

# **Dynatech**<sup>®</sup>

Competition Exhaust Systems

## **INSTALLATION INSTRUCTIONS**

LIT-1023, REV 7



## **FORD MUSTANG GT**

### **STAINLESS STEEL HEADERS**

Note: We do our best to ensure the instructions in the box are the latest version. However in some cases where the system does not change for a new model year, inventory on the shelf may not have the latest version of the instruction manual. If you do not see your model or application listed above, please feel free to contact us at 800-848-5850 or sales@dynatechheaders.com for an updated instruction manual. We assure you the parts in the box are correct. The instructions may have added notes for a specific model year update.

## **'11 - '17**

### **5.0 LITER ENGINE**

#### **PART NUMBERS**

**2011-2014 GT**  
722-74310 / 722-74320 / 722-74330

**2015-2017 GT**  
722-74310 / 722-75320 / 722-75330

**2015-2017 SHELBY GT350 5.2L**  
722-65310 / 722-65320 / 722-65330

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Congratulations on your purchase of the Dynatech system for the Ford Mustang GT. This system is second to none in quality, performance, and ease of installation. Please read and understand each of the steps involved with the removal of your old system and the installation of your new header system prior to getting started. While slight variations in either the header or the vehicle may cause minor differences in the exact order of steps or the exact positions of components listed in this document, the following narrative and pictorial information should guide you during the removal and installation process to a completely satisfactory install of your new header system. These instructions also include the additional steps required when installing a 2015-17 GT Dynatech system. The difference between the 2011-2014 system and the 2015-2017 system is there are additional X-pipe extension tubes that replace the factory resonator that requires modification to the factory exhaust before installation.

## **Installation Instructions**

Dynatech highly recommends hiring a professional installer, one that is familiar with the installation of off-road exhaust products. Headers are designed to increase the performance of your vehicle, and as such are designed differently than your stock exhaust system. Extra care must be taken to ensure that hoses, cables, electrical lines, fuel lines, hydraulic lines, or any other objects are not in contact with, or located too close to your installed system. (Nothing should be allowed to touch or be located close to the header/exhaust system).

Dynatech will repair or replace any products found upon our inspection to be defective in workmanship or material within 12 months from date of purchase for the original purchaser.

The Dynatech Team takes pride in providing the utmost in quality and performance. Should you have a concern about the product you receive, please contact Dynatech Customer Service at [dynatechcs@dynatechheaders.com](mailto:dynatechcs@dynatechheaders.com).

Dynatech is not responsible for any exhaust product that has been improperly installed, crashed, welded to, or modified in any way. Dynatech does not cover damage to any related components. Neither the seller nor Dynatech will be responsible or liable for any loss, damage, or injury resulting from the direct or indirect use of this product or inability by the purchaser to determine proper use or application of this product. Dynatech competition exhaust products are built for off-highway use only and are not intended for use on street legal, pollution controlled vehicles.

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## What's in your new header system kit?

Your exhaust system should contain all of the following parts. Please inventory each part prior to proceeding with the installation.

### **Parts Inventory List for Headers:**

- 1 ea. Left (driver side ) Header.
- 1 ea. Right (passenger side) Header.
- 1 ea. Header Gasket / Header Bolts Skin Card.
  - 2 ea. OEM Style Stainless Steel Header Gaskets.
  - 32 ea. 10 mm Header Bolts, (16 fine thread, 16 coarse thread).
- 4 ea. Front O2 sensor extension cables (2 for 2011-2014 model and 2 for the 2015-2017 model).
- 3 ea. Stainless cable ties.

### **Parts Inventory List for Intermediate Section:**

- 1 ea. Donut Gasket Skin Card.
  - 2 ea. 3" Graphite Donut Gaskets.
  - 8 ea. 5/16-18" X 1 3/4" Allen Head Cap Screws.
  - 8 ea. 5/16-18" Top Lock Hex Nuts.
- 1 ea. X - Pipe (Not on Shelby GT350).
- 2 ea. 3" Stainless Steel Band Clamps.
- 2 ea. X-pipe extension tubes (2015 models only).
- 2 ea. PowerCATs - Hi-Flow Catalytic Converter Assemblies.
- 2 ea. Rear O2 sensor extension cables (On Shelby GT350).

### **2011-2014 GT System**



### **2015-2017 GT System**



### **2015-2017 Shelby GT350**



## Safety Notes:

While this installation can be done on the floor with the use of jack stands we strongly recommend that this job be completed utilizing a hydraulic lift or have the system installed by a professional mechanic. You will need 24 to 30 inches of ground clearance to slip the header into position from the bottom of the vehicle.

For your safety, please allow the engine to cool for a minimum of 90 minutes before starting the removal/ installation steps.

The use of safety goggles is strongly recommended, as debris may be dislodged from beneath your vehicle while removing or installing parts.

While not required, the use of cotton gloves is recommended to protect not only your hands from sharp objects under the hood and chassis of your vehicle but also keeps the oils and grease off the header's stainless steel surface possibly preventing permanent stains on the headers.

## Required and Optional Tools:

Miscellaneous hand tools are required for proper installation of these headers. We have listed a few of the required and optional tools to help with your installation.

- 7/8" open end wrench or O2 Sensor Socket
- Assorted metric sockets and wrenches (5mm – 16mm)
- Ratchet and extensions
- Torque wrench
- Rubber Mallet or Dead Blow Hammer
- Floor jack and safety stands or a hydraulic lift
- Safety glasses or goggles
- Small bottle of Anti-seize
- Penetrating Fluid (optional)
- Cotton Gloves (optional)
- Fender pads (optional)

## Before You Get Started:

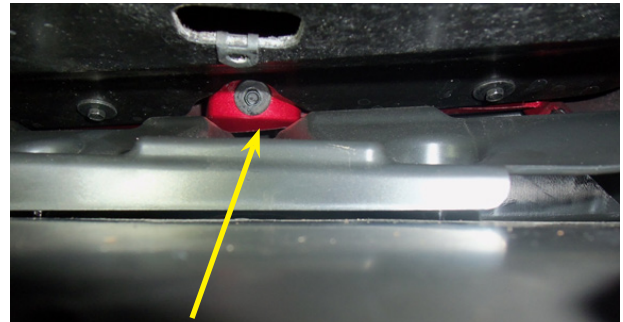
- Take inventory of all the parts in your new system. Make sure each piece is accounted for prior to taking your vehicle out of service.
- Look at the tool and supply list to make sure you have all the needed tools and supplies.

## **REMOVAL OF BELLY PAN ON '15-'17 SHELBY GT350**

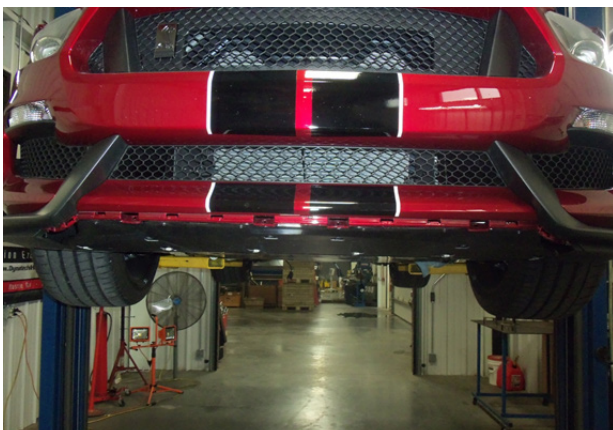
- Remove all screws that you can access from the bottom of the belly pan. This will allow the back of the belly pan to drop so the tabs on the center chin spoiler accessed for removal after the chin spoiler bolts are removed in step # 2.



- Next there are four screws holding the center of the chin spoiler that need to be removed. These can be accessed through the rectangular openings towards the front of the belly pan with an extension. The center chin spoiler must be removed to get the remaining belly pan bolts holding the front of it on. Photo showing one out of the four.



- With the chin spoiler removed, take out the rest of the belly pan bolts and remove the belly pan. After the system is installed reverse these steps to reinstall the belly pan and chin spoiler.



## Stock System Removal

### **Under the Hood:**

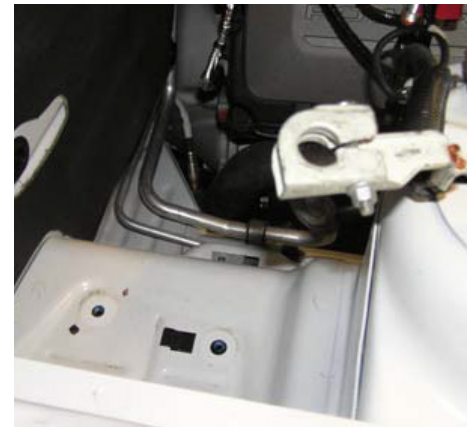
- Begin the removal process by removing the battery terminals. Always disconnect the Negative terminal first and the Positive terminal last. When reinstalling – reverse this procedure – Positive first and Negative last.



- Remove wiring harness from battery tray before removing the battery tray.



- Removal of the battery and tray provides more room to get to the manifold bolts during a later step. Remove the battery cover and tie-down, the battery, and finally remove the battery tray by removing the 3 bolts holding the tray in position.





- Remove the Strut Tower Base.  
Not needed on Shelby.

- Remove the engine cover.  
Not needed on Shelby.



- Slide the red retainer clip out on the MAF (Mass Air Flow) sensor and disconnect the harness.

- Loosen the band clamp around the air inlet tube and remove the air cleaner box that is held in by one bolt.



- While the vehicle is still on the ground, remove and unplug the front O2 sensors located between the rear of the engine and firewall above the transmission bell housing. Install left and right front O2 sensor extensions at this time.

- Remove the outside nuts holding the cats to the manifolds on both sides

- Remove the nuts on top of the engine mounts on both sides.
- Raise the vehicle off the ground using a floor jack and jack stands or use a hydraulic lift. (We strongly recommend the use of a hydraulic lift)

**The use of penetrating oil is recommended to aid in the removal of stubborn bolts and nuts.**

**Do not use penetrating oil on any of the sensors throughout the system particularly the O2 sensors.**

*Note: O2 sensors are delicate electronic components and should be handled very carefully. Take extra care in not contaminating the sensing end with shop towel lint, finger prints, oil, etc.*

- Begin the under-vehicle procedures, mark their location and disconnect the 2 rear O2 sensor wires located on the lower transmission.



- Loosen and remove the 2 rear O2 sensors from the “H”-pipe. Be sure to mark the sensors so they can be put back in the same relative positions in the new system.
- Next loosen the band clamps securing the “H”-pipe to the tail pipes. Do not remove the clamps at this time. Also loosen both ball and socket joints holding the H-pipe to the catalytic converters.
- Push the exhaust system toward the rear of the car allowing the front of the H-pipe to drop down below the catalytic converters.
- Release the rear tailpipe couplers that were loosened in an earlier step by inserting the flat side of a screwdriver under the spring tab and twisting to release while sliding the couplers forward. Be sure to save these couplers, they will be reused during the installation of the new system.
- Take a rubber mallet and tap on the H-pipe in the center tapping toward the front of the car and remove H-pipe.





- Next remove the catalytic converters from the manifolds.



- Next unbolt the plastic oil change access cover under the front of the engine. It is made to be loosened in the front, and swings down and hangs in place.



## Removing the Stock Manifolds:

Removal of the bolts may be more accessible from either the top or bottom of the vehicle. We will leave that determination to the consumer. Depending on the type of tools being used as well as the consumer's ability it may be just as easy to remove the necessary bolts and nuts from one position as another.

- Loosen steering shaft and slide upwards to separate it from it joint.

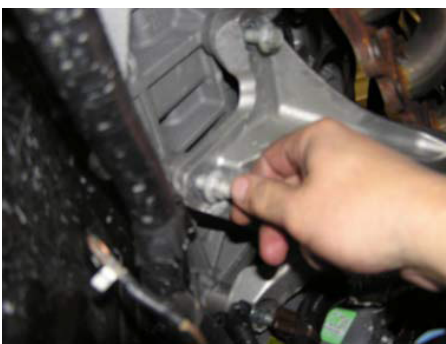


- Remove the red plastic cap protecting the starter terminals and disconnect the wiring from the terminals.

- Loosen and remove the bolts holding the starter in position. Remove the starter. Two of the bolts are visible; the third bolt is a blind bolt. All three must be removed to get the starter off of the vehicle.

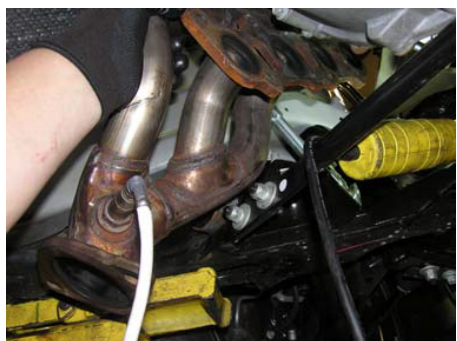


- Next lift the front of the engine up as far as it will go; the bell housing of the transmission will hit the firewall preventing you from lifting the engine too high.



- Remove both the left and right engine mount.

- Remove the stock manifolds.



- Remove O2 sensors from manifolds.

- Remove manifold studs from heads.

**Proceed to – Installing Your New Header System.**

*Make sure to hold all sensor cables, clutch lines, dipstick tubes, etc. away from moving parts, heat sources, and parts that may create vibration wear points during the installation of your new system.*

**CAUTION:** Before preparing your header bolts for installation you must first determine which bolts your engine requires. It will either be a 10mm fine thread or a 10mm coarse thread. Both sets of bolts are included in your kit. Failure to use the correct bolt may cause damage to the head. This can be done by simply holding your stud next to the bolts included to see which set of bolts will be needed. See picture below.



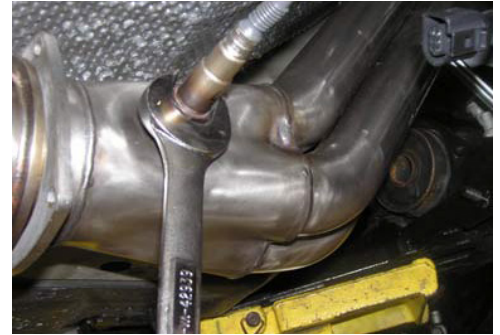
- Use a solvent cleaner to clean the exhaust face of the left and right cylinder heads. Take care not to get excess solvent or debris of any type in the cylinder ports.
- Prepare each of the 16 header bolts with a small amount of anti-seize on the thread surfaces.
- On the left (driver side), start all the top bolts by hand through the gasket. Screw the bolts in just far enough to make sure they are not cross-threaded.
- On the right (passenger side), start all the top bolts by hand through the gasket. Screw the bolts in just far enough to make sure they are not cross-threaded.
- From beneath the vehicle, slip each header into place and start one bottom bolt to hold the header in place. With the header in place, start all the remaining bolts, a few turns by hand to prevent cross-threading. Tighten all bolts from underneath that can be reached before re-installing the engine mounts. Torque all bolts to approximately 20 ft/lbs.
- Re-install the left and right engine mount at this time and lower engine back into position.



- Re-install the steering shaft universal joint bolt and torque to 18 ft/lbs.
- Re-install the starter (three bolts), attach the starter cables, and replace the protective red terminal cap.



- Prepare the front O2 sensor threads only with a small amount of anti-seize. Be careful not to get any anti-seize on the sensor tip. Install the sensors in the header system in same relative location as they were removed.



### Installing the GT X-Pipe (2011-2014):

- Clean the collector end of the headers and install the 3.00" donut gaskets on each collector by gently tapping the gasket on with a block and hammer. Clean the inside of the collector to prevent loose debris from clogging the cats or contacting the O2 sensors upon engine start-up.



- Reinstall the saved OEM band clamps over the stock tailpipe, raise the rear of the x-pipe assembly and slide the clamps over the x-pipe outlets. Make sure that the joint where the x-pipe outlets and the tails are joined, that the tubes are butted up as close as possible to one another by moving the x-pipe assembly back to meet the tailpipes and fully tighten OEM band clamps to the x-pipe. Slip each supplied band clamp over the other end of the x-pipe assembly and support in the middle with a jack.



- Install both catalytic converters with elbows into the x-pipe assembly and tighten up the band clamps but do not fully tighten.
- Prepare the collector/catalytic converter clamp bolts by putting a small amount of anti-seize on the threads of each of the 8 bolts.
- Bolt the cat/x-pipe assembly to the collectors and all 8 bolts evenly but do not fully tighten.



- Start the alignment process at the rear of the vehicle. Twist and align the exhaust outlet to center-up the tip in the body opening. Work your way forward aligning and tightening each of the band clamps to maintain the exhaust tip position in the body opening. Upon reaching the header/catalytic converter joint, tighten the bolts equally to compress the donut gasket slightly to form a leak proof seal

### Installing the GT X-Pipe (2015-2017 models):

If installing '11-'14 model continue to the next steps on page 18.

- Clean the collector end of the headers and install the 3.00" donut gaskets on each collector by gently tapping the gasket on with a block and hammer. Clean the inside of the collector to prevent loose debris from clogging the cats or contacting the O2 sensors upon engine start-up.



- Before making the marks and cutting the factory exhaust to accept the x-pipe extension tubes we recommend cutting out the factory resonator first so the x-pipe and extension tubes can be installed temporarily to mark the final cut location of the exhaust. Cut the resonator off just passed where the bends end leaving plenty of straight.

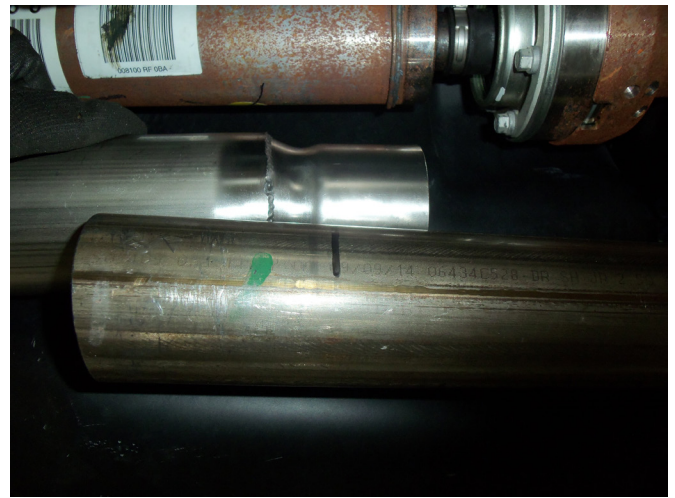
**Note: if also installing an aftermarket muffler system it may be necessary to make additional modifications or cut location depending on where the muffler system ties into the factory exhaust.**



- Temporarily install the cats and x-pipe in order to mark the location where the factory exhaust needs to be cut for removal of the factory resonator and installation of the x-pipe extension tubes.



- Slide x-pipe extension tubes onto x-pipe and mark final cut location of the factory exhaust.



- Cut factory exhaust where marked and deburr tubes inside and out.



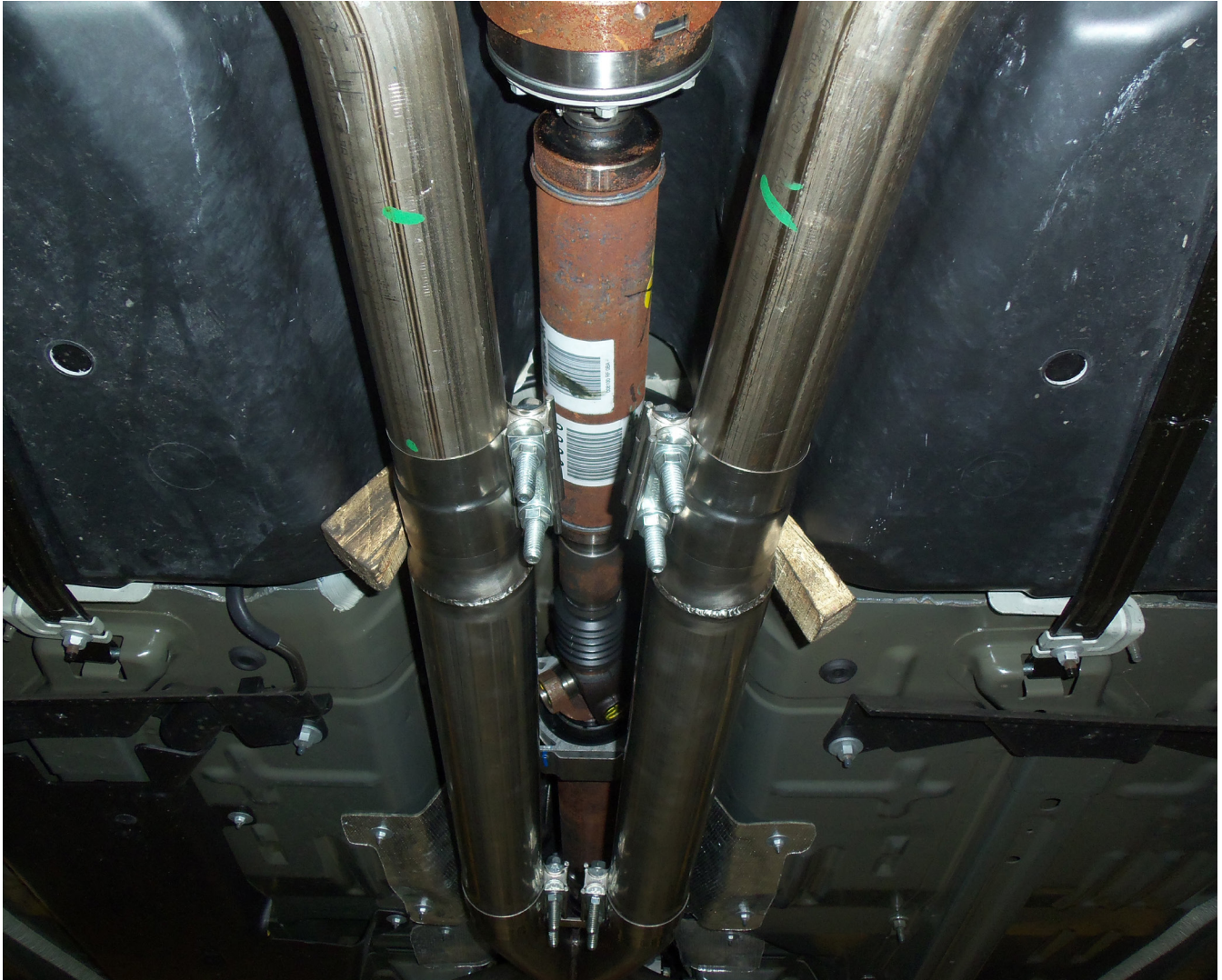
- Remove cats and x-pipe at this time.
- Install X-pipe and extension tubes to the factory exhaust as shown with the band clamps in place but not tightened at this time. **Note** the ends of the x-pipe extension tubes are angled to allow the tubes to be adjusted for proper clearance when rotated.



- Prepare the collector/catalytic converter clamp bolts by putting a small amount of anti-seize on the threads of each of the 8 bolts.
- Install the cats next and tighten system to be snug but loosely enough to be able to move cats up and down and x-pipe extension tubes.



- Place wood wedges at the end up the x-pipe extension tubes as shown. **Note the ends of the x-pipe extension tubes are angled to allow the tubes to be adjusted for proper clearance when rotated.**



- Start the alignment process at the rear of the vehicle.
- Twist and align the exhaust tips on the muffler to be centered in the rear fascia.
- Work your way forward aligning and tightening each of the band clamps to maintain the exhaust tip position in the body opening.
- Upon reaching the header/catalytic converter joint, tighten the bolts equally to compress the donut gasket slightly to form a leak proof seal.
- Fully tighten the exhaust and remove wood wedges.
- Double check all clearances and if all the clearances are satisfactory move onto the next steps on page 18.



## Installing the catted or non-catted section after header installation is complete on '15-'17 Shelby GT350.

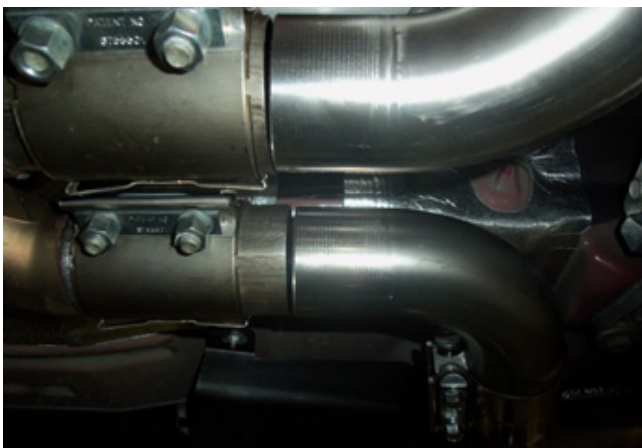
- Install the donut gaskets onto the headers and install the left and right convertors with the supplied bolts. Snug the bolts enough to hold them in place but to not fully tighten at this time.



- Next install the interim tubes with the supplied band clamps. Again snug them but do not fully tighten them at this time.

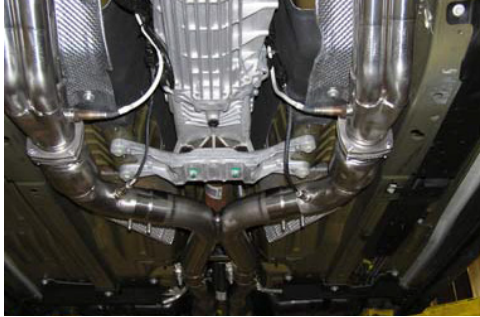


- Butt up the interim elbows with the factory exhaust and slide the factory band clamps up joining the components together. You want at least 1" of the factory band clamp slid over the interim tube. Snug the factory band clamps and double check convertor and interim tube alignment one final time. If satisfied fully tighten the converters, interim tube band clamps and factory band clamps.



- Next install the rear O2 sensor extensions into the factory wiring harness. Install the left and right O2 sensors into the convertors. Plug the extensions and O2 sensors together and use the supplied wire ties to tie up the wires away from coming into contact with any part of the exhaust. **End of Shelby mid-section installation go to the next steps on page 18.**

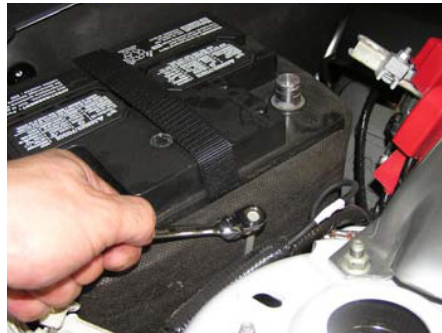
- Prepare the rear O2 sensor threads only with a small amount of anti-seize. Be careful not to get any anti-seize on the sensor tip. Install the sensors in the header system in same relative location as they were removed.
- Use the supplied wire ties to tie up the front and rear O2 sensors to keep them from coming in contact with any part of the exhaust system.



- Make one more check of all the connections and bolt tightness etc. before going back under the hood to complete the installation.

## Finishing Up:

- Tighten up the remainder of the header bolts from the top on both sides and torque to approximately 18 ft/lbs.
- Re-install the nuts for the engine mounts on both sides and tighten.
- Install the battery tray with the 3 bolts removed during disassembly. Be sure to re-attach the wiring harness to the battery tray.
- Place the battery in the tray and install the tie-down and tighten.
- Install the battery cover.
- Reattach the battery cables and tighten. Positive first and Negative last.



- Install the air cleaner box assembly over the locating pin and secure with 1 bolt.
- Connect the air inlet joint and fasten with the OEM clamp.

- Reconnect the MAF (Mass Air Flow) sensor connector. Be sure to push in the red retainer clip in to secure the sensor properly.



- Check all work for completeness, bolts tightened, connectors connected, and lines replaced and clamped etc. Check that no wires or lines are close to the headers where heat damage could occur or near moving parts where they could be pinched or cut. Check for misplaced tools and rags and check for oil leaks etc.

## Final Steps & Checks:

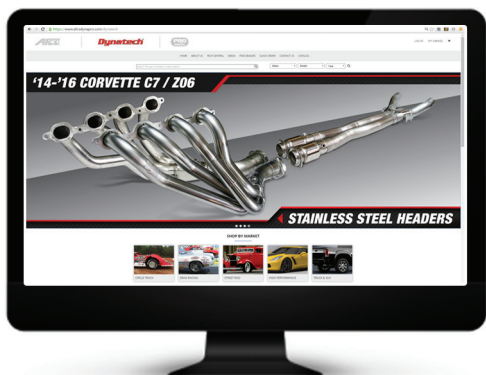
- Once again, verify that all hoses, cables, electrical lines, fuel lines, hydraulic lines, or any other objects are not in contact with, or located too closely to your installed system. (Nothing should be allowed to touch or be located close to the header/exhaust system.)
- Start the engine. Observe the “Check Engine Light”.

**Note: In some instances you may experience a check engine light after the installation of an aftermarket exhaust system. If this occurs please contact Dynatech at 1-800-848-5850 and ask for customer service or e-mail [dynatechcs@dynatechheaders.com](mailto:dynatechcs@dynatechheaders.com).**

- Listen for any exhaust leak “ticking” sounds. Check around each clamp and gasketed joint for leaks. If any are found, check to see that the gasket is properly installed and the joint or clamp is tightened properly.

*All bolts and connections should be re-tightened as necessary after the system has gone through several thermal cycles and as needed thereafter.*

*We make every effort to build our products to the highest standards of workmanship and materials possible. This also applies to our documentation. If you find points in our instruction manual that you feel need to be clarified or changed, please e-mail us your comments at [dynatechcs@dynatechheaders.com](mailto:dynatechcs@dynatechheaders.com). We will use them to enhance our documentation.*



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