



Intake Manifold for Ford Racing Crate Long Blocks INSTALLATION INSTRUCTIONS

NO PART OF THIS DOCUMENT MAY BE REPRODUCED WITHOUT PRIOR AGREEMENT AND WRITTEN PERMISSION OF FORD RACING PERFORMANCE PARTS.

Below is a picture of everything needed to accomplish the installation.



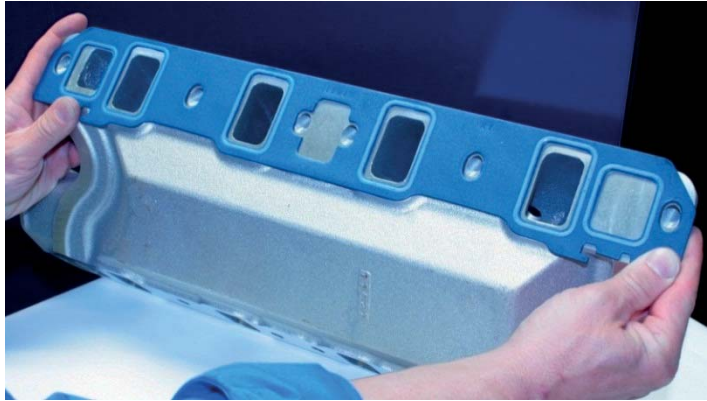
- M-9439-A50 intake gaskets. These are included with your crate engine. **NOTE: cork end rail gaskets are not used.**
- (12) Intake manifold bolts 5/16-18 UNC grade 8, with flat washers
- Torque wrench
- Motorcraft TA-29 silicone or equivalent RTV high temperature silicone sealer
- 6" Ruler and set of feeler gauges
- Surface cleaner (Brake Cleaner) or lacquer thinner (not pictured)
- A gasket sealer/contact cement: such as Gasegacych®, High Tack® or Indianhead®

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INSTALLATION INSTRUCTIONS

STEP 1: Check port and gasket alignment to intake manifold and cylinder head. Some aftermarket intake manifolds do not match Ford Racing cylinder heads. Position the gasket on the manifold where the locking tabs (beneath the water cross over holes) will contact the head gaskets.



STEP 2: Inspect intake manifold for debris, and make sure it's clean. Check all threaded holes and tap deeper if necessary. Check the carburetor/throttle body gasket alignment. Also look at the gasket surfaces for nicks and damage, raised surfaces on the flanges can impede sealing.



STEP 3: Test fit the carburetor/throttle body and actuate the linkage. Check to make sure the throttle blades do not contact the manifold.

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STEP 4: Grade 8 bolts are recommended for intake manifold installation. Grade 8 bolts are identified by (6) hash marks on the head of the bolt. The torque specs supplied are for grade 8 fasteners.



STEP 5: A pre-assembly mock up is required to check the proper fit of the intake manifold to the long block assembly.

- Place the intake manifold on the long block without the intake manifold gaskets
- **The gap at the end rails needs to be .040" minimum.** This check insures that the manifold will not "bottom out" on the end rails of the block. If it bottoms out, there is insufficient clamp load between the intake manifold and cylinder head, and it's likely that oil will be sucked into the intake runners.
- **If the gap is less than .040" the end rails of the manifold will need to be machined.** This can be checked with a scale or feeler gauges.

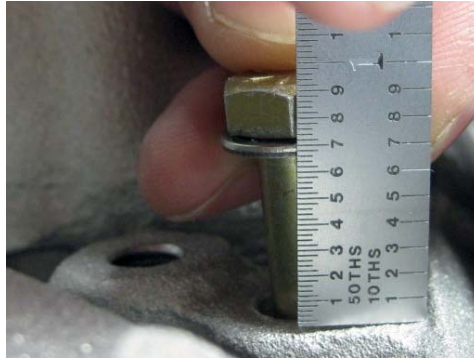


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STEP 6: The minimum thread engagement required for the intake manifold bolts is **.625"** or **5/8"**.

- Too little thread engagement can damage threads and strip out.
- Thread engagement **must** be checked on an individual basis due to the variety of intake manifolds available.
- Measure thread engagement from intake manifold to bottom of flat washer.



STEP 7: Apply surface cleaner to a lint free cloth or paper towel, clean all gasket surfaces, manifold and block end rails.



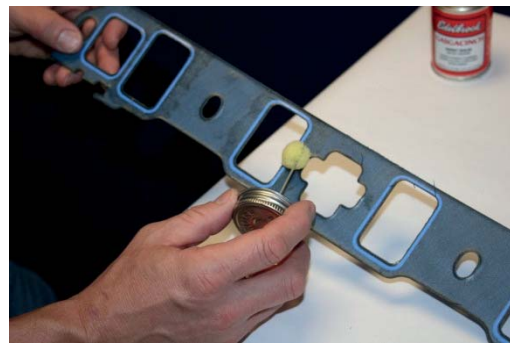
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STEP 8: Two different types of sealers are used during intake manifold installation: 1) a contact cement type such as Gasegacinch®, or High Tack®, and 2) Silicone. The recommended silicone is Motorcraft TA-29®.



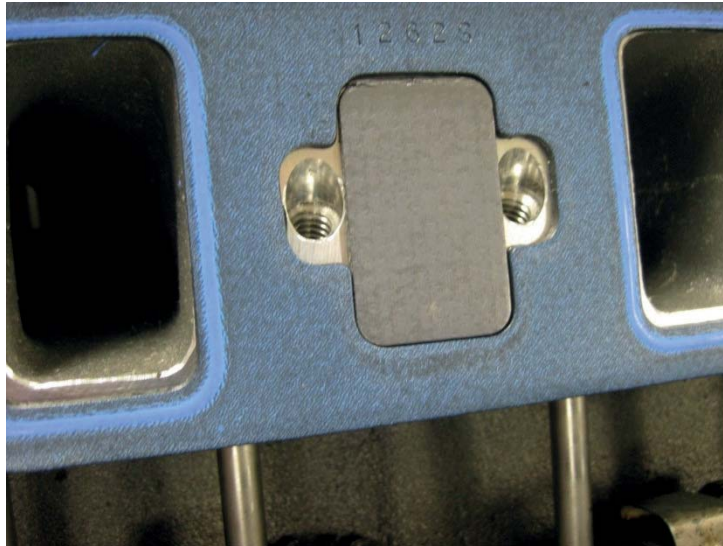
STEP 9: Apply a thin coating of Gasegacinch on the head intake port flange and the head side of the intake manifold gasket. Within a few minutes, the surfaces will start to dry and become tacky. Carefully place the gaskets on the head surface aligning ports and bolt holes.



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STEP 10: Install EGR gasket or block-off, depending on intake manifold style. If the manifold does not have an EGR passage (no EGR passage on our example) the block-off is used.



STEP 11: Rub an initial thin layer of silicone onto the end rails of the intake manifold and block.



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STEP 12: Apply a thick layer of silicone onto the end rails of the block, be sure to apply in corners.



STEP 13: Apply a thin layer of silicone around the water openings (4 places).

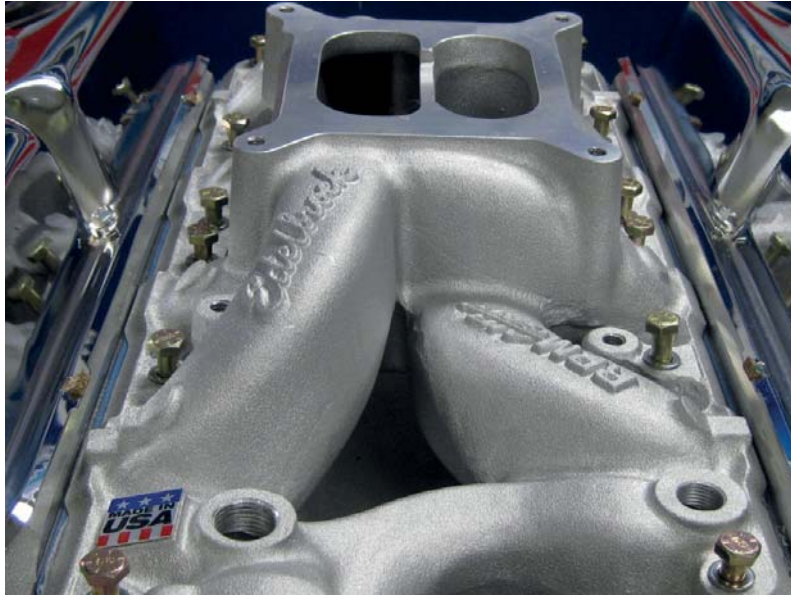


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STEP 14: Set intake manifold on engine.

STEP 15: Apply a drop of oil to the threads of the intake manifold bolts, and install intake manifold bolts.



STEP 16: Start all bolts by hand and hand tighten. Torque intake manifold bolts in two steps (sequence is shown below):

- Step 1: Tighten to 5-10 lb. ft (6-14 Nm)
- Step 2: Tighten to 15-18 lb*ft (31-34 Nm)
- Note: Repeat step 2 several times until bolt torque is stabilized
- **Re-torque after 10 engine heat cycles – completely cold to full operating temperature**

