburr the hole to remove sharp edges and slightly enlarge the hole.
21. Install the grommet, 00-9009-C13828*, into the hole. This will be a tight fit, so use WD-40 as a lubricant. **(Figure 19)**
22. Route the wiring through the grommet, first inserting the VSS wires, then the Reverse Lockout wires. This may also be a tight fit and will most likely require a lubricant, such as WD-40.
23. From underneath the car, route the VSS and Reverse Lockout wiring forward.
24. After modifying the wiring harness attachment lug taken off during supercharger install, slide onto the stud located near the grommet hole on the driver's side of the vehicle. Then snap the wire into the attachment lug. **(Figure 21)**



Figure 19



Figure 20



Figure 21

25. Locate (**Figure 22**) Remove the VSS plug from the factory wiring harness by cutting the wires (**Figure 23**). Strip $\frac{1}{4}$ " of insulation from each wire.
26. Cut the wires attached to the vehicle speed sensor (00-1703-C13773*), 3" from the connector. Strip $\frac{1}{4}$ " of insulation from each wire. If necessary, strip $\frac{1}{4}$ " of insulation from the VSS wires routed through the grommet. (**Figure 23**)
27. Using a butt connector, insert the gray/red wire from the Saleen harness in one end and the gray/red wire from the Ford harness and one wire (it does not matter which one) from the VSS connector in the other. Crimp and apply heat to shrink the insulation on the butt connector. (**Figure 24**)

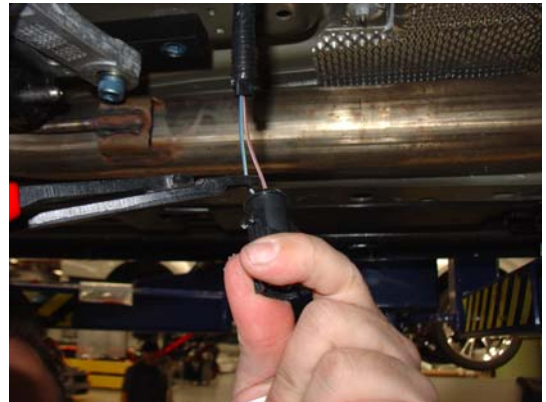


Figure 22



Figure 23



Figure 24

28. Using a butt connector, insert the blue/yellow wire from the Ford harness and the other wire from the VSS connector in one end and crimp that end. Then insert the black wire from the Saleen Harness in the other end and crimp. (**Figure 25**) Apply heat to shrink the insulation on both butt connectors. Wrap both butt connectors and the wires in black electrical tape to within 1" of the connector.
29. Install the VSS connector on the VSS.
30. Strip ¼" of insulation from the ends of the Reverse Lockout wires coming from the Saleen harness. These wires are black and yellow. Strip ¼" of insulation from the plug for the reverse lockout solenoid. Connect the yellow wires using a butt connector. Connect the black wires using a butt connector. (**Figure 26**) Wrap the butt connectors and wires with black electrical tape to within 1" of the connector. (**Figure 27**)



Figure 25



Figure 26



Figure 27

31. Plug the reverse lockout solenoid plug into the reverse lockout solenoid. (**Figure 28**)
32. Reinstall the radio bezel, replacing the connectors for the instrument panel control, the power outlet and the TCS along the top of the bezel. Then plug in the locking connector for the A/C controls. Reattach the HVAC control plug. This plug was not previously removed, as it comes out when the bezel is pulled away from the dashboard.
33. Replace the six 7 mm screws, tightening by hand.



Figure 28