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14V-280
(11 pages)

Our Ref: TA/USREP/573

Your Ref: 11V-510
13V-041

Date: 23rd May 2014

Chief
Recall Management Division
Office of Defects Investigation
National Highway Traffic Safety Administration
1200 New Jersey Avenue S.E.
Washington
D.C. 20590

Subject: Part 573 Recall Notice – Failure of Oil Cooler Hose End Fittings

This information is submitted in accordance with the requirements of Title 49 Part 573 of the Code of Federal Regulations. Lotus Cars Ltd (Lotus) would like to advise the Administrator of further information that has become available relating to Recall Notices #11V-510 & #13V-041.

Following some failures in other markets and in vehicles outside the declared VIN range, it has been decided to extend the recall to encompass an additional 860 cars. This extension also broadens the range of affected cars to include those manufactured up to and including 2011MY Elise/Exige and certain 2011MY Evora vehicles (see Annexes A, F & G).

During earlier investigations, it was identified that there was an improvement in the oil cooler hose crimping process that was introduced in October 2006. However, further investigation has concluded that the design of the hose end fittings of the affected vehicles was susceptible to dimensional tolerances and production variations during manufacture. This resulted in oil cooler hose assemblies that did not meet the quality standards required by Lotus.

It should be noted that Lotus has not received notice of any reported deaths or injuries resulting from this issue.

If you have any questions relating to this submission, please contact the undersigned.

Yours faithfully

Ian Cawdron
Principal Legislation Engineer
Type Approval Department
Lotus Cars Ltd
Tel: +44(0)1953 608297
Email: icawdron@lotuscars.com

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Annexes:

- A. §573.6 Defect Information Report
- B. Hose End Fitting Design
- C. Existing Oil Cooler Hose Installation
- D. Oil Cooler Hose Repair Strategy
- E. Oil Cooler Hose Repair Installation
- F. Elise/Exige Affected VIN Ranges (redacted)
- G. Evora Affected VIN Ranges (redacted)



§573.6 Defect Information Report

§573.6(c)(1) **Manufacturers Name**

Full Corporate Name: Lotus Cars Limited

Designated Agent: Mr Arnold Johnson
Lotus Cars USA Inc

Official Contact: Mr Ian Cawdron
Principal Legislation Engineer
Email: icawdron@lotuscars.com
Tel: +44 (0)1953 608297

Customer Enquiries: Mr Ron Mann
Customer Services & Warranty Manager
Email: rmann@lotuscars.com
Tel: (770) 476 6564

§573.6(c)(2)(i) **Identification of Vehicles**

Make: Lotus
Line: Elise/Exige
Model Year: 2008 – 2011
Month/Year of
Manufacture: November 2007 to July 2011

Make: Lotus
Line: Evora
Model Year: 2011
Month/Year of
Manufacture: September 2010 – September 2011

Affected VIN: See Annexes F & G

§573.6(c)(3) **Number of Vehicles Potentially Containing the Defect**

860 vehicles in the United States are affected by this recall:

2008MY Elise	233
2008MY Exige	127
2009MY Elise	107
2009MY Exige	41
2010MY Elise	29
2010MY Exige	53



2011MY Elise	127
2011MY Exige	63
2011MY Evora S	80

§573.6(c)(4) **Percentage of Vehicles Actually Containing the Defect**

The percentage of Elise/Exige vehicles estimated to actually contain the defect is 3% (based on current failure rates). There have been no reported failures for Evora in the US; however, failure rates in other markets suggest 2% is likely.

§573.6(c)(5) **Description of Defect**

Lotus has identified that there has been a small number of instances of oil cooler hoses detaching from their end fittings from a group of vehicles built over a limited period of time. In all such cases, there was a single supplier of affected parts. That supplier provided parts between May 2004 and May 2010, although component stock run-out continued for some time after this date.

Lotus' opinion is that the cause of failure is the susceptibility of the design of these hose assemblies to variations in production processes and manufacturing tolerances. In particular, the hose assemblies in question utilised a smooth bore ferrule (see Annexe B). A new supplier was appointed in June 2010 when the design of the end fittings also changed, incorporating a ribbed ferrule. There have been no reported failures of this revised configuration and recent investigations have determined that this design is less susceptible to variations in manufacture and is therefore, more robust when used in this application. Consequently, this recall targets all vehicles built with oil cooler hoses that utilise the smooth bore ferrule end fitting.

It has been established that in the event of hose failure, engine oil may be ejected onto the road surface and/or rear wheels which could cause a reduction in vehicle control and potential engine failure. There may also be a loss of oil into the engine bay area resulting in an increased risk of fire.

If the oil cooler line becomes detached the vehicle operator would observe the following warning signs:

- (1) Oil pressure warning light illuminated whilst the engine is running
- (2) Signs of oil under the front or rear of the vehicle whilst the vehicle is parked
- (3) Excessive oil consumption
- (4) Trail of oil on the road
- (5) Increased engine noise

§573.6(c)(6) **Chronology of Principal Events**

Information to be submitted as soon as possible.

§573.6(c)(7) **Non-Compliance Test Report**

Not applicable.



§573.6(c)(8)(i) **Proposed Remedial Program**

Elise/Exige: it is proposed to replace the oil cooler hose end fittings, using a bespoke dealer fitting kit. This technique involves removal of the original hose end fittings and installing new end fittings, secured by Oetiker clamps. This repair will be carried out on the left and right longitudinal oil cooler hoses (4 end fittings). The lateral oil cooler hose will be replaced in its entirety (see Annexes C, D & E). Following repair, the vehicle will be leak checked to verify oil cooler system integrity.

Earlier recalls (11V-510 & 13V-041) addressed Elise/Exige vehicles built between 1 June 2004 & 31 October 2007. The remedy introduced by these recalls is identical to that proposed in this notification and the vehicles repaired to date do not need to be re-visited.

Evora: it is proposed that the oil cooler hose assemblies will be replaced with the current production released parts, in accordance with Lotus workshop procedures.

A customer reimbursement plan will be issued as soon as possible.

§573.6(c)(8)(ii) **Owner/Dealer Notification**

Notification dates are as follows:

Dealer notification: to be confirmed as soon as possible

Owner notification: to be confirmed as soon as possible

§573.6(c)(10) **Representative Copy of all Notices, Bulletins etc**

To be provided as soon as possible.

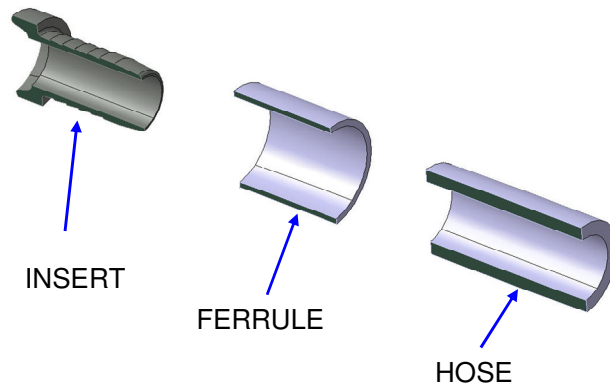
§573.6(c)(11) **Manufacturers Recall Code**

Elise/Exige: 2014/01R

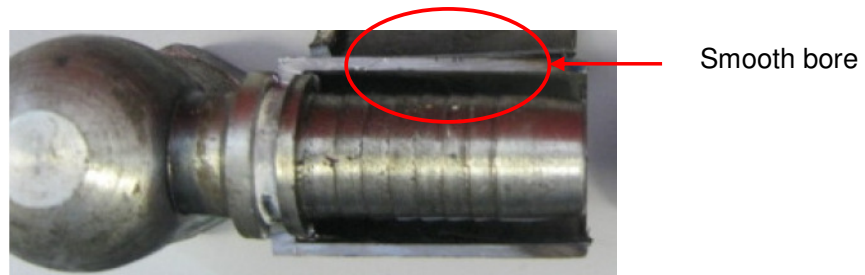
Evora: 2014/02R



Hose End Fitting Design



Smooth Bore Ferrule (supplied May 2004 – May 2010):



Ribbed Ferrule (supplied June 2010 onwards):

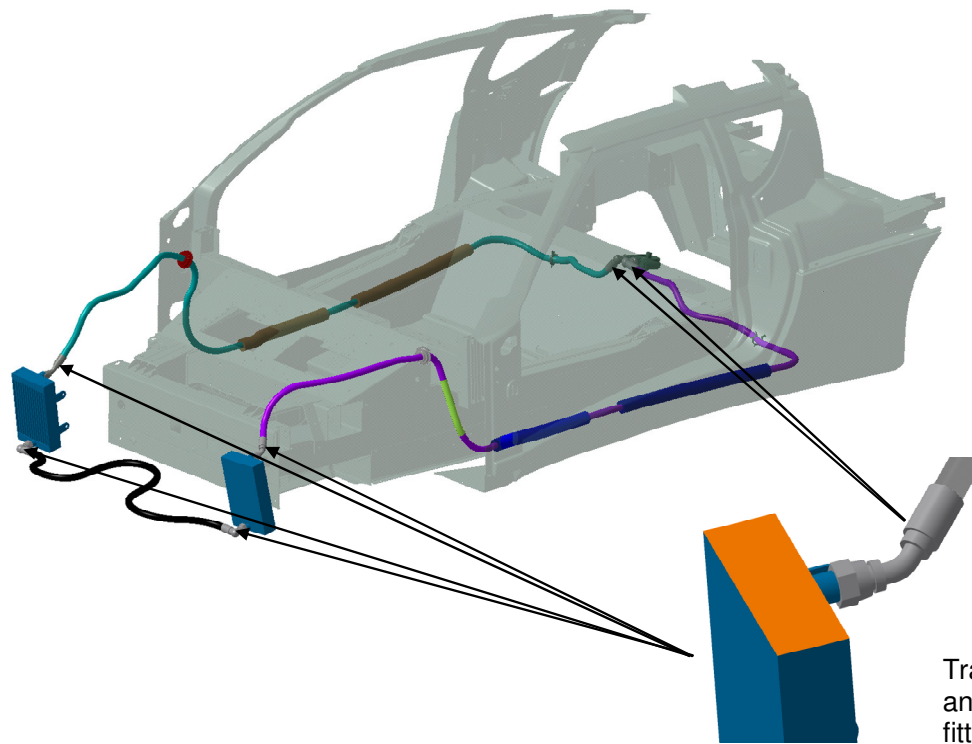




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Annexe C to
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Dated 23rd May 2014

EXISTING OIL COOLER HOSE INSTALLATION (ELISE / EXIGE SHOWN – EVORA SIMILAR)

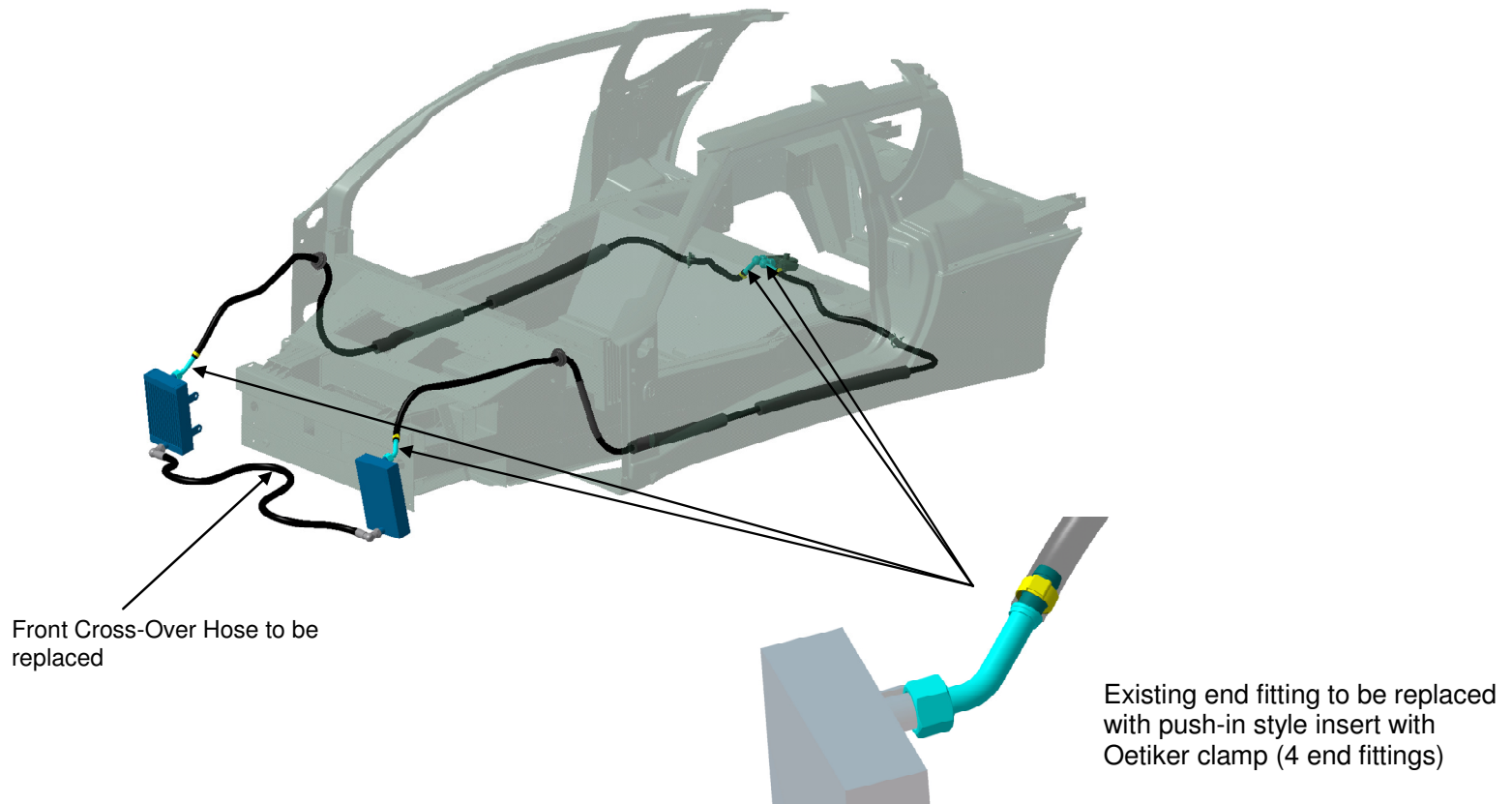




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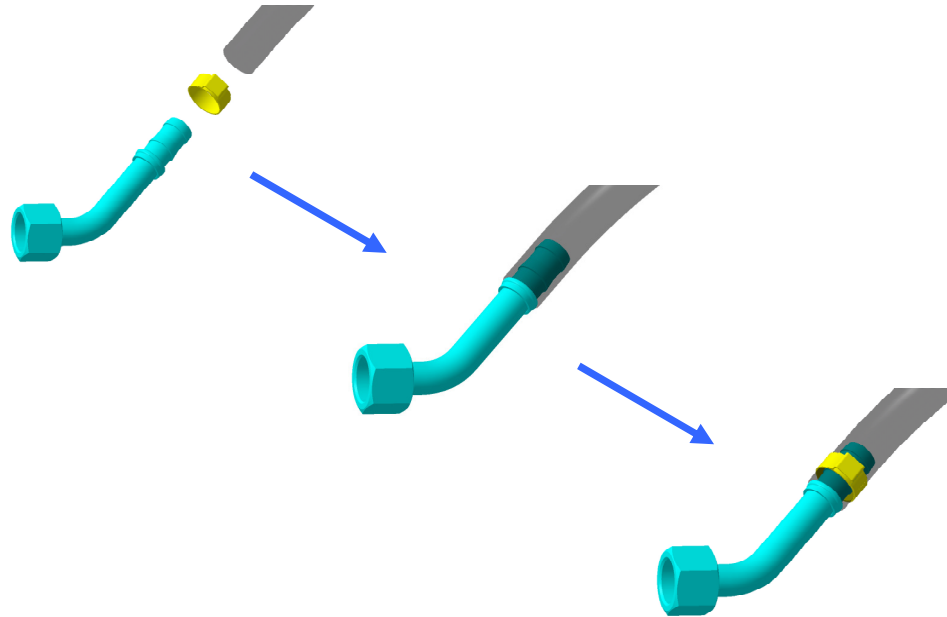
Annexe D to
TA/USREP/573
Dated 23rd May 2014

OIL COOLER HOSE REPAIR STRATEGY (ELISE / EXIGE SHOWN)





OIL COOLER HOSE REPAIR INSTALLATION (ELISE / EXIGE SHOWN)





Elise/Exige Affected VIN Ranges (redacted)

SCCAC11109HL	SCCLHCZC7BHA	SCCPC11109HL	SCCWC11169HL
SCCAC11119HL	SCCLHCZC8BHA	SCCPC11118HL	SCCWC11178HL
SCCAC11129HL	SCCLHCZC9AHA	SCCPC11119HL	SCCWC11188HL
SCCAC11149HL	SCCLHCZC9BHA	SCCPC11128HL	SCCWC11198HL
SCCAC11159HL	SCCLHCZCXBHA	SCCPC11129HL	SCCWC11199HL
SCCAC11169HL	SCCLHHAC0BHA	SCCPC11138HL	SCCWC111X8HL
SCCAC11179HL	SCCLHHAC1AHA	SCCPC11139HL	SCCWC111X9HL
SCCAC11189HL	SCCLHHAC1BHA	SCCPC11148HL	SCCZC11108HL
SCCAC11199HL	SCCLHHAC2AHA	SCCPC11149HL	SCCZC11109HL
SCCAC111X9HL	SCCLHHAC2BHA	SCCPC11158HL	SCCZC11118HL
SCCLHCPC0AHA	SCCLHHAC3AHA	SCCPC11159HL	SCCZC11119HL
SCCLHCPC0BHA	SCCLHHAC3BHA	SCCPC11168HL	SCCZC11128HL
SCCLHCPC1AHA	SCCLHHAC4AHA	SCCPC11169HL	SCCZC11129HL
SCCLHCPC1BHA	SCCLHHAC4BHA	SCCPC11178HL	SCCZC11138HL
SCCLHCPC2AHA	SCCLHHAC5AHA	SCCPC11179HL	SCCZC11139HL
SCCLHCPC2BHA	SCCLHHAC5BHA	SCCPC11188HL	SCCZC11148HL
SCCLHCPC3AHA	SCCLHHAC6AHA	SCCPC11189HL	SCCZC11149HL
SCCLHCPC3BHA	SCCLHHAC6BHA	SCCPC11198HL	SCCZC11158HL
SCCLHCPC3BHA	SCCLHHAC7AHA	SCCPC11199HL	SCCZC11159HL
SCCLHCPC4AHA	SCCLHHAC7BHA	SCCPC111X8HL	SCCZC11168HL
SCCLHCPC4BHA	SCCLHHAC8AHA	SCCPC111X9HL	SCCZC11169HL
SCCLHCPC5AHA	SCCLHHAC8BHA	SCCVC11108HL	SCCZC11178HL
SCCLHCPC5BHA	SCCLHHAC9AHA	SCCVC11118HL	SCCZC11179HL
SCCLHCPC6AHA	SCCLHHAC9BHA	SCCVC11138HL	SCCZC11188HL
SCCLHCPC6BHA	SCCLHHACXAHA	SCCVC11148HL	SCCZC11189HL
SCCLHCPC7AHA	SCCLHHACXBHA	SCCVC11168HL	SCCZC11189HL
SCCLHCPC7BHA	SCCLHHWC0AHA	SCCVC11178HL	SCCZC11198HL
SCCLHCPC8AHA	SCCLHHWC1AHA	SCCVC11188HL	SCCZC11199HL
SCCLHCPC8BHA	SCCLHHWC2AHA	SCCVC11198HL	SCCZC111X8HL
SCCLHCPC9AHA	SCCLHHWC3AHA	SCCVC111X8HL	SCCZC111X9HL
SCCLHCPC9BHA	SCCLHHWC4AHA	SCCWC11108HL	
SCCLHCPCXAHA	SCCLHHWC4BHA	SCCWC11109HL	
SCCLHCPCXBHA	SCCLHHWC5AHA	SCCWC11118HL	
SCCLHCZC0AHA	SCCLHHWC6AHA	SCCWC11119HL	
SCCLHCZC0BHA	SCCLHHWC6BHA	SCCWC11128HA	
SCCLHCZC1BHA	SCCLHHWC7AHA	SCCWC11128HL	
SCCLHCZC2BHA	SCCLHHWC8AHA	SCCWC11138HL	
SCCLHCZC3BHA	SCCLHHWC8BHA	SCCWC11139HL	
SCCLHCZC3BHA	SCCLHHWC9AHA	SCCWC11148HL	
SCCLHCZC4AHA	SCCLHHWCXAHA	SCCWC11149HL	
SCCLHCZC4BHA	SCCLHHWCXBHA	SCCWC11158HL	
SCCLHCZC5BHA	SCCPC11108HL	SCCWC11159HL	
SCCLHCZC6BHA	SCCPC11108HL	SCCWC11168HL	



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Annexe G to
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Evora Affected VIN Ranges (redacted)

SCCLMDSC0BHA
SCCLMDSC4BHA
SCCLMDSCXBHA
SCCLMDSC2BHA
SCCLMDSC6BHA
SCCLMDSU4BHA
SCCLMDSU8BHA
SCCLMDSC7BHA
SCCLMDSUXBHA
SCCLMDSC8BHA
SCCLMDSU2BHA
SCCLMDSU3BHA
SCCLMDSU1BHA
SCCLMDSU0BHA
SCCLMDSC1BHA
SCCLMDSC9BHA
SCCLMDSU7BHA
SCCLMDSU5BHA
SCCLMDSC0BHA
SCCLMDSU9BHA
SCCLMDSU6BHA
SCCLMDSC3BHA