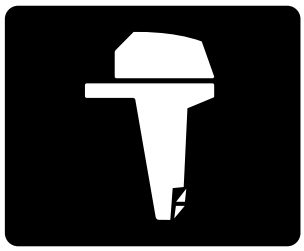
YAMAHA



COMMAND LINK MULTIFUNCTION METER INSTALLATION MANUAL

LIT-18541-00-01

90894-62981-66

NOTICE

This Installation Manual has been published to help Yamaha dealers set up the Command Link Multifunction Meter and its components to the applicable Yamaha outboard motors.
The information described in this manual applies to the 2006 models.

In this Installation Manual particularly important information is distinguished in the following ways.

⚠ WARNING

Failure to follow WARNING instructions could result in severe injury or death to the machine operator, a bystander, or a person inspecting or repairing the outboard motor.

CAUTION:

A CAUTION indicates special precautions that must be taken to avoid damage to the outboard motor.

NOTE:

A NOTE provides key information to make procedures easier or clearer.

Applicable models

4-stroke models:

F50, T50, F60, T60, F75, F90, F115, LF115, F150, LF150, F200, LF200, F225, LF225, F250, LF250

2-stroke models:

Z150, LZ150, VZ150, Z175, VZ175, Z200, LZ200, VZ200, VZ225, Z250, LZ250, VZ250, Z300, LZ300, VZ300

System operation may be affected by aftermarket electronic equipment if connected to Command Link – verify operation before use.

COMMAND LINK MULTIFUNCTION METER INSTALLATION MANUAL

1st Edition, March 2005

**Printed in USA
LIT-18541-00-01**

Table of contents

1. Introduction

Installation procedures

To install the meters, be sure to follow the installation procedures and precautions described in this manual. If the procedures are not followed correctly, resulting in improper operation of the system.

- Installing the meters (See page 4)
- Connecting the meters to the engine (See page 12)
- Installing an optional sensor (Refer to “SPEED SENSOR COOLING WATER PRESSURE SENSOR INSTALLATION MANUAL”)
- Activating for the first time (See page 28)
- Setting the initial settings (See page 28)

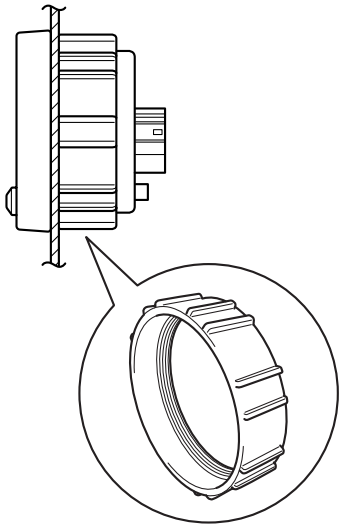
Installation and connection precautions

When installing and wiring the meter components or connecting the meter to the engine, be sure to use the wiring diagram as reference and note the following points.

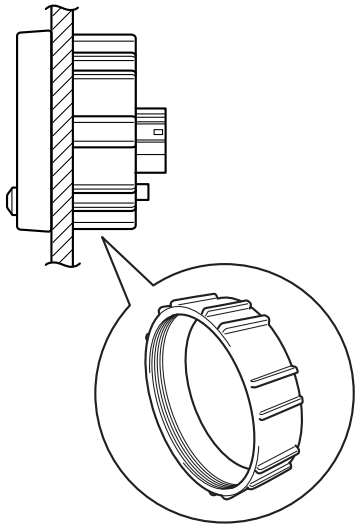
Installing the meters

- Install the meters in a location that they will not be subjected to water such as from waves.
- When installing the meters to the panel, be sure to use the supplied ring nuts so that the meters are fastened securely. Be sure to tighten the ring nuts so that they are straight.
- The meters can be installed into panels with a thickness of 1–27 mm (0.04–1.06 in). If the panel thickness is 13 mm (0.51 in) or more, install the ring nuts in reverse.

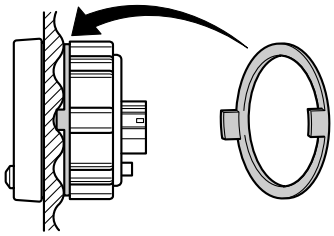
1–13 mm (0.04–0.51 in)



8–27 mm (0.31–1.06 in)

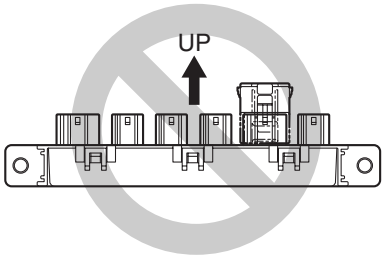


- The 6-pin connector of the speedometer is for the external signal input. Be careful not to connect the **BUS WIRE** to this connector.
- When two outboard motors are installed, use the specified switch panel.
- When the panel is not flat or its thickness is uneven, install the meters with the optional fitting plate (6Y8-83514-0*) between the panel and the ring nuts.



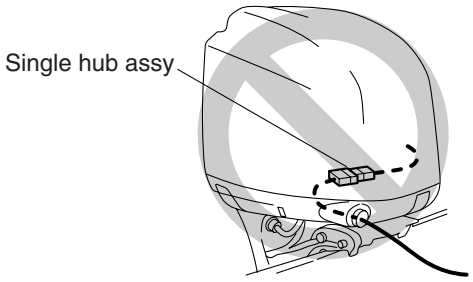
Installing and wiring the hub

- Install the **multi hub assy** and **single hub assy** in a location that it will not be subjected to water such as from waves or be submerged in the bilge.
- Install the **multi hub assy** connectors facing down and so that the meter is level.

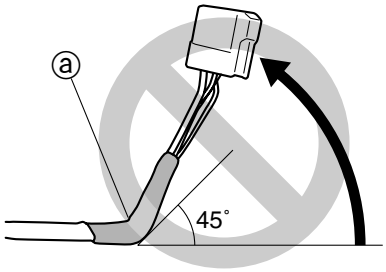


- Install the **multi hub assy** and **single hub assy** in a location where the ambient temperature does not exceed 80 °C (176 °F).
- Do not install the **multi hub assy** and **single hub assy** in a location that it will be easily stepped on or where it will be an obstacle.
- Install the **multi hub assy** and **single hub assy** 30 cm (1 ft) away from a two-way radio, antenna cable, and generator.
- Be careful not to bind together the wiring harness of this system and the antenna cable.
- Install the **multi hub assy** by installing bolts or screws in the two flange sections so that there is no rattling.
- Be sure to connect the **resistor** to both **BUS WIRE** ends.
- Be sure to cover all **multi hub assy** connectors that are not being used with a waterproof cap (2-pin connector: 6Y8-82582-0*, 4-pin connector: 6Y8-82582-1*).

- Do not install the **single hub assy**, which is connected directly to the main bus wire and engine communication line, onto the outboard motor. Be sure to wire the **single hub assy** so that it can be installed on the boat.



- Wire the power source so that it is located in one location. Be sure to connect the power wire to only one **multi hub assy**. Do not supply power to multiple **hubs**.
- Do not bend the water-resistant heat shrinkable tube ⓐ of the main bus wire (6Y8-82553-**) and the pigtail bus wire (6Y8-82521-**) 45° or more.



- Install the wiring harnesses so that they do not come into contact with the edges and moving parts that can damage shearing. Do not apply excessive force to pull on the wiring harnesses when routing them.
- Do not kink or bend the main bus wire or the pigtail bus wire less than the minimum bend radius: 10 mm (0.39 in).

Installing an optional sensor (6Y8-83688-**)

- To install an optional sensor, see the installation manual supplied with the sensor.
- Do not use this sensor with a fish finder (transducer) or other apparatus that uses an echo-sounder sensor. Frequency interference may impede the functions of the meters.
- Use the optional sensor (6Y8-83688-1*) for the plastic housing on FRP or metal-hull boats. If the sensor is used on wooden boats, the housing can be damaged due to the expansion of the wood.
- Use the optional sensor (6Y8-83688-2*) for the bronze housing on FRP or wooden-hull boats. If the sensor is used on metal boats, such as aluminum, electric corrosion can occur if different metals come into contact.

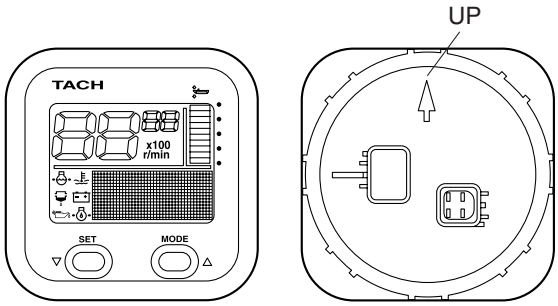
2. Installing the meters

To install each meter unit, the switch panel, and hubs, and for information regarding installation preparations, refer to the dimension values below and to “Installation and connection precautions.” To route the wires properly, refer to “Wiring diagram” in the following chapter.

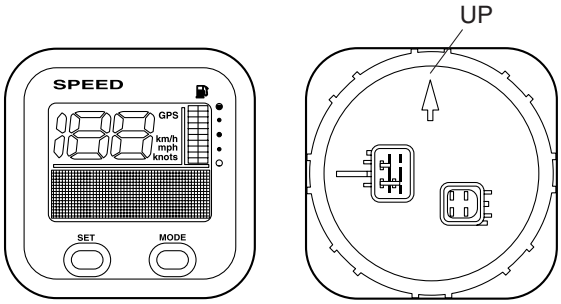
Dimensions

Meter (square)

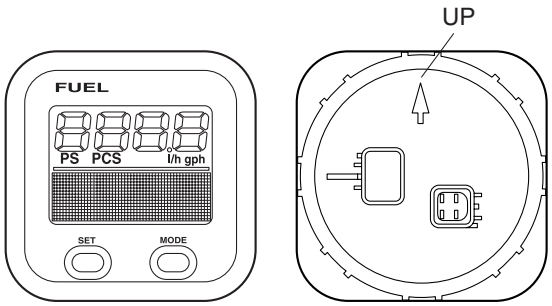
Tachometer unit (6Y8-8350T-0*)



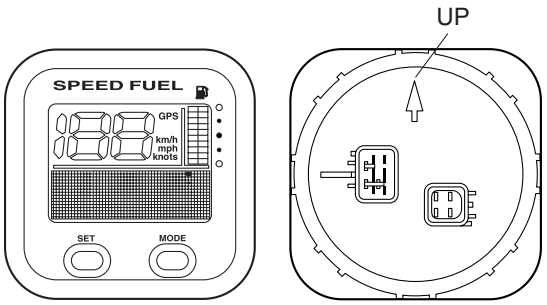
Speedometer unit (6Y8-8350S-0*)



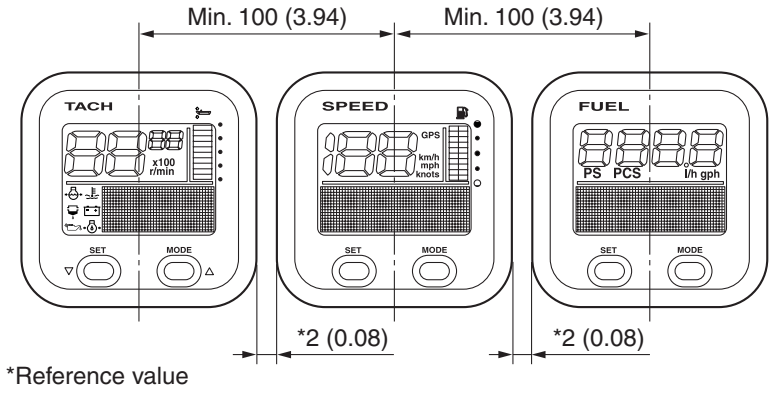
Fuel management meter unit (6Y8-8350F-0*)



Speed & Fuel meter unit (6Y8-83500-0*)



mm (in)

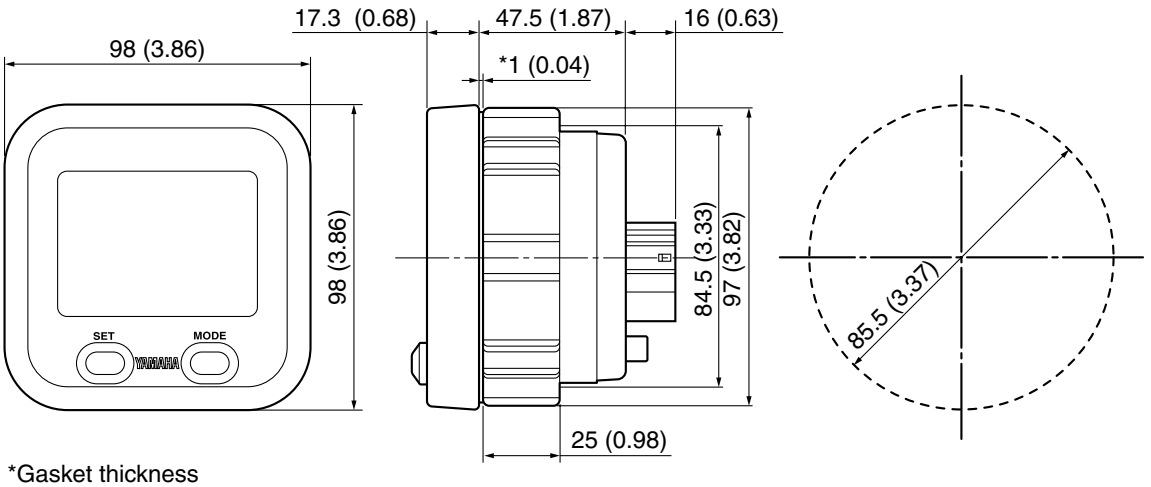


*Reference value

Install the meters 100 mm (3.94 in) or more from center to center of each meter.
If installed closer than specification, the ring nuts can interfere with each other and prevent tightening.

Surface mount

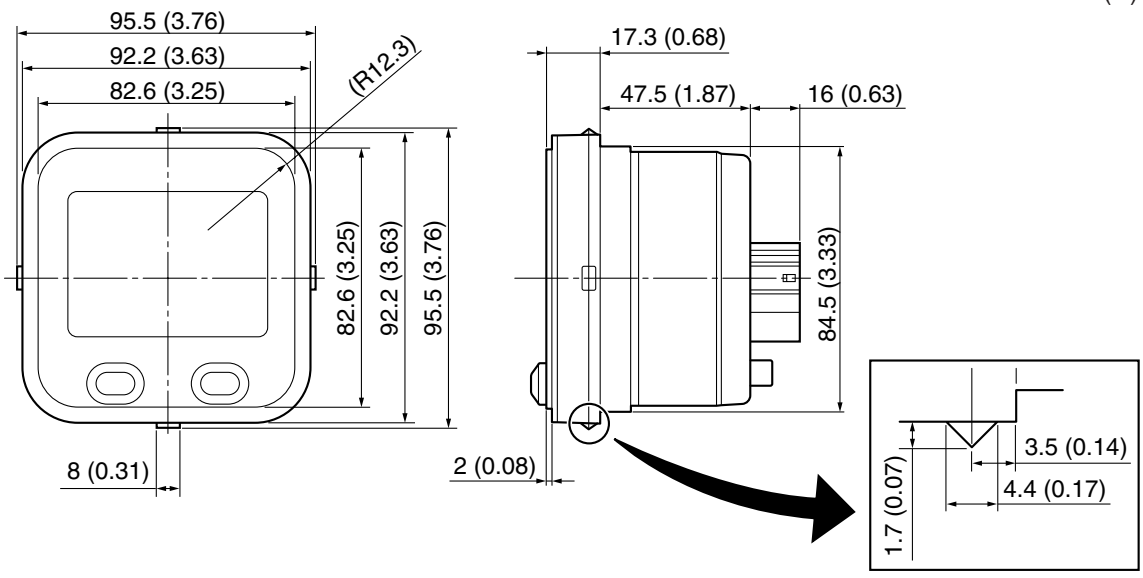
mm (in)



*Gasket thickness

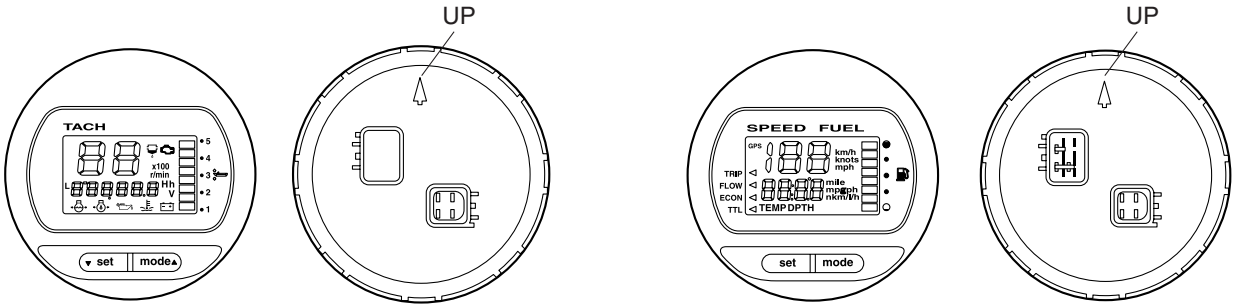
Flush mount (without bezel)

mm (in)

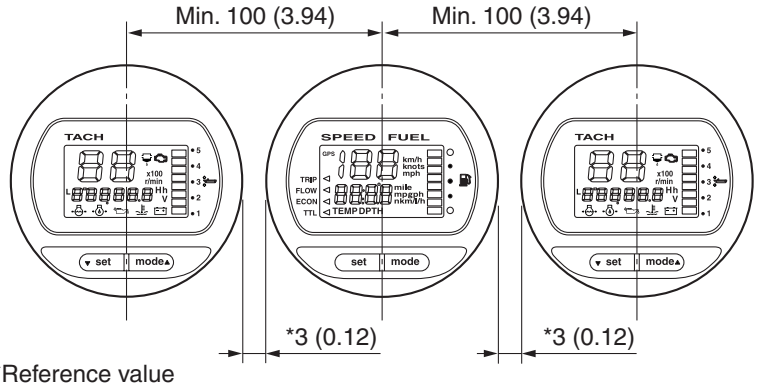


Meter (round)

Tachometer unit (6Y8-8350T-1*) **Speed & Fuel meter unit (6Y8-83500-1*)**



mm (in)

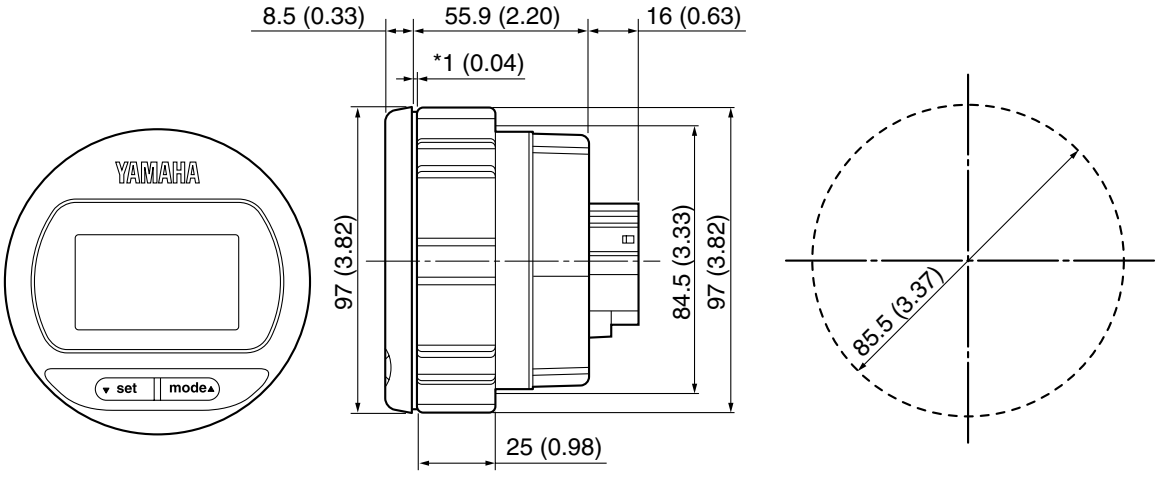


*Reference value

Install the meters 100 mm (3.94 in) or more from center to center of each meter.
If installed closer than specification, the ring nuts can interfere with each other and prevent tightening.

Surface mount

mm (in)

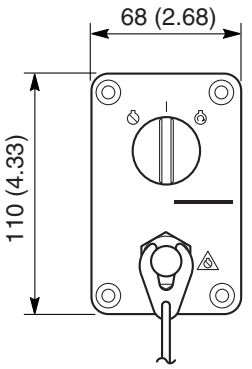


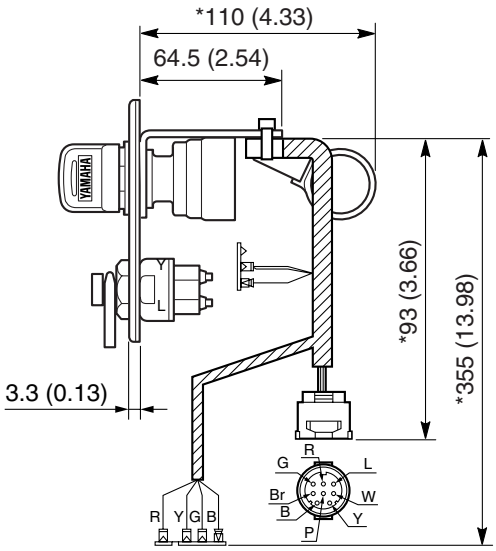
*Gasket thickness

Switch panel

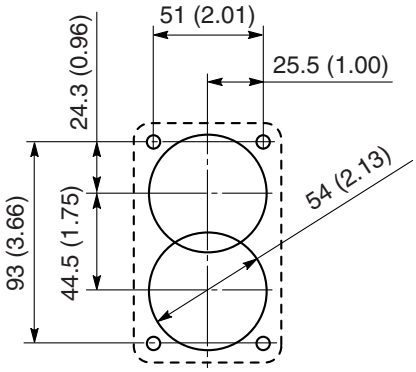
When installing single outboard motor

mm (in)



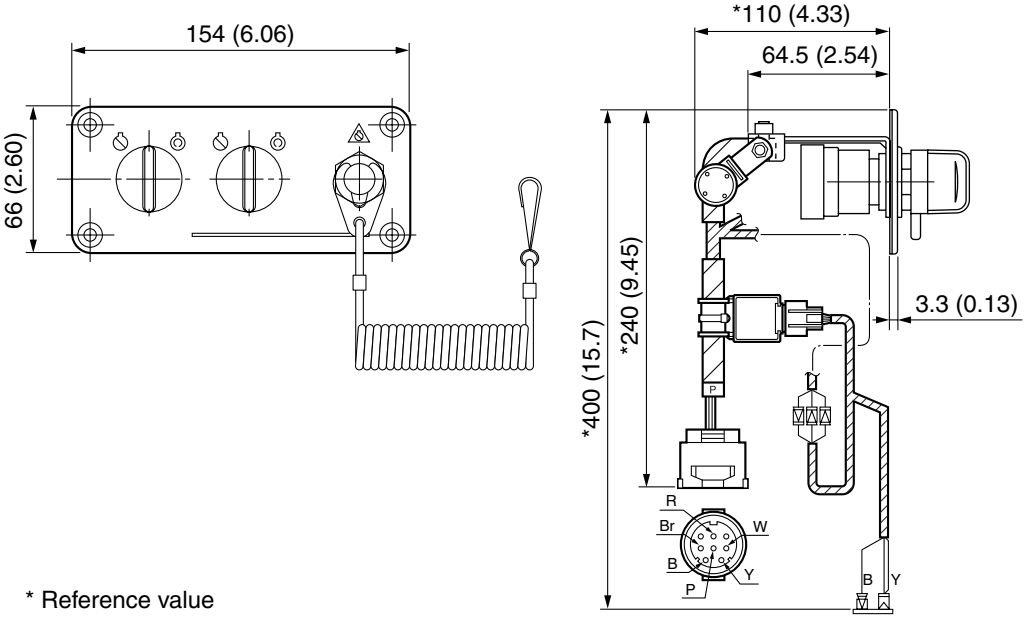


* Reference value

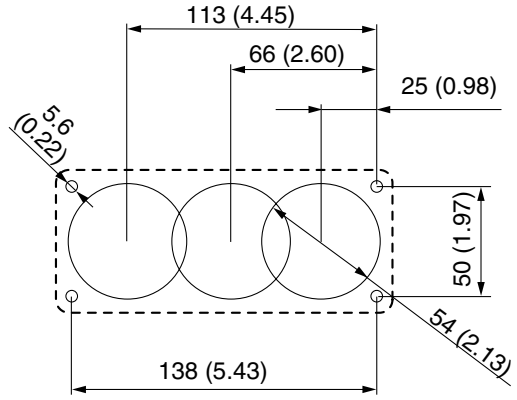


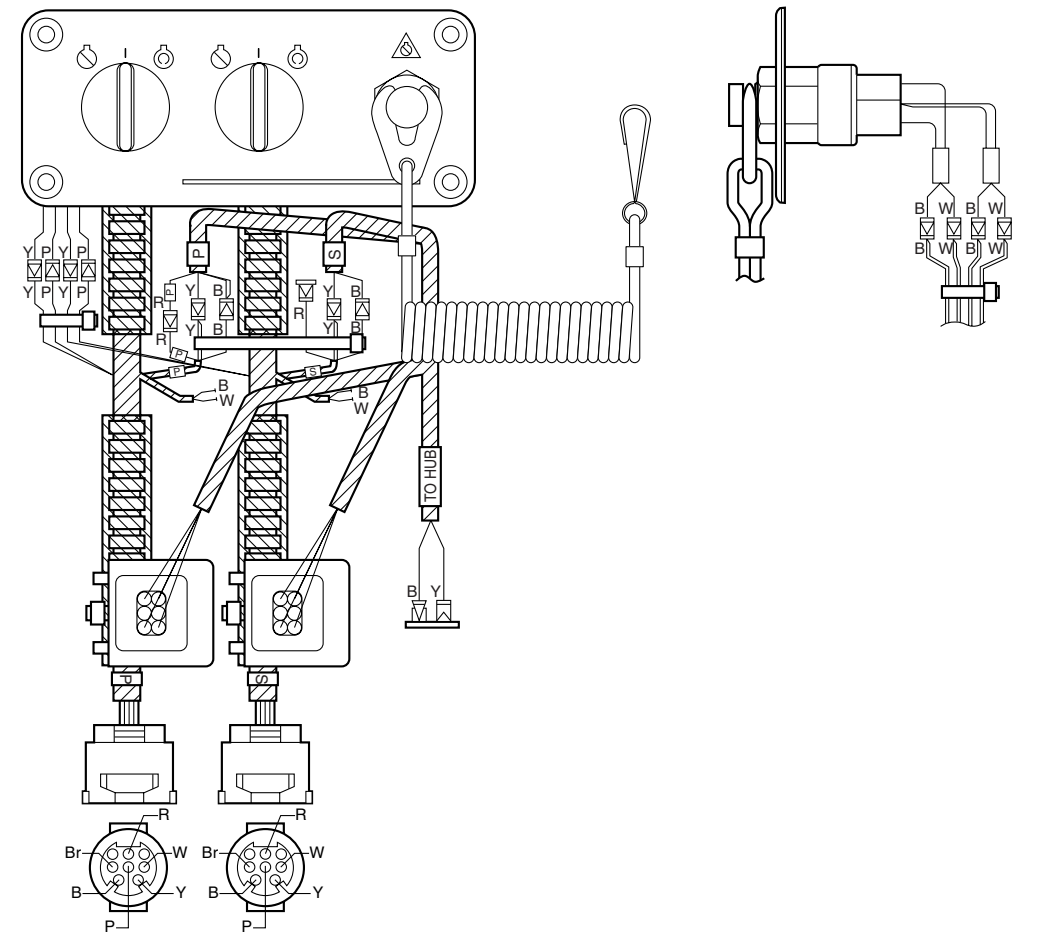
When installing twin outboard motors

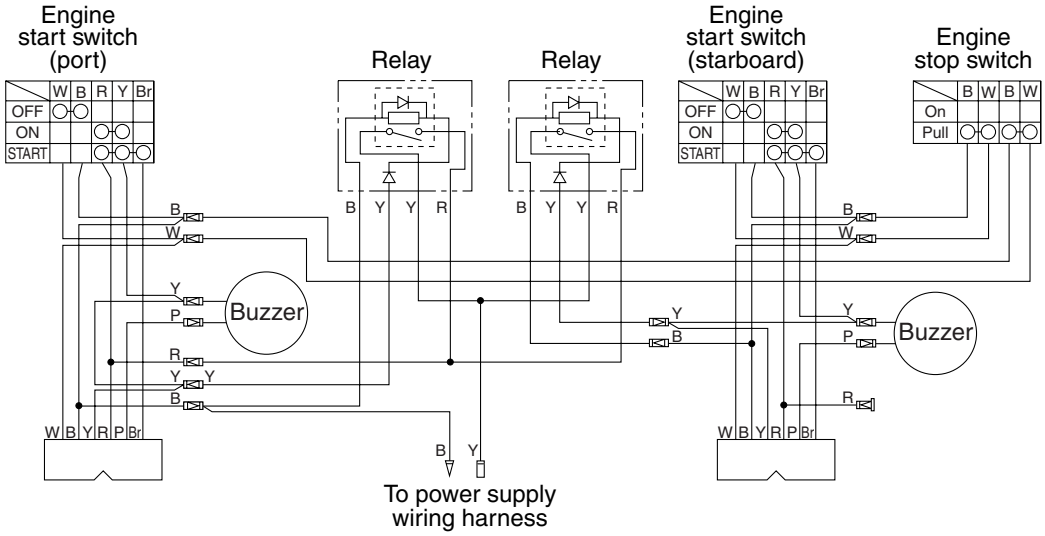
mm (in)



* Reference value

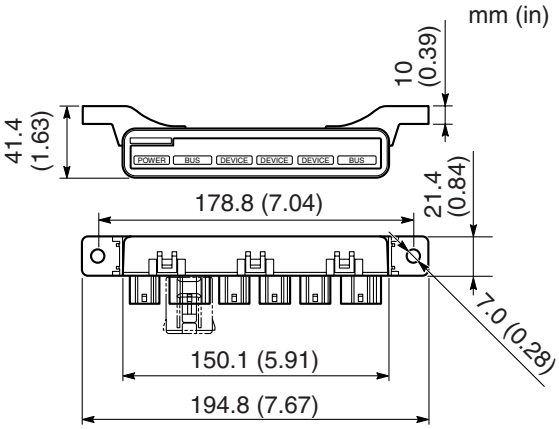



TO HUB
Br
W
B
Y
P
R


Engine start switch (port)
Relay
Relay
Engine start switch (starboard)
Engine stop switch
OFF
ON
START
On
Pull
Buzzer
Buzzer
To power supply wiring harness

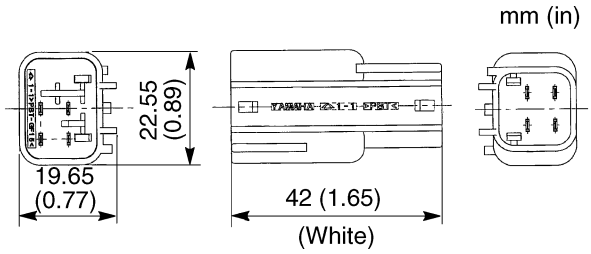
Hub

Multi hub assy



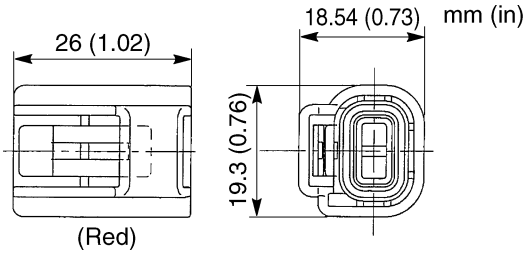
Part No.	Description
6Y8-81920-0*	With resistor

Single hub assy

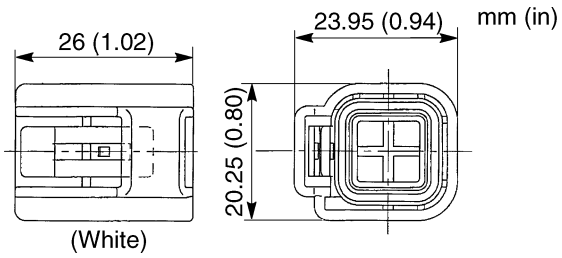


Part No.	Description
6Y8-81920-1*	4-pin to 6-pin adapter

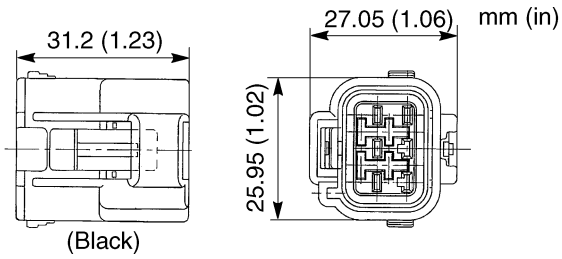
Waterproof cap - CAP 1 (2 PIN) ①



CAP 1 (4 PIN) ②



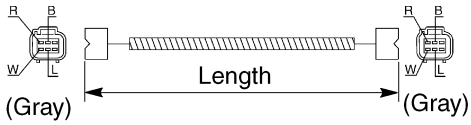
IN LINE RESISTOR ③

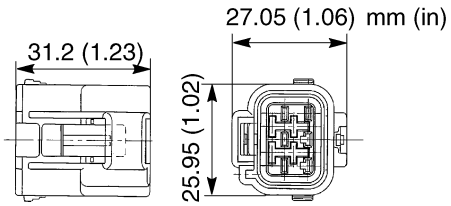


	Part No.	Description
①	6Y8-82582-0*	2-pin connector waterproof cap
②	6Y8-82582-1*	4-pin connector waterproof cap
③	6Y8-85371-0*	Resistor

Wiring harness

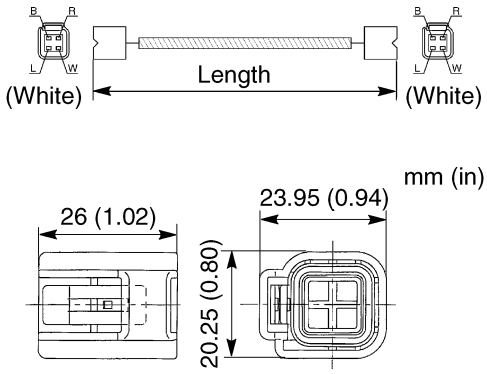
Main bus wire





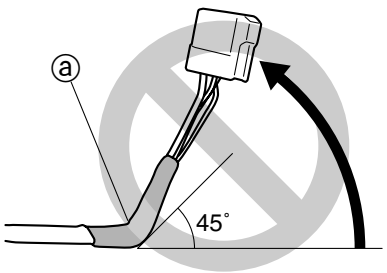
Part No.	Wire length
6Y8-82553-5*	3.05 m (10 ft)
6Y8-82553-4*	9.1 m (30 ft)
6Y8-82553-3*	7.6 m (25 ft)
6Y8-82553-2*	6.1 m (20 ft)
6Y8-82553-1*	4.6 m (15 ft)
6Y8-82553-0*	0.3 m (1 ft)

Pigtail bus wire

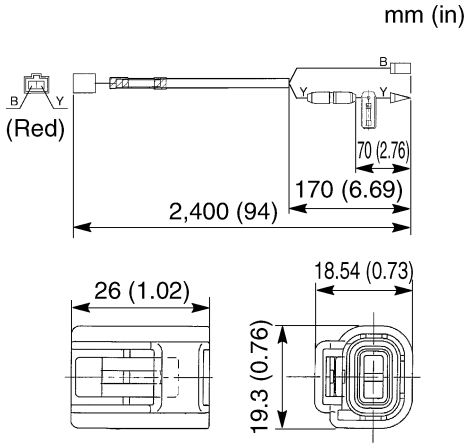


Part No.	Wire length
6Y8-82521-5*	3.6 m (12 ft)
6Y8-82521-4*	2.7 m (9 ft)
6Y8-82521-3*	1.8 m (6 ft)
6Y8-82521-2*	0.9 m (3 ft)
6Y8-82521-1*	0.6 m (2 ft)
6Y8-82521-0*	0.3 m (1 ft)

Do not bend the water-resistant heat shrinkable tube ⓐ of the main bus wire (6Y8-82553-**) and the pigtail bus wire (6Y8-82521-**) 45° or more.

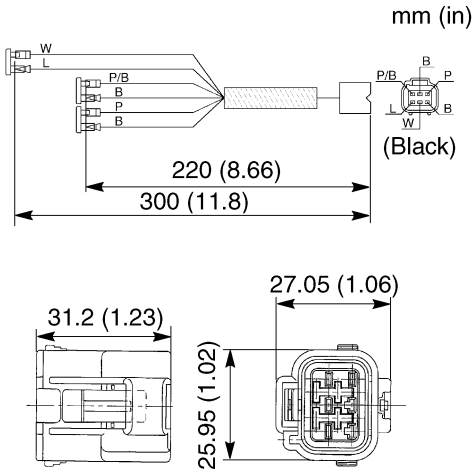


8FT Power wire



Part No.	Description
6Y8-83553-0*	With 10 amps fuse

Wire lead (GPS and fuel tank)



Part No.	Description
6Y8-8356N-0*	Accommodated to twin fuel tank

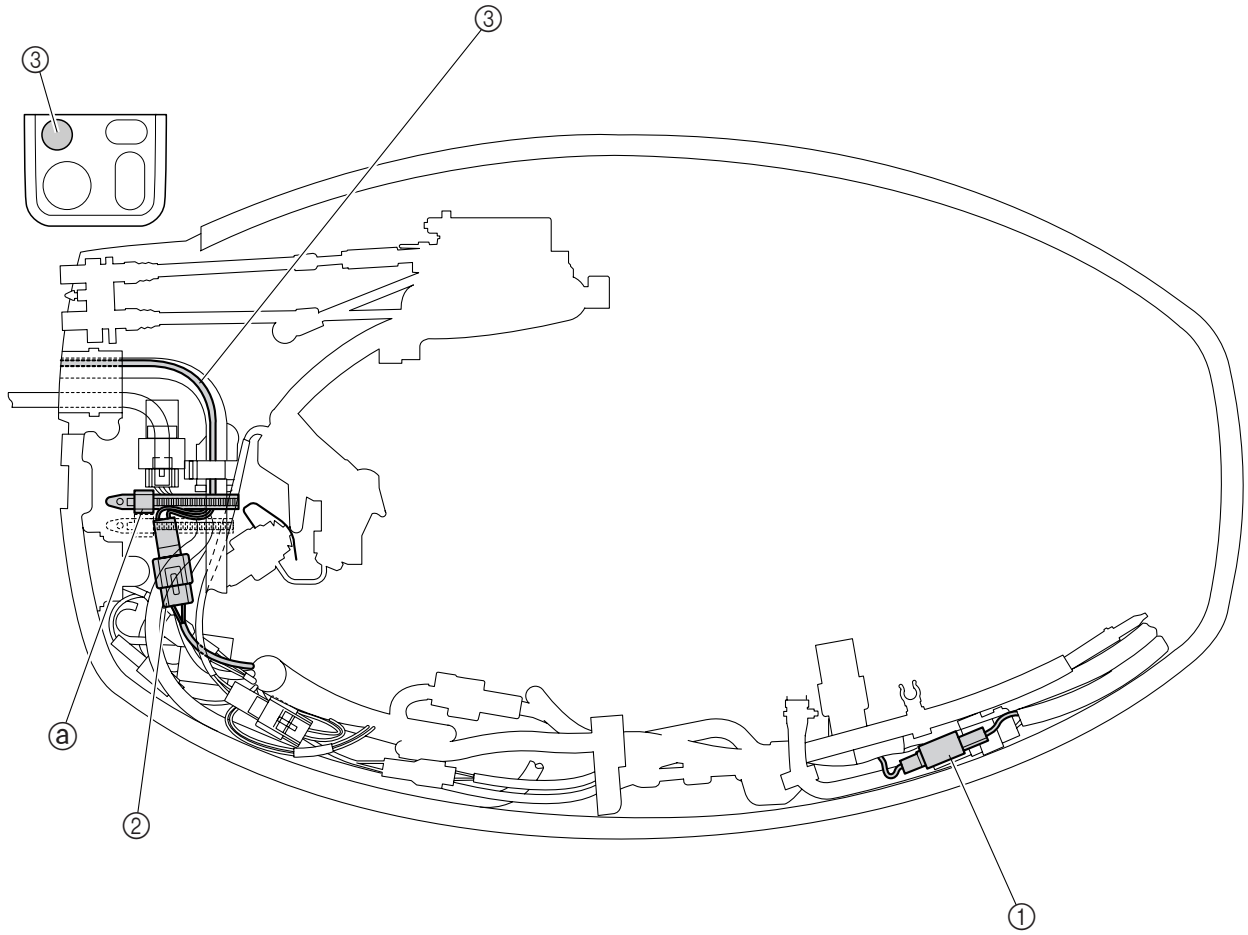
3. Connecting the meters to the engine

Connecting at the engine

Connect the multifunction meters to the engine. For the two procedures described below, check the connection procedures, notes, and cautions of each model and properly wire and connect the multifunction meters.

- Pink lead coupler (white: 1 pin)
  Connect the pink lead coupler on the outboard motor that was not connected at the factory and replace the trim sensor with one that is usable with the multifunction meters.
- Pigtail bus wire (white: 4 pin)
  Connect the pigtail bus wire to the multifunction meter communication coupler on the outboard motor.

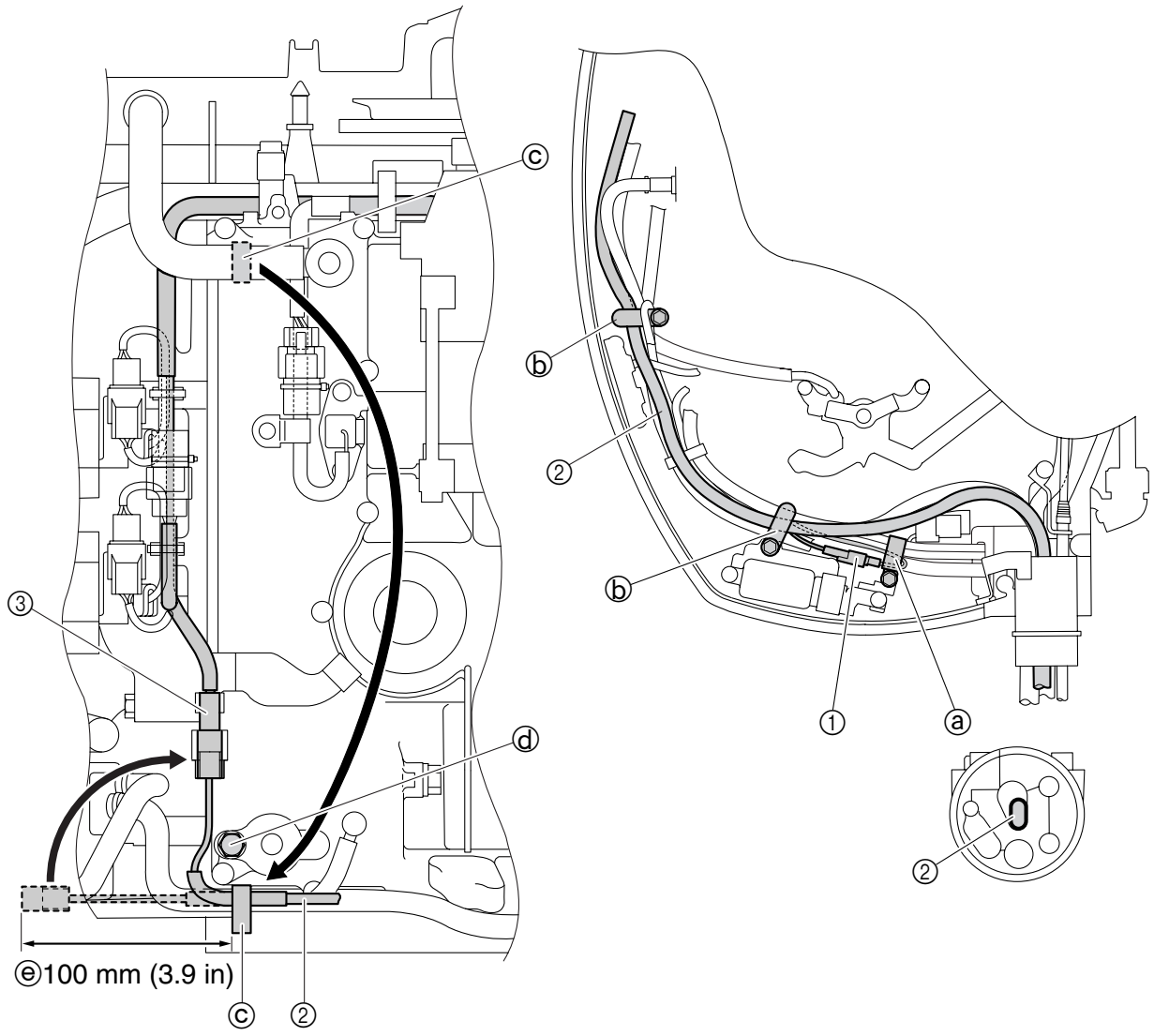
F50, T50, F60, T60 series



1. Remove the tape and blind plugs, and then connect the pink lead coupler ①.
2. Place the pink lead coupler ① in its original position.
3. Remove the blind plug, and then connect the communication coupler ② and the pigtail bus wire ③.
4. Fasten the pigtail bus wire ③ and the 10-pin main harness under the silencer with a plastic tie ⓐ.

NOTE:
Be sure to fasten the pigtail bus wire so that it does not interfere with the surrounding parts.

F75, F90 series



1. Remove the tape and blind plugs, and then connect the pink lead coupler ①.

2. Fasten the pink lead coupler ① under the holder ⓐ.

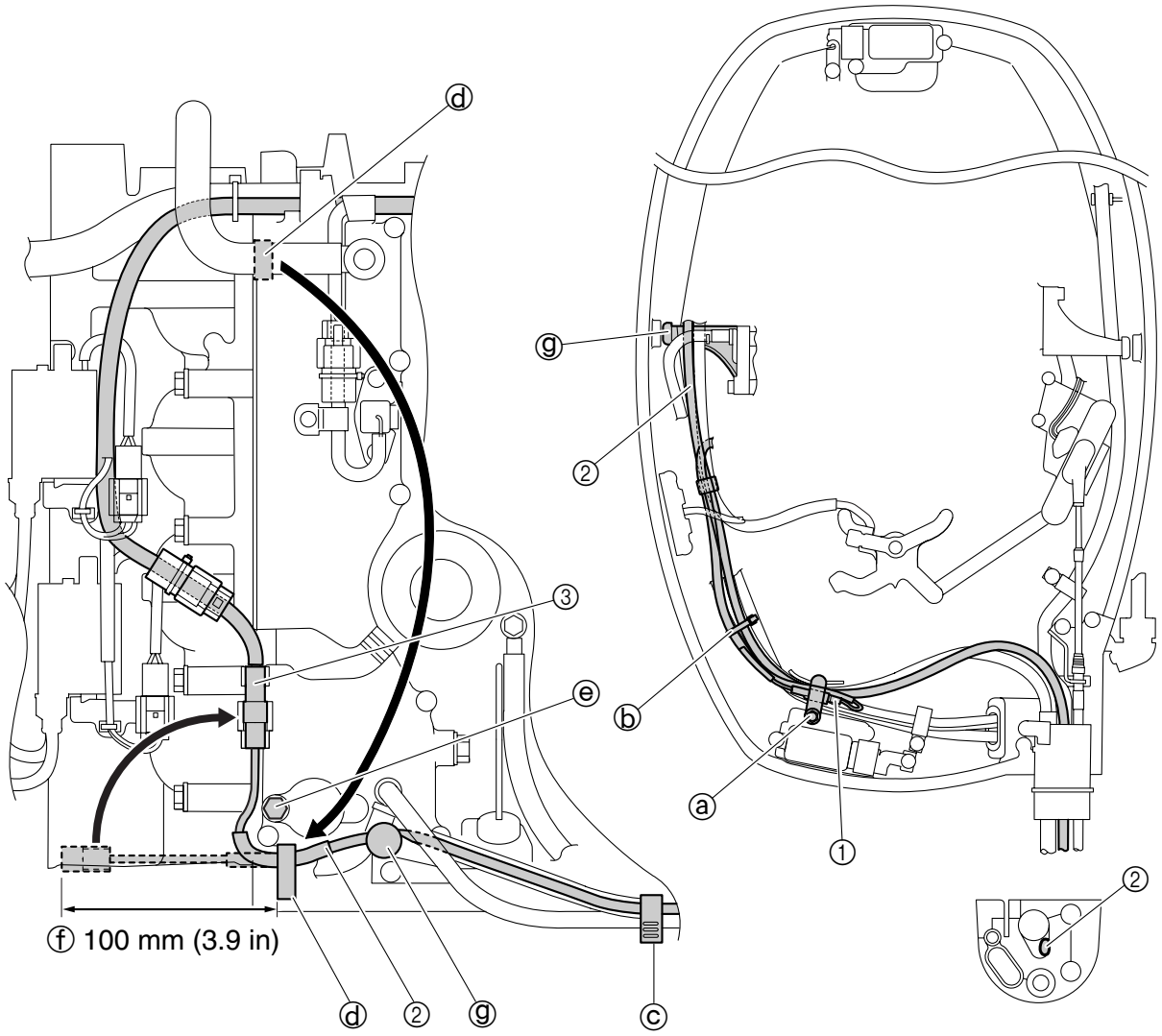
3. Pass the pigtail bus wire ② under holders ⓑ.

4. Remove the plastic holder ⓒ, place it under the bolt ⓓ, and then fasten the pigtail bus wire ② and fuel cooler hose using the plastic holder ⓒ. Make sure that the pigtail bus wire ② end is within the dimensions ⓔ shown in the diagram.

NOTE:
Be sure to fasten the pigtail bus wire so that it does not interfere with the surrounding parts. In addition, do not bend the pigtail bus wire end at an extreme angle when routing the wire.

5. Remove the blind plug, and then connect the communication coupler ③ and the pigtail bus wire ②.

F115 series



1. Remove the tape and blind plugs, and then connect the pink lead coupler ①.

2. Fasten the pink lead coupler ① under the holder ⓐ.

3. Pass the pigtail bus wire ② under holder ⓐ and onto the stopper ⓖ.

4. Remove the plastic tie ⓑ. Fasten the pigtail bus wire ② and fuel cooler hose using the plastic tie ⓑ.

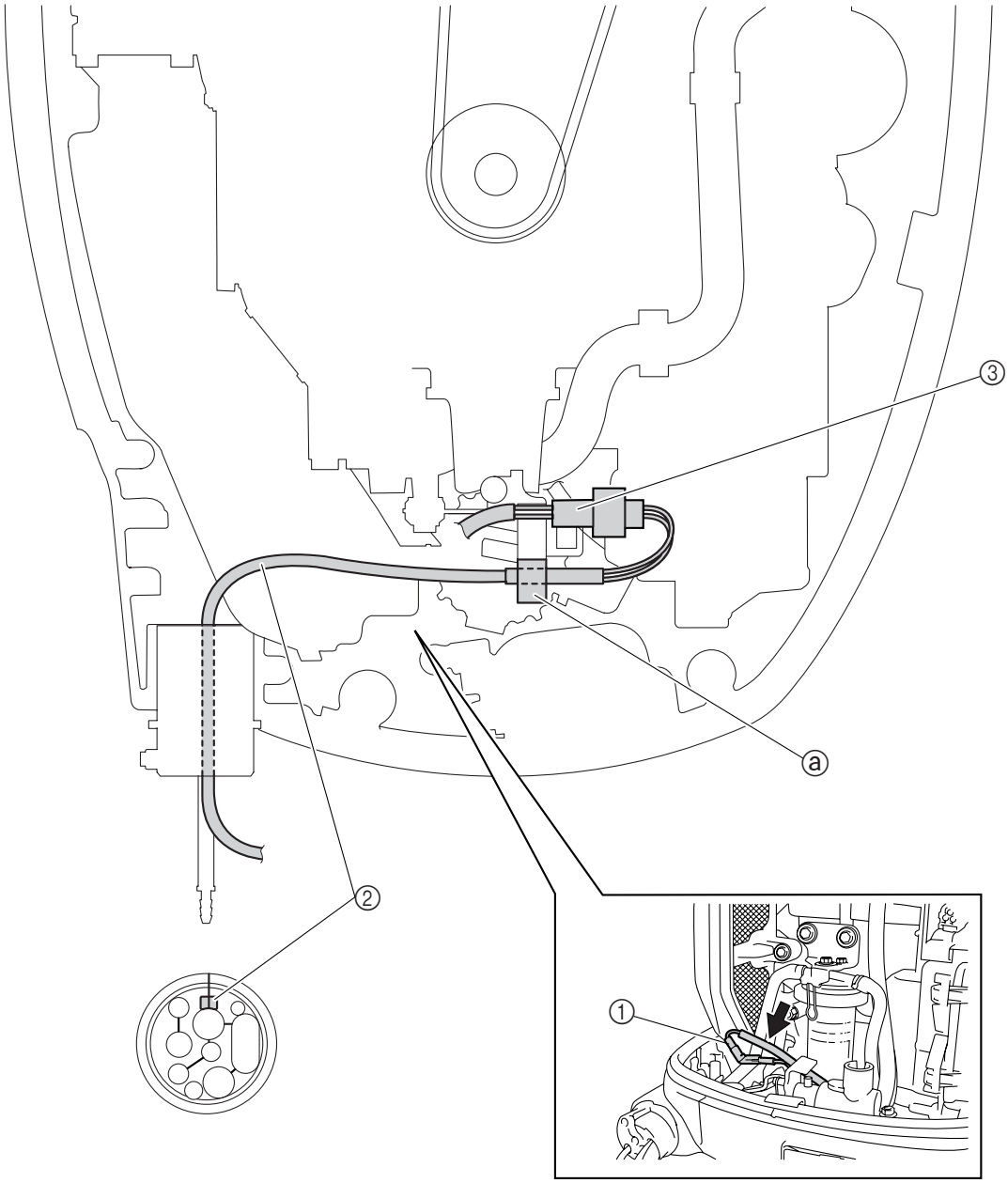
5. Fasten the pigtail bus wire ② and flushing hose using the plastic holder ⓒ.

6. Remove the plastic holder ⓓ, place it under the bolt ⓔ, and then fasten the pigtail bus wire ② and fuel cooler hose using the plastic holder ⓓ. Make sure that the pigtail bus wire ② end is within the dimensions ⓕ shown in the diagram.

NOTE:
Be sure to fasten the pigtail bus wire so that it does not interfere with the surrounding parts. In addition, do not bend the pigtail bus wire end at an extreme angle when routing the wire.

7. Remove the blind plug, and then connect the communication coupler ③ and the pigtail bus wire ②.

F150 series

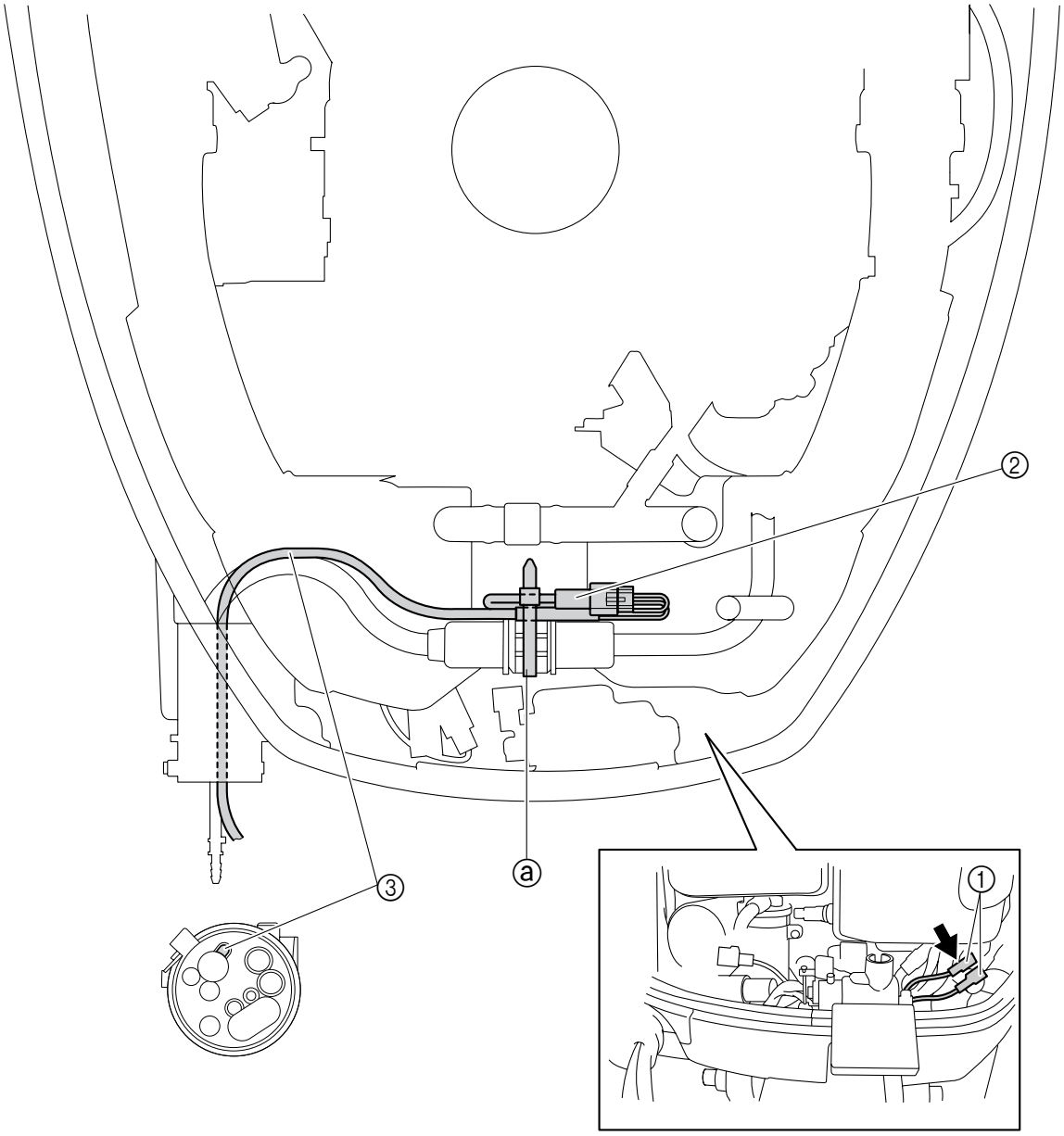


1. Remove the tape and blind plugs, and then connect the pink lead coupler ①.
2. Place the pink lead coupler ① in its original position.
3. Pass the pigtail bus wire ② under the holder ⓐ.

NOTE:
Be sure to fasten the pigtail bus wire so that it does not interfere with the surrounding parts.

4. Remove the blind plug, and then connect the communication coupler ③ and the pigtail bus wire ②.

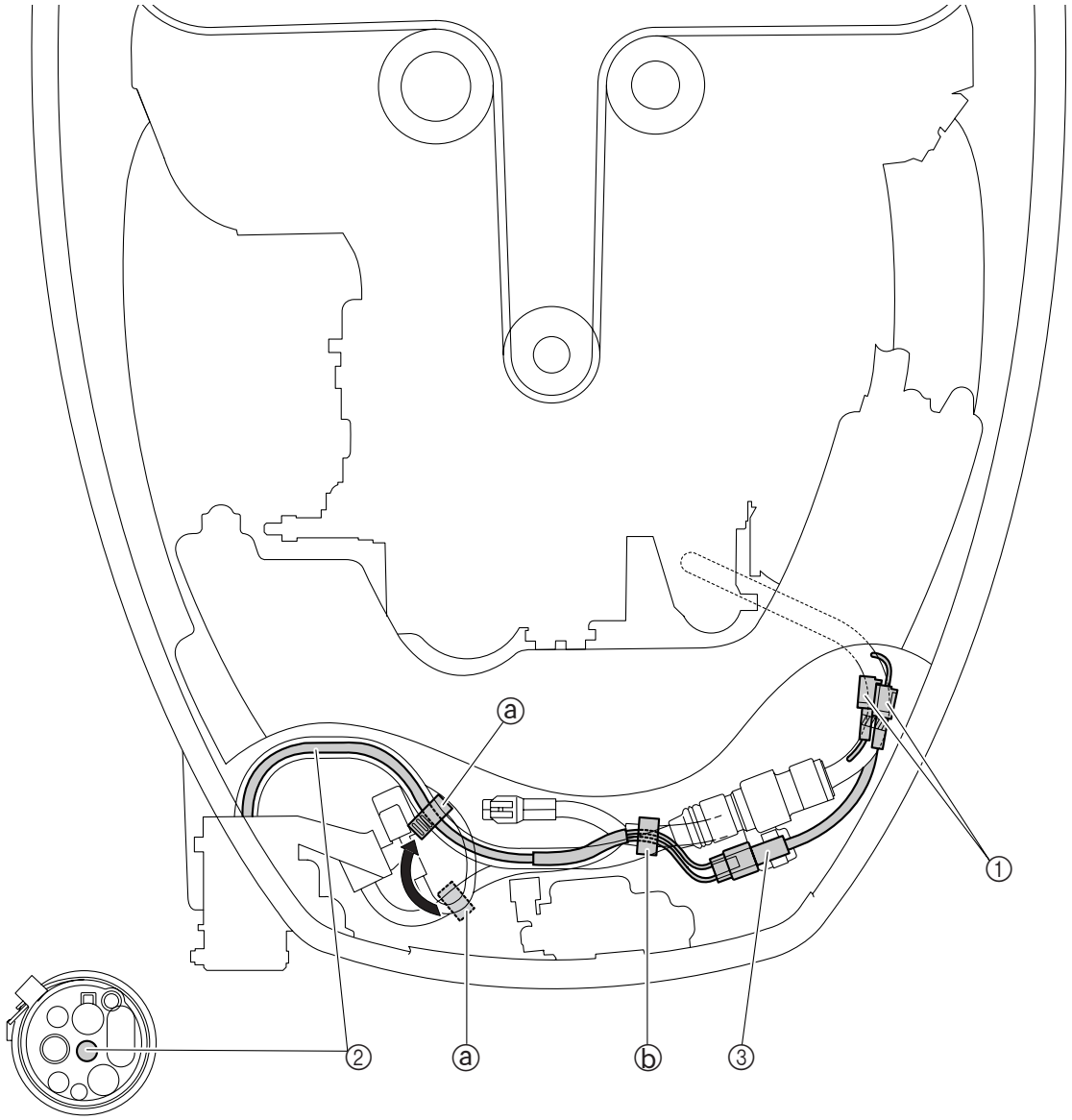
F200, F225 series



1. Remove the tape and blind plugs, and then connect the pink lead coupler ①.
2. Place the pink lead coupler ① in the original position.
3. Remove the blind plug, and then connect the communication coupler ② and the pigtail bus wire ③.
4. Fasten the pigtail bus wire ③ and 10-pin coupler with a plastic tie ⓐ.

NOTE:
Be sure to fasten the pigtail bus wire so that it does not interfere with the surrounding parts.

F250 series

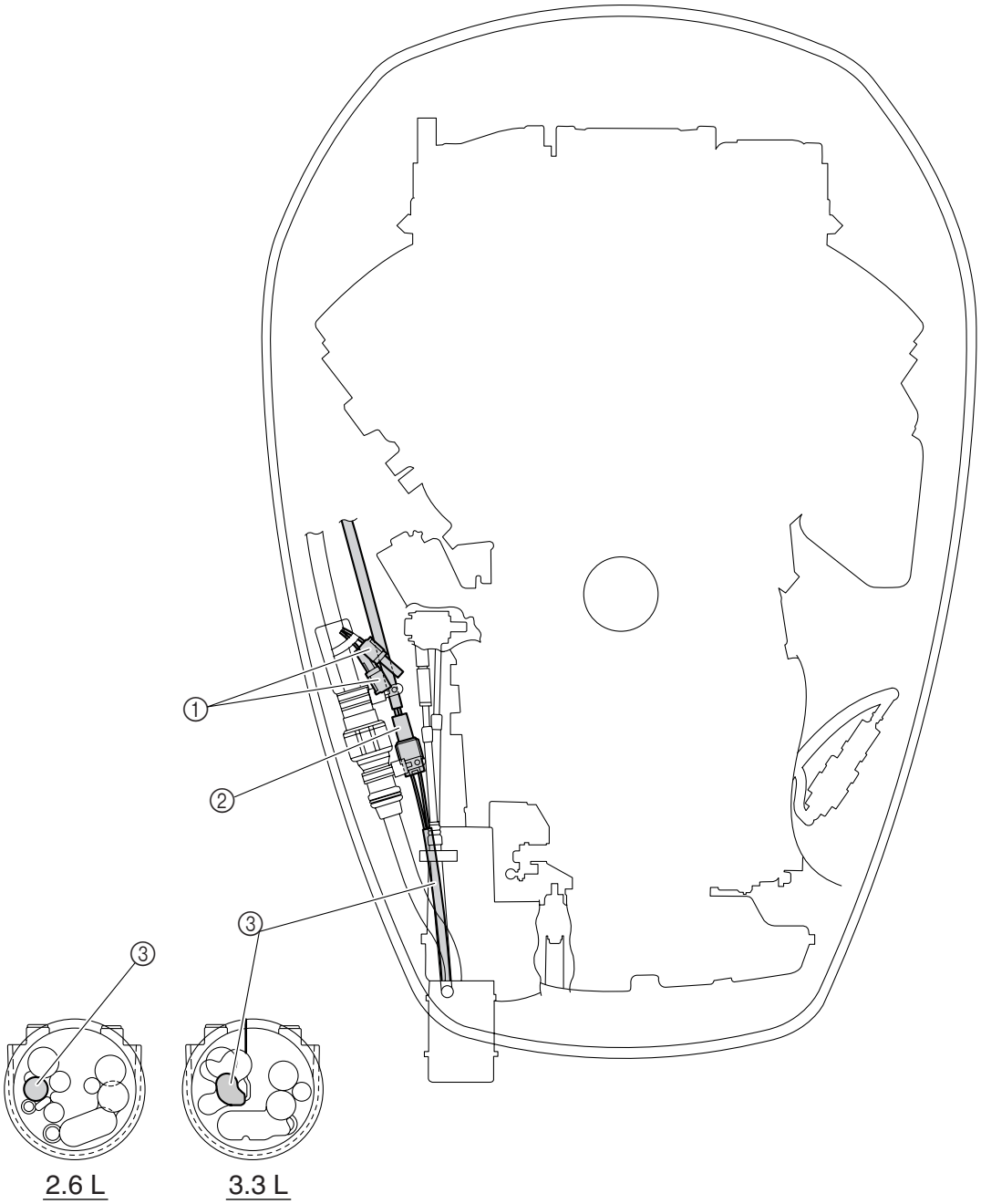


1. Remove the tape and blind plugs, and then connect the pink lead coupler ①.
2. Place the pink lead coupler ① in its original position.
3. Remove the plastic holder ⓐ, and then fasten the pigtail bus wire ② and 10-pin main harness using the plastic holder ⓐ as shown.
4. Fasten the pigtail bus wire ② and main harness using the plastic holder ⓑ.

NOTE:
Be sure to fasten the pigtail bus wire so that it does not interfere with the surrounding parts.

5. Remove the blind plug, and then connect the communication coupler ③ and the pigtail bus wire ②.

2-stroke (HPDI) series



1. Remove the tape and blind plugs, and then connect the pink lead coupler ①.
2. Place the pink lead couplers ① in its original position.
3. Remove the blind plug, and then connect the communication coupler ② and the pigtail bus wire ③.
4. Place the communication coupler ② in its original position.

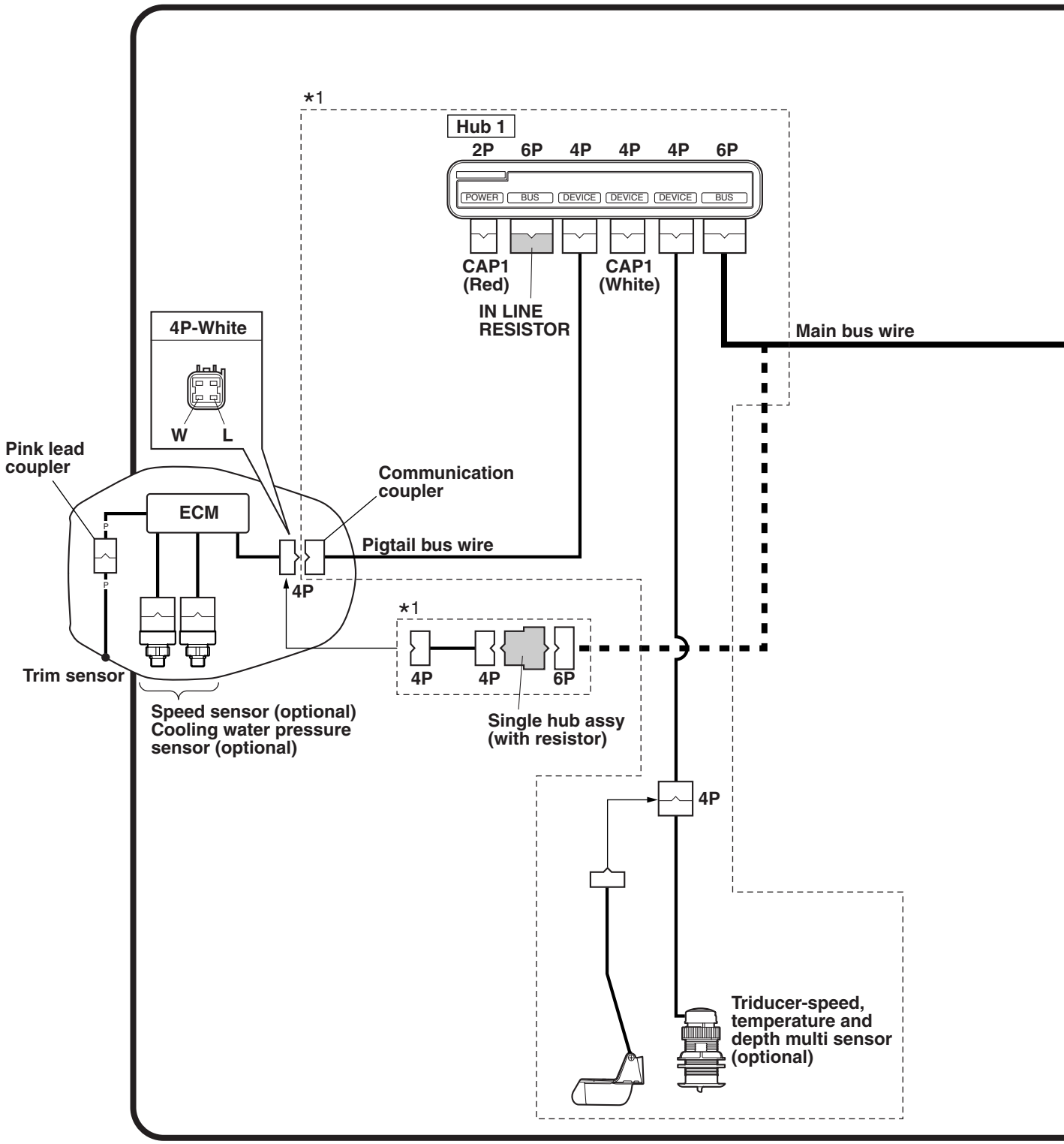
NOTE:
Be sure to fasten the pigtail bus wire so that it does not interfere with the surrounding parts.

Wiring diagram

Single engine application (square)

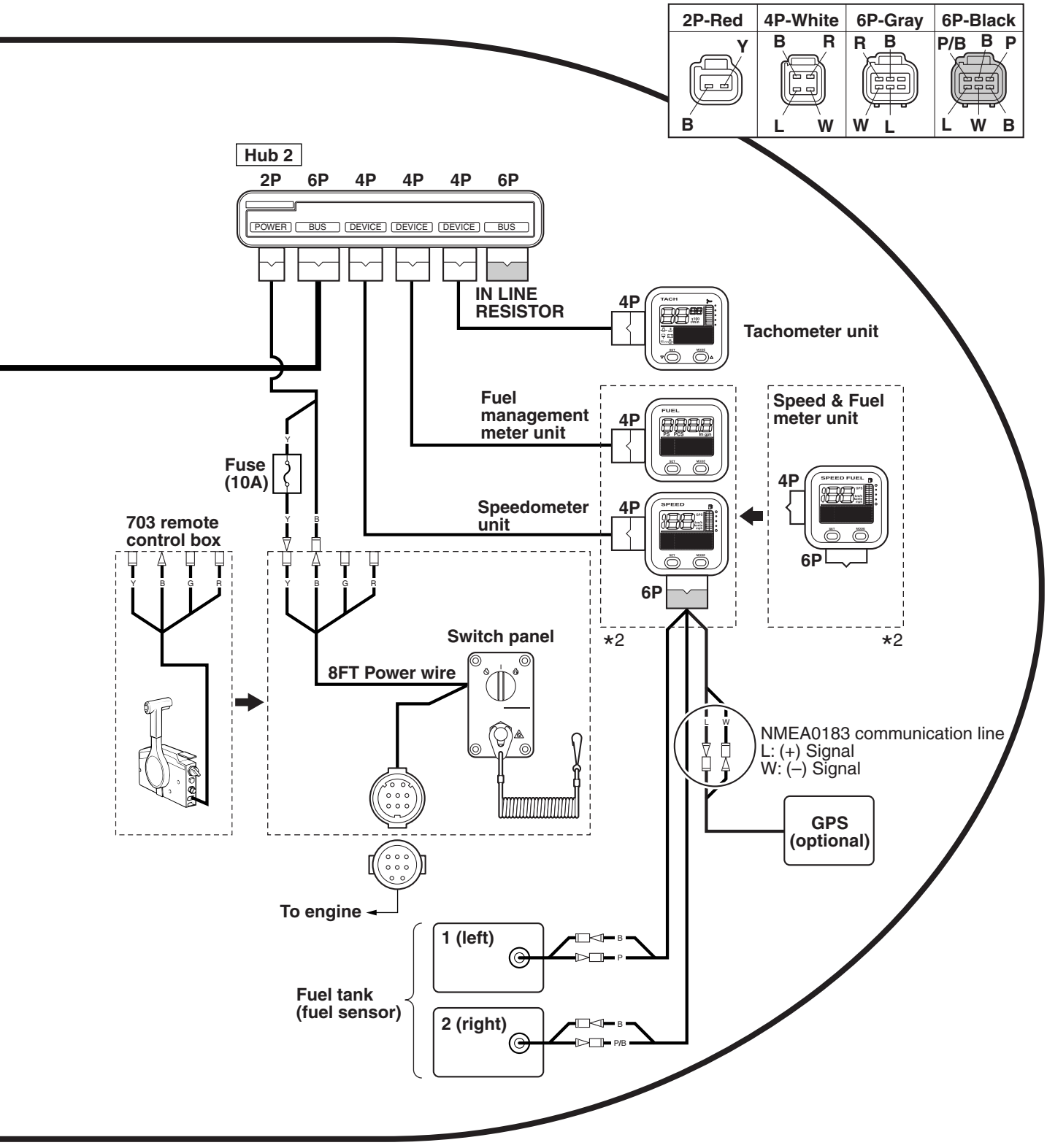
*1: A direct connection to the engine and hub 2 is possible when using a single hub assy (with resistor) instead of hub 1.

*2: When installing the Speed & Fuel meter unit, the Fuel management meter unit and Speedometer unit are not necessary. In this case, install a waterproof cap onto the open “DEVICE” connector of hub 2.



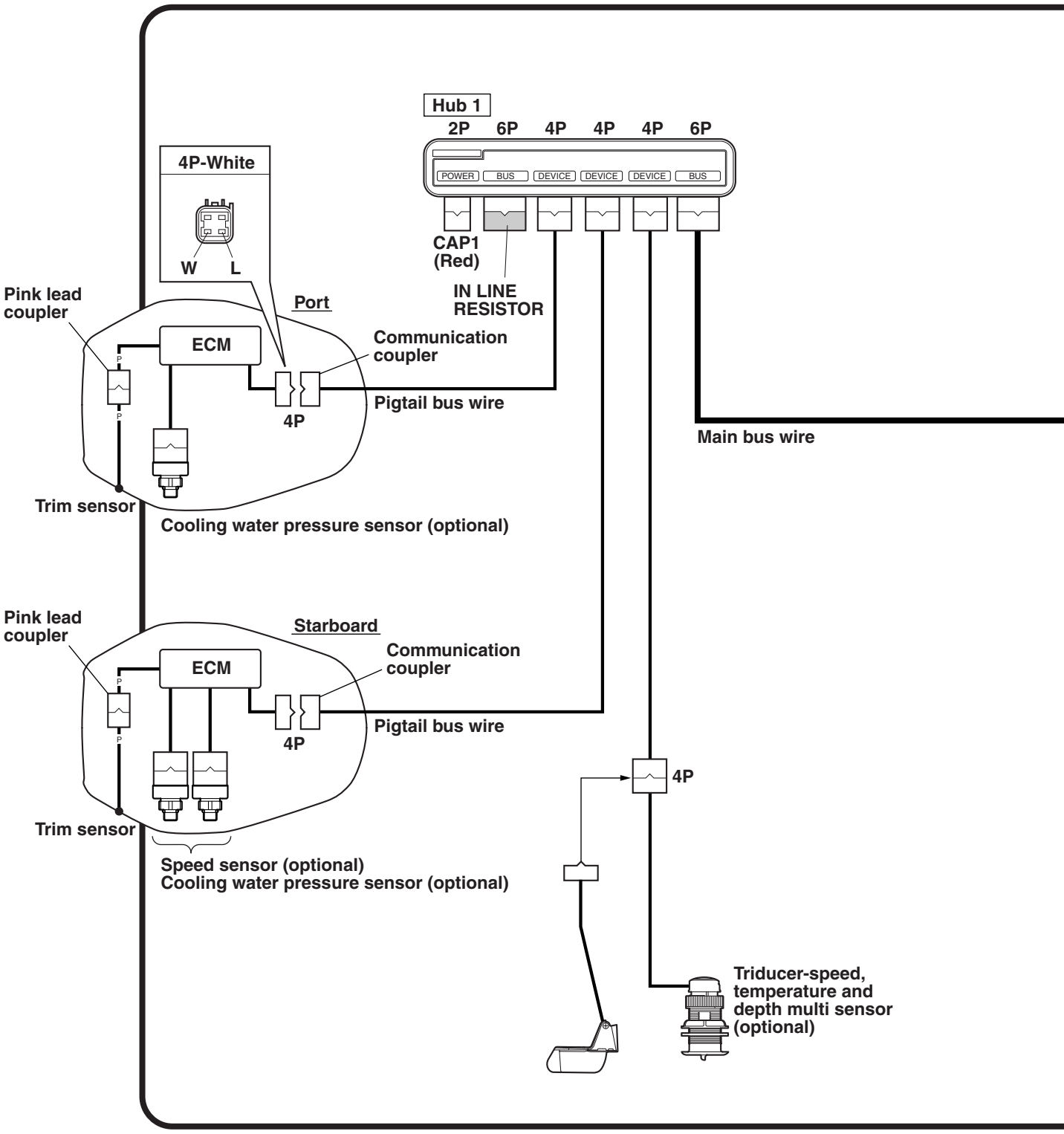
Color code:

B..... Black
L..... Blue
P..... Pink
R ..... Red
W..... White
Y..... Yellow
P/B ..... Pink/black



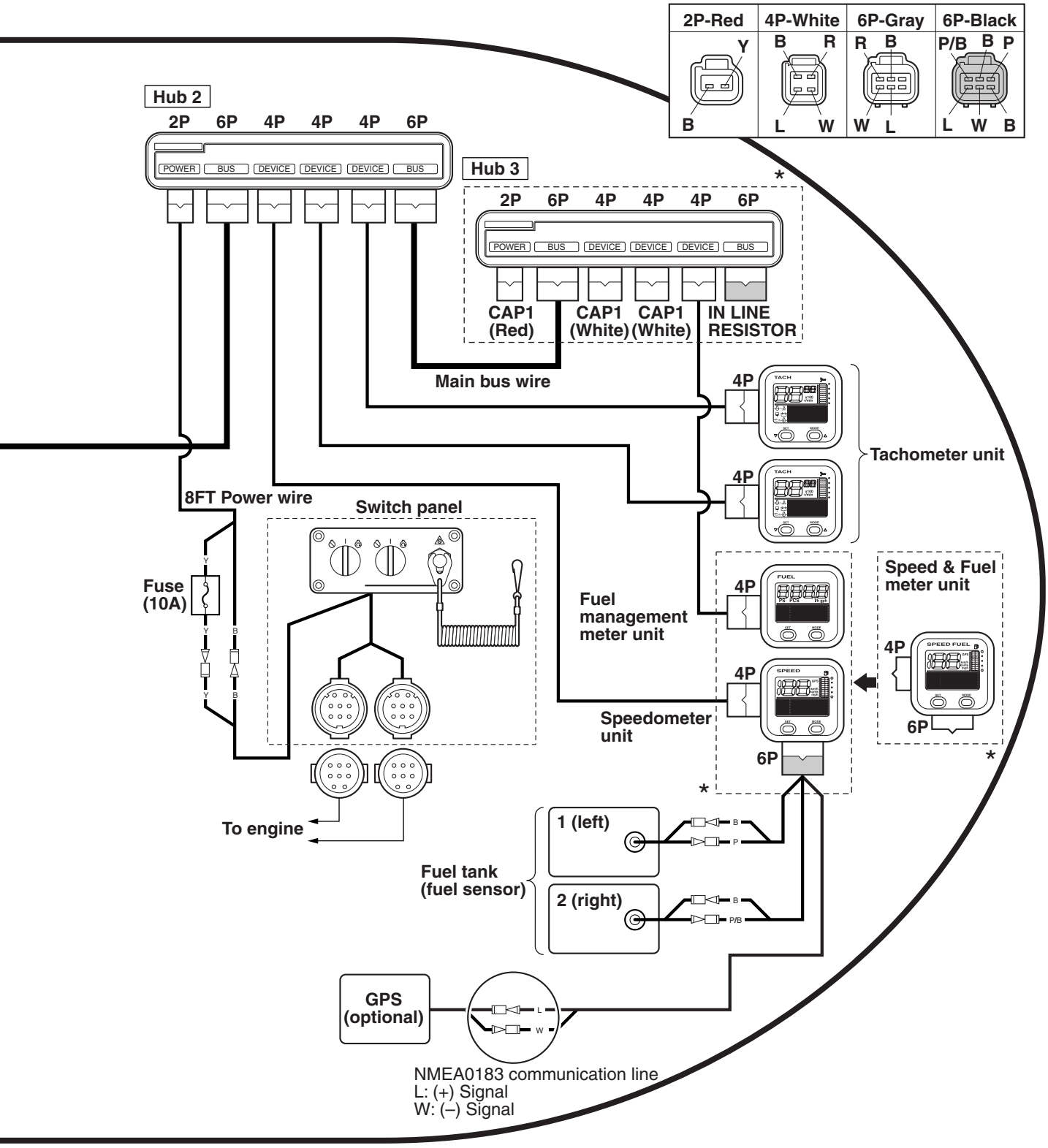
Twin engine application (square)

*: When installing the Speed & Fuel meter unit, the Fuel management meter unit, Speedometer unit, and hub 3 are not necessary. In this case, install a terminator onto the open “BUS” connector of hub 2.



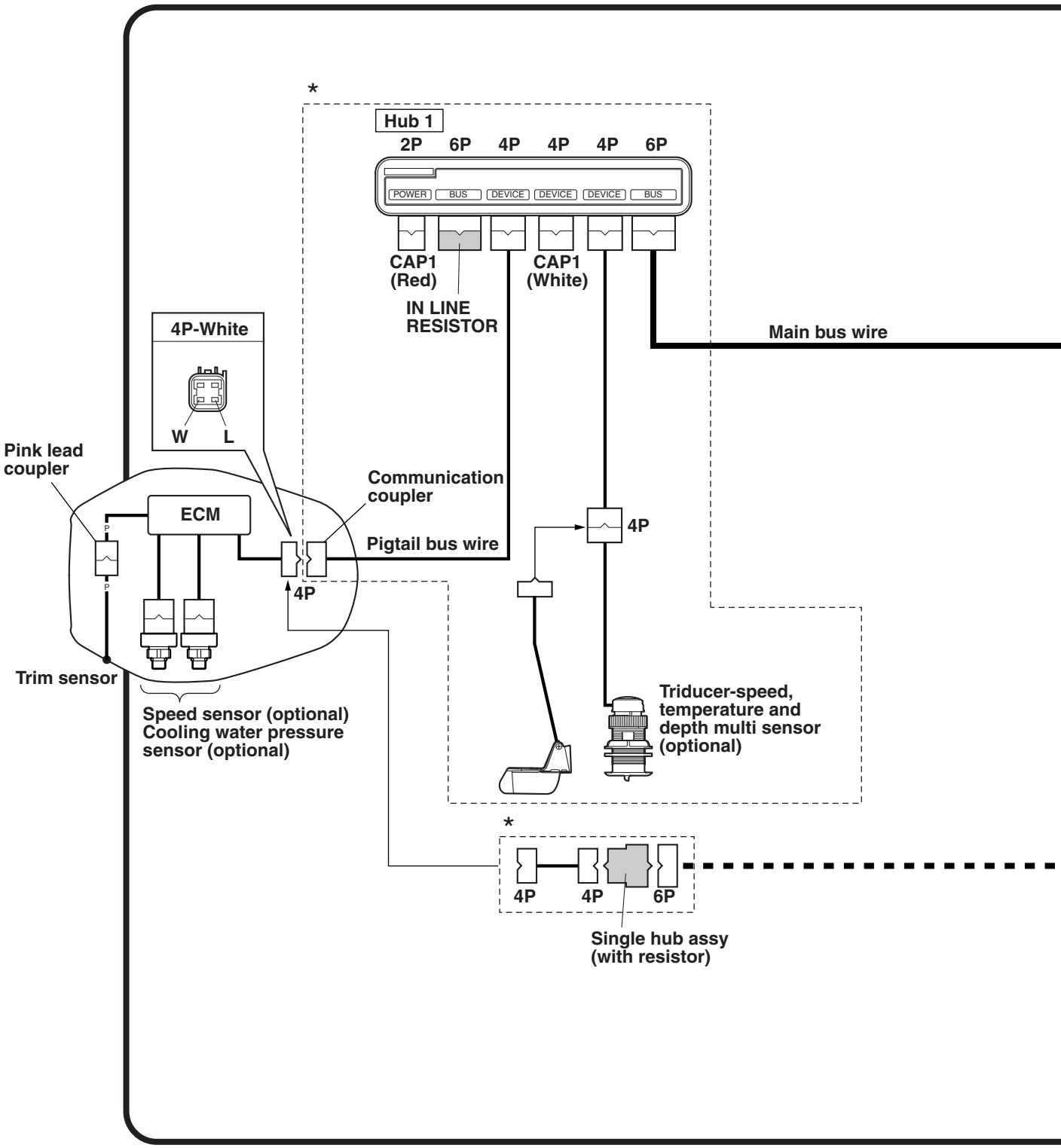
Color code:

B.....Black
L.....Blue
P.....Pink
R .....Red
W.....White
Y.....Yellow
P/B .....Pink/black



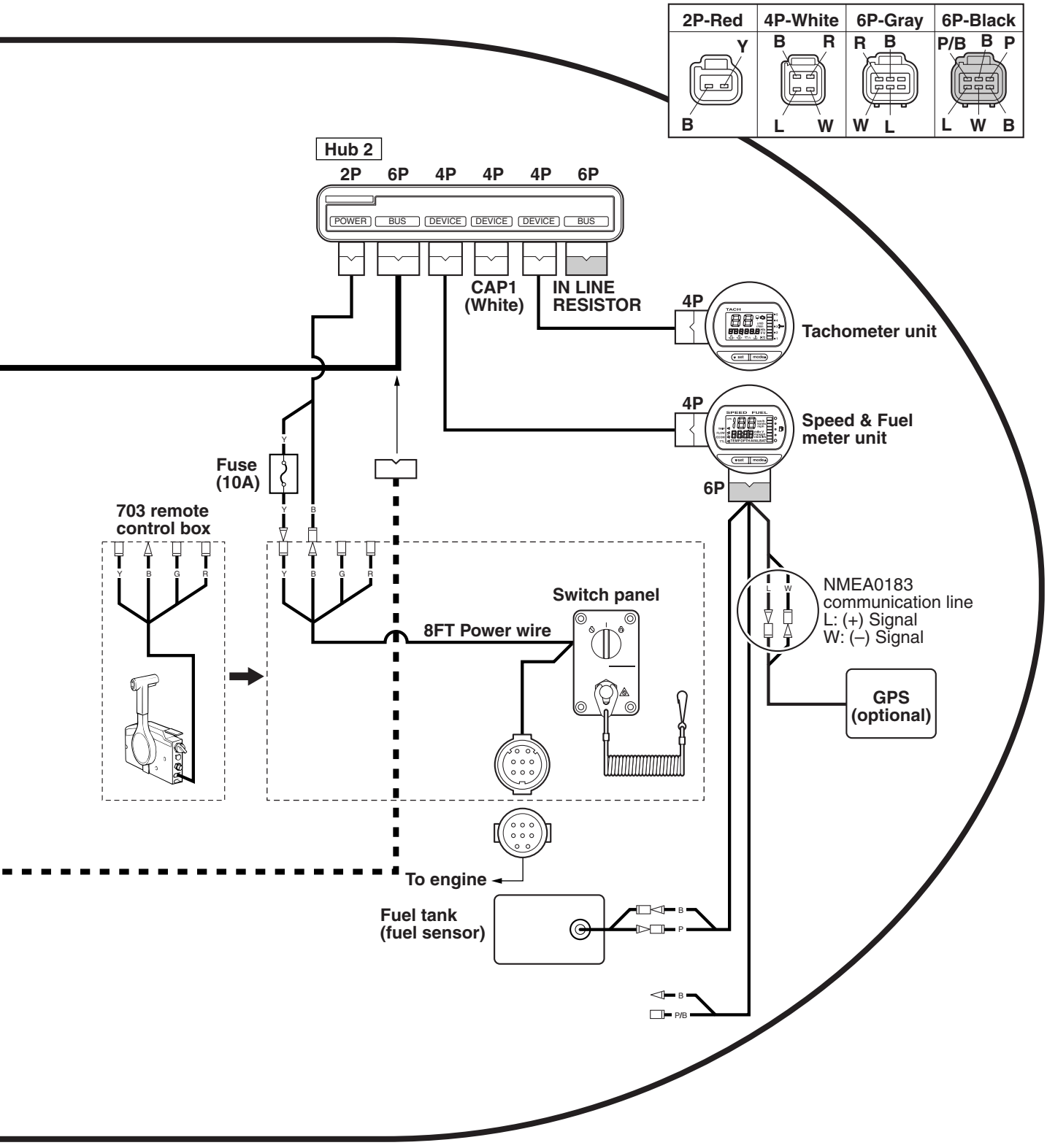
Single engine application (round)

*: A direct connection to the engine and hub 2 is possible when using a single hub assy (with resistor) instead of hub 1.

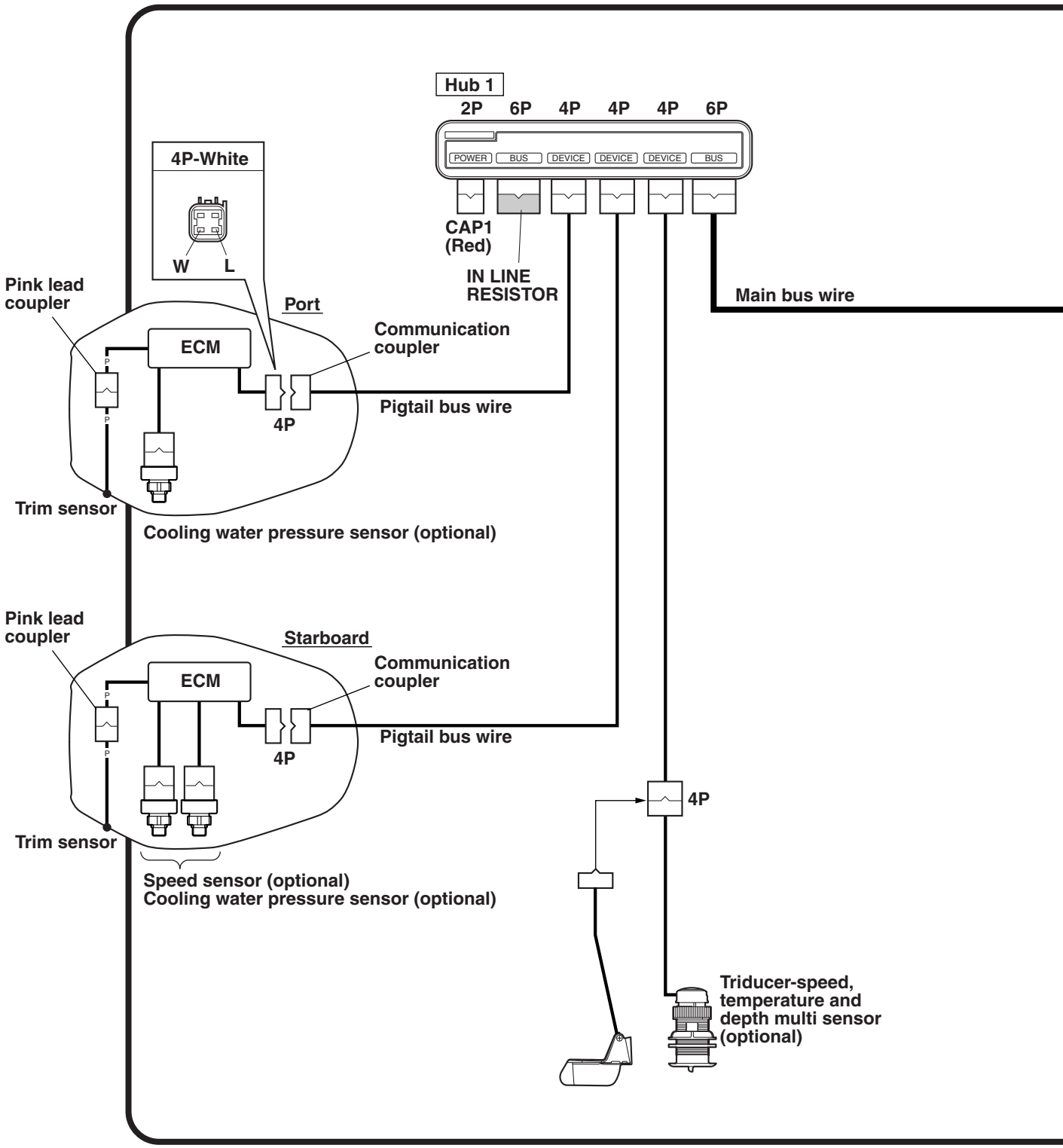


Color code:

B..... Black
L..... Blue
P..... Pink
R ..... Red
W..... White
Y..... Yellow
P/B ..... Pink/black

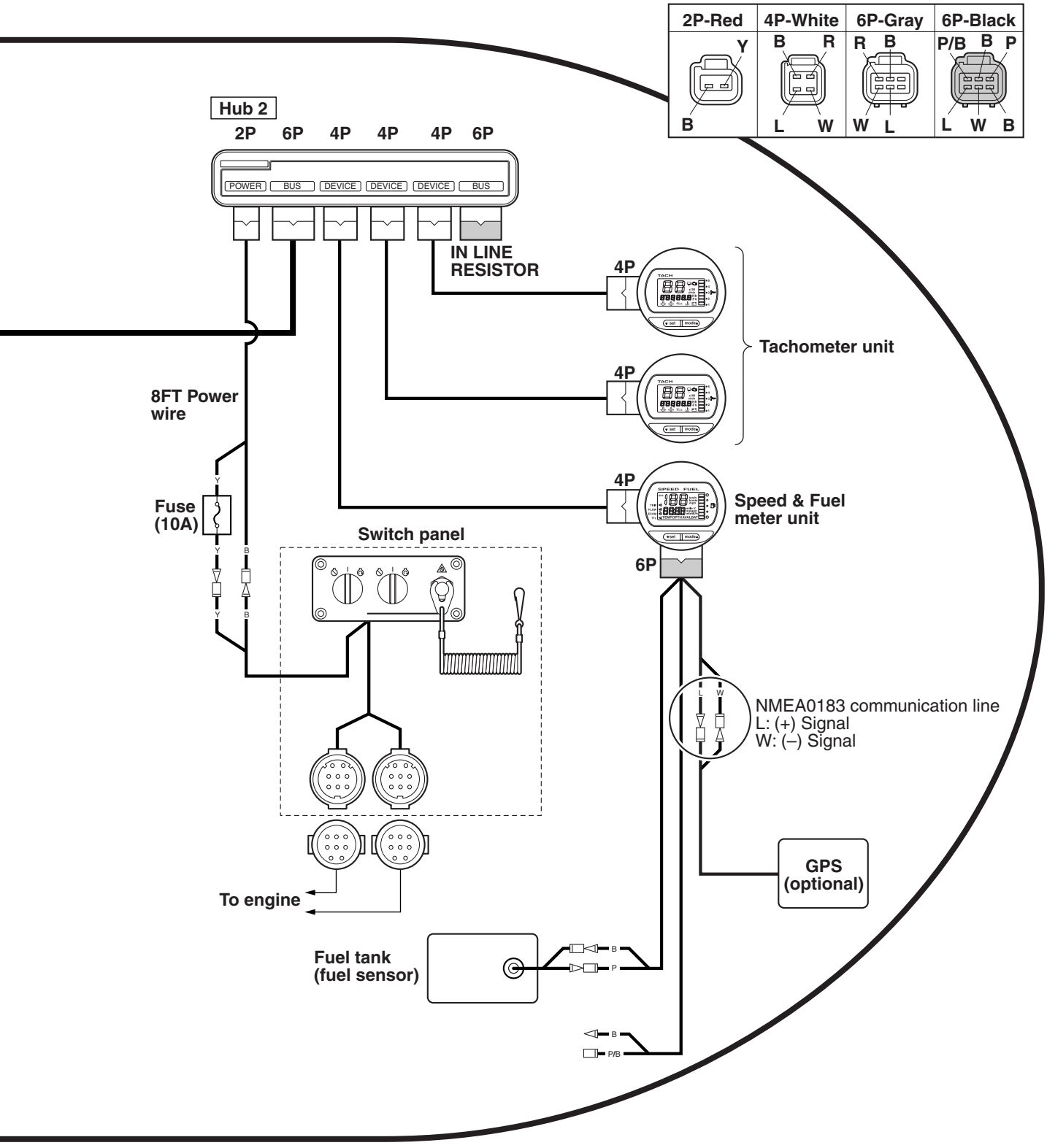


Twin engine application (round)



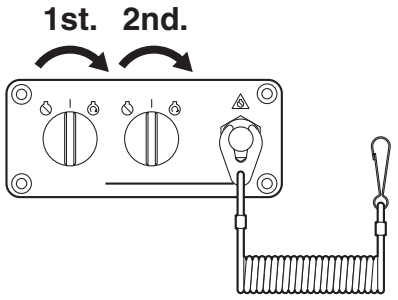
Color code:

B.....Black
L.....Blue
P.....Pink
R .....Red
W.....White
Y.....Yellow
P/B .....Pink/black



4. Activating for the first time

After installing the meters, be sure to turn the engine start switch to ON when the power is supplied for the first time. When multiple outboard motors are installed, be sure to start from the **port outboard motor first**.



If the procedures are performed incorrectly, see “6. Setting the initial settings” under “Resetting engine number” in “Tachometer unit” to reset all of the engine numbers. After connecting the meters to the engine, perform the setup procedures again.

NOTE:
The engine number of the engine whose engine start switch was first turned to ON is stored in the ECM (Engine Control Module) of the engine as the port engine (engine number 1). When multiple outboard motors are installed, be sure to wait at least 2 seconds before turning each engine start switch to ON.

5. Setting the initial settings

Before operating the meter, be sure to change the default settings as follows.

NOTE:
Meter displays can not be changed or modified while the engine is running.

Button operations
The button operations are described in this manual as follows.

Button operations (example):

- (SET)
  Press the SET button one time.
- (MODE)
  Press the MODE button one time.
- (SET) or (MODE)
  Press the SET button or the MODE button one time.
- (SET) (1 second)
  Press the SET button for 1 second.
- (MODE) (4 seconds)
  Press the MODE button for 4 seconds.
- (MODE) (10 seconds)
  Press the MODE button for 10 seconds.
- (MODE) (2 times)
  Press the MODE button two times.
- (SET) + (MODE)
  Press the SET button and the MODE button simultaneously.
- (SET) + (MODE) (10 seconds)
  Press the SET button and the MODE button simultaneously for 10 seconds.

Tachometer unit (square)

ENGINE NUMBER (setting corresponding engine)

You can select the engines that are compatible to this meter. The port outboard motor is set to number one and the starboard outboard motor is set to number two.

1. Turn the engine off and the engine start switch to ON.

2. (MODE) (4 seconds): To activate the custom mode.

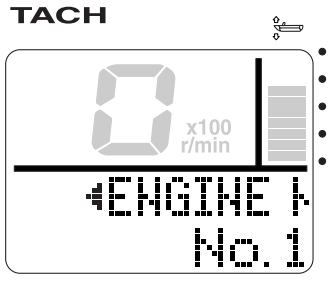
3. (MODE) (4 times): Press to switch between the setting function names.

MAINTENANCE
(resetting maintenance intervals)
↓(MODE)
TRIM 0SET (setting trim angle)
↓(MODE)
DISPLAY (setting displays)
↓(MODE)
FORM (setting display format)
↓(MODE)
ENGINE NUMBER
(setting corresponding engine)

4. (SET): To switch to the change settings display.

5. (MODE): To switch between the displayed engine numbers.

No.1 (engine number 1) ←
↓(MODE)
No.2 (engine number 2)
↓(MODE)
No.3 (engine number 3)
↓(MODE)
No.4 (engine number 4) → (MODE)



6. (SET) (1 second): To change the corresponding engine and return to the custom selection display.

7. (SET) (1 second): To return to the normal display.

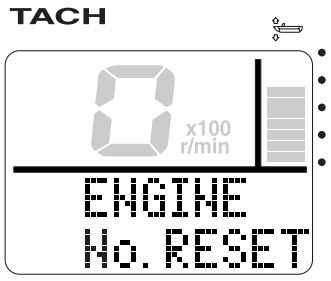
NOTE:
- The meters are set at the factory to “No.1 (engine number 1).”
- To reset an engine number, see “Resetting engine number.”

Resetting engine number

When replacing the engines of multiple outboard motors or resetting the setting order, reset all engine numbers to No.1 (engine number 1).

1. Turn the engine off and the engine start switch to ON.

2. (SET) (10 seconds): “ENGINE No. RESET” will be displayed for 1 second.



3. Turn the engine start switch to OFF. The engine number is reset after approximately 10 seconds.

4. Turn the engine start switches to ON in order from port to starboard.

NOTE:
- The engine numbers are stored in the ECM (Engine Control Module) of each engine for engine identification.
- The engine numbers are stored in the ECM (Engine Control Module) when, the engine start switch is first turned to ON after being connected. The numbers are stored in the order from number one to number four starting from the port outboard motor. When multiple outboard motors are installed, be sure to wait at least 2 seconds before turning each engine start switch to ON.

TRIM 0SET (setting trim angle)

You can set the trim angle to zero. Fully trim the outboard motor down.

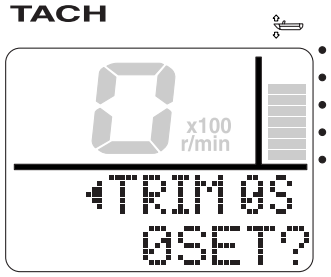
1. Turn the engine off and the engine start switch to ON.

2. (MODE) (4 seconds): To activate the custom mode.

3. (MODE): To switch between the setting function names.

MAINTENANCE
(resetting maintenance intervals)
↓(MODE)
TRIM 0SET (setting trim angle)

4. (SET): To switch to the zero adjustment display.



5. (SET) + (MODE) (1 second): To adjust the trim angle to zero using the current trim position as the standard value.

6. (SET) (1 second): To return to the normal display.

NOTE:
Press the (SET) button for 1 second from step 4 to cancel the adjustment of the trim angle to zero and return to the custom mode selection display.

DISPLAY (setting displays)

You can change the display configuration of the normal display. There are a total of 16 combinations of which up to four displays can be set up.
The display configuration numbers that have been selected as the default display configuration are indicated by the shaded areas in the table below.

Display configuration No.	Cooling water/ engine temperature	Cooling water pressure	Battery voltage	Oil pressure/ Oil level	Total hour, Trip hour
00	—	—	—	—	—
01	○	—	○	○	—
02	—	○	○	○	—
03	○	—	○	—	—
04	○	—	—	○	—
05	○	—	—	—	○
06	—	○	○	—	—
07	—	○	—	○	—
08	—	○	—	—	○
09	—	—	○	○	—
10	—	—	○	—	○
11	—	—	—	○	○
12	○	—	—	—	—
13	—	○	—	—	—
14	—	—	○	—	—
15	—	—	—	○	—
16	—	—	—	—	○

○: Displayed

Changing the display configurations:

1. Turn the engine off and the engine start switch to ON.

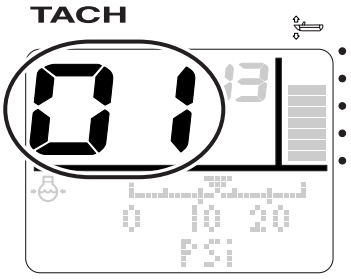
2. (MODE) (4 seconds): To activate the custom mode.

3. (MODE) (2 times): Press to switch between the setting function names.

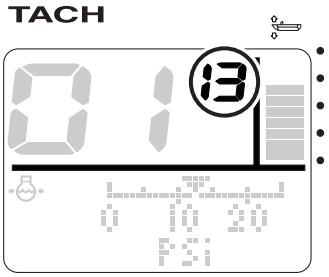
MAINTENANCE
(resetting maintenance intervals)
↓ MODE
TRIM 0SET (setting trim angle)
↓ MODE
DISPLAY (setting displays)

4. SET: To switch to the change settings display.

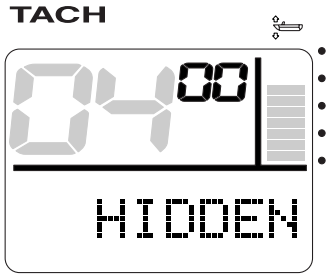
5. MODE: To switch between the display numbers. Select the display number (01–04) you want to change. The first two digits in the tachometer display show the display numbers.



6. SET: To select the display configuration numbers (00–16) you want to change. The last two digits in the tachometer display show the display configuration numbers. Press to switch between the display configuration numbers.



* In the display example, display number 01 and display configuration number 13 are shown.



* When the display configuration number “00” is selected, “HIDDEN” is shown and the display is not shown.

7. SET (1 second): To change the display configuration and return to the custom mode selection display.

8. SET (1 second): To return to the normal display.

NOTE:
When changing two or more display configurations of the multifunction display, repeat steps 5 and 6.

Resetting the display configuration default settings:

1. Turn the engine off and the engine start switch to ON.

2. MODE (4 seconds): To activate the custom mode.

3. MODE (2 times): Press to switch between the setting function names.

MAINTENANCE
(resetting maintenance intervals)
↓ MODE
TRIM 0SET (setting trim angle)
↓ MODE
DISPLAY (setting displays)

4. SET: To switch to the change settings display.

5. SET + MODE (1 second): To reset the display configuration default settings and return to the custom mode selection display.

6. SET (1 second): To return to the normal display.

Speedometer unit (square)

FUEL SENSOR (setting fuel sensor)

You can set the fuel sensor type that is connected to this meter.

1. Turn the engine off and the engine start switch to ON.

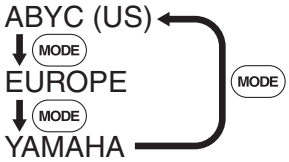
2. (MODE) (4 seconds): To activate the custom mode.

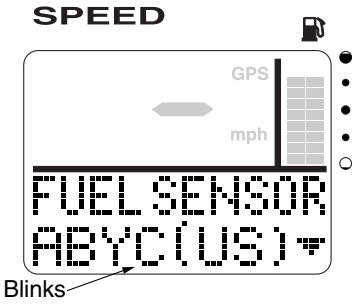
3. (MODE) (2 times): Press to switch between the setting function names.

DISPLAY (setting displays)
↓ (MODE)
UNIT (setting displayed units)
↓ (MODE)
FUEL SENSOR
(setting fuel sensor)

4. (SET): To switch to the change settings display.

5. (MODE): Press to switch between the fuel sensor types.





6. (SET) (1 second): To change the fuel sensor type and return to the custom mode selection display.

7. (SET) (1 second): To return to the normal display.

DISPLAY (setting displays)

You can change the display configuration of the normal display. There are a total of 15 combinations of which up to four displays can be set up.

The display configuration number that has been selected as the default display configuration is indicated by the shaded area in the table below.

Display configuration No.	Ambient water temperature	Depth	Trip	System voltage	Clock
0	—	—	—	—	—
1	○	○	—	—	—
2	○	—	○	—	—
3	○	—	—	○	—
4	○	—	—	—	○
5	—	○	○	—	—
6	—	○	—	○	—
7	—	○	—	—	○
8	—	—	○	○	—
9	—	—	○	—	○
10	—	—	—	○	○
11	○	—	—	—	—
12	—	○	—	—	—
13	—	—	○	—	—
14	—	—	—	○	—
15	—	—	—	—	○

○: Displayed

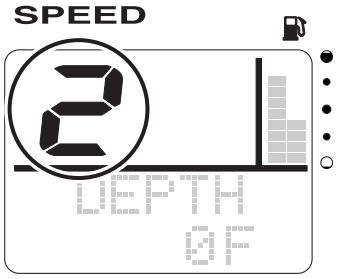
Changing the display configurations:

1. Turn the engine off and the engine start switch to ON.

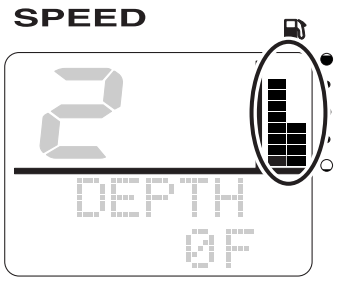
2. (MODE) (4 seconds): To activate the custom mode.

3. (SET): To switch to the change settings display.

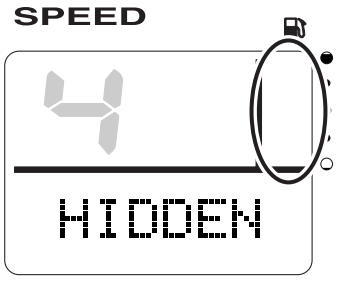
4. (MODE): Press to switch between the display numbers. Select the display number (1–4) you want to change. The first two digits in the speedometer display show the display numbers.



5. (SET): To select the display configuration number (0–15) you want to change. The fuel level segments show the display configuration numbers. Press to switch between the display configuration numbers.



* In the display example, display number 2 and display configuration number 12 are shown.



* When the display configuration number 0 is selected, “HIDDEN” is shown and the display is not shown.

6. (SET) (1 second): To change the display configuration and return to the custom mode selection display.

7. (SET) (1 second): To return to the normal display.

NOTE:
When changing two or more display configurations of the multifunction display, repeat steps 4 and 5.

Resetting the display configuration default settings:

1. Turn the engine off and the engine start switch to ON.

2. (MODE) (4 seconds): To activate the custom mode.

3. (SET): To switch to the change settings display.

4. (SET) + (MODE) (1 second): To reset the display configuration default settings and return to the custom mode selection display.

5. (SET) (1 second): To return to the normal display.

Fuel management meter unit (square)

TANK CAPA. (setting fuel tank capacity)

You can set the total capacity of the fuel tank that is connected to this meter.

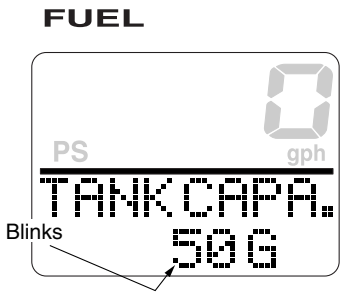
1. Turn the engine off and the engine start switch to ON.

2. (MODE) (4 seconds): To activate the custom mode.

3. (MODE) (2 times): Press to switch between the setting function names.

DISPLAY (setting displays)
↓(MODE)
UNIT (setting displayed units)
↓(MODE)
TANK CAPA.
(setting fuel tank capacity)

4. (SET): To switch to the change settings display.



5. (SET): Press to switch between the selected digits.

   (MODE): Press to switch between the selected digit numeric values.

6. (SET) (1 second): To change the capacity of the fuel tank and return to the custom mode selection display.

7. (SET) (1 second): To return to the normal display.

NOTE:

- The default setting of the fuel tank total capacity is 50 G (190 L). The maximum fuel tank capacity can be set to 1,999 gallons or 1,999 liters.
- Depending on the position of the fuel outlet and the position of the boat while cruising, the usable fuel may decrease. Be sure to check the available fuel capacity before setting the default setting.
- To change the displayed unit, see "UNIT (setting displayed units)" in "OPERATION MANUAL."
- Press the (SET) and (MODE) buttons for 1 second from step 4 to change the default setting to "0."
- AVAL shows 90 percent of the specified fuel tank capacity.

DISPLAY (setting display)

You can change the display configuration of the normal display. There are a total of 6 combinations of which up to three displays can be set up.

The display configuration number that has been selected as the default display configuration is indicated by the shaded area ▒ in the table below.

Display configuration No.	Total fuel consumption	Fuel economy	Remaining fuel
0	—	—	—
1	○	○	—
2	○	—	○
3	—	○	○
4	○	—	—
5	—	○	—
6	—	—	○

○: Displayed

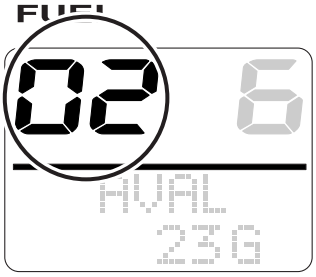
Changing the display configurations:

1. Turn the engine off and the engine start switch to ON.

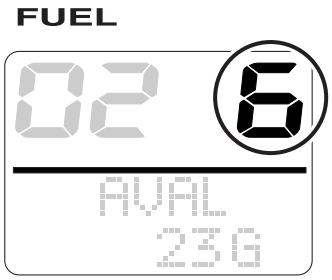
2. (MODE) (4 second): To activate the custom mode.

3. (SET): To switch to the change settings display.

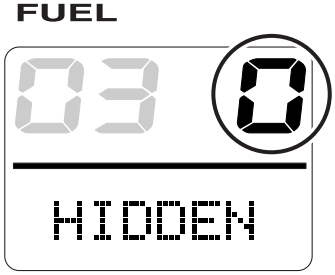
4. (MODE): To switch between the display numbers. Select the display number (01–03) you want to change. The first two digits in the fuel flow display show the display numbers.



5. (SET): To select the display configuration number (0–6). The last two digits in the fuel flow display show the display configuration numbers. Press to switch between the display configuration numbers.



* In the display example, the display number 02 and the display configuration number 6 are shown.



* When the display configuration number "0" is selected, "HIDDEN" is shown and the display is not shown.

6. (SET) (1 second): To change the display configuration and return to the custom mode selection display.

7. (SET) (1 second): To return to the normal display.

NOTE:
When changing two or more display configurations of the multifunction display, repeat steps 4 and 5.

Resetting the display configuration default settings:

1. Turn the engine off and the engine start switch to ON.

2. (MODE) (4 seconds): To activate the custom mode.

3. (SET): To switch to the change settings display.

4. (SET) + (MODE) (1 second): To reset the display configurations to the default settings and return to the custom mode selection display.

5. (SET) (1 second): To return to the normal display.

Speed & Fuel meter unit (square)

FUEL SENSOR (setting fuel sensor)

You can set the fuel sensor type that is connected to this meter.

1. Turn the engine off and the engine start switch to ON.

2. MODE (4 seconds): To activate the custom mode.

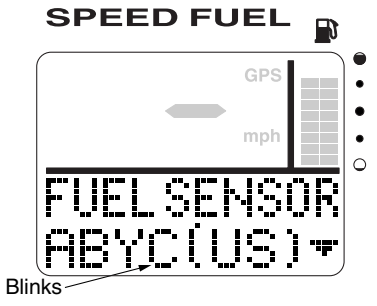
3. MODE (2 times): Press to switch between the setting function names.

DISPLAY (setting displays)
↓ MODE
UNIT (setting displayed units)
↓ MODE
FUEL SENSOR
(setting fuel sensor)

4. SET: To switch to the change settings display.

5. MODE: To switch between the fuel sensor types.

ABYC (US) ← MODE
↓ MODE
EUROPE
↓ MODE
YAMAHA



6. SET (1 second): To change the fuel sensor type and return to the custom mode selection display.

7. SET (1 second): To return to the normal display.

DISPLAY (setting displays)

You can change the display configuration of the normal display. There are a total of 36 combinations of which up to five displays can be set up.

The display configuration numbers that have been selected as the default display configuration are indicated by the shaded areas in the table below.

Display configuration No.	Trip	Fuel flow	Fuel economy	Total fuel consumption	Ambient water temperature	Depth	System voltage	Clock
0	—	—	—	—	—	—	—	—
1	○	○	—	—	—	—	—	—
2	○	—	○	—	—	—	—	—
3	○	—	—	○	—	—	—	—
4	○	—	—	—	○	—	—	—
5	○	—	—	—	—	○	—	—
6	○	—	—	—	—	—	○	—
7	○	—	—	—	—	—	—	○
8	—	○	○	—	—	—	—	—
9	—	○	—	○	—	—	—	—
10	—	○	—	—	○	—	—	—
11	—	○	—	—	—	○	—	—
12	—	○	—	—	—	—	○	—
13	—	○	—	—	—	—	—	○
14	—	—	○	○	—	—	—	—
15	—	—	○	—	○	—	—	—
16	—	—	○	—	—	○	—	—
17	—	—	○	—	—	—	○	—
18	—	—	○	—	—	—	—	○
19	—	—	—	○	○	—	—	—
20	—	—	—	○	—	○	—	—
21	—	—	—	○	—	—	○	—
22	—	—	—	○	—	—	—	○
23	—	—	—	—	○	○	—	—
24	—	—	—	—	○	—	○	—
25	—	—	—	—	○	—	—	○
26	—	—	—	—	—	○	○	—
27	—	—	—	—	—	○	—	○
28	—	—	—	—	—	—	○	○
29	○	—	—	—	—	—	—	—
30	—	○	—	—	—	—	—	—
31	—	—	○	—	—	—	—	—
32	—	—	—	○	—	—	—	—
33	—	—	—	—	○	—	—	—
34	—	—	—	—	—	○	—	—
35	—	—	—	—	—	—	○	—
36	—	—	—	—	—	—	—	○

○: Displayed

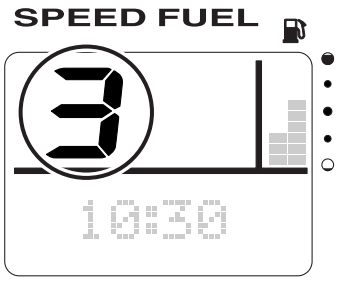
Changing the display configurations:

1. Turn the engine off and the engine start switch to ON.

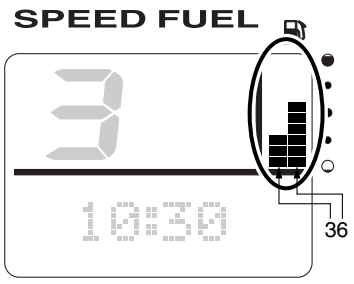
2. (MODE) (4 seconds): To activate the custom mode.

3. (SET): To switch to the change settings display.

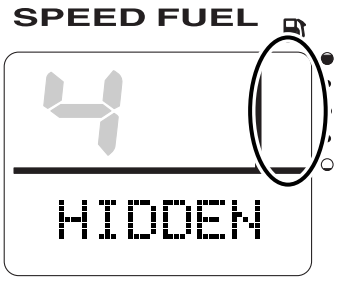
4. (MODE): Press to switch between the display numbers. Select the display numbers (1–5) you want to change. The first two digits in the speedometer display show the display numbers.



5. (SET): To select the display configuration numbers (0–36) you want to change. The fuel level display segments (the left column represents the tens digit and the right column represents the ones digit) show the display configuration numbers. Press to switch between the display configuration numbers.



* In the display example, the display number 3 and the display configuration number 36 are shown.



* When the display configuration number 0 is selected, “HIDDEN” is shown and the display is not shown.

6. (SET) (1 second): To change the display configuration and return to the custom mode selection display.

7. (SET) (1 second): To return to the normal mode.

NOTE:
When changing two or more display configurations of the multifunction display, repeat steps 4 and 5.

Resetting the display configuration default settings:

1. Turn the engine off and the engine start switch to ON.

2. (MODE) (4 seconds): To activate the custom mode.

3. (SET): To switch to the change settings display.

4. (SET) + (MODE) (1 second): To reset the display configurations to the default settings and return to the custom mode selection display.

5. (SET) (1 second): To return to the normal display.

Tachometer unit (round)

03 (setting corresponding engine)

You can select the engines that are compatible to this meter. The port outboard motor is set to engine number one (-1-) and the starboard outboard motor is set to engine number two (-2-).

1. Turn the engine off and the engine start switch to ON.

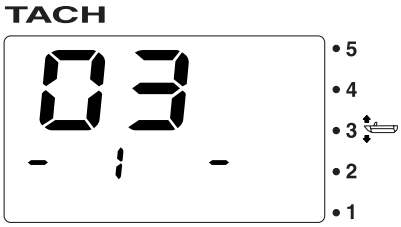
2. mode (4 seconds): To activate the custom mode.

3. mode (1 second) (2 times): Press to switch between the setting function numbers and to switch to the change settings display.

01 (resetting maintenance intervals)
↓ mode (1sec.)
02 (setting trim angle)
↓ mode (1sec.)
03 (setting corresponding engine)

4. mode: To switch between the displayed engine numbers.

-1- (engine number 1) ←
↓ mode
-2- (engine number 2)
↓ mode
-3- (engine number 3)
↓ mode
-4- (engine number 4) → mode



5. set (1 second): To change the corresponding engine and return to the normal display.

NOTE:

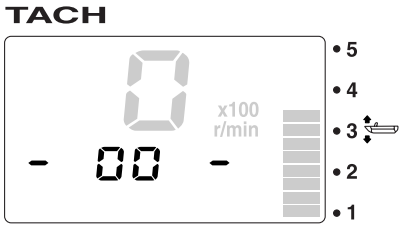
- The meters are set at the factory to "-1- (engine number 1)."
- To reset an engine number, see "Resetting engine number."

Resetting engine number

When replacing the engines of multiple outboard motors or resetting the setting order, reset all engine numbers to -1- (engine number 1).

1. Turn the engine off and the engine start switch to ON.

2. set (10 seconds): "-00-" will be displayed for 1 second.



3. Turn the engine start switch to OFF. The engine number is reset after approximately 10 seconds.

4. Turn the engine start switches to ON in order from port to starboard.

NOTE:

- The engine numbers are stored in the ECM (Engine Control Module) of each engine for engine identification.
- The engine numbers are stored in the ECM (Engine Control Module) when the engine start switch is first turned to ON after being connected. The numbers are stored in order from number one to number four starting from the port outboard motor. When multiple outboard motors are installed, be sure to wait at least 2 seconds before turning each engine start switch to ON.

02 (setting trim angle)

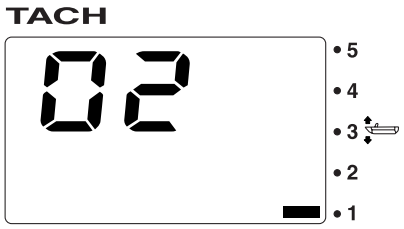
You can set the trim angle to zero.
Fully trim the outboard motor down.

1. Turn the engine off and the engine start switch to ON.

2. mode (4 seconds): To activate the custom mode.

3. mode (1 second): To switch between the setting function numbers and to switch to the zero adjustment display.

01 (resetting maintenance intervals)
↓ mode (1sec.)
02 (setting trim angle)



4. set + mode (1 second): To adjust the trim angle to zero using the current trim position as the standard value and return to the normal display.

NOTE:

- When one segment is displayed, the trim angle of the outboard motor is adjusted to zero (full trim in).
- Press the set button for 1 second from step 3 to cancel the adjustment of the trim angle to zero and return to the normal display.

Speed & Fuel meter unit (round)

02 (setting fuel sensor)

You can set the fuel sensor type that is connected to this meter.

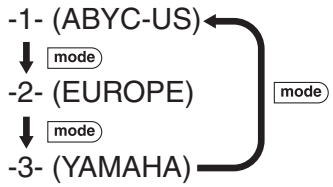
1. Turn the engine off and the engine start switch to ON.

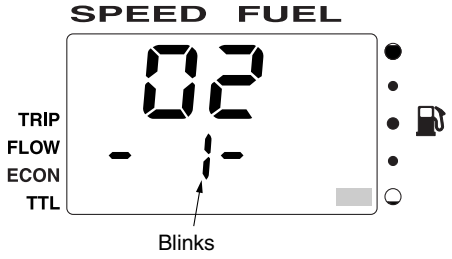
2. mode (4 seconds): To activate the custom mode.

3. mode (1 second): To switch between the setting function numbers and to switch to the change settings display.

01 (setting displayed units)
↓ mode (1sec.)
02 (setting fuel sensor)

4. mode: Press to switch between the fuel sensor types.

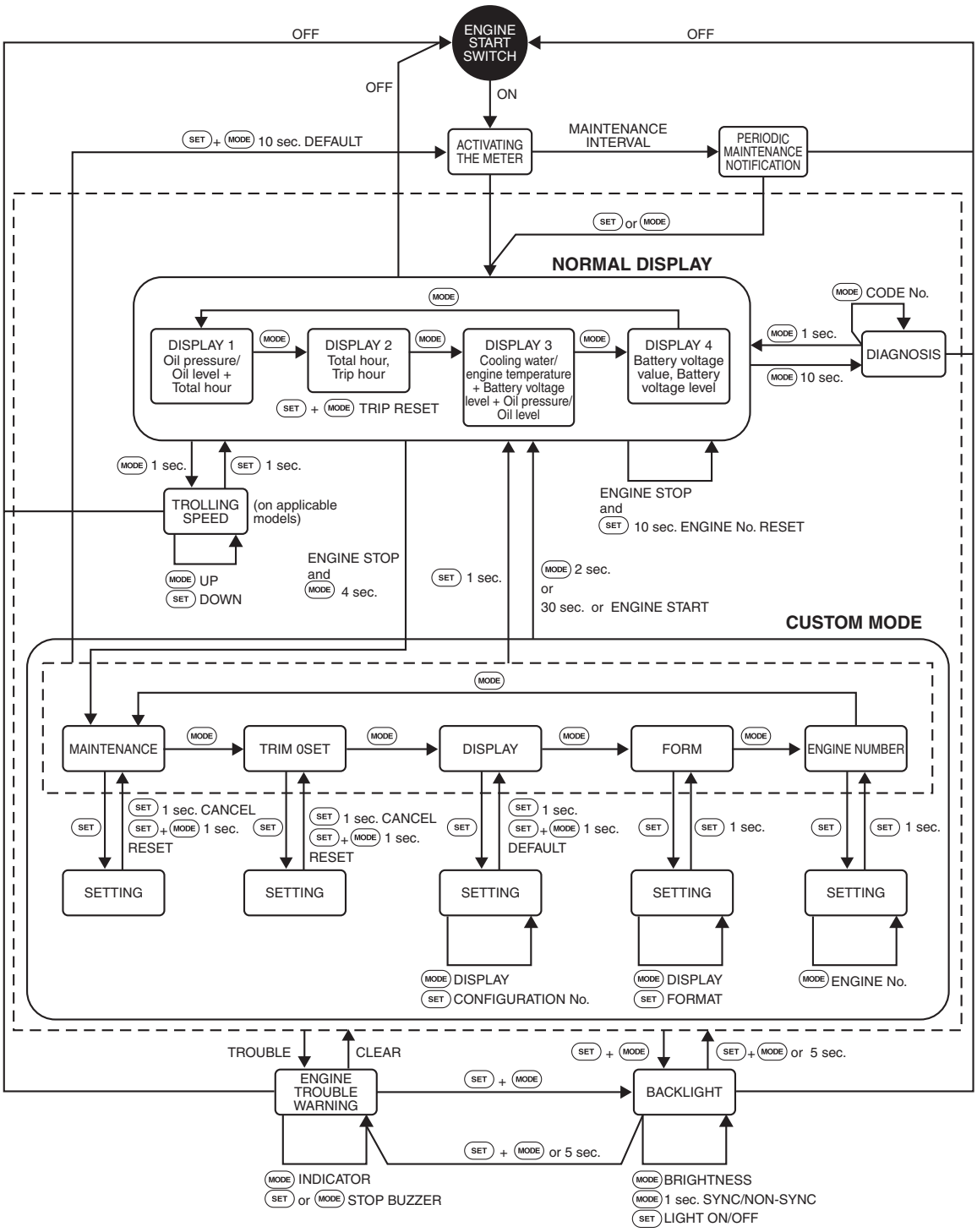




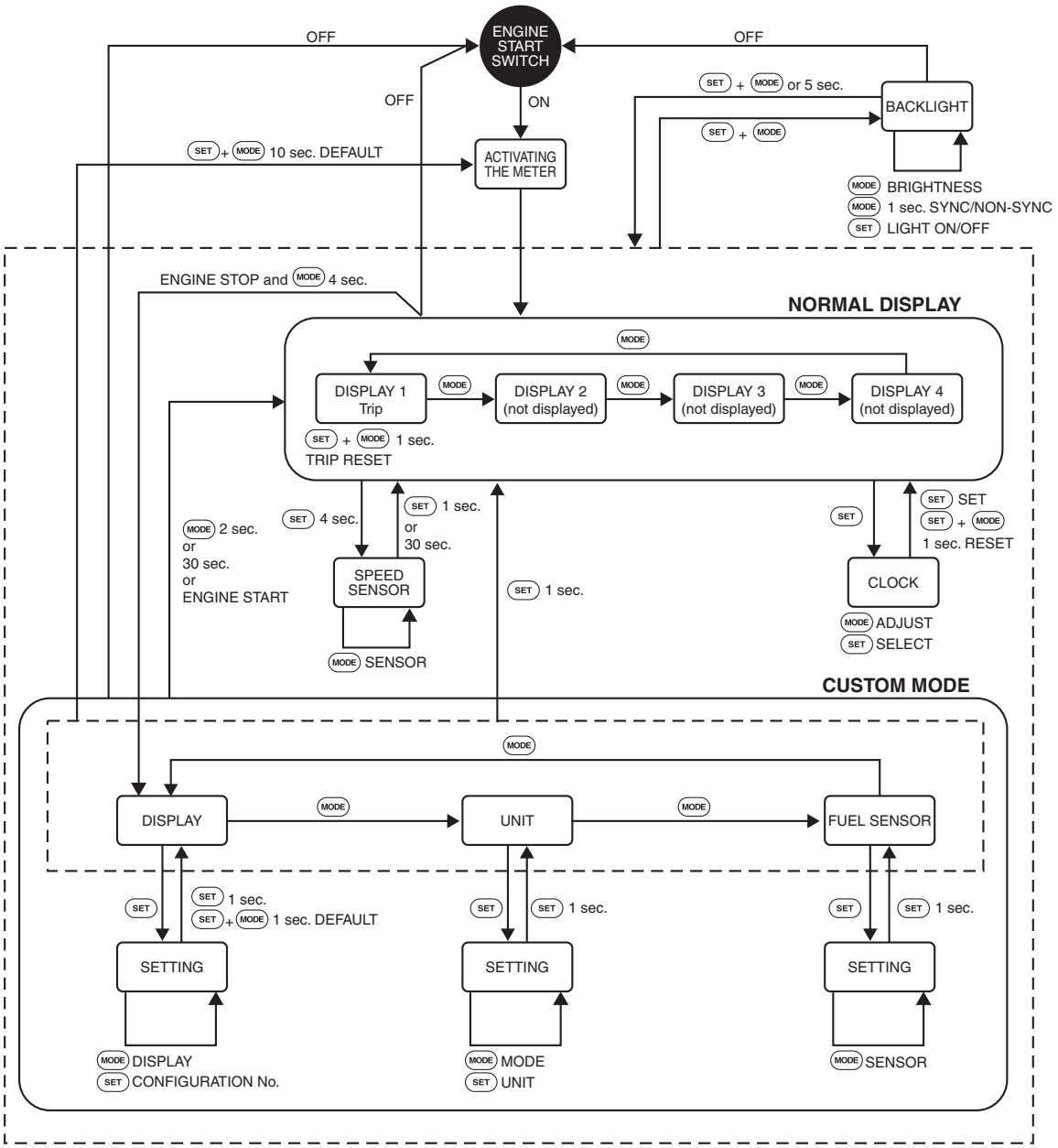
5. set (1 second): To change the fuel sensor type and return to the normal display.

6. State transition diagrams

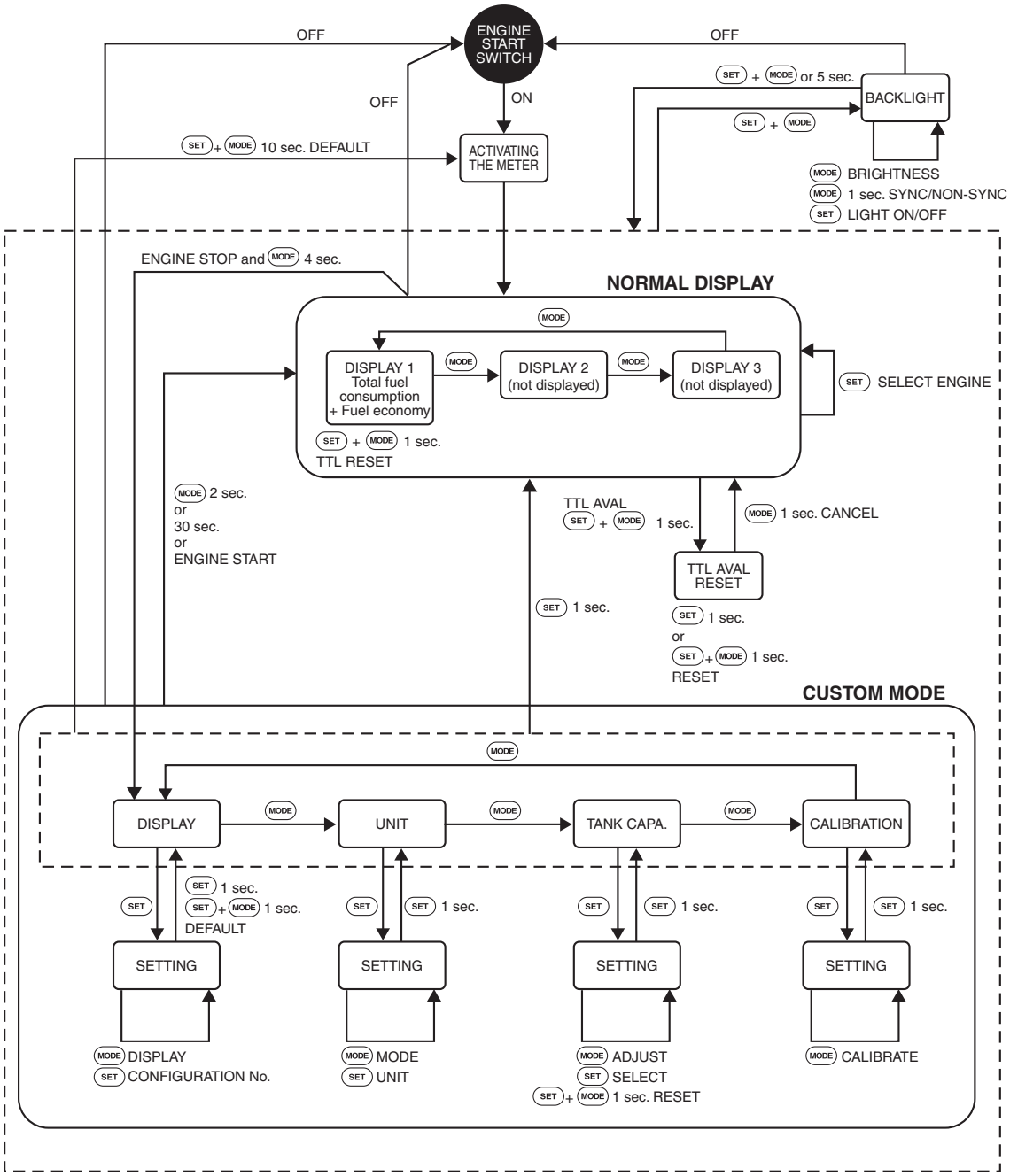
Tachometer unit (square)



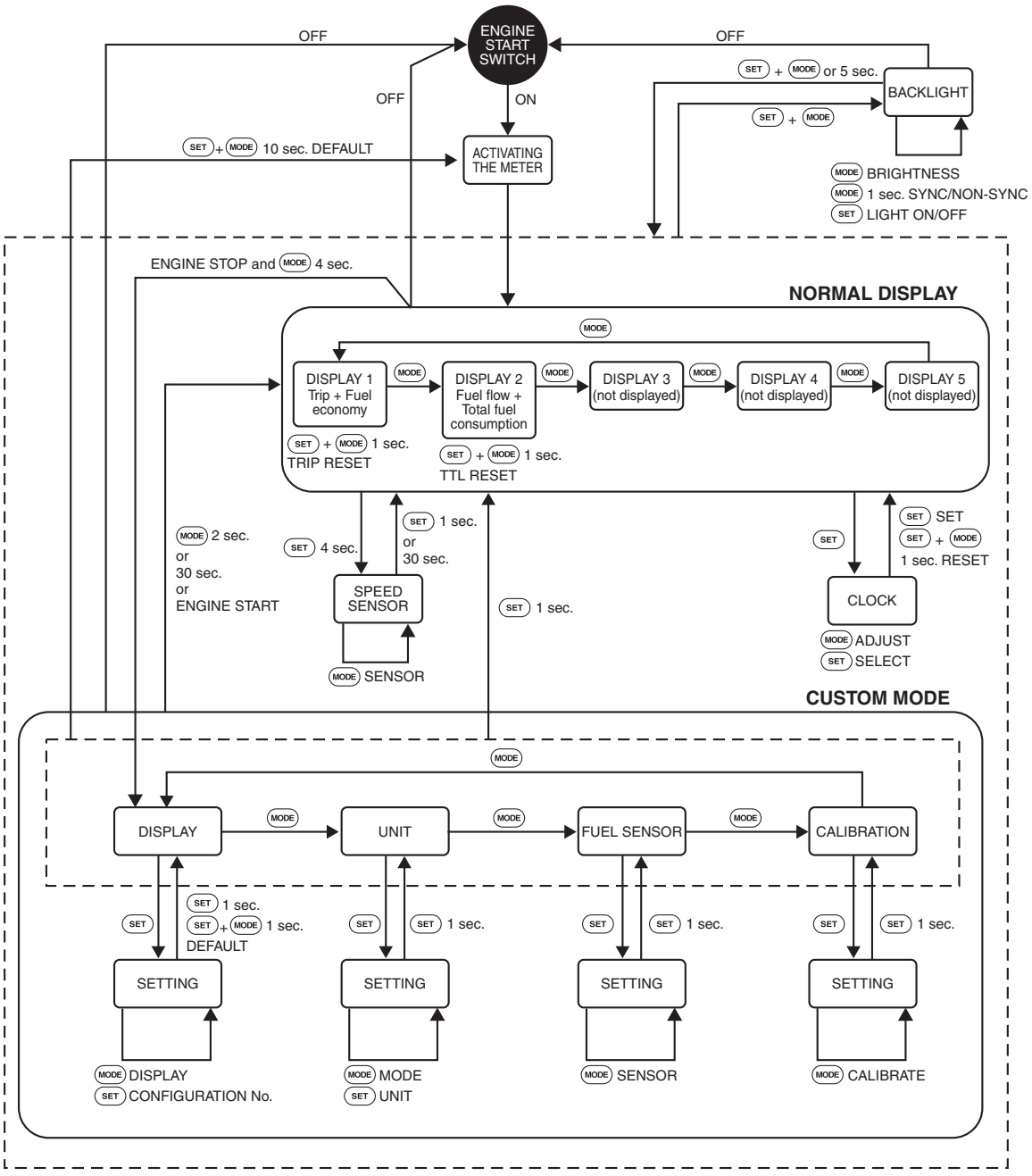
Speedometer unit (square)



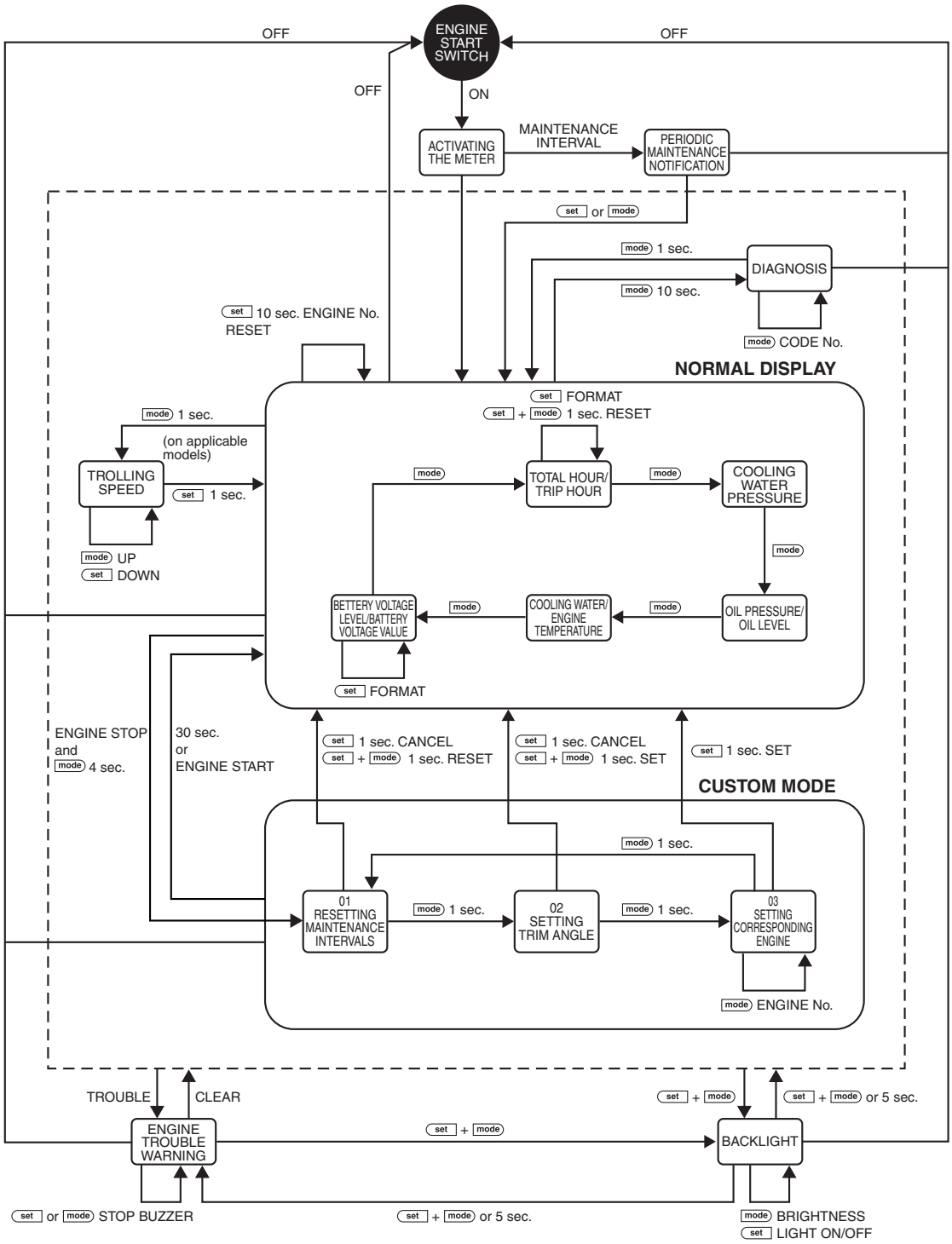
Fuel management meter unit (square)



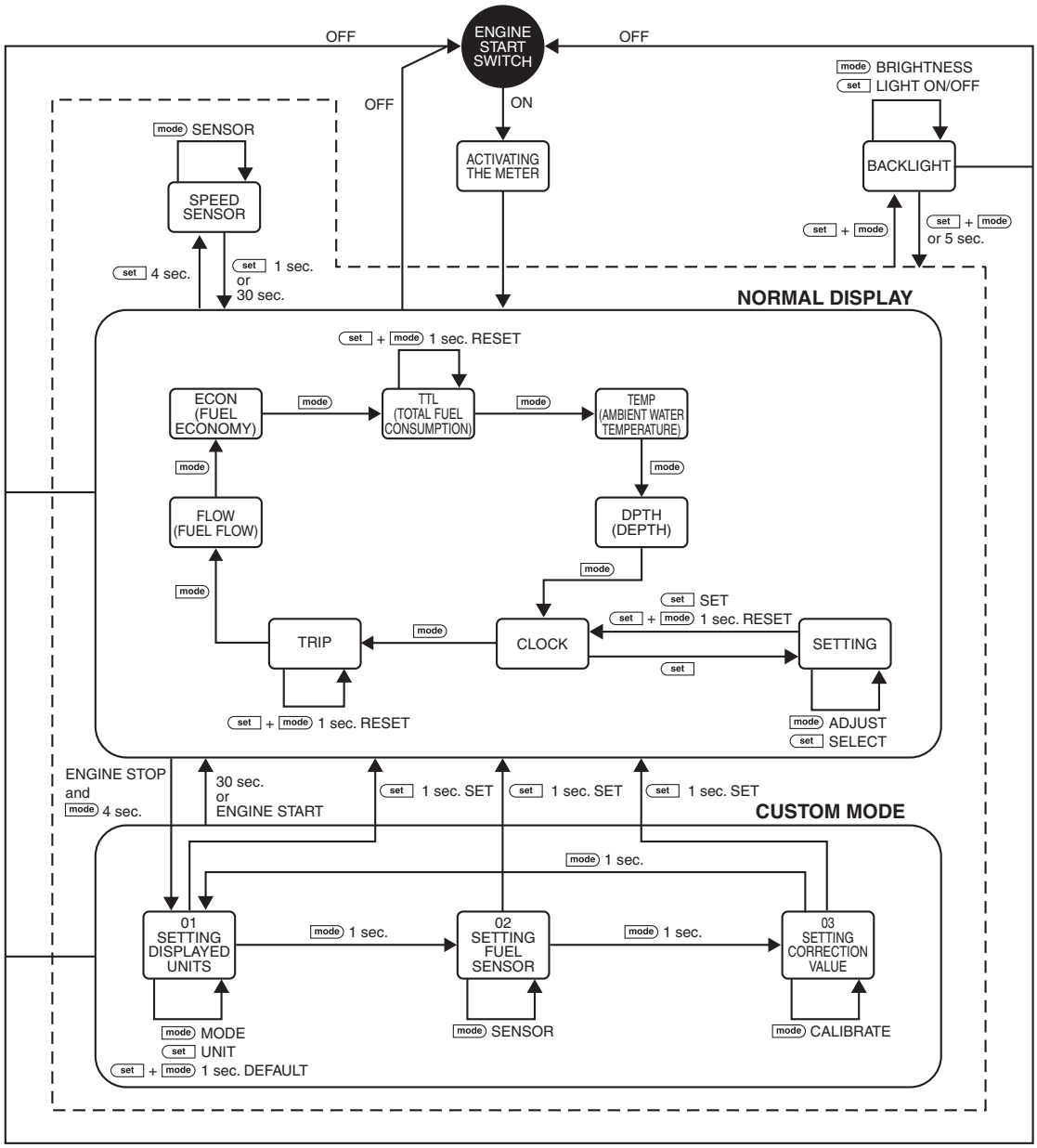
Speed & Fuel meter unit (square)



Tachometer unit (round)



Speed & Fuel meter unit (round)



7. Normal display index

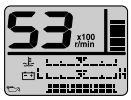
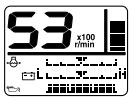
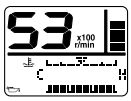
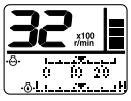
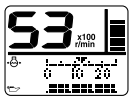
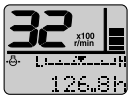
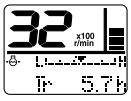
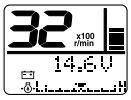
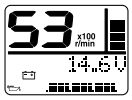
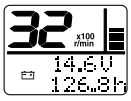
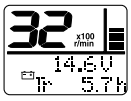
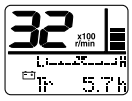
Tachometer unit (square)

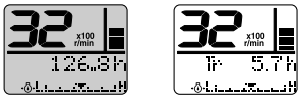
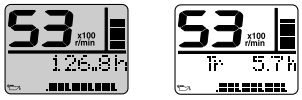
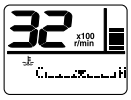
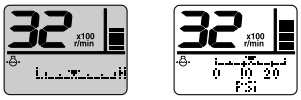
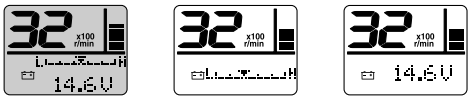
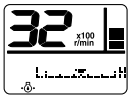
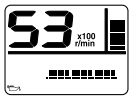
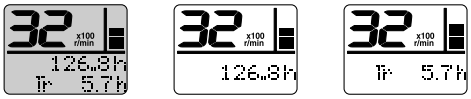
Changing the display configuration

The multifunction display shows up to three types of information simultaneously using numeric values or graphics. In addition, up to four displays can be set up for the display configuration with a combination of information. The ▒▒ display is set as the default display.
To change the display configuration, see “6. Setting the initial settings.”

Changing the display format

You can change the display format of the total operation hours and trip hours (Tr) display, the voltage display, and the cooling water pressure display. You can change each display when the respective display is shown.
For the setting procedure, see “FORM (setting display format)” in the Operation Manual.

Configuration number	Display (4-stroke model)	Display (2-stroke model)
00	(not displayed)	Same as 4-stroke models
01 **(Display 3)**		
02		
03	 	Same as 4-stroke models
04		
05	 	Same as 4-stroke models
06	  	Same as 4-stroke models
07	 	 
08	 	Same as 4-stroke models
09	 	 
10	   	Same as 4-stroke models

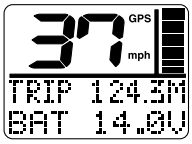
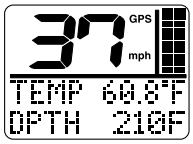
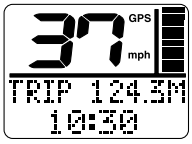
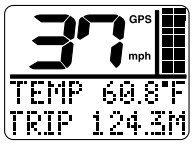
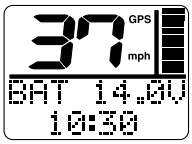
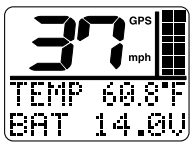
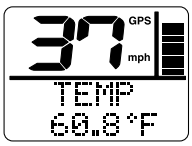
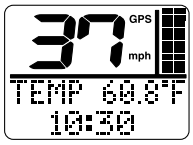
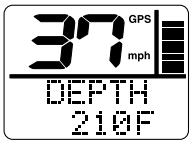
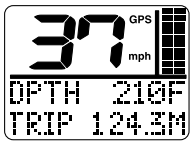
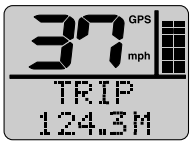
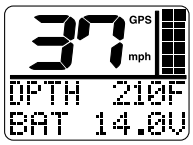
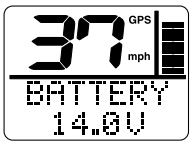
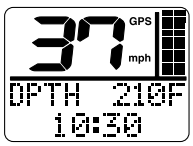
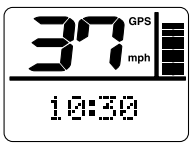
Configuration number	Display (4-stroke model)	Display (2-stroke model)
11 **(Display 1)**		
12		Same as 4-stroke models
13		Same as 4-stroke models
14 **(Display 4)**		Same as 4-stroke models
15		
16 **(Display 2)**		Same as 4-stroke models

Speedometer unit (square)

Changing the display configuration

The multifunction display shows up to two types of information simultaneously using numeric values. In addition, up to four displays can be set up for the display configuration with a combination of information. The display is set as the default display.

To change the display configuration, see “6. Setting the initial settings.”

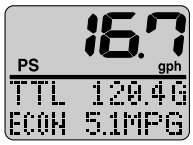
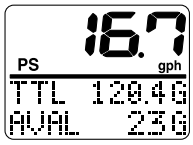
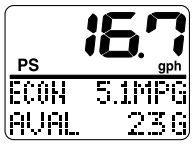
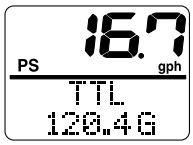
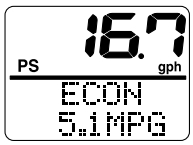
Configuration number	Display	Configuration number	Display
0 **(Display 2,3,4)**	(not displayed)	8	
1		9	
2		10	
3		11	
4		12	
5		13 **(Display 1)**	
6		14	
7		15	

Fuel management meter unit (square)

Changing the display configuration

The multifunction display shows up to two types of information simultaneously using numeric values. In addition, up to three displays can be set up for the display configuration with a combination of information. The ▒▒ display is set as the default display.

To change the display configuration, see “6. Setting the initial settings.”

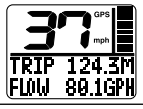
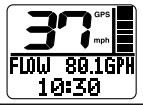
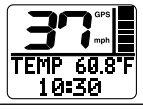
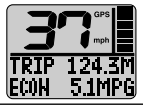
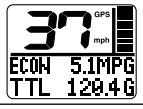
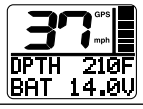
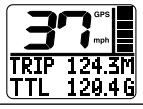
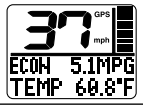
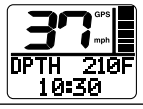
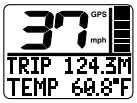
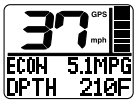
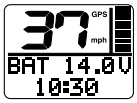
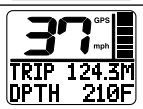
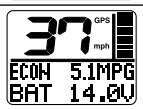
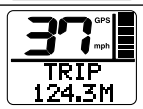
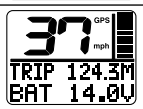
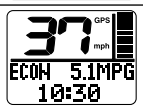
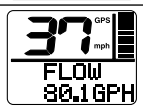
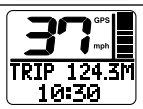
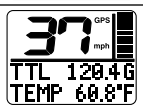
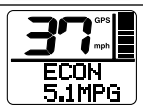
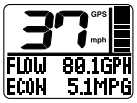
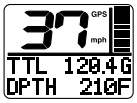
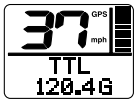
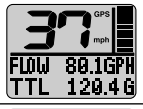
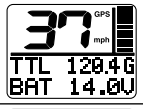
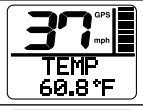
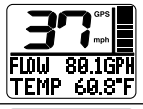
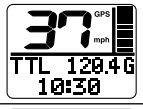
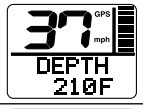
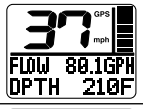
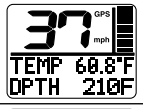
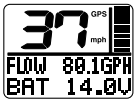
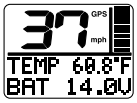
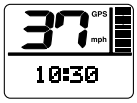
Configuration number	Display
0 **(Display 2,3)**	(not displayed)
1 **(Display 1)**	
2	
3	
4	
5	
6	

Speed & Fuel meter unit (square)

Changing the display configuration

The multifunction display shows up to two types of information simultaneously using numeric values. In addition, up to five displays can be set up for the display configuration with a combination of information. The display is set as the default display.

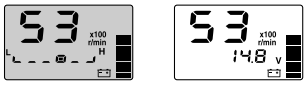
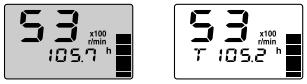
To change the display configuration, see “6. Setting the initial settings.”

Configuration number	Display	Configuration number	Display	Configuration number	Display
0 **(Display 3,4,5)**	(not displayed)				
1		13		25	
2 **(Display 1)**		14		26	
3		15		27	
4		16		28	
5		17		29	
6		18		30	
7		19		31	
8		20		32	
9 **(Display 2)**		21		33	
10		22		34	
11		23		35	
12		24		36	

Tachometer unit (round)

Changing the display format

You can change the display format of the total operation hours and trip hours (T) display and the battery voltage display. You can change each display when the respective display is shown.
For the setting procedure, see “Multifunction display” in the Operation Manual.

	Display (4-stroke model)	Display (2-stroke model)
Cooling water/ engine temperature		Same as 4-stroke models
Battery voltage level or Battery voltage value		Same as 4-stroke models
Total hour or Trip hour		Same as 4-stroke models
Cooling water pressure		Same as 4-stroke models
Oil pressure/ Oil level		

8. Troubleshooting

Symptom	Cause	Action
The trim meter does not come on (all segments are on).	The pink lead coupler is not connected.	Connect the pink lead coupler. (See page 12 to 18.)
The tachometer units cannot recognize the engine number the first time the engine is started and when two or more outboard motors are installed.	Incorrect initial activation procedure	Reset the engine number and then carry out the initial activation procedure. Be sure to wait 2 seconds before turning each engine start switch to ON. (See page 28, 29, 38.)
The fuel flow of the port and starboard outboard motors is shown reversed.	The engine start switch of the starboard outboard motor was turned to ON first.	Reset the engine number and then carry out the initial activation procedure. (See page 28, 29, 38.)
The engine number cannot be reset.	Incorrect engine number resetting procedure	After resetting the engine number, wait 10 seconds or more before turning the engine start switch to OFF. (See page 29, 38.)
All the tachometer units show the engine speed of the port outboard motor.	Applicable engine number has not been set.	Set the applicable engine number. (See page 29, 38.)
Trim meter is not accurate.	The trim meter is not adjusted to zero.	Adjust the trim setting to zero. (See page 30, 39.)
The oil pressure display is not shown.	The outboard motor is not equipped with the oil pressure sensor.	Change the display configuration and select a display other than the oil pressure display. (See page 30.)
The fuel meters of the Speedometer unit and of the Speed & Fuel Meter unit are not accurate.	Incorrect fuel sensor settings	Change the fuel sensor settings. (See page 32, 36, 39.)
The fuel level on the Fuel Management meter shows “0” and blinks even when there is sufficient fuel remaining in the fuel tank. In addition, even if the remain fuel display shows that there is sufficient fuel remaining, the actual fuel tank is empty.	The fuel tank capacity setting has not been changed from the default setting.	Change the fuel tank capacity setting. (See page 34.)
The numeric value for a full fuel tank is not shown on the Fuel Management meter even when the fuel tank is filled.	The numeric value has not been reset.	Reset the TTL and AVAL displays.

Symptom	Cause	Action
The display does not return to the specified fuel tank capacity (only 90 percent of the display value is shown) even when the remaining fuel level of the Fuel Management meter is reset.	Normal	AVAL shows the numeric value of the consumed fuel that is deducted from 90 percent of the specified fuel tank capacity.
The speedometer and the cooling water pressure are not shown.	The optional sensors are not installed.	Install the optional sensors, change the display settings for each meter, and then select the applicable display. (See page 30.)
The meter does not show the information even when the optional sensors are installed.	The display configuration has not been changed from the default settings.	Change each meter display setting and select the applicable information display. (See page 30, 32, 36.)

9. Outboard motor model function identification index

4-stroke models

	Cooling water pressure		Speed	Oil pressure	Trolling speed adjustable range (r/min)		
	Optional sensor	Warning indicator	Optional sensor	Oil pressure sensor (indicator)	Low	Initial (idling speed)	High
F50	◯	—	◯	—	620	750	900
T50	◯	—	◯	—	620	750	900
F60	◯	—	◯	—	620	750	900
T60	◯	—	◯	—	620	750	900
F75	◯	—	◯	—	550	700	1,000
F90	◯	—	◯	—	550	700	1,000
F115	◯	—	◯	—	—	—	—
LF115	◯	—	—	—	—	—	—
F150	◯	—	◯	◯	—	—	—
LF150	◯	—	—	◯	—	—	—
F200	◯	—	◯	◯	—	—	—
LF200	◯	—	—	◯	—	—	—
F225	◯	—	◯	◯	—	—	—
LF225	◯	—	—	◯	—	—	—
F250	◯	—	◯	◯	—	—	—
LF250	◯	—	—	◯	—	—	—

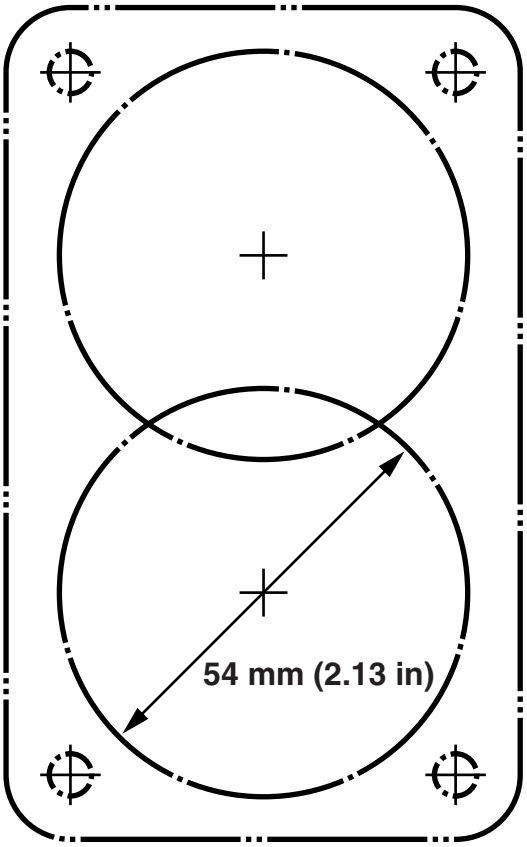
◯: Available —: Not available

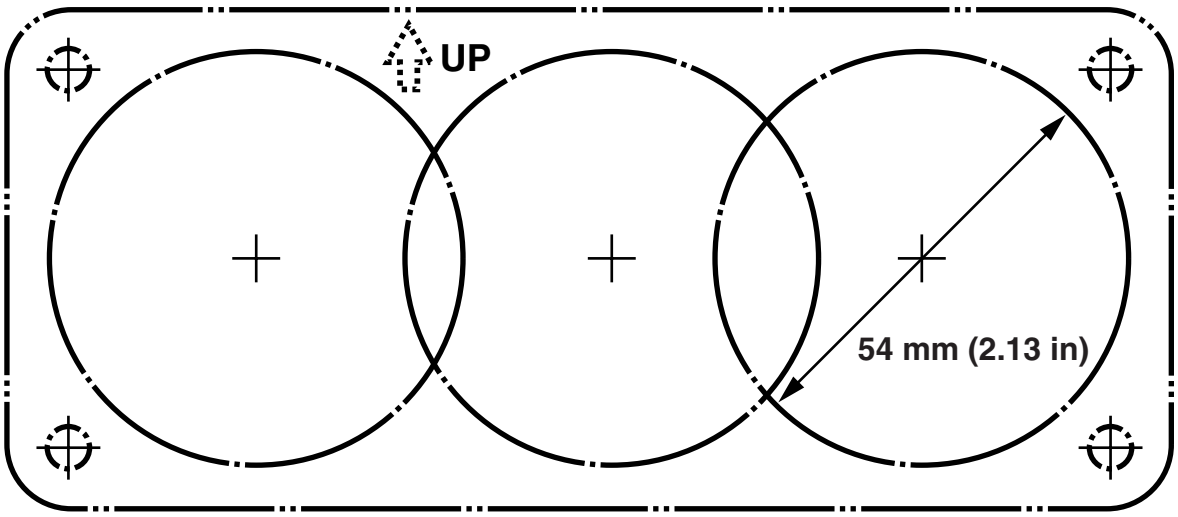
2-stroke models

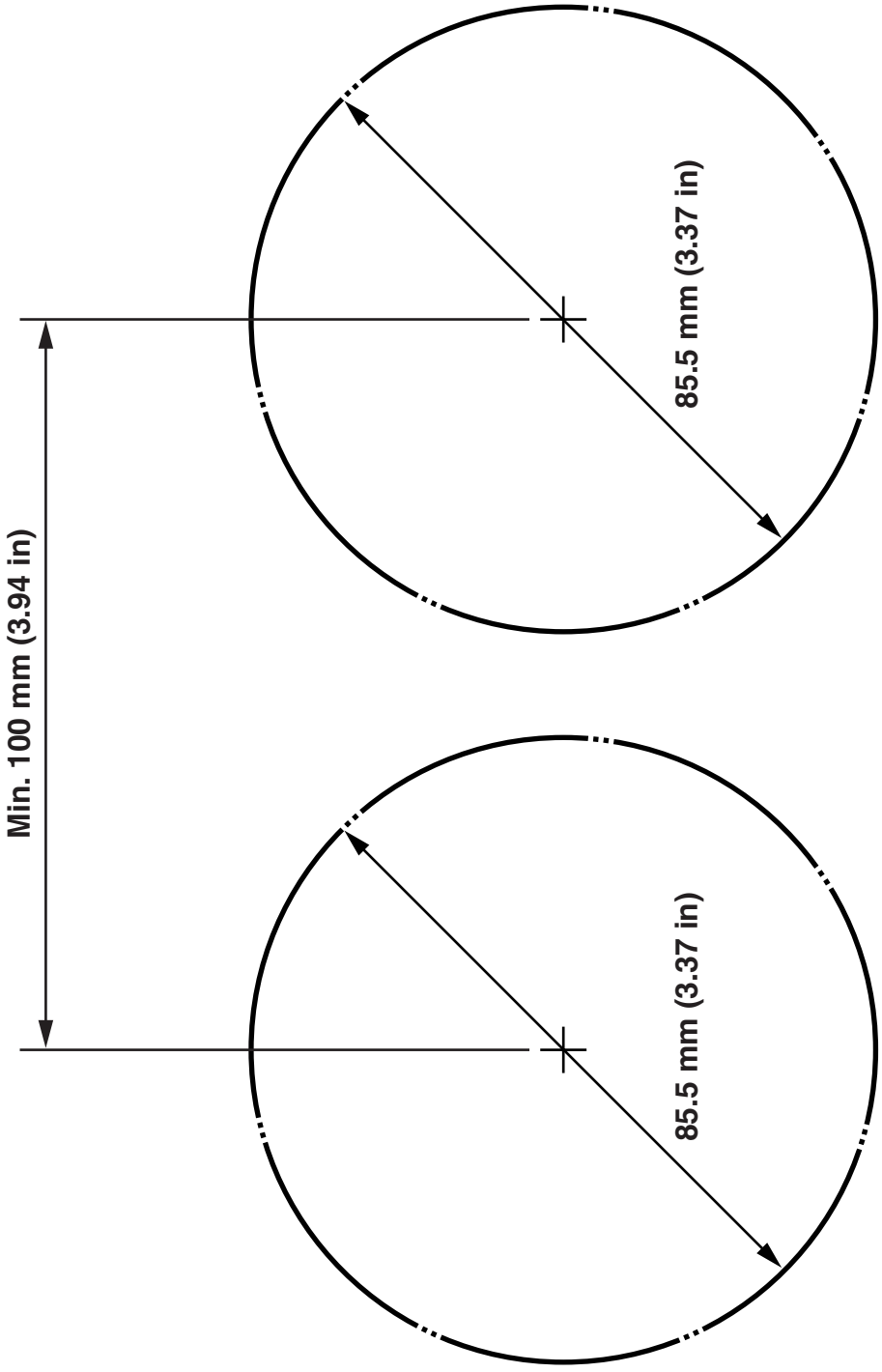
	Water detection warning indicator	Cooling water pressure		Speed	Oil level
		Optional sensor	Warning indicator	Optional sensor	Oil indicator
Z150	◯	◯	—	◯	◯
LZ150	◯	◯	—	—	◯
VZ150	◯	◯	—	◯	◯
Z175	◯	◯	—	◯	◯
VZ175	◯	◯	—	◯	◯
Z200	◯	◯	—	◯	◯
LZ200	◯	◯	—	—	◯
VZ200	◯	◯	—	◯	◯
VZ225	◯	◯	—	◯	◯
Z250	◯	◯	—	◯	◯
LZ250	◯	◯	—	—	◯
VZ250	◯	◯	—	◯	◯
Z300	◯	◯	—	◯	◯
LZ300	◯	◯	—	—	◯
VZ300	◯	◯	—	◯	◯

◯: Available —: Not available

10. Templates (actual size)






Min. 100 mm (3.94 in)
85.5 mm (3.37 in)
85.5 mm (3.37 in)

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(E)