

Replacing the MinuteMan BCM

First, begin by disconnecting the battery connector at the rear of the machine.

To remove the MinuteMan Cowling, remove the 5/32" hex screw on each side of the upper portion of the cowling, as well as the five 1/8" hex screws that secure the Slanted LIDAR shield.



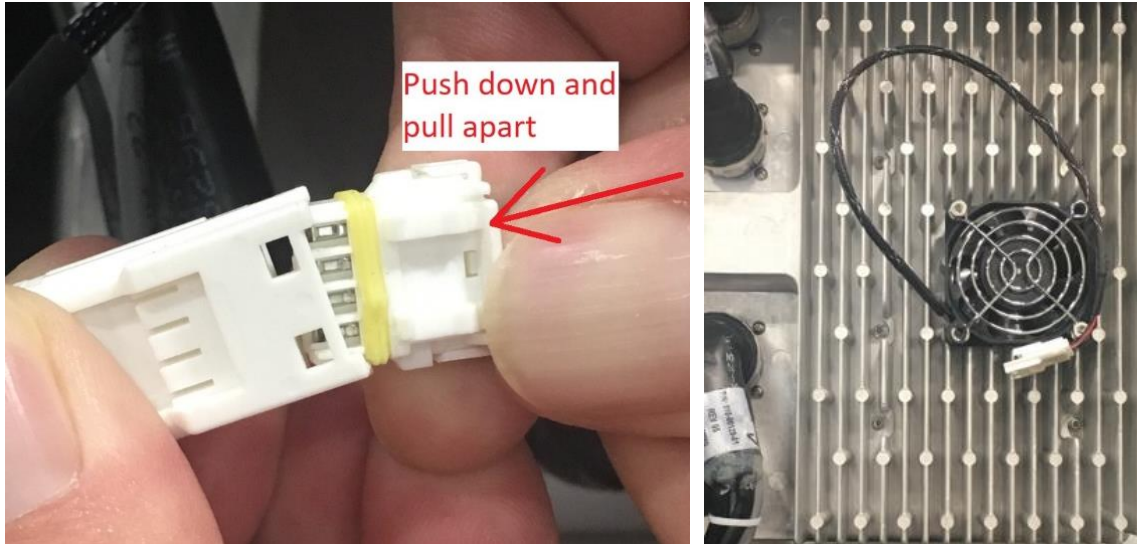
Use a socket wrench (with extension) and 7/16 socket to remove the two screws in the two front-most holes (one on the left side and one on the right) near the Planar LIDAR.



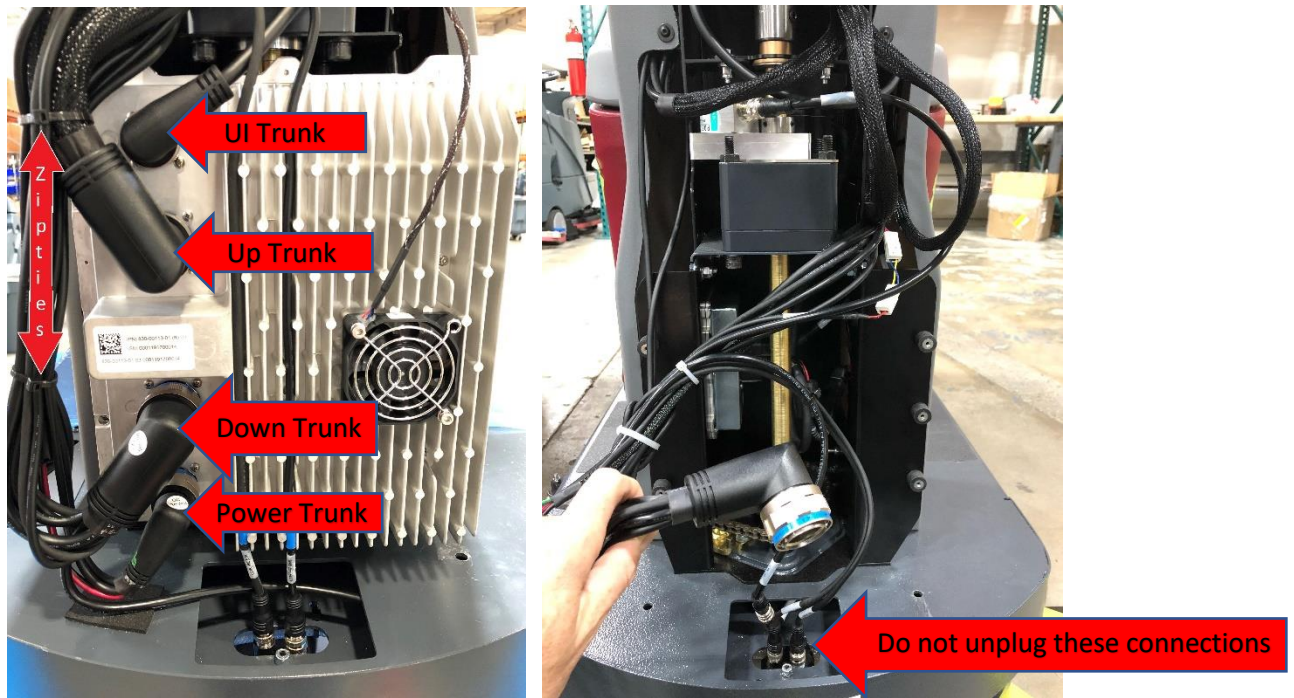
The cowling can be lifted, up and off the two hooks at the top of the unit.



Unscrew the four bundled black connectors that couple to the BCM. Decouple the fan connector.



Cut the indicated zip ties and place the BCM to the side. Remove the six 3mm hex screws that secure the BCM.



* Be sure to reconnect the green grounding cable (if present) when replacing the Brain Module.

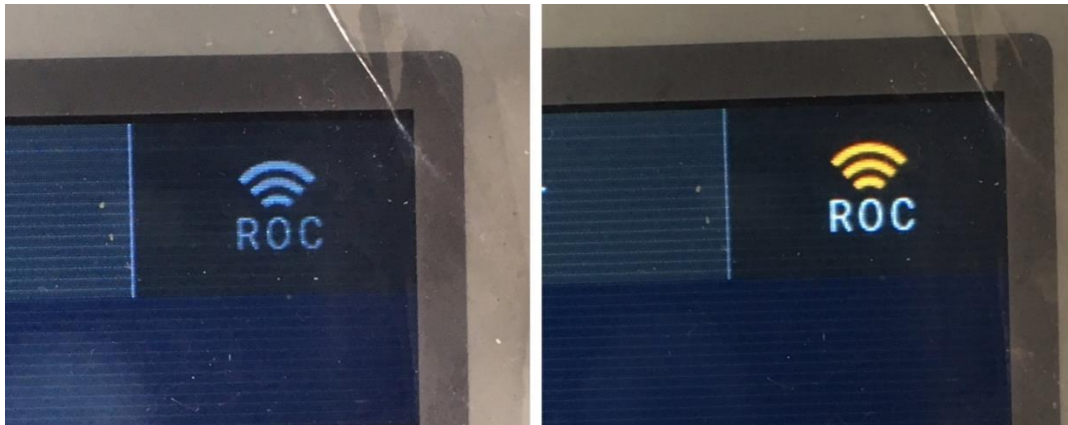
Follow the instructions in the reverse order to re-assemble. Power on the machine and make sure the robot can establish ROC connection.

Verify ROC Connectivity

Power on the unit and verify that the screen loads past the spinning Brain logo and ends on the Security PIN screen.



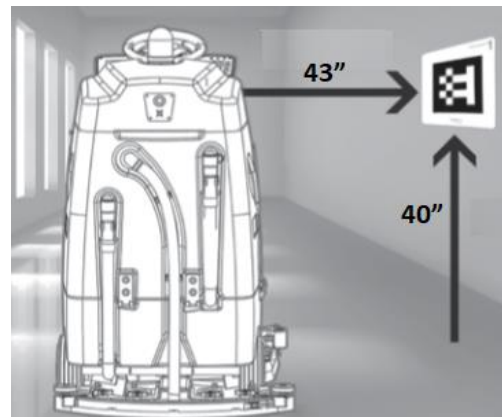
The ROC icon located in the upper right corner of the UI screen will only be illuminated (turn orange) once the PIN screen has loaded and the modem is able to connect to the ROC. The icon is either illuminated or not, meaning the strength of the signal does not correlate to the number of “signal bars”.



Site connectivity may be limited depending on building architecture or cellular signal infrastructure. Moving the scrubber to a different part of the property (or even outside the building) may improve connectivity.

Train a short test route

Print the home marker found on the following page. Afix it to a vertical surface that may be read by the side camera on the right of the scrubber dashboard. Orient the scrubber dashboard about two feet from the home marker.





Enter the PIN code and select **Teach Route**. Teach a short route that starts and ends at the same home marker location.

ROUTE - TEACH A NEW CLEANING ROUTE

This is the course your ICE RS26 robotic scrubber, powered by Brain OS follows during cleaning.

Before your robotic scrubber, powered by Brain OS can clean on its own, an operator must drive the Brain-enabled scrubber through each desired cleaning route and save the route to memory.

WARNING!

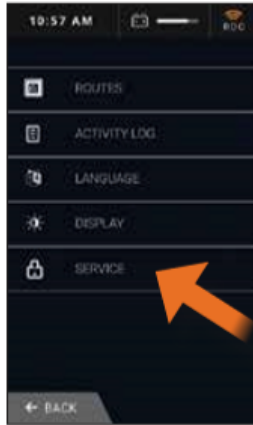
ROUTES SHOULD NOT INCLUDE DRIVING INTO AN ELEVATOR. THE MACHINE SHOULD ALWAYS BE MANUALLY OPERATED WHEN IN AN ELEVATOR OR AROUND AUTOMATIC DOORS.

TEACHING AND SAVING ROUTES

1. Initiate power on the Brain-enabled scrubber using the momentary key/ignition
 2. Using the touchscreen move the blinking cursor to highlight "teach route."
 3. The user interface will instruct operator to drive to the home location code.
 4. If the machine is not positioned properly in front of home location code, an error code will appear on the user interface LCD touchscreen stating "Error! Home Location Not Found" or "Machine is too close." If too close, you will see a red highlight around the home location code.
 5. If the home location code is visible within the live video camera view and the Brain-enabled scrubber is within the appropriate distance from the code, the machine will begin scanning and state "Scanning Home Location." You will see a green highlight around the image of the code on the UI.
 6. Once the Brain-enabled scrubber completes scanning the home location code, a "Success" message appears.
 7. Using the touchscreen, select an available slot to assign the new cleaning route. In some cases, the cursor will automatically move to the next available route.
 8. The Brain-enabled scrubber will indicate it's now ready to learn a route by stating "Ready. I will learn as you drive." The LCD screen will shift to "Learning Mode."
 9. Drive the machine through the entire desired cleaning route. This allows the machine to map and store the new route in memory.
- NOTE:** The machine will not recall the component settings (water level, solution level and scrub deck pressure). This is to allow the end user to choose the appropriate settings based on need for the day or cleaning area. The robot operator should decide on water, solution and scrub deck level and adjust before each route is selected.
10. The robot completes its map by running a loop. It is important to finish the desired cleaning route at the home location where the route was started. A route cannot be saved in memory without completing this step. Always start and stop in the exact same location at the home location code.
 11. Select "Save" by pressing the save button.
 12. The user interface will ask "Are you sure you want to save this route?"
 13. Press the button again to indicate "Yes."
 14. The Brain OS software will automatically save the route and will then appear on the "Run Route" menu option when selected.

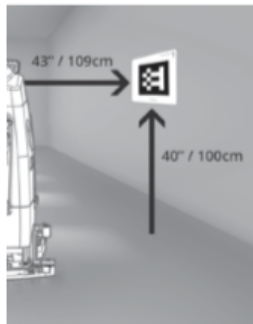
DELETING A ROUTE

Follow the instructions to delete a route



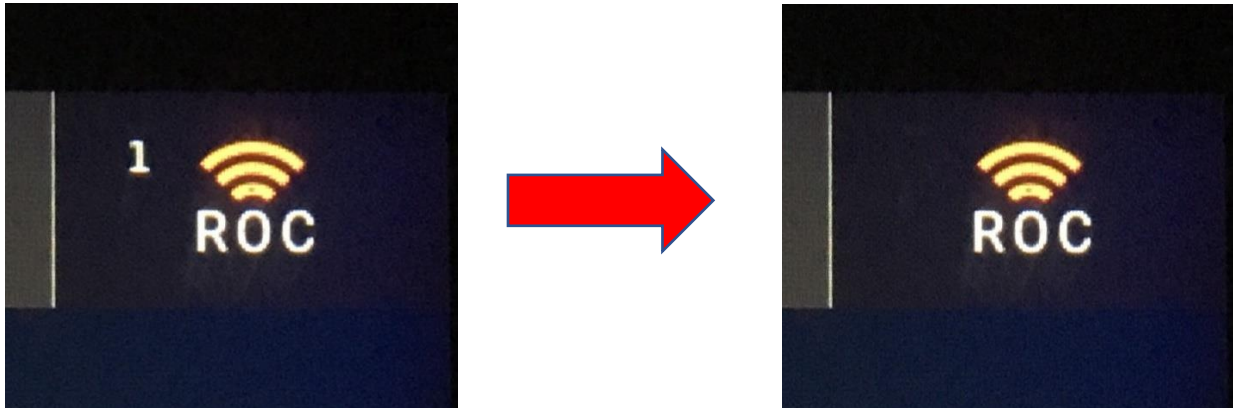
1. Drive to the desired Home Location Code.
2. Select Service on the user interface LCD screen.
3. A new menu of options will appear. Choose "Routes."
4. Robotic Scrubber will scan the Home Location Code and retrieve the programmed routes for that location.
5. The list of home location codes that have been saved to memory will appear. Select the home location code that is to be deleted.
6. From the list of saved cleaning routes now displayed, touch and highlight the route to be deleted and select "Delete."
7. Confirm by pressing delete a second time
8. The route will disappear.

RUNNING AN AUTONOMOUS CLEANING ROUTE



1. Position the Brain-enabled scrubber in front of the home location code.
2. All operations should begin and end at the home location code.
3. If the Brain-enabled scrubber is not positioned properly in front of the home location code, a message will appear on the user interface LCD screen stating "Drive to Scan My Home Location." The robotic scrubber cannot not scan the code if the Brain-enabled scrubber is not properly positioned.
4. When the Brain-enabled scrubber sees the home location code, it will be visible via the live video image on the user interface LCD screen and scanning animations will appear on the LCD screen. A message will appear on the user interface LCD screen stating "Scanning Home Location."
5. Once the Brain-enabled scrubber completes scanning the home location code, a "Success" message appears.
6. Select a cleaning route via the user interface LCD screen by selecting the desired route.
7. Step off of the machine and secure the safety straps by pulling them from their housing and clasp them to the front screws on the sides of the machine.
8. Walk to the rear of the machine and press the flashing blue button to begin autonomous operation.
9. As the machine starts autonomous operation, inspect it to ensure proper cleaning function (i.e. deck and scrubbing function, squeegee function, squeegee adjustment, rear squeegee water pickup, side skirt wiping, etc.)

When replaying the short route, ensure that the robot follows the path without difficulty. At some point during the replay, step in the robots path and continue to block it until an assist is triggered.



The goal is to leave the unit powered on until the assist file has been uploaded to the ROC. Once received, it may be reviewed by a Tech Ops team member.