

These FST Carburetors are designed to fit onto a 4500 style manifold. A simple plate adapter is required in order to fit onto a spread bore intake manifold.



Special Note: These carburetors are not legal for street use in the state of California. Other states may have laws that preclude their use. Check with local authorities.

INSTALLATION INFORMATION

for the following models

Billet Excess and Billet Excess Pro Series

Understanding These Instructions

It is important to read and understand these instructions before starting on the installation of the carburetor. If you have access to a competent tuning shop, you might consider having the installation done by a professional.

Select a shop with an engine or chassis dyno so that proper final tuning can be performed to get the maximum performance from your new FST Carburetor. Correct fine tuning of your engine is important to achieve the best results.

Please note that every FST Carburetor is run on an engine test stand and fully tuned by our technicians for optimum performance. However, due to the wide variation in engines that it may be installed upon, additional fine tuning may be necessary once it is installed.

Note these carburetors are designed to utilize 6 - 6.5 PSI of fuel pressure. Note fuel pressure should not exceed 9 PSI.



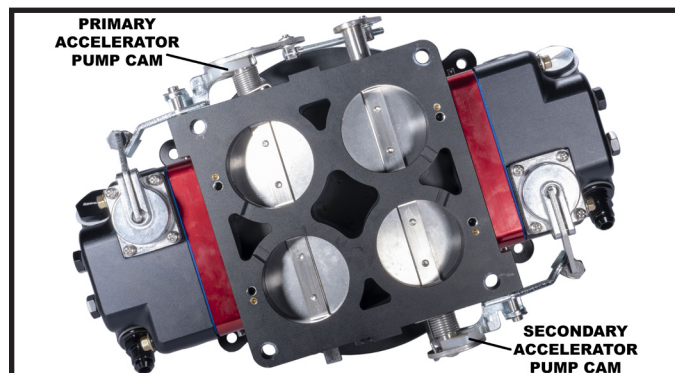
REMOVING YOUR EXISTING CARBURETOR

These are general instructions meant to apply to all carburetors. However, due to differences in design, these instructions may not specifically address your carburetor in every respect.

1. Disconnect the Negative (-) battery cable to prevent any sparking in the presence of fuel or fuel vapors.
2. Remove air cleaner and any hoses or vacuum lines connected to it or the carburetor. Tag the hoses so you know where to reinstall them.
3. Remove fuel lines from the carburetor. Be careful not to twist or damage the lines or fittings.
4. Remove any return springs and disconnect linkage.
5. Remove the four nuts holding the carburetor to the manifold along with any lock washers or flat washers.
6. Once all connections to the carburetor are disconnected, the carburetor can be removed.
7. Cover inlet openings in the manifold to avoid any loose parts or debris falling into the engine. A loose nut can destroy an engine.

INSTALLING YOUR NEW FST CARBURETOR

1. Set the old and new carburetors side by side so that you can determine any differences between them. Transfer any linkage components from the old carburetor to your new FST Carburetor if applicable.
2. Now remove coverings on intake manifold and install four carburetor mounting studs (not provided). Next place the new carburetor gasket and new FST carburetor in correct orientation on intake manifold. Install throttle cable bracket over the driver's side rear stud if applicable.
3. Install the four hold down nuts with any washers (if used) and tighten progressively in a cross pattern (60-80 in-pounds). Over tightening can lead to cracking or breaking of carburetor throttle body and is not covered by manufacturer warranty.
4. Before attaching the throttle linkage or any other linkages, ensure throttle travels wide open and closed without any binding or sticking.
5. With engine and fuel system off, have someone else depress the accelerator pedal to the floor, again verifying that the throttle opens wide open and closed without any binding or sticking. If resistance is experienced, make sure the problem is eliminated, allowing smooth operation of all linkages.
6. Installation of a positive return spring is required. Cycle the linkage to make sure that the return spring is fully retracting the linkage.



SPECIAL NOTE: While all FST Carburetors are designed and calibrated to operate on a wide range of various engine combinations, no carburetor can possibly have a single calibration that will function at peak efficiency on every conceivable engine. The FST Carburetor will work satisfactorily on the majority of engines without further adjustments or tuning. However, should it be necessary to alter the basic fuel curve, there is plenty of tuning capability available. These types of tuning adjustments need to be performed by a professional tuning shop or someone with extensive experience tuning carburetors.

STARTING THE ENGINE

1. Reconnect the Negative (-) battery cable.
2. Connect fuel lines to carburetor fuel bowl inlets. Do not use Teflon tape or thread sealant on these fittings. Make sure the fitting threads and the flare portion of the fitting are clean and free of dirt or debris. Tighten adequately to avoid fuel leakage.
3. Before attempting to start the engine, the fuel bowls must be filled with fuel. If you have an electric pump, turn on the ignition and allow about 15 seconds for the pump to fill the fuel bowls. If you have a mechanical pump, pull the coil wire from the distributor so the engine won't start, and allow the starter to turn the engine in two separate 10 second cranks. Replace the coil wire.
4. With the vehicle on level ground, check the sight glass for each bowl to confirm that the fuel level is in the middle of the glass. If not, you may not have fully filled the bowls. Wait another 10 seconds. Note that the FST Carburetor was set-up at the factory to have the float level at the mid-point of the sight glass. If the fuel level is not in the proper location, you may have to adjust the float level. If your fuel pressure regulator is not regulating the fuel between 6 to 6.5 psi this may be the reason your fuel level is not at the correct level in the sight glass. The most accurate way to check the float level is with the engine running. After you get the engine running, check it again and adjust as necessary.
5. Once you have the float levels correctly established prime the accelerator pumps by opening the throttle lever two to three full cycles. Now you can start the engine. It will not be necessary to pump the accelerator pedal while attempting to start the engine. However, if it does not start on the first attempt, pump the throttle a couple more times and try starting the engine again.
6. Once engine reaches operating temperature set idle speed to desired RPM both in and out of gear with idle adjustment screws. It is recommended both the primary and secondary throttle plates be balanced when adjusting idle speed for optimal carburetor performance.
7. If equipped install air cleaner gasket and air cleaner.

AIR BLEEDS

This FST carburetor has eight air bleeds on both the primary and secondary sides of the main body (total of 16). The sizes of the bleeds installed in your carburetor have been determined through extensive testing and have been found to be optimal. Depending on the circuit configuration your carburetor has, some or all of these air bleeds are utilized. If unsure, consult specific carburetor spec to verify air bleed sizing and configuration.

FUEL BOWLS

FST Billet Excess/Excess Pro carburetors are sold with one of two styles of fuel bowl; the standard dual inlet bowl, and an optional 3 Inlet Viper style. Both styles feature two drain plugs located on the face of the bowl for easy draining.

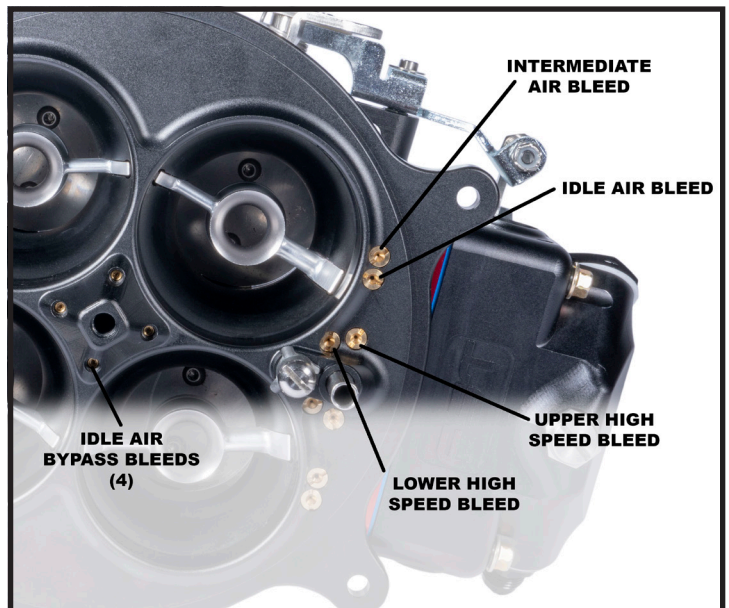
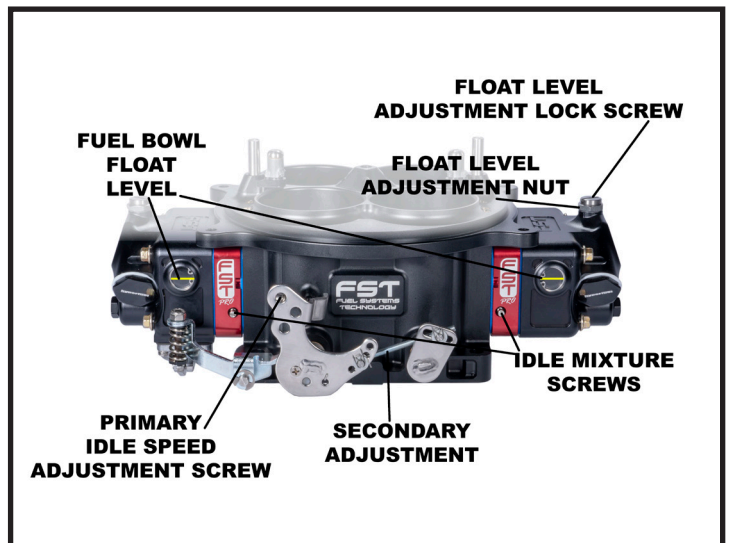


TUNING AND ADJUSTMENT

Your new FST carburetor has been tuned from the factory for optimal performance. However, due to variations in camshaft, intake and cylinder head design, additional tuning may be required. If fuel adjustment is necessary, make sure to keep track of jet and bleed sizes. If you make a change that results in an undesired outcome, you will be able to return to your baseline.

METERING BLOCK

The primary and secondary metering blocks on this carburetor feature 4 or 5 stages of emulsion that provide a means for custom tailoring fuel delivery. The size of the emulsion bleeds in the metering block are determined by FST engineers using both a dynamometer and wideband oxygen sensors. This tuning should be acceptable "out of the box". Should you feel it necessary to adjust these emulsification bleeds, it is suggested that you do so at the advice of an expert engine tuner with access to a dynamometer and wideband oxygen sensing equipment.



Use the chart below to keep a record of any changes that you make to your FST Carburetor.

MAIN BODY		
	Primary	Secondary
PUMP NOZZLE		
BOOSTERS		
B-PIN SIZE		
HIGH SPEED AIR BLEED		
IDLE AIR BLEED		
SLOT RESTRICTION		
VENT TUBE		

METERING BLOCK		
	Primary	Secondary
MAIN JET		
POWER VALVE		
P/V CHANNEL RESTRICT.		
EMULSION		
KILL BLEED		
IDLE FEED RETRICT.		
CROSS CHANNEL/MAIN		

FUEL BOWL		
	Primary	Secondary
NEEDLE AND SEAT		
FLOAT		
THROTTLE BODY		
	Primary	Secondary
PUMP ARM		
PUMP CAM		
THROTTLE SHAFT		
THROTTLE LEVER		

NOTES	1/4 Turns on Mixture Screw	
	Front	Rear



California 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.
www.P65Warnings.ca.gov



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FST CARBURETORS LIMITED WARRANTY

<p>Limited Warranty: FST warranty is limited to repair or replacement (at our discretion) of any FST part that fails because of a defect in workmanship or materials.</p> <p>Implied warranty: Any warranties implied by law are limited to the duration of this warranty (except in those states where prohibited by law).</p> <p>How Long It Is Covered: All FST products are warranted for a period of one year from date of original retail purchase with an original receipt showing proof of purchase. Certain components of the FST Carburetor are limited to a 90 day warranty period. See separate complete Limited Warranty document for a list of specific components.</p> <p>Who We Cover: All FST warranties apply to the original purchasing consumer.</p> <p>What We Do Not Cover: Failure of a product due to misapplication, improper installation or maintenance, misuse, abuse, unauthorized repairs, accidents, or modifications to the original design. Removal or replacement costs, shipping costs, damage to related components, and costs incurred due to downtime of vehicle. Any product used in marine applications unless specifically stated for marine usage. Any parts used in racing applications or subject to excessive wear.</p> <p>Warranty Service Procedure: In the event a problem develops with one of our products, contact our customer service department at 248-779-8008 or email to info@fstcarb.com. It may be determined that the product will have to be returned</p>	<p>for inspection and/or repair. A Return Merchandise Authorization (RMA) number will be assigned to you. This number must be on the box shipped back to FST Customer Service. The product must be returned via freight prepaid. It must be accompanied by a clear description of what the problem is with the product. If the product is determined to be defective within the warranty period, FST will repair, replace, or issue credit to the original consumer at our discretion. Any repaired or replaced product will be returned to the sender via prepaid Fedex or other ground carrier.</p> <p>Return Policy: FST guarantees its parts and is confident that our products will meet with your complete satisfaction. If the product does not meet your expectations, return it within 60 days for a refund or exchange. You can return the new, unused part within 60 days from the purchase date. To make a return, call our Customer Service Dept. at 248-779-8008 to receive a Return Merchandise Authorization (RMA) number. You must include the RMA number and a copy of the product purchase receipt with the return. The product must be sent back freight prepaid, in the original manufacturer's box to FST Customer Service, 2000 Winner St., Commerce Twp., MI 48390. Returns may be subject to a 15% restocking fee. No refunds will be issued without a copy of the receipt.</p>
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