



Trick Flow® R-Series Tunnel Wedge Intake

Ford 390-428

Thank you for purchasing a "Trick Flow R-Series Tunnel Wedge" aluminum intake that has been specially designed to perform on a Ford FE 390-428 engine.

Please follow the steps that are outlined within this instruction manual to ensure that the installation of your new intake is done correctly and that it performs according to its design.

Please read all of the enclosed information **before** beginning any work. If you have any questions or concerns regarding installation or written materials with your new intake, please contact the Trick Flow technical department at **1-330-630-1555** for assistance Monday through Friday between 9:00am and 5:00pm EST.

Project Overview

- Review all paperwork included in the installation packet.
- Inspect the condition of all components.
- Verify that the part numbers and quantities of each product are correct. (See "Parts Checklist")
- Fill out and mail the warranty card to Trick Flow
- Gather tools from "Recommended Tools" section.
- Purchase any necessary additional parts. (See "Additional Parts Required.")
- Remove existing intake.
- Clean and inspect the engine block thoroughly.
- Install the new intake.
- Finish installation of pushrods and adjust valvetrain.
- Make necessary tuning adjustments.
- Test drive and enjoy your new intake!

Recommended Tools

- Shop manual for your vehicle.
- Basic mechanics tool set.
- Torque Wrench
- Hammer and wood block (for fill tube)
- 1-3/8" freeze plug driver (for non-fill tube)

Additional Parts Required

These components are a requirement to have in order to complete the installation of your new intake. Please refer to the "Recommended Components" chart on the "Technical Specifications" sheet for specific part numbers.

- Intake Gaskets: FEL-1247
- Intake Bolts
- Permatex Ultra RTV Sealant
- Teflon Thread Sealant

Parts Checklist

You should have received the parts listed below in your intake manifold package. Please verify the part numbers and quantities of each component received.

- (1) Trick Flow R-Series Tunnel Wedge Intake (TFS-56400114)
- (1) Tunnel Wedge Intake Valley Plate Kit (TFS-56400830)
 - Valley plate, o-ring stock, 14 socket head cap screws, locking wire
- (1) Tunnel Wedge Intake Breather Cover Kit (TFS-56400840)
 - Breather Cover, gasket, 2 button head cap screws
- (1) Brass Expansion Plug
- (1) 3/8" NPT x 5/8" Barbed Fitting

If you are missing an item or a part was received in error, please contact Trick Flow at **1-330-630-1555** Monday through Friday between 9:00am and 5:00am EST.

Installation Instructions

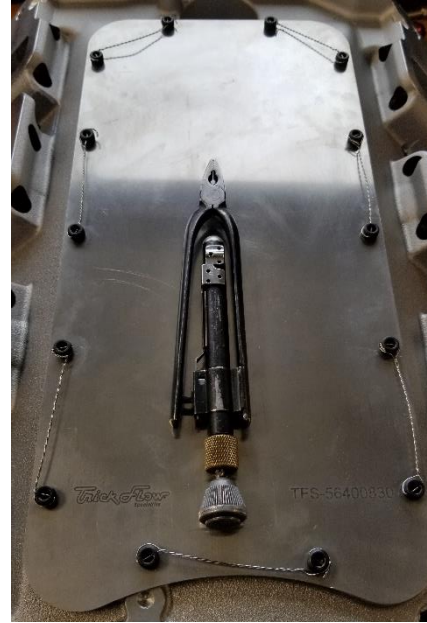
1) Old Intake Removal

- Disconnect the negative battery cable.
- Turn the engine until the #1 piston is at TDC on the compression stroke.
- Disconnect all linkages, hoses, and electrical connections going to the carburetor and manifold.
- Remove the carburetor.
- Remove the distributor cap and plug wires. Mark the distributor's rotor position and take a picture of that location as well.
- Remove the rockers and pushrods from the cylinder heads.
- Remove the intake. Note the position of any bolts or studs, so they can go back in their original location.

- Remove the old intake and any other sealing material. If you need to scrape off the gasket surfaces, make sure to not get any debris into the ports or lifter valley.

2) *Test Fitment of New Intake*

- Since this intake incorporates the pushrod holes in its design, it is important to check that there is clearance between your pushrods and the pushrod holes.
- Place your intake gaskets on the cylinder heads **without** using any RTV or sealant.
- Start all of the bolts by hand; there is no need to torque at this point.
- Install the distributor and make sure it's fully seated.
- Install rockers and pushrods; inspect for clearance between the pushrod and each of the pushrod clearance holes.
- If there is not enough clearance, grinding may be necessary. **Do all grinding with the intake off of the engine and be sure to clean all loose metal off of the intake before re-installing.**



3) *Install the Valley Cover Plate*

- Flip the intake over with the carb flanges facing down.
- Clean the o-ring groove as well as both mating surfaces (the rail on the intake and the top surface of the valley plate.)
- Lay the o-ring into the o-ring groove on the intake and cut to a length that allows the ends of the o-ring to butt up to each other.
 - The best application would be to use Loctite 404 adhesive on the ends of the o-ring, but this is not completely necessary.
- Place the valley plate on the intake. The Trick Flow logo should be facing towards you (towards the engine side.)
- Put blue Loctite on all of the 1/4" bolts and install them in a crisscross pattern.
- While it is not required, it is highly recommended to install the steel wire to ensure that the bolts cannot back out while inside of the engine.
- There is 7 feet of wire included, so you can basically cut it into seven 12" sections for each pair of bolts.

4) *Install the Breather Cover Plate*

- Lay the intake with the carburetor flanges up and place the included gasket and cover over the open hole at the rear of the intake.
- Use the two supplied 1/4" bolts to tighten the cover down.

5) *Install the Fill Tube or Included Expansion Plug*

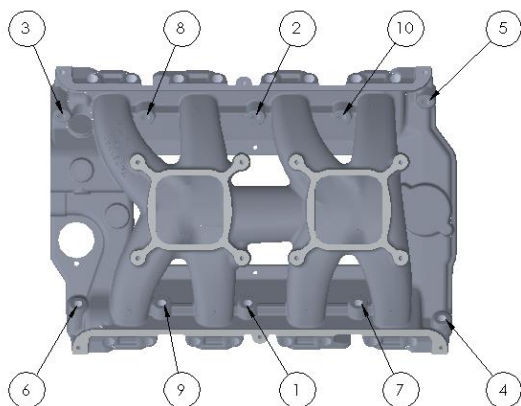
- There is clearance cut machined into the fill tube hole to allow the tube or expansion plug to rest in and square up on the hole. Be sure to use a sealant such as Permatex Ultra RTV on both the freeze plug and the intake to lubricate and seal the plug.
- There is going to be a fair amount of press fit, so be sure that if you're installing a fill tube to use a piece of wood or other softer material between the tube and hammer when you beat the tube down in so that there is no damage to your tube.
- If you aren't using a fill tube, then install the included expansion plug using an expansion plug installation tool

6) *New Intake Installation*

- Place the intake gaskets on the cylinder heads, making sure that the sealer on the end rails overlaps all four corners of the intake gaskets where they intersect.
- Run a 1/4" bead of Permatex Ultra Black RTV sealer along the end rails.
- Put the new Trick Flow intake on the block and set it down evenly. Lightly coat your intake bolts with sealant and put them in their proper holes, tightening by hand.
- Before going through the torque sequence, be sure to install the distributor to ensure proper alignment. Remove the o-ring/seal from the distributor, install it, and then center the distributor hole in the intake to the distributor.



- Install the intake mounting bolts to hold it in place and lightly tighten them.
- Check to ensure that the ports line up between the intake and the cylinder head.
- Remove the distributor, replace the o-ring, lubricate it with oil, and then reinstall into the engine.
- This section may have seemed unnecessary and redundant, but it is a critical step to ensuring that your distributor is perfectly centered and there is no unwanted stress put on the distributor or the intake.
- Damage can occur to the distributor and/or the intake if these steps aren't taken!
- Torque the bolts in the sequence shown below.



- Install the carburetor studs in the intake and then install the carburetor gasket.
- Reinstall your carburetors on the Trick Flow manifold.
- Reinstall all remaining components in the reverse order of disassembly. Make sure to put the distributor back in the correct position. Adjust all cables and connect the negative battery cable. Be sure to check your timing and rotor phasing at startup.
- Check for any fuel leaks and then test drive the vehicle. Make tuning adjustments depending on application.

Recommended Parts

- Intake Bolts (Eight at 2.750" and two at 1.750"; standard FE Tunnel Wedge bolt length)
 - (8) ARP-642-2750 and (2) ARP-642-1750
- (2) Carburetor Gaskets (FEL-1914)
- Intake Gaskets (FEL-1247)
- FE Manifold Mounted Fill Tube
 - Survival Motorsports (Blue Thunder BTIMFEOF)
- Rear Breather
 - Survival Motorsports (Blue Thunder BTIMOB)

The parts below are available through Carl's Ford Parts in Ohio. We highly recommend calling them for any FE 2x4 carburetor questions.

Carl's Ford Parts
330-206-2970 or 330-525-7291
info@carlsfordparts.com

- Carburetors
 - 2926-2927 427 2x4 Hi-Riser Holley (C4AF-9510-CU-CV)
 - 3300-3301 427 Fairlane 2x4 Holley (C5AF-9510-BC-BD)
- Air Cleaners
 - 289-390 2x4 Stelling & Hellings
 - 427 2x4 Oval with 427 Badge
- Linkage/Fuel Log
 - 427 Medium Rise 2x4 Linkage
 - 390-427 2x4 Fuel Log

Ultimate Bolt-On Performance® Lifetime Warranty

Trick Flow Specialties cylinder head castings are backed by a lifetime warranty.

If a cylinder head casting fails to provide the original purchaser with complete satisfaction, Trick Flow Specialties will repair or replace it free of charge — guaranteed!

Moreover, the valves, valve guides, valve seats, valve job, valve springs, valve spring retainers, valve locks, rocker arm studs, guideplates, and valve stem seals included on assembled Trick Flow Specialties cylinder heads are warranted to the original purchaser to be free from defects in materials and workmanship for a period of two years from the date of purchase. All other Trick Flow Specialties products are warranted to be free from defects in materials and workmanship for a period of 90 days. There are no mileage limitations.

Extent of Warranty

Customers who believe they have a defective product should return it to the dealer from which they purchased or ship it freight prepaid to Trick Flow Specialties along with proof of purchase and a complete description of the problem. If a thorough inspection indicates defects in materials or workmanship, our sole obligation is to repair or replace the product.

This warranty is only if the product is properly installed, subjected to normal use and service, did not fail due to owner negligence or misuse, and has not been altered or modified.

Trick Flow Specialties warranties do not cover any installation or removal costs.

Trick Flow Specialties is not liable for consequential damages for breach of contract of any warranty in excess of the purchase price of the product sold.

PROPOSITION 65 WARNING

This product may contain one or more substances or chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.

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