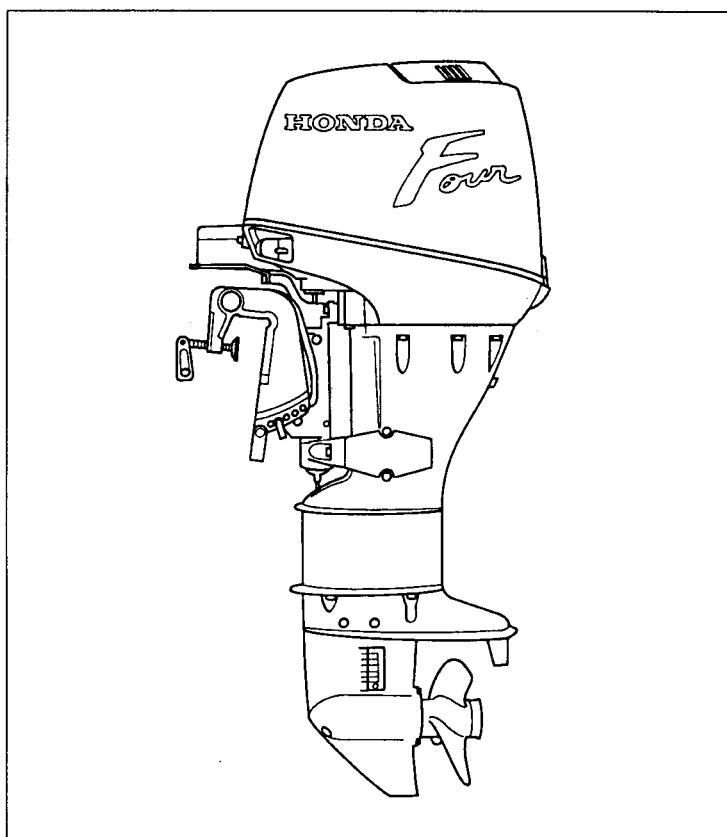


HONDA

BF25A

OUTBOARD MOTOR



INSTALLATION MANUAL

SET-UP, INSTALLATION AND PRE-DELIVERY SERVICE
MUST BE PERFORMED BY AN AUTHORIZED HONDA DEALER.

IMPORTANCE OF INSTALLATION AND PRE-DELIVERY SERVICE

- Proper set-up and pre-delivery service are essential to operator safety and the reliability of the machine. Any error or oversight made by the technician assembling and servicing a new unit can easily result in faulty operation, damage to the outboard motor, or injury to the operator.

WARNING

Improper set-up or pre-delivery service can cause an unsafe condition that can lead to serious injury or death.

Follow the procedures and precautions in set-up and pre-delivery service instructions and shop manuals carefully.

- Some of the most important safety precautions are given below. However, we cannot warn you of every conceivable hazard that can arise in performing set-up, installation and pre-delivery service. Only you can decide whether or not you should perform a given task.

WARNING

Failure to properly follow set-up and pre-delivery instructions and precautions can cause you to be seriously hurt or killed.

Follow the procedures and precautions in set-up and pre-delivery service instructions carefully.

IMPORTANT SAFETY PRECAUTIONS

- Make sure you have a clear understanding of all basic shop safety practices and that you are wearing appropriate clothing and safety equipment. When performing the installation or pre-delivery service, be especially careful of the following:
 - ☐ Read the instructions before you begin, and make sure you have the tools and skills required to perform the tasks safely.
- To reduce the possibility of a fire or explosion, be careful when working around gasoline or batteries. Use only a nonflammable solvent, not gasoline, to clean parts. Keep all cigarettes, sparks, and flames away from batteries and all fuel-related parts.
- Make sure the engine is off before you begin any maintenance or repairs. This will help eliminate several potential hazards:
 - ☐ Carbon monoxide poisoning from engine exhaust. Be sure there is adequate ventilation whenever you run the engine.
 - ☐ Burns from hot parts. Let the engine and exhaust system cool before touching.
 - ☐ Injury from moving parts. Do not run the engine unless the instruction tells you to do so. Even then, keep your hands, fingers, and clothing away.

CONTENTS

	Page
SET-UP	5 of 27
PARTS INSPECTION	5 of 27
UNCRATING	7 of 27
MOTOR INSTALLATION	9 of 27
MOTOR SELECTION	9 of 27
TRANSOM DRILLING	10 of 27
STEERING INSTALLATION	11 of 27
Push-pull Type	11 of 27
<i>Steering Link Arm Installation</i>	12 of 27
Ball-post Type	13 of 27
FINAL MOTOR INSTALLATION	13 of 27
REMOTE CONTROL BOX	14 of 27
LOCATION	14 of 27
CONTROL CABLE SELECTION	14 of 27
REVERSING THE CONTROL LEVER	15 of 27
REMOTE CONTROL CABLE INSTALLATION	16 of 27
Control Box Side	16 of 27
Motor Side	17 of 27
CONTROL CABLE LENGTH ADJUSTMENT	19 of 27
Throttle Control Cable	19 of 27
Shift Control Cable	20 of 27
REMOTE CONTROL BOX INSTALLATION	21 of 27
CONTROL LEVER FRICTION ADJUSTMENT	21 of 27
OPERATIONAL CHECK	21 of 27
Shift Control Cable	21 of 27
Throttle Control Cable	21 of 27
METERS	22 of 27
INSTALLATION	22 of 27
WIRE HARNESS CONNECTIONS	22 of 27
SWITCH PLATE	23 of 27
BATTERY	23 of 27
CHARGE COIL	23 of 27
RECOIL STARTER TYPE	23 of 27
ELECTRIC STARTER TYPE	23 of 27
PROPELLER	24 of 27
INSTALLATION	24 of 27
SELECTION	24 of 27
TRIM ANGLE AND TRIM TAB ADJUSTMENT	25 of 27
PRE-DELIVERY SERVICE	26 of 27

Set-Up, Installation and Pre-Delivery Service must be performed by an authorized Honda Marine or Honda Outboard Motor dealer. These instructions are provided for dealer use only.

FOLLOW THESE INSTRUCTIONS CAREFULLY. Proper Set-Up, Installation and Pre-Delivery Service are essential for safe, reliable operation. Your customer expects his Honda Outboard Motor to be correctly set-up, installed, adjusted, and ready for use. Test the Outboard Motor to be sure it is functioning properly. Fill out the **HONDA MARINE - Delivery Check List (#TM023)** and give the yellow copy to the customer.

DO NOT OVER POWER THE BOAT

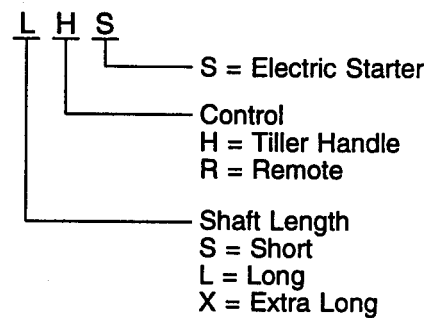
Do not install an Outboard Motor that exceeds the recommended maximum horsepower for the boat. Refer to the boat certification plate for the maximum recommended horsepower for the boat. For most boat applications, the motor should have a horsepower which provides 80% of the maximum recommended horsepower for the boat. If the certification plate information is not available, contact the boat dealer.

It may be necessary to refer to the chart below for reference purposes.

Model	Type	Shaft Length			Tiller Handle	Remote Control	Electric Starter	Recoil Starter
		S	L	X				
BF25A	SH	•			•			•
	LH		•		•			•
	LHS		•		•		•	
	LRS		•			•	•	
	XRS			•		•	•	

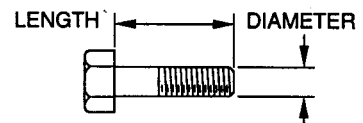
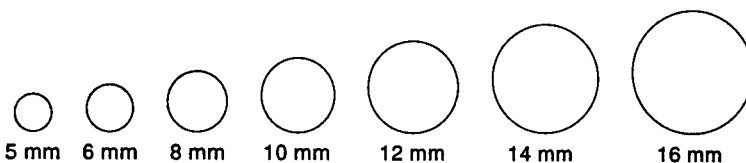
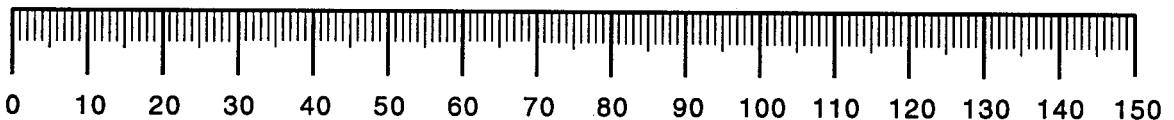
TYPE CODE

(example)

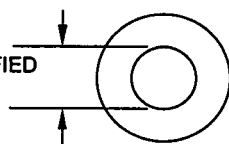


How to measure hardware and components:

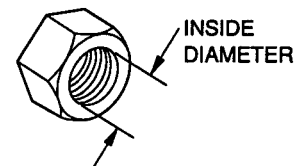
MILLIMETERS



WASHERS ARE SPECIFIED BY INSIDE DIAMETER



NUTS ARE SPECIFIED BY INSIDE DIAMETER (AT THREAD DEPTH)



NUT AND BOLT DIAMETER	STANDARD TORQUE VALUES		
	ft-lb	kg-m	N·m
6 mm flange nuts and bolts	8.0	1.1	11
8 mm flange nuts and bolts	16.0	2.2	22

SET-UP

PARTS INSPECTION

While performing these procedures, use adequate safety equipment and protective apparel such as gloves, safety glasses or faceshield, and safety shoes.

1. Cut the straps and remove the carton cover.
2. Remove the 2 parts boxes from the carton. Open the boxes and check all parts against the following list.

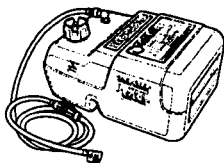
† Included with all Types

* Included with Remote Control Types

† Owner's Manual



† Fuel Tank, Hose and Primer Bulb



* Harness Band A



* Harness Band B



* Sealed Cap



* Steering Link Arm



* Stainless Nut, 3/8 x 24 UNF



* 3 Stainless Plain Washers, 10 mm



* Steering Link Arm Collar



* Stainless Bolt, 3/8 x 24 UNF



* 2 Stainless Self-Locking Nuts, 3/8 x 24 UNF



* 2 Pivot Shafts



* 4 Flat Washers, 6 mm



* 4 Lock Pins, 6 mm



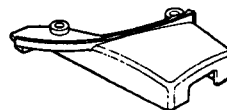
* Grommet



* Remote Control Cable Plate



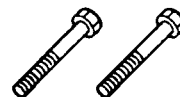
* Separate Top Cover



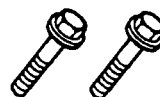
* 4 Stainless Plain Washers, 6 mm



* 2 Stainless Bolts, 6 x 40 mm



* 2 Self-Tapping Bolts, 6 x 28 mm



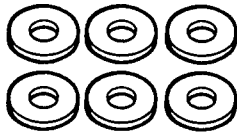
* 3 Phillips Head Screws, 6 x 95 mm



* 3 Stainless Nuts, 6 mm



- * 6 Stainless Washers,
6 x 2 mm thick



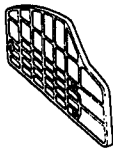
- * Cable Clamp Spacer



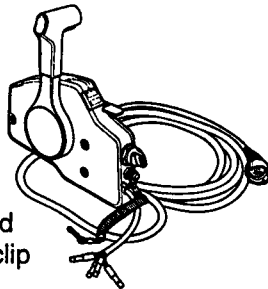
- * 2 Cable Eye Ends



- * Spacer Plate



- * Remote Control Box,
Includes:
2 ignition keys
Emer. stop sw. lanyard
Spare emer. stop sw. clip



Note any damaged or missing parts:

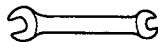
- For parts lost or damaged in transit, file a **TRANSPORTATION CLAIM.**
(Refer to Section 13 of the Service Operations Manual)
- For parts left out by the factory, file a **WARRANTY CLAIM.**
(Refer to section 7 of the Service Operations Manual)

* TOOL KIT

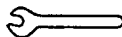
- Tool bag



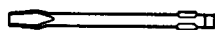
- Open end wrench,
10 x 12 mm



- Open end wrench,
8 mm



- Flat screw driver



- Phillips screw driver



- Oil check screw driver



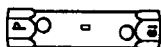
- Pliers



- Screw driver handle



- Socket wrench,
18 x 19 mm



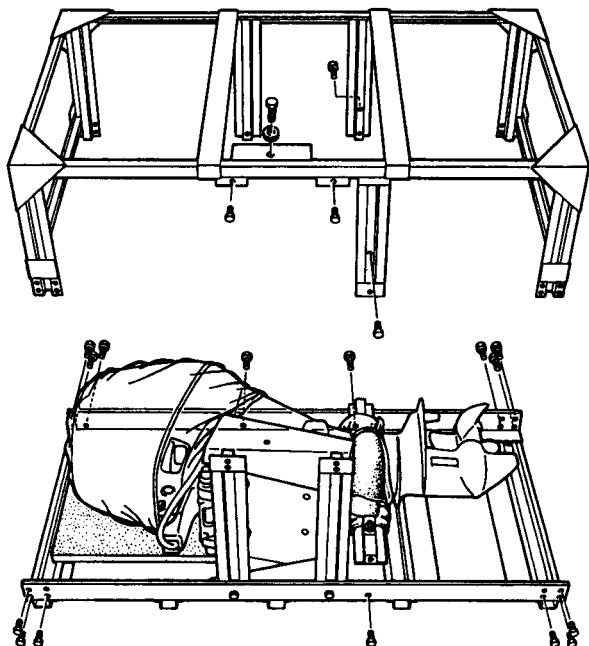
- Emergency starter rope



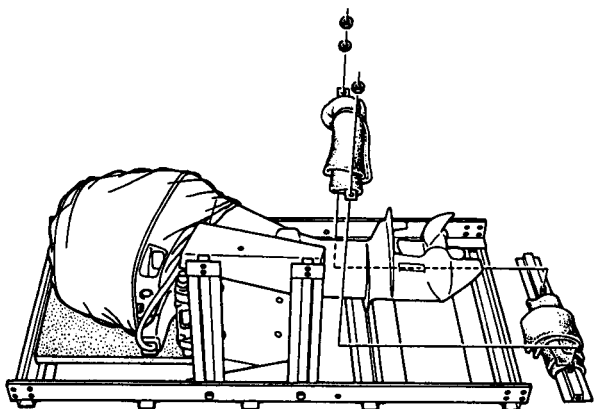
UNCRATING

1. Remove/discard the nineteen 6 x 16 mm bolts and one 8 x 20 mm bolt which attach the crate frame to the crate base.

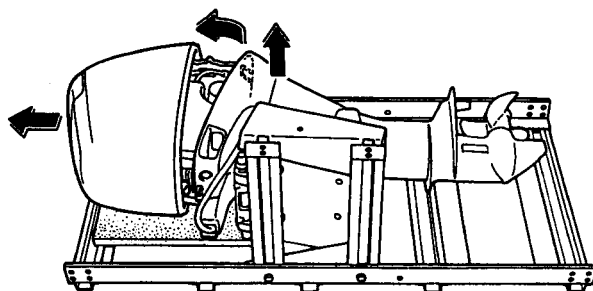
To avoid scratching the motor, do not attempt to lift the upper crate frame alone. Get at least one other person to assist you.



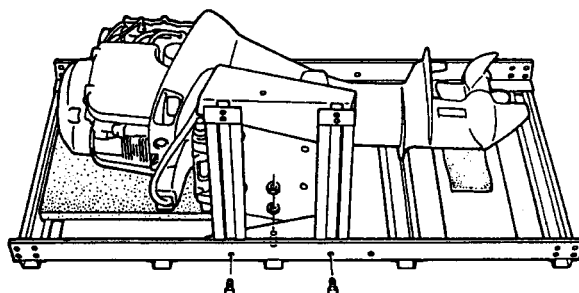
2. Remove the two 8 mm nuts and one washer from the extension housing support band. Remove the band and extension housing support. Remove and save the pads which will be used in step 5.



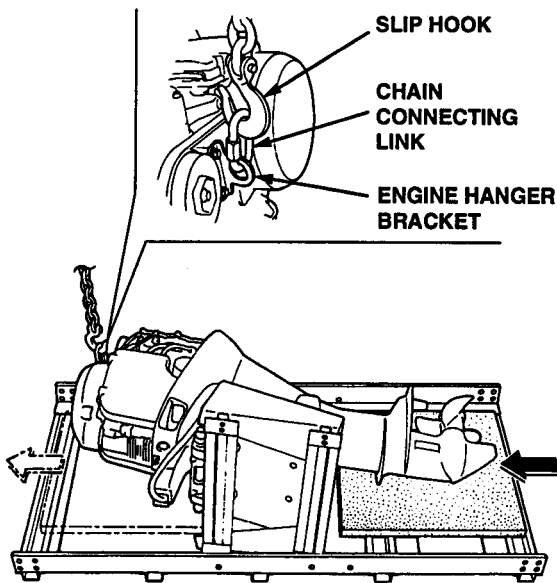
3. Remove the plastic bag covering the engine cover.
4. Release the hood latch. Have an assistant lift and pivot the motor slightly on its swivel case. Remove the engine cover.



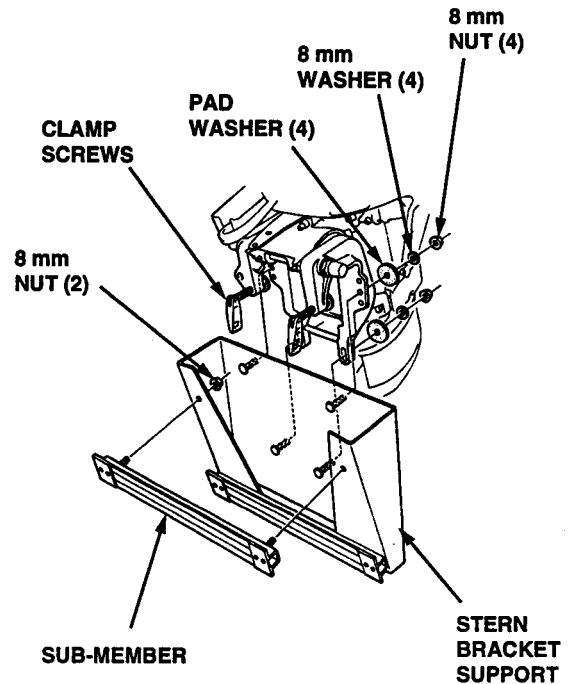
5. Position the pads, removed in step 2, under the gear case and propeller area.
6. Remove the two 6 x 16 mm bolts and one 8 mm nut and flat washer which attaches the stern bracket support to the crate base.



7. Install a chain connecting link or equivalent, with a minimum lift capacity of 500 lbs. (227 kg), to the engine hanger bracket. A slip hook should not be connected directly to the engine hanger bracket due to insufficient clearance between the engine hanger bracket and the recoil starter or flywheel cover. Use a hoist with a minimum lift capacity of 500 lbs. (227 kg). Slowly lift the motor just enough so the foam pad can be removed and transferred to the gear case area. Slowly lift the motor making sure the gear case does not contact the crate base.



8. Remove the two 8 mm nuts from the sub-member and remove the sub-member. Loosen the clamp screws. Remove the four 8 mm nuts, washers, and pad washers from the stern bracket support. Remove the stern bracket support.



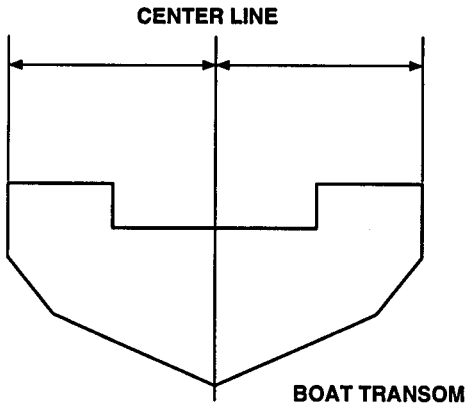
MOTOR INSTALLATION

MOTOR SELECTION

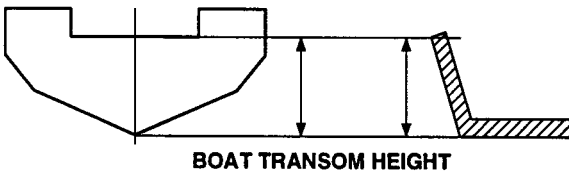
The BF25A Outboard Motors are designed to be installed on boat transoms with the following transom board thickness.

Boat Transom Board Thickness
1.3 ~ 2.2 in. (35 ~ 57 mm)

1. Measure across the transom to determine the transom center line and draw a vertical line. On a "VEE" bottom boat, the vertical line should pass through the keel.



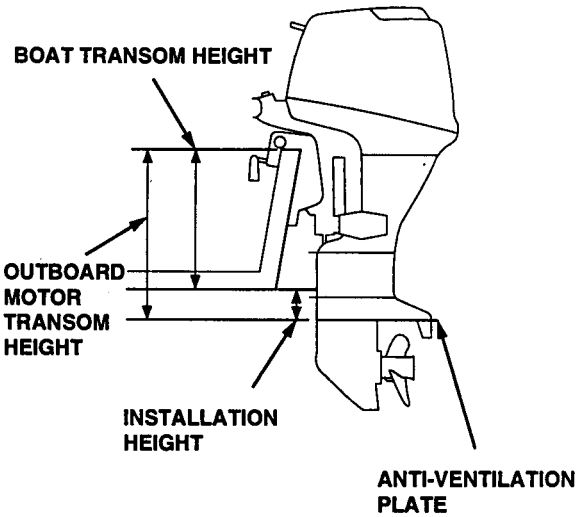
2. Measure the transom height of the boat.



3. Match the appropriate outboard motor shaft length to your boat transom height.

Shaft Length	Outboard Motor Transom Height	Boat Transom Height
Short	17 in. (431 mm)	15 ~ 17 in. (381 ~ 431 mm)
Long	21.7 in. (552 mm)	19.7 ~ 21.7 in. (502 ~ 552 mm)
Extra long	24.9 in. (632 mm)	22.9 ~ 24.9 in. (582 ~ 632 mm)

4. Set the motor on the transom and verify that the installation height is correct. The anti-ventilation plate should be 0 ~ 2 in. (0 ~ 50 mm) below the bottom of the boat. For maximum performance, the anti-ventilation plate should be even with the lowest point on the keel. If the transom of the boat is less than 4°, the outboard motor might not be perpendicular with the water surface.

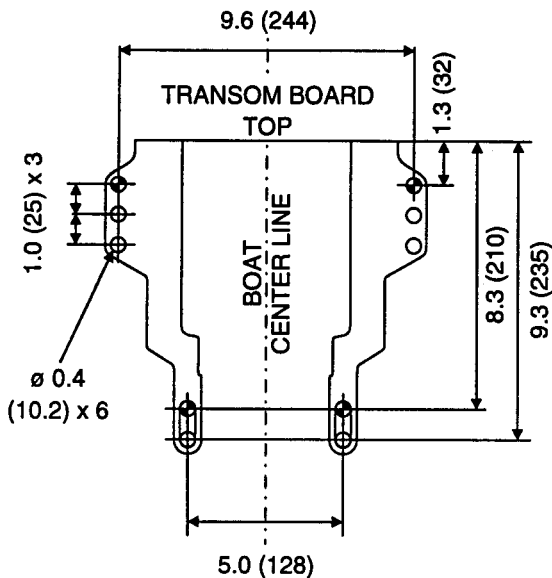


TRANSOM DRILLING

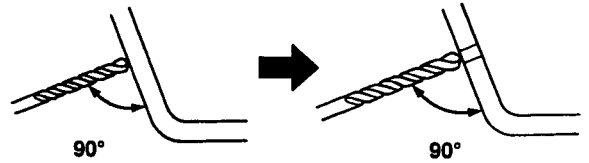
Verify that no damage will occur when the motor mounting holes are drilled. Look for any structural impediments such as bulkheads, braces, fuel cells, bilge pumps, or floor sections before drilling.

1. Using the drawing below, measure and mark the four center marks. Be sure that the upper bolt holes are not closer than 1.3 in. (32 mm) from the top of the actual boat transom. Do not mark or drill the upper holes in a wooden block attached to the top of the boat transom. Mark the lower bolt holes so that the mounting bolts contact the upper end of the stern bracket.
2. Ensure that there is adequate space for the nut and washer to bear on a flat surface.
3. Wear safety glasses. Use a 0.1~0.2 in. (3~5 mm) drill bit, and drill four pilot holes perpendicular to and through the transom. Use a vacuum cleaner to clean up after drilling.

Unit: in (mm)



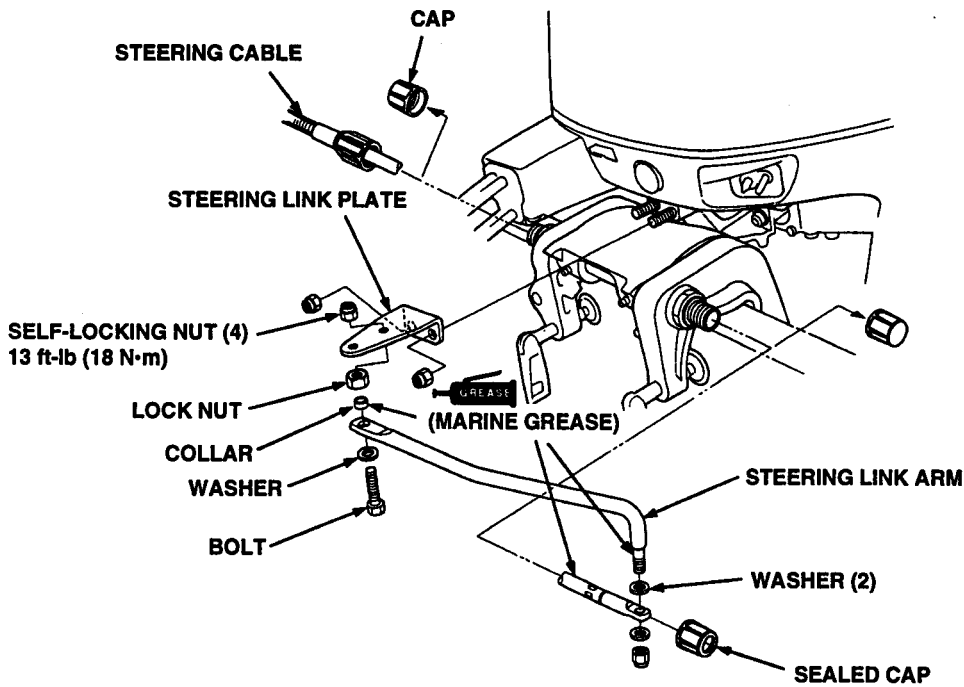
Recommended drilling locations are marked with this symbol



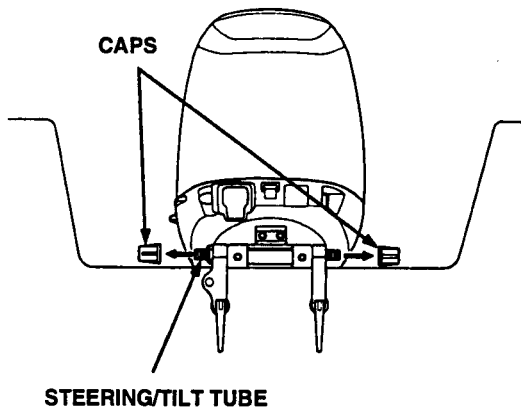
4. Finish drilling:
 - Use a $\frac{3}{8}$ in. drill bit if you are using a commercially available bolt/nut set.
 - Use a 10.2 mm drill bit if you are using the optional Mounting/Bolt Kit (P/N 06413-ZV7-000).

STEERING INSTALLATION

Push-pull Type



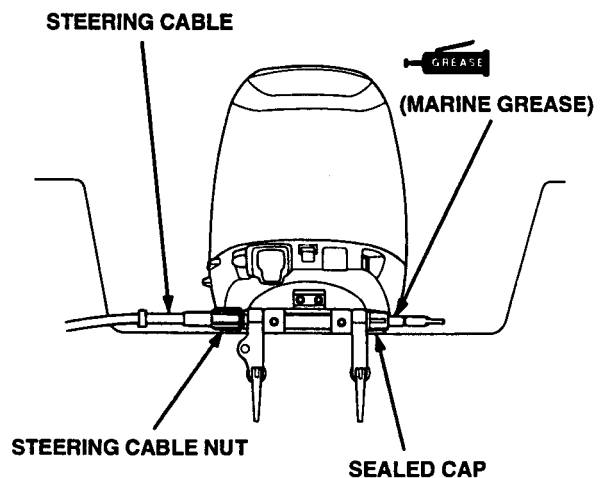
1. Remove the caps from the steering/tilt tube.



2. Apply marine grease to the steering cable and install the steering cable through the steering/tilt tube. Do this before final placement of the motor on the transom.

3. Position the motor on the center line. If applicable, line up the drilled holes in the transom with the holes in the stern bracket. Tighten the clamp screws.
4. Hand tighten the steering cable nut at this time.
5. Install the sealed cap on the steering/tilt tube. Below is a list of two optional steering tube seals which are available and include a grease fitting.

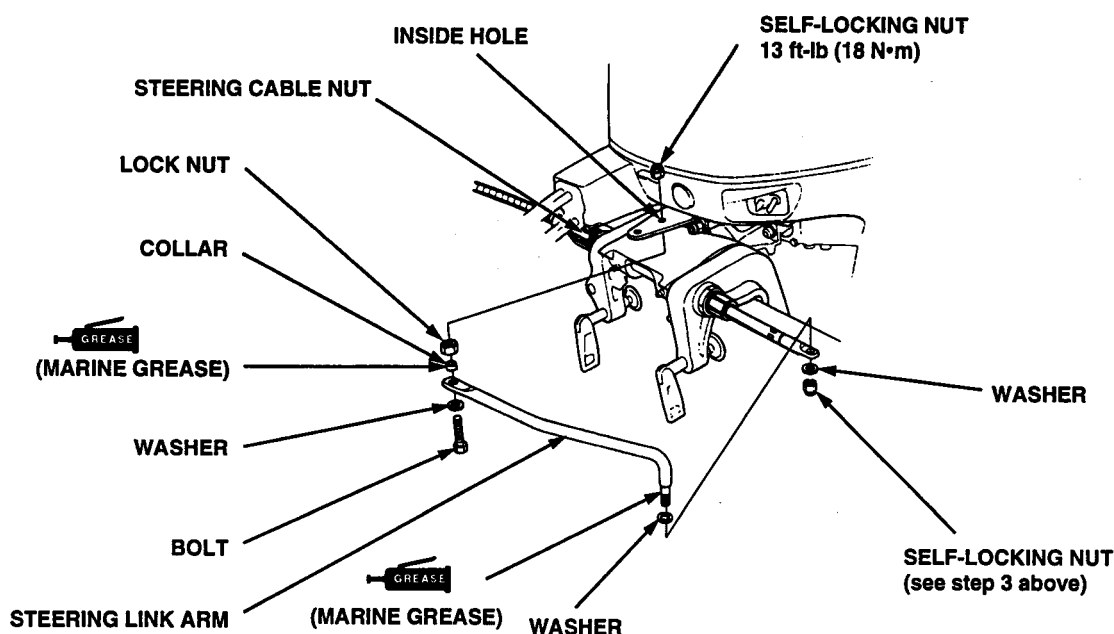
- Stainless Steel – P/N 50899-ZV5-020AH
- Anodized Aluminum – P/N 50899-ZV5-000AH



Steering Link Arm Installation

The steering link arm must be secured between the steering plate and steering cable using the bolt, washers, nuts, and collar as shown below. Both the bolt and the self-locking nuts, used at each end of the steering link arm, must be in good condition. Tighten hardware as follows:

1. Install the bolt, washer, and collar into the link arm. Lightly seat the lock nut against the collar then thread the bolt into the inside hole on the steering plate. Tighten the bolt securely. Hold the bolt and tighten the self-locking nut to 13 ft-lb (18 N·m).
2. Turn the steering wheel to extend the steering cable out of the steering/tilt tube. Install the steering link arm into the steering cable end. Use the hardware shown below and connect the link arm to the steering cable.
3. Turn the steering wheel to retract the steering cable into the steering/tilt tube. Tighten the self-locking nut to a torque of 7-8 ft-lb (8-11 N·m) then loosen the self-locking nut $\frac{1}{8}$ turn.



4. Tighten the steering cable nut onto the steering/tilt tube until the steering cable end play is removed. Torque the steering cable nut to 25-36 ft-lb (34-49 N·m).

After the steering cable nut is torqued, there should be no end play between the outer steering cable and the steering/tilt tube.

For further information regarding the steering cable refer to the boat manufacturer's operation manual.

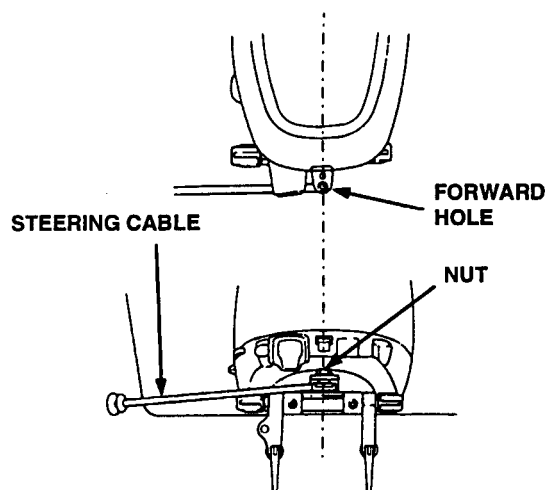
5. Directly after completing the steering link arm and steering cable installation, verify the following:
 - The motor will turn in the proper direction when the steering wheel is turned right and left. If the steering is reversed, correct at the steering box.
 - The steering angle of the motor is equal by turning the steering wheel full right and full left. If the motor steering angles are not equal:
 - Major corrections can be made at the steering box (refer to the steering box or steering cable manufacturer's instructions).
 - Minor corrections can be made by moving the steering/tilt tube laterally (refer to the Shop Manual).

Make the steering angles equal as necessary.

 - The steering cable and/or steering link arm do not come in contact with any part of the boat when the steering wheel is turned full right and full left and at all tilt angles. Correct as necessary and check again.

Ball-post Type

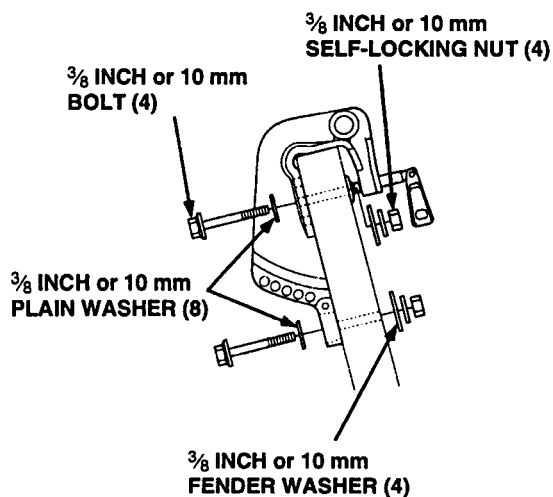
Connect the steering cable to the forward hole on the steering plate. Secure with a self-locking nut.



FINAL MOTOR INSTALLATION

Verify that the motor height is correct. The anti-ventilation plate should be even with the lowest point on the keel. The motor can be raised by using a lower set of upper mounting holes.

If applicable, secure the motor to the transom using the optional Mounting Bolt/Nut Kit P/N 06413-ZV7-000 or use commercially available stainless steel bolts, self-locking nuts and washers. The bolts must have sufficient thread length to tighten down against the transom and have two or three threads past the end of the self-locking nut.

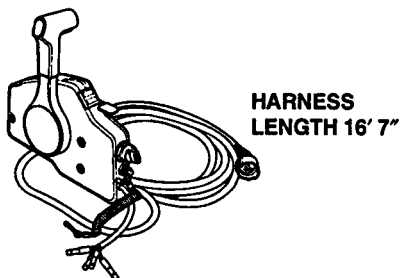


Grease all steering pivot points.

REMOTE CONTROL BOX

LOCATION

Select a mounting location which allows easy access and unobstructed and comfortable operation of the remote control lever. Make sure there are no cable obstructing components between the remote control box and the outboard motor.



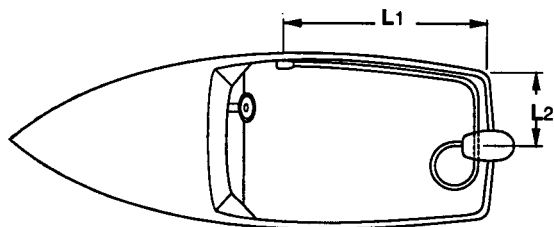
The remote control box is normally mounted on the starboard side of the gunnel. The control lever can be reversed to accommodate port side or starboard helm/console installation.

It is recommended to mount the remote control box near a corner of the front seat.

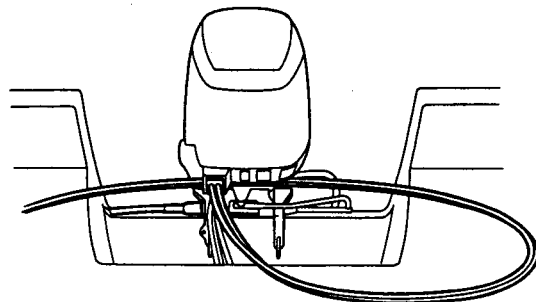
The spacer plate will be positioned between the control box and the installation surface.

CONTROL CABLE SELECTION

- Determine the remote control cable length.
 $L1 + L2 + 48" (1200 \text{ mm}) = \text{Control Cable Length}$
 Always round off the control cable length to the next highest standard length.

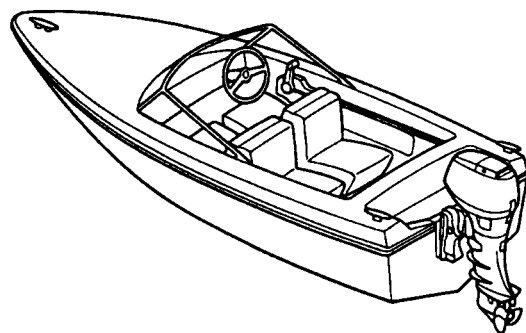


- Different types of control cables have different minimum bend radii. Follow the cable manufacturer's minimum bend radius recommendations. If the cables selected have a minimum bend radius of 8 inches, there should be at least a 16 in. (400 mm) bend diameter at the motor. The cable length must be calculated in such a way that unrestricted operation is possible, even when the outboard motor is fully tilted UP and turned from full left to full right. If the cable length is insufficient, the cable must be replaced with the correct length.



- If the cables are routed in a tight arc, resistance on the control lever will increase, and smooth throttle operation will not be possible.

Installation Example



Recommended Remote Control Cables:

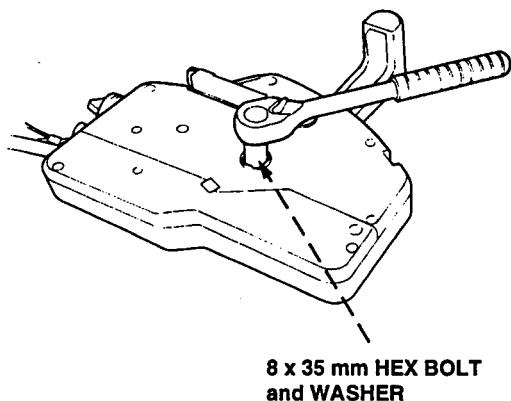
MORSE	TELEFLEX
33C Standard Type 33C Supreme Type (lowest friction cable)	3300 Standard Type 3300 HP Type

Both cable ends have a 10-32 UNF-2 SAE thread and 3 inches of inner cable travel.

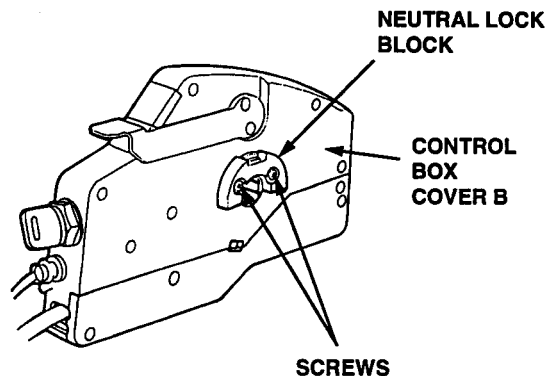
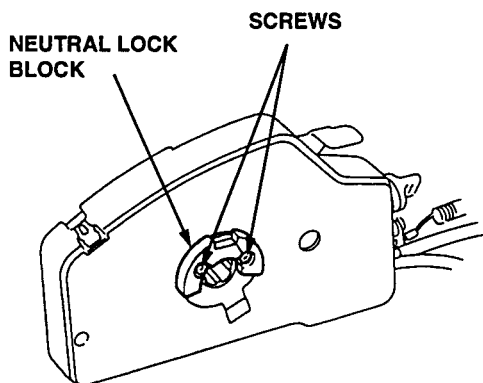
REVERSING THE CONTROL LEVER

This surface-mounted remote control box can be mounted on the starboard or port side by reversing the control lever.

1. Put the control lever into the neutral position.
2. Remove the 8 x 35 mm control lever bolt. Separate the control lever from the control box.
4. Install the neutral lock block on the control box cover B. Tighten the two screws securely.

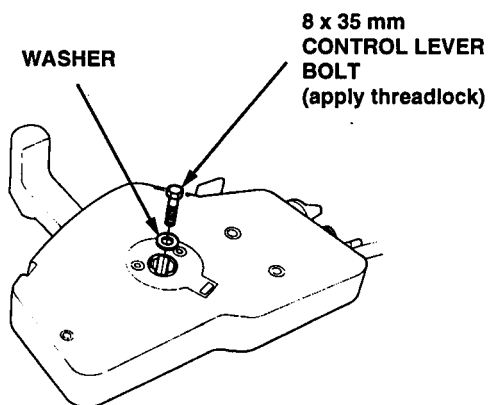


3. Remove the two screws and the neutral lock block from the remote control box housing A.



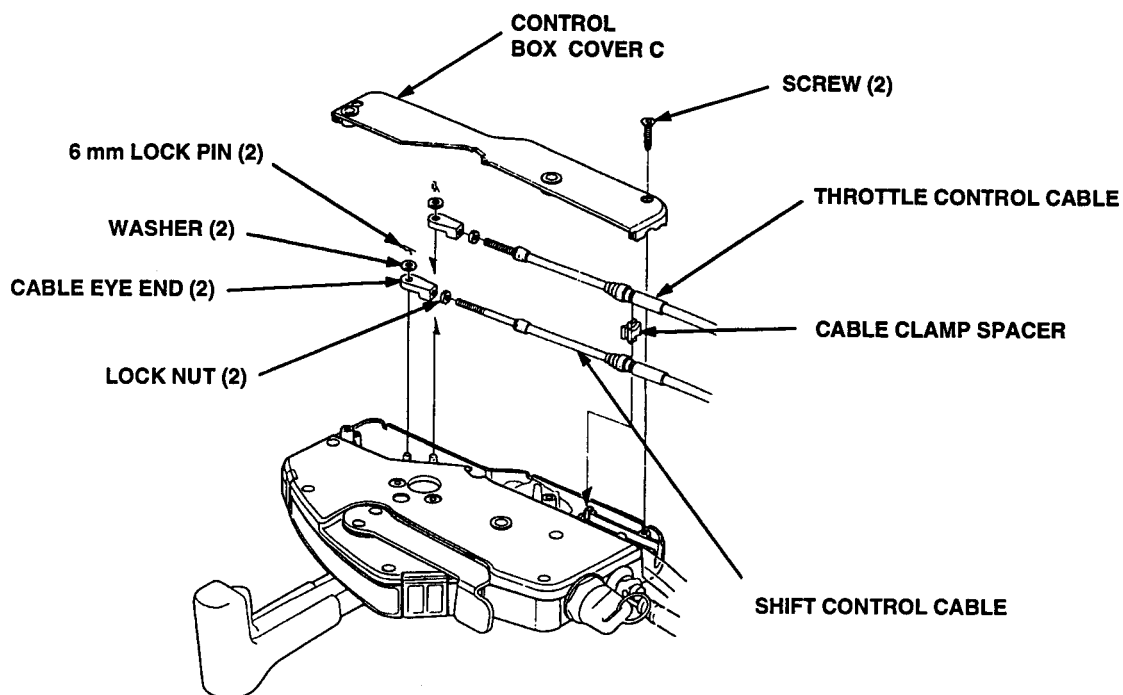
5. Before installing the 8 x 35 mm control lever bolt, install the control cables into the control box (refer to P. 16 of 27). With the control lever installed in the neutral position, apply one or two drops of Hondalock 2 (P/N 08713-0002) to the threads of the 8 mm control lever bolt. Install and tighten the 8 mm bolt.

Torque: 14.5 ft-lb (2.0 kg-m)

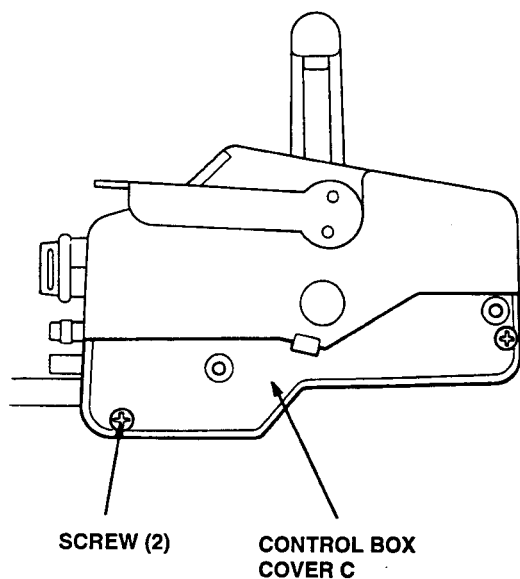


REMOTE CONTROL CABLE INSTALLATION

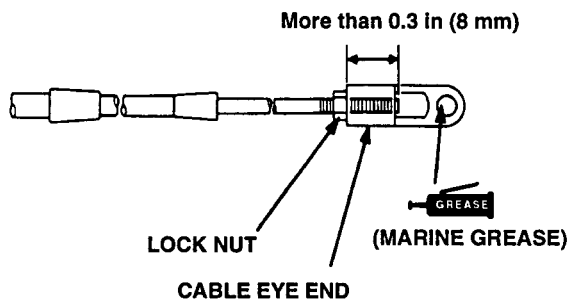
Control Box Side



1. Remove the two screws and control box cover C.



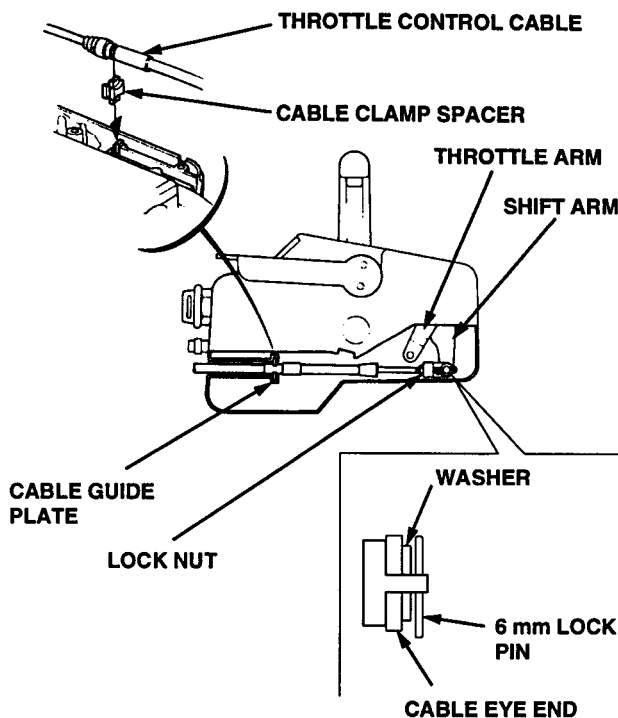
2. Screw the lock nuts and cable eye ends at least 0.3 in. (8 mm) onto the threads of the remote control cables. Apply marine grease to the holes in the eye ends.



HONDA

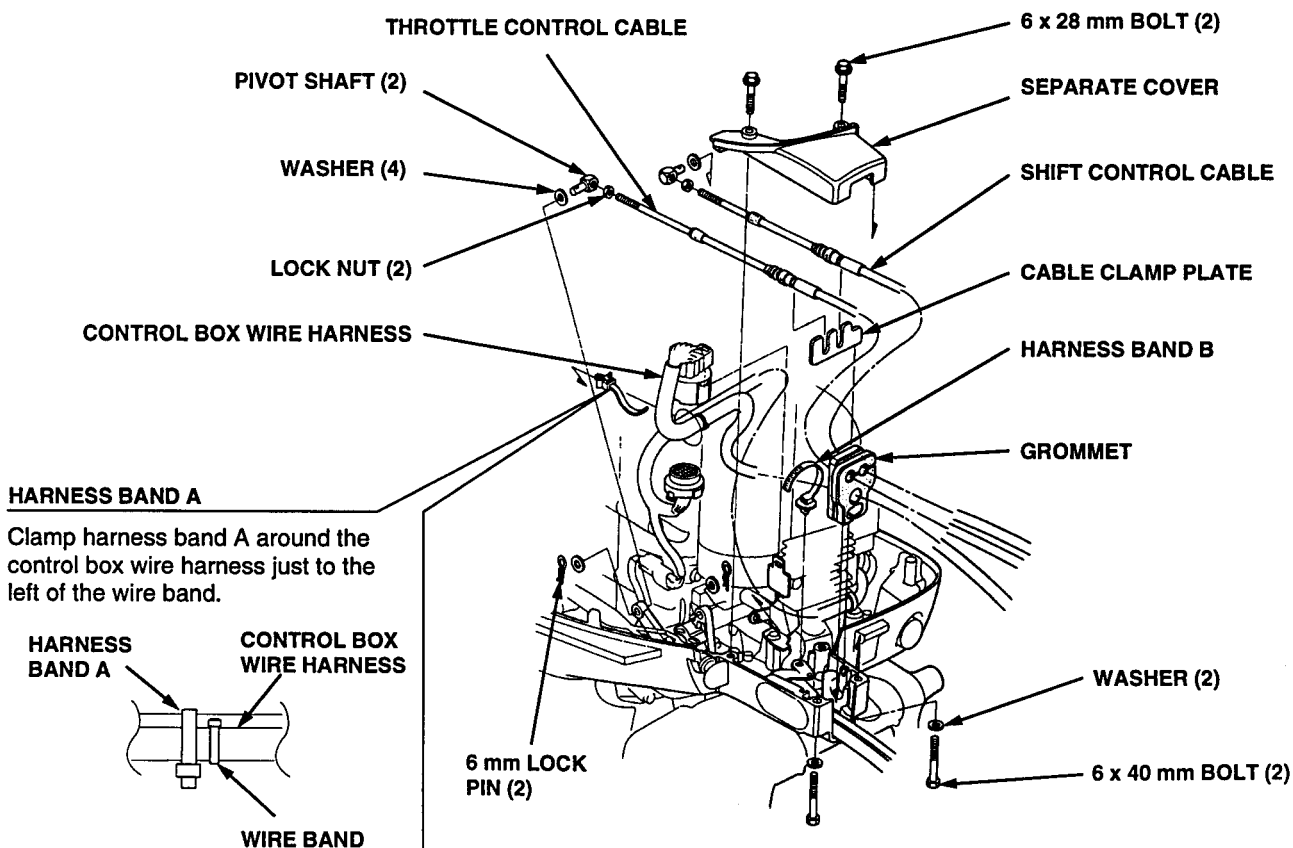
BF25A

3. Install the shift control cable by aligning the groove of the cable with the cable guide plate. Then connect the eye end to the shift arm pin using the washer and 6 mm lock pin.
4. Install the cable clamp spacer and throttle control cable by aligning the groove of the cable guide plate. Then connect the eye end to the throttle arm pin using the washer and 6 mm lock pin. Install the washer on the lock pin side.
5. Tighten the lock nuts securely.
6. Install control box cover C and tighten the screws securely. Overtightening the mounting screws can damage or distort the control box.

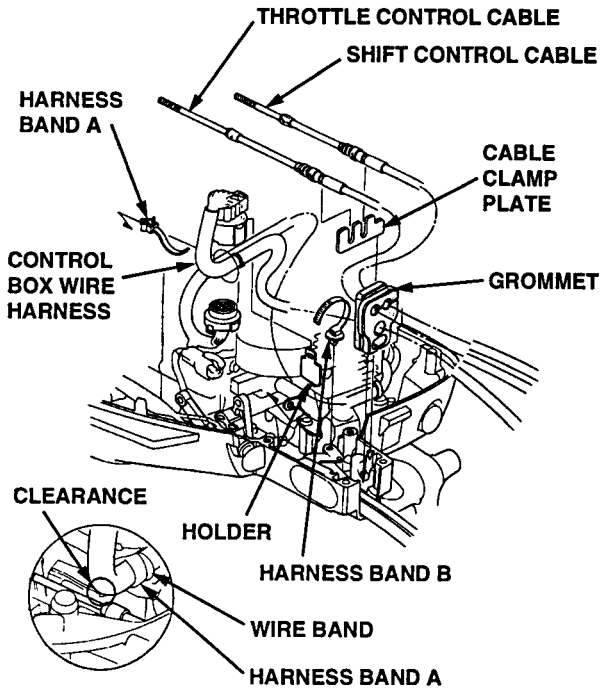


Motor Side

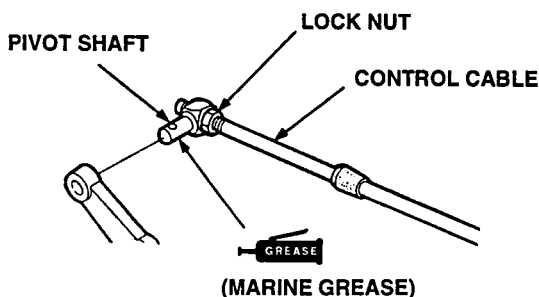
Connect the control cables to the outboard motor with the remote control lever in the neutral position and the choke/fast idle lever in the lowest (idle) position.



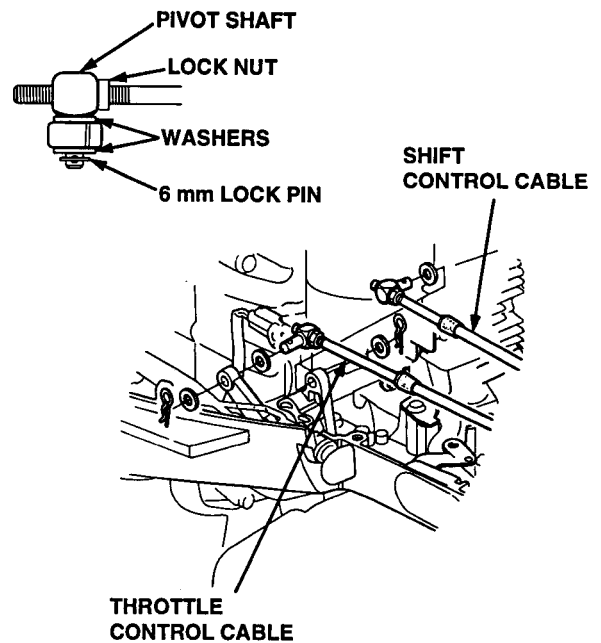
1. Pass the control box wire harness and control cables through the grommet as shown.
2. Attach the cable clamp plate to both control cables by aligning the grooves in the cables with grooves in the cable clamp plate. Then install them into the engine undercase.
3. Connect the control box wire harness to the outboard motor wire harness and secure the connector to the holder as shown.



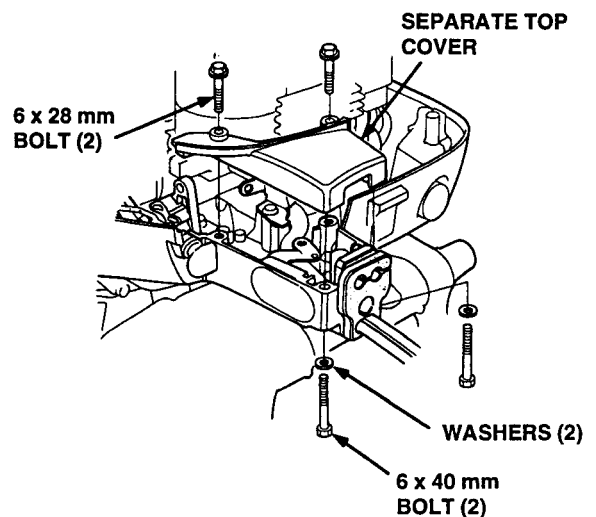
4. Secure the wire harnesses into place as shown above using harness band A and B. Clamp harness band A around the control box wire harness and to the left side of the wire band. Snap harness band A into the holder. Make sure there is enough clearance between the control cable and the wire harness.
5. Thread the lock nuts all the way on the control cables. Thread the pivots shafts onto the control cables. Apply marine grease as shown.



6. Verify that the shift arm on the outboard motor is in the neutral position, or that the control lever at the remote control box is in the neutral position.
7. Connect the control cables to the shift arm and throttle arm using the 6 mm washers and lock pins as shown. Use the 6 mm washers on both sides of the arm. If the hole in the shift arm and the pivot shaft do not align, turn the pivot shafts in or out to align the pivot pin with the shift or throttle arm holes as necessary. Turn the lock nut up to the pivot shaft then tighten the lock nuts securely.



8. Install the separate top cover and tighten the bolts securely.

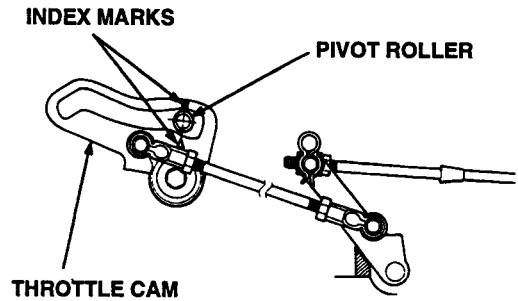
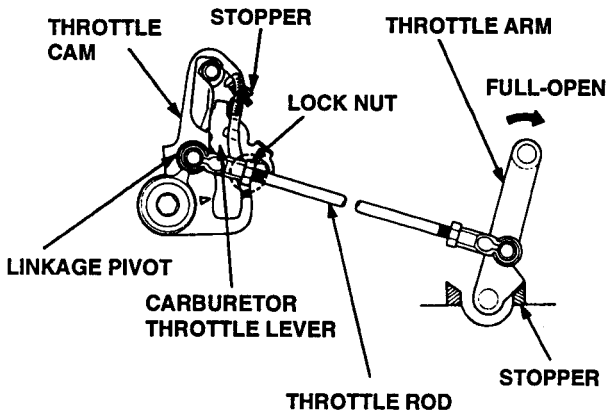


CONTROL CABLE LENGTH ADJUSTMENT

Throttle Control Cable

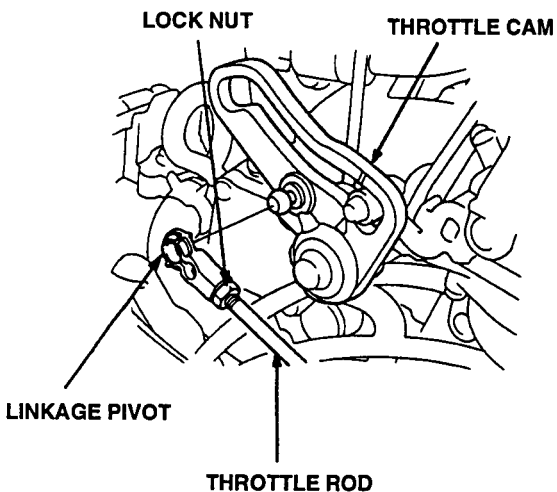
1. Put the remote control lever in the neutral position.
2. Disconnect the throttle control cable from the throttle arm.
3. Move the throttle arm to the fully-open position until it touches the stopper and verify that the carburetor throttle lever touches the stopper at the fully-opened position.

7. Verify that the center of the pivot roller aligns with the index marks on the throttle cam.



4. If not, loosen the lock nut, disconnect the throttle rod from the throttle cam and adjust the throttle rod length by turning the linkage pivot.
5. After the adjustment, connect the throttle rod to the throttle cam and tighten the lock nut securely.

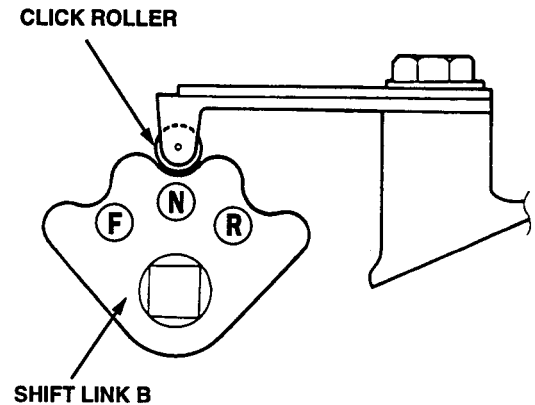
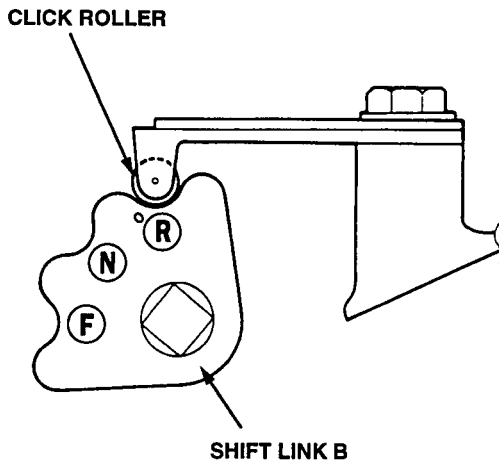
8. If not, loosen the throttle control cable lock nut, disconnect the throttle control cable and turn the pivot shaft until adjustment is correct.
9. After the adjustment, reconnect the throttle control cable and tighten the lock nut securely.
10. Move the remote control lever and verify the following:
 - The control lever moves smoothly into all positions.
 - The carburetor throttle lever moves smoothly without binding from the fully-opened to the fully-closed position.



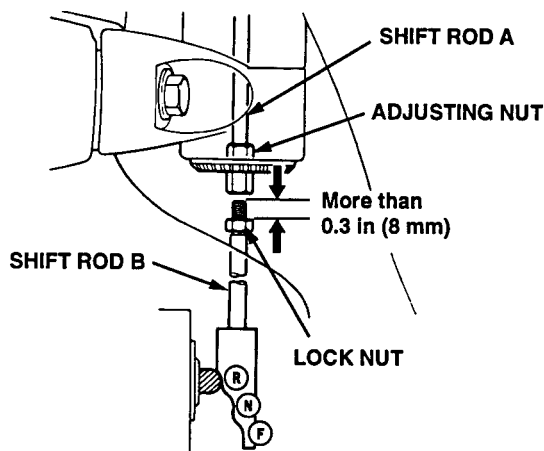
6. Reconnect the throttle control cable to the throttle arm.

Shift Control Cable

1. Move the remote control lever to the reverse position.
2. Disconnect the shift control cable from the shift arm.
3. Visually inspect that the click roller is in the center of the groove on the shift link B at the (R) mark.
8. Reconnect the shift control cable to the shift arm.
9. Put the remote control lever in the neutral position.
10. Verify that the click roller sits in the N groove of the shift link B.



4. If not, loosen the lock nut and adjusting nut connecting shift rod A to shift rod B.
5. Disconnect shift rod A from shift rod B by backing off the adjusting nut. Back off the adjusting nut until it is approximately 3 mm above the top of shift rod B.
6. Turn the lock nut on shift rod B to obtain 0.3 inch (8 mm) between the lock nut and the top of shift rod B as shown.
11. If not, loosen the shift control cable lock nut, disconnect the shift control cable and turn the pivot shaft until the adjustment is correct.
12. After the adjustment, reconnect the shift control cable and tighten the lock nut securely.
13. Verify the remote control lever moves smoothly into all positions.

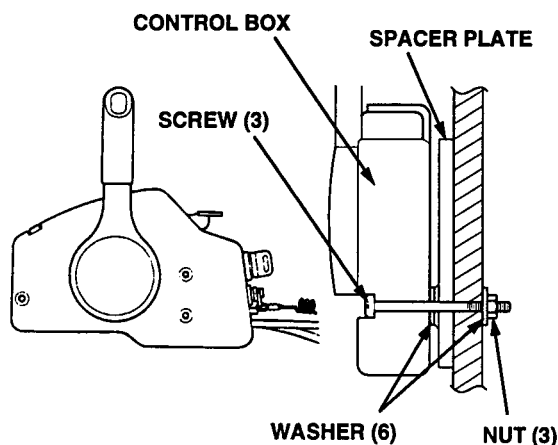


7. Thread the adjusting nut onto shift rod B until the adjusting nut comes in contact with the lock nut. When the adjusting nut contacts the lock nut, tighten the lock nut and adjusting nut together.

REMOTE CONTROL BOX INSTALLATION

After the control cable installation and adjustment, install the control box.

1. Put the control lever in the neutral position.
2. Install the control box at the selected mounting location (refer to P. 14 of 27). Apply one or two drops of Hondalock 2 (P/N 08713-0002) to the threads of the nuts. Tighten the nuts securely.

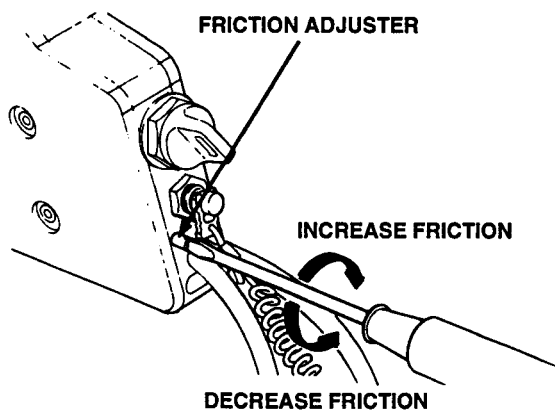


CONTROL LEVER FRICTION ADJUSTMENT

The control lever friction can be adjusted by turning the friction adjuster at the front of the remote control box.

Turning the adjuster clockwise will increase the control lever friction, turning it counterclockwise will decrease the control lever friction.

Adjust the friction adjuster so that a slight amount of drag is felt. The remote control lever should move smoothly and freely.



OPERATIONAL CHECK

Before checking the operation of the remote control cables, make sure that the cables are correctly adjusted and that there are no kinks or sharp bends in the cables.

Operate the remote control lever and verify that the control cables move smoothly.

Shift Control Cable

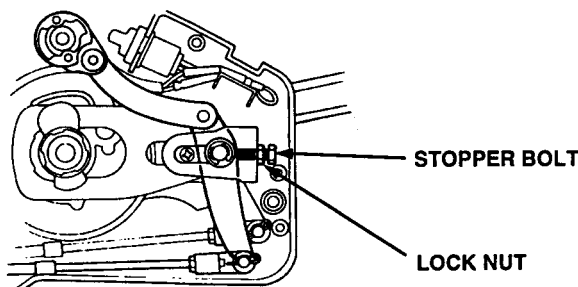
1. Move the remote control lever approximately 30° from neutral or until it just engages forward gear. Verify that the click roller is in groove F of shift link B (refer to P. 20 of 27).
2. Then move the control lever to full throttle position in the forward gear position. Verify that the throttle is actuated and the carburetor throttle lever is in the fully-open position.
3. Return the control lever to the neutral position. Verify that the carburetor throttle lever moves to the fully-closed position.
4. If not, readjust the throttle control cable pivot shaft at the motor side (refer to P. 19 of 27).

Throttle Control Cable

The remote control box is designed in such a way that when the carburetor throttle rod and throttle control cable are adjusted to the standard adjustment setting, the forward full throttle point will be correctly and automatically set.

If the carburetor full throttle point cannot be obtained, adjust the following:

1. Remove the choke/fast idle lever, control housing cover B and control housing cover C.
2. Move the control lever to full throttle position.
3. Loosen the lock nut and turn the stopper bolt until it touches the throttle lever. The carburetor and control lever must be in the full throttle position.



4. Tighten the lock nut and reinstall the control housing cover C, and B, and choke/fast idle lever.

METERS

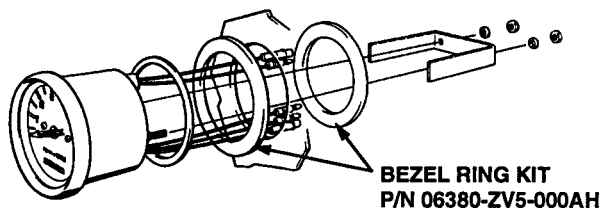
INSTALLATION

Meters should be installed on an instrument panel with a thickness of 0.04 ~ 0.44 in. (2 ~11 mm). If the instrument panel thickness exceeds 0.44 in. (11 mm), the meter mounting bracket must be modified accordingly. Tighten all meter mounting nuts evenly.

Wear safety glasses and drill the correct size hole for the meter you are using. Use a vacuum cleaner to clean up after drilling.

METER	PART NUMBER	HOLE SIZE
Tachometer	37250-ZV7-911	3 $\frac{1}{8}$ " (80.5 mm)
Tachometer	37250-ZV5-950AH	3 $\frac{3}{8}$ " (86 mm)
Hour Meter	39700-ZV5-912	2 $\frac{1}{8}$ " (54 mm)
Hour Meter	39700-ZV5-800AH	2 $\frac{1}{16}$ " (52 mm)
Voltmeter	37450-ZV5-911	2 $\frac{1}{8}$ " (54 mm)

TACHOMETER P/N 37250-ZV7-911 SHOWN

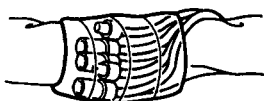


If this tachometer is used and a standard 3 $\frac{3}{8}$ " hole is already drilled in the instrument panel, it will be necessary to use this Bezel Ring Kit.

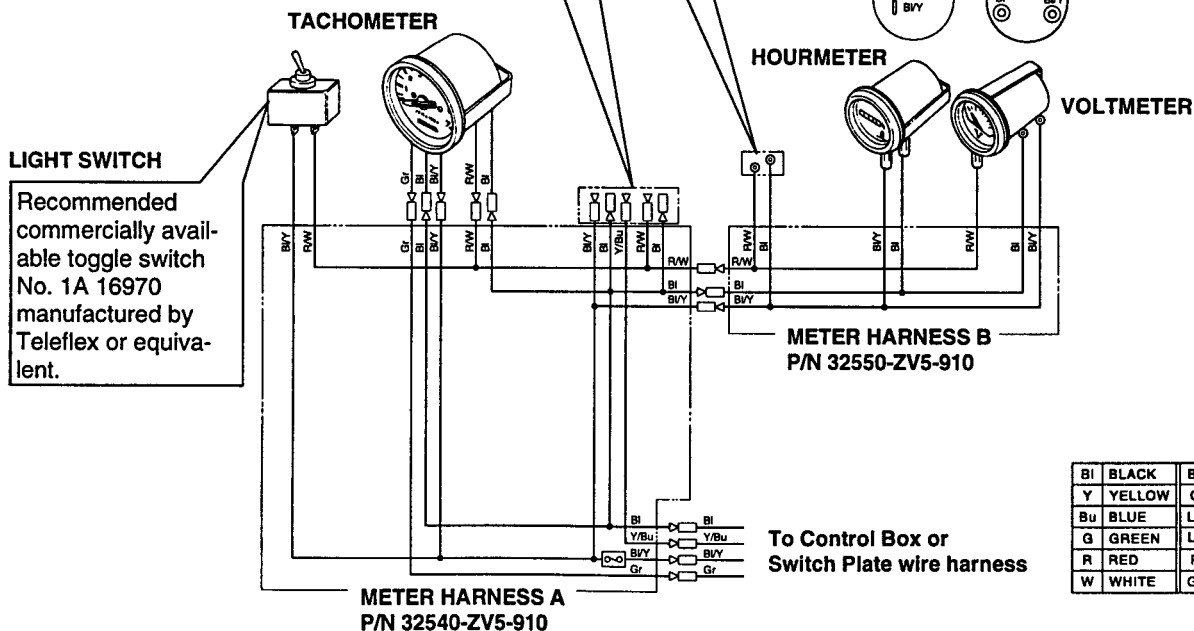
WIRE HARNESS CONNECTIONS

Use the genuine Honda wire harness and connect the wire harness properly as shown. Be sure the connectors are fully inserted into their receptacles. Check the locking connectors to be sure that the locking portion is locked in place. Check the insulators to make sure they surround their connectors completely. Do not allow the lips of the insulators to fold up and expose the connector. Do not break the coverings of the wire harness. If the wire harness covering is broken, either repair it with electrician's vinyl tape, or replace it.

These connectors are used for the trim meter on a BF35/45. Wrap these unused terminals with a piece of electrician's vinyl tape to hold them to the wire harness as shown.



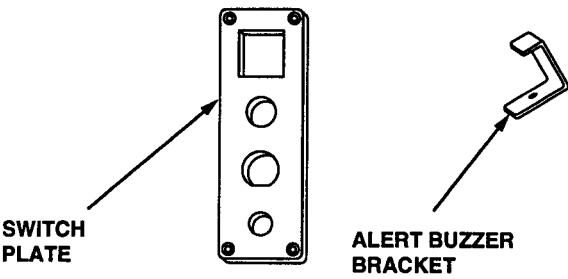
These connectors are used for a speedometer light. If not used, separately wrap each terminal to the wire harness with a piece of electrician's vinyl tape to avoid a short circuit as shown.



SWITCH PLATE

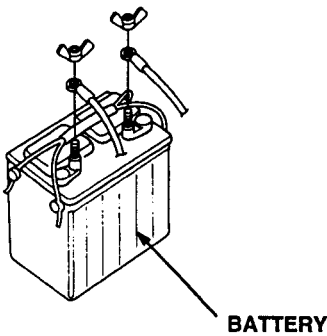
If your boat is equipped with a Binnacle or Flush mounted remote control box, an optional Switch Plate Kit is available. The Switch Plate Kit comes with installation instructions.

Switch plate kit P/N 06200-ZV5-010AH



BATTERY

Minimum requirements: 12V-70AH marine cranking battery.

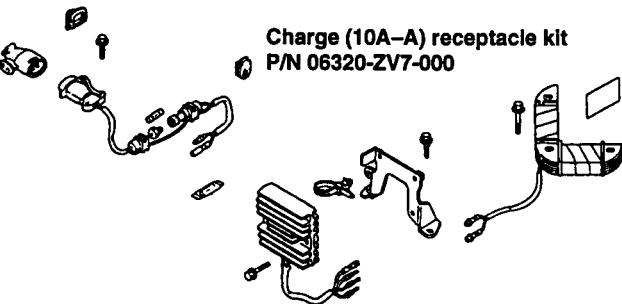
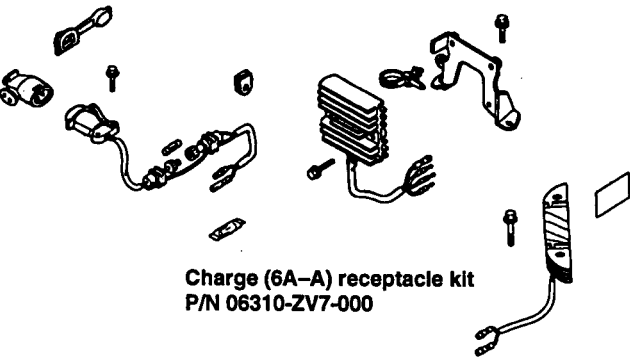


- 1. Install the battery in the correct size corrosion-resistant battery box in a dry, well ventilated location.
- 2. Connect the positive (+) battery cable first, then connect the negative (-) battery cable. Tighten the cable nuts securely.
- 3. Coat the battery terminal ends with nonconductive grease.
- 4. Secure the corrosion-resistant battery box properly to the boat. To keep potential sparks away from the fuel tank, do not secure the battery near the fuel tank.

CHARGE COIL

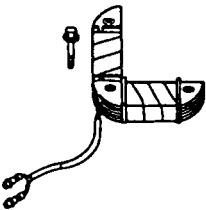
RECOIL STARTER TYPE

The following two optional charge receptacle kits are available. Refer to the shop manual for the installation procedure.



ELECTRIC STARTER TYPE

An optional 12V-10A charge coil is available. Refer to the shop manual for the installation procedure.



It is necessary to order the following parts:

PART NAME	PART NUMBER
Charge (12V-10A) coil assembly	31630-ZV7-911
6 x 35 mm flange bolt	90014-ZV7-000

PROPELLER

INSTALLATION

14 mm CASTLE NUT

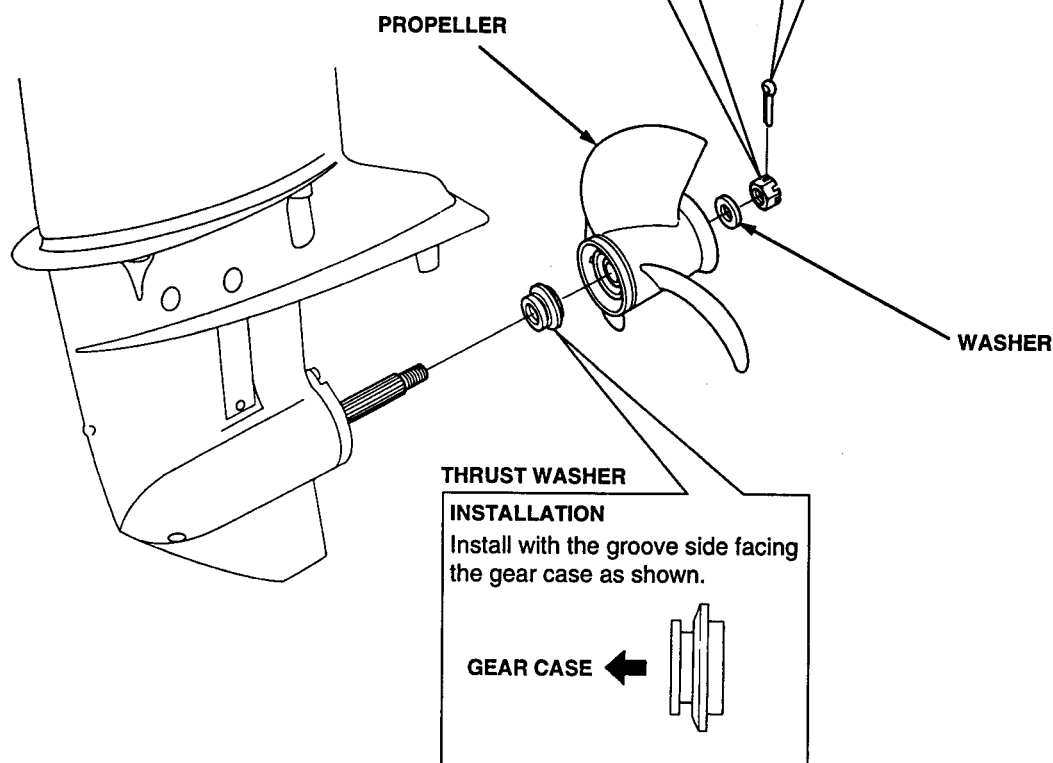
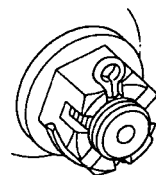
INSTALLATION

First, tighten to the specified torque. If the cotter pin does not set in the hole, tighten additionally until the cotter pin sets in the hole securely.
Specified torque: 0.7 ft-lb (1 N·m)
Maximum torque: 25.3 ft-lb (35 N·m)

3 mm COTTER PIN

INSTALLATION

- Bend the cotter pin as shown.
- Always use a genuine Honda or equivalent 3 mm stainless steel cotter pin.



SELECTION

Selection of the optimum propeller for boat characteristics and outboard motor performance is of utmost importance.

To ensure smooth acceleration and handling, top speed, and good fuel economy select a propeller which is designed for the boat size and outboard motor.

Confirm that the boat will reach its top speed with the engine at full throttle and maximum rpm.

Desirable Propeller Characteristics

The ideal propeller should give top boating speed at moderate loads, with the throttle fully open, not exceeding the recommended maximum engine rpm.

RECOMMENDED MAXIMUM ENGINE RPM:
5000 ~ 6000 rpm

Before Selecting A Propeller

The following items must be checked and adjusted as necessary.

- The outboard motor must be installed vertically in relation to the bottom of the boat (adjust the trim angle as needed to achieve proper boat plane).
- Adjust the trim tab, so that the boat has neutral steering.
- Protect the propeller from foreign objects, and check regularly for damage and deformation, and aquatic plants wrapped around the propeller hub.
- Keep the bottom of the boat clean and free of algae and other growth (this will cause a significant drop in top speed).
- When doing propeller checks, select a calm day with little wave action.
- Avoid strong winds; the wind speed should be less than 10 miles/h (15 km/h).
- The boat should carry its average load (crew, load arrangement).

Required Tools For Acceleration Test

For this test a tachometer, stopwatch and speedometer should be used (if there is no speedometer available, measure the elapsed time between two fixed points, whose distance from each other is known, and calculate the speed).

Maximum Engine RPM Cannot Be Reached At Full Throttle

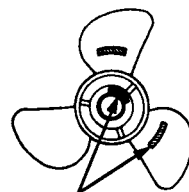
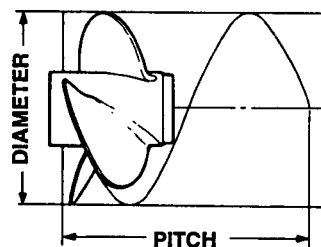
The propeller may not be properly matched to the boat.

Run the boat up to full speed and check the engine rpm. If the engine rpm is above or below the maximum recommended engine rpm the propeller can be changed as follows:

NOTICE

To avoid power loss and potential outboard motor damage do not exceed the maximum recommended engine rpm.

- To increase the engine rpm, select a propeller with a smaller pitch.
- To decrease the engine rpm, select a propeller with a larger pitch.



PROPELLER DIMENSIONS
Diameter x Pitch

The following 3 blade aluminum propellers are available.

Size (diameter x pitch)	Part Number
9 $\frac{1}{4}$ x 12 inch (235 x 305 mm)	58130-ZV7-000ZA
9 $\frac{3}{4}$ x 9 $\frac{7}{8}$ inch (248 x 251 mm)	58130-ZV7-850ZA
10 x 8 $\frac{1}{4}$ inch (254 x 210 mm)	58130-ZV7-860ZB

Improved Outboard Motor Service Life

Under the following conditions, acceleration will improve and the service life of the outboard motor will increase if the propeller pitch is decreased.

- Heavy loads (Crew, load, equipment, water skiing, etc.)
- When used at higher elevations
- When the boat bottom needs cleaning
- It is not recommended to run the outboard motor at continuous full throttle. Run the outboard motor at 70~80% of full throttle, to increase outboard motor service life and optimize fuel economy.

TRIM ANGLE AND TRIM TAB ADJUSTMENT

Refer to the Owner's Manual.

PRE-DELIVERY SERVICE CHECK LIST

Check all items on the following list. Refer to the Owner's Manual or Shop Manual for specifications and detailed procedures. Test every unit to be sure it is functioning properly.

ON LAND

- ☐ After completing the Pre-Delivery Service and Operation check lists, fill out the HONDA MARINE - Delivery Check List (#TM023). Give the yellow copy to the customer.

• EXTERNAL APPEARANCE

- ☐ Check for paint scratches; touch up if necessary.

• INSTALLATION LOCATION

- ☐ Check for correct installation location.
- ☐ Check the outboard motor for the correct installation height.
- ☐ Make sure the motor mount bolts are tight.
- ☐ Check to be sure sealant has been applied to the transom mounting bolt holes.

• GEAR OIL

- ☐ Check for proper gear oil level. **Make sure the oil level and drain plugs are tight.**
OIL CAPACITY: 0.31 US qt. (0.29 lit.)

• FUEL SYSTEM

- ☐ Check to be sure the fuel lines are connected securely.
- ☐ Make sure the fuel tank is full of fresh gasoline.
- ☐ Check for fuel leaks. If necessary, repair immediately.

• STEERING SYSTEM

- ☐ Check the steering system for smooth operation.
- ☐ Make sure that the outboard motor does not interfere with the steering cable and/or link arm, control cables, wire harness etc., when the steering wheel is turned full left and full right and with the motor in all tilt positions.

• REMOTE CONTROL SYSTEM

- ☐ Check the remote control box for proper operation.
- ☐ Make sure the control lever selects forward, neutral, and reverse gears.

- ☐ Check to be sure the throttle linkage operates smoothly with the remote control lever at the full throttle position. The choke/fast idle lever must be in the idle position.

- ☐ Make sure the choke mechanism operates properly.

• TILLER HANDLE CONTROL SYSTEM

- ☐ Check the tiller handle for proper operation.
- ☐ Make sure that the gearshift lever selects forward, neutral, and reverse gears.
- ☐ Check that the throttle linkage operates smoothly with the throttle grip at the full throttle position.
- ☐ Make sure the choke mechanism operates properly.

• ELECTRICAL SYSTEM

- ☐ Check the wire harness for proper connections.
- ☐ Check the battery connections for correct polarity and tightness.
- ☐ Make sure that the battery is fully charged and installed securely.
- ☐ Make sure that the meters and switches are connected correctly.

• TILT MECHANISM

- ☐ Operate the steering with the outboard motor in the tilt UP position, and check to be sure that the cables, harnesses, boat splashwell, etc. do not interfere with the outboard motor.
- ☐ Check the tilt lever for proper operation.

• ENGINE OIL

- ☐ Check the engine oil level.
Engine Oil Capacity:
1.7 US qt. (1.6 lit) ... When oil filter is not replaced
2.0 US qt. (1.9 lit.) ..When oil filter is replaced
Recommended Oil:
SAE 10W-30 engine oil or equivalent, API Service Classification SG, SF. Refer to the BF25A Owner's Manual for detailed oil usage information.

• ALL NUTS, BOLTS, & OTHER FASTENERS

- ☐ Check security and tighten if necessary.

OPERATION CHECK LIST**IN THE WATER****• OUTBOARD MOTOR INSTALLATION**

- ☐ Check that there are no water leaks from the motor mounting bolt holes.
- ☐ Check for balanced weight distribution in the boat.

• OUTBOARD MOTOR OPERATION

- ☐ Check the choke for proper operation.
- ☐ Check the neutral switch for proper operation.
- ☐ Turn the ignition switch to START (remote control types) or pull the recoil starter (tiller handle types), make sure that the outboard motor starts.
- ☐ Check the outboard motor for any abnormal noise.
- ☐ Check to be sure cooling water flows out of the cooling system indicator.
After the engine warms up:

- ☐ Make sure the outboard motor returns smoothly to idle.

- ☐ Check the idle speed

Idle Speed : 900 ± 50 rpm (in neutral)

- ☐ Snap the throttle & check the engine response.

- ☐ Check the emergency engine stop switch for proper operation.

• LEAKS

- ☐ Make sure that there are no leaks from the fuel lines and/or connections. If necessary, repair immediately.
- ☐ Check the outboard motor for water/oil leaks. Repair if necessary.

DURING SEA TRIALS**• OUTBOARD MOTOR OPERATION**

- ☐ Check the gearshift operation with the remote control or gearshift lever.
- ☐ Check motor operation at trolling speed. Use the minimum amount of throttle opening necessary to operate the boat at a safe trolling speed for 15 minutes

• PROPELLER SELECTION

- ☐ Check the engine rpm with the boat under way. Avoid continuous full throttle operation (100% throttle opening). Do not run the outboard motor at full throttle for more than 2 minutes at a time.

RECOMMENDED MAXIMUM ENGINE RPM

5000 ~ 6000 rpm

- ☐ Make sure that there is no propeller ventilation in a straight line. There is the possibility of some propeller ventilation when turning at full throttle with the motor trimmed out.

AFTER SEA TRIALS**• CHECK & CLEAN THE OUTBOARD MOTOR**

- ☐ Check that there is no water in the gear oil.
- ☐ Check that there are no signs of fuel, oil or water leaks. Repair if necessary.
- ☐ After running in salty or dirty water, use a flushing kit to flush the cooling system with clean water. Run the outboard motor at idle during flushing for approximately 10 minutes.
- ☐ Clean the entire outboard motor thoroughly with a cloth.
- ☐ Check the outboard motor for external damage, defects, or cracks.

BREAK-IN PROCEDURE

Break-in period 10 hours

Break-in operation allows the moving parts to wear-in evenly and thus ensures proper performance and longer outboard motor service life.

First 15 minutes:

Run the outboard motor at trolling speed. Use the minimum amount of throttle opening necessary to operate the boat at a safe trolling speed.

Next 45 minutes:

Run the outboard motor up to a maximum of 2,000 to 3,000 rpm or 10% to 30% throttle opening.

Next 60 minutes:

Run the outboard motor up to a maximum of 4,000 to 5,000 rpm or 50% to 80% throttle opening. Short bursts of full throttle are acceptable but do not operate the motor continuously at full throttle.

Next 8 hours:

Avoid continuous full throttle operation (100% throttle opening). Do not run the outboard motor at full throttle for more than 5 minutes at a time.

For boats that plane easily, bring the boat up on plane, then reduce the throttle opening to the specified break-in settings called out above.