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RB20 Top Half Plenum Installation guide

1. Remove OEM piping, throttle body and tophalf of OE plenum. Un-plug all necessary sensors and fuel/water/air hoses required for removal.
2. **DRILLING TASK** - Tape all x6 Holes of the Lower intake manifold runner – make sure this is done well so no shavings go into the motor.



3. Drill out x2 threaded holes with a 8.5 – 9mm drill bit. **THE HOLES MARKED WITH AN ARROW BELOW**

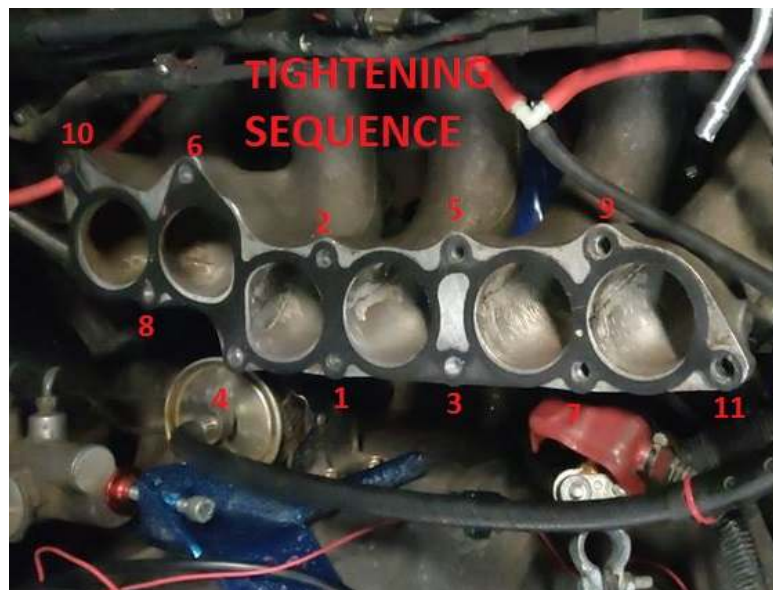


4. Once drilled clean out all alloy swarth and clean off any old gasket paper or residue .
5. **TEST FIT** – Before we start the test fit, we highly recommend covering the top of the intake manifold with masking tape or similar, especially if it is black or polished. This will protect the surface during install.
6. Test fit the plenum on top of base to make sure it is aligned, ready to bolt on. At this Stage you have to reuse majority of OEM bolts, apart from x2 we supply for the threaded holes that were drilled out. **In some circumstances the OE bolts might have to be trimmed down in size if they bottom out, likewise you can use washers to space them. Be careful** this step must be checked thoroughly to make sure the base will get bolted/seated down correctly.
7. During test fit process work out how all the Fuel, Air and water hoses will run before you will actually bolt down intake. Have a good look around and have everything sorted to make life easier. At this stage you can screw in the vacuum fittings as required to base of plenum , or add them after the plenum is bolted on, your choice. **Vacuum THREAD sizes in BASE – 1/8NPT and 3/8 NPT.**
8. **THROTTLE WATER HOSE** – The OEM throttle body had water running through it. This is not required to run though the throttle body any more (our recommendation). You have 2 options. **OPTION 1** – Connect both hoses together with a straight joiner so it runs water through like factory intended. **OPTION 2** – Remove these hoses from system totally and block both ends.



6. **FITTING OF INTAKE PLENUM** - Must use gasket, either reuse OEM if in good condition or a new replacement must be purchased.

7. **YOU MUST USE HIGH TEMPERATURE SILICONE Sealant** – apply a small amount of high temperature silicone around each port , **BOTH** sides of gasket. Fit gasket onto base and carefully lower Plenum . **YOU MUST TIGHTEN/TORQUE THE BOLTS FROM INSIDE OUT** - ie the ones in the middle first, then work both ways outwards. **TIGHTENING TORQUE – 26-30 NM or hand tight as per experience.**



8. **Once the intake is bolted down and all looks ok, all the major work is done.**

9. **VACUUM FITTING GUIDE** – On the underside there are x3 1/8NPT and x1 3/8NPT threaded fittings. The 1/8 NPT can be used for ECU, BOV, Fuel regulator, and any other thing that is required. The **3/8NPT is used for the Remote IAC motor fitting**. From this fitting run a 1/2" (12.7mm) hose to the Remote IAC ADAPTER supplied, and then from the IAC valve another hose to the pipe directly in front of the throttle body. This will then circulate air to the engine on idle. **You will also have to extend the wiring to the remote location of the IAC.**

The IAC system can also be removed if not required. You will have to block the 3/8NPT threaded port with something if you choose this option.

10. Bolt throttle body onto the front of the intake. If you are using the OE Item use a new/good gasket and seal with thin smear of high temp silicone. If using a Plazmaman Throttle body make sure the O-Ring is installed correctly for proper seal.

11. **TPS WIRING EXTENSION** – Due to the relocation forward of the OE throttle position, the wiring has to be cut and extended to the new location at the front. Make sure you use quality wire similar in thickness to OEM and solder all joints for faultless operation.

12. . The throttle cable in 80% of cases with bolt straight onto original position. In some variants and models this might not be the case. Sometimes we see vehicles fitted with cables from various other models that previous owners played with. In some cases you will have to shorten or purchase a new cable if this is the case.

13. Screw supplied fitting (1/4NPT to 10mm) into the top back part of the intake for the Brake booster hose. Fit the OE Brake booster line onto the fitting and clamp down.

14. From here the only thing left to do really is to modify/ make your own piping to suit the new position of throttle body. Plazmaman also has available piping kits to suit in 64mm diameter. Please contact our sales team or visit our website for more on this.

15. Start vehicle and check for leaks.

16. **Adjustment of IAC motor MIGHT be required**. Either by means of manual screw adjustment on motor, or aftermarket computer control if utilized. A hose from the idle motor must be extended to run in front of the throttle body. A restrictor can be placed in this hose if a lesser or smoother idle transition is required.

17. **Check vehicle tune on dyno is highly recommended**, however if using OE AFM and low boost the vehicle can usually control itself enough to drive around on low cruising power for a while before tune is required.