

Lotus Elise White Paper

The STaSIS/ALCON brake upgrade for the Lotus Elise replaces the OEM components in the front brake assembly and the rotors in the rear assembly. The kit includes the following:

- (2) STaSIS/ALCON 2 piece front floating rotor assemblies
- (2) STaSIS/ALCON 2 piece rear floating narrow annulus rotor assemblies
- (2) ALCON P-type calipers
- (2) STaSIS caliper mounting brackets front/rear
- (1) Set of high performance brake pads front/rear
- (1) High temp brake fluid
- (1) Goodridge Stainless Steel brake lines front/rear
- (1) Necessary mounting hardware

The STaSIS/Alcon 2 piece front rotor assembly replaces the 282 mm 1 piece cast iron rotor with a 2 piece 328 mm floated rotor. The rear 282 mm OE rotor (same as the front) is replaced with a 330 mm narrow annulus STaSIS/ALCON 2 piece floated assembly. The front assemblies drop nearly 1 pound per corner while the rear assemblies shed more than 3 pounds per 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 AP 2 piston calipers are replaced with Alcon P-type 1 piece 4 opposed 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 Lotus Elise F/R	STaSIS/ALCON F/R
Rotor Diameter (mm)	288/288	328/330
Rotor Thickness (mm)	26/26	28 or 26/26
Air Gap (mm)	14.7/14.7	16.3/14
Rotor Weight (lbs)	13.3/13.3	12.6/10
Front Caliper Description	2 opposed piston AP	1 piece P-type 4 piston
Front Caliper Weight (lbs)	5	5
Piston Sizes (mm)	44.5 (x2)	31.8 (x4)
Pad Annulus (mm)	50/50	48/50
Swept Area (cm ²)	374	422/440

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