

CTK Abgastechnik & Engineering

1. Truck Operation

TRUCK

CASE NUMBER	IGNITION SWITCH	GREEN POWER	RED REGENERATION	AUDIBLE ALARM
1	OFF	OFF	OFF	OFF
2	ON	ON	OFF	OFF
3	ON	ON	ON	OFF
4	ON	ON	ON	ON
5	ON	OFF	OFF	OFF

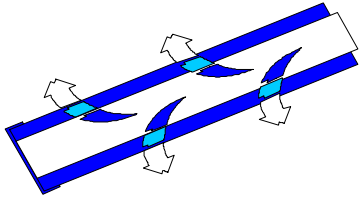
2. Regeneration

TRUCK

CASE NO.	IGNITION SWITCH	GREEN POWER	RED REGEN.	AUDIBLE ALARM
6	OFF	OFF	OFF	OFF
7	OFF	FLASH	OFF	OFF
8	OFF	FLASH	FLASH	OFF
9	ON	ON	OFF	OFF
10	OFF	OFF	OFF	OFF
11	OFF	OFF	OFF	OFF
12	OFF	FLASH	OFF	INTERMIT
13	OFF	FLASH	FLASH	OFF

REGENERATION UNIT

POWER SWITCH	GREEN POWER	RED FAULT	AMBER REGEN.	AIR SUPPLY	POWER SUPPLY
ON	ON	OFF	OFF	not connected	
ON	ON	OFF	OFF	not connected	
ON	ON	OFF	ON	connected	
ON	ON	OFF	OFF	not connected	
ON	OFF	OFF	OFF	not connected	
ON	FLASH	OFF	OFF	not connected	
ON	ON	ON	OFF	not connected	
ON	OFF	OFF	ON	not connected	

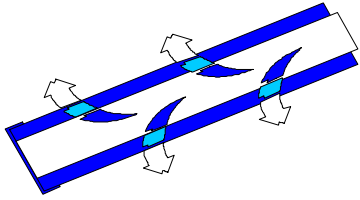


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EXPLANATION OF LIGHT/DEVICE SEQUENCE

TRUCK OPERATION

CASE	EXPLANATION	RESOLUTION
1	Truck is not running.	- - - - -
2	Truck running normally.	- - - - -
3	Soot trap needs regenerating.	Regenerate STX
4 (a)	Soot trap needs immediate regen. due to high soot loading.	Regenerate STX
4 (b)	Fixed time between regens was reached	Regenerate STX
4 (c)	If this occurs immediately after installation, or after disconnection of ECU continuous power supply	Regenerate STX
4 (d)	Fixed time between regenerations is set to zero (run time)	Adjust the fixed time between Regenerations (contact your distributor)
4 (e)	Pressure sensor faulty	Replace the CAM4P module (contact your distributor)
4 (f)	Pressure line blocked.	Clear blockage, and drain condensate trap.
5	Power failure to ECU	Check the ECU supply (12 volt).

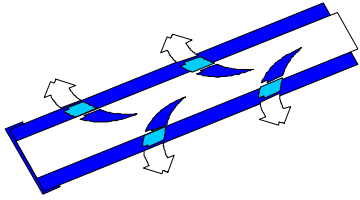


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EXPLANATION OF LIGHT/DEVICE SEQUENCE

REGENERATION

CASE	EXPLANATION	RESOLUTION
6 (a)	Truck out of service.	Soot trap ready for regeneration; harness not connected.
6 (b)	Regen cycle terminated by unplugging power harness.	Re-connect harness and restart the regeneration cycle.
7 (a)	Power harness connected and ready to start regeneration.	- - - -
7 (b)	Regeneration complete.	- - - -
7 (c)	Regen cycle terminated by momentary loss of power to RPU.	Check the RPU power supply (mains).
7 (d)	Regen cycle terminated by momentary loss of power to ECU.	Check the ECU power supply (12 volt).
7 (e)	Regen cycle terminated by regen timer set to zero.	Adjust the regen time and restart regen cycle. (contact your distributor)
7 (f)	Regeneration cycle terminated when ECU circuit boards are removed from ECU box.	Ensure that the transistor on back of CAM4C PCB is in contact with ECU box.
8	Regeneration started by push button on truck.	Regeneration cycle in progress.
9	Regeneration cycle terminated by running on ignition switch.	Set ignition switch to off and restart regen cycle.
10 (a)	Regeneration terminated by RPU fuse failure.	Replace fuse and restart regeneration cycle.
10 (b)	Regeneration terminated by ECU fuse failure.	Replace fuse wire and restart regeneration cycle.

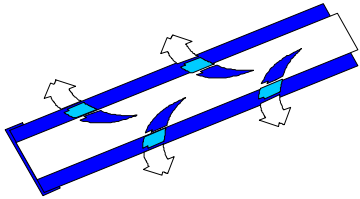


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EXPLANATION OF LIGHT/DEVICE SEQUENCE

REGENERATION (cont.)

CASE	EXPLANATION	RESOLUTION
11	Regeneration cycle terminated by hot transformer.	Wait for continuous power light on RPU, and restart regeneration.
12 (a)	Regeneration cycle terminated by trap over temperature.	Check that the air supply is connected to the trap, turn the ignition on & off, and restart regen cycle. Check the blower fuse in RPU, turn the ignition on & off and restart regeneration cycle.
12 (b)	Regen cycle terminated by a thermocouple going open circuit. (unable to reset system by turning the ignitin on & off)	Identify the open circuit thermocouple (see page 6) and repair if possible. Turn ignition on & off and restart the regen cycle.
12 (c)	If this occurs immediately after installation, a thermocouple is open circuit.	Identify the open circuit thermocouple (see page 6) and repair if possible. Turn ignition on & off and restart the regen cycle.
13	Regen cycle interrupted by short on pilot loop of the power harness.	Locate and remove the short, set ignition on/off and restart regen cycle.



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Identify Open Circuit Thermocouple

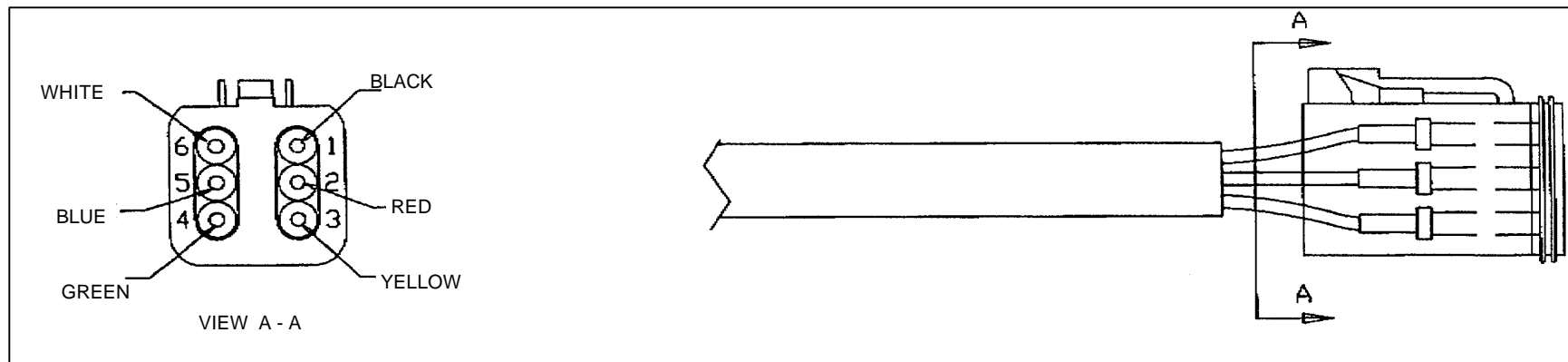
To identify which (if any) of the thermocouples have gone open circuit, test the continuity of the thermocouples in the following order, using a multimeter:

RED to BLACK	(Pins 1 and 2)
YELLOW to GREEN	(Pins 3 and 4)
BLUE to WHITE	(Pins 5 and 6)

In case the open circuit cannot be repaired or accessed, loop out the defective thermocouple by short circuiting inside of the connector.

To loop out a complete set of 3 thermocouples, use the thermocouple blanking plug (Art.No. C00415487)

Attention: Do not loop out all thermocouples!!

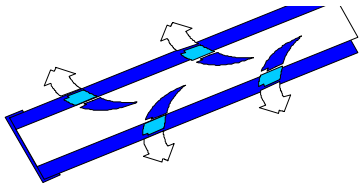


ENGELHARD
Change the nature of things.



Repeat the test with the other connectors

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Simulating A Regen Cycle, To Reset The ECU

When the system is installed for the first time, the red LED on the dash display may illuminate together with the audible alarm sounding, indicating that the system requires regenerating. At this point, the installer should run the system through a regeneration, in order to reset the ECU. Alternatively, this can effectively be done by following the procedure below:

1. Remove the ECU endplate (the endplate with no cables passing through) to expose the Dip Switch block shown below.
2. Switch all the Dip Switches to the OFF position (fig.2)
3. Switch the following Dip Switches to the ON position, in the following order: 9, 4, 3, 2 (giving fig. 1 again)

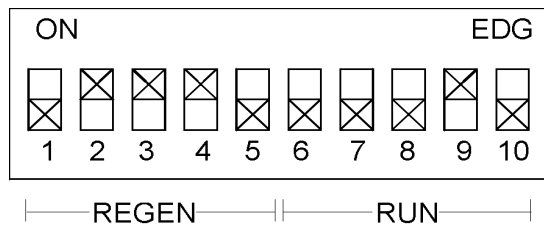


fig. 1

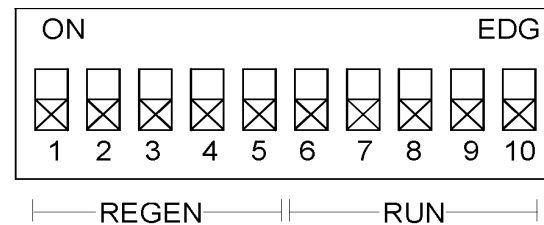
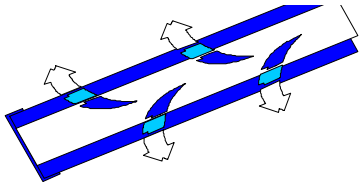


fig. 2

NOTE: This Procedure should only be carried out at first install, or if the battery has been disconnected and reconnected for a long enough period of time, that the ECU internal power source has been depleted. When the filter is full of soot, under no circumstances should this procedure be run instead of regenerating the filter, otherwise filter internal damage may occur.



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Installation and Repair of Power Cables

If the connection of the power cables becomes loose, melting and overheating of the cables and terminals occurs. Reason for this is a bad interface between the cable and the studs.

How to solve the problem:

1. Dismantle the nuts, washers and the cable terminal and discard the nuts and washers.
2. Clean the studs with a thread file or recut the thread with a die (M10).
If the cable or the terminal is heavily corroded, use a replacement cable.
3. Screw a new nut to the ceramic insulation bush and fix it with max. 1/4th of a turn in order not to damage the bush.
4. Screw the second (new) nut to the first one and lock it very tightly to the first nut.
5. Place on the first (new) washer, the cable terminal and the second washer.
6. Screw the third nut onto the assembly and lock it tightly.
7. Finally screw the fourth nut onto the assembly and lock it with the third.

