



Date: 26.04.2012

Model: All Elise/Exige & 2-Eleven Models fitted with Öhlins Dampers

Number: 2012/05

Copy files should be maintained by:

Service Manager		Service Reception		Supervisor		Parts Manager	
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**TITLE:**

Renewal of updated stop washer to Öhlins 2 way adjustable damper assembly.

**REASON:**

The lower end of the vehicle road spring fitted to an Öhlins adjustable damper is retained in position by the use of an integral stop washer which is fitted inbetween the end of the dampers piston shaft and rebound adjuster/suspension mount.

A 'stepped' collar with a slotted section manufactured within its radius is slid over the piston shaft and positioned between the upper face of the stop washer and the base of the road spring.

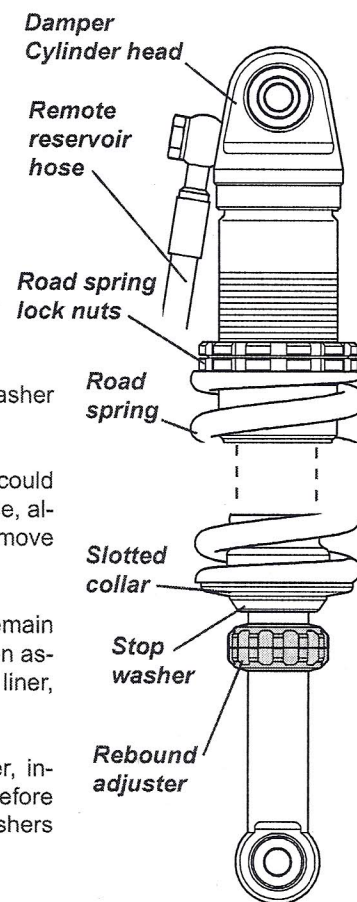
With the spring under compression, the collar is forced against the stop washer, retaining the lower end of the spring and washer in their correct positions within the damper assembly.

It has been noted that under extreme climatic conditions, the stop washer may show signs of corrosion and fatigue.

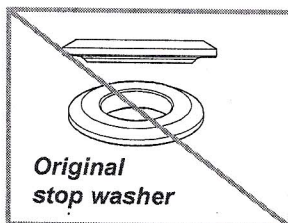
Under extreme conditions an excessively corroded stop washer could break around its circumference at its contact area on the damper base, allowing the outer area of the stop washer, slotted collar and spring to move downwards and rest against the plastic rebound adjuster ring.

**Please note:** In the event of this type of failure, the vehicle will still remain stable whilst driving as there is insufficient travel within the suspension assembly to allow the vehicle road wheel to foul either the wheelarch liner, body panels or any other suspension components.

To rectify this issue, Öhlins have produced a modified stop washer, increasing its overall external dimensions making it more robust therefore improving its resistance to corrosion and fatigue. The revised stop washers are now fitted as a production running change.



**Comparison of original and modified stop washer**



Original stop washer



A120C6004S modified stop washer

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This action was also carried out on service replacement units despatched from the Lotus Aftersales warehouse as listed below.

# **Öhlins Spring/damper units affected**

<b>Part numbers</b>	<b>Description</b>	<b>Production Applications</b>
A128C4001F	LHF spring/damper assembly	Lotus Exige 240 260 & Elise SC
A128C4002F	RHF spring/damper assembly	
A128D4001F	LHR spring/damper assembly	
A128D4002F	RHR spring/damper assembly	

<b>Part numbers</b>	<b>Description</b>	<b>Production Application</b>
B & C127C4001F	LHF spring/damper assembly	Lotus 2-Eleven
B & C127C4002F	RHF spring/damper assembly	
B & C127D6000F	LHR spring/damper assembly	
B & C127D6001F	RHR spring/damper assembly	

<b>Part numbers</b>	<b>Description</b>	<b>Motorsport &amp; Aftersales Applications</b>
CLS3C6001J	LHF spring/damper assembly	Toyota powertrain Lotus Elise and Exige
CLS3C6002J	RHF spring/damper assembly	
BLS3D6005J	LHR spring/damper assembly	
BLS3D6006J	RHR spring/damper assembly	

<b>Part numbers</b>	<b>Description</b>	<b>Motorsport Application</b>
ALS3C0114F	LHF spring/damper assembly	Lotus 2-Eleven GT4
ALS3C0115F	RHF spring/damper assembly	
ALS3D0117F	LHR spring/damper assembly	
ALS3D0118F	RHR spring/damper assembly	

In conjunction with Öhlins, a stop washer exchange tool kit has been produced and is used to fit the modified stop washers. A quantity of modified stop washers and a single tool kit will be mandatorily issued to all Lotus Dealerships and Authorised Repairers in markets where sales of potentially affected vehicles have been recorded by Lotus Cars Aftersales Department.

<b>Part Number</b>	<b>Description</b>	<b>Kit Contents</b>	<b>Qty</b>
T000T1531F	Stop washer exchange kit	'C' spanners	2
		Soft vice jaws	2
		Loctite 278	1 bottle
<b>Part Number</b>	<b>Description</b>		
A120C6004S	Stop washer		4/car

## **ACTION:**

### **Parts Department**

Please check all stock you may have of any affected part numbers displayed in this bulletin.

Any modified spring/damper assemblies can be easily identified by the fitment of the thicker stop washer as well as an adhesive label (a green dot) which has been affixed to either the remote reservoir or the reservoir hose bolt where it is affixed to the dampers cylinder head.

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Any assemblies that **have** been modified can remain in dealer stock and sold as normal.

Any assemblies that have **not** been modified should be returned for a parts credit using the credit request procedure as shown in the Lotus Aftersales Parts Policy and Procedures Manual.

Please check your parts sales records to determine if you have sold any of the affected part numbers (either as counter sales or to your Service Department). Where records exist, please liaise with your Service Department and contact any customers who have had affected assemblies fitted and make arrangements to inspect their vehicles at a mutually convenient time.

#### Service Department Action

Where records indicate that a vehicle was fitted with Öhlins spring/damper assemblies at the time of production will be shown as outstanding campaign number 2012/05 on Lotus Dealer Connect when its VIN is entered on option DC611.

If a vehicle affected by campaign number 2012/05 enters the workshop carry out the procedure listed below.

If a vehicle enters the workshop and is fitted with affected Öhlins dampers but its VIN is **not** listed as outstanding campaign number 2012/05, then please contact the Lotus Warranty Department with the full VIN and owner details as well as any additional information as to when and where the dampers were purchased.

#### Procedure 1

##### *Inspection of front damper assemblies*

- Turn the steering wheel to a full LH & RH lock
- The front damper/spring assemblies will be accessible for inspection on the outward turned lock, inspect both the stop washer and remote reservoir attached to the lower wishbone crossbrace (or front crash structure on the 2-Eleven).
- If a modified washer has been fitted and the green sticker has been affixed – carry out no further remedial action. (See illustrations 'B' on page 4).

##### *Inspection of rear damper assemblies*

- From rearwards of the road wheel and the side of the diffuser panel, inspect the LHR/RHR lower dampers and remote reservoirs attached to the toe link rod (or rear subframe as viewed from above on the 2-Eleven).
- If a modified washer has been fitted and the green sticker has been affixed – carry out no further remedial action. (See illustrations 'B' on page 4).

If the vehicle has been fitted with modified Öhlins damper assemblies then a warranty claim for inspection only can be submitted on Lotus Dealer Connect (see charges section of bulletin for details).

If the modified washers have not been fitted as per the example 'A' illustrations on page 4, make a note of the vehicles front and rear ride height and carry out procedure 2 as shown on page 5.

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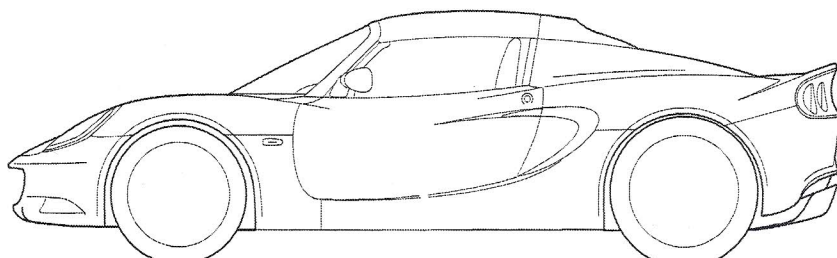


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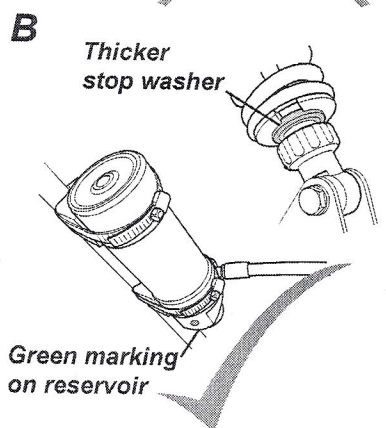
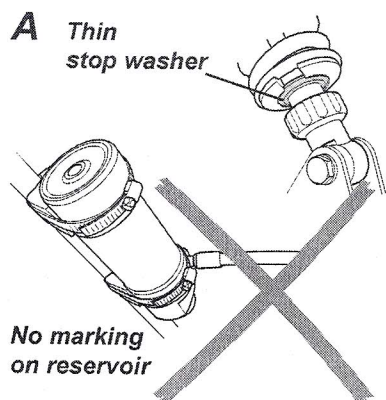
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# SERVICE BULLETIN CLASS 2

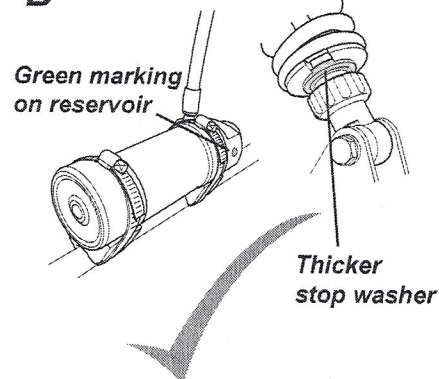
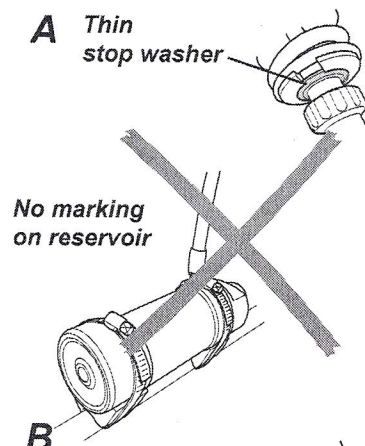
## ÖHLINS DAMPER IDENTIFICATION IN SITU



### ÖHLINS FRONT DAMPER IN SITU



### ÖHLINS REAR DAMPER IN SITU



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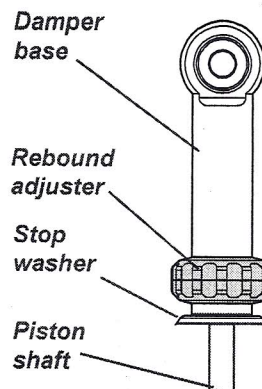
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**Procedure 2****Part 1: Stop washer removal**

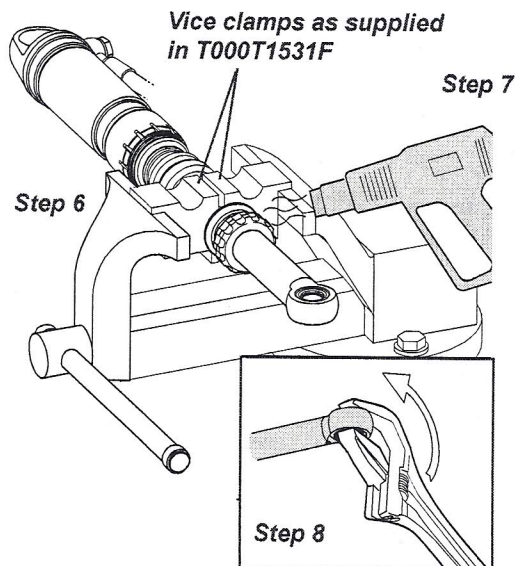
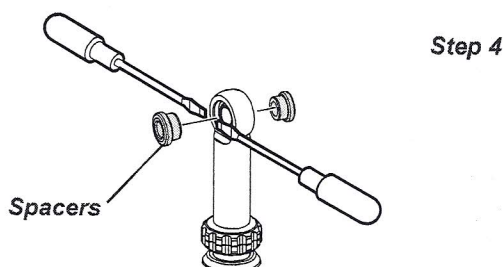
**Once the vehicles front and rear ride height has been noted, remove the damper/reservoir assembly from the vehicle (refer to sections DH.3 and CI.3 of the Elise Service Notes).**

1. Using the two 'C' spanners supplied in the stop washer kit, remove the spring from the damper assembly (also refer to sections DH.3 and CI.3 of the Elise Service Notes).
2. Note the dampers current rebound setting by turning the rebound adjuster's knurled plastic ring located on the base of the damper clockwise and note the number of clicks.



**Note: It is important to carry out the above procedure for resetting the damper upon re-assembly.**

3. Open the rebound adjuster (turn the knurled plastic ring counter clockwise) approximately 4 complete turns.
4. Using two suitable screwdrivers or appropriate workshop bars, remove the spacers located in the base of the damper.
5. Push the bump stop rubber all the way down the piston shaft towards the cylinder head.
6. Place the damper assembly in a vice, clamping it around the piston shaft using the soft jaws supplied in the stop washer kit.
7. Using a heat gun, apply gentle heat to the base of the damper where it is attached to the piston shaft and stop washer.
8. Using an adjustable wrench, turn the base of the damper counter clockwise unscrewing it from the dampers piston shaft.
9. Remove the stop washer (if still attached to the damper base) by tapping gently with a plastic hammer.



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## Part 2: Stop washer fitment

10. Position the new stop washer (A128C6004S) onto the damper base and tap gently with a plastic hammer to ensure it is properly mounted.
11. Clean the threads on the dampers piston shaft and then apply a light coating of Loctite 278 to the cleaned threads.
12. Mount the damper base and stop washer to the damper piston shaft, using a crows foot spanner, torque the base to 60Nm.

13. Refit the spacers in the damper base.

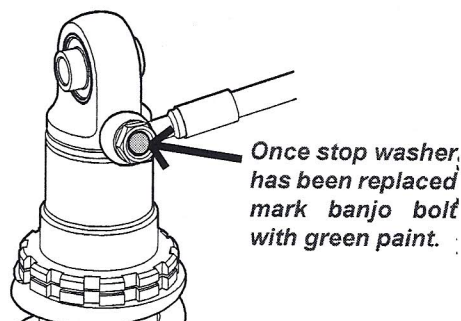
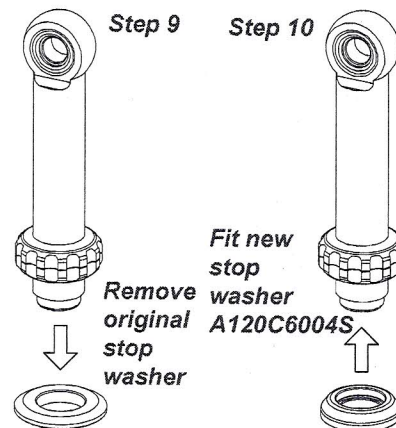
14. Remove the damper from the vice.

15. Reset the rebound adjuster to its original setting to the number of clicks noted in step 2.

16. Refit the spring to the damper assembly (refer to sections DH.3 and CI.3 of the Elise Service Notes).

17. Using a green coloured indelible marker pen/paint stick, mark the head of the reservoir hose to damper bolt with a green dot.

18. Mark the casing of the remote reservoir near its connection to the reservoir hose with a green dot (ensuring that the mark is placed in a position that will be visible with the reservoir in situ on the vehicle as per 'B' illustrations on page 4).



Refit the damper assembly back onto the vehicle (refer to sections DH.3 and CI.3 of the Elise Service Notes).

Repeat procedure 2 to all of the vehicles dampers and once complete, ensure the vehicles ride height is the same as noted before damper renewal, road test and ensure your vehicle has maintained stability.

### CHARGES:

*Procedure 1 carried out: Vehicle dampers already fitted with modified stop washers.*

A warranty claim for 0.1 hours labour per vehicle can be submitted on Lotus Connect, option DC603, Bulk Entry Campaign number 2012/05, Select inspection type 1.

*Procedure 2 carried out: Vehicle dampers require fitment of modified stop washers.*

A warranty claim for 4 hours labour and 4 x A120C6004S stop washers per vehicle can be submitted on Lotus Connect, option DC603, Bulk Entry Campaign number 2012/05, Select inspection type 2.

**Note:** As it is **NOT** necessary to disturb any of the suspensions wishbone fixings to carry out this procedure, claims for carrying out steering and geometry checks or adjustments relating to this bulletin will **NOT** be authorised.

Ends.

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