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## INSTALLATION INSTRUCTIONS for TTI 318 POLY Header Part Noq TTI318C


### **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.

- **65-73 "C"-body applications:** From the center of the crankshaft to the top of the K-frame, the correct distance is 5-1/4+. The engine is also offset towards the passenger-side. Measure from the center of the crankshaft to each frame rail. The difference should be 3-1/2+.

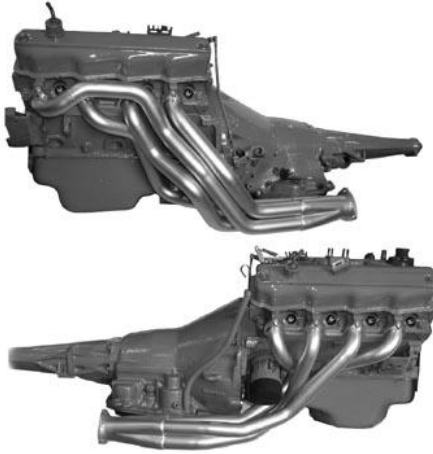
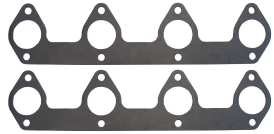



 **The fore and aft location of the engine is also critical.** If the engine is positioned too far forward there will be interference with the idler arm and pitman arm. Milling slots in the engine mount brackets and sliding the engine back to achieve clearance can correct this. See Engine Mount Modification sheet #SHT704. With the engine mounted in the correct location the headers will fit properly.

1. Disconnect the negative cable from the battery terminal.
2. Raise the front of the vehicle with an appropriate lifting device and place on jack stands.
3. 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.
4. Remove the oil filter and the starter. Passenger-side, remove and discard the brace between the engine and the transmission. Automatic transmission cooler lines may require re-routing to clear the header tubes. Drivers-side, remove the lower mounting stud for the starter and replace it with a bolt.
5. 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.
6. **Drivers-side Header:** Remove the drivers-side engine mount nuts and raise the engine approximately 1+. Use a block of wood between the oil pan and the floor jack.
  - On models with Automatic Transmission and Floor Shift, re-position the adjustable swivel and the lower rod attached to the torque shaft lever. Move them to the upper side of the torque shaft lever to clear the header collector. See the modified Torque Shaft Lever illustration on our sheet #3703.

- Check the cylinder head sealing surface of the exhaust ports to insure that they are clean. Drain the coolant before removing the original mounting studs and nut. Insert the header onto position from under the car. Place the supplied header gasket into position and install 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 35 lbs. evenly to insure proper seal.
  - Turn the steering wheel to the full right position and install the starter and connect the wiring. Adjust the wiring to insure that there is absolutely no contact with the header. Due to variations in the routing of the brake lines, it may be necessary to re-position a brake line to achieve adequate clearance from the header tube. A minimum clearance of ½+ from the header tube is required. Lower the engine onto the mount and re-install the motor mount nuts & bolts.
7. Passenger-side Header: Check the sealing surface of the exhaust ports to insure they are clean. Remove the original mounting studs and nuts. Place the supplied header gasket into position. Turn the steering wheel to the full left position. Insert the header into position from under the car. Use 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 35 lbs. evenly to insure a proper seal. Install the oil filter.
  8. Attach the adapter / reducers to the header collectors with the nuts, bolts and gaskets provided. The adapter / reducers may need to be shortened for your application.
  9. Re-connect the negative battery cable.
  10. 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.
    - To insure years of service from your ceramic-coated headers it is suggested to follow our Header Maintenance & Care procedures.
  11. Fill the radiator with coolant. Start the engine and check for leaks.

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

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.

 <p>1-3/4+Primary Tubes 3+Collectors</p>		<p>(2) Header Gaskets P/N: GA-HG21-318P HTX-900 exhaust gasket material is a high density fiber metal core composite.</p>
		<p>(16) Zinc Plated Header Bolts 3/8-16x1</p>
	 <p>65-66 C-body applications</p>	<p>Header Reducer / Adapter kit: (2) 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 &amp; washers.</p> <p>Footnote: <u>16</u></p>  <p>62-66 B-body applications</p>



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**HEADER APPLICATION**  
for TTI 318 POLY Header Part Noq  
**TTI318C**

1965-1966 "C"-bodies		Footnotes
Engine Size	318 wide block	<u>24</u> , <u>37</u>
Cylinder Heads	Poly	
Front Ends	Stock	
Auto Trans	Yes	<u>23</u> , <u>53</u>
Standard Trans	Yes	<u>23</u> , <u>53</u>
Floor Shift	Yes	<u>23</u>
Column Shift	Yes	<u>6</u>
Push Button	Yes	
Power Steering	Yes	
Manual Steering	Yes	
Air Conditioning	Yes	
Starters	Must use listed starters only	<u>10</u> , <u>18</u>
Steering Linkage	OEM only	<u>12</u>
Clutch Linkage	OEM only	<u>22</u>
Oil Filters	Screw-on short style or 90° angle adapter	
Oil Pans	OEM or Milodon	<u>11</u>

**Footnotes**

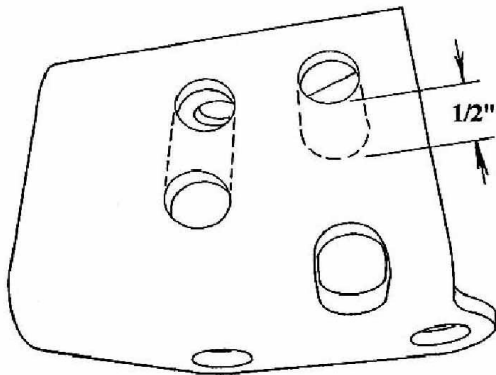
<u>6</u>	<b>Column Shift applications:</b> Due to various manufacturing designs; If your drivers-side stock straight torque shaft rod is mounted below the torsion bar, a modified " <u>Torque Shaft Assembly</u> " will be required. The stock straight torque shaft rod passes directly through the space where the TTI header tubes or TTI exhaust pipe (to manifolds) must go. See sheet #SHTC6573TSA
<u>10</u>	<b>Starters:</b> Chrysler Lightweight Mini Starters - part #'s: R53005984, 56027702AC Mopar Performance Lightweight Mini Starters - part #'s: P5249644AB, P5007860, P4286522 PowerMaster Adjustable Starter - part # 9523
<u>11</u>	<b>Oil Pans required:</b> 7-3/4" - 8-3/4" sump depth / Milodon part #'s: 30935, 30936, 30940, 30941
<u>12</u>	<b>Pitman Arm and Idler Arm:</b> 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)
<u>18</u>	Lightweight Mini Starters & the Powermaster Starter can easily be changed without removing the header.
<u>22</u>	Some Z-bars may require modification to clear header.
<u>23</u>	<b>Torque Shaft Lever:</b> Applications with an Auto Transmission & Floor Shifter will require the adjustable swivel and the lower rod attached to the torque shaft lever to be re-positioned to clear the header collector. Do-it-yourself modification Instruction sheet: #3703
<u>24</u>	If the engine is positioned to far forward, there will be interference with the idler arm and pitman arm. Clearance can be achieved by milling slots in the engine mount brackets and sliding the engine back. Do-it-yourself modification Instructions sheet #SHT704
<u>37</u>	Headers fit with Schumacher engine mounts or equivalent.
<u>53</u>	<b>Transmission:</b> 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.

## Engine Mount Modification (C-body Applications)

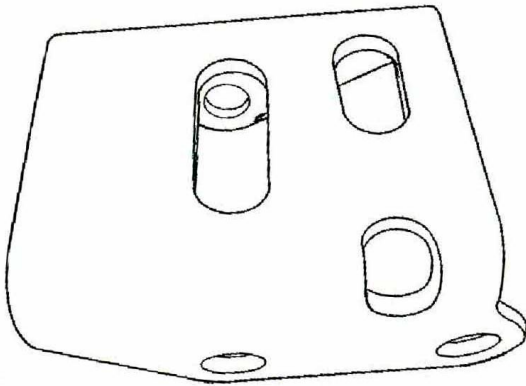
Suggested modification of the Engine mounts when pitman arm or idler arm interferes with the header tube.

By slotting holes  $\frac{1}{2}$  an inch, the engine can be moved toward the rear of the vehicle to achieve clearance of the header tube. The transmission mounts are normally slotted from the factory, but if they are not it will be necessary to slot the mounting holes as well.

### Drivers-side

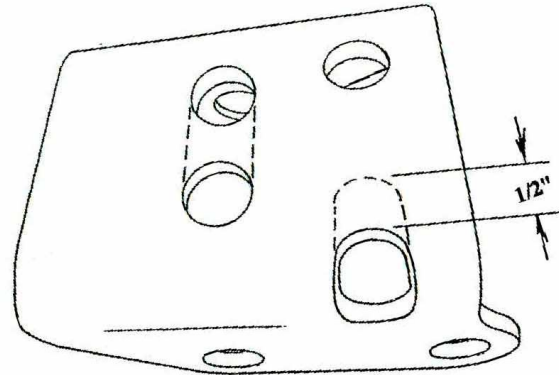


Un-Modified Mount

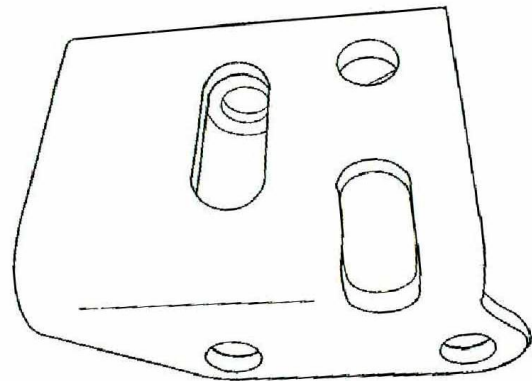


Modified Mount

### Passenger-side



Un-Modified Mount



Modified Mount



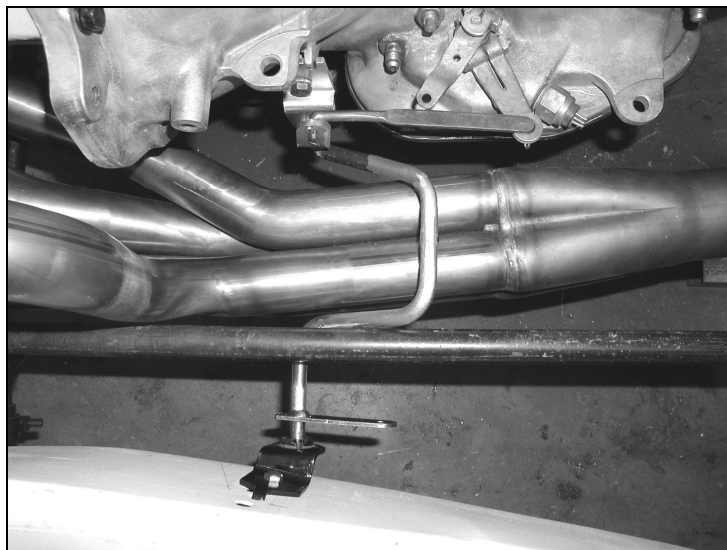
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Sheet # C6573TSA (FN #6)  
**Torque Shaft Assembly**  
**"C"-body Column Shift**  
**applications only**

Due to various manufacturing designs of the column shift linkage in some C-body vehicles, you may require a TTI modified design %Torque Shaft Assembly+. A Torque Shaft Assembly is required if the Drivers-side stock straight torque shaft rod is mounted below the torsion bar. The stock straight torque shaft rod passes directly through the space where the Header tubes or the Exhaust Pipe (to manifolds) must go.

**TTi Modified Torque Shaft Assembly**

This precision bent Torque Shaft Assembly with laser cut ends go up and over the Header tubes or Exhaust Pipe which allows you to maintain your column shift linkage and is a direct bolt-on replacement of your stock straight torque shaft rod.



Automatic Transmission with Floor Shifter will require repositioning of the adjustable swivel and lower rod attached to the torque shaft lever. Move them to the upper side of the torque shaft lever to clear the header collector. Some models will require additional modification for clearance of the shifting lever. (See diagram)

The support bracket is cut through and overlapped approximately ¼" and re-welded, making it shorter and moving the shift lever away from the collector.

