



Date: 02.01.2013 Model: Federal Elise & Exige '05 - '07 Model Year Number: 2012/01R USA

Copy files should be maintained by:

Service Manager		Service Reception		Supervisor		Parts Manager	
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TITLE:

Service level replacement of crossover oil cooler hose and fitment of a service level oil line hose kit.

REASON:

To reduce the potential for oil cooler hose leaks.

Background

It has been determined that oil cooler hose leaks have occurred in a small number of USA specification vehicles manufactured between 1 June 2004 and 30 November 2006. The leak can occur at either of the crimped joints in the assembly joining the rubber hose to its metal connector end fittings. The cause of this defect has been attributed to an inconsistent manufacturing crimping process.

Risk

A failure of the oil cooler line may result in oil being deposited on the wheel and/or tire and/or brakes. This could cause reduced or loss of control and reduced braking efficiency which could result in a crash. There is also an increased risk of fire because of the presence of flammable vapour.

In January 2012 a letter was sent to all affected vehicle owners notifying them that Lotus had acknowledged this concern. The letter also included items to monitor for indications of oil leaks and a recommended course of action in the event that any were detected. The letter also stated that Lotus would be in contact again as soon as a campaign remedy was available.

ACTION:

Lotus Cars can now offer an Aftersales oil cooler line rectification kit consisting of a service level replacement transfer hose and replacement connector fittings for both front to rear oil feed and return hoses.

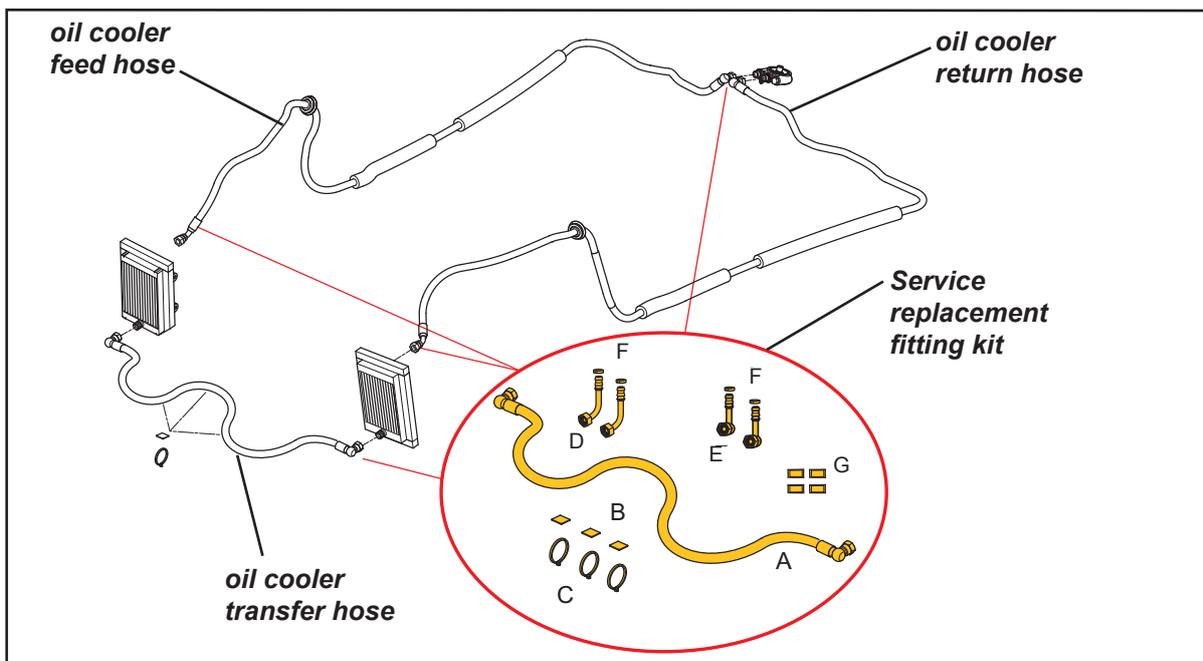
- Affected vehicle owners have now been informed that a precautionary safety recall applies, and advising them to contact their dealer to have the necessary rectification work carried out. A specimen letter is attached for information.
- Please check and identify any affected VIN (Vehicle Identification Numbers) against your dealer inventory or dealer demonstrators VIN number records.
- There are in excess of 5000 vehicles applicable to this recall action; any affected vehicle by campaign status will be displayed if its VIN is entered onto DC611 on the Lotus Dealer Connect warranty system.
- **IMPORTANT** Dealers should immediately check any cars in their sales stock or demonstrator fleet, or any affected customer cars currently on site. Federal law requires that any vehicles in dealer inventory are rectified before retail delivery.

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Method of Repair

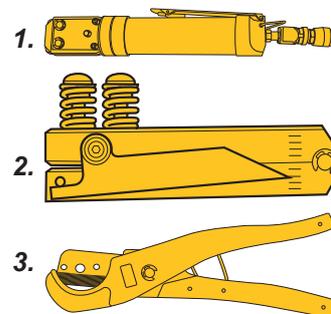
The repair does not require the LH or RH hoses to be withdrawn from the vehicles side sill panels, so reducing the number of ancillary components that have to be removed or disturbed to carry out this rectification work.

Aftersales oil cooler line rectification kit


Parts Required	Part Number	Qty
Oil cooler line rectification kit*	A120K0080S	1/vehicle

*Kit consists of

Item	Part Description	Qty/kit
A.	Oil cooler transfer hose	1
B.	Cable tie base	3
C.	Cable tie	3
D.	Hose connectors to oil coolers	2
E.	Hose connectors to sandwich plate	2
F.	Oetiker stepless ear clamps	4
G.	Clamp fitting template	4
H.	Scrivet, wheelarch liner	8 (not illustrated)


Tools required

Item	Tool Description	Part Number	Qty
1.	Oetiker Pneumatic Pincer tool	T000T1532F	1/workshop
2.	Pincer jaw pressure testing gauge	T000T1533F	1/workshop
3.	Hose cutter	T000T1534F	1/workshop

All Dealers have been mandatorily issued an Oetiker pneumatic clamp crimping tool, crimping tool pressure tester and hose cutter as well as a quantity of oil cooler line rectification kits. Additional kits are also available to order on Lotus Dealer Connect as required.

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IMPORTANT: Due to the high oil pulse pressure found within the cooler lines, you must **ONLY USE** the Oetiker pneumatic crimping tool in conjunction with the clips supplied in the rectification kit to carry out this repair.

At least one member of workshop personnel should already be certified to calibrate the pneumatic pincers using the Oetiker electronic calibration tool (T000T1535F) and should know how to check the pincer jaw strength using the testing gauge (T000T1533F) prior to each crimping operation as shown in instructional guide Isl609. Calibration figures for your workshops specific pincers and jaw pressure gauge should have already been recorded for reference using calibration form Isl610 prior to performing this repair action for the first time.

If for any reason you experience difficulty with either the initial calibration of the pincer tool, or cannot confirm that the pincers have been initially calibrated or if you have reason to believe that they are not operating correctly then please contact your nominated Field Service Engineer or the Aftersales Department at Lotus Cars USA immediately.

DO NOT PROCEED WITH THE REPAIR UNTIL YOU ARE SATISFIED THAT THE CRIMPING TOOL IS WORKING CORRECTLY.

Procedure

Vehicle preparation:

1. Remove the rear undertray - see Elise Service Notes introduction section AA.2 for information.
2. Remove the front clamshell - see Elise Service Notes section BR.6 for information.
3. Remove the front undershield - see Elise Service Notes introduction section AA.2 for information.
4. Galvanic corrosion may occur between the oil hoses steel union nuts at their connection to the aluminum threads of the front mounted coolers, it is essential to apply a liberal quantity of a suitable release agent around the area of all four cooler unions before attempting to release them.

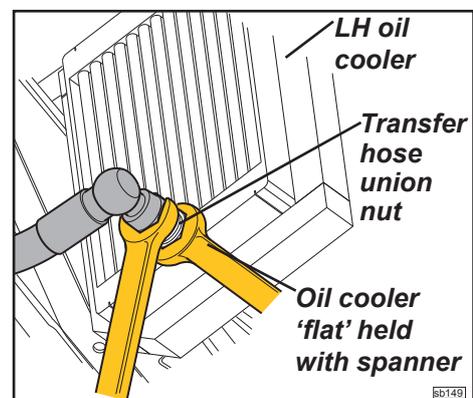
Transfer hose

Removal:

1. Disconnect the oil cooler transfer hose union connections from the LH and RH coolers. Lower the hose and allow the oil to drain from both the hose and cooler into a suitable container(s), plug cooler ports to minimize oil loss.

IMPORTANT: It is essential that the 'flats' on the base of the oil cooler union threaded connection are held using an open ended spanner whilst loosening the hose union nut. Failing to follow this procedure may result in damage to the oil cooler.

2. Cut the cable ties securing hose to the underside of crash structure and remove the hose from the vehicle.

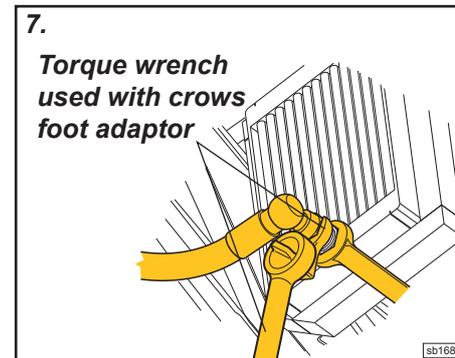
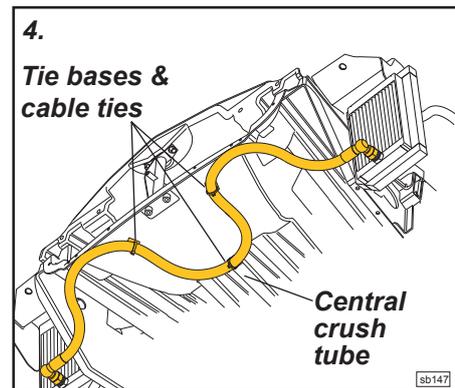


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Renewal:

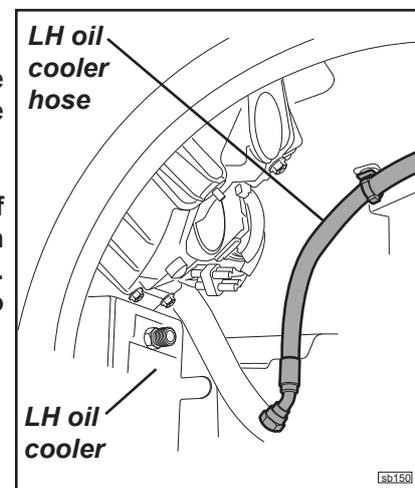
1. Renew any of the cable tie bases that have been pulled away from the underside of the crash structure during the hose removal.
2. Clean and inspect the oil cooler union threads as necessary in preparation to receive the new transfer hose.
3. Remove any plugs temporarily fitted to the oil cooler ports.
4. Fit the new hose to the oil cooler union connections, securing finger tight only (this will allow the cooler ends to turn within the connections whilst the hose is being routed into its correct position).
5. Route the hose along the L/H and R/H front edges of the crash structure, shaping it so that a bend is formed to match the position of the 3 cable tie bases.
6. Ensure the hose route is unhindered, cannot rub on any other components and is free of any kinks allowing the oil to flow freely.
7. Tighten the oil cooler hose connections, to avoid placing unnecessary strain and movement on the oil coolers, hold the 'flats' on the base of the oil cooler unions threaded connection with an open ended spanner whilst using another spanner or crows foot adaptor on the hose connector unions, tightening connections to 40Nm.
8. Re-check alignment of the hose ensuring that it is not kinked or twisted.


LH hose to oil cooler
Preparation:

1. Disconnect LH hose from the oil cooler and lower the hose to allow the oil to drain from the hose and cooler into suitable container(s) and plug the cooler port to minimize oil loss.

IMPORTANT: It is essential that the 'flats' on the base of the oil cooler union threaded connection are held using an open ended spanner whilst loosening the hose union nut. Failing to follow this procedure may result in damage to the oil cooler.

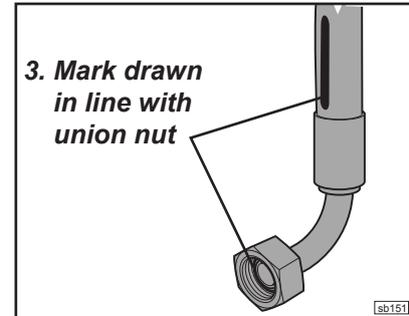
2. Clean and inspect the condition of rubber hose at its connection, check for any cuts, nicks or signs of degradation near its connection to the union fitting ensuring it is in a suitable condition for cutting and modification.



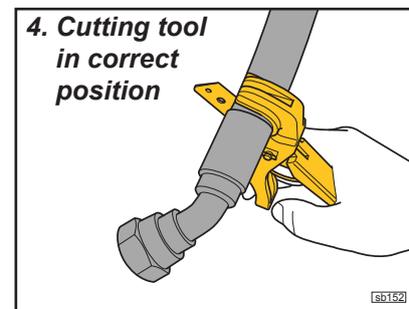
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- Using a suitable pen, mark the end of the rubber hose section where it meets the metal union (see illustration), making sure the mark is in line with the union nut. This will be used as an alignment mark when fitting the service level replacement hose connector.



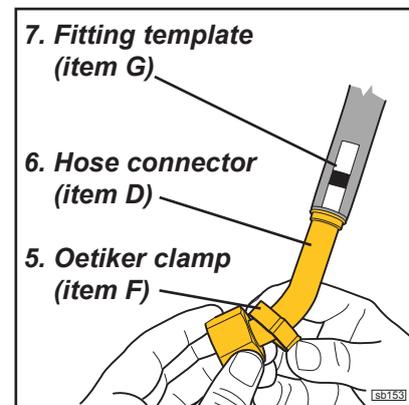
- Using the T000T1534F cutting tool, make a single clean cut around the rubber hose where it joins the metal union fitting. Discard the cut section.



- Fit one Oetiker clamp (item F) from the fitting kit onto the end of the remaining oil cooler hose.

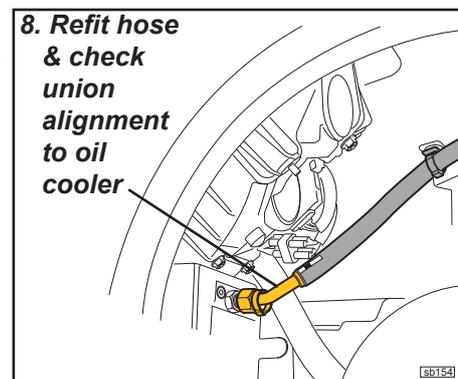
- Push fit an oil cooler hose connector (item D from the fitting kit) into the cut end of the cooler hose making sure that its integral shoulder fitting abuts evenly all the way around the circumference of the hose and that the union nut is in line with the marked line previously made.

⚠ IMPORTANT: DO NOT fit the connector onto the hose without FIRST ensuring the Oetiker clamp is in position. The connector is intended to be a tight fit within the cooler hose and should not be removed once installed. Attempting to remove the connector will CAUSE DAMAGE to the internal wall of the cooler hose.



- Place the self adhesive template (item G from the fitting kit) onto the hose, ensuring the end of the templates white section is lined up against the end of the rubber hose.

- Fit the modified hose back onto the oil cooler and its retaining clips located on the underside of the clamshell. Ensure the hose route is unhindered, cannot rub on any other components and is free of any kinks allowing the oil to flow freely. If necessary adjust the orientation of the hose fitting connection.

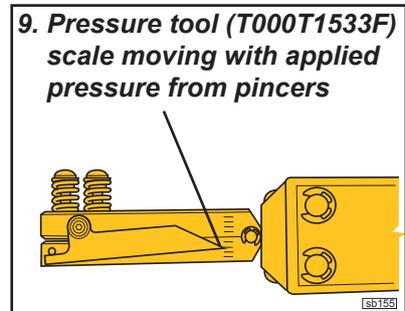


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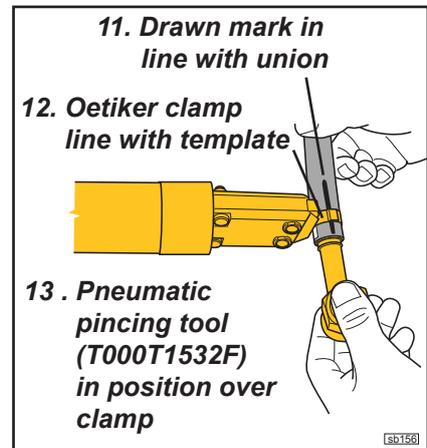
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9. Using T000T1533F pincer jaw pressure testing tool, check that the T000T1532F Oetiker pneumatic pincers are providing the correct pressure to adequately crimp the clamp to the hose connector. Refer to Lotus calibration procedures document Isl 609 and Isl610 for additional information.

IMPORTANT: Due to the high oil pulse pressure found within the cooler lines, you must ensure that the crimping tool is working properly. If the tool fails the pressure test then the cause of this failure must be rectified before attempting to crimp the hose clip.

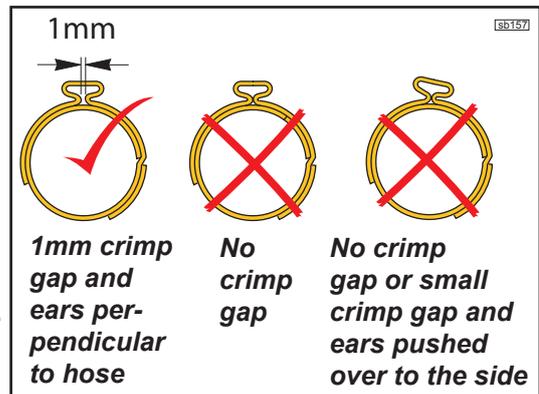


10. Unscrew the modified hose from the oil cooler and if necessary, lower the vehicle so that pneumatic pincers can be operated at approximate chest height. This will ensure that pincer jaws are positioned perpendicular to the hose and clamp ensuring the best possible crimping action.



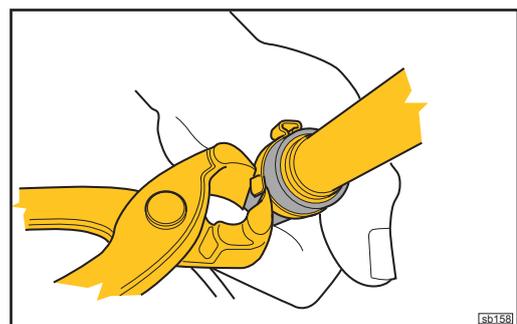
11. Confirm that the marks previously made on the hose and connector are still in line, adjust as required.
12. Position the Oetiker clamp into the correct position (over the black mark) on the previously applied template.
13. Secure the jaws of the pneumatic pincers around the ears of the clamp, activate the tool to compress the clamp, securing the hose to the connector.

14. Check that the clamp has compressed properly by ensuring that there is still a small gap visible (approximately 1mm) at its compressed 'ear' area. If the clamp has been crimped correctly then proceed straight onto step 16.



IMPORTANT: Do not attempt to re-crimp the clamp if the crimping procedure has been unsuccessful for any reason. The failed clamp must be removed and a new clamp fitted. Only remove the clamp using a pair of suitable pincers. Place the jaws of the pincers where the ends of the clamp overlap, with one pincer jaws under the end of the crimp and the other jaw behind its retaining lug (see right hand illustration). Apply pressure to the pincers and use a slight pulling/twisting action to 'peel' the clamp off of the hose.

DO NOT use any cutting tools or attempt to break the clip by any other method as this may cause damage to the hose material rendering it unsuitable to accept a new clamp.



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15. In the event that a clamp has been incorrectly crimped then it must be removed and steps 9 - 14 repeated again, but only once the cause of the previous unsuccessful crimping has been rectified.

16. Before fitting the hose, ensure that the connections oil seal is still in place. Refit the modified hose to the oil cooler and retaining clips located on the underside of the clamshell and again re-check the hose alignment ensuring that it is not kinked, twisted or fouling on any ancillary components.



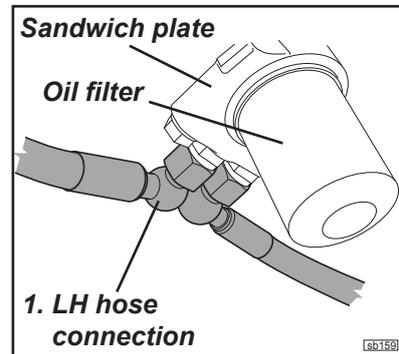
17. To avoid placing unnecessary strain and movement on the oil cooler, hold the 'flats' on the base of the oil cooler unions threaded connection with an open ended spanner whilst using a crows foot adaptor on the hose connector union to tighten it to 40Nm.

18. Repeat this procedure for the RHF oil cooler hose.

LH hose to sandwich plate

Preparation;

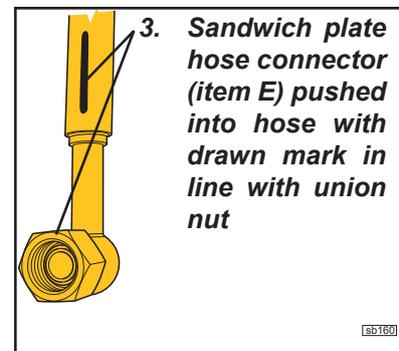
1. Disconnect the LH hose from the oil cooler sandwich plate union, pull the hose away from its chassis and LH heater hose retaining clips allowing any oil to drain from the hose and plate into a suitable container, plug the sandwich port to minimize oil loss and spillage.



2. Carry out the same oil hose clean and inspection procedure; steps 2 – 5 as shown on the previous operation for the LH hose to cooler procedure.

3. Push fit a rear sandwich plate hose connector (item E from the fitting kit) into the cut end of the cooler hose making sure that its integral shoulder fitting abuts evenly all away around the circumference of the hose and that the union nut is in line with the marked line previously made on the hose.

△ IMPORTANT: DO NOT fit the connector onto the hose without FIRST ensuring the Oetiker clamp is in position. The connector is intended to be a tight fit within the cooler hose and should not be removed once installed. Attempting to remove the connector will CAUSE DAMAGE to the internal wall of the cooler hose.



4. Fit the modified hose to the oil cooler sandwich plate union; securing finger tight only. Ensure the hose route is unhindered, cannot rub on any other components and is free of any kinks allowing the oil to flow freely and adjust as necessary.

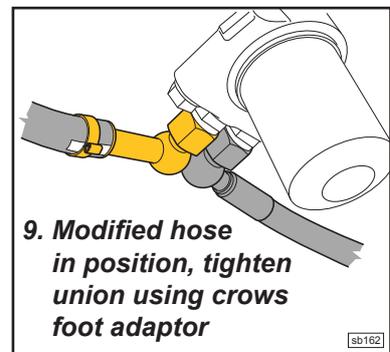
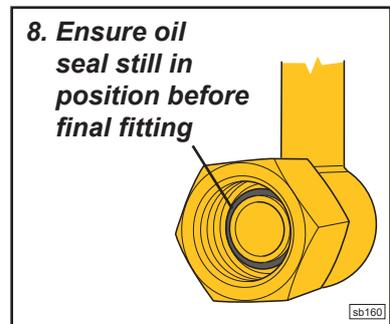
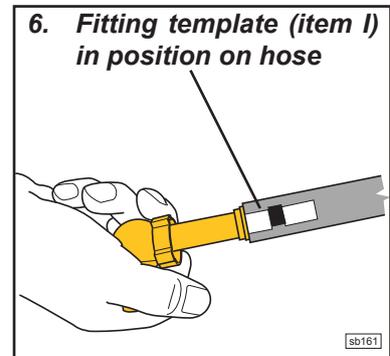
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5. Unscrew the modified hose from the sandwich plate and if necessary, lower the vehicle so that pneumatic pincers can be operated at approximate chest height. This will ensure that pincer jaws are positioned perpendicular to the hose and clamp ensuring the best possible crimping action.
6. Place the self adhesive template onto the hose, ensuring the end of the templates white section is lined up against the end of the rubber hose.
7. Carry out the same hose clamp positioning and crimping procedure as shown in steps 12 – 14 on the previous operation for the LH hose to cooler procedure.

Inspect the positioning and quality of the crimped clamp as described in the previous section and replace the clamp if required.

8. Before fitting the hose, ensure that the connections oil seal is still in place.
9. Refit the modified hose assembly to the sandwich plate union and retaining clips ensuring the hose route is unhindered, cannot rub on any other components and is free of any kinks allowing the oil to flow freely, Tighten the union with crows foot adaptor (torque 40Nm).
10. Repeat this procedure for the RHR oil cooler hose.



Engine starting and checking procedure

- Before starting the engine, check and top up the engine oil level as necessary ensuring that it registers on the 'high' mark of the dipstick – see Service Notes section EH.3 for further information.
- Start the engine and allow the engine oil temperature to rise above 72°C, this will ensure that the sandwich plate opens fully allowing the oil to circulate freely around the hoses and oil coolers.
- Top up the engine oil as necessary.
- Check and rectify any leaks as necessary.
- Refit ancillary components in reverse order as listed in vehicle preparation section as shown on page 1 of this bulletin.

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Timely Repair

The National Traffic and Motor Vehicle Safety Act, as amended, provides that each vehicle which is subject to a recall campaign of this type must be adequately repaired within a reasonable time after the owner has tendered it for repair. Failure to repair within sixty (60) days after tender of a vehicle is prima facie evidence of failure to repair within a reasonable time.

If the condition is not adequately repaired within a reasonable time, the owner may be entitled to an identical or reasonable equivalent vehicle at no charge or to a refund of the purchase price less a reasonable allowance for depreciation.

To avoid having to provide these burdensome solutions, every effort must be made to promptly schedule an appointment with each owner and to repair their vehicle as soon as possible. As you will see in reading the attached copy of the letter that is being sent to owners, the owners are being instructed to contact the Lotus Customer Service if their dealer does not remedy the condition within three (3) days of the mutually agreed upon service date. If the condition is not remedied within a reasonable time, they are instructed on how to contact the National Highway Traffic Safety Administration.

CHARGES:

A Warranty claim for 4hrs labor/car, 1 oil cooler line rectification kit and a reasonable sublet charge for up to 1 litre (1 US quart) of oil can be claimed by submitting a campaign claim on Lotus Connect, option DC603 Bulk Entry Campaign, entering campaign number 2012/01R.

Ends.

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Lotus Cars USA, Inc.

SAFETY RECALL NOTICE

[lotus owner]
[address line 1]
[address line 2]
[address line 3]

Lotus Recall 2012/01R (NHTSA recall # 11V-510)
Vehicle VIN «VIN17»

Dear «GreetingLine»

Lotus has identified you as the registered owner of the above vehicle. This notice is sent to you in accordance with the requirements of the National Traffic and Motor Vehicle Safety Act.

REASON FOR THIS RECALL

Lotus has decided that a defect, which relates to motor vehicle safety, exists in certain 2005, 2006 and 2007 model year Elise and Exige vehicles. It has been determined that oil cooler hose leaks have occurred in a small number of USA specification vehicles manufactured between 1 June 2004 and 30 November 2006.

WHAT IS THE RISK?

A failure of the oil cooler line may result in oil being deposited on the wheel and/or tire and/or brakes. This could cause reduced or loss of control, reduced braking efficiency and an increased risk of fire because of the presence of flammable vapour. This could result in a crash, serious injury or fatality.

If an oil cooler line failure occurs the driver may observe one or more of 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;

If you observe any of the above before driving, do not drive the car and contact your Lotus dealer. If your oil pressure warning light illuminates whilst driving, or if you have any other reason to suspect that an oil line has become detached, stop your vehicle immediately in a safe and controlled manner and contact your Lotus dealer.

WHAT WE WILL DO

Further to the interim notification letter sent to all registered owners in January 2012, Lotus Cars can now offer an oil cooler line rectification kit consisting of a replacement hose assembly which is fitted between the vehicles front mounted oil coolers and modified hose connectors fitted to both the front to rear oil cooler lines. Your Lotus dealer will carry out this work without charge to you.

2402 Tech Center Parkway, Suite 600, Lawrenceville, GA 30043 Tel: 770-476-6540 Fax: 770-476-6541

LOTUS CARS LIMITED

Potash Lane Hethel Norwich Norfolk NR14 8EZ England T +44 (0) 1953 608 000 F +44 (0) 1953 608 514 www.group Lotus.com
Registered Office: Potash Lane Hethel Norwich Norfolk NR14 8EZ in England No. 895081 VAT Reg No. GB 105 9863 55



Lotus Cars USA, Inc.

WHAT SHOULD YOU DO?

Please contact your Lotus dealer as soon as possible to arrange a service date and to enable the dealer to order the necessary parts for the repair. Instructions for making this correction have been sent to your dealer and the parts are available. The labor time necessary to perform this service correction is approximately 4 hours. Please ask your dealer if you wish to know how much additional time will be needed to schedule and process your vehicle.

Your Lotus dealer is best equipped to obtain parts and provide service to ensure that your vehicle is corrected as promptly as possible. If, however, you take your vehicle to your dealer on the agreed service date, and they do not remedy this condition on that date or within three (3) days, we recommend you contact Lotus customer service by calling 1-800-24-LOTUS (1-800-245-6887).

If, after contacting your dealer and Lotus customer service, you are still unable to have the safety defect remedied without charge and within a reasonable time, you may wish to write to the Administrator, National Highway Traffic Safety Administration, 1200 New Jersey Avenue SE., Washington, DC 20590; or call the toll-free Vehicle Safety Hotline at 1-888-327-4236 (TTY: 1-800-424-9153); or go to <http://www.safercar.gov>.

If you had this repair performed before you received this letter, you may be eligible to receive reimbursement for the cost of obtaining a pre-notification remedy of the problem associated with this recall. For more information contact Lotus customer service by calling 1-800-24-LOTUS (1-800-245-6887).

This letter identifies you as an owner of a vehicle affected by this recall. Presentation of this letter to your dealer will assist in making the necessary correction in the shortest possible time. If you have sold or traded your vehicle, please let us know by completing the cut-off slip below and returning it in the postage paid envelope enclosed.

If you are a vehicle lessor, Federal law requires that any vehicle lessor receiving this recall notice must forward a copy of this notice to the vehicle lessee within ten days.

Again, we are sorry to cause this inconvenience; however, we have taken this action in the interest of your safety and continued satisfaction with our products.

Mr. R Mann
Customer Services & Warranty Manager
Lotus Cars USA, Inc.

2402 Tech Center Parkway, Suite 600, Lawrenceville, GA 30043 Tel: 770-476-6540 Fax: 770-476-6541

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Registered Office: Potash Lane Hethel Norwich Norfolk NR14 8EZ in England No. 895081 VAT Reg No. GB 105 9863 55



Lotus Cars USA, Inc.

Lotus Recall 2012/01R (NHTSA recall # 11V-510)

Please note that the ownership of Lotus Elise/Exige, VIN «VIN17», has been transferred to:

Name: _____

Address: _____

City: _____

State: _____

Zip: _____

Draft

SERVICE BULLETIN **CLASS 1**

2402 Tech Center Parkway, Suite 600, Lawrenceville, GA 30043 Tel: 770-476-6540 Fax: 770-476-6541

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