Robin Blower

MODEL FL231

INSTRUCTION MANUAL

- Assembly
- Maintenance
- Operation
- Repair Parts

CAUTION:
Read Rules for Safe Operation and Instructions Carefully
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INTRODUCTION

ROBIN BLOWER FL231 is a lightweight, high performance 2 cycle two stroke, gasoline powered blower, which is designed for autumn leaves, driveway and sidewalk sweeping, gutter cleaning, light snow and debris removal. The blower works faster and more efficiently than rakes or brooms. Excellent balance, light weight ensure comfortable, safe and fatigue-free operation. This manual provides instructions for assembly, operation and maintenance for your unit. Be sure to read this manual before operation.

IMPORTANT

RULES FOR SAFE OPERATION

1. Gasoline
   (1) Handle gasoline with care. It is high inflammable.
   (2) Use proper gasoline-oil fuel mixture.
   (3) Refuel before starting work.
   (4) Do not refuel a hot engine.
   (5) Avoid spilling fuel or oil. Always wipe unit dry before use.
   (6) Move at least 3 meters (10 feet) away from the fueling point before starting engine.
   (7) Always store gasoline in approved container.

2. Operation
   (1) Do not operate in unventilated area.
   (2) Do not allow bystanders in work area.
   (3) Always wear light clothing.
   (4) Always wear safety glasses and a face filter mask.
       Wear ear protectors where possible.
   (5) Do not touch muffler, spark plug and rotating parts.
   (6) Keep the end of the straight pipe always not jammed during operation.
   (7) Never leave this machine exposed to hot weather while operation is interrupted.
   (8) Never lay this machine on its side in transport or in storage.

3. Check
   (1) Always check periodically for efficient and safe operation.
   (2) Before Storing, drain fuel tank and carburetor.
   (3) Wash air cleaner element with neutral detergent and dry it well.
   (4) Remove dust from blower.
   (5) Tighten bolts further if they are loose.
   (6) Replace damaged parts.
   (7) Always use proper parts for replacement.
### TECHNICAL SPECIFICATIONS Model FL231

<table>
<thead>
<tr>
<th>Dimension (L x W x H)</th>
<th>200 x 285 x 330 mm (7.9 x 11.2 x 13.0 in.)</th>
</tr>
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<tbody>
<tr>
<td>Dry weight</td>
<td>3.3kg (7.27lbs)</td>
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</tbody>
</table>

#### Engine
- Model: Robin EC022EF
- Displacement: 22.2cc (1.35 cu.in.)
- Carburetor: Diaphragm type
- Ignition system: Non-contact magnet ignition
- Spark plug: NGK BM7A
- Starter: Recoil starter
- Capacity of fuel tank: 0.6 lit. (0.159 gal.)
- Fuel: Lubricant-mixed gasoline (mixture ratio: 20–25:1)
  - Mixture ratio in the first 20 hours: 15–20:1
- Standard accessories: Instruction manual, Straight pipe (x 2), End pipe, Tool kit

*The specification may be subject to change without previous notice.*

### COMPONENT IDENTIFICATION

![Component Identification Diagram](image)

**Figure 1**
ASSEMBLY

- Mount the straight pipes and end pipe.
  Note: Insert securely paying attention to notch.
  (Figure 2)

- Turn tube clockwise completely
  (Figure 2)

PREPARATION FOR OPERATION

1. Make sure again that all the parts are assembled correctly.
   Confirm that the bolts and nuts are tightened securely.

2. Mixture of Fuel
   - Mixture ratio of fuel and oil = 20 : 25 : 1
     Example: 20 : 1 = 1 gal. gasoline : 7 oz. oil
                25 : 1 = 1 gal. gasoline : 6 oz. oil
   - Put into a container, about half of gasoline to be mixed, add oil to it and shake it thoroughly. Then place the rest of gasoline and shake them again for enough mixture.

WARNING! WARNING! WARNING!
WHEN MIXING GASOLINE WITH TWO CYCLE ENGINE OIL, USE ONLY GASOLINE WHICH CONTAINS NO ETHANOL OR METHANOL (TYPES OF ALCOHOL), THIS WILL HELP AVOID POSSIBLE DAMAGE TO ENGINE FUEL LINES AND OTHER ENGINE PARTS.

Caution:
- Prepare fuel mixture in a required quantity.
- Never leave a fuel mixture unused for more than 2 months.
- Use good-quality regular gasoline.
- Use oil for air-cooled two-cycle engine.
- Use a fuel mixture of 15-20 : 1 in the first 20 hours.
- Be careful not to spill fuel.
- Wipe well spills fuel with dry cloth.
- Tighten the fuel tank cap securely.

MANIPULATION OF ENGINE

1. Startup of Engine
   - Set the stop switch upward.

   (Figure 3)

- Close the choke lever totally.
- Hold the handle by your left hand.
- Push primer pump and confirm fuel flows from the overflow pipe.
- Hold the starter knob by right hand and pull it straight powerfully.

2. Stop of Engine
   - Return the throttle lever to the original position.
   When the engine rotation drops, lower the stop switch to the position of “STOP”.
   Caution:
   - In restart, be sure to set stop switch upward.

3. Caution in Handling
   - Be sure to use lubricant-mixed gasoline.
   - If the engine is cooled down, warm it for one to two minutes.
   - The carburetor is adjusted before shipment.
   If readjustment is required, consult your dealer.
WORK PROCEDURE

1. The blowing air capacity can be controlled in a wide range by adjusting the throttle lever. Control the air quantity according to types of work.
   - Operate the machine at low or medium rotational speed when clearing fallen leaves in a garden or on a turf.
   - Operate the machine at medium or high rotational speed when cleaning mowed leaves or cleaning a street gutter.
   Caution:
   - Never direct the straight pipe against man or animals.
   - Never put on clothes which may be caught by the machine.
   - During work, be sure to wear safety goggles and dustproof mask.
   - Prior to operation, read carefully “RULES FOR SAFE OPERATION” in P. 1.

3. Cleaning of Muffler Exhaust Port
   - Check the muffler exhaust port every 50 hours. If the exhaust port is jammed with carbon, clear it with a screwdriver.

STORAGE
   - If the machine is not used for a long period of time, drain fuel totally from the fuel tank. Then, operate the engine until it stops.
   - Remove the spark plug and let fall a few drops of oil. Pull the starter gently and start the engine. When oil spreads fully over the engine inside, tighten the spark plug.
   - Wipe off dirt or dust adhering to the machine outside and keep the machine at a place free of moisture.
   - Never lay the machine on its side in storage.

4. Muffler and exhaust port
   - Carbon built up in the exhaust port will cause power loss or overheat of engine. Carbon deposits at the muffler flange area must be removed with a piece of wood. (Figure 7)
   (Spark arrester is removed as shown figure 7.)

INSPECTION AND MAINTENANCE

1. Air Cleaner
   - Remove and clean the air cleaner if the filter is fouled. If the machine is used in a dusty environment, clean the filter every time the operation is completed.

(Figure 5)

2. Spark Plug
   - If the electrode is jammed with carbon or fouled with dust or dirt, clean the electrode thoroughly.
   - If the electrode wears off to an excess, replace it with a new one.
   - The gap between two electrodes must be 0.6 - 0.7 mm (.024 - .028 in.). If the gap is too wide or too narrow, be sure to adjust it. (Figure 6)

(Figure 6)

5. WARNING!!
   Do not operate without protector. It is very dangerous. (Protector may be removed for maintenance purpose only. Protector is removed by turning anti-clockwise.)

(Figure 7)

(Figure 8)
FL231 PARTS LIST
MACHINE BODY

KEY PART QTY. DESCRIPTION
No. No.  
1 660 10050 00 1 Case 2 volute compl.
2 660 10060 00 1 Case 1 volute compl.
3 660 15011 00 1 Impeller
4 660 10080 00 1 Protector compl.
5 660 15013 00 9 Screw, tapping(M5×20)
8 660 50010 00 1 Wire, throttle compl.
9 660 50020 00 1 Wire, stop compl.
11 660 50060 00 1 Switch, stop compl.
12 660 50070 00 1 Wire joint compl.
15 660 55005 00 1 Lever throttle
23 531 00053 30 1 Screw cable adjust
27 0140 0596 10 1 Screw
28 660 85000 00 1 Cover, engine
29 611 15008 00 1 Nut(M5, square)
30 00217 0800 0 1 Nut(M5)
31 00312 0800 0 2 Washer (85×30×2.0)
32 0200 0898 50 1 Washer(M5)
33 850 55005 00 1 Plug
### FL231 PARTS LIST

#### CARBURETOR

<table>
<thead>
<tr>
<th>KEY</th>
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<tbody>
<tr>
<td>1</td>
<td>522 60040 00</td>
<td>1</td>
<td>Carburetor (Incl.3-23)</td>
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<td>3</td>
<td>522 60040 10</td>
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<td>Valve ass’y throttle</td>
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<td>4</td>
<td>523 60290 20</td>
<td>1</td>
<td>Body ass’y-pump</td>
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<td>5</td>
<td>524 60090 20</td>
<td>1</td>
<td>Body ass’y-air purge</td>
</tr>
<tr>
<td>6</td>
<td>524 60010 30</td>
<td>1</td>
<td>Gasket-pump</td>
</tr>
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<td>7</td>
<td>524 60010 40</td>
<td>1</td>
<td>Diaphragm-pump</td>
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<td>8</td>
<td>524 60010 50</td>
<td>1</td>
<td>Plate-pump</td>
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<td>9</td>
<td>524 60010 60</td>
<td>1</td>
<td>Gasket-plate</td>
</tr>
<tr>
<td>10</td>
<td>524 60011 20</td>
<td>1</td>
<td>Gasket metering diaphragm</td>
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<tr>
<td>11</td>
<td>531 60052 50</td>
<td>1</td>
<td>Diaphragm ass’y metering</td>
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<tr>
<td>12</td>
<td>524 60011 50</td>
<td>1</td>
<td>Primer-pump</td>
</tr>
<tr>
<td>13</td>
<td>524 60011 40</td>
<td>1</td>
<td>Cover primer pump</td>
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<tr>
<td>15</td>
<td>501 60040 10</td>
<td>1</td>
<td>Screen-inlet</td>
</tr>
<tr>
<td>16</td>
<td>523 60290 10</td>
<td>1</td>
<td>Jet</td>
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<tr>
<td>17</td>
<td>524 60010 10</td>
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<td>Ring-o</td>
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<td>Ring retaining</td>
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<td>523 60180 40</td>
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<td>Plug</td>
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<td>30</td>
<td>522 35007 00</td>
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<td>Tube, intake</td>
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<tr>
<td>35</td>
<td>522 30060 00</td>
<td>1</td>
<td>Cleaner air (Incl.36-42)</td>
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<table>
<thead>
<tr>
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<tr>
<td>36</td>
<td>522 30060 10</td>
<td>1</td>
<td>Cover-air cleaner</td>
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<tr>
<td>37</td>
<td>522 30060 20</td>
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<td>Filter-air</td>
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<td>38</td>
<td>522 30060 30</td>
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<td>Plate-cleaner</td>
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<td>39</td>
<td>522 30060 40</td>
<td>1</td>
<td>Housing-air cleaner</td>
</tr>
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<td>40</td>
<td>531 30030 50</td>
<td>1</td>
<td>Washer</td>
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<td>41</td>
<td>531 30030 60</td>
<td>2</td>
<td>Sleeve</td>
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<td>42</td>
<td>522 30060 50</td>
<td>1</td>
<td>Valve-choke</td>
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<tr>
<td>45</td>
<td>00310 0500 0</td>
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<td>Washer (MS)</td>
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<tr>
<td>46</td>
<td>00431 0500 0</td>
<td>2</td>
<td>Screw, pan head (MSx60)</td>
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### FL231 PARTS LIST

**STANDARD EQUIPMENTS**

<table>
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<th>KEY</th>
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<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>1</td>
<td>660 95025 00</td>
<td>2</td>
<td>Pipe</td>
</tr>
<tr>
<td>2</td>
<td>660 95027 00</td>
<td>1</td>
<td>Pipe end</td>
</tr>
<tr>
<td>3</td>
<td>501 96010 00</td>
<td>1</td>
<td>Tool kit</td>
</tr>
<tr>
<td>4</td>
<td>660 95042 00</td>
<td>1</td>
<td>Instruction manual</td>
</tr>
</tbody>
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## LIMITED TWO YEAR WARRANTY

Carswell Import & Marketing Associates, Inc. (hereafter CIMA), sales agent for Fuji Robin Industries, Ltd. warrants each new Robin blower for twenty-four (24) months according to the following terms.

This warranty extends to the original retail purchaser only and commences on the date of original retail purchase.

Any part of Robin blower supplied by CIMA and found in the reasonable judgment of an Authorized Robin Service Dealer to be defective in material or workmanship will be repaired by an Authorized Robin Service Dealer without charge for parts and labor.

The Robin blower including any defective part must be returned to an Authorized Robin Service Dealer within the warranty period. The expense of delivering the Robin blower to the dealer for warranty work and the expense of returning it back to the owner after repair or replacement will be paid for by the owner.

CIMA's responsibility in respect to claims is limited to making the required repairs or replacements and no claim of breach of warranty shall be cause for cancelation or rescission of the contract of sale of any Robin blower. Proof of purchase will be required by the dealer to substantiate any warranty claim. All warranty work should be performed by an Authorized Robin Service Dealer.

This warranty is limited to ninety (90) days from the date of original retail purchase for any Robin blower that is used for rental or commercial purposes, or any other income — producing purpose.

This warranty does not cover any Robin blower that has been subject to misuse, neglect, negligence, or accident, or that has been operated in any way contrary to the operating instructions as specified in the Robin Operator's Manual. The warranty does not cover any Robin blower that is the result of improper maintenance or to any Robin blower or parts that have not been assembled or installed as specified in the Robin Operator's Manual. The warranty does not cover any Robin blower that has been altered or modified so as to adversely affect the product's operation, performance or durability or that has been altered or modified so as to change its intended use. In addition, the warranty does not extend to repairs made necessary by normal wear or by the use of parts or accessories which are either incompatible with the Robin blower or adversely affect its operation, performance or durability.

Robin reserves the right to change or improve the design of any Robin blower without assuming any obligation to modify any blower previously manufactured.

## WARRANTY SERVICE

Warranty service can be performed by an Authorized Robin Service Dealer regardless of whether the consumer purchased the Robin product originally from that dealer. However, we recommend you first contact the original dealer who sold you the product. Remember, it is your responsibility to deliver your Robin product along with proof of purchase to the dealer within the warranty period, and all work must be performed by an Authorized Robin Service Dealer.

**Example of Parts and Service not covered by Warranty**

- Normal service requirements occurring during the warranty period such as carburetor or ignition adjustment.
- Normal service over and above repair or replacement of defective parts.
- Repair or maintenance service due to normal wear, improper maintenance, misuse, neglect, negligence, accident, or alterations or modifications which adversely affect product's performance, durability, or change its intended use.
- Repairs or maintenance made necessary due to use of parts or accessories which are not compatible with Robin products or adversely affect its operation, performance, or durability.
- Products not operated or maintained in accordance with the instruction manual.
- Normal cleaning, lubrication, adjustments, or replacement of such items as spark plugs, filters, ignition points, etc.
- Expense of delivering the product to an Authorized Service Dealer or of returning such products, or mechanics travel time, or cost of any rental of a like product during the period warranty service is being performed.
- Warranty applies only to original retail purchaser.

**Owner's Obligation and Responsibility**

It is the responsibility of the owner to provide for normal maintenance service and replacement of service items and to maintain all components in proper adjustment. These are not considered defects in material or workmanship. Individual operation and application determine the need for normal maintenance service.

## Robin Warranty Registration

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<tr>
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<tbody>
<tr>
<td>Address</td>
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<td>City</td>
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<table>
<thead>
<tr>
<th>Dealer's Name</th>
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</tr>
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<td>Address</td>
<td></td>
</tr>
<tr>
<td>City</td>
<td>State</td>
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**Date of Purchase**

**Model No.**

**Serial No.**

This Registration Form must be completed and returned within ten (10) days of purchase.