

# ALL THE PERFORMANCE WITH OR WITHOUT THE NOISE!

**GFB**  
GO FAST BITS  
*Performance Without Compromise*



## GFB's range of direct bolt-on blow off valves give YOUR *Kia Stinger* the sound you want, and the performance to go with it!

With over 20 years in the business of designing and manufacturing bypass and blow-off valves, GFB have learned a thing or two about managing boosted air, as well as the difference between a good blow-off valve, and a great one! Quality and performance are built into all GFB valves, so regardless of which of our kits you purchase, your investment will last a lifetime (which is why these products are backed by a lifetime warranty) and offer the best possible

throttle response and boost holding that any bypass or blow-off valve could deliver (read more about GFB's **Turbo Management System** and performance on the next page).

Our range of bolt on kits for the Stinger offer many different options when it comes to venting sound, from silent to extremely loud, and anywhere in between. Because the Stinger does not use a MAF sensor, you can vent your BOVs to atmosphere without drivability issues such as backfiring or stalling.

Unbeatable quality, direct bolt-on fit, exclusive venting bias adjustment to control the sound, lifetime warranty, AND a performance benefit – that's what we mean by **Performance Without Compromise**.

### **MACH 2 TWIN VALVE KIT** (Part # T9112)

With its single venting outlet, the Mach 2 is configured from the factory for full recirculation venting for the performance-minded driver who just want the benefits without the sound. Of course, should the temptation to make some noise arise, it is possible to vent the Mach 2 valves to atmosphere for a blow-off sound.

### **HYBRID TWIN VALVE KIT** (Part # T9212)

Featuring two "staged" venting outlets (one for recirc, one for atmosphere), at low valve lifts most of the air is recirculated to keep the noise to a minimum. However, when lifting off the throttle from high boost, the valve opens further and more of the atmosphere venting port is exposed for a louder sound. The kit includes a set of plugs that you can use to configure the Hybrid valves for full recirc, 50/50, or full atmosphere venting to adjust the volume of your blow off sound.

### **RESPONS TWIN VALVE KIT** (Part # T9012)

The Respons TMS valves take the Hybrid dual-outlet concept a step further, featuring our **patented Venting Bias Adjustment System**. This unique feature allows you to infinitely vary how much air is recirculated or vented to atmosphere, like a volume control. Simply by twisting the adjustment ring, you can change the sound of your BOVs from silent to ear-shattering, or anywhere in between!

### **DECEPTOR PRO II TWIN VALVE KIT** (Part # T9512)

You can adjust the volume of your sound system from the driver's seat, as well as your Stinger's exhaust sound (if you ticked that option box!), so why not the BOV sound too? The Deceptor Pro II feature the same **patented Venting Bias Adjustment System** as the Respons TMS, but adds electronic in-cabin adjustment so you can change how loud the BOV venting sound is, from the driver's seat!

Also available are two combination kits, that mix the valve types! Since both valves are fed from a common chamber, and there is no MAF sensor, it is no problem to mix and match valve types and venting bias. Part # T9013 includes one Mach 2 and one Respons TMS, which still allows you to adjust the venting sound, but at a more affordable price than the twin Respons kit. Part # T9513 includes one Mach 2 and one Deceptor Pro II, which offers the electronic venting adjustment at a lower price than the twin Deceptor Pro kit.

## **WANT A DIFFERENT SOUND?**

Try our whistling trumpets! Gives a high-pitch whistle sound instead of the normal "whoosh". Simply unscrew the existing trumpets and screw these on for a head-turning sound! Part # 5702 (sold as a single trumpet, purchase two for the Stinger)

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## WHAT IS GFB'S TURBO MANAGEMENT SYSTEM?

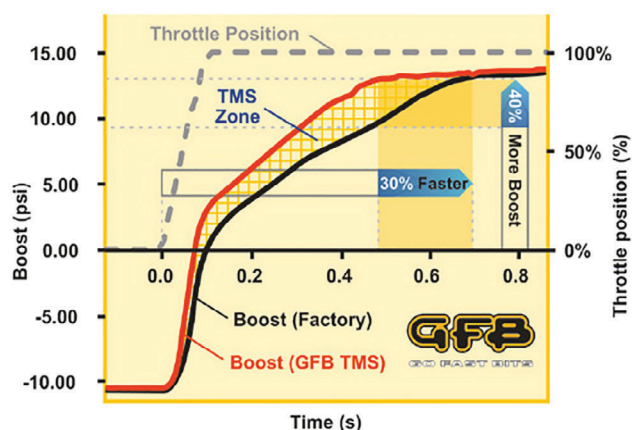
GFB's **Turbo Management System (TMS)** is a method of controlling the flow rate of the air released by the valve to help maintain boost pressure in the intercooler wherever possible when the throttle is closed, which reduces the amount of time it takes for the engine to return to peak boost after a brief throttle lift.

On the Kia Stinger, the diverter valves are controlled by the ECU via a solenoid valve and a vacuum reservoir. When the ECU sees the throttle starting to close, it turns the solenoid on which opens the factory valves completely. Whilst this system has a fast response time because of the electronic control, it loses its ability to open progressively – the factory diverters are either open, or shut. This method reduces throttle response and also introduces dips and spikes in the torque delivery when the throttle is being modulated – even the smallest negative throttle movement will fully open the diverters, and the torque will drop significantly. Re-application of the throttle closes the valves and torque steps up again, making the throttle response jerky and non-linear when attempting to balance the car in a corner.

All of GFB's valves combat these issues by re-introducing progressive valve moment based on the amount of boost present when the ECU activates the solenoid. If boost pressure is low, GFB valves only open a small amount. When lifting off at high boost, the valves open fully to reduce the initial pressure spike, then start to close as the pressure is reduced. This helps maintain a small amount of boost pressure in the intercooler pipes for a short amount of time, which helps to smooth the torque transitions during throttle modulation, and also means that boost returns to peak faster after a brief throttle lift off since it doesn't have to rise from zero.

This effect can be seen in the graph opposite, which shows the difference in boost pressure rise time after a brief throttle lift off with the OEM diverter method (black line), and the GFB method (red line). You can clearly see that when the throttle is re-opened, manifold pressure with the valve jumps to around 2.5psi before the turbos start spooling. By comparison, the factory valve results in a 30% longer time to peak boost, because it has remained open during the entire throttle closure and the pressure in the intercooler dropped to zero.

All GFB valves feature the TMS benefit, which ensures you get the most out of your boost pressure wherever possible.



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