SCANIA

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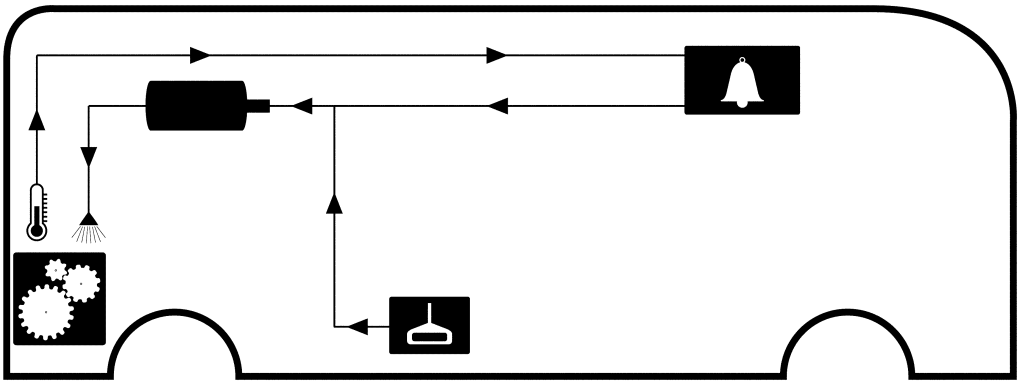
Issue 2 **en**

Fire extinguishing equipment

CL and CN busses with ethanol engines

Description of operation



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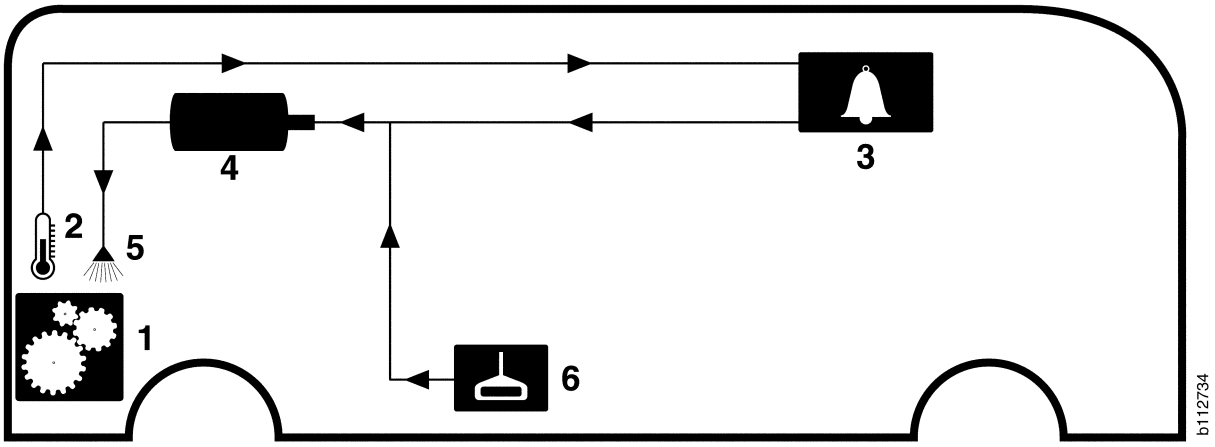
Contents

Description of operation

General

The fire extinguishing equipment is fitted on buses with Scania-built bodies (CL/CN) and ethanol engines. This is due to a lower ignition temperature for ethanol than for diesel. The equipment is there to extinguish a possible fire in the engine compartment. The equipment can be triggered both automatically and manually.

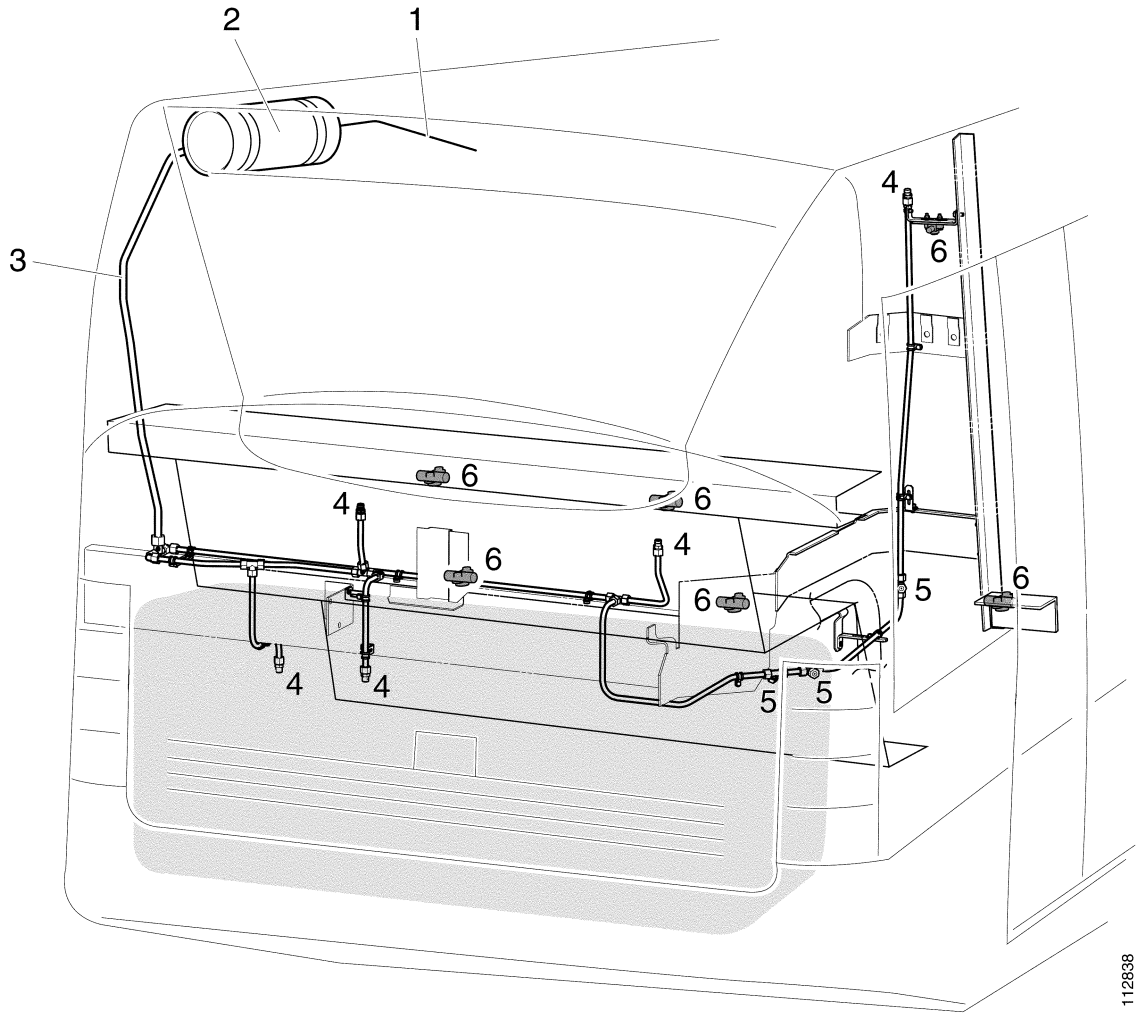
The fire extinguishing equipment consists of a carbon dioxide container connected to a pipe system with different nozzles in the engine compartment. In the engine compartment there are also heat sensors connected to a fire alarm. When the extinguishing equipment is triggered automatically, an alarm with a pulsing light and sound signal is activated in the driver's area. On the outside of the bus there is a mechanically operated emergency trigger.



Schematic diagram of fire extinguishing equipment

1 *Engine compartment*
2 *Heat sensors*
3 *Fire alarm (light and sound signal)*
4 *Carbon dioxide container*
5 *Nozzles*
6 *Mechanical emergency trigger*

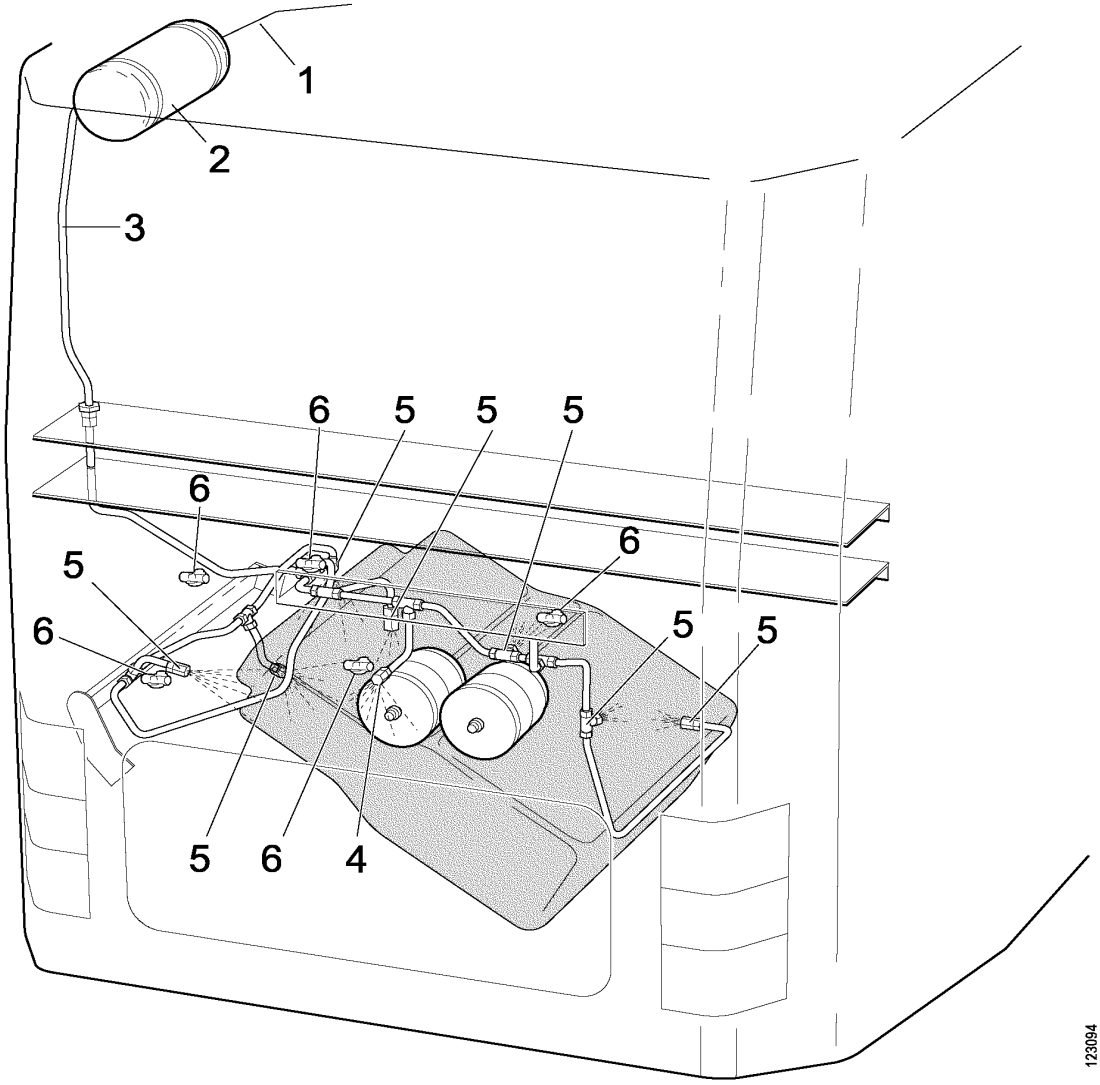
Component location in engine compartment, CN



Schematic diagram of engine compartment

1 *Cable for the mechanical emergency trigger*
2 *Carbon dioxide container KS 10 PS*
3 *Hydraulic steel pipe 15 x 1.5 mm, other hydraulic steel pipes 12 x 1.0 mm*
4 *Nozzle, type HR 5/2*
5 *Nozzle, type SM 10 mm*
6 *Heat sensor, type BD-P 120°C*

Component location in engine compartment, CL



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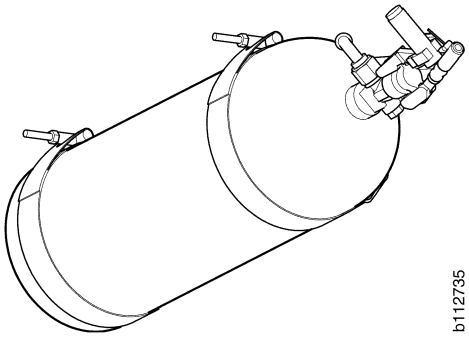
Carbon dioxide reservoir

The container contains carbon dioxide, CO_2. CO_2 is odour- and colourless and is classified as a type B quenching medium. The container weighs 31 kg and the pressure inside is 55 bar at +20°C. It is connected to a pipe system with nozzles. The carbon dioxide container can be activated mechanically as well as automatically. It is located at the very rear in the bus behind the left headlining.



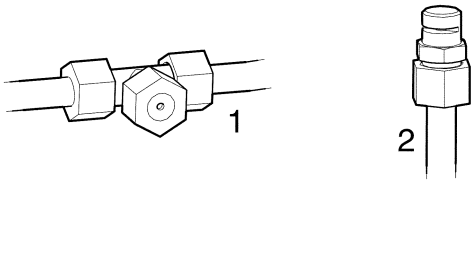
Nozzles

There are two different types of nozzles:

1 Type 1, SM 10 mm, sprays the quenching medium in cone shape.

2 Type 2, HR 5/2, sprays the quenching medium in the shape of an 180° arc to one side.

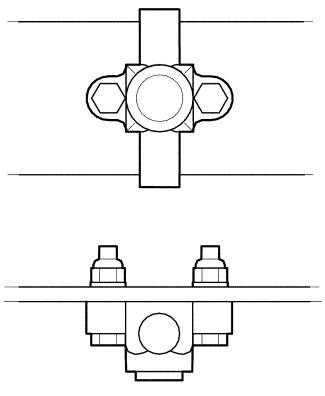
The nozzles are distributed across the engine compartment and connected via a pipe system.



Heat sensor

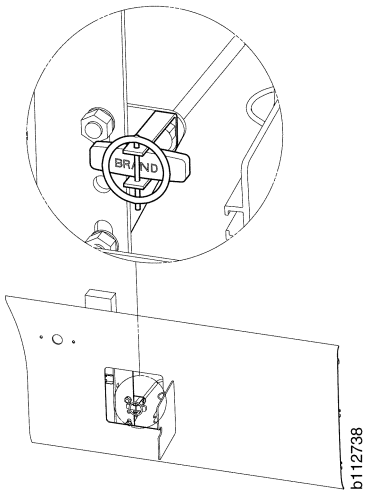
Should the temperature rise above 120°C the heat sensors will react and activate the alarm.

The heat sensors, like the nozzles, are located in various positions to cover an area as big as possible.



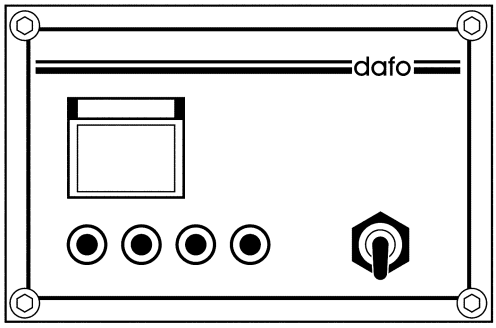
Mechanical emergency trigger

If the electrical system is out of order, the carbon dioxide container can be manually activated using the mechanical emergency trigger via a cable. The mechanical emergency trigger is located behind a cover on the right hand side of the bus, in front of the rear axle.



Control unit

The control unit is located in the ceiling above the driver seat. It is used to check and test the alarm. The control unit is described in greater detail in the section Handling.



Handling

In a fire situation

1 Switch off the bus engine.

2 The equipment is activated automatically by means of the sensors.

Activate the fire extinguishing equipment, either by using the release button on the control unit above the driver seat, or mechanically from the outside of the bus.

3 Shut off the main power.

4 Keep a handheld fire extinguisher ready to manage possible cases of open flames reappearing.

After a fire situation

WARNING!

Do not restart the bus before the cause of fire has been identified and possible faults have been rectified!

The alarm signal ceases when the fire has been extinguished and the heat sensors have cooled down. Open the ventilation hatches to let smoke and gases out. Keep a handheld extinguisher ready when airing. Avoid inhaling the fire gases.

Service and maintenance

The equipment is to undergo an annual inspection by a Dafo authorised service company. After this inspection a specific record will be given.

Do not hesitate to sign a contract about this annual inspection, so that it will be done on a regular basis.

Note: This work is to be carried out by trained staff only, with knowledge about the equipment construction, preferably by an authorised service company for Dafo fire extinguishing system.

Note

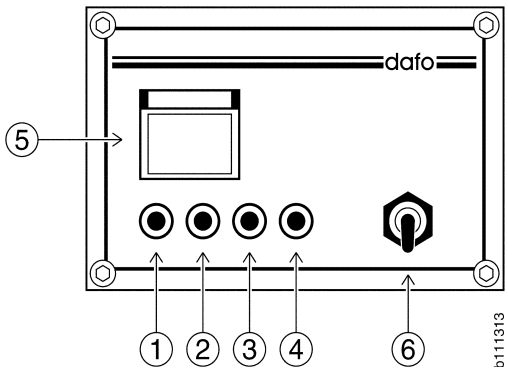
The connector on the central unit must always be disconnected when any of the following operations are performed:

- Battery charging and jump starting. Damaging currents can arise. Refer to Group 16.
- Steam cleaning. The heat sensors are activated at 120°C and can also be activated by the steam.
- High pressure cleaning. Components or cables can be damaged by the spray and activate the equipment.
- Electrical welding. High ground currents can cause damage to the electronics.

Control unit

Pos.	Component	Status/Position	Implication
1	Green LED	On	Equipment engaged
		Off	Power supply failure, battery failure, open circuit
2	Yellow LED	Off	OK
		On	Sensor circuit failure. End resistance missing, open circuit
3	Yellow LED	Off	OK
		On	Activation circuit failure. Gas generator activated, open circuit
4	Yellow LED	Off	OK
		On	Equipment in manual mode
5	Release button	Off	OK
		Flashing light	Fire alarm
		Constant light	The equipment is activated electrically
6	Rocker switch for alarm and fault tests	Lower position	Operation mode, green LED 1 illuminated
		Middle position	Simulated open circuit. LED 1, 2 and 3 on. Constant light for electrically activated equipment is reset.
		Upper position	Test. The alarm device of the equipment shall be activated, the release button shall flash and the yellow LED 4 shall be illuminated.

Functional inspection



Control unit. The numbers below refer to the illustration

Check on a daily basis:

- that the green LED 1 on the control unit is on.

Check on a weekly basis:

- that the yellow LED 2 and 3 are on when the rocker switch is put in the middle position.
- that the light and sound alarm is activated and that the release button 5 flashes when the rocker switch 6 is put in the upper position.