

PUBLISHED: 10-OCT-2019
2020.0 DEFENDER (LE), 412-02

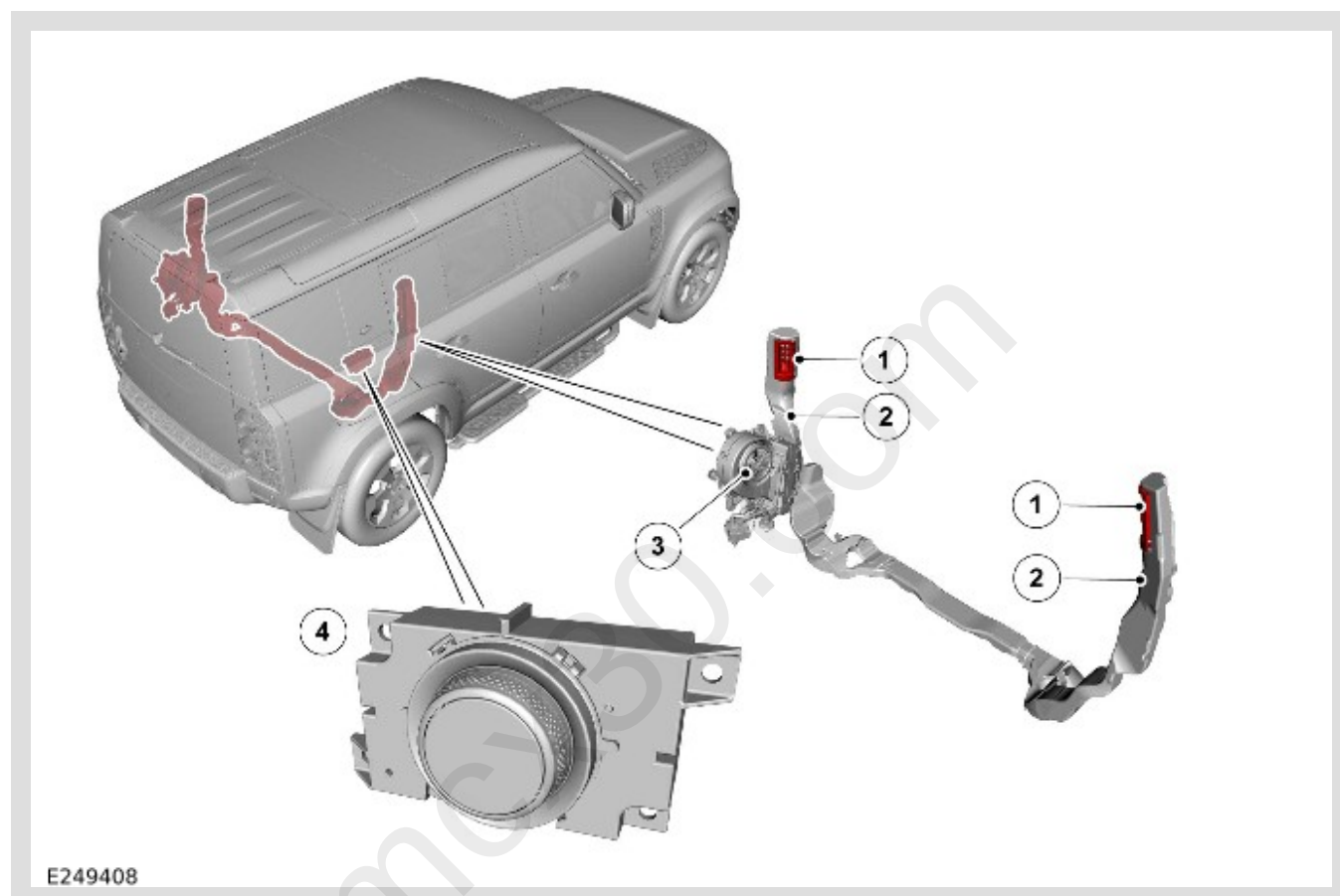
AUXILIARY CLIMATE CONTROL (G2342526)

mcx30.com

DESCRIPTION AND OPERATION

COMPONENT LOCATION

COMPONENT LOCATION - 1 OF 2

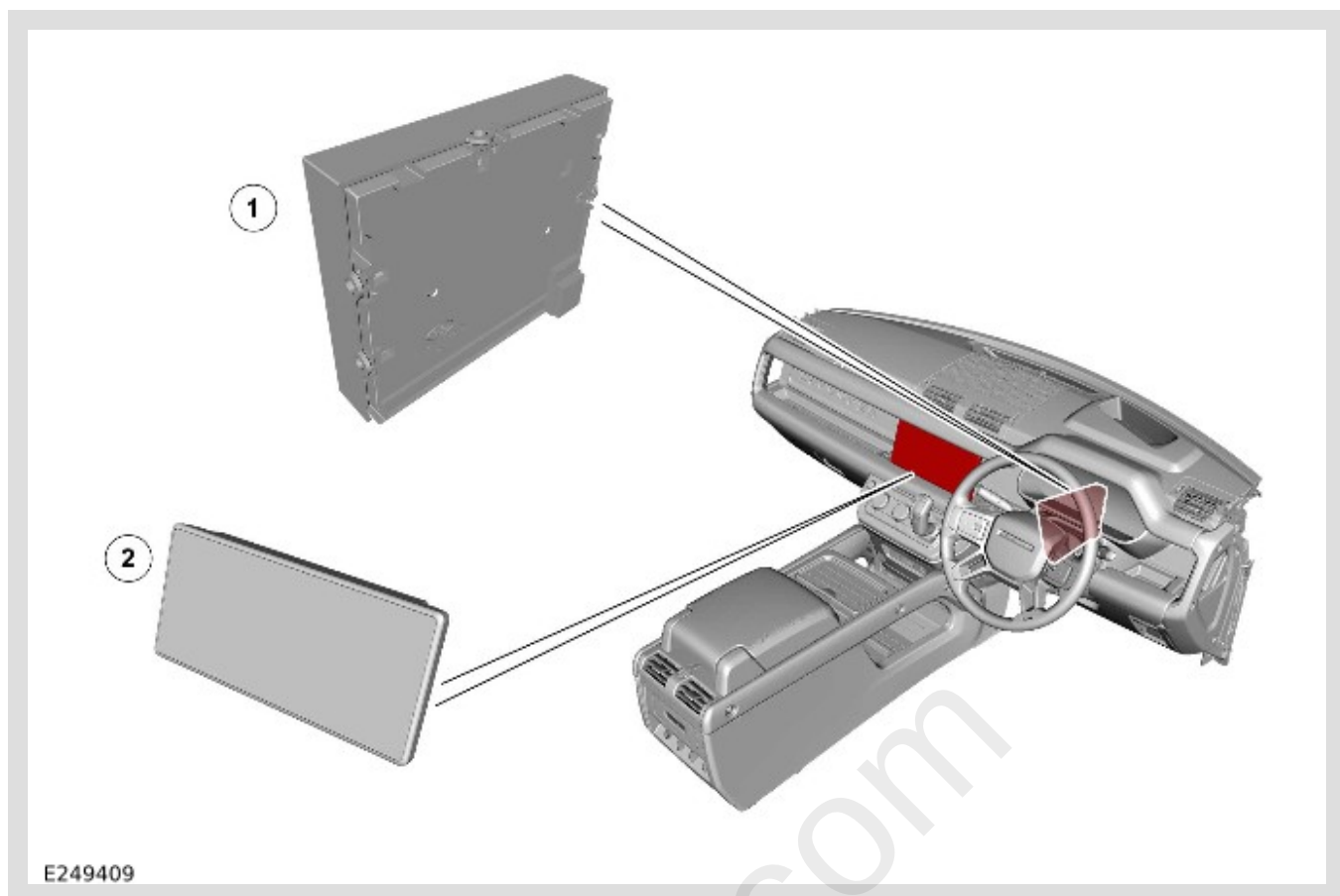


ITEM	DESCRIPTION
1	Air vents (quantity 2)
2	Air distribution ducts (quantity 2)
3	Auxiliary climate control assembly
4	Auxiliary blower rotary control

COMPONENT LOCATION - 2 OF 2

NOTE:

Right Hand Drive (RHD) vehicle is shown, Left Hand Drive (LHD) vehicle is similar.



ITEM	DESCRIPTION
1	HVAC control module
2	Touch Screen (FCDIM)

OVERVIEW

The auxiliary climate control assembly is used to enhance the Air Conditioning (A/C) system performance for second and third row seat passengers. The auxiliary climate control system consists of:

- An auxiliary climate control assembly
- A refrigerant circuit
- A distribution system.

Operation of the auxiliary climate control system is controlled by the HVAC control module and the FCDIM.

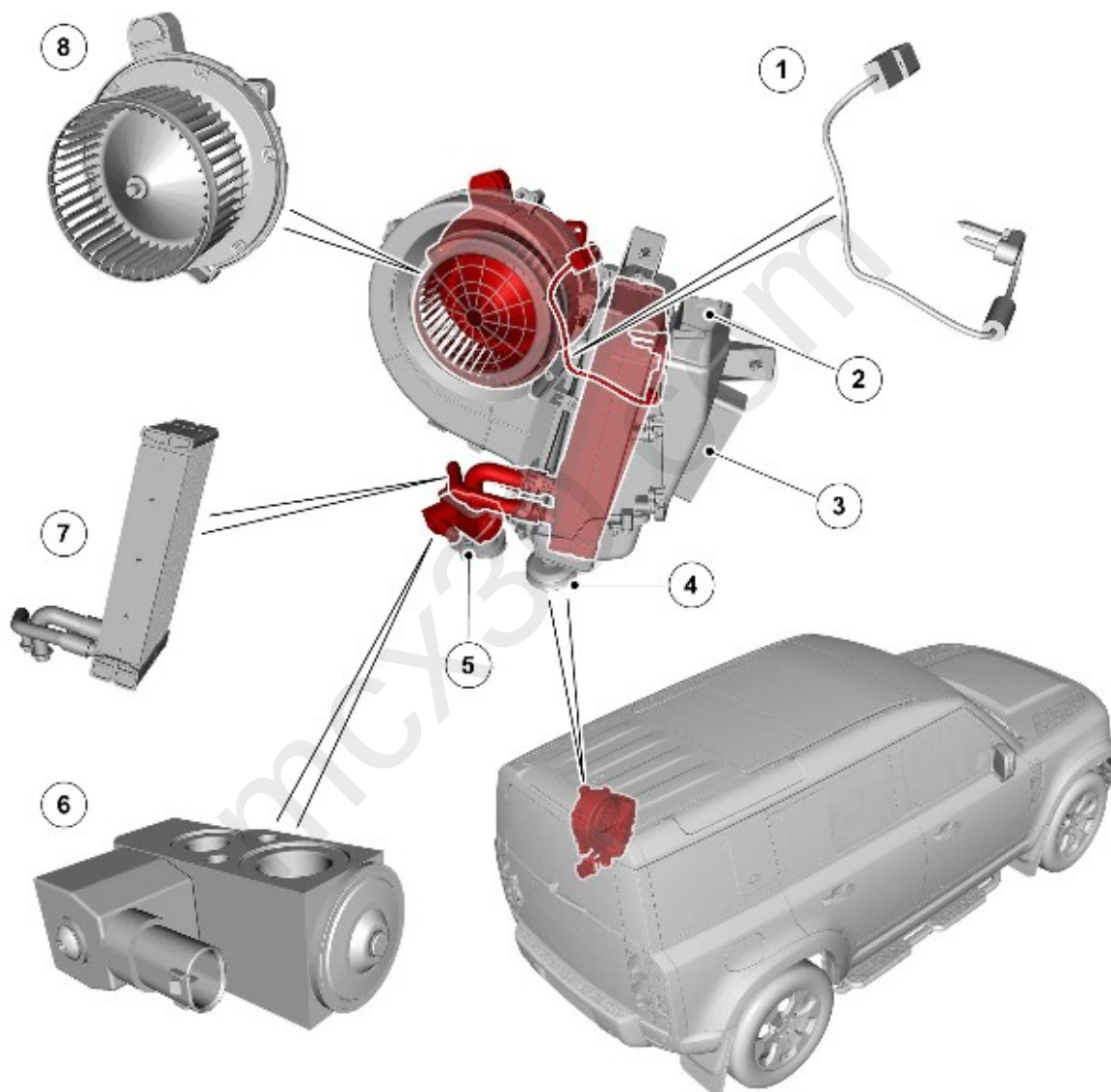
For additional information, refer to: [Control Components](#) (412-01 Climate Control, Description and Operation).

Air from the passenger compartment is recirculated through the auxiliary climate control assembly, where the air is temperature regulated. The air is then directed through the distribution system to vents.

There is an auxiliary blower rotary control at the rear of the vehicle to adjust the auxiliary blower speed. The auxiliary blower rotary control can be locked on the FCDIM.

DESCRIPTION

AUXILIARY CLIMATE CONTROL ASSEMBLY



E249410

ITEM	DESCRIPTION
1	Auxiliary evaporator temperature sensor
2	Face distribution outlet - Left
3	Face distribution outlet - Right

ITEM	DESCRIPTION
4	Evaporator drain hose
5	Air conditioning pipes connector block
6	Auxiliary climate control isolation valve and Thermostatic Expansion Valve (TXV)
7	Auxiliary evaporator
8	Auxiliary blower

The auxiliary climate control assembly is installed on the left of the loadspace compartment, behind the rear quarter trim panel. A grille in the trim panel allows air to flow from the loadspace compartment into the auxiliary climate control assembly.

The auxiliary climate control assembly consists of a casing, formed from a pair of plastic moldings, which contains:

- The auxiliary evaporator
- An auxiliary evaporator temperature sensor
- The auxiliary blower
- An auxiliary climate control isolation valve and TXV.

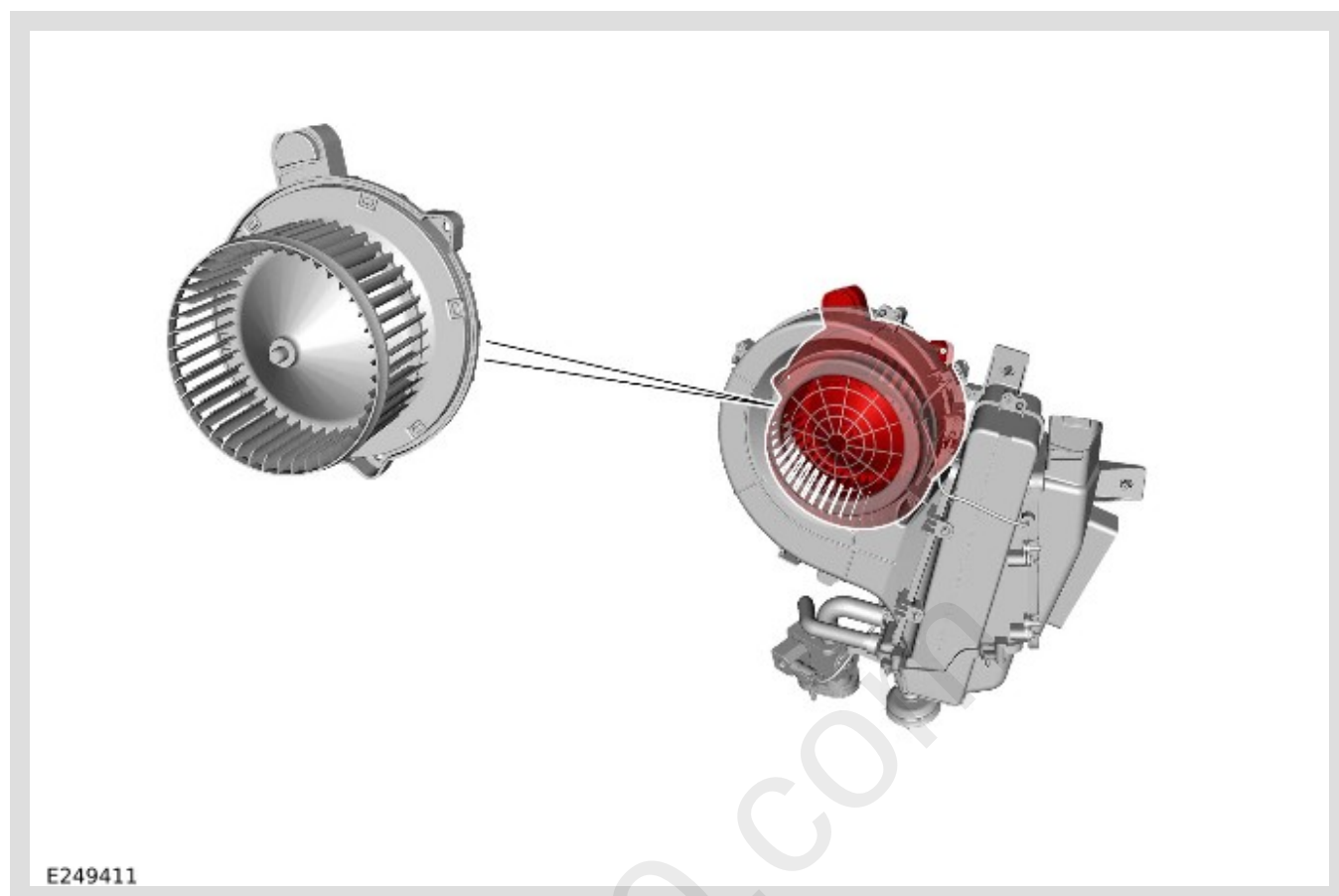
Low Pressure (LP) and High Pressure (HP) refrigerant pipes from the engine compartment are connected to the auxiliary climate control assembly at a connector block. The connector block is located in the rear left wheel arch, behind the wheel arch liner. The pipes from the connector block are attached to an isolation valve on the evaporator.

For additional information, refer to: [Air Conditioning](#) (412-01 Climate Control, Description and Operation).

An evaporator drain hose, sealed with a foam rubber gasket, locates in the top of the left member of the rear floor.

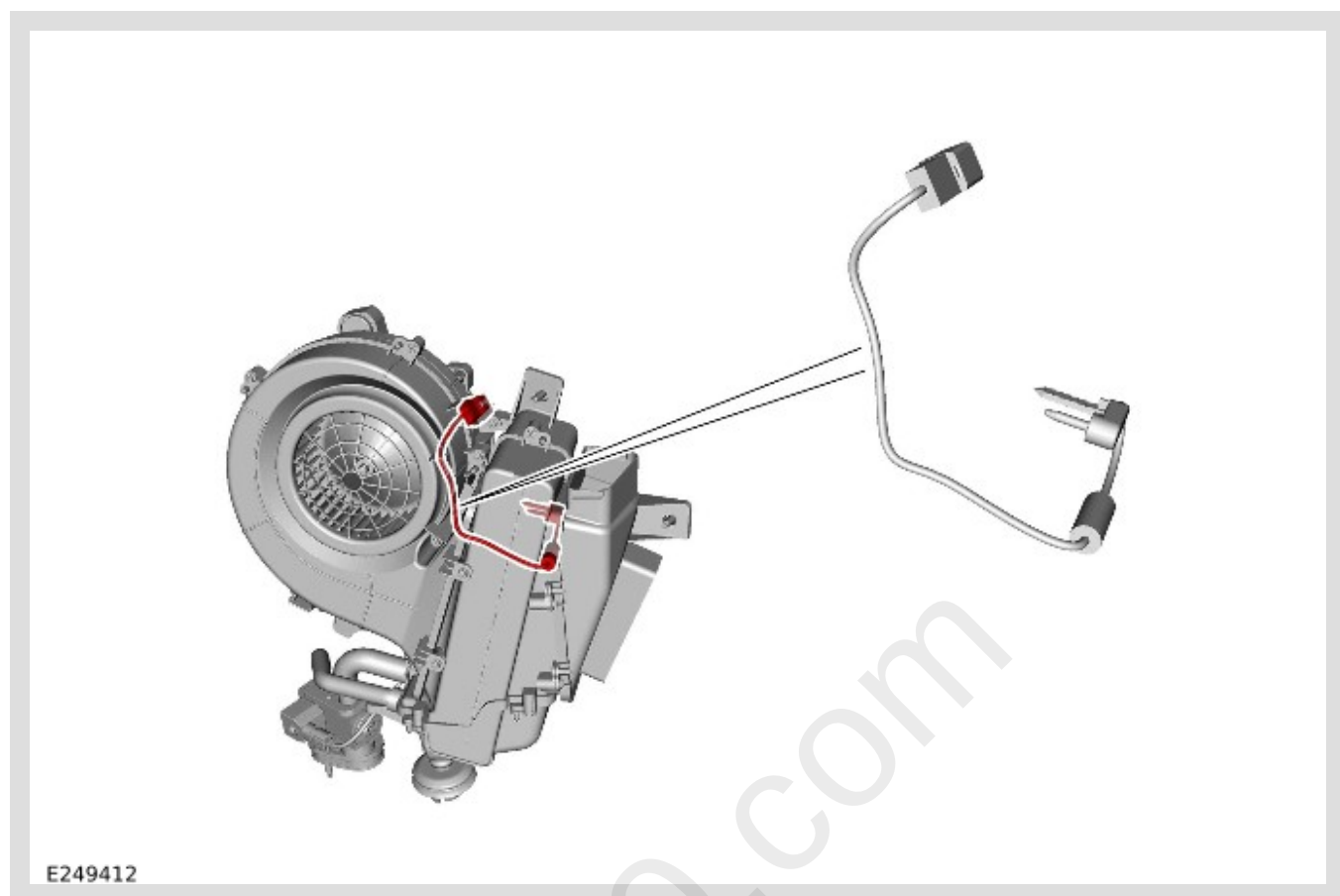
In the casing of the auxiliary climate control assembly, air steams flow from the auxiliary blower through the evaporator to the distribution outlets. The distribution outlets supply the vents in the C-pillar trim panels.

AUXILIARY BLOWER



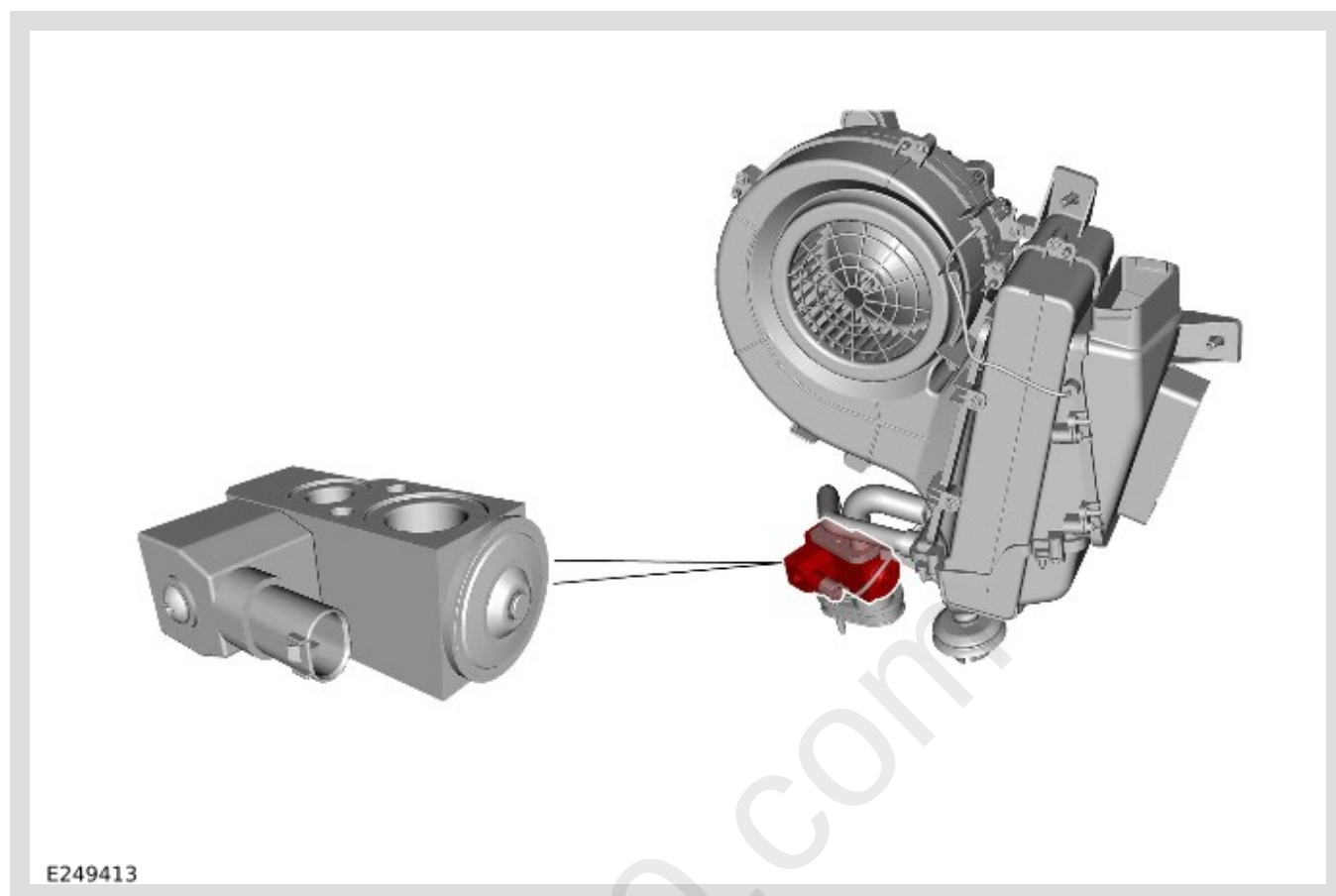
The auxiliary blower consists of an open hub, centrifugal fan powered by an electric motor. Power for the auxiliary blower is supplied from the auxiliary blower relay in the Rear Junction Box (BCMB) through the blower control module. Operation of the auxiliary blower is controlled by the HVAC control module in conjunction with the auxiliary blower rotary control. The auxiliary blower rotary control provides a Pulse Width Modulation (PWM) signal to the blower control module based on the required blower speed. The blower control module interprets the PWM signal as a blower speed and controls the voltage to the blower accordingly.

AUXILIARY EVAPORATOR TEMPERATURE SENSOR



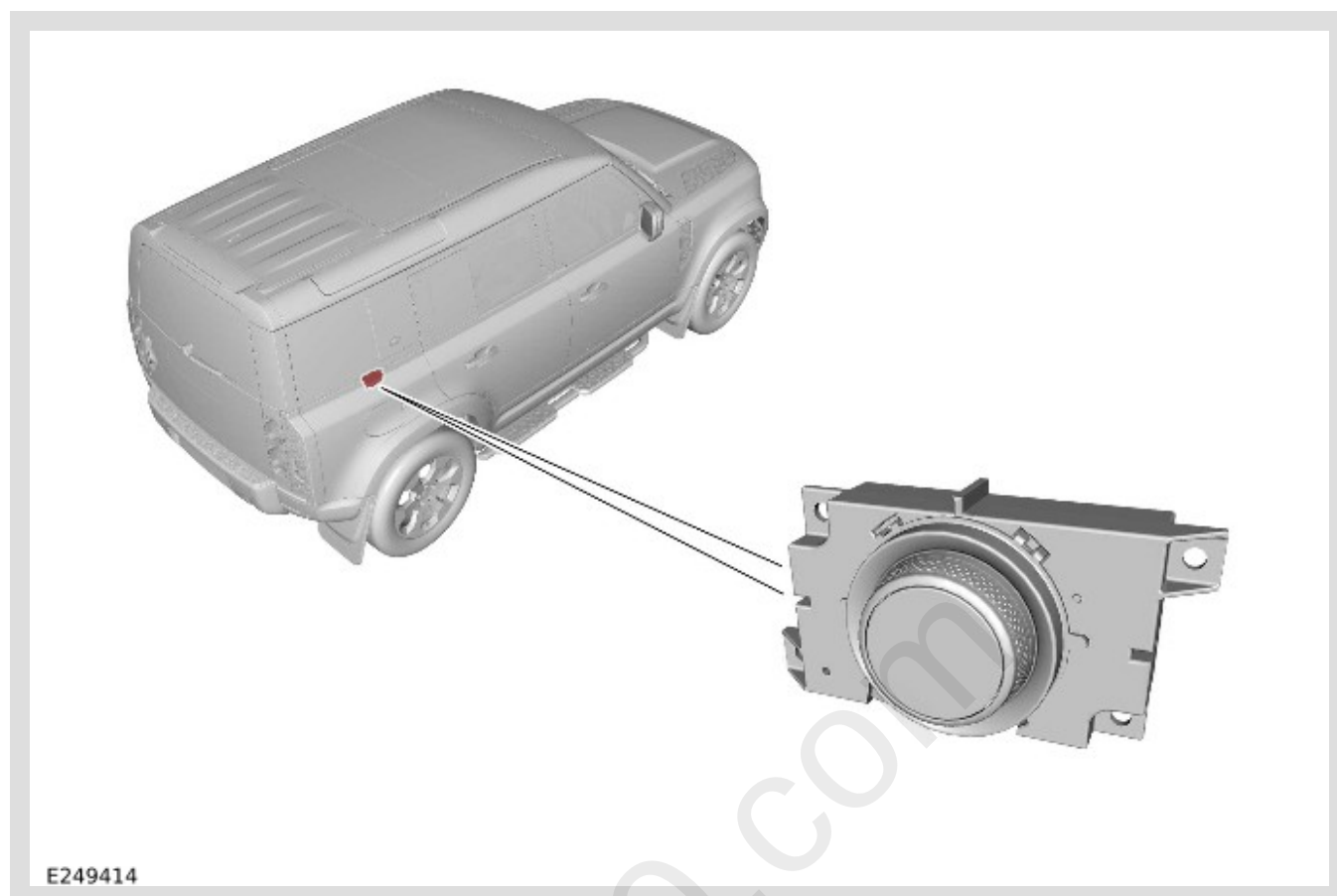
The auxiliary evaporator temperature sensor is installed in the auxiliary climate control assembly on the upstream of the evaporator. The auxiliary evaporator temperature sensor is a Negative Temperature Coefficient (NTC) resistor connected to the auxiliary blower rotary control. The auxiliary evaporator temperature sensor provides a temperature signal from the air outlet of the evaporator.

AUXILIARY CLIMATE CONTROL ISOLATION VALVE AND TXV



The auxiliary climate control isolation valve is a combined solenoid operated isolation valve and TXV. The auxiliary climate control isolation valve attached to the inlet and outlet pipes of the auxiliary evaporator. The HVAC control module controls the operation of the isolation valve. The purpose is to isolate the auxiliary climate control assembly from the remainder of the A/C system.

AUXILIARY BLOWER ROTARY CONTROL



The auxiliary blower rotary control is located on the right of the loadspace compartment. The control panel contains the rotary dial to control the auxiliary blower speed.

The auxiliary climate control can be controlled from the FCDIM. To allow the third row seat passengers to control the auxiliary blower motor, the auxiliary blower rotary control must be unlocked through the FCDIM.

OPERATION

To operate the auxiliary climate control system, the vehicle must be in Power Mode 7 (engine running) with the main climate control system active. The auxiliary climate control system can be set to ON using the power soft key on the 'CLIMATE - 3rd Row' menu of the FCDIM. Then the HVAC control module activates the auxiliary climate control isolation valve.

When the auxiliary climate control system is operating, the auxiliary blower can be adjusted as required on the:

- Auxiliary blower rotary control
- Blower speed adjustment soft key on the 'CLIMATE - 3rd Row' menu of the FCDIM.

The auxiliary blower rotary control can be locked using the lock soft key on the 'CLIMATE - 3rd Row' menu of the FCDIM. The purpose is to prevent operation by the third row seat passengers.

The FCDIM communicates with the HVAC control module through the High Speed (HS) Controller Area Network (CAN) Human Machine Interface (HMI) systems bus. Selections on the FCDIM are then communicated to the auxiliary blower rotary control through the HVAC control module. The HVAC control module communicates with the auxiliary blower rotary control through the Local Interconnect Network (LIN).

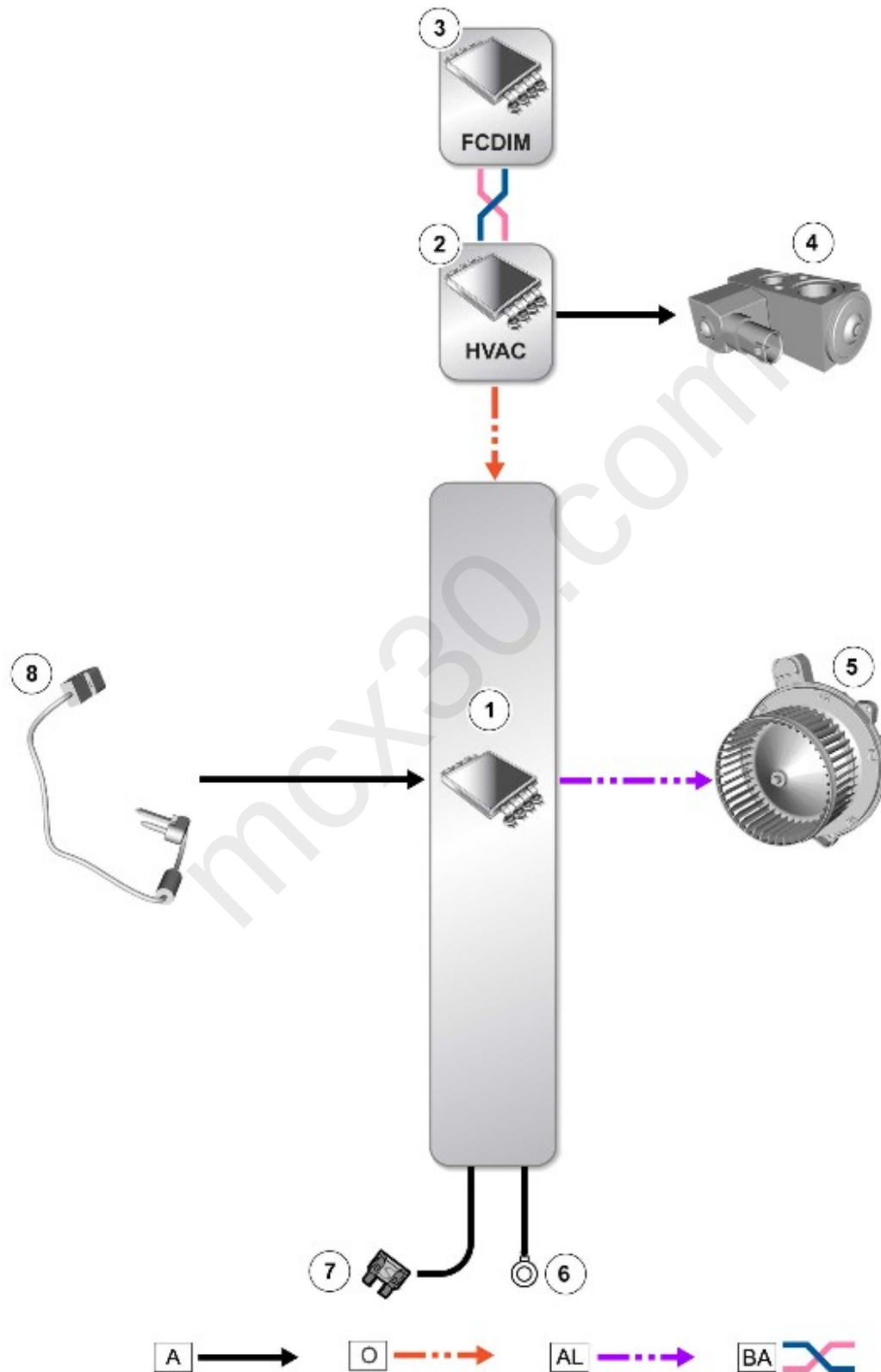
DIAGNOSTICS

The HVAC control module records any Diagnostic Trouble Code(s) (DTC)s and related data. Read the DTCs and related data with the Jaguar Land Rover (JLR) approved diagnostic equipment.

The JLR approved diagnostic equipment can read live data and activate certain components.

mcx30.com

CONTROL DIAGRAM - 1 OF 1



A = HARDWIRED: O = LIN: AL = PWM: BA = HS CAN HMI SYSTEMS BUS.

ITEM	DESCRIPTION
1	Auxiliary blower rotary control
2	HVAC control module
3	FCDIM
4	Auxiliary climate control isolation valve and TXV
5	Auxiliary blower
6	Ground
7	Power supply
8	Auxiliary evaporator temperature sensor

cmjjaGFyZG1vbnRvbjsyMDIwLTA5LTE4VDA2OjIwOjA4LjgxMVo7OTAuMTk5LjEyMS4xMTc7

mcx30.com