



## Model Concept

# Integrated steering availability expanding into 200-150 horsepower class outboard motors

### Operability and maneuverability

- ◇ HMEC is supported
- ◇ Steering feeling and response → Same levels as XTO and V6
- ◇ Yamaha will supply overall steering system as system supplier

### Basic performance

- ◇ Performance:  
Maximum speed, Acceleration, Fuel consumption, Vibration/Noise, Durability  
→ Same levels as existing models

### • Design • Rigging-ability • Compatibility for wide range of boats

- ◇ Unified feel for Yamaha line-up of large models (looks like XTO /V6)
- ◇ Color variations (gray and pearl white)
- ◇ Tilt operation simplified → Total tilt function
- ◇ Improved boat interference level during tilting → Tilt limiter
- ◇ Compared to existing 3rd-party aftermarket steering equipment Rigging work is easy



Group **A**: SBW + DBW

Group **B**: Hydraulic + DBW

Group **C**: Hydraulic + Mecha

## Engine

- A** SCU (new)
- A** Fuse box for SCU (new)
- A** **B** Auto tilt buzzer (new)
- A** **B** **C** ECU Software (change)

## Bracket

- A** **B** **C** **New Bracket**
- A** **B** **C** Integrated hydraulic cylinder
- A** Integrated steering pump and motor
- A** **B** **C** Single PTT
- A** **B** **C** New tilt axis position
- B** **C** Conventional 3<sup>rd</sup> party helm available
- A** **B** Auto Tilt UP/DOWN

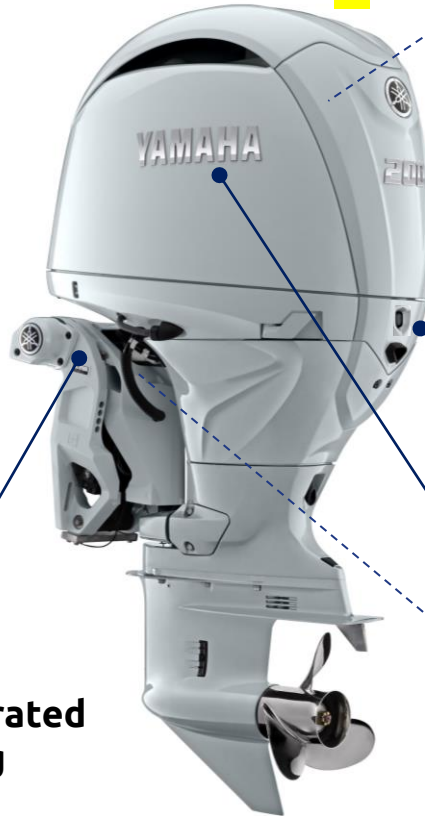
## Design

- A** **B** **C** **OKJS looking design**
- A** 3D graphic
- A** HM light (option)



200-150hp

Quick Comparison



**A**

◆ New Design

◆ Integrated steering

◆ Prop light (opt)

◆ 3D graphics

◆ Total Tilt (Group A, B)

◆ Normal graphics

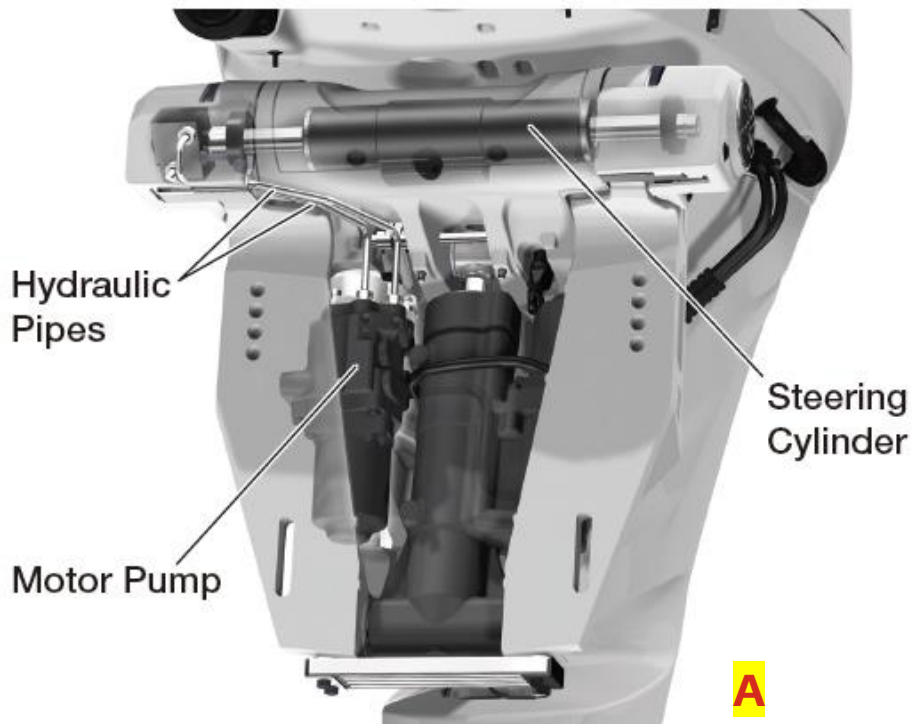


**B C**

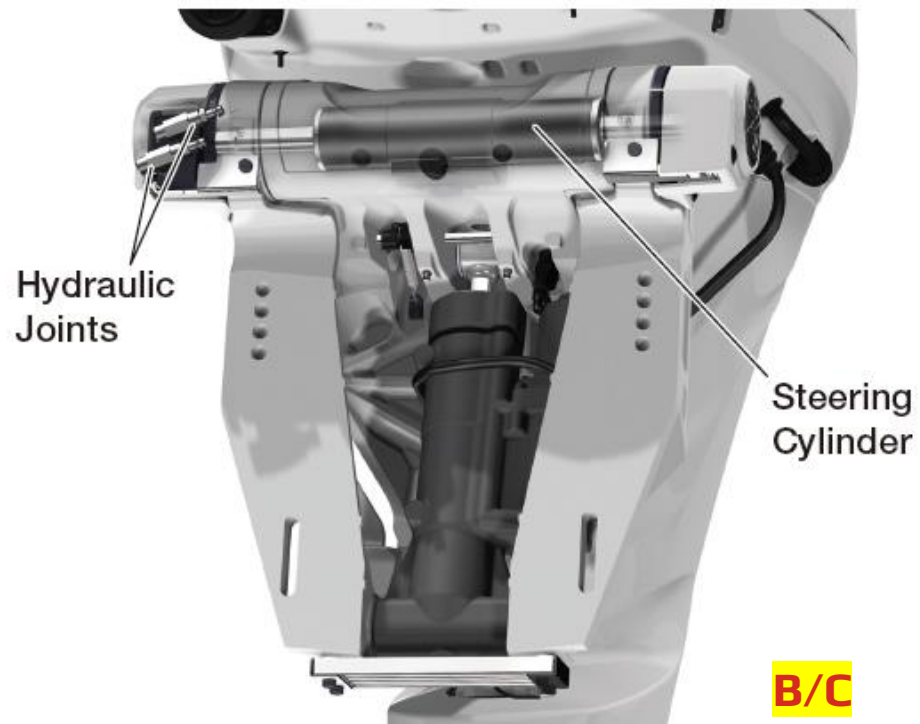
200-150hp



200-150hp

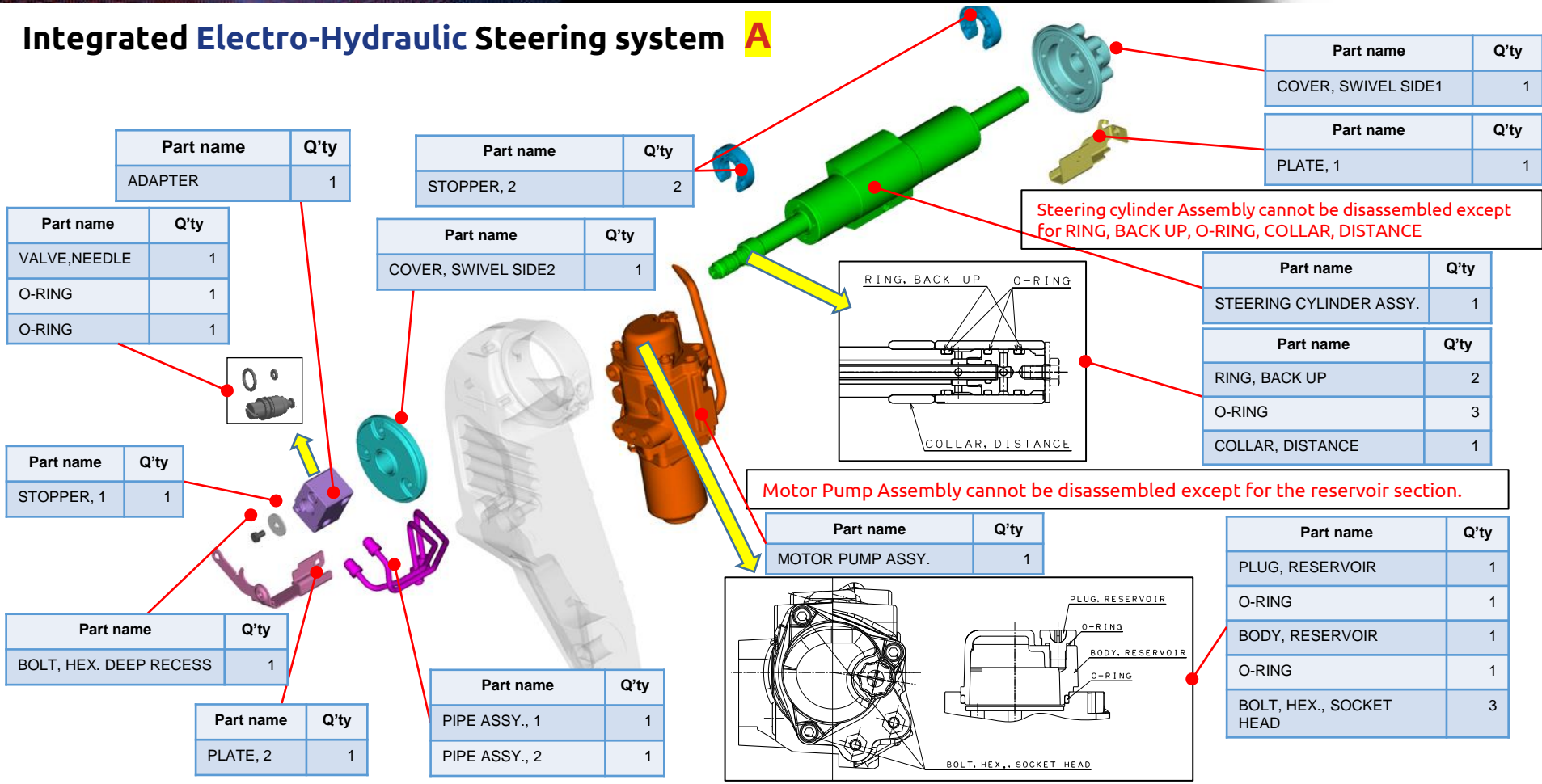


**Integrated Electro-Hydraulic  
Steering system**

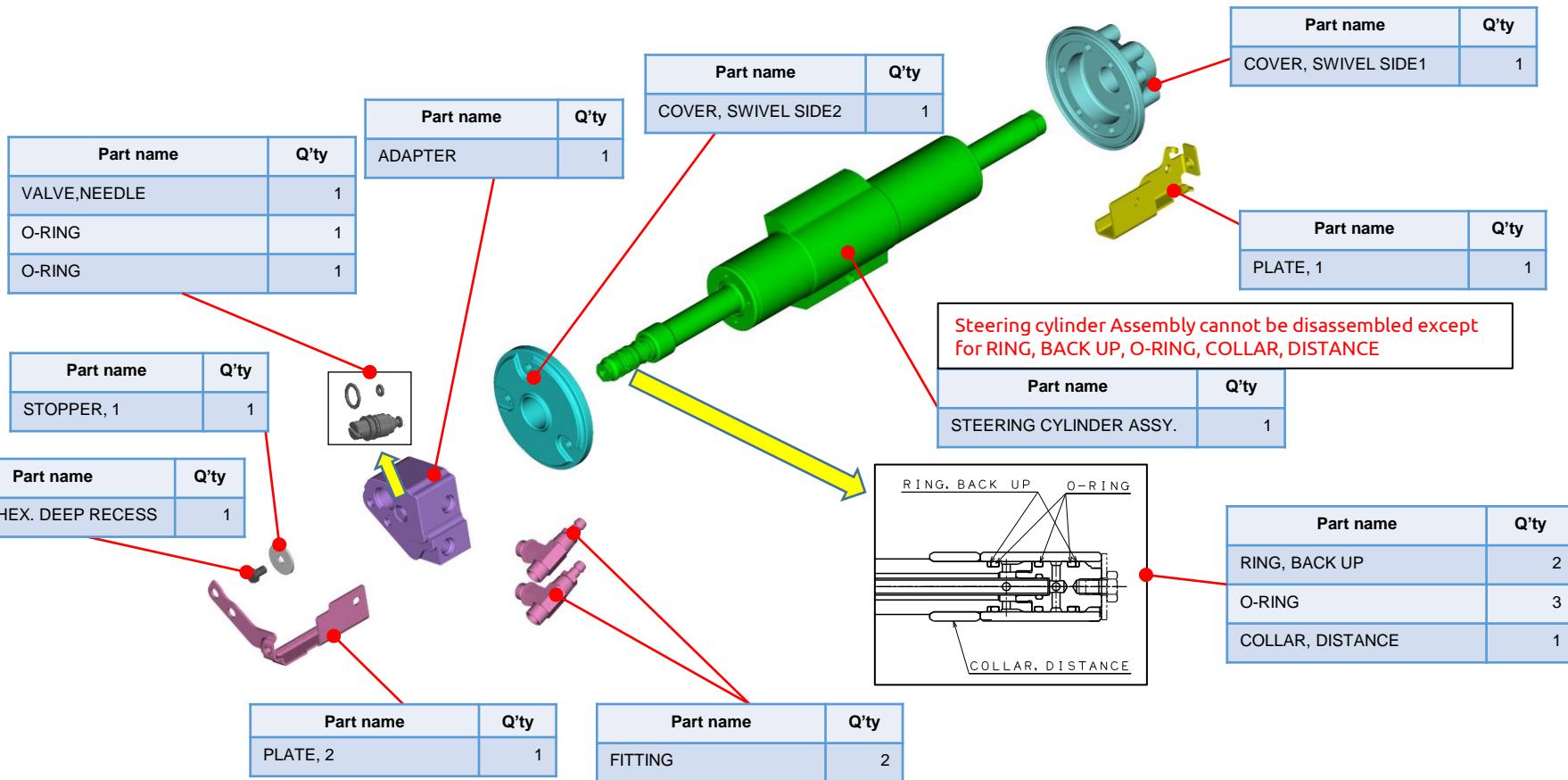


**Integrated Hydraulic Steering system**

## Integrated Electro-Hydraulic Steering system **A**



## Integrated Hydraulic Steering system **B/C**





200-150hp



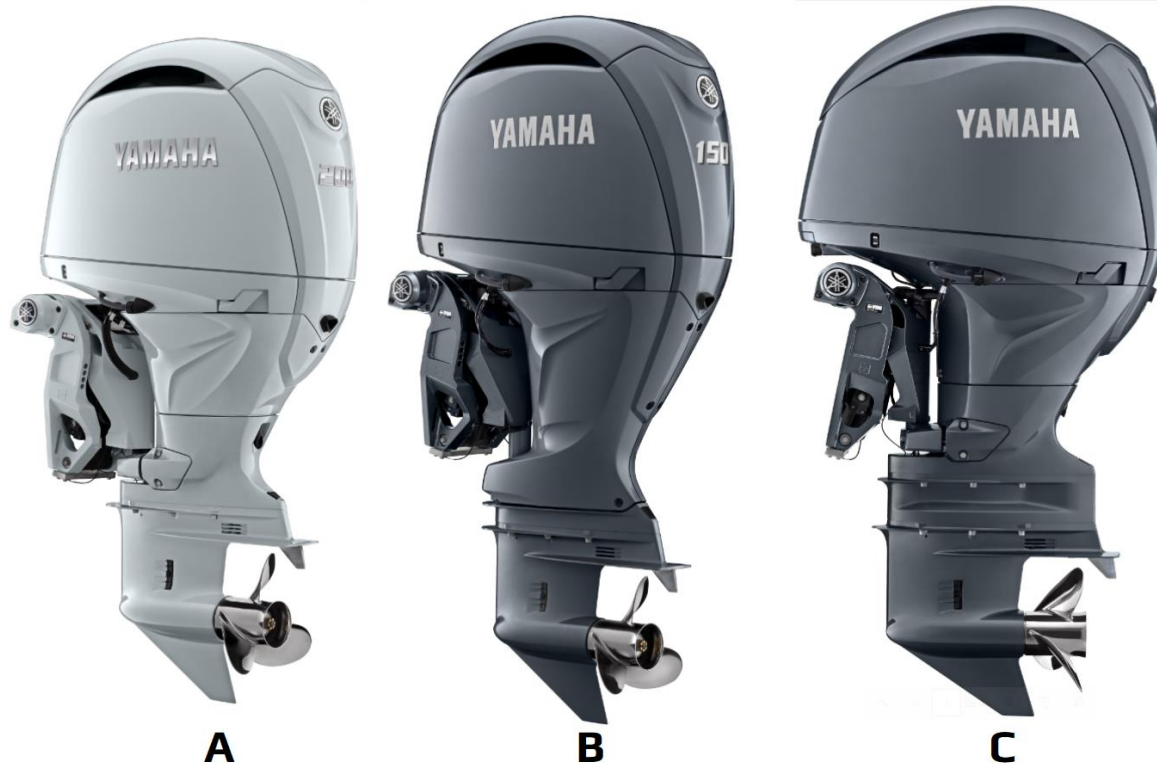
Integrated **Electro-Hydraulic** Steering system



# 200-150hp



- Group **A** (Electric helm) equipped with an integrated **Electro-Hydraulic Steering**, throttle and shifting **DBW**, compatible with HM EX (=SBW)
- Group **B** (Hydraulic helm), equipped with an integrated **Hydraulic Steering**, hose and hydraulic helm up to BB, throttle and shifting **DBW**, HM EX).
- Group **C** (Hydraulic helm), equipped with an integrated **Hydraulic Steering**, hose and hydraulic helm up to BB, throttle and shifting **Mechanical**.



**Groups**

# 200-150hp

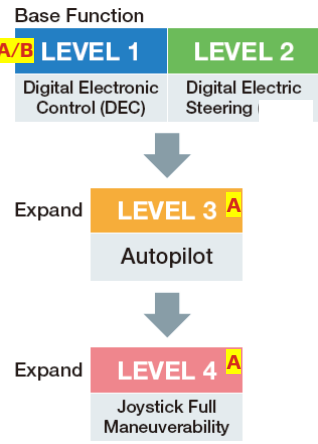


- ECM control system
- Variable trolling RPM
- A/B** Digital Electronic Control (DEC)
- 50-Amp high output alternator
- Closed fuel vapor system
- Fuel vaporization control system
- Large water separator with water sensor
- NEW A** Integrated Electro-Hydraulic Steering system
- NEW B/C** Integrated Hydraulic Steering system
- NEW C** Adapter interface with tilt limit
- NEW A/B** TotalTilt™ function with integrated tilt limit
- Long span mounting system
- Special treatment strong gears
- Shift Dampener System (SDS)

- NEW A** 2 factory colors
- NEW** Elegant, sleek, lightweight design
- Plastic lightweight bottom cowling
- Intake air draining system



- Bolted flywheel
- 16-valve, DOHC, In-line 4
- Multi-point electronic fuel injection
- Direct ignition
- VCT** Variable Camshaft Timing (VCT) (F200N)
- Offset cylinder
- Twin balance shaft
- Long intake manifold/Precise single throttle
- Blow-by gas reburning system
- Tensioner
- 4 into 1 exhaust system
- Labyrinth exhaust system
- Combined upper case with oil pan
- Long oil stick tube
- Water-sealed outer wall



### Rigging Accessories

- NEW A/B** Helm Master™ EX compatibility
- NEW A** Propeller light (optional)

### YAMAHA Ideal Anti-Corrosion System




- Special aluminum alloy: YDC30
- Self-sacrificing anodes
- Freshwater flushing device
- Electrodeposited inside/outside paint process
- Anodic exhaust coating (alumite)

### Warning & Protection

- Over-heat warning
- Over-rev limiter
- Low oil pressure warning
- Knock control
- Fail-safe system
- Yamaha Diagnostic System (YDIS)
- Start-in-gear protection
- YAMAHA immobilizer

# 200-150hp



-  F200N (6LH) **A**
-  F200Q (6LW) **B / C**
-  F200G (6DV) **PREVIOUS MODEL**

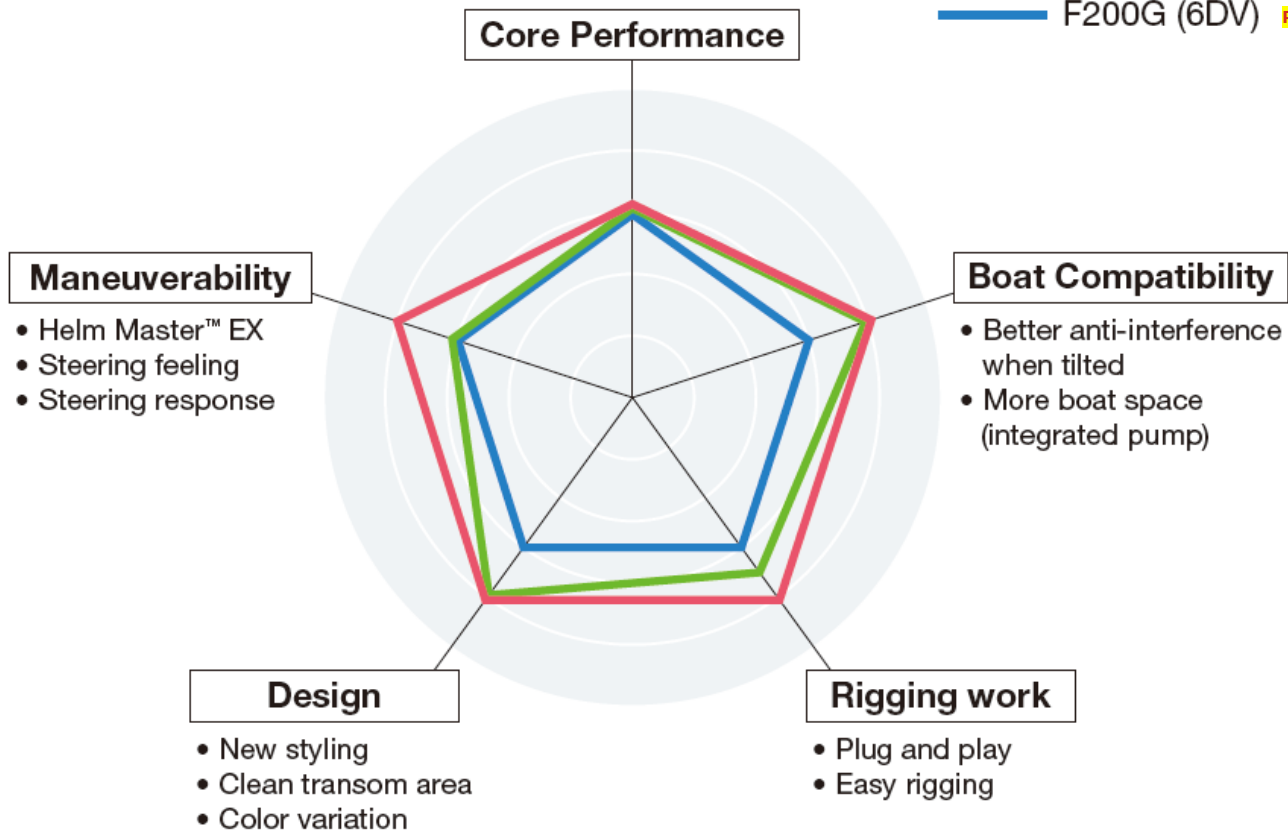


Diagram example (Twin engine installation, single station)

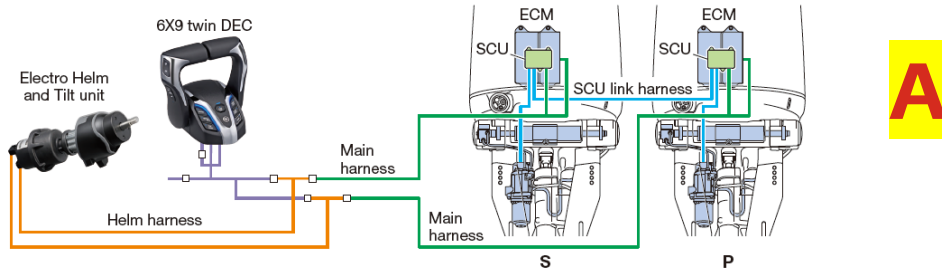


Diagram example (Single engine installation, single station)

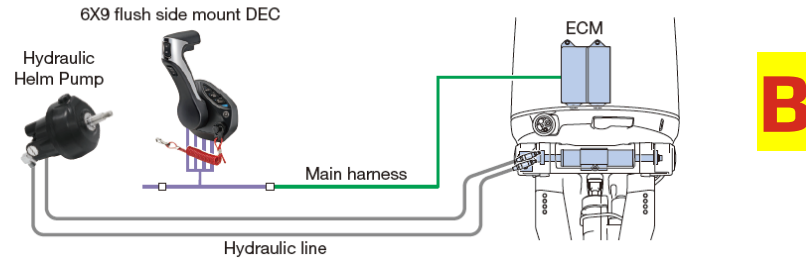
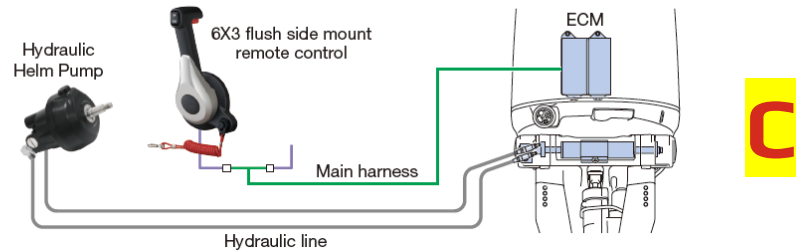


Diagram example (Single engine installation, single station)



## Compatibility (Steering System)

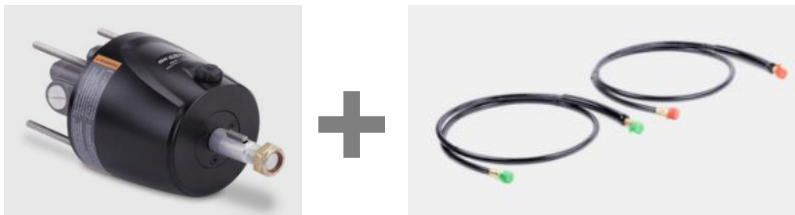
### Precautions for Installing the Integrated Hydraulic Steering System

**B C**

#### ■ Conformity helm and hose

- The hydraulic helm unit and hydraulic hose need to be prepared separately.
- Supported helm and hose suppliers are shown below.
  - **Dometic**
  - **U-Flex**
  - **L&S (P&A, under investigation)**

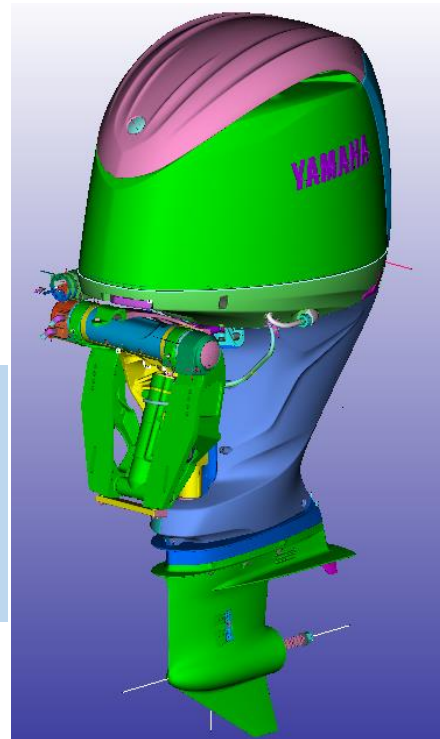
#### Dometic or U-Flex



#### Hose fitting



\*The hose fittings are included in the crate with the outboard motors that have integrated hydraulic steering.



## Compatibility (Steering System) Recommended Steering Fluid

### ■ Integrated Electro-Hydraulic Steering **A**

- Use Shell/Terrace S2V15.

- The fluid in the integrated electro-hydraulic does not need to be replaced.
- However, when reassembled, the oil must be refilled, and the air bled.

### ■ Integrated Hydraulic Steering **B/C**

- Use steering fluid that is recommended by the manufacturer of the helm.
- If no recommended fluid is specified, use a fluid with a viscosity of ISO **VG15**.



Model number : TELLUS-S2V15

**Model Variation**

**Shift / Throttle**

**DEC**

**Mechanical**

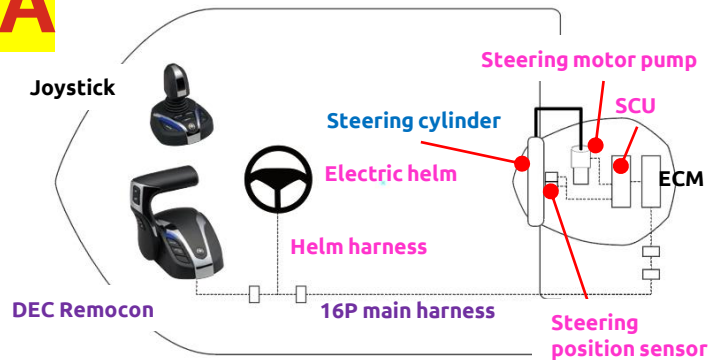
**Electro-Hydraulic**

No settings

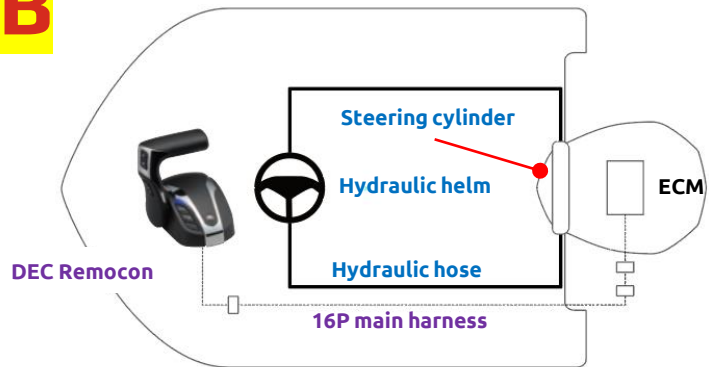
**Hydraulic**

**Mechanical Remocon**

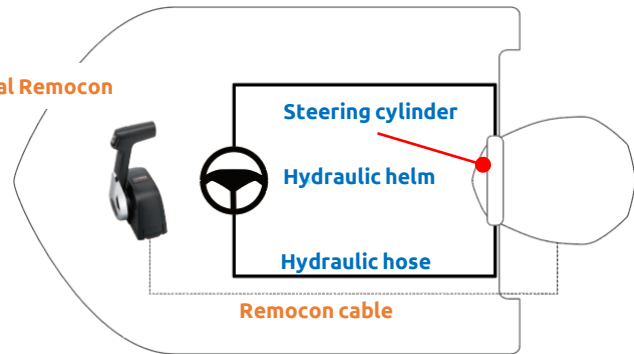
**A**



**B**



**C**



**Steering**



## Works with Helm Master

- The Helm Master EX is essential to operate the Group A.
- Group A can be upgraded to Level 4.

Note:

- The Group B is **LEVEL 1 only**. Upgrade is not possible.

Base Function

<b>LEVEL 1</b>	<b>LEVEL 2</b>
Digital Electronic Control (DEC)	Digital Electronic Steering



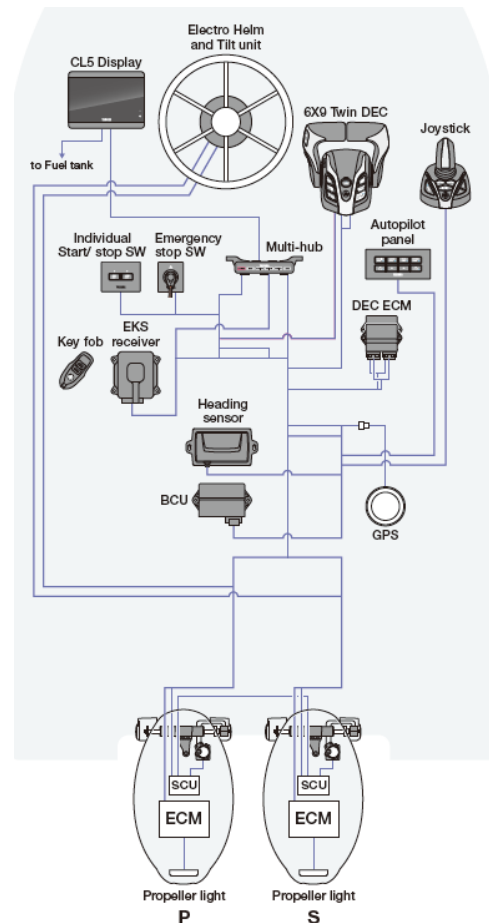
Expand

<b>LEVEL 3</b>
Autopilot



Expand

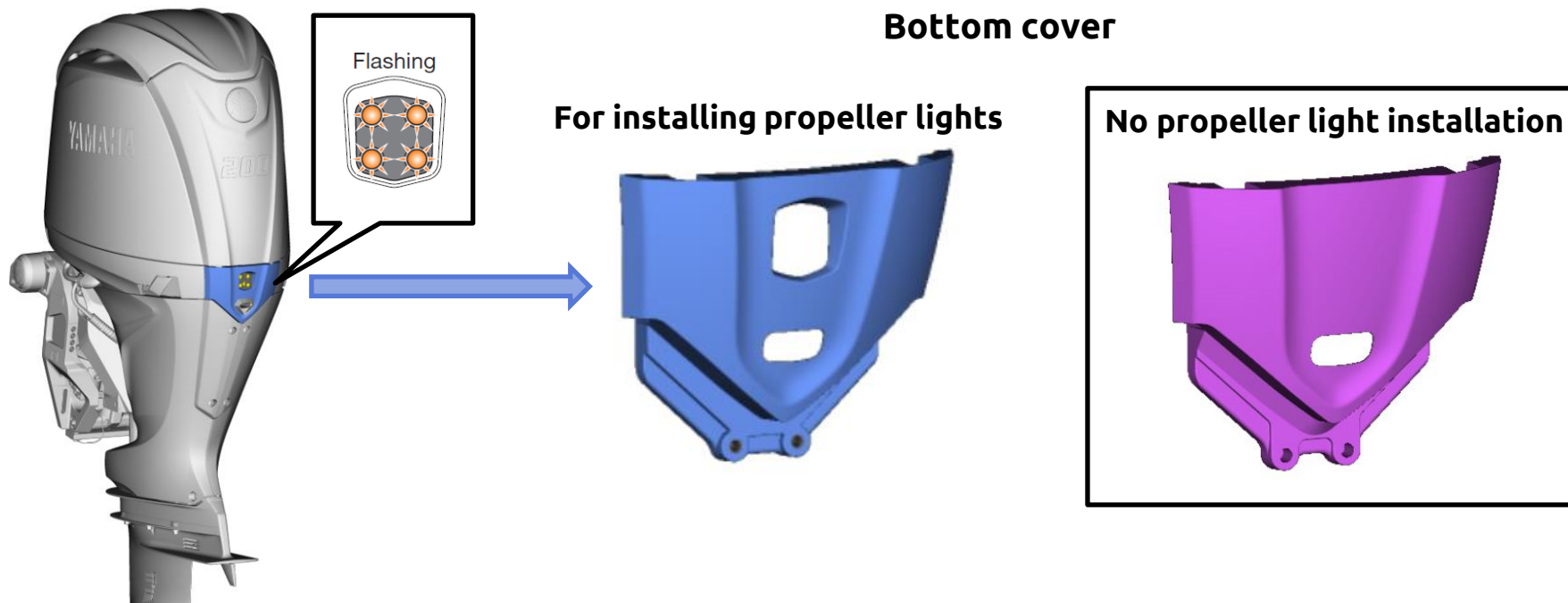
<b>LEVEL 4</b>
Joystick Full Maneuverability



## Engine Mount Propeller Light

A

- Lights are for Helm Master EX.
- These clearly indicate the boat is actively in Full Maneuverability mode to anyone approaching. The lights can be installed to the bottom cover.



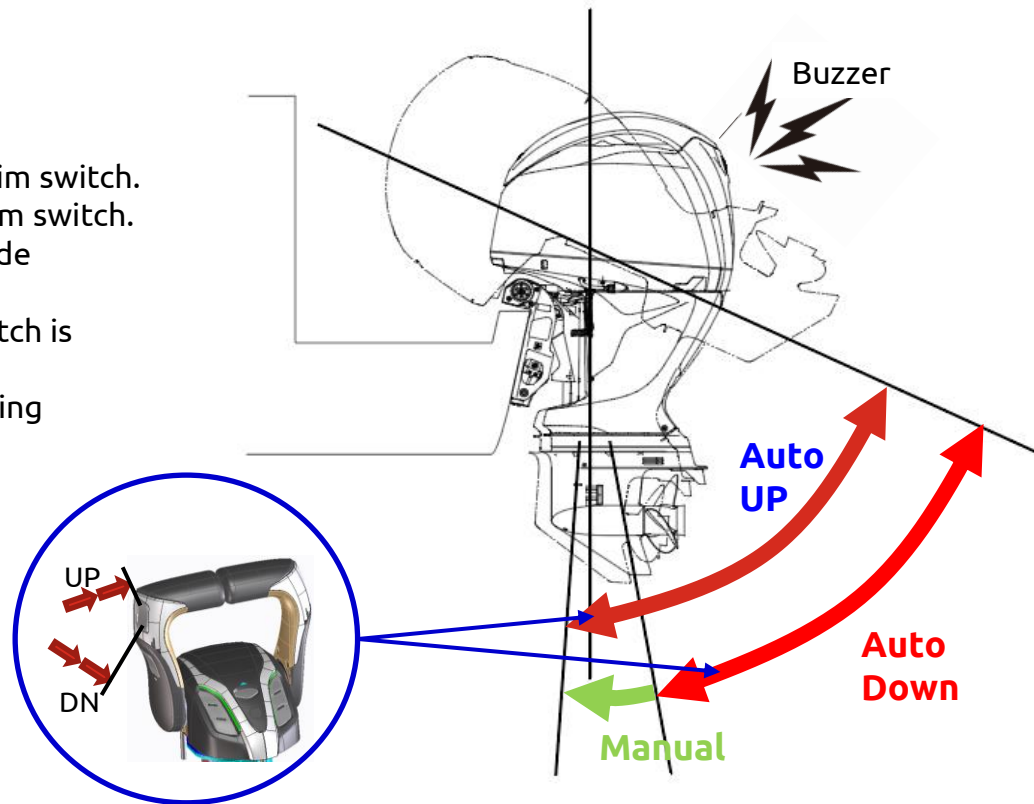
## TotalTilt Function

- Function is same as XTO and V6.
- TotalTilt function allows complete tilt up/down from any position with a simple double-push of the trim/tilt button.

**A B**

## Operation

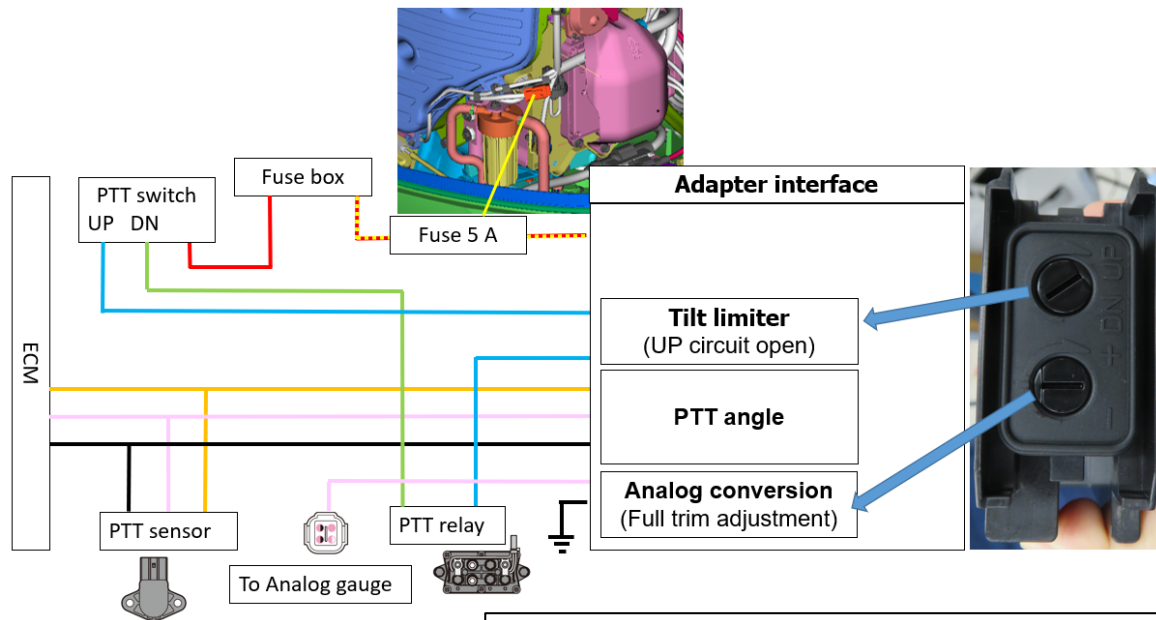
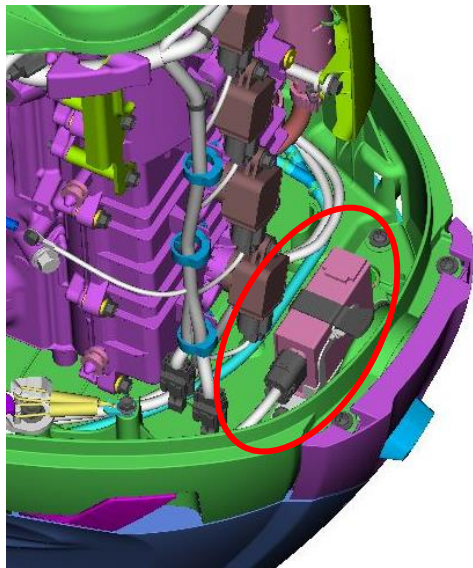
- Auto full tilt up by double push “UP” button of tilt/trim switch.
- Auto tilt down by double push “DN” button of tilt/trim switch.
- A warning horn sounds just before and during this mode operation.
- The mode can stop any time if button of tilt/trim switch is pressed.
- Can also operate the same as switch on bottom cowling



## Adapter Interface



- Group C uses an Adapter Interface.
- This makes it possible to set the tilt limiter and adjust the zero point for the trim of the analog gauge.



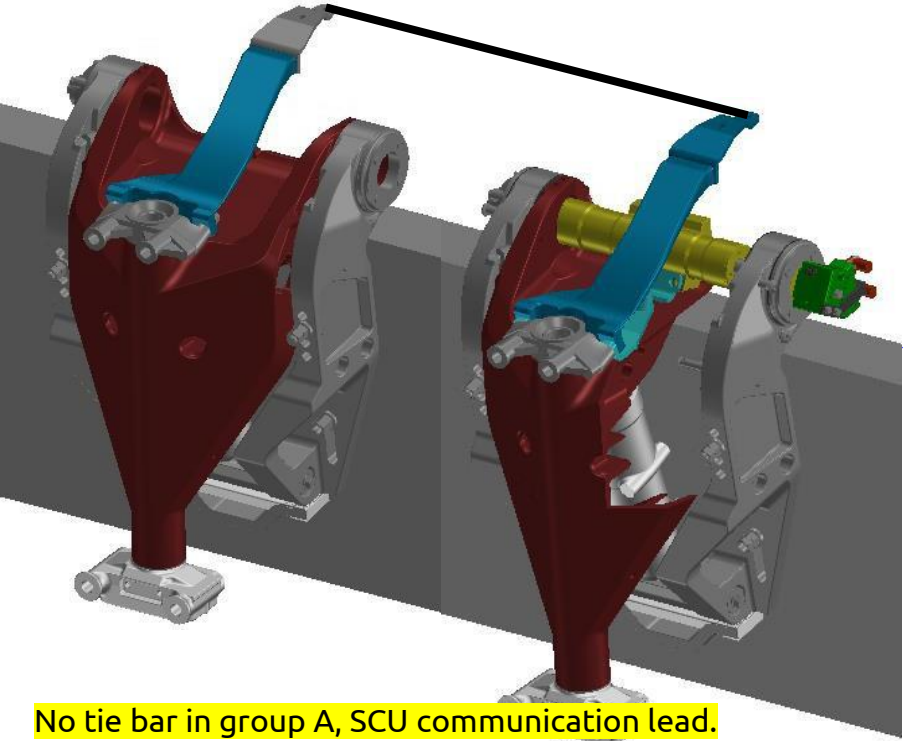
### Operation:

- By turning the dial, you can set the tilt limiter and adjust the zero point of the analog trim gauge.
- Settings are made at the dealer.

200-150hp

A tie bar are required for twin applications.

**B** **C**



No tie bar in group A, SCU communication lead.



## New Mechanism Compatibility Chart

Model	Group <b>A</b>		Group <b>B</b>		Group <b>C</b>	
	Regular	Counter	Regular	Counter	Regular	Counter
Integrated Electro-Hydraulic Steering system	✓	✓				
Integrated Hydraulic Steering system			✓		✓	
Tilt limiter (YDIS)	✓	✓	✓	✓		
Tilt limiter (Adapter interface)					✓	✓
PTT Total Tilt™ (Buzzer)	✓	✓	✓	✓		
PTT sensor	✓	✓	✓	✓	✓	✓
Tie-bar/Steering hook				✓		✓

# 200-150hp

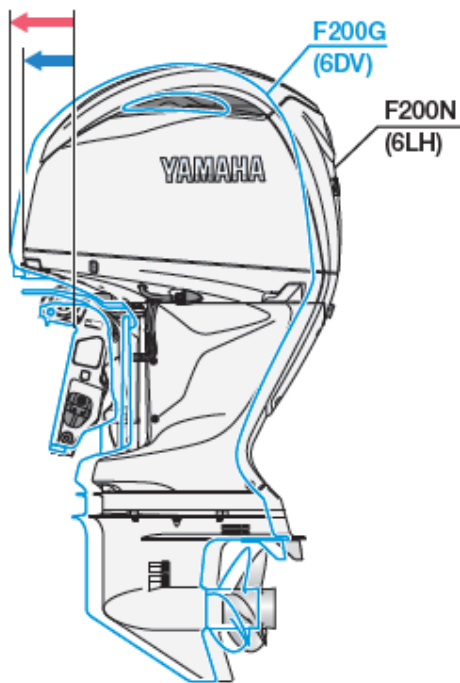


MFG Name	Sales Name	Transom /Color	Type Code	Throttle	Shifting	Built-in Steering	Group
F150HESTX	F150XSA	X / 8D	6LM	DBW	DBW	Elect-Hyd. SBW	A
F150HESTL	F150LSA	L / 8D					
FL150HESTX	LF150XSA	X / 8D	6LN	DBW	DBW	Elect-Hyd. SBW	A
F150JETL	F150LCB	L / 8D	6LU	DBW	DBW	Hyd.	B
F150JETX	F150XCB	X / 8D					
FL150JETX	LF150XCB	X / 8D	6LV	DBW	DBW	<b>N/A</b>	B
F150LETL	F150LC	L / 8D	6MA	mech.	mech.	Hyd.	C
F150LETX	F150XC	X / 8D					
F200NESTL	F200LSA	L / 8D	6LH	DBW	DBW	Elect-Hyd. SBW	A
F200NESTX	F200XSA	X / 8D					
F200NEST2X	F200XSA2	X / <b>CE</b>					
FL200NESTX	LF200XSA	X / 8D	6LJ	DBW	DBW	Elect-Hyd. SBW	A
FL200NEST2X	LF200XSA2	X / <b>CE</b>					
F200PETL	F200LCB	L / 8D	6LP	DBW	DBW	Hyd.	B
F200PETX	F200XCB	X / 8D					
FL200PETX	LF200XCB	X / 8D	6LR	DBW	DBW	<b>N/A</b>	B
F200QETX	F200XC	X / 8D	6LW	mech.	mech.	Hyd.	C

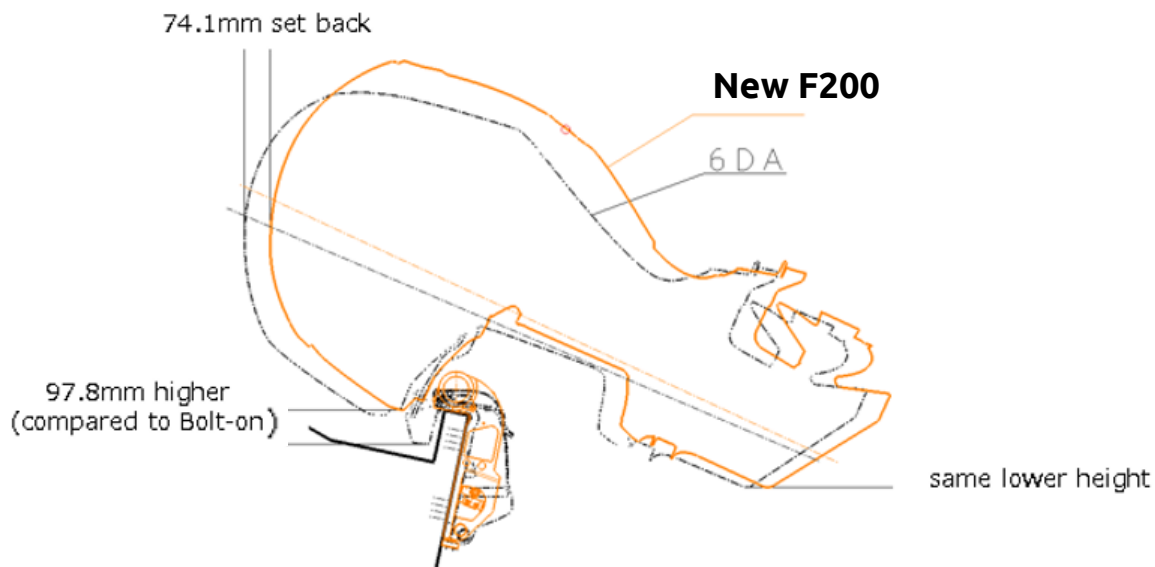
No F175 spec model in our EU line-up

## Dimensions

- The new model has a hydraulic steering cylinder compactly built into the swivel bracket section, while **maintaining the same level** of size as the current model.
- The level of interference with the boat motor well section when **tilt-up is improved** by offsetting the outboard motor body to the rear.



## Outline comparison of current model and New F200





# 200-150hp

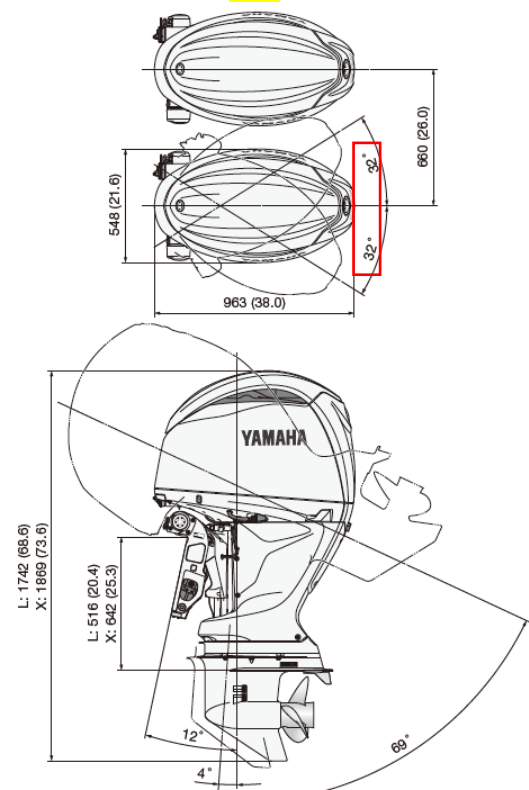
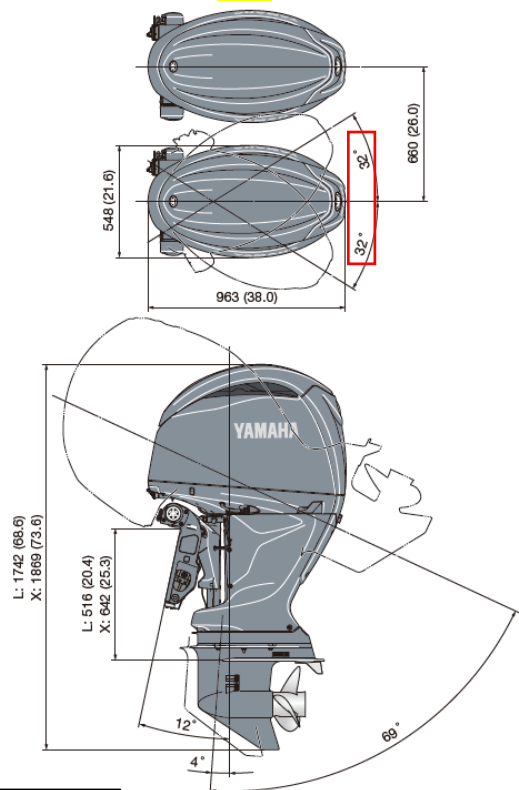
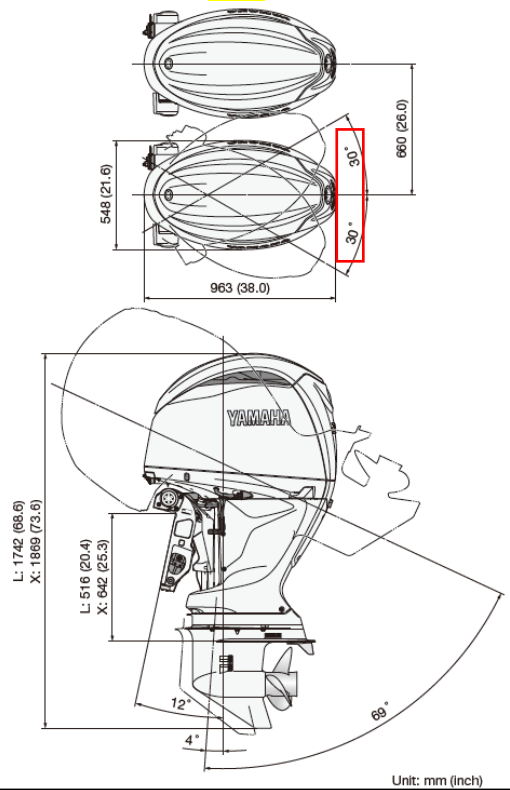


## Dimensions

### A

### B

### C



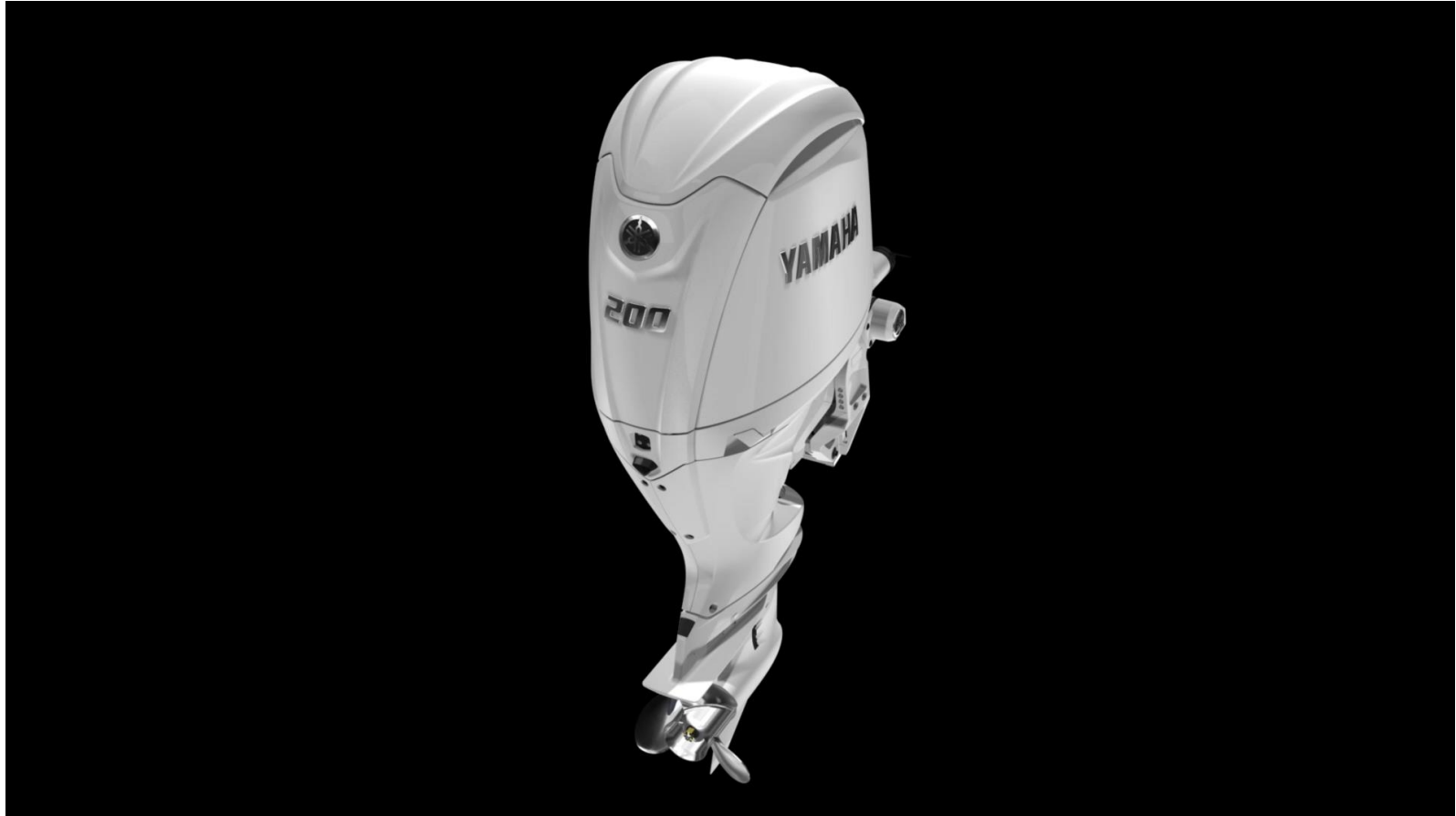
Group A has a different steering angle than Group B and C.

Unit: mm (inch)

Unit: mm (inch)

Unit: mm (inch)

200-150hp





**Thank you**