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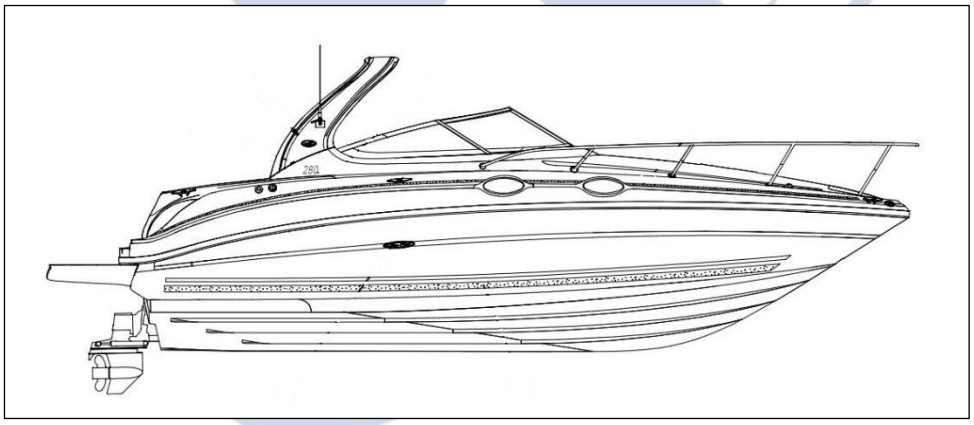
EIM Replacement System – Sea Ray 280 Sundancer

OVERVIEW

This system is intended for installation by qualified technicians with a thorough understanding of 12VDC systems. These are general installation instructions assuming the installer has industry knowledge of replacing and rebuilding boat electrical systems. It is imperative that all components in the vessel be tested for proper operation and current draw before installing this system. There is typically a reason the original EIM system failed and the cause of that failure should be investigated to prevent further damage to the vessel when this replacement system is installed.



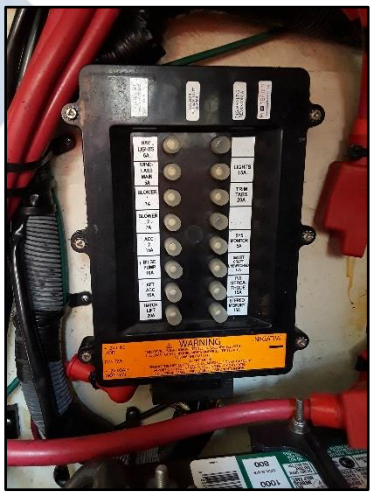
Flounder Pounder Marine & Trading Co., Inc. will not assume any responsibility for damages whether direct or consequential arising from the installation of this system.

READ through the instructions FIRST – IT WILL SAVE YOU TIME!

Before beginning any work, familiarize yourself with this instruction manual.

IDENTIFYING "SWITCHED" AND "UNSWITCHED" POWER CABLES

- Before any work has begun, FP Marine recommends using the following references to identify "SWITCHED" and "UNSWITCHED" power cables on the Aft EIM Box. DO NOT use the yellow warning label on the front of the Aft EIM box as reference.
- Turn off battery switches.
- Test for power at each cable.
- The cable with no voltage is the "AFT EIM SWITCHED" circuit. Label this cable "switched #102"
- The cable with 12 volts is the "AFT EIM UNSWITCHED" circuit. Label this cable "unswitched #101"
- Turn off "AFT EIM SWITCHED / AFT EIM UNSWITCHED / FWD EIM" circuit breakers. You will need a small screwdriver or paperclip to trip the breaker through the protective shield.
- **Please see our short video in our "Library/Tech Center" or on YouTube.**



EIM System Removal:

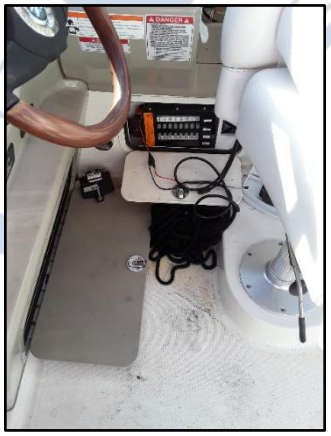
Turn off battery switches and disconnect ALL batteries.

REMOVE TOUCHPADS

- There are 5-7 nuts holding the pads from the backside, you will need a deep 3/8 socket. The studs often snap inside the keypad housing and they will need to be broken apart and removed in pieces.
- Disconnect the harness plug from each touchpad and ziptie out of the way, they will not be re-used.
- Models with standard rocker ignition switches – Save and label the wiring plugs. These plugs will connect directly into the new ignition and emergency start switches installed into the new port side panel.

REMOVE HELM HATCHES

- Remove the forward foot and starboard hatches to expose the forward EIM and provide access to route the “A” harnesses.



REMOVE STARBOARD COCKPIT SPEAKERS

- Remove the two (2) starboard cockpit speakers to use as access holes for running the “A” harness.

REMOVE FORWARD EIM BOX

- Unscrew the FWD EIM for easier access to connections. Unbolt the 40pin plug. The plug is secured with a 5/32 or 4mm hex key bolt.
- Remove the positive and negative cables. Label the positive (red) power cable “104b”

REMOVE AFT EIM BOX

- Unscrew the AFT EIM for easier access to connections. Unbolt the 40-pin plug. The plug is secured with a 5/32 or 4mm hex key bolt.
- Remove 2 positive (labeled) and 1 negative 8ga cables from the aft EIM box. Refer to the “”**IDENTIFYING “SWITCHED” AND “UNSWITCHED” POWER CABLES””** section at the beginning of this manual.

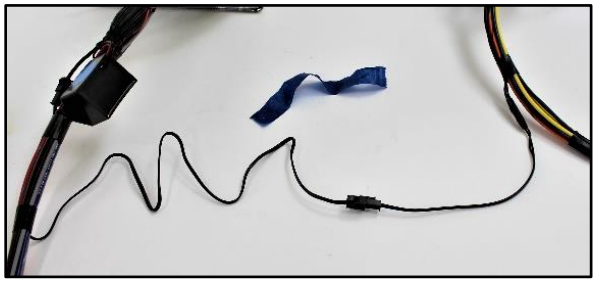
FP Marine System Installation:

CUT DASH FOR NEW SWITCH PANELS

- Mounting templates are marked “TOP” to identify orientation. Be sure that the template edges completely cover any existing holes in the dash. We recommend using a jigsaw and masking/tape to avoid damaging the console. Having a helper with a vacuum reduces mess.
- Drill 9/64” holes for the #8 mounting screws included. Be sure to countersink past the gelcoat to avoid stress cracks.
- **Refer to the “Mounting Template Instruction” sheet and/or our YouTube video on using dash cut-out templates.**

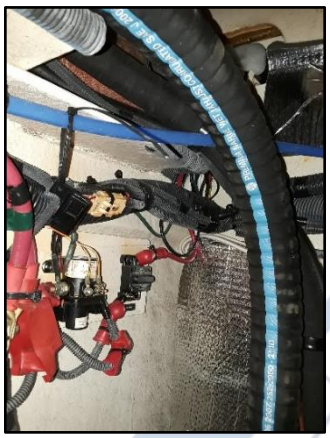
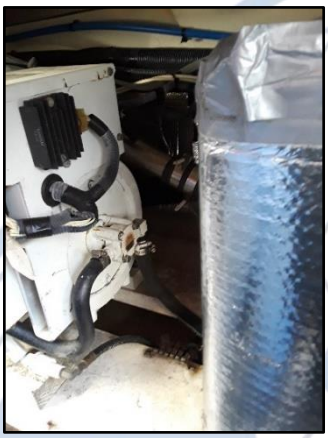
PLACE NEW SWITCH PANELS

- Place new switch panels and let harnesses hang loose behind dash. Do not screw in the new panels until the end of installation.
- **Note:** Connect the small black 2 pin quick connectors that are hanging loose from each switch panel harness. This feeds the backlighting to the port switch panel. They are typically secured to harness with loose blue painters tape for easy identification.



ROUTE THE "A" HARNESS

- It is easiest to start in the access under the sink. Route the harness forward through the wing bulkhead and to the forward breaker box area.
- It may be necessary to cut a 2" hole in the wing bulkhead to pass the harness through.
- The connectors on the "A" harness are the same on both ends so if you accidentally run the wrong end of the harness forward, there is no need to remove it and reinstall. Just change the labels on the plugs if you feel the need.
- Route the other end of the harness through the deck, into the bilge and over to the new aft box.

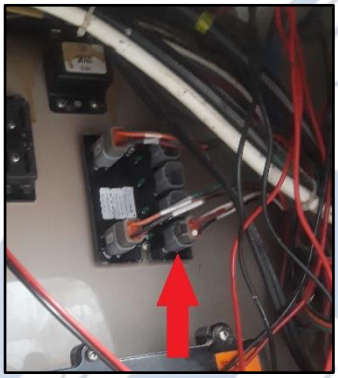




MAKE THE FORWARD CONNECTIONS FOR A, B, and C HARNESSES

- A1A connects with A1B. B1A connects to B1B, B2A connects to B2B etc. The wire colors should match in the plug and receptacle.
- Connect the 40 pin connectors and secure them with the Allen hex key bolt.
- Connect Red 6ga cable from the existing boat harness to the "104b" side of the new breaker box. DO NOT OVERTIGHTEN!
- Connect the new 6ga cable from our "A" harness to the "102" side of the breaker box. DO NOT OVERTIGHTEN!
- The negative cable or cables that are in the original boat harness will install on the new ground busbar. DO NOT OVERTIGHTEN!

AUXILARY INTERFACE MODULE AND RECEPTACLE D1B (IF EQUIPPED WITH A GENERATOR)

- Connect the Red /White/ Black pigtail from the blower controller (Receptacle D1B) to the male plug from the small Auxiliary Interface Module under the dash (see photo, the plug Is in the lower right).
- Identify the plug in the module with Red White Black wires and remove it from the module. Be sure the colors in the plug and our new receptacle match up. If not, disassemble the plug and relocate the wires to proper position (see our Youtube video if needed).
- We have found some boats have 3 yellow wires (see photo). The wires should be labeled. Circuit 415 = Red, Circuit 416 = White, Circuit 417 = Black. The wires should be oriented correctly in the plug already.
- You can leave the module with its remaining wires, it is no longer used. This plug/harness controls the blowers from the MDP (main distribution panel) in the cabin.



MOUNT THE NEW BREAKER BOX

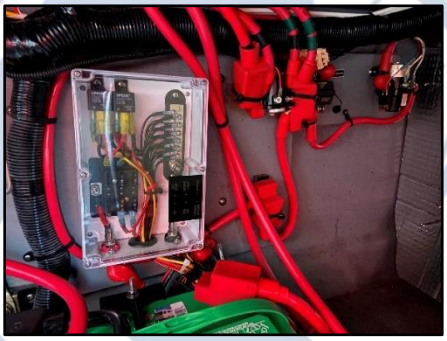
- Fasten box with #8 x ¾" screws (included) in place of the old EIM box in the starboard hatch.

MOUNT THE NEW 40-PIN - GROUND BUSBAR

- Fasten busbar with #8 x ¾" screws (included) around the general area in the lower helm hatch.
- It may be necessary to cut a 2" hole in the bulkhead to pass the harness through.

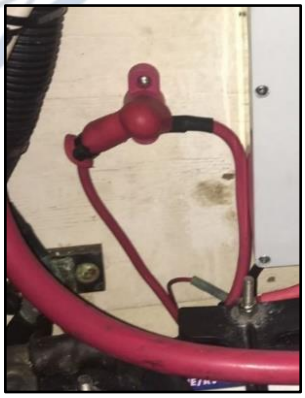
MOUNT THE NEW AFT BOX

- Remove the lid of the AFT box and insert #6 x ¾" ss panhead screws (supplied) into the deep recesses at each corner of the box.
- Using a long screw tip and a screw gun, install the box in generally the same spot as the old EIM. Replace the cover.



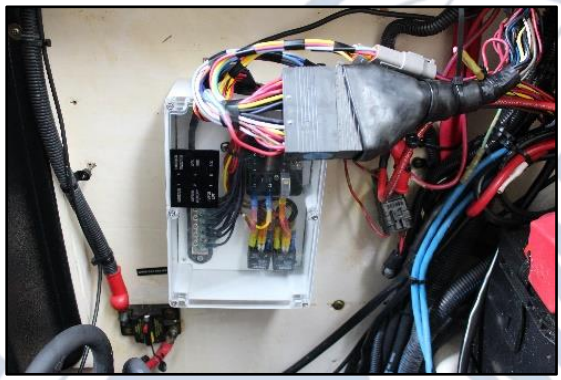
MOUNT THE NEW POWER STUD

- Fasten the new power stud around the general area of the new aft box with #8 x ¾" screws (supplied)



MAKE THE AFT CONNECTIONS

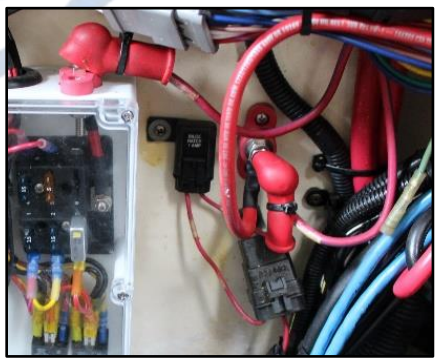
- Connect all Deutsch connectors, connect the 40-pin plug and secure the harness.
- #102 red 8ga. Is the Aft EIM **switched** Circuit. This cable connects to our new red power post supplied with the kit. DO NOT OVERTIGHTEN!
- The new 6ga cable from "A" harness also connects to this red power post. This supplies 12V to the forward breaker box terminal labeled #102. DO NOT OVERTIGHTEN!
- #101 red 8ga. Aft EIM **unswitched** circuit - Connects to the new Aft box terminal labeled "12V+" DO NOT OVERTIGHTEN!
- Black 8ga. Connects to the new Aft Box terminal labeled "GND" DO NOT OVERTIGHTEN!



Power & Ground Aft Cables:		FP Marine Aft Box:
+12V Unswitched	→	Unswitched #101 – Red Power Stud On Aft Box
+12V Switched	→	Switched #102 – Red Power Stud Provided In Kit
NEGATIVE -	→	Ground – Black Ground Stud On Aft Box

ENGINE HATCH / TRANSOM DOOR Lockout Relay (IF EQUIPPED WITH ELECTRONIC HATCH LIFT)

- There will also be a light gauge red wire connected to one of the positive terminals on the original AFT EIM. This is for the transom door lockout relay.
- The lockout relay must be supplied with 12v in order to activate the hatchlift. There is a magnetic switch in the transom door that activates the relay when the door is opened. Attach this wire to the power post where the 8ga red #102 cable connects.



TEST THE SYSTEM!

Verify all connections, turn on battery switches and test the systems.

REFERENCES / CONTACT:

Full time tech support: **321-639-2951** or **sales@fpmarine.com**

Installation Instructions, dash template instructions, videos and more are available online. Visit www.fpmarine.com and look through the “Library/Tech Center”