

PREVOST

Instruction Sheet

IS-17102A

ISM (INTELLIGENT SLEEP MODE) INSTALLATION - X series

X-SERIES WITH *PRIME*

FROM H-6182 UP TO J-6279 CANADIAN BUILT

FROM H-7417 UP TO J-7482 US BUILT

Revision: A

Added PRIME prerequisite.

02-04-2019

MATERIAL

Order kit IS17102 which contains:

| Part No. | Description | Qty |
|----------|--|------|
| 062382 | RELAY MOUNTING PLATE | 1 |
| 062746 | HARNESS ISM SAV | 1 |
| 382169 | HINGE, MODULE | 1 |
| 382417 | ROD, MODULE | 1 |
| 5001341 | WASHER, FLAT SS 8.4X17X1.6 (M8,5/16) | 2 |
| 5001787 | NUT HEX NYRT SS M8-1.25X9.5 | 2 |
| 5001932 | NUT HEXF NYRT NX500 M6-1 G8.8 | 3 |
| 504340 | RIVET, POP DOME SS OE 1/8X3/16 | 5 |
| 506004 | RUB AD1 CC POL 3/8" X 1/2" | 2 in |
| 506339 | RUB AD1 NITRILE 1/4" X 1" X 35' | 4 in |
| 509827 | SCREW MA RND PH SS M4-0.7X20 | 1 |
| 560493 | RELAY, LATCHING, 24V, BDS-A | 1 |
| 560529 | RELAY BASE, BDS-A | 1 |
| 560538 | RELAY COVER, BDS-A | 2 |
| 560539 | STUD, M8, BDS-A | 2 |
| 562935 | BUTT SPLICE / 22-18 / RED | 2 |
| 563158 | SHRINK TUBING, DOUBLE WALL / .300" - .060" | 3in |
| IS-17102 | Instruction Sheet | 1 |
| FI-17102 | 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.

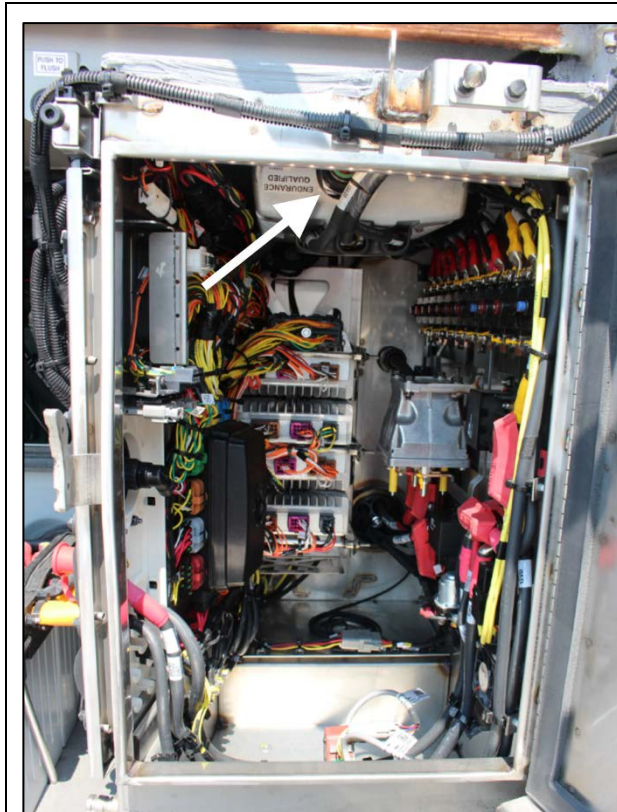


FIGURE 1: EQUALIZER DATA CONNECTION

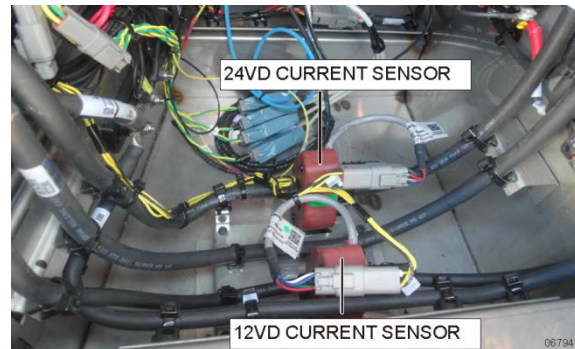


FIGURE 2: CURRENT SENSORS

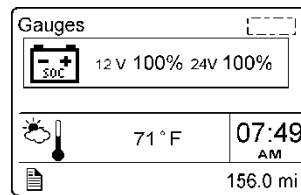


FIGURE 3: BATTERY SOC

TOOLS

- Laptop with VPG** software.
- Serial interface cable or USB to serial adapter (may be required on some laptops)
- C71 Amp CPC pin extractor **681598** (Amp 305183 R)



FIGURE 4:681598

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



FIGURE 5:682256

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



FIGURE 6: 683766

- Swivel head hand riveter suitable for 1/8 rivets.



FIGURE 7

** Contact Prevest Service Manager or Prevest 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 within the 15 minutes “wake up” period after engine shutdown.
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*

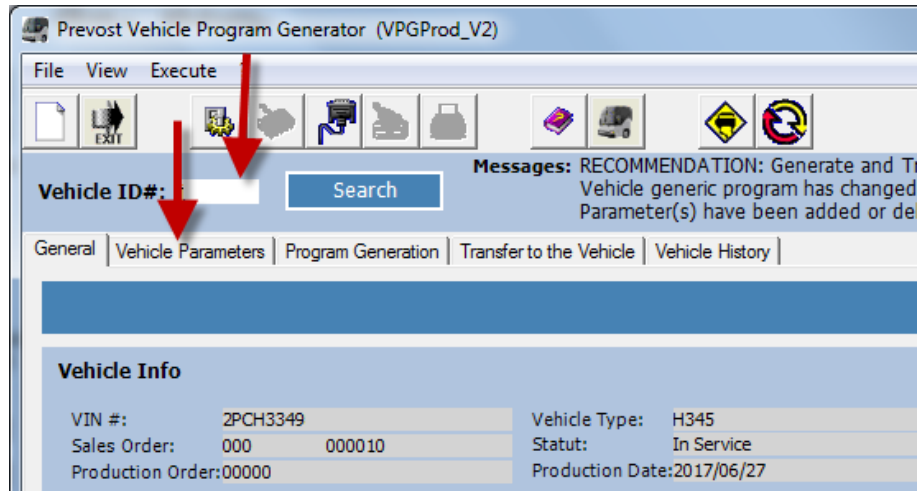


FIGURE 8: VPG

3. Set parameter *ISleep* to Yes
4. Generate the program
5. Transfer the program to the vehicle

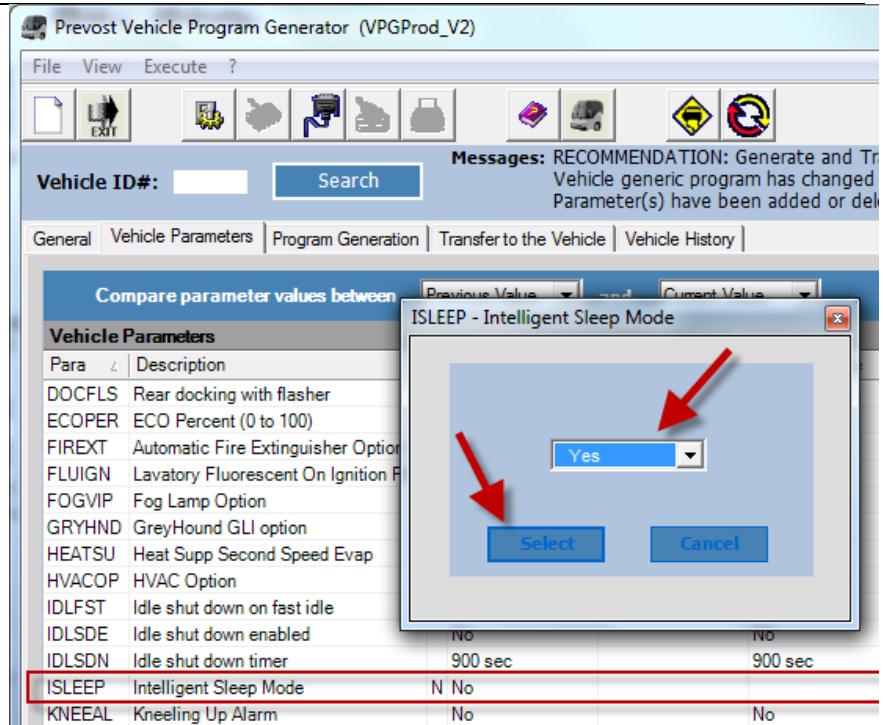


FIGURE 9: ISLEEP PARAMETER

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

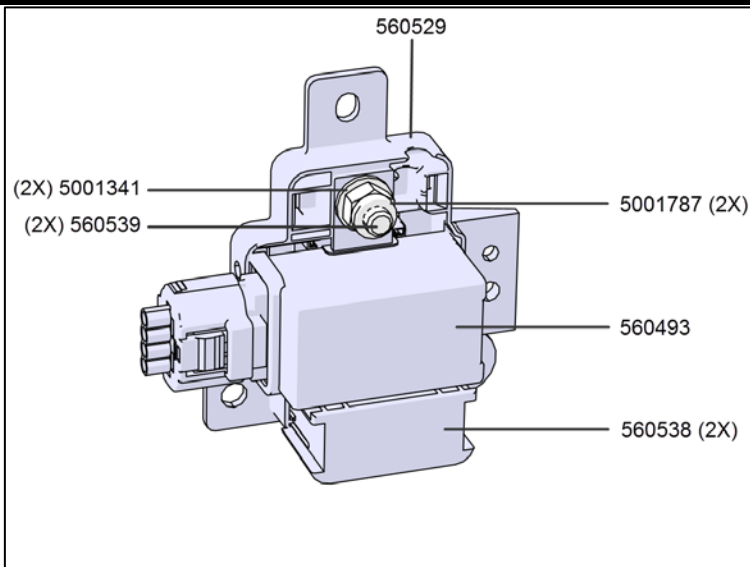


FIGURE 10:RELAY ASSEMBLY

7. Add two pieces of foam 506004 in the relay base stud cavity.

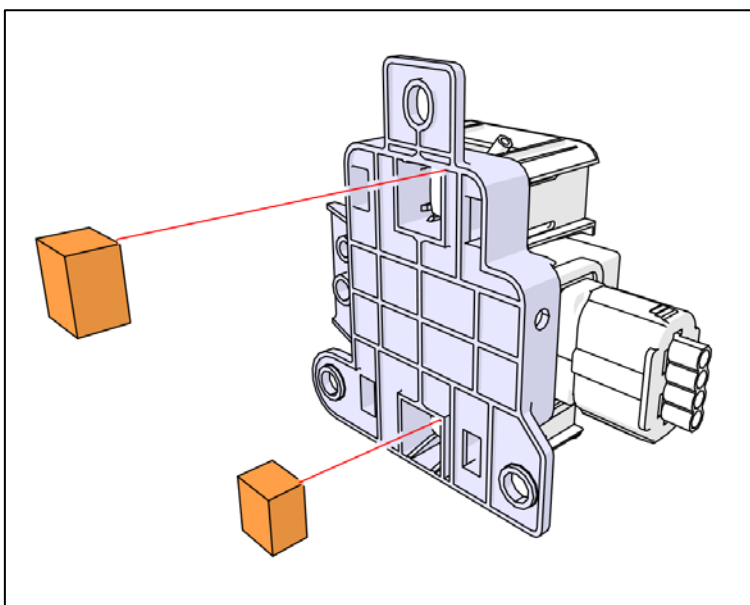


FIGURE 11: ADDING FOAM UNDER RELAY BASE

8. Remove two I/OB modules to create some working space. Keep hardware.

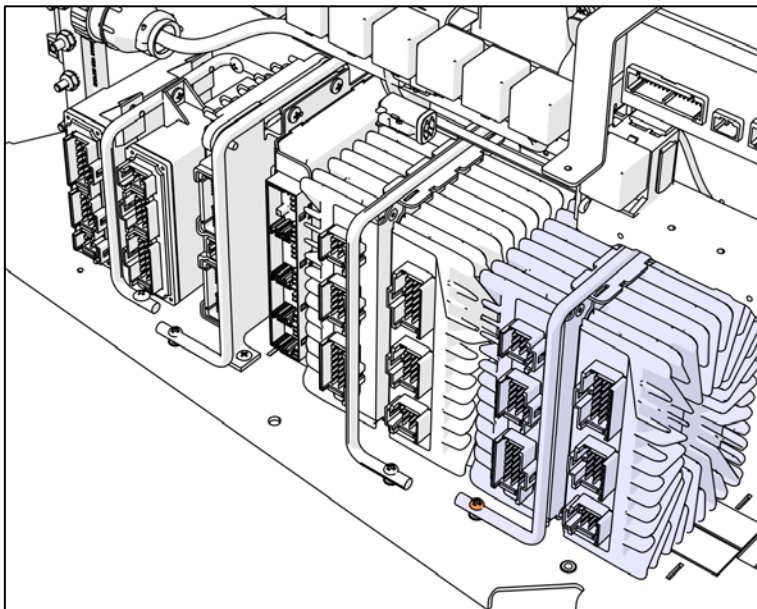


FIGURE 12: I/OB MODULES

9. Install hinge **382169** on the next available set of holes with rivets **504340** (4)
10. If not already present, affix two pieces of **506339** tape to extend the existing tape on the mounting plate.
11. Assemble rod on hinge. (Figure 10)
12. Place bracket in slots, lower the rod on top of bracket **062382** and test for proper fit.(Figure 10)
13. Re-install the I/OB modules. (Figure 9)
14. Secure with screw **509827** (Figure 10).

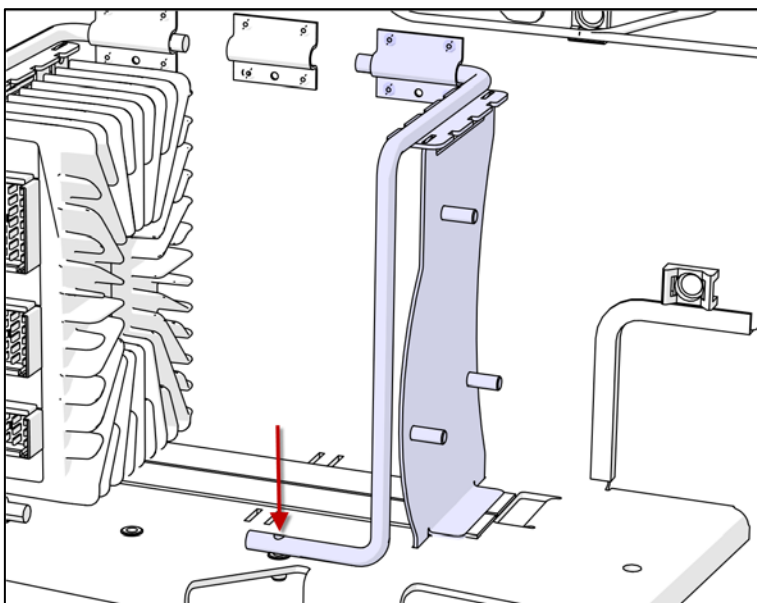


FIGURE 13:BRACKET ASSEMBLY

15. Install relay assembly on support with 5001932 nuts.
16. Connect R21A connector from harness 062746 to relay.

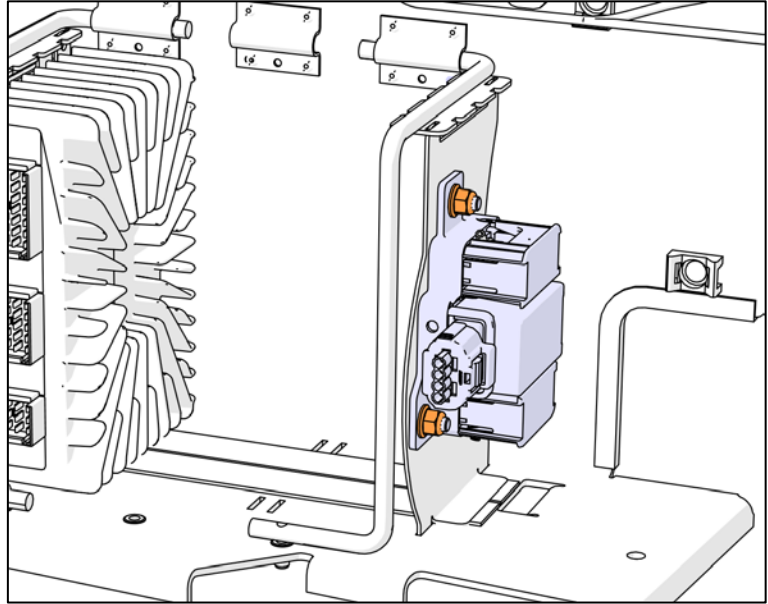


FIGURE 14

FRONT ELECTRICAL COMPARTMENT WIRING

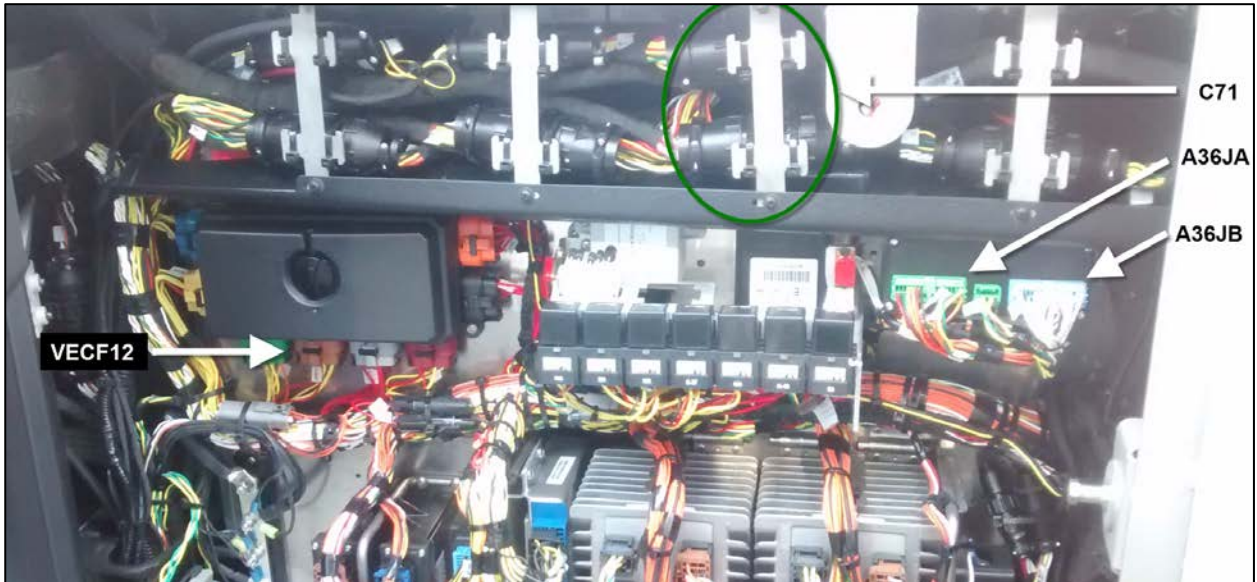


FIGURE 15: FJB OVERVIEW

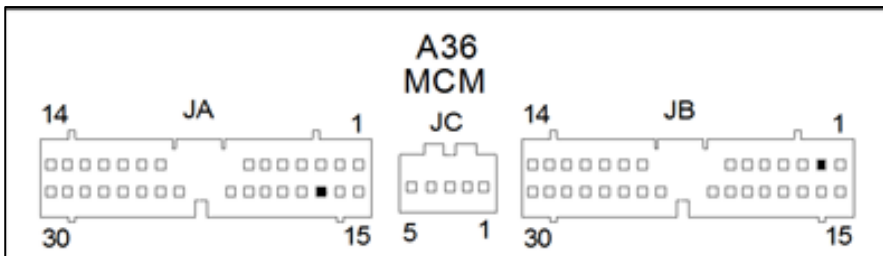


FIGURE 16: A36 PINOUT

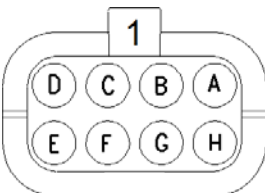


FIGURE 17: VEC TYPICAL CONNECTOR PINOUT

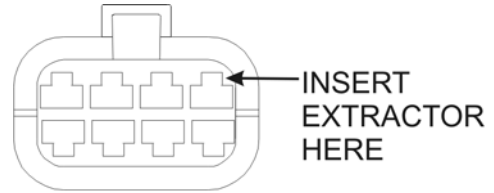


FIGURE 18: VEC TERMINAL EXTRACTION

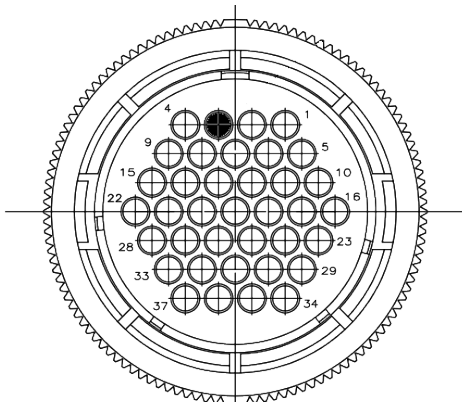


FIGURE 19: C71;AMP CPC 561646

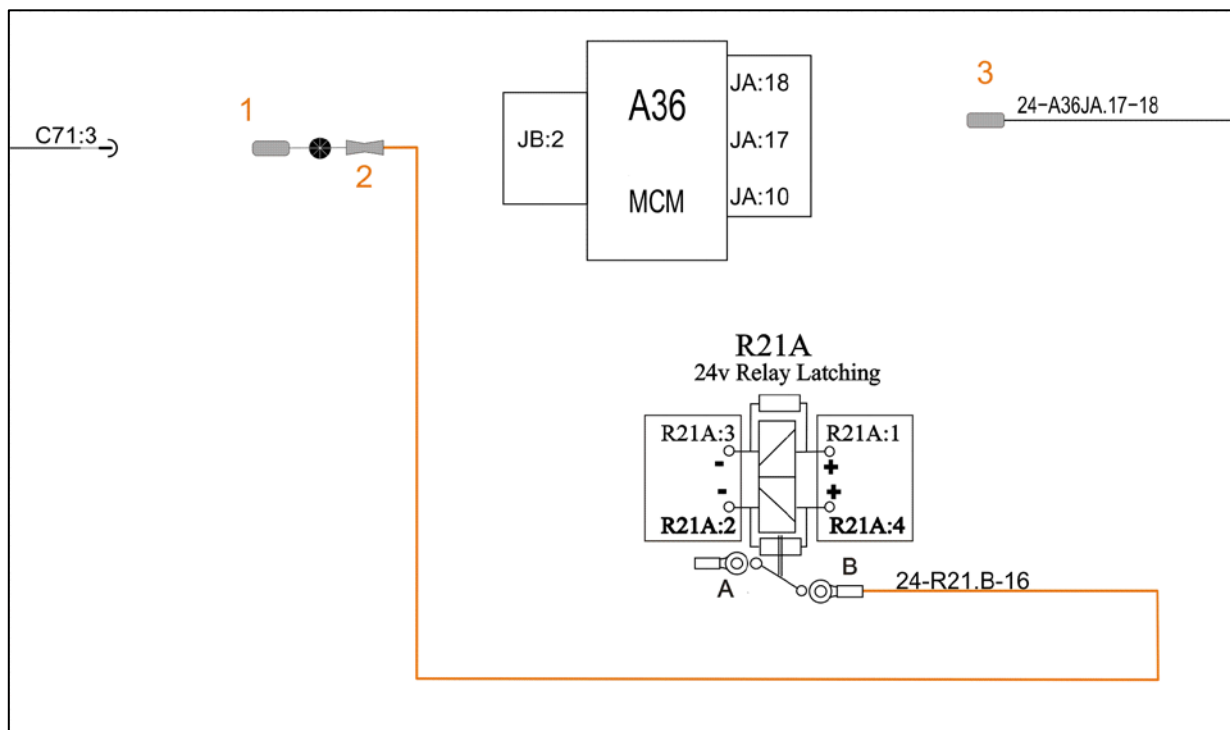


FIGURE 20: WIRING STEPS 1 TO 3

- 1- Locate **C71** in the Front electrical compartment (Figure 12). Unplug wire Sw83.Ign at C71 pin3 (Figure 16). Use extractor **681598**. Cut the terminal. Seal bare wire end with double wall shrink tubing.
- 2- Unplug wire Sw83.Ign at A36JB pin2, (Figure 13) cut the terminal and splice harness wire named R21A.B and connect to relay R21 stud B (16AWG GXL white with butt splice). Tighten to maximum **13N-m (115 lb-in)**.
- 3- Unplug wire A36JA.17 at A36JA pin17 (Figure 13) and seal with double wall shrink tubing.

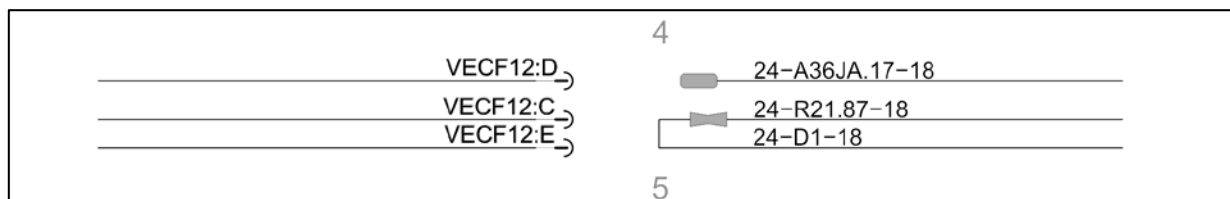


FIGURE 21: WIRING STEPS 4 & 5

- 4- On the VEFC, locate brown connector VEFC12 (Figure 12). Unplug wire A36JA.17 from VEFC12:D (Figure 14, Figure 15) and seal with double wall shrink tubing.(Figure 18)
- 5- Unplug wires from Brown VEFC12:C and E. Cut the terminals off. Splice together with **562935** butt splice and seal with double wall shrink tubing. (Figure 18)

*Note: To extract pins, use extractor tool: **682256** Remove the terminal by disengaging the flexible lock tab on the terminal (Figure 15). Gently remove the terminal from the connector by pulling on the wire*

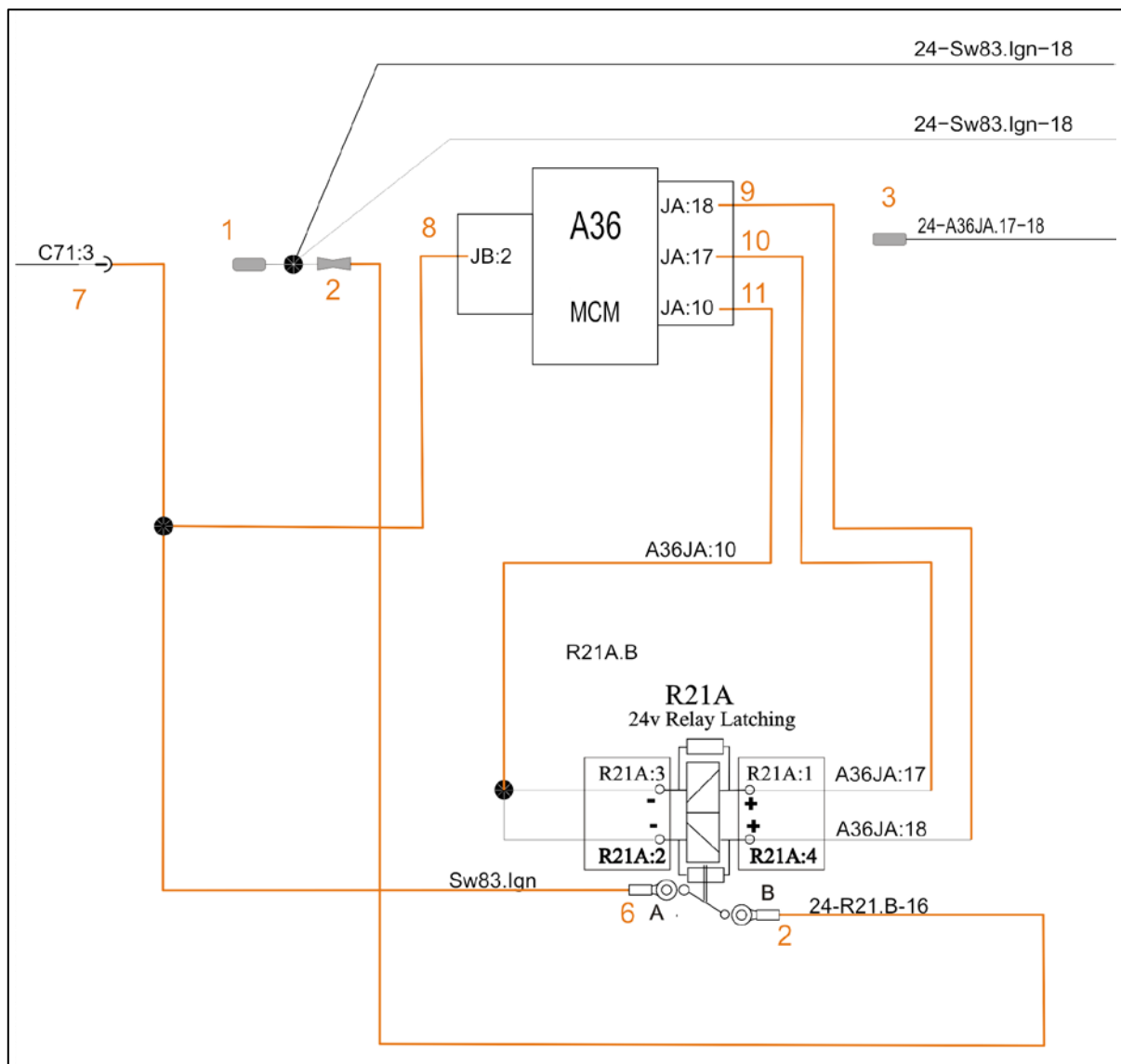


FIGURE 22 HARNESS CONNECTIONS STEPS 6 TO 11

- 6- Connect harness wire **Sw83.Ign** (16 AWG GXL white), with *ring terminal* to R21 stud A. Tighten to maximum **13N-m (115 lb-in)**.
- 7- Connect harness wire **Sw83.Ign longer**, (18 AWG TXL white) with *terminal* to C71 pin3.
- 8- Connect harness wire **Sw83.Ign shorter**, (18 AWG TXL white) with *terminal* to A36JB pin2. (Figure 13)
- 9- Connect harness wire **A36JA:17** to A36JA pin 17 (18AWG orange). (Figure 13)
- 10- Connect harness wire **A36JA:18** to A36JA pin 18 (18AWG orange). (Figure 13)
- 11- Connect harness wire **A36JA:10** to A36JA pin 10 (18AWG orange). (Figure 13)

12- Route and secure harness.
(Figure 20)

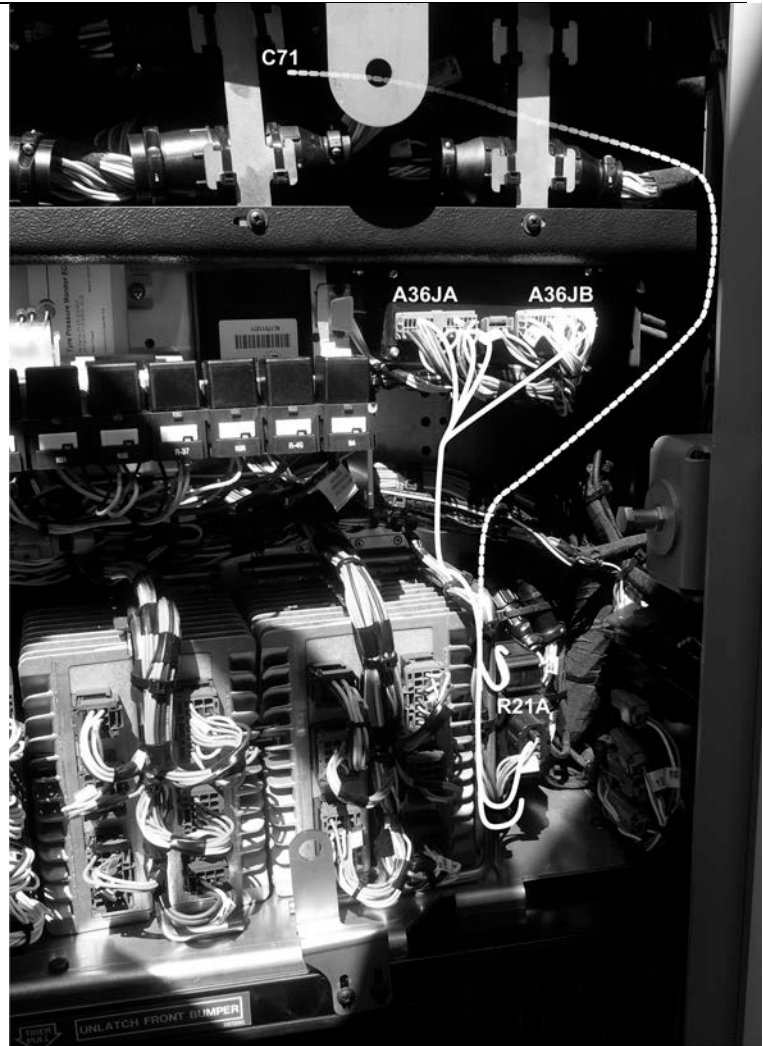


FIGURE 23: 062746 HARNESS ROUTING

REAR ELECTRICAL COMPARTMENT WIRING



FIGURE 24: VANNER SUPPLY WIRING MODIFICATION



FIGURE 25: REAR JUNCTION BOX

13- In rear electrical compartment, locate black VECR3 connector on VECR. Move battery equalizer power from **VECR3 pin A** to **VECR3 pin G**.

14- Re-install removed I/OB modules in front compartment.

CONFIRMING PROPER OPERATION OF ISM

With Battery SOC around 66%, confirm proper operation of sleep mode by leaving all interior and exterior lights on and letting the batteries drain down. Monitor the State of charge in the DID. The system should shut down below 65% SOC.

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

PARTS / WASTE DISPOSAL

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