40 Huntingwood Drive Huntingwood NSW 2148

Phone: (02) 8825 1999 Website: www.aeroflowperformance.com

INSTALLATION MANUAL

AEROFLOW PERFORMANCE

INTAKE MANIFOLD

WARNING!

BEFORE PROCEEDING WITH INSTALLATION PLEASE READ INSTRUCTIONS CAREFULLY. THIS PRODUCT REQUIRES DETAILED KNOWLEDGE OF AUTOMOTIVE SYSTEMS. WE RECOMMEND THAT THIS INSTALLATION BE CARRIED OUT BY A QUALIFIED AUTOMOTIVE TECHNICIAN.

PLEASE CHECK THE INTAKE MANIFOLD THOROUGHLY IN EVERY POSSIBLE WAY. IF YOU SUSPECT A DEFECT OR SHIPPING DAMAGE, CONTACT AEROFLOW PERFORMANCE OR THE DEALER IT WAS PURCHASED FROM BEFORE ANY WORK HAS BEGUN. AEROFLOW PERFORMANCE WILL NOT BE RESPONSIBLE FOR DEFECTS AFTER ANY WORK HAS BEEN STARTED.

It is recommended to inspect all intake passages for defects. Also, wash the manifold using mild soap and water solution. Check the fit on all bolt holes for proper alignment and thread any fittings in first by hand. Failure to perform these simple checks could result in engine damage and may void your warranty.

Due to manufacturing processes associated with cast aluminium, in certain conditions the cast intake manifold may develop a light oxidation on the surface. To prevent this oxidation, thoroughly clean the manifold prior to installation and on a regular basis with a mild cleaner formulated for cast aluminium.

INTRODUCTION

Congratulations on your purchase of Aeroflow Performance Intake Manifold. Aeroflow Performance products cannot and will not be responsible for any damage, or other conditions resulting from misapplication of the parts described herein. However, it is our intention to provide the best possible products for our customer, products that perform properly and satisfy your expectations. Should you have any questions? Please call technical support at +61 2 8825 1979 and have the product part number on hand when calling.

Get the maximum power from your carburetted engine with this Classic Small Block Chevy carburetted cast intake manifold. This dual-plane intake manifold is designed to keep your air and fuel distribution going into the engine at a steady and even flow for maximum performance and efficiency. The carburettor-mounting pad is designed to accept aftermarket square-bore carburettors with either manual or electric choke options available on today's market. Specifically designed for 262-400 cubic inch small-block Chevy engines operating in the idle to 5500 rpm range. In most cases, these manifolds accept late model water necks, air conditioning, alternator and H.E.I. ignition systems. Although some alterations and modifications may be required.

This intake manifold is equipped with EGR (Exhaust Gas Recirculation); therefore, they are compatible with exhaust emissions or emissions related components. A EGR block off plate and gasket is provided if you do not require the emissions components.

Port Size of this intake manifold is 1.16" x 1.82".

Overall Height to Carb Pad to Bottom of Intake Manifold is 100mm.

For more information or technical enquires

Contact: Aeroflow Performance on

Phone: (02) 8825 1979 Website: www.aeroflowperformance.com

Installation Guideline

For a complete installation of the Aeroflow Performance intake manifold you will require some extra components as well as the original parts that must be purchased separately.

Installation is the same as for the original equipment intake manifold. Consult the factory service manual for specific procedures, if necessary.

The following list is a guideline of suggested parts that may or may not need to be purchased;

- Intake manifold gasket set (Fel-Pro 1204) to suit 1.15." x 1.82" Port Size.
- Oil-resistant, silicone-based sealant (ThreeBond, Gasket Marker)
- NPT plugs or fittings, if required.
- Carburettor-base gasket (if using a square bore carburettor)
- PTFE paste (AeroSeal)
- Thermostat Housing
- Throttle/Kickdown Brackets (OEM/Aftermarket may fit with modifications)
- Distributor clamp and gasket

The following installation instructions must be carefully read and understood before you begin the installation procedure below. Improper application or installation of this product may result in unsatisfactory performance, fuel mileage, or emissions.

Check that this intake manifold is the correct choice for your engine application, desired performance level, and local emissions laws.

Check for sufficient bonnet clearance with this intake manifold and intended carburettor / air cleaner combination to be used. Always check bonnet clearance prior to removal of original manifold to determine how much clearance you have. This can be carried out with modelling clay or putty. Position the putty onto the air cleaner in five different areas of the air cleaner, front, rear, each side and center. Close the bonnet and lock into the closed position. Open the bonnet and measure the height of the putty, this figure will give you the amount of clearance you have between the bonnet and the air cleaner.

Before removing the old intake manifold ensure to measure the height and compare to the new manifold to ensure sufficient bonnet clearance. Lay a straightedge across the top of the carburettor pad on the intake manifold. Measure from the engine block to the carburettor pad. Record and compare both measurements on the old and new intake manifold. Ensure to dummy fit both intake manifolds with all require accessories such as intake gaskets and spacers if required.

Check that you have the proper intake manifold fasteners for this application.

If using your old carburettor, before you remove it from the engine make sure it is working properly and that the carburettor is tuned properly. If you are using a new carburettor, make sure you have read and understand the installation instructions for that carburettor and that the initial adjustments are within the manufacturer's specifications.

Before removing your intake manifold, make sure that your ignition system is in good working order; check and note the current ignition timing. Make sure that the timing marker is present and understandable. With the engine at top dead center on the #1 cylinder, note and mark the orientation of the distributor body to the engine and the orientation of the rotor to the distributor body. This will aid in the re-installation of the distributor.

Before removing your old intake manifold check all of your fuel, water, and vacuum hoses and their connections. Make sure that there are no leaks and that the hoses are in good condition. Mark the locations of your hoses making sure that there is a corresponding location on your new intake manifold for all of the hose fittings and gauge sensors. Fitting and hoses that are not in good condition should be replaced.

These instruction guidelines listed below are designed to cover a wide variety of vehicle applications. if you are unfamiliar with any of the procedures in these instructions consult a shop manual for your vehicle and engine application.

Intake Manifold Removal Guideline

1. Disconnect the ground cable from the battery.
2. Clean any loose debris, dirt, and grease from the top of the engine adjacent to the intake manifold and valve covers. This will help prevent harmful debris from falling into the engine during the installation process.
3. Identify the vacuum and crankcase ventilation hoses (if applicable) leading to the intake manifold, carburettor and air cleaner. Mark down the routing and connection points.
4. Remove the air cleaner.
5. Drain the radiator. (It may be necessary to remove the bottom radiator hose if there is no drain plug in the radiator). **CAUTION : Hot water and steam may be present if the engine is still warm we recommend to allow engine to cool before removing intake manifold.**
6. Disconnect the throttle linkage, transmission kick-down linkage (auto transmissions only), and choke rod from the carburettor, (if applicable).
7. Loosen the fuel tank cap to relieve pressure from the fuel system. Disconnect the fuel line at the carburettor. Plug the end of the fuel line to prevent fuel leakage.
8. Remove the carburettor and set aside.
9. Mark down and disconnect the ignition coil and sensor wires. Remove the ignition coil bracket and the coil.
10. Remove the radiator hose, thermostat housing, and the thermostat from the intake manifold
11. Remove all water and vacuum fittings from the intake manifold. Mark down where each connection is located.
12. Remove all remaining brackets (if any) from the intake manifold.
13. Loosen and remove the valve covers to assist in the manifold removal and the new manifold installation. This may or may not have to be undertaken depending on access and application.
14. To remove the distributor from the engine, follow these steps below;
    - **I.** Set the engine on Top Dead Center (after compression stroke) for #1 cylinder using the crankshaft timing marker.
    - **II.** Remove the distributor cap.
    - **III.** Mark the position of the rotor on the distributor body in line with the rotor tip (it should point to the position of the cylinder #1 spark plug wire on the distributor cap).
    - **IV.** Mark the position of the distributor vacuum canister (or other distributor body feature) and place some type of reference mark on a convenient surface not attached to the intake manifold.
    - **V.** Remove the distributor. DO NOT rotate the engine after removing the distributor (but if you do, the crankshaft timing marker is your reference).
15. Remove all intake manifold-to-cylinder head bolts
16. Remove the intake manifold. If the intake manifold is stuck hard to the mounting flanges, do not pry against cylinder head port flanges, as they could become damaged and compromise the gasket sealing with your new intake manifold. Double check that all of the bolts have been removed and pry upward carefully at the engine block end seal surfaces.

For more information or technical enquires

Contact: Aeroflow Performance on

Phone: (02) 8825 1979 Website: www.aeroflowperformance.com

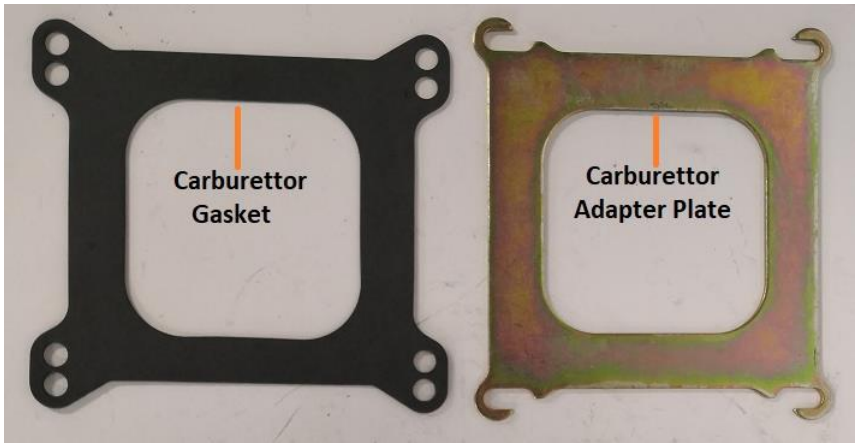
Intake Manifold Install Guideline

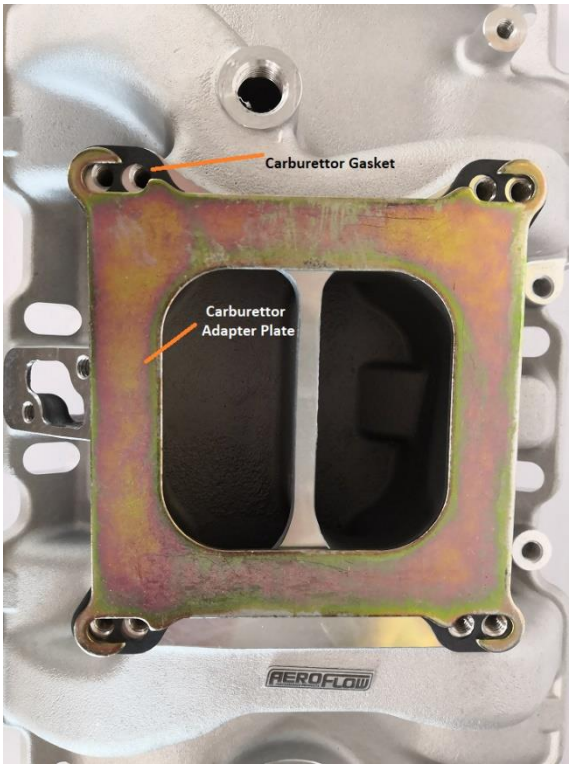
1. Clean the cylinder head port flange and the engine block end seal surfaces. To prevent gasket pieces from falling into ports and the lifter valley when cleaning old gaskets from head surfaces, stuff paper towels into all the ports and lay rags in the lifter valley. When clean, carefully remove the paper towels from the cylinder head ports and then the rags from the lifter valley. Make sure that all particles that fell on the rags are completely removed. Wipe surfaces with rags soaked in solvent, such as brake cleaner or lacquer thinner to remove any oils or grease. This is a must for proper manifold/gasket sealing.
2. Lay the manifold gaskets in place, making sure that the gasket locating pins are inserted into the cylinder head port flange and the gaskets will not slip properly installed into position.
3. Trial fit your new intake manifold before applying any RTV silicone sealant. Place the new intake manifold into position; check that it sits down, properly seated on the intake manifold gaskets. There should be gap between the engine block and the manifold at the end seal surfaces. Check to make sure all of the intake manifold bolts can be installed. If there are any other fit issues such as hood clearance or installation of components dependent on the manifold, they should be checked at this time.
    - **I.** If the cylinder heads have been milled or the cylinder block "decked", the cylinder head faces and the end surfaces of the manifold must be milled to compensate. This is necessary to maintain correct port alignment, minimize the possibility of manifold vacuum leaks, and assure proper engine performance.
4. When you are fully prepared to install the intake manifold, apply a 1/4" (6.35mm) wide bead of oil-resistant silicone sealant to the front and rear block-sealing surfaces, making sure to overlap manifold gaskets at all four corners.
5. Carefully, lay your new intake manifold in place. If the manifold must be moved, the silicone sealant may need to cleaned and re-applied. For the intake manifold bolts, apply thread sealant onto bolt threads. Install the intake bolts initially torquing to 5 ft/lbs (6 Nm), then 10 f./lbs (13 Nm), following the factory sequence and finally torque to 15-18 ft/lbs (20-24 Nm).
    - I. Special adapter bushings are included to allow this manifold to fit the later model cylinder heads (1987 to 1995).
    - II. You can choose to either use the angled bushings to bolt on accessories or use the straight ones if not using any accessories.
6. Install the thermostat, gasket, and thermostat housing. Be sure that the thermostat housing is in good condition and has been cleaned of any old gasket material. If the mounting flange on the thermostat housing is not flat or is damaged, replace it before continuing.
7. Install the heater hose fitting, heater hose, and radiator hoses. Use thread sealer on the threads of the heater hose fittings.
8. Install the gauge sensors and vacuum fittings into the manifold. Use thread sealer on the pipe threads of the sensors and fittings. Install NPT block off plugs in any unused water and vacuum ports in the manifold.
9. Install the distributor into the intake manifold orienting the rotor and the distributor body according to the reference marks made before the distributor was removed. Make sure that your distributor engages the oil pump drive shaft and seats properly down against the gasket and manifold. Install the distributor clamp and tighten the bolt just enough that the distributor body can still be rotated by hand.
10. Install your four carburettor studs in the manifold. Place the carburettor gasket on the clean carburettor pad.
    - **I.** Included in this manifold kit is an adapter plate that converts the standard spread bore carburettor pattern over to a square bore carburettor. This will adapt any aftermarket carburettor with a square bore base. Photos of this is shown at the end of these instructions.
11. Install the carburettor. Connect all linkages and throttle springs.
12. Reconnect all vacuum and fuel lines.
13. Install the EGR block off plate with gasket if required for you application.
14. If valve cover were removed for installation. Reinstall with new gaskets.
15. Reinstall the coil brackets, ignition coil, wires, and all brackets that were removed from the manifold.
16. Close the drain and fill the radiator to the proper level with coolant. While filling, allow trapped air to bleed from the intake manifold at the heater hose fitting until coolant flows from the fitting. Then, re-install the heater hose and continue adding coolant to the proper level.
17. Retighten the fuel tank cap and connect the battery cable.
18. Hook up the timing light and start the engine. Set the timing to factory specs. Tighten the distributor.
19. Check for possible fuel, oil, or coolant leaks and for proper choke operation.
20. Install the air cleaner.
21. Operate the engine for 30 minutes. Allow the engine to cool and re-torque the intake manifold bolts. **NOTE;** It is advisable to periodically (every six months or 5000 kilometres) recheck the torque on the manifold bolts to minimize the possibility of a vacuum leak.

For more information or technical enquires

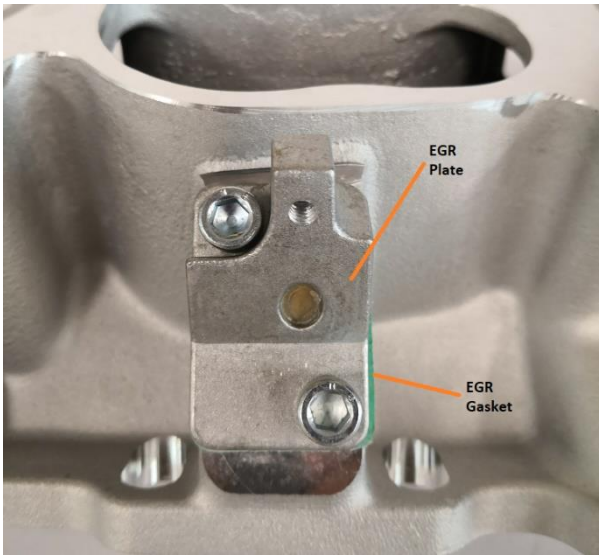
Contact: Aeroflow Performance on

Phone: (02) 8825 1979 Website: www.aeroflowperformance.com

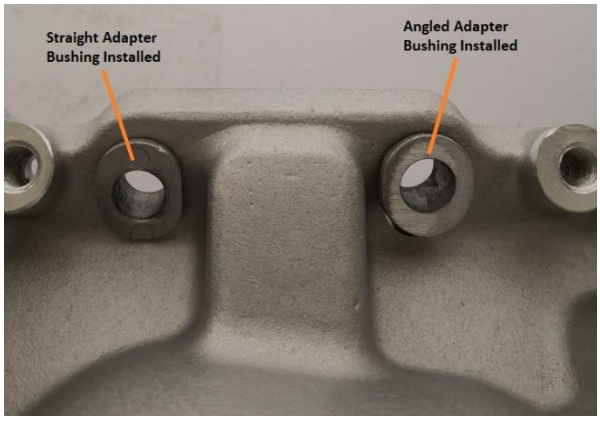




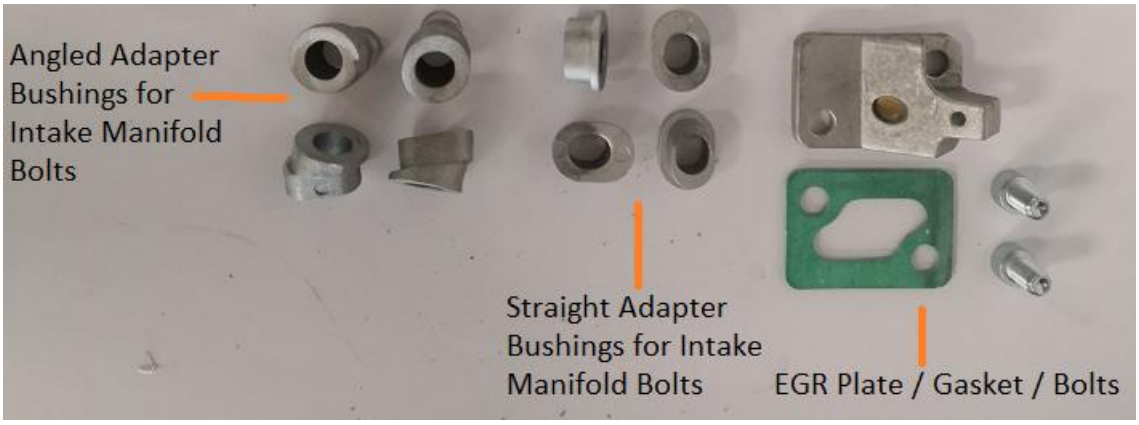
Carburettor adapter plate and gasket installed onto intake manifold when using an aftermarket square bore carburettor.

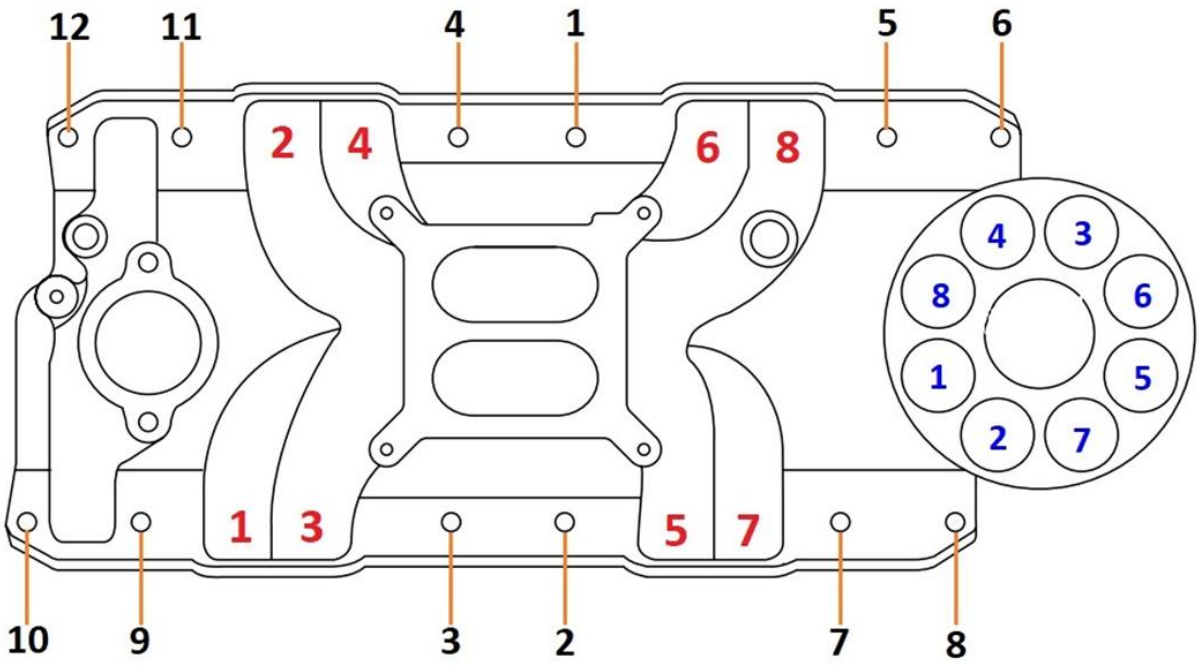


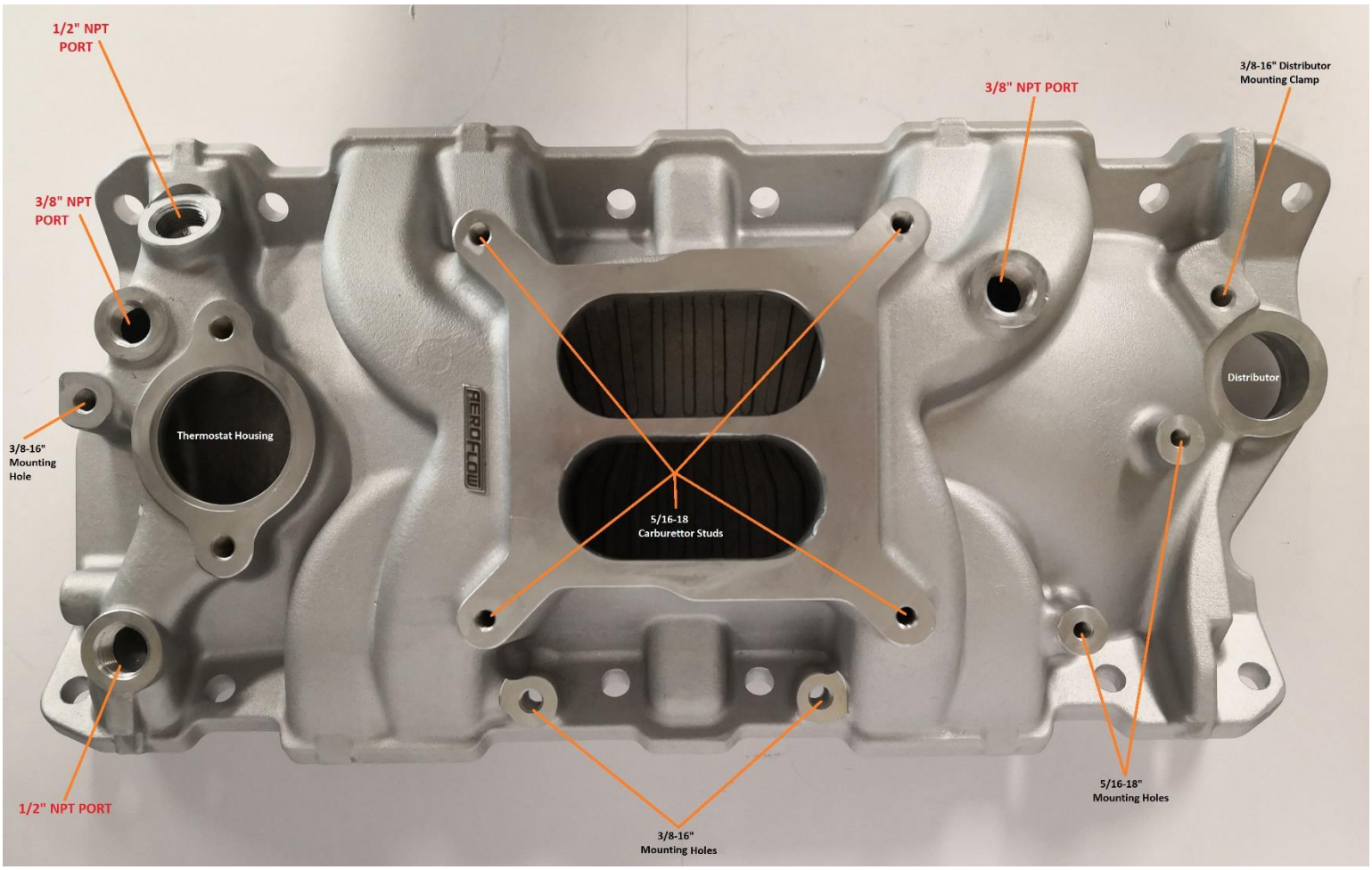
EGR block off plate installed onto intake manifold if not using emission controlled EGR components.



Adapter bushings installed onto intake manifold both options available depending on application.







For more information or technical enquires

Contact: Aeroflow Performance on

Phone: (02) 8825 1979 Website: www.aeroflowperformance.com