

Document Title: <b>Service</b>	Function Group: <b>170</b>	Information Type: <b>Service Information</b>	Date: <b>02-Jun-21</b>
Profile: <b>L260H Volvo</b>			

## Service

Showing Selected Profile

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L260H Volvo			

For the machine to operate safely and at the lowest possible cost, it must receive thorough and complete maintenance. Intervals for maintenance and lubrication refer to normal operating and environmental conditions. Maintenance work is described in the Operator's Manual and the manual "Service and maintenance" as well as the Service Programme.

### Service Programme

The checking boxes in the Service Programme show what type of service should be done for intervals from every 10 hours up to and incl. 4000 hours. The service intervals from and incl. 4500 hours only contain the additional service points that are to be done at each interval.

The additional service points that are to be done at the first 100 hours and 1000 hours are presented in the same way.

### Time Guide

The Time Guide for service intervals for every 10 hours up to and incl. 4000 hours shows time for the total service. Intervals from and incl. 4500 hours only show time for the additional service points.

Example, 4500 hour interval:

Do all maintenance according to the standard interval every 500 hours and also do the extra interval 4500 hours.

Follow the same example at the first 100 and first 1000 hours.

Document Title: <b>Exhaust Gas Recirculation (EGR), description</b>	Function Group: <b>293</b>	Information Type: <b>Service Information</b>	Date: <b>02-Jun-21</b>
Profile: <b>L260H Volvo</b>			

## Exhaust Gas Recirculation (EGR), description

Showing Selected Profile

Valid for option/configuration			
Model	Option no.	Option	Configuration
L260H Volvo	87231	Engine	D13J US Tier 4 final
L260H Volvo	87233	Engine	D13J EU Stage IV
L260H Volvo	87726	Engine	D13J US Tier 4 final
L260H Volvo	87738	Engine	D13J EU Stage V

Valid for serial numbers			
Model	Production site	Serial number start	Serial number stop
L260H Volvo	Arvika	1001	1168
L260H Volvo	Arvika	1169	1500
L260H Volvo	Arvika	1501	4000

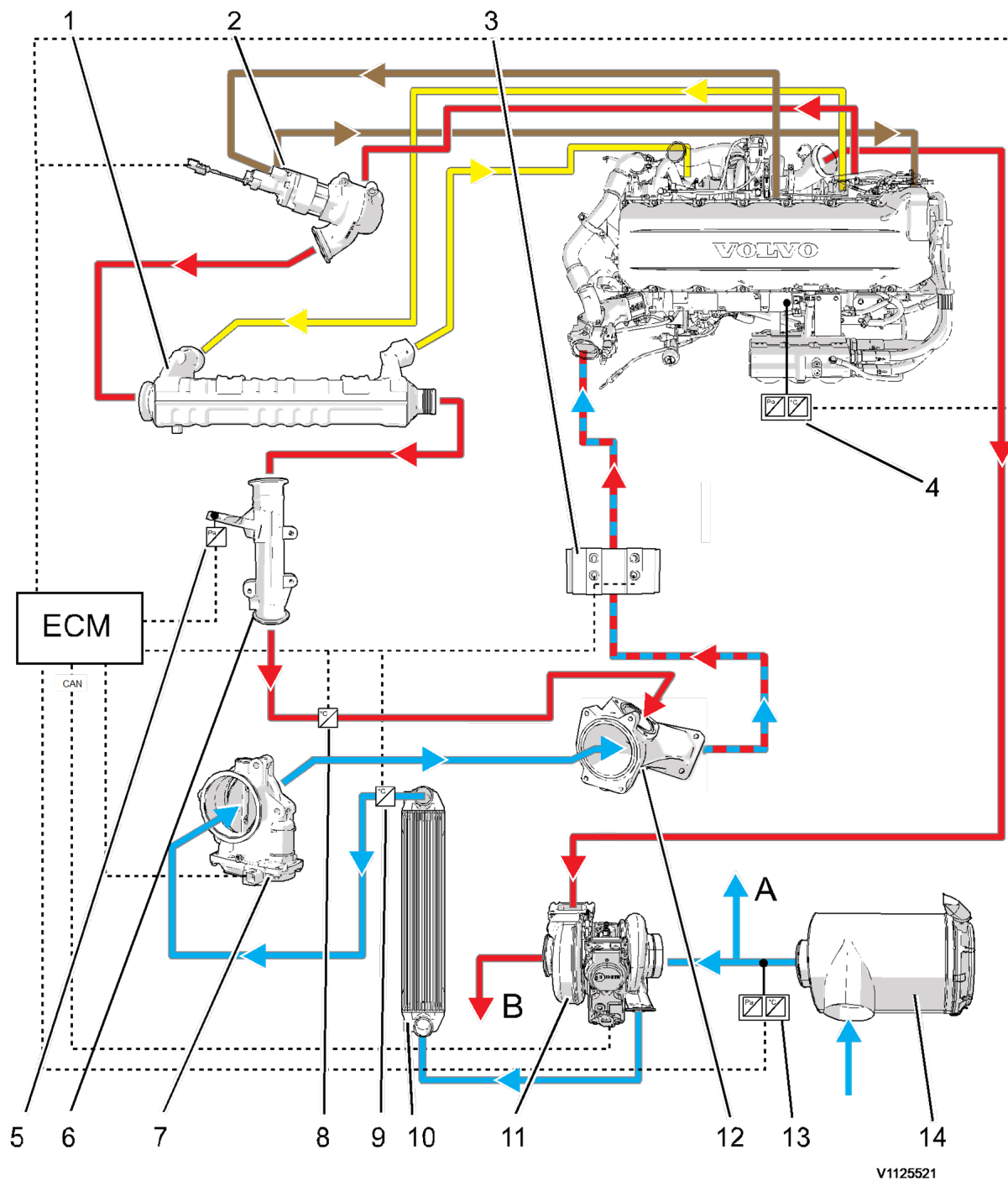
### Introduction

The engine features a cooled external EGR, and its main purpose is to lower the combustion temperature and thereby reduce the nitrogen oxide (NO<sub>x</sub>) content in the exhausts. In addition to reducing the NO<sub>x</sub>-content, the engine is also equipped with an exhaust aftertreatment system in form of an SCR-system.

For information about systems that affect the EGR-system, see:

- [Engine, description](#)
- [Lubrication system, description](#)
- [Inlet and exhaust system, description](#)
- [Exhaust Aftertreatment System, description](#)
- [Cooling system, description](#)

### Function diagram



**Figure 1**  
EGR-system

Dashed black = wiring

Blue = inlet air

Red = exhausts

Yellow = coolant

Brown = engine oil

ECM = Engine control module

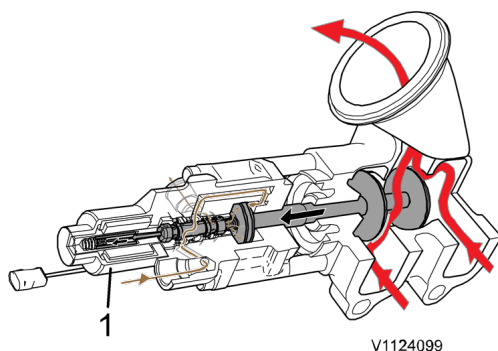
A = to air compressor

B = to exhaust aftertreatment system

1. EGR-cooler
2. EGR-valve with solenoid valve, PWM2503
3. Preheater relay
4. Inlet manifold temperature and pressure sensor, FX1007 (SE2507, SE2508)
5. EGR differential pressure sensor, SE2515
6. Venturi tube
7. Inlet throttle, MO2503
8. EGR temperature sensor, SE2516
9. Charge-air cooler outlet temperature sensor, SE2512
10. Charge-air cooler
11. Variable geometry turbine (VGT) turbocharger with actuator, MO2501
12. Mixing chamber
13. Inlet air temperature sensor and air cleaner pressure sensor, FX1008
14. Air cleaner

From the exhaust manifold, some of the exhausts are led to the EGR-cooler by the EGR-valve, and then via the venturi tube and mixing chamber into the inlet manifold. The recirculated exhausts are oxygen-deficient and when mixed with the inlet air they will reduce the combustion temperature, thus reducing the NO<sub>x</sub>-content.

### EGR-valve



**Figure 2**  
EGR-valve

Brown = engine oil  
Red = exhausts

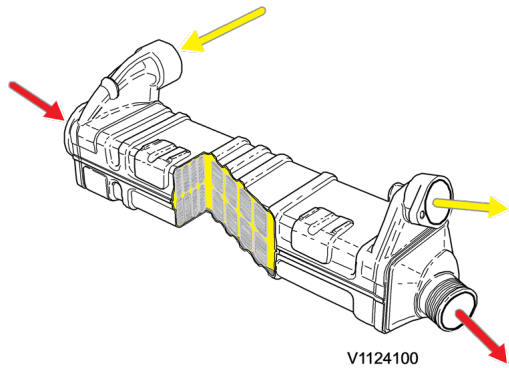
1. Solenoid valve, PWM2503

The EGR-valve regulates the amount of recirculated exhausts and is controlled by the ECM. A solenoid valve regulates the oil pressure from the engine lubrication system. The engine oil acts on a piston inside the EGR-valve to open a channel and enable some of the exhausts from the exhaust manifold to flow through the EGR-system to the inlet system.

The ECM collects information from the sensors and controls the EGR-valve and turbocharger nozzle to obtain optimal EGR-flow.

To be able to control the EGR-valve the ECM needs feedback from many sensors on the engine, not only those in the EGR-system. For example, it needs information on the turbocharger speed and position, engine coolant temperature, ambient temperature, engine speed, and from many sensors included in the aftertreatment system.

### EGR-cooler

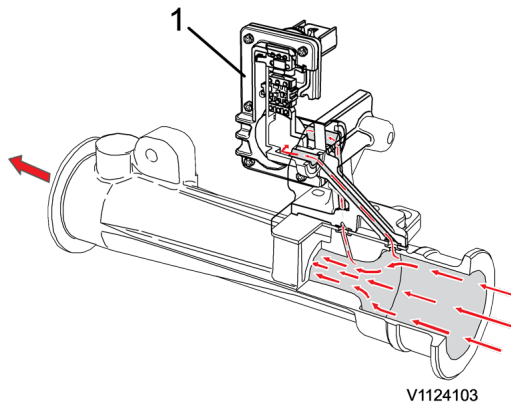


**Figure 3**  
EGR-cooler

Yellow = coolant  
Red = exhausts

The EGR-cooler uses the engine coolant to reduce the temperature of the recirculated exhausts. It consists of a number of pipes with flanges that cool the recirculated exhausts before entering the mixing chamber. The flanges increase the turbulence in the exhaust flow, which improves cooling performance at the same time as it reduces accumulation of unwanted particles in the cooler.

#### Venturi tube



**Figure 4**  
Venturi tube

Red = exhausts

1. EGR differential pressure sensor, SE2515

The venturi tube is a tube with varying inner diameter where the differential pressure of the cooled recirculated exhausts is measured. There is one pressure channel from the big diameter and one pressure channel from the small diameter. These two channels lead to the differential pressure sensor. The ECM receives information about the measured differential pressure and calculates the exhaust recirculation flow.

The EGR temperature sensor is located in the connecting pipe after the venturi tube. The sensor provides the ECM with information about the temperature of the recirculated exhausts.

#### Mixing chamber

The cooled recirculated exhausts and the inlet air, which has been cooled in the charge-air cooler, meet in the mixing chamber. From here the mixture is led via the preheater through the inlet manifold and the cylinder head into the combustion chamber.

#### Variable geometry turbine (VGT) turbocharger

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