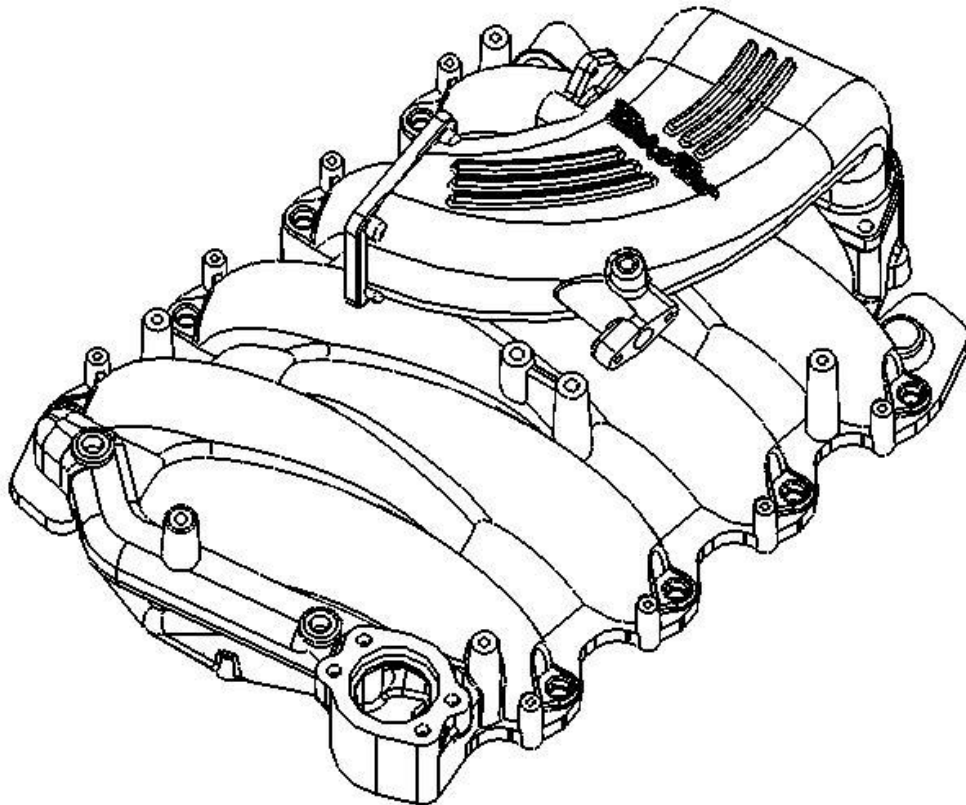




Instructions For
Trick Flow 4.6L 2V SOHC Ford Intake Manifold System
Street Burner® TFS-518B0000, TFS-51800000, TFS-51811000
Track Heat® TFS-518B0002, TFS-51800002, TFS-51811002



1999-2004 FORD MUSTANG GT INSTALLATION INSTRUCTIONS

**Thank you for purchasing the Trick Flow Street Burner®/Track Heat®
4.6L 2V SOHC Ford Intake Manifold System**

Proudly Engineered and Manufactured in the USA!

Please read all the enclosed paperwork before beginning any work.

If you have any questions regarding written materials or installation,
contact our technical staff at 1-330-630-1555.

CAUTION:

Installation of this product requires detailed knowledge of automotive systems and repair procedures. We recommend that this installation be carried out by a qualified automotive technician.

Installation of this product requires handling of gasoline. Ensure you are working in a well ventilated area with an approved fire extinguisher nearby.

Extinguish all open flames, prohibit smoking and eliminate all sources of ignition in the area of the vehicle before proceeding with the installation.

When installing this product, wear eye protection and other safety apparel as needed to protect you from debris and sprayed gasoline.

WARNING:

The fuel system is under pressure. Do not open the fuel system until the pressure has been relieved. Refer to the appropriate vehicle service manual for the procedure and precautions for relieving the fuel system pressure.

Project Overview

- **Read all paperwork in your instructions packet**
- **Inspect all parts and check quantities**
- **Acquire recommended tools**
- **Purchase any additional parts needed (See Additional Parts Required section)**
- **Remove your existing intake manifold and upper plenum**
- **Install the Trick Flow Track Heat® 4.6L 2V SOHC Ford Intake Manifold System**

Parts List

Qty.	Description
Manifold Main Base Kit PN'S TFS-518L0001, TFS-518L1101, TFS-518LB001 TFS-518L0002, TFS-518L1102, TFS-518LB002	
(1)	MACHINED MAINBASE CASTING
(1)	MACHINED BOTTOM COVER CASTING
(2)	SOCKET HEAD CAP SCREW M8 x 1.25 x 75mm
(9)	HEX FLANGE BOLT M8 X 1.25 X 35mm
(2)	3/8 NPT PLUG
(1)	GASKET SHEET PN TFS-51800002-G
(12)	HEX FLANGE BOLT M6 X 1.0 X 25mm
(4)	#8 x 3/4" SELF TAPPING SCREWS
(4)	ZIP TIE
(1)	HOSE BARB C-RING
(1)	5/8"ID x 90deg x 48" COOLANT TUBE
(1)	12" LENGTH BLACK NYLON HOSE PROTECTOR
(1)	1 1/2" ID FORMED UPPER RAD. HOSE EXTENSION GOODYEAR PN 61639
(1)	1 1/2" ID HOSE ALUMINUM HOSE CONNECTOR
(1)	12" LENGTH 19/32"ID PCV HOSE (ROMEO ENGINES)*
(1)	12" LENGTH 11/32"ID PCV HOSE (WINDOR ENGINES)*
(2)	14" 1/4" FUEL INJECTION HOSE
(4)	FUEL INJECTION HOSE CLAMPS
(2)	THERMAL HOSE PROTECTOR
(2)	5/8" HOSE CLAMPS
(2)	1 1/2" HOSE CLAMPS
(1)	1/2NPT X 3/4" BARB FITTING
(1)	EGR EXTENSION TUBE
(1)	5/8" X 90DEG STEEL COMPRESSION FITTING
(2)	HEX FLANGE BOLT M8 x 1.25 x 20mm
(2)	M8 FLAT WASHERS
(1)	ALTERNATOR RELOCATION KIT PN TFS-5182ALTR
(1)	ALT BRACKET LOWER
(1)	ALT BRACKET UPPER
(1)	ALT SPACER 2.925" LENGTH
(1)	ALT BRACKET SPACER 2.925" LENGTH
(1)	ALT BRACKET UPPER SPACER 3/4" LENGTH
(1)	HEX FLANGE M8 X 1.25 X 120mm
(3)	HEX FLANGE M8 X 1.25 X 35mm
(1)	HEX FLANGE M8 X 1.25 X 40mm
Manifold Upper Kit PN'S TFS-518U0002, TFS-518U1102, TFS-518UB002	
(1)	MACHINED UPPER CASTING
(2)	1/8npt X 3/8 BARB FITTING
(1)	3/8npt X 3/8 BARB FITTING
(1)	3/8npt X 5/8 BARB FITTING
(1)	HEX FLANGE BOLT M8 X 1.25 X 80mm
(3)	M8 X 1.25 X 40mm STUD
(3)	M8 X 1.25 12PT NUT
(4)	HEX FLANGE BOLT M6 X 1.0 X 25mm
(2)	SOCKET HEAD CAP SCREW M8 x 1.25 x 25mm
(1)	IAC WIRE EXTENSION KIT TFS-5182WIAC
(1)	AIR INLET TUBE KIT PN TFS-5182AITK
(1)	AIR INLET TUBE
(1)	5/8" 90DEG BARB x 1/2" NPT NYLON FITTING
(1)	3/4" BARB X 1/2NPT NYLON FITTING
(2)	3" HOSE CLAMPS
(1)	3" ID 30DEG X 5" RUBBER TB COUPLER
(1)	3.5" ID X 3" ID RUBBER MAF COUPLER

*** For CARB applications, you are required to reuse your existing PCV hose.**

Recommended Tools

- Metric 3/8" drive socket set with std. and deep sockets
- Metric 1/4" drive socket set with std. and deep sockets, 12pt & 6pt
- Metric 1/4" drive swivel socket set 12pt
- Metric hex key wrench set
- Spring Lock Coupling Removers, for OE ford fuel rails
- Small tubing cutter such as Summit Racing #SUM-900500 or OTC #6514
- Combination square
- Gasket sealer
- Liquid Teflon sealer

Additional Parts Required

- Intake Gaskets: TFS-51800921, Felpro # MS 92121-3 or OE FORD

Removal of OE intake manifold and Installation of Trick Flow Track Heat® 4.6L 2V SOHC Ford Intake Manifold System will take approximately 3 hours.

Trick Flow recommends having a service manual for your specific vehicle to use as reference.

Getting Started - Removal OE PI Composite Manifold

1. Disconnect battery, negative post first
2. Drain cooling system
3. Remove Alternator
4. Remove upper radiator hose and heater core supply hose.
5. Disconnect fuel injector connectors, COP's (coil on plug), IAC (Idle air control), TP sensor (throttle position), DPF EGR sensor, EGR Solenoid, Air temp. Sensor, ground connector for fuel rail.
6. Detach vacuum lines from EGR valve, EGR Solenoid, Fuel pressure sensor, PCV, and upper plenum. Leave vacuum harness attached to vehicle and place aside.
7. Remove Air inlet tube, Throttle and cruise cable bracket.
8. Remove EGR valve and DPF EGR sensor bracket
9. Remove Fuel rail assembly
10. Unbolt OE PI composite manifold from the heads, starting with the bolts located in the center working outward toward the ends.
11. Remove OE intake Assembly

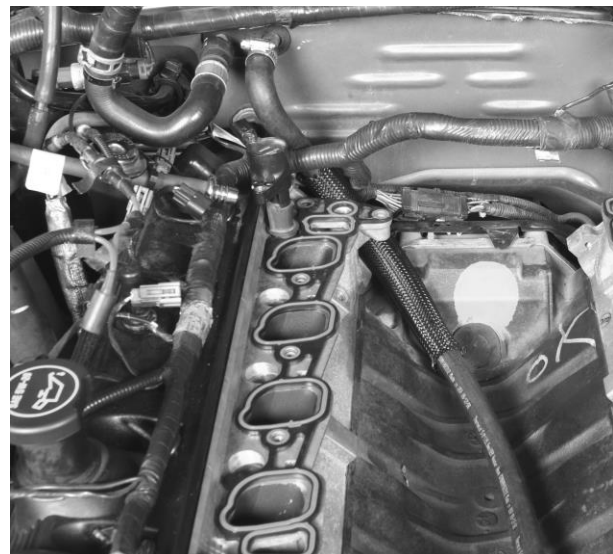


**OE PI Upper and lower Manifold
Removed from Vehicle.**

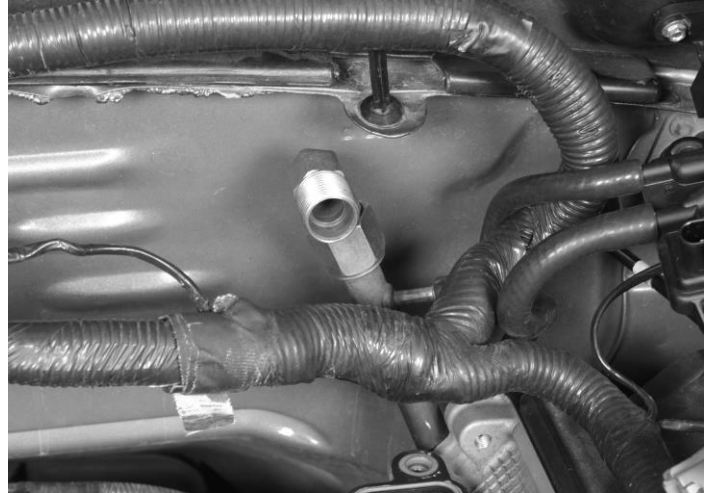
**Preparing Block, Heads, and accessories for installation of Trick Flow Track
Heat® 4.6L 2V SOHC Ford Intake Manifold System.**

1. Remove used intake gaskets, clean intake faces by non-abrasive means, new intake gaskets need scratch free surfaces to seal against properly.
2. Remove OE coolant tube from back of water pump and heater core. Install supplied coolant hose, hose barb clip, protective sleeve, and hose clamps. The coolant hose must be trimmed to fit. Hose barb clip goes into o-ring groove closest to end. Install hose clamps behind hose barbs on water pump nipple and heater core nipple.

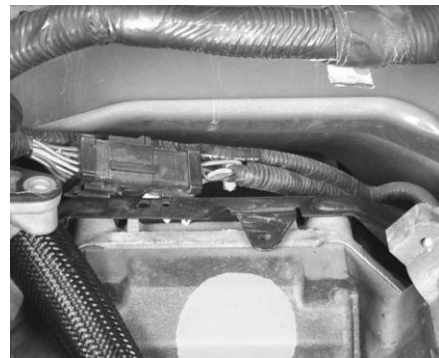
NOTE: OE Ford PN 2R3Z-18663-CA steel coolant tube for the Bullitt Mustang can be used in place of supplied rubber hose if desired.



3. Bend EGR tube toward driver side of vehicle so that the vertical portion of the tube is aligned with top end bolt boss on cylinder head. Cut EGR tube with tubing cutter 4.25" above intake face and install 90 degree compression fitting. Do not fully tighten compression nut, this will be done later in the installation.



4. Bend steel tab down on wiring harness bracket.

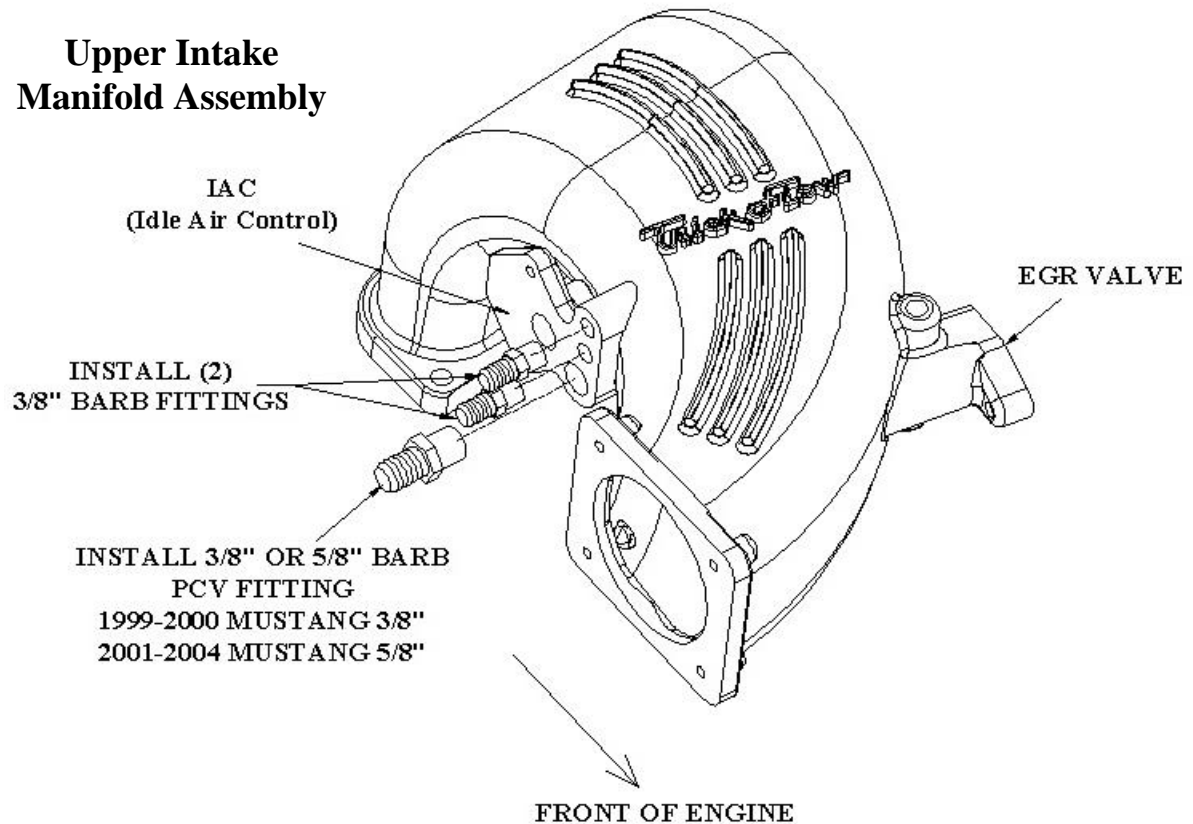


5. Install new intake gaskets. Some gaskets have tabs located on the passenger side rear that will need to be trimmed off for clearance.



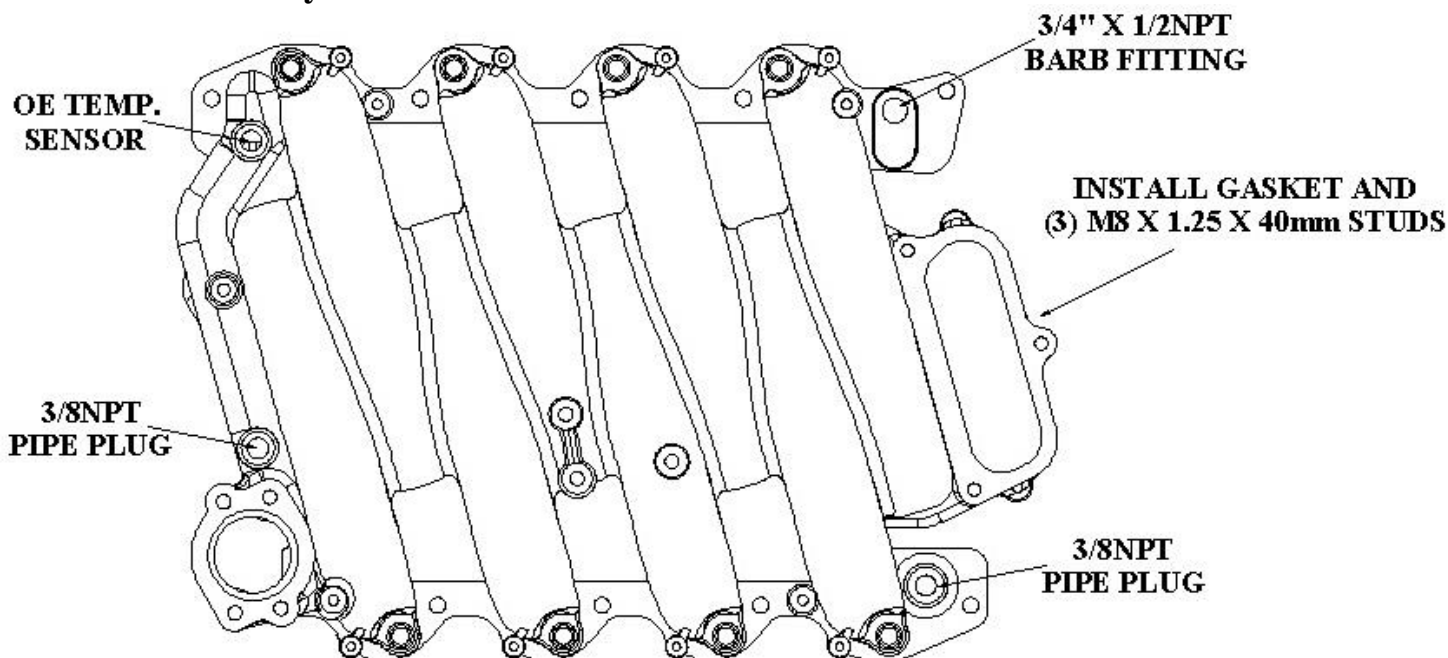
Preparing Trick Flow Track Heat® 4.6L 2V SOHC Ford Intake Manifold for installation on vehicle.

Upper Intake Manifold Assembly



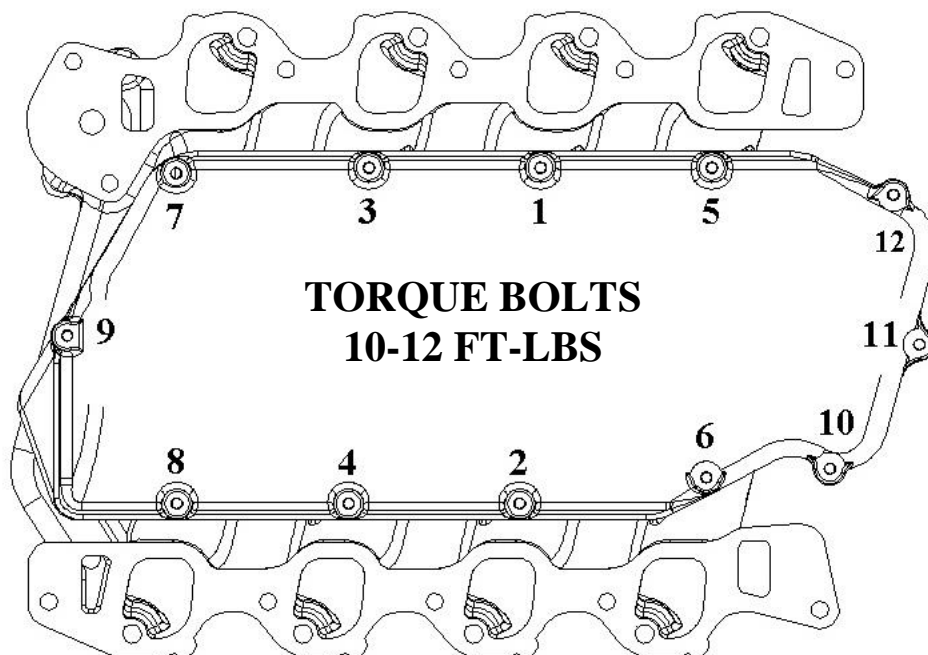
1. Install supplied barb fittings into upper intake manifold. Place a small amount of liquid Teflon sealer onto the threads of the fittings. The bottom fitting is for PCV, this fitting needs to be aligned so that the flat of the hex is parallel with the IAC housing.
2. Install throttle body with supplied gasket and (4) M6 x 1.0 x 25mm HEX FLANGE BOLTS. Throttle body is rotated 180 deg. from OE, this moves throttle lever towards front of engine.
3. Install EGR valve with supplied gasket and (2) M8 x 1.25 x 25mm SOCKET HEAD CAP SCREWS.
4. Do **NOT** install IAC at this time

Lower Intake Manifold Assembly



1. Install supplied 3/4" barb fitting and pipe plugs into lower manifold. Use a small amount of liquid Teflon sealer on threads. Install Upper to lower gasket first then install studs.

CAUTION: Do not over tighten pipe fittings



2. Install gasket and bottom cover. Trick Flow recommends using a gasket sealer for this gasket and bolts.
3. Install and Torque (12) HEX FLANGE BOLT M6 X 1.0 X 25mm. See above figure for torque sequence.

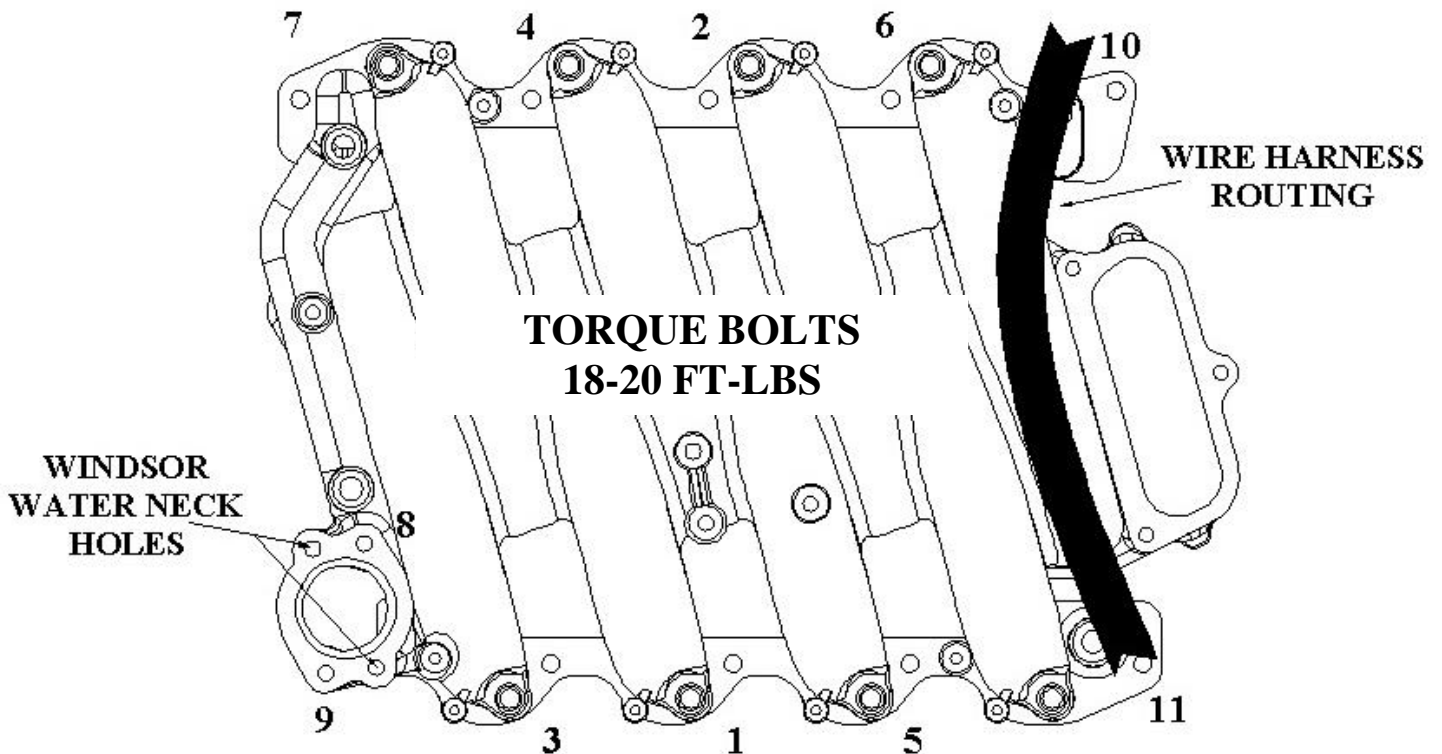
Installing intake manifold into vehicle

1. The intake manifold must be installed into the vehicle in two pieces, upper and lower. The injector/COP wire harness, fuel rail cross-over, and vacuum line harness pass under the upper manifold.
2. Install supplied (9) HEX FLANGES BOLTS M8 X 1.25 X 35mm

Install thermostat, o-ring, and water neck. TFS intake manifold has provisions to use Romeo and Windsor style water necks. If using Romeo style water necks you must re-use OE bolts, water neck will have Ford casting number 1W7E-8594-AA.

If using a Windsor style water neck you need to use the supplied (2) SOCKET HEAD CAP SCREW M8 x 1.25 x 75mm, (2) M8 FLAT WASHERS, (2) M8 x 1.25 x 20mm HEX FLANGES BOLTS.

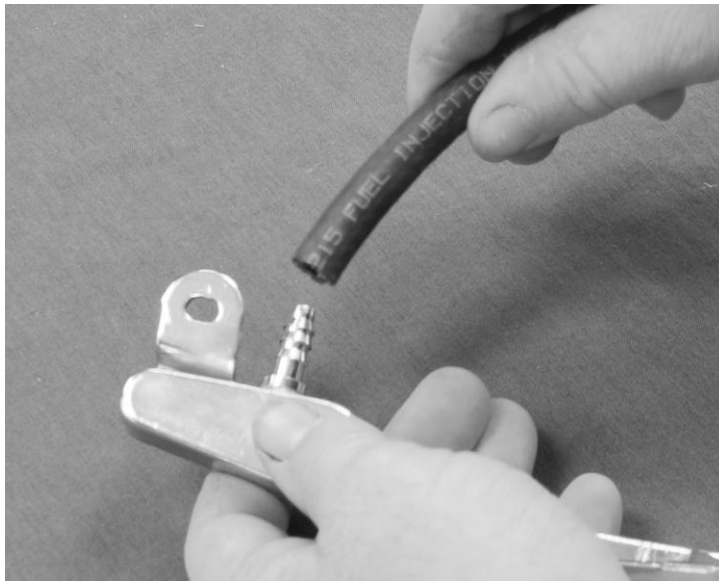
- i. See figure below for torque sequence



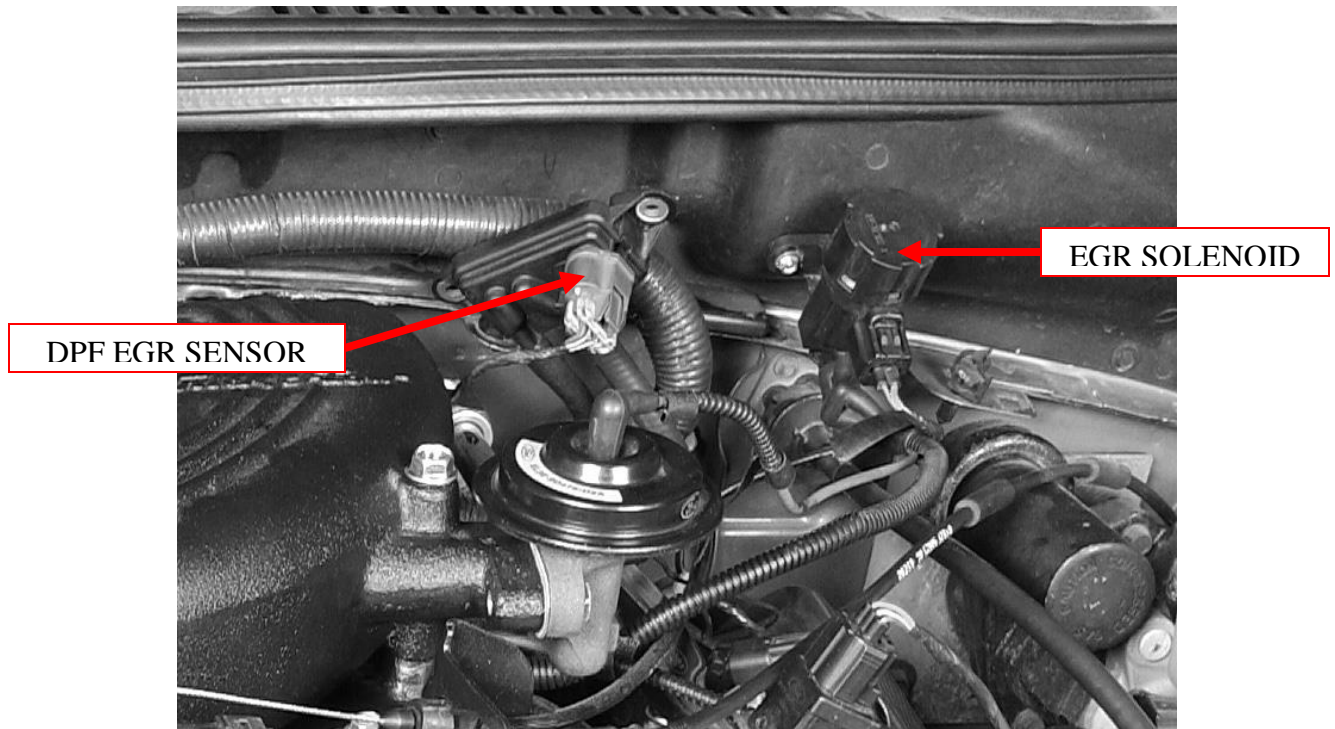
3. Install COP's, make sure all sparkplug bores are free of water/coolant or debris. Reconnect heater core supply hose on 3/4" barb fitting, passenger side rear.

4. Install fuel rails and injectors. It is necessary to modify the OE fuel rails by removing the molded plastic crossover tube(s) and replacing it with the supplied high pressure fuel injection hose, clamps, and hose protector. Lube injector o-rings for easier installation. Re-use OE hold down studs.

Note: Windsor based engines have rails with two crossover tubes, Romeo has one tube.



5. Install upper intake manifold. Adjust the injector/COP wire harness, fuel rail cross-over , and vacuum line harness so that they move freely between the upper and lower manifold. Install (3) M8 X 1.25 12PT nuts and HEX FLANGE BOLT M8 X 1.25 X 80mm. Torque (15-18 ft-lbs.) the (3) M8 nuts first, then torque M8 HEX FLANGE BOLT.
6. Install EGR tube supplied with kit. Re-use a piece of the thermo-protector material off of the OE EGR tube, tighten compression fitting.
7. Reconnect all COP's, injectors, fuel rail ground, temperature sensor, and install IAC (Idle air control).



8. Remove DPF EGR sensor, EGR Solenoid from OE bracket. Use the supplied zip ties and self tapping screws to relocate these.
9. Reconnect Vacuum lines. Main vacuum connection (red plastic), goes on top barb fitting on passenger side of upper intake. Reconnect vacuum line going to chassis, middle barb fitting. Shorten (red plastic) vacuum line going to chassis as needed.
10. Reconnect fuel line to fuel rail, inspect o-rings, replace if necessary.
11. Connect supplied PCV hose to bottom fitting on upper intake. For CARB applications, you are required to reuse your existing PCV hose.
12. Lengthen the IAC wires with the supplied wire kit.



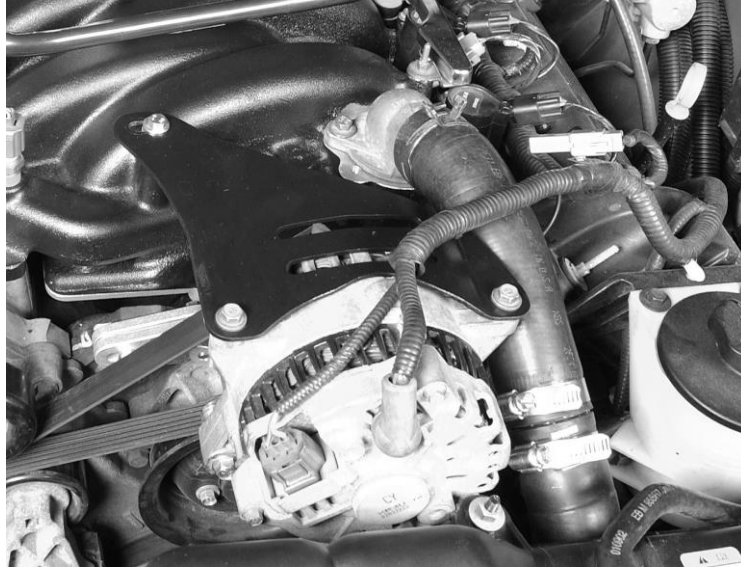
13. Install supplied air inlet tube.

Windsor based Mustangs have an air temperature sensor that will need to be install into the supplied MAF coupler. Drill coupler boss with 3/8" drill bit. Lube sensor to install. Install supplied nylon plastic barb fitting into air inlet tube. The straight 3/4" barb fitting goes on the tube towards the back of the intake for the IAC supply. The 5/8" 90 degree barb fitting goes towards the front for the fresh air side of the PCV system.



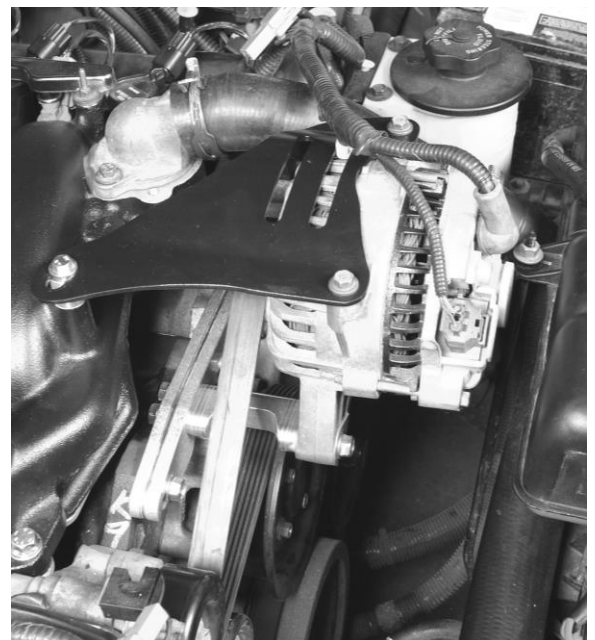
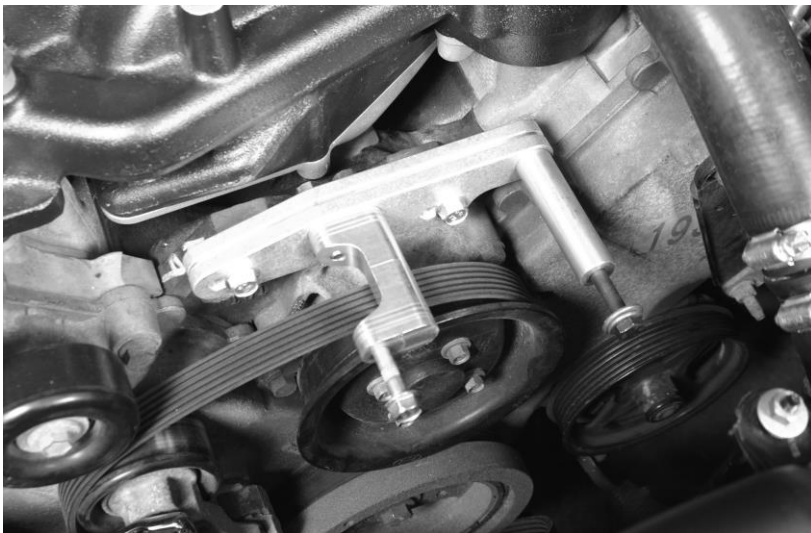
14. Install throttle/cruise cables and bracket. Cable bracket mounts upside down from OE. Modify bracket by drilling out the round hole to 3/8" dia., this will allow some adjustment for different manufactures throttle bodies and OE Ford factory tolerances.

15. Install upper radiator hose with supplied aluminum hose connector, rubber hose extension, clamps. Trim hose as necessary.



16. Install alternator with supplied brackets. Re-use OE bolts to mount TFS main bracket to block and TFS upper alternator bracket. Use (2) HEX FLANGE BOLT M8 X 1.25 X 35mm to attach the cut out spacer to the main bracket from the backside of the main bracket. Use the supplied 40mm and 120mm HEX FLANGE BOLTS to mount alternator. Place belt on top of spacers before installing alternator to bracket. Remove red extension post for battery on alternator, re-attach battery wire. For NA (Naturally Aspirated) applications the bracket should be positioned toward passenger side. For Supercharged applications brackets can be adjusted for clearance.

NOTE: On some vehicles/applications it may-be necessary to trim/grind the power steering pump reservoir bracket for belt clearance.



Congratulations! You have just installed one of the most advanced intake manifold systems on the market for 4.6L SOHC Ford.

**Thank You for purchasing the Trick Flow Street Burner/Track Heat®
4.6L 2V SOHC Ford Intake Manifold System**

Fill cooling system, re-connect battery, cycle ignition key and check for fuel leaks.



Additional Track Heat 2V Intake Manifold Components from Trick Flow

- High-Flow extruded aluminum fuel rails and mounting brackets: TFS-5188000R
- Twin 57mm throttle body Upper Track Heat manifold: TFS-518U0003
TFS-518U1103
TFS-518UB003
- Trick Flow 70mm throttle body: TFS-24070
- Trick Flow 75mm throttle body: TFS-24075

Ultimate Bolt-On Performance® Lifetime Warranty

Trick Flow Specialties cylinder head castings are backed by a lifetime warranty. If a cylinder head casting fails to provide the original purchaser with complete satisfaction, Trick Flow Specialties will repair or replace it free of charge — guaranteed!

Moreover, the valves, valve guides, valve seats, valve job, valve springs, valve spring retainers, valve locks, rocker arm studs, guideplates, and valve stem seals included on assembled Trick Flow Specialties cylinder heads are warranted to the original purchaser to be free from defects in materials and workmanship for a period of two years from the date of purchase. All other Trick Flow Specialties products are warranted to be free from defects in materials and workmanship for a period of 90 days. There are no mileage limitations.

Extent of Warranty

Customers who believe they have a defective product should return it to the dealer from which they purchased or ship it freight prepaid to Trick Flow Specialties along with proof of purchase and a complete description of the problem. If a thorough inspection indicates defects in materials or workmanship, our sole obligation is to repair or replace the product.

This warranty is only if the product is properly installed, subjected to normal use and service, did not fail due to owner negligence or misuse, and has not been altered or modified.

Trick Flow Specialties warranties do not cover any installation or removal costs.

Trick Flow Specialties is not liable for consequential damages for breach of contract of any warranty in excess of the purchase price of the product sold.

PROPOSITION 65 WARNING

This product may contain one or more substances or chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.

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MEMBER

