PREFACE

This manual covers the construction, function and servicing procedures of the Honda BF75A / BF90A outboard motors.

Careful observance of these instructions will result in better, safer service work.
Illustrations in this manual are based primarily on the BF90A LRTC.

ALL INFORMATION, ILLUSTRATIONS, DIRECTIONS AND SPECIFICATIONS INCLUDED IN THIS PUBLICATION ARE BASED ON THE LATEST PRODUCT INFORMATION AVAILABLE AT THE TIME OF APPROVAL FOR PRINTING. HONDA MOTOR CO., LTD. RESERVES THE RIGHT TO MAKE CHANGES WITHOUT INCURRING ANY OBLIGATION WHATEVER. NO PART OF THIS PUBLICATION MAY BE REPRODUCED WITHOUT WRITTEN PERMISSION.

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1. SPECIFICATIONS

DIMENSIONS AND WEIGHTS

Item \ Model	BF75A							
Description code	BBAL							BBAU
Type	LHD	LHTD	LHTC	LRTD	LRTG	LRTB	LRTC	XRTC
Overall length	*1: 910 mm (35.8 in) *2: 1,365 mm (53.7 in)			760 mm (29.9 in)				
Overall width	590 mm (23.2 in)			480 mm (18.9 in)				
Overall height	1,590 mm (62.6 in)							1,720 mm (67.7 in)
Dry weight	169 kg (373 lbs)	174 kg (384 lbs)		169 kg (373 lbs)				174 kg (384 lbs)
Operating weight (including oil)	174 kg (384 lbs)	179 kg (395 lbs)		174 kg (384 lbs)				179 kg (395 lbs)

*1: With Tiller Handle raised
*2: With Tiller Handle extended

Item \ Model	BF90A							
Description code	BBBL						BBBU	
Type	LHD	LHTD	LHTC	LRTD	LRTB	LRTC	XRTD	XRTC
Overall length	*1: 910 mm (35.8 in) *2: 1,365 mm (53.7 in)			760 mm (29.9 in)				
Overall width	590 mm (23.2 in)			480 mm (18.9 in)				
Overall height	1,590 mm (62.6 in)						1,720 mm (67.7 in)	
Dry weight	169 kg (373 lbs)	174 kg (384 lbs)		169 kg (373 lbs)			174 kg (384 lbs)	
Operating weight (including oil)	174 kg (384 lbs)	179 kg (395 lbs)		174 kg (384 lbs)			179 kg (395 lbs)	

*1: With Tiller Handle raised
*2: With Tiller Handle extended

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FRAME

Item \ Model / Type	BF75A							
	LHD	LHTD	LHTC	LRTD	LRTG	LRTB	LRTC	XRTC
Transom height (*1)	537 mm (21.1 in)							664 mm (26.1 in)
Transom angle	5 stage adjustment (8°,12°,16°,20°,24°)							
Tilting angle	72°							
Tilting stage	Stage less							
Swivel angle	30° right and left							
Trim angle (*1)	———	–4°—16°						

(*1) Transom angle is at 12°.

Item \ Model / Type	BF90A							
	LHD	LHTD	LHTC	LRTD	LRTB	LRTC	XRTD	XRTC
Transom height (*1)	537 mm (21.1 in)						664 mm (26.1 in)	
Transom angle	5 stage adjustment (8°,12°,16°,20°,24°)							
Tilting angle	72°							
Tilting stage	Stage less							
Swivel angle	30° right and left							
Trim angle (*1)	———	–4°—16°						

(*1) Transom angle is at 12°.

TYPES OF HONDA BF75A / 90A OUTBOARD MOTORS

It may be necessary to refer to this chart for reference purposes when reading this manual.

Model	Type	Shaft Length		Tiller Handle	Remote Control	Gas assisted Tilt	Power Trim / Tilt	Tachometer	Trimmeter
		Long	Extra-Long						
BF75A	LHD	●		●		●		(●)	
	LHTD	●		●			●	(●)	(●)
	LHTC	●		●			●	(●)	(●)
	LRTD	●			●		●	●	●
	LRTG	●			●		●	●	●
	LRTB	●			●		●	●	●
	LRTC	●			●		●	●	●
	XRTC		●		●		●	●	●
BF90A	LHD	●		●		●		(●)	
	LHTD	●		●			●	(●)	(●)
	LHTC	●		●				(●)	(●)
	LRTD	●			●		●	●	●
	LRTB	●			●		●	●	●
	LRTC	●			●		●	●	●
	XRTD		●		●		●	●	●
	XRTC		●		●		●	●	●

H: Tiller Handle R: Remote Control T: Power Trim / Tilt ( ): Optional part

The gas assisted tilt type motors use a gas spring/damper to assist when manually tilting the motor.

The power trim / tilt type motors use an electric / hydraulic power cylinder to trim or tilt the motor.

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ENGINE

Model	BF75A	BF90A
Type	4–stroke, O.H.C., 4–cylinder	
Displacement	1,590 cm^3 (97.0 cu in)	
Bore x stroke	75 x 90 mm (3.0 x 3.5 in)	
Rated power *1	75 HP (55.2 kW) at 5,000 – 6,000 min^{-1} (rpm)	90 HP (66.8 kW) at 5,000 – 6,000 min^{-1} (rpm)
Maximum torque	117.6 N·m(12.0 kgf·m, 87 lbf·ft) at 4,000 min^{-1} (rpm)	125.5 N·m(12.8 kgf·m, 93 lbf·ft) at 4,500 min^{-1} (rpm)
Compression ratio	8.8 : 1	
Fuel consumption ratio	241 g/HP·hr (8.5 oz/HP·hr) 〔Except LRTG type〕 222 g/HP·hr (7.8 oz/HP·hr) 〔LRTG type only〕	227 g/HP·hr (8.0 oz/HP·hr)
Cooling system	Forced water circulation by impeller pump with thermostat	
Ignition system	CDI	
Ignition timing	5–29° B.T.D.C.	
Spark plug	DR7EA (NGK), X22ESR–U (NIPPONDENSO)	
Carburetor	Horizontal type, butterfly valve (4 carburetor)	
Lubrication system	Pressure lubrication by trochoid pump	
Lubrication capacity	4.0 ℓ (4.2 US qt, 3.5 Imp qt) 〔with oil filter replacement: 4.5 ℓ (4.8 US qt, 4.0 Imp qt)〕	
Starter system	Electric starter	
Stopping system	Grounding of primary circuit	
Fuel	Unleaded gasoline with a pump octane rating of 86 or higher.	
Optional fuel tank capacity	25 ℓ (6.6 US gal, 5.5 Imp gal)	
Fuel pump	Mechanical plunger type	
Exhaust system	Underwater type	
Recommended oil	SAE 10 W – 30 / 40	

*1: Full throttle range.

LOWER UNIT

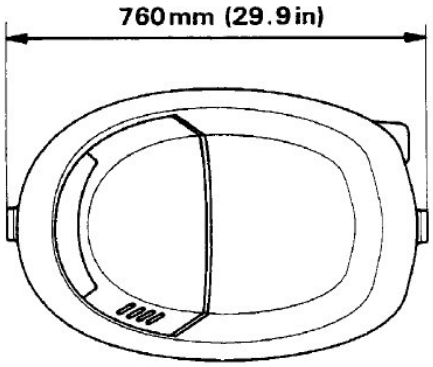
Clutch	Dog clutch (Forward–Neutral–Reverse)
Gear ratio	0.43 (13 / 30)
Reduction	Spiral bevel
Gear case oil capacity	0.66 ℓ (0.70 US qt, 0.58 Imp qt)
Propeller rotating direction	Clockwise (viewed from rear)
Propeller driving system	Spline

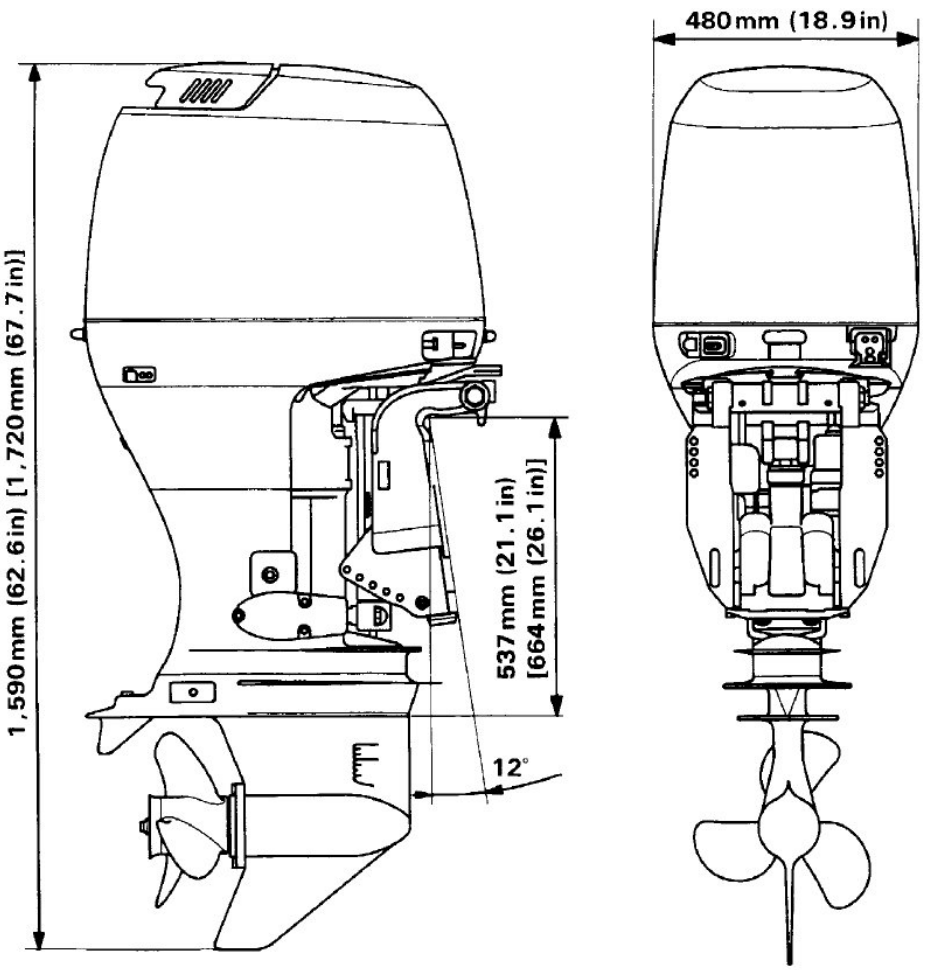
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2. DIMENSIONAL DRAWINGS

Unit: mm (in)

Remote control type
[ ] : Extra-long shaft type

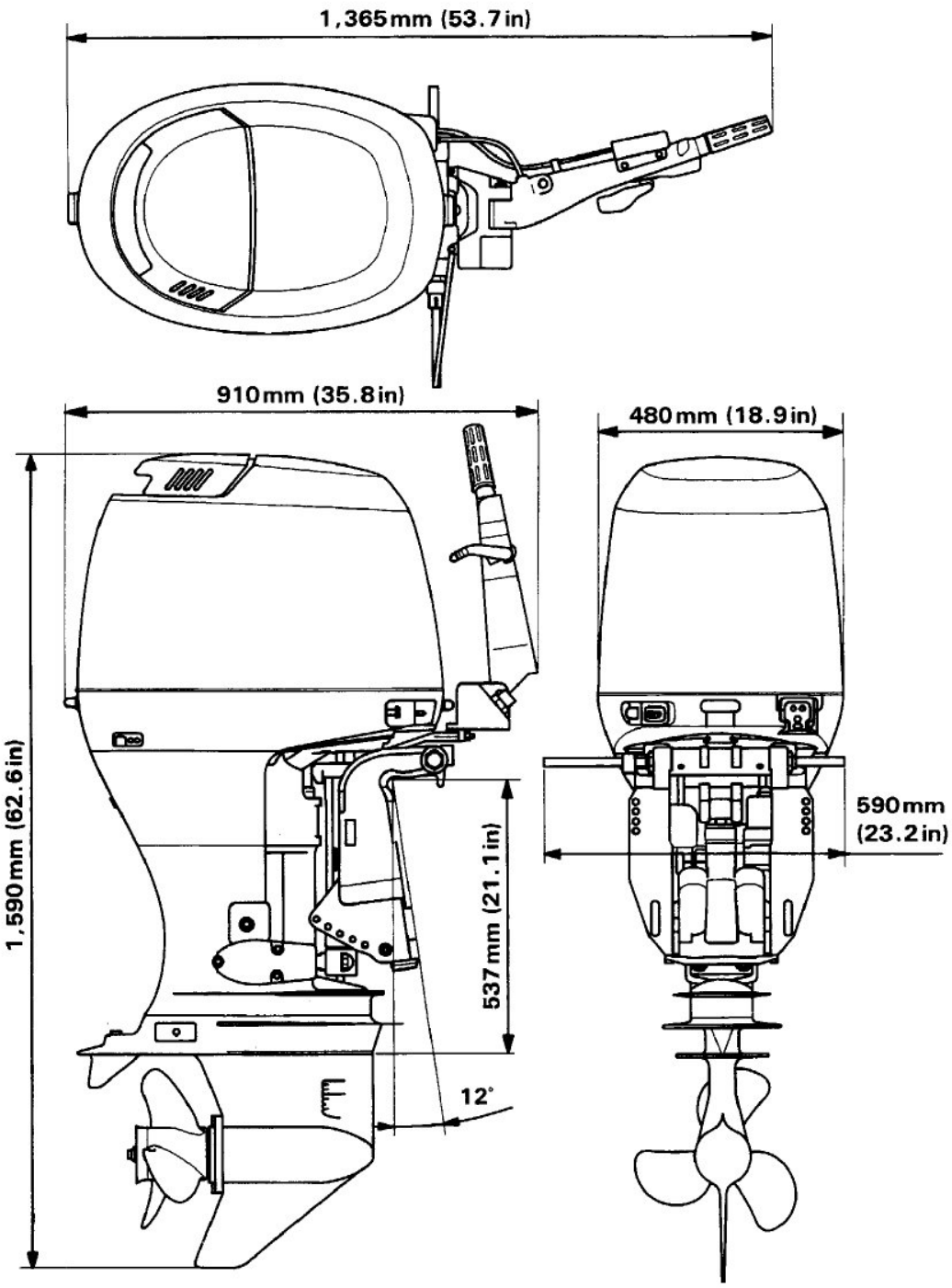




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Tiller handle type

Unit: mm (in)



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2. IMPORTANT SAFETY PRECAUTIONS
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4. SERIAL NUMBER LOCATION
5. MAINTENANCE STANDARDS
6. TORQUE VALUES
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8. TROUBLESHOOTING
   - A. HARD STARTING
     - Cylinder Compression Test
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     - Spark Test
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   - D. ENGINE DOES NOT RUN SMOOTHLY
   - E. ALERT SYSTEMS
     - Oil Pressure Test
   - F. SHIFT LEVER
   - G. ASSIST TILT LOAD
   - H. THE ASSIST TILT DOES NOT HOLD
   - I. POWER TRIM / TILT ASSEMBLY DOES NOT MOVE
   - J. THE POWER TRIM / TILT ASSEMBLY DOES NOT HOLD
9. CABLE / HARNESS ROUTING
10. TUBE ROUTING
11. LUBRICATION

1. THE IMPORTANCE OF PROPER SERVICING

Proper servicing is essential to the safety of the operator and the reliability of the outboard motor. Any error or oversight made by the technician while servicing can easily result in faulty operation, damage to the outboard motor, or injury to the operator.

⚠ WARNING

- **Improper servicing can cause an unsafe condition that can lead to serious injury or death.**
- **Follow the procedures and precautions in this shop manual carefully.**

Some of the most important precautions are given below. However, we cannot warn you of every conceivable hazard that can arise in performing maintenance or repairs. Only you can decide whether or not you should perform a given task.

⚠ WARNING

- **Failure to follow maintenance instructions and precautions can cause you to be seriously hurt or killed.**
- **Follow the procedures and precautions in this shop manual carefully.**

2. IMPORTANT SAFETY PRECAUTIONS

Be sure you have a clear understanding of all basic shop safety practices and that you are wearing appropriate clothing and safety equipment. When performing maintenance or repairs, be especially careful of the following:

- **Read the instructions before you begin, and be sure you have the tools and skills required to perform the tasks safely.**

  Be sure the engine is off before you begin any maintenance or repairs. This will reduce the possibility of several 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 cool before you touch it.

- **Injury form moving parts.**
  Do not run the engine unless the instruction tells you to do so. Even then, keep your hands, fingers, and clothing away.

To reduce the possibility of a fire or explosion, be careful when working around gasoline. Use only a nonflammable solvent, not gasoline, to clean parts. Keep all cigarettes, sparks, and flames away from the battery and all fuel-related parts.

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3. SERVICE RULES

1. Use genuine Honda or Honda-recommended parts and lubricants or their equivalents. Parts that do not meet Honda's design specifications may damage the unit.
2. Use the special tools designed for the product.
3. Install new gaskets, O-rings, etc. when assembling.
4. When torquing bolts or nuts, begin with larger-diameter or inner bolts first, and tighten to the specified torque diagonally, unless a particular sequence is specified.
5. Clean parts in cleaning solvent upon disassembly. Lubricate any sliding surfaces before assembly.
6. After assembly, check all parts for proper installation and operation.
7. Many screws used in this machine are self-tapping. Be aware that cross-threading or overtightening these screws will strip the female threads and ruin the hole.
8. Use only metric tools when servicing this unit. Metric bolts, nuts and screws are not interchangeable with nonmetric fasteners. The use of incorrect tools and fasteners will damage the unit.
9. Follow the instructions represented by these symbols when they are used:

OIL : Apply oil S. TOOL : Use special tool GREASE : Apply grease

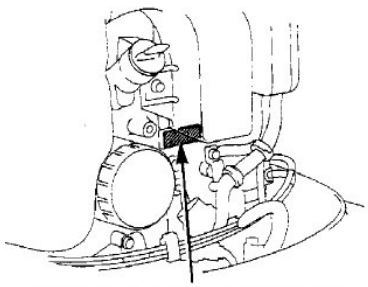
○×○(○) : Indicates the type, length, and number of the flange bolt used.

P. : Indicates the reference page.

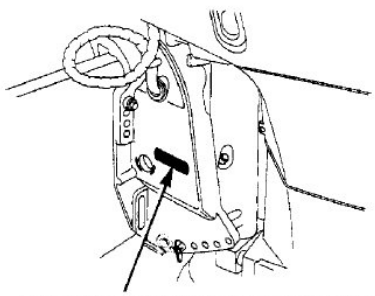
GREASE (Molybdenum disulfide oil) : Use molybdenum oil solution (mixture of the engine oil and molybdenum grease with the ratio 1 : 1).

4. SERIAL NUMBER LOCATION

The engine serial number is stamped on the cylinder block and the product identification number is located on the L. stern bracket. Always specify these numbers when inquiring about the engine or when ordering parts in order to obtain the correct parts for the outboard motor being serviced.



ENGINE SERIAL NUMBER



PRODUCT IDENTIFICATION NUMBER

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