

# ***GFB Respons TMS***

***Part #T9009***



+61 2 9534 0099

sales@gfb.com.au

www.gfb.com.au

facebook.com/GFBturbo

instagram.com/gofastbits

**GFB**  
GO FAST BITS

**TURBO MANAGEMENT SYSTEMS**



**PERFORMANCE WITHOUT COMPROMISE**

## Introduction

The GFB Respons T9009 is specifically designed to solve the BOV fitment issue that arises when upgrading the intercooler on Subaru Forester XT MY03-04 models.

It is a common modification to use the intercooler from the MY01-05 WRX, but because the BOV flange is different, and the location of the recirc hose must remain the same, neither factory valve from the Forester or the WRX can be used, or other aftermarket valves for that matter.

The T9009 bridges this gap by keeping the recirc outlet where it needs to be on the Forester, whilst having the triangular-shaped mounting flange to suit the upgraded intercooler.

## Installation

- 1) It is assumed that at this point you already have the WRX intercooler installed, and the original Forester recirc hose remains in place.
- 2) Ensure the orange o-ring is installed in the groove on the underside of the Respons valve, and that the mating flange on the intercooler is clean with no remaining gasket material stuck on it. No gasket is required, the o-ring in the GFB valve forms a far more reliable seal.
- 3) Mount the Respons valve to the intercooler using the supplied M8 x 20 countersunk screws and 5mm hex key.
- 4) Fit the recirc and vacuum hoses onto the Respons valve. Secure the recirc hose with the factory hose clamp. The vacuum hose typically does not have or need a clamp unless it is aged and at risk of leaking (in which case it would be better to replace it anyway).

## Adjusting the Spring Pre-Load



### Scan the QR code for a video tutorial of setting the spring preload:

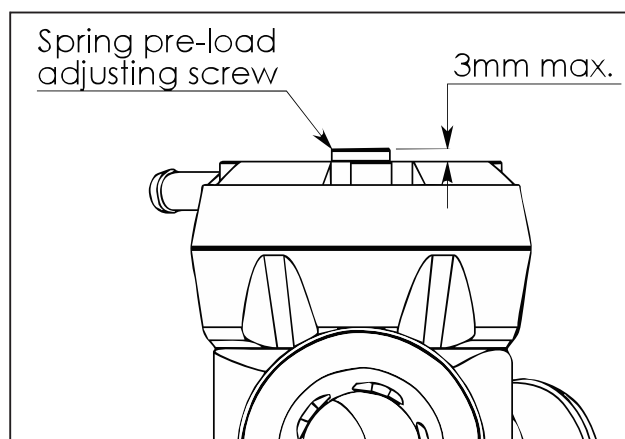
The spring pre-load **DOES NOT** need to be adjusted to suit different boost pressure. **All GFB valves will stay shut** under full throttle conditions **regardless** of boost pressure or spring pre-load.

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.

The softest spring setting is achieved when the top of the adjustment screw is 3mm above the head of the valve (shown opposite). Do not exceed this setting as you run the risk of the screw working loose and falling out.

The following steps will guide you to the optimum spring range. There is no magic setting that suits every car, and some cars may be happy within a large range of spring adjustment, others may need a little more experimentation to find their happy place.



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.

Put simply, if the car has idle or stalling issues, backfires or hesitates, the spring is too soft. If fluttering is heard when lifting off from medium to high boost, the spring is too hard.

- Set the spring to the softest setting, and move the noise adjusting ring to at least 50% atmosphere venting so you can hear when the valve vents
- With the engine warm and A/C off, give it a good hard rev. The valve should blow off with a short "whoosh"
- If the engine stumbles, stalls, or generally struggles to return smoothly to idle, it means the valve is venting too long. Turn the adjustment screw clockwise one turn at a time until the engine returns smoothly to idle after revving
- Now take the car for a drive. Accelerate enough to build some boost, then lift off and clutch in, letting the engine come back to idle. This is the driving condition most likely to cause the idle to dip, so make any further increases in spring pre-load to ensure no idle issues under these conditions.
- If the spring pre-load alone is not able to ensure smooth idle, reduce the venting bias so that more air is recirculated (see next page)
- If a loud flutter is heard when lifting off sharply after accelerating hard at high RPM, wind the adjustment screw in the "-" direction one turn at a time until the noise disappears. Note that it is not uncommon to hear a slight fluttering at low RPM under certain conditions. This is a result of the different way in which this valve operates compared to the factory unit, and is perfectly normal and is not detrimental

## Adjusting the Sound

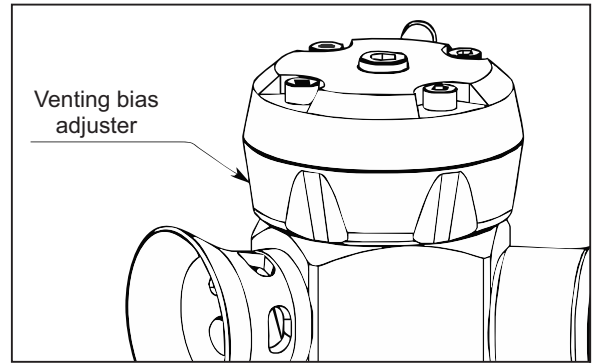
The patented venting bias adjustment on the Respons lets you vary the amount of air vented to atmosphere or recirc, thereby changing the sound volume.

Turning the venting bias adjuster anti-clockwise will vent more air through the trumpet for more noise, whilst clockwise will recirculate more air for quiet operation.

Typically, most un-modified engines will allow close to or even up to 100% atmosphere venting without issue, provided the spring pre-load is correctly set. However, some engine modifications can make the car more sensitive to atmosphere venting, which can lead to backfiring or idle issues if the valve isn't adjusted accordingly. If such issues cannot be corrected with the spring pre-load alone, they can be cured by reducing the atmosphere venting bias until the problem is resolved – this is one of the key benefits of GFB's venting bias adjustment feature.

Don't be afraid to experiment with the spring and venting bias adjustments, the car will let you know what it is happy with.

If you want a different sound, the GFB Whistling trumpet (part #5702) can be purchased separately. It changes the venting sound from a "whoosh" to a high-pitch whistle.



## Leak Testing

If you or your mechanic/tuner pressure test your car's intake system as part of routine maintenance, or to troubleshoot a problem, please note that such as test method will often detect a small false leak from a Respons BOV (or indeed any type of dual-port BOV), which does not necessarily indicate a fault or boost leak. This is due to the test method not properly replicating true on-boost conditions (even when done "correctly") and is explained in detail in the tech articles and video below:

[www.gfb.com.au/tech/tech-articles/15-smoke-testing-boost-leaks](http://www.gfb.com.au/tech/tech-articles/15-smoke-testing-boost-leaks)  
[www.gfb.com.au/images/tech-articles/GFB\\_DP\\_Diverter%20leak.pdf](http://www.gfb.com.au/images/tech-articles/GFB_DP_Diverter%20leak.pdf)

**WARNING:** GFB recommends that only qualified motor engineers fit this product. 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 Limited Lifetime Warranty:**

We live in a throw-away society, conditioned by cheap products and built-in obsolescence to expect eventual failure and discard something when it stops working or is superseded. However, pride in workmanship and our commitment to quality means that when we put our name to something, we are also staking our reputation on it.

That is why we back our products with the best Warranty in the business! You should expect a lifetime of use from a well-engineered product, so if your GFB product fails as a result of defective materials or faulty workmanship whilst you remain the original owner, we will repair or replace it (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).

If a fault occurs as a result of usage outside of the terms of the warranty, or you are not the original owner, fear not, we can still help you. You should never need to throw a GFB product away, as spare parts are available and won't cost the earth.