

STi White paper

The STaSIS/ALCON brake upgrade for the Subaru STi replaces the OEM Brembo components in the front brake assembly. The kit includes the following:

- (2) STaSIS/ALCON 2 piece floating rotor assemblies
- (2) ALCON Mono 4 Calipers
- (2) STaSIS caliper mounting brackets
- (1) Set of high performance brake pads
- (1) High temp brake fluid
- (1) Goodridge brake lines
- (1) Necessary mounting hardware

The STaSIS/Alcon 2 piece rotor assembly replaces the 323 mm 1 piece cast iron rotor with a 2 piece floated rotor. Weighing in at 15 pounds, the new assembly removes more than 6 pounds of rotating weight at each corner. Compared to the OEM vented rotor, the Alcon rotor features directional aerofoils with 2 point pickups. High nickel and copper contents improve heat radiation and pad performance.

The float arrangement joining the aluminum STaSIS hat to the ALCON rotor allows for approximately .030" of axial expansion and .040" radial expansion in either direction. The rotor can safely run at temperatures in excess of 1000 degrees Fahrenheit without thermally induced distortion.

The OEM 2 piece cross-bolted Brembo calipers are replaced with Alcon Mono 4 1 piece monoblock 4 piston calipers. The deep-core cast Monoblock units are stiffer than the stock counterparts and feature high resilience piston seals – pedal travel is firmer and more linear.

Stainless steel wrapped Teflon brake lines replace the OE rubber units, permitting less volume change under pressure increases – the interaction between pedal application and caliper piston displacement more approximately linear.

High boiling point brake fluid and performance brake pads replace the street-oriented OEM units – larger temperature ranges and higher temperature ceilings result.

	OEM Subaru STi	STaSIS/ALCON
Rotor Diameter (mm)	323	340
Rotor Thickness (mm)	30	32
Air Gap (mm)	11	17.5
Rotor Weight (lbs)	21.1	15
Caliper Description	2 piece cross-bolted 4 piston	1 piece monoblock 4 piston
Caliper Weight (lbs)	9.5	9.6
Piston Sizes (mm)	42.5/36	41.3/38.1
Pad Annulus (mm)	62	48
Swept Area (cm ²)	508	440

Table 1: Comparison of OEM STi and STaSIS/ALCON Brake Systems