



Tube Technologies, Inc.
1555 Consumer Circle
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Ph. (951) 371-4878
www.ttiexhaust.com

INSTALLATION INSTRUCTIONS for TTI Small Block Header Part No.:

TTI 636A

TAKE TIME TO READ THE INSTALLATION PROCEDURES BEFORE STARTING

WARNING !!!

We strongly suggest that you use an old set of headers or a set of cast iron manifolds for first engine runs / cam break-ins to avoid coating damage. Excessive heat damage to the ceramic coating will **VOID** all warranties. Header coating damage usually occurs during the first engine run when the exhaust temperatures exceed 1200°F. Excess exhaust temperatures are normally caused by excessively lean or excessively rich air/fuel mixtures and/or incorrect ignition timing.



Please take all under car safety precautions when installing headers, including eye protection. When raising vehicle, use an appropriate lifting device and place on jack stands as a safety measure. Caution! Bumper jacks are intended for emergency use only and should not be used to support vehicle.




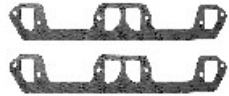


First check your Engine Location - K-members are not all identical and the dimensions must be checked to ensure proper fit. Check your engine location prior to installation of your TTI Headers. TTI Headers were designed to fit with the engines located to the factory specifications. If the engine is not located correctly in the chassis, the headers will not fit properly. If necessary, place shims between the insulator assembly and the K-frame mounting pad to achieve the proper dimensions. Shim kits and engine mounts can be purchased from Schumacher Creative Services of Seattle, WA (206) 364-7151.

63-66 "A"-body applications: From the center of the crankshaft to the top of the K-frame, the correct distance is 4-3/4". The engine is also offset 5/8" towards the passenger-side. Measure from the center of the crankshaft to each frame rail, the difference should be 1-1/4".

- 11 Disconnect the negative cable from the battery terminal.
- 12 Raise the front of the vehicle with an appropriate lifting device and place on jack stands.
- 13 Disconnect the plug wires and remove all of the spark plugs. Remove the cast iron manifolds and the stock exhaust pipes. If you are installing the complete TTI Exhaust System, then remove and discard your entire stock exhaust system, including hangers.
- 14 Remove the 90° oil filter and the starter motor. Passenger-side, remove and discard the brace between the engine and the transmission.
- 15 Now is a good time to check the condition of your engine mounts. If they are worn or deteriorated, replace them now. When the engine is mounted correctly the headers will fit correctly.
- 16 **Drivers-side Header:** Use a pickle-fork to disconnect the ball joint on the tie rod at the center link and swing away.
 - **Power Steering** – Disconnect the center link from the pitman arm and swing the center link away. Disconnect the steering wheel shaft from the steering box. (Refer to a shop manual for the proper procedure) Disconnect the power-steering hoses and remove the power-steering box. The steering wheel shaft will pass through the header when re-installed.
 - **Manual Steering** – Disconnect the center link from the pitman arm and swing the center link away. Disconnect the steering wheel shaft from the steering box. (Refer to a shop manual for the proper procedure) The steering wheel shaft will pass through the header when re-installed.
 - **Torsion Bar** – Remove the torsion bar. The torsion bar will pass through the header when re-installed. (Refer to a shop manual for the proper procedure)
 - **Standard Transmission** – Remove the Z-bar. The casting ear on the drivers-side will need to be trimmed shorter by 3/8" for header clearance. (Refer to our illustration sheet #636A1009)
 - Remove the nut from the lower side of the engine mount rubber insulator. Using a floor jack and a block of wood under the oil pan, raise the engine up on the drivers-side approximately 1". Check the cylinder head sealing surface of the exhaust ports to insure they are clean. Place the supplied header gasket onto position on the studs. Insert the header into position from under the car and let it hang loose by one header bolt. Before bolting to the cylinder head, place the steering box into place and attach with the (3) bolts. Lower the engine and place the header into position on the cylinder head. Use the original studs & nuts or the provided header bolts to secure the header to the cylinder head. Tighten the center bolts first, then the end ports. Torque the bolts to 25ft. lbs. evenly to insure a proper seal.

7. In reverse order, re-install all of the disassembled components. Be extremely careful to re-install all nuts, bolts and pins that were removed. Install motor mount nuts.
8. **Starter Installation** – See footnote #15 for required starters. Install the starter and connect the wiring. Adjust the wiring to insure that there is absolutely no contact with the header.
9. **Brake Lines** – Due to variations in the routing of brake lines, it may be necessary to re-position a brake line to achieve adequate clearance from a header tube. A minimum clearance of ½” from a header tube is required.
10. **Passenger-side Header:** Using a pickle fork, disconnect the tie rod at the center link and swing away. Remove the torsion bar. (Refer to a shop manual for the proper procedure) The torsion bar will pass through the header when re-installed.
 - Check the cylinder head sealing surface of the exhaust ports to insure they are clean. Place the supplied header gasket onto position on the studs. Insert the header into position from under the car and let it hang loose on the studs.
 - Place the 90° oil filter adapter onto position and attach with a ¾” hex head bolt or a modified 1-3/16” hex bolt. (Refer to our illustration sheet #636A1009)
 - Use the original studs & nuts or the provided header bolts to secure the header to the cylinder head. Check for clearance between the header tubes and the 90° filter adapter hex head bolt. Tighten the center ports header bolts first, then the end ports. Torque the bolts to 25ft. lbs. evenly to insure a proper seal.
 - Now, install the Oil Filter.
11. Attach the pre-bent designed header adapter/reducers to the header collectors with the nuts, bolts and gaskets provided. The adapter / reducers supplied will only fit 63-66 A-body applications with the modified transmission crossmember. (Refer to our Transmission Crossmember modification illustration sheet #CMR0506)
12. In reverse order, re-install all of the disassembled components. Be extremely careful to re-install all nuts, bolts and pins that were removed.
13. Now that your headers are installed, wipe down the tubes with hot soapy water or an environmentally safe Orange Cleaner Degreaser and a soft cloth to remove any grease or skin oils (finger prints) from the header tube surface. **Never use abrasive cleaners.**
 - It is normal for Chrome plated headers to discolor almost immediately after firing-up engine.
 - To insure years of service from your ceramic-coated headers it is suggested to follow our Header Maintenance & Care procedures.
14. Re-connect the negative battery cable. Start the engine and check for leaks.

 **Re-torque all of the header bolts after approximately 50 miles of driving**

 <p>1-5/8” Primary Tubes 1-3/4” Secondary Tubes 3” Collectors</p>		(2) Header Gaskets P/N: GA-HG21-340 HTX-900 exhaust gasket material is a high density fiber metal core composite.
		(12) Zinc Plated Header Bolts 5/16-18x1
		Header Reducer / Adapter kit: (2) Pre-bent aluminized tubes with welded 3-bolt 3/8” thick flanges. (2) 3-bolt 1/16” thick gaskets. (6) 3/8-16x1.25 zinc plated HH bolts grade 2, nuts & washers. Footnote: <u>16</u>

To complete the rest of your exhaust system installation, we highly recommend the use of our TTI Performance Exhaust Systems. The 2-1/2” or 3” O.D. kits will bolt directly to the TTI Headers. Our exhaust systems come complete with all hardware and all new hanger assemblies. They are manufactured with aluminized tubing and are mandrel bent by the latest technology CNC tube benders insuring precision fit on every installation.



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HEADER APPLICATION
 for TTI Small Block Header Part No.:

TTI 636A

1963-1966 Early A-bodies		Footnotes
Engine Size	318 / 340 / 360 A-engines	37
Cylinder Head	OEM, Edelbrock Magnum or Performer RPM	14
Front Ends	Stock	
Auto Trans	Yes	15 , 29 , 53
Standard Trans	Yes	15 , 21 , 29 , 53
Floor Shift	Yes	
Column Shift	No	
Push Button	Yes	
Power Steering	Yes	
Manual Steering	Yes	
Air Conditioning	Yes	
Starters	Listed Starters only	15 , 18
Flywheel / Bellhousing	9" or 10.5"	15
Steering Linkage	OEM only	12 , 33
Clutch Linkage	OEM only	22
Oil Filters	90° Angle Adapter or a Remote Mount	21
Oil Pans	OEM or Milodon	11
Valve Covers	OEM or Cast Aluminum	

Footnotes

11	Headers will clear OEM Oil Pans or Milodon part #'s: 30935, 30936, 30940, 30941 (7-3/4" - 8-3/4" sump depth)												
12	Pitman Arm and Idler Arm: Headers will not clear the "Fast-Ratio" pitman and idler arms, which are 3/4" longer than stock arms. (Stock idler arm measures 5-1/4" from center to center)												
14	If your cylinder head is not listed, TTI will not guarantee fit due to clearance issues, ie; Deck height, port locations or bolt pattern.												
15	<p>Starters required with the following applications:</p> <table border="1"> <thead> <tr> <th>Flywheel</th> <th>Transmission</th> <th>Ring Gear Teeth</th> <th>Starter Required</th> </tr> </thead> <tbody> <tr> <td>9" clutch</td> <td>Standard / 904</td> <td>122-tooth</td> <td>Chrysler part #'s R53005984, 56027702AC or Mopar Performance part #'s P5249644AB, P5007860, P4286522</td> </tr> <tr> <td>10.5" clutch</td> <td>Standard / 727</td> <td>130-tooth</td> <td>RobbMC Perf. #2005 or Powermaster XS Torque #9543 (#9543 Discontinued - No longer available for purchase)</td> </tr> </tbody> </table>	Flywheel	Transmission	Ring Gear Teeth	Starter Required	9" clutch	Standard / 904	122-tooth	Chrysler part #'s R53005984, 56027702AC or Mopar Performance part #'s P5249644AB, P5007860, P4286522	10.5" clutch	Standard / 727	130-tooth	RobbMC Perf. #2005 or Powermaster XS Torque #9543 (#9543 Discontinued - No longer available for purchase)
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16	Header Reducer/Adapters: Apply light grease or oil to the inside of the slips of the H-pipe and install the reducer/adaptor into the slips. Bolt directly to TTI header collectors. In some cases the reducer/adaptor may require shortening. Clamp in place after fitting & aligning.												
18	Lightweight Mini Starters & the Powermaster Starter can easily be changed without removing the header.												
21	The 90° Remote Oil Filter Adapter must be used with a 3/4" hex head mounting bolt. The large 1-3/16" hex head bolt can be used by machining head down to .175 thickness. See illustration for more information - Sheet # 636A1009.												
22	Some Z-bars may require modification to clear header.												
29	Modification will be required to the transmission crossmember when running a dual exhaust system. See illustration for dimensions to modify your stock crossmember - Sheet #CMR0506.												
33	Unisteer Rack & Pinion: Headers will <u>not</u> clear the Unisteer Rack & Pinion.												
37	Headers fit with Schumacher engine mounts or equivalent (OEM).												
53	Transmission: Headers <u>will</u> fit with the Tremec TKO-500 / TKO-600 5-speed by Keisler. It is imperative that the output end of the tail shaft is in exactly the same position as the "stock" transmission output shaft for the Headers to fit properly.												

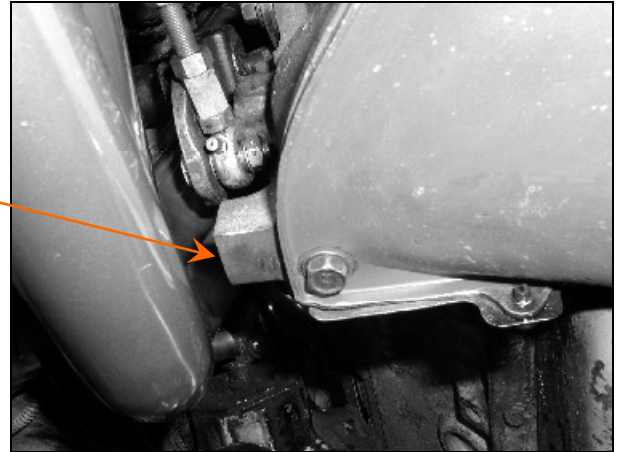


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Sheet #636A1009 (FN #21)
Modifications Required
 63-66 "A"-body applications only

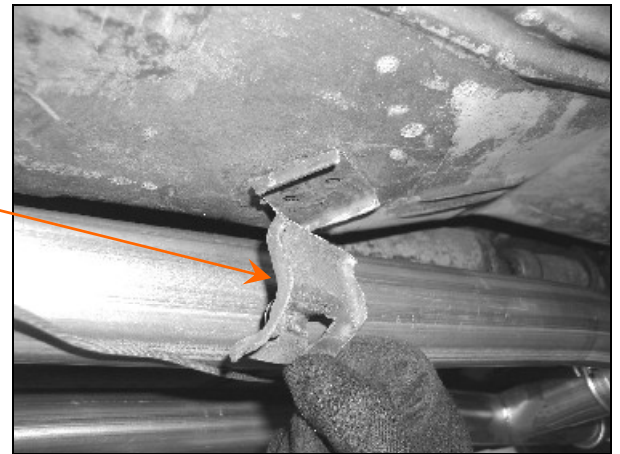
Required for Standard Transmission only

The casting ear on the Drivers-side will need to be trimmed shorter by 3/8" for header tube clearance.



When installing the dual TTI exhaust system...

It will be necessary to remove the Passenger-side emergency brake cable guide bracket.



90° Oil Filter Adapter Bolt (FN #21)

Must use small stock 90° oil filter adapter hex head bolt (3/4") or modify the large 90° oil filter adapter hex head bolt (1-3/16") by matching to .175 thickness.



Small stock 90° oil filter adapter bolt (3/4") hex head.



Large stock 90° oil filter adapter bolt (1-3/16") hex head.



Transmission Crossmember (FN #29)

Modification will be required to the Transmission Crossmember when running a Dual Exhaust System. See sheet # CMR0506



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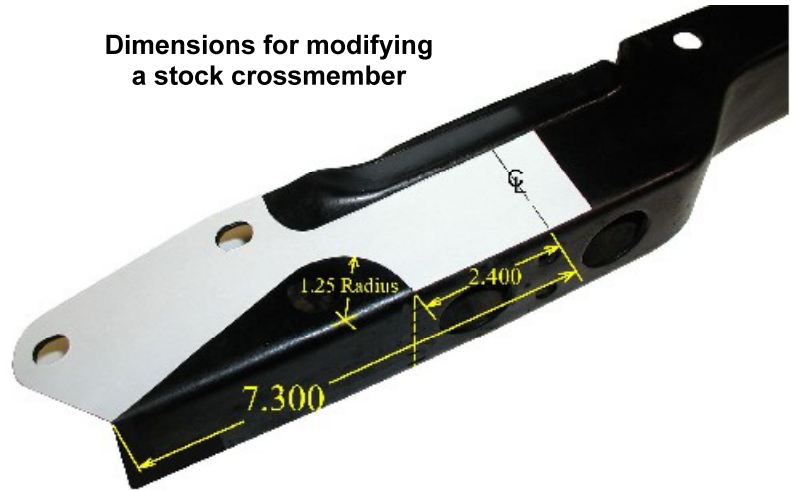
Sheet # CMR0506 (FN #29)
Transmission Crossmember
63-66 "A"-body applications only

Modification will be required to the Transmission Crossmember when running a Dual Exhaust System.

Stock Crossmember



Dimensions for modifying
a stock crossmember



Modified Crossmember



Send your crossmember to TTI and we will make the necessary modifications for \$100 (Includes return shipping). Crossmember will be sent back to you painted black.

Mail or ship crossmember to: **Tube Tech Inc.**
Dept. CM-MOD
1555 Consumer Circle
Corona, CA 92880-1726

Include a check, money order or send money through PayPal. Make check payable to: **Tube Tech Inc.**
⚠️ Personal / Business checks are held for 7-business days prior to shipping.

Pricing subject to change without notice.
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