SERVICE BULLETIN No.1177

Circulate to listed addressees

COACH BUS MODEL	**:** T2145 and C2045
BULLETIN TYPE	**:** Product Improvement
SECTION	**:** Maintenance Manual: Chapter 10 - HVAC
DATE	**:** December 19, 2005
SUBJECT	**: Proheat M80 coolant pump hook-up**
TERMS & CONDITIONS	**:** No claims will be accepted with reference to this Bulletin.

APPLICATION:

The wiring change subject of this Bulletin has been cut into production as from following units:

Model	Engine	VIN	Model	Engine	VIN	Model	Engine	VIN
T2140	Cummins	40148 →	T2145	Cummins	44313 →	C2045	Cummins	46008 →
	Detroit D	40611 →		Detroit D	44633 →		Detroit D	46607 →
	Caterpillar	N/A		Caterpillar	44801 →		Caterpillar	47051 →

DESCRIPTION:

1. With the previous hook-up, the coolant pump stopped working when the auxiliary heater went into failure mode (e.g. loose connection at the overheat sensor).

2. To address the issue a jumper wire has been installed between pin E and pin H of connector 2 of the Proheat ECU (see overleaf).
   On production coaches this wiring change has been made in the main junction box.
   On field coaches the jumper wire can be installed at the Proheat P2 connector (see Figure 3).
   Owners and operators wishing to apply this Product Improvement on their coaches, can refer to the procedure in this Bulletin for retrofit instructions.

3. Pump operation with the new wiring is as follows:

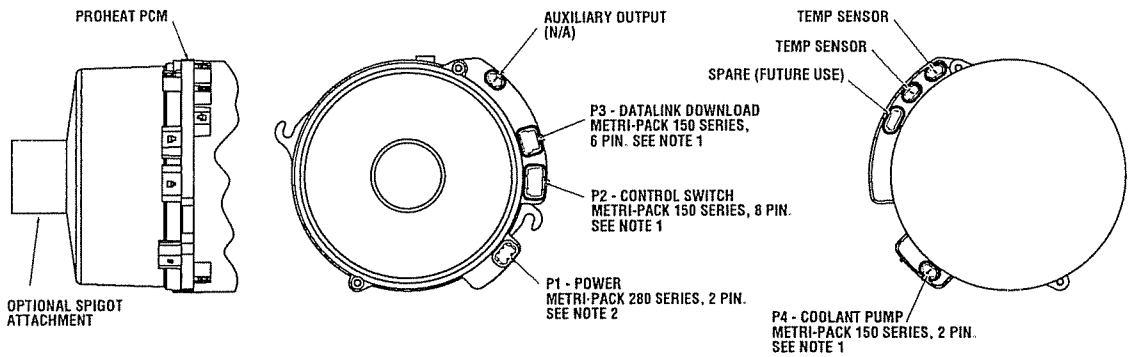
   C2045 units: The pump will start working from the moment the auxiliary heater is being switched on. Pump operation control is through Sytronic 2.

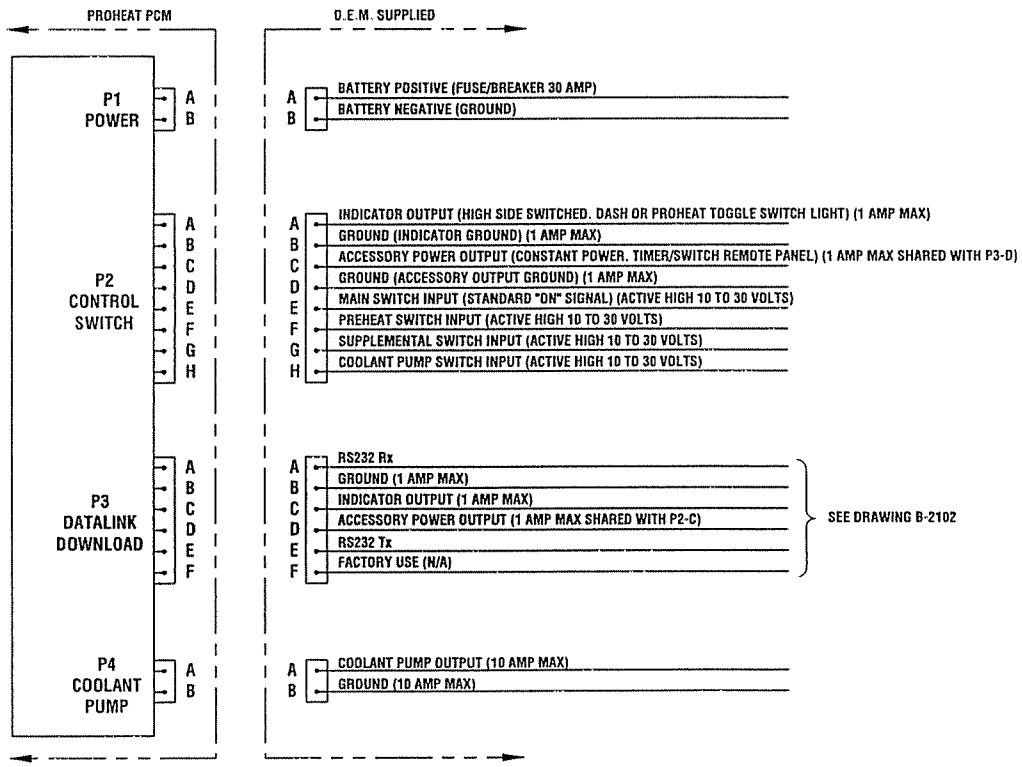
   T2100 units: The pump will start working from the moment the auxiliary heater is being switched on. Pump operation control is through the multiplex system.

Service personnel: please read, initial and circulate.

Service Manager	Parts Manager	Warranty Administrator	Workshop Foreman	Service Technician

1.2 ELECTRICAL





PCM CONNECTOR	CONNECTOR PART#	LOCK PART#	TERMINAL PART#	WIRE SEAL PART#	CAVITY SEAL PART#
P1-POWER	15300027	15300014	12077413	12015193	----
P2-CONTROL SWITCH	12047937	12066304	12048074	12048086	12059168
P3-DATALINK	12052648	12052650	12048074	12048086	12059168
P4-COOLANT PUMP	12052641	12052634	12048074	12048085	12059168

NOTES:

1/ 150 SERIES CONNECTOR ASSEMBLIES TO BE USED WITH 18AWG WIRE WITH MAXIMUM .1" INSULATION DIAMETER. WIRE MUST MEET OR EXCEED SAE J1128 GPT SPECIFICATIONS.

2/ 280 SERIES CONNECTOR ASSEMBLIES TO BE USED WITH 10AWG WIRE WITH MAXIMUM .161" INSULATION DIAMETER. WIRE MUST MEET OR EXCEED SAE J1128 TWP SPECIFICATIONS.

3/ ALL UNUSED CONNECTIONS ON THE PCM MUST BE PLUGGED (PROHEAT SUPPLIED).

PARTS AND PRODUCTS:

Retrofit parts

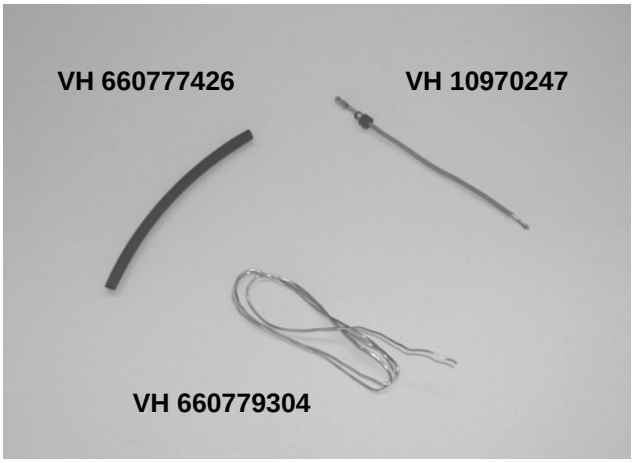


Figure 1: Retrofit parts

VH reference	Description	Qty.
VH 10970247	Jumper wire, 16 AWG, gray, includes terminal and seal, ready to install	4 in.
VH 660777426	Sleeve, heat shrink	4 in.
VH 660779304	Solder	#

- Retrofit parts may be purchased from your nearest ABC Customer Care & Parts Source service center.
- Parts and products disposition: discard according to applicable environmental regulations.

PROCEDURE:

If you do not have the expertise to perform present procedure, do not hesitate to go to your nearest ABC Customer Care & Parts Source dealership.

1. **General**:

   - This job should be executed by an experienced automotive electrician.
     For more information refer to wiring diagram VH 10775242, which has been attached to this Bulletin.

2. **Special tools, equipment or services:**

   - No special tools, equipment or services are required.

3. **Preparations**:

   - Park the coach on a level-surface with the front wheels straight.
     Apply the parking brake and shut down the engine.
   - Switch off the HVAC system
   - Switch off all other systems and turn off the battery master switch.
   - Put a “DO NOT OPERATE” tag on the instrument panel.
   - Read the entire procedure before beginning to work.

   CAUTION: Observe safe shop practices at all times.

4. <u>To install a jumper wire in Proheat M80 control connector P2</u>:

Job time estimate: approximately 0.25 hours.

1) Open the auxiliary heater compartment door and locate Proheat control connector P2 (see Figure 2).

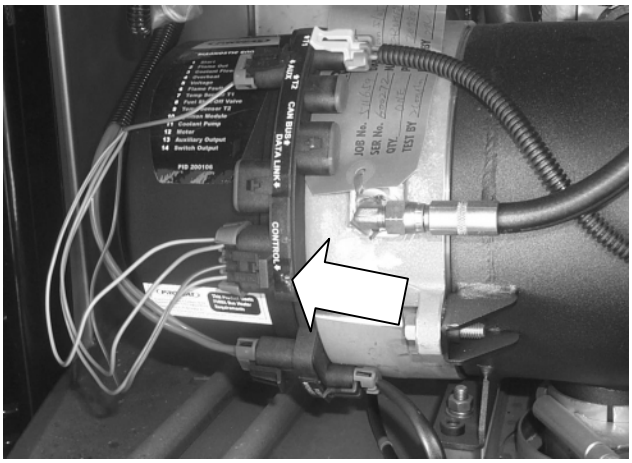


Figure 2: Proheat M80 control connector P2 (C2045 production unit)

2) Lift the catch and withdraw the connector from the heater ECU.
Lift the protective cap from the back of the connector.

3) Locate the gray wire that is installed in terminal opening #E (see Figures 3 and 4).
At approximately 2 inches from the connector, cut the gray wire.
Strip both ends of the wire and prepare them for soldering.

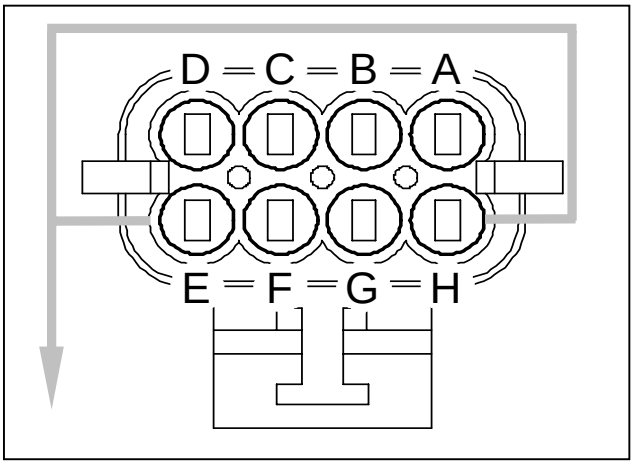


Figure 3: P2 connector terminal location (rear view)

A = yellow/red wire
F = red/gray wire
E and H = gray wire

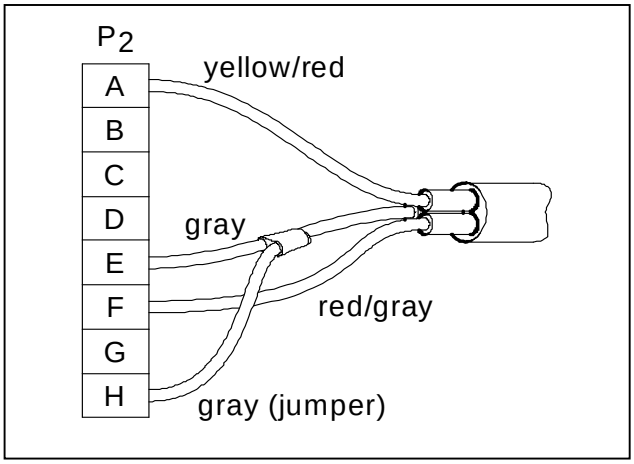


Figure 4: P2 connector – wiring change completed

4) Slip heat shrink sleeve over the wire.

5) Join the jumper wire and the stripped wires by soldering.

6) Slip the sleeve over the soldered joint and shrink it.

7) Remove the cavity seal from connector terminal opening #H.
   Insert the jumper wire terminal in opening #H.
   Check that the jumper wire seal fits properly in the connector.

8) Refit the protective cap.

9) Reconnect connector P2 to the heater ECU.

10) Check the auxiliary heater's operation.

11) Close the heater compartment door.

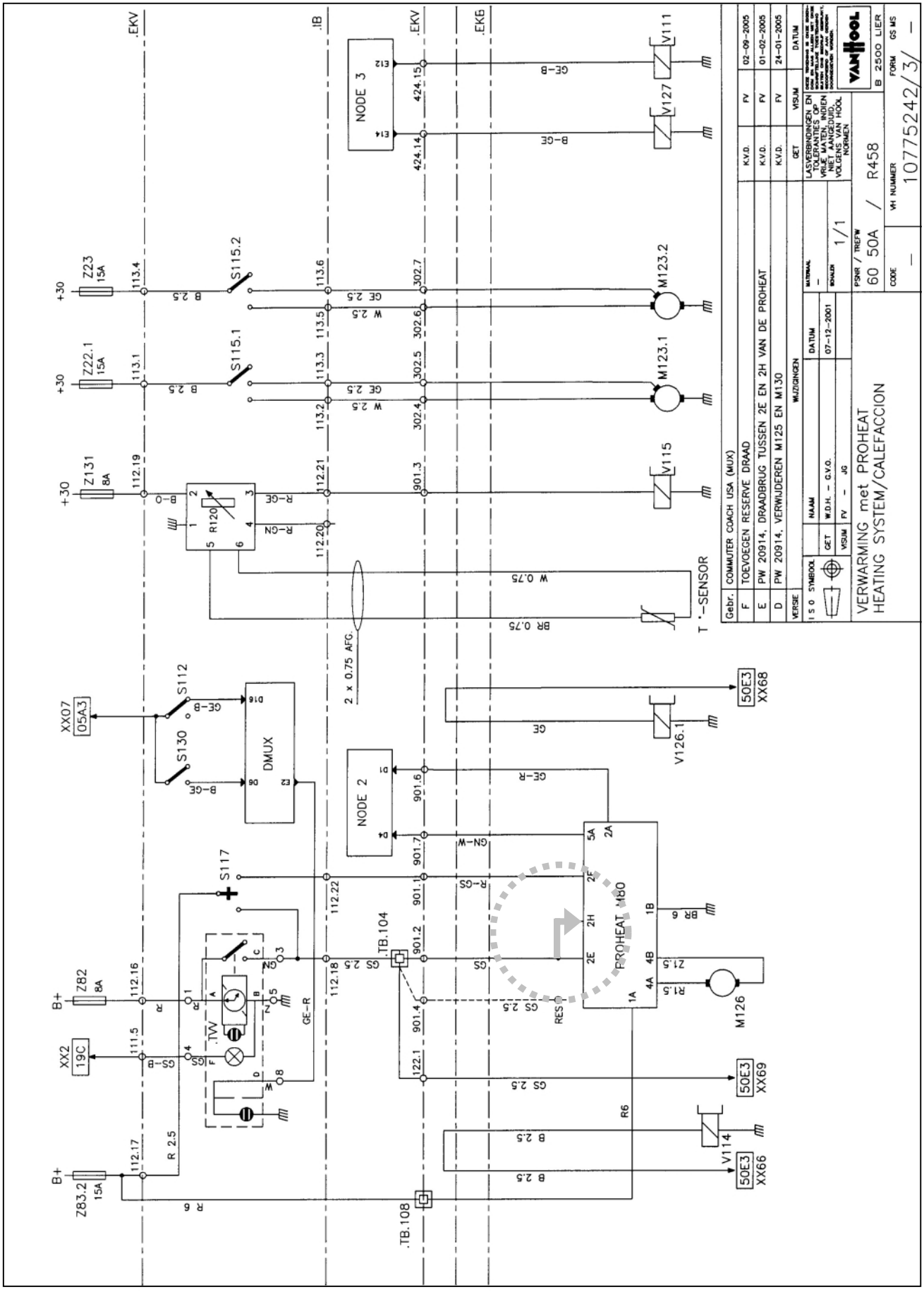
Procedure complete.

DISCLAIMER:

The procedures contained herein are not exclusive. Van Hool cannot possibly know, evaluate, or advise the transportation industry of all conceivable ways in which a procedure may be undertaken or of the possible consequences of each such procedure. Other procedures may be as good, or better, depending upon the particular circumstances involved.
Each carrier who uses the procedures herein must first satisfy itself thoroughly that neither the safety of its employees or agents, nor the safety or usefulness of any products, will be jeopardized by any procedure selected.

SERVICE INFORMATION:

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.


VERWARMING met PROHEAT
HEATING SYSTEM/CALEFACCION
R458
10775242/3/ -
COMMUTER COACH USA (MUX)
TOEVOEGEN RESERVE DRAAD
PW 20914, DRAADBRUG TUSSEN 2E EN 2H VAN DE PROHEAT
PW 20914, VERWIJDEREN M125 EN M130
NODE 3
NODE 2
DMUX
PROHEAT 160
T °-SENSOR
2 x 0.75 AFG.
.TB.104
.TB.108
.EKV
.IB
.EK6