PREFACE

This manual covers the construction, function and servicing procedures of the Honda BF200A and BF225A outboard motors.

Careful observance of these instructions will result in better, safer service work.

Pay attention to these symbols and their meaning:

⚠ WARNING **Indicates a strong possibility of severe personal injury or loss of life if instructions are not followed.**

CAUTION: Indicates a possibility of personal injury or equipment damage if instructions are not followed.

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Abbreviations

Abbreviations	
ACG	Alternator
API	American Petroleum Institute
Approx.	Approximately
Assy.	Assembly
ATDC	After Top Dead Center
ATF	Automatic Transmission Fluid
ATT	Attachment
BARO	Barometric
BAT	Battery
BDC	Bottom Dead Center
BTDC	Before Top Dead Center
CKP	Crankshaft Position
Comp.	Complete
CYL	Cylinder
DTC	Diagnostic Trouble Code
ECT	Engine Coolant Temperature
ECM	Engine Control Module
EX	Exhaust
F	Front or Forward
GND	Ground
GPS	Global Positioning System
HO2S	Heated Oxygen Sensor
IAB	Intake Air Bypass
IAC	Idle Air Control
IAT	Intake Air Temperature
ID or I.D.	Inside Diameter
IG or IGN	Ignition
IN	Intake
INJ	Injection
L.	Left
KS	Knock Sensor
MAP	Manifold Absolute Pressure
MIL	Malfunction Indicator Light
O.D.	Outside Diameter
OP	Optional Part
PGM-FI	Programmed-fuel Injection
P/N	Part Number
Qty	Quantity
R.	Right
SAE	Society of Automotive Engineers
SCS	Service Check Signal
SOL	Solenoid
STD	Standard
SW	Switch
TDC	Top Dead Center
TP	Throttle Position
VTEC	Variable Valve Timing & Valve Lift Electronic Control

Bl	BLACK	G	GREEN	Br	BROWN	Lg	LIGHT GREEN
Y	YELLOW	R	RED	O	ORANGE	P	PINK
Bu	BLUE	W	WHITE	Lb	LIGHT BLUE	Gr	GRAY

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1. SPECIFICATIONS 2. DIMENSIONAL DRAWING

1. SPECIFICATIONS

DIMENSIONS AND WEIGHTS

Item \ Model	BF200A				
Description code	BAEJ	BAEJ	BAFJ	BAEJ	BAFJ
Type	LD	XD	XCD	XXD	XXCD
Overall length	920 mm (36.2 in)				
Overall width	625 mm (24.6 in)				
Overall height	1,670 mm (65.7 in)	1,800 mm (70.8 in)	1,800 mm (70.8 in)	1,925 mm (75.8 in)	1,925 mm (75.8 in)
Dry weight (*1)	270 kg (595 lbs)	275 kg (606 lbs)	278 kg (613 lbs)	280 kg (617 lbs)	283 kg (624 lbs)
Dry weight (*2)	267 kg (589 lbs)	272 kg (600 lbs)	272 kg (600 lbs)	277 kg (611 lbs)	277 kg (611 lbs)
Operating weight (including oil)	279 kg (615 lbs)	284 kg (626 lbs)	287 kg (633 lbs)	289 kg (637 lbs)	292 kg (644 lbs)

*1: With propeller mounted.
*2: Without propeller mounted.

Item \ Model	BF225A				
Description code	BAGJ	BAGJ	BAHJ	BAGJ	BAHJ
Type	LD	XD	XCD	XXD	XXCD
Overall length	920 mm (36.2 in)				
Overall width	625 mm (24.6 in)				
Overall height	1,670 mm (65.7 in)	1,800 mm (70.8 in)	1,800 mm (70.8 in)	1,925 mm (75.8 in)	1,925 mm (75.8 in)
Dry weight (*1)	270 kg (595 lbs)	275 kg (606 lbs)	278 kg (613 lbs)	280 kg (617 lbs)	283 kg (624 lbs)
Dry weight (*2)	267 kg (589 lbs)	272 kg (600 lbs)	272 kg (600 lbs)	277 kg (611 lbs)	277 kg (611 lbs)
Operating weight (including oil)	279 kg (615 lbs)	284 kg (626 lbs)	287 kg (633 lbs)	289 kg (637 lbs)	292 kg (644 lbs)

*1: With propeller mounted.
*2: Without propeller mounted.

FRAME

Item \ Model	BF200A•BF225A				
Type	LD	XD	XCD	XXD	XXCD
Transom height (*1)	508 mm (20.0 in)	635 mm (25.0 in)		762 mm (30.0 in)	
Tilting angle	68°				
Tilting stage	Stageless				
Trim angle (*1)	−4° to 16°				
Swivel angle	30° right and left				

*1: Transom angle is at 12°.

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TYPES OF Honda BF200A/BF225A OUTBOARD MOTORS

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

Model	BF200A•BF225A				
Type	LD	XD	XCD	XXD	XXCD
Shaft Length type	L	XL	XL	XXL	XXL
Counter Rotation			○		○
Remote control	○	○	○	○	○
Power Trim/Tilt	○	○	○	○	○
Tachometer	(○)	(○)	(○)	(○)	(○)
Trimmeter	(○)	(○)	(○)	(○)	(○)

XL: Extra long, XXL: Extra-extra long
(_): Optional part

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

ENGINE

Item \ Model	BF200A	BF225A
Description code	BEAEJ-SE	BEAGJ-SE
Type	4-stroke, O.H.C., 6-cylinder	
Displacement	3,471 cm³ (211.7 cu in)	
Bore x stroke	89 x 93 mm (3.5 x 3.7 in)	
Rated power *1	147.1 kW (200HP)	165.5 kW (225HP)
Maximum torque	295 N•m (30.1 kgf•m, 217.7 lbf•ft)	
Compression ratio	9.4 : 1	
Fuel consumption ratio	334 g/kW•h (246 g/PS•h)	
Cooling system	Forced water circulation by impeller pump with thermostat	
Ignition system	Full transistorized, battery ignition	
Ignition timing	10° at 650 rpm B.T.D.C.	
Spark plug	IZFR6F11 (NGK), VKJ20RZ-M11 (DENSO)	
Fuel supply system	Programmed fuel injection	
Fuel injection system	Electronic control	
Fuel injection nozzle	Pintle type	
Fuel	Unleaded gasoline with a pump octane rating of 86 or higher	
Fuel pump	Electric and mechanical plunger type	
Lubrication system	Pressure lubrication by trochoid pump	
Lubrication capacity	8.8 ℓ (9.3 US qt, 7.7 Imp qt)	
Starter system	Electric starter	
Stopping system	Primary circuit ground	
Exhaust system	Underwater type	

*1: Full throttle range.

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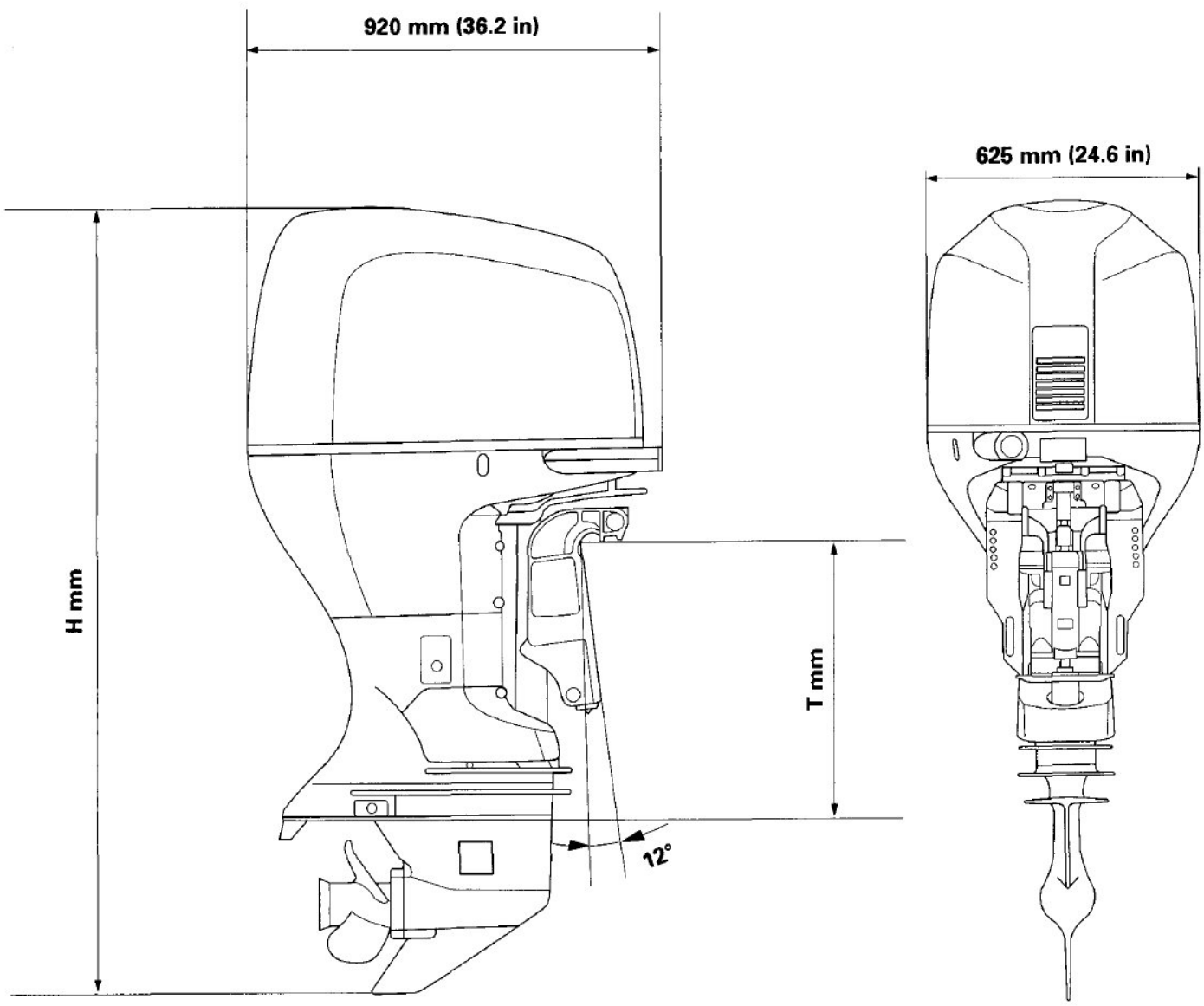
LOWER UNIT

Clutch	Dog clutch (Forward – Neutral – Reverse)
Gear ratio	0.536 (15/28)
Reduction	Spiral bevel
Gear case oil capacity	1.17 ℓ (1.24 US qt, 1.03 Imp qt)
Propeller rotating direction	Clockwise (viewed from rear): LD, XD and XXD types Counterclockwise (viewed from rear): XCD and XXCD types

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2. DIMENSIONAL DRAWING

Transom	H	T
LD type	1,670 mm (65.7 in)	508 mm (20.0 in)
XD type	1,800 mm (70.8 in)	635 mm (25.0 in)
XXD type	1,925 mm (75.8 in)	762 mm (30.0 in)



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1. SYMBOLS USED IN THIS MANUAL
2. SERIAL NUMBER LOCATION
3. MAINTENANCE STANDARDS
4. TORQUE VALUES
5. SPECIAL TOOLS
6. TROUBLESHOOTING
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Cylinder compression test
b. ENGINE DOES NOT RUN SMOOTHLY
c. IGNITION (POWER) SYSTEM
Fuse load list
d. STARTER MOTOR
e. IGNITION SYSTEM
Spark test
- FRAME
a. SHIFT
b. POWER TRIM/TILT ASSEMBLY DOES NOT MOVE
c. THE POWER TRIM/TILT ASSEMBLY DOES NOT HOLD
7. CABLE/HARNESS ROUTING
8. TUBE ROUTING
9. LUBRICATION

1. SYMBOLS USED IN THIS MANUAL

As you read this manual, you may find the following symbols with the instructions.

S. TOOL — A special tool is required to perform the procedure.

GREASE — Apply grease

GREASE

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

OIL — Apply oil

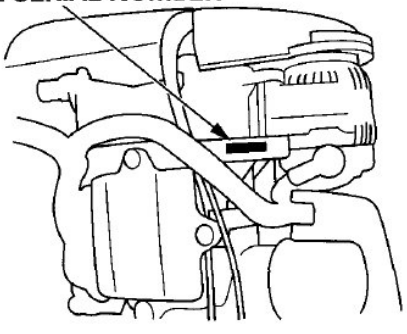
○ x ○ (○) Indicates the diameter, length, and quantity of metric flange bolts used.

P. Indicates the reference page.

2. SERIAL NUMBER LOCATION

The engine serial number is stamped on the alternator bracket and the product identification number is located on the right 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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3. MAINTENANCE STANDARDS

• ENGINE

Unit: mm (in)

Part	Item		Standard	Service limit
Engine	Idle speed (in neutral)		650 ± 50 rpm	———
	Trolling speed		650 ± 50 rpm	———
	Cylinder compression		1,373 – 1,569 kPa (14 – 16 kgf/cm², 199 – 228 psi) at 300 rpm	———
Ignition timing	At idle*1		10 ± 2°BTDC at 650 ± 50 rpm	———
Spark plugs	Gap		1.0 – 1.1 (0.039 – 0.043)	———
Valves	Valve clearance	IN	0.20 – 0.24	———
		EX	0.28 – 0.32	———
	Stem O.D.	IN	5.485 – 5.495 (0.2159 – 0.2163)	5.455 (0.2148)
		EX	5.450 – 5.460 (0.2146 – 0.2150)	5.420 (0.2134)
	Guide I.D.	IN/EX	5.515 – 5.530 (0.2171 – 0.2177)	5.55 (0.219)
	Guide extrusion amount	IN	21.20 – 22.20 (0.835 – 0.874)	———
		EX	20.63 – 21.63 (0.812 – 0.852)	———
	Stem-to-guide clearance	IN	0.020 – 0.045 (0.0008 – 0.0018)	0.080 (0.0031)
		EX	0.055 – 0.080 (0.0022 – 0.0031)	0.120 (0.0047)
	Seat width	IN/EX	1.25 – 1.55 (0.049 – 0.061)	2.0 (0.08)
	Seat installation height	IN	46.75 – 47.55 (1.841 – 1.872)	47.80 (1.882)
		EX	46.68 – 47.48 (1.838 – 1.869)	47.73 (1.879)
	Spring free length	IN	50.07 (1.971)	———
		EX	53.48 (2.106)	———
Rocker arms	Rocker arm I.D.	IN	20.012 – 20.030 (0.7879 – 0.7886)	———
		EX	18.012 – 18.030 (0.7091 – 0.7098)	———
	Rocker arm shaft O.D.	IN	19.972 – 19.993 (0.7863 – 0.7871)	———
		EX	17.976 – 17.994 (0.7077 – 0.7084)	———
	Rocker arm-to-rocker arm shaft clearance	IN	0.026 – 0.067 (0.0010 – 0.0026)	0.067 (0.0026)
		EX	0.026 – 0.077 (0.0010 – 0.0030)	0.077 (0.0030)
Pistons	Skirt O.D.		88.975 – 88.985 (3.5029 – 3.5033)	88.965 (3.5026)
	Piston-to-cylinder clearance		0.015 – 0.040 (0.0006 – 0.0016)	0.080 (0.0031)
	Pin bore I.D.		21.960 – 21.963 (0.8645 – 0.8647)	———
	Pin O.D.		21.961 – 21.965 (0.8646 – 0.8648)	———
	Pin-to-pin bore clearance		–0.005 – + 0.002 (–0.0002 – + 0.0001)	———
	Ring groove width	Top/Second	1.220 – 1.230 (0.0480 – 0.0484)	1.25 (0.049)
		Oil	2.805 – 2.825 (0.1104 – 0.1112)	2.85 (0.112)

*1: With the SCS short connector connected to the service check connector.

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