

## 1968-1972 Chevelle/El Camino

Chevrolet V-8 Small Block Engine with Standard 23 Degree head w/6 Bolt Flange

#### **Part Number**

740-13210 (1 5/8" stepped to 1 3/4", 2.5" reducer) Coated 740-23210 (1 5/8" stepped to 1 3/4", 3.0" reducer) Coated

740-13310 (1 3/4" stepped to 1 7/8", 2.5" reducer) Coated 740-23310 (1 3/4" stepped to 1 7/8", 3.0" reducer) Coated

(Lit 1004)

Note: We do our best to make sure 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 / application listed above, please feel free to visit <a href="www.dynatechheaders.com">www.dynatechheaders.com</a> or contact us at 800-848-5850 or <a href="sales@dynatechheaders.com">sales@dynatechheaders.com</a> for an updated instruction manual. We assure you the parts in the box are correct. The instructions however may have added notes for a specific model year update.

Dynatech highly recommends hiring a professional installer, one that is familiar with the installation of after market 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 dynateches@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.

# **Installation Instructions**

Congratulations on your purchase of the Dynatech / MuscleMaXX system for the 68-72 Chevelle/El Camino. 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 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 information should guide you during the installation process to a completely satisfactory install of your new header system.

# 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:**

- 1 ea. Left (driver side ) Header
- 1 ea. Right (passenger side) Header
- 1 ea. Header Gasket / Header Bolts Skin Card
  - o 2 ea. Premium Fiber Gaskets
  - o 12 ea. 3/8"-16 x 1 Header Bolts
  - o 2 ea. Dynatech Decals
- 1 ea. Power Steering/AC Bracket Spacer & Bolt Kit
- 1 ea. Instruction Booklet
- 2 ea. Stainless Steel Reducer Cones

Page 2 of 14

- o 1 ea Donut Gasket Skin Card
- o 2 ea Donut Gaskets
- o 8 ea 5/16 x 1 3/4 Bolts
- o 8 ea. 5/16 Top Lock Nuts
- o 2 ea. 4 Bolt Clamping Flange w/ Ball Taper

# Additional Recommended Parts to Complete your "<u>Head to Tip</u>" System Purchase: (optional)

- 1 ea. 2.5" Stainless Steel Dual System (930-913250)
- 1 ea. 2.5" Premium Exhaust Tips (2 pack) (**794-93026**)
- 1 ea 3.0" Stainless Steel Dual System (930-913300)
- 1 ea. 3.0" Premium Exhaust Tips (2 pack) (794-93031)

If your vehicle utilizes the OEM A/C compressor, you may want to purchase an AC compressor rear mount that attaches between cylinder #1 and #3. Part # 60-03006

## **Safety Notes:**

For your safety, please allow the engine to cool for a minimum of 90 minutes before starting the removal of your current exhaust manifolds/system and beginning the installation process.

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 surface possibly preventing permanent stains on the header themselves.

# **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.

- Assorted sockets and wrenches (3/8 3/4)
- Ratchet and extensions
- ¼" Allen Wrench
- Torque wrench
- Rubber Mallet or Dead Blow Hammer
- Your factory supplied lug nut wrench or after market lug wrench ( stock wheels )

Page 3 of 14

- Floor jack and safety stands or a hydraulic lift
- Safety glasses or goggles
- Small bottle of Anti-seize
- Penetrating Fluid (optional)
- Cotton Gloves (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 before you don't have an operating vehicle to run to the store in.

Note: The design of these headers require the use of 90 degree boots on the sparkplug wires at the sparkplugs. Although long sparkplugs may be used, shorter sparkplugs will provide more tube to sparkplug boot clearance if that becomes an issue.

# **Small Block Chevy Header Install**

#### **Pre install steps:**

- 1. Disconnect the negative battery terminal of the battery. This will prevent electrical system damage or personal injury should you accidentally touch the starter hot lead or other hot wire during the installation process.
- 2. Removal of the spark plugs is recommended, for easier install and to prevent damage to the plugs.
- 3. Removal of the oil dipstick tube from the block may be required depending on the dipstick location. Care should be taken not to get debris in the dipstick hole.
- 4. Inspect the header bolt holes and if needed, clean out the holes with a tap. Be careful not to cross thread any of the threads during the process.
- 5. Prepare the provided header bolts with a small amount of anti-seize.

#### **Drivers Side Header Install:**

- 1. If this header is being installed on a vehicle with a manual transmission with an OEM clutch cross shaft, the clutch actuator cross shaft must be removed or pulled off the pivot ball that is attached to the block. This allows the header flange room to slide up into position. The cross shaft will be reinstalled during a later step.
- 2. Slide the header from beneath the vehicle and up into place.
- 3. From the top of the engine position the header gasket into place.

- 4. Install a header bolt through the header flange, gasket and into the head. Do not tighten, simply screw it in partially to hold the header into place. Use caution with aluminum heads. It is easier to cross thread the bolts in the softer material **NOTE: Do not install a bolt in the front header bolt hole at this time. A bolt will be installed later during the installation of the alternator bracket.**
- 5. Install all of the remaining header bolts, except the front one.
- 6. Install the supplied alternator bracket, by preparing the 2" by 3/8"-16 bolt, with a small amount of anti-seize.
- 7. Slip the bolt through the alternator bracket, then into the spacer, then into the flange.
- 8. Thread the bolt partially into the head.
- 9. Once all bolts have been partially installed, tighten each bolt in the order in Fig. 1



Fig. 1

- 10. If applicable, reinstall the clutch cross shaft by reversing the order in which it was removed. You may need to re-adjust the clutch using procedures prescribed in the owner's maintenance manual.
- 11. Reinstall the spark plugs.
- 12. Reinstall the dipstick tube (if applicable)
- 13. Rotate the steering through the entire range of movement, checking for any interference between it and the header.

#### **Passenger Side Header Install:**

- 1. Slide the Passenger Side header in from beneath the vehicle and position it into place.
- 2. From the top of the engine position the header gasket into place.
- 3. Install a header bolt through the header flange, gasket and into the head. Do not tighten the bolt. Simply thread the bolt partially into the head to hold the header into place. Use caution with aluminum heads. It is easier to cross thread the bolts in the softer material. NOTE: IF USING THE FACTORY OEM DELCO AIR COMPRESSOR...do not install the two bolts between cylinders 2 and 4 at this time. These bolts will be installed later during the installation of the Air Conditioner bracket.
- 4. (If Applicable) Install the air conditioner bracket utilizing the two bolt holes between cylinders 2 and 4.
- 5. Tighten the bolts just enough so that the bracket can be moved for adjustment.
- 6. Install the A/C compressor onto the bracket leaving the bolts loose enough so the compressor can be aligned as needed.
- 7. Align the compressor pulley with the mating pulleys.
- 8. Once you are satisfied with the alignment, completely tighten the bolts holding the bracket and compressor.
- 9. Tighten the remaining bolts in the order shown in Fig. 1. Page 5 of 14

10. Reinstall the spark plugs.

NOTE: If you are immediately going to install the MuscleMAXX Exhaust Muffler System, do not install the reducer cones and proceed to the "Final Steps and Checks" on the next page.

#### **Reducer Cone Install:**

1. Install the donut gaskets onto the header.





2. Slip the four bolt flange onto the reducer cone and bolt the reducer cone assembly to four bolt flange on the header.



3. Snug each bolt until the proper outlet angle is achieved and tighten accordingly.

## Final Steps & Checks:

- 1. Reconnect the negative battery terminal.
- 2. Inspect all areas around the header for sufficient clearance between all fuel and brake lines, suspension and steering parts.
- 3. Make sure the dipstick tube has been reinstalled.

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

# Your Dynatech Header Install is now complete. If you have purchased a Dynatech Exhaust System, please proceed to page 7 for your Exhaust System Install.

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 <a href="mailto:dynatechcs@dynatechheaders.com">dynatechcs@dynatechheaders.com</a>. We will use them to enhance our documentation.

Page 6 of 14



# **Stainless Steel**

# Chevelle/El Camino Dual Exhaust Kit

793-91325 (2.5") or 793-91330 (3.0")

**Fits** 

1968 – 1972 Chevelle/El Camino Chevy Small Block/Std Port Heads and Dynatech MuscleMaXX Headers (740-33210, 740-43210 or 740-31310, 740-43310)

# What's in Your Kit?

Each kit contains the following parts; however, the size and or exact configuration may vary from kit to kit depending on which kit you have purchased. Descriptions of both kit sizes are included below for you convenience. In some cases there may be more parts in the kit than required. This allows us to use one hardware kit in several different exhaust system kits.

# 793-91325

# <u>793-91330</u>

2 ea. Interim Tubes (2.5" dia)
1 ea. X-Pipe Assembly (2.5" dia)
1 ea. Left Side SS Muffler (2.5" dia)
1 ea. Right Side SS Muffler (2.5" dia)
2 ea. Left Side Tail-Pipe (Front & Mid) (2.5" dia)

2 ea. Right Side Tail-Pipe (Front & Mid) (2.5" dia) 2 ea. Tail-Pipe Tip Sections (2.5" dia)

6 ea. 2.5" Stainless Band Clamps 6 ea. 2.5" Single Bolt Band Clamps

1 ea. Misc Hardware

2 ea. "L" Muffler Hanger Brackets 2 ea. Angle Tail-Pipe Brackets 2 ea. Blue Split Grommets

2 ea. Black Rubber Muffler Hangers

2 ea. 3/8-16 Body Bolts 2 ea. 3/8-16 Carriage Bolts 2 ea. 3/8-16 Lock Nuts

2 ea. 3/8-10 Lock Nui 2 ea. Offset Tabs

4 ea. 3/8-16 Serrated Nuts for "L" Brackets

2 ea. Interim Tubes (3.0" dia)

1 ea. X-Pipe Assembly (3.0" dia)

1 ea. Left Side SS Muffler (3.0" dia) 1 ea. Right Side SS Muffler (3.0 dia)

2 ea. Left Side Tail-Pipe (Front & Rear)

2 ea. Right Side Tail-Pipe (Front & Rear) (3.0" diam)

6 ea. 3.0" Stainless Band Clamps

4 ea. 3.0" Single Bolt Band Clamps

1 ea. Misc Hardware

4 ea. Black Rubber Muffler Hangers 4 ea. 3/8-16 Muffler Hanger Serrated Nuts

2 ea. "L" Muffler Hanger Brackets

2 ea. Tailpipe Hanger Brackets

2 ea. 5/16-18 Bolts

2 ea. 5/16-18 Lock Nuts

2 ea. Sm. Flat Washers

2 ea. Lg. Flat Washers

See a picture of each kit on the following page.

Page 7 of 14

LIT1004 68-72-Chevelle Installation Instructions Rev 4.doc Lit 1004 Rev 4

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# 793-91325



793-91330



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The installation instructions for either of the two kits pictured above assume that the old system has been removed and that either set of MuscleMaxx headers have been installed. Note: This system is designed to work with the MuscleMaxx header listed above in the specific model/year vehicle. If another manufacture's headers are used, additional fabrication may be required and the owner would assume all responsibility for any fitment issues encountered.

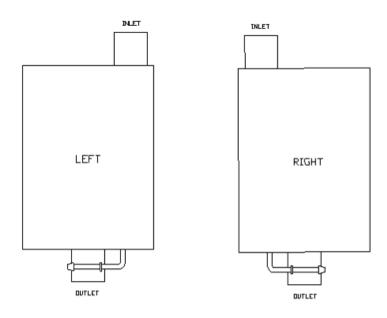
The entire system will be loosely installed in order to insure the proper position of the tailpipes and muffler hanger brackets. An extra set of hands or mechanical supports will aid in this operation. The loose installation is done to insure that there is adequate clearance between the rear end axle tube and tailpipe as it exits the muffler before any drilling/bolting is done.

Begin the installation by installing the donut gaskets over the end of each collector reducer. At this time bolt each of the collector reducers in place. Install two of the four bolts diagonally on each reducer. Tighten them up only enough to hold the reducer straight. (The reducers may be removed and re-installed later in the installation process.)









793-91325 and 793-91330

Note: The point of the hanger bracket points to the outside of the vehicle.

The only difference between the mufflers in the 793-91325 and the 793-91330 kits is the diameter of the inlets and outlets (2.5" verses 3.0").

Select the two threaded muffler hangers and install one of the flanged nuts on each of the hangers. Be sure to install the flange is facing away from the angled portion of the hanger.





Locate the existing holes in the frame cross member. The holes may need to be enlarged to accept a 3/8" bolt. Insert the hanger bracket through the hole and install another of the supplied flanged nuts on the top. Repeat this step for the opposite side. The position of the nuts may have to be readjusted later during the alignment phase to properly position the mufflers vertically beneath the vehicle. Apply a small amount of white grease to the points of both metal hangers and on the mufflers hanger brackets themselves then install the black rubber muffler hangers over the metal hangers attached to the cross member. Next, install the mufflers. The points of the hangers both on the cross member and the mufflers should point toward the outside of the vehicle.

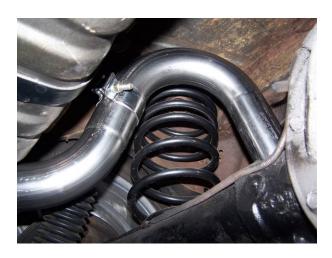
Page 10 of 14



Orient the x-pipe flat on the ground with the outlets raised upward in relation to the "X". Support the inlet of the X-pipe as shown above. Then slip the right x-pipe leg into the right muffler and similarly do the same with the left muffler and left x-pipe leg. (See the diagram that describes the left and right mufflers as well as the muffler support hangers.)

Note: the X-pipe assembly goes below the emergency brake cabling. The cable may touch the exhaust system during the operation of the brakes either engaged or not engaged. This is normal and should not affect either the operation of the emergency brake system or the exhaust system.

Begin the installation of the tailpipes by selecting either the left or right intermediate tailpipe section. Slip one of the supplied single bolt band clamps over the intermediate tube and slide the assembly over the muffler outlet. Tighten the clamp enough so that there is some resistance to movement side to side. Repeat the procedures for the opposite side.





Page 11 of 14

LIT1004 68-72-Chevelle Installation Instructions Rev 4.doc Lit 1004 Rev 4

# 793-91325 Kit only

Select middle section of the tailpipe tube assembly, slide a single bolt band clamp over the expanded area, and slip it on to the outlet of the previously installed intermediate tube. Tighten the clamp on this joint so that there is also some resistance to movement. Repeat the procedures for the opposite side. Finally install the supplied tailpipe tip section utilizing one of the remaining single bolt band clamps. Complete the opposite side in a like manner. (Note: The tip may be cut at an angle or can be rotated to achieve the "look" that you desire.) Use wooden wedges or some other type of spacers to space the tailpipe section behind the axle to maintain clearance between the frame rails and the body panels. Also adjust the vertical position of the tailpipe. Once you are satisfied with the positioning and the clearances of the tail pipe, install the rear tailpipe hangers. Mark and drill the frame for the offset tab location. Install the carriage bolt through the offset tab and screw the tab to the frame using the body bolt provided. Next cut or form the flat angle bracket to match the profile of the exhaust tube, install the split blue grommet, and slide it over the carriage bolt. Screw the nut on to the carriage bolt and weld the flat angle bracket to the tailpipe.







Note: Use a ¼" drill bit for the "body bolt" used to attach the offset tab to the frame or floor pan. This bolt extrudes the metal, forming a thread that is thicker than the metal thickness itself. Start the bolt, and then finish with a ratchet and socket or an impact wrench and socket. Be careful not to strip the threads out of the sheet metal.



# 793-91330 Kit only

Select the end section of the tailpipe tube assembly, slide a single bolt band clamp over the expanded area, and slip it on to the outlet of the previously installed intermediate tube. Tighten the clamp on this joint so that there is also some resistance to movement. Repeat the procedures for the opposite side. Use wooden wedges or some other type of spacers to space the tailpipe section behind the axle to maintain clearance between the frame rails and the body panels. Also adjust the vertical position of the tailpipe. Once you are satisfied with the positioning and the clearances of the tail pipe, install the rear tailpipe hangers. Drill holes in the frame or use existing holes and bolt the hanger brackets to the frame. Apply a small amount of white grease to the points of the hanger brackets and install the black rubber tailpipe hangers.

With the above operations complete either the 793-91325 or the 793-91330 x-pipe and mufflers should be somewhat self supporting. You may want to continue supporting the front of the x-pipe until the x-pipe interim tubes have been installed.

Next, make sure that the mufflers are level side to side and that the drive shaft is nearly centered between the x-pipe legs. Tighten all of the clamps from the tailpipe tips forward up to and including the clamp at the rear of the muffler. These should be tightened about as tight as you can get them to prevent leaks around the joint. Install the wide stainless band clamps (2) on the joints between the x-pipe outlets and the muffler inlets. Observe the position of the "step" in the band clamp. Check to make sure that the mufflers are still level side to side and that the drive shaft is still nearly centered between the x-pipe legs.



Tighten these clamps very tightly. They work by stretching the metal around the tube preventing any leaks.

Once all of the items listed above have been completed, it's time to install the interim tubes. The lengths should be close but you may have to trim them slightly depending on the amount of clearance that was allowed between the axle tube and the tailpipe. Begin by holding either the right or left interim tube up into position. Mark the interim tube where it needs to cut. Keep in mind that ideally there should be approximately an 1 ½ "



of tube slid inside the expansion on both the x-pipe inlet and the collector reducer outlet. Repeat for the opposite side. Make any necessary cuts on the interim tubes. Next remove both the left and right collector reducers. Slip the outlet of the interim tube into the expansion on the x-pipe inlet. Slide two band clamps over the interim tube making sure to observe the "step". (One is for the x-pipe/interim tube joint, the other is for the collector reducer/interim tube joint.) Install the collector reducer over the interim tube and rotate the assembly up into position to fit over the donut gasket. Install all four

(4) bolts, tightening them enough for the collector reducer to be self supporting. Complete the same

steps for the opposite side.

With all tubes and clamps in place, make sure that the interim tubes are leveled in the vehicle. Then begin the tightening process by fully tightening each of the four (4) bolts of each collector reducer. Then move back to the stainless steel band clamps at the inlet and outlet of the interim tubes and tighten them securely.





\* Note – Dimensions, bracket configurations, and components are subject to change. The function and general fit of the system remains the same unless specifically noted. The depictions in the instructions above may or may not reflect the current configuration of all the components received in the system kit.

This should complete the installation of your system. Go back over all the connections to check tightness, tube clearances, and brackets before starting the vehicle. Once you are satisfied that the system is correctly aligned and tightened, start the engine and check for leaks. If any are found, retighten the fasteners around the clamp at issue. All fasteners should be rechecked after the system has gone through several thermal cycles.

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 <a href="mailto:dynatechcs@dynatechheaders.com">dynatechcs@dynatechheaders.com</a>. We will use them to enhance our documentation.

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