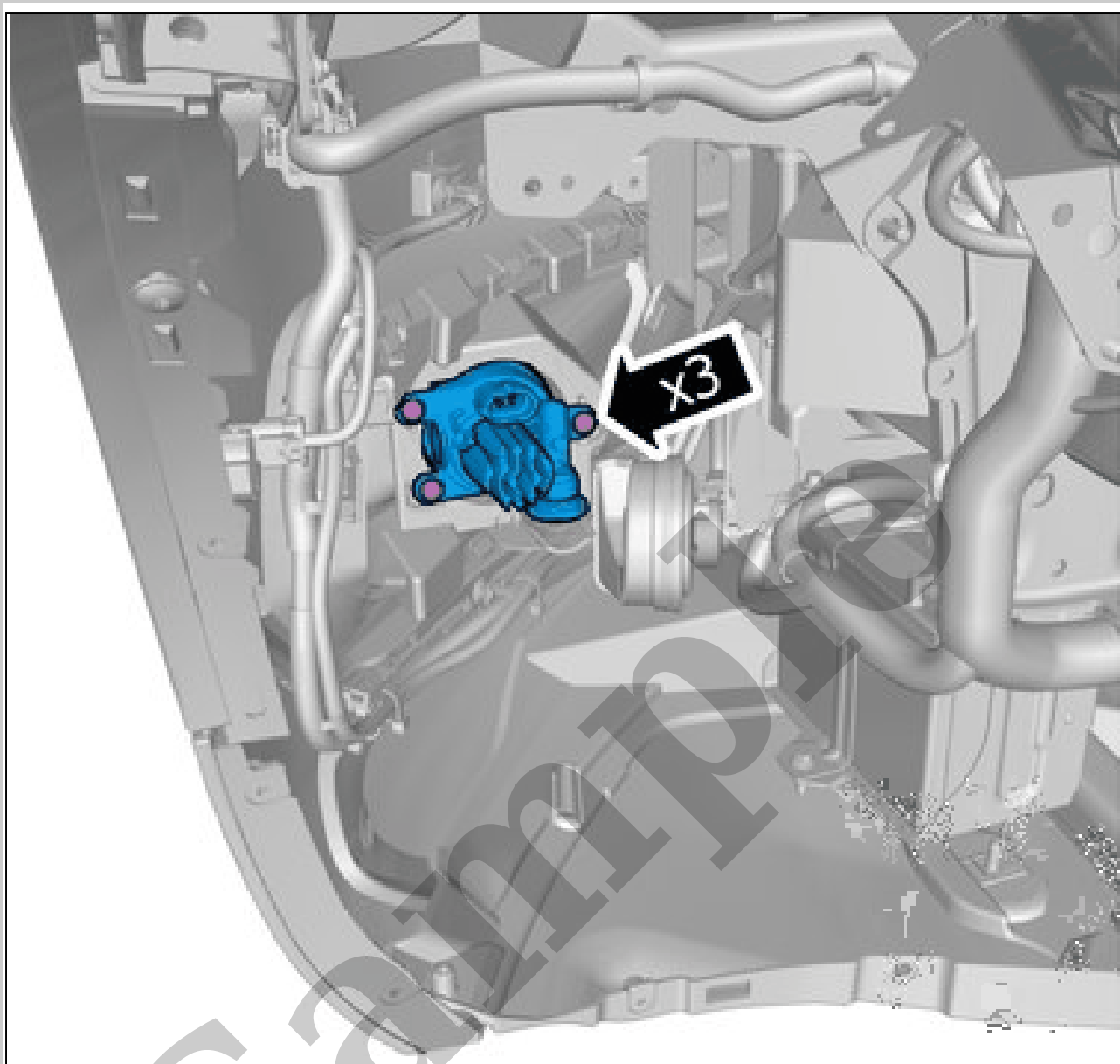# Your Ultimate Source for OEM Repair Manuals

FactoryManuals.net is a great resource for anyone who wants to save money on repairs by doing their own work. The manuals provide detailed instructions and diagrams that make it easy to understand how to fix a vehicle.

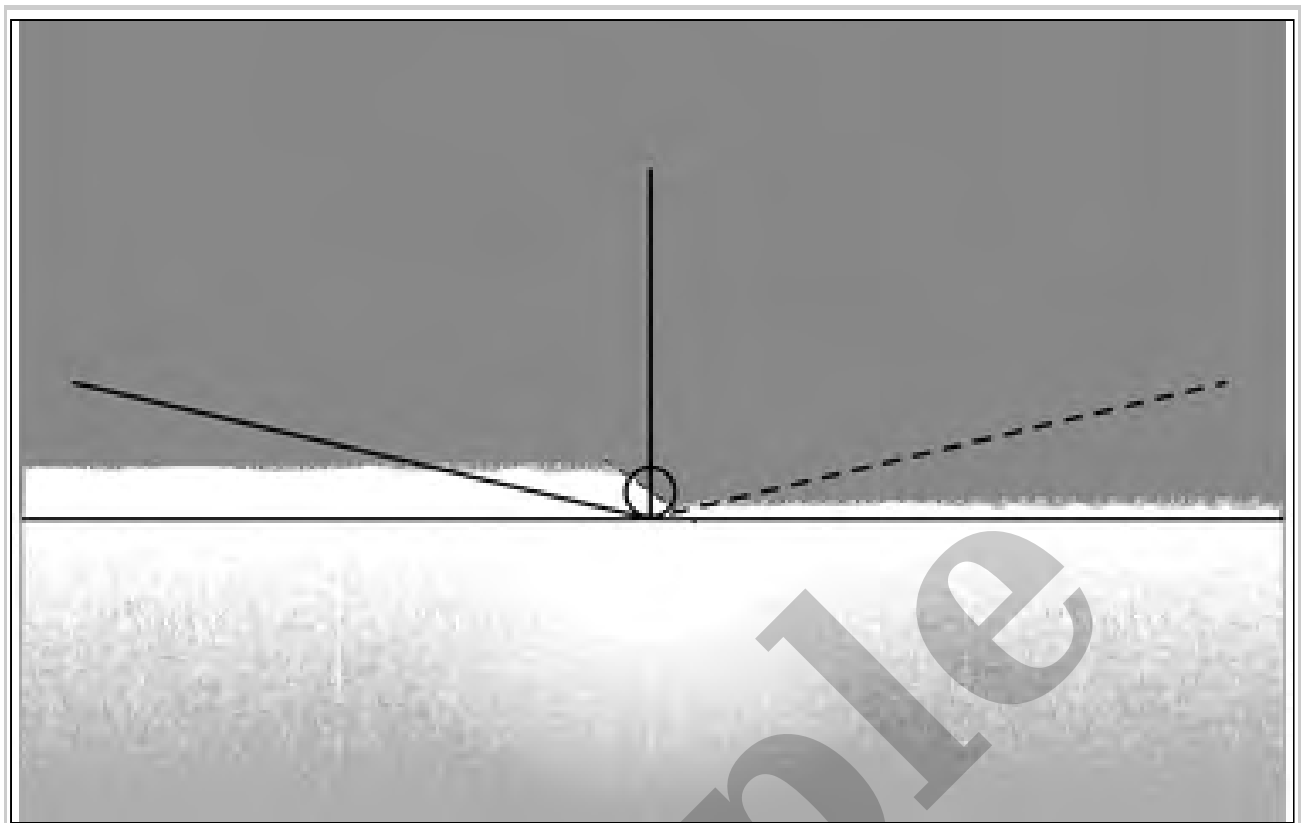## 1997 VOLVO S40 OEM Service and Repair Workshop Manual

Go to manual page

Remove the screws.
Remove the marked part.

FRONT FOG LIGHTS > FRONT FOG LIGHTS [2018-2022] > INSTALLATION

To install, reverse the removal procedure.

Right-hand drive

MOTOR, EXTERNAL MIRROR ADJUSTMENT > MOTOR, EXTERNAL MIRROR ADJUSTMENT [2018-2022] > DIAGNOSTIC INFORMATION

The motor, external mirror adjustment, does not have a built-in diagnostic system. The Driver Door Module (DDM) monitors the motor on the driver side and sets DTCs and readable parameters. Passenger Door Module (PDM) monitors the motor on the passenger side and sets DTCs and readable parameters.

MOTOR, EXTERNAL MIRROR ADJUSTMENT > MOTOR, EXTERNAL MIRROR ADJUSTMENT [2018-2022] > CONNECTION AND COMMUNICATION

The motor, external mirror adjustment, is directly connected to their respective door modules.

MOTOR, EXTERNAL MIRROR FOLDING > MOTOR, EXTERNAL MIRROR FOLDING [2018-2022] > DESCRIPTION

The motor, external mirror folding, handles the folding of the external mirror.

MOTOR, EXTERNAL MIRROR FOLDING > MOTOR, EXTERNAL MIRROR FOLDING [2018-2022] > DIAGNOSTIC INFORMATION

The motor, external mirror folding, does not have a built-in diagnostic system. The Driver Door Module (DDM) monitors the motor on the driver side and sets DTCs and readable parameters. Passenger Door Module (PDM) monitors the motor on the passenger side and sets DTCs and readable parameters.

MOTOR, EXTERNAL MIRROR FOLDING > MOTOR, EXTERNAL MIRROR FOLDING [2018-2022] > CONNECTION AND COMMUNICATION

The motor, external mirror folding, is directly connected to their respective door modules.

There are two variants of the Battery Backed-up Sounder (BBS), with and without an inclination sensor.

BATTERY BACKED-UP SOUNDER > BATTERY BACKED-UP SOUNDER (BBS) (4/220) [2018-2022] > DIAGNOSTIC INFORMATION

The Battery Backed-up Sounder (BBS) does a built-in diagnostic test when the alarm is armed. The Central Electronic Module (CEM) monitors the Battery Backed-up Sounder (BBS) and sets DTCs and readable parameter values.

BATTERY BACKED-UP SOUNDER > BATTERY BACKED-UP SOUNDER (BBS) (4/220) [2018-2022] > CONNECTION AND COMMUNICATION

The Battery Backed-up Sounder (BBS) is a LIN slave and communicates with the Central Electronic Module (CEM).

CENTER CONSOLE SWITCH MODULE CCSM > CENTER CONSOLE SWITCH MODULE CCSM (4/222) [2018-2022] > DESCRIPTION

The center console switch module CCSM consists of:

- Hazard warning flashers button
- Windshield defrosting button
- Rear window and external mirror defrosting button
- "Previous" button
- "Play/Pause" button
- "Next" button
- Interior temperature sensor
- "Drive mode" button

The hazard warning flashers button controls the hazard warning flashers.
The windshield defrosting button, and the rear window and external mirror defrosting button are used to control the window defrosting functions.
The "Previous" button, "Play/Pause" button and the "Next" button are buttons used to control the infotainment system.
The interior temperature sensor is located in the center console switch module CCSM. The sensor measures the temperature in the passenger compartment. To maximize the measurement accuracy, the interior temperature sensor has a fan that sucks air from the passenger compartment through the sensor element. The interior temperature sensor can be replaced separately.
The drive mode button changes the drive mode of the car.

CENTER CONSOLE SWITCH MODULE CCSM > CENTER CONSOLE SWITCH MODULE CCSM (4/222) [2018-2022] > VARIANTS

Component	Vehicle model
Hazard warning flashers button	XC40 Polestar 2

DRIVER DOOR SWITCH CLUSTER DDS > DRIVER DOOR SWITCH CLUSTER DDS (4/195) [2018-2022] > CONNECTION AND COMMUNICATION

The driver door switch cluster DDS is a LIN slave and communicates with the Driver Door Module (DDM).

DRIVER INFORMATION MODULE > DRIVER INFORMATION MODULE (DIM) (5/1) [2018-2022] > DESCRIPTION

The Driver Information Module (DIM) displays information regarding the status of the vehicle, such as the vehicle speed or the fuel level. The Driver Information Module (DIM) controls the prioritization of messages for the combined instrument display, the Graphical head-up Display (GHUD), and the Infotainment Head Unit (IHU). It uses the estimation of the driver workload to determine the priority of each message.

DRIVER INFORMATION MODULE > DRIVER INFORMATION MODULE (DIM) (5/1) [2018-2022] > VARIANTS

- With APIX2: The Driver Information Module (DIM) with an APIX2 (automotive pixel link) connection has the ability to display pictures and video.
- Without APIX2: Without an APIX2 connection, the Driver Information Module (DIM) uses FlexRay to receive information. FlexRay is not fast enough to process pictures or video. For example, when using the built-in navigation the information module will only display text messages and not a visual map.

DRIVER INFORMATION MODULE > DRIVER INFORMATION MODULE (DIM) (5/1) [2018-2022] > DIAGNOSTIC INFORMATION

The Driver Information Module (DIM) has a simplified built-in diagnostic system, which can monitor a limited amount of errors. All diagnostic data is sent via FlexRay. Diagnostic data can include error information, parts numbers, calibration results and parameters.

DRIVER INFORMATION MODULE > DRIVER INFORMATION MODULE (DIM) (5/1) [2018-2022] > CONNECTION AND COMMUNICATION

The Driver Information Module (DIM) is a LIN master and is connected to FlexRay. The APIX2 variant of the Driver Information Module (DIM) is also connected to APIX2.

FOOT MOVEMENT DETECTION MODULE FMDM > FOOT MOVEMENT DETECTION MODULE FMDM (4/172) [2018-2022] > DESCRIPTION

The foot movement detection module FMDM consists of a control module and two capacitive sensors mounted in a bracket. The system is placed to the left under the rear bumper and detects foot movements.

NOX REDUCTION CATALYTIC CONVERTER > NOX REDUCTION CATALYTIC CONVERTER [2018-2020 | 2021-2022, B4204T18; B4204T47] > DIAGNOSTIC INFORMATION

The NOx reduction catalytic converter does not have any diagnostics.

NOX REDUCTION CATALYTIC CONVERTER > NOX REDUCTION CATALYTIC CONVERTER [2018-2020 | 2021-2022, B4204T18; B4204T47] > CONNECTION AND COMMUNICATION

The NOx reduction catalytic converter does not have any electrical connections.

OBD FIREWALL MODULE > OBD FIREWALL MODULE (OFM) (4/333) [2018-2022] > DESCRIPTION

The OBD Firewall Module (OFM) is a firewall device between the diagnostic socket OBD II and propulsion CAN. The purpose of this control module is to safeguard propulsion CAN from external connections coming from the diagnostic socket OBD II that could disturb the safe operation of the vehicle.

OBD FIREWALL MODULE > OBD FIREWALL MODULE (OFM) (4/333) [2018-2022] > DIAGNOSTIC INFORMATION

The OBD Firewall Module (OFM) does not have a built-in diagnostic system and is not monitored by any other ECU.

OBD FIREWALL MODULE > OBD FIREWALL MODULE (OFM) (4/333) [2018-2022] > CONNECTION AND COMMUNICATION

The OBD Firewall Module (OFM) is connected to propulsion CAN as well as diagnostic CAN that includes the diagnostic socket OBD II and the Vehicle Connectivity Module (VCM).

ORIFICE VALVE, REFRIGERANT LOW PRESSURE PIPE > ORIFICE VALVE, REFRIGERANT LOW PRESSURE PIPE [2021-2022, E400V6] > DESCRIPTION

The orifice valve, refrigerant low pressure pipe, is a part of the heat pump system. This check valve is closed when the refrigerant shall bypass the outside heat exchanger (OHX) otherwise it is open.

ORIFICE VALVE, REFRIGERANT LOW PRESSURE PIPE > ORIFICE VALVE, REFRIGERANT LOW PRESSURE PIPE [2021-2022, E400V6] > DIAGNOSTIC INFORMATION

The orifice valve, refrigerant low pressure pipe, does not have a built-in diagnostic system. The Vehicle Computational Unit 1 (VCU1) monitors the status of the orifice valve, refrigerant low pressure pipe, set DTCs and has readable parameters.

The rain and light sensor RLSM has a simplified built-in diagnostic system, which monitors a limited amount of errors. All diagnostic data is sent to the diagnostic tool via the Central Electronic Module (CEM). The Central Electronic Module (CEM) sets DTCs and stores readable parameters for the rain and light sensor RLSM.

RAIN AND LIGHT SENSOR RLSM > RAIN AND LIGHT SENSOR RLSM (4/162) [2018-2022] > CONNECTION AND COMMUNICATION

The rain and light sensor RLSM is a LIN slave and communicates with the Central Electronic Module (CEM).

REAR CONSOLE SWITCH MODULE RCSM > REAR CONSOLE SWITCH MODULE RCSM (4/170) [2018-2022] > DESCRIPTION

The rear console switch module RCSM controls the climate for the rear compartment.

REAR CONSOLE SWITCH MODULE RCSM > REAR CONSOLE SWITCH MODULE RCSM (4/170) [2018-2022] > VARIANTS

- 2-zone climate system: Rear console switch module RCSM, using buttons for seat heating.
- 4-zone climate system: Rear console switch module RCSM, using a touch display.

REAR CONSOLE SWITCH MODULE RCSM > REAR CONSOLE SWITCH MODULE RCSM (4/170) [2018-2022] > DIAGNOSTIC INFORMATION

The rear console switch module RCSM does not have a built-in diagnostic system. The Infotainment Head Unit (IHU) monitors the rear console switch module RCSM and sets DTCs.

REAR CONSOLE SWITCH MODULE RCSM > REAR CONSOLE SWITCH MODULE RCSM (4/170) [2018-2022] > CONNECTION AND COMMUNICATION

The rear console switch module RCSM is a LIN slave connected to the Infotainment Head Unit (IHU).

REAR DOOR MODULE RDM > REAR DOOR MODULE RDM (4/215 - 4/216) [2018-2022] > DESCRIPTION

The Rear door module RDM controls the operation of the door lock motor and the window lift motor in a rear door. The rear door module RDM also control lights that are activated upon entering or exiting the vehicle.
The rear door module RDM receives signals from the outer door handle and the window control switch. A rear door module RDM is always connected to its corresponding door module in front, either the Driver Door Module (DDM) or the Passenger Door Module (PDM) depending on if the vehicle is left hand drive or right hand drive.
Left hand drive

SIDE OBSTACLE DETECTION CONTROL MODULE RIGHT > SIDE OBSTACLE DETECTION CONTROL MODULE RIGHT (SODR) (4/127) [2018-2022] > DIAGNOSTIC INFORMATION

The Side Obstacle Detection Control Module Right (SODR) has a built-in diagnostic system, which continuously monitors itself and the input and output signals.

SIDE OBSTACLE DETECTION CONTROL MODULE RIGHT > SIDE OBSTACLE DETECTION CONTROL MODULE RIGHT (SODR) (4/127) [2018-2022] > CONNECTION AND COMMUNICATION

Side Obstacle Detection Control Module Right (SODR) is CAN slave and communicates with the:

- Side Obstacle Detection Control Module Left (SODL).
- Active Safety Domain Master (ASDM).

START AND BRAKE SWITCH MODULE SBSM > START AND BRAKE SWITCH MODULE SBSM (4/196) [2018-2022] > DESCRIPTION

SWITCH PANEL, POWER SEAT > SWITCH PANEL, POWER SEAT (3/344 - 3/345, 3/370 - 3/371) [2018-2022] > CONNECTION AND COMMUNICATION

Front seat

The front seat switch panel, power seat, is directly connected to the Power Seat Module Driver (PSMD) / Power Seat Module Passenger (PSMP) respectively.

Rear seat (Excellence models only)

The rear seat switch panel, power seat, is directly connected to the Power Seat Rear Left (PSRL) / Power Seat Rear Right (PSRR) respectively.

VEHICLE COMPUTATIONAL UNIT 1 > VEHICLE COMPUTATIONAL UNIT 1 (VCU1) (4/338) [2018-2022] > DESCRIPTION

The Vehicle Computational Unit 1 (VCU1) performs calculations for different vehicle functions. It can handle calculations that are critical for the safety of the vehicle in a secure way. Some of the functions are:

- Semi-automated parking.
- Vehicle energy management.
- Adaptive cruise control.
- Pilot assist.

The Vehicle Computational Unit 1 (VCU1) also acts as a gateway between different communication networks. It is domain master for the following networks:

- Front 1 CAN.
- Rear 1 CAN.
- Front 3 CAN.
- Mid 1 CAN.
- Front 2 FlexRay.
- LIN25.
- LIN26.

VEHICLE COMPUTATIONAL UNIT 1 > VEHICLE COMPUTATIONAL UNIT 1 (VCU1) (4/338) [2018-2022] > VARIANTS

The Vehicle Computational Unit 1 (VCU1) is available in two variants.

Component variant	Vehicle model
Vehicle Computational Unit 1 (VCU1) MIN	All vehicles with VEA Gen3 engine including mild hybrid vehicles
Vehicle Computational Unit 1 (VCU1) MID	Twin Engine vehicles and pure electric vehicles

VEHICLE COMPUTATIONAL UNIT 1 > VEHICLE COMPUTATIONAL UNIT 1 (VCU1) (4/338) [2018-2022] > DIAGNOSTIC INFORMATION