

## P3901

### Fault code description

DEF pipe heating relay - Short circuit to supply on ECU (B375) pin (B30)

### Possible cause

1. Switch side of line heating relay stuck closed.
2. Short circuit to supply voltage in the wire between the relay and line heater elements.

### Additional information

DEF line heaters will be disabled.

### Set condition of fault code

This diagnostic runs continuously when the key switch is in the ON position and the heater is not being commanded on.

Battery voltage has been detected at the DEF line heaters when the line heater relay is commanded off.

### Reset condition of fault code

A key cycle is required in order to get the diagnostic to run again and change the fault to inactive.

This fault code will change to inactive immediately after the diagnostic runs and passes.

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## P3901, Diagnostic information

### Technical data

["Relay, line heater \(R026\)"](#)

### Location of component(s)

["Location information, EAS-3"](#)

### Electrical diagram(s)

Refer to the OEM service manual for more information.

### Description of component(s)

["Relay, line heater \(R026\)"](#)

### Block diagram

["Block diagram EAS-3"](#)

### Step by step troubleshooting



Please perform the troubleshooting steps below by utilising the breakout harness if necessary to check electrical components such as sensors, electrical control units or harnesses. Back probing is not recommended as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components to reduce the likelihood of damage to electrical components.



- Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pin out locations, always refer to the technical data.
- It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a

change in errors.

- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.

## Step by step 1: Check fault codes

### Step 1A: Check for fault codes

#### Troubleshooting steps

1. Turn the key switch ON.
2. Use DAVIE to check for fault codes.

#### Is fault code P3901 active?

- **Yes** – Proceed to step 2A
- **No** – Proceed to step 3A

## Step by step 2: Check the line heater relay

### Step 2A: Inspect the line heater relay and connector pins

#### Troubleshooting steps

1. Turn the key switch OFF.
2. Disconnect the line heater relay from the harness.
3. Inspect the line heater relay and connections for:
  1. Corroded or dirty pins
  2. Damaged pins
  3. Pushed back or expanded pins
  4. Loose connector
  5. Moisture in or on the connector
  6. Damage to the connector shell
  7. Missing or damaged connector seals
  8. Wire insulation damage

### Dirty or damaged pins/connector?

- **Yes** – A dirty or damaged connection has been detected. Clean, repair or replace the damaged connection or harness if possible  
- Proceed to step 3A
- **No** – Proceed to step 2B

### Step 2B: Check for a pin-to-pin short circuit in the line heater relay

#### Troubleshooting steps

1. Turn the key switch OFF.
2. Disconnect the line heater relay from the harness.
3. Check the resistance of the line heater relay.
4. Measure the resistance between pin 30 and pin 87 of the line heater relay.

### Is the resistance open?

- **Yes** – Proceed to step 3A
- **No** – A pin-to-pin short circuit on the switch side of the line heater relay has been detected. Replace the line heater relay -  
Proceed to step 3A

### Step by step 3: Clear the fault code

### Step 3A: Disable the fault code

#### Troubleshooting steps

1. Connect all components.
2. Operate the system within the 'reset condition of the fault code' found in the fault code information.
3. Use DAVIE to verify if the fault codes are inactive.

### Is fault code P3901 inactive?

- **Yes** – Proceed to step 3B
- **No** – Return to the troubleshooting steps -  
Proceed to step 1A

If all the steps have been completed and checked again, contact the Engine Support Center for further instructions.

### Step 4B: Clear the inactive fault codes

#### Troubleshooting steps

1. Connect all components
2. Turn the key switch ON.
3. Use DAVIE to clear the inactive fault codes.

#### Have all the fault codes been cleared?

- **Yes** – Repair complete
- **No** – Troubleshoot any remaining active fault codes

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