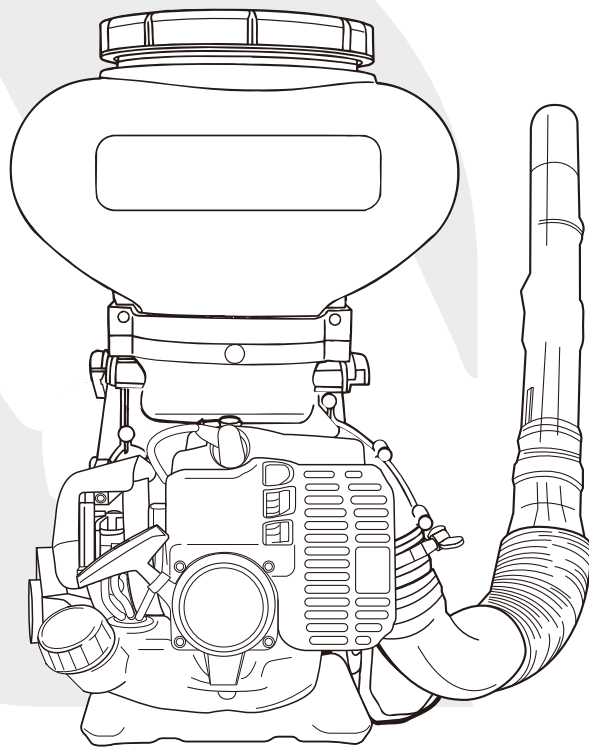




**MD300**

Owner's Manual





## Limited Warranty Statement

All Maruyama commercial/ industrial products are warranted to the original purchaser to be free from defects in material and workmanship **from the date of purchase** for the time periods listed as follows:

**Lifetime** for solid steel driveshaft and ignition coils.

**5 years** for qualified IRON 5-YRTM commercial, institutional, or industrial use.

**1 year** for residential or **2 years** for commercial use with competitor's oil.

**90 days** for rental use.

**Engine - Refer to engine manufacturer's warranty statement. Only Maruyama engines are covered by this limited warranty statement.**

Any part of a Maruyama product found to be defective within the applicable warranty period shall, at Maruyama's option, be repaired or replaced without charge. Warranty consideration is obtained by delivering any Maruyama product believed to be defective to an Authorized Maruyama Servicing Dealer within the applicable warranty period.

The purchaser shall not be charged for diagnostic labor that leads to the determination that a warranted part is defective, if the diagnostic work is performed at a Maruyama Dealer.

Any warranted part which is not scheduled for replacement as required maintenance, or which is scheduled only for regular inspection to the effect of "repair or replace as necessary" shall be warranted for the warranty period. Any warranted part, which is scheduled for replacement as, required maintenance shall be warranted for the period of time up to the first scheduled replacement point for that part. Maruyama Mfg. Co., Inc. is liable for damages to other engine components caused by the failure of a warranted part still under warranty. The purchaser is responsible for the performance of the required maintenance, as defined by Maruyama Mfg. Co., Inc. in the Owner's/Operator's Manual.

**EMISSION-RELATED PARTS WARRANTY:** In addition to the above warranty coverage, Maruyama Mfg. Co., Inc. will repair or replace, free of charge, for the original purchaser and each subsequent purchaser any emission-related part or parts found to be defective in material and workmanship for two (2) years from original retail delivery date. **Emission-related parts are the carburetor assembly, the ignition coil assembly, the ignition rotor, the spark plug, the catalytic converter and the fuel tank.** Any replacement part that is equivalent in performance and durability may be used in non-warranty maintenance or repairs, and shall not reduce the warranty obligations of Maruyama Mfg. Co., Inc.

### **This warranty does not cover the following:**

1. Maintenance items (excluding defects in materials and workmanship) including hoses, spark plugs, starter rope, air and fuel filters, clutch shoes, vibration isolators, throttle cables and all cutting attachments, etc.
2. Extra expenses including shipping and handling, travel, payment for lost time or pay and for any inconvenience and storage.
3. Alterations or modifications including aftermarket parts not authorized by Maruyama U.S., Inc.
4. Wear, accident, abuse, neglect, misuse, negligence, improper fuels, lubricants, fuel mixtures (when applicable), or failure to operate or maintain the product in accordance with instructions approved by Maruyama.

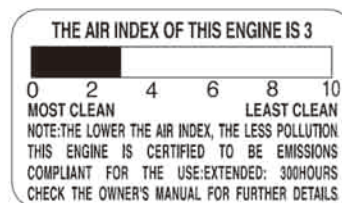
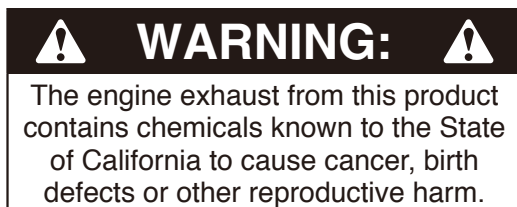
Repair or replacement as provided under this warranty is the exclusive remedy of the consumer. Maruyama shall not be liable for any incidental or consequential damages for breach of any express or implied warranty on these products except to the extent prohibited by applicable law. Any implied warranty of merchantability or fitness for a particular purpose on these products is limited in duration to the warranty period as defined in the limited warranty statement. Maruyama reserves the rights to change or improve the design of the product without notice and does not assume obligation to update previously manufactured products.

This warranty provides you with specific legal rights, which may vary from state to state.

It is the Owner's and Dealer's responsibility to make sure the Warranty Registration Card is properly filled out and mailed to Maruyama U.S., Inc. Proof of purchase and registration will be required in order to obtain warranty service.

To locate an Authorized Maruyama Servicing Dealer nearest you, contact:

**Maruyama U.S., Inc.**  
**4770 Mercantile Drive, suite100,**  
**Fort Worth, TX 76137 U.S.A.**  
**(940)383-7400**  
**maruyama@maruyama-us.com**  
**www.maruyama-us.com**



**MD300**

## **FEDERAL EMISSION CONTROL WARRANTY STATEMENT YOUR WARRANTY RIGHTS AND OBLIGATIONS**

The U.S. Environmental Protection Agency (EPA) and Maruyama U.S., Inc. are pleased to explain the emission control system warranty on your small off-road engine. New 1997 and later model year small off-road engines must be designed, built and equipped, at the time of sale, to meet the U.S. EPA regulations for small off-road engines. The equipment engine must be free from defects in materials and workmanship which cause it to fail to conform with U.S. EPA standards for the first two years of engine use from the date of sale to the ultimate purchaser. Maruyama U.S., Inc. must warrant the emission control system on your small off-road engine for the period of time listed above provided there has been no abuse, neglect or improper maintenance of your small off-road engine.

### **Emission durability of 300 hours.**

Your emission control system may include parts such as the carburetor or fuel injection system, the ignition system, and catalytic converter. Also included may be hoses, belts, and connectors and other emission related assemblies.

Where a warrantable condition exists, Maruyama U.S., Inc. will repair your small off-road engine at no cost to you, including diagnosis (if the diagnostic work is performed at an authorized dealer), parts, and labor.

### **MANUFACTURER'S WARRANTY COVERAGE:**

The 1995 and later model year small off-road engines are warranted for five years. If any emission-related part on your engine is defective, the part will be repaired or replaced by Maruyama U.S., Inc. free of charge.

## **OWNER'S WARRANTY RESPONSIBILITIES:**

- (a) As the small off-road engine owner, you are responsible for the performance of the required maintenance listed in your owner's manual.  
Maruyama U.S., Inc. recommends that you retain all receipts covering maintenance on your small off-road engine, but Maruyama U.S., Inc. cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance. Any replacement part or service that is equivalent in performance and durability may be used in non-warranty maintenance or repairs, and shall not reduce the warranty obligations of the engine manufacturer.
- (b) As the small off-road engine owner, you should be aware, however, that Maruyama Manufacturing Company may deny you warranty coverage if your small off-road engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.
- (c) You are responsible for presenting your small off-road engine to a Maruyama U.S., Inc. service center as soon as a problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.

If you have any questions regarding your warranty rights and responsibilities, you should contact Maruyama U.S., Inc. at **1-866-783-7400**, or **warranty@maruyama-us.com**.

## **COVERAGE**

Maruyama U.S., Inc. warrants to the ultimate purchaser and each subsequent purchaser that your small off-road engine will be designed, built and equipped, at the time of sale, to meet all applicable regulations. Maruyama U.S., Inc. also warrants to the initial purchaser and each subsequent purchaser that your small off-road engine is free from defects in materials and workmanship which cause the engine to fail to conform with applicable regulations for a period of two years.

The 1995 and later model years, EPA requires manufacturers to small off-road engines for two years. These warranty periods will begin on the date the small off-road engine is purchased by the initial purchaser. If any emission-related part on your engine is defective, the part will be replaced by Maruyama U.S., Inc. at no cost to the owner.

Maruyama U.S., Inc. shall remedy warranty defects at any authorized Maruyama U.S., Inc. engine dealer or warranty station. Any authorized work done at an authorized dealer or warranty station shall be free of charge to the owner if such work determines that a warranted part is defective. Any manufacturer-approved or equivalent replacement part may be used for any warranty maintenance or repairs on emission-related parts, and must be provided free of charge to the owner if the part is still under warranty, Maruyama U.S., Inc. is liable for damages to other engine components caused by the failure of a warranted part still under warranty.

EPA considers emission-related warranted parts to include all the parts listed below. These warranted parts are: the carburetor assembly, the ignition coil assembly, the ignition rotor, the spark plug, the catalytic converter, and the fuel tank.

## **MAINTENANCE REQUIREMENTS**

The owner is responsible for the performance of the required maintenance as defined by the Maruyama U.S., Inc. in the owner's manual.

## **LIMITATIONS**

This Emission Control System Warranty shall not cover any of the following:

- (a) repair or replacement required because of misuse or neglect, lack of required maintenance, repairs improperly performed or replacements not conforming to Maruyama U.S., Inc. specifications that adversely affect performance and/or durability, and alterations or modifications not recommended or approved in writing by Maruyama U.S., Inc., and
- (b) replacement of parts and other services and adjustments necessary for required maintenance at and after the first scheduled replacement point.

# CALIFORNIA EMISSION CONTROL WARRANTY STATEMENT YOUR WARRANTY RIGHTS AND OBLIGATIONS

The California Air Resources Board (CARB), and Maruyama U.S., Inc. are pleased to explain the emission control system warranty on your 2016 small off-road engine. In California, new small off-road engines must be designed, built and equipped to meet the State's stringent anti-smog standards. Maruyama U.S., Inc. must warrant the emission control system on your small off-road engine for the period of time listed above provided there has been no abuse, neglect or improper maintenance of your small off-road engine.

Your emission control system may include parts such as the carburetor or fuel injection system, the ignition system, fuel tank and catalytic converter. Also included may be hoses, belts, and connectors and other emission related assemblies.

Where a warrantable condition exists, Maruyama U.S., Inc. will repair your small off-road engine at no cost to you, including diagnosis, parts, and labor.

## **MANUFACTURER'S WARRANTY COVERAGE:**

The 1995 and later small off-road engines are warranted for five years. If any emission-related part on your engine is defective, the part will be repaired or replaced by Maruyama U.S., Inc.

## **OWNER'S WARRANTY RESPONSIBILITIES:**

- (a) As the small off-road engine owner, you are responsible for the performance of the required maintenance listed in your owner's manual.  
Maruyama U.S., Inc. recommends that you retain all receipts covering maintenance on your small off-road engine, but Maruyama U.S., Inc. cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance
- (b) As the small off-road engine owner, you should be aware, however, that Maruyama Manufacturing Company may deny you warranty coverage if your small off-road engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.
- (c) You are responsible for presenting your small off-road engine to a Maruyama U.S., Inc. distribution center as soon as a problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.

If you have any questions regarding your warranty rights and responsibilities, you should contact Maruyama U.S., Inc. at **1-866-783-7400**, or **warranty@maruyama-us.com**.

### **Emission System Parts**

#### **Exhaust Emission**

**Carburetor**  
**Muffler**  
**Catalytic Converter**  
**Ignition Coil / Magneto**  
**Spark Plug**  
**Air Filter**  
**EGR Valve (piston)**  
**Fuel Filter**

#### **Evaporative Emission**

**Fuel Tank**

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# FOREWORD

This Owner's/Operator's Manual is designed to familiarize the operator with the various features and component parts of the equipment and to assist you with the assembly, operation and maintenance of your new product.

**It is essential that any operator of this product reads and understands the contents of this manual before using the product.**

Important safety instructions will be identified by the following safety symbol: 

Failure to comply with the instructions in this manual may result in serious injury or death. For additional assistance, contact any local authorized Maruyama dealer.

## WARNING

### General

- Read and understand this Owner's/Operator's Manual before using this product. Be thoroughly familiar with the proper use of this product.
- Never allow children to operate this product. It is not a toy. Never allow adults to operate the unit without first reading the Owner's / Operator's Manual.
- Become familiar with the controls and know how to stop the engine quickly.
- Keep the area of operation clear of all persons, particularly small children and pets.
- Never operate a mist duster when you are fatigued.
- Never operate a mist duster without proper guards or other protective safety devices in place.
- If this product should start to vibrate abnormally, stop the engine immediately and check for the cause. Vibration is generally a warning of trouble.
- Do not operate in unventilated area.
- To reduce the risk of injury associated with contacting rotating part, stop the engine before installing or removing attachments.
- Before use, make sure that it is correctly assembled, in an undamaged condition and operational. The use of parts which have been damaged is prohibited.
- Exchange parts where leaks and damage occur. Please tighten any loose screws.

### Safety

- Do not point the nozzle in the direction of people or pets.
- Avoid using this product near rocks, gravel, stones and similar matter in order to avoid dangerous flying debris.
- In the handling of chemicals and plant-care agents it is essential to ensure that contact with the eyes and skin is avoided. The wearing of suitable protective clothing, a breathing mask, safety glasses and rubber gloves is therefore imperative.
- Chemicals and plant-care agents may not be filled into other containers (bottles, cans etc.), and must be stored out of reach of children.
- Never spray against the wind or under excessively windy conditions. Do not apply more spraying medium to the surface to be treated than necessary.
- After each use empty the sprayer and clean it thoroughly with water. Make sure that no pollution of the environment is caused.
- Do not spill the pesticide chemical when filling the tank, or when discharging.
- Do not sprinkle pesticide chemicals which have a high degree of inflammability, such as pesticide of strong acid nature, pesticides of strong alkali nature, paint, and thinner.
- Refrain from using pesticide chemicals containing the organic solvent.
- Carry out handling, conveyance, and storage according to the operation manual of the pesticide chemical.
- In order to prevent scattering of the pesticide chemical, please change the pressure or adjust the amount of water (adjustment of revolving speed) according to the operation manual.
- Please select the correct nozzle that is suited for the right pressure and amount of water of the product.



### Purpose of use

Duster means a powered machine appropriate to spray chemicals for blight or harmful insect on farm house, garden trees, general farm crops, etc. by means of a high velocity air flow.

# ASSEMBLY INSTRUCTIONS

- STEP #1) Locate and identify all the components (see sketch).
- STEP #2) Using the BANDS, connect the FLEXIBLE PIPE to the blower, and the SWIVEL PIPE to the flexible pipe (see sketch).
- STEP #3) Assemble the STRAIGHT PIPE, BENT PIPE, and FAN-BLOW HEAD, then connect them to the swivel pipe (see sketch).
- STEP #4) Slide handle over swivel pipe and tighten retainer knob. (see sketch).

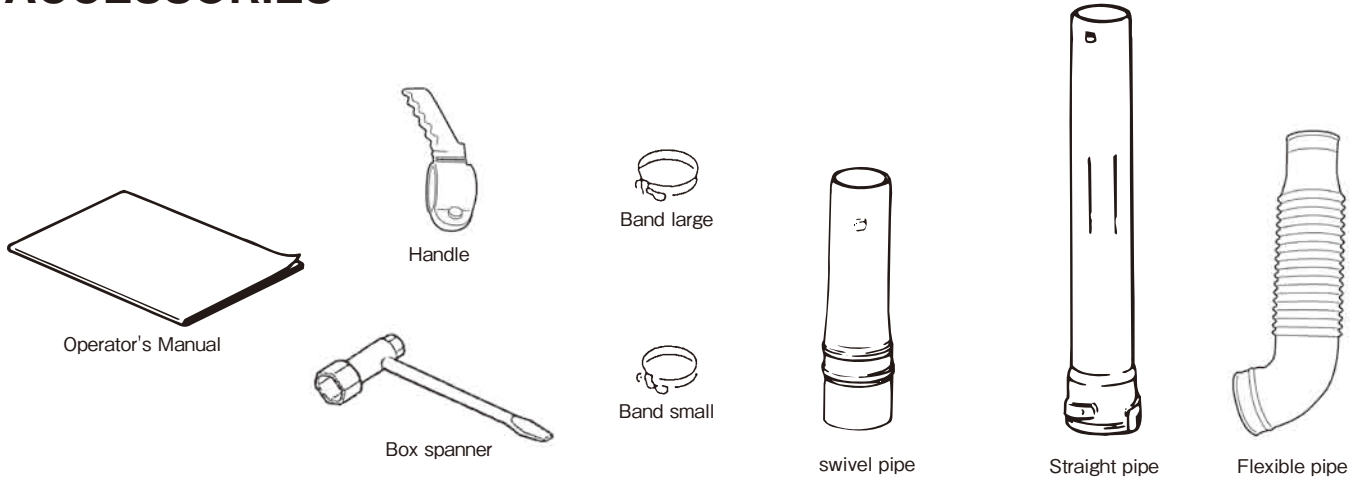
## Warning label

-  **Read operation manual thoroughly.**  
Make sure you read the operation manual thoroughly prior to use.
-  **Wear a protector.**  
Wear protectors such as hat, safety glasses, ear plugs during work.
-  **Cautions for high temperatures**  
Muffler of engine, fin of cylinder, etc. are at high temperatures. Don't touch them.
-  **Prohibition of fire**  
Don't put a naked flame close to a place where supplying fuel or doing maintenance.
-  **Cautions for exhaust gas.**  
Take care not to breathe in exhaust gas from the engine.
-  **Caution for electric shock**  
During operation there is a risk of electric shock.  
Do not touch the spark plug.

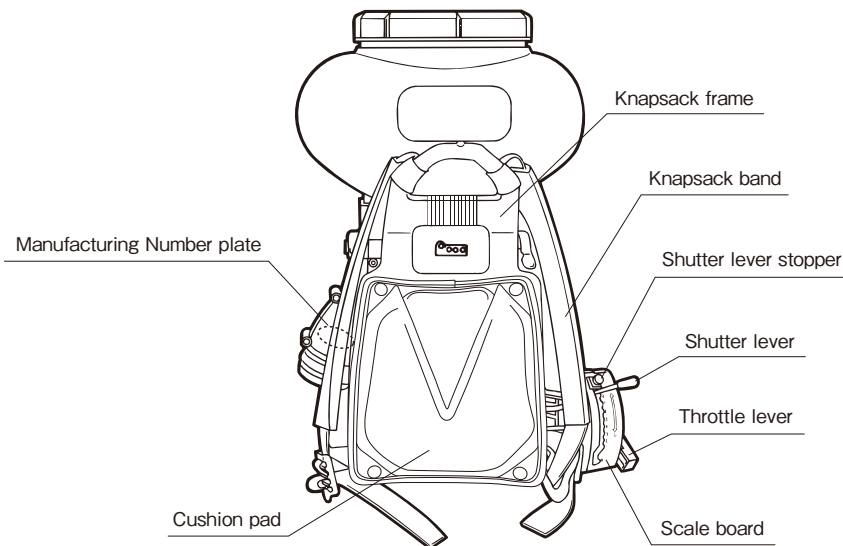
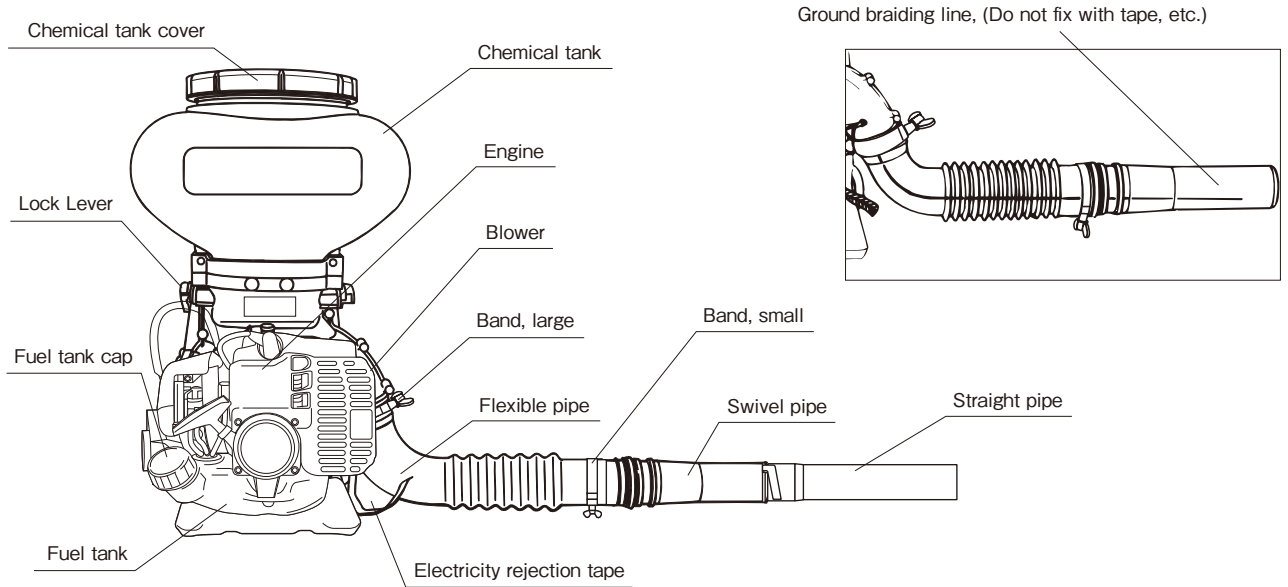
# SPECIFICATIONS

Models	MD300
Dimensions L x W x H	370 x 430 x 660mm
Dry Weight	8.8 kg
Engine Type	Maruyama/2-Stroke Air cooled CE300
Displacement	30.1 mL
Ignition System	Electric
Carburetor	All position diaphragm
<b>Fuel Tank Capacity</b>	0.5 L
<b>Fuel Mixture:</b> Using Maruyama 50:1 2-stroke Engine Oil or ISO JASO-FD 2-stroke engine oil designed for use in aircooled, high performance 2-stroke engines.	50:1
Attachments (Standard)	Flexible Pipe Swivel Pipe Straight Pipe

# ACCESSORIES

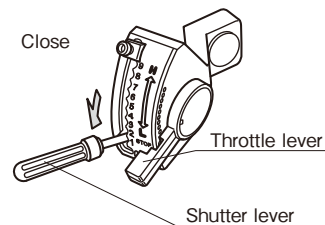


# NAME OF EACH PART



## Throttle Lever

The lowest step is the stop position.  
The throttle-lever adjusts the engine speed.  
High speed is obtained by moving the lever up.



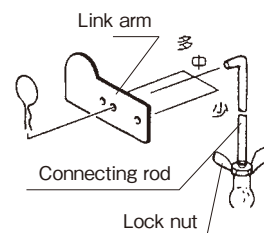
## Shutter Lever

The shutter lever adjusts the machine discharge quantity.  
The discharge quantity can be increased or decreased by moving the lever to your side while carrying the machine to your back.

## Shutter Arm

Select Much, Middle, or Few when adjusting the discharge quantity in response to the type of material being sprayed and the spraying method.

Powder chemical	▶	多
Fertilizer	▶	中
Granule chemical	▶	少

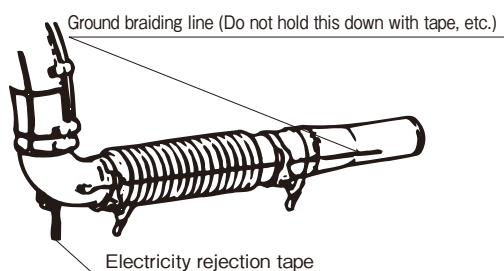


## Lock Lever

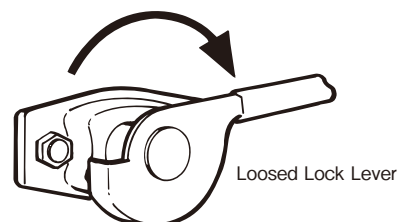
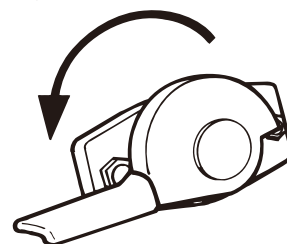
You can attach or detach the chemical tank to a fan-case body with one-touch.  
This is done by removing the intermediate rod and turning the crescent. The tank can be removed with the chemical in it so that the chemical can be recovered.

## Electric Charge Prevention Equipment

- Static electricity builds up in the chemical spray depending on the type of chemical, temperature, and humidity, and this could generate a strong static electric charge. To prevent this, use the electricity rejection tape and ground braided line attached to the machine.
- The electricity rejection tape and ground braided line are located in the machine, so pass the ground braided line to the inside of the hose and discharge tube.



Tighten Lock Lever



## Inspection before Starting

- The machine is made to be used as a powder spray machine/particle spray machine as delivered, and the only assembly required is the attachment of accessories.
- Inspect all locations for loose screws. Check the chemical tank mount for looseness.

### CAUTION

- Loose screws may cause an accident.
- Inspect the fuel hose and electric wiring for abnormalities. Also regularly maintain and replace the fuel hose and electric wiring.
- Adjust the length of the pack strap to fit your body.
- When the warning label is peeled off the main unit, buy a new one and attach it.

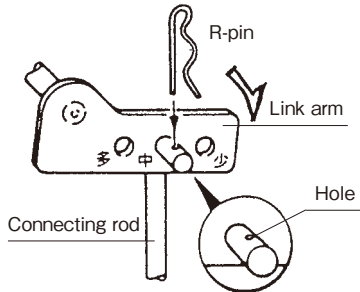


# Setting Shutter

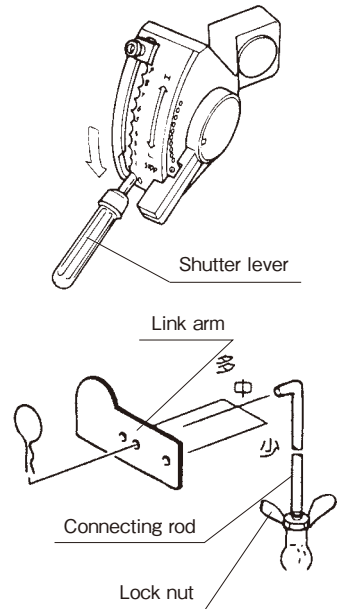
- 1 Shutter lever position is “0” .
- 2 Set connecting rod into “中” setting and tighten lock nut. Adjust as necessary.
- 3 Secure connecting rod assembly with R-pin.

## CAUTION

When connecting Rod is set to link arm. Link arm must be turned right full.



Powder chemical	▶	多
Fertilizer	▶	中
Granule chemical	▶	少



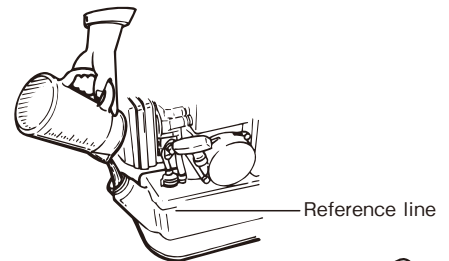
# Supplying Premixed Fuel

- Always use premixed fuel. Do not run the machine on gasoline only. Use the oil specified for 2-stroke engines.
- Do not fill beyond the reference line. Fill the oil after stopping the engine. Take care not to spill the fuel. If the fuel is spilled, wipe it off completely.

## DANGER

The premixed fuel may catch fire. Fire, such as cigarettes, is strongly prohibited.

Gasoline	:	Oil
50	:	1



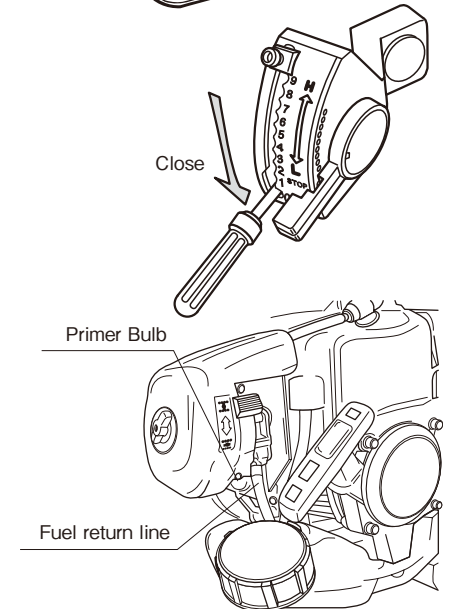
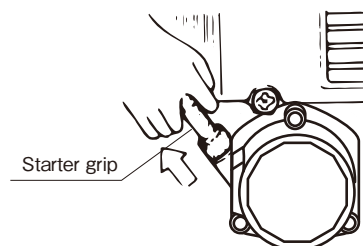
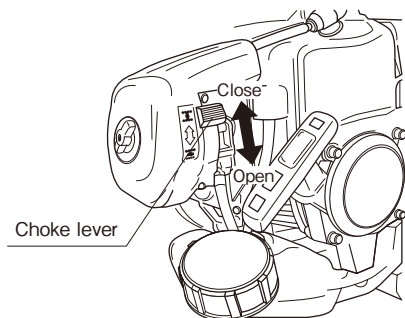
# Starting the Engine

- 1 Push up the throttle lever 3 to 4 notches.
- 2 Operate the priming pump and check the return of premixed fuel via the return pipe.
- 3 Operate the choke lever.
- 4 Start the engine by strongly pulling the start rope.
- 5 Return the choke lever slowly.
- 6 When the engine does not start Fully open the choke lever and pull the starting rope again. If the engine does not start using this method.

## CAUTION

Method of pulling the starting rope.

1. Grip the starting rope with your right hand.
2. Press against the chemical tank with your left hand.
3. Pull the starting rope slowly until you feel resistance.
4. Pull the starting rope in the direction straight from the inlet and outlet of the starter.
5. Do not pull the starting rope all the way out.
6. Keep hold of the starting rope and return it all the way to the original position before letting it go.

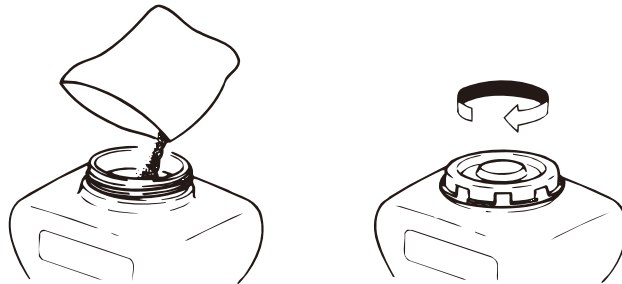
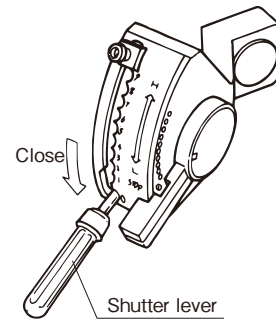


# Supply the Chemical

1. Align the shutter lever with "0".
2. Remove the lump and feed in the chemical being careful not to spill it on the outside.

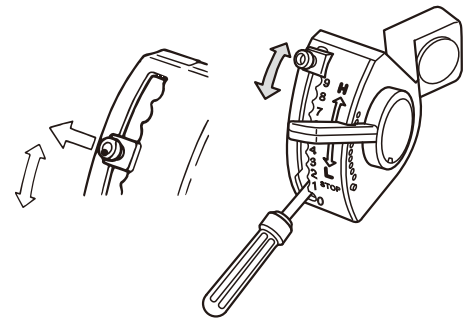
When pouring the chemical into the tank, be careful not to spill the chemical on the outside. Only fill the tank with the amount to be sprayed.

3. Check the chemical tank cover packing and securely close the cover. If the cover is loose, it may effect the spraying. In addition, the chemicals might spill out and get on you. Use chemicals that do not contain foreign matter, such as dust, lump, and that are dried well.



# Starting to Spray

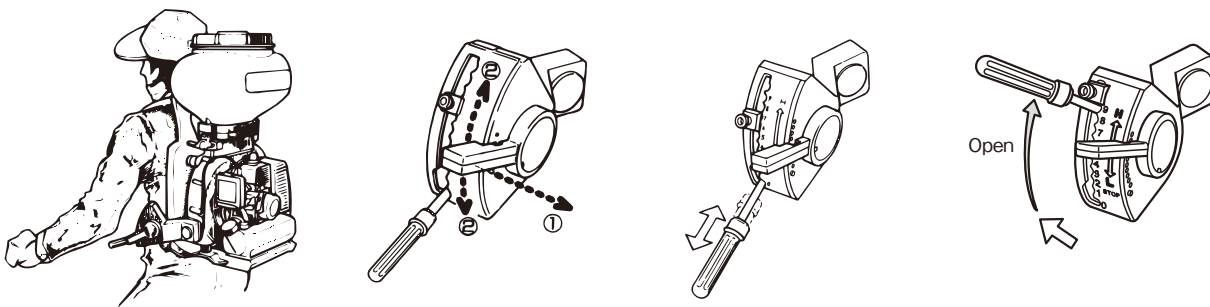
1. Refer to the [Spray Plan Table] to see how far the shutter must be opened. Move the shutter lever stopper and align it with necessary opening. Refer to [Example Spraying Work] for information regarding the stopper position.
2. Shoulder the machine on your back.



## CAUTION

**The machine is heavy when filled with chemical. Be careful when handling it.**

3. Operate the throttle lever and align it with the discharge nozzle. The lever is operated by pushing lightly to wards the outside.
4. Pull the grip of the shutter lever and bring it to a position that is easy to operate.
5. Raise the shutter lever to begin spraying. Begin spraying by pulling the shutter lever lightly to the inside.

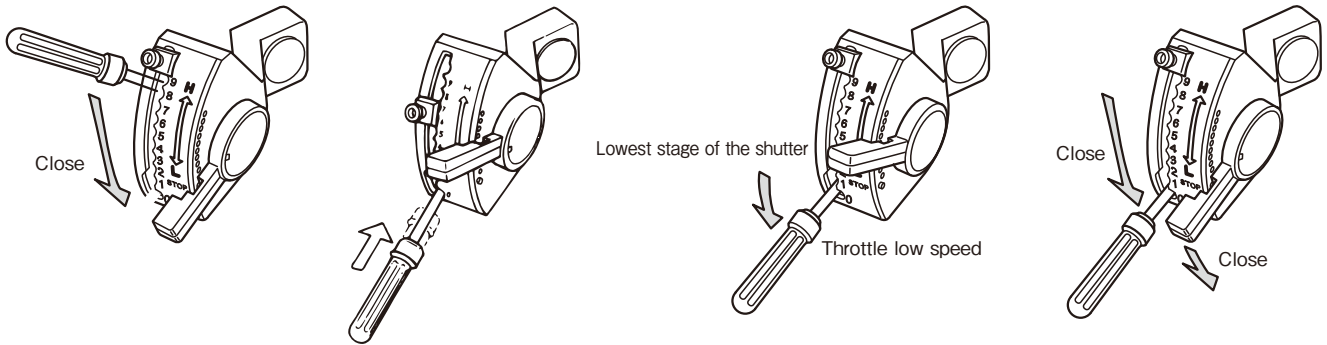


# Finishing Spray

- 1 Push down the shutter lever and finish spraying.
- 2 Push and contract the grip of the shutter lever.

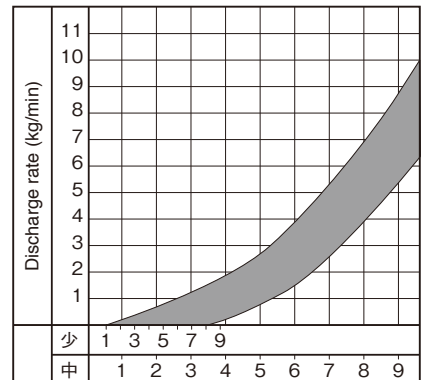
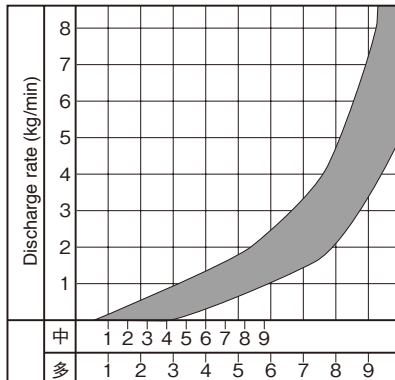
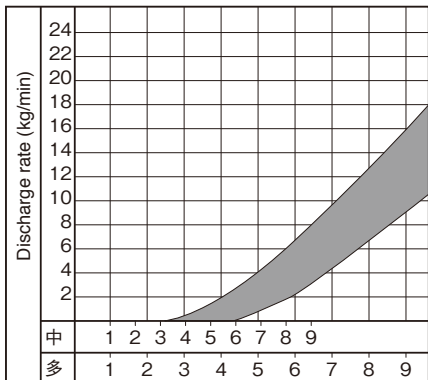
# Stopping the Engine

- 1 Pushdown the shutter-lever to the lowest stage and stop spraying.
- 2 Move the throttle to the lowest stage keeping the shutter closed and then stop the engine.



# Discharge Quaunity Graph

**Fertilizer** Link position is “多” or “中”. **Duster (Powder)** Link position is “多”. **Small Granular** Link position is “少”.



- Use the preceding graphs as a scale of reference for setting the degree of shutter aperture. Try to blow all fertilizer or seeds continuously, without stopping until the tank goes empty. Don't stop the blowing operation on the way, leaving chemicals in the tank or store the machine with chemicals in the tank, otherwise it will be vulnerable to rust and stain. If closing the shutter with fertilizer or seeds in the tank, lower the lever slowly. If the shutter is suddenly closed or forced to shut, fertilizer or seeds may be caught between the shutter and tank bottom packing, which not only prevents the shutter from closing all the way, but may also causes troubles. When fertilizer or seeds get stuck during operation, raise the shutter one stage upper to increase fan speed.

## Cleaning

- Do the same cleaning procedures as stated in the dust blower, but because of fertilizer being highly hygroscopic and corrosive, clear the tank of residual chemicals thoroughly.

# Notice on Fertilizer Dispersion

- Use up all the fertilizer in the chemical tank continuously without intermitting dispersion as far as possible.
- When closing the shutter while the fertilizer is in the tank, move the shutter lever down slowly.
- Quick or forced closing of the shutter may cause biting of the fertilizer, resulting in equipment failure.
- When the discharge of fertilizer frequently stops during spraying, remove the clog and then raise the shutter lever one step and increase the spray speed.
- When there is still fertilizer in the chemical tank after the work is finished, recover the fertilizer

# Accurate Discharge Calculation Method

- The discharge may differ according to the relative humidity, type of chemical, etc. Use the graph and table as a guideline.
- Accurate discharge can be obtained as follows.
  - Set the intermediate rod in the shutter arm according to the type of the chemical to be sprayed.
  - Perform a test spray by setting to the planned shutter opening.
  - Measure the required number of seconds for the test and calculate by substitution.
  - Discharge quantity (kg/min)=Input quantity ×60Time for discharge(sec)
- The walking speed can be calculated more accurately by using this value.

## CAUTION

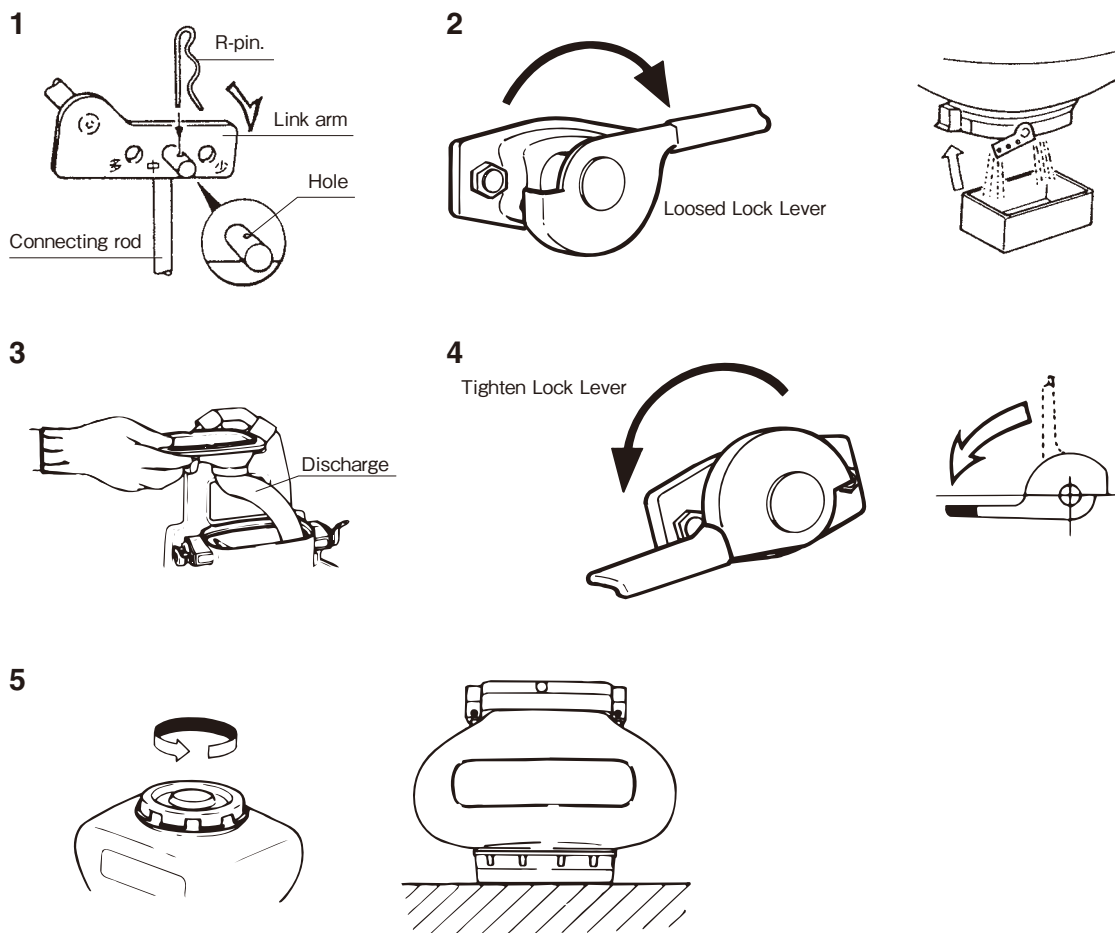
- Perform the above method especially for the first spray of a 1kg/10a granule chemical.
- Pay special attention to prevent too much spraying of the chemical.
- When performing dispersion, pay attention to the NOTICE for the chemical or fertilizer to be applied.

# Chemical Tank Cleaning

- 1 Remove the chemical tank. Take out the R-pin and pull out the intermediate rod.
- 2 Open the tank shutter, remove the chemicals in the tank, and clean the tank.  
Turn look lever and remove the tank.
- 3 Take out the disgorge-case and clean and inspect the interior of the blower.
- 4 Install the chemical tank.
- 5 The chemical tank shall be loosened in advance.

## CAUTION

- Tightening shall be made alternately to hold both sides (Lower than horizontal).
- When fertilizer is sprayed, the shutter may become stuck or metal parts may corrode, therefore, careful cleaning is required.
- If the removed chemical tank is placed on the floor, place it with the cover facing down.



# MAINTENANCE

## PERIODIC MAINTENANCE CHART

### ⚠ CAUTION

- Do not attempt to start or operate a duster that indicates a fuel leak.
- Always remove the spark plug cap from spark plug when servicing the engine to prevent accidental starting.

MAINTENANCE	Interval			
	Daily	Every 20 hours	Every 50 hours	Every 100 hours
Check and replenish fuel	●			
Check for fuel leakage	●			
Check bolts, nuts and screws for looseness and loss	●			
Check engine idle speed adjustment	●			
M Clean air filter element		●		
M Remove dust and dirt from engine screen		●		
M Remove dust and dirt from air intake screen		●		
Tighten bolts and nuts			●	
Clean spark plug and adjust electrode gap			●	
M Remove dust and dirt from cylinder fins			●	
★ Remove carbon deposits in exhaust port			●	
★ Clean net of spark arrester			●	
Replace fuel filter				●
★ Remove carbon deposits on piston head and inside cylinder				●
★ Remove carbon deposits in transfer ports				●
Replace fuel tube, fuel tank cap gasket	It is recommended to replace every 3 years.			

Note: The service intervals indicated are to be used as a guide. Service to be performed more frequently as necessary by operating condition.

M : Service to be performed by an authorized Maruyama engine dealer.

★: Service more frequently under dusty conditions.

## AIR FILTER

The air filter should be inspected each time the duster is used (or more often with extreme conditions). To inspect, remove the air filter cover and remove the filter from the case. Clean air filter(s) by gently tapping element or cleaning with a suitable solvent the filter should be completely dry before using again.

## SPARK PLUG

The spark plug should be removed from the engine and checked after each fifty (50) hours of use. The tips can be cleaned with a stiff brush. Adjust the gap to .024" - .028" (0.6 - 0.7mm) inches (see sketch). Replace the spark plug if it is oil-fouled or damaged.

### ⚠ CAUTION

The correct torque for the spark plug is 95 - 148 in. lbs. (10.7 - 16.6 N • m) Do not over-tighten.

## COOLING FINS

Free passage of air flow through the cylinder cooling fins is required to prevent poor engine performance and shortened engine life. Regularly check and clean all debris from the cooling fins. An AUTHORIZED MARUYAMA DEALER should be contacted for this service.

## MUFFLER AND EXHAUST PORTS

The muffler should be removed and serviced after each one fifty (50) hours of use. At the same time, the exhaust ports should be cleaned and inspected. An AUTHORIZED MARUYAMA DEALER should be contacted for this service.

## FUEL FILTER

The fuel filter should be cleaned and inspected for damage after each twenty (20) hours of use.

The fuel filter is attached to the fuel pick-up tube inside the fuel tank. Loosen the clamp and take out the fuel filter.

To clean the fuel filter, remove it from the fuel tube and wash it with safety solvent. Inspect and clean the fuel tank before re-installing the fuel filter.

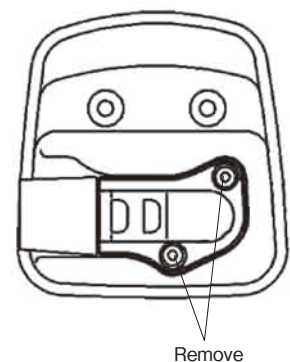
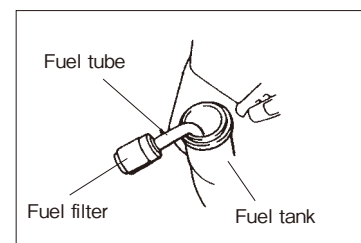
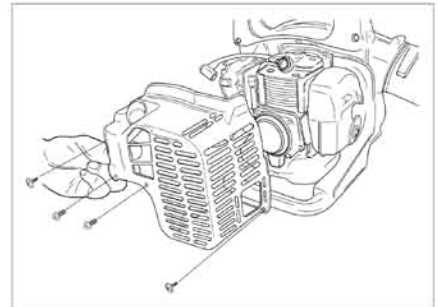
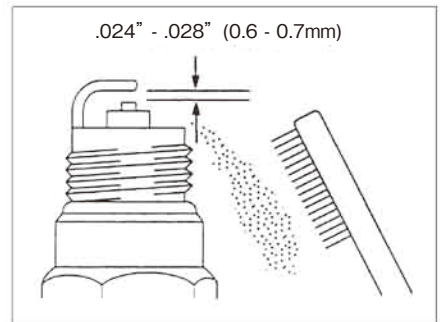
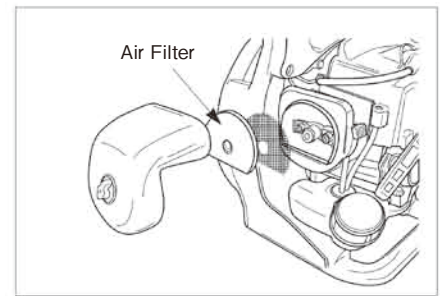
Always replace a defective fuel filter.

## GENERAL CLEANING AND TIGHTENING

The MARUYAMA duster will provide maximum performance for many hours, if it is maintained properly. Good maintenance includes regular checking of all fasteners for correct tightness, and cleaning the entire machine. Contact an authorized MARUYAMA dealer for additional maintenance suggestions.

## SPARK ARRESTER

1. Remove the screw from the muffler.
2. Take the spark arrester out off the muffler, and then clean by brushing it.
3. Return the spark arrester to the muffler.
4. Tighten the screw securely.



## **STORAGE**

For long-term storage of the duster, first perform all regular maintenance procedures and needed repairs. Empty the fuel tank. Disconnect the fuel supply line from the carburetor and depress the primer bulb until fuel stops discharging from the fuel-return line. Start the engine and allow it to run until it stops. Pull the starter cord a few times to remove any excess fuel from the engine. Remove the spark plug and insert a small amount of oil into the cylinder. Slowly pull the starter cord and bring the piston to a position closest to the spark plug hole. Re-install the spark plug. Apply a thin coating of oil to all the metal surfaces and store the duster in a dry place.



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