STāSIS – S4 3.0T Flash & Exhaust

General Description

The STāSIS B8 S4 exhaust is a direct bolt on, CNC mandrel bent, T304 stainless steel cat-back system featuring one mid-muffler and two rear mufflers terminating into polished quad tips etched with STāSIS logos. The system is optimized to reduce back pressure and increase the overall power output of the engine. These goals have been achieved while maintaining low levels of cabin resonance during cruising speeds. Helmholtz resonance chambers and an "X" style crossover joint are utilized to tune and refine the sound output. This sound was developed through extensive testing of design variables with state of the art Real Time Spectrum Analysis software.

STāSIS can be defined as a condition of balance among various forces and that is the driving force behind our unique engineering approach. Drawing on years of motorsport and engineering experience the STāSIS team develops a range of products for a vehicle that work harmoniously together.

System Contents

(1) STāSIS Signature Series Exhaust System
- (4) Exhaust Resonators
- (1) Necessary mounting hardware

(1) STāSIS Signature Series ECU Flash

Supported Audi Vehicles

Model:	S4
Model Years:	2010-2011

Features

- The STāSIS exhaust system is a direct bolt-in replacement for the original equipment manufacturer (OEM) exhaust, no welding or fabrication is required.
  - T304 Stainless Steel pipes shaped with CNC mandrel bender to ensure constant pipe radius.
  - Mounted using OEM hangers by utilizing stock slip joint connection at the downpipe mufflers.
- STāSIS mufflers incorporate reflective (active) and passive technologies to optimize sound and performance
  - The oval muffler chambers have been extensively developed and tested to minimize exhaust back pressure to the engine, while maintaining excellent exhaust scavenging.
  - The STāSIS resonators and mufflers combine to give an exhaust tone which is noticeably deeper and stronger with aggressive throttle input, while maintaining non-intrusive cabin drone at cruising speeds in the appropriate gear.

- Center exhaust section features "X" style crossover to reduce engine backpressure, creating a low pressure zone that aids in exhaust scavenging.

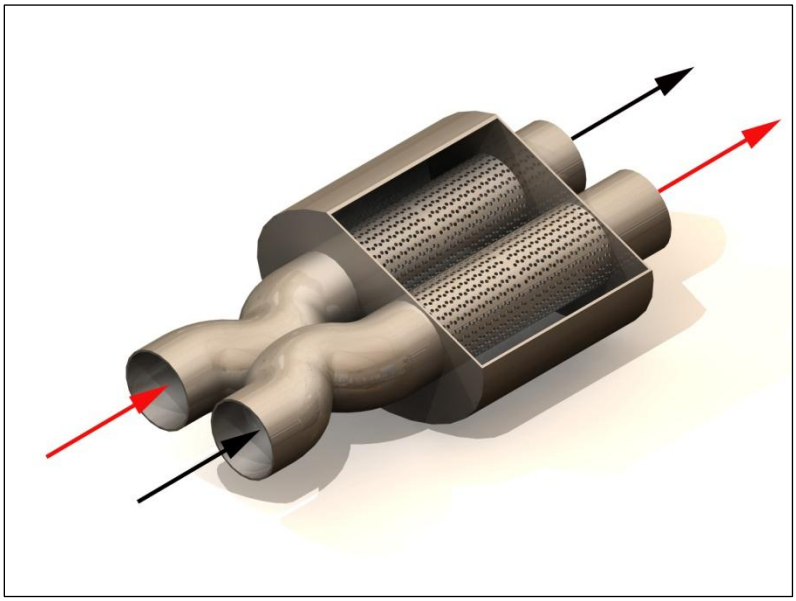


Figure 1 – Crossover Pipe and Passive Muffler Chamber

- STāSIS exhaust systems are designed using the latest in 3D design and sound spectrum analysis software. Measurements of frequency and decibel levels are taken throughout the entire rpm range of the engine and fine tuned to achieve the proper sound quality. The STāSIS muffler design gives an exhaust note that is noticeably deeper and stronger at all throttle applications while maintaining a tone that is not intrusive or "droning" at normal everyday driving speeds.

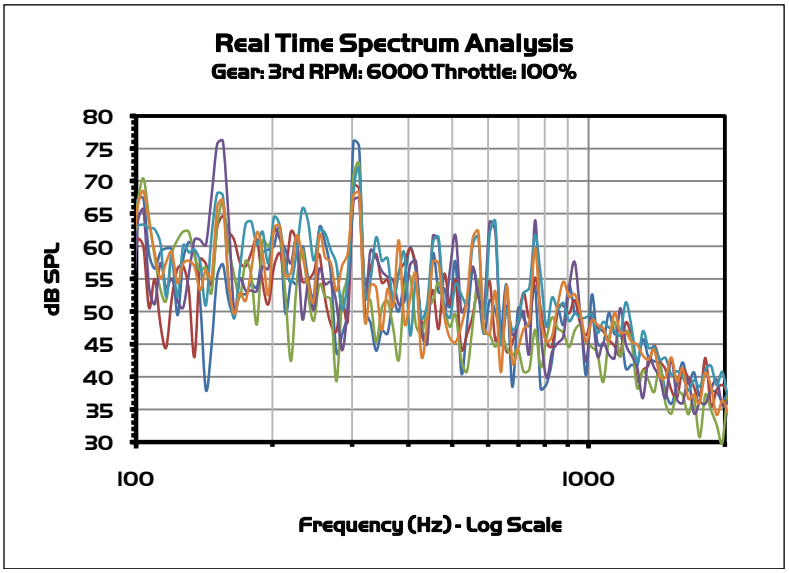


Figure 2 – Audio data compiled during development process.

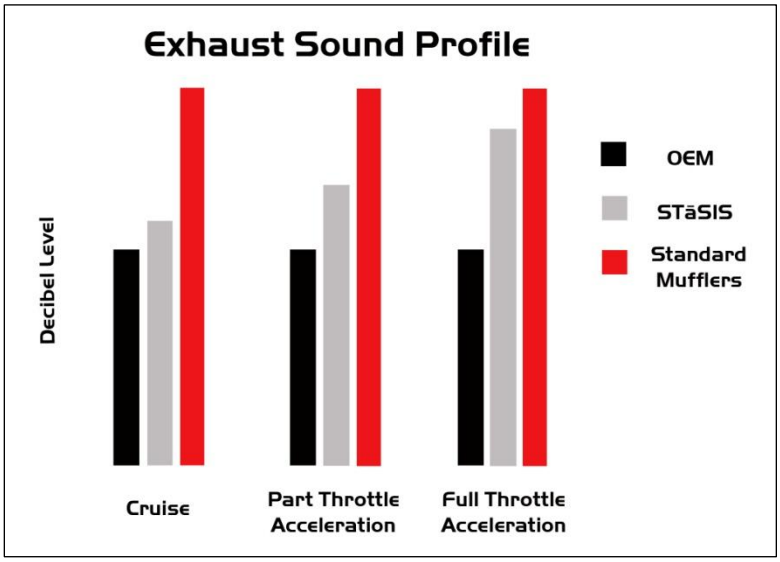


Figure 3 – Comparison of exhaust characteristics.

- Touring Exhaust systems feature low rpm resonators while Challenge Exhaust systems feature high rpm resonators
    - Challenge system: Designed to be more aggressive, meant to be driven above 2200rpm.
    - The resonators are removable from the exhaust tips which allow the driver to tune the exhaust note to their liking.

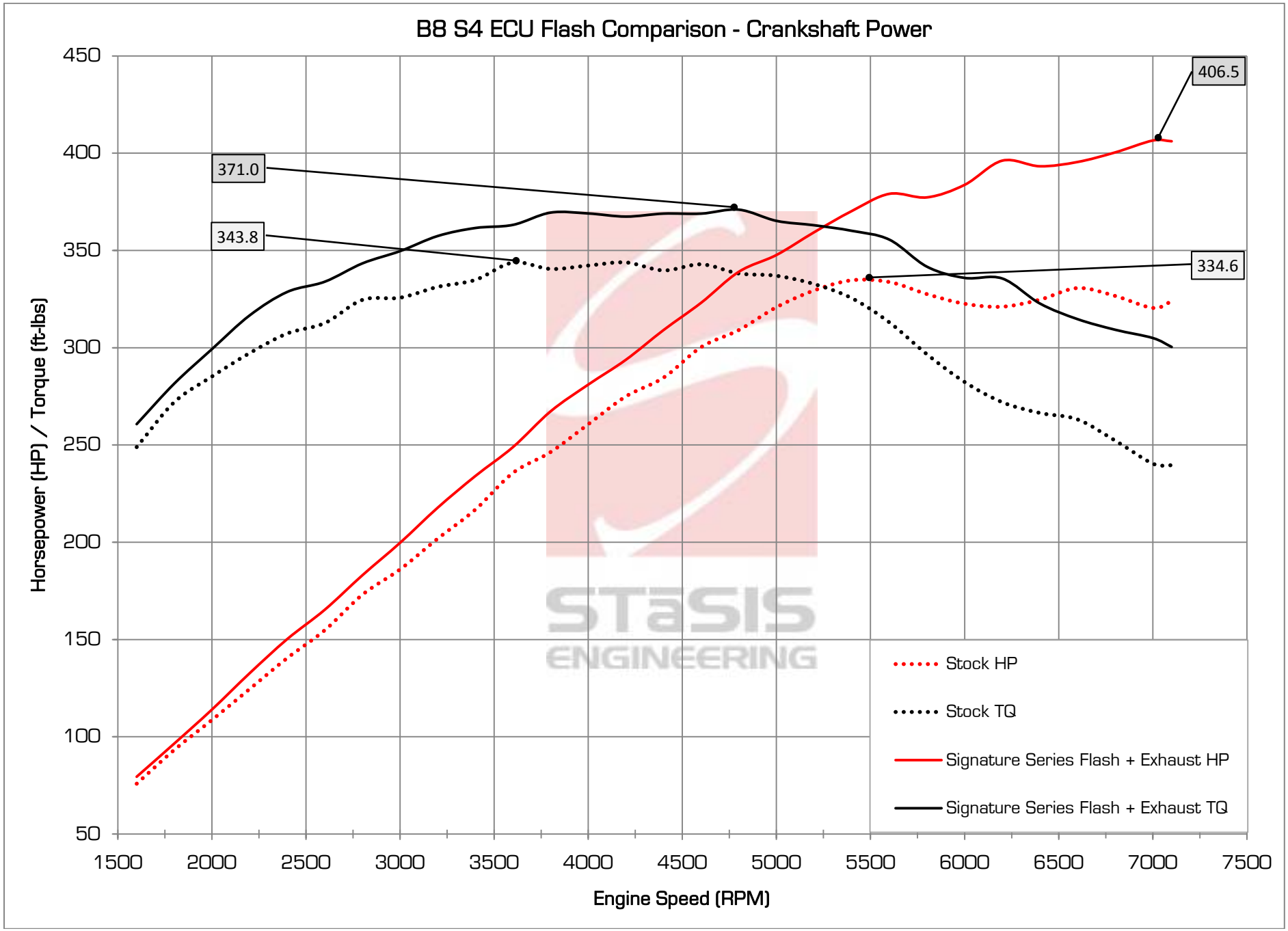
- All OEM heat shields are retained to ensure no additional thermal stress is introduced into the vehicle's structural and cosmetic components.

- Every STāSIS exhaust system is tested extensively to simulate the wide range of situations encountered in real world driving. Including but not limited to city commuting, canyon road carving, and multi day track events.

	OEM Exhaust	STāSIS Exhaust
Peak Horsepower	333	341
Pipe Diameter – Downpipe	50 mm (2.00")	57 mm (2.25")
Complete Assembly Weight	25 kg (55 lbs)	21 kg (45 lbs)

Table 1: Comparison of OEM to STāSIS exhaust system

- Ultimate power gains are shown when the exhaust system is coupled with the STāSIS Signature Series ECU Flash.
    - Ignition timing and fuel injection changes coupled with higher levels of boost pressure from the supercharger combine to produce substantial gains in top end power.
    - Increased exhaust flow results from higher supercharger output. The 100% free flowing STāSIS Exhaust System is recommended to obtain peak gains from ECU tuning.
    - See attached dynamometer graph for power gains.


B8 S4 ECU Flash Comparison - Crankshaft Power
Horsepower (HP) / Torque (ft-lbs)
Engine Speed (RPM)
450
400
350
300
250
200
150
100
50
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
6500
7000
7500
406.5
371.0
343.8
334.6
Stock HP
Stock TQ
Signature Series Flash + Exhaust HP
Signature Series Flash + Exhaust TQ
STASIS
ENGINEERING