



Service Bulletin No. 1077

COACH MODEL	: T900 Series ; T2100 Series
BULLETIN TYPE	: Product improvement
MANUAL & SECTION	: Maintenance Manual : Chapter 10 - HVAC system Spare Parts Manual : Section 772309 - Air Conditioning
RELATED PARTS BULLETIN	: Yes
DATE	: March 31st, 2001
SUBJECT	: A/C cut-out ambient temperature switch
TERMS & CONDITIONS	: No claims will be accepted with reference to this Bulletin.

APPLICATION :

The modification subject of this Bulletin is applicable to the following units :

Model	Engine	VIN
T2145	Cummins	→ 44235 except for 44218
	Detroit Diesel	→ 44561 except for 44547
S2145	Not specified	→ 42226

DESCRIPTION :

The modification described in this Bulletin will by-pass the cut-out function of the Sytronic controller allowing the compressor to operate down to 25 °F (-4 °C), fully protected and regulated by its existing pressure switches and unloader valves.

This modification must not be carried out on coaches with A/C compressors that have not been fitted with the improved valve plates (Carrier # 17-40403-00).

Description continued on next page

Service Bulletins are issued to supplement or supersede information in the Van Hool manuals. Note Service Bulletin number, date and subject on the register at the end of the relevant chapter(s). File Service Bulletin separately for future reference.

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The procedure in this Bulletin covers the installation of an external 25 °F (-4 °C) ambient temperature switch in the condenser compartment, and a reheat cut-out temperature selector switch on the HVAC junction panel to give the ability to switch the 25 °F (-4 °C) ambient switch function on and off.

PARTS :

- Parts may be purchased from your nearest International Coach Parts Inc. dealer.
- Order one kit VH10744546 for one coach to modify.

The kit is suited for both T900's and T2100's and contains the following parts :

Description	Qty.
Low ambient temperature switch	1
Reheat cut-out temperature selector switch	1
Triple switch HVAC override panel	1
Switch blanking plate	1
Switch plug	1
Flat blade connector, female	2
Flat blade connector, female	1
Bullet connector, female	1
Tubular butt connector	2
16 AWG stranded automotive wire, blue/white	17 ft
16 AWG stranded automotive wire, blue/grey	17 ft
Protective sleeve	17 ft

PROCEDURE :

CAUTION :
THIS MODIFICATION MUST NOT BE CARRIED OUT ON COACHES WITH A/C COMPRESSORS THAT HAVE NOT BEEN FITTED WITH THE IMPROVED VALVE PLATES (CARRIER # 17-40403-00)

1. General :

- This job should be executed by an experienced automotive electrician.
- Read the entire procedure before beginning to work
- Refer to the Electrical Wiring Diagram Booklet which comes with the coach, if more information is required.

2. Cautions and basic safety rules :

- Park the coach on a level surface, apply the parking brake and shut down the engine.
- Switch off all systems and turn off the battery master switch.

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- Put a « DO NOT OPERATE » tag on the instrument panel.
- Observe safe shop practices at all times.

3. Ambient temperature selector switch installation on T2100 coaches :

- 1) In the condenser compartment, using spacers and machine screws, secure the low ambient temperature switch (see Figure 1) to the condenser fan shroud with the metallic (sensing) part pointing outwards (see Figure 2).



Figure 1: Low ambient temperature switch

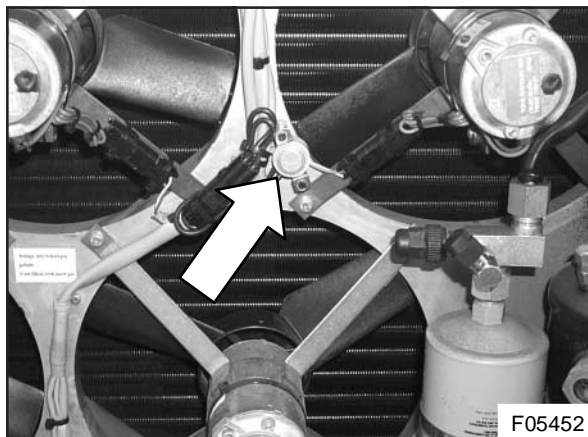


Figure 2: Location of low ambient temperature switch (T2100)

- 2) In the HVAC junction box, remove the OEM fitted override/service switch panel (see Figure 3) from its supports, separate the plugs from the switches and remove the switches from the panel. Discard the panel.

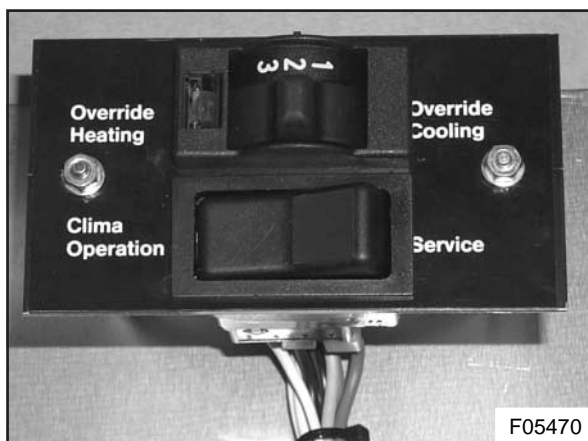


Figure 3: OEM fitted override/service switch panel

- 3) Install the override switch and the service switch in the appropriate slots of the new triple switch HVAC override panel. Reconnect the plugs to the switches. Install the blanking plate in the reheat cut-out switch from the parts list. Install the switch in the remaining slot as shown in Figure 4. Secure the new panel to the supports.

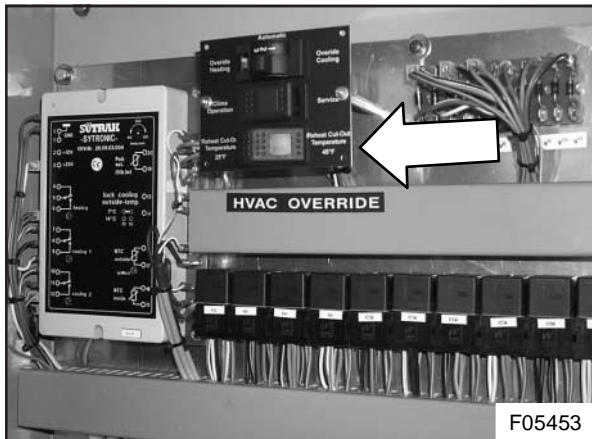


Figure 4: Triple switch HVAC override panel installation

- 4) Refer to the wiring diagrams (Figures 5 and 6) below before proceeding with steps 5 to 8 to hook-up the low ambient temperature switch and the reheat cutout switch.

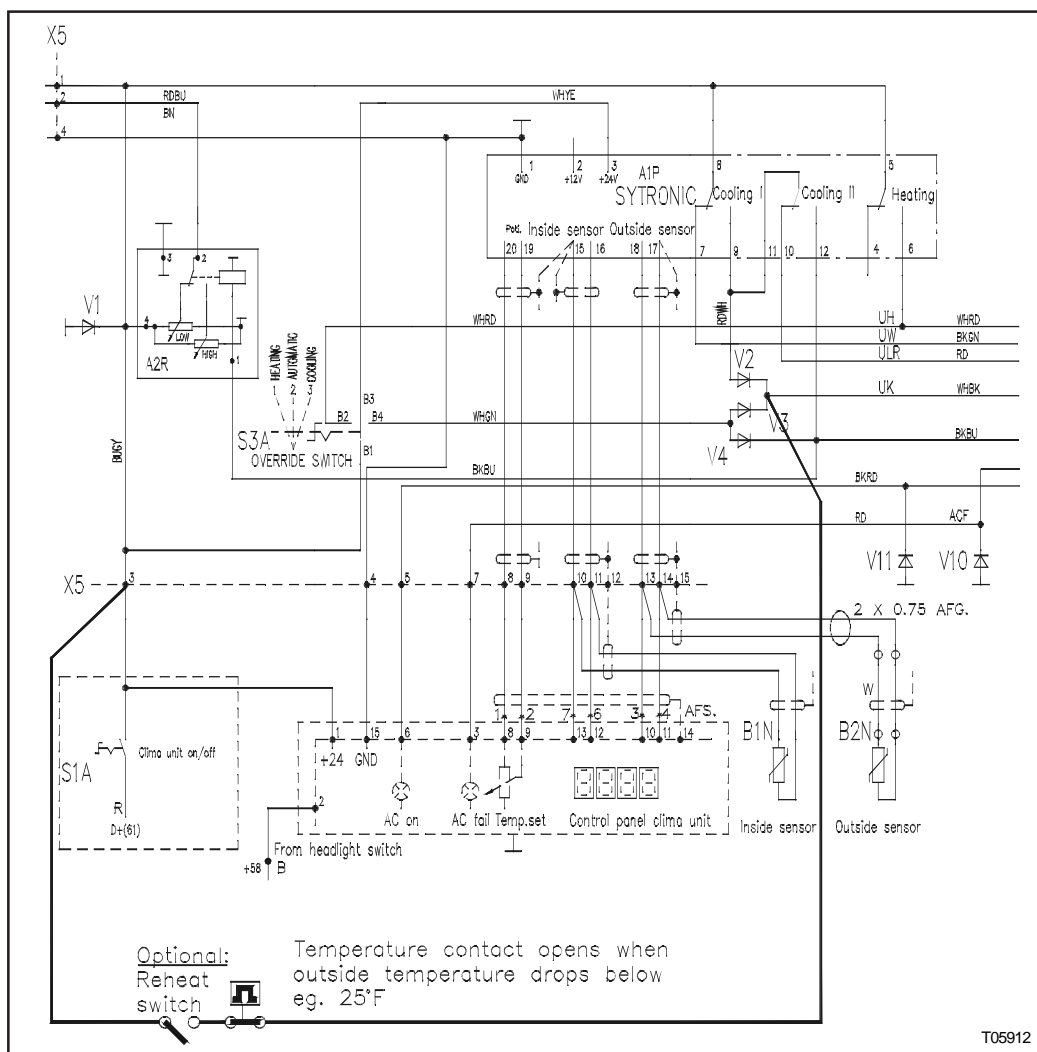


Figure 5 : T2100 reheat switch wiring diagram

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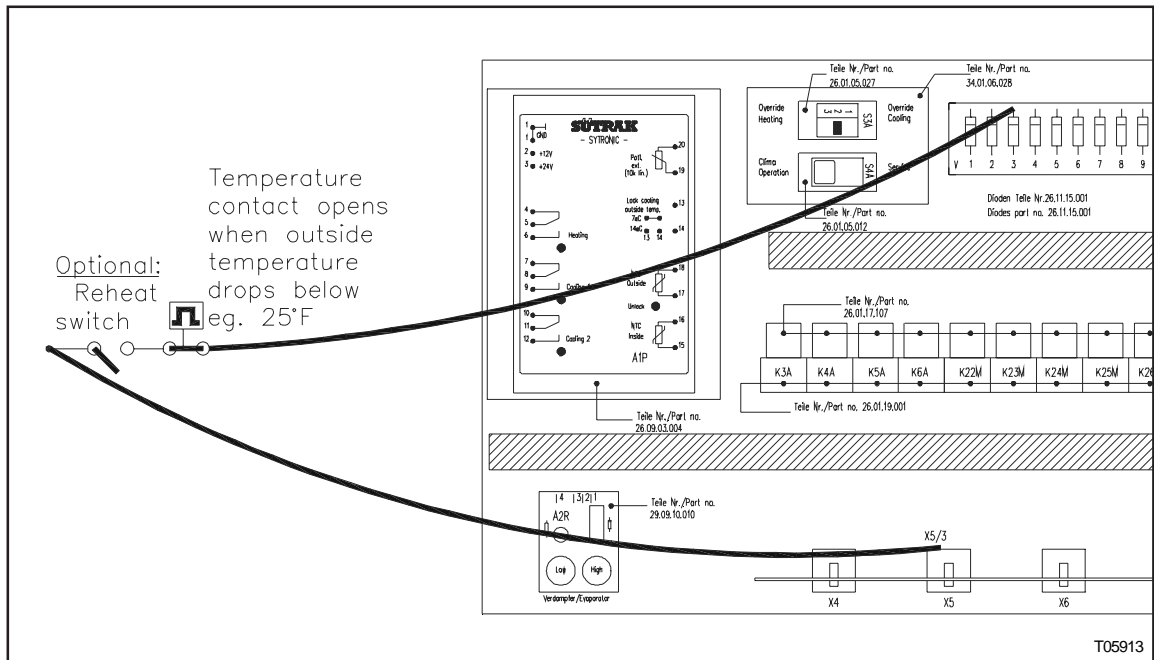


Figure 6 : T2100 reheat switch installation

- 5) Insert the two 16 AWG wires from the parts list into the protective sleeve. Route this wire harness from the condenser fan shroud to the HVAC junction box. Secure with tie wraps.
- 6) At the condenser fan shroud, connect the blue/white wire of the wire harness to one of the low ambient temperature switch terminal wires. Connect the blue/grey wire to the remaining temperature switch terminal wire. Insulate the connections with heat shrink tubing.
- 7) In the HVAC junction box, connect the blue/white wire to the vacant flat blade terminal of diode V3 on the diode panel (see Figure 7).

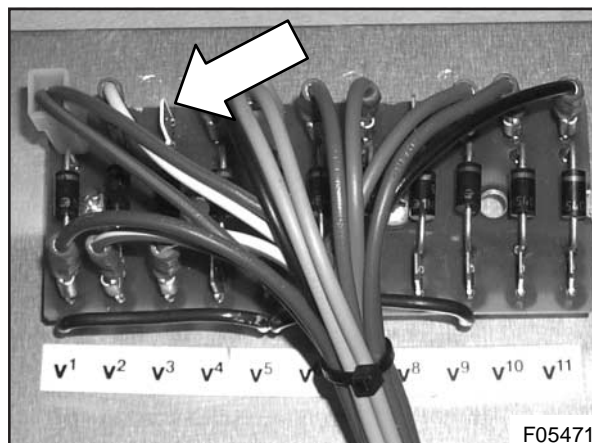


Figure 7 : Vacant terminal of diode V3

- 8) Using the plug from the parts list, connect the blue/grey wire to terminal # 1 of the reheat cut-out temperature selector switch.
- 9) Connect terminal # 5 of the reheat cut-out temperature selector switch to terminal # 3 of plug X5 (blue/grey wire- see Figures 8 and 9).

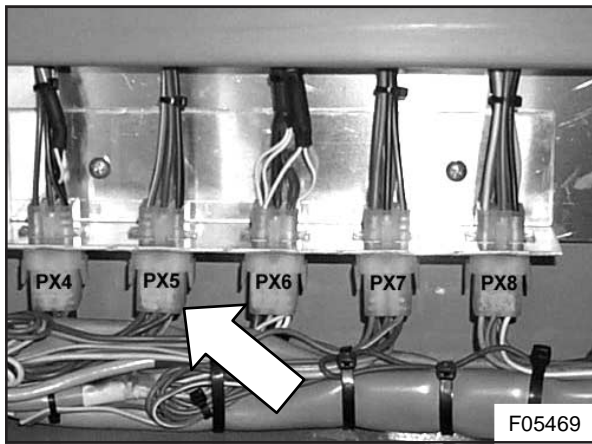


Figure 8 : Location of plug X5 on the HVAC switchboard

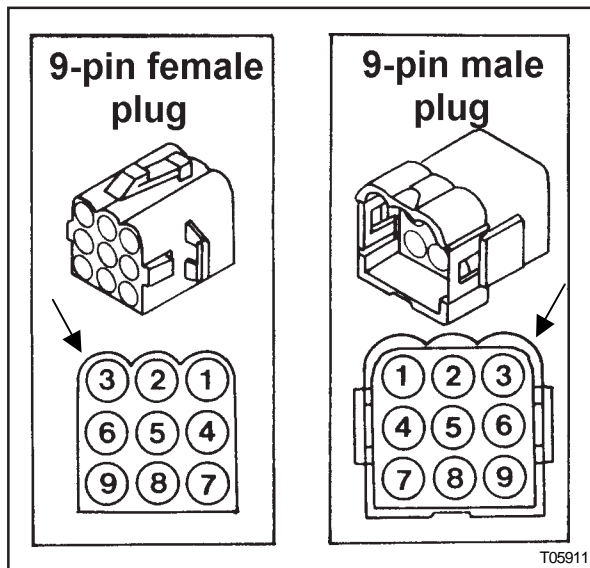


Figure 9 : Location of terminal #3 of plug X5

10) This ends the installation of the ambient temperature selector switch on T2100 coaches.

4. **Ambient temperature selector switch installation on T900 coaches:**

The Süttrak AC 35 rooftop HVAC units with Sytronic controller used on T900 coaches can have the 25 °F cut-out feature fitted in a fashion similar to that of T2100 coaches.

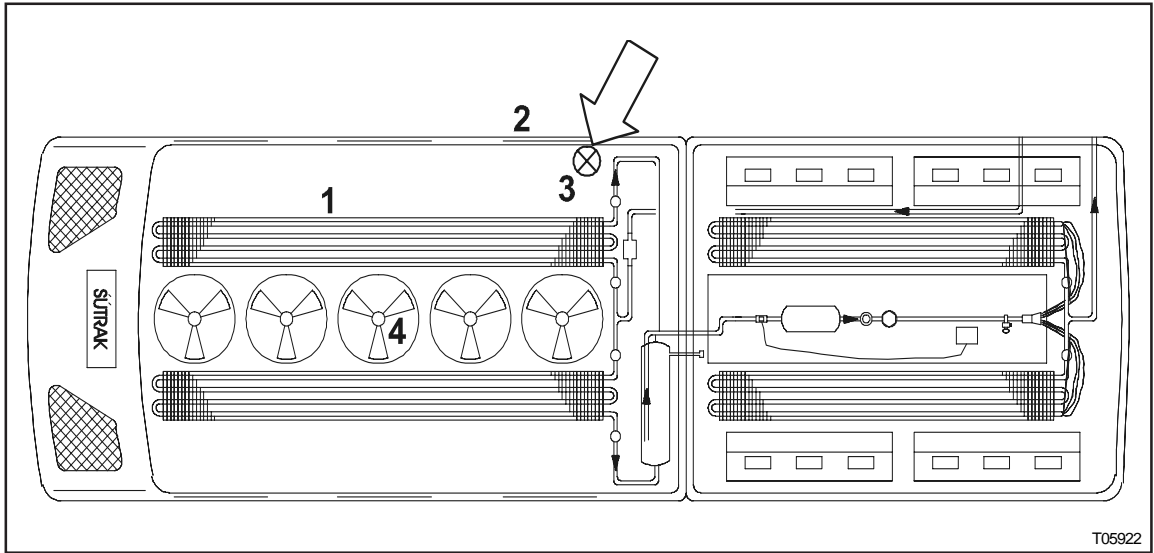
To by-pass the 45 °F (7 °C) cut-out function of the controller, refer to the wiring diagrams below.

Note that in the conversion of these units :

- The ambient temperature switch should be positioned as close as possible to one of the fresh air intakes of the condenser fans (see Figure 10).
- One of the low ambient temperature switch terminal wires should be connected to diode V7 (see Figures 11 and 12).
- The remaining terminal wire of the low ambient temperature switch should be connected to terminal six of plug X1 (see Figures 11, 12 and 13) via the reheat cut-out temperature selector switch.

Procedure complete

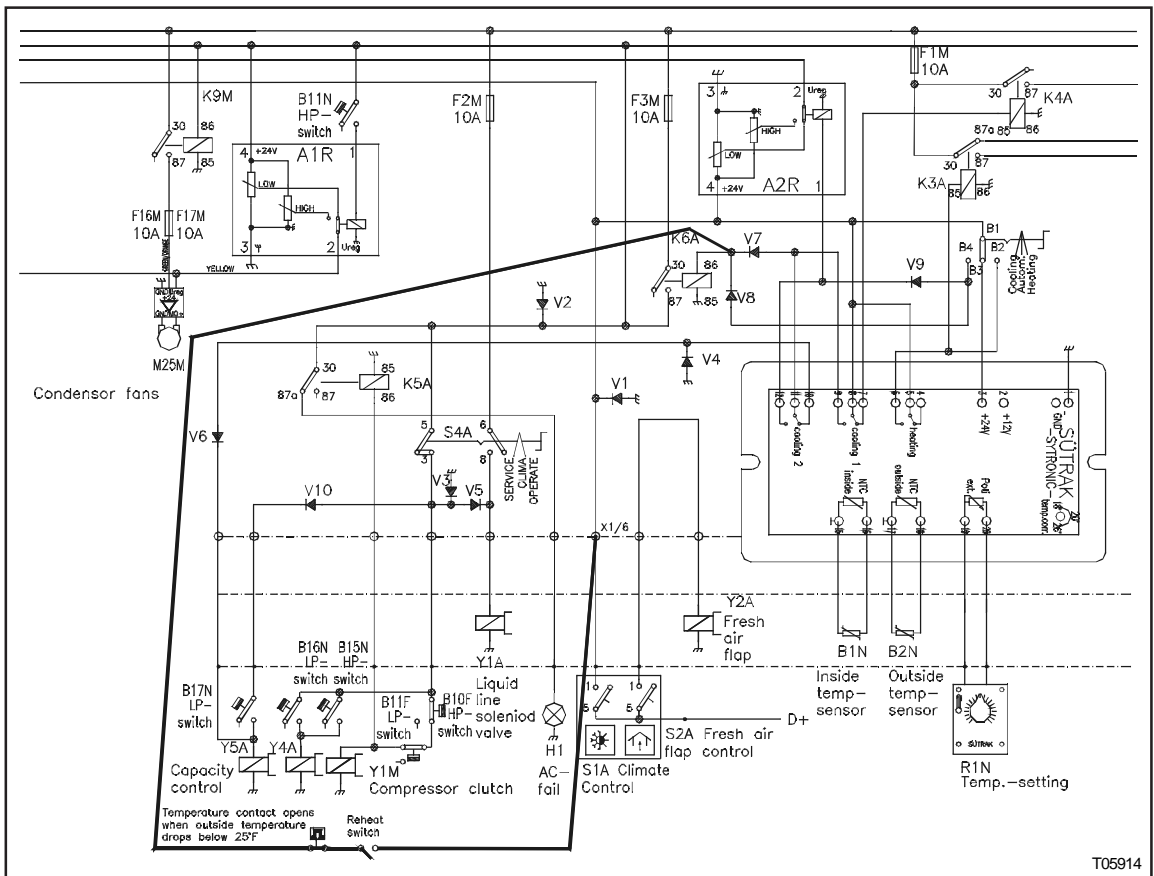
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Figure 10 : Location of low ambient temperature switch (T900)

1. Condenser
2. Condenser fan fresh air intake
3. Low ambient temperature switch
4. Condenser fan



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Figure 11 : T900 reheat switch wiring diagram

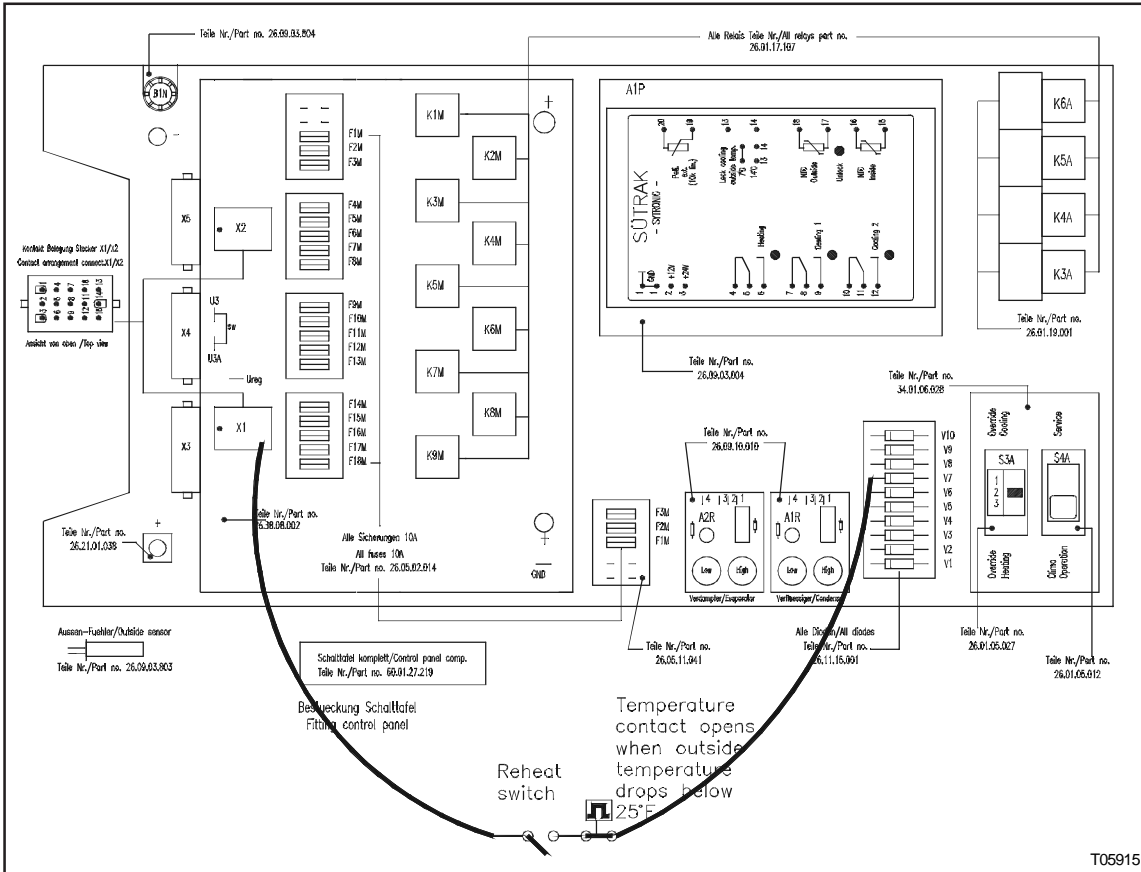


Figure 12 : T900 reheat switch installation

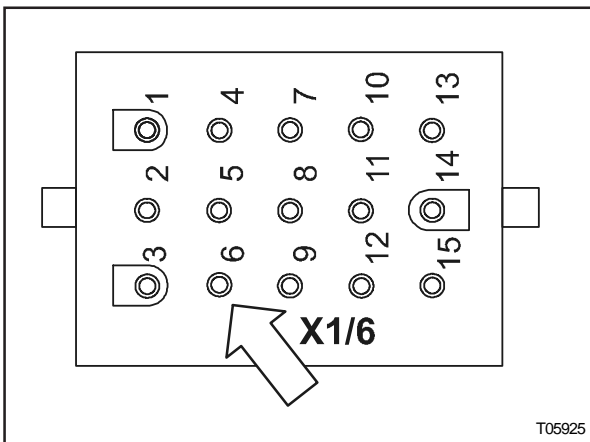


Figure 13 : Location of terminal #6 on plug X1