PREVOST

# *Instruction Sheet* IS-19911C

## INTELLIGENT SLEEP MODE INSTALLATION

H SERIES COACHES FROM **G-3129** UP TO **J-0184** *WITH PRIME*

| | | |
|---|---|---|
| Revision: C | Added instructions for vehicles with ELD systems. Step 18&19 was 85 is 85A | 06-12-2019 |

## MATERIAL

H-series coaches, order kit IS19911 which contains:

| Part No. | Description | Qty |
|---|---|---|
| 062305 | HARNESS_ISM_H | 1 |
| 5001245 | SCR TC HEXW Z050 12-24 X 1/2 | 3 |
| 5001341 | WSH FL SS 8.4X17X1.6 (M8,5/16) | 2 |
| 5001787 | NUT HEX NYRT SS M8-1.25X9.5 | 2 |
| 506004 | RUB AD1 CC POL 3/8" X 1/2" X 20' | 2 in |
| 560493 | RELAY, LATCHING 24V BDS-A | 1 |
| 560529 | BASE, RELAY | 1 |
| 560538 | COVER, RELAY | 2 |
| 560539 | SCREW, M8, RELAY | 2 |
| 563158 | SHRINK TUBING, DOUBLE WALL / .300” - .060” | 3 in |
| 562935 | BUTT SPLICE / 22-18 / RED | 2 |
| IS-19911 | Instruction Sheet | 1 |
| FI-19911 | Feuille d’instructions | 1 |

| *NOTE* |
|---|
| *Material can be obtained through regular channels.* |

## DESCRIPTION

Use this instruction sheet to add ISM to your vehicle.

**PREREQUISITE**: Coach must have PRIME hardware installed.

This can be confirmed visually by looking for the current sensors and smart equalizer in the main power compartment. Refer to Figure 1 & Figure 2. The smart equalizer has a data connector in addition to the usual battery power connections. Also confirm the SOC% is present in the DID gages menu. (Figure 3)

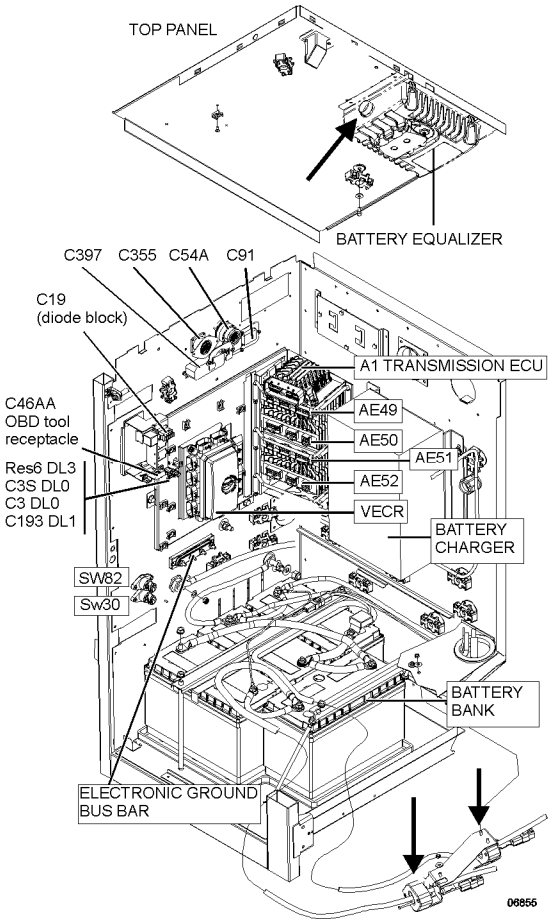


**FIGURE 1: EQUALIZER DATA CONNECTION, 12 & 24V CURRENT SENSORS**

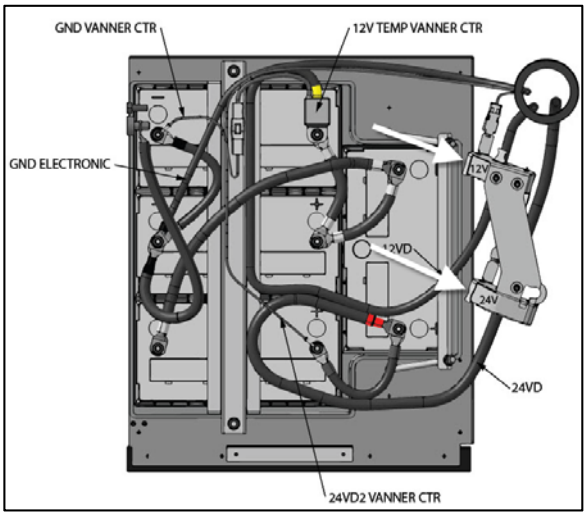


**FIGURE 2: 12V & 24V CURRENT SENSORS**

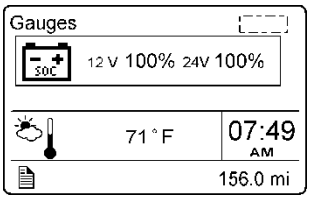


**FIGURE 3: BATTERY SOC**

## TOOLS

- Laptop with VPG** software.
- Serial interface cable or USB to serial adapter (may be required on some laptops)

- C18 Amp Mate-N-Lok pin extractor **682257** (Amp 31885-1)

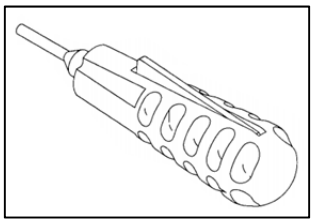

**FIGURE 4:682257**

- C71 Amp CPC pin extractor **681598** (Amp 305183 R)

**FIGURE 5:681598**

- VECF / VECR pin extractor: **682256** (Packard 12094429)


**FIGURE 6:682256**

- A36 (MCM) pin extractor: **683766**

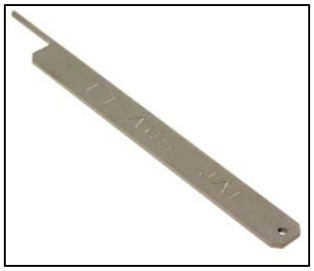

**FIGURE 7: 683766**

*** Contact Prevost Service Manager or Prevost Service Center to perform the update*

## PROCEDURE

**DANGER**

Park vehicle safely, apply parking brake, stop engine.

### ABOUT INTELLIGENT SLEEP MODE (ISM)

ISM is a battery-saving mode designed to limit battery discharge. The ISM will automatically change the vehicle electrical system from normal functional state to sleep mode if the battery SOC falls below 65% (12.2V / 24.4V).

Once the vehicle has entered into sleep mode, the only actions needed to put the vehicle back into its normal functional state are:

- Cycle the ignition key from OFF to ON;

or

- Open the entrance door;

or

- Turn on the hazard lights.

ISM forces the vehicle to go into sleep mode if all the following conditions are met:

1. The engine is not running;
2. The parking brake is applied
3. The ignition switch is at the ON, ACC positions or at the OFF position but the 15 minutes “wake up” period after engine shutdown is not expired.
4. The battery state of charge of 12V or 24V system falls below 65%.

## PROGRAMMING WITH VPG

*Programming must be completed before any wiring modification.*

1. Connect the laptop to the vehicle with the serial cable.
2. In VPG, Click on *Vehicle Parameters*

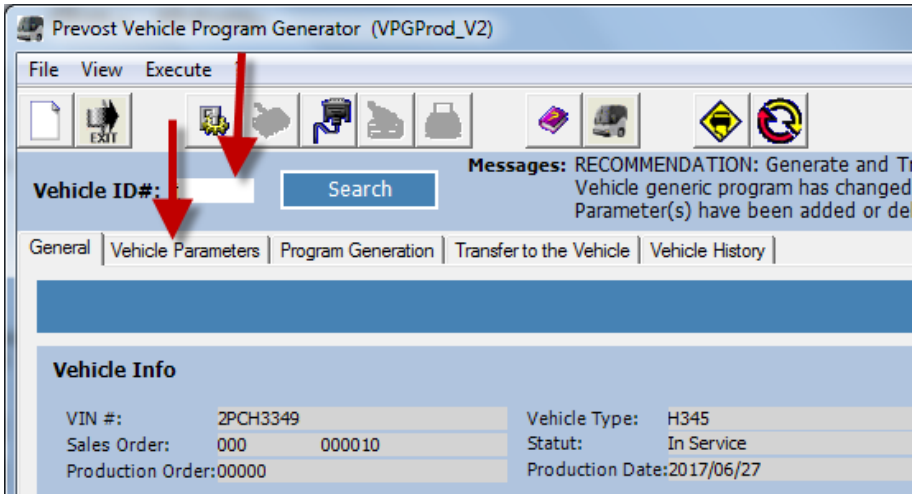


**FIGURE 8: VPG**

3. On the ISLEEP parameter line, click on the word **No** and Set parameter *ISleep* to **Yes**
4. Generate the program
5. Transfer the program to the vehicle

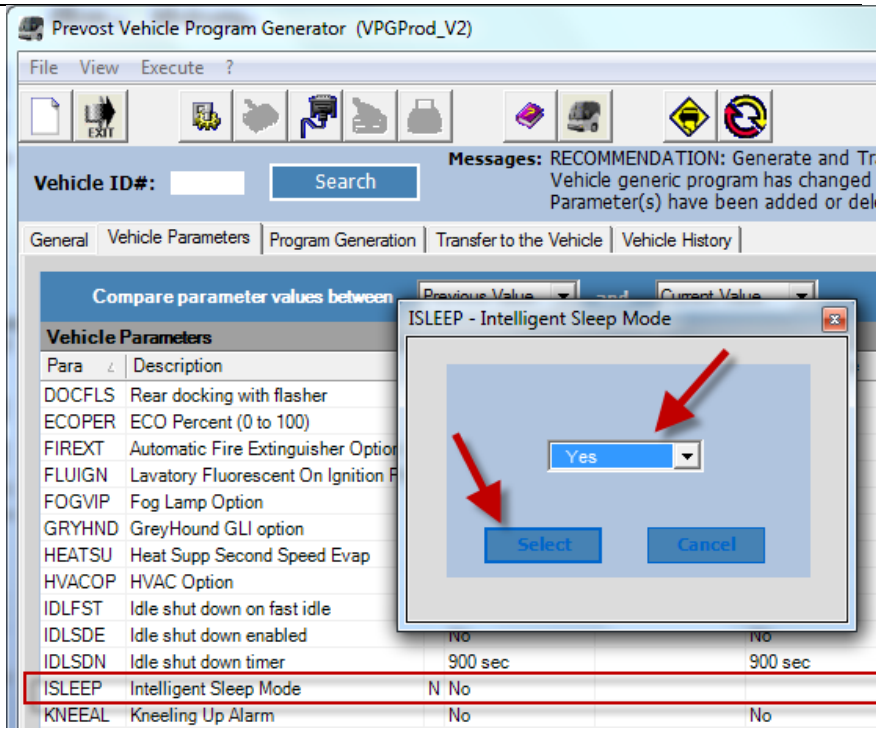


**FIGURE 9: ISLEEP PARAMETER**

## H Series - NEW RELAY ASSEMBLY & INSTALLATION

6. Pre-assemble the relay. Do not tighten the nuts.

   **560539**; M8 Stud

   **5001787**; M8 Nut , SS

   **5001341**; Flat Washer, SS

   **560529**; Relay base

   **560493**; Relay

   **560538**; Cover

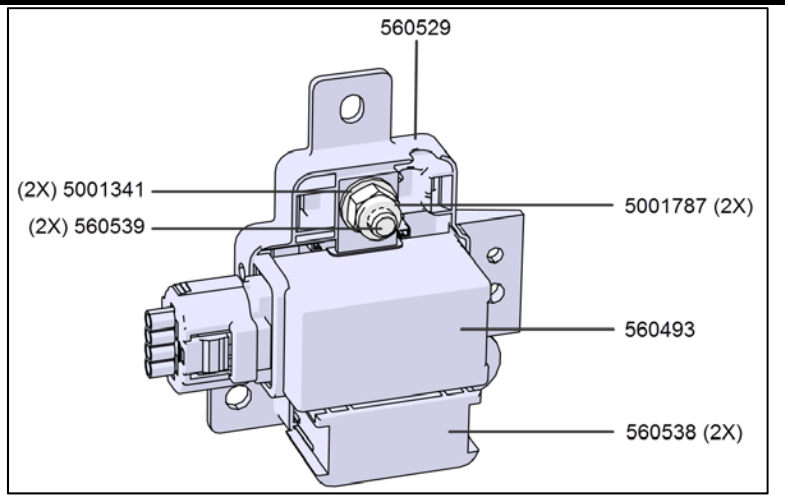


**FIGURE 10:RELAY ASSEMBLY**

7. Cut and stick two pieces of **506004** foam in the relay base stud cavity.

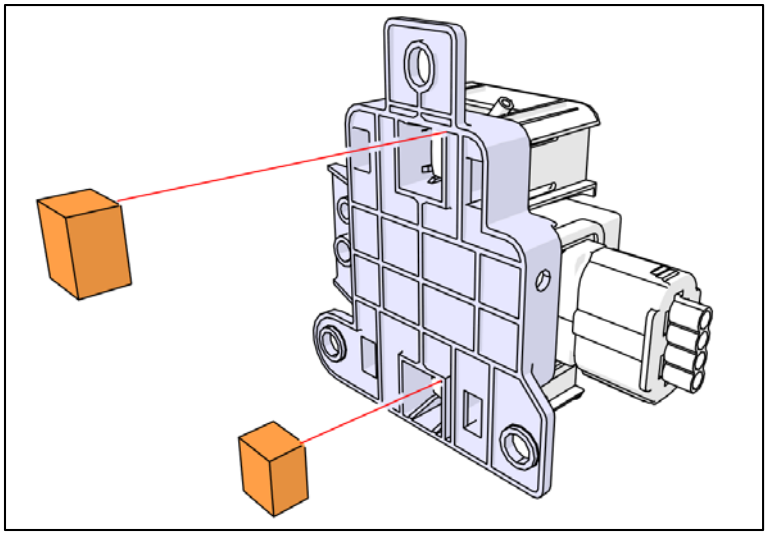

**FIGURE 11: ADDING FOAM UNDER RELAY BASE**

## DANGER

Set the ignition switch to the OFF position and trip the main circuit breakers CB2 & CB6.

8. Create working space in the fore section of the compartment by removing three I/OA modules and the ABS module. (Figure 12)

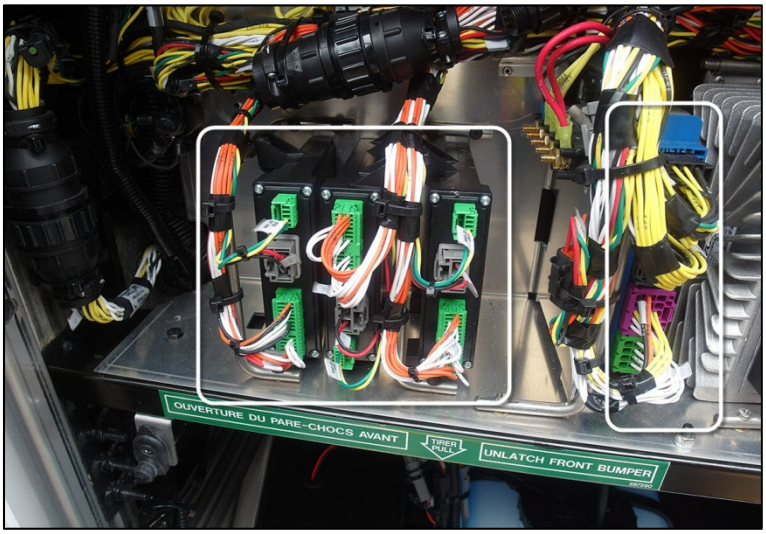


**FIGURE 12: I/OA AND ABS MODULES**

9. For certain vehicles with ELD systems from J-0082, the ELD module will have to be moved to the left of the Front Junction Box.
10. You will find the ELD module installed between the ABS module and the I/OA modules
11. See *Special Instructions* at the end of this document.


**FIGURE 13: ELD MODULE**

12. Remove ABS module and customer junction rail mounting bracket.
13. On a working table, mark hole locations as shown on Figure 14. Use relay base as a template.
14. Drill three 3/16” (0.188”) holes at marked locations.
15. Use 3 **5001245** self-tapping screws to secure the relay sub-assembly on the plate.

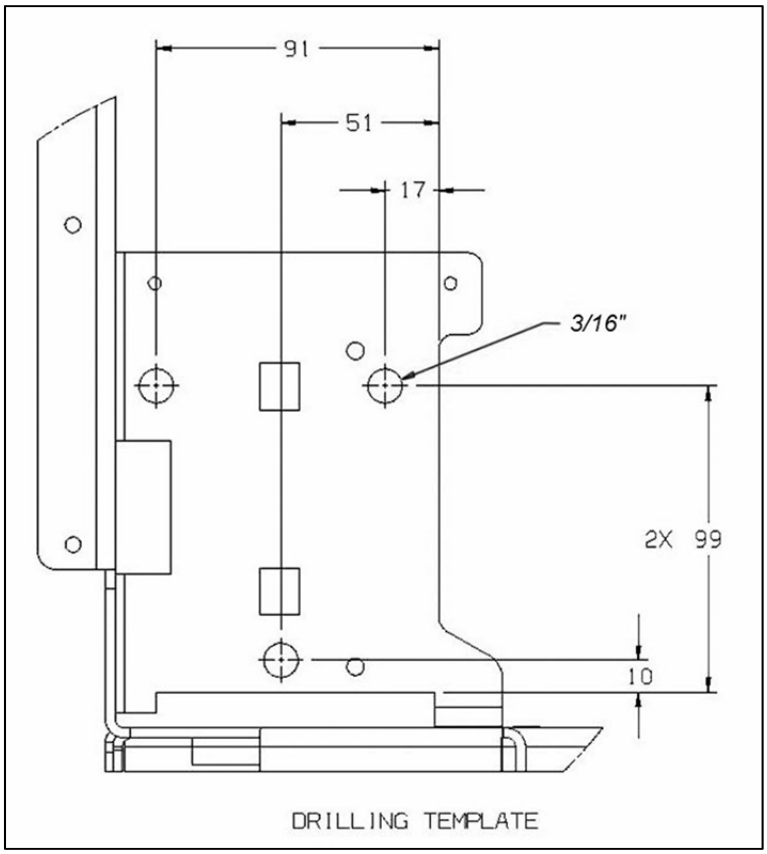


**FIGURE 14: DRILLING**

## FRONT ELECTRICAL COMPARTMENT WIRING

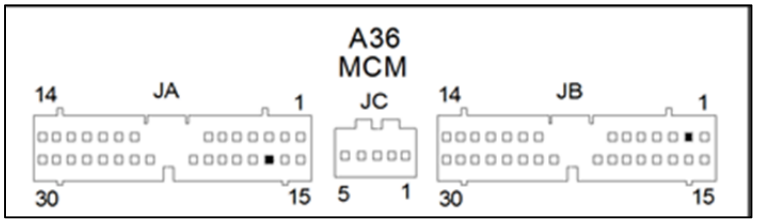


**FIGURE 15: A36 PINOUT**

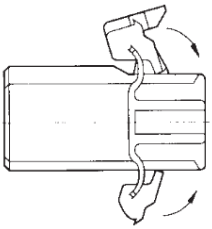

**FIGURE 16: A36 CONNECTOR SECONDARY LOCK**

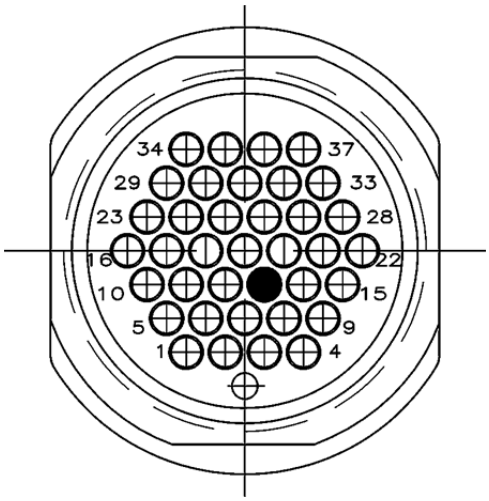


**FIGURE 17: C2 PINOUT**

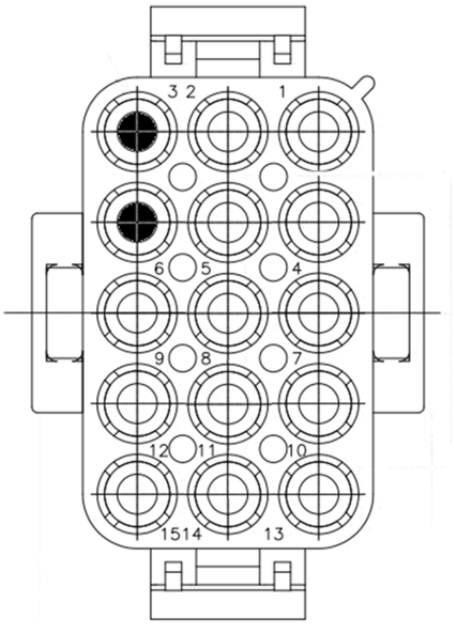


**FIGURE 18: C18 PINOUT**

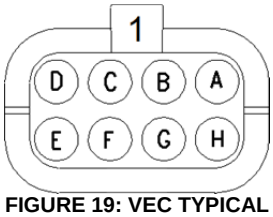


**FIGURE 19: VEC TYPICAL CONNECTOR PINOUT**

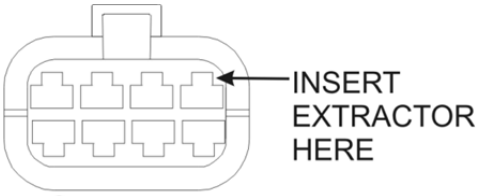


**FIGURE 20: VEC TERMINAL EXTRACTION**

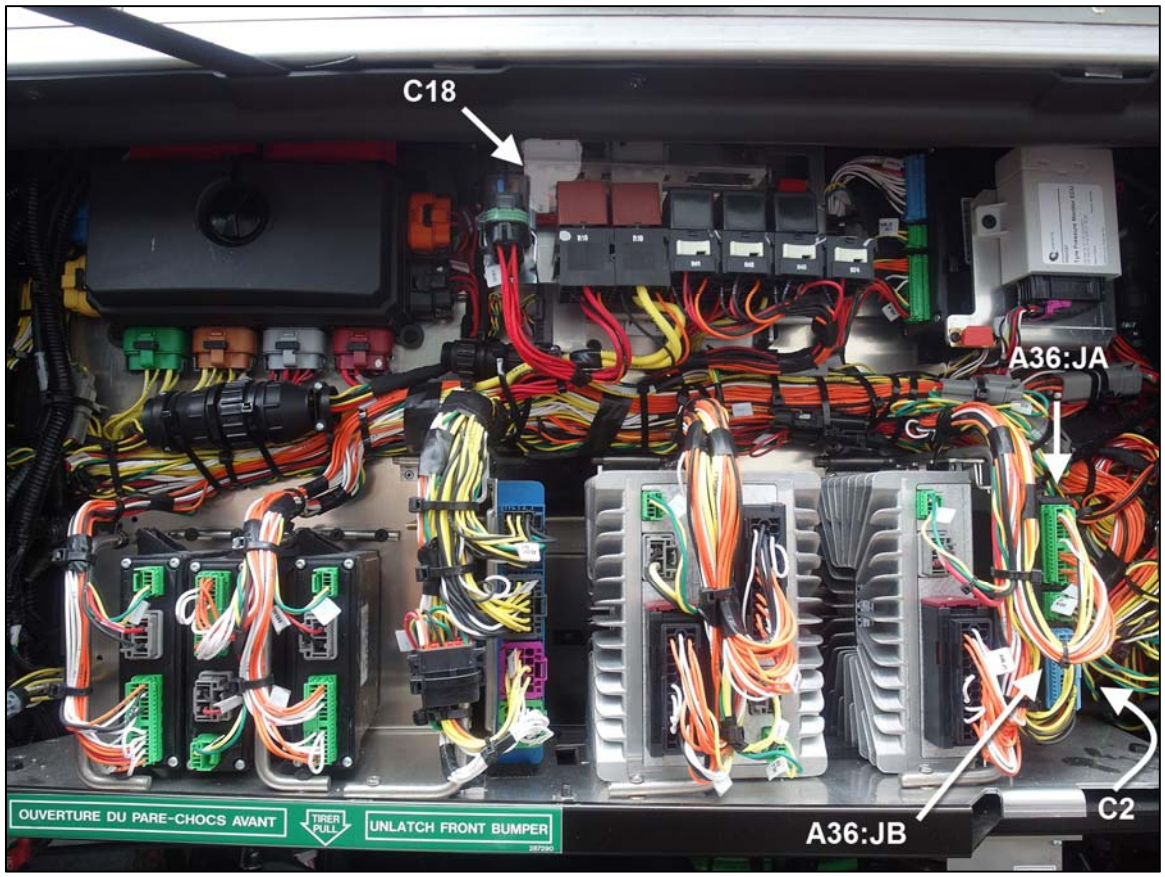


**FIGURE 21: CONNECTOR LOCATION OVERVIEW**

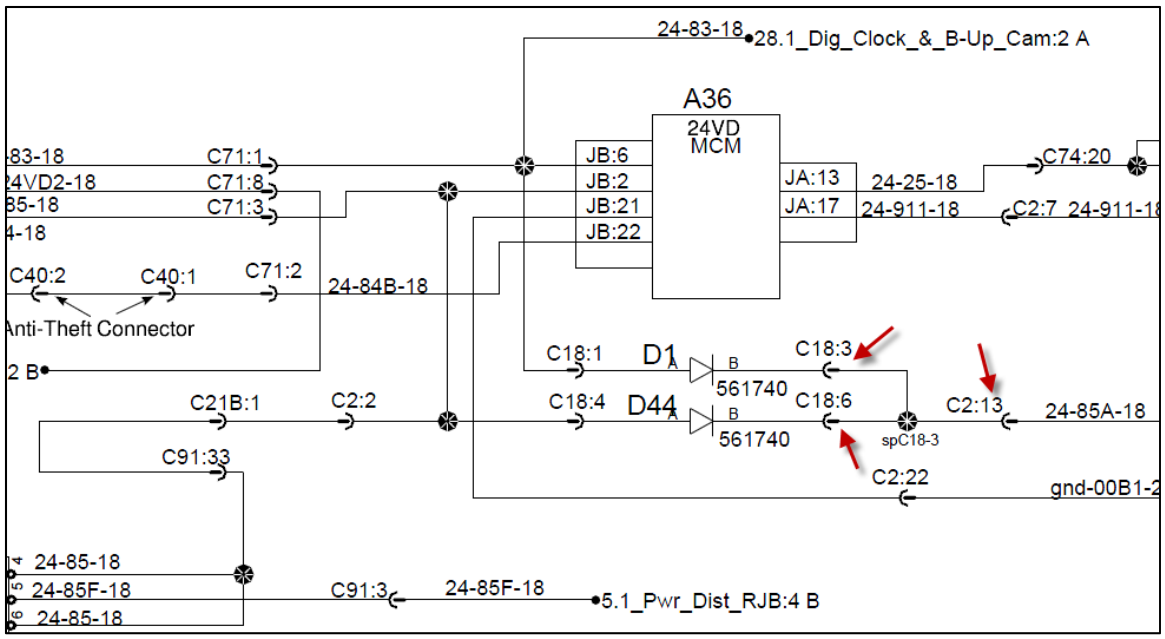


**FIGURE 22:C18 & C2 WIRING REMOVAL IN FRONT ELECTRICAL COMPARTMENT**

16. Locate A36; C18 and connector C2. (Figure 21) You will find C2 quite deep inside the cavity shown by the arrow, on the ceiling above the pneumatic panel.
17. Disconnect wire 911 JA: 17 of module A36 (Figure 15). Remove terminal using extractor **683766.** Cut terminal and insulate with a heat-shrinkable sleeve. (Figure 22)
18. Disconnect wire 85A from C18:3 pin side using extractor **682257.** Cut terminal and insulate wire with a heat-shrinkable sleeve.
19. Disconnect wire 85A from C18:6 pin side. Cut terminal and insulate wire with a heat-shrinkable sleeve.
20. Disconnect wire 85A from C2:13, socket side. Cut terminal and insulate wire with a heat-shrinkable sleeve.

21. Connect plug R21A from harness 062305 to relay.


**FIGURE 23: CONNECTING TO THE RELAY**

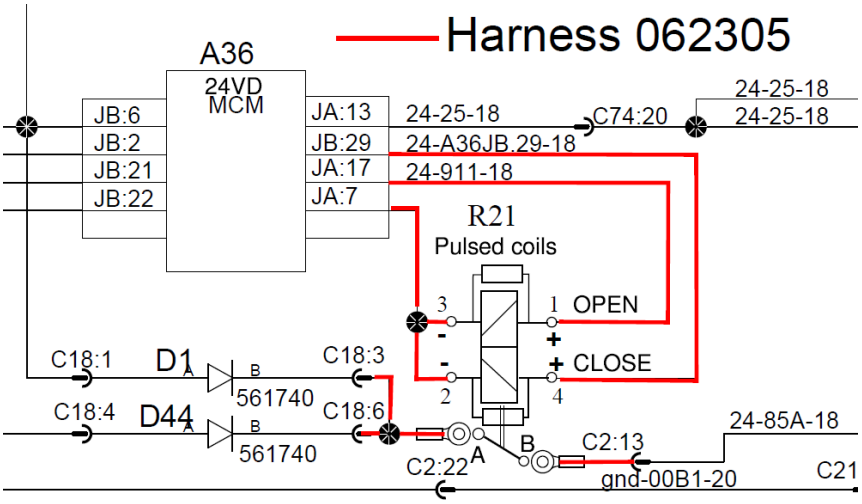


**FIGURE 24: 062305 HARNESS INSTALLATION**

22. From R21, three (3) wires go directly to the MCM (Figure 24).

    Note: If harness 062305 seems tight, remove some of the tape or cable ties used to bundle the harness for shipping.

23. Wire **911** will be connected at pin **17** of the JA connector.

24. The other 2 wires are named:

    **A36JA.7**

    **A36JB:29**

    They are connected to **JA:7** and **JB:29**

25. Connect wire **85** with ring terminal to relay at position **A**. Tighten to maximum **13N-m (115 lb-in).**

26. Connect the two wires **85** labeled C18A to connector **C18**, positions **3** and **6**.

27. Connect wire **85A** with ring terminal at position **B** of the relay, Tighten to maximum **13N-m (115 lb-in).**

28. Connect wire **85A** labeled C2A to connector C2, position **13**.

29. Re-install removed modules in the front junction box.

**CONFIRMING PROPER OPERATION OF ISM**

With Battery SOC around 66%, confirm proper operation of sleep mode by leaving internal and external lights on and letting the batteries drain down. Monitor the State of charge in the DID. The system should shut down when either the 24V or 12V SOC falls below 65%.

Secure any harness or connector that was loosened while performing the bulletin.

## PARTS / WASTE DISPOSAL

Discard waste according to applicable environmental regulations (Municipal/State[Prov.]/ Federal)

## *SPECIAL INSTRUCTIONS* FOR ELD MODULE RELOCATION.

A. Unplug and remove the ELD module and bracket from the original location.

B. Keep hardware and bracket for re-use.

C. Hardware reference:

502868 Self tapping screw (4x)

500855 Washer (2x)


**FIGURE 25: ELD MODULE**

D. Free up some length in the ELD harness by cutting cable ties.

E. Test module and bracket placement on the left side of the front junction box shelf. Make sure it clears the neighbouring I/OA module.

F. Once satisfied with the fit and location, mark hole locations and drill 4mm holes,

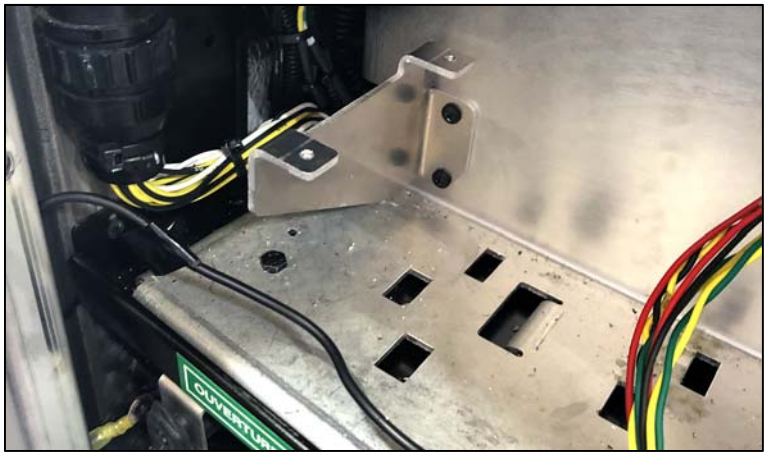

**FIGURE 26: BRACKET RELOCATION.**

G. Secure the bracket on the wall using two #10 thread cutting screws 502868.

H. Mount module on bracket with reserved hardware. Washer 500855 and screw 502868 (2x)

I. Secure harness with cable ties.

J. Continue procedure with next steps of the installation of the ISM module.


**FIGURE 27: INSTALLED MODULE**

K. Final installation of ELD and ISM modules should look like this.

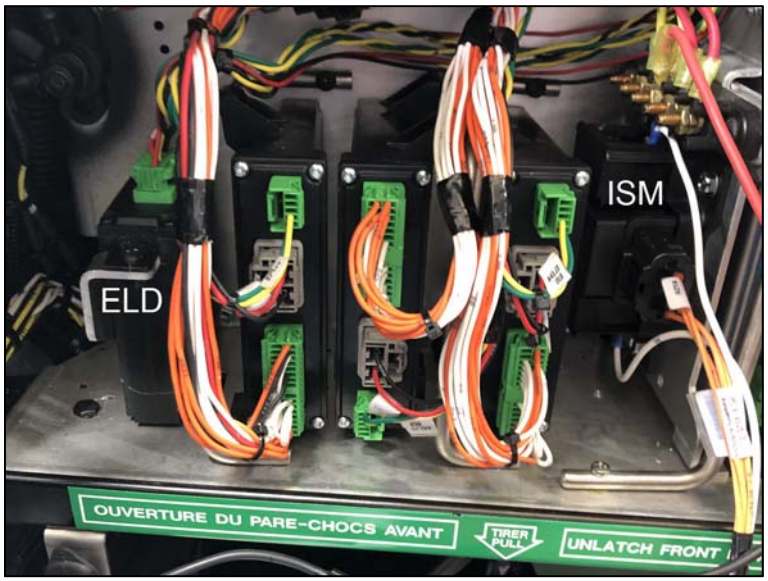


**FIGURE 28: FINAL INSTALLATION OF ELD AND ISM MODULES**