PREFACE

This manual covers the construction, function and servicing procedures of the Honda BF15D, BF20D Outboard Motors.

All information contained in this manual is based on the latest product information available at the time of printing. We reserve the right to make changes at anytime without notice.

No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form, by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior written permission of the publisher. This includes text, figures, and tables.

As you read this manual, you will find information that is preceded by a NOTICE symbol. The purpose of this message is to help prevent damage to the outboard motor, other property, or the environment.

SAFETY MESSAGES

Your safety, and the safety of others, are very important. To help you make informed decisions, we have provided safety messages and other safety information throughout this manual. Of course, it is not practical or possible to warn you about all the hazards associated with servicing these outboard motors. You must use your own good judgment.

You will find important safety information in a variety of forms, including:

- **Safety Messages** -- preceded by a safety alert △ symbol and one of three signal words, DANGER, WARNING, or CAUTION.

  These signal words mean:

  △ **DANGER**  You WILL be KILLED or SERIOUSLY HURT if you don't follow instructions.

  △ **WARNING** You CAN be KILLED or SERIOUSLY HURT if you don't follow instructions.

  △ **CAUTION** You CAN be HURT if you don't follow instructions.

- **Instructions** -- how to service this outboard motor correctly and safely.

Honda Motor Co., Ltd
Service Publication Office

CONTENTS

<table>
<thead>
<tr>
<th>SPECIFICATIONS</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>SERVICE INFORMATION</td>
<td>2</td>
</tr>
<tr>
<td>MAINTENANCE</td>
<td>3</td>
</tr>
<tr>
<td>PROPELLER/GEAR CASE/EXTENSION CASE</td>
<td>4</td>
</tr>
<tr>
<td>ENGINE COVERS</td>
<td>5</td>
</tr>
<tr>
<td>FUEL SYSTEM</td>
<td>6</td>
</tr>
<tr>
<td>RECOIL STARTER</td>
<td>7</td>
</tr>
<tr>
<td>ENGINE REMOVAL/INSTALLATION</td>
<td>8</td>
</tr>
<tr>
<td>FLYWHEEL/TIMING BELT</td>
<td>9</td>
</tr>
<tr>
<td>CYLINDER HEAD/VALVES/OIL PUMP</td>
<td>10</td>
</tr>
<tr>
<td>CRANKCASE/CRANKSHAFT/PISTON</td>
<td>11</td>
</tr>
<tr>
<td>OIL CASE/STERN BRACKET/SWIVEL CASE</td>
<td>12</td>
</tr>
<tr>
<td>SHIFT MECHANISM</td>
<td>13</td>
</tr>
<tr>
<td>STEERING ROD/REMOTE CONTROL BOX</td>
<td>14</td>
</tr>
<tr>
<td>TILLER HANDLE</td>
<td>15</td>
</tr>
<tr>
<td>ELECTRICAL EQUIPMENT</td>
<td>16</td>
</tr>
<tr>
<td>WIRING DIAGRAMS</td>
<td>17</td>
</tr>
</tbody>
</table>

Date of Issue: July 2002
© Honda Motor Co., Ltd.
INDEX

1. SPECIFICATIONS ........................................ 1-1
   1. SPECIFICATIONS ................................ 1-1
   2. DIMENSIONAL DRAWINGS .......................... 1-4

2. SERVICE INFORMATION ................................. 2-1
   1. THE IMPORTANCE OF PROPER SERVICING .... 2-1
   2. IMPORTANT SAFETY PRECAUTIONS ............ 2-2
   3. SYMBOLS USED IN THIS MANUAL ............... 2-2
   4. SERIAL NUMBER LOCATIONS ..................... 2-2
   5. MAINTENANCE STANDARDS ....................... 2-3
   6. TORQUE VALUES ................................ 2-6
   7. SPECIAL TOOLS ................................ 2-9
   8. TROUBLESHOOTING ............................... 2-11
   9. CABLE & HARNESS ROUTING .................... 2-29
  10. LUBRICATION POINTS ............................ 2-41

3. MAINTENANCE .......................................... 3-1
   1. MAINTENANCE SCHEDULE ....................... 3-1
   2. ENGINE OIL ................................... 3-2
   3. OIL FILTER CARTRIDGE ....................... 3-3
   4. OIL CASE OIL ................................. 3-5
   5. SPARK PLUG ................................... 3-6
   6. VALVE CLEARANCE ............................ 3-8
   7. CARBURATOR ................................ 3-10
   8. FUEL FILTER ................................ 3-11
   9. FUEL TANK STRAINER ......................... 3-12
  10. FUEL TUBES .................................. 3-12
  11. THROTTLE LINKAGE ............................ 3-13
  12. TIMING BELT ................................ 3-15
  13. CRANKCASE BREATHER ......................... 3-19
  14. EXHAUST EMISSION (Bodensee model) .. 3-19

4. PROPELLER/GEAR CASE/EXTENSION CASE .......... 4-1
   1. PROPELLER ................................... 4-2
   2. PROPELLER SHAFT HOLDER .................... 4-3
   3. GEAR CASE ASSEMBLY ....................... 4-9
   4. WATER PUMP ................................ 4-11
   5. VERTICAL SHAFT/BEVEL GEAR ............. 4-15
   6. WATER PUMP HOUSING ...................... 4-21
   7. GEAR CASE/ANODE/WATER SCREEN ....... 4-27
   8. EXTENSION CASE ............................ 4-28
   9. EXHAUST CHAMBER COVER ................... 4-31

5. ENGINE COVERS .................................. 5-1
   1. ENGINE COVER ................................ 5-1
   2. LEFT ENGINE UNDER COVER ............... 5-2
   3. RIGHT ENGINE UNDER COVER .............. 5-3

6. FUEL SYSTEM ........................................ 6-1
   1. SILENCER/CARBURETOR .................... 6-2
   2. CHOKE CABLE .............................. 6-17
   3. FUEL PUMP/FUEL FILTER ............... 6-18
   4. FUEL TANK ................................. 6-21

7. RECOIL STARTER ................................ 7-1
   1. NEUTRAL START CABLE .................... 7-1
   2. RECOIL STARTER .......................... 7-2
   3. STARTER CASE B .......................... 7-10

8. ENGINE REMOVAL/INSTALLATION ............ 8-1
   1. ENGINE REMOVAL .......................... 8-1
   2. ENGINE INSTALLATION .................. 8-6

9. FLYWHEEL/TIMING BELT ......................... 9-1
   1. FLYWHEEL/COILS ......................... 9-2
   2. TIMING BELT/PULLEYS .................... 9-8

10. CYLINDER HEAD/VALVES/OIL PUMP ........... 10-1
    1. CYLINDER HEAD REMOVAL ............... 10-2
    2. OIL PUMP ................................ 10-5
    3. CYLINDER HEAD DISASSEMBLY ....... 10-8
    4. VALVE SEAT REFACING ................. 10-14
    5. CYLINDER HEAD ASSEMBLY .......... 10-16
    6. CYLINDER HEAD INSTALLATION .... 10-18

11. CRANKCASE/CRANKSHAFT/PISTON ............. 11-1
    1. THERMOSTAT/WATER JACKET .......... 11-2
    2. OIL STRAINER ......................... 11-8
    3. PISTON .................................. 11-9
    4. CRANKSHAFT/CYLINDER BLOCK .... 11-15

12. OIL CASE/STERN BRACKET/SWIVEL CASE .... 12-1
    1. OIL CASE ................................ 12-2
    2. FRICTION ADJUST LEVER ............ 12-4
    3. MOUNT FRAME .......................... 12-6
    4. STERN BRACKET ....................... 12-7
    5. SWIVEL CASE ........................... 12-11

13. SHIFT LINKAGE .................................. 13-1
    1. SHIFT ARM/THROTTLE ARM .......... 13-2
    2. SHIFT LEVER .......................... 13-3
    3. SHIFT SHAFT ........................... 13-4

14. STEERING ROD/REMOTE CONTROL BOX ....... 14-1
    1. STEERING ROD .......................... 14-1
    2. REMOTE CONTROL CABLE ........... 14-2
    3. CONTROL BOX WIRED HARNESS .... 14-4
    4. REMOTE CONTROL BOX ............... 14-5

15. TILLER HANDLE ................................ 15-1
    1. TILLER HANDLE ....................... 15-2
    2. TILLER HANDLE BRACKET .......... 15-6
    3. THROTTLE GRIP ....................... 15-7
    4. STARTER SWITCH ...................... 15-11
    5. EMERGENCY STOP SWITCH ........... 15-12

16. ELECTRICAL EQUIPMENT ....................... 16-1
    1. STARTER MOTOR ......................... 16-1
    2. STARTER CABLE (Type with 12A charge coil) 16-13
    3. CHARGE WIRE (Type with 6A charge coil) 16-17
    4. NEUTRAL SWITCH/INDICATOR ....... 16-20
    5. IGNITION CONTROL MODULE ......... 16-22
    6. CONNECTOR BRACKET A ............... 16-24
    7. IGNITION COIL ...................... 16-27
    8. REGULATOR/RECTIFIER .............. 16-29

17. WIRING DIAGRAMS ................................ 17-1
# 1. SPECIFICATIONS

## DIMENSIONS AND WEIGHTS

### BF15D

<table>
<thead>
<tr>
<th>Model</th>
<th>Description Code</th>
<th>BF15D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>SH</td>
<td>SHS</td>
</tr>
<tr>
<td>Overall length</td>
<td>650 mm (25.6 in)</td>
<td>640 mm (25.2 in)</td>
</tr>
<tr>
<td>Overall width</td>
<td></td>
<td>350 mm (13.8 in)</td>
</tr>
<tr>
<td>Overall height</td>
<td>1,110 mm (43.7 in)</td>
<td>1,240 mm (48.8 in)</td>
</tr>
<tr>
<td>Dry weight (With propeller mounted)</td>
<td>46.5 kg (103 lb)</td>
<td>50.0 kg (110 lb)</td>
</tr>
<tr>
<td>Operating weight</td>
<td>47.9 kg (106 lb)</td>
<td>51.4 kg (113 lb)</td>
</tr>
<tr>
<td>Transom height</td>
<td>433 mm (17.0 in)</td>
<td>563 mm (22.2 in)</td>
</tr>
<tr>
<td>Transom angle</td>
<td>5 stage adjustment (4°, 8°, 12°, 16°, 20°)</td>
<td></td>
</tr>
<tr>
<td>Tilting angle</td>
<td>71°</td>
<td></td>
</tr>
<tr>
<td>Swivel angle</td>
<td>45° right and left</td>
<td></td>
</tr>
</tbody>
</table>

### BF20D

<table>
<thead>
<tr>
<th>Model</th>
<th>Description Code</th>
<th>BF20D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>SH</td>
<td>SHS</td>
</tr>
<tr>
<td>Overall length</td>
<td>650 mm (25.6 in)</td>
<td>640 mm (25.2 in)</td>
</tr>
<tr>
<td>Overall width</td>
<td></td>
<td>350 mm (13.8 in)</td>
</tr>
<tr>
<td>Overall height</td>
<td>1,110 mm (43.7 in)</td>
<td>1,240 mm (48.8 in)</td>
</tr>
<tr>
<td>Dry weight</td>
<td>46.5 kg (103 lb)</td>
<td>50.0 kg (110 lb)</td>
</tr>
<tr>
<td>Operating weight</td>
<td>47.9 kg (106 lb)</td>
<td>51.4 kg (113 lb)</td>
</tr>
<tr>
<td>Transom height</td>
<td>433 mm (17.0 in)</td>
<td>563 mm (22.2 in)</td>
</tr>
<tr>
<td>Transom angle</td>
<td>5 stage adjustment (4°, 8°, 12°, 16°, 20°)</td>
<td></td>
</tr>
<tr>
<td>Tilting angle</td>
<td>71°</td>
<td></td>
</tr>
<tr>
<td>Swivel angle</td>
<td>45° right and left</td>
<td></td>
</tr>
</tbody>
</table>