

# ***GFB Mach 2 TMS***

***Part #T9106***

***Instruction Manual***



+61 2 9534 0099

sales@gfb.com.au

www.gfb.com.au

facebook.com/GFBturbo

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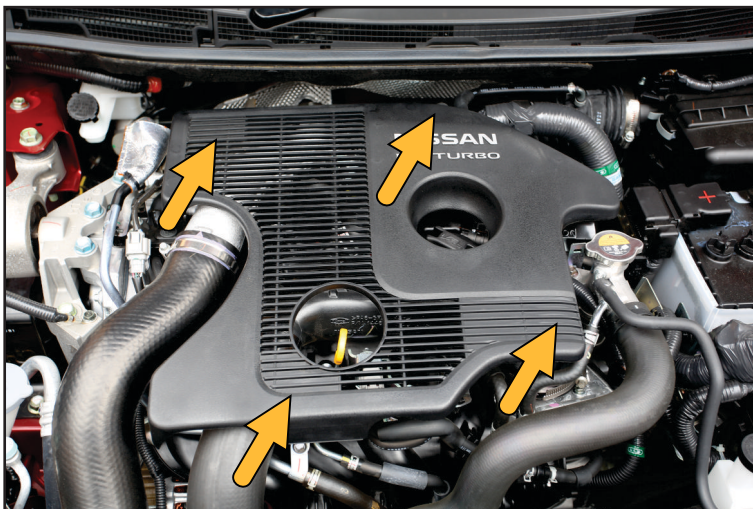


**PERFORMANCE WITHOUT COMPROMISE**

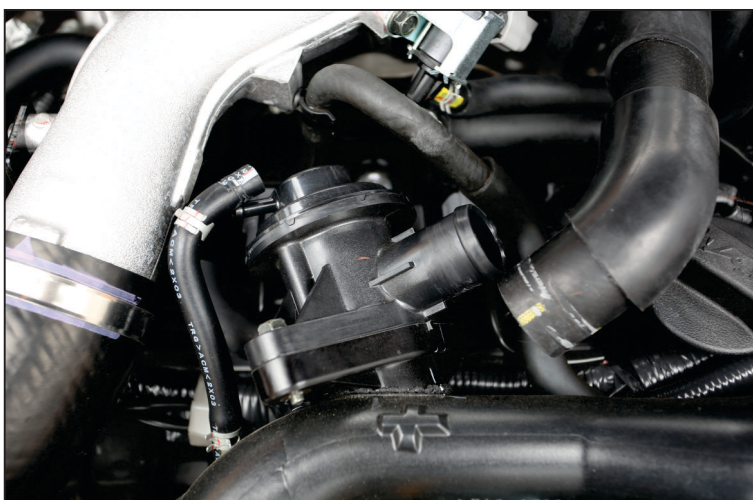
## INSTALLING THE VALVE

GFB Mach 2 part # T9106 fits Nissan 1.6L DIG turbo models, including Pulsar SSS and ST-S, and Juke (series 1 2010-2015 models).

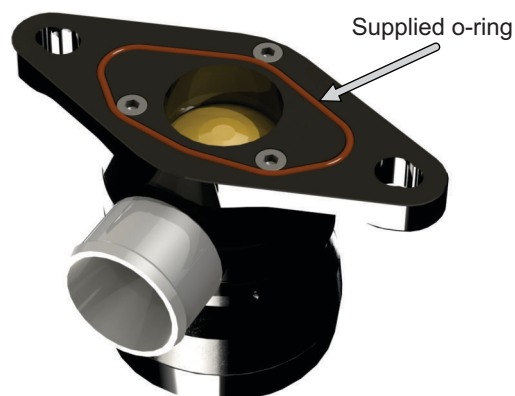
1) Remove engine cover by carefully lifting up on each corner - there are 4 rubber grommets that the cover presses into as shown



2) Remove the two hoses from the factory diverter valve, then unscrew the two mounting bolts using a 10mm socket or wrench



3) Fit the GFB Mach 2 valve to the mounting flange, making sure the supplied red o-ring is fully inserted into the groove in the underside of the GFB valve as shown below. Replace the two bolts, vacuum and recirc hoses and clamps.



## ADJUSTING THE SPRING PRELOAD

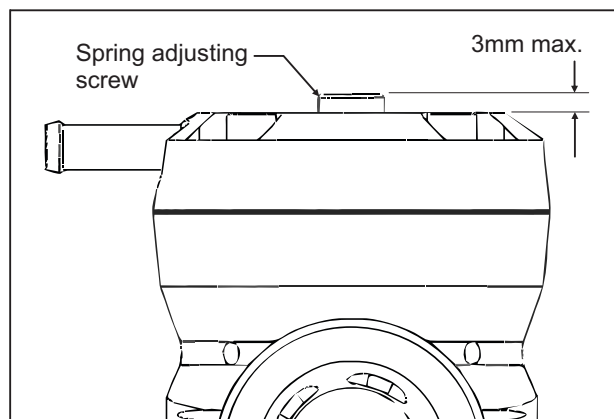
### PLEASE NOTE!

Contrary to popular belief, the spring pre-load **DOES NOT need to be adjusted for different boost pressures**. The Mach 2 will stay shut under full throttle conditions *regardless of boost pressure* or spring pre-load.

Rather, the spring pre-load affects how easily the valve opens when you lift the throttle, and how long it stays open when it vents.

The screw in the centre of the head is the spring adjuster. Use the supplied 5mm hex key to make adjustments. It is easiest to do this from above the valve by removing the intake air snorkel at the front of the engine bay, so you can reach down to adjust it.

The softest spring setting is achieved when the top of the adjustment screw is 3mm above the head of the valve as shown to the right. Do not set the screw more than 3mm above the head.



The recirc versions of the Mach 2 are supplied with GFB's softer spring (part # 6116), which cannot be used for atmosphere venting because the piston will usually hover slightly open at idle (similar to the factory valve).

Because the Mach 2 is fully recirculated, it does not affect the engine idle, fuel mixture, or cause backfire no matter where the spring adjustment is set.

Therefore it is possible to use the Mach 2 straight out of the box without any spring pre-load adjustments, however you can use the adjustment to fine-tune throttle response if you wish. Generally speaking, the ideal setting is the hardest spring pre-load you can run without causing compressor surge (fluttering sound when lifting off the throttle).

To set the spring pre-load for maximum throttle response:

- Set the spring to the hardest setting (adjust the screw all the way down).
- Start the car and drive it until it is warm, and make sure the A/C is off.
- Accelerate moderately in a high gear to about 3000RPM and then ease off the accelerator, keeping the clutch engaged - these are the conditions most likely to cause compressor surge. If you hear a fluttering sound as you lift off, turn the adjustment screw in the "-" direction one turn at a time until the noise disappears. This is now the ideal setting for best throttle response.

Note that all cars have a different threshold for compressor surge, so it is possible that you may be able to leave the valve in the hardest setting without hearing surge.

Do not be afraid to experiment with the spring pre-load adjustment, you can't cause any damage by doing so, and getting the setting right to suit your car can help to optimise throttle response.

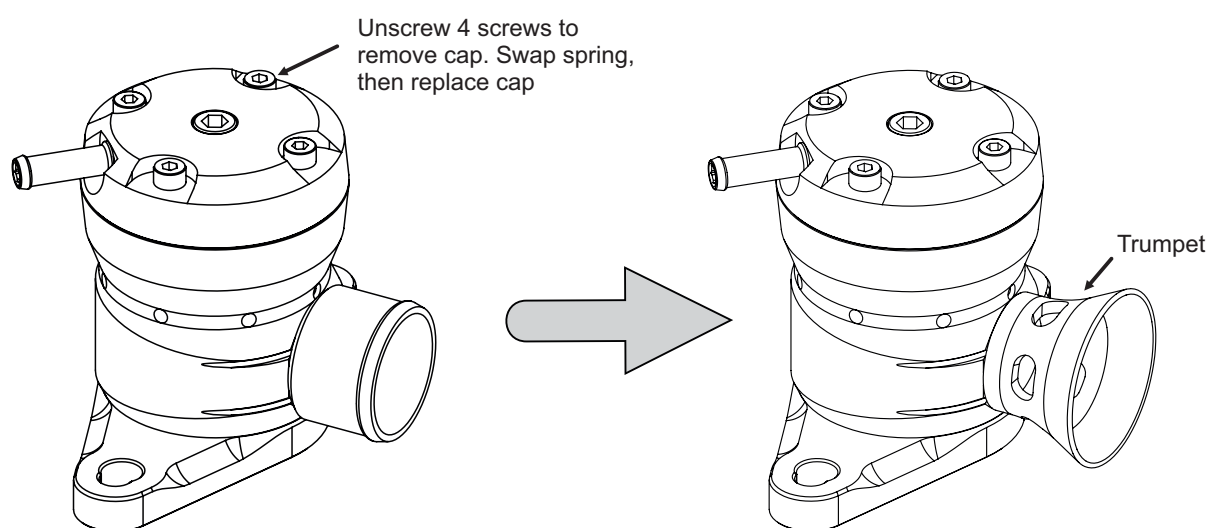


## CONVERTING TO ATMO VENTING

If you want to change your Mach 2 to 100% atmosphere venting for a blow-off sound, simply purchase and install GFB's atmo conversion kit part # 5930.

The kit includes a hose plug to block the recirc hose, a trumpet to replace the Mach 2 recirc outlet, and a firmer spring to ensure the piston stays closed at idle.

To install the spring, use a 3mm metric hex key to remove the 4 cap screws - hold the cap down as you remove the last screw, as the spring may try to push it off. Remove the cap, replace the spring, then re-install the cap.



## MAINTENANCE

GFB blow-off valves are designed to be as maintenance-free as possible. In most cars the small amount of crankcase and rocker-cover oil vapor that is directed into the intake system is enough to keep the piston well lubricated indefinitely. However, if you notice the sound of the valve changing over time (e.g. slow response time, intermittent operation), or if you can see that the piston is not moving smoothly, it may require a clean and re-lube.

**Cleaning Procedure:** Remove the four screws holding on the cap, taking care as the spring will try to push the cap off as the last screw is removed. Remove the spring and the brass piston, and wipe any grime from the inside of the valve and the piston with a rag. Apply normal engine oil to the piston and the inside of the bore, and re-assemble.

**This product is intended for racing use only, and it is the owner's responsibility to be aware of the legalities of fitting this product in his or her state/territory regarding noise, emissions and vehicle modifications.**

**GFB products are engineered for best performance, however incorrect use or modification of factory systems may cause damage to or reduce the longevity of the engine/drive-train components.**

**GFB recommends that only qualified motor engineers fit this product. Warranty is for the period of one year from the date of purchase and is limited only to the repair or replacement of GFB products provided they are used as intended and in accordance with all appropriate warnings and limitations. No other warranty is expressed or implied.**