



6X3

CONCEALED MOUNT REMOTE CONTROL ^(EN)
INSTRUCTION

INSTRUCTIONS POUR MONTAGE CACHÉ ^(FR)
DE LA COMMANDE À DISTANCE

INSTRUCCIONES DEL CONTROL REMOTO ^(ES)
DE MONTAJE OCULTO

フラッシュマウントリモートコントロール取扱説明書 ^(JP)

- ⚠ Read this manual carefully before operation.
- ⚠ Il convient de lire attentivement ce manuel avant l'utilisation.
- ⚠ Lea atentamente este manual antes del uso.
- ⚠ 本書をよく読んでからお使いください。




6X3-28199-P1

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This remote control box has designed that both shift and throttle control can be actuated by operating the remote control lever. For the correct operation and installation of the remote control box, please read this instruction carefully and thoroughly.

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

 This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

WARNING

A **WARNING** indicates a hazardous situation which, if not avoided, could result in death or serious injury.

NOTICE


A **NOTICE** indicates special precautions that must be taken to avoid damage to the remote control box or other property.

TIP

A **TIP** provides key information to make procedures easier or clearer.

Designs and specifications are subject to change without notice.

1. MAIN COMPONENTS

Right mount for bulwark 



- 1. Grip
- 2. Neutral interlock trigger
- 3. Power trim and tilt switch

Left mount for console 



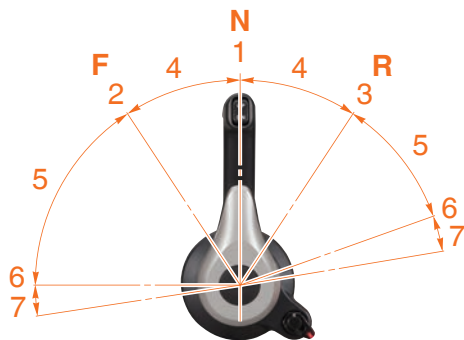
- 4. Free accelerator button
- 5. Throttle friction adjuster
- 6. Engine shut-off switch

2. OPERATION

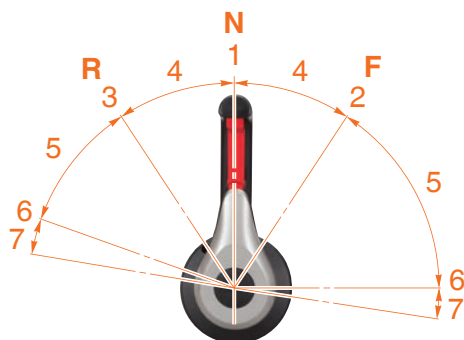
(1) Remote control lever

Moving the lever forward from the neutral position engages forward gear. Pulling the lever back from neutral engages reverse. The engine will continue to run at idle until the lever is moved about 35° (a detent can be felt). Moving the lever farther opens the throttle, and the engine will begin to accelerate.

R



L



1. Neutral "N"/Fully closed
2. Forward "F" (about 35°)
3. Reverse "R" (about 35°)
4. Shift
5. Throttle
6. Fully open
7. Throttle adjustable range

(2) Neutral interlock trigger

Keeps the remote control lever in the neutral position. To shift in gear position, first pull the neutral interlock trigger up and move the lever.

R



L



1. Neutral interlock trigger

(3) Free accelerator button

To open the throttle without shifting into the gear position, push the free accelerator button with the neutral position and rotate the remote control lever more than 35° (detent position).

R



L



1. Fully closed
2. Fully open
3. Free accelerator range

TIP

The free accelerator will automatically release when the remote control lever is returned to the neutral position.

(4) Engine shut-off cord (lanyard) and clip

The clip must be attached to the engine shut-off switch for the engine to run. The cord should be attached to a secure place on the operator's clothing, or arm or leg. Should the operator fall overboard or leave the helm, the cord will pull out the clip, stopping ignition to the engine. This will prevent the boat from running away under power.

⚠ WARNING

- Attach the engine shut-off cord (lanyard) to a secure place on your clothing, or your arm or leg while operating.
- Do not attach the cord to clothing that could tear loose. Do not route the cord where it could become entangled, preventing it from functioning.
- Avoid accidentally pulling the cord during normal operation. Loss of engine power means the loss of most steering control. Also, without engine power, the boat could slow rapidly. This could cause people and objects in the boat to be thrown forward.



1. Engine shut-off cord (lanyard)
2. Clip
3. Engine shut-off switch

(5) Power trim and tilt switch

The power trim and tilt system adjusts the outboard motor angle in relation to the transom. Pushing the switch "UP" (up) trims the outboard motor up, and then tilts it up. Pushing the switch "DN" (down) tilts the outboard motor down and trims it down. When the switch is released, the outboard motor will stop in its current position.

R



L

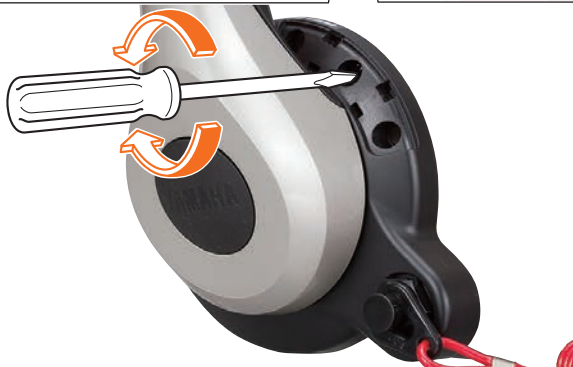


(6) Throttle friction adjuster

A friction device provides adjustable resistance to movement of the remote control lever, and can be set according to an operator preference. To increase the resistance, turn the adjuster clockwise. To decrease it, turn counterclockwise.

- 1) For right mount type, remove the cover.

R



L



1. Cover

⚠ WARNING

Do not overtighten the throttle friction adjuster. If there is too much resistance, it could difficult to move the remote control lever, which could result in an accident.

(7) Remote control lever stopper adjuster

The wide-open-angle of remote control lever can be adjusted within the limited range. Follow the procedure as below.

- 1) Loosen the locknut, and adjust the stopper bolt. Turning the bolt clockwise decreases the wide-open-angle. Turning counterclockwise increases the angle.

R



L



1. Stopper bolt for forward side
2. Stopper bolt for reverse side
3. Locknut

- 2) After adjusting, tighten the locknut.

Locknut:

7 N·m (0.7 kgf·m, 5.2 lb·ft)

3. SAFETY FUNCTIONS

(1) Neutral switch

The neutral switch prevents the engine from starting with in-gear position. When the remote control lever is in forward or reverse, the engine cannot be started by operating the main switch.

4. REMOTE CONTROL BOX POSITIONING AND REMOTE CONTROL CABLE LENGTH

⚠ WARNING

Incorrect selection or installation of a remote control box may result in sudden and unexpected loss of control, thus resulting in a serious accident. Please consult a Yamaha dealer.

(1) Remote control box position

The remote control box should be set in a position in which it does not obstruct the operations of the control lever.

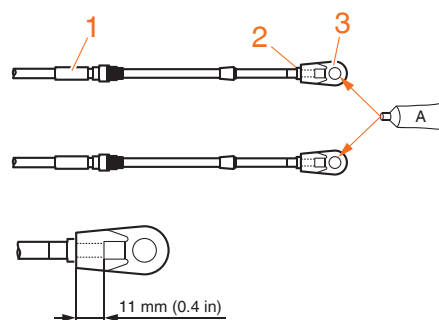
Allow a space so that the remote control box does not contact any other parts.

Make sure there are no obstructions on the path of the remote control cables and provide a space so that the cable can be routed without bending sharply.

The remote control box can be mounted in a horizontal position, or on a 30° angle up or down.

NOTICE

Do not bend the 33C type (standard inner core) remote control cable to the 400 mm (16 in) or less in diameter, and the 33HPC type (low-friction inner core) cable to the 300 mm (12 in) or less in diameter.



1. Remote control cable
2. Locknut
3. Cable joint

Locknut:

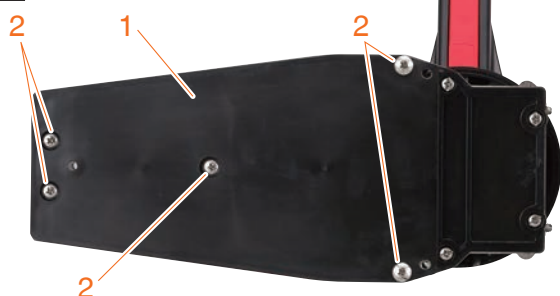
1.7 N·m (0.17 kgf·m, 1.3 lb·ft)

- 3) Insert the remote control cable neck for shifting into the housing clamp. Fit the cable joint over the pin on end of the shift arm, and secure it with the circlip.

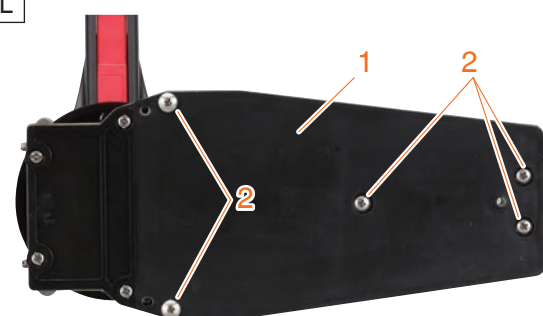
5. INSTALLING THE REMOTE CONTROL CABLES

- 1) Remove the five screws and back plate.

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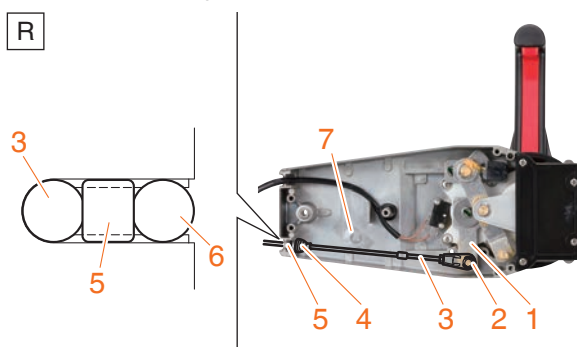
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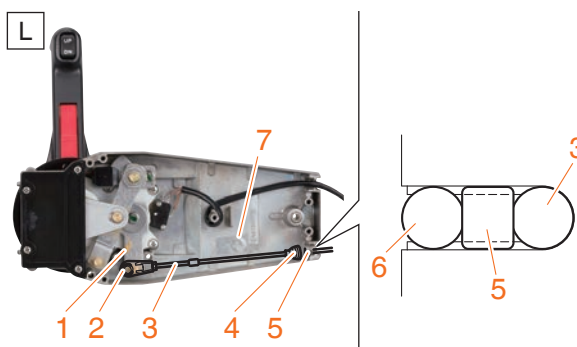
1. Back plate
2. Screw

- 2) Screw in the cable joint about 11 mm (0.4 in) over the ends of the remote control cables, and tighten the locknuts. Before installing the cable joints, apply the water-resistant grease (Yamaha grease A) to the holes in the cable joints.

R



L

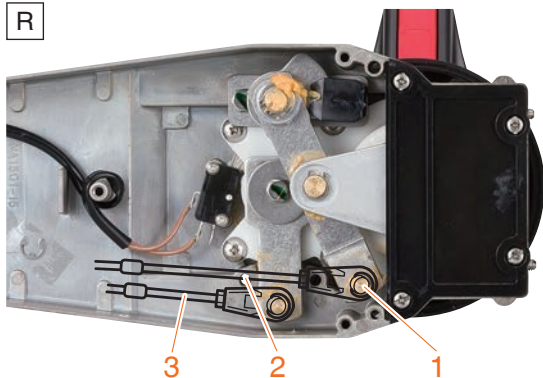


1. Shift arm
2. Circlip
3. Shift cable
4. Clamp groove
5. Grommet
6. Throttle cable
7. Spare circlip

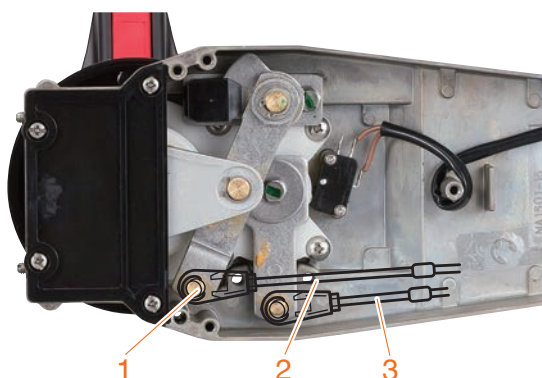
- 4) Fit the grommet in the housing clamp.

- 5) Connect the remote control cable for the throttle to the throttle arm in the same manner.

R



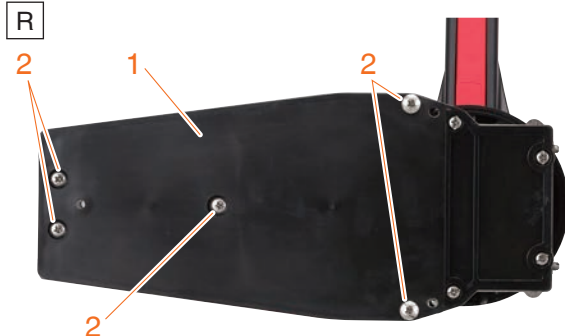
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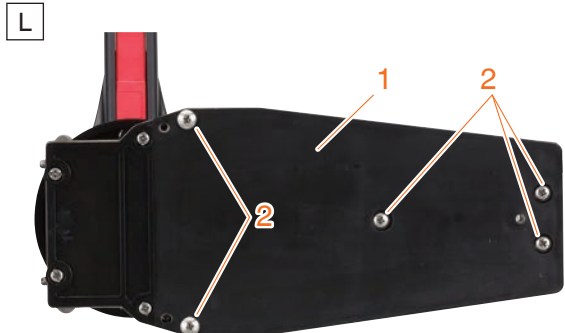
- 1. Circlip
- 2. Throttle cable
- 3. Shift cable

- 6) Assemble the back plate with screws.

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- 1. Back plate
- 2. Screw

- 7) Refer to the applicable service manual, and connect the wire harness coupler, shift and throttle remote control cables to the engine. When connecting, set the remote control lever to the neutral position.
- 8) By operating the remote control lever few times, check that when the lever is turned to forward or reverse until it stops (detent position), gear shifts, and that when the lever is turned further from this position to forward, throttle fully opens. Next, make sure that when the remote control lever is returned to the neutral position, the throttle on the engine side is completely closed. If not fully closed, adjust the positions of cable joints on the engine side, and install them again.

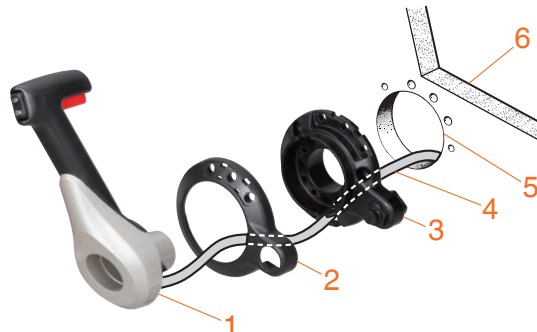
⚠ WARNING

The cable joints on the engine side must be screwed in at least 8 mm (0.3 in) over the remote control cables.

6. MOUNTING THE REMOTE CONTROL BOX

(1) Mounting for right mount type

- 1) Route the power trim and tilt switch wire through the base cover, the base, and the bulwark (hull).

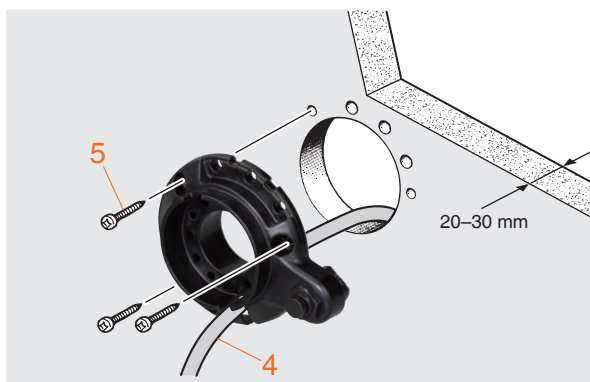
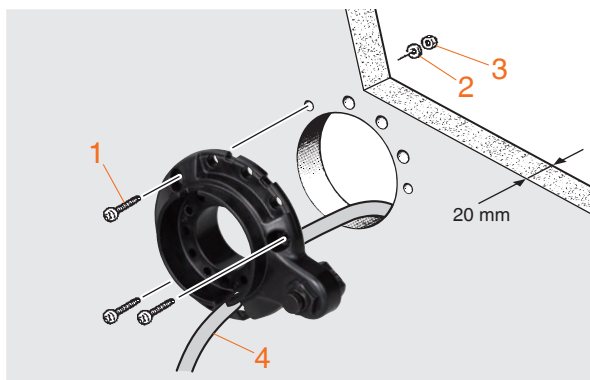


- 1. Remote control lever
- 2. Base cover
- 3. Base
- 4. Power trim and tilt switch wire
- 5. Mounting hole
- 6. Bulwark (hull)

TIP

Using template will be easy to drill the mounting holes.

- 2) Install the base to the bulwark (hull) using the screws and nuts, or self-tapping screws. When the bulwark (hull) plate thickness is less than 20 mm, use the screws, nuts and plain washers. When 20 mm or more, use the self-tapping screws.



1. Screw
2. Plain washer
3. Nut
4. Power trim and tilt switch wire
5. Self-tapping screw

Screw:

6 N·m (0.6 kgf·m, 4.4 lb·ft)

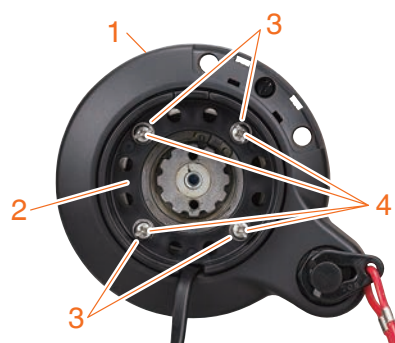
Self-tapping screw:

6 N·m (0.6 kgf·m, 4.4 lb·ft)

TIP

When the bulwark (hull) plate thickness is more than 30 mm, the installation of the remote control box is impossible.

- 3) Set the remote control box so that its mounting holes align with the mounting holes in the base, and then securely install the remote control box to the base using the screws.



1. Base cover
2. Base
3. Washer
4. Screw

Screw:

3.7 N·m (0.37 kgf·m, 2.7 lb·ft)

- 4) Wind the power trim and tilt switch wire 2.5 turns counterclockwise around the boss at the lower end of the remote control lever. Make sure the white-taped portion of the wire is positioned at the lower end of the remote control lever.



1. Power trim and tilt switch wire
2. White tape

TIP

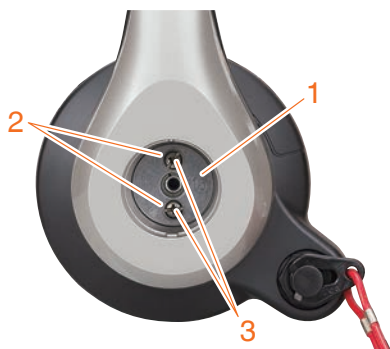
- When installing the remote control lever, wind the power trim and tilt switch wire 2.5 turns counterclockwise as shown above.
- Make sure the wire is not twisted and the white-taped portion is positioned at the hole.
- If the wire is twisted or wound incorrectly, it may break.
- Coil the wire so that windings do not cross each other.

- 5) Install the cover 2 onto the base cover.



1. Base cover
2. Cover 2

- 6) Install the remote control lever on the remote control box.
 7) Place the plain washer around the boss of the remote control lever, and fasten it using the screws and washers.



1. Plain washer
2. Washer
3. Screw

Screw:
 3.7 N·m (0.37 kgf·m, 2.7 lb·ft)

- 8) Install the shaft button in the hole in the accelerator shaft and install the free accelerator button.



1. Shaft button
2. Free accelerator button

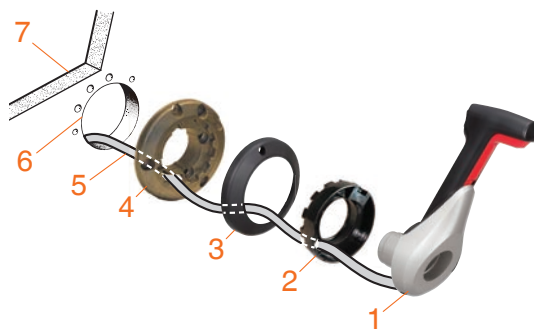
- 9) Affix the shift indicator on base cover.



1. Shift indicator

(2) Mounting for left mount type

- 1) Route the power trim and tilt switch wire through the lock plate, the base cover, the base, and the console (hull).

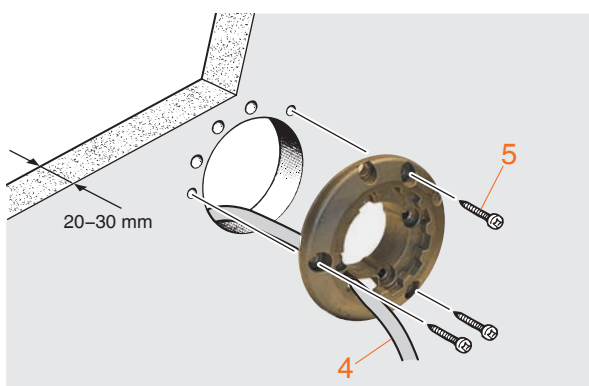
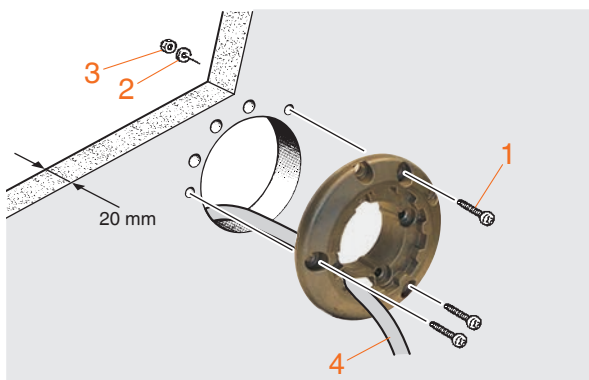


1. Remote control lever
2. Lock plate
3. Base cover
4. Base
5. Power trim and tilt switch wire
6. Mounting hole
7. Console (hull)

TIP

Using template will be easy to drill the mounting holes.

- 2) Install the base to the console (hull) using the screws and nuts, or self-tapping screws. When the console (hull) plate thickness is less than 20 mm, use the screws, nuts and plain washers. When 20 mm or more, use the self-tapping screws.



1. Screw
2. Plain washer
3. Nut
4. Power trim and tilt switch wire
5. Self-tapping screw

Screw:

6 N·m (0.6 kgf·m, 4.4 lb·ft)

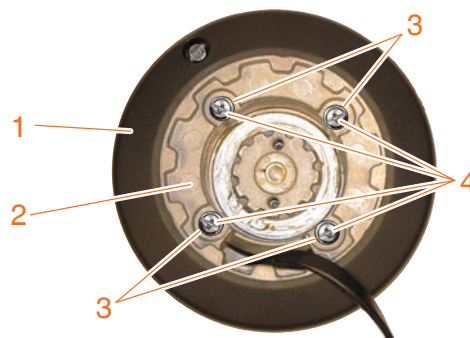
Self-tapping screw:

6 N·m (0.6 kgf·m, 4.4 lb·ft)

TIP

When the console (hull) plate thickness is more than 30 mm, the installation of the remote control box is impossible.

- 3) Set the remote control box so that its mounting holes align with the mounting holes in the base, and then securely install the remote control box to the base using the screws.

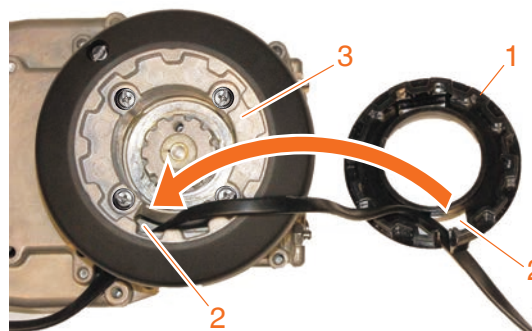


1. Base cover
2. Base
3. Washer
4. Screw

Screw:

3.7 N·m (0.37 kgf·m, 2.7 lb·ft)

- 4) Install the lock plate so that the hole in the lock plate is aligned with the hole in the base.



1. Lock plate
2. Hole
3. Base

- 5) Wind the power trim and tilt switch wire 2.5 turns counterclockwise around the boss at the lower end of the remote control lever. Make sure the white-taped portion of the wire is positioned at the lower end of the remote control lever.

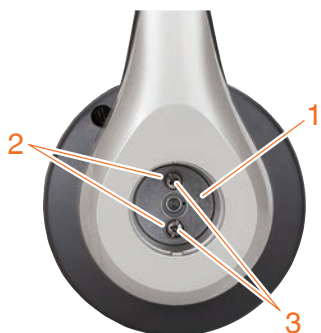


1. Power trim and tilt switch wire
2. White tape

TIP

- When installing the remote control lever, wind the power trim and tilt switch wire 2.5 turns counter-clockwise as shown.
- Make sure the wire is not twisted and the white-taped portion is positioned at the hole.
- If the wire is twisted or wound incorrectly, it may break.
- Coil the wire so that windings do not cross each other.

- 6) Install the remote control lever on the remote control box.
- 7) Place the plain washer around the boss of the remote control lever, and fasten it using the screws and washers.



1. Plain washer
2. Washer
3. Screw

Screw:
3.7 N·m (0.37 kgf·m, 2.7 lb·ft)

- 8) Install the shaft button in the hole in the accelerator shaft and install the free accelerator button.



1. Shaft button
2. Free accelerator button

- 9) Affix the shift indicator on base cover.



1. Shift indicator

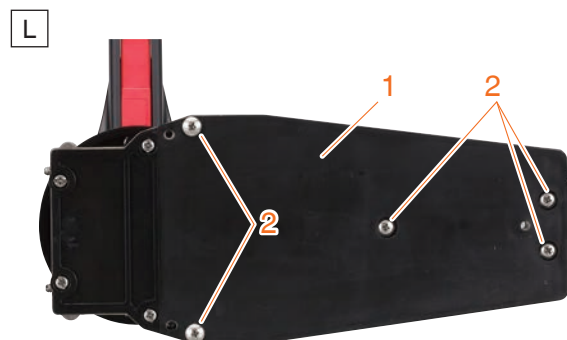
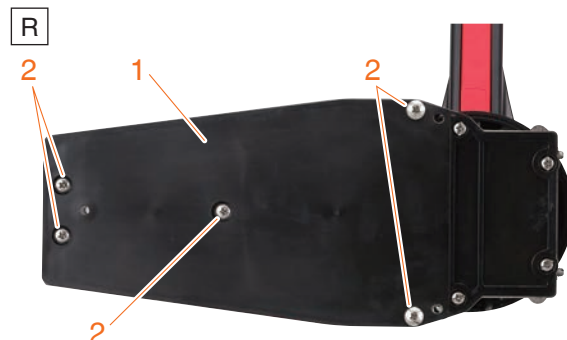
7. CHANGE FROM THE PUSH-TO-OPEN THROTTLE TYPE TO THE PULL-TO-OPEN THROTTLE TYPE

The remote control box permits the change from the push-to-open throttle type to the pull-to-open throttle type by changing some of the parts positions.

NOTICE

When reinstalling parts, apply the water-resistant grease (Yamaha grease A) to moving parts.

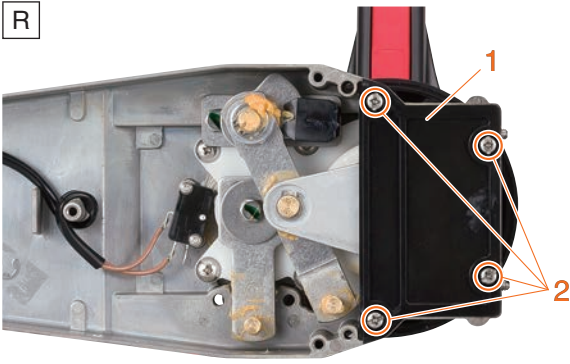
- 1) Remove the five screws and back plate.



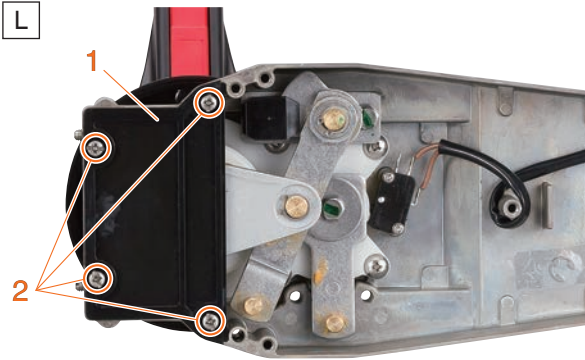
1. Back plate
2. Screw

- 2) Remove the four screws and remove the dwell plate retainer.

R



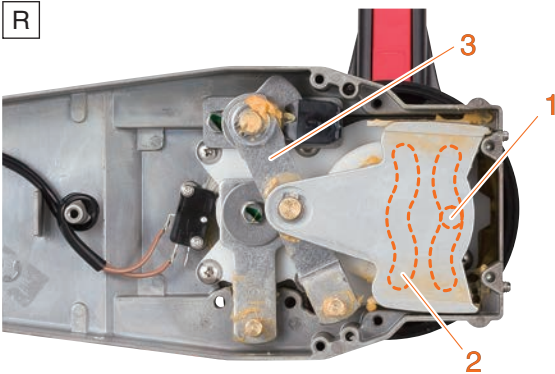
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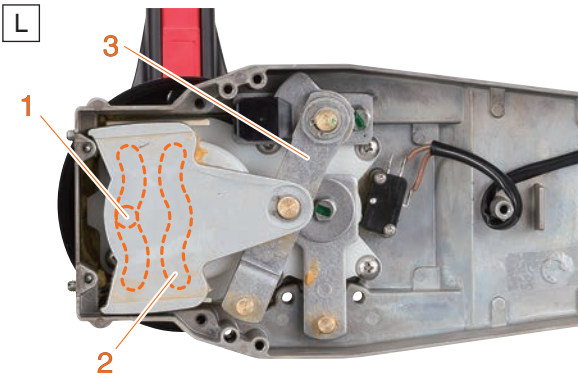
- 1. Dwell plate retainer
- 2. Screw

- 3) Remove the throttle arm assembly and dwell plate. Position the throttle arm assembly so that it faces backward.

R



L

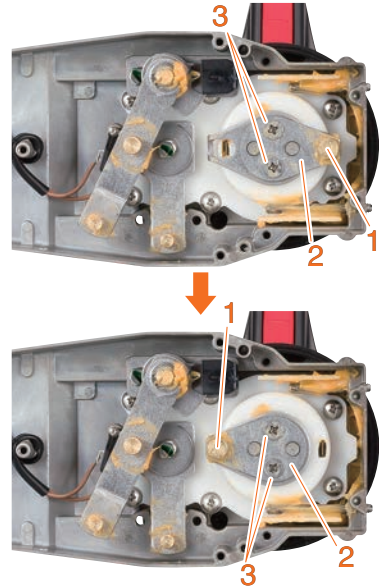


- 1. Roller
- 2. Dwell plate
- 3. Throttle arm assembly

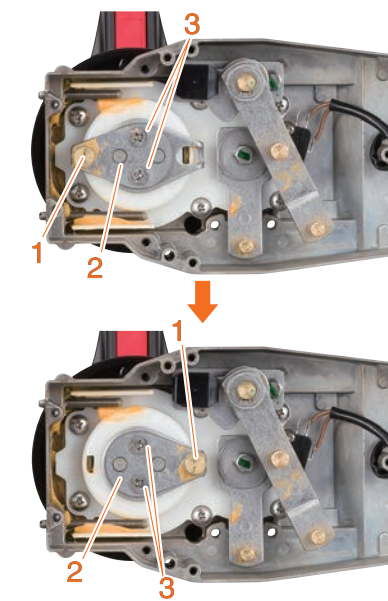
- 4) Remove the two screws and remove the throttle lever assembly. Reposition the throttle lever assembly so that it faces backward and secure it with the two screws.

Screw:
7 N·m (0.7 kgf·m, 5.2 lb·ft)

R



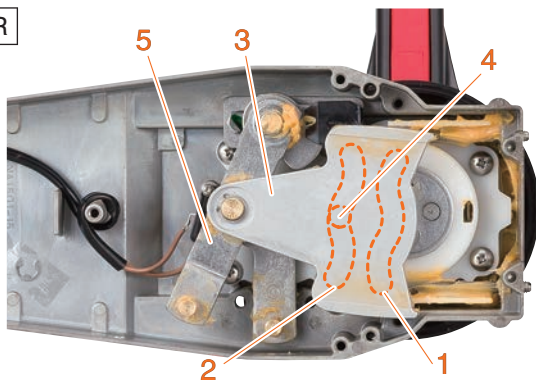
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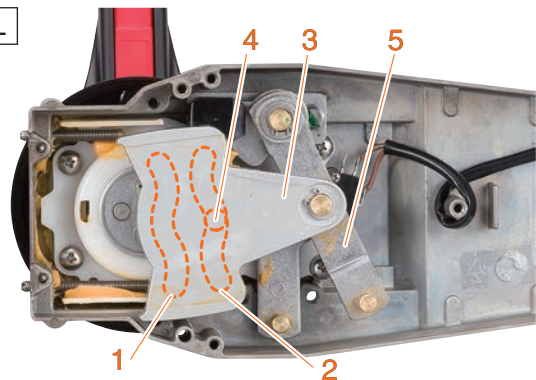
- 1. Roller
- 2. Throttle lever assembly
- 3. Screw

- 5) Put the roller of throttle lever into the cam groove for pull-to-open in the dwell plate as shown.

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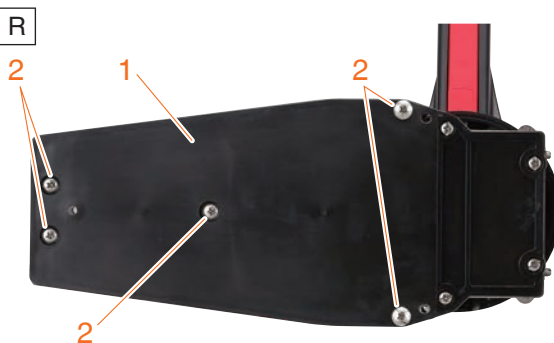


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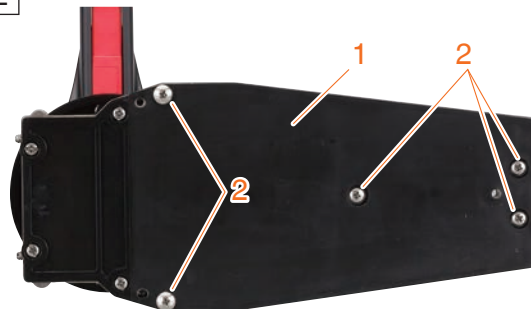


1. Groove for push-to-open
 2. Groove for pull-to-open
 3. Dwell plate
 4. Roller
 5. Throttle arm assembly
- 6) Secure the dwell plate retainer with the four screws.
- 7) Reinstall the back plate with the five screws.

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1. Back plate
2. Screw

NOTICE

Do not pinch the wire-harness when installing the back plate.

8. NOTE ON STORAGE

Follow the instructions below when storing the remote control box for a long period of time.

- 1) Remove the cable joints and apply water-resistant grease (Yamaha grease A) to the threaded portion of the inner cable.
- 2) Also apply water-resistant grease (Yamaha grease A) to inner parts of the remote control box, particularly to contact surfaces of moving parts. If any rust is found, remove it and apply the grease (Yamaha grease A).
- 3) Avoid bending the cables into a loop as much as possible. But if they have to be looped, the loop diameter should be more than 1 m (40 in).
- 4) Select a dry place for storage.



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