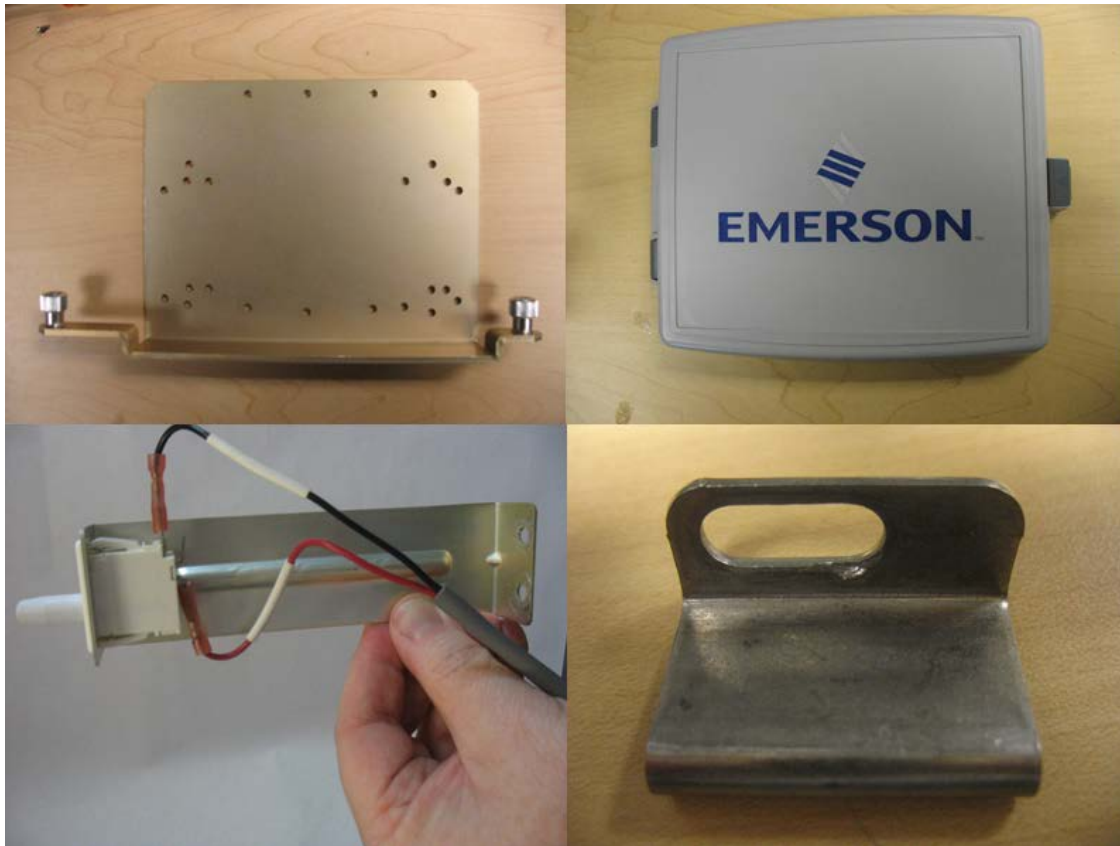


FB2100/FB2200 Flow Computer Door/Accessories Field Replacement Guide



For Part Numbers (Kits):

- 399291-01-0: Door Cover Assembly
- 399266-01-0: Radio Bracket
- 621661010-KIT: Door Intrusion Switch
- 399394-00-0: Aluminum Door Clamps
- 399267-01-0: Display Overlay Assembly

Device Safety Considerations

- **Reading these Instructions**

Before operating the device, read these instructions carefully and understand their safety implications. In some situations, improperly using this device may result in damage or injury. Keep this manual in a convenient location for future reference. Note that these instructions may not cover all details or variations in equipment or cover every possible situation regarding installation, operation, or maintenance. Should problems arise that are not covered sufficiently in the text, immediately contact Customer Support for further information.

- **Protecting Operating Processes**

A failure of this device – for whatever reason -- may leave an operating process without appropriate protection and could result in possible damage to property or injury to persons. To protect against this, you should review the need for additional backup equipment or provide alternate means of protection (such as alarm devices, output limiting, fail-safe valves, relief valves, emergency shutoffs, emergency switches, etc.). Contact Remote Automation Solutions for additional information.

- **Returning Equipment**

If you need to return any equipment to Remote Automation Solutions, it is your responsibility to ensure that the equipment has been cleaned to safe levels, as defined and/or determined by applicable federal, state and/or local law regulations or codes. You also agree to indemnify Remote Automation Solutions and hold Remote Automation Solutions harmless from any liability or damage which Remote Automation Solutions may incur or suffer due to your failure to ensure device cleanliness.

- **Grounding Equipment**

Ground metal enclosures and exposed metal parts of electrical instruments in accordance with OSHA rules and regulations as specified in *Design Safety Standards for Electrical Systems*, 29 CFR, Part 1910, Subpart S, dated: April 16, 1981 (OSHA rulings are in agreement with the National Electrical Code). You must also ground mechanical or pneumatic instruments that include electrically operated devices such as lights, switches, relays, alarms, or chart drives.

Important: Complying with the codes and regulations of authorities having jurisdiction is essential to ensuring personnel safety. The guidelines and recommendations in this manual are intended to meet or exceed applicable codes and regulations. If differences occur between this manual and the codes and regulations of authorities having jurisdiction, those codes and regulations must take precedence.

- **Protecting from Electrostatic Discharge (ESD)**

This device contains sensitive electronic components which be damaged by exposure to an ESD voltage. Depending on the magnitude and duration of the ESD, it can result in erratic operation or complete failure of the equipment. Ensure that you correctly care for and handle ESD-sensitive components.

System Training

A well-trained workforce is critical to the success of your operation. Knowing how to correctly install, configure, program, calibrate, and trouble-shoot your Emerson equipment provides your engineers and technicians with the skills and confidence to optimize your investment. Remote Automation Solutions offers a variety of ways for your personnel to acquire essential system expertise. Our full-time professional instructors can conduct classroom training at several of our corporate offices, at your site, or even at your regional Emerson office. You can also receive the same quality training via our live, interactive Emerson Virtual Classroom and save on travel costs. For our complete schedule and further information, contact the Remote Automation Solutions Training Department at 800-338-8158 or email us at education@emerson.com.

Ethernet Connectivity

This automation device is intended to be used in an Ethernet network which **does not** have public access. The inclusion of this device in a publicly accessible Ethernet-based network is **not recommended**.

Removing/Replacing Doors/Accessories

This guide covers the five replacement kits for doors or brackets for the FB2100 and FB2200 Flow Computers.

Restriction

Hazardous area approvals request that any part replaced in the field be the exact same part (“like-for-like”). Upgrading or substituting different parts violates hazardous area certification.



Important

Only use accessories supplied with the flow computer or sold by Emerson as spare parts for this flow computer. If you substitute a part you obtain elsewhere **you will void your certification unless it is the identical part from the same manufacturer** as that supplied with the flow computer from Emerson.

Refer to the table below for the correct field replacement part number.

Item	Field Replacement Kit Part Number
Display Cover Assembly (plastic)	399291-01-0
Display Overlay Window	399267-01-0
Radio Bracket	399266-01-0
Door Intrusion Switch	621661010-KIT
Aluminum Door Clamps (brackets) (pack of 2)	399394-00-0
UL File Number for these kits: E192567	

Required Tools

- #2 Phillips-head screwdriver
- #3 Phillips-head screwdriver
- 1/8-inch flat head screwdriver
- 3/8-inch (10 mm) hex nut driver.
- Hexagonal torque wrenches. Ranges must include 4 to 6 in-lbs (0.5 to 0.7 N-m) and 18 to 20 in-lbs (2 to 2.3 N-m).
- Permanent marker pen

Ambient Temperature Range

May be used up to a maximum ambient temperature of 80C and a minimum ambient temperature of -40C; see product data plate for ambient temperature.

Electrical Rating

- **Input Voltage:** 10.5 Vdc to 30 Vdc external supply (Max power at 10 watts)

WARNING

EXPLOSION HAZARD –Do not disconnect equipment unless power has been removed or the area is known to be non-hazardous.

WARNING

EXPLOSION HAZARD -Substitution of any components may impair suitability for Class I, Division 2.

DANGER

EXPLOSION HAZARD: Never open the enclosure in a hazardous location. Opening the enclosure in a hazardous location could result in an explosion.

Removing/Replacing the Display Cover Assembly

The display cover assembly provides a cover to the window you use to view the HMI module display.

UL Field Installed Accessory Kit for Use in Class I, Division 2, Groups A, B, C, and D

- Flow Computer Display Cover Field Installed Accessory Kit Part No. 399291-01-0



1. Open the flow computer enclosure.
2. On the back of the enclosure door are four screws with washers that hold the display cover assembly to the door. Use a #2 Phillips-head screwdriver to remove the screws and washers (save them in a safe place).



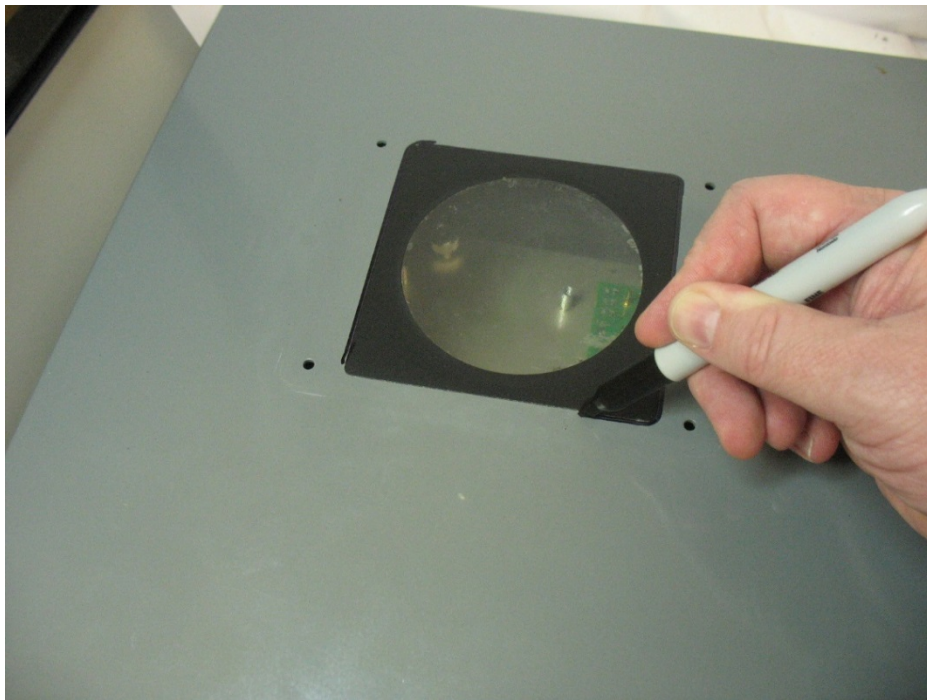
3. When the screws and washers are removed, pull the old display/cover assembly off and set it aside.
4. Peel off any residual gasket material which might be stuck to the outside of the enclosure door.
5. Align the new display/cover assembly with the outside of the enclosure door, and use the screws and washers to attach it from the other side of the door. Torque screws to 4 to 6 in-lbs (0.5 to 0.7 N m).
6. Close the flow computer enclosure.

Removing/Replacing the Display Overlay Window

The display overlay window is a thin membrane through which you can view the HMI module or activate HMI module buttons with your finger. The display cover assembly protects the window from moisture, dust, or weather.

UL Field Installed Accessory Kit for Use in Class I, Division 2, Groups A, B, C, and D

- Flow Computer Display Overlay Window Field Installed Accessory Kit Part No. 399267-01-0
1. Remove the display cover assembly as described in steps 1 through 4 of [Removing/Replacing the Display Cover Assembly](#).
 2. Using a permanent marker pen, trace the outline of the existing display overlay window. This is important so you line the new one up correctly to ensure a weather-tight seal when the door cover is closed.



3. From the inside side of the enclosure door, press hard on the display overlay so it pops off. Peel off any residual material still stuck to outside of the door.



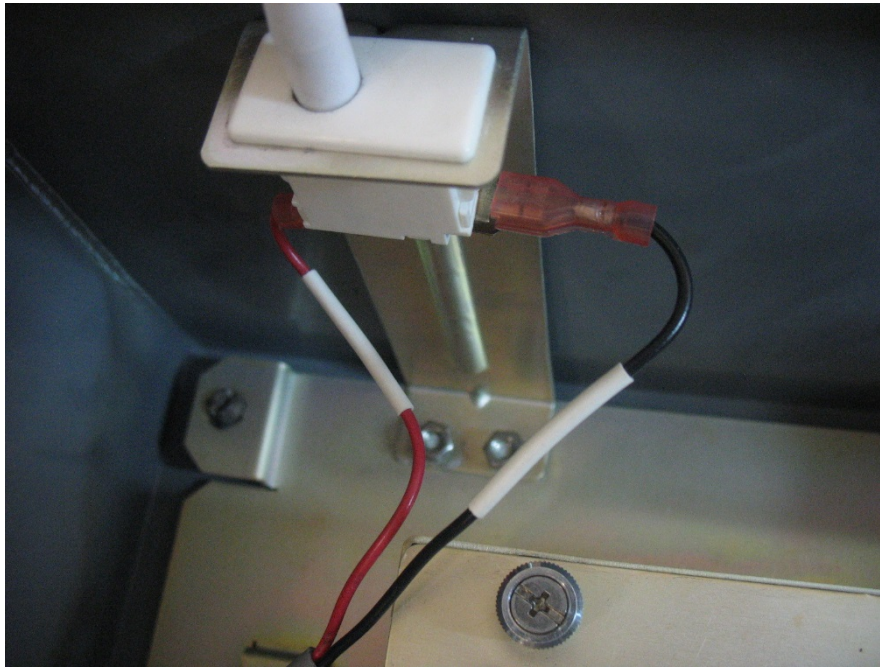
4. Align the new display overlay window with the outline you traced in step 2.
5. Press the new display overlay window onto the enclosure, and press down on all the edges to ensure that it seals tightly.
6. Replace the display cover assembly as described in steps 5 and 6 of [Removing/Replacing the Display Cover Assembly](#).

Removing/Replacing the Door Intrusion Switch

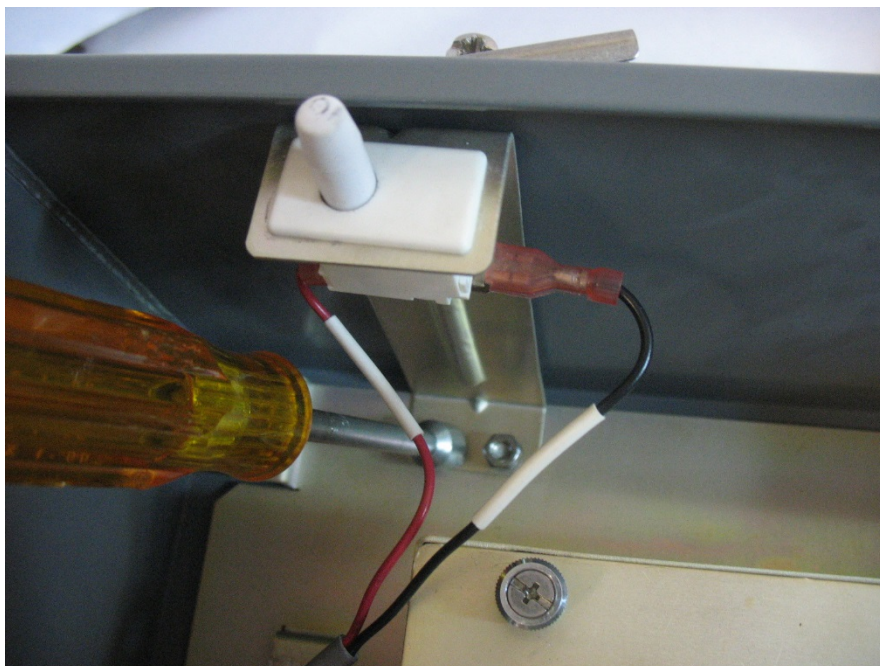
UL Field Installed Accessory Kit for Use in Class I, Division 2, Groups A, B, C, and D

- Flow Computer Door Intrusion Switch Field Installed Accessory Kit Part No. 621661010-KIT

1. Open the flow computer enclosure.

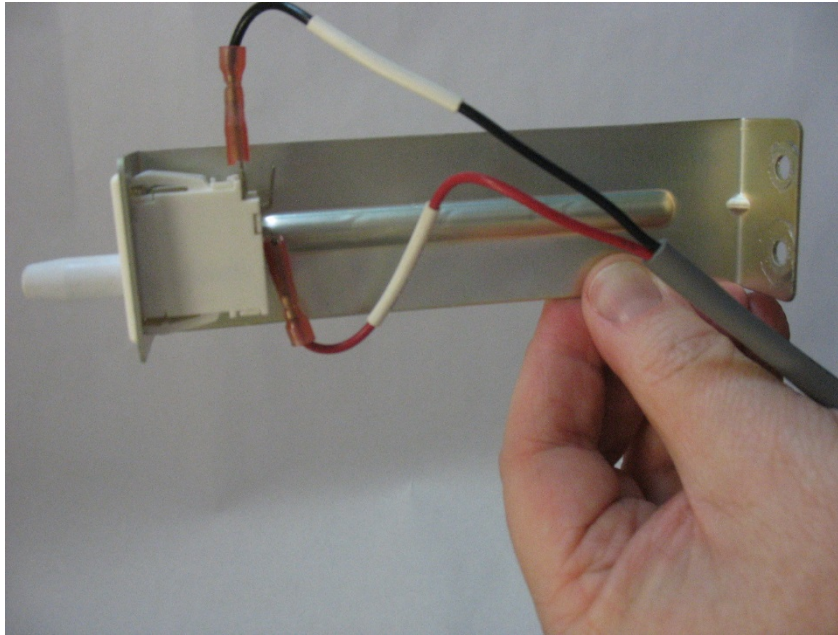


2. Use a 3/8" (10 mm) hex nut driver to loosen the hex nuts which hold the door intrusion switch assembly to the flow computer enclosure and pull out the door intrusion switch assembly. Save the hex nuts.



3. Trace the I/O wires from the door switch to the terminal block where they connect to the I/O termination board, and disconnect the wires from the terminal block using a 1/8" flat head

screwdriver. (Depending upon how it was wired at the factory, it may go to the DOOR CONTACT terminal or to a digital input.) Set the old assembly aside.



4. Take the new (replacement) door intrusion switch assembly and attach its wires to the terminal block in the last step.
5. Attach the door intrusion switch assembly to the flow computer enclosure using the hex nuts. Torque nuts to 4 to 6 in lbs (0.5 to 0.7 N m).
6. Close the flow computer enclosure.

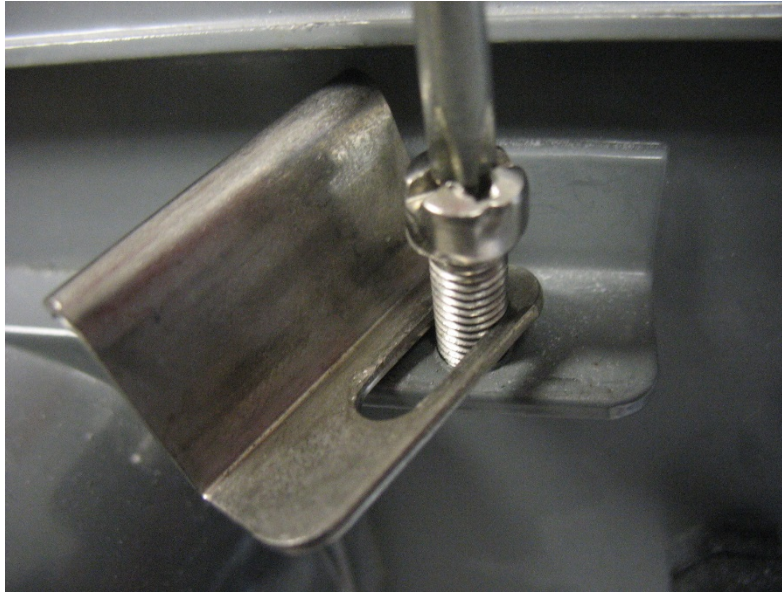
Removing/Replacing the Aluminum Door Clamps

The aluminum flow computer enclosure includes six clamps along the edge of the door (two at the top, two on the bottom, two at the side).



UL Field Installed Accessory Kit for Use in Class I, Division 2, Groups A, B, C, and D

- Flow Computer Aluminum Door Clamp Field Installed Accessory Kit Part No. 399394-00-0
1. To remove/replace a clamp, use a #3 Phillips-head screwdriver to remove the screw which holds the clamp in place and set the old clamp aside. Save the screw.



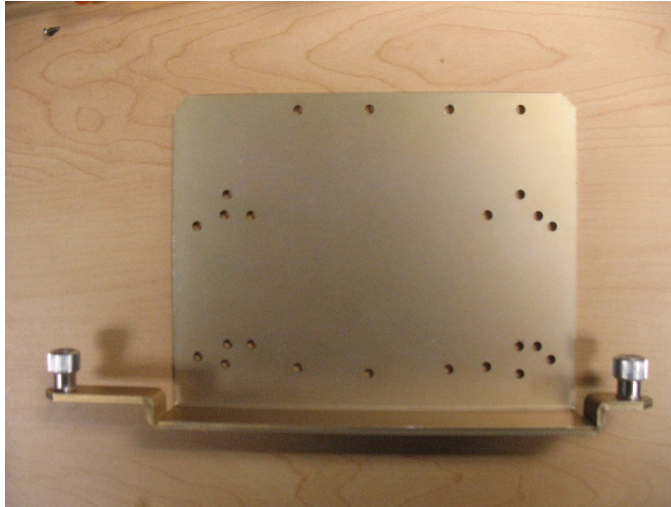
2. Place the new clamp in place so it holds the lip of the door. Tighten the screw to hold the clamp in place. Torque screw to 18 to 20 in lbs (2 to 2.3 N m).



Removing/Replacing the Radio Bracket

UL Field Installed Accessory Kit for Use in Class I, Division 2, Groups A, B, C, and D

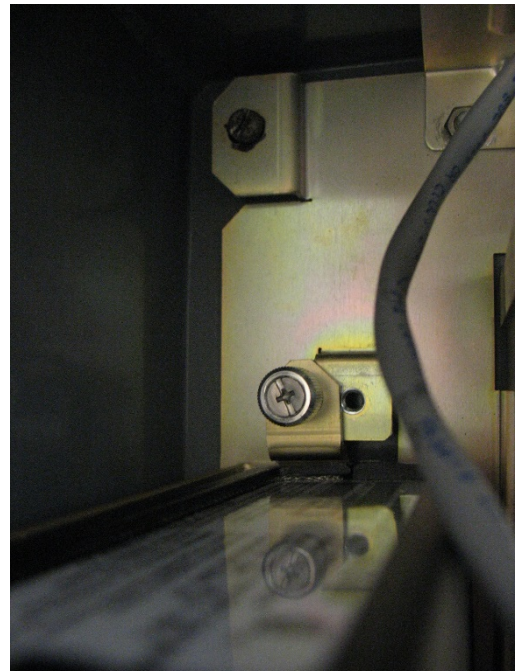
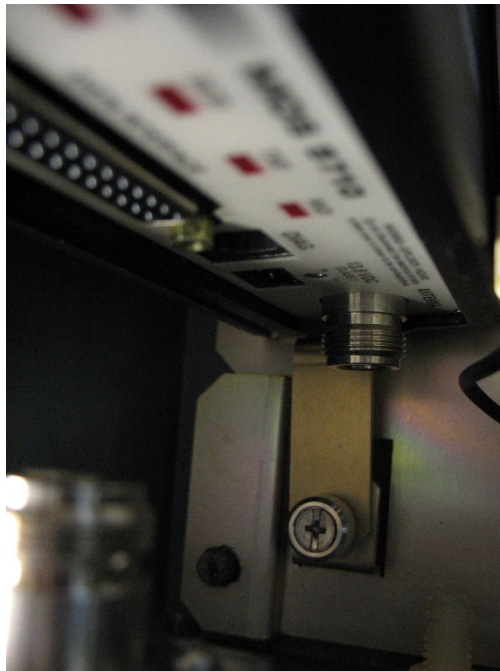
- Flow Computer Radio Bracket Field Installed Accessory Kit Part No. 399266-01-0



1. Open the flow computer enclosure.
2. Disconnect all cables from the installed radio (if you have one installed).



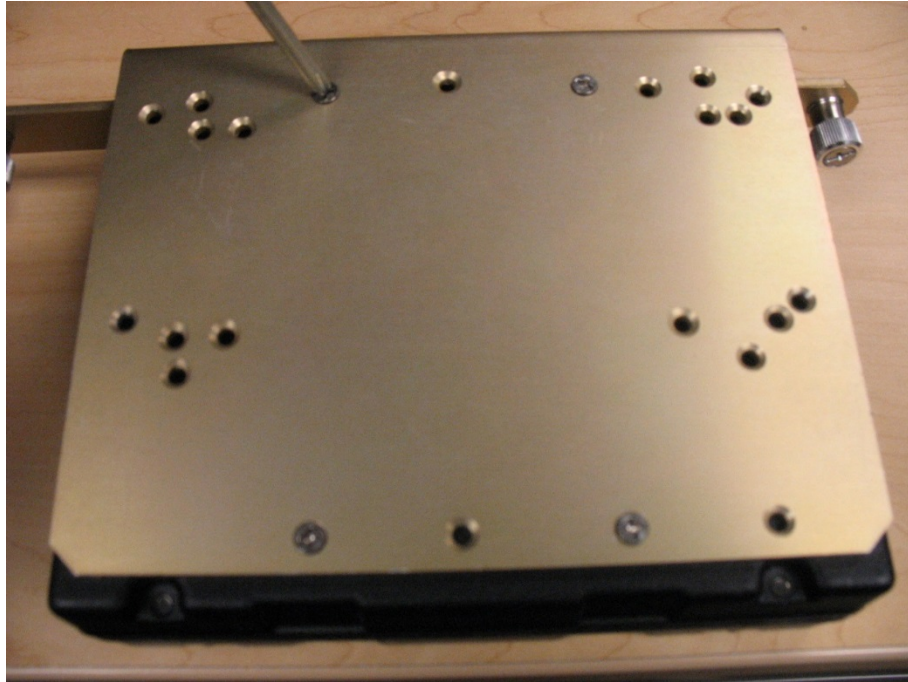
3. Use a #2 Phillips-head screwdriver to loosen the two captive fastening screws on the radio bracket above and below the radio.



4. Pull the radio with the radio bracket attached out of the flow computer enclosure.



5. Turn the radio/radio bracket assembly over and use a #2 Phillips-head screwdriver to remove the screws that hold the radio to the radio bracket. Set the old radio bracket aside.



6. Attach the radio to the new (replacement) radio bracket using the screws you removed in the last step. Torque screws to 4 to 6 in lbs (0.5 to 0.7 N m).
7. Use the captive fastening screws on the bracket to attach the radio/radio bracket assembly inside the flow computer enclosure. Torque screws to 4 to 6 in lbs (0.5 to 0.7 N m).
8. Connect the radio cables to the radio.
9. Close the flow computer enclosure.

FB1100/FB1200 Flow Computer Doors/Accessories Field Replacement Guide

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