



Lotus Sport & Performance Centre – Fitting Instructions
2 Way Adjustable Ohlins Dampers – Issue 1

These fitting instructions are aimed at Elise S2, 111R and Exige S2 owners.

Fitting Level (1=Easy, 5=Hard) - 2

Tools Required

Lotus Service Manual (A117T0327J) – S2 Elise Owners
Lotus Service Manual (A120T0327J) – 111R and Exige S2 owners
A Perfectly Flat Area for measurement of Ground Clearance
2x 17mm Spanners
Flat Bladed Screwdriver
17mm Deep Socket
Torque Wrench
Breaker Bar
'C' Spanners

Torque – Please refer to the Lotus Service Manual for all Torque figures.

These Ohlins Dampers are 2 way adjustable. This infers that they are both adjustable in Compression (Bump) and in Rebound, thus offering a greater tuning potential than a standard damper.

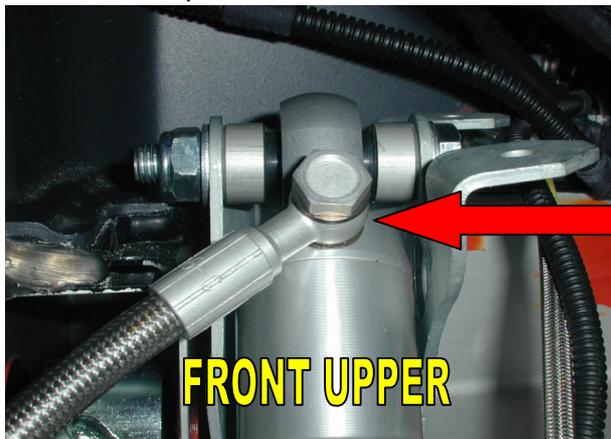
These dampers have a separate reservoir where the Compression adjustment is made. Rebound control is adjusted by using the clicker at the foot of the damper unit. On the Front, the Compression Reservoir is positioned on the lower Wishbone Arm whereas on the rear the Compression Reservoir is positioned on the main Roll Over Hoop Support Struts .

Ride Height adjustment is made by using 2x 'C' Spanners and slackening off the top retaining ring, then either screwing the spring platform in or out. Compressing the Spring will raise the ride height, releasing compression from the spring will lower the ride height.

If purchasing the Adjustable Anti Roll Bar (A111C0134S) at the same time please refer to Lotus Service Manual (A111T0327J) for fitting instructions and maintenance.

Instructions

1. Following the instructions laid out in the appropriate Lotus Service Manual and following all necessary safety precautions, remove the dampers from the vehicle.
2. Refit the new Ohlins Damper main body in the same manner as outlined in the Lotus Service Manual. The Canister hoses should be at the top of the damper, pointing towards the rear of the vehicle, and the Black Rebound adjuster at the bottom. New Spacers are supplied for the upper damper mounting, the thicker of these is used on the Front Top Mounting and the Thinner on the Rear Top Mounting. The lower mounting spacers are a part of the dampers.

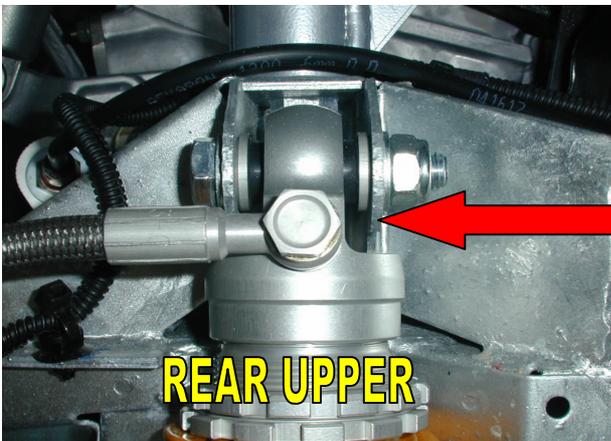


FRONT UPPER

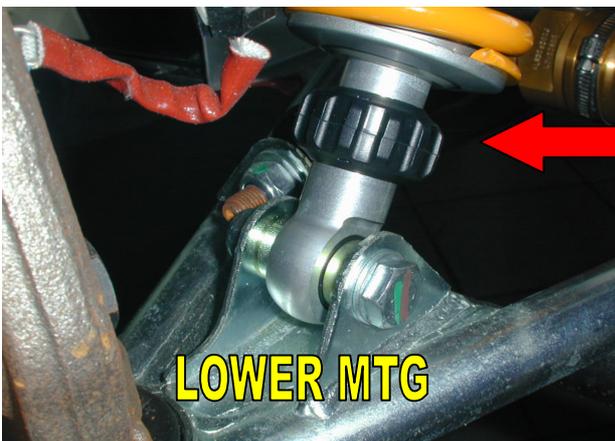
FRONT OF VEHICLE



NEVER, UNDER ANY CIRCUMSTANCES, SLACKEN THE RESERVOIR HOSE FITTINGS



REAR UPPER



LOWER MTG

REBOUND ADJUSTER

3.

Fitting the Front Canister – The Canisters control the Compression (Bump) adjustment of the Damper. On the front of the vehicle these are fitted to the Lower Wishbone Inner A Section cross bar as illustrated below. The 2 rubber blocks, supplied, mount between the Canister and the Wishbone. The Jubilee Clips are then used to hold these and the Canisters in place and should only be tightened around the larger section of the Canister, as shown, to avoid damage to any internal components.



4. Fitting the Rear Canister – The Rear Canisters are Mounted in the same manner as the Front Canisters however these are mounted to the Rear Main Roll Hoop Stays as illustrated. On the Exige this will require fettling of the ABS Cover Panel, as illustrated below.



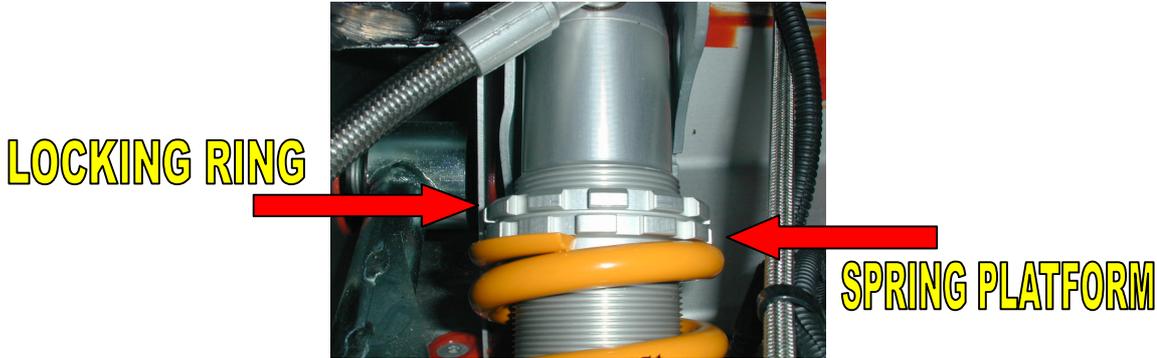
5.

Once the Dampers and Canisters are fitted in accordance with the Specifications laid out in Lotus Service Manual and the above directions, refit the wheels and ensure that the correct torques are used. Then lower the vehicle to the ground. Check the Jubilee Clips for tightness on a regular basis and keep clean and free from the ingress of dirt and foreign materials.

6. On a flat area, measure the ground clearance of the vehicle. This should be 130mm measured at the most forward and rearward point of the chassis and should be the same for all corners of the vehicle. The vehicle should be weighted down with 2x 75Kg weights, to represent both driver and passenger, plus be filled with ½ a tank of fuel (please refer to Lotus Service Notes for clarification of this). To set this the Spring Platforms can be adjusted.

7.

Setting the vehicles ground clearance – To raise the car, first slacken the locking ring by using the C Spanners provided and rotating this anti-clockwise. Then, by rotating the spring mounting platform Clockwise, compress the spring. This will cause the vehicle to lift higher. To lower the vehicle do the opposite to the above, in that the spring mounting ring should be rotated anti-clockwise. REMEMBER TO ENSURE THAT THE LOCKING RING IS TIGHT AFTER EACH ADJUSTMENT.



NOTE: If adjusting the ride height of the vehicle Lotus recommends that the car should be fully calibrated on a suitable suspension alignment rig.

NOTE 2: Ensure the Dampers are set in accordance with page 6 of this manual.

NOTE 3: Ensure that Reservoir lines are not fouling the chassis or any moving parts.

Disclaimer

Lotus accepts no liability for any direct, indirect or consequential damage or loss (including as a result of negligence) arising from the application of these fitting instructions by any person. For the avoidance of doubt, this does not affect your statutory rights and Lotus does not exclude liability (if any) to you for death or personal injury arising out of Lotus' negligence.

Please note that the fitting of any Lotus approved part(s) by anyone other than a Lotus approved engineer may invalidate the vehicle warranty.



OHLINS DAMPERS ONLY				
	POSSIBLE CAUSES	CORNER ENTRY	MID CORNER	CORNER EXIT
Low Speed understeer	Too stiff	Soften Front Bump damping	Soften Front Anti Roll Bar	Soften Front Bump & FARB
Low Speed oversteer	Too stiff	Reduce rear bump damping	Reduce rear bump damping	-
	Brake bias valve	Reduce rear brake bias	-	-
	Aggressive throttle application	-	-	Smoother application req'd
High Speed understeer	Too stiff	Soften Front Bump damping	Soften Front Anti Roll Bar	Soften Front Bump & FARB
		-	-	-
High speed oversteer	Too stiff	Soften Rear Bump damping	-	
	Aggressive throttle application	-	-	Smoother application req'd
Lack of 'Power-on' traction	Too Stiff	-	Soften Rear Bump	-
	'Picking up' inside wheel	-	Soften rear rebound	-



EXIGE S2 and ELISE 111R - Suspension Settings - Ohlins Dampers

Recommended Settings - Road			
Front Damper		Full Hard	Full Soft
Bump	P7	P1 (Clockwise)	P22 (Anti-Clockwise)
Rebound	P5	P1 (Clockwise)	P60 (Anti-Clockwise)
Rear Damper			
Bump	P4	P1 (Clockwise)	P22 (Anti-Clockwise)
Rebound	P19	P1 (Clockwise)	P60 (Anti-Clockwise)
Recommended Settings - Race			
Front Damper		Full Hard	Full Soft
Bump	P6	P1 (Clockwise)	P22 (Anti-Clockwise)
Rebound	P3	P1 (Clockwise)	P60 (Anti-Clockwise)
Rear Damper			
Bump	P4	P1 (Clockwise)	P22 (Anti-Clockwise)
Rebound	P17	P1 (Clockwise)	P60 (Anti-Clockwise)
Front Anti Roll Bar	P3	P1	P5
Suspension Geometry			
Front			
Parameter	Specification	Tolerance	Difference Side to Side
Ride Height	130mm	-2.0mm/+1.0mm	+/- 2.0mm
Camber	REFER TO SERVICE MANUAL		
Castor	REFER TO SERVICE MANUAL		
Toe	REFER TO SERVICE MANUAL		
Bump Steer	STANDARD	-	-
Spring Rate	325 lbs/in		
Rear			
Parameter	Specification	Tolerance	Difference Side to Side
Ride Height	130mm	+2.0mm/-1.0mm	+/-2.0mm
Camber	REFER TO SERVICE MANUAL		
Toe	REFER TO SERVICE MANUAL		
Bump Steer	REFER TO SERVICE MANUAL		
Spring Rate	425 lbs/in		
Notes:-	Ride Heights taken with ½ a tank of Fuel and 2 x 75Kg passengers		
	Ensure front ride height is never higher than rear ride height		



ELISE S2 - Suspension Settings - Ohlins Dampers

Recommended Settings - Road			
Front Damper		Full Hard	Full Soft
Bump	P4	P1 (Clockwise)	P22 (Anti-Clockwise)
Rebound	P12	P1 (Clockwise)	P60 (Anti-Clockwise)
Rear Damper			
Bump	P6	P1 (Clockwise)	P22 (Anti-Clockwise)
Rebound	P12	P1 (Clockwise)	P60 (Anti-Clockwise)
Recommended Settings - Race			
Front Damper		Full Hard	Full Soft
Bump	P3	P1 (Clockwise)	P22 (Anti-Clockwise)
Rebound	P10	P1 (Clockwise)	P60 (Anti-Clockwise)
Rear Damper			
Bump	P4	P1 (Clockwise)	P22 (Anti-Clockwise)
Rebound	P15	P1 (Clockwise)	P60 (Anti-Clockwise)
Front Anti Roll Bar	P3	P1	P5

Suspension Geometry

Front

Parameter	Specification	Tolerance	Difference Side to Side
Ride Height	130mm	-2.0mm/+1.0mm	+/- 2.0mm
Camber	REFER TO SERVICE MANUAL		
Castor	REFER TO SERVICE MANUAL		
Toe	REFER TO SERVICE MANUAL		
Bump Steer	STANDARD	-	-
Spring Rate	225 lbs/in		

Rear

Parameter	Specification	Tolerance	Difference Side to Side
Ride Height	130mm	+2.0mm/-1.0mm	+/-2.0mm
Camber	REFER TO SERVICE MANUAL		
Toe	REFER TO SERVICE MANUAL		
Bump Steer	REFER TO SERVICE MANUAL		
Spring Rate	325 lbs/in		

Notes:-	Ride Heights taken with ½ a tank of Fuel and 2 x 75Kg passengers		
	Ensure front ride height is never higher than rear ride height		

