


# 703

EN

## SIDE MOUNT REMOTE CONTROL INSTRUCTION

 Read this manual carefully before operation.



703-88888-P0


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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 instructions carefully and thoroughly.

In this instructions 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**

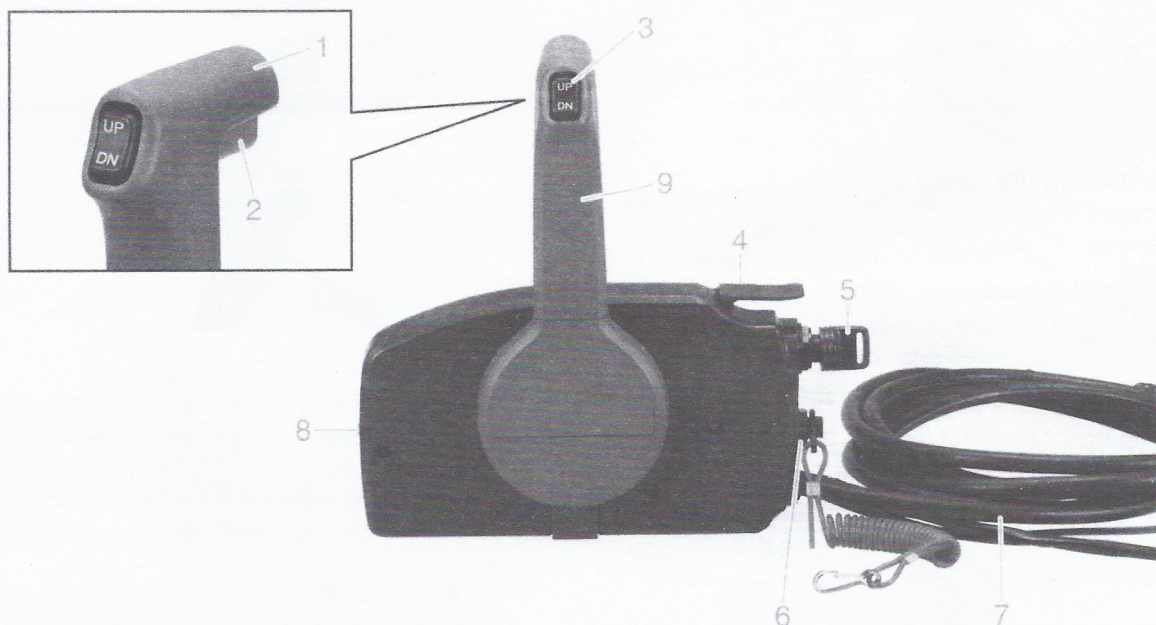
A **NOTICE** indicates special precautions that must be taken to avoid damage to the remote control box or other property.

### **TIP**

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

Designs and specifications are subject to change without notice.

## **1. MAIN COMPONENTS**



1. Grip
2. Neutral interlock trigger
3. Power trim and tilt switch\*
4. Neutral throttle lever
5. Main switch/Choke switch\*

6. Engine shut-off switch/Engine stop switch\*
7. Wire harness (2, 7, or 10 pin)\*
8. Throttle friction adjuster
9. Remote control lever

### **TIP**

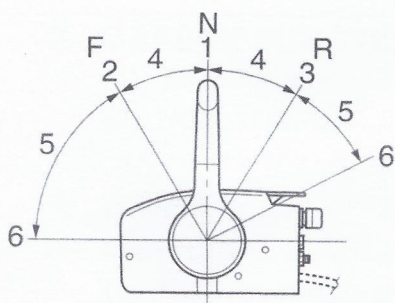
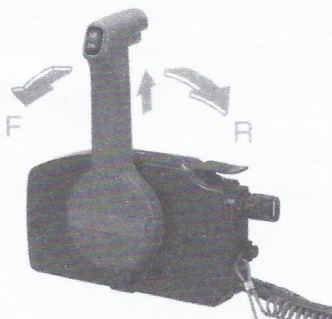
The mark (\*) differs on the remote control specifications.



## 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 32° (a detent can be felt). Moving the lever farther opens the throttle, and the engine will begin to accelerate.



1. Neutral "N"/Fully closed
2. Forward "F" (about 32°)
3. Reverse "R" (about 32°)
4. Shift
5. Throttle
6. Fully open

### (2) Neutral interlock trigger

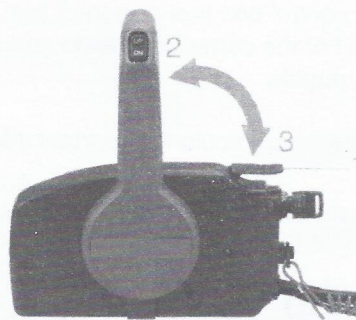
Keeps the remote control lever in the neutral position. To shift in gear position, first pull the neutral interlock trigger up and move the lever.



1. Neutral interlock trigger

### (3) Neutral throttle lever

To open the throttle without shifting into either forward or reverse, put the remote control lever in the neutral position and lift the neutral throttle lever.



1. Neutral throttle lever
2. Fully open
3. Fully closed

### TIP

The neutral throttle lever will operate only when the remote control lever is in neutral. The remote control lever will operate only when the neutral throttle lever is in the closed position.

### (4) Main switch

The main switch controls the ignition system; its operation is described below.



- **"OFF" (off)**  
With the main switch in the "OFF" (off) position, the engine stops. (The key can be removed.)
- **"ON" (on)**  
With the main switch in the "ON" (on) position, the accessory can be used. (The key cannot be removed.)
- **"START" (start)**  
With the main switch in the "START" (start) position, the starter motor turns to start the engine. When the key is released, it returns automatically to the "ON" (on) position.

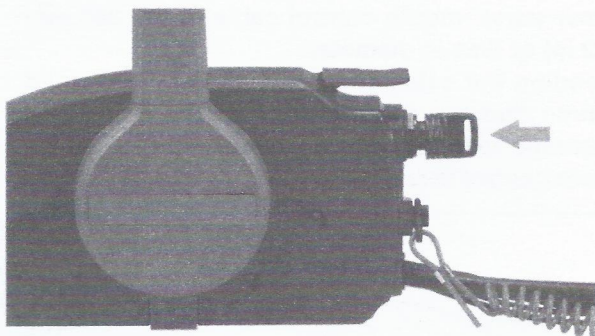
### (5) Choke switch

To activate the choke system, press in the main switch while the key is turned to the "ON" (on) or "OFF" (off) position. The choke system will activate and supply the rich fuel mixture required to start the cold engine. (When the key is released, the choke system will deactivate automatically.)

### TIP

The choke switch functions, only with the engine has the remote choke system.



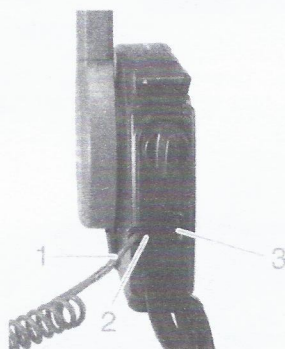


#### (6) Engine shut-off cord (lanyard) and clip

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**

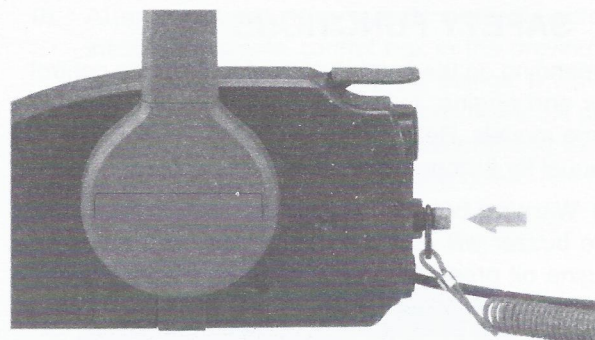
- Attach the engine shut-off cord (lanyard) to a secure place on your clothing, or your arm or leg while operating.
- Do not attach the cord to clothing that could tear loose. Do not route the cord where it could become entangled, preventing it from functioning.
- Avoid accidentally pulling the cord 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

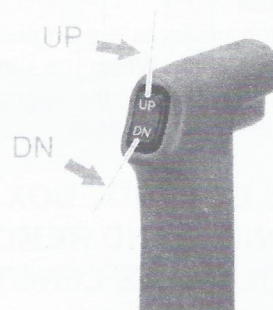
#### (7) Engine stop button

The engine stop button (red) stops the engine when the button is pushed.



#### (8) 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.

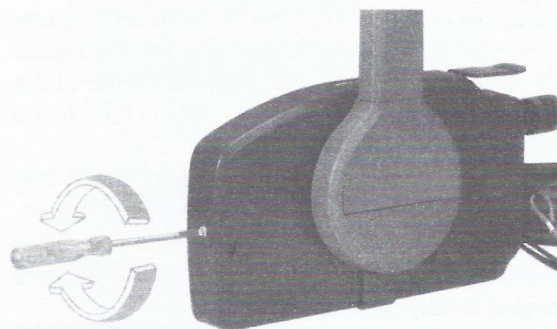


#### (9) Throttle friction adjuster

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

#### **⚠ WARNING**

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





### 3. SAFETY FUNCTIONS

Depending on the combination of the remote control box and engine, following function may not apply some models. Refer to the Outboard motor Owner's Manual for further information.

#### (1) Warning buzzer

The buzzer will sound if the engine overheats, the engine oil pressure drops (4-stroke engine) or the engine oil tank nearly empties (2-stroke engine) which activated by the sensor installed on the engine.

#### **⚠ WARNING**

If the warning buzzer sounds, turn off the engine and check the cooling water inlet and engine oil quantity. Then, return to nearest port immediately at low speeds. Please consult your Yamaha dealer.

#### (2) 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 your Yamaha dealer.

#### (1) Remote control box position

The remote control box should be set in a position which it does not obstruct the operations of the remote control lever and switches. Make sure there is no obstruction on the path of the remote control cables.

#### (2) Remote control cable length

Measure the distance from the "A" point (the center of the remote control box) to the "C" point (the center of the engine) through the "B" point (a corner of the transom). Add 1 m (3 ft) length to make a loop in the motor-well.

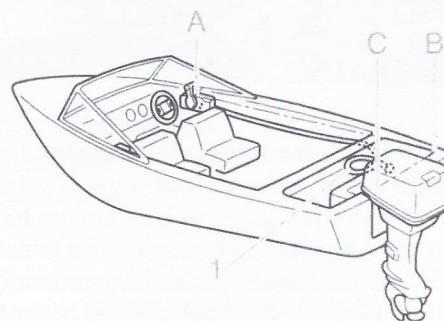
Position the remote control cables and check that they are long enough. Connect the cables to the engine and make sure they do not interfere with other components when the steering is fully turned and the engine is fully tilted up.

#### **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) remote control cable to the 300 mm (12 in) or less in diameter.

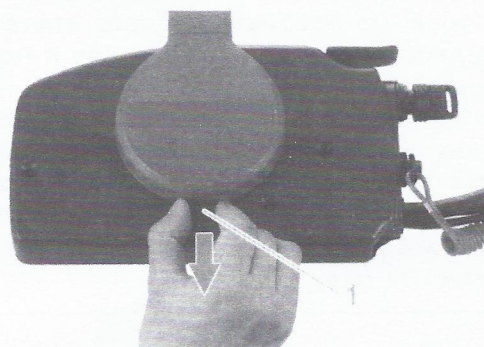
Bending the cable sharper than this limit could cause shorten the life span of the cable and increase resistance to the movement of the remote control lever.



1. Loop

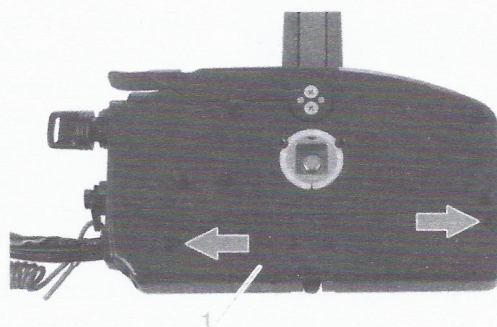
### 5. INSTALLING THE REMOTE CONTROL CABLES

- 1) Pinch the wire cover with your fingers and pull it out to remove.



1. Wire cover

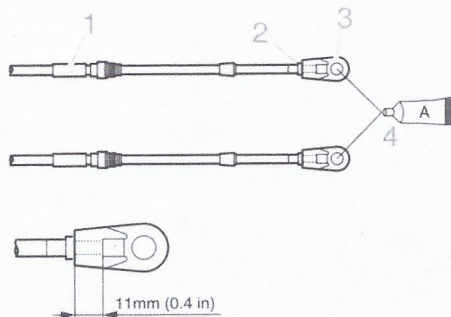
- 2) Remove the two screws, and remove the back panel (lower).



1. Back panel (lower)

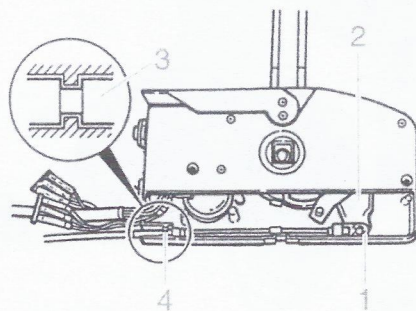
- 3) Screw in the cable joints about 11 mm (0.4 in) over the ends of the remote control cables, and tighten the locknuts. Before installing the cable joints, apply the water-resistance grease (Yamaha Grease A) to the holes in the cable joints.





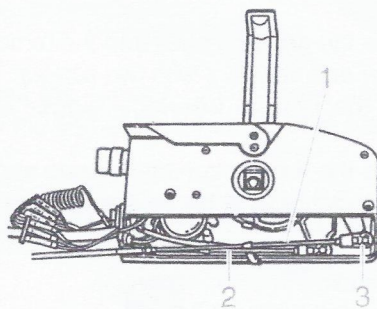
1. Remote control cable
2. Locknut
3. Cable joint
4. Apply grease

- 4) Insert the remote control cable outer groove for shifting into the housing clamp so that the groove on its end fits over the ridge in the clamp. Fit the cable joint over the pin on the end of the shift arm, and secure it with the circlip.
- 5) Fit the original grommet in the clamp groove.



1. Circlip
2. Shift arm
3. Grommet
4. Clamp groove

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

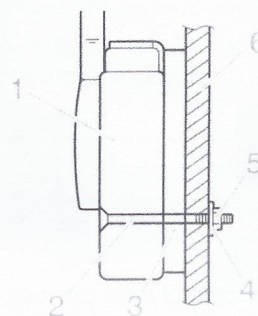
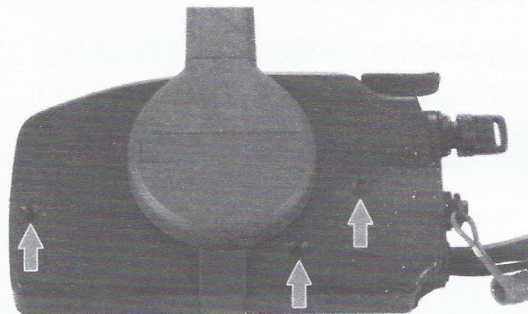


1. Remote control cable for throttle
2. Remote control cable for shifting
3. Circlip

- 7) Secure the back panel (lower) with the two screws, and install the wire cover.

Back panel screw:  
4 Nm, 0.4 kgf-m, 3.0 lb-ft

- 8) After connecting the remote control cables, install the remote control box in the previously determined position using the fittings. It will be easy to install the remote control box if the pre-mounting holes are marked beforehand using the remote control box mounting holes.



1. Remote control box
2. Screw
3. Spacer
4. Washer
5. Nut
6. Bulwark

Remote control box screw:  
7 Nm, 0.7 kgf-m, 5.2 lb-ft

- 9) Refer to the applicable service manual and connect the remote control cables both for shifting and throttle and wire harnesses to the engine. When connecting, set the remote control lever to the neutral position, and place the neutral throttle lever in the fully closed position.
- 10) By operating the remote control lever few times, check that when the lever is turned to forward or reverse until it stops once (about 32°), the gear shifts, and that when the lever is turned further from this position to forward, the 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. CHANGE IN THE REMOTE CONTROL LEVER POSITION

This remote control box can change the remote control lever to the opposite position as shown below. Besides, the grip can be changed to reverse. Follow the procedure for repositioning.

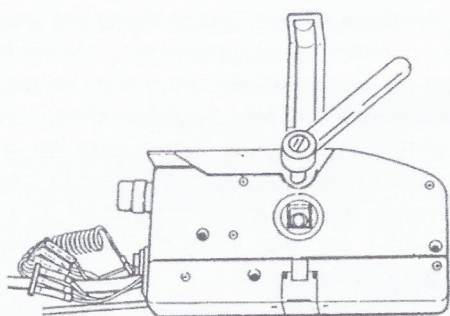


- A. Original remote control lever position
- B. Repositioned remote control lever and grip
- C. Repositioned remote control lever

### TIP

Steps 4), 6) to 9), 11) to 13) are not necessary if the grip is not repositioned.

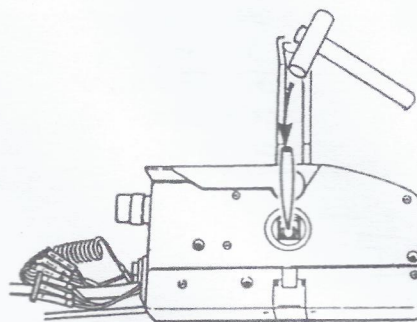
- 1) Pinch the wire cover with your fingers, and pull it out to remove.
- 2) Using a socket wrench (12 mm), loosen the bolt.



- 3) Place a punch on the bolt head, and by tapping it with a hammer, remove the remote control lever from the remote control box.

### NOTICE

Use care not to damage power trim and tilt switch leads.

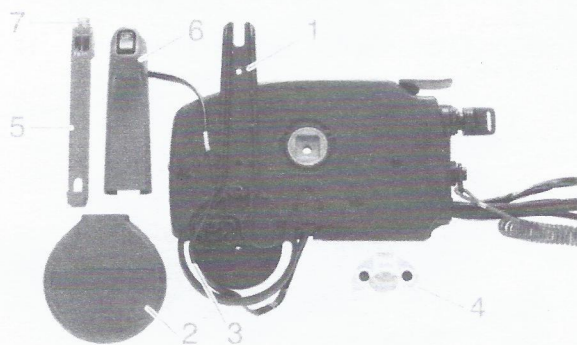


- 4) Remove the remote control lever cover and remove the power trim and tilt switch leads from the guide of the remote control lever.
- 5) Remove two screws and neutral lock holder.
- 6) Remove the screw and neutral interlock trigger.

### TIP

Make sure not to drop the spring.

- 7) Remove two screws and pull the grip from remote control lever.



- 1. Remote control lever
- 2. Remote control lever cover
- 3. Power trim and tilt switch leads
- 4. Neutral lock holder
- 5. Neutral interlock trigger
- 6. Grip
- 7. Spring

- 8) Reverse the grip and put it into the remote control lever and secure it with two screws.
- 9) Install the neutral interlock trigger with the screw.
- 10) Reverse the remote control box and secure the neutral lock holder with two screws.

#### Screws

Grip screw:

3 Nm, 0.3 kgf-m, 2.2 lb-ft

Neutral interlock trigger screw:

3 Nm, 0.3 kgf-m, 2.2 lb-ft

Neutral lock holder screw:

4 Nm, 0.4 kgf-m, 3.0 lb-ft

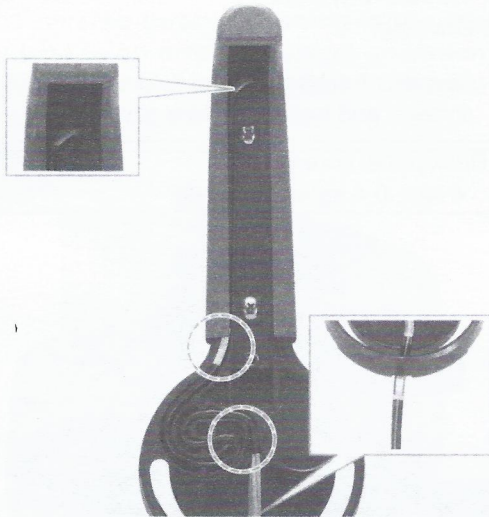
- 11) Align the power trim and tilt switch leads at the upper taped position with the end of the grip, and the center taped position with the exit of the spiral slit.



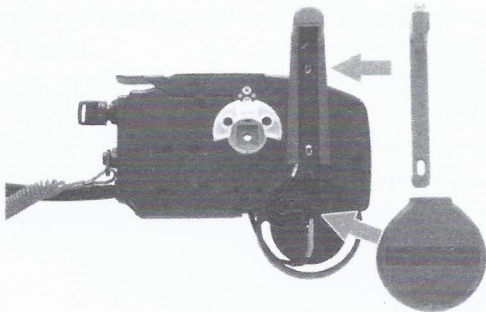
- 12) Install the power trim and tilt switch leads between those positioning tapes into the spiral slit.

### NOTICE

- Make sure not to pinch the power trim and tilt switch leads between the remote control lever and the grip.
- Make sure that the plate located at the lower end of the power trim and tilt switch leads is facing upward and that the power trim and tilt switch leads are not twisted.

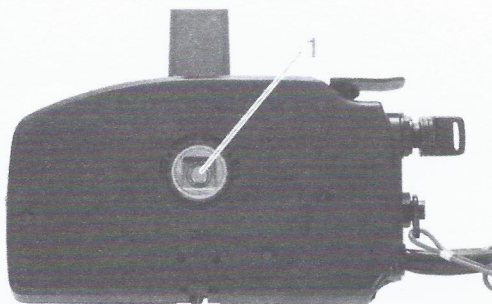


- 13) Install the neutral interlock trigger and remote control lever cover to the remote control lever.



- 14) Install the remote control lever, and secure it with the bolt and washer from the back side.

Remote control lever bolt:  
13 Nm, 1.3 kgf-m, 9.6 lb-ft



1. Bolt

### TIP

Make sure that the excess portion of the power trim and tilt switch leads are put in the box so that the leads are not twisted or slackened while installing the wire cover.

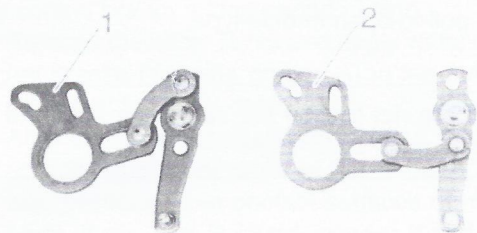
## 7. CHANGE FROM THE PUSH-TO-OPEN THROTTLE TYPE TO THE PULL-TO-OPEN THROTTLE TYPE

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

This instructions explain the procedure for changing from the push-to-open throttle type to the pull-to-open throttle type. Therefore, if it has to be changed from the pull-to-open type to the push-to-open type, simply reverse the procedure.

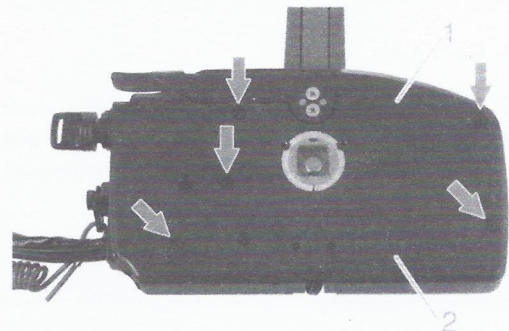
### NOTICE

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



1. Throttle arm for pull-to-open throttle type
2. Throttle arm for push-to-open throttle type

- 1) Pinch the wire cover with your fingers and pull it out to remove.
- 2) Remove the five screws, and remove both rear housing (upper) and back panel (lower).



1. Rear housing (upper)
2. Back panel (lower)

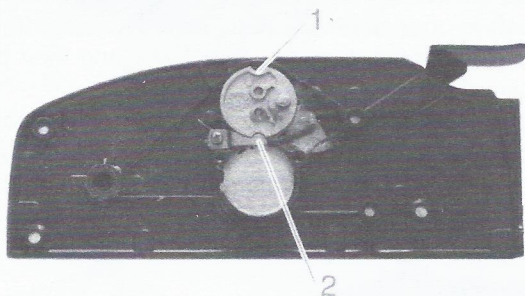


- 3) Remove the two screws holding the neutral throttle lever, and remove the throttle drum. Rotate the drum 180°, and install it again with the same screws.

### TIP

Use care so that the roller does not jump out due to spring force.

Throttle drum screw:  
4 Nm, 0.4 kgf-m, 3.0 lb-ft

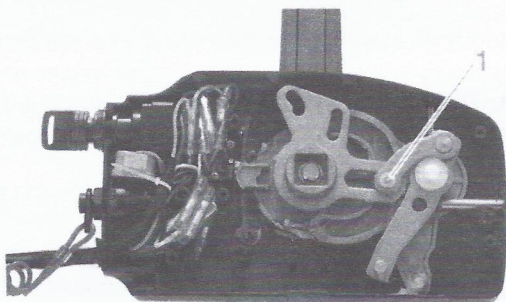


1. Throttle drum  
2. Roller

- 4) Remove the throttle arm for the push-to-open throttle type, and install the throttle arm for the pull-to-open throttle type.

### TIP

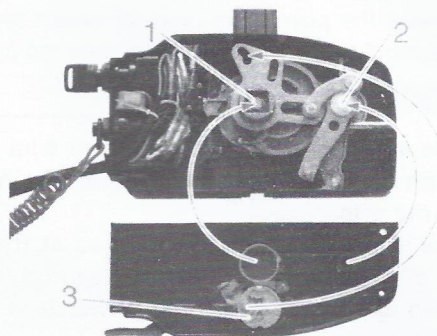
Use care not to lose the cam roller attached to the throttle arm.



1. Cam roller

- 5) Align the main shaft and throttle arm shaft with the grooves, and align the drive pin with the slot, and secure the rear housing (upper) with the three screws.

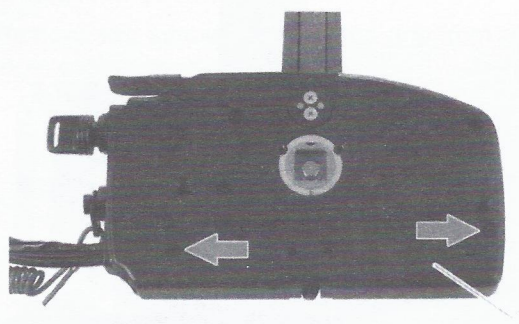
Rear housing screw:  
4 Nm, 0.4 kgf-m, 3.0 lb-ft



1. Main shaft  
2. Throttle arm shaft  
3. Drive pin

- 6) Secure the back panel (lower) with the two screws, and install the wire cover.

Back panel screw:  
4 Nm, 0.4 kgf-m, 3.0 lb-ft



1. Back panel (lower)

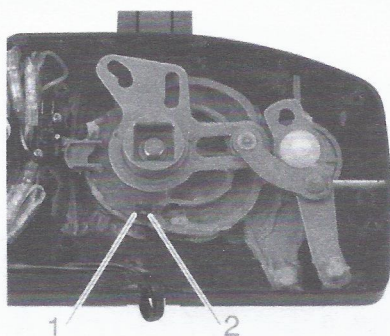


## 8. THROTTLE OPENING ADJUSTMENT AT REVERSE

- 1) Remove the wire cover, remove the screws, and remove the rear housing (upper) and back panel (lower).
- 2) Loosen the locknut, and adjust the throttle by turning the adjusting bolt. Turning the adjusting bolt to the left makes the throttle opening larger, and turning it to the right makes the opening smaller.

### **⚠ WARNING**

If the reverse throttle opening is too large, it may lead to an error in control operation. Set the remote control lever so that it does not turn more than 60° to the reverse.



1. Adjusting bolt
2. Locknut

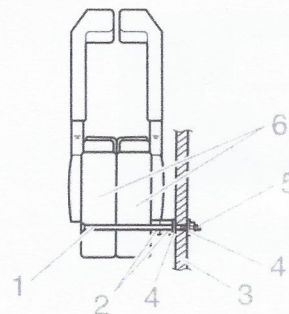
- 3) After adjusting, tighten the adjusting bolt and locknut.

Adjusting bolt, Locknut:  
4 Nm, 0.4 kgf-m, 3.0 lb-ft

- 4) Install both rear housing (upper) and back panel (lower) with screw, and install the wire cover.

## 9. REMOTE CONTROL BOX FOR TWIN-ENGINE

For twin-engine application, combine two remote control boxes using the twin-attachment kit (P/N: 703-48290-01).



1. Screw
2. Spacer
3. Bulwark
4. Washer
5. Nut
6. Remote control box

## 10. 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.



