

PREFACE

This manual covers the construction, function and servicing procedures of the Honda BF2D outboard motor.

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

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**HONDA MOTOR CO., LTD.
SERVICE PUBLICATION OFFICE**

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1. SPECIFICATIONS**3. WIRING DIAGRAM****2. DIMENSIONAL DRAWINGS****1. SPECIFICATIONS****• DIMENSIONS AND WEIGHTS**

Type	S	L	SH	LH	SC	LC	SCH	LCH
Description code	BZBK				BZBF			
Overall length	410 mm (16.1 in)							
Overall width	280 mm (11.0 in)							
Overall height	945 mm (37.2 in)	1,100 mm (43.3 in)	945 mm (37.2 in)	1,100 mm (43.3 in)	945 mm (37.2 in)	1,100 mm (43.3 in)	945 mm (37.2 in)	1,100 mm (43.3 in)
Dry weight	12.1 kg (26.7 lb)	12.7 kg (28.0 lb)	12.4 kg (27.3 lb)	13.0 kg (28.7 lb)	12.4 kg (27.3 lb)	13.0 kg (28.7 lb)	12.7 kg (28.0 lb)	13.3 kg (29.3 lb)
Operating weight	13.1 kg (29.9 lb)	13.7 kg (30.2 lb)	13.4 kg (29.5 lb)	14.0 kg (30.9 lb)	13.4 kg (29.5 lb)	14.0 kg (30.9 lb)	13.7 kg (30.2 lb)	14.3 kg (31.5 lb)
Transom height	418 mm (16.5 in)	571 mm (22.5 in)	418 mm (16.5 in)	571 mm (22.5 in)	418 mm (16.5 in)	571 mm (22.5 in)	418 mm (16.5 in)	571 mm (22.5 in)
Transom angle	4-stage adjustment (5°, -10°, -15°, -20°)							
Tilt angle adjustment	1-stage adjustment							
Tilt-up angle	75°							
Swivel angle	360°							

• ENGINE

Type	Vertical 4-stroke, overhead valve single cylinder	
Displacement	57 cm ³ (3.48 cu in)	
Bore x stroke	45.0 x 36.0 mm (1.77 x 1.42 in)	
Maximum horsepower	1.5 kW (2.0 PS) at 6,000 min ⁻¹ (rpm)	
Maximum torque	2.69 N·m (0.27 kgf·m, 1.95 lbf·ft) at 4,500 min ⁻¹ (rpm)	
Compression ratio	8.0 : 1	
Fuel consumption	420 g/kW·h (309 g/PS·h, 0.68 lb/PS·h)	
Cooling system	Forced air	
Ignition system	Transistorized magneto ignition	
Ignition timing	27° B.T.D.C.	
Spark plug	NGK: CR5HSB, DENSO: U16FSR-UB	
Carburetor	Float type	
Lubrication system	Forced splash	
Oil capacity	0.25 ℓ (0.26 US qt, 0.22 Imp qt)	
Starting system	Recoil starter	
Stopping system	Primary ground	
Fuel used	Automotive unleaded gasoline 91 reach octane, 86 pump octane or higher	
Fuel tank capacity	1.0 ℓ (0.26 US gal, 0.22 Imp gal)	
Clutch	Centrifugal (SC, LC, SCH and LCH type only)	

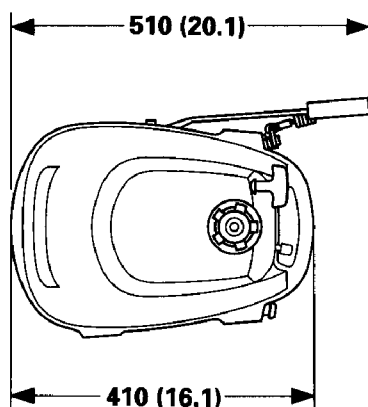
• LOWER UNIT

Type	S, L, SH, LH, SC, LC, SCH, LCH	
Reduction	Spiral bevel gear	
Gear ratio	0.41 (12/29)	
Gear case oil	Hypoid gear oil (SAE #90)	
Gear case oil capacity	0.05 ℓ (0.05 US qt, 0.04 Imp qt)	
Propeller	Type	Aerofoil
	No. of blades x Dia. x Pitch	3 x 184 x 120 mm
	Rotating direction	Clockwise (Viewed from rear)

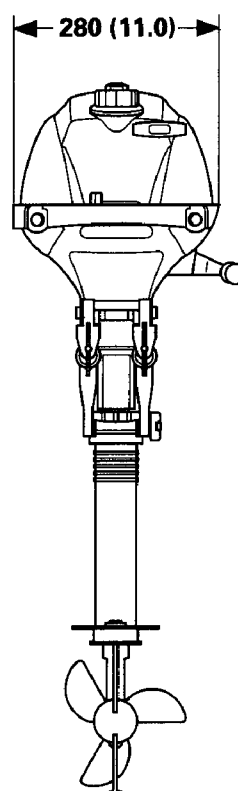
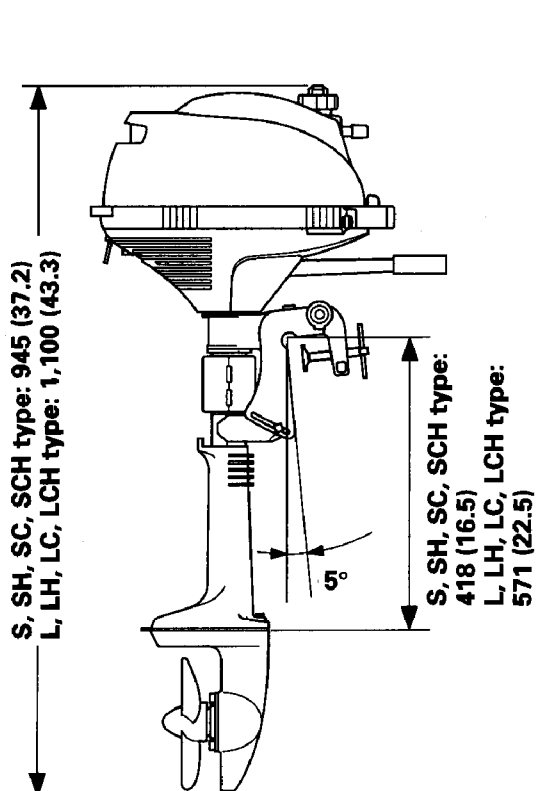
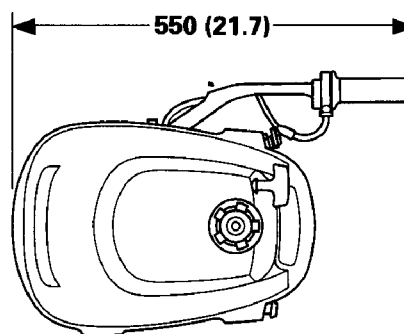
2. DIMENSIONAL DRAWINGS

Unit: mm (in)

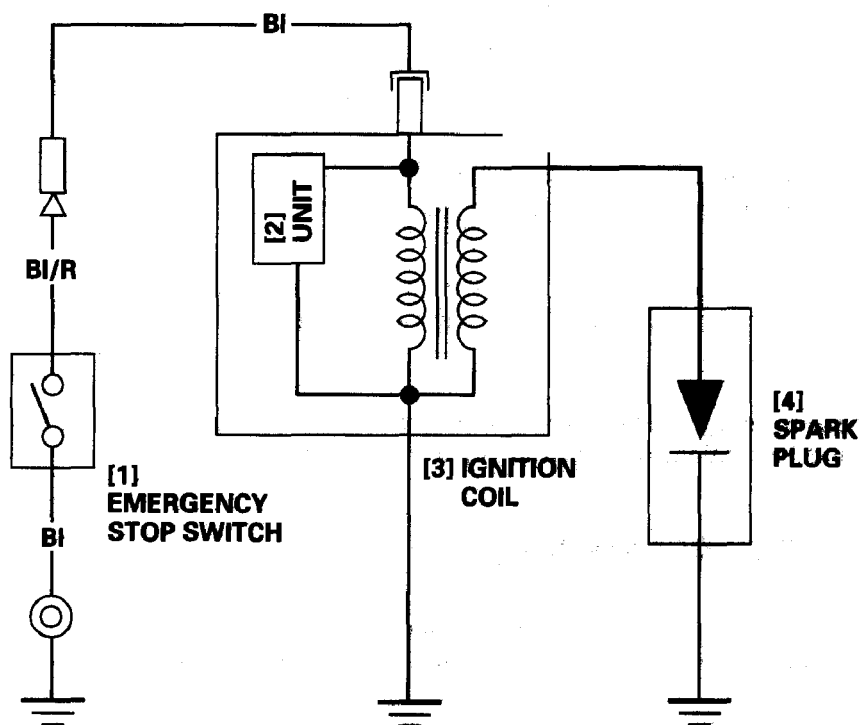
S, L, SC, LC type:



SH, LH, SCH, LCH type:



3. WIRING DIAGRAM



[5]
BI: Black
R: Red

- | | |
|---------------------------------------|----------------------------|
| 1. THE IMPORTANCE OF PROPER SERVICING | 6. TORQUE VALUES |
| 2. IMPORTANT SAFETY PRECAUTIONS | 7. SPECIAL TOOLS |
| 3. SERVICE RULES | 8. TROUBLESHOOTING |
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| 5. MAINTENANCE STANDARDS | |

1. THE IMPORTANCE OF PROPER SERVICING

Proper servicing is essential to the safety of the operator and the reliability of the engine. Any error or oversight made by the technician while servicing can easily result in faulty operation, damage to the engine 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 that the engine is off before you begin any maintenance or repairs. This will reduce the possibility of several hazards:

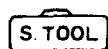
- **Carbon monoxide poisoning from engine exhaust.**
Be sure there is adequate ventilation whenever you run the engine.
- **Burns from hot parts.**
Let the engine cool before you touch it.
- **Injury from moving parts.**
Do not run the engine unless the instruction tells you to do so. Even then, keep your hands, fingers, and clothing away.

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

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 engine.
2. Use the special tools designed for the product.
3. Install new gaskets, O-rings, etc. when reassembling.
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 reassembly.
6. After reassembly, 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 threads and ruin the hole.
8. Use only metric tools when servicing this engine. Metric bolts, nuts and screws are not interchangeable with non-metric fasteners. The use of incorrect tools and fasteners will damage the engine.
9. Be sure that the battery built in a tester is fully charged and check the meter before inspection using the tester.
10. Follow the instructions represented by these symbols when they are used.

 **GREASE** : Apply recommended grease.

 **S. TOOL** : Use special tool.

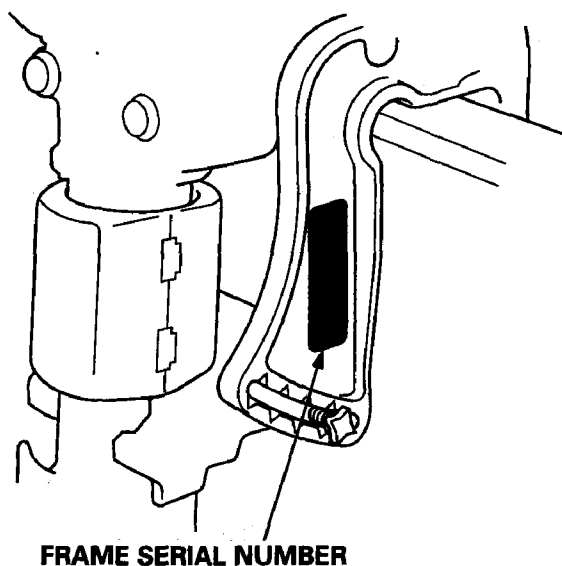
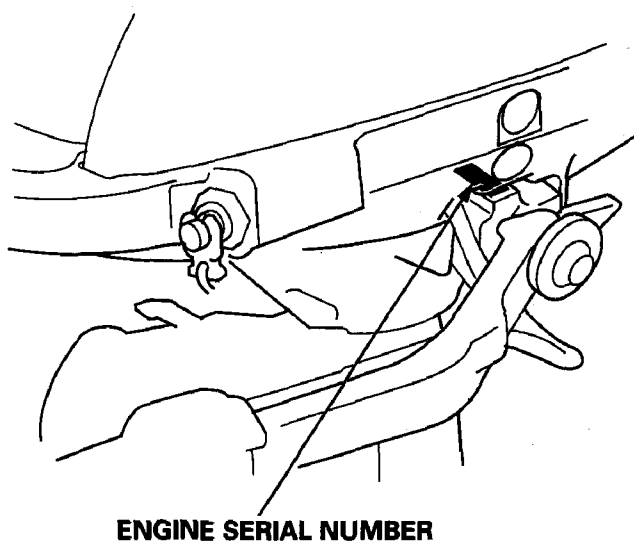
 **OIL** : Apply oil.

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

P. ○-○ : Indicates the reference page.

4. SERIAL NUMBER LOCATION

The engine serial number is stamped on the clutch housing and frame serial number is located on the stern bracket. Refer to this when ordering parts or making technical inquiries.



5. MAINTENANCE STANDARDS

ENGINE

Part	Item		Standard	Service limit
Engine	Idle speed		2,000 ± 100 min ⁻¹ (rpm)	——
	Full throttle range		5,000 – 6,000 min ⁻¹ (rpm)	——
	Cylinder compression		0.88 MPa (9.0 kgf/cm ² 128 psi)/ 1,000 min ⁻¹ (rpm)	——
Cylinder	Sleeve I.D.		45.000 – 45.015 mm (1.7717 – 1.7722 in)	45.100 mm (1.7756 in)
Piston	Skirt O.D.		44.97 – 44.99 mm (1.770 – 1.771 in)	44.90 mm (1.768 in)
	Piston-to-cylinder clearance		0.010 – 0.045 mm (0.0004 – 0.00187 in)	0.120 mm (0.0047 in)
	Pin bore I.D.		10.002 – 10.008 mm (0.3938 – 0.3940 in)	10.050 mm (0.3957 in)
Piston pin	O.D.		9.994 – 10.000 mm (0.3935 – 0.3937 in)	9.950 mm (0.3917 in)
	Pin-to-piston clearance		0.002 – 0.014 mm (0.0001 – 0.0006 in)	0.100 mm (0.0039 in)
Piston ring	Ring width	Top/second	0.97 – 0.99 mm (0.038 – 0.039 in)	0.920 mm (0.0362 in)
	Ring side clearance	Top/second	0.015 – 0.050 mm (0.0006 – 0.0020 in)	0.120 mm (0.0047 in)
	Ring end gap	Top	0.100 – 0.250 mm (0.0039 – 0.0098 in)	0.600 mm (0.0236 in)
		Second	0.250 – 0.400 mm (0.0098 – 0.0157 in)	0.600 mm (0.0236 in)
Connecting rod	Small end I.D.		10.006 – 10.017 mm (0.3939 – 0.3944 in)	10.050 mm (0.3957 in)
	Big end I.D.		15.000 – 15.011 mm (0.5906 – 0.5910 in)	15.040 mm (0.5921 in)
	Big end oil clearance		0.016 – 0.038 mm (0.0006 – 0.0015 in)	0.100 mm (0.0039 in)
	Big end side clearance		0.1 – 0.6 mm (0.004 – 0.024 in)	0.8 mm (0.031 in)
Crankshaft	Crank pin O.D.		14.973 – 14.984 mm (0.5895 – 0.5899 in)	14.940 mm (0.5882 in)
Valves	Valve clearance	IN	0.08 ± 0.02 mm (0.0031 ± 0.0008 in)	——
		EX	0.11 ± 0.02 mm (0.0043 ± 0.0008 in)	——
	Stem O.D.	IN	3.970 – 3.985 mm (0.1563 – 0.1569 in)	3.900 mm (0.1535 in)
		EX	3.935 – 3.950 mm (0.1549 – 0.1555 in)	3.880 mm (0.1528 in)
	Guide I.D.	IN/EX	4.000 – 4.018 mm (0.1575 – 0.1582 in)	4.060 mm (0.1598 in)
	Stem-to-guide clearance	IN	0.015 – 0.048 mm (0.0006 – 0.0019 in)	0.098 mm (0.0039 in)
		EX	0.050 – 0.083 mm (0.0020 – 0.0033 in)	0.120 mm (0.0047 in)
Valve spring	Free length	IN/EX	23.7 mm (0.93 in)	22.8 mm (0.90 in)
Camshaft	Cam height		27.972 mm (1.1013 in)	27.672 mm (1.0894 in)
	I.D. (Bearing)		5.020 – 5.050 mm (0.1976 – 0.1988 in)	5.100 mm (0.2008 in)
Camshaft roller	O.D.		4.990 – 5.000 mm (0.1965 – 0.1969 in)	4.950 mm (0.1949 in)
Valve lifter	I.D. (Bearing)		5.005 – 5.025 mm (0.1970 – 0.1978 in)	5.050 mm (0.1988 in)
Valve lifter roller	O.D.		4.990 – 5.000 mm (0.1965 – 0.1969 in)	4.950 mm (0.1949 in)
Crankcase cover	Camshaft	Bearing I.D.	5.005 – 5.023 mm (0.1970 – 0.1978 in)	5.050 mm (0.1988 in)
	Valve lifter roller	Bearing I.D.	5.005 – 5.023 mm (0.1970 – 0.1978 in)	5.050 mm (0.1988 in)
Cylinder block	Camshaft roller	Bearing I.D.	5.005 – 5.023 mm (0.1970 – 0.1978 in)	5.050 mm (0.1988 in)
	Valve lifter roller	Bearing I.D.	5.005 – 5.023 mm (0.1970 – 0.1978 in)	5.050 mm (0.1988 in)
	Rocker arm roller	Bearing I.D.	4.000 – 4.018 mm (0.1575 – 0.1582 in)	4.050 mm (0.1594 in)
Rocker arm	I.D. (Bearing)		4.005 – 4.025 mm (0.1577 – 0.1585 in)	4.050 mm (0.1594 in)
Rocker arm roller	O.D.		3.990 – 4.000 mm (0.1571 – 0.1575 in)	3.950 mm (0.1555 in)
Clutch	Lining thickness		2.0 mm (0.08 in)	1.0 mm (0.04 in)
Clutch outer	I.D.		78.00 – 78.25 mm (3.071 – 3.081 in)	78.5 mm (30.09 in)

Part	Item	Standard	Service limit
Spark plug	Gap	0.6 – 0.7 mm (0.024 – 0.028 in)	——
Ignition coil	Resistance Primary side	0.98 – 1.20 Ω	——
	Secondary side	11 – 15 k Ω	——
	Air gap	0.3 – 0.5 mm (0.012 – 0.020 in)	——
Carburetor	Main jet	#65	——
	Float height	12 mm (0.47 in)	——
	Pilot screw opening	Except SCG, LCG, SCHG, LCHG type: 2 turns out SCG, LCG, SCHG, LCHG type: 2-1/4 turns out	—— ——

• LOWER UNIT

Part	Item	Standard	Service limit
Propeller shaft	Holder O.D.	10.973 – 10.984 mm (0.4320 – 0.4324 in)	10.930 mm (0.4303 in)
Propeller shaft holder	Shaft bore I.D.	11.000 – 11.018 mm (0.4331 – 0.4338 in)	11.060 mm (0.4354 in)
	Holder-to-shaft clearance	0.016 – 0.045 mm (0.0006 – 0.0018 in)	——
Vertical shaft	Gear case O.D.	10.97 – 10.99 mm (0.432 – 0.433 in)	10.93 mm (0.430 in)
	Vertical bushing O.D.	10.97 – 10.99 mm (0.432 – 0.433 in)	10.93 mm (0.430 in)
Gear case	Vertical shaft bore I.D.	11.000 – 11.018 mm (0.4331 – 0.4338 in)	11.060 mm (0.4354 in)
	Gear case-to-vertical shaft clearance	0.010 – 0.048 mm (0.0004 – 0.0019 in)	——
Vertical shaft bushing	Vertical shaft bore I.D.	11.15 – 11.20 mm (0.439 – 0.441 in)	11.70 mm (0.461 in)
	Bushing-to-vertical shaft clearance	0.16 – 0.23 mm (0.006 – 0.009 in)	——

6. TORQUE VALUES

Item	Thread dia. x pitch type	Tightening torque			Remark
		N·m	kgf·m	lbf·ft	
Spark plug	M10 x 1.0	12	1.2	9	
Crankcase side cover	M5 x 0.8 CT flange bolt	7.5	0.75	5.4	
Crankcase	M5 x 0.8 CT flange bolt	7.5	0.75	5.4	
Connecting rod cap	M5 x 0.8 flange bolt	6.0	0.6	4.3	
Cylinder head cover bolt	M5 x 0.8 CT flange bolt	6.0	0.6	4.3	
Oil drain bolt	M8 x 1.25 screw	6.5	0.65	4.7	
Flywheel	M10 x 1.25 flange nut	27.5	2.75	20	Apply oil to threads and seat.
Fuel tank	M6 x 1.0 cap nut	8	0.8	5.8	
Clutch stay	M8 x 1.25 flange bolt	22.5	2.25	16	
Clutch shoe bolt	M8 x 1.25 special bolt	15.5	1.55	11	
Ignition coil	M5 x 0.8 CT flange bolt	6.0	0.6	4.3	
Stud bolt	M5 x 0.8 CT flange bolt	6.0	0.6	4.3	
Carburetor joint plate	M5 x 0.8 screw	4.5	0.45	3.3	
Carburetor drain bolt	M4 x 0.7 screw	1.5	0.15	1.1	
Emergency stop switch	M16 x 1.0 hex. nut	3.0	0.3	2.2	
Exhaust pipe	M5 x 0.8 flange bolt	6.0	0.6	4.3	
Gear case	M6 x 1.0 hex. bolt	10	1.0	7	
Anode metal	M6 x 1.0 hex. bolt	10	1.0	7	
Propeller shaft holder	M6 x 1.0 hex. bolt	10	1.0	7	
Cavitation plate	M6 x 1.0 hex. bolt	10	1.0	7	
Oil check bolt	M8 x 1.25 special bolt	3.5	0.35	2.5	
Extension case	M6 x 1.0 flange bolt	12	1.2	9	
Extension separator	M6 x 1.0 hex. bolt	10	1.0	7	
Water pipe	M5 x 0.8 hex. bolt	5.3	0.53	3.8	
Swivel case cap	M8 x 1.25 hex. bolt	24	2.4	17	
Stern bracket	M8 x 1.25 hex. bolt/nut	24	2.4	17	
Under case	M6 x 1.0 flange bolt	13	1.3	9	
Grease nipple	M6 x 1.0	3.0	0.3	2.2	
Steering handle	M8 x 1.25 flange bolt	24	2.4	17	
Throttle housing	M5 x 0.8 screw	4.3	0.43	3.1	
Throttle lever	M6 x 1.0 hex. nut	10	1.0	7	
Throttle arm	M6 x 1.0 hex. nut	10	1.0	7	
Cable holder	M6 x 1.0 flange bolt	8	0.8	6	
Throttle cable	M10 x 1.25 hex. nut	4	0.4	2.9	

- Use standard torque values (P. 2-6) for the fasteners that are not listed in this table.
- CT flange bolt indicates a self-tapping bolt.

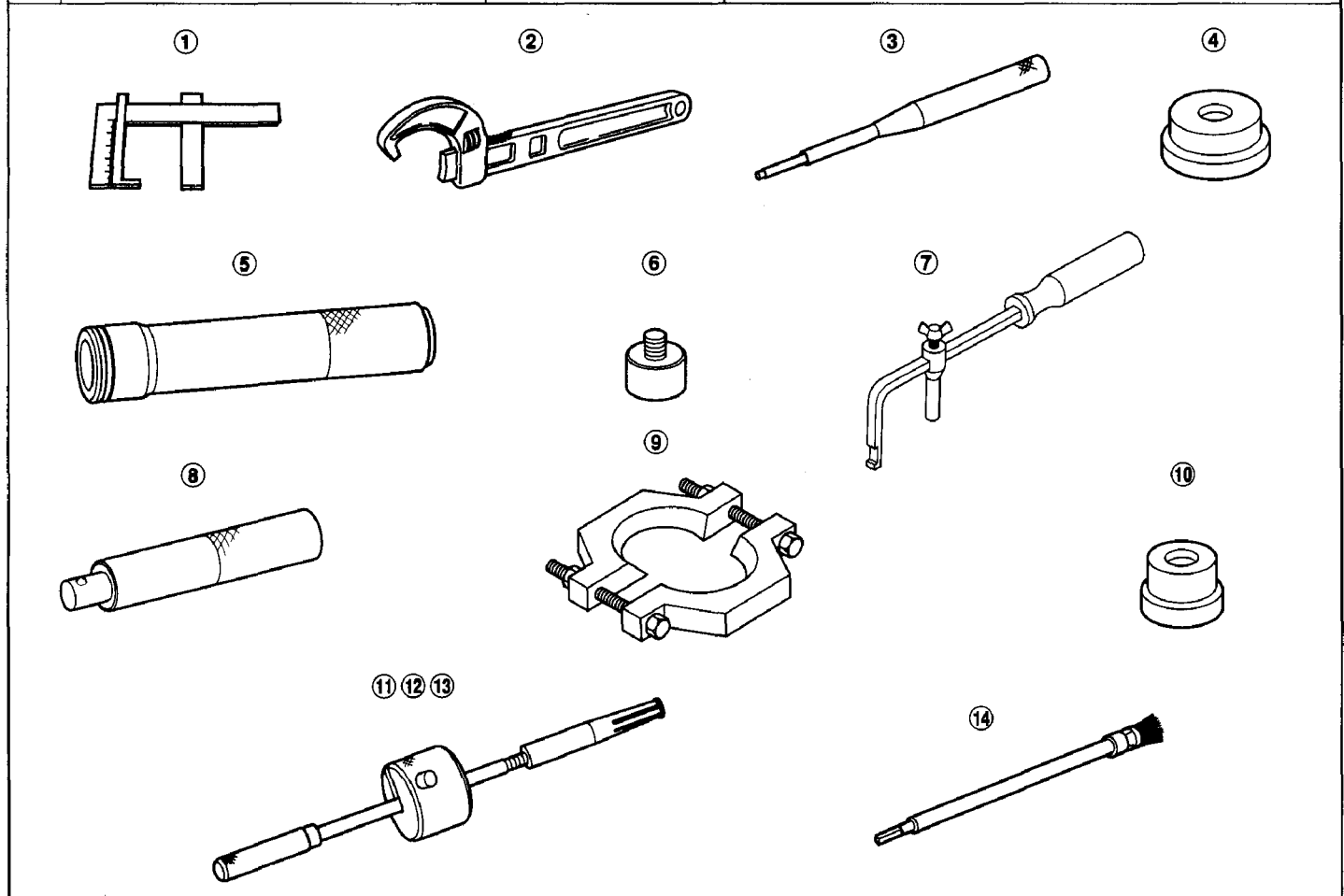
STANDARD TORQUE VALUES

Item	Thread dia.	Tightening torque		
		N·m	kgf·m	lbf·ft
Flange bolt, flange nut	4 mm	3.5	0.35	2.5
	5 mm	5.5	0.55	4.0
	6 mm	10	1.0	7
	8 mm	27	2.7	20
Screw	3 mm	1.0	0.10	0.7
	4 mm	2.1	0.21	1.4
	5 mm	4.3	0.43	3.1
CT flange bolt	5 mm	5.5	0.55	4.0

- CT flange bolt indicates a self-tapping bolt.

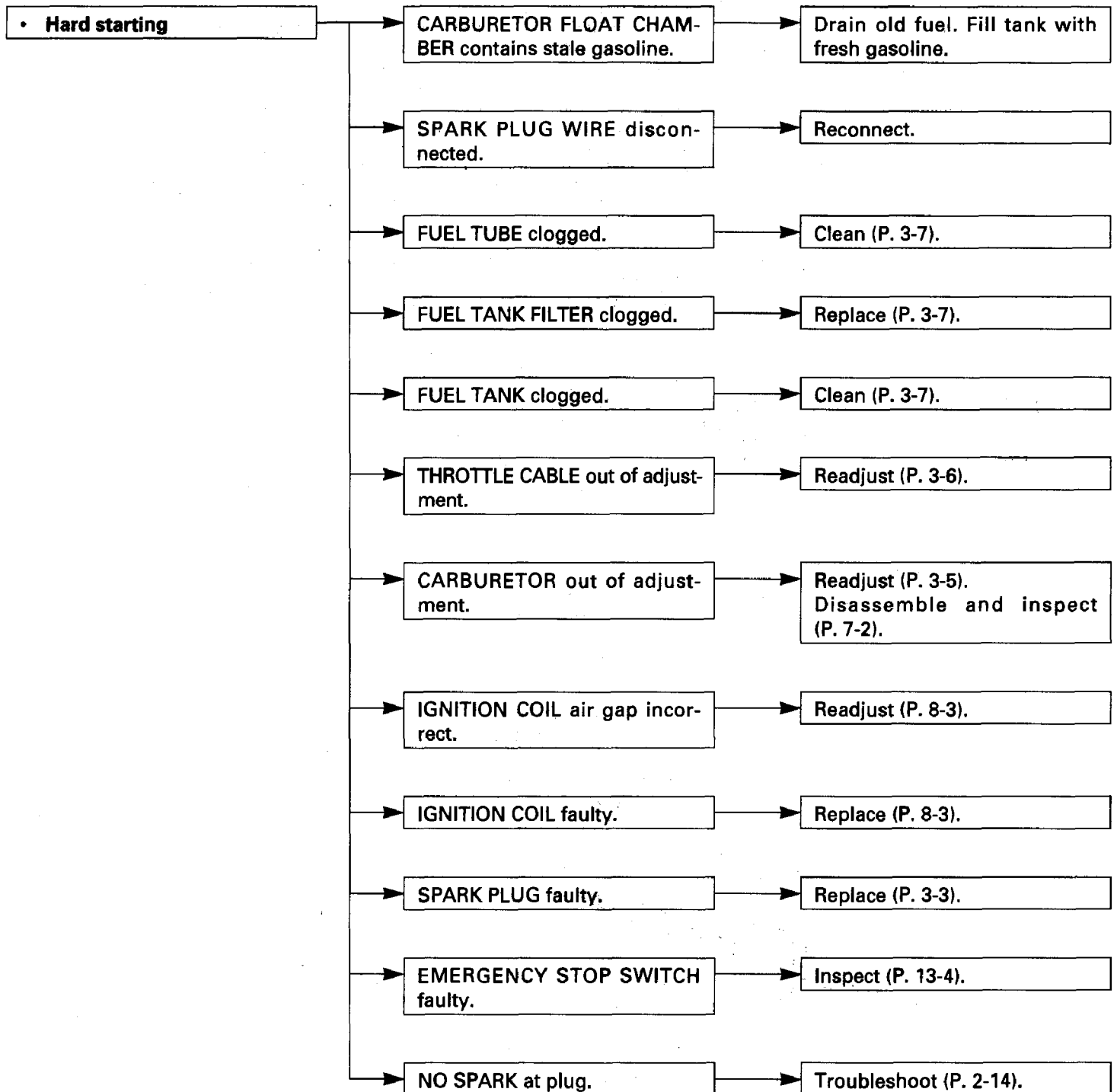
7. SPECIAL TOOLS

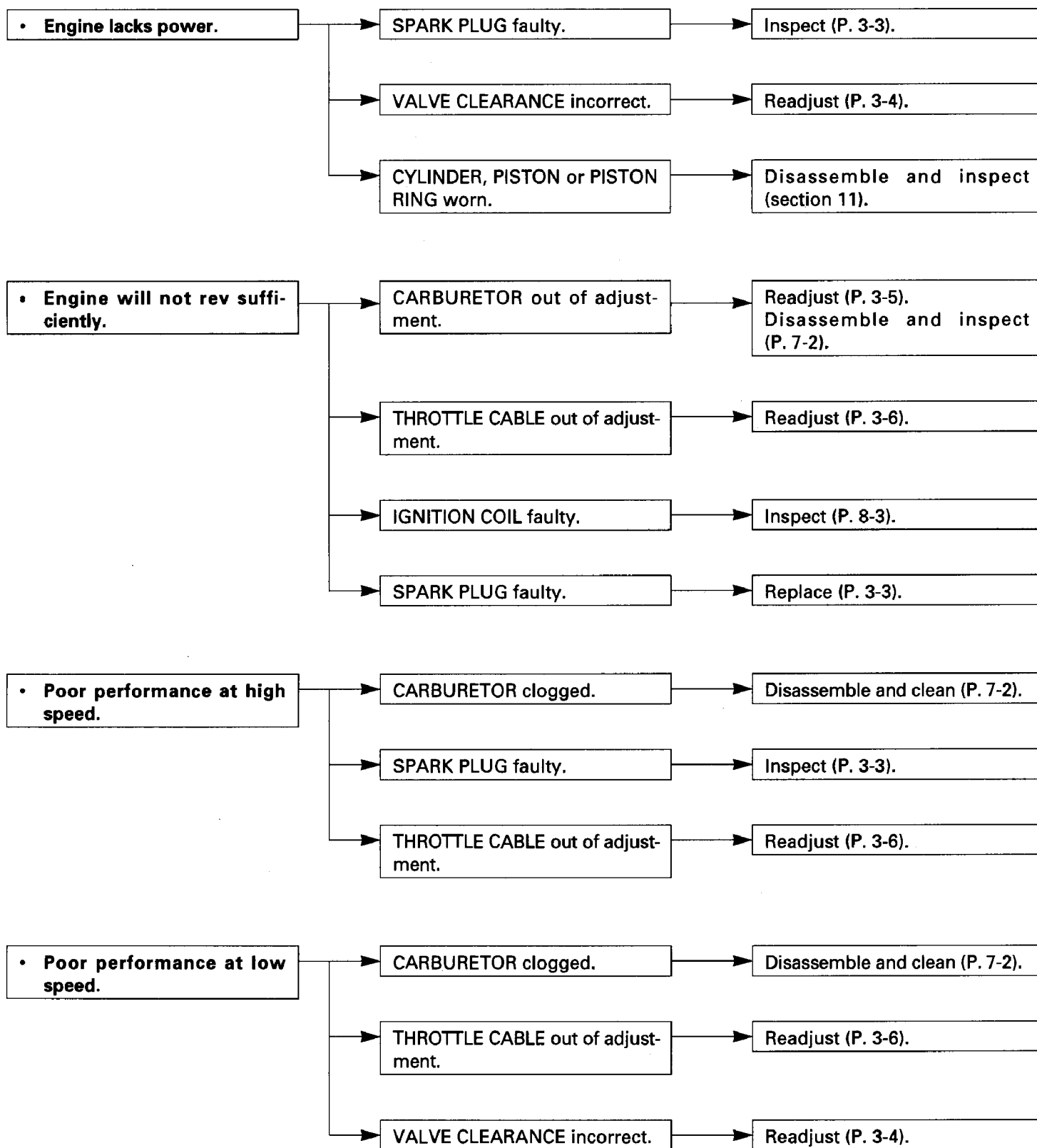
No.	Tool name	Tool number	Application
①	Float level gauge	07401 - 0010000	Carburetor float level inspection
②	Pin spanner	07702 - 0020001	Clutch stay bolt removal/installation
③	Pin driver, 2.5 mm	07744 - 0010100	2.5 mm spring pin removal/installation
④	Outer driver, 24 x 26 mm	07746 - 0010700	Crankshaft oil seal installation
⑤	Inner driver handle	07746 - 0020100	Gear case bearing installation
⑥	Pilot, 17 mm	07746 - 0040400	Clutch outer bearing installation
⑥	Pilot, 10 mm	07746 - 0040100	Crankshaft oil seal installation
⑦	Oil seal remover	07748 - 0010001	Gear case bearing installation
⑧	Driver handle	07749 - 0010000	Water seal removal
⑨	Bearing separator	07631 - 0010000	Used together with the tools ⑥ and ④ or ⑩
⑩	Oil seal driver attachment	07947 - ZV00100	Clutch outer bearing removal
⑪	Bearing remover shaft	07936 - GE00100	Water seal installation
⑫	Bearing remover head, 10 mm	07936 - GE00200	} Gear case bearing removal
⑬	Sliding weight	07741 - 0010201	
⑭	Cleaning brush	07998 - VA20100	Combustion chamber cleaning



8. TROUBLESHOOTING

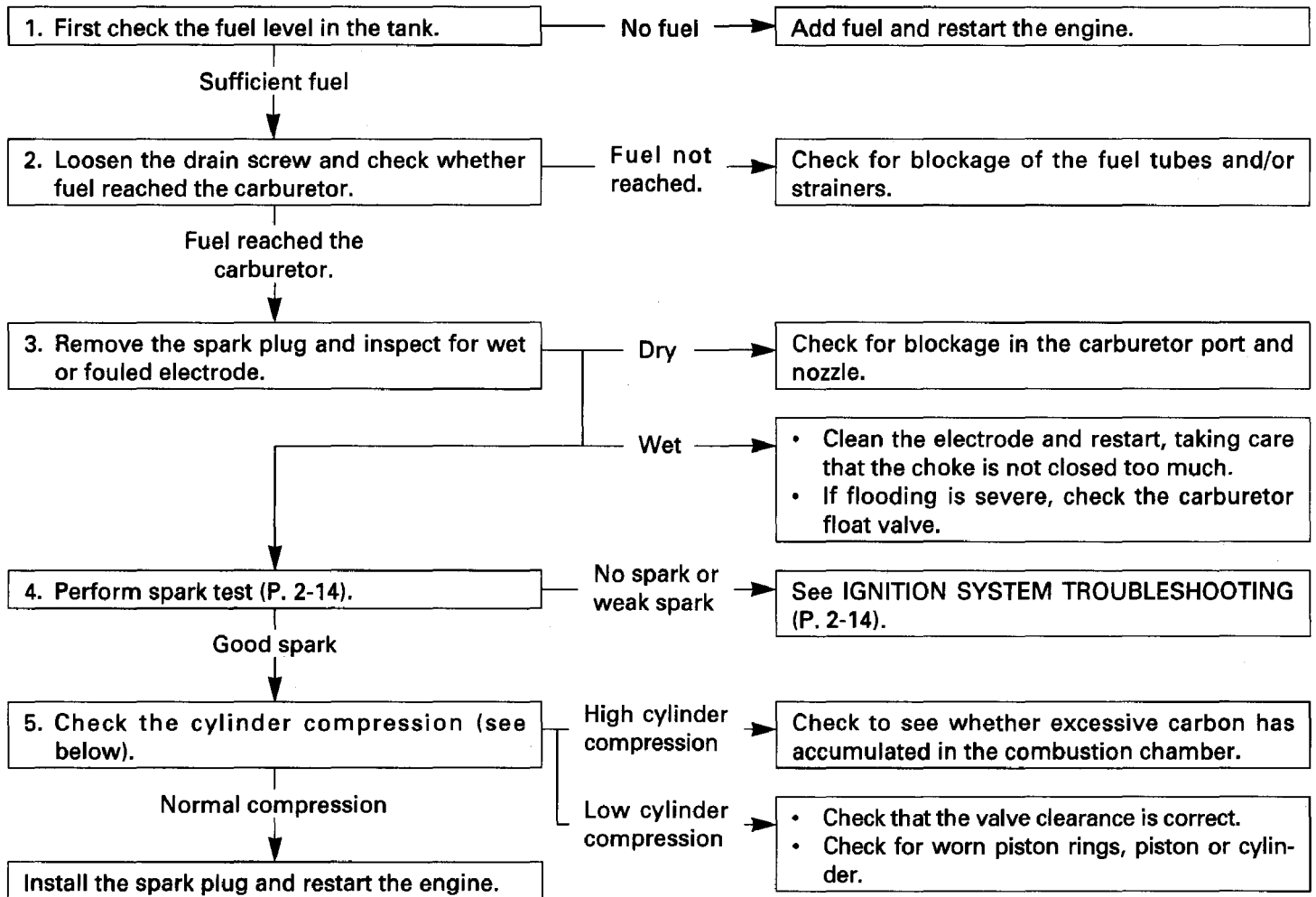
a. GENERAL SYMPTOMS AND POSSIBLE CAUSES





b. ENGINE

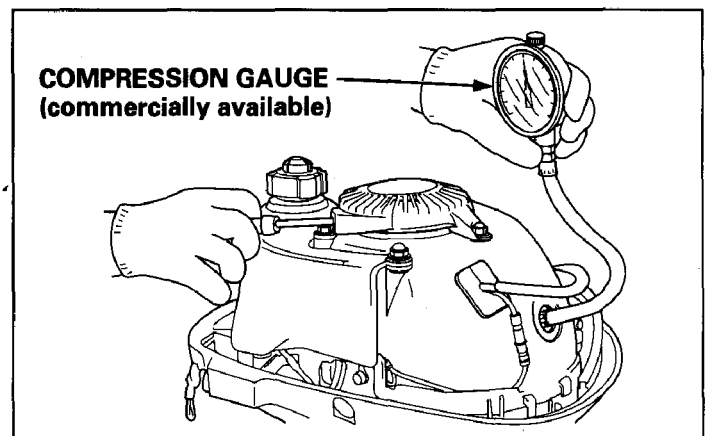
• Hard Starting



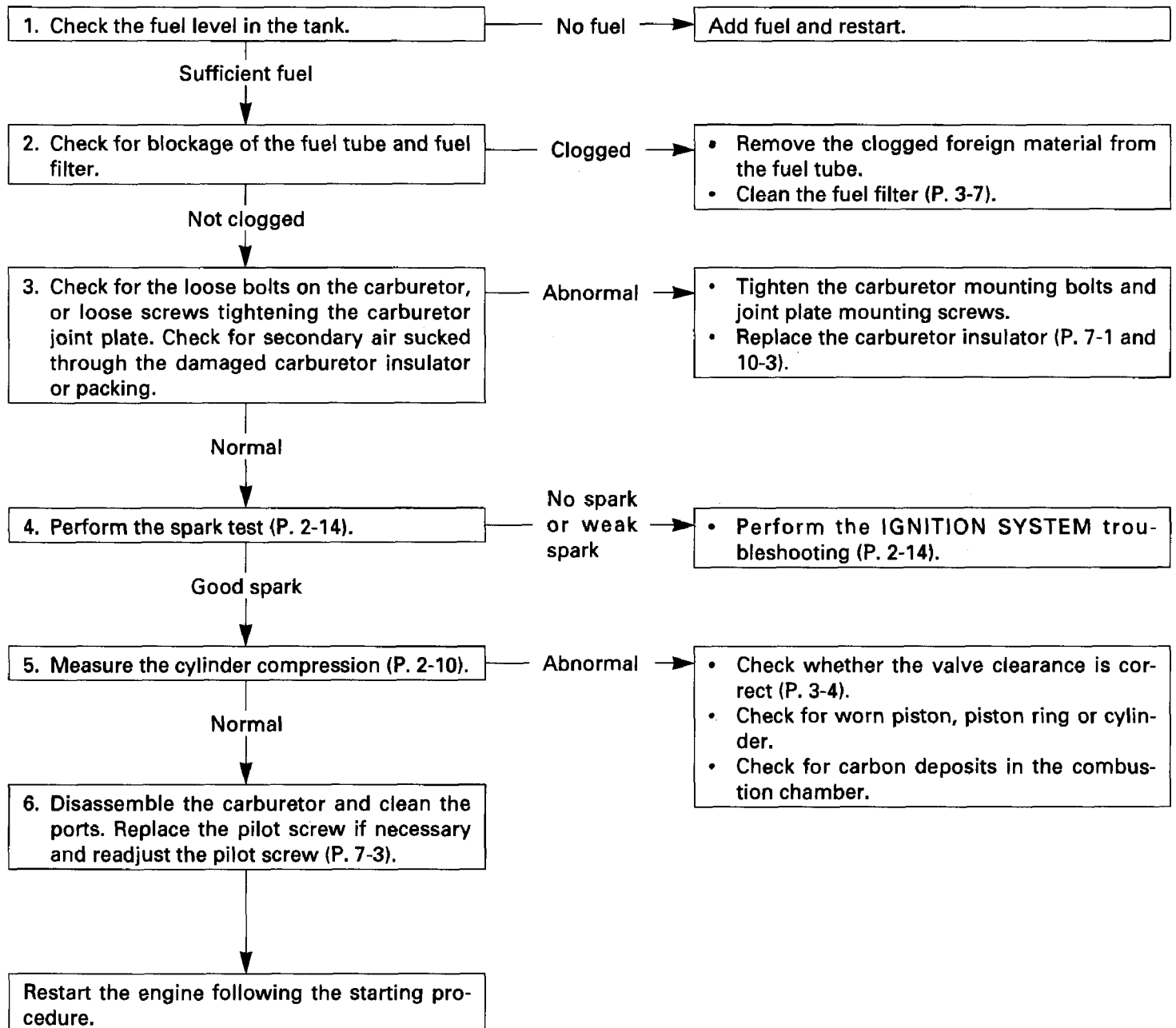
• CYLINDER COMPRESSION CHECK

- 1) Remove the engine cover (P. 4-1).
- 2) Remove the spark plug and install a compression gauge in the spark plug hole.
- 3) Pull the recoil starter several times with force and measure the cylinder compression.

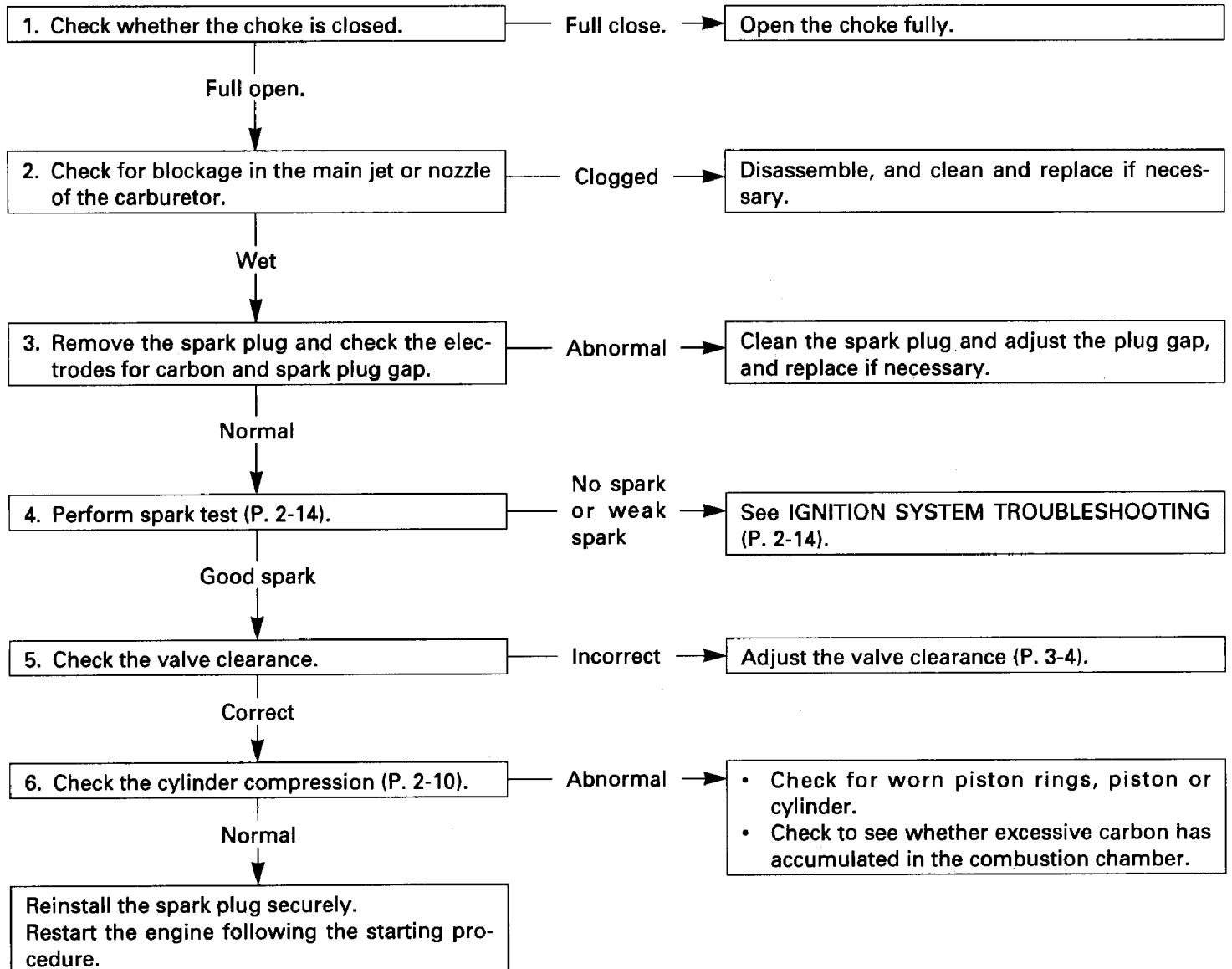
Cylinder compression	0.88 MPa (9.0 kgf/cm ² , 128 psi) at 1,000 rpm
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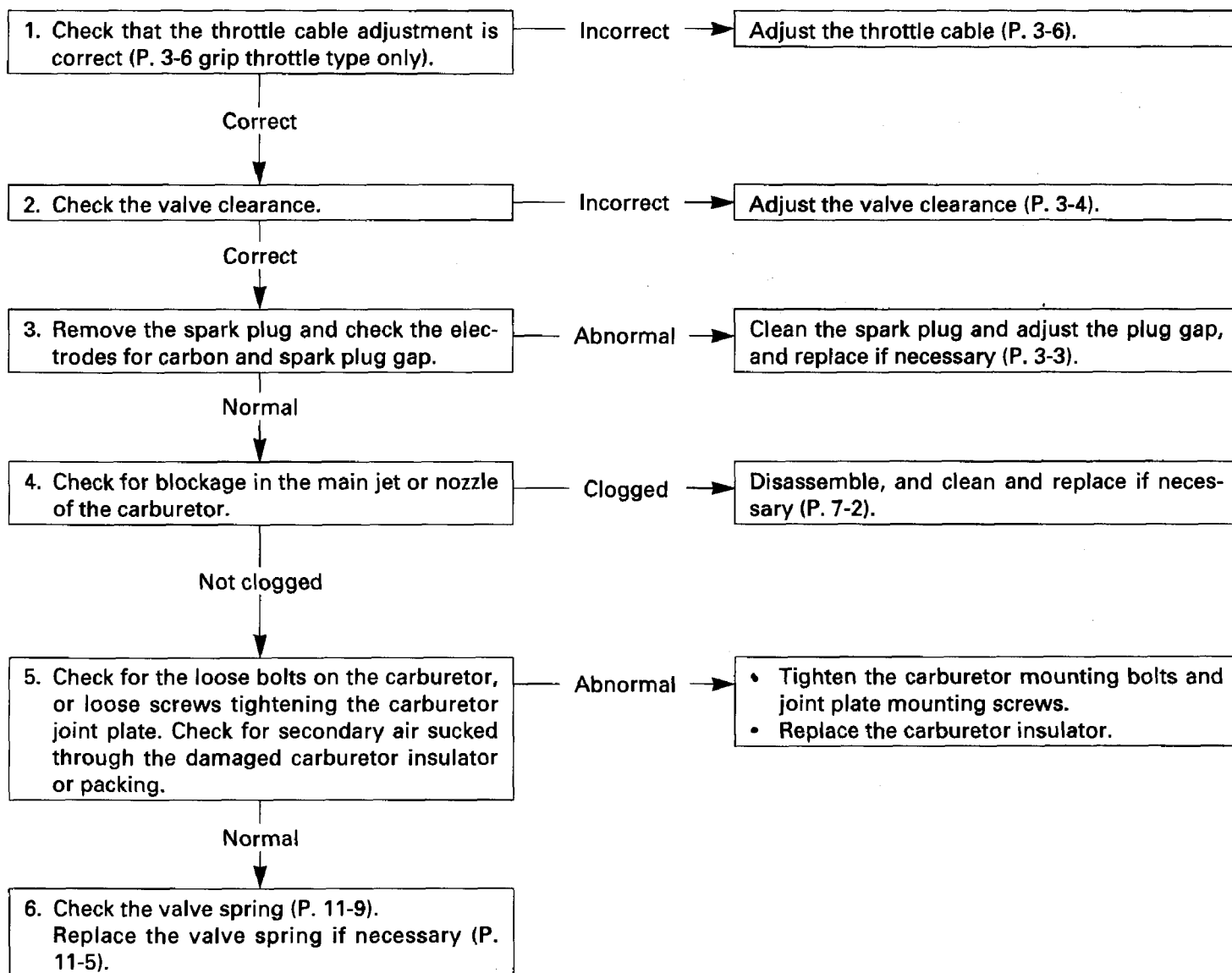
• Engine Starts But Then Stalls



• Engine Lacks Power



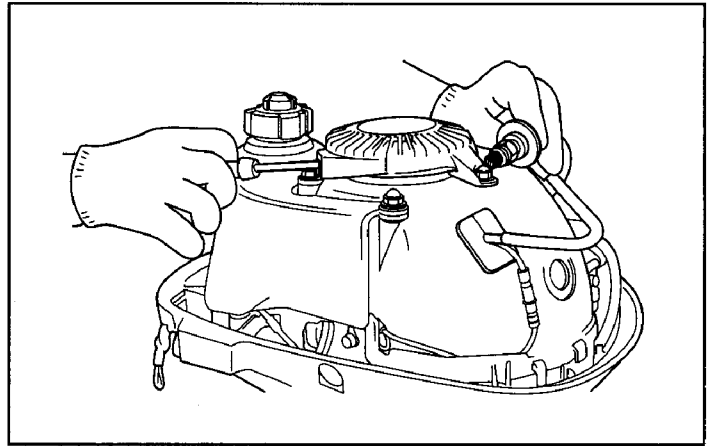
• Engine Speed Does Not Increase



• SPARK TEST

⚠ WARNING

- Do not pull the recoil starter rope while touching the high tension wire. High voltage generates, which is very dangerous. Be sure to ground the spark plug and hold the plug cap to perform the spark test.
- Gasoline is extremely flammable and explosive. If ignited, gasoline can burn you severely. Be sure there is no spilled fuel near the engine.
- Unburnt gas can ignite if it is left in the cylinder. Be sure to drain the carburetor thoroughly before spark test, and release the unburnt gas from the cylinder by pulling the recoil starter several times.



- 1) Remove the engine cover (P. 4-1) and remove the spark plug cap. Clean any dirt from around the spark plug base, then remove the spark plug.
- 2) Loosen the carburetor drain screw to drain the carburetor thoroughly. Pull the recoil starter several times to release the unburnt gas from the cylinder.
- 3) Install the spark plug in the plug cap.
- 4) Make sure that the emergency stop switch clip is engaged with the emergency stop switch.
- 5) Ground the side electrode against the recoil starter mounting cap nut as shown, pull the recoil starter and check to see if sparks jump across the electrodes.

c. IGNITION SYSTEM

1. Measure the spark plug gap and perform the spark test.

Plug gap:
0.6 – 0.7 mm (0.024 – 0.028 in)

No spark

2. Check again after replacing with a new spark plug.

Sparks

Faulty spark plug.
• Replace the spark plug.

No spark

3. Check the insulation of the high tension wire for damage causing current leakage.

Damaged insulation

Replace the ignition coil (P. 8-1).

No spark

4. Disconnect the black wire from the emergency stop switch and retest.

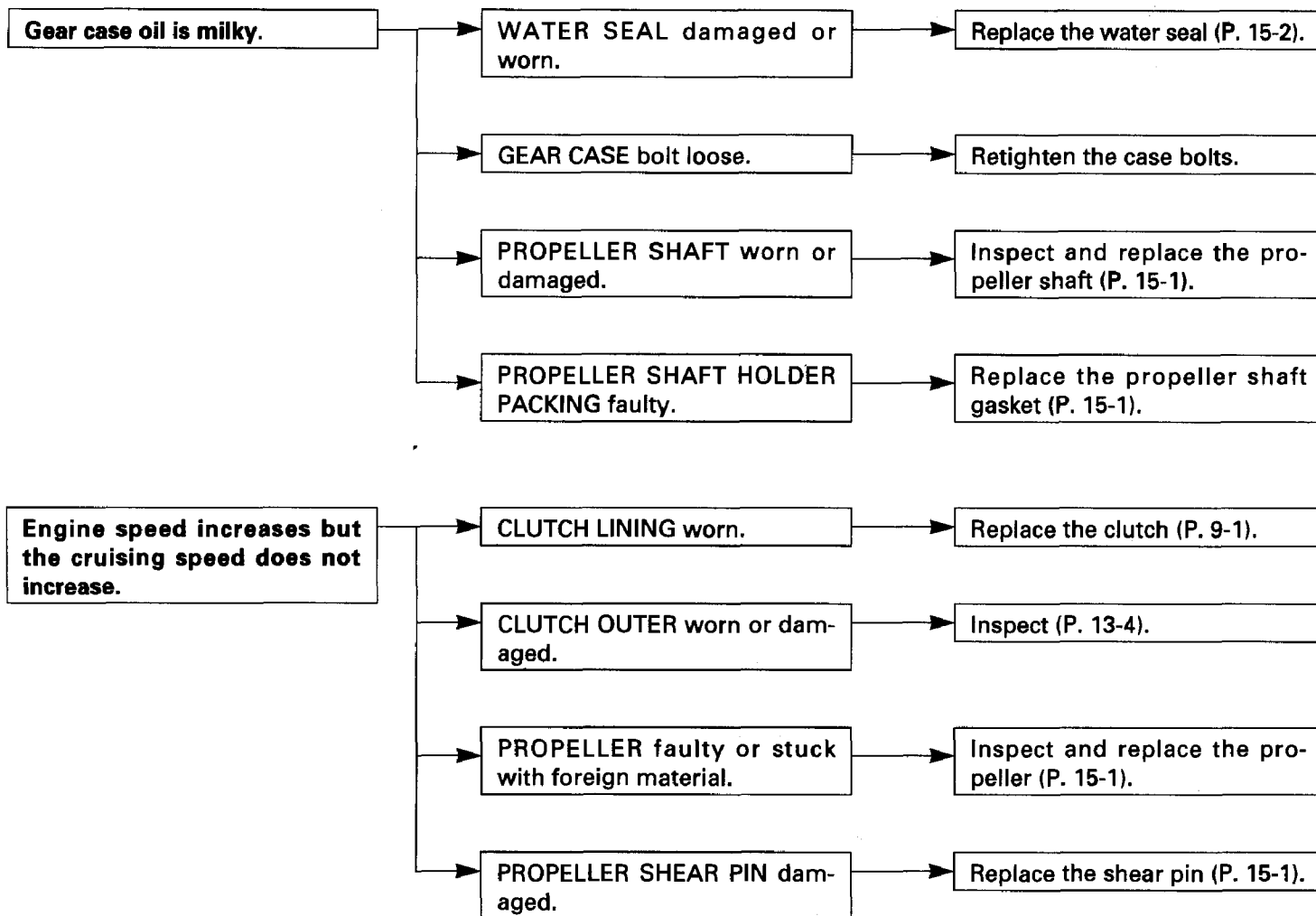
Sparks

Faulty emergency stop switch.
• Replace the emergency stop switch (P. 13-2).

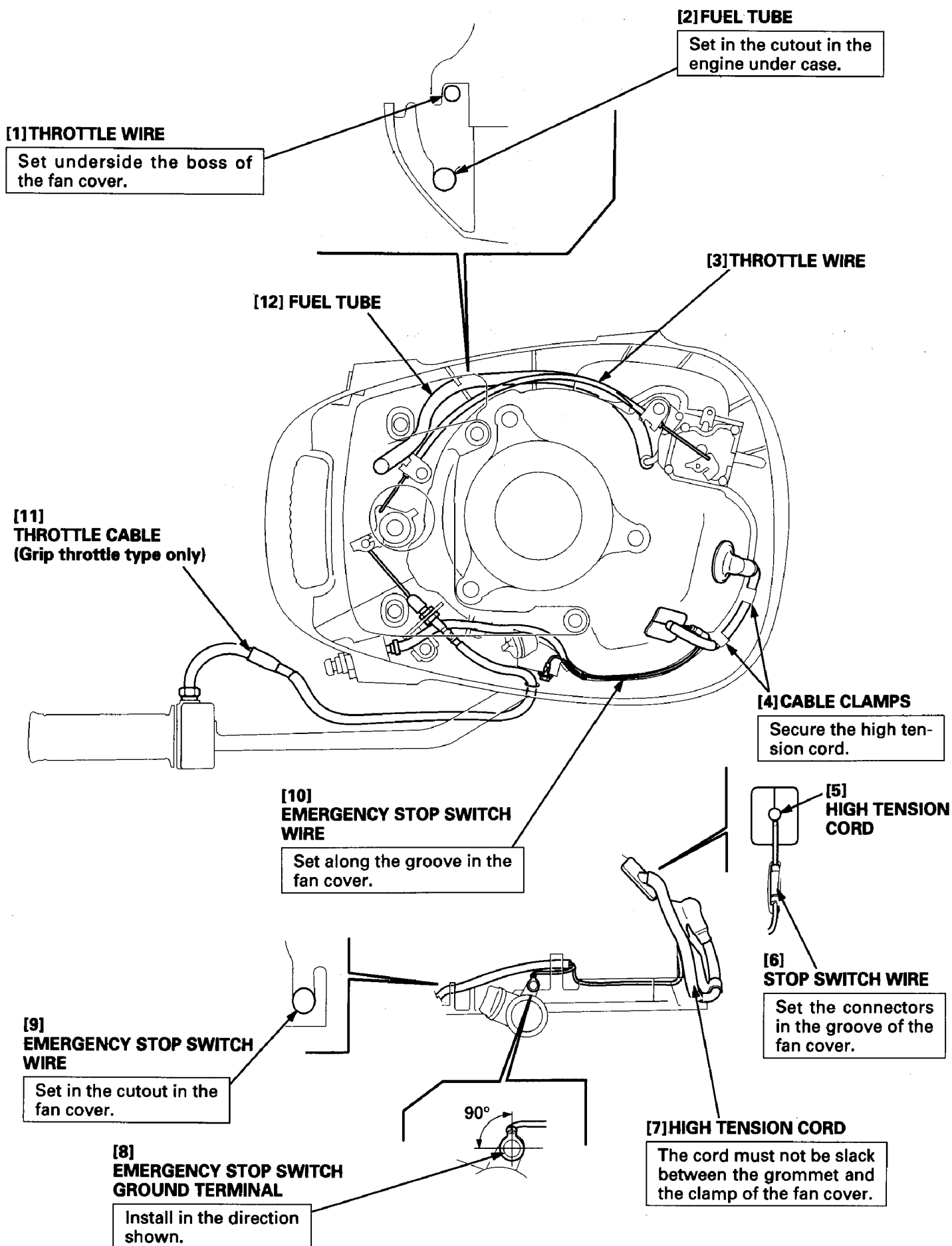
No spark

Faulty ignition coil.
• Replace the ignition coil.

d. LOWER UNIT



9. CABLE & HARNESS ROUTING



3. MAINTENANCE

HONDA
BF2D

1. MAINTENANCE SCHEDULE
2. ENGINE OIL
3. GEAR CASE OIL
4. SPARK PLUG
5. VALVE CLEARANCE

6. CARBURETOR
7. THROTTLE CABLE (SH, SCH, LH, LCH type)
8. FUEL FILTER/FUEL TANK/FUEL LINE
9. LUBRICATION POINTS

1. MAINTENANCE SCHEDULE

REGULAR SERVICE PERIOD (2)		ITEM	Perform at every indicated month or operating hour intervals, whichever comes first.	Each use	First month or 10 Hrs.	Every 6 months or 50 Hrs.	Every year or 150 Hrs.	Ref. page
Engine oil	Check level	○						3-2
	Change		○	○				
Gear case oil	Check level			○			3-3	
	Change		○		○			
Starter rope	Check			○			5-2	
Idle speed	Check-Adjust			○			3-6	
Valve clearance	Check-Adjust					○	3-4	
Clutch shoe and drum (SC, LC, SCH, LCH type)	Check					○	9-2 13-4	
Spark plug	Clean-Adjust (Replace if necessary)			○	○		3-3	
Propeller and cotter pin	Check	○					15-1	
Anode metal	Check	○					14-2	
Lubrication	Grease		○ (1)	○ (1)			3-8	
Fuel tank and filter	Clean (Replace if necessary)			○			3-7	
Fuel line	Check (Replace if necessary)	Every 2 years						3-7
All bolts and nuts	Check tightness		○		○		—	
Swivel case liner and bushing	Replace	Every 3 years						14-1, 3
Water seal	Replace	Every 3 years						15-1

NOTE:

- (1) Lubricate more frequently when used in salt water.
- (2) For professional commercial use, log hours of operation to determine proper maintenance interval.

2. ENGINE OIL

Oil Level Check:

- 1) Hold the outboard motor vertical.
- 2) Check the oil level through the inspection window.
- 3) If the oil level is low, remove the oil filler cap and add the engine oil to the upper level.
Change the engine oil if it is stale or contaminated with the foreign material.

Recommended oil	SAE 10W-30 API Service Classification SF or SG
-----------------	---

Engine oil is a major factor affecting performance and service life. Use 4-stroke automotive detergent oil.

Use Honda 4-stroke, or an equivalent high detergent, premium quality motor oil certified to meet or exceed U.S. automobile manufacture's requirements for service classification SG or SF. Motor oils certified SG or SF will show this designation on the container.

Oil Change:

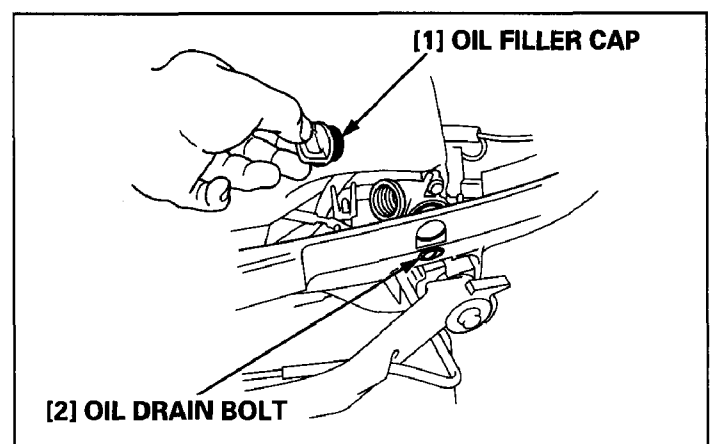
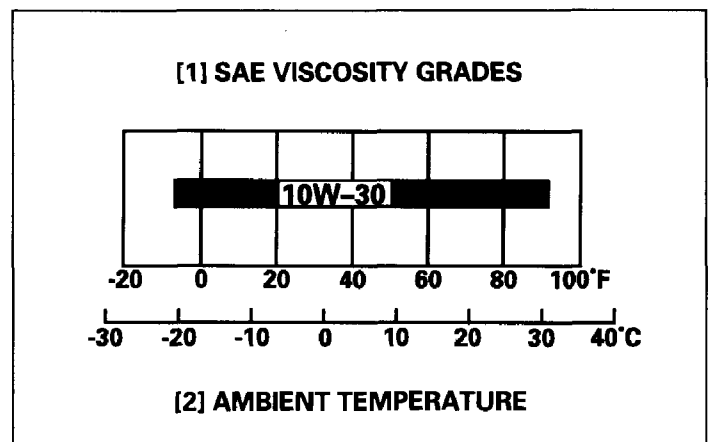
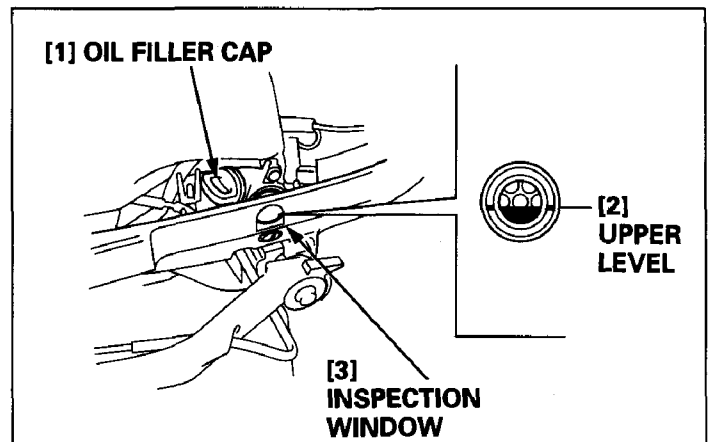
Drain the used oil while the engine is warm. Warm oil drains quickly and completely.

- 1) Be sure that the fuel valve and fuel tank cap are tightened securely.
- 2) Remove the oil filler cap and oil drain bolt. Tilt the motor toward the steering handle side and drain the engine oil into a suitable container.

Please dispose of the used motor oil in a manner that is compatible with the environment. We suggest you take used oil in a sealed container to your local recycling center or service station for reclamation. Do not throw it in the trash, pour it on the ground, or down a drain.

CAUTION

- Used engine oil contains substances that have been identified as carcinogenic.
- If repeatedly left in contact with the skin for prolonged periods, it may cause skin cancer.
- Wash your hands thoroughly with soap and water as soon as possible after contact with used engine oil.



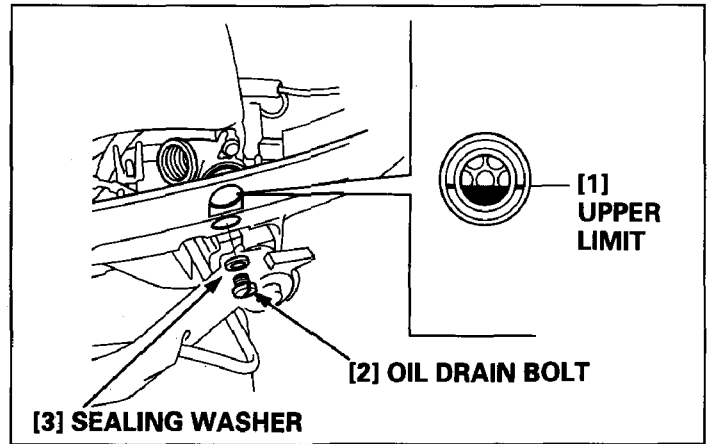
- 3) Return the motor vertical. Install a new sealing washer and oil drain bolt, and tighten the bolt to the specified torque.

TORQUE: 6.5 N·m (0.65 kgf·m, 4.7 lbf·ft)

- 4) Refill with the recommended fresh engine oil to the upper level.

Oil capacity	0.25 ℓ (0.26 US qt, 0.22 Imp qt)
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- 5) Check the oil level again and add to the upper level of the inspection window, if necessary.



3. GEAR CASE OIL

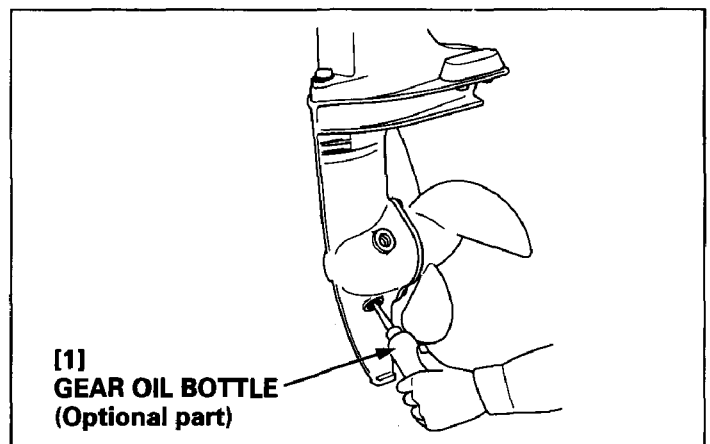
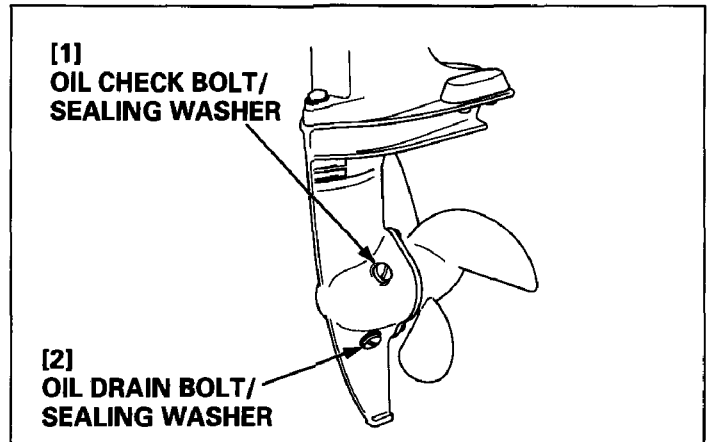
Oil Change:

- 1) Place the outboard motor vertical.
- 2) Remove the oil level check bolt, oil drain bolt and washer, and drain the gear case oil into a suitable container. Check for water in the drained gear case oil. If there is water in the gear case oil, check the gasket and water seal for damage and check torque at each tightening point of the gear case.
- 3) Using the gear oil bottle (optional part) or commercially available oil gun, pour fresh gear oil through the oil drain bolt hole.

Recommended oil	SAE 90 outboard motor gear oil API standard GL-4 or GL-5
Oil capacity	0.05 ℓ (0.05 US qt, 0.04 Imp qt)

- 4) When the oil flows out of the oil level check hole, install a new sealing washer and oil check bolt quickly.
- 5) Then install the oil drain bolt with a new sealing washer.
- 6) Tighten the oil drain bolt and oil check bolt securely.

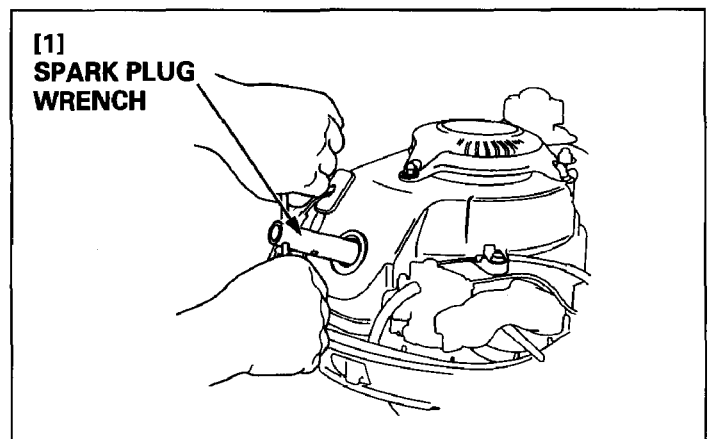
TORQUE: 3.5 N·m (0.35 kgf·m, 3.8 lbf·ft)



4. SPARK PLUG

Cleaning/Adjustment:

- 1) Remove the engine cover (P. 4-1) and remove the spark plug cap.
- 2) Remove the spark plug using a spark plug wrench.



- 3) Visually inspect the spark plug. Discard the plug if the insulator is cracked or chipped.
- 4) Remove carbon or other deposits with a stiff wire brush.
- 5) Measure the plug gap with a wire-type feeler gauge. If necessary, adjust the gap by bending the side electrode.

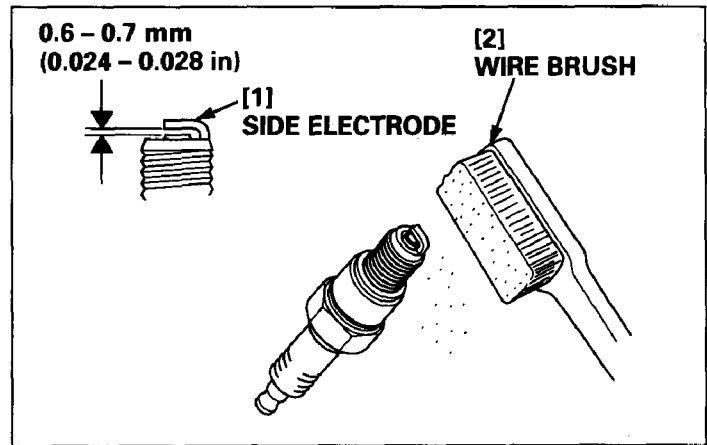
Spark plug gap	0.6 – 0.7 mm (0.024 – 0.028 in)	
Recommended spark plug	NGK	CR5HSB
	DENSO	U16FSR-UB

- 6) Make sure the sealing washer is in good condition; replace if necessary.
- 7) Install the plug fingertight to seat the washer, then tighten with a plug wrench to compress the sealing washer.
 - If reinstalling the used spark plug, tighten 1/8 – 1/4 turn after the spark plug seats.
 - If installing a new spark plug, tighten 1/2 turn after the spark plug seats.

CAUTION

A loose spark plug can become very hot and may damage the engine. Overtightening the spark plug can damage the threads in the cylinder head.

- 8) Reinstall the spark plug cap, and install the engine cover.



5. VALVE CLEARANCE

Valve clearance inspection and adjustment must be performed with the engine cold.

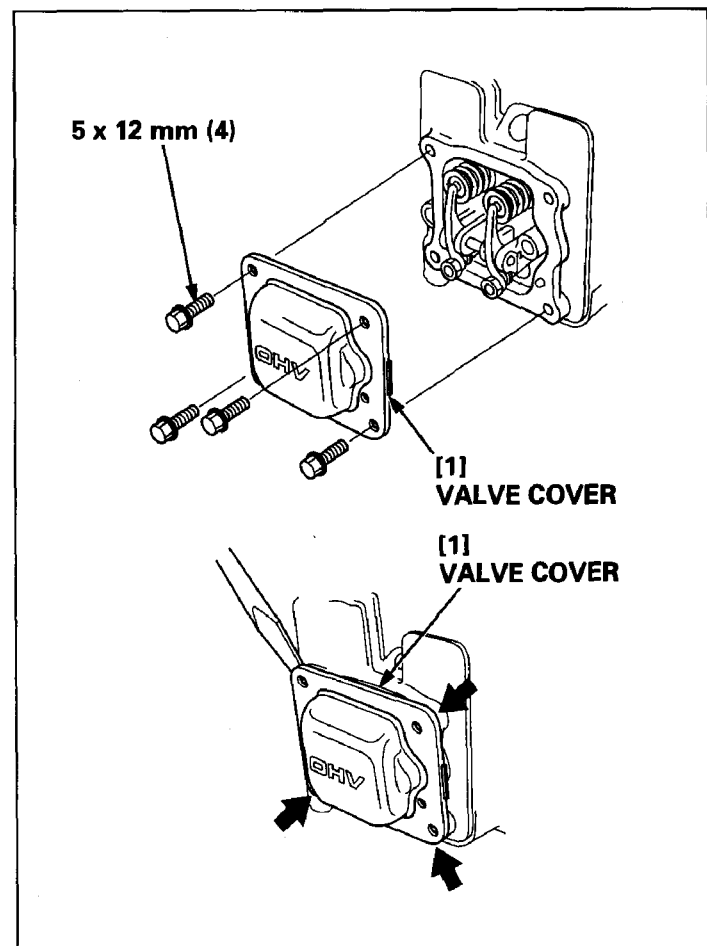
Inspection/Adjustment:

- 1) Remove the engine (P. 6-1).
- 2) Remove the four 5 x 12 mm flange bolts.
- 3) Loosen the valve cover by slightly prying up each corner, then remove the valve cover.

Catch up the spilled engine oil with a shop towel when removing the valve cover.

CAUTION

- Do not remove the valve cover with excessive force. It can deform the valve cover.
- Replace the valve cover if it is deformed.



- 4) Turn the flywheel clockwise and set the piston at top dead center of the compression stroke. (Align the Δ mark on the flywheel with the center of the ignition coil mounting stud bolt as shown.)
 - If the exhaust side opens when the mark aligns with the end of the ignition coil installation part, turn the flywheel one turn again and bring the mark to the alignment position.

- 5) Insert a feeler gauge between the rocker arm and valve, and measure the valve clearance.

Valve clearance	IN	0.06 – 0.10 mm
	EX	0.09 – 0.13 mm

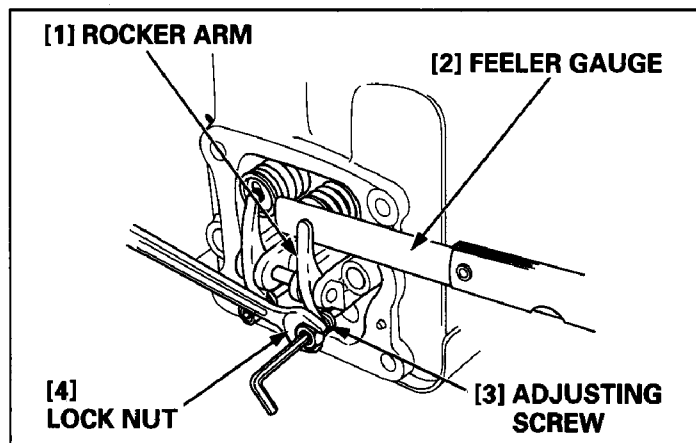
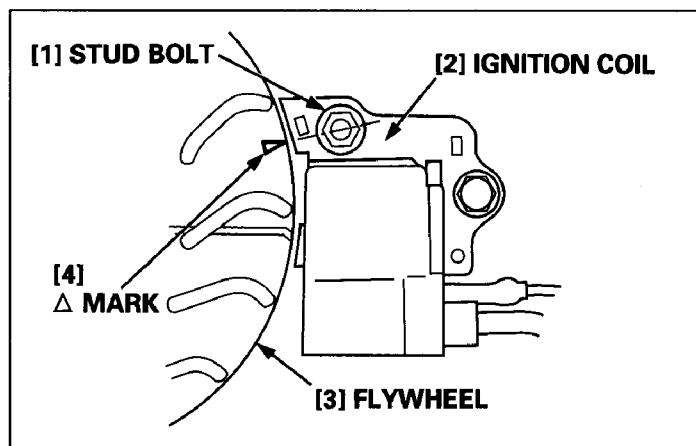
- 6) If adjustment is necessary, proceed as follows.
 - a. Loosen the adjusting screw lock nut and adjust the valve clearance by turning the adjusting screw in or out.
 - To increase valve clearance, screw out.
 - To decrease valve clearance, screw in.
 - b. Holding the adjusting screw with the valve adjusting wrench, tighten the lock nut to the specified torque.

TORQUE: 5.5 N·m (0.55 kgf·m, 4.0 lbf·ft)

- c. After tightening the lock nut, check the valve clearance again.

- 7) Install the valve cover (P. 10-2).

- 8) Reinstall the removed parts in the reverse order of removal.



6. CARBURETOR

CAUTION

- Running the outboard motor for long time without sufficient water will damage the lower unit parts.
- Keep clear of moving parts.

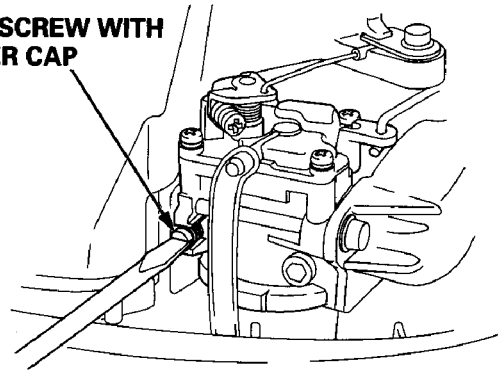
Adjustment:

- 1) Run the outboard motor in an outboard test tank with the water at least 100 mm (4 in) above the antivibration plate. Allow the engine to warm up to normal operating temperature.
- 2) Stop the engine and remove the engine cover. Attach an engine tachometer and restart the engine.

- 3) With the engine idling, turn the pilot screw in or out to the setting that produces the highest idle speed. The correct setting will usually be obtained at approximately the following number of turns out from the fully closed (lightly seated) position.

Standard pilot screw opening	SCG, LCG, SCHG, LCHG type: 2-1/4 turns out Except SCG, LCG, SCHG, LCHG type: 2 turns out
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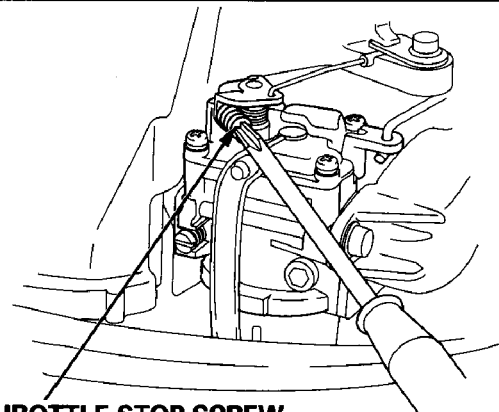
[1] PILOT SCREW WITH LIMITER CAP



- 4) After the pilot screw is correctly adjusted, turn the throttle stop screw to obtain the standard idle speed.

Specified idle speed in neutral	2,000 ± 100 min ⁻¹ (rpm)
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[1] THROTTLE STOP SCREW



7. THROTTLE CABLE (SH, SCH, LH, LCH type)

Adjustment:

- 1) Check the throttle grip play.

The play must be approximately one graduation from the throttle mark.

- 2) If adjustment is necessary, adjust by loosening the lock nut and turning the adjusting nut right or left.

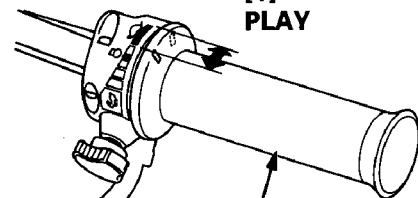
- 3) Move the throttle grip to the full open position and check whether the throttle arm contacts the stopper.

If the throttle arm does not contact the stopper, repeat the above steps 1) and 2).

- 4) Check whether the throttle grip moves smoothly and it is linked with the carburetor throttle lever operation. Check to see whether the carburetor throttle lever operates smoothly from the fully close to the full open positions.

If the carburetor throttle valve does not open or close fully, check the throttle wire installation and adjust as needed.

[1] PLAY



[2] THROTTLE GRIP

[8] ADJUSTING NUT

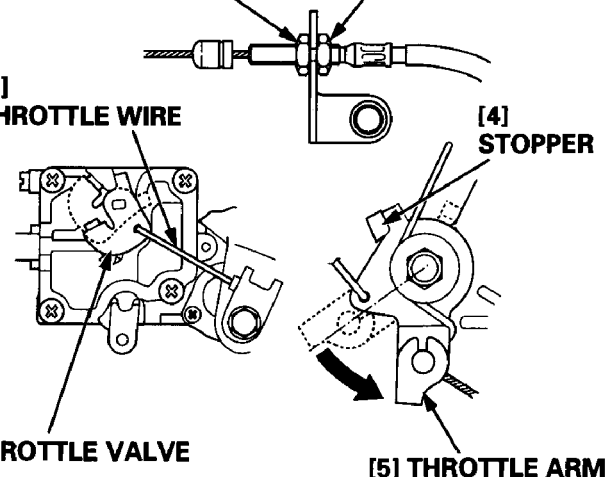
[3] LOCK NUT

[7] THROTTLE WIRE

[4] STOPPER

[6] THROTTLE VALVE

[5] THROTTLE ARM



8. FUEL FILTER/FUEL TANK/FUEL LINE

⚠ WARNING

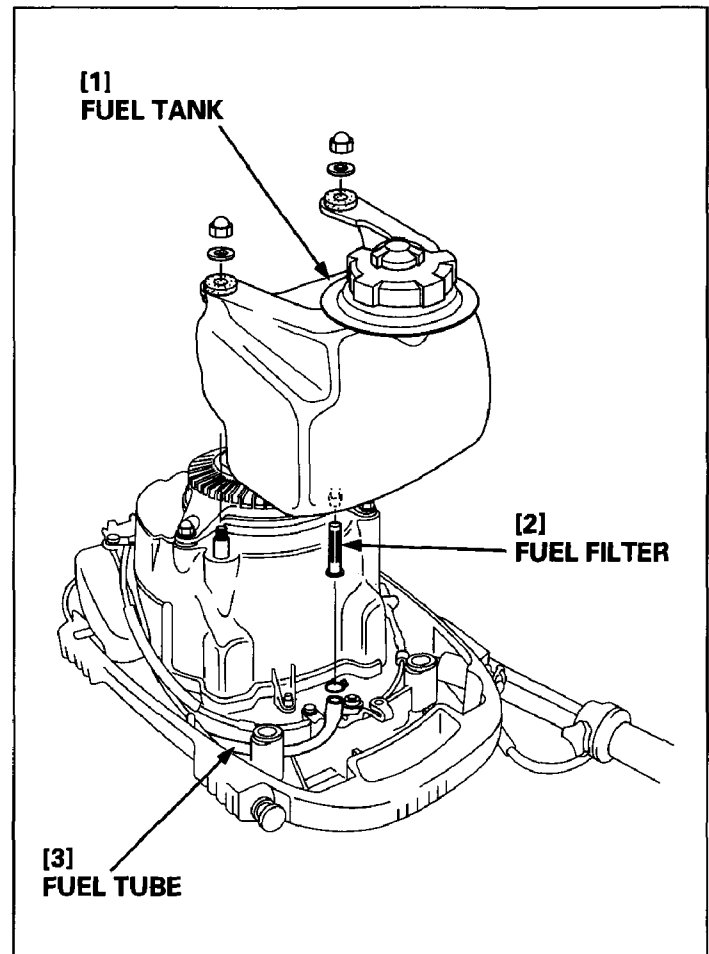
Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling fuel. Keep heat, sparks, and flame away. Wipe up spills immediately.

Check/Cleaning

- 1) Drain the fuel into a suitable container.
- 2) Remove the engine cover (P. 4-1).
- 3) Remove the fuel tank and disconnect the fuel tank tube.
- 4) Remove the fuel filter.
- 5) Remove the clogged foreign material from the fuel filter, and check the fuel filter for damage. Replace the filter if necessary.
- 6) Clean the fuel tank with cleaning solvent and allow the fuel tank to dry thoroughly.
- 7) Check the fuel tube for deterioration, cracks, and other damage. Replace if necessary.
- 8) After cleaning, set the fuel filter in the fuel tank and connect the fuel tank tube.

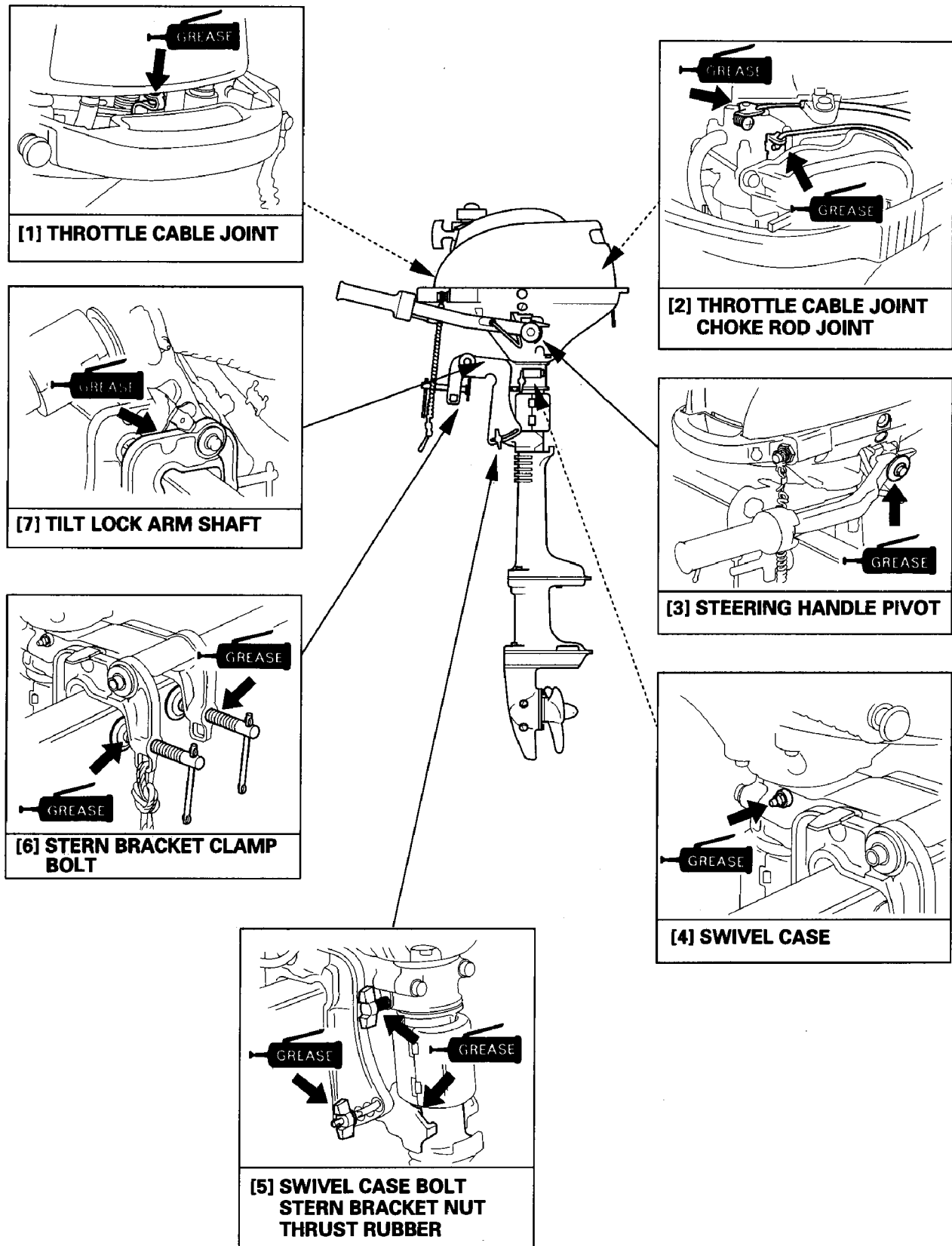
Insert the fuel tank tube as deep as to the base of the tank joint securely (P. 4-2).

- 9) Install the fuel tank and check to see whether the fuel is not leaking from the fuel tank tube.
- 10) Install the engine cover.



9. LUBRICATION POINTS

Apply marine anti-corrosion grease to the parts shown below.



4. ENGINE COVER/FUEL TANK

HONDA
BF2D

1. ENGINE COVER

2. FUEL TANK

1. ENGINE COVER

a. REMOVAL/INSTALLATION

[1] STARTER GRIP

REASSEMBLY:

Pass the rope end through the starter grip and make a figure-eight knot at the rope end as shown.

[1]-1
Make a figure-eight knot.

[1]-2
STARTER GRIP

[2]
ENGINE COVER

[3]
ENGINE COVER LOCK BAND

[4]
STARTER ROPE

REMOVAL:

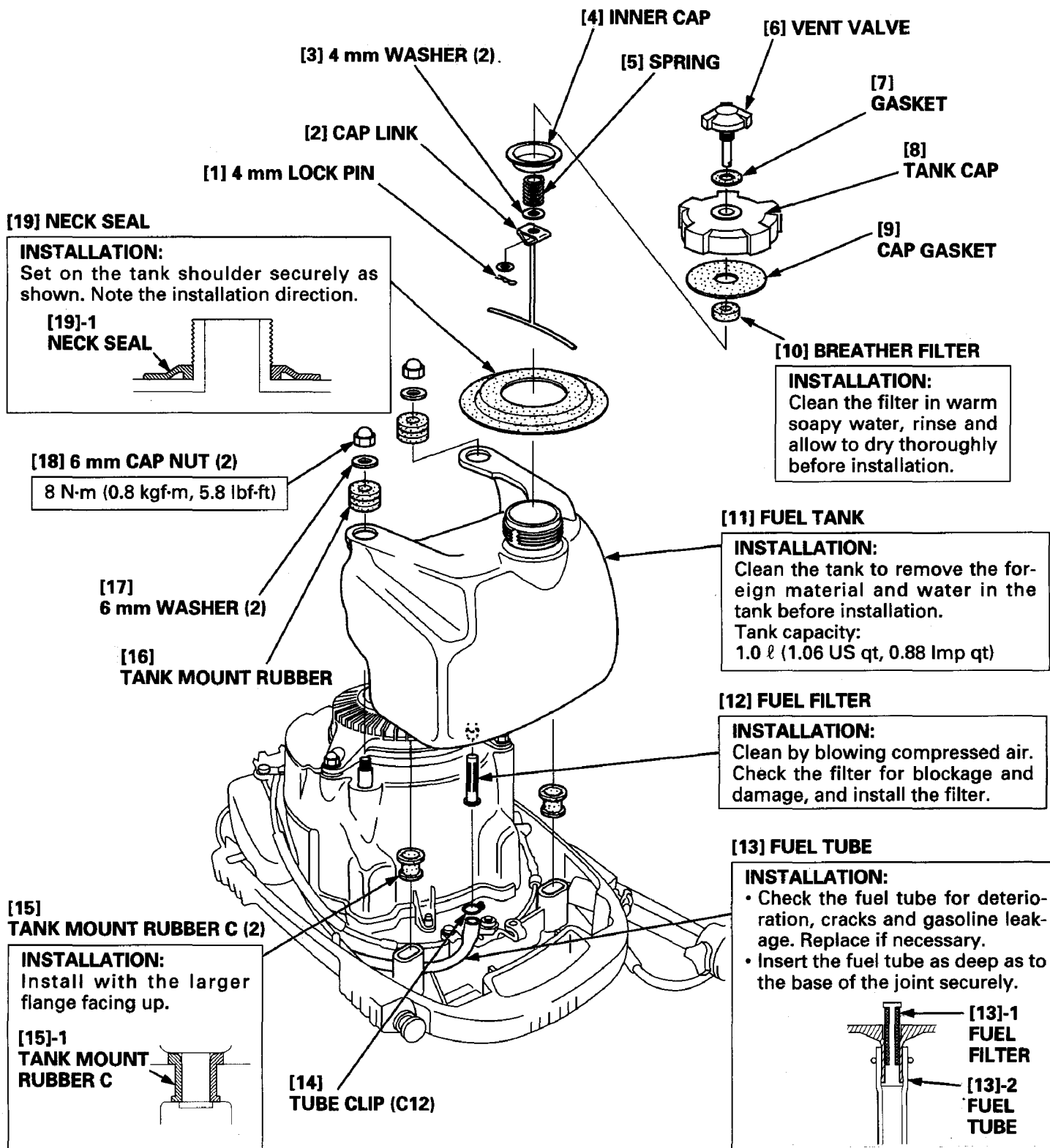
To prevent the starter rope from rewinding, make a knot in the rope at the recoil starter.

2. FUEL TANK

a. DISASSEMBLY/REASSEMBLY

⚠ WARNING

- Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling fuel. Keep heat, sparks, and flame away. Wipe up spills immediately.
- Drain the fuel tank thoroughly before removing the fuel tank.



5. RECOIL STARTER/FAN COVER

HONDA
BF2D

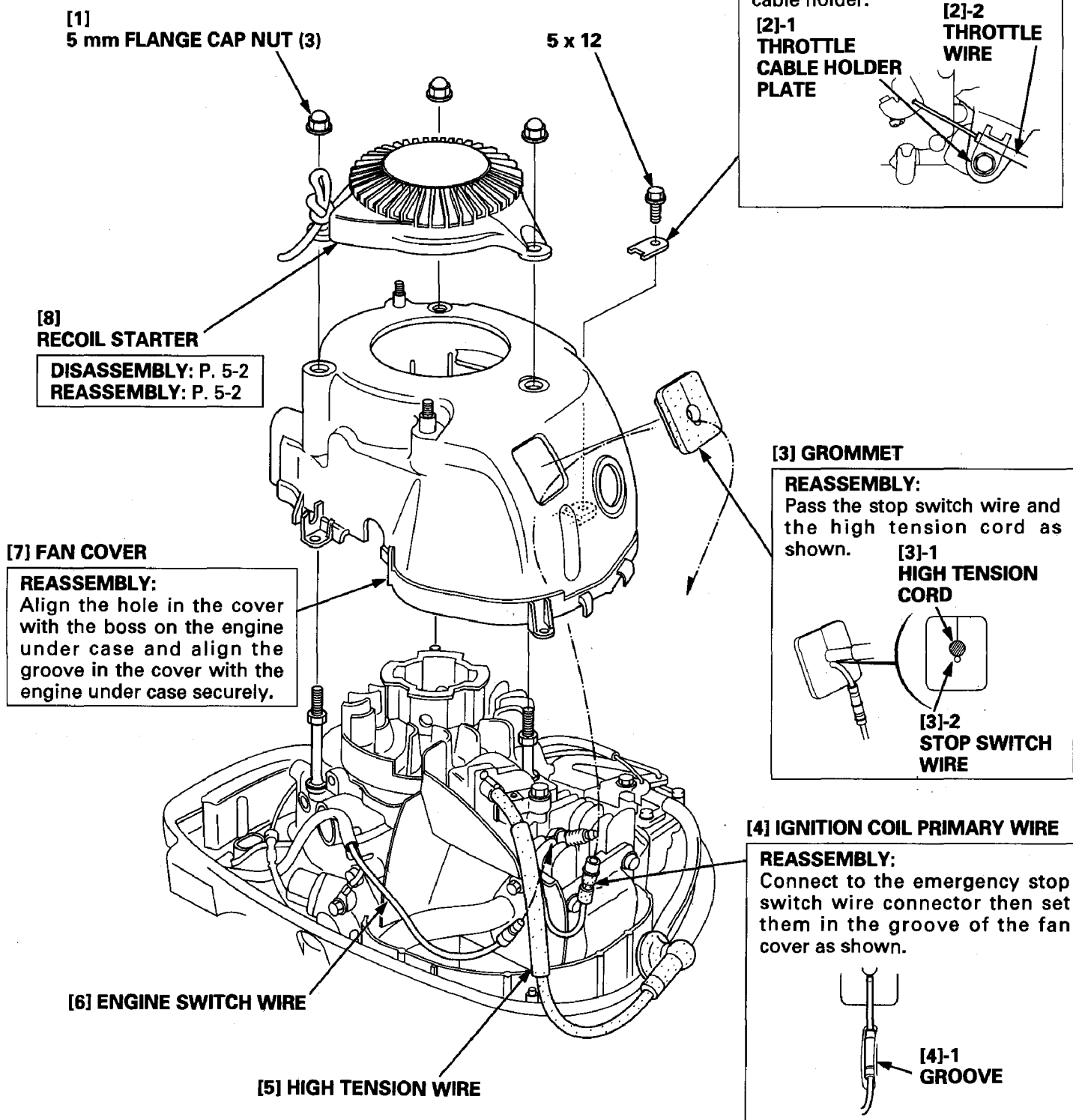
1. FAN COVER

2. RECOIL STARTER

1. FAN COVER

a. REMOVAL/INSTALLATION

- 1) Remove the engine cover (P. 4-1).
- 2) Remove the fuel tank (P. 4-2).
- 3) Remove the spark plug cap.
- 4) Disconnect the engine switch wire.



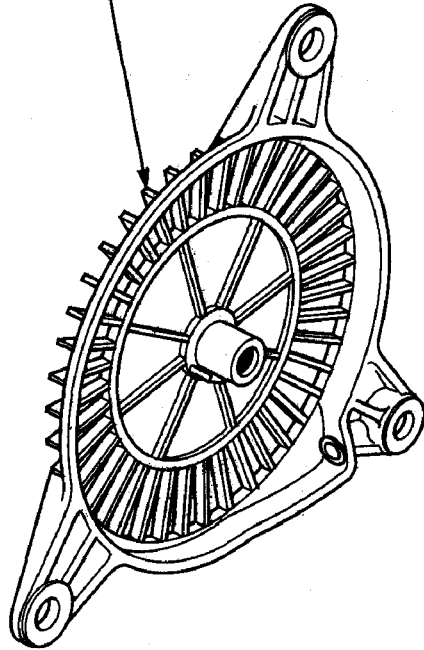
2. RECOIL STARTER

a. DISASSEMBLY

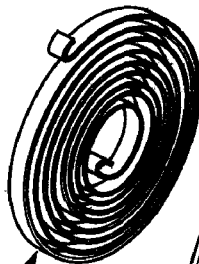
CAUTION

- Wear heavy gloves during operation.
- Take care not to allow the recoil starter spring to pop out.

[1]
RECOIL STARTER CASE



[2]
STARTER REEL



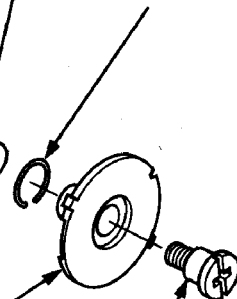
[3] RECOIL STARTER ROPE

Check for fraying and wear, and replace if necessary.



[4]
RATCHET (2)

[5]
FRICTION
SPRING RING



[7]
RATCHET GUIDE

[6]
SET SCREW

[8]
RECOIL STARTER SPRING

DISASSEMBLY:
Wear gloves during operation.
Take care not to allow the recoil
starter spring to pop out.

b. REASSEMBLY

CAUTION

- Wear heavy gloves during operation.
- Take care not to allow the recoil starter spring to pop out.

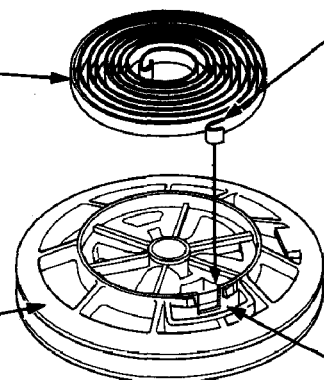
- 1) Set the hook at the outer end of the recoil starter spring in the groove in the starter reel, and wind the starter spring around the starter reel.

[1]
RECOIL
STARTER
SPRING

[2]
HOOK

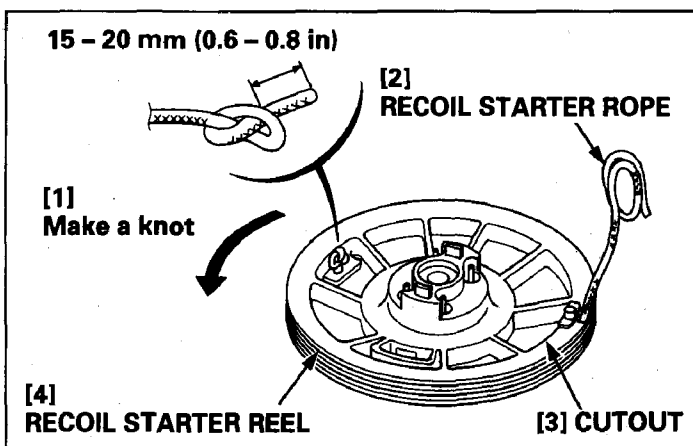
[4]
RECOIL
STARTER
REEL

[3]
GROOVE

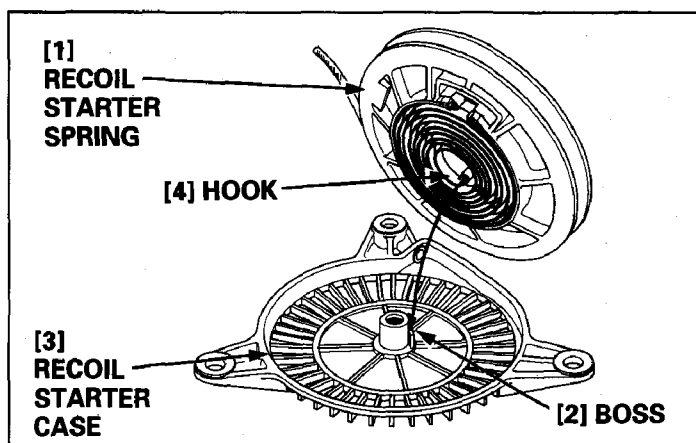


- 2) Pass the starter rope through the rope hole in the reel and make a knot at the rope end as shown.

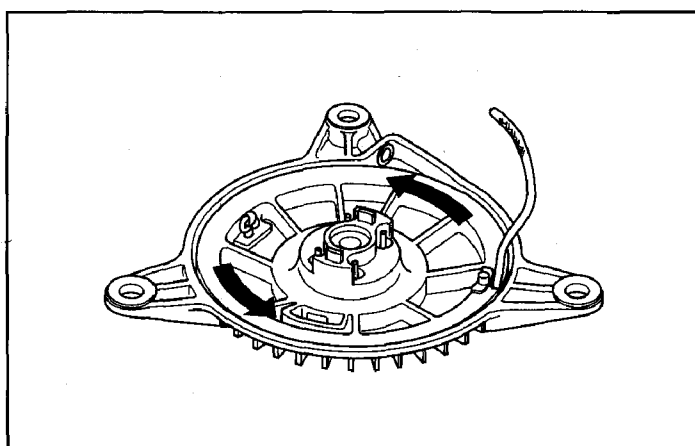
Wind the rope around the recoil starter reel in the direction of the arrow. Leave approximately 20 cm (8 in) of the starter rope unwound. It must be out of the cutout in the starter reel.



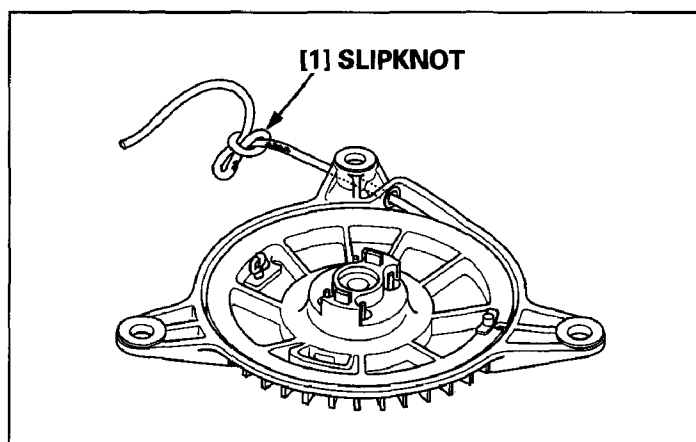
- 3) Install the reel in the case so that the hook at the inner end of the recoil starter spring sets on the boss of the case.



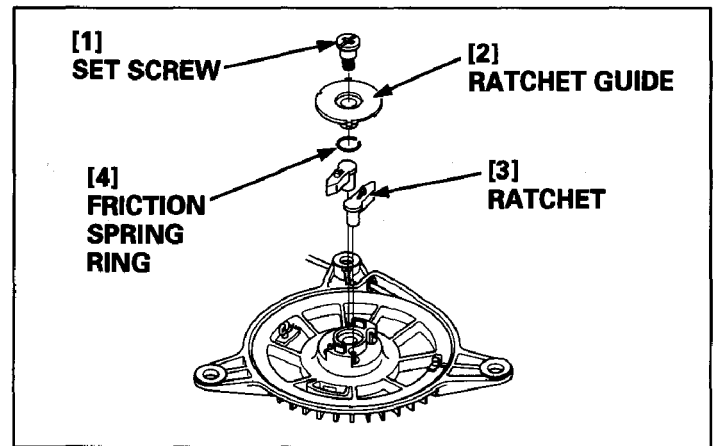
- 4) With the starter rope end out of the cutout in the reel, turn the starter reel approximately 3 turns in the direction of the arrows to preload the spring.



- 5) Pull out the rope end from the hole in the case, and make a slipknot in the rope to prevent the rope from rewinding.



- 6) Install the ratchet in the position shown.
- 7) Set the friction spring ring and set screw in the ratchet guide. Holding the ratchet guide, tighten the set screw securely.
- 8) Pull the starter rope several times and check whether the ratchet moves smoothly.



6. ENGINE REMOVAL/INSTALLATION

HONDA
BF2D

1. ENGINE REMOVAL

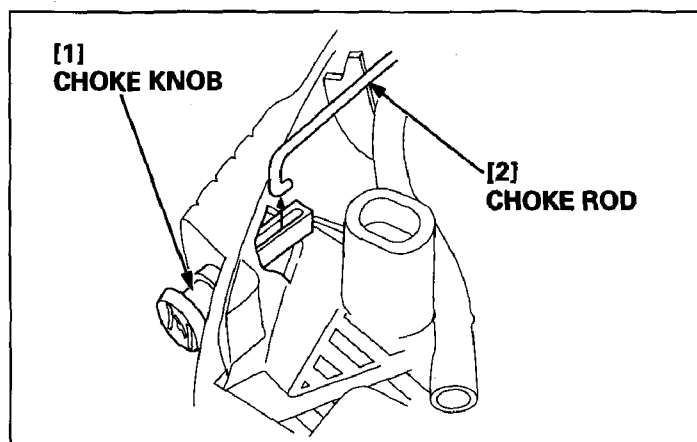
2. ENGINE INSTALLATION

1. ENGINE REMOVAL

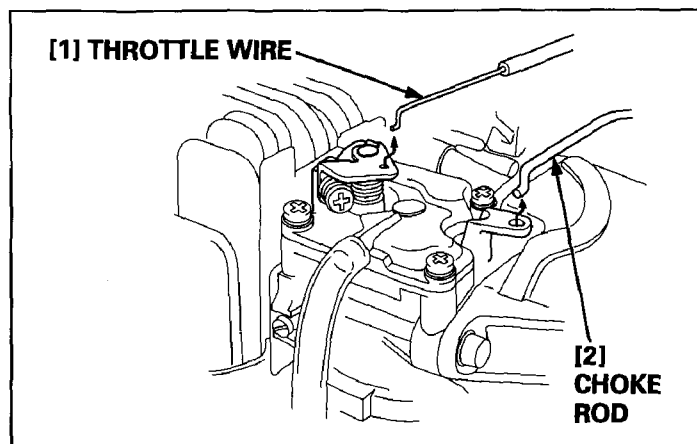
1) Remove the engine cover (P. 4-1), and remove the following parts.

- Fuel tank (P. 4-2)
- Recoil starter (P. 5-1)
- Fan cover (P. 5-1)

2) Push in the choke knob and disconnect the choke rod.



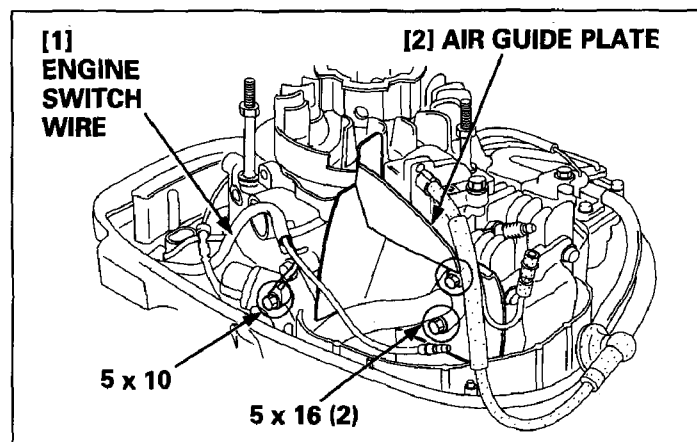
3) Disconnect the choke rod and throttle wire from the carburetor.



4) Remove the 5 x 16 mm flange bolts. Disconnect the exhaust pipe from the engine and remove the air guide plate.

5) Remove the 5 x 10 mm flange bolt and disconnect the engine switch ground terminal.

6) Remove the 6 x 60 flange bolts and washers and remove the engine.

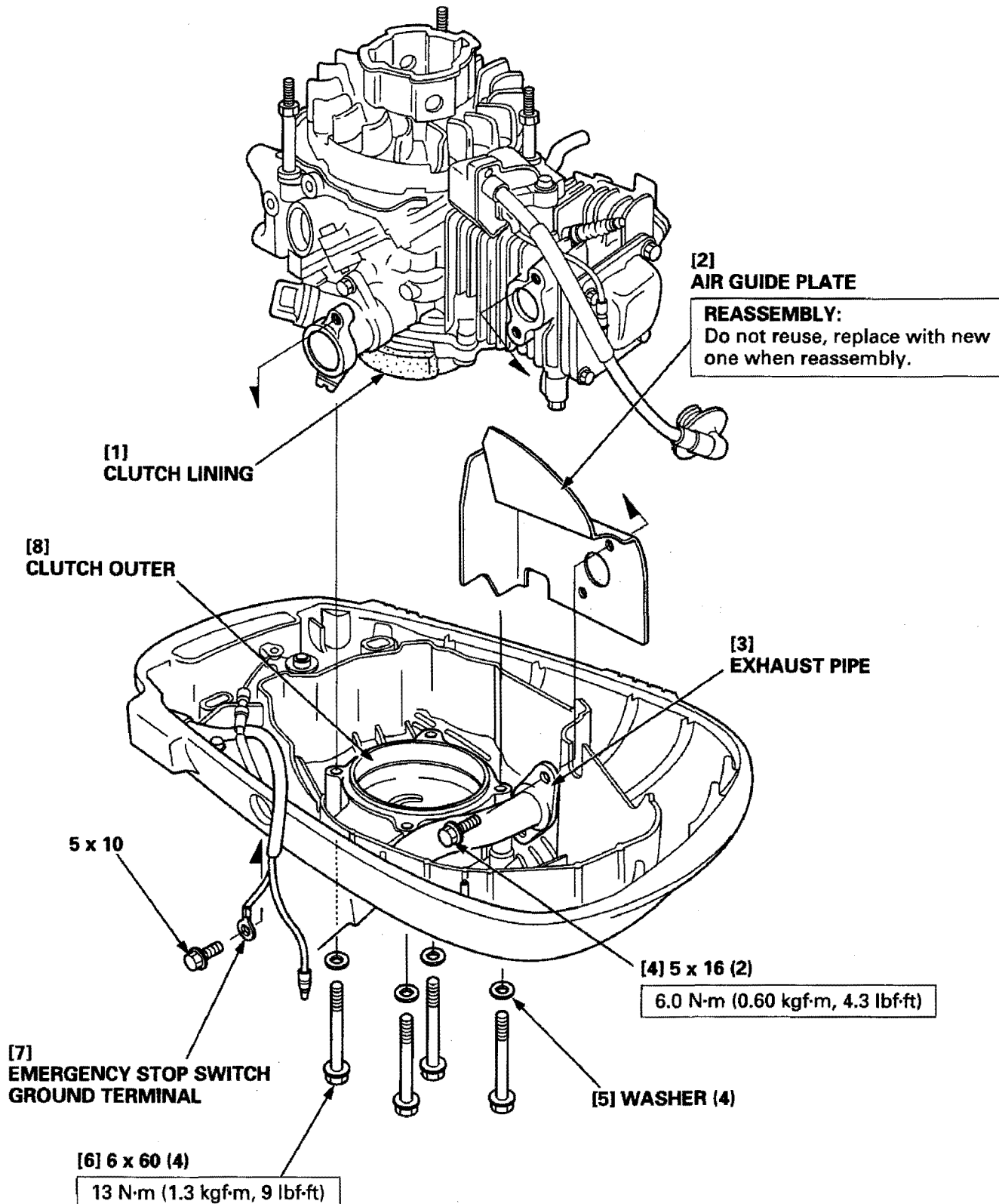


2. ENGINE INSTALLATION

Install the engine in the reverse order of removal.

CAUTION

Take care not to contaminate the clutch lining and the inner wall of the clutch outer with oil and grease.



1. CARBURETOR

1. CARBURETOR

a. REMOVAL/INSTALLATION

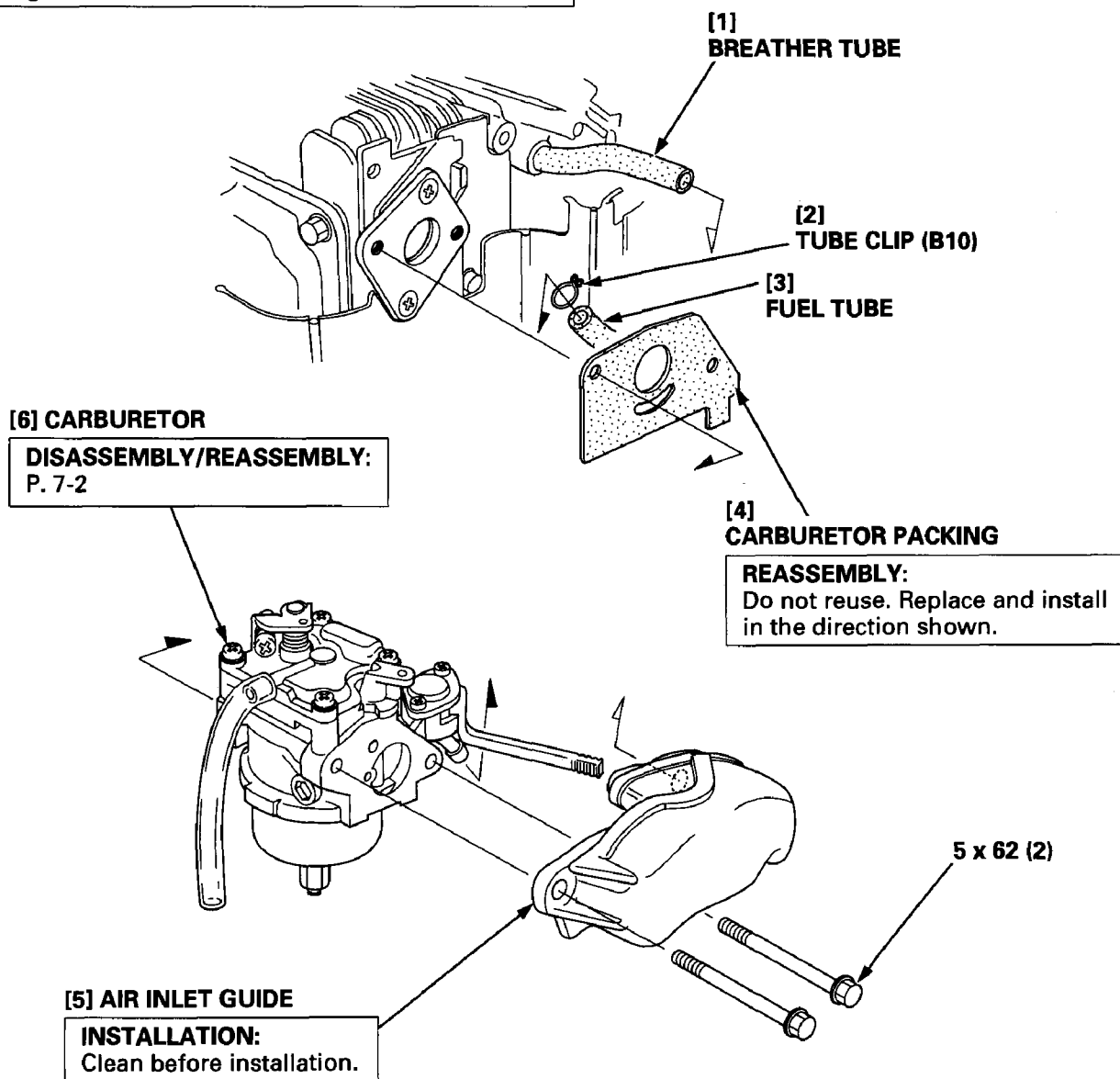
⚠ WARNING

Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling fuel. Keep heat, sparks, and flame away. Wipe up spills immediately.

- 1) Remove the engine cover (P. 4-1) and fan cover (P. 5-1).
- 2) Completely drain the carburetor by loosening the drain screw.

CAUTION

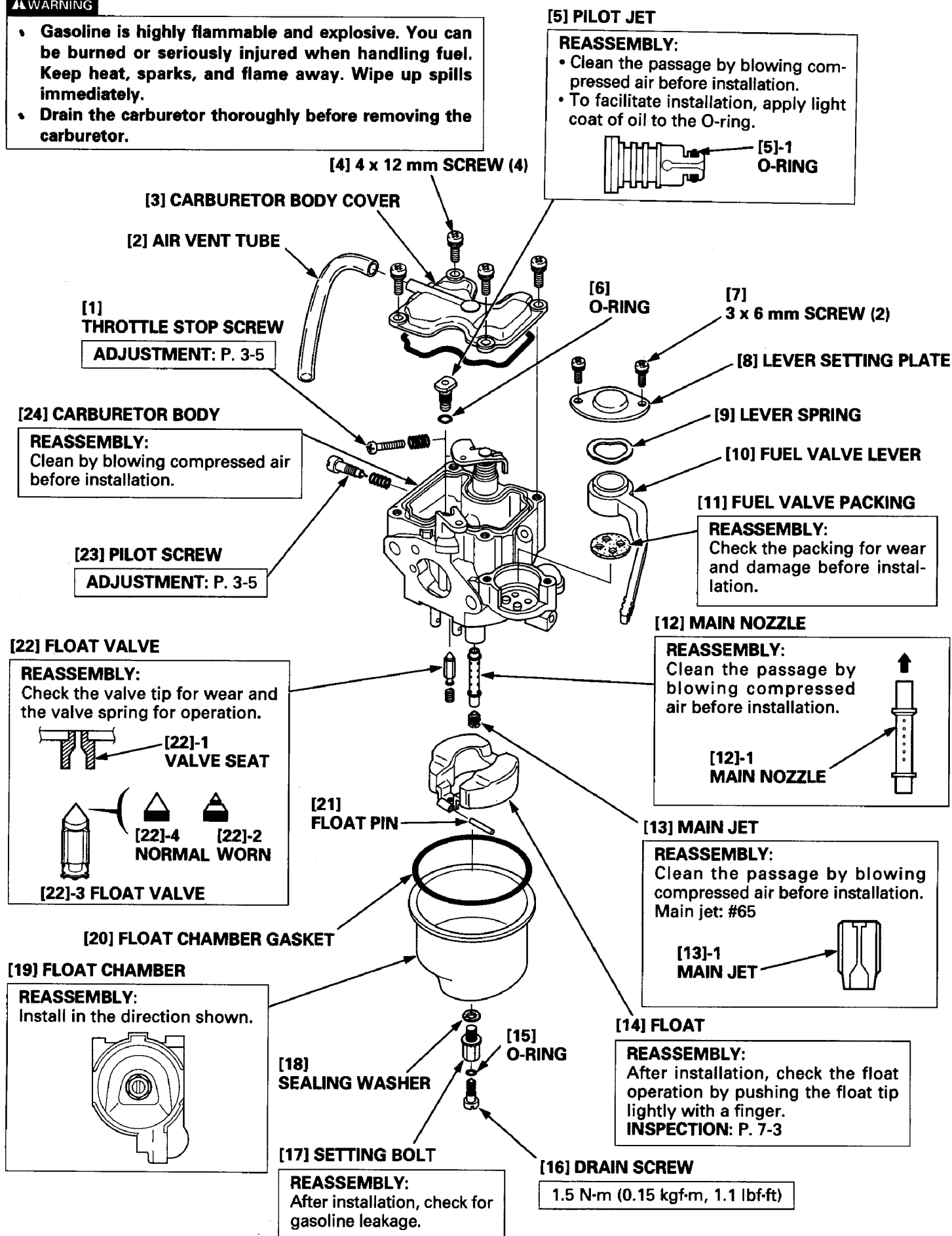
Cover the intake port with a clean tape or film to prevent dirt from entering the engine. If these parts are left out, dirt will enter the intake system, damaging the engine.



b. DISASSEMBLY/REASSEMBLY

⚠ WARNING

- Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling fuel. Keep heat, sparks, and flame away. Wipe up spills immediately.
- Drain the carburetor thoroughly before removing the carburetor.



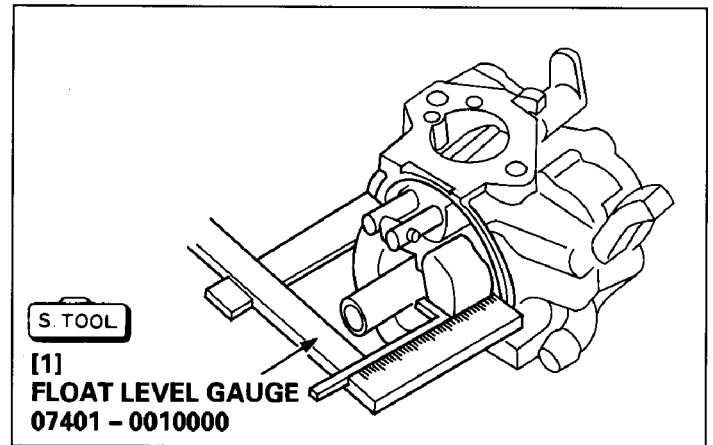
c. INSPECTION

•FLOAT LEVEL HEIGHT

With the carburetor in an upright, measure the distance between the float top and carburetor body when the float just contacts the float valve.

Standard float height	12.0 mm (0.47 in)
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If the height is out of specification, replace the float.
Check the float operation.



8. FLYWHEEL/IGNITION COIL

HONDA
BF2D

1. FLYWHEEL/IGNITION COIL

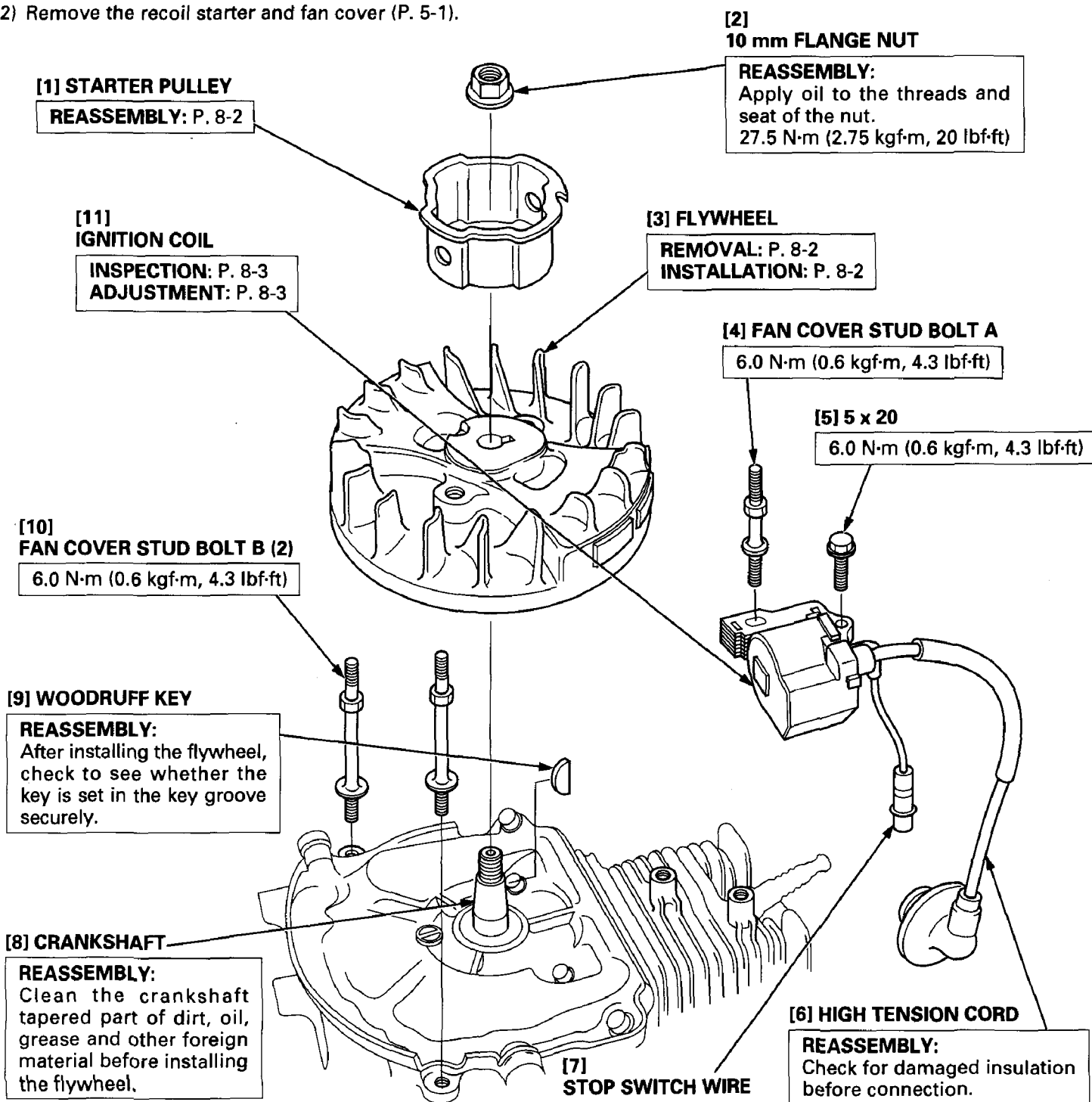
1. FLYWHEEL/IGNITION COIL

a. DISASSEMBLY/REASSEMBLY

CAUTION

Take care not to damage the fan blades during removal and installation of the flywheel.

- 1) Remove the fuel tank (P. 4-2).
- 2) Remove the recoil starter and fan cover (P. 5-1).

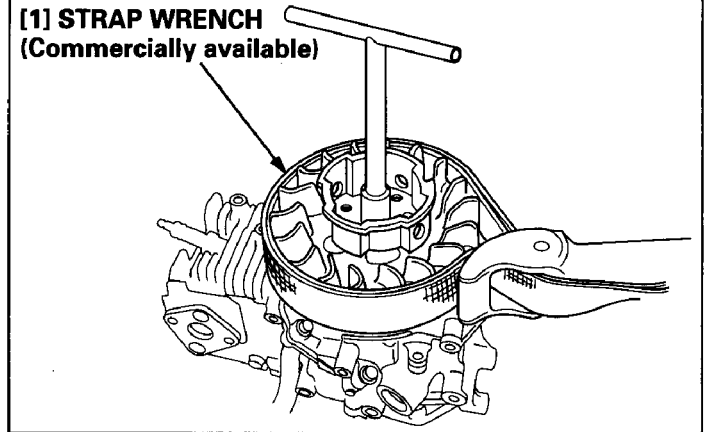


• FLYWHEEL REMOVAL

- 1) Remove the ignition coil.
- 2) Holding the flywheel with a commercially available strap wrench, remove the 10 mm flange nut.

CAUTION

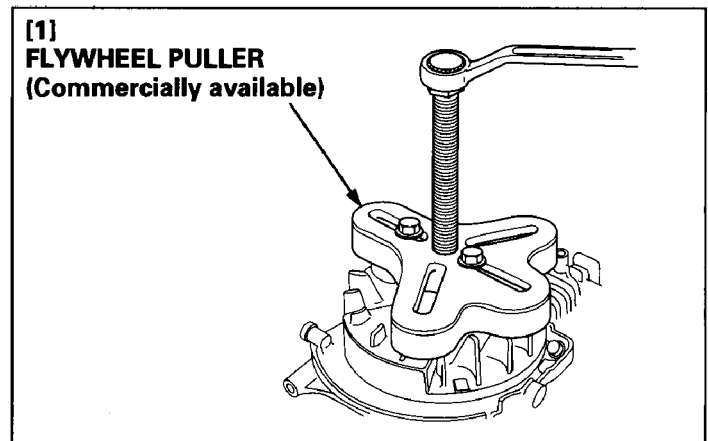
Do not loosen the nut by setting a screw driver or equivalent tool on the fan blade or projection.



- 3) Remove the starter pulley.
- 4) Set a commercially available flywheel puller on the flywheel.
- 5) Screw in the flywheel puller and remove the flywheel.

CAUTION

Do not try to remove the flywheel by striking it with a hammer.

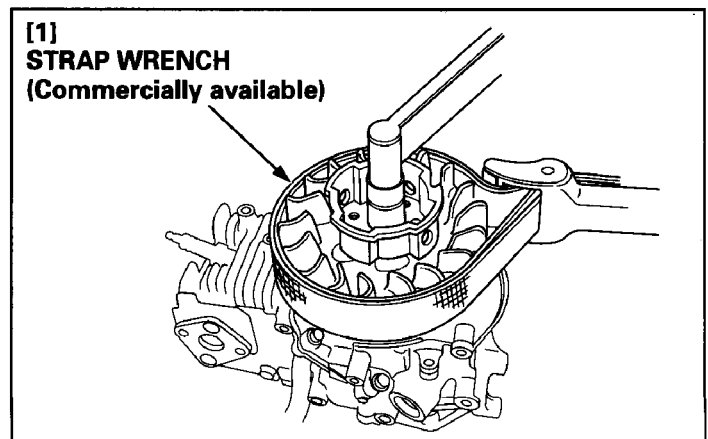
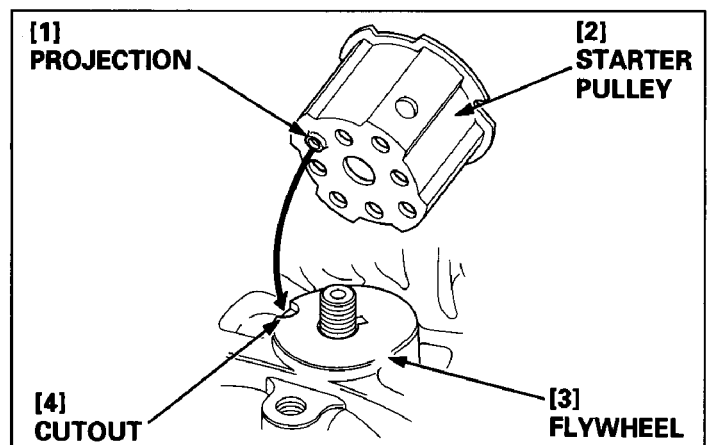


• FLYWHEEL INSTALLATION

- 1) Clean the crankshaft tapered part of dirt, oil, grease and other foreign material before installing the flywheel.
 - Be sure that there is no washer and other foreign material on the magnetic part.
- 2) Set the woodruff key in the key groove securely.
- 3) Install the flywheel over the crankshaft.
- 4) Align the projection on the starter pulley with the cutout in the flywheel, and install the pulley.
- 5) Apply light coat of the oil to the threads and seating surface of the 10 mm flange nut, and loosely tighten the nut. Holding the flywheel with a commercially available strap wrench, tighten the 10 mm flange nut to the specified torque.

TORQUE: 27.5 N-m (2.75 kgf-m, 20 lbf-ft)

- 6) Install the ignition coil and adjust the air gap. (P. 8-3).



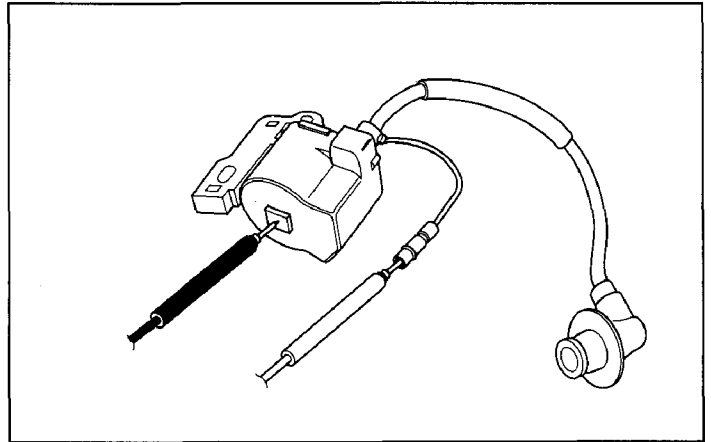
b. INSPECTION

• IGNITION COIL

Primary resistance

Attach one lead of the tester to the lead wire terminal and another tester lead to the iron core, and measure the primary resistance of the ignition coil.

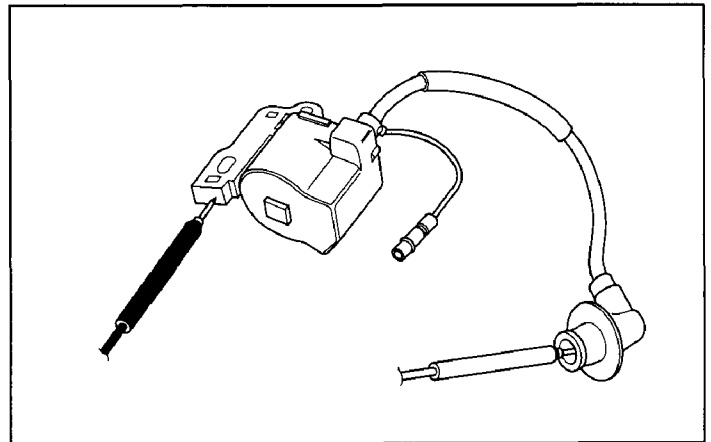
Resistance	0.98 – 1.2 Ω
------------	---------------------



Secondary resistance

Attach one lead of the tester to the terminal inside the spark plug cap and another lead to the iron core, and measure the secondary resistance of the ignition coil.

Resistance	11 – 15 k Ω
------------	--------------------



c. ADJUSTMENT

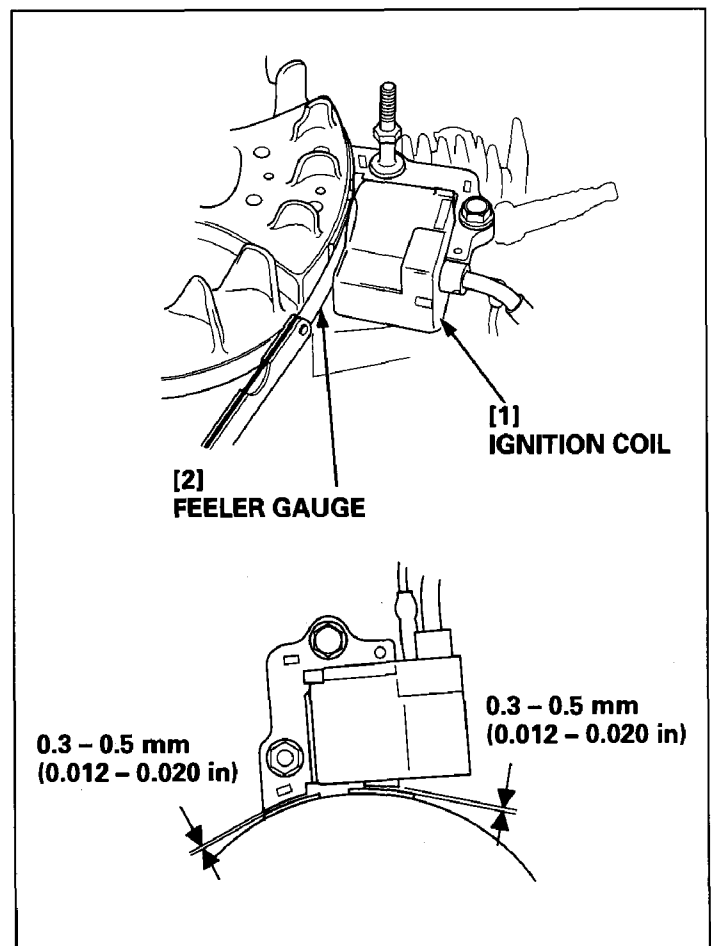
• IGNITION COIL AIR GAP

- 1) Loosen the two ignition coil bolts.
- 2) Insert a feeler gauge of the proper thickness between the ignition coil and the projection points on the flywheel.

To bring the air gap at both ends of the ignition coil equal, set the feeler gauge along the circumference of the unit and adjust the clearance at the both ends simultaneously.

- 3) Pushing the ignition coil against the flywheel, tighten the two bolts and adjust the air gap.

Air gap	0.3 – 0.5 mm (0.012 – 0.020 in)
---------	---------------------------------



1. CLUTCH

1. CLUTCH

a. DISASSEMBLY/REASSEMBLY

1) Remove the engine (P. 6-1).

[1] CLUTCH STAY

REMOVAL: P. 9-2

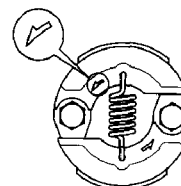
INSTALLATION:

Clean the crankshaft and clutch stay installation surfaces and install the clutch stay.

[2] CLUTCH ASSEMBLY

INSTALLATION:

- Install with the side marked with the arrow marks toward you.
- Install the 8 mm clutch washers behind the clutch securely.



INSPECTION: P. 9-2

[7]

8 mm CLUTCH STAY BOLT

DISASSEMBLY/REASSEMBLY: P. 9-2

22.5 N·m (2.25 kgf·m, 16 lbf·ft)

[5] S, L, SH, LH TYPE

[6] 8 mm CLUTCH WASHER (2)

[4] EXTENSION SHAFT

8 x 14 (2)

[3] 8 mm CLUTCH BOLT (2)

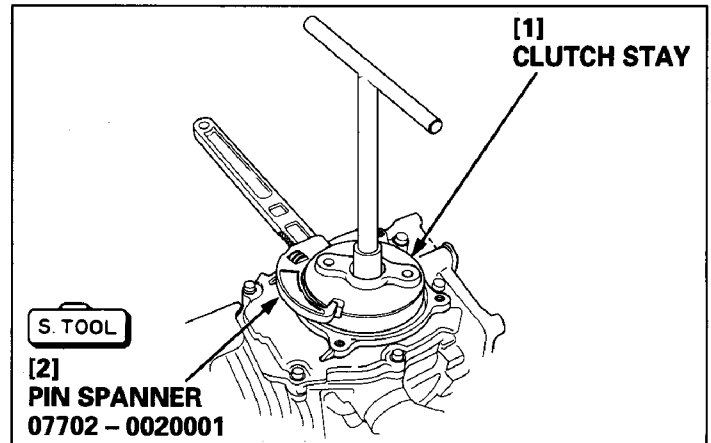
DISASSEMBLY/REASSEMBLY:

Remove and install the bolts while holding the clutch stay with a pin spanner or holding the flywheel with a commercially available strap wrench.

15.5 N·m (1.55 kgf·m, 11 lbf·ft)

• CLUTCH STAY REMOVAL

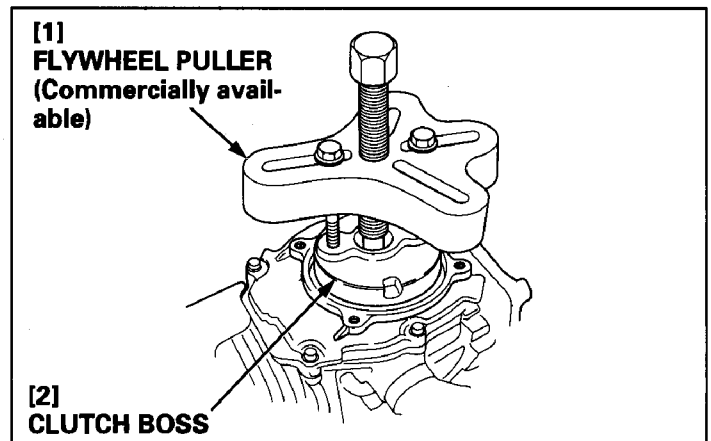
- 1) Holding the clutch boss with the pin spanner or holding the flywheel with a commercially available strap wrench, remove the 8 mm clutch stay bolt.
- 2) Remove the clutch boss using a commercially available flywheel puller.



• CLUTCH STAY INSTALLATION

- 1) Clean the crankshaft and clutch stay tapered part of dirt, oil, grease and other foreign material before installing the clutch stay.
- 2) Install the clutch stay onto the crankshaft and install the 8 mm clutch stay bolt.
- 3) Holding the clutch stay with the pin spanner or holding the flywheel with a commercially available strap wrench, tighten the 8 mm clutch stay bolt to the specified torque.

TORQUE: 22.5 N·m (2.25 kgf·m, 16 lbf·ft)

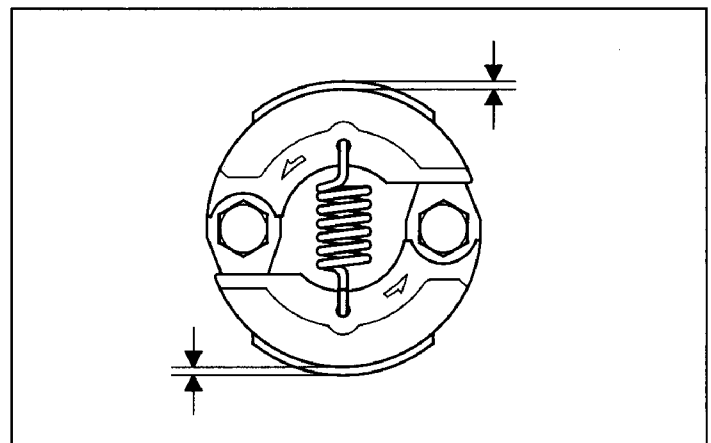


b. INSPECTION

• CLUTCH LINING THICKNESS (SC, LC, SCH, LCH Type only)

Measure the thickness at the center of the lining (with clutch type only).

Standard	Service limit
2.0 mm (0.08 in)	1.0 mm (0.04 in)



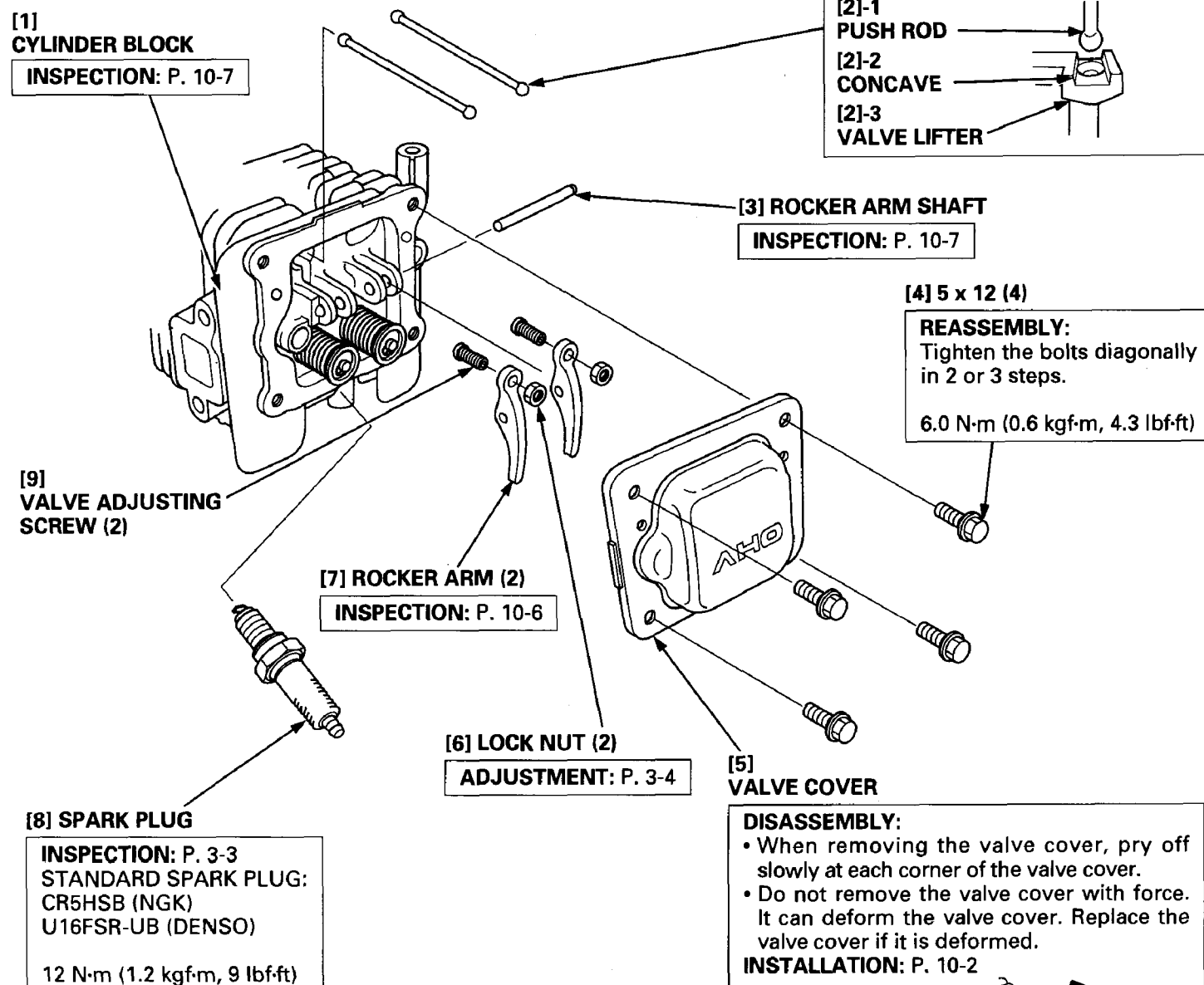
1. ROCKER ARM/PUSH ROD

3. INSPECTION

2. CRANKCASE SIDE COVER/CAMSHAFT/ VALVE LIFTER

1. ROCKER ARM/PUSH ROD

a. DISASSEMBLY/REASSEMBLY



8-27 VALVE LIFTER

• CYLINDER HEAD COVER INSTALLATION

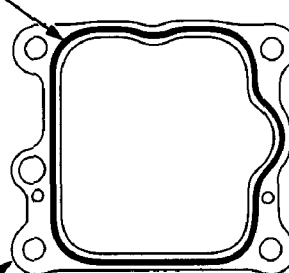
1) Clean the mating surfaces of the valve cover and the cylinder block with a degreasing cleaning agent or a clean shop towel.

2) Apply the liquid sealant (Three Bond 1207B or equivalent) to the position shown on the cylinder block.

Assemble the valve cover within 3 minutes after application of the liquid packing.

3) Wait for 20 minutes after assembly. Do not add oil or start the engine during this period.

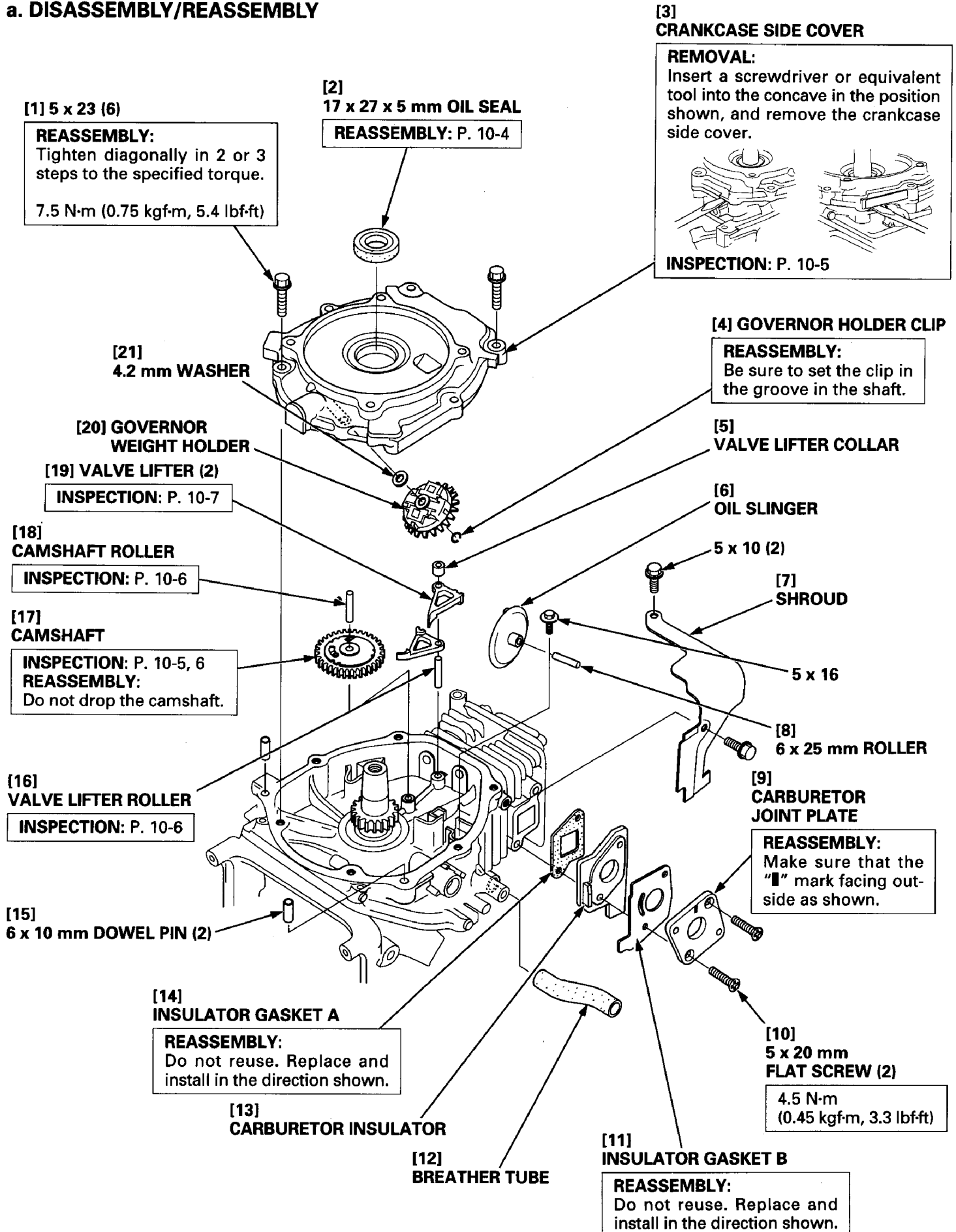
[1]
Liquid sealant application position
Apply a bead about 1.0 mm (0.04 in) in diameter.



[2]
CYLINDER BLOCK

2. CRANKCASE SIDE COVER/CAMSHAFT/VALVE LIFTER

a. DISASSEMBLY/REASSEMBLY



• CRANKCASE SIDE COVER INSTALLATION

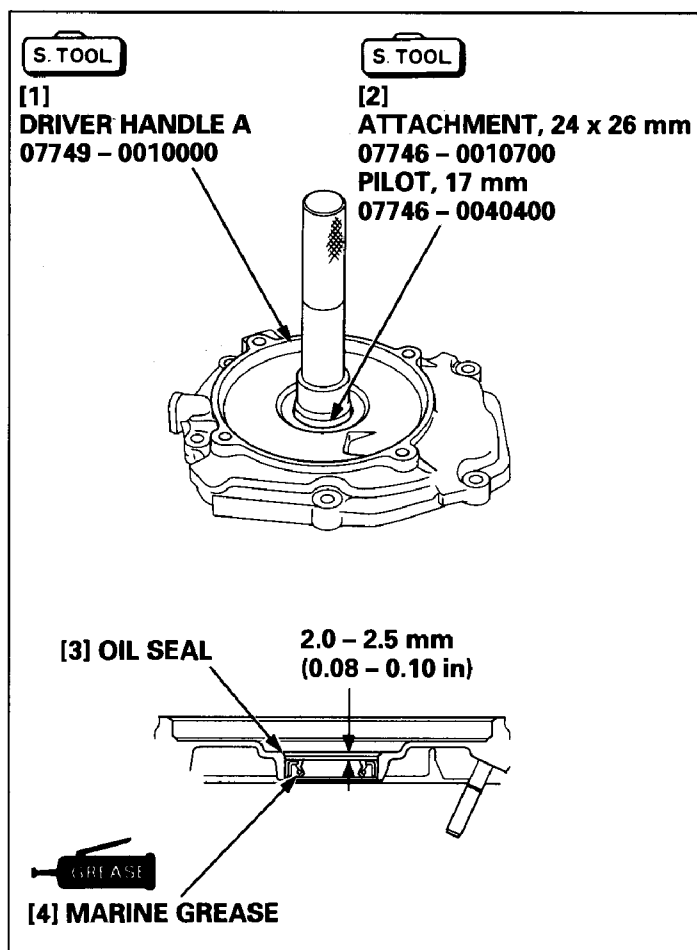
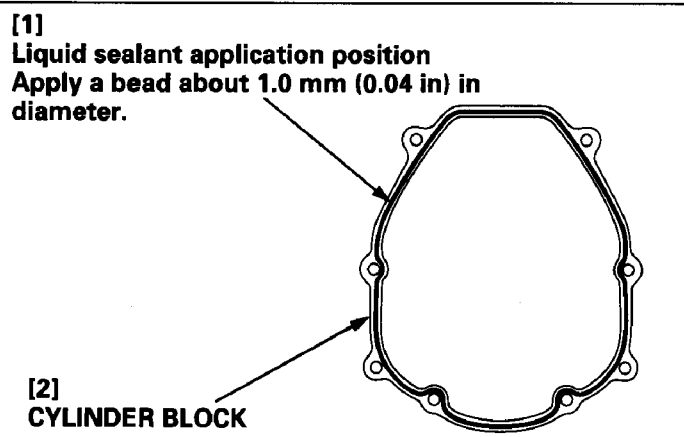
- 1) Clean the mating surfaces of the side cover and the cylinder block with a degreasing cleaning agent or a clean shop towel.
- 2) Apply the liquid sealant (Three Bond 1216E or equivalent) to the mating surface of the cylinder block as shown.
- 3) Install the side cover on the cylinder block.
Be sure to assemble within 3 minutes after application of the liquid sealant.
- 4) Loosely install the bolts, then tighten them diagonally in 2 or 3 steps to the specified torque.

TORQUE: 7.5 N·m (0.75 kgf·m, 5.4 lbf·ft)

- 5) Wait for 30 minutes after assembly. Do not add oil or start the engine during this period.

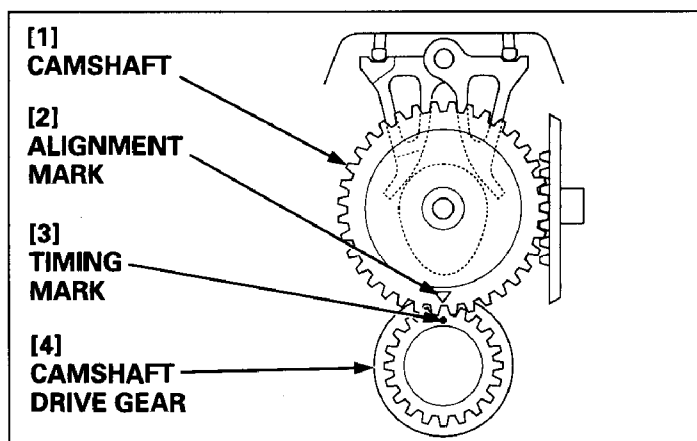
• OIL SEAL INSTALLATION:

- 1) Drive in the oil seal to the specified depth using the special tools as shown.
- 2) Apply marine grease to the oil seal lip.



• CAMSHAFT INSTALLATION (Valve timing adjustment)

Install the camshaft by aligning the alignment mark on the camshaft with the timing mark on the crankshaft.

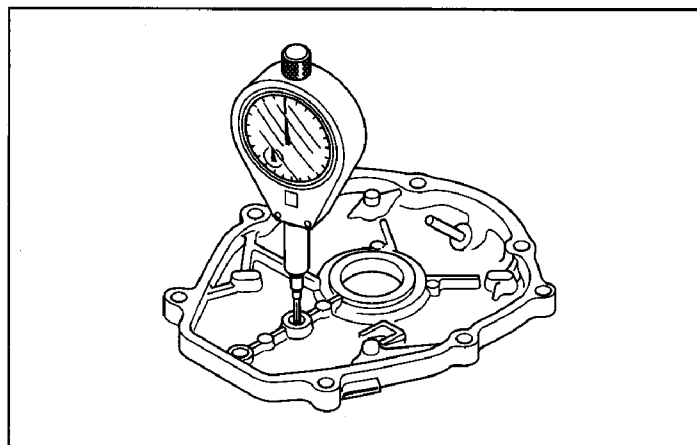


3. INSPECTION

• CRANKCASE SIDE COVER

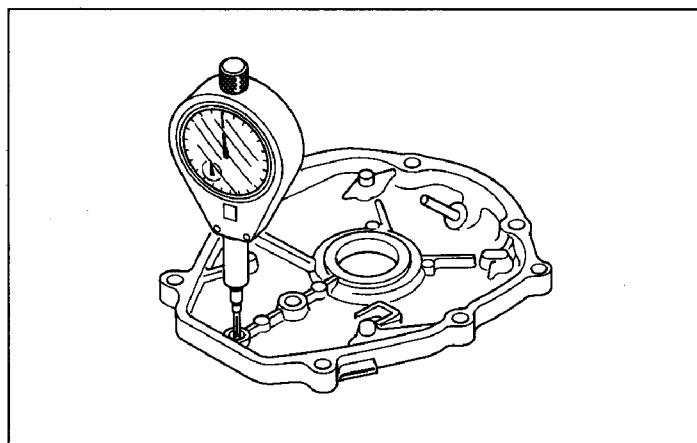
Measure the I.D. of the camshaft roller bearing.

Standard	Service limit
5.005 – 5.023 mm (0.1970 – 0.1978 in)	5.050 mm (0.1988 in)



Measure the I.D. of the valve lifter roller bearing.

Standard	Service limit
5.005 – 5.023 mm (0.1970 – 0.1978 in)	5.050 mm (0.1988 in)



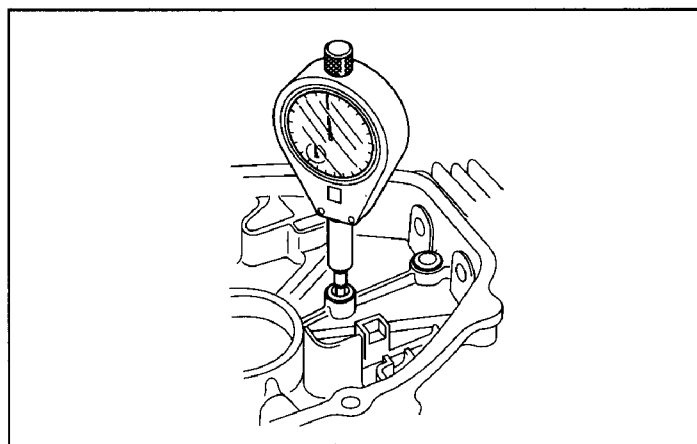
• CYLINDER BLOCK

Measure the I.D. of the camshaft roller bearing.

Standard	Service limit
5.005 – 5.023 mm (0.1970 – 0.1978 in)	5.050 mm (0.1988 in)

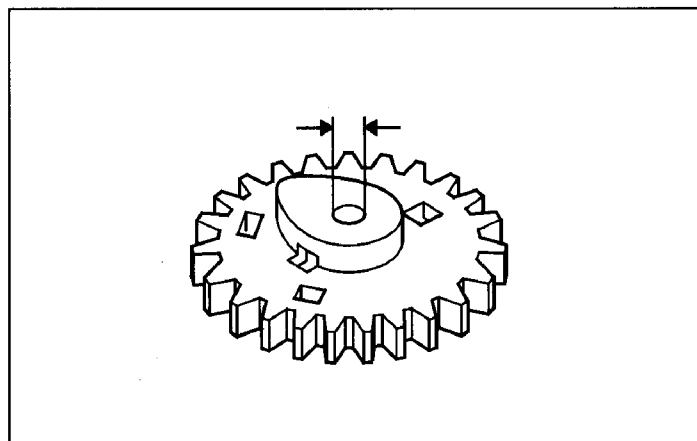
Measure the I.D. of the valve lifter roller bearing.

Standard	Service limit
5.005 – 5.023 mm (0.1970 – 0.1978 in)	5.050 mm (0.1988 in)



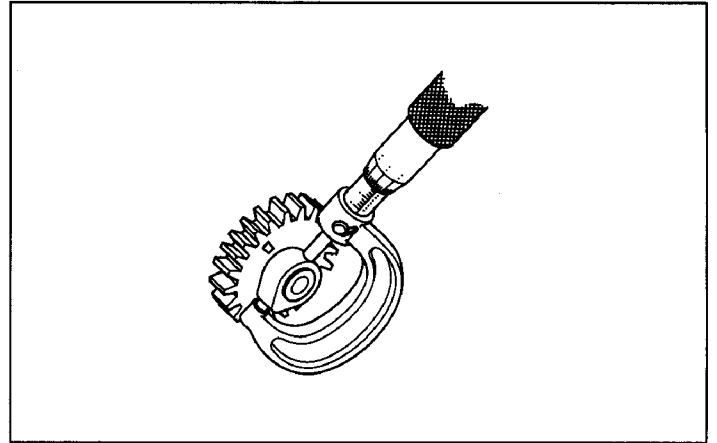
• CAMSHAFT I.D.

Standard	Service limit
5.020 – 5.050 mm (0.1976 – 0.1988 in)	5.100 mm (0.2008 in)

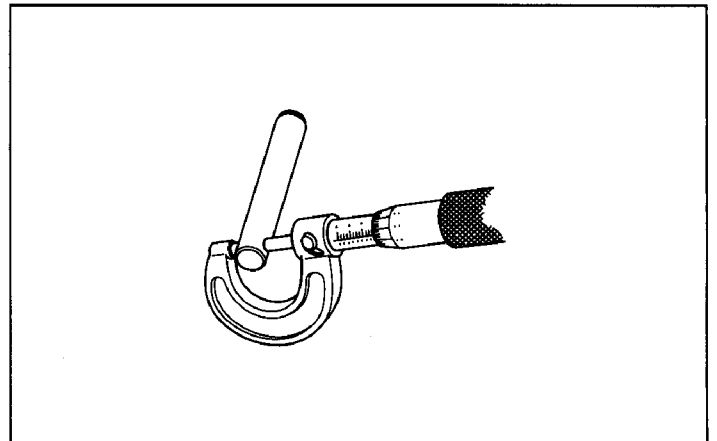


• CAM HEIGHT

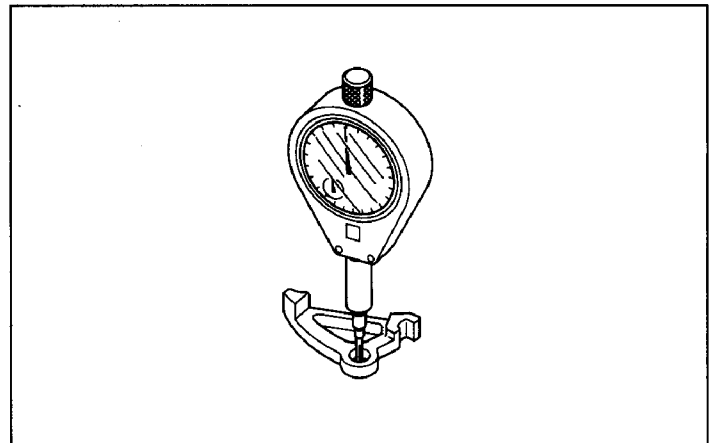
Standard	Service limit
27.972 mm (1.1013 in)	27.672 mm (1.0894 in)

**• CAMSHAFT ROLLER/VALVE LIFTER ROLLER O.D.**

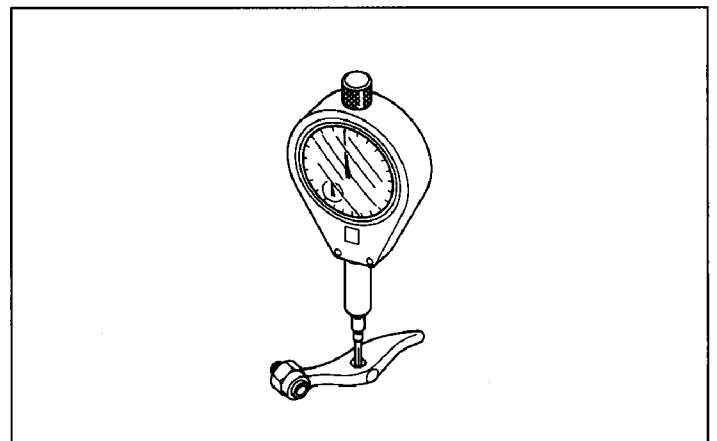
Standard	Service limit
4.990 – 5.000 mm (0.1965 – 0.1969 in)	4.950 mm (0.1949 in)

**• VALVE LIFTER I.D.**

Standard	Service limit
5.005 – 5.025 mm (0.1970 – 0.1978 in)	5.050 mm (0.1988 in)

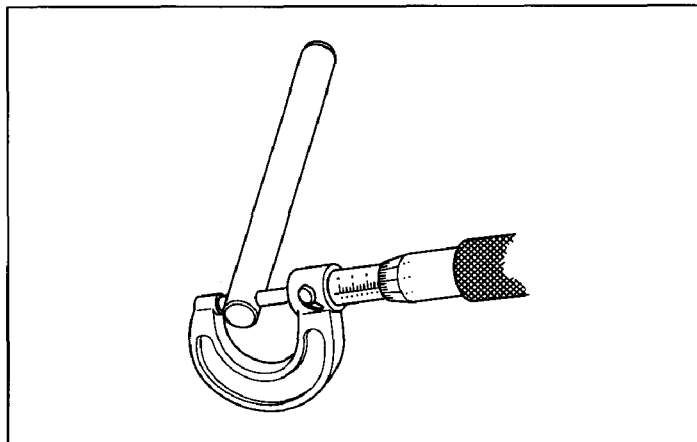
**• ROCKER ARM I.D.**

Standard	Service limit
4.005 – 4.025 mm (0.1577 – 0.1585 in)	4.050 mm (0.1594 in)



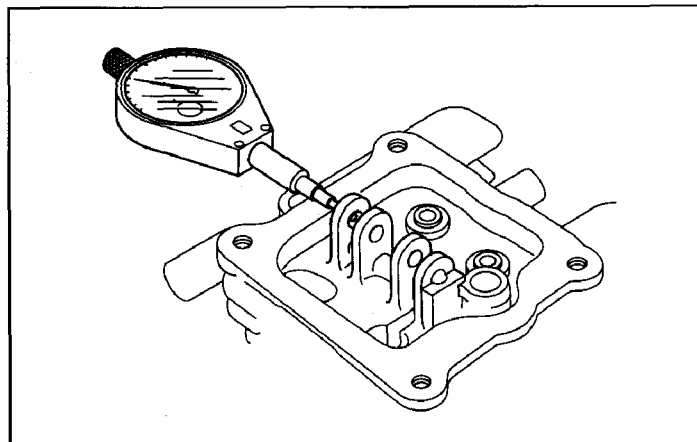
•ROCKER ARM SHAFT O.D.

Standard	Service limit
3.990 – 4.000 mm (0.1571 – 0.1575 in)	3.950 mm (0.1555 in)



•ROCKER ARM SHAFT BEARING I.D.

Standard	Service limit
4.000 – 4.018 mm (0.1575 – 0.1582 in)	4.050 mm (0.1594 in)



1. OIL CASE/CRANKSHAFT

2. PISTON

3. VALVE/CYLINDER BLOCK

4. INSPECTION

1. OIL CASE/CRANKSHAFT

a. DISASSEMBLY/REASSEMBLY

[1]
5 x 23 (8)

REASSEMBLY:

Tighten diagonally in 2 or 3 steps to the specified torque.

7.5 N·m (0.75 kgf·m, 5.4 lbf·ft)

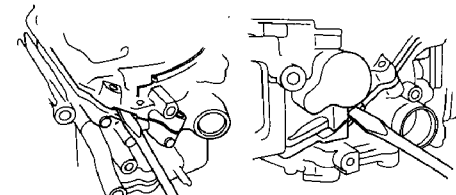
[2]
MARINE GREASE

[3]
17 x 27 x 5 mm OIL SEAL
INSTALLATION: P. 11-2

[4]
OIL CASE

REMOVAL:

Insert a screwdriver into the concave in the position shown, and remove the oil case.



REASSEMBLY: P. 11-2

[5]
PISTON/CONNECTING ROD ASSEMBLY

DISASSEMBLY/REASSEMBLY:

P. 11-4

INSTALLATION:

- Install with the Δ mark on the head toward the IN side.
- Take care not to break the piston ring during installation.

[5]-1
 Δ MARK

[22]
CRANKSHAFT

INSPECTION: P. 11-8

[21]
CONNECTING ROD CAP

REASSEMBLY: P. 11-3

[20]
CONNECTING ROD BOLT (2)

6.0 N·m
(0.6 kgf·m, 4.3 lbf·ft)

[19]
6 x 15 mm DOWEL PIN (2)

[18]
CYLINDER BLOCK

INSPECTION: P. 11-6

[17]
BREATHER PIPE

[16]
4 x 10

ASSEMBLY:
Apply LOCKTITE® 638 to the thread.

[6] BREATHER FILTER

[7] 3 x 5 mm SCREW

[8] STOPPER PLATE

INSTALLATION: P. 11-3

[9] OIL OUTLET VALVE

INSTALLATION: P. 11-3

5 x 16

[10] OIL FILLER EXTENSION

[11] SEALING WASHER

[12]
OIL DRAIN BOLT

6.5 N·m
(0.65 kgf·m, 4.7 lbf·ft)

[13] GASKET

[14] OIL FILLER CAP

[15]
22.1 x 2.2 mm O-RING

ASSEMBLY:
Do not reuse.

•OIL CASE ASSEMBLY

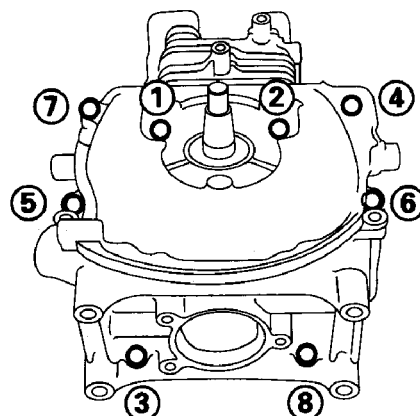
- 1) Clean the mating surfaces of the oil case and the cylinder block with a degreasing cleaning agent or a clean shop towel.
- 2) Install the two 6 x 15 mm dowel pins on the cylinder block.
- 3) Apply the liquid sealant (Three Bond 1216E or equivalent) to the mating surface of the cylinder block as shown.
- 4) Install the oil case on the cylinder block.
 - Assemble the oil case with the cylinder block within 3 minutes after application of the liquid sealant.
 - If it is hard to install the oil case properly, install by turning the crankshaft a little.
 - Take care not to damage the oil seal lip.
- 5) Loosely install the bolts, then tighten them to the specified torque in the numbered sequence shown.

TORQUE: 7.5 N·m (0.75 kgf·m, 5.4 lbf·ft)

Wait for 30 minutes after assembly. Do not add oil or start the engine during this period.

- [1]
Liquid sealant application position
Apply a bead about 1.0 mm (0.04 in) in diameter.

- [2]
CYLINDER BLOCK



•OIL SEAL INSTALLATION

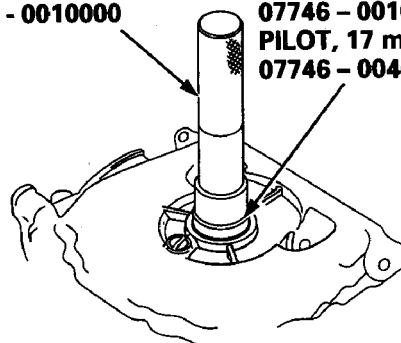
- 1) Drive in the oil seal to the depth shown using the special tools.
- 2) Apply marine grease to the oil seal lip.

S. TOOL

S. TOOL

- [1]
DRIVER HANDLE A
07749 - 0010000

- [2]
ATTACHMENT, 24 x 26 mm
07746 - 0010700
PILOT, 17 mm
07746 - 0040400



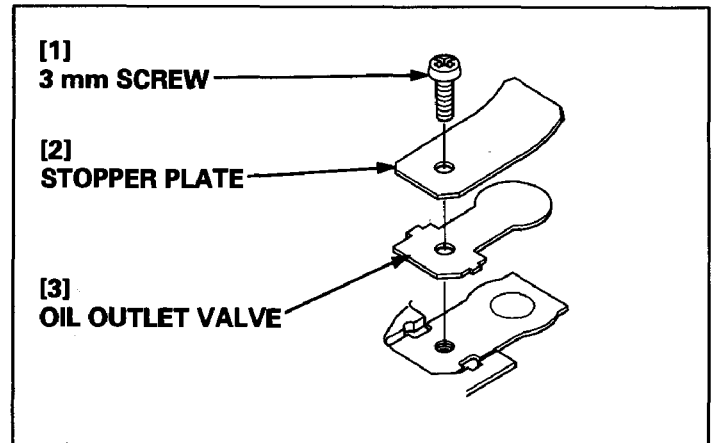
- [4]
OIL SEAL
- 0.7 - 1.7 mm
(0.03 - 0.07 in)



- [3]
MARINE GREASE

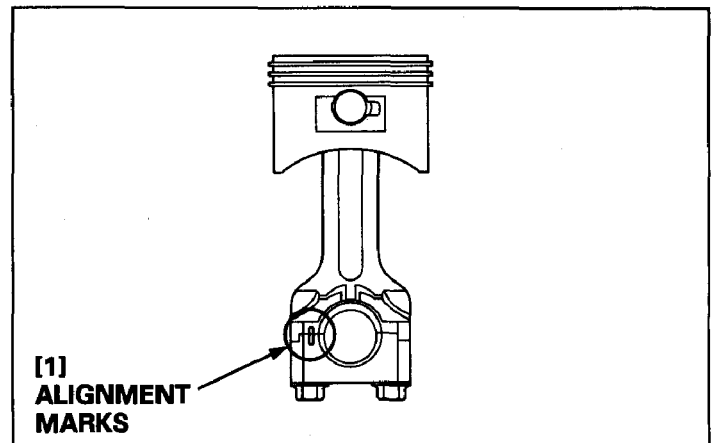
• BREATHER VALVE INSTALLATION

- 1) Clean the oil outlet valve, stopper plate and the valve installation section of the cylinder barrel.
- 2) Install the valve aligning the positioning projection and chamfer of the valve with the groove and chamfer of the cylinder barrel.
- 3) Install the stopper plate on the valve aligning the chamfered corner of the stopper plate with the chamfer of the cylinder barrel.
- 4) Tighten the 3 mm screw securely.



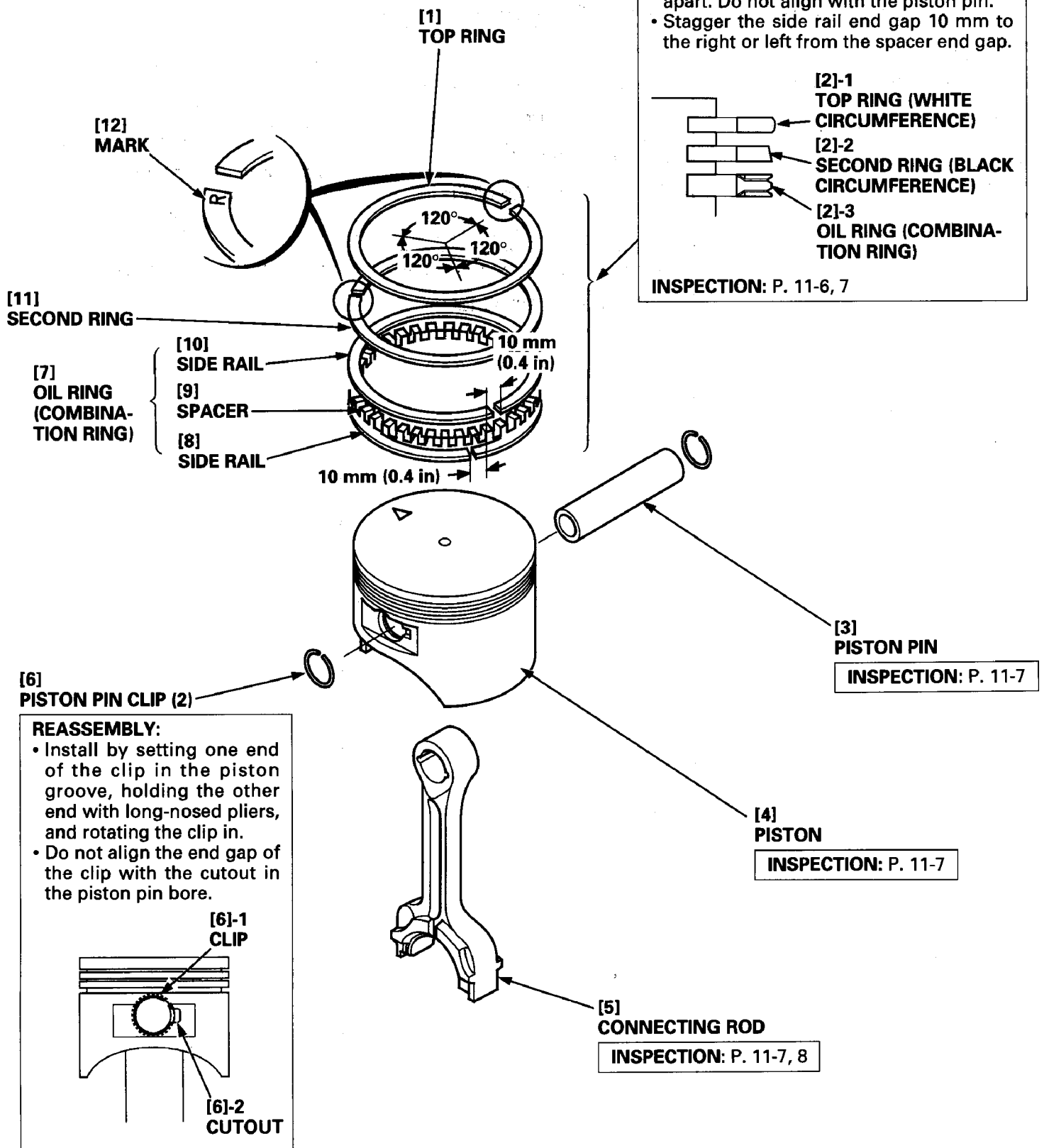
• CONNECTING ROD CAP

Install by aligning the alignment marks on the connecting rod big end and on the cap.



2. PISTON

a. DISASSEMBLY/REASSEMBLY



3. VALVE/CYLINDER BLOCK

a. DISASSEMBLY/REASSEMBLY

[1] INLET VALVE

REASSEMBLY:

- Remove carbon deposits before installation.
- Check the valve head for damage.
- Do not interchange with the exhaust valve.

VALVE HEAD DIAMETER:

IN: 17.5 mm

EX: 15.5 mm

INSPECTION: P. 11-9

[2] EXHAUST VALVE

REASSEMBLY:

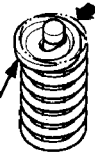
- Remove carbon deposits before installation.
- Check the valve head for damage.

INSPECTION: P. 11-9

[3] VALVE SPRING RETAINER (2)

DISASSEMBLY:

Push down and slide the retainer to the side, so the valve stem slips through the hole at the side of the retainer.



[3]-1 VALVE SPRING RETAINER

REASSEMBLY:

Install the valve spring retainer while holding the valve with the handle of a driver or hammer.

[7] VALVE GUIDE

INSPECTION: P. 11-9

[6] CYLINDER BLOCK

INSPECTION: P. 11-6

[5] VALVE STEM SEAL (IN SIDE ONLY)

[4] VALVE SPRING (2)

INSPECTION: P. 11-9

b. COMBUSTION CHAMBER CLEANING

CAUTION

- Be sure to insert a thick paper into the cylinder to protect the inner wall of the cylinder during cleaning.
- Do not press the cleaning brush with force against the combustion chamber.

1) Prepare a protective lining of thick paper or equivalent material, with a diameter large enough to fit against the inner wall of the cylinder, and insert it into the cylinder.

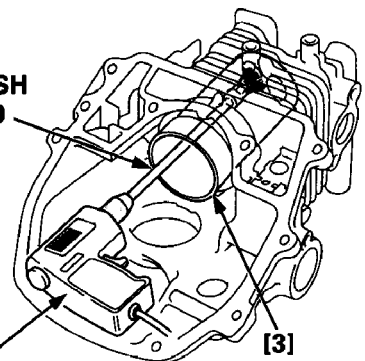
2) Attach a cleaning brush to an electric drill and clean the combustion chamber.

S TOOL

[1] CLEANING BRUSH 07998 - VA20100

[2] ELECTRIC DRILL

[3] THICK PAPER OR EQUIVALENT

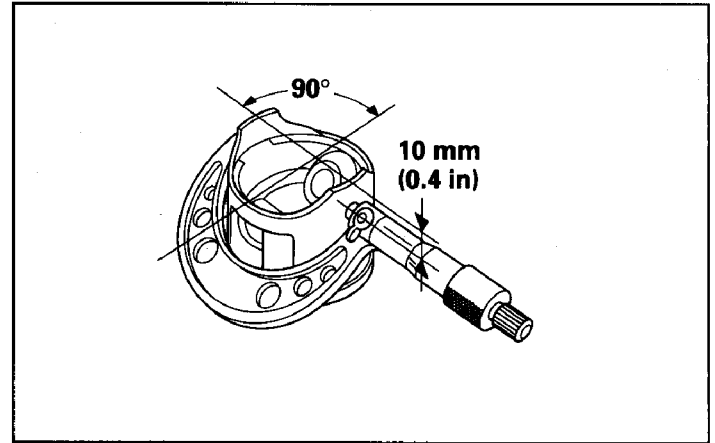


4. INSPECTION

• PISTON SKIRT O.D.

Measure and record the piston O.D. at a point 10 mm (0.4 in) from the bottom of the skirt and 90° to the piston pin bore.

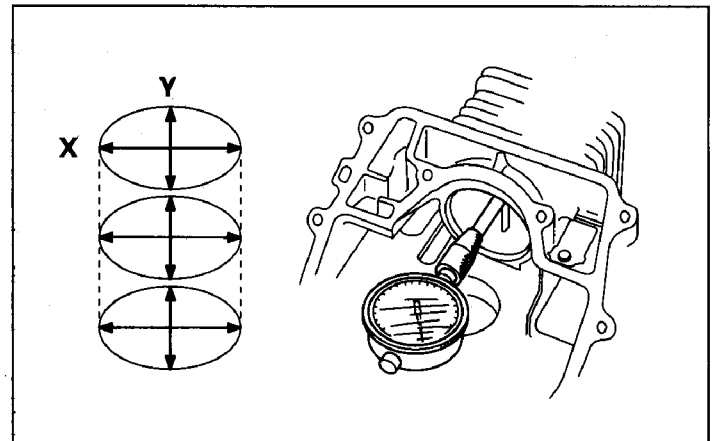
Standard	Service limit
44.97 – 44.99 mm (1.770 – 1.771 in)	44.90 mm (1.768 in)



• CYLINDER SLEEVE I.D.

Measure and record the cylinder I.D. at three levels in both the "X" axis (parallel to piston pin) and the "Y" axis (perpendicular to piston pin). Take the maximum reading of each measurement to determine the cylinder I.D.

Standard	Service limit
45.000 – 45.015 mm (1.7717 – 1.7722 in)	45.100 mm (1.7756 in)

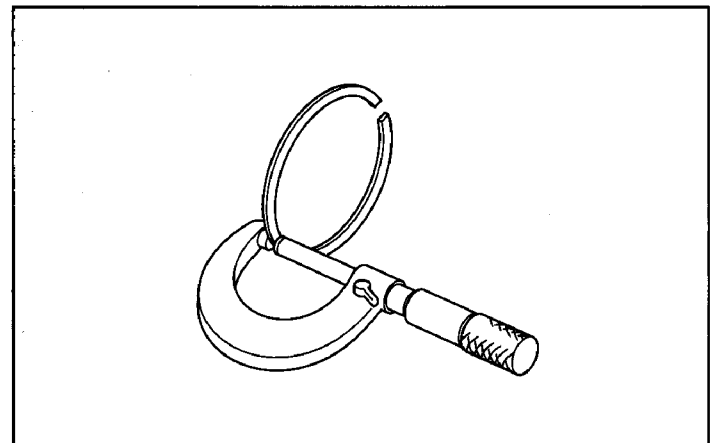


• PISTON-TO-CYLINDER CLEARANCE

Standard	Service limit
0.010 – 0.045 mm (0.0004 – 0.0018 in)	0.120 mm (0.0047 in)

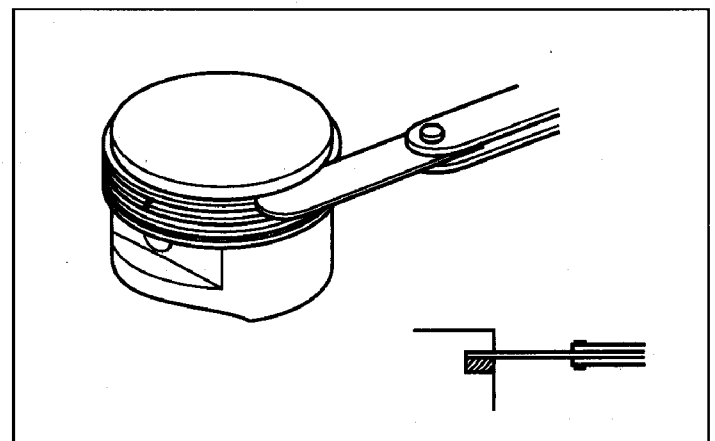
• PISTON RING WIDTH

	Standard	Service limit
Top/Second	0.97 – 0.99 mm (0.031 – 0.039 in)	0.920 mm (0.0362 in)



• RING SIDE CLEARANCE

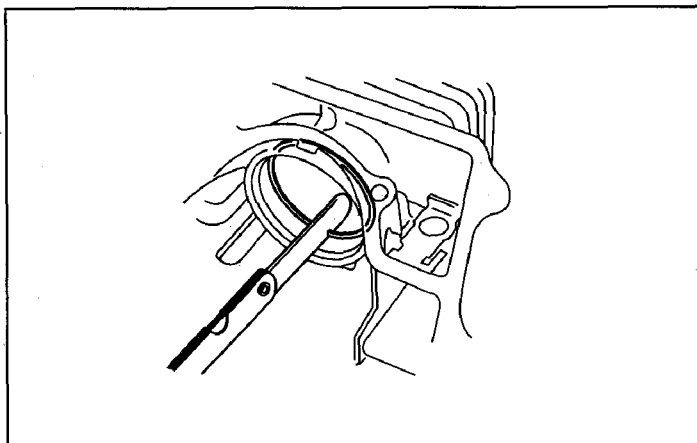
	Standard	Service limit
Top/Second	0.015 – 0.050 mm (0.0006 – 0.0020 in)	0.120 mm (0.0047 in)



• PISTON RING END GAP

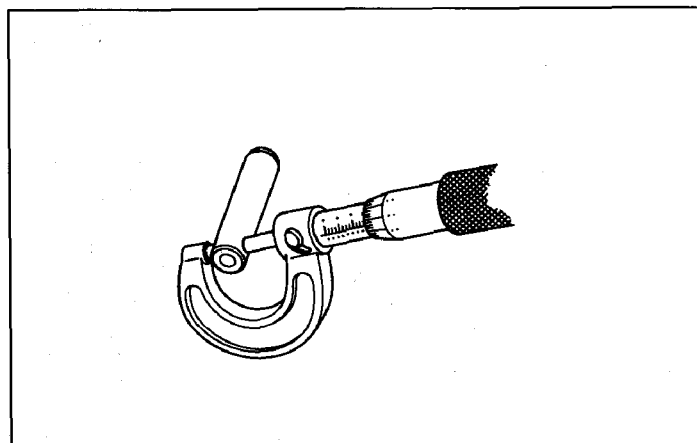
Use the top of the piston to position the ring horizontally in the cylinder, and measure the piston ring end gap.

	Standard	Service limit
Top	0.100 – 0.250 mm (0.0039 – 0.0098 in)	0.600 mm (0.0236 in)
Second	0.250 – 0.400 mm (0.0098 – 0.0157 in)	0.600 mm (0.0236 in)



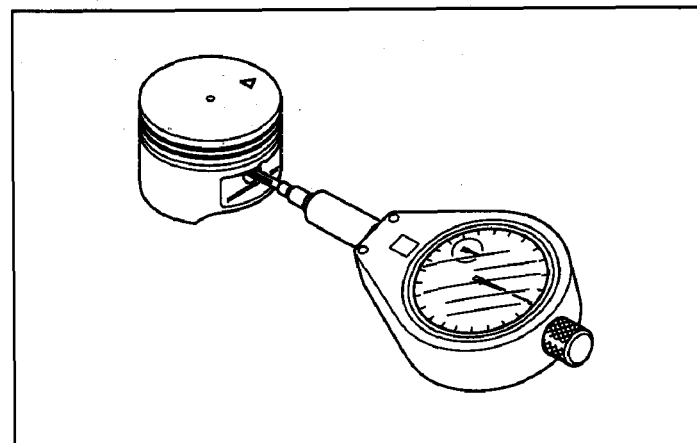
• PISTON PIN O.D.

Standard	Service limit
9.994 – 10.000 mm (0.3935 – 0.3937 in)	9.950 mm (0.3917 in)



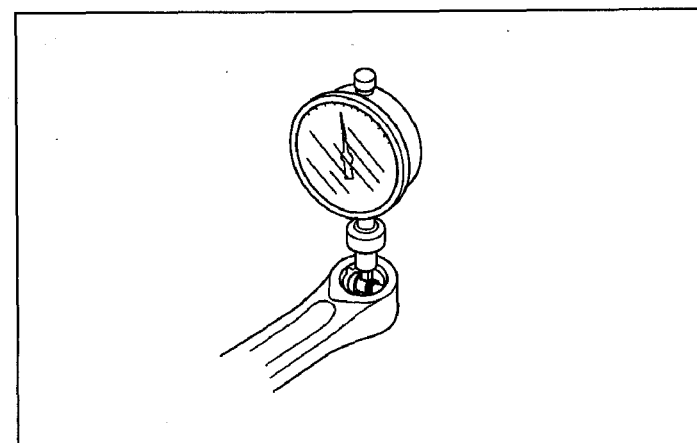
• PISTON PIN BORE I.D.

Standard	Service limit
10.002 – 10.008 mm (0.3938 – 0.3940 in)	10.050 mm (0.3957 in)



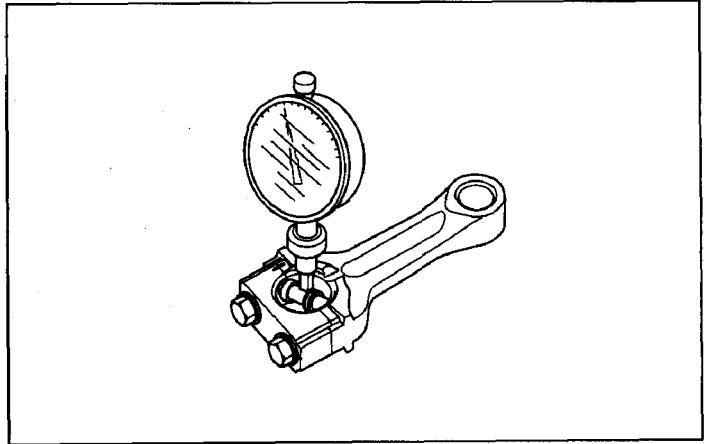
• CONNECTING ROD SMALL END I.D.

Standard	Service limit
10.006 – 10.017 mm (0.3939 – 0.3944 in)	10.050 mm (0.3957 in)



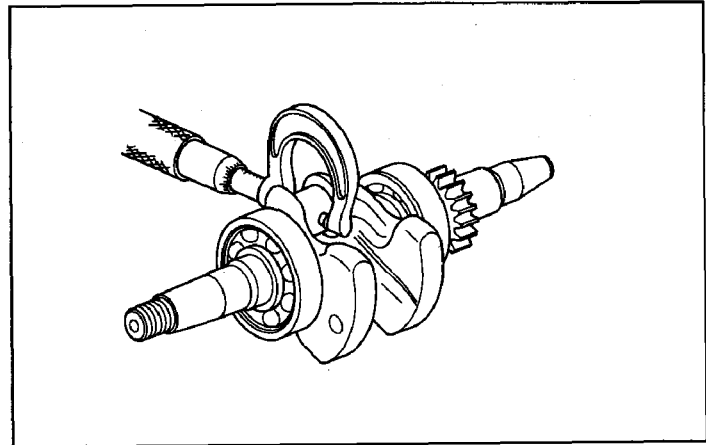
•CONNECTING ROD BIG END I.D.

Standard	Service limit
15.000 – 15.011 mm (0.5906 – 0.5910 in)	15.040 mm (0.5921 in)



•CRANK PIN O.D.

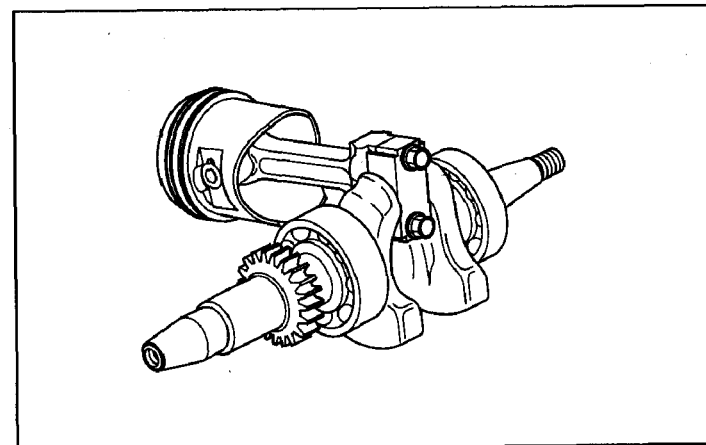
Standard	Service limit
14.973 – 14.984 mm (0.5895 – 0.5899 in)	14.940 mm (0.5882 in)



•CONNECTING ROD BIG END OIL CLEARANCE

- 1) Clean the crank pin and the connecting rod big end.
- 2) Set the plastigauge in the axial direction on the crank pin.
- 3) Install the connecting rod and connecting rod cap. Hold the crankshaft not to turn and tighten the connecting rod bolt to the specified torque.

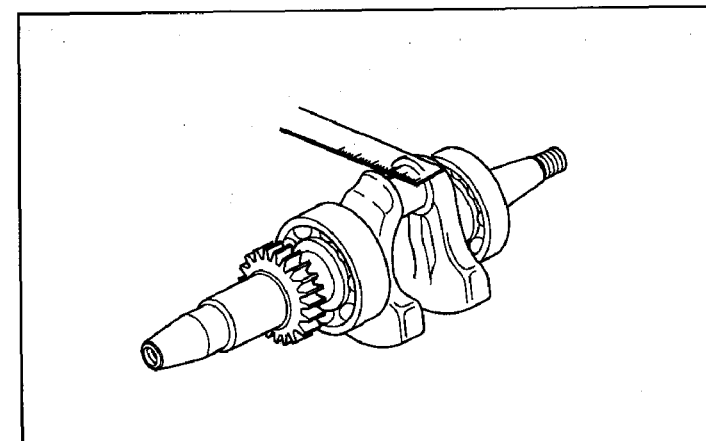
TORQUE: 5.9 N·m (0.6 kgf·m)



- 4) Remove the connecting rod cap and measure the plastigauge with the plastigauge scale.

Standard	Service limit
0.016 – 0.038 mm (0.0006 – 0.0015 in)	0.100 mm (0.0039 in)

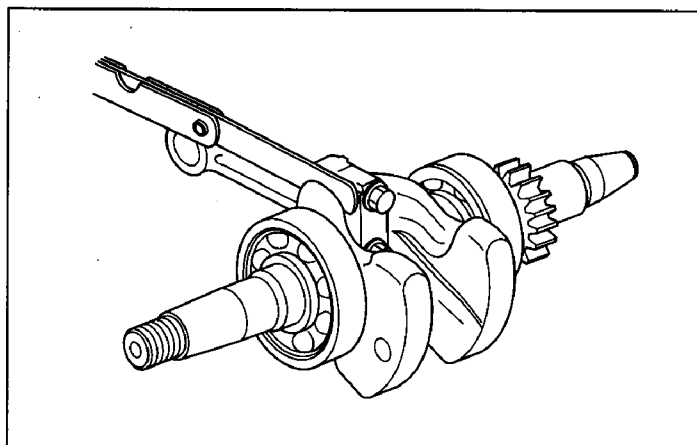
- 5) If the measurement exceeds the service limit, replace the connecting rod and recheck the clearance. If the clearance, measured by using a new connecting rod, exceeds the service limit, replace the crankshaft.



• CONNECTING ROD BIG END SIDE CLEARANCE

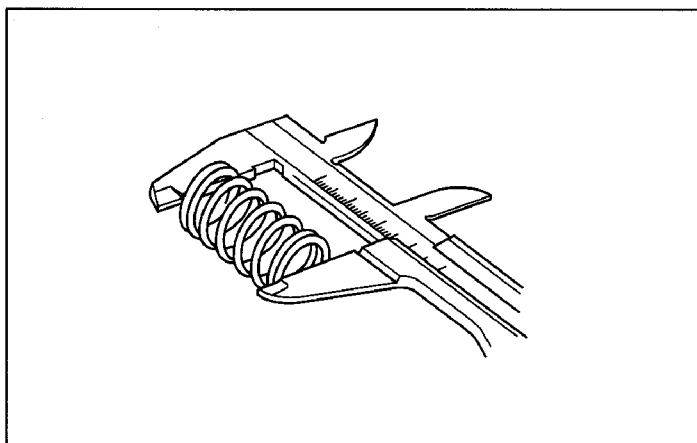
Measure the clearance using a feeler gauge.

Standard	Service limit
0.1 – 0.6 mm (0.004 – 0.024 in)	0.8 mm (0.031 in)



• VALVE SPRING FREE LENGTH

Standard	Service limit
23.7 mm (0.93 in)	22.8 mm (0.90 in)



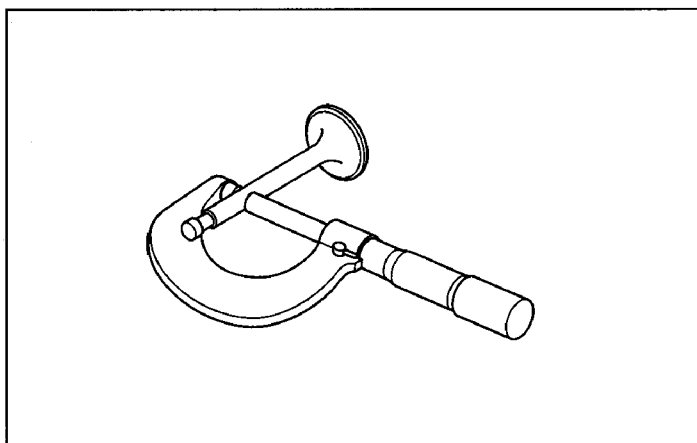
• VALVE STEM O.D.

Inspect each valve face for pitting or wear irregularities.
Inspect each valve stem for bending or abnormal stem wear.

Insert the valve into the valve guide and check for operation.

Measure the valve stem O.D. at the sliding surface of the valve guide.

	Standard	Service limit
IN	3.970 – 3.985 mm (0.15623 – 0.1569 in)	3.900 mm (0.1535 in)
EX	3.935 – 3.950 mm (0.1549 – 0.1555 in)	3.880 mm (0.1528 in)



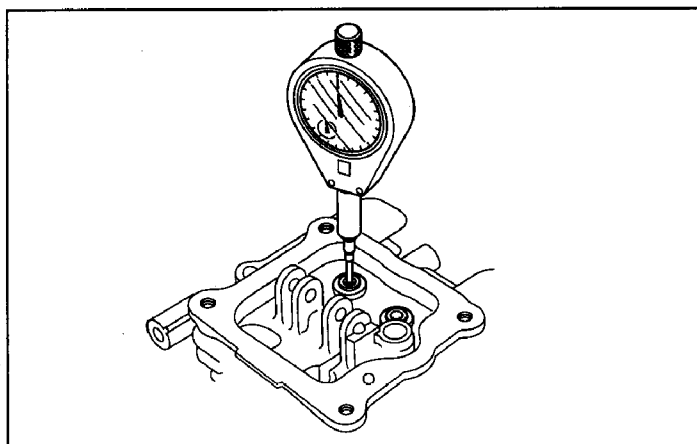
• VALVE GUIDE I.D.

	Standard	Service limit
IN/EX	4.000 – 4.018 mm (0.1575 – 0.1582 in)	4.060 mm (0.1598 in)

If the measurement exceeds the service limit, replace the cylinder barrel.

• VALVE STEM-TO-GUIDE CLEARANCE

	Standard	Service limit
IN	0.015 – 0.048 mm (0.0006 – 0.0019 in)	0.098 mm (0.0039 in)
EX	0.050 – 0.083 mm (0.0020 – 0.0033 in)	0.120 mm (0.0039 in)

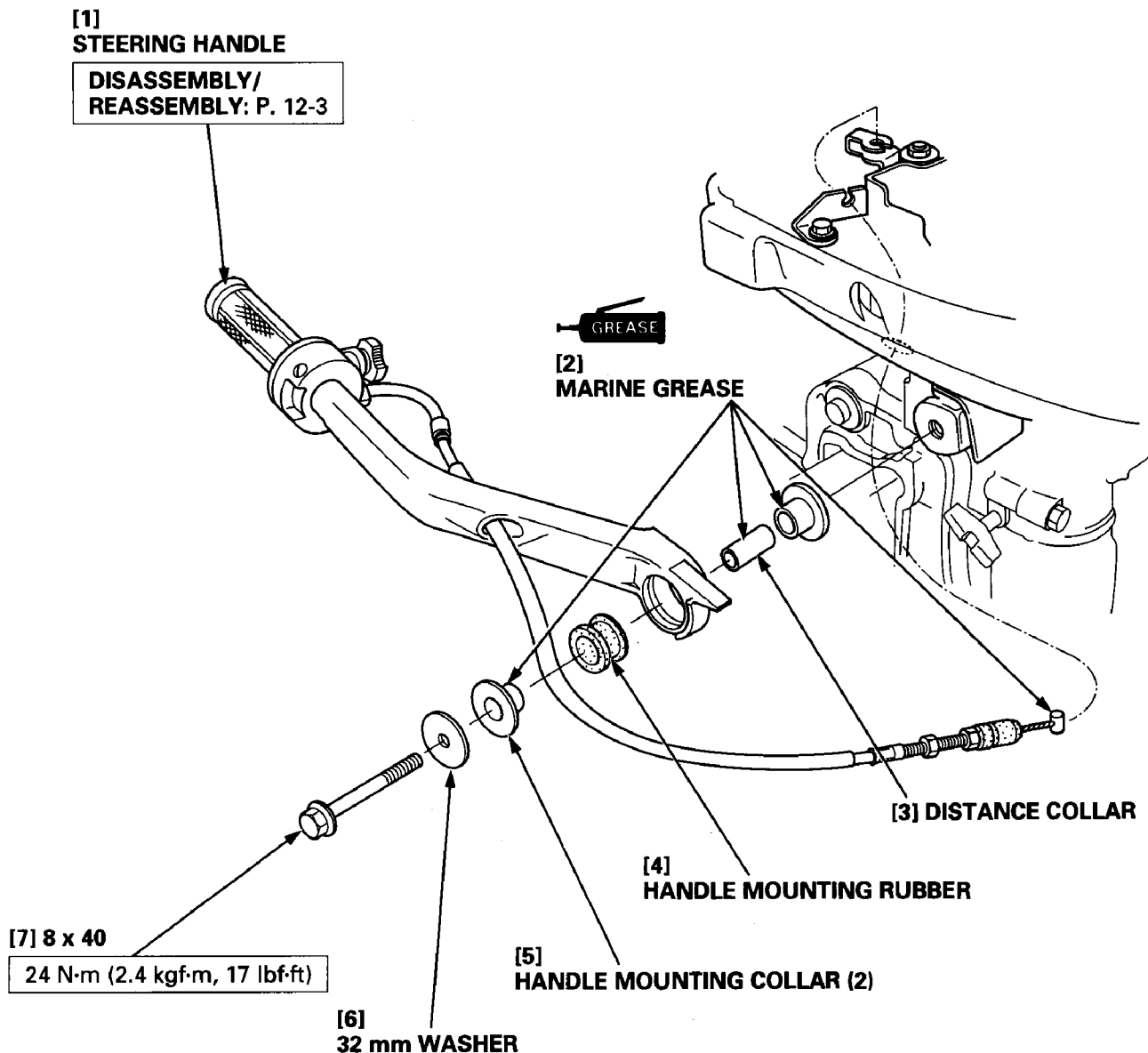
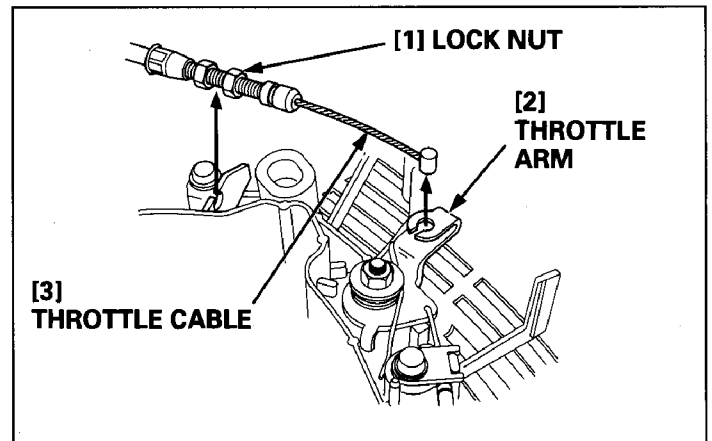


1. STEERING HANDLE

1. STEERING HANDLE

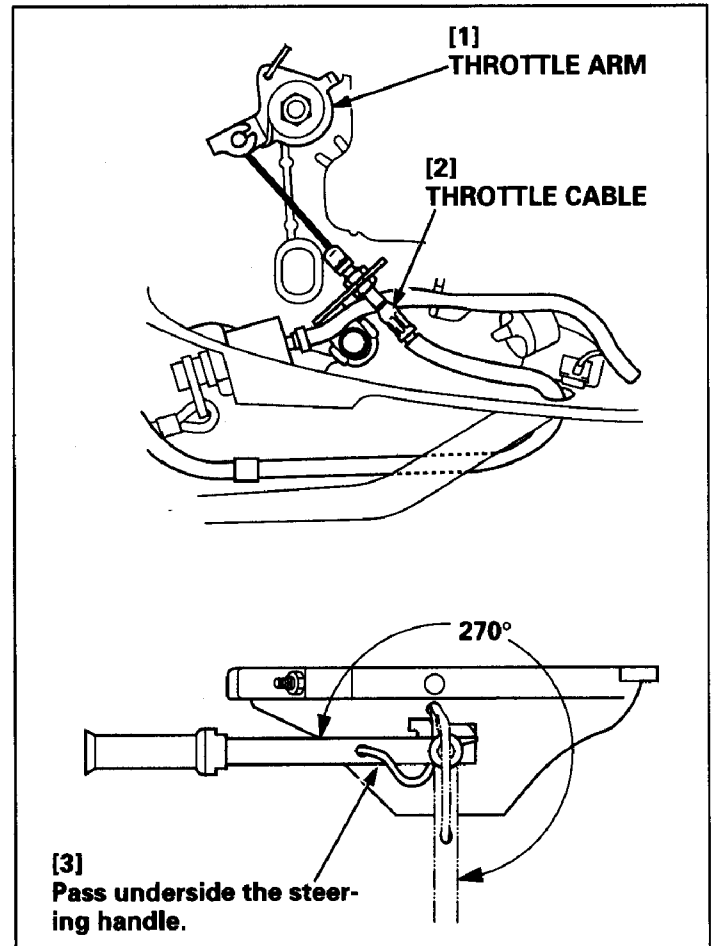
a. REMOVAL/INSTALLATION

- 1) Remove the engine cover (P. 4-1).
- 2) SH, LH, SCH, LCH type only:
 - Remove the fuel tank (P. 4-2).
 - Loosen the lock nut and disconnect the throttle cable from the throttle arm.
 - After installation, adjust the throttle cable (P. 3-6).



• THROTTLE CABLE INSTALLATION (SH, LH, SCH, LCH Type only)

- 1) Pass the throttle cable in the position shown. Connect the throttle cable to the throttle lever and set it at the cable holder.
- 2) Adjust the throttle cable (P. 3-6).
- 3) Turn the steering handle 270° and check the throttle cable for interference with the surrounding parts. Be sure that the cable is not pulled taut or excessively slack.



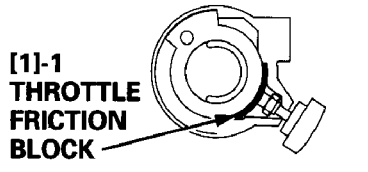
b. DISASSEMBLY/REASSEMBLY

• SH, LH, SCH, LCH TYPE

[1] THROTTLE FRICTION BLOCK

REASSEMBLY:

Set in the groove in the throttle housing securely. Be sure that the block is not off in the groove in the housing.



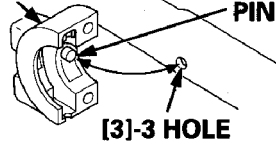
[3] LOWER THROTTLE HOUSING

REASSEMBLY:

Install the lower throttle housing by aligning the pin of the housing with the hole in the handle pipe.

[3]-1

LOWER THROTTLE HOUSING

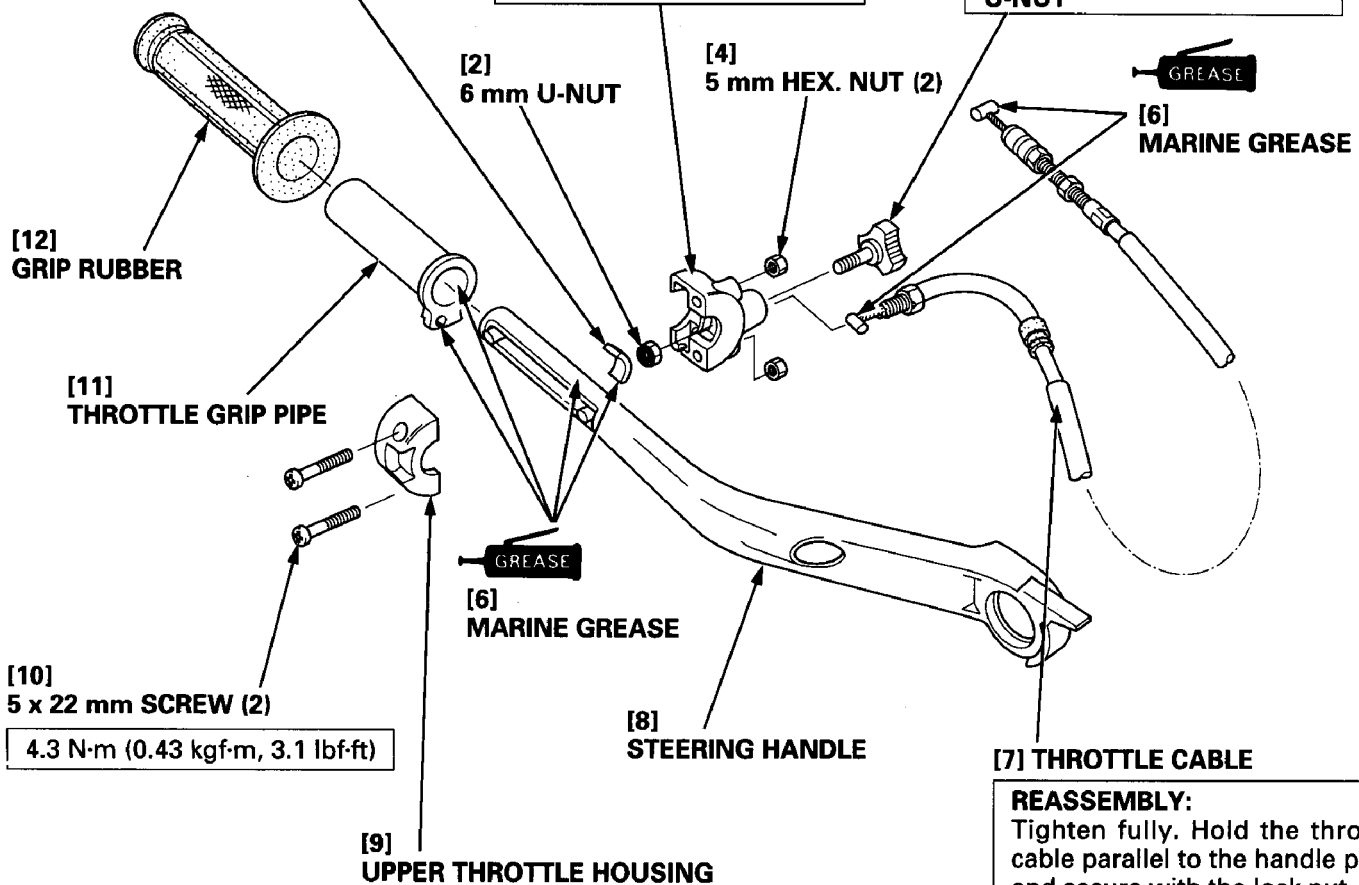
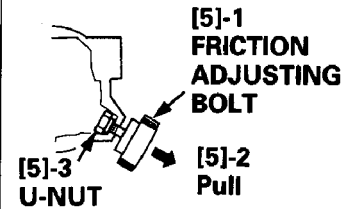


[5]

FRICTION ADJUSTING BOLT

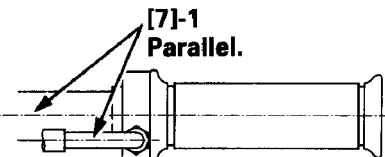
REASSEMBLY:

Install the U-nut in the direction shown and screw it in 2 - 3 turns. Then pull the adjusting bolt fully.

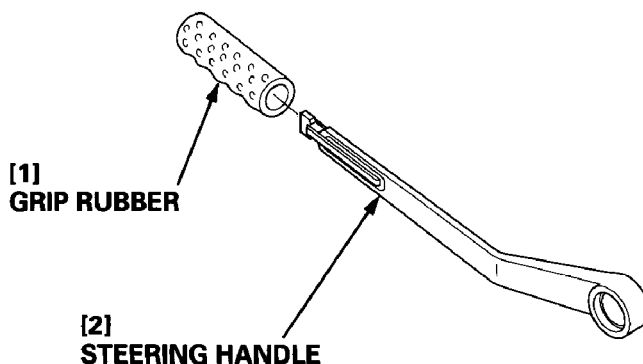


REASSEMBLY:

Tighten fully. Hold the throttle cable parallel to the handle pipe, and secure with the lock nut.



• S, L, SC, LC TYPE



13. CLUTCH HOUSING/ENGINE UNDER CASE/EXHAUST PIPE

HONDA
BF2D

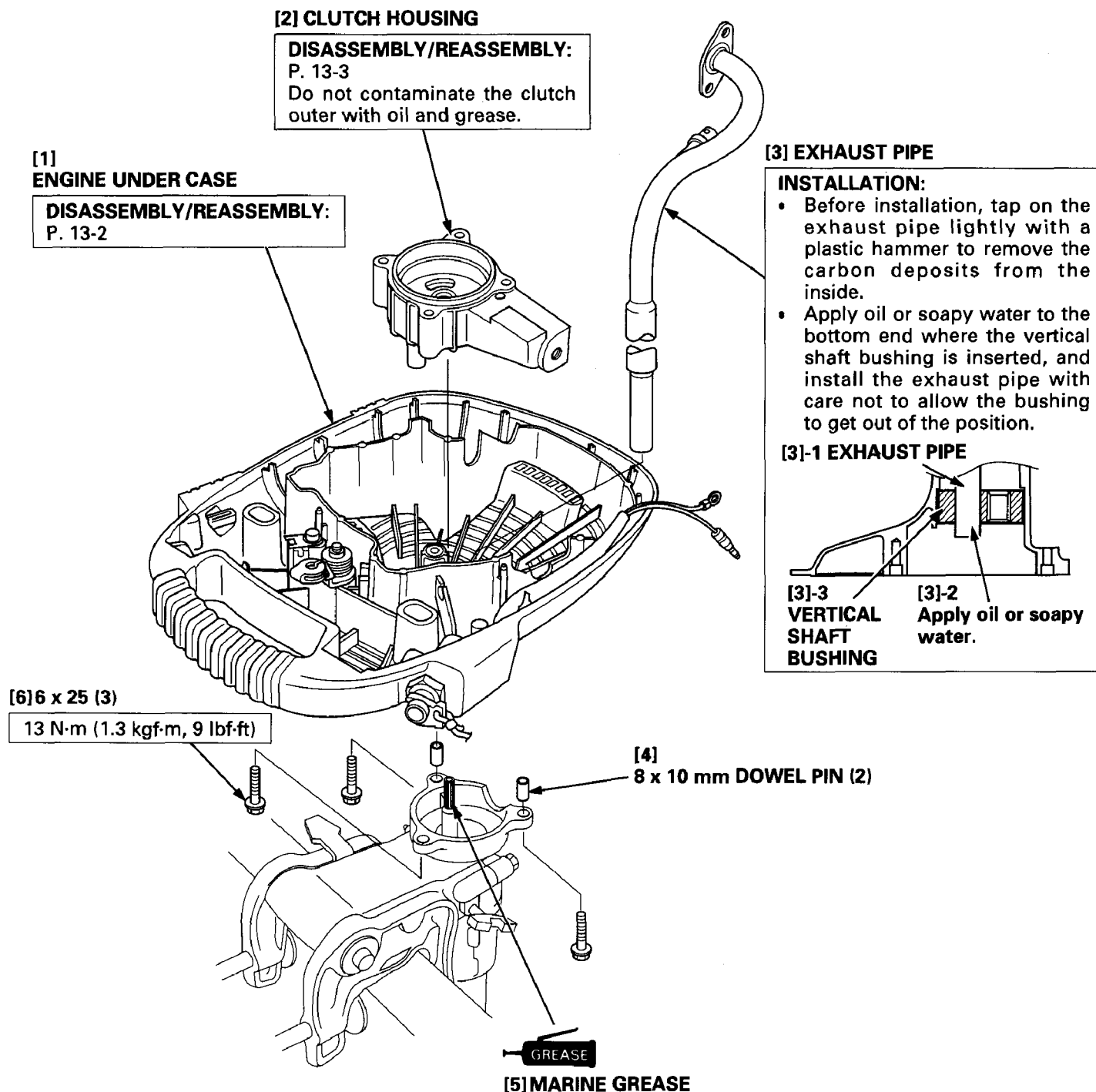
1. ENGINE UNDER CASE/EXHAUST PIPE

2. CLUTCH HOUSING

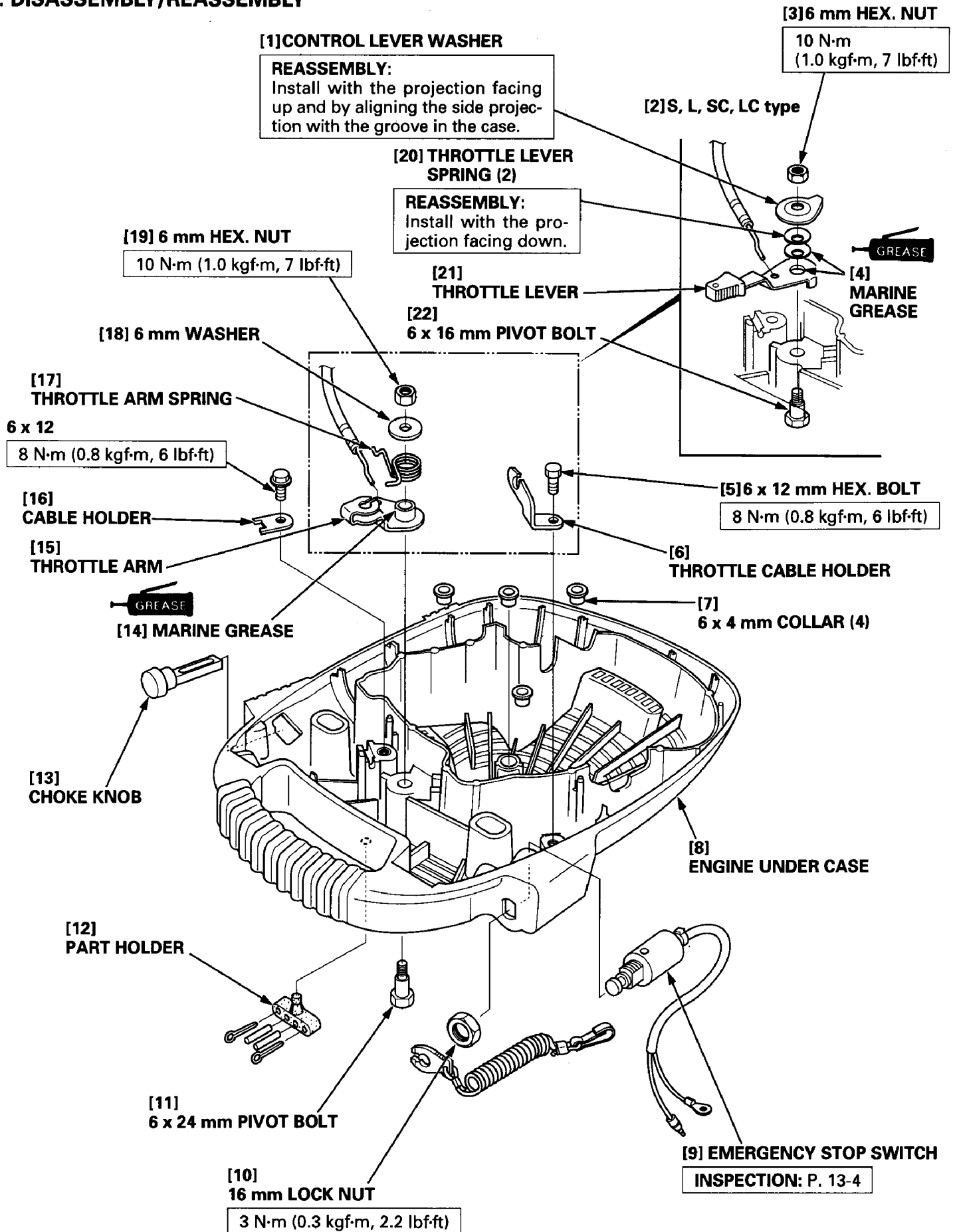
1. ENGINE UNDER CASE/EXHAUST PIPE

a. REMOVAL/INSTALLATION

- 1) Remove the engine (P. 6-1).
- 2) Remove the steering handle (P. 12-1).



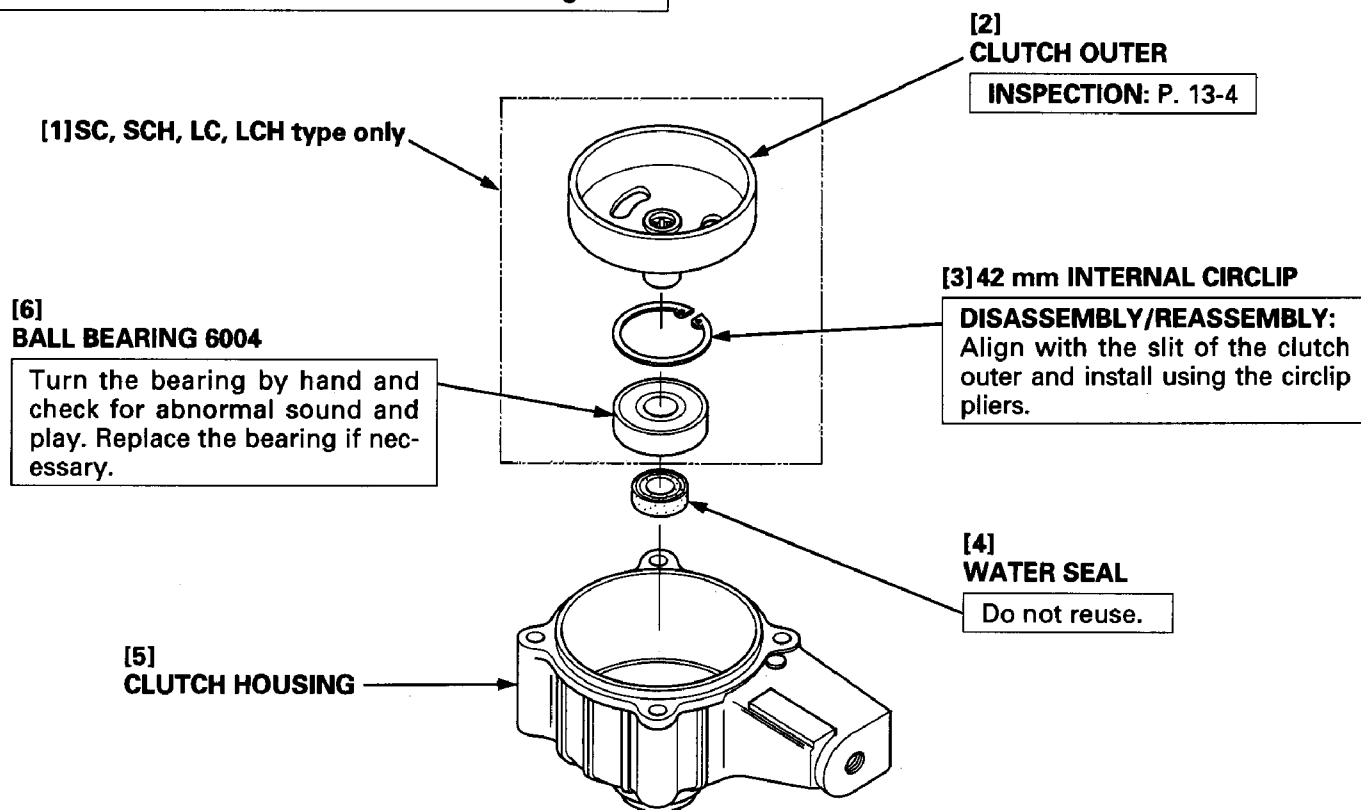
b. DISASSEMBLY/REASSEMBLY



2. CLUTCH HOUSING

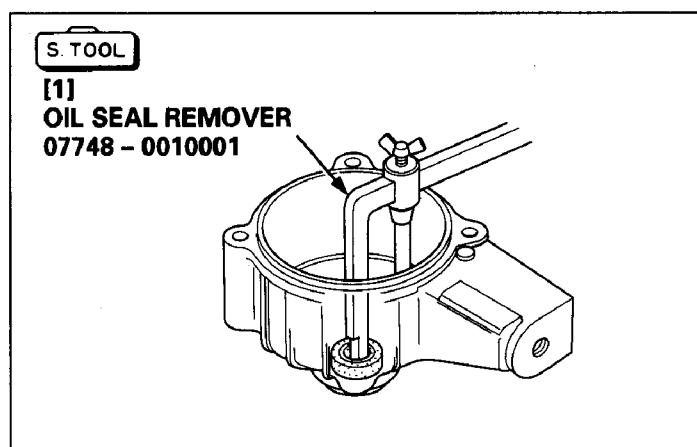
CAUTION

Do not contaminate the clutch outer with oil and grease.



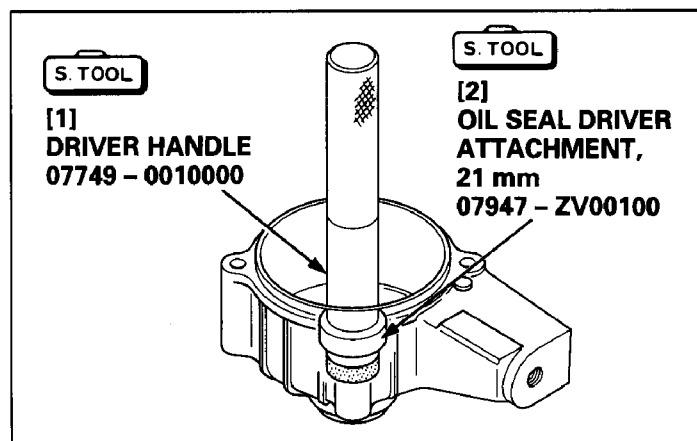
• WATER SEAL REPLACEMENT

1) Remove the water seal using the special tool.



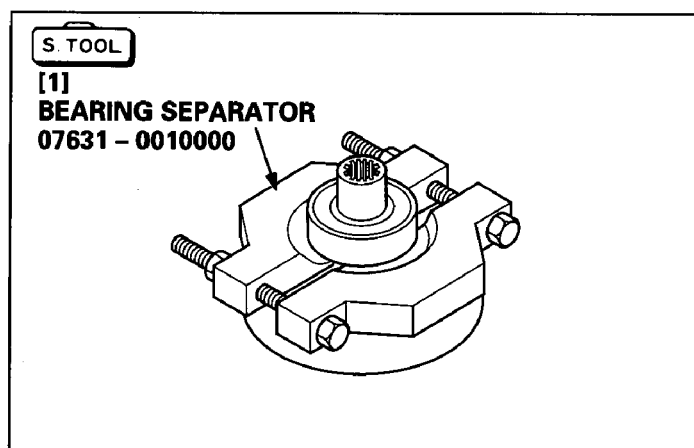
2) Install a new oil seal using the special tools.

3) Apply marine grease to the water seal lip.

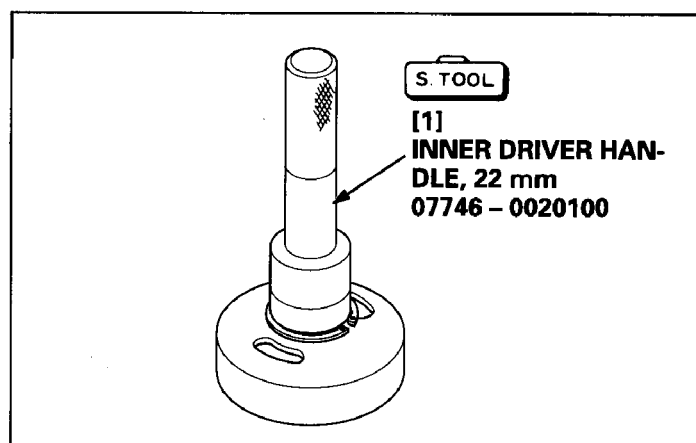


• BALL BEARING 6004 REPLACEMENT (SC, SCH, LC, LCH type only)

- 1) Remove the 42 mm circlip out of the hole in the clutch outer, and remove the clutch outer.
- 2) Remove the bearing using the special tool.



- 3) Install the 42 mm circlip on the clutch outer. Install with the press sagging facing the bearing.
- 4) Install a new bearing using the special tool.

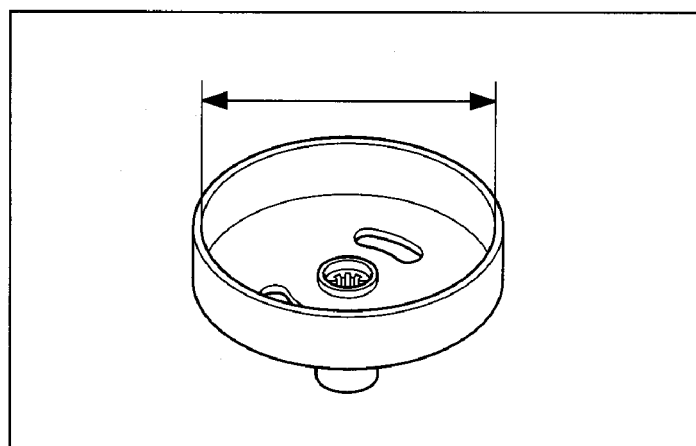


c. INSPECTION

• CLUTCH OUTER (SC, SCH, LC, LCH type only)

Measure the clutch outer I.D.

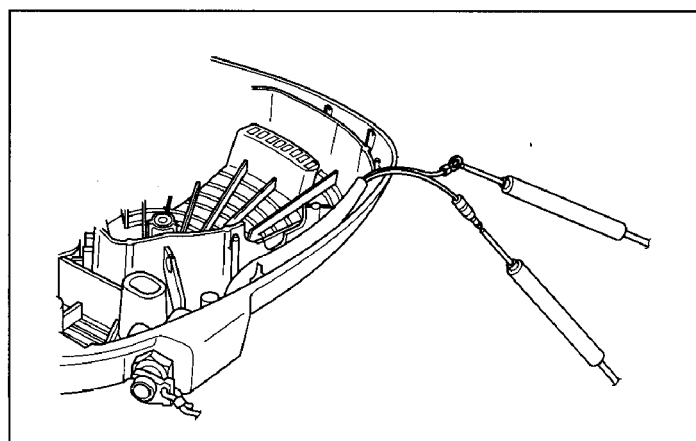
Standard	Service limit
78.00 - 78.25 mm (3.071 - 3.081 in)	78.5 mm (3.09 in)



• EMERGENCY STOP SWITCH

Check for continuity between the terminals.

- There must be no continuity with the clip installed.
- There must be continuity when the switch is pushed with the clip installed.
- There must be continuity with the clip removed.



14. STERN BRACKET/EXTENSION CASE

HONDA
BF2D

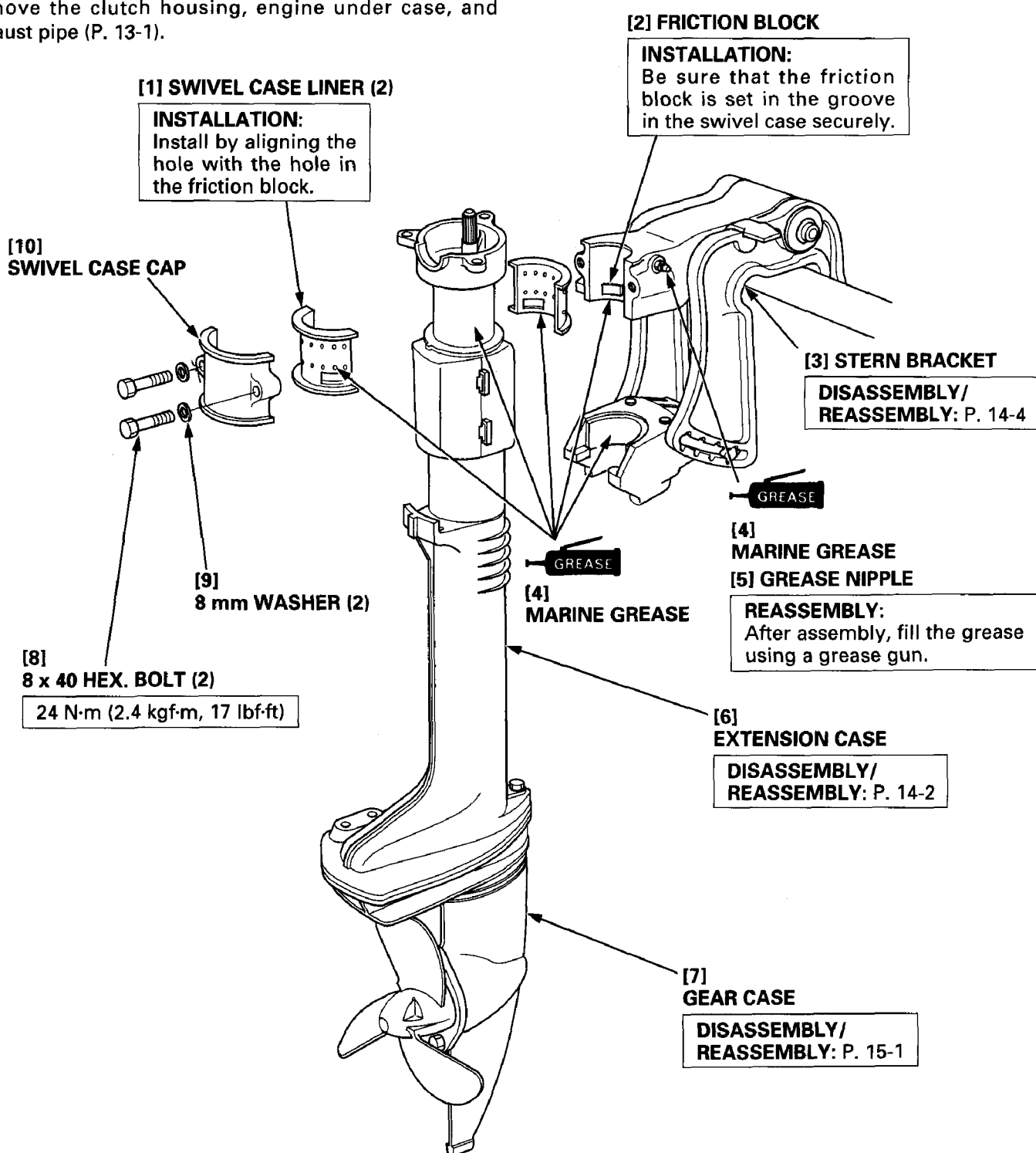
1. EXTENSION CASE

2. STERN BRACKET

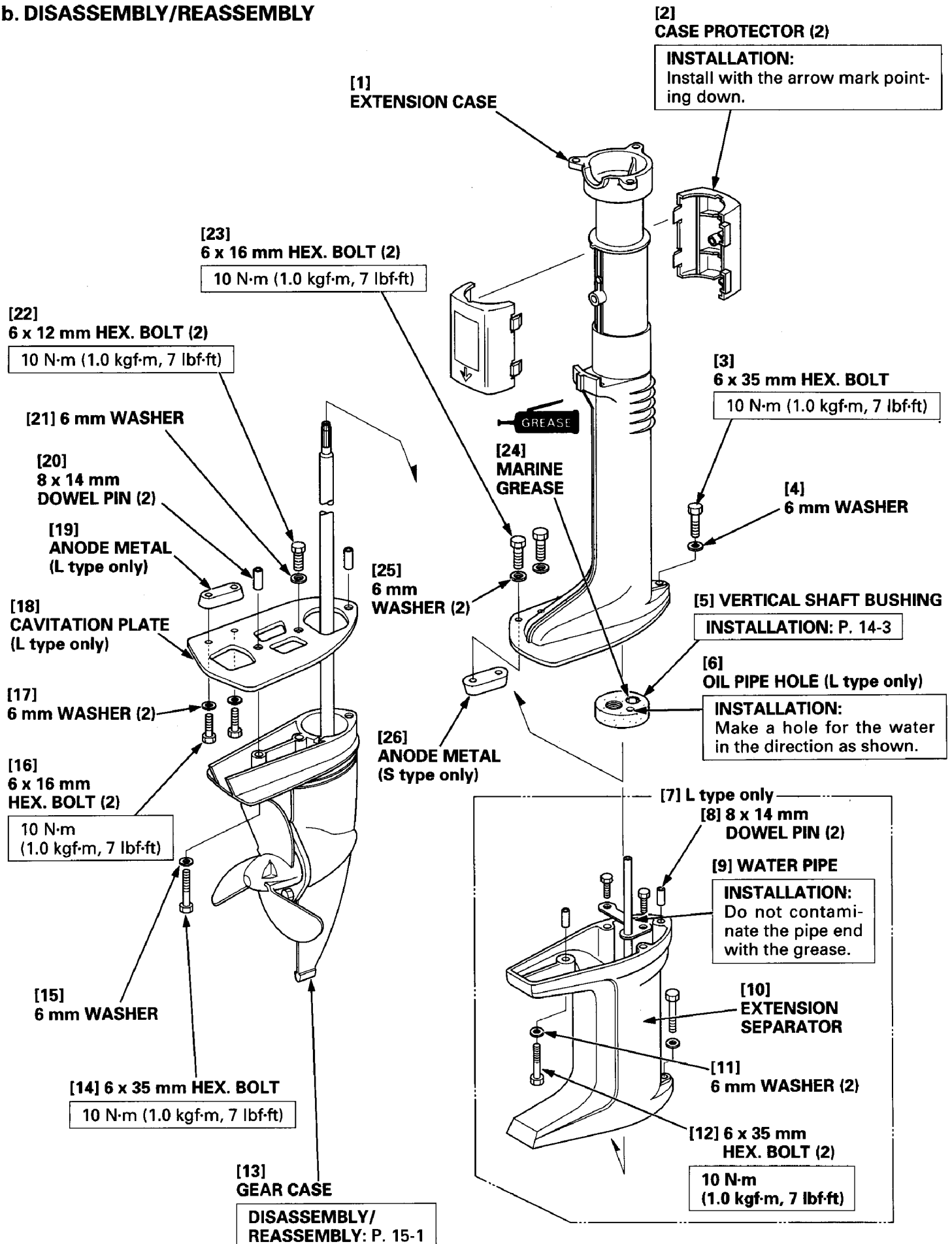
1. EXTENSION CASE

a. REMOVAL/INSTALLATION

- 1) Remove the engine (P. 6-1).
- 2) Remove the clutch housing, engine under case, and exhaust pipe (P. 13-1).

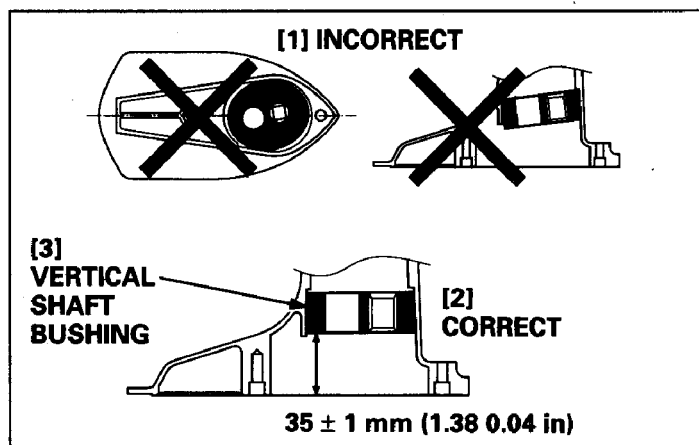


b. DISASSEMBLY/REASSEMBLY



• VERTICAL SHAFT BUSHING INSTALLATION

- 1) Clean and degrease the extension case installation part and the outer surface of the bushing.
- 2) Apply water to the outer surface of the bushing, and push the bushing into the extension case from the bottom until it stops.
- 3) Be sure that the bushing is not inclined and is not offset but is set properly.
- 4) Apply marine grease to the vertical shaft bushing.



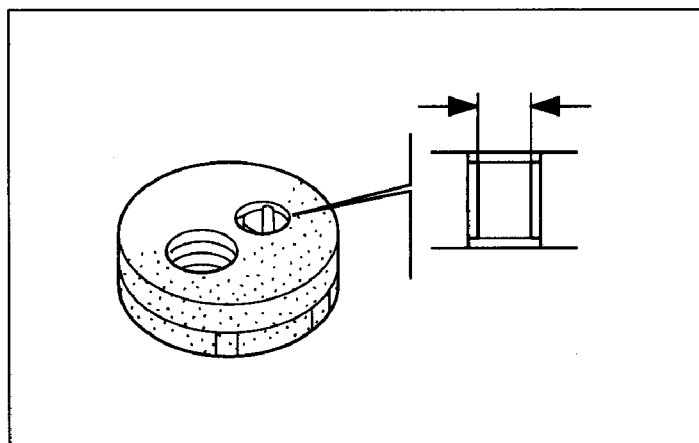
c. INSPECTION

• VERTICAL SHAFT BUSHING I.D.

Standard	Service limit
11.15 – 11.20 mm (0.439 – 0.441 in)	11.70 mm (0.461 in)

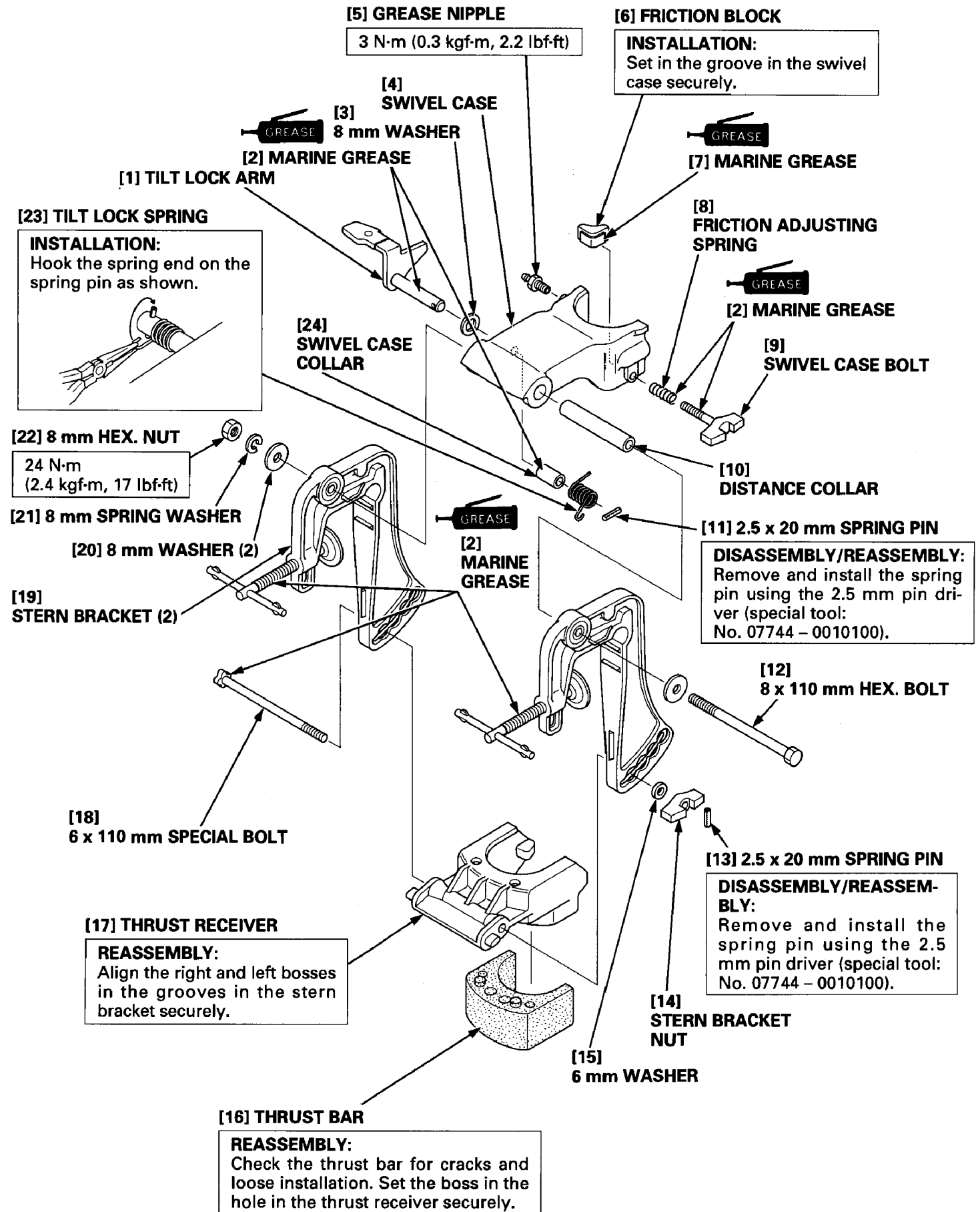
• VERTICAL SHAFT-TO-BUSHING CLEARANCE

Standard	Service limit
0.16 – 0.23 mm (0.006 – 0.009 in)	—



2. STERN BRACKET

a. DISASSEMBLY/REASSEMBLY



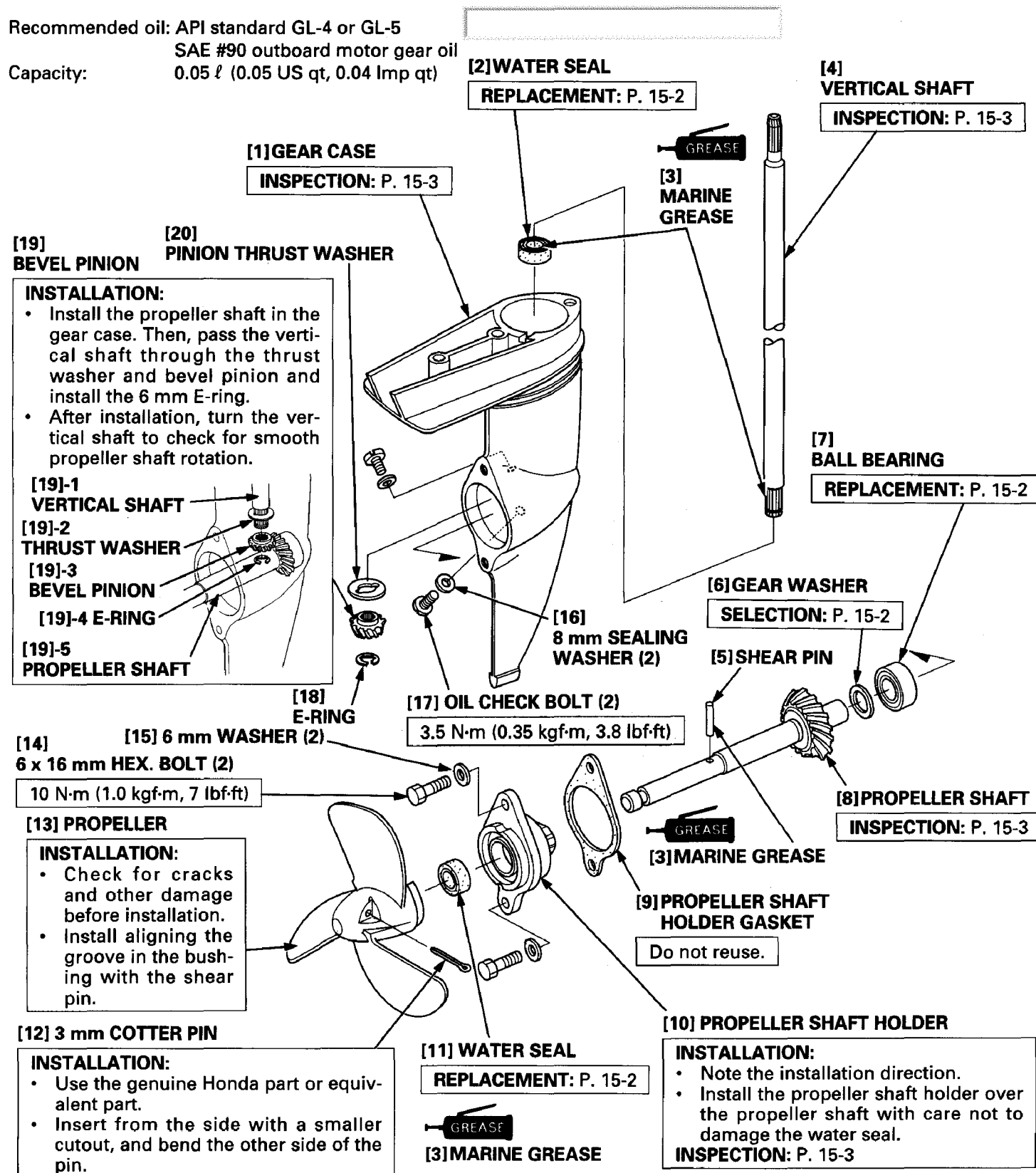
1. GEAR CASE/VERTICAL SHAFT

1. GEAR CASE/VERTICAL SHAFT

a. DISASSEMBLY/REASSEMBLY

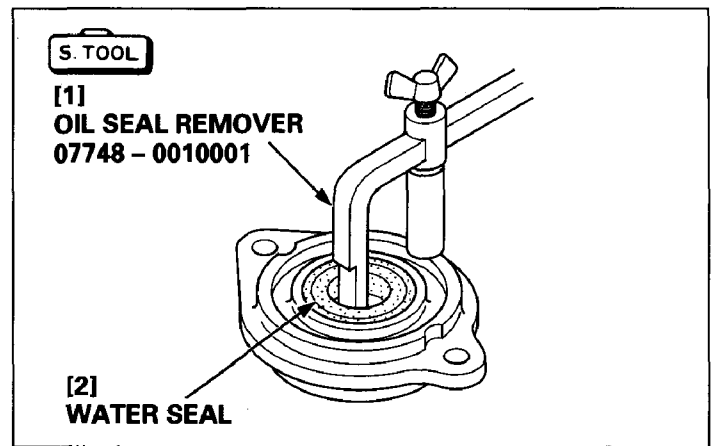
After assembly, fill the gear case with the recommended oil.

Recommended oil: API standard GL-4 or GL-5
SAE #90 outboard motor gear oil
Capacity: 0.05 l (0.05 US qt, 0.04 Imp qt)



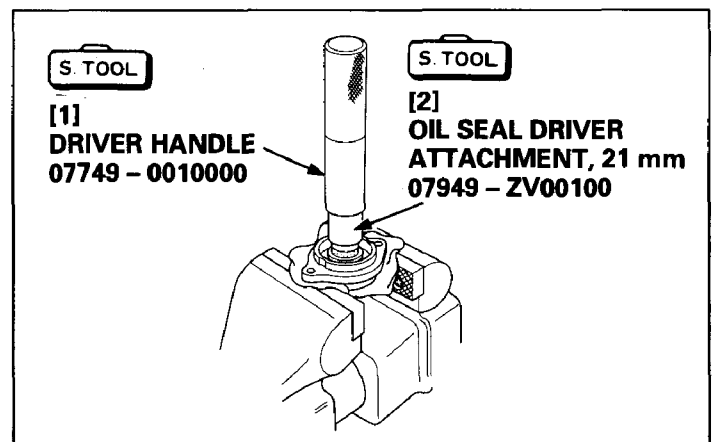
• WATER SEAL REPLACEMENT

1) Remove the water seal using the special tool.



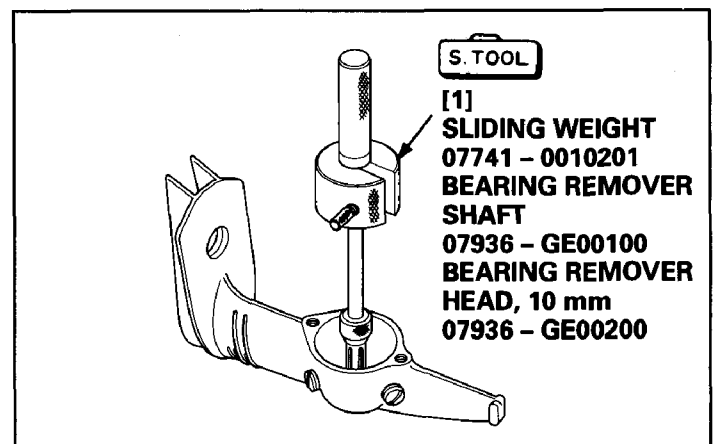
2) Install a new water seal using the special tools.

3) Fill the water seal lip with marine grease.

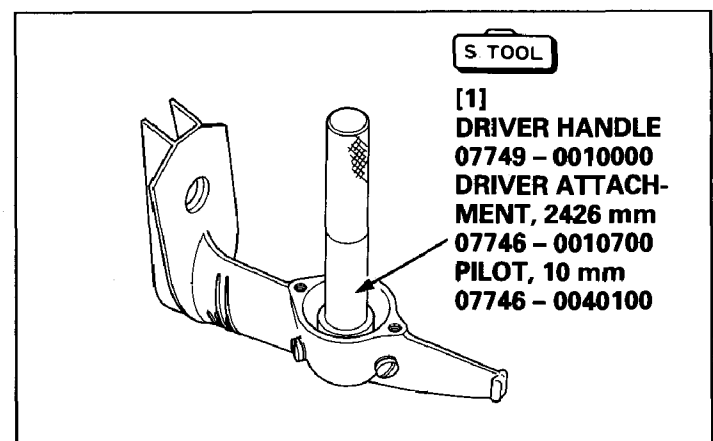


• BALL BEARING REPLACEMENT

1) Remove the bearing using the special tools.



2) Install a new bearing using the special tools.



b. INSPECTION

• PROPELLER SHAFT O.D.

Measure the O.D. at the holder.

Standard	Service limit
10.973 – 10.984 mm (0.4320 – 0.4324 in)	10.930 mm (0.4303 in)

• PROPELLER SHAFT HOLDER I.D.

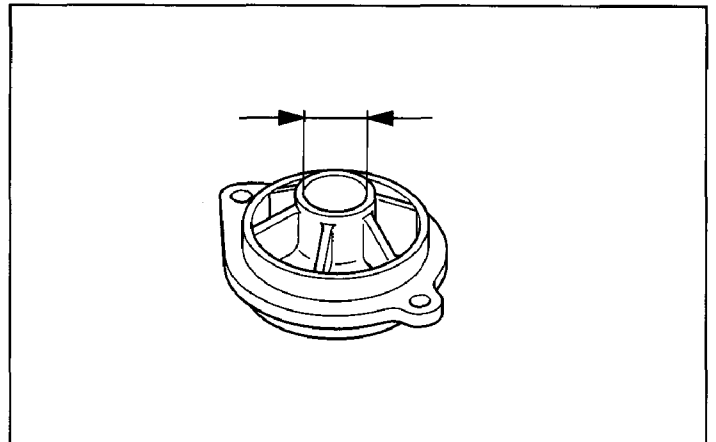
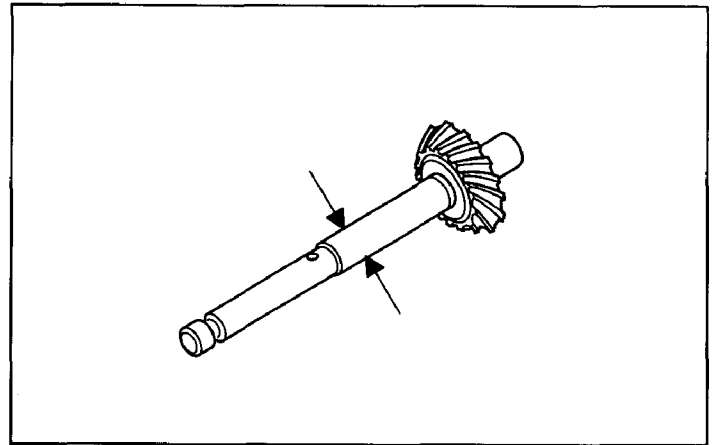
Measure the propeller shaft holder I.D.

Standard	Service limit
11.000 – 11.018 mm (0.4331 – 0.4338 in)	11.060 mm (0.4354 in)

• PROPELLER SHAFT-TO-HOLDER CLEARANCE

Calculate the clearance between the propeller shaft and holder.

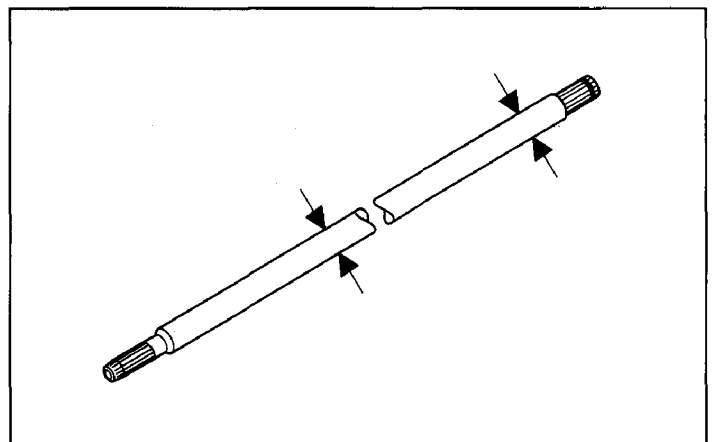
Standard	Service limit
0.016 – 0.045 mm (0.0006 – 0.0018 in)	— —



• VERTICAL SHAFT O.D.

Measure the O.D. at the gear case and the vertical shaft bushing.

	Standard	Service limit
Gear case	10.970 – 10.990 mm (0.4319 – 0.4327 in)	10.930 mm 0.4303 in)
Bushing	10.970 – 10.990 mm (0.4319 – 0.4327 in)	10.930 mm 0.4303 in)



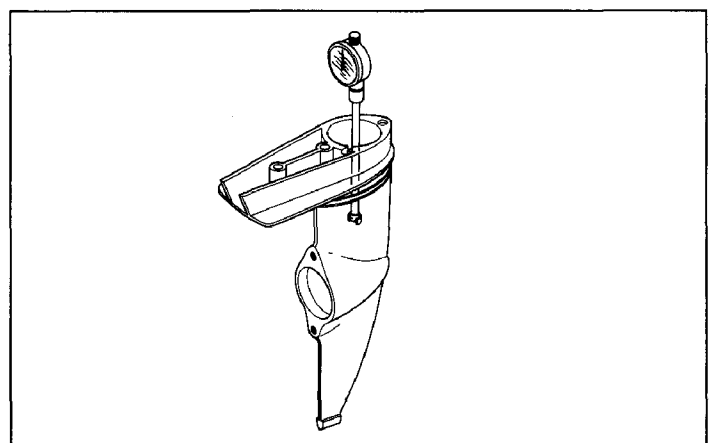
• GEAR CASE I.D.

Standard	Service limit
11.000 – 11.018 mm (0.4331 – 0.4338 in)	11.060 mm (0.4354 in)

• VERTICAL SHAFT-TO-GEAR CASE CLEARANCE

Calculate the clearance between the vertical shaft and gear case.

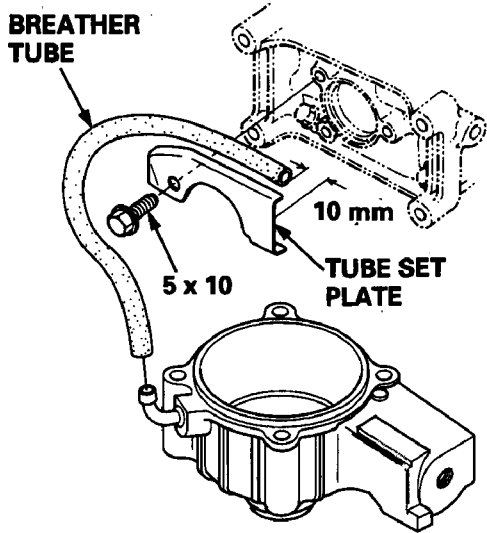
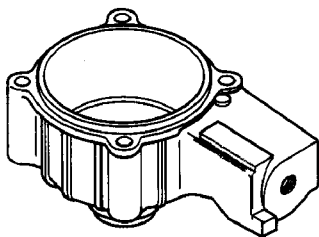
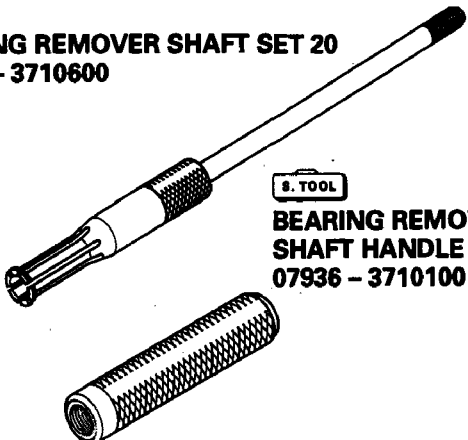
Standard	Service limit
0.010 – 0.048 mm (0.0004 – 0.0019 in)	— —



SOME PARTS OF CHANGES

Applicable Information	Engine Serial No.	Publication No.	Applicable Pages
BF2D	BEBF - 1026044 and subsequent	66ZW600	1-1, 2-7, 3-4, 10-1, 13-3

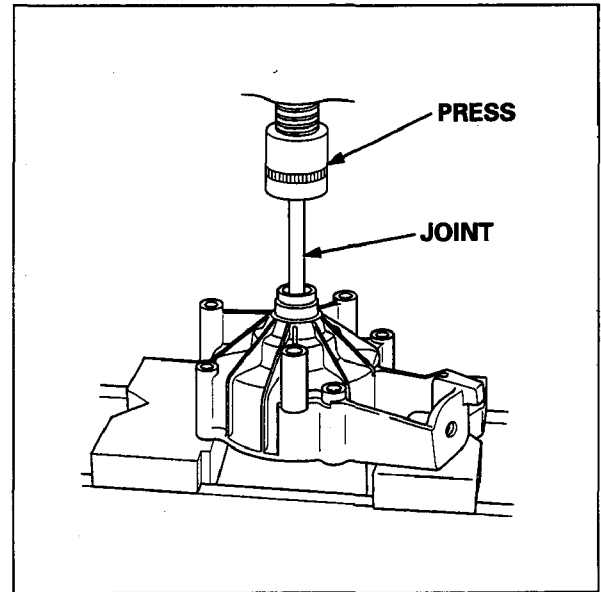
CHANGE LOCATIONS

Item	After Modification	Before Modification
Spark Plugs	U14FSR-UB (DENSO) CR4HSB (NGK)	U16FSR-UB (DENSO) CR5HSB (NGK)
Clutch Housing	 Install the breather tube with its tube set plate end 10 mm(0.4 in) apart from the tube set plate edge as shown.	
Special Tools	S. TOOL BEARING REMOVER SHAFT SET 20 07936 - 3710600  S. TOOL BEARING REMOVER SHAFT HANDLE 07936 - 3710100	

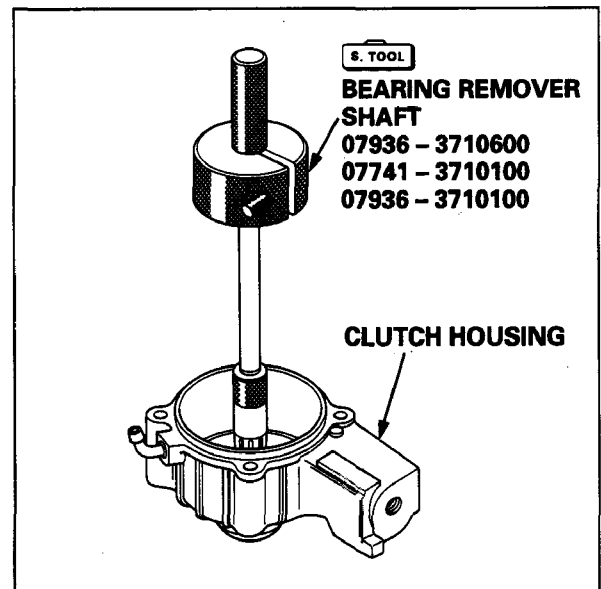
• CLUTCH OUTER

a. DISASSEMBLY/REASSEMBLY

- 1) Remove the 42.0 mm (1.65 in) internal circlip, and remove the clutch outer using a press and joint which has 10.0 mm (0.39 in) diameter.

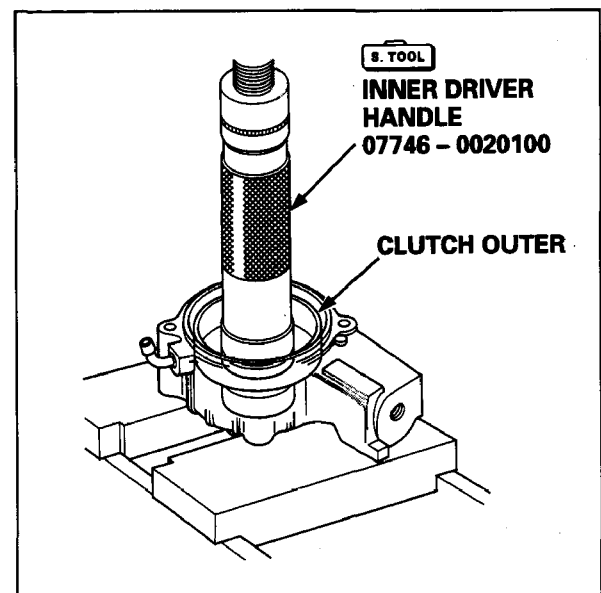


- 2) Remove the bearing using the 20.0 mm (0.79 in) bearing remover shaft if it is stuck in the clutch housing, though the bearing is normally remain in the clutch outer when disassembled.



- 3) Reassembly will be in the reverse order of disassembly. Install 42.0 mm (1.65 in) internal circlip and bearing to the clutch outer, then install the clutch outer to the clutch housing.

- 4) Make sure to install the 42.0 mm (1.65 in) internal circlip into the groove on the clutch housing.



SOME PARTS OF CHANGES

The method of installing the water seal which had been described to the undermentioned shop manual was changed.

Applicable Information	Publication No.	Applicable Pages	Size of Water Seal
BF2D	66ZW600	15-1, 15-2	11 x 21 x 8 mm
BF20A/25A	66ZV700	12-2, 12-5	22 x 35 x 7 mm
		12-8, 12-9	17 x 30 x 7 mm
		12-8	6 mm
BF35A/45A	66ZV300	11-5, 11-8	22 x 35 x 7 mm
		11-10, 11-11	17 x 30 x 7 mm
BF75A/90A	66ZW000Z	11-4, 11-5	10 x 21 x 6 mm
		11-8, 11-11	30 x 45 x 7 mm
BF115A/130A	66ZW500	12-5, 12-6	10 x 21 x 6 mm
		12-10, 12-15	30 x 45 x 7 mm

CHANGE LOCATIONS

The liquid applied to the circumference of water seals has been changed.

After Modification	Before Modification
INSTALLATION: - Do not reuse. - Apply grease to the mating surface and lips of the seals. - Apply soapy water to the circumference of the seals.	INSTALLATION: - Do not reuse. - Apply grease to the mating surface, circumference and lips of the seals.

News No.	Issue Date
P/P-140	Jul. 2002

SOME PARTS OF CHANGES

Applicable Information	Publication No.	Applicable Page
BF2D	66ZW600	7-2

CHANGE LOCATIONS

• CARBURETOR

The carburetor drain screw and float chamber installation angle have been changed as follows.

Engine serial number	BF2D: BEBF-1052806 and subsequent BF2B: BEBF-1053276 and subsequent	BF2D: Up to BEBF-1052805 BF2B: Up to BEBF-1053275
Item	CARBURETOR Position change of drain screw and the setting bolt FLOAT CHAMBER O-RING SEALING WASHER DRAIN SCREW SETTING BOLT	CARBURETOR Position change of drain screw and the setting bolt FLOAT CHAMBER O-RING SEALING WASHER DRAIN SCREW SETTING BOLT
Item	CARBURETOR Installation angle change of float chamber 60°	CARBURETOR Installation angle change of float chamber

Important Set-up Information

HONDA

OUTBOARD MOTOR

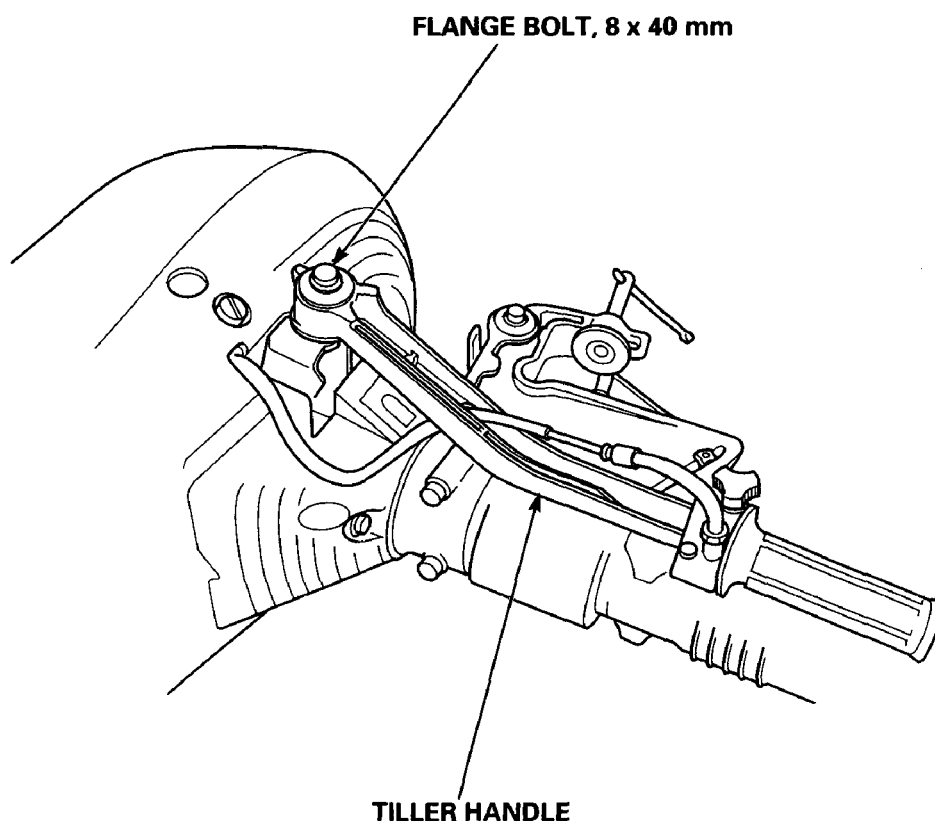
BF2D

TILLER HANDLE INSTALLATION

All information in this publication is based on the latest product information available at the time of approval for printing. The illustration may vary according to the type, however the handle parts installation sequence is the same.

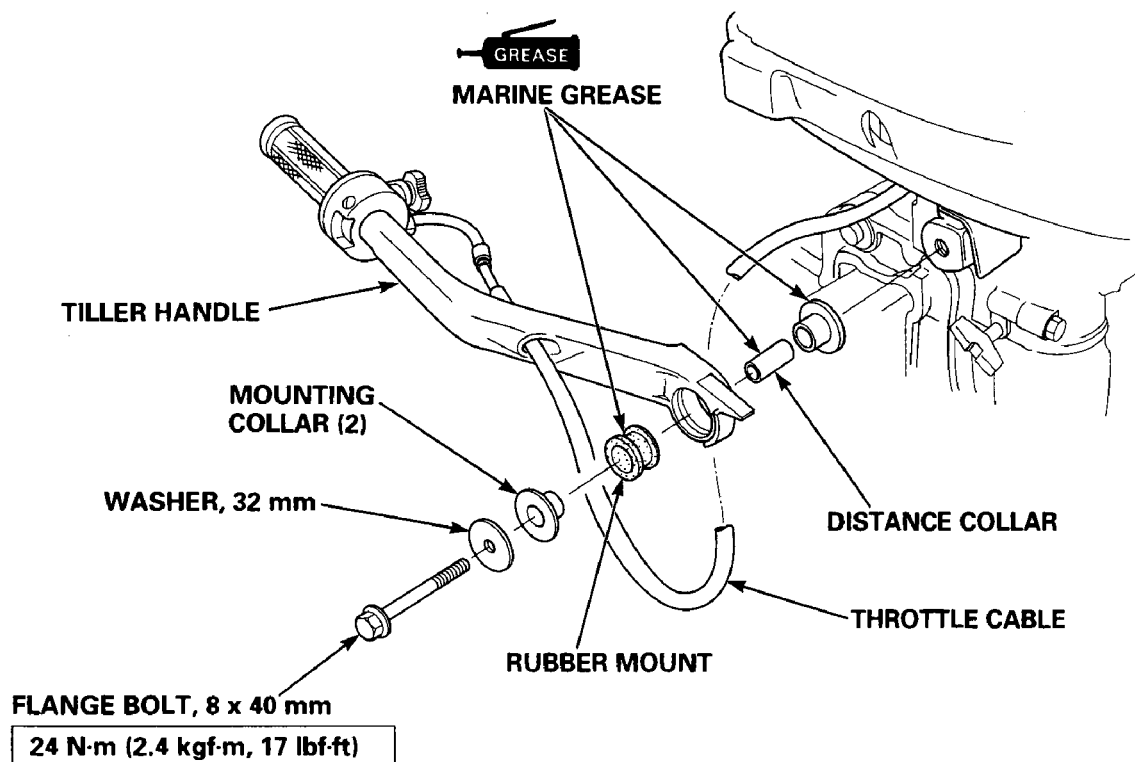
The tiller handle is temporary installed in reverse direction of the proper installation direction in the packing case.

1. Remove the 8 x 40 mm flange bolt, and the tiller handle.

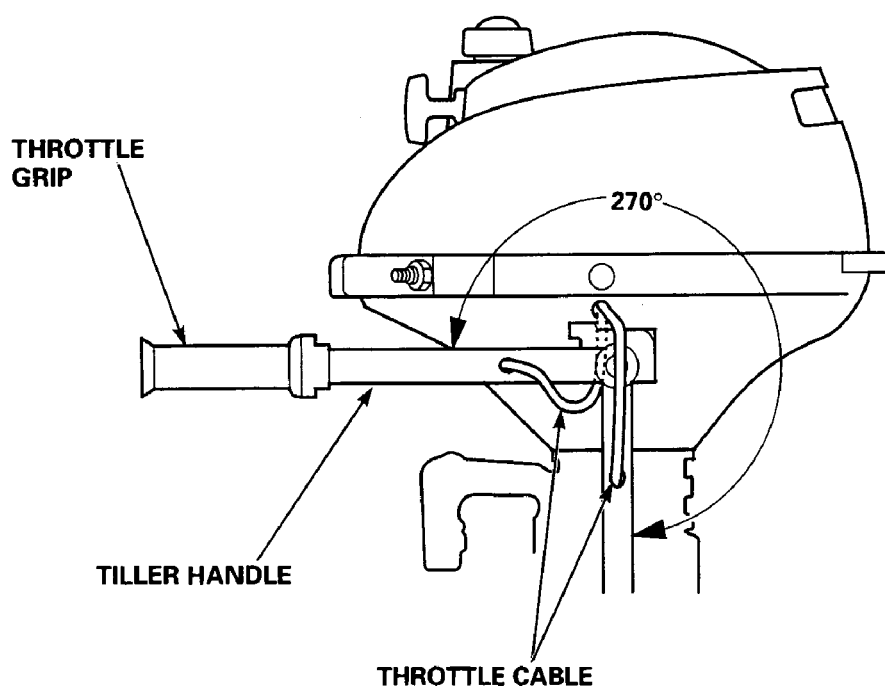


- Follow the illustration below for proper assembly. Be sure the mounting collars, distance collar, and washer are installed in the order shown.

When installing the tiller handle be sure the throttle cable is routed below the handle, and is not twisted.



- After installing the tiller handle be sure the handle will turn 270° smoothly. The throttle cable must not be twisted. Check the normal operation of the throttle grip in both positions.



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4.	Engine cover/Fuel tank	29 - 30
5.	Recoil starter/Fan cover	31 - 34
6.	Engine removal/Install	35 - 36
7.	Carburetor	37 - 39
8.	Flywheel/Ignition coil	40 - 42
9.	Clutch	43 - 44
10.	Camshaft/Rocker arm	45 - 51
11.	Oil case/Crankshaft/ Block/Piston/Valve	52 - 60
12.	Steering handle	61 - 63
13.	Clutch housing/Engine undercase/Exhaust pipe	64 - 67
14.	Stern bracket/Extension case	68 - 71
15.	Gear case/Vertical shaft	72 - 74
16.	Shop Manual News	75 - 78
17.	Tiller Handle Installation	79 - 80

SPECIFICATION ITEM	MODEL UNIT	BF175/200/225	BF135/150	BF115/130AX	BF 75-90A1	BF 35- 45 / 40-50A4
BORE AND STROKE	MM	89 x 93	87 x 99	86 x 97	75 X 90	70 x 70
CAPACITY	CC	3471	2354	2254	1,590	808
ENGINE OIL CAPACITY -AT DRAINING	LITRE	7.6	6.5	5.6	4	2.0
AT OIL FILTER CHANGE	LITRE	7.8	6.7	6.5	4.5	2.2
OIL FILTER PART NUMBER	PART NUMBER	15400-PR3-004	15400-PLC-003	15400-PR3-004	H1540PR3T01	H1540PR3T01
VALVE CLEARANCE - INTAKE	MM	0.20 - 0.24	0.21 - 0.25	0.24 - 0.28	0.18 - 0.22	0.13 - 0.17
VALVE CLEARANCE - EXHAUST	MM	0.28 - 0.32	0.28 - 0.32	0.28 - 0.32	0.26 - 0.30	0.21 - 0.22
FUEL FILTER (low pressure)	PART NUMBER	16911-ZY3-003	16911-ZY3-003	16900-SR3-004	16900-SA5-004	16900-SA5-004
FUEL FILTER (high pressure)	PART NUMBER	16711-ZY3-000	16911-ZY3-000	16010 -ST5-933	N/A	N/A
CARBURETOR - FLOAT LEVEL	MM	N/A	N/A	N/A	11.5	14
- PILOT ADJUSTMENT	TURNS	N/A	N/A	N/A	1 7/8 - 2 1/4	2 1/8
- IDLE RPM	RPM	600-700	700 - 800	700 - 800	900 - 1000	900 - 1000
IGNITION - SPARK PLUG	NGK	IZF6F-11	IZFR6K11	ZFR7F	DR-7EA	DR-7EA
	ND	VKJ20RZ-M11	SKJ20DR11	N/A	X22ESR-U	X22ESR-U
SPARK PLUG GAP	MM	1.0 - 1.1	1.0 - 1.1	0.7 - 0.8	0.6 - 0.7	0.6 -0.7
AIR GAP	MM	N/A	N/A	N/A	0.7 - 0.8	N/A
IGNITION TIMING	°BTDC	10o @ 650 RPM	0 +/- 2 @ 750 RPM	N/A	5° - 29°	5° - 32°
PULSE GENERATOR RESISTANCE	Ω	N/A	N/A	950 - 1170	168 - 252	288 - 352
EXCITER COIL RESISTANCE	Ω	N/A	N/A	N/A	N/A	168 - 227
CHARGING COIL RESISTANCE	Ω	N/A	N/A	N/A	0.46 - 0.69	0.20 - 0.26
REG/REC REGULATED VOLTAGE	V	12	12	12	12	12
CHARGE COIL / ALTERNATOR	AMPS	60	40	45	16	10
IGNITION COIL RESISTANCE - PRIMARY	Ω	N/A	N/A	0.60 - 0.72	0.35 - 0.43	0.19 - 0.23
SECONDARY WITH PLUG CAP	KΩ	N/A	N/A	25 - 38	23.1 - 34.7	2.8 - 3.4
GEAR CASE OIL CAPACITY	LITRE	1.17	0.98	0.95	0.95	0.52
COMPRESSION	PSI	198-277	222-250	199 - 228	199 - 226	199 -226

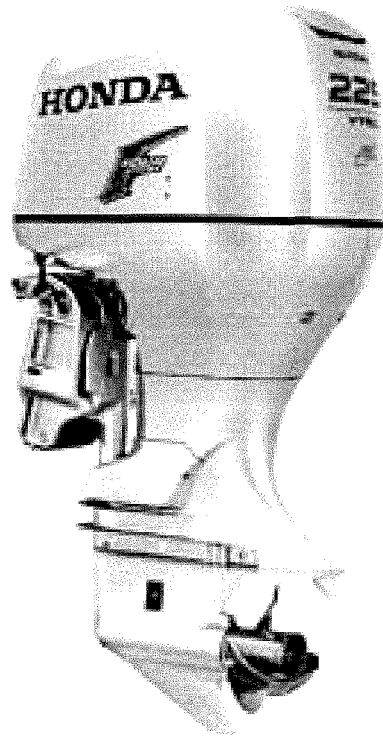
SPECIFICATION ITEM	MODEL UNIT	BF 25-30 D4	BF 25 - 30 A	BF15-20 A4	BF9.9 - 15	BF 8 - 10D
BORE AND STROKE	MM	61x63	58 x 63	59 x 64	58 x 53	58 x 42
CAPACITY	CC	552	499	350	280	222
ENGINE OIL CAPACITY -AT DRAINING	LITRE	1.6	1.6	1.0	1.1	1
AT OIL FILTER CHANGE	LITRE	1.9	1.9	1.3	N/A	1.3
OIL FILTER PART NUMBER	PART NUMBER	15400PFB004	15400PFB004	15400PFB004	N/A	15400-PFB-004
VALVE CLEARANCE - INTAKE	MM	0.10- 0.14	0.10 - 0.14	0.15 - 0.19	0.10 - 0.14	0.15 - 0.19
VALVE CLEARANCE - EXHAUST	MM	0.18 - 0.22	0.18 - 0.22	0.21 - 0.25	0.18 - 0.22	0.21 - 0.25
FUEL FILTER (low pressure)	PART NUMBER	16910-ZV4-015	16910-ZV4-015	16910-ZV4-015	16910-ZV4-015	16910-ZV4-015
FUEL FILTER (high pressure)	PART NUMBER	N/A	N/A	N/A	N/A	N/A
CARBURETOR - FLOAT LEVEL	MM	14	14	13.7	13.0 - 15.0	13.5
- PILOT ADJUSTMENT	TURNS	2 1/4	2	2 1/4	2 3/4	2 3/4
- IDLE RPM	RPM	900-1000	850 - 950	850 - 950	1050 - 1150	850 - 950
IGNITION - SPARK PLUG	NGK	DR-7EA	DR-7EA	CR5EH-9	DR6HS	CR5EH-9
	ND	X22ESR-U	X22ESR-U	U16FER9	X20FSR-U	U16FER9
SPARK PLUG GAP	MM	0.6 - 0.7	0.6 - 0.7	0.8 - 0.9	0.6 - 0.7	6.8 - 0.9
AIR GAP	MM	N/A	N/A	N/A	N/A	N/A
IGNITION TIMING	°BTDC	5° - +/- 2	5° - 26°	0 +/- 2	5° - 35°	0°
PULSE GENERATOR RESISTANCE	Ω	617 - 758	290 - 355	351 - 429	351 - 429	351 - 429
EXCITER COIL RESISTANCE	Ω	6.12 - 7.48	270 - 368	6.1 - 7.5	207 - 253	6.1 - 7.5
CHARGING COIL RESISTANCE	Ω	0.27 - 0.33	0.27 - 0.33	0.2 - 0.3	0.33 - 0.41	0.23 - 0.43
REG/REC REGULATED VOLTAGE	V	12	12	12	12	12
CHARGE COIL / ALTERNATOR	AMPS	4M - 10E	6 -10	6 - 12	6 - 10	6 - 12
IGNITION COIL RESISTANCE - PRIMARY	Ω	0.19 - 0.23	0.19 - 0.23	0.8 - 1.0	0.35 -0.43	0.35 - 0.43
SECONDARY WITH PLUG CAP	KΩ	28.0 - 34.0	10.3 - 15.9	23.0 - 34.8	8.01 - 9.79	23.0 - 34.8
GEAR CASE OIL CAPACITY	LITRE	0.27	0.29	0.28	0.24	0.26
COMPRESSION	PSI	128M - 213E	178 - 206	185 - 213	151	151

SPECIFICATION ITEM	MODEL UNIT	BF 8	BF 7.5 - 10	BF 5	BF 2D	BF 2
BORE AND STROKE	MM	56 x 38	56 x 40	60 x 45	45.0 x 36.0	46 x 46
CAPACITY	CC	197	197	127	57	76
ENGINE OIL CAPACITY -AT DRAINING	LITRE	0.8	0.8	0.55	0.25	0.4
AT OIL FILTER CHANGE	LITRE	N/A	N/A	N/A	N/A	N/A
OIL FILTER PART NUMBER	PART NUMBER	N/A	N/A	N/A	N/A	N/A
VALVE CLEARANCE - INTAKE	MM	0.06 - 0.1	0.06 - 0.1	0.06 - 0.14	0.06 - 0.10	0.08 - 0.16
VALVE CLEARANCE - EXHAUST	MM	0.06 - 0.1	0.06 - 0.1	0.11 - 0.19	0.09 - 0.13	0.08 - 0.16
FUEL FILTER (low pressure)	PART NUMBER	16910-ZV4-015	16910-GB2-005	16910-GB2-005	16952-ZE6-000	16952-ZE6-000
FUEL FILTER (high pressure)	PART NUMBER	N/A	N/A	N/A	N/A	N/A
CARBURETOR - FLOAT LEVEL	MM	9.8 - 10.5	9.8 - 10.5	9.0 - 11.0	12	10.5 - 13.5
- PILOT ADJUSTMENT	TURNS	Highest idle speed	Highest idle speed	2.375	2.5	2.125
- IDLE RPM	RPM	1100 - 1300	1100 - 1300	1200 - 1400	1900 - 2100	1300 - 1500
IGNITION - SPARK PLUG	NGK	DR-5HS	DR - 5HS	BPR5ES	CR5HSB	BMR-4A
	ND	N/A	N/A	W16EPR-U	U16FSR-UB	N/A
SPARK PLUG GAP	MM	0.6 - 0.7	0.6 - 0.7	0.7 - 0.8	0.6 - 0.7	0.6 - 0.7
AIR GAP	MM	N/A	N/A	0.2 - 0.6	0.3 - 0.5	0.2 - 0.6
IGNITION TIMING	°BTDC	15° - 35°	15° - 35°	25°	27°	20°
PULSE GENERATOR RESISTANCE	Ω	108 - 132	108 - 132	N/A	N/A	N/A
EXCITER COIL RESISTANCE	Ω	297 - 363	297 - 363	N/A	N/A	N/A
CHARGING COIL RESISTANCE	Ω	0.13 +/- 10%	0.13 +/- 10%	0.2 - 0.4	N/A	N/A
REG/REC REGULATED VOLTAGE	V	12	12	12	N/A	N/A
CHARGE COIL / ALTERNATOR	AMPS	5	5	3	N/A	N/A
IGNITION COIL RESISTANCE - PRIMARY	Ω	0.56 +/- 10%	0.56 +/- 10%	0.8 - 1.0	0.98 - 1.2	0.7 - 0.9
SECONDARY WITH PLUG CAP	KΩ	0.8 +/- 10%	0.8 +/-10%	5.9 - 7.1	11 - 12	6.3 - 7.7
GEAR CASE OIL CAPACITY	LITRE	0.23	0.23	0.1	0.41	0.05
COMPRESSION	PSI	151	151	50 - 78	128	92.4

2003

MARINE

NEW - Also
includes a Quick
Reference List for
Service Items



MARINE ID AND PUBLICATIONS MANUAL

INCLUDES:

ENGINE / FRAME NUMBERS
SERVICE ITEM PART NUMBERS
PARTS LIST BOOK / FICHE NUMBERS
SERVICE MANUAL BOOK / FICHE No.

PART No: L1287-P01-116
5th EDITION (November 2003)



HONDA ORIGINAL PARTS

INTRODUCTION The information contained in this booklet will help to correctly identify the range of Honda Marine Outboards distributed by Honda Australia Motorcycles & Power Equipment Pty Ltd

HOW TO USE THIS MANUAL The Honda Marine models mentioned in this manual are arranged in alpha/numeric order. This means that the model names are arranged alphabetically, and are followed by the number which generally indicates the 'CC' or the model series.

MODEL	TYPE	YEAR	ENGINE No.
BF25AX	LRSD	1998~	BAJE-1000001~
BF25AX	XRSA	1998~	BAJE-1000001~
BF30A	LHD	1995~	BAWE-1000001~

Identification Sections include the following:

- * Model name and Type
- * Engine and Frame Number List
- * Parts List Book & Microfiche Part Numbers
- * Service Manual Book & Microfiche Part Numbers

Also included in this booklet are the following part numbers:

- * Spark Plug Part Numbers
- * Fuel Filter Part Number
- * Oil Filter Part Numbers
- * Impeller, Pump Part Numbers
- * Impeller, Pump Kit Part Numbers

PICTURED: Front Cover BF225, Back Cover BF130 cutaway drawing

All information contained in this manual is based on the latest product information available at the time of printing.

HONDA MOTORCYCLES & POWER EQUIPMENT Pty Ltd

MODEL	TYPE	YEAR	ENGINE No	FRAME No	CARB No	CC	CODE	GASKET KIT	Parts List	P/L Fiche	Owners Manual	Service Manual	S/M Fiche	S/M Supplement	S/M Supp Fiche
GB40		1968-71	G40-1000001~		N/A	170	908	06110822S02							
B75	SD, LD	1971-77	B75-1000017~		268	149	921	06110921010	149215	149215F					
B75K1	SD, LD	1971-77	B75-2000001~		268	149	935	06110935S02	1393503	1393503F					
B75K2	SD, LD	1971-77	B75-3000001~		268[A]	149	935	06110935S02	1393522	1393522F	DISC	6193503			
B75K3	SD, LD	1971-77	B75-4000001~		268A[A]	149	935	06110935S02	1393522	1393522F	DISC	6193503			
BF5A2		2002							17ZV10E1						
BF115A 1		2001	BEBD-1000001~			115			13ZW50E3		32ZW5602	66ZW500		66ZW500Y	
BF115A 2		2002	BEBD-1000001~			115			13ZW50E3		32ZW5602	66ZW500		66ZW500Y	
BF130A 1		2001	BEBE-1000001~			130			13ZW50E3		32ZW5602	66ZW500		66ZW500Y	
BF130A 2		2002	BEBE-1000001~			130			13ZW50E3		32ZW5602	66ZW500		66ZW500Y	
BF40A4		2004					ZW3	NA	13ZW30E1		32ZW3601	96ZW300			
BF50A4		2004					ZW3	NA	13ZW30E1		32ZW3601	96ZW300			
BF2D1		2001							13ZW60E3		32ZW6600				
BF2D2		2002							13ZW60E3		32ZW6600				
BF100A	SD	1980	B100-1201715~1205899	B100-1201715~1205899	BC01C[A]/ BC01C[B]	197	881	06110881S03	14881D45	14881D45F	3688101	6688122	6688122F		
BF100A	LD	1980	B100-1202070~1206084	B100-1202070~1206084	BC01A[A]/ BC01C[A]	197	801	06110881S03	14881D45	14881D45F	3688101	6688122	6688122F		
BF100B	LD	1981	B100L-1300001~1304617	B100L-1300001~1304617	BC01C[B]	197	881	06110881S03	14881D45	14881D45F	DISC.	6688122	6688122F		
BF100C	LD	1982	B100L-1400001~	B100L-1400001~	BC01C[B]	197	881	06110881S03	14881D45	14881D45F	3688103	6688122	6688122F		
BF100D	LD	1983	B100L-1500001~	B100L-1500001~	BC01C[B]	197	881	06110881S03	14881D45	14881D45F	36881600	6688122	6688122F		
BF100E	LD	1984	B100L-1600001~	B100L-1600001~	BC01C[B]	197	881	06110881S03	14881FE8	14881FE8F	36881610	6688122	6688122F		
BF100F	LD	1985	B100L-1700001~	B100L-1700001~	BC01D[A]	197	881	06110881S03	14881FE8	14881FE8F	36881620	6688122	6688122F		
BF100B	SD	1981	B100S-1300493~1303588	B100S-1300493~1303588	BC01C[B]	197	881	06110881S03	14881D45	14881D45F	DISC.	6688122	6688122F		
BF100C	SD	1982	B100S-1400001~	B100S-1400001~	BC01C[B]	197	881	06110881S03	14881D45	14881D45F	3688103	6688122	6688122F		
BF100D	SD	1983	B100S-1500001~	B100S-1500001~	BC01C[B]	197	881	06110881S03	14881D45	14881D45F	36881600	6688122	6688122F		
BF100E	SD	1984	B100S-1600001~	B100S-1600001~	BC01C[B]	197	881	06110881S03	14881FE8	14881FE8F	36881610	6688122	6688122F		
BF100F	SD	1985	B100S-1700001~	B100S-1700001~	BC01D[A]	197	881	06110881S03	14881FE8	14881FE8F	36881620	6688122	6688122F		
BF8D1	SHE	2001	BEAAJ100001~	BAAJ-1000001~	BJ01A(A)				13ZW80E1	13ZW80E1F	32ZW8601	66ZW900			
BF8D1	LHE	2001	BEAAJ100001~	BAAJ-1000001~	BJ01A(A)				13ZW80E1	13ZW80E1F	32ZW8601	66ZW900			
BF8D1	LHSE	2001	BEAAJ100001~	BAAJ-1000001~	BJ01B(A)				13ZW80E1	13ZW80E1F	32ZW8601	66ZW900			
BFP8D1	XHE	2001	BEAAJ100001~	BAAJ-1000001~	BJ01B(A)				13ZW80E1	13ZW80E1F	32ZW8601	66ZW900			
BFP8D1	XRE	2001	BEAAJ100001~	BAAJ-1000001~	BJ01B(A)				13ZW80E1	13ZW80E1F	32ZW8601	66ZW900			
BF8D2		2002	BEAAJ-1000001~	BAAJ-1100001~					13ZW80E2						
BFP8D2		2002	BEAAJ-1000001~	BAAJ-1100001~					13ZW80E2						
BF15AH	LD, LDS	1987	BAAE-1000001~	BAAL-1000001~	BG06A[A]	280	ZV4	06111ZV4405	13ZV40E6	13ZV40E6F	36ZV4601	66ZV400	66ZV400F		
BF15AK	LD, LDS	1989	BAAE-1100001~	BAAL-1100001~	BG06A[A]	280	ZV4	06111ZV4405	13ZV40E6	13ZV40E6F	36ZV4610	66ZV400	66ZV400F		
BF15AM	LD, LDS	1991~	BAAE-1200001~	BAAL-1200001~	BG06B[A]	280	ZV4	06111ZV4405	13ZV40E6	13ZV40E6F	36ZV4630	66ZV400	66ZV400F	66ZV400X	66ZV400XF
BF15AX	LD	1998	BAAE-1200001~	BAAL-14000001~	BG06B[A]	280	ZV4	N/A	17ZV40E1	17ZV40E1F	36ZV4630	66ZV400	66ZV400F		
BF15AX	LDS	1998	BAAE-1200001~	BAAL-14000001~	BG06B[A]	280	ZV4	N/A	17ZV40E1	17ZV40E1F	36ZV4630	66ZV400	66ZV400F		
BF15AH	SD, SDS	1987	BAAE-1000001~	BAAS-1000001~		280	ZV4	06111ZV4405	13ZV40E5	13ZV40E5F	36ZV4601	66ZV400	66ZV400F		
BF15AK	SD, SDS	1989	BAAE-1100001~	BAAS-1100001~	BG06A[A]	280	ZV4	06111ZV4405	13ZV40E5	13ZV40E5F	36ZV4610	66ZV400	66ZV400F	66ZV400Z	66ZV400ZF
BF15AM	SA, SD, SDS	1991~	BAAE-1200001~	BAAS-1200001~	BG06B[A]	280	ZV4	06111ZV4405	13ZV40E5	13ZV40E5F	36ZV4620	66ZV400	66ZV400F	66ZV400Y	66ZV400YF
BF15AX	SD	1998	BAAE-1200001~	BAAS-14000001~	BG06B[A]	280	ZV4	N/A	17ZV40E1	17ZV40E1F	63ZV4630	66ZV400	66ZV400F		
BF15AX	SDS	1998	BAAE-1200001~	BAAS-14000001~	BG06B[A]	280	ZV4	N/A	17ZV40E1	17ZV40E1F	36ZV4630	66ZV400	66ZV400F		
BF15AM	XDS	1995~	BAAE-1200001~	BAAU-1000001~	BG06B[A]	280	ZV4	06111ZV4405	13ZV40E5	13ZV40E5F	36ZV4630	66ZV400	66ZV400F		
BF15AX	XDS	1998	BAAE-1200001~	BAAU-14000001~	BG06B[A]	280	ZV4	N/A	17ZV40E1	17ZV40E1F	36ZV4630	66ZV400	66ZV400F		
BF10D1	SHE	2001	BEABJ-1000001~	BABJ-1000001~	BJ01B(A)				13ZW90E1	13ZW90E1F	32ZW8601	66ZW900			
BF10D1	LHE	2001	BEABJ-1000001~	BABJ-1000001~	BJ01A(A)				13ZW90E1	13ZW90E1F	32ZW8601	66ZW900			
BF10D1	SHSE	2001	BEABJ-1000001~	BABJ-1000001~	BJ01B(A)				13ZW90E1	13ZW90E1F	32ZW8601	66ZW900			
BF10D1	LHSE	2001	BEABJ-1000001~	BABJ-1000001~	BJ01B(A)				13ZW90E1	13ZW90E1F	32ZW8601	66ZW900			

MODEL	TYPE	YEAR	ENGINE No	FRAME No	CARB No	CC	CODE	GASKET KIT	Parts List	P/L Fiche	Owners Manual	Service Manual	S/M Fiche	S/M Supplement	S/M Supp Fiche
BFP10D1	LRE	2001	BEABJ-1000001~	BABJ-1000001~	BJ01B{A}				13ZW90E1	13ZW90E1F	32ZW8601	66ZW900			
BFP10D1	LHE	2001	BEABJ-1000001~	BABJ-1000001~	BJ01A{A}				13ZW90E1	13ZW90E1F	32ZW8601	66ZW900			
BFP10D1	XRE	2001	BEABJ-1000001~	BABJ-1000001~	BJ01B{A}				13ZW90E1	13ZW90E1F	32ZW8601	66ZW900			
BFP10D2		2002	BEABJ-1000001~	BABJ-1100001~					17ZW90E1						
BF10D2		2002	BEABJ-1000001~	BABJ-1100001~					17ZW90E1						
BFP10D2		2002	BEABJ-1000001~	BABJ-1100001~					17ZW90E1						
BF10D2		2002	BEABJ-100001~	BABJ-110001~					17ZW90E1						
BF9.9AH	LD, LDS	1987	BABE-1000001~	BABL-1000001~	BG03A{A}	280	ZV6	N/A	13ZV40E6	13ZV40E6F	36ZV4601	66ZV400	66ZV400F		
BF9.9AK	LD, LDS	1989	BABE-1100001~	BABL-1100001~	BG03A{A}	280	ZV6	N/A	13ZV40E6	13ZV40E6F	36ZV4610	66ZV400	66ZV400F		
BF9.9AM	LD, LDS	1991~	BABE-1200001~	BABL-1200001~	BG03B{A}	280	ZV6	N/A	13ZV40E6	13ZV40E6F	36ZV4630	66ZV400	66ZV400F	66ZV400X	66ZV400XF
BF9.9AX	LD	1998	BABE-12000001~	BABL-14000001~	BG03B{A}	280	ZV4	N/A	17ZV40E1	17ZV40E1F	36ZV4630	66ZV400	66ZV400F		
BF9.9AX	LDS	1998	BABE-12000001~	BABL-14000001~	BG03B{A}	280	ZV4	N/A	17ZV40E1	17ZV40E1F	36ZV4630	66ZV400	66ZV400F		
BF9.9AH	SD, SDS	1987	BABE-1000001~	BABS-1000001~	BG03A{A}	280	ZV6	N/A	13ZV40E5	13ZV40E5F	36ZV4601	66ZV400	66ZV400F		
BF9.9AK	SD, SDS	1989	BABE-1100001~	BABS-1100001~	BG03A{A}	280	ZV6	N/A	13ZV40E5	13ZV40E5F	36ZV4610	66ZV400	66ZV400F	66ZV400Z	66ZV400ZF
BF9.9AM	SD, SDS	1991~	BABE-1200001~	BABS-1200001~	BG03B{A}	280	ZV6	N/A	13ZV40E5	13ZV40E5F	36ZV4620	66ZV400	66ZV400F	66ZV400Y	66ZV400YF
BF9.9AX	SD	1998	BABE-12000001~	BABS-14000001~	BG03B{A}	280	ZV4	N/A	17ZV40E1	17ZV40E1F	36ZV4630	66ZV400	66ZV400F		
BF9.9AX	SDS	1998	BABE-12000001~	BABS-14000001~	BG03B{A}	280	ZV4	N/A	17ZV40E1	17ZV40E1F	36ZV4630	66ZV400	66ZV400F		
BF9.9AM	XD, XDS	1995~	BABE-1200001~	BABU-1000001~	BG03B{A}	280	ZV6	N/A	13ZV40E5	13ZV40E5F	36ZV4630	66ZV400	66ZV400F		
BF9.9AX	XD	1998	BABE-12000001~	BABU-14000001~	BG03B{A}	280	ZV4	N/A	17ZV40E1	17ZV40E1F	36ZV4630	66ZV400	66ZV400F		
BF8AH	LD	1987	BACE-1000001~	BACL-1000001~	BC01E{A}	197	881	06111881405	14881FE8	14881FE8F	36881700	6688122	6688122F		
BF8AK	LD	1989	BACE-1100001~	BACL-1100001~	BC01E{A}	197	881	06111881405	14881FE8	14881FE8F	36881710	6688122	6688122F		
BF8AM	LD	1991~	BACE-1200001~	BACL-1200001~	BC01F{A}	197	881	06111881405	14881FE8	14881FE8F	36881722	6688122	6688122F		
BF8AX	LD	1998	BACE-1200001~	BACL-1400001~	BC01F{B}	197	ZV8	N/A	13ZV80E4	13ZV80E4F	36881722	6688122	6688122F		
BF8AH	SD	1987	BACE-1000001~	BACS-1000001~	BC01E{A}	197	881	06111881405	14881FE8	14881FE8F	36881700	6688122	6688122F		6688122YF
BF8AK	SD	1989	BACE-1100001~	BACS-1100001~	BC01E{A}	197	881	06111881405	14881FE8	14881FE8F	36881710	6688122	6688122F	6688122Z	6688122ZF
BF8AM	SD	1991~	BACE-1200001~	BACS-1200001~	BC01F{A}	197	881	06111881405	14881FE8	14881FE8F	36881722	6688122	6688122F	6688122X	6688122XF
BF8AX	SD	1998	BACE-1200001~	BACS-1400001~	BC01F{B}	197	ZV8	N/A	13ZV80E4	13ZV80E4F	36881722	6688122	6688122F		
BF8AM	XD	1991~	BACE-1200001~	BACU-100001~	BC01F{A}	197	881	06111881405	14881FE8	14881FE8F	36881722	6688122	6688122F		
BF8AX	XD	1998	BACE-1200001~	BACU-1400001~	BC01F{B}	197	ZV8	N/A	13ZV80E4	13ZV80E4F	36881722	6688122	6688122F		
BF5AH	LD	1987	BADE-1000001~	BADL-1000001~	BC05A{C}	127	ZV1	06111ZV1408	13ZV10E8	13ZV10E8F	36ZV1600	66ZV101	66ZV101F		
BF5AK	LD	1989	BADE-1100001~	BADL-1100001~	BC05A{C}	127	ZV1	061A1ZV1405	13ZV10E8	13ZV10E8F	36ZV1610	66ZV101	66ZV101F		
BF5AM	LD	1991	BADE-1200001~	BADL-1200001~	BC05B{A}	127	ZV1	061A1ZV1850	13ZV10E8	13ZV10E8F	36ZV1631	66ZV101	66ZV101F		
BF5AX	LD	1998	BADE-1200001~	BADL-1400001~	BC05B{C}	127	ZV1	06111ZV1405	13ZV10E8	13ZV10E8F	36ZV1631	66ZV101	66ZV101F		
BF5A4	LEB	2004	BADE-2000001~	BADL2000001~	BC05D{A}		ZV1	N/A	17ZV10E2						
BF5AH	SD	1987	BADE-1000001~	BADS-1000001~	BC05A{C}	127	ZV1	06111ZV1408	13ZV10E8	13ZV10E8F	36ZV1600	66ZV101	66ZV101F		
BF5AK	SD	1989	BADE-1100001~	BADS-1100001~	BC05A{C}	127	ZV1	06111ZV1405	13ZV10E8	13ZV10E8F	36ZV1610	66ZV101	66ZV101F		
BF5AM	SD	1991~	BADE-1200001~	BADS-1200001~	BC05B{A}	127	ZV1	061A1ZV1850	13ZV10E8	13ZV10E8F	36ZV1631	66ZV101	66ZV101F	66ZV101Z	66ZV101ZF
BF5AX	SD, XD	1998	BADE-1200001~	BADS-1400001~	BC05B{C}	127	ZV1	06111ZV1405	13ZV10E8	13ZV10E8F	36ZV1631	66ZV101	66ZV101F		
BF5A1		2001	BADE-1300001~	BADS-1600001~	BC05C{A}				13ZV10E9						
BF5A4	SEB	2004	BADE-2000001~	BADS-200001~	BC05D{A}		ZV1	N/A	17ZV10E2						
BF200A 2	XXD	2002	BEAEJ-100001~	BAEJ1000001~					13ZY20E2		32ZY2600	66ZY200			
BF200A 2	LD, XD, XXD	2002	BEAEJ-100001~	BAEJ-1000001~					13ZY20E2		32ZY2600	66ZY200			
BF200A 2	XD	2002	BEAEJ-100001~	BAEJ-1000001~					13ZY20E2		32ZY2600	66ZY200			
BF2AH	LD	1987	BAEE-1000001~	BAEL-1000001~	BF22A{C}	76	ZV0	061A1ZV0840ZA	13ZV00E7	13ZV00E7F	36ZV0800	66ZV001	66ZV001F		
BF2AK	LD	1989	BAEE-1100001~	BAEL-1100001~	BF22A{E}	76	ZV0	06111ZV0405	13ZV00E7	13ZV00E7F	36ZV0810	66ZV001	66ZV001F		
BF2AM	LD	1991	BAEE-1200001~	BAEL-1200001~	BF22B{A}	76	ZV0	061A1ZV0880	13ZV00E7	13ZV00E7F	36ZV0820	66ZV001	66ZV001F		
BF2AH	SD	1987	BAEE-1000001~	BAES-1000001~	BF22A{C}	76	ZV0	061A1ZV0840ZA	13ZV00E7	13ZV00E7F	36ZV0800	66ZV001	66ZV001F		
BF2AK	SD	1989	BAEE-1100001~	BAES-1100001~	BF22A{E}	76	ZV0	06111ZV0405	13ZV00E7	13ZV00E7F	36ZV0810	66ZV001	66ZV001F		
BF2AM	SD	1991~	BAEE-1200001~	BAES-1200001~	BF22B{A}	76	ZV0	061A1ZV0880	13ZV00E7	13ZV00E7F	36ZV0820	66ZV001	66ZV001F		
BF200A 2	XCD	2002	BEAEJ-100001~	BAFJ-1000001~					13ZY20E2		32ZY2600	66ZY200			
BF200A 2	XXCD	2002	BEAEJ-100001~	BAFJ-1000001~					13ZY20E2		32ZY2600	66ZY200			
BF225A 2	LD	2002	BEAGJ-1000001~	BAGJ-1000001~					13ZY20E2		32ZY2600		66ZY200		

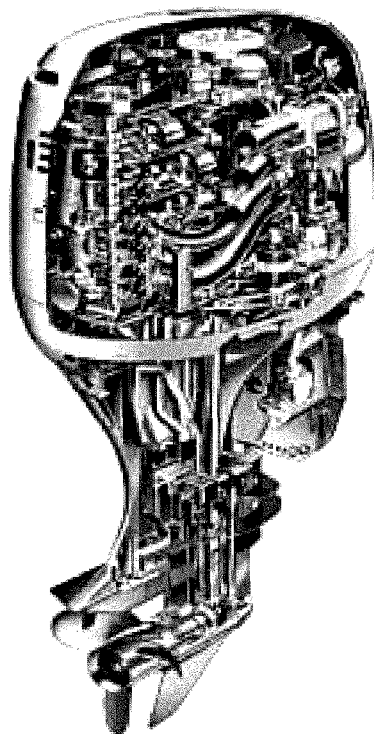
MODEL	TYPE	YEAR	ENGINE No	FRAME No	CARB No	CC	CODE	GASKET KIT	Parts List	P/L Fiche	Owners Manual	Service Manual	S/M Fiche	S/M Supplement	S/M Supp Fiche
BF225A 2	XD	2002	BEAGJ-1000001~	BAGJ-1000001~					13ZY20E2		32ZY2600		66ZY200		
BF225A 2	XXD	2002	BEAGJ-1000001~	BAGJ-1000001~					13ZY20E2		32ZY2600		66ZY200		
BF225A 2	XCD	2002	BEAGJ-1000001~	BAHJ-1000001~					13ZY20E2		32ZY2600		66ZY200		
BF225A 2	XXCD	2002	BEAGJ-1000001~	BAHJ-1000001~					13ZY20E2		32ZY2600		66ZY200		
BF175A3	XD	2003	BEAJJ-1000001~	BAJJ-1000001~					13ZY20E2						
BF175A3	XXD	2003	BEAJJ-1000001~	BAJJ-1000001~					13ZY20E2						
BF175A3	LD	2003	BEAJJ-1000001~	BAJJ-1000001~					13ZY20E2						
BF25A/AM	LHSA, LHSD	1994~	BAJE-1000001~	BAJL-1000001~	BG10A[A]	499	ZV7	06111ZV7405	13ZV90E4	13ZV90E3F	36ZV7612	66ZV700	66ZV700F		
BF25A/AM	LRSD	1994~	BAJE-1000001~	BAJL-1000001~	BG10A[A]	499	ZV7	06111ZV7405	13ZV90E4	13ZV90E3F	36ZV7612	66ZV700	66ZV700F		
BF25A/AM	LDA0(6a mp)	1994~	BAJE-1000001~	BAJL-1000001~	BG10A[A]	499	ZV7	06111ZV7405	13ZV90E4	13ZV90E3F	36ZV7612	66ZV700	66ZV700F		
BF25A/AM	LDA1	1994~	BAJE-1000001~	BAJL-1000001~	BG10A[A]	499	ZV7	06111ZV7405	13ZV90E4	13ZV90E3F	36ZV7612	66ZV700	66ZV700F		
BF25A/AM	SDA1	1994~	BAJE-1000001~	BAJL-1000001~	BG10A[A]	499	ZV7	06111ZV7405	13ZV90E4	13ZV90E3F	36ZV7612	66ZV700	66ZV700F		
BF25A/AM	SRSD	1994~	BAJE-1000001~	BAJL-1000001~	BG10A[A]	499	ZV7	06111ZV7405	13ZV90E4	13ZV90E3F	36ZV7612	66ZV700	66ZV700F		
BF25A/AM	XRSA	1994~	BAJE-1000001~	BAJL-1000001~	BG10A[A]	499	ZV7	06111ZV7405	13ZV90E4	13ZV90E3F	36ZV7612	66ZV700	66ZV700F		
BF25A/AM	SDA0(6a mp)	1994~	BAJE-1000001~	BAJS-1000001~	BG10A[A]	499	ZV7	06111ZV7405	13ZV90E4	13ZV90E3F	36ZV7612	66ZV700	66ZV700F		
BF25AX	SRSD	1998~	BAJE-1000001~	BAJS-3000001~	BG10A[C]	499	ZV9	06111ZV7405	13ZV90E4	13ZV90E4F	36ZV7612	66ZV700	66ZV700F		
BF25AX	SDAD	1998~	BAJE-1000001~	BAJS-3000001~	BG10A[C]	499	ZV9	06111ZV7405	13ZV90E4	13ZV90E4F	36ZV7612	66ZV700	66ZV700F		
BF25AX	LDAD	1998~	BAJE-1000001~	BAJS-3000001~	BG10A[C]	499	ZV9	06111ZV7405	13ZV90E4	13ZV90E4F	36ZV7612	66ZV700	66ZV700F		
BF25AX	LHSD	1998~	BAJE-1000001~	BAJS-3000001~	BG10A[C]	499	ZV9	06111ZV7405	13ZV90E4	13ZV90E4F	36ZV7612	66ZV700	66ZV700F		
BF25AX	LRSD	1998~	BAJE-1000001~	BAJS-3000001~	BG10A[C]	499	ZV9	06111ZV7405	13ZV90E4	13ZV90E4F	36ZV7612	66ZV700	66ZV700F		
BF25AX	XRSA	1998~	BAJE-1000001~	BAJS-3000001~	BG10A[C]	499	ZV9	06111ZV7405	13ZV90E4	13ZV90E4F	36ZV7612	66ZV700	66ZV700F		
BF175A3	XXCD	2003	BEAJJ-1000001~	BAKJ-1000001~					13ZY20E2						
BF175A3	XCD	2003	BEAJJ-1000001~	BAKJ-100001~					13ZY20E2						
BF15D		2003	BEALJ-1000001~	BALJ-1000001~			ZY0	NA	13ZY00E2		32ZY0600	66ZY000		66ZY000Z	
BF20D		2003	BEAMJ-1000001~	BAMJ-1000001~			ZY0	NA	13ZY00E2		32ZY0600	66ZY000		66ZY000Z	
BF25D4	LHD, SHGD, LHGD, LHTD	2004	BEATJ-1000001~	BATJ-1000001~			ZV7	NA	13ZV70E1						
BF30D4	LHD, LHGD, SHTD, LHTD, LRTD	2004	BEAUJ-1000001~	BAUJ-1000001~	BG13D[A]		ZV7	NA	13ZV70E1						
BF30A	LHD	1995~	BAWE-1000001~	BAWL-1000001~	BG13A[A]	499	ZW2	06111ZV7405	13ZV90E4	13ZV90E2F	36ZV7612	66ZV700	66ZV700F	66ZV700Z	66ZV700ZF
BF30A	LHSA	1995~	BAWE-1000001~	BAWL-1000001~	BG13A[A]	499	ZW2	06111ZV7405	13ZV90E4	13ZV90E2F	36ZV7612	66ZV700	66ZV700F		
BF30A	LHSD	1995~	BAWE-1000001~	BAWL-1000001~	BG13A[A]	499	ZW2	06111ZV7405	13ZV90E4	13ZV90E2F	36ZV7612	66ZV700	66ZV700F		
BF30A	LRSD/SRSD	1995~	BAWE-1000001~	BAWL-1000001~	BG13A[A]	499	ZW2	06111ZV7405	13ZV90E4	13ZV90E2F	36ZV7612	66ZV700	66ZV700F		
BF30A	SHD/SHSD	1995~	BAWE-1000001~	BAWL-1000001~	BG13A[A]	499	ZW2	06111ZV7405	13ZV90E4	13ZV90E2F	36ZV7612	66ZV700	66ZV700F		
BF30AX	LRSD	1998~	BAWE-1000001~	BAWL-3000001~	BG13A[A]	499	ZV9	06111ZV7405	13ZV90E4	13ZV90E4F	36ZV7611	66ZV700	66ZV700F		
BF30AX	SHD, SHSD	1998~	BAWE-1000001~	BAWS-3000001~	BG13A[A]	499	ZV9	06111ZV7405	13ZV90E4	13ZV90E4F	36ZV7611	66ZV700	66ZV700F		
BF30AX	LHD, LHSD	1998~	BAWE-1000001~	BAWS-3000001~	BG13A[A]	499	ZV9	06111ZV7405	13ZV90E4	13ZV90E4F	36ZV7611	66ZV700	66ZV700F		
BF40A	LHD	1995~	BAYE-1000001~	BAYL-1000001~	BG30B[A]	808	ZW3	N/A	17ZV50E3	17ZV50E2F	32ZV3614	66ZV300	66ZV300F	66ZV300X	66ZV300XF
BF40A	LHTA	1995~	BAYE-1000001~	BAYL-1000001~	BG30B[A]	808	ZW3	N/A	17ZV50E3	17ZV50E2F	32ZV3614	66ZV300	66ZV300F	66ZV300X	
BF40A	LRD	1995~	BAYE-1000001~	BAYL-1000001~	BG30B[A]	808	ZW3	N/A	17ZV50E3	17ZV50E2F	32ZV3614	66ZV300	66ZV300F	66ZV300X	
BF40A	LRTA	1995~	BAYE-1000001~	BAYL-1000001~	BG30B[A]	808	ZW3	N/A	17ZV50E3	17ZV50E2F	32ZV3614	66ZV300	66ZV300F	66ZV300X	

MODEL	TYPE	YEAR	ENGINE No	FRAME No	CARB No	CC	CODE	GASKET KIT	Parts List	P/L Fiche	Owners Manual	Service Manual	S/M Fiche	S/M Supplement	S/M Supp Fiche
BF40A	LRTD	1995~	BAYE-1000001~	BAYL-1000001~	BG30B[A]	808	ZW3	N/A	17ZV50E3	17ZV50E2F	32ZV3614	66ZV300	66ZV300F	66ZV300X	
BF40A	XRA	1995~	BAYE-1000001~	BAYL-1000001~	BG30B[A]	808	ZW3	N/A	17ZV50E3	17ZV50E2F	32ZV3614	66ZV300	66ZV300F	66ZV300X	
BF40AX	LHD	1998~	BAYE-1000001~	BAYL-3000001~	BG30B[A]	808	ZV5	N/A	17ZV50E3	17ZV50E2F	32ZV3613	66ZV300	66ZV300F		
BF40AX	LHTD	1998~	BAYE-1000001~	BAYL-3000001~	BG30B[A]	808	ZV5	N/A	17ZV50E3	17ZV50E2F	32ZV3613	66ZV300	66ZV300F		
BF40AX	LRTD	1998~	BAYE-1000001~	BAYL-3000001~	BG30B[A]	808	ZV5	N/A	17ZV50E3	17ZV50E2F	32ZV3613	66ZV300	66ZV300F		
BF40AX	XRTA	1998~	BAYE-1000001~	BAYL-3000001~	BG30B[A]	808	ZV5	N/A	17ZV50E3	17ZV50E2F	32ZV3613	66ZV300	66ZV300F		
BF40A2	LHD	2002	BAYE-1000001~	BAYL-3100001~					17ZV50E4		31ZW4606				
BF40A2	LHTD	2002	BAYE-1000001~	BAYL-3100001~					17ZV50E4		31ZW4606				
BF40A2	LRTD	2002	BAYE-1000001~	BAYL-3100001~					17ZV50E4		31ZW4606				
BF40A1			BAYE-2000001~	BAYS-3210001~3219999	BG30C[B] [C]				17ZV50E4			66ZV300	66ZV300F	66ZV300V	
BF40A	XRTA	1995~	BAYE-1000001~	BAYU-1000001~	BG30B[A]	808	ZW3	N/A	17ZV50E3	17ZV50E2F	32ZV3614	66ZV300	66ZV300F		
BF50A	LHD	1995~	BAZE-1000001~	BAZL-1000001~	BG31A[A]	808	ZW4	N/A	17ZV50E3	17ZV50E2F	32ZV3614	66ZV300	66ZV300F	66ZV300X	66ZV300XF
BF50A	LHTA	1995~	BAZE-1000001~	BAZL-1000001~	BG31A[A]	808	ZW4	N/A	17ZV50E3	17ZV50E2F	32ZV3614	66ZV300	66ZV300F	66ZV300X	
BF50A	LRTD	1995~	BAZE-1000001~	BAZL-1000001~	BG31A[A]	808	ZW4	N/A	17ZV50E3	17ZV50E2F	32ZV3614	66ZV300	66ZV300F	66ZV300X	
BF50A	LRTA	1995~	BAZE-1000001~	BAZL-1000001~	BG31A[A]	808	ZW4	N/A	17ZV50E3	17ZV50E2F	32ZV3614	66ZV300	66ZV300F	66ZV300X	
BF50A	LRTD	1995~	BAZE-1000001~	BAZL-1000001~	BG31A[A]	808	ZW4	N/A	17ZV50E3	17ZV50E2F	32ZV3614	66ZV300	66ZV300F	66ZV300X	
BF50AX	LHD	1998~	BAZE-1000001~	BAZL-3000001~	BG31A[A]	808	ZV5	N/A	17ZV50E3	17ZV50E2F	32ZV3613	61ZV300	61ZV300F	61ZV300X	
BF50AX	LHTD	1998~	BAZE-1000001~	BAZL-3000001~	BG31A[A]	808	ZV5	N/A	17ZV50E3	17ZV50E2F	32ZV3613	66ZV300	61ZV300F		
BF50AX	LRTD	1998~	BAZE-1000001~	BAZL-3000001~	BG31A[A]	808	ZV5	N/A	17ZV50E3	17ZV50E2F	32ZV3613	66ZV300	61ZV300F		
BF50AX	XRTD	1998~	BAZE-1000001~	BAZL-3000001~	BG31A[A]	808	ZV5	N/A	17ZV50E3	17ZV50E2F	32ZV3613	66ZV300	61ZV300F		
BF50A2	LHD	2002	BAZE-1000001~	BAZL-3100001~					17ZV50E4		31ZW4606				
BF50A2	LHTD	2002	BAZE-1000001~	BAZL-3100001~					17ZV50E4		31ZW4606				
BF50A2	LRTD	2002	BAZE-1000001~	BAZL-3100001~					17ZV50E4		31ZW4606				
BF50A1			BAZE-2000001~	BAZS-3210001~3219999	BG31B[C]				17ZV50E4						
BF50A	XRTA	1995~	BAZE-1000001~	BAZU-1000001~	BG31A[A]	808	ZW4	N/A	17ZV50E3	17ZV50E2F	32ZV3614	66ZV300	66ZV300F		
BF75AT	LHTD	1995~	BBAE-1000001~	BBAL-1000001~	BG35A[A]	1590	ZW0	06111ZW1000	13ZW00E4	13ZW00E3F	32ZW0601	66ZW000	66ZW000F		
BF75AT	LRTA	1995~	BBAE-1000001~	BBAL-1000001~	BG35A[A]	1590	ZW0	06111ZW1000	13ZW00E4	13ZW00E3F	32ZW0601	66ZW000	66ZW000F		
BF75AT	LRTD														
BF75AT	XRTA	1995~	BBAE-1000001~	BBAL-1000001~	BG35A[A]	1590	ZW0	06111ZW1000	13ZW00E4	13ZW00E3F	32ZW0601	66ZW000	66ZW000F		
BF75AV	LRTD	1997~	BBAE-1000001~	BBAL-2000001~	BG35A[A]	1590	ZW0	06111ZW1000	13ZW00E4	13ZW00E3F	32ZW0610	66ZW000	66ZW000F	66ZW000Z	
BF75AV	XRTD	1997~	BBAE-1000001~	BBAL-2000001~	BG35A[A]	1590	ZW0	06111ZW1000	13ZW00E4	13ZW00E3F	32ZW0610	66ZW000	66ZW000F		
BF75AX	LRTD	1998~	BBAE-1000001~	BBAL-4000001~	BG35A[A]	1590	ZW0	06111ZW1000	13ZW00E4	13ZW00E3F	32ZW0612	66ZW000	66ZW000F		
BF75A2		2002	BBAE-2100001~	BBAL-4410001~				06111ZW1010	17ZW00E1		32ZW0613	66ZW000		66ZW000Z	
BF75AX	XRTD	1998~	BBAE-1000001~	BBAU-4000001~	BG35A[A]	1590	ZW0	06111ZW1000	13ZW00E4	13ZW00E3F	32ZW0612	66ZW000	66ZW000F		
BF75A1	XRTD	2001	BBAE-2100001~	BBAU-4100001~	BG35D[A]		ZW0	06111ZW1000	13ZW00E5	13ZW00E4F		66ZW000		66ZW000Z	
BF75A1	LRTD	2001	BBAE-2100001~	BBAU-4400001~	BG35D[A]		ZW0	06111ZW1000	13ZW00E5	13ZW00E4F		66ZW000		66ZW000Z	
BF90AT	LHTD	1995~	BBBE-1000001~	BBBL-1000001~	BG40A[A]	1590	ZW1	06111ZW1000	13ZW00E4	13ZW00E3F	32ZW0K00	66ZW000	66ZW000F		
BF90AT	LRTA	1995~	BBBE-1000001~	BBBL-1000001~	BG40A[A]	1590	ZW0	06111ZW1000	13ZW00E4	13ZW00E3F	32ZW0K00	66ZW000	66ZW000F		
BF90AT	LRTD														
BF90AV	LRTD	1997~	BBBE-1000001~	BBBL-2000001~	BG40A[A]	1590	ZW1	06111ZW1000	13ZW00E4	13ZW00E3F	32ZW0610	66ZW000	66ZW000ZF	66ZW000Z	
BF90AX	LHTD	1998~	BBBE-1000001~	BBBL-4000001~	BG40A[A]	1590	ZW1	06111ZW1000	13ZW00E4	13ZW00E3F	32ZW0612	66ZW000	66ZW000F		
BF90AX	LRTD	1998~	BBBE-1000001~	BBBL-4000001~	BG40A[A]	1590	ZW1	06111ZW1000	13ZW00E4	13ZW00E3F	32ZW0612	66ZW000	66ZW000F		
BF90A1	LHTD	2001	BBBE-2100001~	BBBL-4400001~	BG40C[A]		ZW0	06111ZW1000	13ZW00E5	13ZW00E4F		66ZW000		66ZW000Z	
BF90A1	LRTD	2001	BBBE-2100001~	BBBL-4400001~	BG40C[A]		ZW0	06111ZW1000	13ZW00E5	13ZW00E4F		66ZW000		66ZW000Z	
BF90A2		2002	BBBE-2100001~	BBBL-4410001~				06111ZW1010	17ZW00E1		32ZW0613	66ZW000		66ZW000Z	
BF90AT	LRTA	1995~	BBBE-1000001~	BBBU-1000001~	BG40A[A]	1590	ZW0	06111ZW1000	13ZW00E4	13ZW00E3F	32ZW0K00	66ZW000	66ZW000F		
BF90AT	XRTD														
BF90AV	XRTD	1997~	BBBE-1000001~	BBBU-2000001~	BG40A[A]	1590	ZW1	06111ZW1000	13ZW00E4	13ZW00E3F	32ZW0610	66ZW000	66ZW000F		
BF90AX	XRTD	1998~	BBBE-1000001~	BBBU-4000001~	BG40A[A]	1590	ZW1	06111ZW1000	13ZW00E4	13ZW00E3F	32ZW0612	66ZW000	66ZW000F		
BF90A1	XRTD	2001	BBBE-2100001~	BBBU-410001~	BG40C[A]		ZW0	06111ZW1000	13ZW00E4	13ZW00E4F		66ZW000		66ZW000Z	

MODEL	TYPE	YEAR	ENGINE No	FRAME No	CARB No	CC	CODE	GASKET KIT	Parts List	P/L Fiche	Owners Manual	Service Manual	S/M Fiche	S/M Supplement	S/M Supp Fiche
BF100	SD, LD	1972-79	B100-1000001~1020309	BF100-1000001~1020309	BC01A[A] BC01C[A]	197	881	06110881S03	1388104	1388103F	DISC.	6688122	6688122F		
BF20F	SD	1985	BF20-1000001~	BF20-1000001~	BF09A[A]	76	ZV0	06111ZV0405	13ZV00E7	13ZV00E7F	36ZV0030	66ZV001	66ZV001F		
BF20F	LD	1985	BF20-1000001~	BF20L-1000001~	BF09A[A]	76	ZV0	06111ZV0405	13ZV00E7	13ZV00E7F	36ZV0030	66ZV001	66ZV001F		
BF45AM	LHA	1993~	BAFE-1000001~	BF45AM-1000001~	BG15A[A]	808	ZV5	06111ZV5405	13ZV50E5	13ZV50E5F	32ZV3601	66ZV300	66ZV300F	66ZV300Y	66ZV300YF
BF45AM	LRD	1993~	BAFE-1000001~	BF45AM-1000001~	BG15A[A]	808	ZV5	06111ZV5405	13ZV50E5	13ZV50E5F	32ZV3601	66ZV300	66ZV300F	66ZV300Y	
BF45AM	LRTD	1993~	BAFE-1000001~	BF45AM-1000001~	BG15A[A]	808	ZV5	06111ZV5405	13ZV50E5	13ZV50E5F	32ZV3601	66ZV300	66ZV300F	66ZV300Y	
BF45AM	XRTA	1993~	BAFE-1000001~	BF45AM-1000001~	BG15A[A]	808	ZV5	06111ZV5405	13ZV50E5	13ZV50E5F	32ZV3601	66ZV300	66ZV300F	66ZV300Y	
BF50F	LD	1985	BF50-1000001~	BF50L-1000001~	BC05A[C]	127	ZV1	06111ZV1405	13ZV10E9	13ZV10E8F	36ZV1010	66ZV100	66ZV101F		
BF50F	SD	1985	BF50-1000001~	BF50S-1000001~	BC05A[C]	127	ZV1	06111ZV1405	13ZV10E9	13ZV10E8F	36ZV1010	66ZV100	66ZV101F		
BF75	SD, LD	1978	BF75-1000002~1013304	BF75-1000002~1013304	BC01B[A] BC01C[A]	197	881	06110881S03	1388104	1388103F	36ZV1631	6688122	6688122F		
BF75A	LD	1980	BF75-1200875~1204972	BF75-1200875~1204972	BC01C[A] BC01C[B]	197	881	06110881S03	14881D45	14881D45F	3688101	6688122	6688122F		
BF75A	SD	1980	BF75-1202195~1205022	BF75-1202195~1205022	BC01C[A] BC01C[B]	197	881	06110881S03	14881D45	14881D45F	3688101	6688122	6688122F		
BF75B	LD	1981	BF75L-1300001~1302908	BF75L-1300001~1302908	BC01C[B]	197	881	06110881S03	14881D45	14881D45F	DISC.	6688122	6688122F		
BF75C	LD	1982	BF75L-1400001~	BF75L-1400001~	BC01C[B]	197	881	06110881S03	14881D45	14881D45F	3688103	6688122	6688122F		
BF75D	LD	1983	BF75L-1500001~	BF75L-1500001~	BC01C[B]	197	881	06110881S03	14881D45	14881D45F	36881600	6688122	6688122F		
BF75E	LD	1984	BF75L-1600001~	BF75L-1600001~	BC01C[B]	197	881	06110881S03	14881FE8	14881FE8F	36881610	6688122	6688122F		
BF75F	LD	1985	BF75L-1700001~	BF75L-1700001~	BC01D[A]	197	881	06110881S03	14881FE8	14881FE8F	36881620	6688122	6688122F		
BF75B	SD	1981	BF75S-1300844~1302307	BF75S-1300844~1302307	BC01C[B]	197	881	06110881S03	14881D45	14881D45F	DISC.	6688122	6688122F		
BF75C	SD	1982	BF75S-1400001~	BF75S-1400001~	BC01C[B]	197	881	06110881S03	14881D45	14881D45F	3688103	6688122	6688122F		
BF75D	SD	1983	BF75S-1500001~	BF75S-1500001~	BC01C[B]	197	881	06110881S03	14881D45	14881D45F	36881600	6688122	6688122F		
BF75E	SD	1984	BF75S-1600001~	BF75S-1600001~	BC01C[B]	197	881	06110881S03	14881FE8	14881FE8F	36881610	6688122	6688122F		
BF75F	SD	1985	BF75S-1700001~	BF75S-1700001~	BC01D[A]	197	881	06110881S03	14881FE8	14881FE8F	36881620	6688122	6688122F		
BF35AM	LHD	1991~	BAGE-1000001~	BLAG-1000001~	BG12A[A]	808	ZV9	06111ZV5405	13ZV50E6	13ZV50E5F	32ZV3601	66ZV300	66ZV300F	66ZV300Y	66ZV300YF
BF35AM	LRD	1991~	BAGE-1000001~	BLAG-1000001~	BG12A[A]	808	ZV9	06111ZV5405	13ZV50E6	13ZV50E5F	32ZV3601	66ZV300	66ZV300F	66ZV300Y	
BF35AM	LRTD	1991~	BAGE-1000001~	BLAG-1000001~	BG12A[A]	808	ZV9	06111ZV5405	13ZV50E6	13ZV50E5F	32ZV3601	66ZV300	66ZV300F	66ZV300Y	
BF115AX	LD, XD	1998~	BEED-1000001~	BZBD-1000001~	N/A	2254	ZW5	06111ZW7000	13ZW50E3	13ZW50E2F	32ZW5601	66ZW500	66ZW500F		
BF130AX	LD, XD	1998~	BEED-1000001~	BZBE-1000001~	N/A	2254	ZW5	06111ZW7000	13ZW50E3	13ZW50E2F	32ZW5601	66ZW500	66ZW500F		
BF2DX	SCHU	1998	BEED-1000001~	BZBF-1000001~	BF33A[A]	57	ZW6	N/A	13ZW60E2	13ZW60E2F	36ZW6602	66ZW600	66ZW600F		
BF2DX	LCHU	1998	BEED-1000001~	BZBF-1000001~	BF33A[A]	57	ZW6	N/A	13ZW60E2	13ZW60E2F	36ZW6602	66ZW600	66ZW600F		
BF2D4	SCHU, LCHU	2004	BEED-2000001~	BZBF-2000001~	BF33A[E]		ZW6		13ZW60E4						
BF115AX	LCD, XCD	1998~	BEED-1000001~	BZBG-1000001~	N/A	2254	ZW5	06111ZW7000	13ZW50E3	13ZW50E2F	32ZW5600	66ZW500	66ZW500F		
BF130AX	LCD, XCD	1998~	BEED-1000001~	BZBH-1000001~	N/A	2254	ZW5	06111ZW7000	13ZW50E3	13ZW50E2F	32ZW5600	66ZW500	66ZW500F		

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MARINE QUICK REFERENCE LIST

INCLUDES:

SERVICE ITEM PART NUMBERS
IMPELLER, PUMP PART NUMBERS
IMPELLER, PUMP KIT PART NUMBERS

Honda
The Power of Dreams



HONDA ORIGINAL PARTS

MODEL	TYPE	YEAR	GASKET KIT	Spark Plug	Fuel Filter	Oil Filter	Impeller, Pump	Impeller, Pump Kit	Notes
GB40		1968~71	06110822S02	B6HS	N/A	N/A	N/A	N/A	
B75	SD, LD	1971~77	06110921010	D6HA	N/A	N/A	19210935003	N/A	
B75K1	SD, LD	1971~77	06110935S02	D6HA	N/A	N/A	19210935003	N/A	
B75K2	SD, LD	1971~77	06110935S02	D6HA	N/A	N/A	19210935003	N/A	
B75K3	SD, LD	1971~77	06110935S02	D6HA	N/A	N/A	19210935003	N/A	
BF5A2		2002		BPR5ES	16910GB2005	N/A	19210881A02	06192ZV1C00	
BF115A 1		2001		ZFR7F11	16010ST5932	15400PR3003	19210ZW1B02	06192ZW1B02	
BF115A 2		2002		ZFR7F11	16010ST5932	15400PR3003	19210ZW1B02	06192ZW1B02	
BF130A 1		2001		ZFR7F11	16010ST5932	15400PR3003	19210ZW1B02	06193ZW5010	
BF130A 2		2002		ZFR7F11	16010ST5932	15400PR3003	19210ZW1B02	06193ZW5010	
BF40A4		2004	NA	DR7EA	16900SA5004	15400PFB007	19210ZV5003	06193ZV5010	
BF50A4		2004	NA	DR7EA	16900SA5004	15400PFB007	19210ZV5003	06193ZV5010	
BF2D1		2001	NA	CR4HSB	16952ZE6000	NA	NA	NA	
BF2D2		2002	NA	CR4HSB	16952ZE6000	NA	NA	NA	
BF100A	SD	1980	06110881S03	DR5HS	N/A	N/A	19210881000	N/A	
BF100A	LD	1980	06110881S03	DR5HS	N/A	N/A	19210881000	N/A	
BF100B	LD	1981	06110881S03	DR5HS	N/A	N/A	19210881000	N/A	
BF100C	LD	1982	06110881S03	DR5HS	N/A	N/A	19210881000	N/A	
BF100D	LD	1983	06110881S03	DR5HS	N/A	N/A	19210881000	N/A	
BF100E	LD	1984	06110881S03	DR5HS	N/A	N/A	19210881003	N/A	
BF100F	LD	1985	06110881S03	DR5HS	N/A	N/A	19210881003	N/A	
BF100B	SD	1981	06110881S03	DR5HS	N/A	N/A	19210881000	N/A	
BF100C	SD	1982	06110881S03	DR5HS	N/A	N/A	19210881000	N/A	
BF100D	SD	1983	06110881S03	DR5HS	N/A	N/A	19210881000	N/A	
BF100E	SD	1984	06110881S03	DR5HS	N/A	N/A	19210881003	N/A	
BF100F	SD	1985	06110881S03	DR5HS	N/A	N/A	19210881003	N/A	
BF8D1	SHE	2001		CR5EH9	16910ZV4015	15400PFB004	19210ZW9003	N/A	
BF8D1	LHE	2001		CR5EH9	16910ZV4015	15400PFB004	19210ZW9003	N/A	
BF8D1	LHSE	2001		CR5EH9	16910ZV4015	15400PFB004	19210ZW9003	N/A	
BFP8D1	XHE	2001		CR5EH9	16910ZV4015	15400PFB004	19210ZW9A31	N/A	
BFP8D1	XRE	2001		CR5EH9	16910ZV4015	15400PFB004	19210ZW9A31	N/A	
BF8D2		2002		CR5EH9	16910ZV4015	15400PFB004	(S/L) 19210ZW9003 / (UL) 19210ZW9A31	N/A	
BFP8D2		2002		CR5EH9	16910ZV4015	15400PFB004	(S/L) 19210ZW9003 / (UL) 19210ZW9A31	N/A	
BF15AH	LD, LDS	1987	06111ZV4405	DR6HS	16910ZV4015	N/A	19210ZV4013	N/A	
BF15AK	LD, LDS	1989	06111ZV4405	DR6HS	16910ZV4015	N/A	19210ZV4013	N/A	
BF15AM	LD, LDS	1991~	06111ZV4405	DR6HS	16910ZV4015	N/A	19210ZV4651	06192ZV4A00	
BF15AX	LD	1998	N/A	DR6HS	16910ZV4015	N/A	19210ZV4651	N/A	
BF15AX	LDS	1998	N/A	DR6HS	16910ZV4015	N/A	19210ZV4651	N/A	
BF15AH	SD, SDS	1987	06111ZV4405	DR6HS	16910ZV4015	N/A	19210ZV4013	N/A	
BF15AK	SD, SDS	1989	06111ZV4405	DR6HS	16910ZV4015	N/A	19210ZV4013	N/A	
BF15AM	SA, SD, SDS	1991~	06111ZV4405	DR6HS	16910ZV4015	N/A	19210ZV4013	06192ZV4A00	
BF15AX	SD	1998	N/A	DR6HS	16910ZV4015	N/A	19210ZV4651	N/A	
BF15AX	SDS	1998	N/A	DR6HS	16910ZV4015	N/A	19210ZV4651	N/A	
BF15AM	XDS	1995~	06111ZV4405	DR6HS	16910ZV4015	N/A	19210ZV4651	06192ZV4A00	
BF15AX	XDS	1998	N/A	DR6HS	16910ZV4015	N/A	19210ZV4651	N/A	
BF10D1	SHE	2001		CR5EH9	16910ZV4015	15400PFB004	19210ZW9003	N/A	
BF10D1	LHE	2001		CR5EH9	16910ZV4015	15400PFB004	19210ZW9003	N/A	
BF10D1	SHSE	2001		CR5EH9	16910ZV4015	15400PFB004	19210ZW9003	N/A	
BF10D1	LHSE	2001		CR5EH9	16910ZV4015	15400PFB004	19210ZW9003	N/A	
BFP10D1	LRE	2001		CR5EH9	16910ZV4015	15400PFB004	19210ZW9003	N/A	
BFP10D1	LHE	2001		CR5EH9	16910ZV4015	15400PFB004	19210ZW9003	N/A	
BFP10D1	XRE	2001		CR5EH9	16910ZV4015	15400PFB004	19210ZW9A31	N/A	
BFP10D2		2002		CR5EH9	16910ZV4015	15400PFB004	(S/L) 19210ZW9003 / (UL) 19210ZW9A31	N/A	
BF10D2		2002		CR5EH9	16910ZV4015	15400PFB004	19210ZW9003	N/A	
BFP10D2		2002		CR5EH9	16910ZV4015	15400PFB004	19210ZW9A31	N/A	

MODEL	TYPE	YEAR	GASKET KIT	Spark Plug	Fuel Filter	Oil Filter	Impeller, Pump	Impeller, Pump Kit	Notes
BF10D2		2002		CR5EH9	16910ZV4015	15400PFB004	(S/L) 19210ZW9003 / (UL) 19210ZW9A31	N/A	
BF9.9AH	LD, LDS	1987	N/A	DR5HS	16910ZV4015	N/A	19210ZV4013	N/A	
BF9.9AK	LD, LDS	1989	N/A	DR5HS	16910ZV4015	N/A	19210ZV4013	N/A	
BF9.9AM	LD, LDS	1991~	N/A	DR5HS	16910ZV4015	N/A	19210ZV4651	N/A	06192ZV4A00
BF9.9AX	LD	1998	N/A	DR5HS	16910ZV4015	N/A	19210ZV4651	N/A	
BF9.9AX	LDS	1998	N/A	DR5HS	16910ZV4015	N/A	19210ZV4651	N/A	
BF9.9AH	SD, SDS	1987	N/A	DR5HS	16910ZV4015	N/A	19210ZV4013	N/A	
BF9.9AK	SD, SDS	1989	N/A	DR5HS	16910ZV4015	N/A	19210ZV4013	N/A	
BF9.9AM	SD, SDS	1991~	N/A	DR5HS	16910ZV4015	N/A	19210ZV4013	N/A	06192ZV4A00
BF9.9AX	SD	1998	N/A	DR5HS	16910ZV4015	N/A	19210ZV4651	N/A	
BF9.9AX	SDS	1998	N/A	DR5HS	16910ZV4015	N/A	19210ZV4651	N/A	
BF9.9AM	XD, XDS	1995~	N/A	DR5HS	16910ZV4015	N/A	19210ZV4651	N/A	06192ZV4A00
BF9.9AX	XD	1998	N/A	DR5HS	16910ZV4015	N/A	19210ZV4651	N/A	
BF8AH	LD	1987	06111881405	DR5HS	16910GB2005	N/A	19210881003	N/A	
BF8AK	LD	1989	06111881405	DR5HS	16910GB2005	N/A	19210881003	N/A	
BF8AM	LD	1991~	06111881405	DR5HS	16910GB2005	N/A	19210881003	N/A	
BF8AX	LD	1998	N/A	DR5HS	16910GB2005	N/A	19210881A02	N/A	06192881C00
BF8AH	SD	1987	06111881405	DR5HS	16910GB2005	N/A	19210881003	N/A	
BF8AK	SD	1989	06111881405	DR5HS	16910GB2005	N/A	19210881003	N/A	
BF8AM	SD	1991~	06111881405	DR5HS	16910GB2005	N/A	19210881003	N/A	
BF8AX	SD	1998	N/A	DR5HS	16910GB2005	N/A	19210881A02	N/A	06192881C00
BF8AM	XD	1991~	06111881405	DR5HS	16910GB2005	N/A	19210881003	N/A	
BF8AX	XD	1998	N/A	DR5HS	16910GB2005	N/A	19210881A02	N/A	06192881C00
BF5AH	LD	1987	06111ZV1408	BPR5ES	16910GB2005	N/A	19210881003	N/A	
BF5AK	LD	1989	061A1ZV1405	BPR5ES	16910GB2005	N/A	19210881003	N/A	
BF5AM	LD	1991	061A1ZV1850	BPR5ES	16910GB2005	N/A	19210881003	N/A	
BF5AX	LD	1998	06111ZV1405	BPR5ES	16910GB2005	N/A	19210881003	N/A	
BF5A4	LEB	2004	N/A	BPR5ES	16910GB2005	N/A	19210881A02	N/A	Impeller Kit 06192ZV1C00 / Impeller Pump Kit 06193ZV1000
BF5AH	SD	1987	06111ZV1408	BPR5ES	16910GB2005	N/A	19210881003	N/A	
BF5AK	SD	1989	06111ZV1405	BPR5ES	16910GB2005	N/A	19210881003	N/A	
BF5AM	SD	1991~	061A1ZV1850	BPR5ES	16910GB2005	N/A	19210881003	N/A	
BF5AX	SD, XD	1998	06111ZV1405	BPR5ES	16910GB2005	N/A	19210881003	N/A	
BF5A1		2001		BPR5ES	16910GB2005	N/A	19210881A02	N/A	
BF5A4	SEB	2004	N/A	BPR5ES	16910GB2005	N/A	19210881A02	N/A	Impeller Kit 06192ZV1C00 / Impeller Pump Kit 06193ZV1000
BF200A 2	XXD	2002	N/A	IZFR6F11	16911ZY3000	N/A			
BF200A 2	LD, XD, XXD	2002	N/A	IZFR6F11	16911ZY3000	15400PLC004	19210ZY3003	19019ZY3000	
BF200A 2	XD	2002	N/A	IZFR6F11	16911ZY3000	N/A			
BF2AH	LD	1987	061A1ZV0840ZA	W14MRU	N/A	N/A	19211ZV0003	N/A	
BF2AK	LD	1989	06111ZV0405	W14MRU	N/A	N/A	19211ZV0003	N/A	
BF2AM	LD	1991	061A1ZV0880	W14MRU	N/A	N/A	19211ZV0003	N/A	
BF2AH	SD	1987	061A1ZV0840ZA	W14MRU	N/A	N/A	19211ZV0003	N/A	
BF2AK	SD	1989	06111ZV0405	W14MRU	N/A	N/A	19211ZV0003	N/A	
BF2AM	SD	1991~	061A1ZV0880	W14MRU	N/A	N/A	19211ZV0003	N/A	
BF200A 2	XCD	2002		IZFR6F11	16911ZY3003	15400PR3003	19210ZY3003	SEE NOTES	Water pump kits (Impeller, Gasket & Seals 19019ZY3000) (Ful Kit no seals 06193ZY3000) (Impeller & Gasket 06192ZY3000)
BF200A 2	XXCD	2002		IZFR6F11	16911ZY3003	15400PR3003	19210ZY3003	SEE NOTES	Water pump kits (Impeller, Gasket & Seals 19019ZY3000) (Ful Kit no seals 06193ZY3000) (Impeller & Gasket 06192ZY3000)
BF225A 2	LD	2002		IZFR6F11	16911ZY3003	15400PR3003	19210ZY3003	SEE NOTES	Water pump kits (Impeller, Gasket & Seals 19019ZY3000) (Ful Kit no seals 06193ZY3000) (Impeller & Gasket 06192ZY3000)
BF225A 2	XD	2002		IZFR6F11	16911ZY3003	15400PR3003	19210ZY3003	SEE NOTES	Water pump kits (Impeller, Gasket & Seals 19019ZY3000) (Ful Kit no seals 06193ZY3000) (Impeller & Gasket 06192ZY3000)
BF225A 2	XXD	2002		IZFR6F11	16911ZY3003	15400PR3003	19210ZY3003	SEE NOTES	Water pump kits (Impeller, Gasket & Seals 19019ZY3000) (Ful Kit no seals 06193ZY3000) (Impeller & Gasket 06192ZY3000)
BF225A 2	XCD	2002		IZFR6F11	16911ZY3003	15400PR3003	19210ZY3003	SEE NOTES	Water pump kits (Impeller, Gasket & Seals 19019ZY3000) (Ful Kit no seals 06193ZY3000) (Impeller & Gasket 06192ZY3000)
BF225A 2	XXCD	2002		IZFR6F11	16911ZY3003	15400PR3003	19210ZY3003	SEE NOTES	Water pump kits (Impeller, Gasket & Seals 19019ZY3000) (Ful Kit no seals 06193ZY3000) (Impeller & Gasket 06192ZY3000)

MODEL	TYPE	YEAR	GASKET KIT	Spark Plug	Fuel Filter	Oil Filter	Impeller, Pump	Impeller, Pump Kit	Notes
BF175A3	XD	2003		IZFR6F11	16911ZY3003	15400PR3003	19210ZY3003	SEE NOTES	Water pump kits (Impeller, Gasket & Seals 19019ZY3000) (Ful Kit no seals 06193ZY3000) (Impeller & Gasket 06192ZY3000)
BF175A3	XXD	2003		IZFR6F11	16911ZY3003	15400PR3003	19210ZY3003	SEE NOTES	Water pump kits (Impeller, Gasket & Seals 19019ZY3000) (Ful Kit no seals 06193ZY3000) (Impeller & Gasket 06192ZY3000)
BF175A3	LD	2003		IZFR6F11	16911ZY3003	15400PR3003	19210ZY3003	SEE NOTES	Water pump kits (Impeller, Gasket & Seals 19019ZY3000) (Ful Kit no seals 06193ZY3000) (Impeller & Gasket 06192ZY3000)
BF25A/AM	LHSA, LHSD	1994~	06111ZV7405	DR7EA	16910ZV4015	15400PJ7015	19210ZV7003	N/A	
BF25A/AM	LRSD	1994~	06111ZV7405	DR7EA	16910ZV4015	15400PJ7015	19210ZV7003	N/A	
BF25A/AM	LDA0(6am p)	1994~	06111ZV7405	DR7EA	16910ZV4015	15400PJ7015	19210ZV7003	N/A	
BF25A/AM	LDA1	1994~	06111ZV7405	DR7EA	16910ZV4015	15400PJ7015	19210ZV7003	N/A	
BF25A/AM	SDA1	1994~	06111ZV7405	DR7EA	16910ZV4015	15400PJ7015	19210ZV7003	N/A	
BF25A/AM	SRSD	1994~	06111ZV7405	DR7EA	16910ZV4015	15400PJ7015	19210ZV7003	N/A	
BF25A/AM	XRSA	1994~	06111ZV7405	DR7EA	16910ZV4015	15400PJ7015	19210ZV7003	N/A	
BF25A/AM	SDA0(6amp)	1994~	06111ZV7405	DR7EA	16910ZV4015	15400PJ7015	19210ZV7003	N/A	
BF25AX	SRSD	1998~	06111ZV7405	DR7EA	16910ZV4015	15400PJ7015	19210ZV7003	06192ZW2000	
BF25AX	SDAD	1998~	06111ZV7405	DR7EA	16910ZV4015	15400PJ7015	19210ZV7003	06192ZW2000	
BF25AX	LDAD	1998~	06111ZV7405	DR7EA	16910ZV4015	15400PJ7015	19210ZV7003	06192ZW2000	
BF25AX	LHSD	1998~	06111ZV7405	DR7EA	16910ZV4015	15400PJ7015	19210ZV7003	06192ZW2000	
BF25AX	LRSD	1998~	06111ZV7405	DR7EA	16910ZV4015	15400PJ7015	19210ZV7003	06192ZW2000	
BF25AX	XRSA	1998~	06111ZV7405	DR7EA	16910ZV4015	15400PJ7015	19210ZV7003	06192ZW2000	
BF175A3	XXCD	2003		IZFR6F11	16911ZY3003	15400PR3003	19210ZY3003	19019ZY3000	
BF175A3	XCD	2003		IZFR6F11	16911ZY3003	15400PR3003	19210ZY3003	19019ZY3000	
BF15D		2003	NA	CR5EH9	16910ZV4015	15400PFB004	19210ZW9A32	NA	
BF20D		2003	NA	CR5EH9	16910ZV4015	15400PFB004	19210ZW9A32	NA	
BF25D4	LHD, SHGD, LHGD, LHTD	2004	NA	DR7EA	16910ZV4015	15400PFB007	19210ZV7003		Impeller Kit 06192ZW2000 / Impeller Pump Kit 06193ZV7010
BF30D4	LHD, LHGD, SHTD, LHTD, LRTD	2004	NA	DR7EA	16910ZV4015	15400PFB007	19210ZV7003		Impeller Kit 06192ZW2000 / Impeller Pump Kit 06193ZV7010
BF30A	LHD	1995~	06111ZV7405	DR7EA	16910ZV4015	15400PJ7015	19210ZV7003	N/A	
BF30A	LHSA	1995~	06111ZV7405	DR7EA	16910ZV4015	15400PJ7015	19210ZV7003	N/A	
BF30A	LHSD	1995~	06111ZV7405	DR7EA	16910ZV4015	15400PJ7015	19210ZV7003	N/A	
BF30A	LRSD/SRSD	1995~	06111ZV7405	DR7EA	16910ZV4015	15400PJ7015	19210ZV7003	N/A	
BF30A	SHD/SHSD	1995~	06111ZV7405	DR7EA	16910ZV4015	15400PJ7015	19210ZV7003	N/A	
BF30AX	LRSD	1998~	06111ZV7405	DR7EA	16910ZV4015	15400PJ7015	19210ZV7003	06192ZW2000	
BF30AX	SHD, SHSD	1998~	06111ZV7405	DR7EA	16910ZV4015	15400PJ7015	19210ZV7003	06192ZW2000	
BF30AX	LHD, LHSD	1998~	06111ZV7405	DR7EA	16910ZV4015	15400PJ7015	19210ZV7003	06192ZW2000	
BF40A	LHD	1995~	N/A	DR7EA	16900SA5004	15400PJ7015	19210ZV5003	N/A	
BF40A	LHTA	1995~	N/A	DR7EA	16900SA5004	15400PJ7015	19210ZV5003	N/A	
BF40A	LRD	1995~	N/A	DR7EA	16900SA5004	15400PJ7015	19210ZV5003	N/A	
BF40A	LRTA	1995~	N/A	DR7EA	16900SA5004	15400PJ7015	19210ZV5003	N/A	
BF40A	LRTD	1995~	N/A	DR7EA	16900SA5004	15400PJ7015	19210ZV5003	N/A	
BF40A	XRA	1995~	N/A	DR7EA	16900SA5004	15400PJ7015	19210ZV5003	N/A	
BF40AX	LHD	1998~	N/A	DR7EA	16900SA5004	15400PJ7015	19210ZV5003	06193ZV5000	
BF40AX	LHTD	1998~	N/A	DR7EA	16900SA5004	15400PJ7015	19210ZV5003	06193ZV5000	
BF40AX	LRD, LRTD	1998~	N/A	DR7EA	16900SA5004	15400PJ7015	19210ZV5003	06193ZV5000	
BF40AX	XRTA	1998~	N/A	DR7EA	16900SA5004	15400PJ7015	19210ZV5003	06193ZV5000	
BF40A2	LHD	2002		DR7EA	16900SA5004	15400ZW4003	19210ZV5003	06193ZV5000	

MODEL	TYPE	YEAR	GASKET KIT	Spark Plug	Fuel Filter	Oil Filter	Impeller, Pump	Impeller, Pump Kit	Notes
BF40A2	LHTD	2002		DR7EA	16900SA5004	15400ZW4003	19210ZV5003	06193ZV5000	
BF40A2	LRTD	2002		DR7EA	16900SA5004	15400ZW4003	19210ZV5003	06193ZV5000	
BF40A1				DR7EA	16900SA5004	15400ZW4003	19210ZV5003	06193ZV5000	
BF40A	XRTA	1995~	N/A	DR7EA	16900SA5004	15400PJ7015	19210ZV5003	N/A	
BF50A	LHD	1995~	N/A	DR7EA	16900SA5004	15400PJ7015	19210ZV5003	N/A	
BF50A	LHTA	1995~	N/A	DR7EA	16900SA5004	15400PJ7015	19210ZV5003	N/A	
BF50A	LRD	1995~	N/A	DR7EA	16900SA5004	15400PJ7015	19210ZV5003	N/A	
BF50A	LRTA	1995~	N/A	DR7EA	16900SA5004	15400PJ7015	19210ZV5003	N/A	
BF50A	LRTD	1995~	N/A	DR7EA	16900SA5004	15400PJ7015	19210ZV5003	N/A	
BF50AX	LHD	1998~	N/A	DR7EA	16900SA5004	15400PJ7015	19210ZV5003	N/A	
BF50AX	LHTD	1998~	N/A	DR7EA	16900SA5004	15400PJ7015	19210ZV5003	N/A	
BF50AX	LRD,	1998~	N/A	DR7EA	16900SA5004	15400PJ7015	19210ZV5003	N/A	
	LRTD								
BF50AX	XRTD	1998~	N/A	DR7EA	16900SA5004	15400PJ7015	19210ZV5003	N/A	
BF50A2	LHD	2002		DR7EA	16900SA5004	15400ZW4003	19210ZV5003	06193ZV5000	
BF50A2	LHTD	2002		DR7EA	16900SA5004	15400ZW4003	19210ZV5003	06193ZV5000	
BF50A2	LRTD	2002		DR7EA	16900SA5004	15400ZW4003	19210ZV5003	06193ZV5000	
BF50A1				DR7EA	16900SA5004	15400ZW4003	19210ZV5003	06193ZV5000	
BF50A	XRTA	1995~	N/A	DR7EA	16900SA5004	15400PJ7015	19210ZV5003	N/A	
BF75AT	LHTD	1995~	06111ZW1000	DR7EA	16900SA5004	15400PR3003	19210ZW1003	19021ZW1003	
BF75AT	LRTA,	1995~	06111ZW1000	DR7EA	16900SA5004	15400PR3003	19210ZW1003	19021ZW1003	
	LRTD								
BF75AT	XRTA	1995~	06111ZW1000	DR7EA	16900SA5004	15400PR3003	19210ZW1003	06192ZW1B02	
BF75AV	LRTD	1997~	06111ZW1000	DR7EA	16900SA5004	15400PR3003	19210ZW1B02	06192ZW1B02	
BF75AV	XRTD	1997~	06111ZW1000	DR7EA	16900SA5004	15400PR3003	19210ZW1B02	06192ZW1B02	
BF75AX	LRTD	1998~	06111ZW1000	DR7EA	16900SA5004	15400PR3003	19210ZW1B02	06192ZW1B02	
BF75A2		2002	06111ZW1010	DR7EA	16900SA5004	15400PR3003	19210ZW1B03	06192ZW1B02	
BF75AX	XRTD	1998~	06111ZW1000	DR7EA	16900SA5004	15400PR3003	19210ZW1B02	06192ZW1B02	
BF75A1	XRTD	2001	06111ZW1000	DR7EA	16900SA5004	15400PR3003	19210ZW1B02	06192ZW1B02	
BF75A1	LRTD	2001	06111ZW1000	DR7EA	16900SA5004	15400PR3003	19210ZW1B02	06192ZW1B02	
BF90AT	LHTD	1995~	06111ZW1000	DR7EA	16900SA5004	15400PR3003	19021ZW1003	19021ZW1003	
BF90AT	LRTA,	1995~	06111ZW1000	DR7EA	16900SA5004	15400PR3003	19021ZW1003	19021ZW1003	
	LRTD								
BF90AV	LRTD	1997~	06111ZW1000	DR7EA	16900SA5004	15400PR3003	19210ZW1B02	06192ZW1B00	
BF90AX	LHTD	1998~	06111ZW1000	DR7EA	16900SA5004	15400PR3003	19210ZW1B02	06192ZW1B00	
BF90AX	LRTD	1998~	06111ZW1000	DR7EA	16900SA5004	15400PR3003	19210ZW1B02	06192ZW1B00	
BF90A1	LHTD	2001	06111ZW1000	DR7EA	16900SA5004	15400PR3003	19210ZW1B02	06192ZW1B02	
BF90A1	LRTD	2001	06111ZW1000	DR7EA	16900SA5004	15400PR3003	19210ZW1B02	06192ZW1B02	
BF90A2		2002	06111ZW1010	DR7EA	16900SA5004	15400PR3003	19210ZW1B03	06192ZW1B02	
BF90AT	LRTA,	1995~	06111ZW1000	DR7EA	16900SA5004	15400PR3003	19210ZW1003	19021ZW1003	
	XRTD								
BF90AV	XRTD	1997~	06111ZW1000	DR7EA	16900SA5004	15400PR3003	19210ZW1B02	N/A	
BF90AX	XRTD	1998~	06111ZW1000	DR7EA	16900SA5004	15400PR3003	19210ZW1B02	N/A	
BF90A1	XRTD	2001	06111ZW1000	DR7EA	16900SA5004	N/A	19210ZW1B02	06192ZW1B02	
BF100	SD, LD	1972~79	06110881S03	DR5HS	N/A	N/A	19210935003	N/A	
BF20F	SD	1985	06111ZV0405	BMR4A	N/A	N/A	19211ZV0003	N/A	
BF20F	LD	1985	06111ZV0405	BMR4A	N/A	N/A	19211ZV0003	N/A	
BF45AM	LHA	1993~	06111ZV5405	DR7EA	16900SA5004	15400PJ7015	19210ZV5003	N/A	
BF45AM	LRD	1993~	06111ZV5405	DR7EA	16900SA5004	15400PJ7015	19210ZV5003	N/A	
BF45AM	LRTD	1993~	06111ZV5405	DR7EA	16900SA5004	15400PJ7015	19210ZV5003	N/A	
BF45AM	XRTA	1993~	06111ZV5405	DR7EA	16900SA5004	15400PJ7015	19210ZV5003	N/A	
BF50F	LD	1985	06111ZV1405	BPR5ES	16910GB2005	N/A	19210881003	N/A	
BF50F	SD	1985	06111ZV1405	BPR5ES	16910GB2005	N/A	19210881003	N/A	
BF75	SD, LD	1978	06110881S03	DR5HS	N/A	N/A	19210935003	N/A	
BF75A	LD	1980	06110881S03	DR5HS	N/A	N/A	19210881000	N/A	
BF75A	SD	1980	06110881S03	DR5HS	N/A	N/A	19210881000	N/A	
BF75B	LD	1981	06110881S03	DR5HS	N/A	N/A	19210881000	N/A	
BF75C	LD	1982	06110881S03	DR5HS	N/A	N/A	19210881000	N/A	
BF75D	LD	1983	06110881S03	DR5HS	N/A	N/A	19210881000	N/A	
BF75E	LD	1984	06110881S03	DR5HS	N/A	N/A	19210881003	N/A	

MODEL	TYPE	YEAR	GASKET KIT	Spark Plug	Fuel Filter	Oil Filter	Impeller, Pump	Impeller, Pump Kit	Notes
BF75F	LD	1985	06110881S03	DR5HS	N/A	N/A	19210881003	N/A	
BF75B	SD	1981	06110881S03	DR5HS	N/A	N/A	19210881000	N/A	
BF75C	SD	1982	06110881S03	DR5HS	N/A	N/A	19210881000	N/A	
BF75D	SD	1983	06110881S03	DR5HS	N/A	N/A	19210881000	N/A	
BF75E	SD	1984	06110881S03	DR5HS	N/A	N/A	19210881003	N/A	
BF75F	SD	1985	06110881S03	DR5HS	N/A	N/A	19210881003	N/A	
BF35AM	LHD	1991~	06111ZV5405	DR7EA	16900SA5004	15400PJ7015	19210ZV5003	06193ZV5000	
BF35AM	LRD	1991~	06111ZV5405	DR7EA	16900SA5004	15400PJ7015	19210ZV5003	06193ZV5000	
BF35AM	LRTD	1991~	06111ZV5405	DR7EA	16900SA5004	15400PJ7015	19210ZV5003	06193ZV5000	
BF115AX	LD, XD	1998~	06111ZW7000	ZFR7F11	16010ST5932	15400PR3003	19210ZW1B02	06193ZW1000	
BF130AX	LD, XD	1998~	06111ZW7000	ZFR7F11	16010ST5932	15400PR3003	19210ZW1B02	06193ZW5010	
BF2DX	SCHU	1998	N/A	U16FSRUB	N/A	N/A	N/A	N/A	
BF2DX	LCHU	1998	N/A	U16FSRUB	N/A	N/A	N/A	N/A	
BF2D4	SCHU, LCHU	2004		CR4HSB	NA	NA	NA	NA	
BF115AX	LCD, XCD	1998~	06111ZW7000	ZFR7F11	16010ST5932	15400PR3003	19210ZW1B02	06193ZW1000	
BF130AX	LCD, XCD	1998~	06111ZW7000	ZFR7F11	16010ST5932	15400PR3003	19210ZW1B02	06193ZW5010	