



2004 Pontiac GTO LS-1 Header System (715-73410, 715-73420 & 715-73430) (Lit 889)

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 competition exhaust products are not covered under any warranty either expressed or implied.

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.

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.

Installation Instructions

Congratulations on your purchase of the Dynatech / SuperMAXX GTO header system. We believe, and think you will agree, that 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 kit. While slight variations in either the header or the vehicle may cause minor differences in the exact order of steps listed in this document, the following narrative and pictorial information should guide you during the removal and installation process leading to a completely satisfactory install of your new header system.

Note: These products are intended for racing and off-road applications. Not legal for sale or use in the State of California, nor in states which have adopted California emission standards.



What's in Your New Header Kit :

- 1 ea. Left Side (driver side) Header
- 1 ea. Right Side (passenger side) Header
- 2 ea. **PowerCats** - Hi-Flow Catalytic Converters
- 1 ea. Donut Gasket Skin Card
 - 2 ea. 3" Graphite Donut Gaskets
 - 8 ea. 5/16" x 18 x 1 3/4" Allen Head Cap Screws
 - 8 ea. 5/16" x 18 Top Lock Hex Nuts
- 1 ea. Header Gasket / Header Bolts Skin Card
 - 2 ea. OEM Style Stainless Steel Header Gaskets
 - 12 ea. 8mm Header Bolts
 - 2 ea. Dynatech Decals
- 1 ea. Tail Pipe Gasket / Hardware Skin Card
 - 2 ea. GTO Tail Pipe Gaskets
 - 4 ea 10mm x 40mm Tail Pipe Bolts
 - 6 ea. 10mm Flanged Serrated Hex Nuts
- 1 ea. Left Side (driver side) Tail Pipe Section
- 1 ea. Right Side (passenger side) Tail Pipe Section
- 2 ea. 2 1/2" Stainless Steel Band Clamps



Safety Notes

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 your vehicle while removing and 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 of the header's stainless steel surface possibly preventing permanent stains on the headers themselves.

Required and Optional Tools

- 7/8" Open End Wrench (O2 Sensor Removal)
- Assorted Metric Sockets (10mm-17mm)
- 1/2" Socket
- 5/8" Sparkplug Socket
- 3/8" Ratchet and Extensions
- Assorted Metric Combination Wrenches (10mm – 17mm)
- 10mm Combination Ratchet Wrench (Highly Recommended but not Required)
- 1/2" Combination Wrench
- 1/4" Allen Wrench
- Torque Wrench
- Assorted Screw Drivers
- Assorted Pliers and Diagonal Cutters
- Floor Jack and Stands or Hydraulic Lift
- Safety Glasses or Goggles
- Cotton Gloves (optional)
- Small Container of Anti-Seize



Removal of the Stock Exhaust System:

Under the Vehicle

- Place the vehicle on jacks stands or preferably a hydraulic lift.
- Disconnect the negative battery cable.



Note: Proper operation of the forward O2 sensors is crucial for peak performance and good air-fuel ratio. Please handle with care and keep hands free from contaminating the sensor surface. All sensors should be considered as delicate instruments and should be handled accordingly.

- Disconnect the O2 sensor connectors from both the front and rear sensors on both sides of the stock exhaust system. Remove O2 sensors themselves from the stock exhaust. Make sure that each sensor is marked as to its position so that it may be replaced later in the installation process in the correct position.



- Loosen the two bolts and nuts on each of the two tail-pipe flanges at the front of the muffler inlets. Use penetrating fluid where necessary to help with removal.



- Loosen and remove the down tube nuts holding the stock system to the cast manifolds. Use penetrating fluid where necessary to help with removal.



- At this point loosen and remove the nuts and bolts that hold the transmission cross bracket to the left and right exhaust tubes. Both the left and right converters and exhaust tubes should be able to be lowered out of the vehicle.



- This should complete the removal of the stock exhaust pipes and converters.
- From beneath the vehicle, loosen and remove the nuts on the studs holding the frame-to-firewall braces on left (driver side) side of the engine. Remove the brace. The right side (passenger side) brace may be removed if necessary to get the cast manifold out of the engine bay. (The right side brace will be re-installed during the header installation process, if removed. The left side brace will be permanently removed.)

Under the Hood:

- Remove the strut brace and the coolant reservoir. Keep in mind that all these parts will have to go back on the vehicle during the installation phase. Please keep all the parts, nuts, and bolts together and labeled as to get them back in correct place during re-installation. Watch for draining liquid.





- Begin the removal of the cast stock manifolds by removing the fuel rail covers. Remove the oil fill cap prior to removing the right side (passenger side) cover. Replace the cap as soon as the fuel rail cover is removed to prevent oil contamination.
- Remove the spark plug wires from both the coil packs and the spark plugs.
- Carefully remove the spark plugs. Avoid cracking the insulators during removal.
- Loosen the coil packs on both engine banks and lay it back over the on the top of the engine. If you must disconnect the wiring harness, make sure to remove the blue retaining clip prior to separating the connector.



- Continue by loosening and removing the bolt holding the oil dipstick tube support bracket to the head. With the bolt removed, pull the dipstick tube out of the block. Take care not to lose or damage the sealing o-ring on the end of the tube.



- With all of the preliminary steps out of the way, begin loosening the cast manifold bolts. With the bolts removed, the manifolds should be lifted out of the engine bay from the top side.

Now some clean up steps before the new system installation starts.

- On the left side (driver side) remove the inner fender heat shield by pulling it straight up approximately 10". This piece sits between the inner fender panel and the cast manifold.

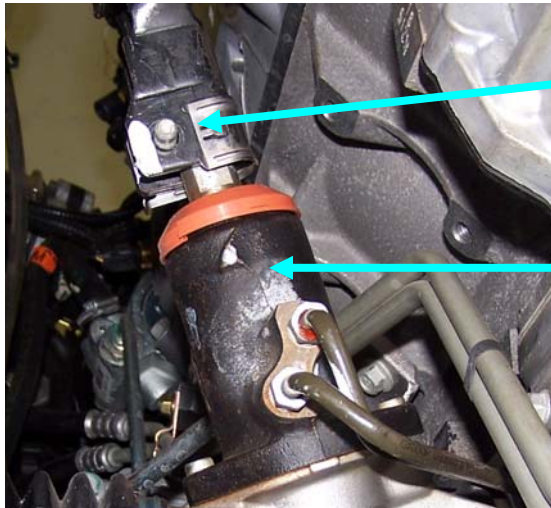


Fender panel side of shield.



Engine side of shield.

- To aid with the header installation the steering rack must be lowered to slip the left side (driver side) header into position. Begin removing the steering rack by removing the bolt that holds the steering shaft to the rack input shaft. Separate this connection.



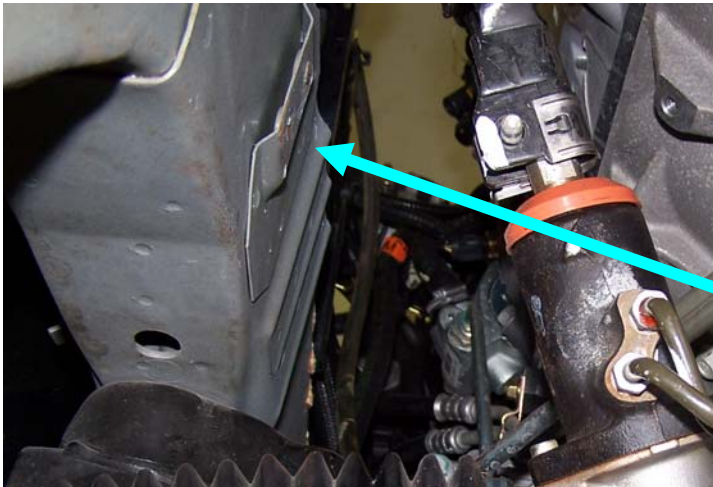
Steering Knuckle Bolt.

The power steering lines are on the opposite side of the input casting.

- Next, loosen the steel power steering lines leading to the rack from the power steering pump. These lines are on the front side of the steering rack and require two different size wrenches. With the nuts removed, carefully cover the line ends with caps or a clean rag to prevent contamination. Be aware that there are small o-rings on the ends of these nuts to provide seals when installed. **Do not lose these o-rings.**
- With the steering knuckle and the power steering lines disconnected, remove the two bolts that hold the rack assembly to the vehicle frame. Wiggle the assembly out of the frame brackets and let it hang beneath the vehicle. **Do not remove the tie-rod ends. (This could result in having to have the vehicle realigned.)**



- The final step in preparing your vehicle for the installation of your new SuperMaxx Header System is to modify the left frame rail. In the area where the firewall to frame brace bracket was removed in an earlier step, take a hack saw or die grinder and remove the two studs. They should be cut or ground flush with the side of the frame. Make sure that during the cutting and grinding process, any open lines or cylinder ports are covered to prevent contamination.



Notice that the studs are ground flush with frame.

Congratulations, you have completed the removal of your old stock system and have prepared for the new system installation. Please proceed to “Installing Your New SuperMaxx Header System.”

Installing Your New SuperMaxx Header System.

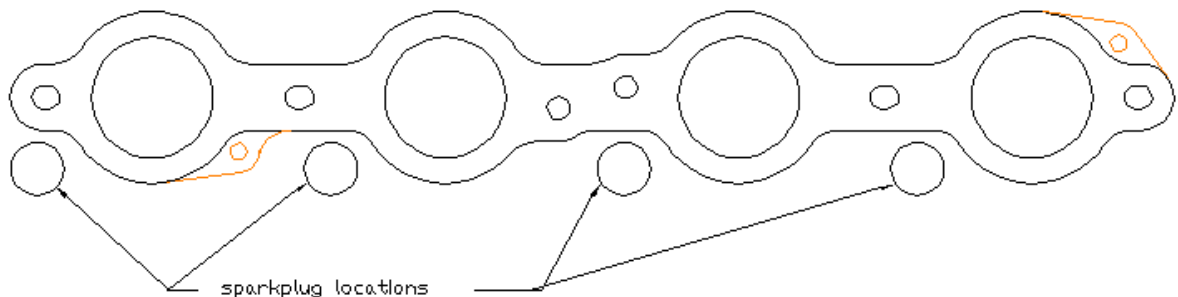
Under the Hood

It's your choice as to whether you install the headers from the top or the bottom of the vehicle. They will install equally well from either the top or the bottom. For the purpose of these instructions we will guide you through a "from the top" installation.

- Install the right side (passenger side) header first. Lower the header into position and install the OEM style gasket as shown in the diagram below. Place a small amount of anti-seize on each of the supplied header bolts and start the bolt by hand to prevent cross threading. After all the bolts are started by hand and you are sure that they screwed in far enough to prevent cross-threading, tighten the bolts with a torque wrench to approximately 20 ft/lbs.

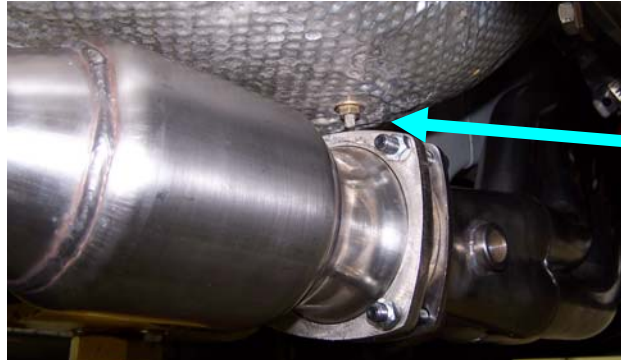
DYNATECH / SUPERMAXX LS-1 GASKET INSTRUCTION

This diagram shows the rivet location for the LS1 Chevrolet gasket. The view is looking from the outside toward the actual head. The rivet locations are such to avoid clearance problems with the sparkplugs.



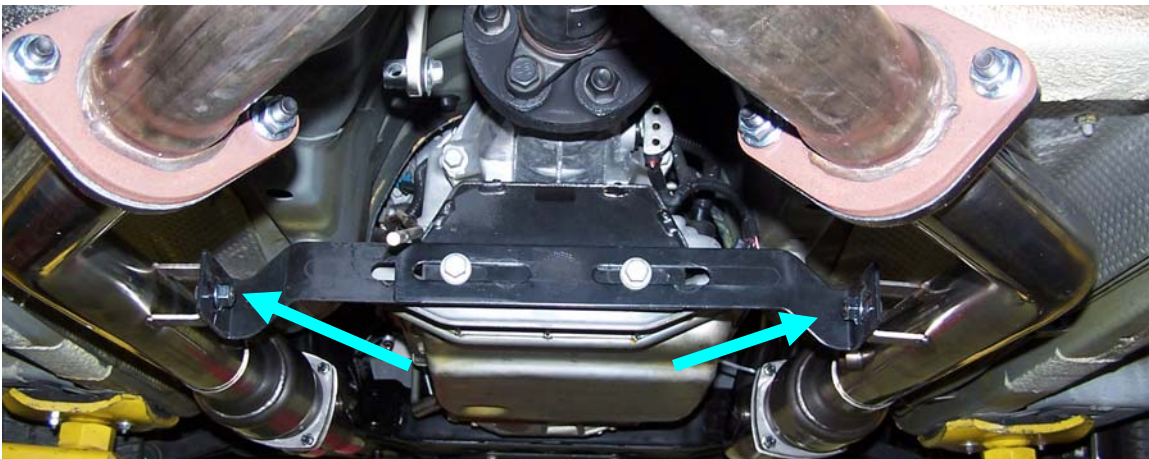
- Likewise, install the left side (driver side) header. Lower it down into position and install the OEM style gasket as shown in the diagram above. You will have to slip the collector end of the header passed the steering shaft and the input shaft of the steering rack. Place a small amount of anti-seize on each of the supplied header bolts and start the bolt by hand to prevent cross threading. After all the bolts are started by hand and you are sure that they screwed in far enough to prevent cross-threading, tighten the bolts with a torque wrench to approximately 20 ft/lbs.

- Prior to installing the PowerCATs, use a die grinder to cut the part of the bolts, holding the floor insulation, extending below the nut on both the left and right side to provide a bit more clearance between the floor pan and the catalytic convertors.



Cut the off the excess screw length on both sides.

- Next install the donut gaskets on the ends of the collectors and install the two (2) PowerCATs. Pull the ring clamps together with the supplied allen head bolts and nuts. Apply a small amount of anti-seize to the bolts. Use a 1/4" allen wrench and a 1/2" combination wrench to snug up all eight (8) bolts and nuts. Leave the clamps loose enough to turn around the gasket by hand. They will be tightened fully at a later step.
- When the PowerCATs are snugged up enough to support their own weight, slip the band clamp on each of the two (2) tailpipe tubes and slide them into the outlet ends of the catalytic converters. The band clamps can be snugged up but do not fully tighten at this time.
- Install the tail pipe gasket on each of the tail pipe flanges and insert the supplied bolts through the flanges. Apply a small amount of anti-seize to the bolts. Start, but do not tighten the serrated flange nuts on the bolts.
- Loosen the tail pipe support bracket on the rear of the transmission mount.



- Extend the bracket outward on each side to engage the tail pipe mounting bolts and start the serrated flanged nuts on each of the support bolts.
- With the cats and the tail pipe parts loosely installed, start at the rear of the system and begin tightening the bolts and clamp up as you move forward.
 - Tighten the tail pipe flanges first.
 - Next tighten the tail pipe support bracket bolts and the transmission bracket bolts.
 - Turn the 2 ½" stainless band clamps to obtain maximum ground clearance and position them for ease of tightening. Tighten the clamp as tight as you can. The tightening action stretches the stainless steel band around the tube. If for any reason you must adjust the position of the band clamp, you should replace the entire clamp because the stretch of the clamp is what provides the seal and once stretched the clamp is only marginally re-usable.
 - Next tighten the clamp rings down against the graphite donut gaskets. Tighten the bolt equally to cause the seal. Do not over tighten.

The system is now installed. Continue with the instruction steps to re-install all the parts that were removed previously to facilitate the header installation.

- From beneath the vehicle, reposition the steering rack and reinstall the two bolts holding the rack to the frame. As these bolts are part of the steering system they should be torqued to 44 ft/lbs. plus another 1/8 turn.
- Turning the wheels all the way one direction or the other may provide more room to reinstall the power steering lines back onto the rack assembly. Be careful with the o-rings on the ends of the two line nuts, do not nick them or misalign them during installation.
- Reinstall the bolt that holds the steering shaft and the rack input shaft together. Securely tighten.
- Next reinstall the before marked O2 sensors. Install the front left O2 sensor in the appropriate sensor bung and the balance of the sensors in the correct bung locations. A small amount of anti-seize will prevent thread galling. **Make sure no anti-seize or other contaminate gets on the sensor's sensing surface.**
- Plug in all of the sensors. Make sure the clips are properly installed to prevent disconnection while the vehicle is in operation. Locate the wires away from moving parts and heat sources that may damage the sensors.
- Reinstall the oil dip stick tube. Clean the tube and dip stick prior to reinserting the tube into the block. A small mount of oil to lubricate the dip stick tube o-ring will help with the tube insertion.
- Reinstall the heat shield on the left side of the engine between the header and the inner fender panel.
- Lay the removed coil packs back down into position and reinstall the nuts holding the packs to the valve covers. Reconnect the coil packs to the wiring harness if you disconnected them during disassembly. Make sure the retaining clips are installed.
- Reinstall the spark plugs.

- Reconnect the spark plug wires to the coil packs and the spark plugs.
- At this time reinstall the coolant reservoir and reconnect all of the associated lines.
- Install the fuel rail covers. Don't forget the oil cap must be removed then reinstalled to get the right side (passenger side) cover into place.
- Reinstall the strut brace.
- Now is the time to replace any of the fluids that may have leaked out during the system installation. Primarily this would include the radiator coolant and power steering fluid, but this is as good a chance as any to check the brake fluid and oil levels as well.
- Survey the entire engine bay for oil leaks loose wires/hoses, stray rags or tools, etc.
- Reconnect the negative battery cable.

Finishing up the installation:

Final 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 close 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". It **should not** come on.

Note: In some instances you may experience a check engine light. We have found some models to record a slow heat response or temperature error which in turn sets off the check engine light. This has no adverse effect on the performance or operation of the engine but can be annoying. Most tuner shops have software such as LS-1 edit that can by-pass this code for a nominal fee. We can refer you to a tuner if needed.

- 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 retightened as necessary after the system has gone through several thermal cycles and as needed thereafter.

Congratulations! That wasn't so bad, and now you have the highest quality, best performing exhaust system available installed on your vehicle. And you did it yourself!



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