

*Aruana 40*

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# ***ARUANA***

# ***40***



**ELECTRICAL**

- Electronic fuel injection & digital ignition system
- Digital Network Gauge or conventional gauge selectable
- Customer Outboard Protection Security System (for EU)
- Variable trolling rpm controller
- Modularized throttle body unit
- Low oil pressure, overheat & water detection indicators
- Over-rev limiter
- YDIS (self-diagnosis system)

**POWER UNIT**

- Modularized fuel system
- Vapor gas manipulation system
- Electro-deposition treatment
- Top cowl with roller lock



**CLAMP BRACKET/  
UPPER-CASE**

- Same clamp bracket as conventional F30/F40
- 6X4 multi-function tiller handle
- Steering friction device (Tiller handle)
- Flushing device

**LOWER DRIVE UNIT**

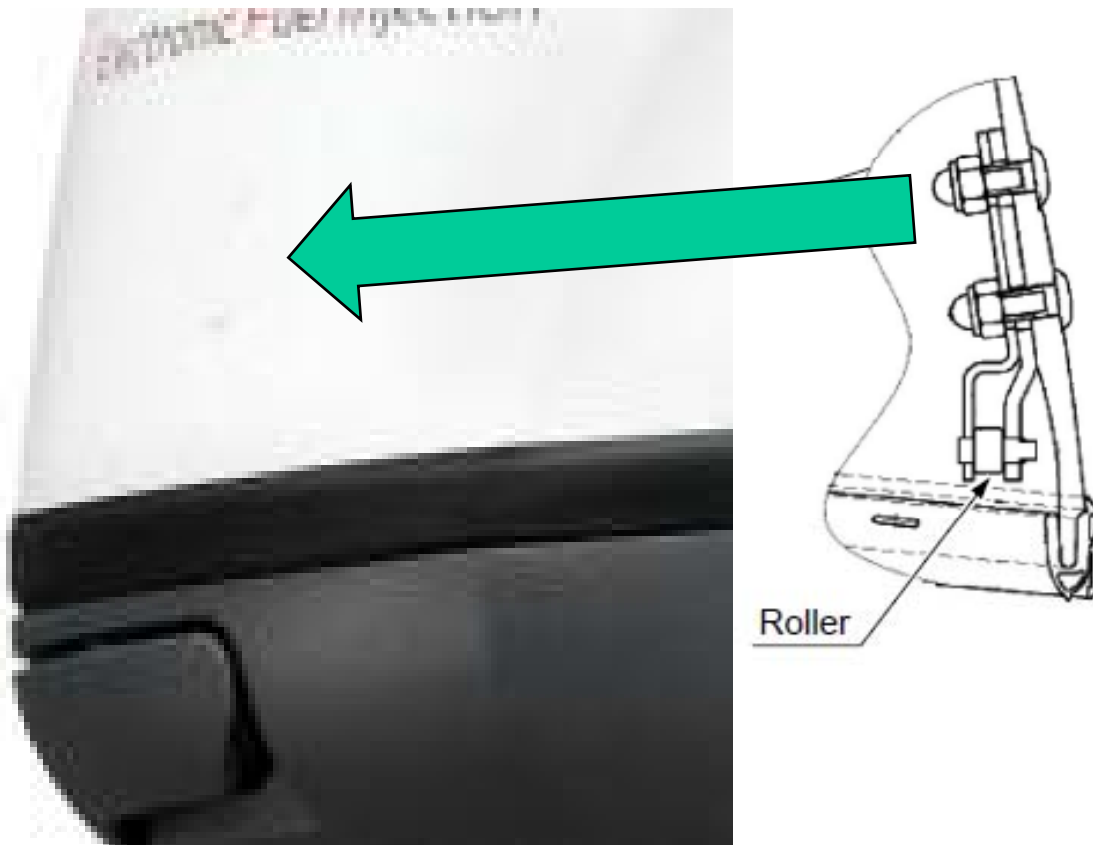
- Changed to pivot shifting from up-down shifting system

## 1. TOP COWL LOCK ROLLER

The roller has been used for the locking point of top cowl.

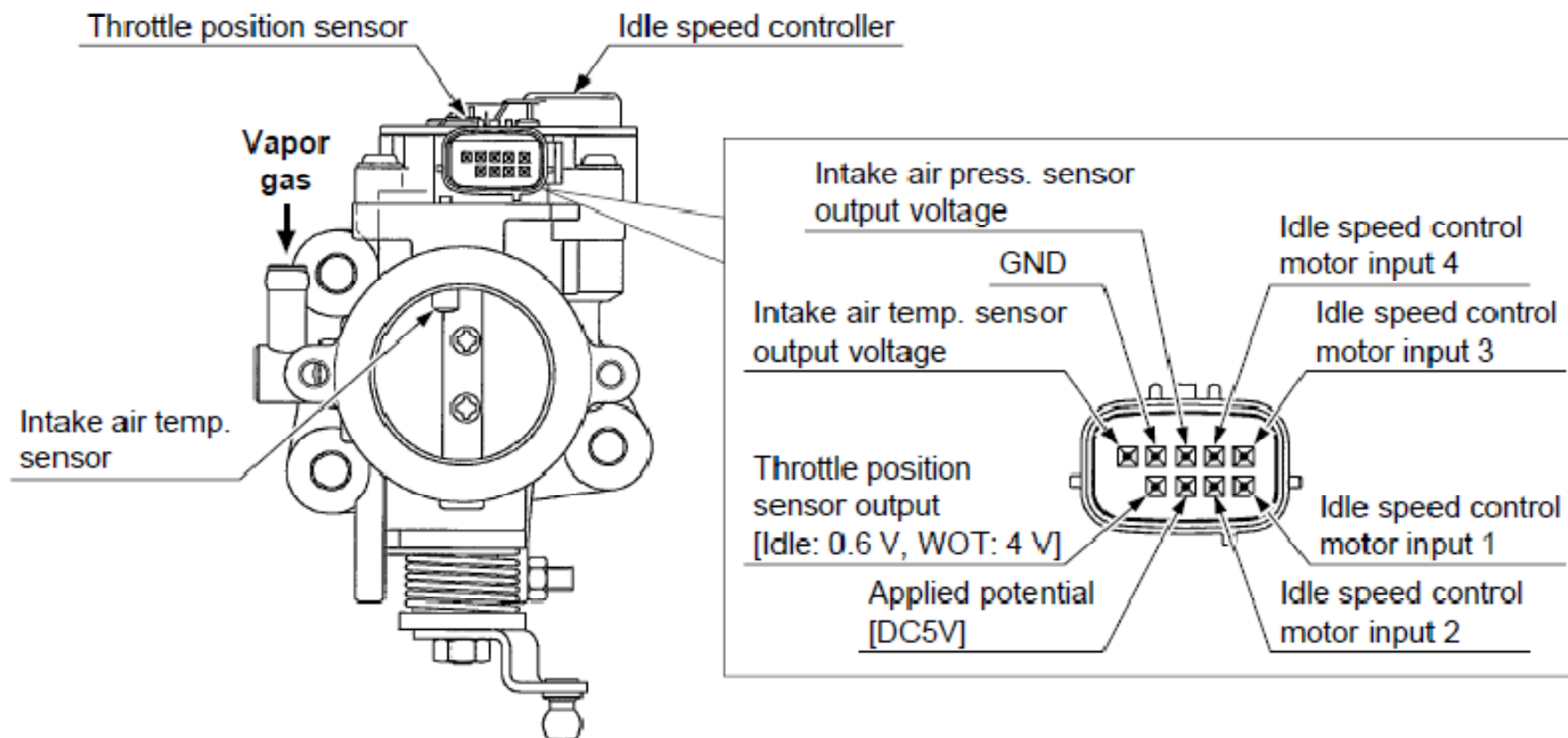
This can reduce the friction of lock lever when turning the lever, and obtains easier locking or unlocking the top cowl.

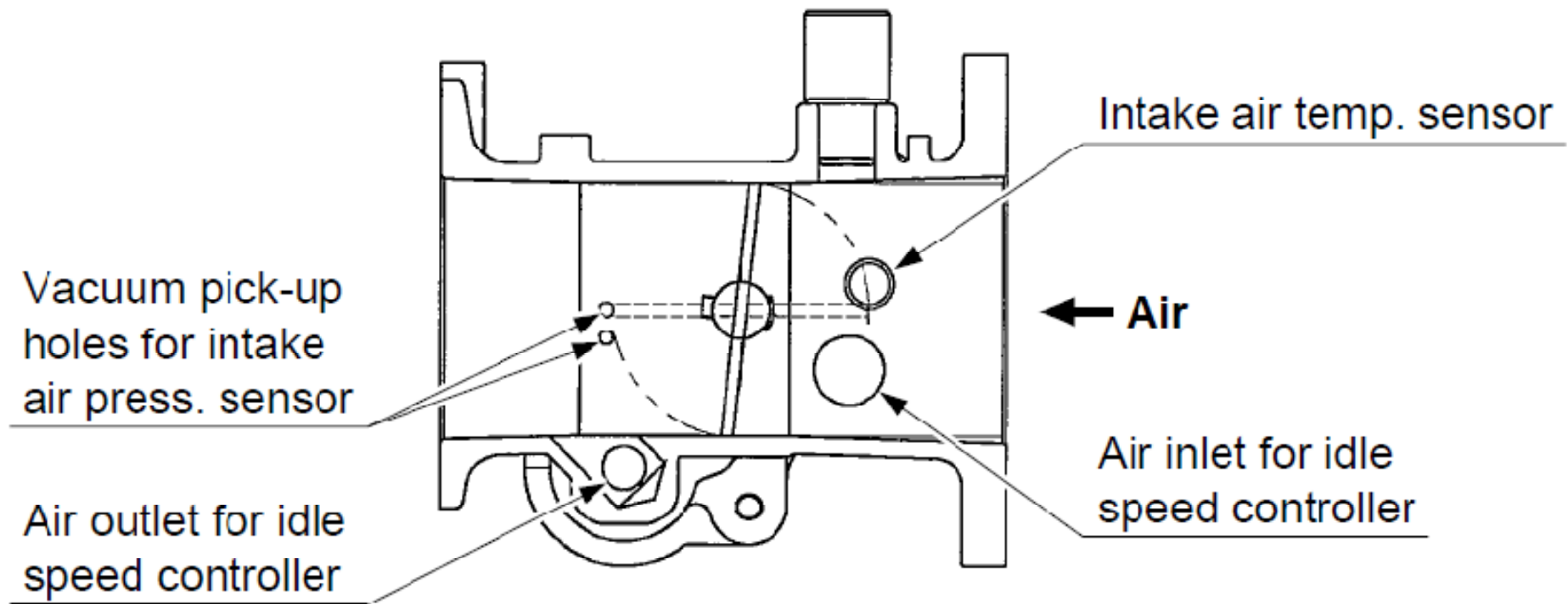
So, the compact lock lever has been employed and put into the bottom cowl.



## 2. THROTTLE BODY UNIT

The idle speed controller, throttle position sensor, intake air temp. sensor and intake air press. sensor have been modularized and incorporated into the throttle body unit, which simplifies the intake system.





### 3. FUEL SYSTEM

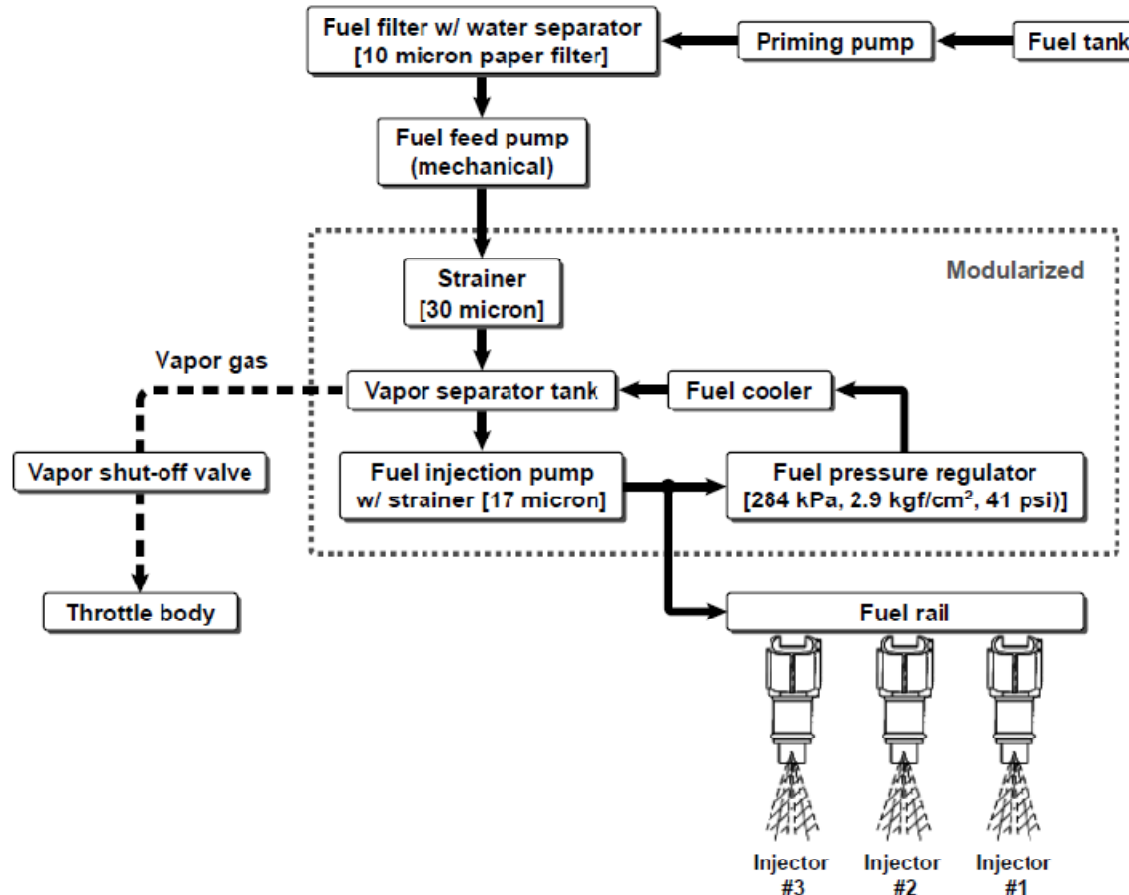
#### 1) FUEL SUPPLY SYSTEM

The fuel line is shown as below.

The vapor separator tank and related components have been modularized to simplify the fuel system.

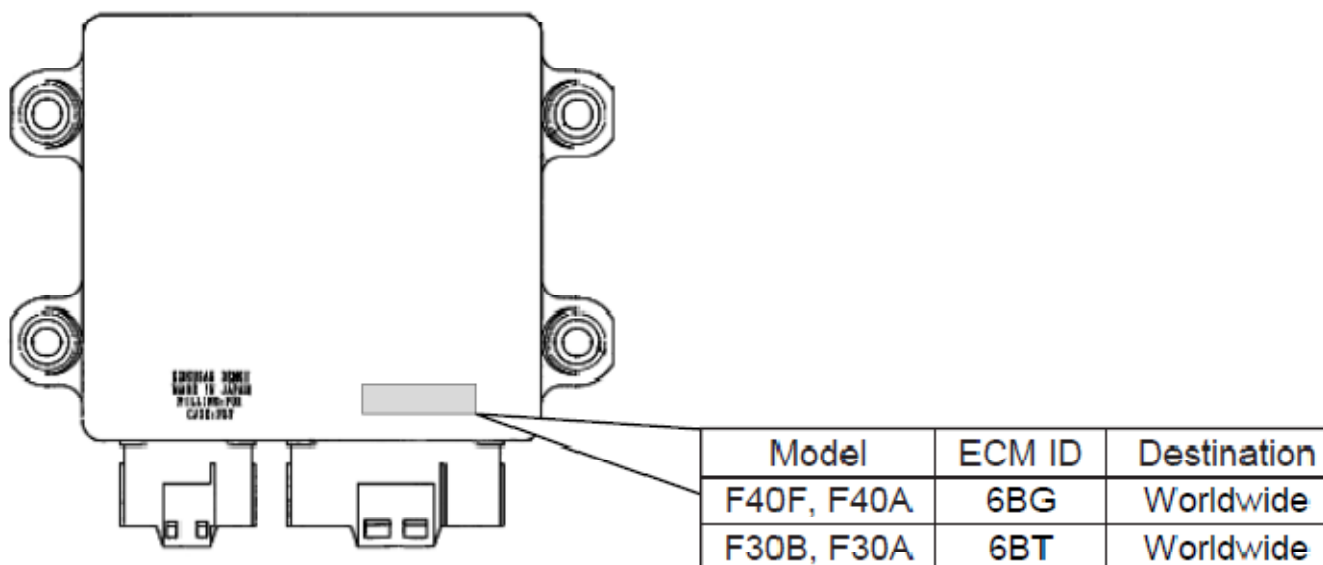
As you know, the vapor shut-off valve has been employed to obtain sure restarting while the engine is warm or hot.

\* The portable fuel tank, priming pump and fuel hoses exposed out of cowling have been conformed with EPA permeation regulation.



# 1) ECM ECM IDENTIFICATION

Regardless of the model destination, the ECM specification has been integrated into one right now.



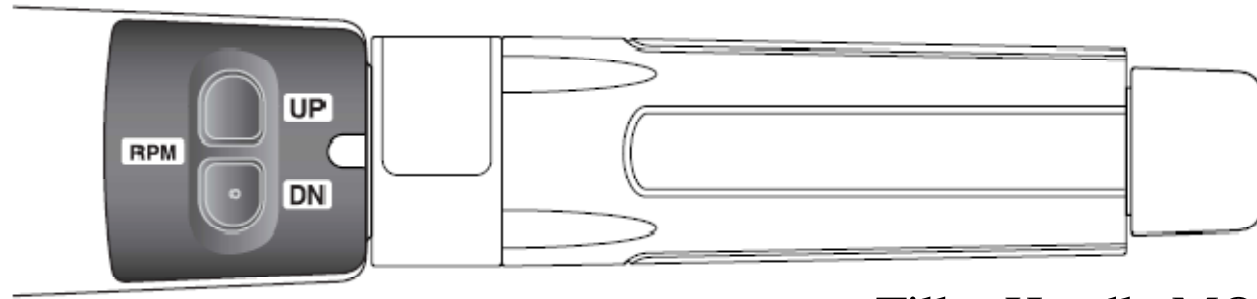
### VARIABLE TROLLING RPM SW

The variable trolling speed controller as you know has been employed.

The trolling speed can be controlled on the digital network tachometer or tiller handle at 50 rpm increments/ decrements within the specific range.

If the engine speed has been exceeded 3000 rpm or the engine has been stopped, the trolling rpm control is cancelled and reset to the original trolling rpm.

Push	Trolling rpm control
MODE	50 rpm increments (limit: 900 rpm)
SET	50 rpm decrements (limit: 650 rpm)
Original	800 rpm



Tiller Handle MODEL



DOWN [SET]      UP [MODE]

RC MODEL



### 3) OVER-REV CONTROL

This outboard motor is equipped with an over-revolution control system to protect the engine from a damage.

If the engine speed exceeds 6000 rpm, the fuel ignition and ignition are partially shut-off.

When the engine speed drops below 6000 rpm, all cylinder re-activates.

### 4) WARNING CONTROL

This outboard motor is equipped with warning control functions to avoid serious engine damage.

The engine speed is limited to approximately 2500 rpm due to partial cylinder ignition and injection if the engine overheats or the oil pressure has dropped.

If the switch is ON or the sensor detects the specified value, the engine is controlled as shown in the table.

Detector	Coolant temp. sensor	Oil pressure SW
Criterion	Sensor has detected above 80°C (176°F), after engine has run for 89 sec. or run for 28 sec. at over 2000 rpm, since starting.	Switch is ON (49 kPa, 0.5 kgf/cm <sup>2</sup> , 7 psi) when engine is running at over 1000 rpm under specific engine temp., after 5 sec. since starting.
Activation	Overheat indicator lights and buzzer sounds.	Oil indicator lights and buzzer sounds.
Cancelled	Engine stops, or sensor detects below 70°C (158°F) and throttle is fully retarded.	Engine stops.

\* Warning indicators light for 3 seconds after the ignition switch is turned ON.

\* Buzzer sounds when the engine shut-off clip is removed when starting the engine.

## **5) SELF-DIAGNOSIS SYSTEM**

YDIS 1.32 version will be released and corresponding with new F30 and F40.

For detail information, see the instruction which is accompaniment with YDIS 1.32 package.

## 2. RIGGING GROMMET DESCRIPTION

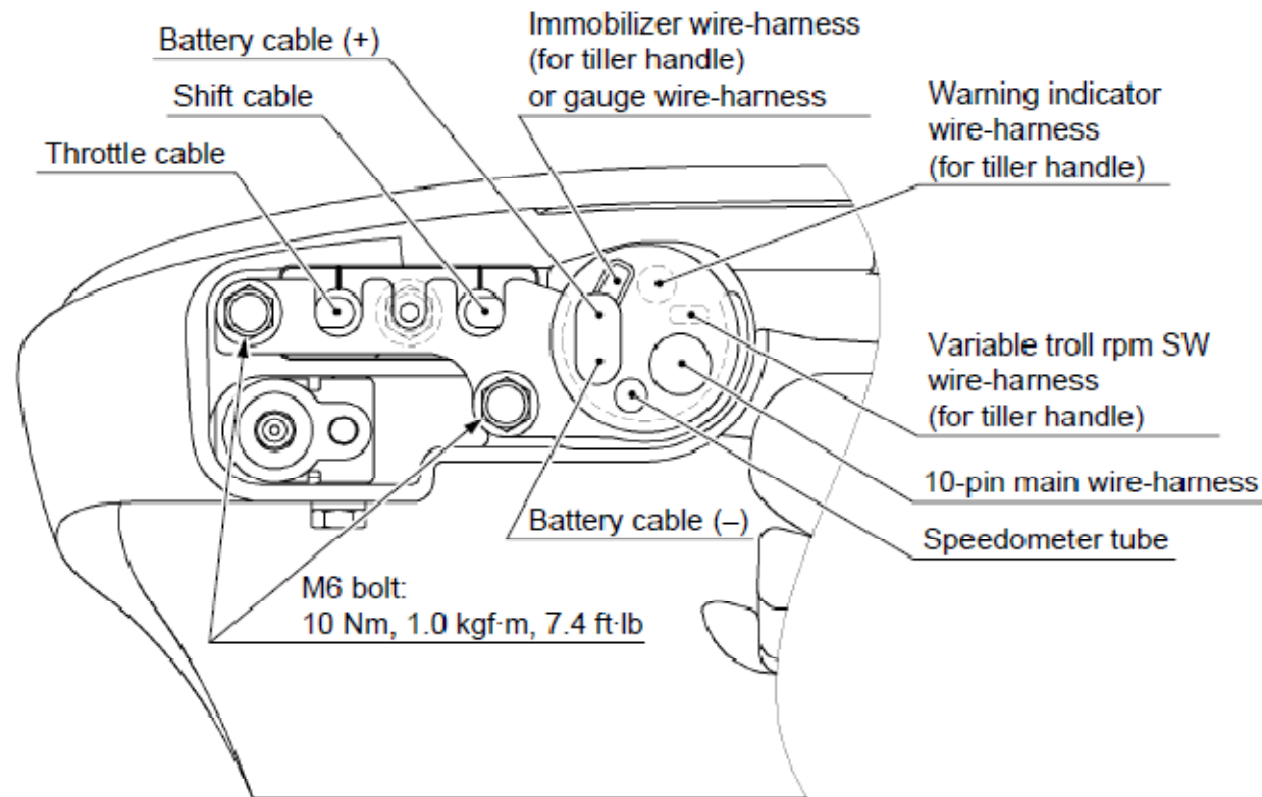


Fig. 14 Rigging grommet description

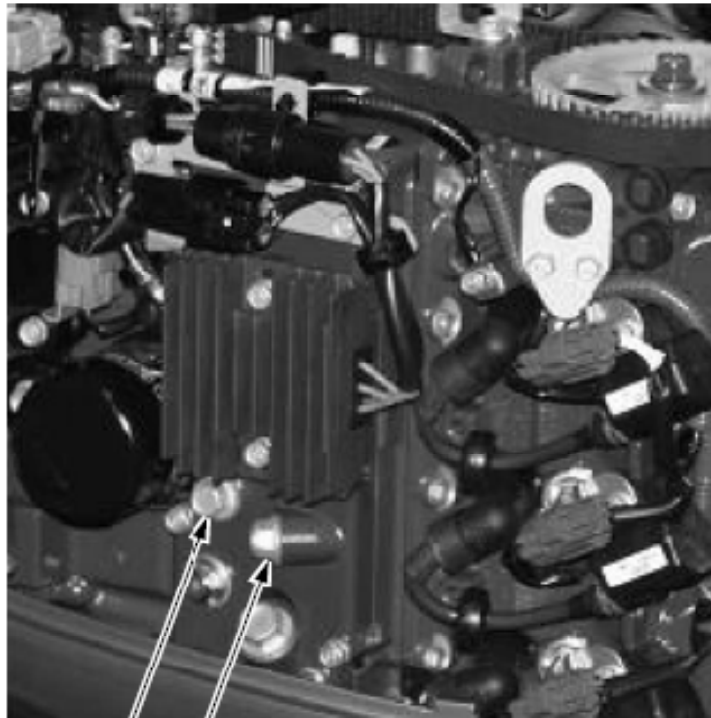
For the first rigging procedure, remove the M6 bolts, then the retaining plate and rigging grommet.

\* After all control components have been rigged to the grommet, reinstall the fixture components to the original location.

#### 4) CONVENTIONAL GAUGE SENSOR INSTALLATION (OP)

Coolant temp. sensor and/or coolant pressure sensor can be installed.

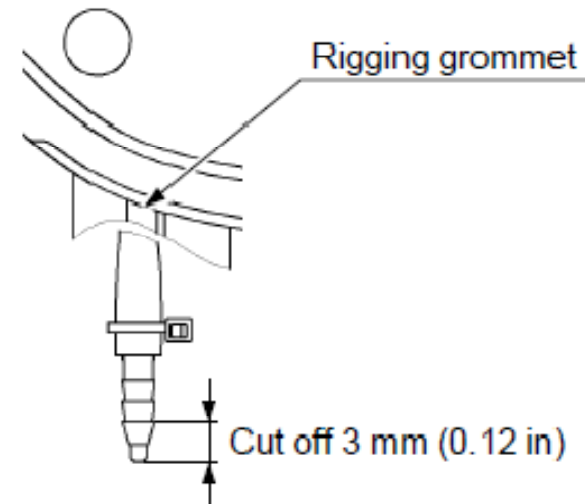
##### i) COOLANT TEMP/ PRESSURE SENSOR INSTALLATION



For coolant pressure sensor  
For coolant temp. sensor

##### ii) SPEED SENSOR TUBE INSTALLATION

- 1) Cut off 3 mm (0.12 in) from the end of nipple.
- 2) Connect the tube to the nipple, and secure it with a clamp.
- 3) Route the tube so that it is not kinking or pinching, and connect the other end to the nipple of speedometer.



Item	Model			
	US/ Canada	F40A	F40EA	—
Global	F40FET	F40FED	F40FEHT	F40FEHD
Model prefix code	6BG			
Starting serial number	1000001			
<b>DIMENSIONS &amp; WEIGHT</b>				
Overall length	717 mm, 28.2 in		1362 mm, 53.6 in	
Overall width	384 mm, 15.1 in			
Overall height	S: 1228 mm, 48.3 in L: 1350 mm, 53.1 in X: 1464 mm, 57.6 in			
Transom height	S: 414 mm, 16.3 in L: 536 mm, 21.1 in X: 650 mm, 25.6 in			
Dry weight w/o prop (Planned value)	S: 94 kg, 207 lb L: 100 kg, 220 lb X: 104 kg, 229 lb	S: L: X: —	S: — L: 99 kg, 218 lb X: —	S: L: 97 kg, 214 lb X: 101 kg, 223 lb
<b>ENGINE UNIT</b>				
Engine type	4-stroke, Fuel injection, L-3, OHC, 6 valves			
Prop shaft power output	29.4 kW (40 ps) @5500 rpm			
Total displacement	747 cm <sup>3</sup> (46 ci)			
Bore x Stroke	65.0 x 75.0 mm (2.56 x 2.95 in)			
Fuel consumption	13.6 L/h, 3.6 US gal/h, 3.0 Imp gal/h @6000 rpm			
WOT operating range	5000 – 6000 rpm			
Idle speed	800 rpm			
Compression ratio	9.40			
Control system	Remote control		Tiller handle	
Starting system	Electric			
Starting enrichment system	Electronic fuel injection (Prime start)			
Cooling system	Water			
Exhaust system	Prop boss			
Lubrication system	Wet sump			
<b>FUEL &amp; OIL</b>				
Fuel classification	Regular unleaded gasoline			
Fuel rating	RON90 / PON86			
Engine oil classification	4-stroke motor oil			
Engine oil grade (Meeting both API and SAE requirements)	API: SE, SF, SG, SH, SJ, SL SAE: 5W-30, 10W-30, 10W-40 (*)			
Engine oil qty	1.5 ltr (1.6 US qt, 1.3 Imp qt) w/o oil filter 1.7 ltr (1.8 US qt, 1.5 Imp qt) w/ oil filter			
Gear oil classification	Hypoid gear oil			
Gear oil grade (Meeting both API and SAE requirements)	API: GL-4 SAE: #90			
Gear oil qty	430 ml, 14.5 US oz, 15.1 Imp oz			

Item	Model			
	US/ Canada	F40A	F40EA	—
Global	F40FET	F40FED	F40FEHT	F40FEHD
<b>BRACKET &amp; DRIVE UNIT</b>				
Trim angle @12-deg. boat transom	-3 to 16 deg.	-3, 1, 5, 9 deg.	-3 to 16 deg.	-3, 1, 5, 9 deg.
Tilted-up angle	66 deg.	65 deg.	66 deg.	65 deg.
Shallow water drive angle	Variable within tilt range (*)			
Steering angle (P + S)	40 + 40 deg.			
Gear shift positions	F - N - R			
Gear ratio	2.0			
Reduction gear type	Spiral bevel gear			
Clutch type	Dog clutch			
Prop fitting	Spline			
Prop rotation	R/I			
Prop ID mark	G			
<b>ELECTRICAL</b>				
Ignition control system	DC-CDI			
Ignition timing	ATDC7 - BTDC30			
Max. generator output	DC 12V - 16 amps			
Spark plug #/ gap	NGK DPR6EB 9/ 0.9 mm (0.035 in)			
Battery rating (Lead-acid battery)	CCA/SAE: 380 amps			
	MCA/ABYC: 502 amps			
	RC/SAE: 124 min			
	CCA/EN: 430 amps			
	20HR/IEC: 70 Ah			
Battery cable length (Grommet to terminal)	JIS: 65D31 - 95E41			
	1.64 m, 5.4 ft (2.24 m, 7.3 ft for US/ANZ/JPN)			