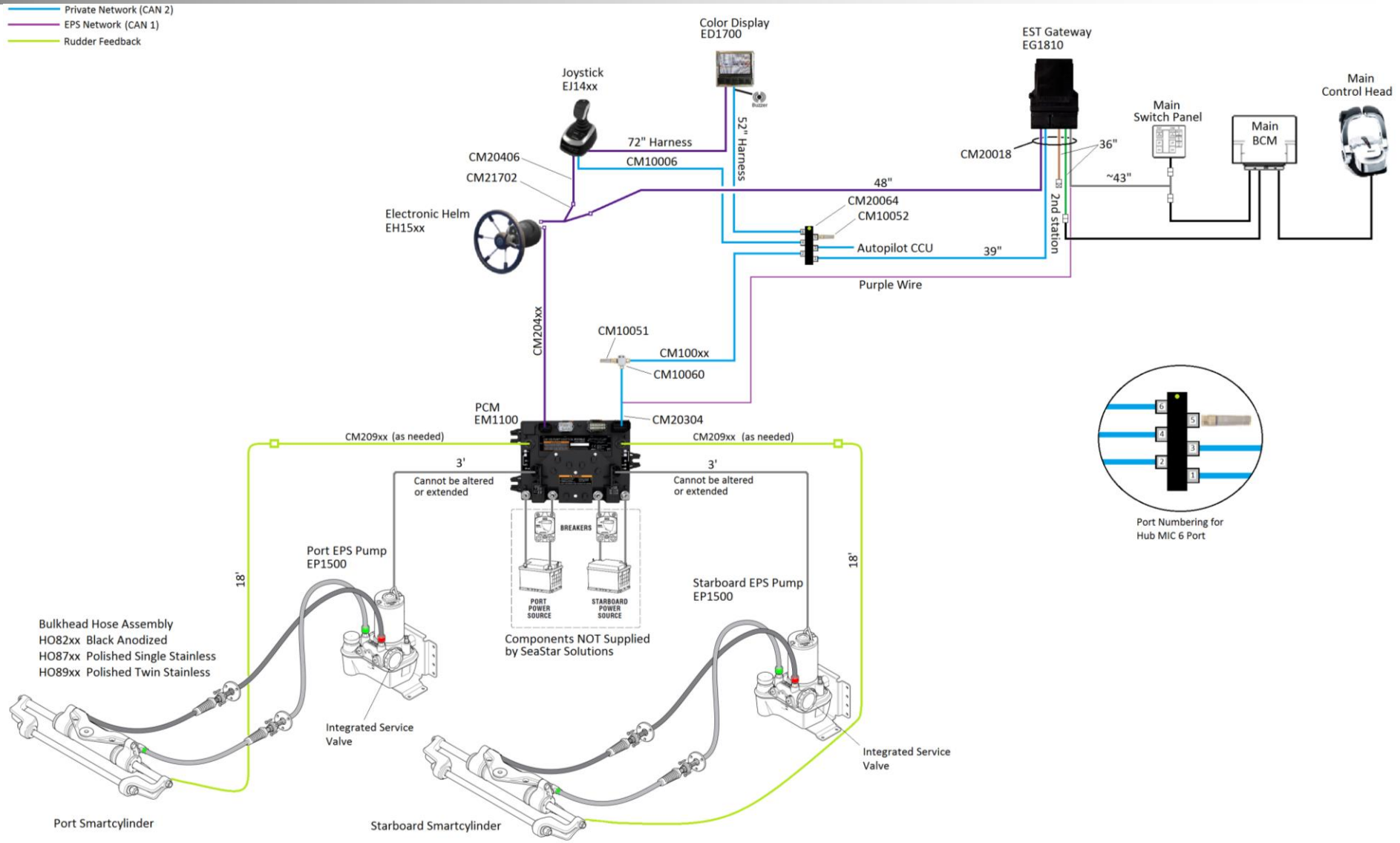
Optimus 360–Suzuki Electronic Engines

The Optimus 360 vessel control system readily communicates with the Suzuki SPC electronic controls. The SPC electronic controls are used on Suzuki models identified with a “DF” prefix in the model number. Horsepower ranges from 150-300, 2008 and newer.

The Optimus 360-Suzuki system uses some of the same components as the EPS installation: Electronic Helm, CANtrak Display, PCM, Hydraulic Pumps, Smart Cylinders and the addition of a Gateway and Joystick.

SUZUKI

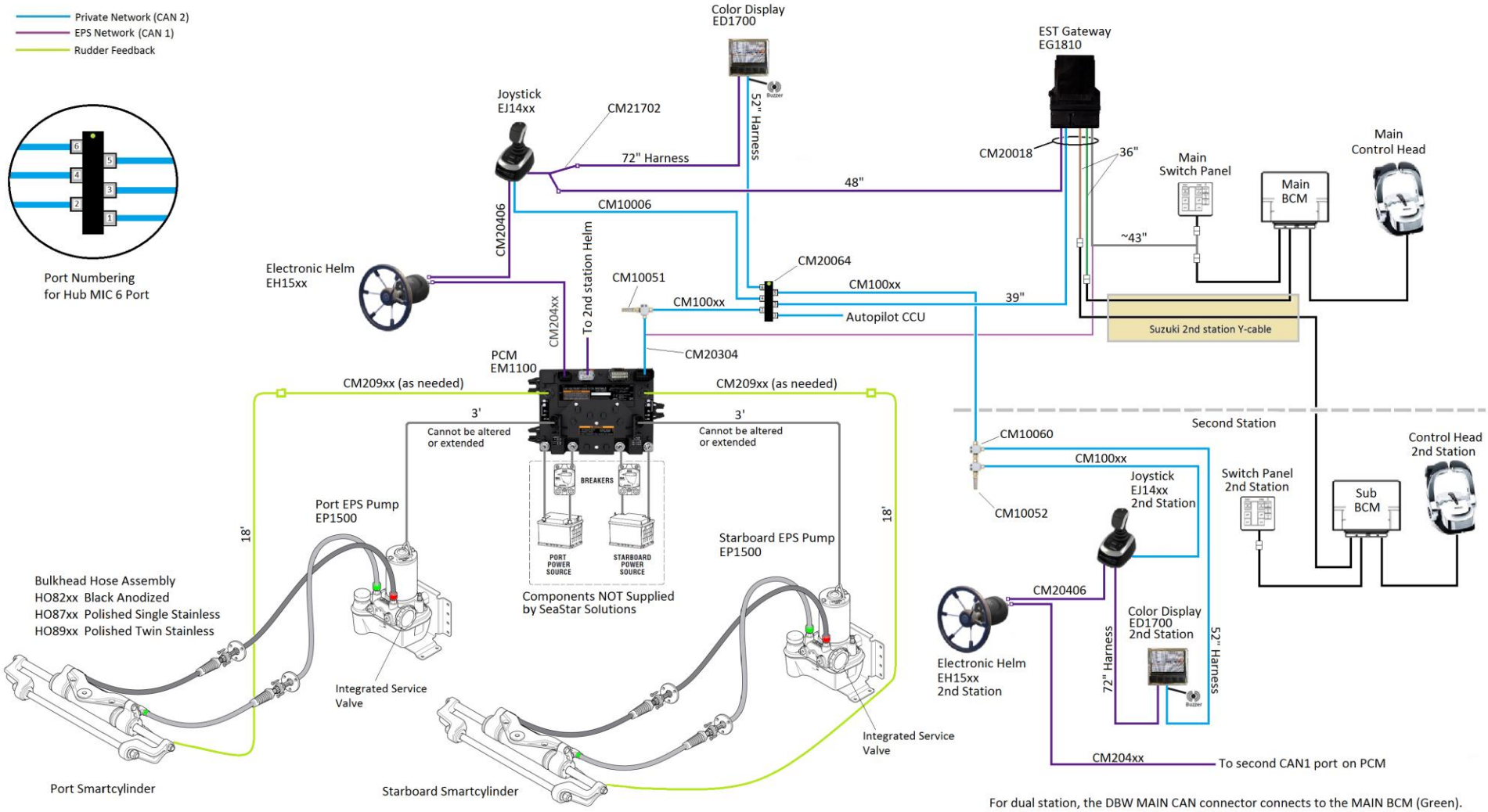
Suzuki System Schematics



Optimus 360 - Suzuki Electronic - Single Station, Twin Engine

08/08/14

Suzuki System Schematics



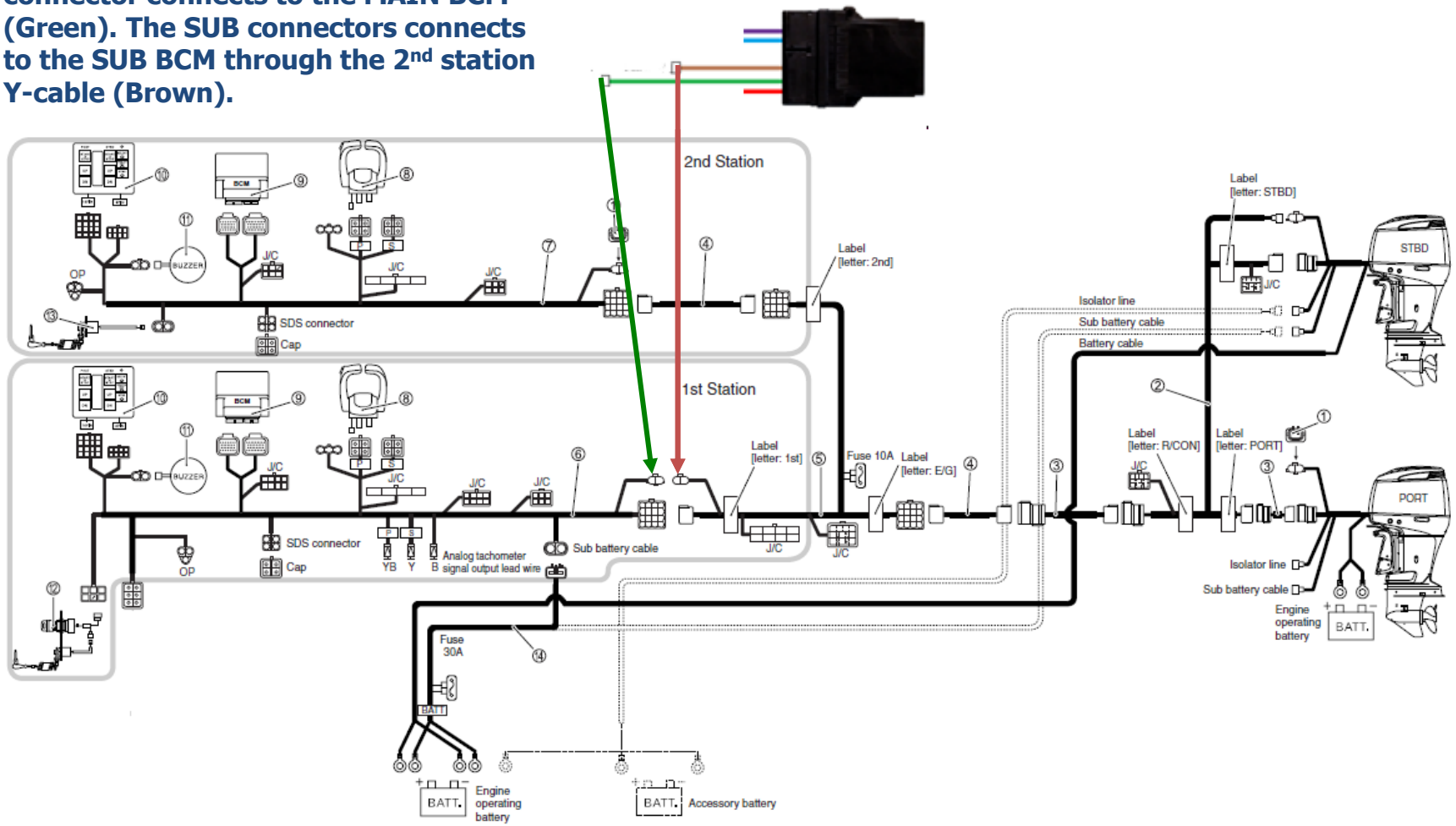
For dual station, the DBW MAIN CAN connector connects to the MAIN BCM (Green).
The SUB connectors connect to the SUB BCM through the 2nd station Y-cable (Brown).

Optimus 360 - Suzuki Electronic - Dual Station, Twin Engine

08/08/14

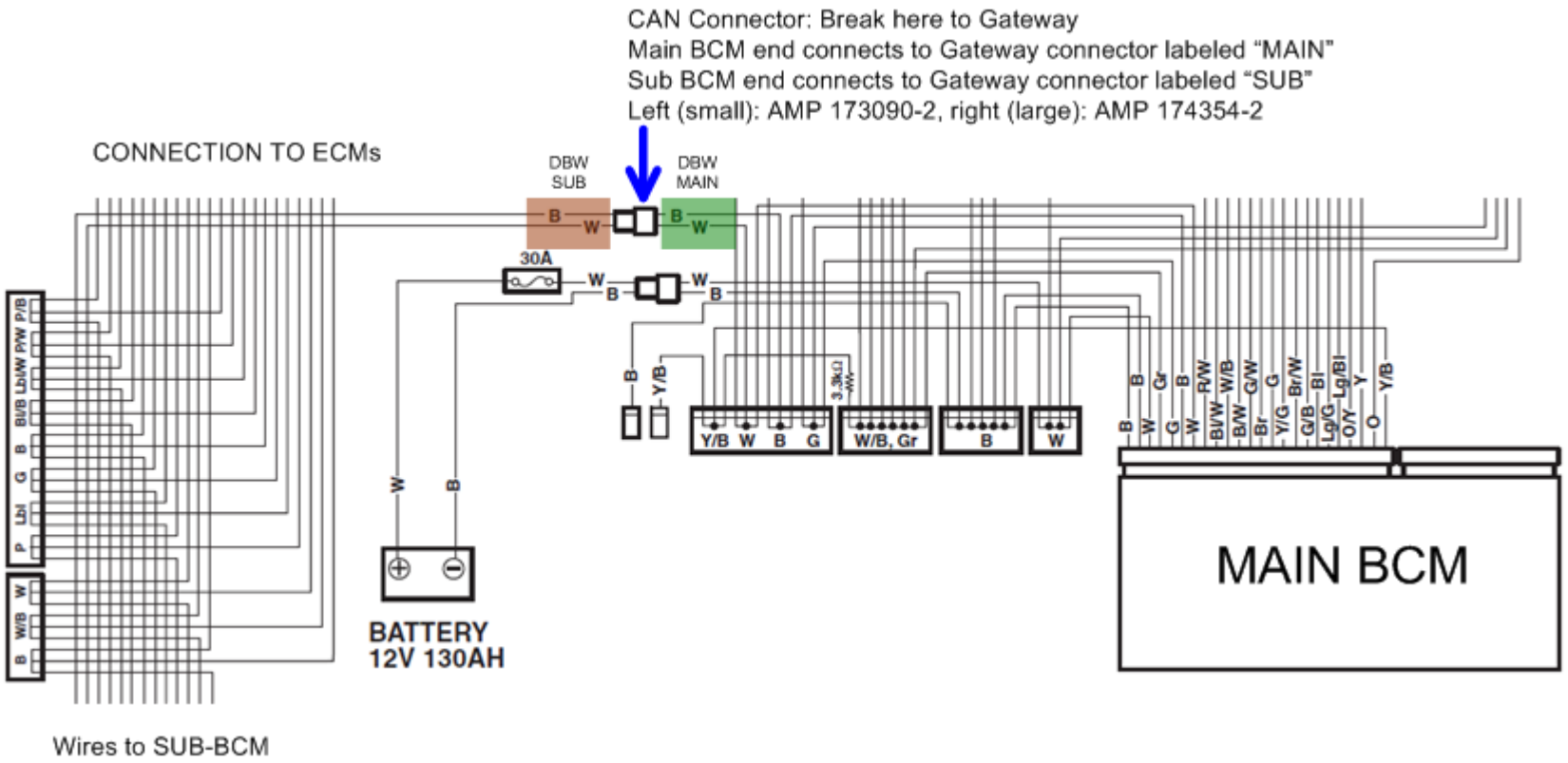
Gateway DBW connections

For dual station, the DBW MAIN CAN connector connects to the MAIN BCM (Green). The SUB connectors connects to the SUB BCM through the 2nd station Y-cable (Brown).

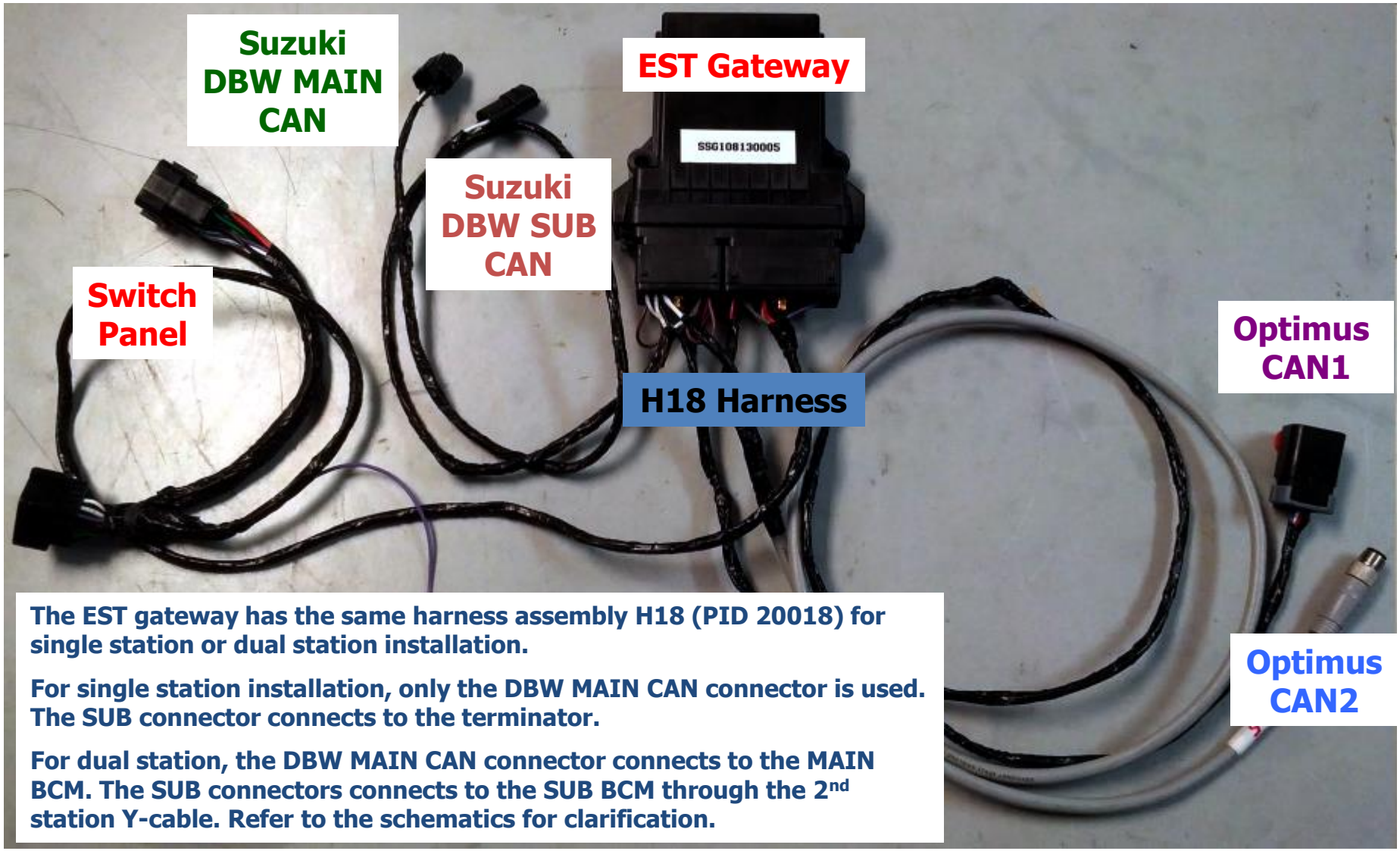


Schematic View – 2nd station connection

For dual station, the DBW MAIN CAN connector connects to the MAIN BCM (Green). The SUB connectors connects to the SUB BCM through the 2nd station Y-cable (Brown).



Suzuki Gateway Connections



The EST gateway has the same harness assembly H18 (PID 20018) for single station or dual station installation.

For single station installation, only the DBW MAIN CAN connector is used. The SUB connector connects to the terminator.

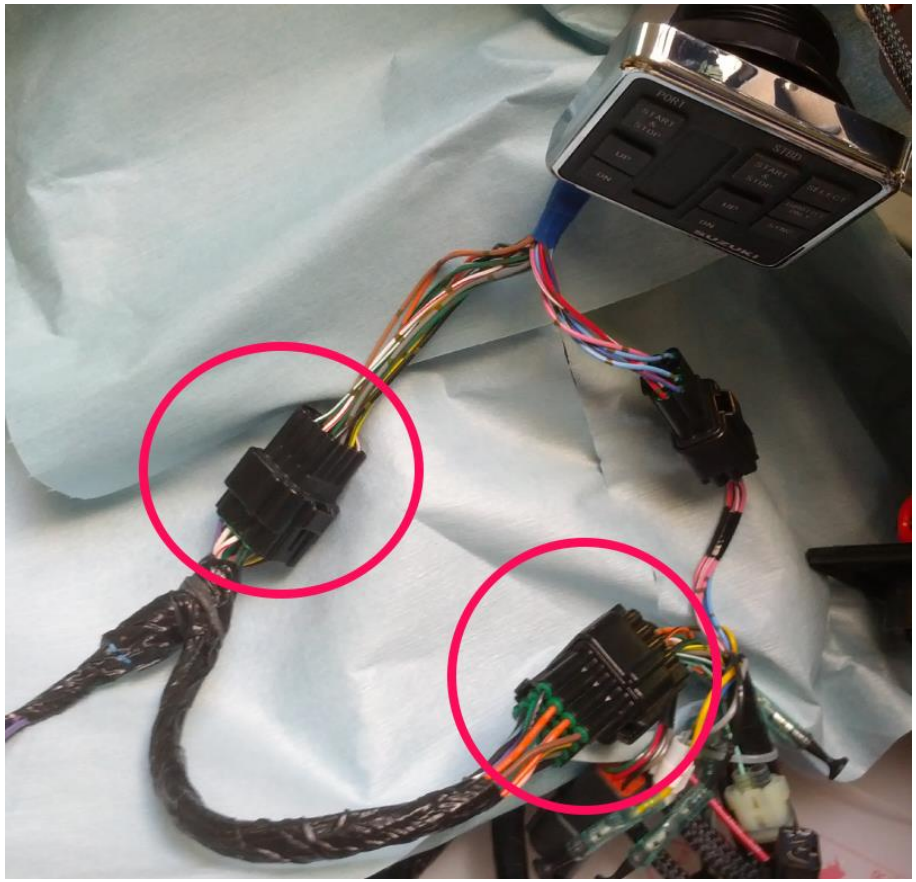
For dual station, the DBW MAIN CAN connector connects to the MAIN BCM. The SUB connectors connects to the SUB BCM through the 2nd station Y-cable. Refer to the schematics for clarification.

Suzuki Gateway Connections -DBW CAN connections

- Remove terminating resistor from DBW CAN connector
- Connect Optimus Main CAN connector to DBW CAN connector
- Connect Optimus Sub CAN connector to terminator resistor

Suzuki Gateway Connections - Switch panel

- Connect two Switch Panel connectors of the EST Gateway between Main BCM and Main Switch Panel



Optimus 360-Suzuki Configuration and Commissioning

Configuration of the Optimus 360-Suzuki will follow the same configuration steps using the Color Cantrak display as previously discussed. The Suzuki installation requires the installer to use the Suzuki dealer tool (SDS) to configure the components.

SUZUKI

Suzuki Installation - Tools

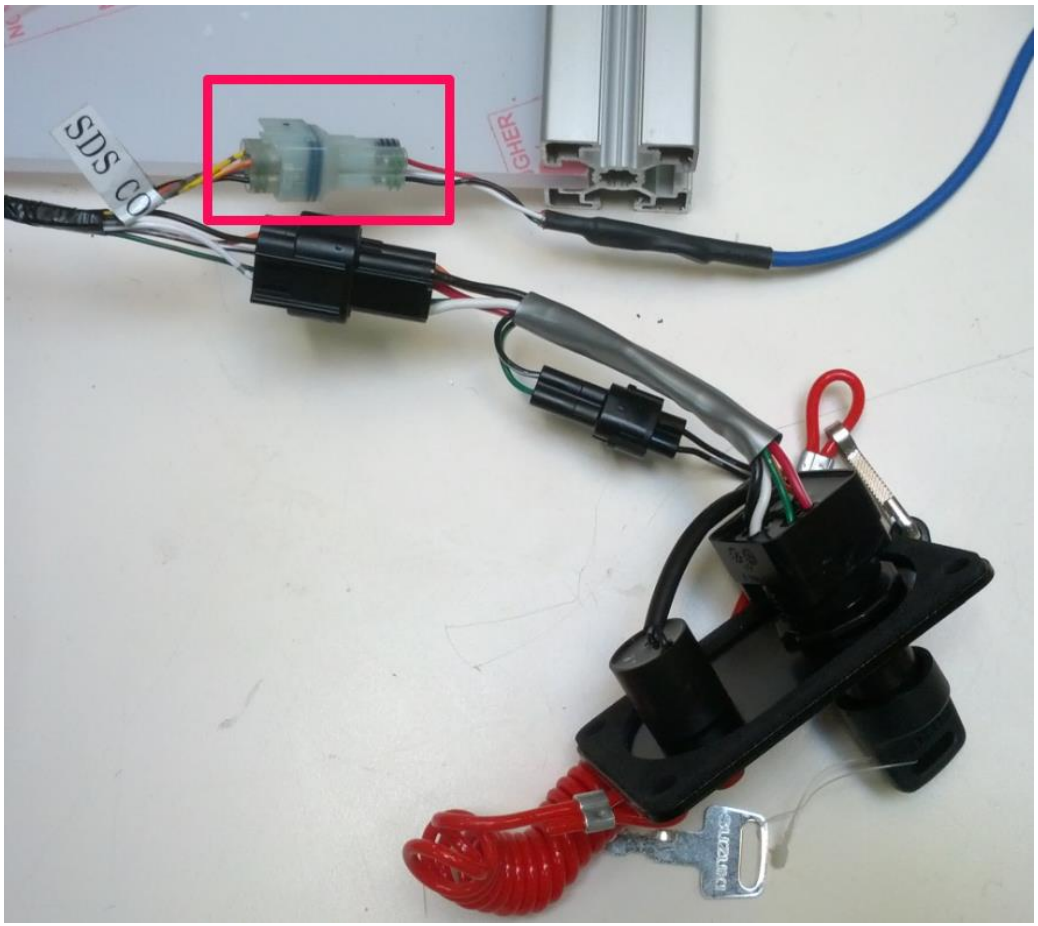
The following software and adapter will be necessary to complete the installation

- Latest Software installed on components
  - SeaStar Solutions component software from Optimus dealer website
- Suzuki Diagnostic Software installed on PC
  - From Suzuki authorized channels
- Suzuki Diagnostic Interface Adapter
  - Suzuki PN 09933-19320

Suzuki Diagnostic Interface Adapter

Suzuki SDS Tool Connector

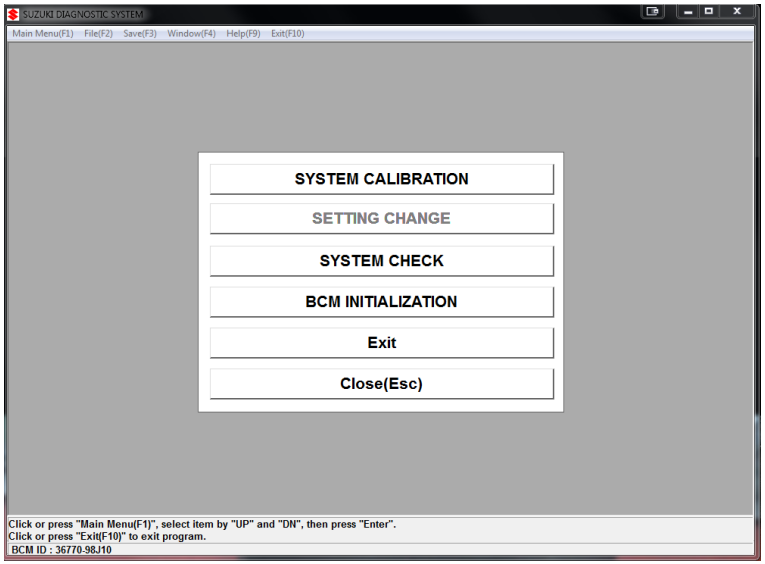
- Connect the laptop via the Suzuki adapter to the SDS connector behind the main key switch:



Suzuki Diagnostic Interface Adapter

Suzuki Diagnostic System (SDS)

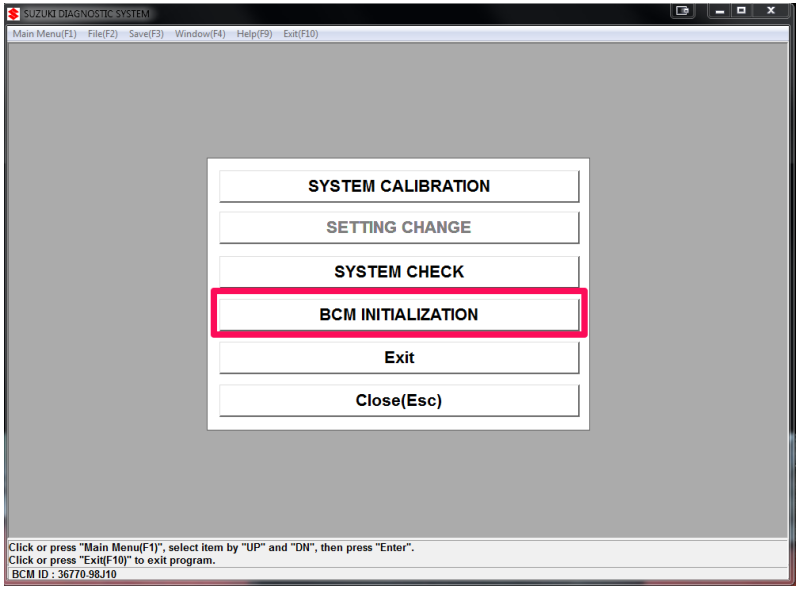
- Start SDS program



BCM Initialization

- If the system is a new installation, skip this step.

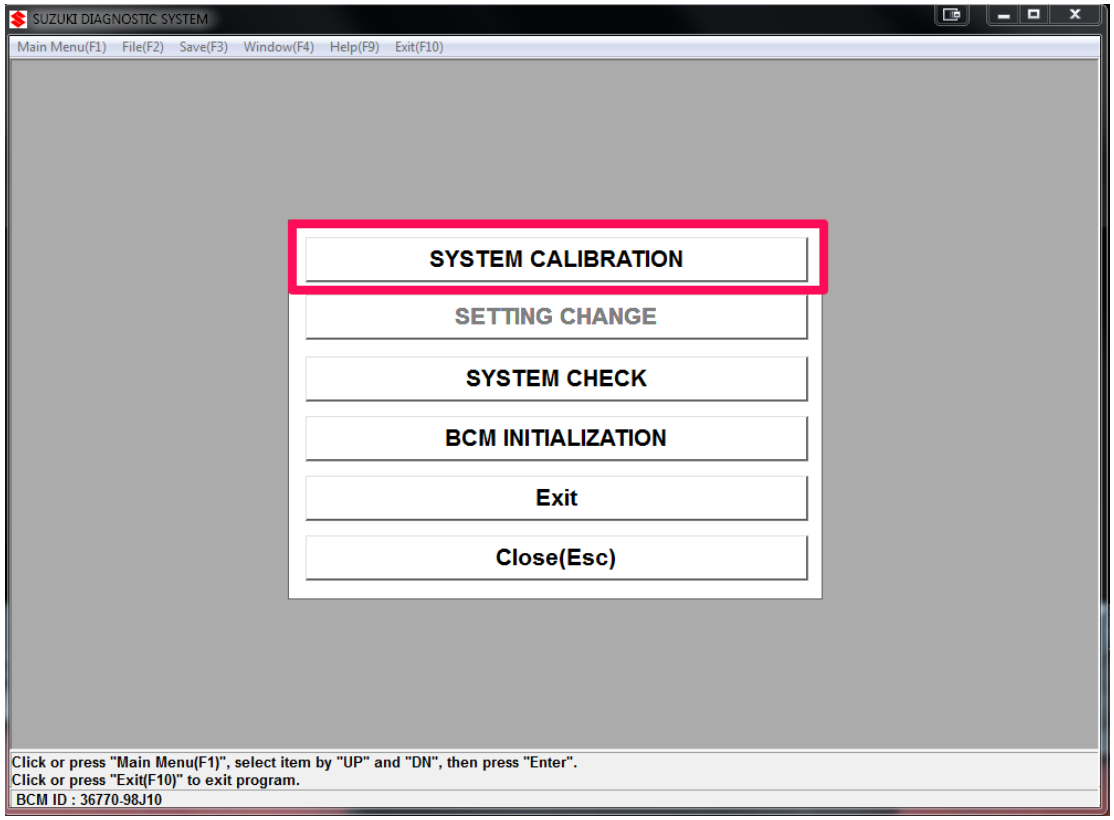
- If the system has been previously calibrated, run BCM Initialization to clear its memory.



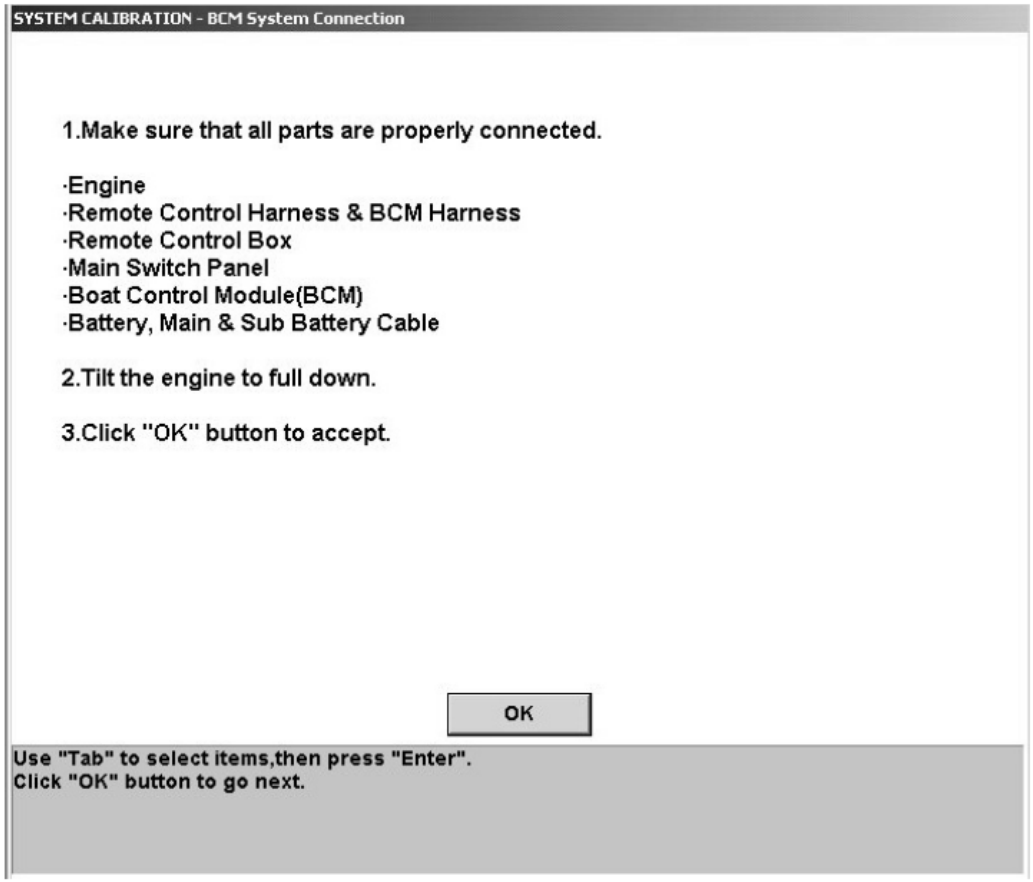
- Complete the initialization process

System calibration

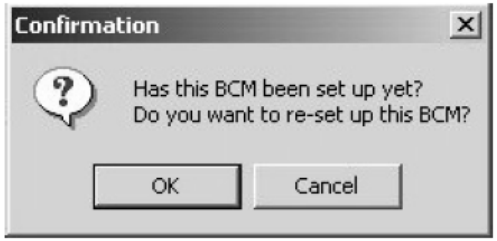
- Run System Calibration



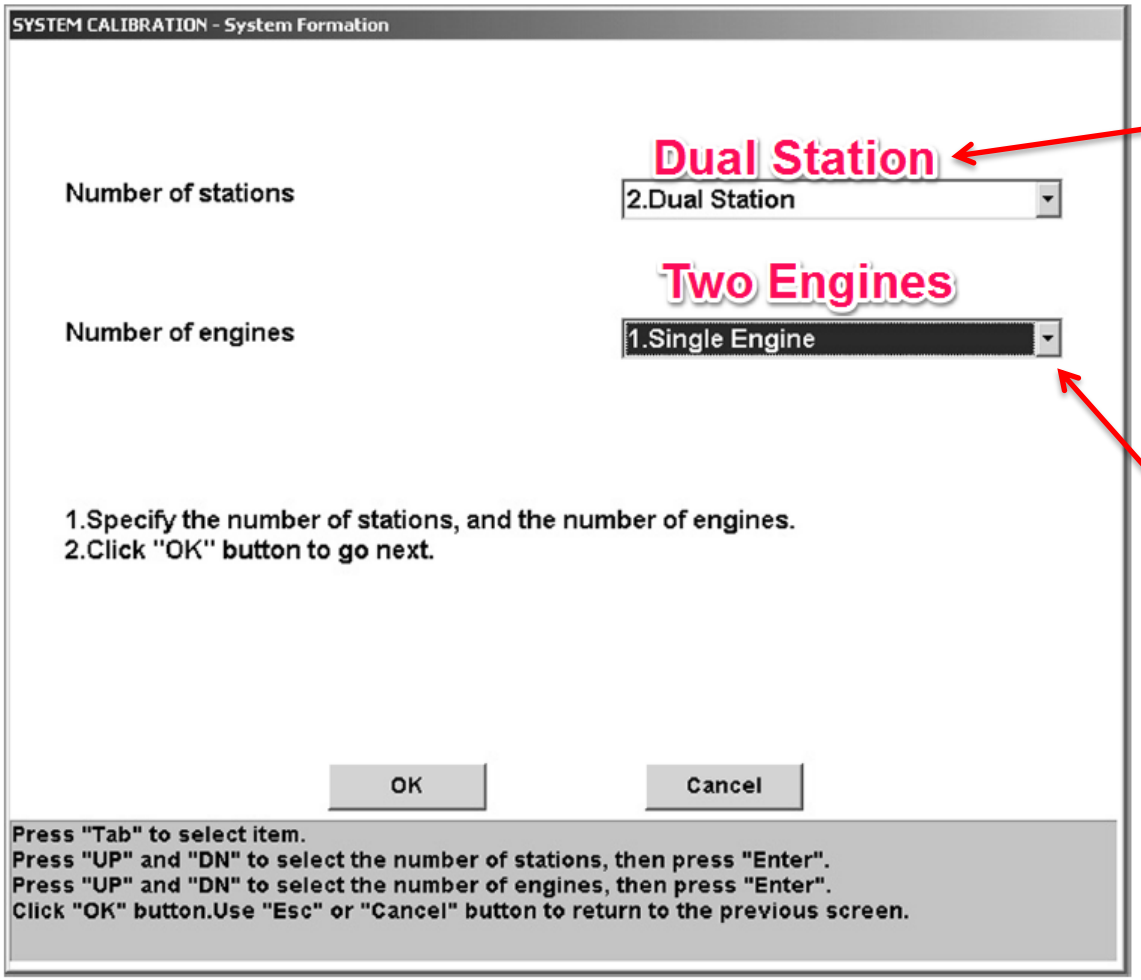
(2) The following window appears. Click the “OK” button and proceed to the next step (“Enter” key on the keyboard).



NOTE:
If the BCM has already been calibrated, the Confirmation window appears.

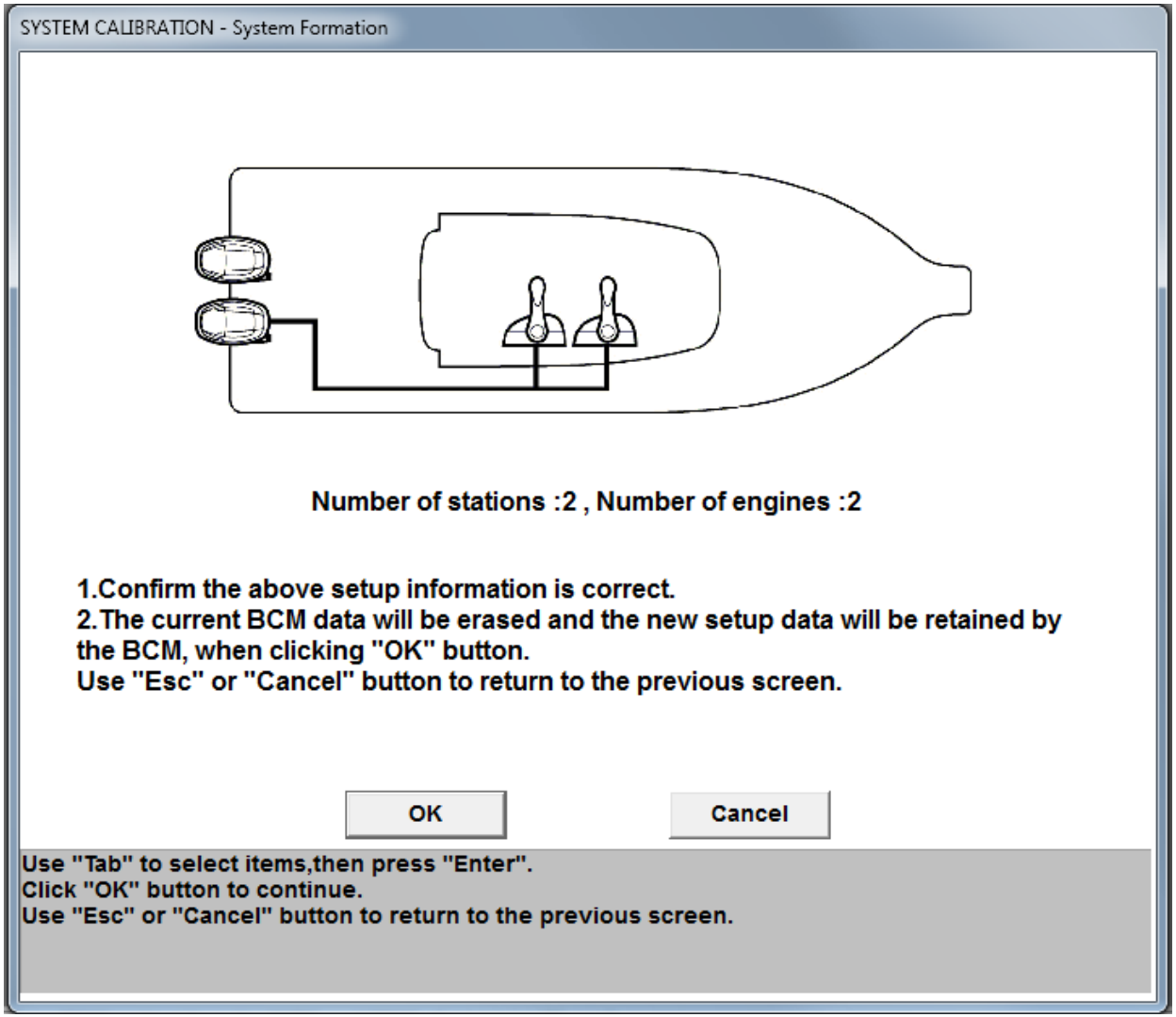


(4) The following window appears. This window is used to register the system configuration.
In this window, select the number of stations and the number of engines by clicking the ▼ button, click the “OK” button, and proceed to the next step.
(Keyboard) Move to a desired item by using the “Tab” key. Select a desired item by using the “Up” or “Down” arrow key and press the “Enter” key to have the selected item accepted.
Clicking the “Cancel” button cancels system calibration.

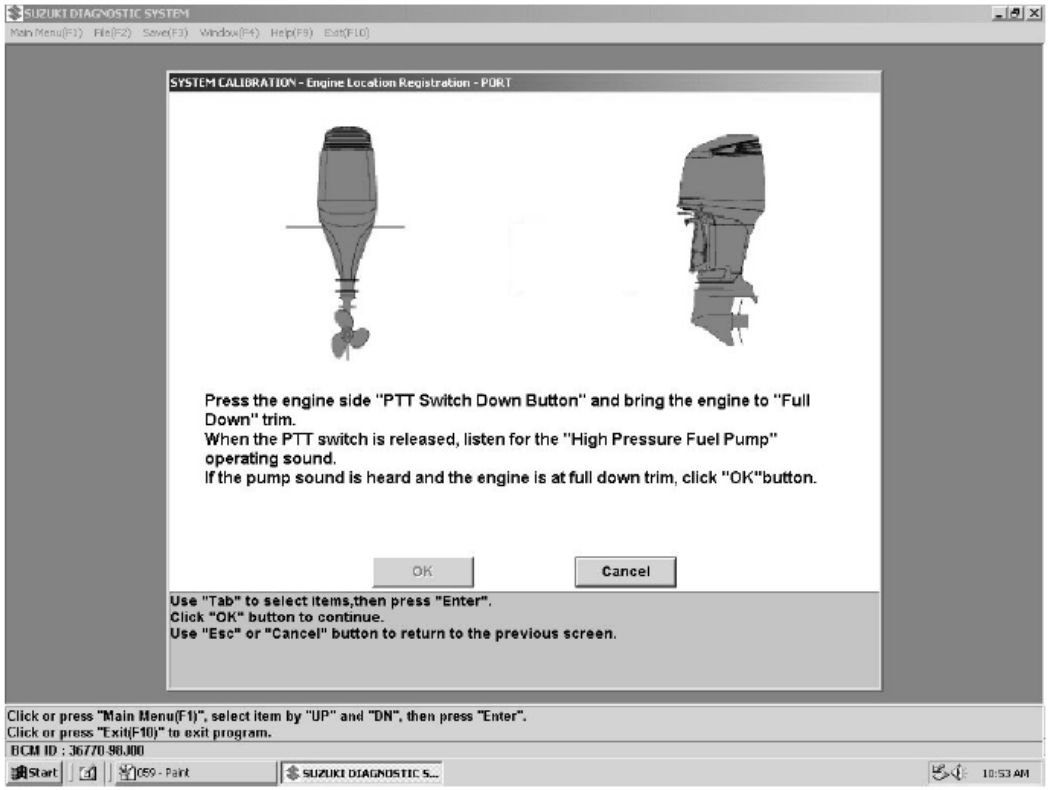


- **Dual Station** must always be selected when using a Joystick. The gateway acts as a second station, regardless of the number of remote controls.
- Select your number of engines, two or three.

(5) The following window appears. Check that the calibration are correct, click the “OK” button, and proceed to the next step (“Enter” key on the keyboard).
Clicking the “Cancel” button brings you back to the previous window.



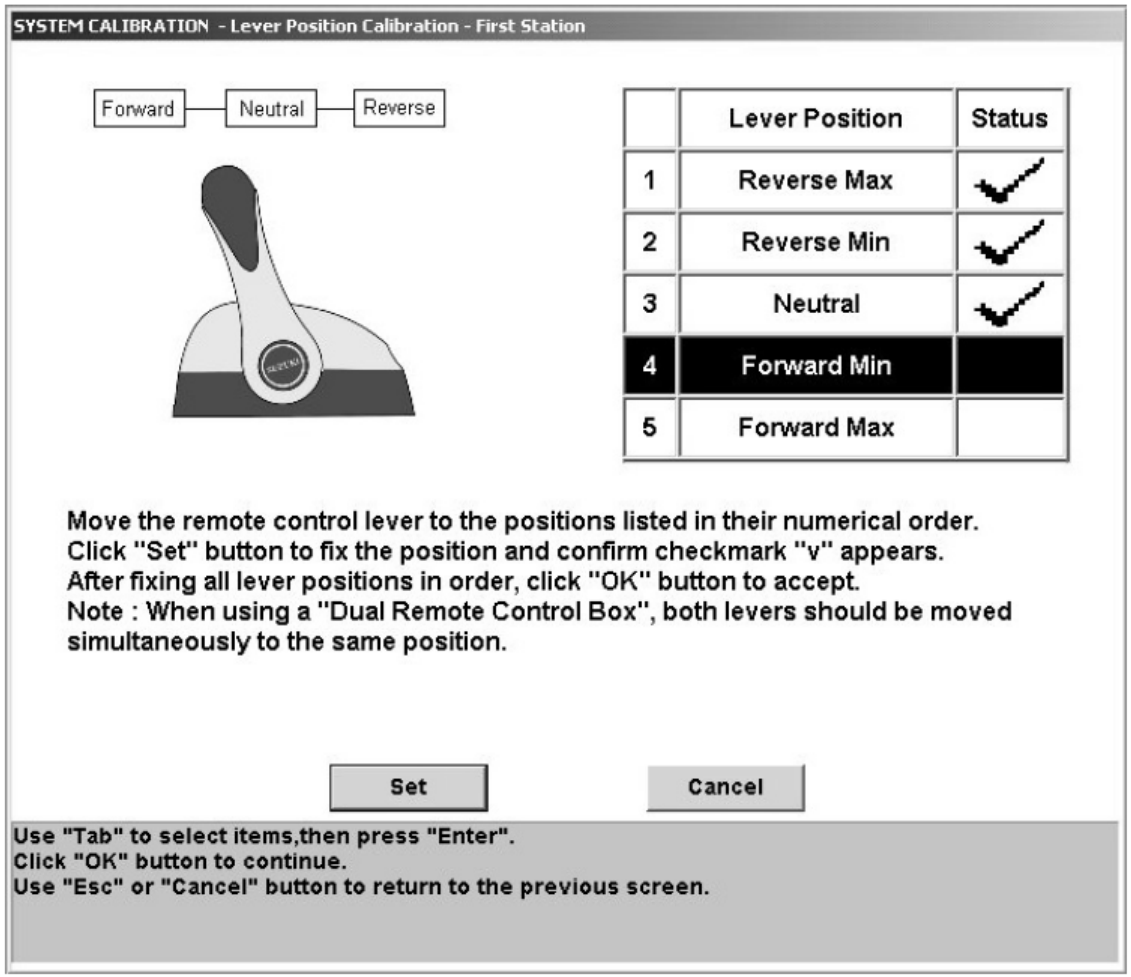
(6) The following window appears. This window is used to register the outboard motor position in the BCM.
Operate the PTT switch of the outboard motor to perform full tilt down.
Click the “OK” button to have the outboard motor position accepted and proceed to the next step.
(Figure is an example of registering the PORT outboard motor.)
Clicking the “Cancel” button cancels system calibration.



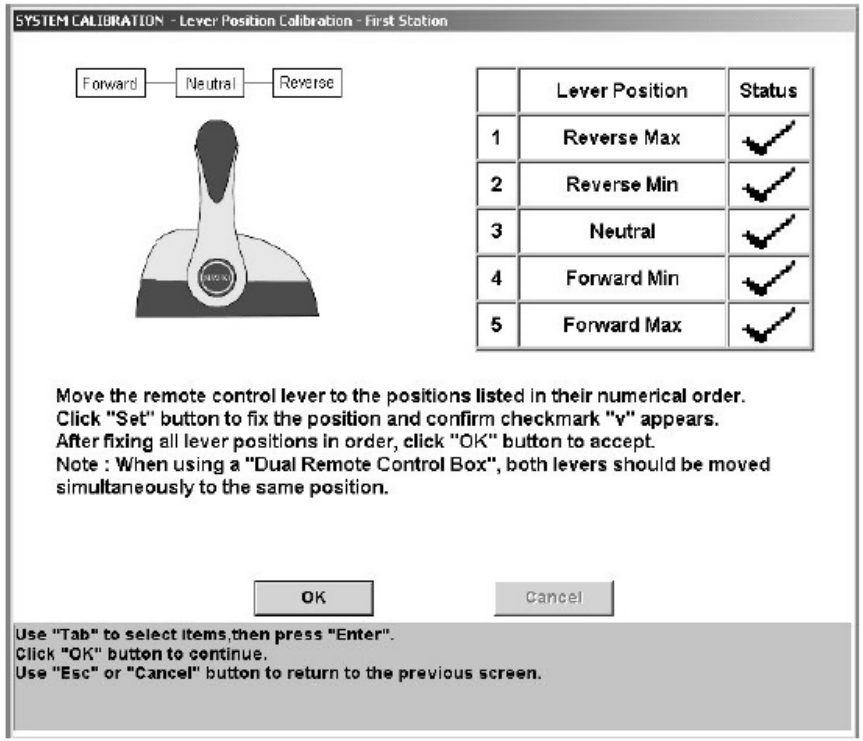
NOTE:

- *For the dual engines, register the PORT and STBD positions. For triple engines, register the PORT, CENTER, and STBD positions.*
- *After full tilt down, the high-pressure fuel pump of the outboard motor is actuated for 3 seconds. Listen for the actuation sound.*

(7) The following window appears. This window is used to register the position of the remote control lever in the BCM.
Set the lever to each position (Forward, Neutral, Reverse) and click the “Set” button.
If the set lever positions are correctly registered, “✓” mark is displayed in the “Status” column in the right side of the window.
Repeat the same operation to register all the lever positions.
Clicking the “Cancel” button cancels system calibration.



(8) When all the lever positions have been registered, return the lever to the neutral position.



NOTE:

- *If the lever is not set to a correct position, the error message is displayed.*
- *Click the "OK" button, set the lever to the correct position, and click the "Set" button.*
- *For a dual control box, you must simultaneously operate both the levers.*
- *After all the lever positions have been registered, the following confirmation message is displayed.*

2nd Remote Control Lever Calibration – One remote control

- For boats with one remote control, follow this procedure.

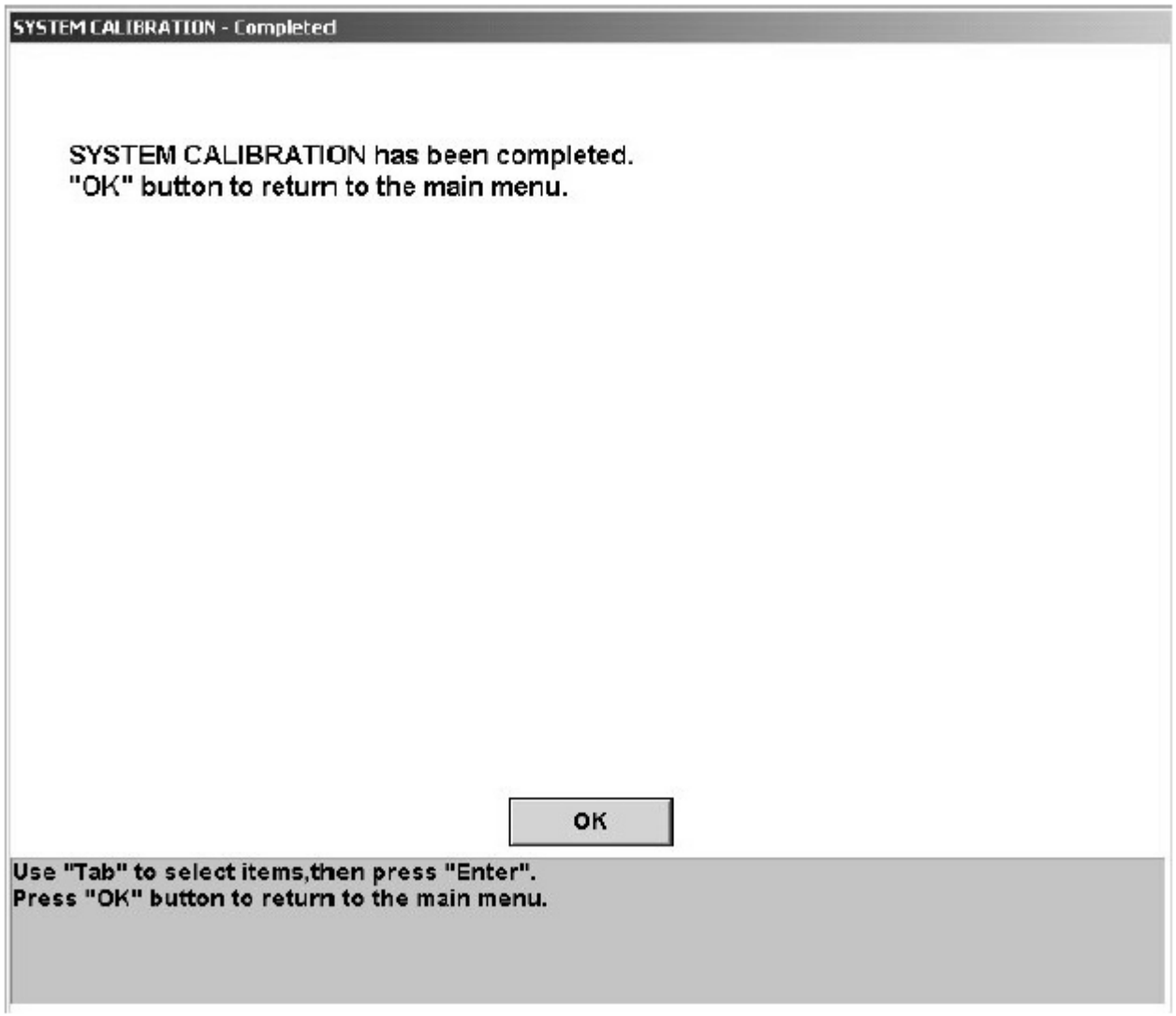
- Joystick positions are used to calibrate the 2nd remote control lever positions. Move the joystick in accordance with following table:

	Lever Position	Joystick Position
1	Reverse Max	Reverse
2	Reverse Min	Port
3	Neutral	Neutral
4	Forward Min	Starboard
5	Forward Max	Forward

2nd Station Control Lever Calibration – Two Station Systems

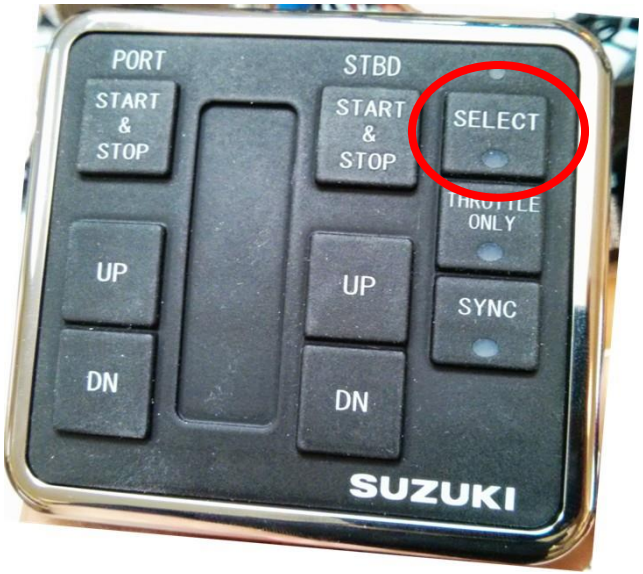
- For boats with two stations, use the 2nd remote control to calibrate the lever positions.

(9) Clicking the “OK” button displays the following window:
Click the “OK” button to terminate system calibration.



Suzuki Control Panel Confirmation

- To select the remote control, press *Select* button on the nearest Suzuki switch panel
- To select the joystick, press *Take Command* button on the joystick
- Select either devices a few times to ensure the selection is working properly



Suzuki Control Panel Confirmation

- Stay in Joystick mode
- Press the trim (*Up/Dn*) buttons
- Ensure Suzuki engine trim functions correctly

Suzuki Confirmation - Engine Start / Stop with remote control

- Select Remote Control from the switch panel
- Ensure boat is ready to run the engines (If not, perform this test later)
- Start and stop each engine one at a time
- Ensure engine can start and stop properly
- After the engine started, pull safety lanyard to ensure each engine can be stopped
- Re-insert safety lanyard fork and ensure engines are off
- Take command with Joystick, repeat procedure