



Ohlins SL Suspension White Paper

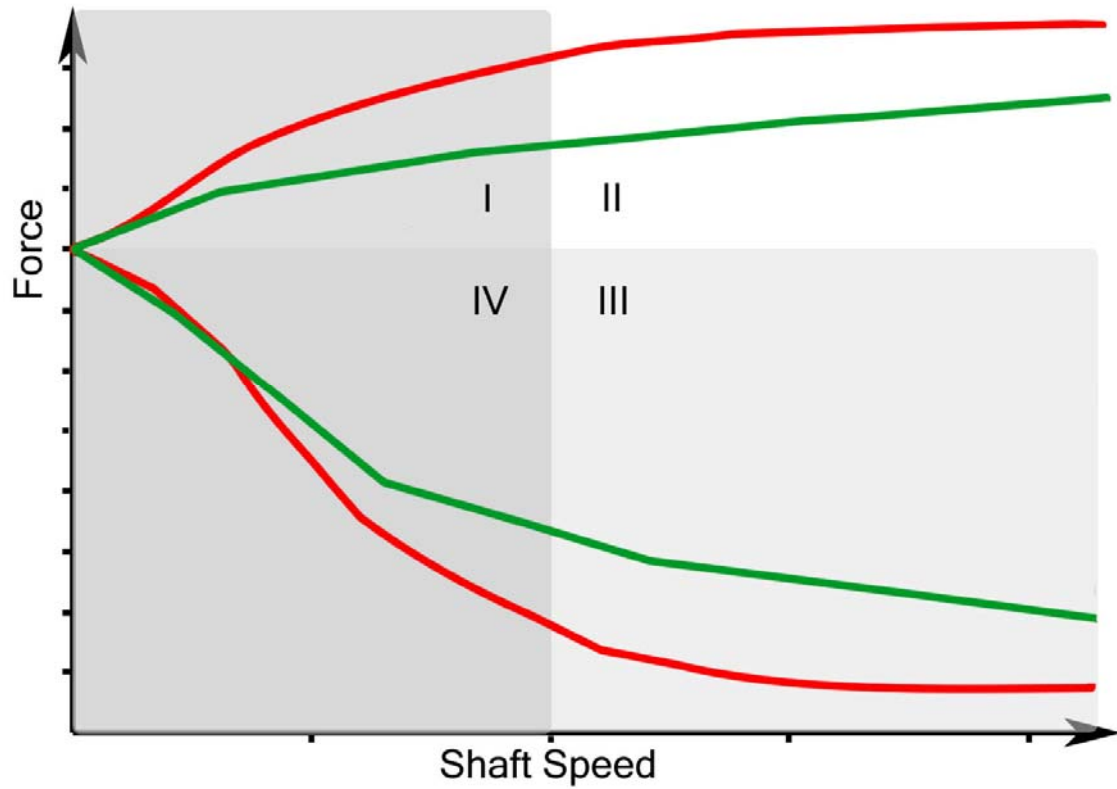
The STaSIS/Ohlins SL Suspension package replaces the OEM springs and dampers. The kit includes the following:

- (2) STaSIS/Ohlins front dampers
 - (2) STaSIS/Ohlins rear dampers
 - (2) Eibach linear front springs
 - (2) Eibach linear rear springs
 - (4) STaSIS CNC 6061-T6 aluminum and 4140 B7 Stainless Steel mounting hardware
 - (2) STaSIS CNC 6061-T6 aluminum rear height adjustable spring perches
 - (1) STaSIS spring perch wrench
 - (4) DRC end-caps
- The STaSIS/Ohlins dampers are direct bolt-in replacements for the OEM units. All appropriate hardware is included. In cars with the Audi DRC suspension, the hydraulic lines are disconnected and sealed with included aluminum end-caps. No modification to the chassis is necessary. The front dampers are a coil-over design, while the rear dampers and springs remain separate as in the OEM geometry. The front dampers feature a threaded body and adjustable perches for height adjustment, while the rear spring perch is height adjustable (see table for height ranges and recommendations).
 - The dampers are steel bodied monotube type, built specifically for STaSIS for the B7 chassis Audi cars. They feature a floating dividing piston and are pressurized with Nitrogen gas at 150 psi. This prevents cavitation (aeration of the damping oil) and compensates for both ambient and performance-related temperature fluctuations.
 - Spring rates were chosen according to STaSIS design principles incorporating desired ride heights, weight transfer, grip, roll stiffness, suspension geometry and ride quality. The front roll stiffness is increased approximately 50% and the rear approximately 140%. In comparison with most suspension offerings currently on the market, the rear rates are substantially stronger, allowing for superior balance and handling. Understeer is virtually eliminated, resulting for the driver a more nimble and lively driving experience.
 - Damper valving was chosen specifically for this application. Double digressive curves (shown in the damper dynamometer plot below) keep chassis control motions fluid and predictable with no sacrifice in ride quality. Turn-in is crisp and controlled, while small and large bumps are absorbed quickly.



- Testing was performed at our facility here at Infineon Raceway, surrounding country roads in Sonoma, and the city streets of San Francisco. Components are designed and proven to perform in corrosive environments (salted roads and ocean-side communities).

	OEM	Signature Line (SL)	Motorsports
Damper description	Steel body monotube	Steel body monotube, height adjustable	Aluminum body monotube, height adjustable
Spring Rates	480f/440r	750f/1100r 750f/1200r Avant	700-900f/1100-1400r
Valving	OE Audi	STaSIS double digressive	STaSIS double digressive
Adjustments	None	Height	Height, low speed rebound and compression, high speed compression (front only)
Ride Height (hubcenter to fender)	14 ½" Front 13 7/8" Rear	13" – 14 ½" Front 12 7/8" – 13 7/8" Rear Recommended – 13 1/16" Front 12 7/8" Rear	12.5" – 14 ½" Front 13" – 13 7/8"
Weight	20 lbs	16 lbs	12 lbs
Install Time		5 hours	8 hours



Green curves – OEM S4 dampers
Red curves – STaSIS SL dampers

Quadrant I – Low speed compression (Chassis control)
Quadrant II – High speed compression (Road inputs, ride quality)
Quadrant III – High speed rebound (Controls suspension recovery)
Quadrant IV – Low speed rebound (Roll control)