



OPERATOR'S MANUAL



MODEL BB-70

WARNING  **DANGER**

Read instructions carefully and follow rules for safe operation.
Failure to do so could result in serious injury.

Fradan Manufacturing Corp.

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WELCOME TO THE FRADAN FAMILY



CONGRATULATIONS! You are now the owner of a quality **BB-70 BACK-PACK BLOWER**.

FRADAN manufactures a family of high performance, reliable power equipment. Our designs are based on years of personal use of landscape equipment.

We at Fradan have revolutionized the landscaping industry, offering modern, reliable, high performance equipment designed to meet today's environmental demands and exceed tomorrow's.

FRADAN built means durability, quality, maximum performance and non-obsolescence. With proper care and maintenance of your unit, we assure you years of service-free operation. This booklet refers to the information which you should learn in order to take advantage of its outstanding performance.

FRADAN manufacturing would like to thank you for choosing our product and hope that you continue to enjoy the quality and pride that we built into our products.

Always use the proper machine for the job, use a **FRADAN**.

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INTRODUCTION

The FRADAN Back-Pack Blower model BB-70 is a ruggedly built, high performance gasoline powered unit designed for blowing leaves and other lawn debris. Proper maintenance and use of the FRADAN Back-Pack Blower will guarantee years of safe, service-free, reliable operation. We urge you to follow these instructions to assure safe and reliable operation.



TECHNICAL DATA

MODEL	BB-70
Engine Type	Air cooled, two-stroke, single cylinder gasoline engine
Displacement	63.3 cc (3.86 cu. in.)
Bore	48.0 mm (1.89 in.)
Stroke	35.0 mm (1.38 in.)
Carburetor	Walbro Diaphragm, model WYK w/ primer bulb
Ignition System	Flywheel Magneto
Spark Plug	NGK BPM-8Y Gap 0.65 mm (0.026 in.)
Exhaust System	Spark Arrestor Muffler
Fuel	Mixed (Gasoline and Two-stroke Oil)
Fuel/Oil Ratio	40:1 High Performance, two-stroke air cooled engine oil
Gasoline89 Octane unleaded. DO NOT use fuel containing methyl alcohol, more than 10% ethyl alcohol or 15% MTBE.
Fuel Tank Capacity	1.68 Liters (57 liq. oz.)
Recoil Starter System	Automatic Recoil Starter
Idle Speed	2350-2850 (RPM)
Wide Open Throttle Speed	6800-7300 (RPM)
Maximum Air Speed (measured at pipe end)	338 KM/H (210 mph)
Average Air Volume (measured at pipe end)	18.1 cu. m/min. (640 cu. ft./min.)
Maximum Air Volume (measured at housing)	34.0 cu. m/min. (1200 cu. ft./min.)
Length	375 mm (14.76 in.)
Width	485 mm (19.1 in.)
Height	527 mm (20.75 in.)
Weight	10.4 kg. (23.0 lb.)

Technical Data subject to change without notice.

GRAPHIC WARNINGS

Because the BB-70 is a highpower tool, special safety precaution must be observed to reduce the risk of personal injury. Read this manual carefully. Be familiar with the controls and the proper use of the unit. Know how to shut it off, and how to unhook a harnessed unit quickly.



This graphic accompanied by the words **WARNING** and **DANGER** calls attention to an act or a condition which can lead to **SERIOUS INJURY**.



READ & UNDERSTAND Operator's Manual and Safety Manual.



ALWAYS WEAR EYE AND EAR PROTECTION.

WARNING



DANGER

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

Specifications, descriptions and illustrative material in this manual are as accurate as known at the time of publication, but are subject to change without notice. Illustrations may include optional equipment and accessories, and may not include all standard equipment.



SAFETY RULES & PRECAUTIONS

Proper safety precautions must be observed. Like all power equipment this unit must be handled carefully.

DO NOT EXPOSE YOURSELF OR OTHERS TO DANGER. Follow these general rules. Do not permit others to use this machine unless they are thoroughly responsible and have read, and understand the machine manual and are trained in its operation.

- Always wear safety goggles for eye protection. Dress properly, do not wear loose clothing or jewelry that could become caught in moving parts of the unit. Safe, sturdy, nonskid footwear should always be worn. Long hair should be tied back. It is recommended that legs and feet be covered to protect from flying debris during operation.
- Inspect the entire machine for loose parts (nuts, bolts, screws, etc.) and any damage. Repair or replace as necessary before using the machine.
- **DO NOT USE** any attachment with this Back Pack Blower other than the ones recommended by FRADAN. Serious injury to the operator or bystanders could result as well as damage to the machine.
- Do not smoke while mixing fuel or filling tank.
- Do not mix fuel in an enclosed room or near open flames. Assure adequate ventilation.
- Always mix and store the fuel in a properly marked container that is approved by local codes and ordinances for such usage.
- Never remove the fuel tank cap while the engine is running.
- Never start or run the engine inside a closed room or building. Fumes from the exhaust contain dangerous carbon monoxide.
- Never attempt to make engine adjustments while the unit is running and strapped to the operator. Always make engine adjustments with the unit resting on a flat, clear surface.
- Do not use the unit if it is damaged or poorly adjusted.
- Keep children away. Onlookers should be kept at a safe distance from the work area, at least **50 FEET**.
- Never leave the machine unattended.
- Do not use this unit for any job other than those for which it is intended as described in this manual.
- Do not overreach. Keep proper footing and balance at all times. Do not run the unit while standing on a ladder or on any other unstable footing location.
- Keep hands and fingers clear of the screened air intake between the fuel tank & blower housing
- Never use the Blower without the air intake screen in place. Before each use, check that the screen is attached and in its place.
- Do not use the unit when you are tired or under the influence of medication, drugs or alcohol.
- Do not store in a closed area where fuel vapors can reach an open flame from, hot water heaters, furnaces, etc. Store in a locked, well ventilated area only.

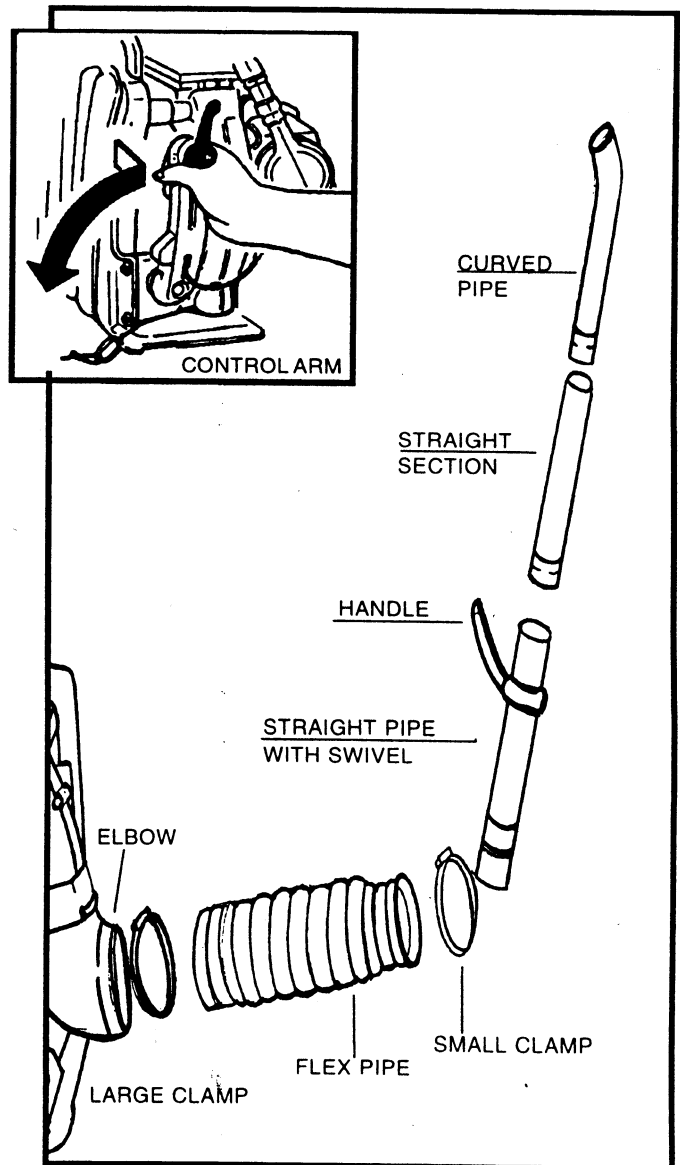


SAFETY RULES & PRECAUTIONS

- Use only FRADAN original equipment parts when servicing the unit, this will ensure safe and proper performance of your product. These parts are available from your dealer. The use of any other accessories or attachments may cause a potential hazard or injury to the user, damage to the machine and void this warranty.
- Clean the machine completely, especially, the fuel tank, its surroundings, and the air cleaner.
- When refueling, be sure to stop the engine and confirm that it is cooled down. **Never refuel when the engine is running or hot.** When gasoline spills, be sure to wipe it up completely and properly dispose of those materials before starting the engine.
- Stay clear of other workers or bystanders by at least 15 meters / 50 feet.
- When ever approaching an operator of the machine, carefully call his attention and confirm that the operator stops the engine. Be careful not to startle or distract the operator which can cause an unsafe situation.
- The engine should be turned off when the machine is moved between work areas.
- Pay attention to loosening and overheating of parts. If there is any abnormality of the machine, stop operation immediately and check the machine carefully. If necessary, have the machine serviced by a authorized FRADAN dealer. Never continue to operate a machine which may be malfunctioning.
- In start-up or during operation of the engine, never touch hot parts such as the muffler, the high voltage wire or the spark plug.
- After the engine has stopped, the muffler is still hot. Never place the machine in any places where there are flammable materials (dry grass, etc.), combustible gasses or combustible liquids.
- Pay special attention to operation in the rain or just after the rain as the ground may be slippery.
- If you slip or fall to the ground or into a hole, Press the Stop Button until Engine Stops.
- Be careful not to drop the machine or hit it against obstacles.
- Before proceeding to adjust or repair the machine, be sure to stop the engine and detach the spark plug cap from the spark plug.
- When the machine is placed in storage for a long time, drain fuel from the fuel tank and carburetor, clean the parts, move the machine to a safe place and confirm that the engine is cooled down.
- Make periodic inspections to assure safe and efficient operation. For a thorough inspection of your machine, please contact a FRADAN dealer.
- Keep the machine away from fire or sparks,

ASSEMBLY

- Unfold Control Arm; Hold the upper end of the control arm in hand and rotate counter clock wise until it clicks into place. Rotate clockwise to reverse the process.
- Install the flexible pipe and the large clamp on to the elbow of the blower and tighten the large clamp.
- Install the straight pipe w/swivel & small clamp and tighten the small clamp.
- Slide handle onto swivel pipe. (Handle can be adjusted to desired position.)
- Install the straight section of the pipe to swivel pipe.
- Install the curved pipe. (Curved pipe installation is optional and not necessary for normal use of back blower. Design of curved pipe will cause resistance in handling air tube due to air pressure.)
- Shoulder Harness is adjustable to fit any operator.
- Ensure that all nuts, screws and bolts are installed and properly tightened.



WARNING



DANGER

In addition to head, eye, face and ear protectors, shoes to protect your feet improve your footing on slippery surfaces. Do not wear ties, jewelry, or loose dangling clothing which could be caught in the machine.

Do not wear open-toed footwear, or go barefoot or bare legged. In certain situations you must wear total face and head protection.

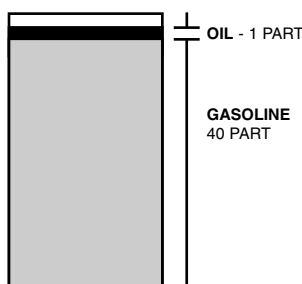
FUEL & OIL MIXTURE



WARNING

- Never fill the fuel tank to the very top.
- Never add fuel to the tank in a closed non-ventilated area
- Do not add fuel to this unit close to an open fire or sparks.
- Be sure to wipe off spilled fuel before attempting to start engine.
- **Do not attempt to refuel a hot engine.**

Fuel used for this model is a mixture of unleaded gasoline and approved engine lubricant. When mixing gasoline with a **FRADAN** approved two-cycle engine oil, use only gasoline which contains NO ETHANOL or METHANOL (Types of Alcohol) Use branded 89 octane or higher unleaded gasoline known to be of good quality. This will help to avoid possible damage to engine fuel lines and other engine parts.



MIXTURE RATIO IS 40:1

GASOLINE - 40 part OIL - 1 part

Fuel mixture at the rate other than 40:1 may cause damage to the engine. Ensure mixture ratio is correct.

FUEL MIX CHART 40:1

GAS	OIL	GAS	OIL
GAL.	FL. OZ.	LITERS	ML
1	3.2	3.78	94.63
2	6.4	7.57	189.27
4	12.8	15.14	378.54

FUEL

The engine uses two-stroke fuel, a mixture of gasoline and a specially blended high performance 2-stroke air cooled engine oil.

GASOLINE

Use branded 89 octane or higher unleaded gasoline known to be of good quality.

MIXING FUEL

Follow directions on fuel mixing chart above.

STORING FUEL

Store fuel only in a clean, safe, approved container. Check and follow local ordinances on type and location of storage container.

IMPORTANT

Two-stroke fuel may separate. Shake fuel container thoroughly before each use.

Stored fuel ages. Do not mix more fuel than you expect to use within a month.

PREPARING FOR OPERATIONS

FUEL AND OIL MIXTURE

Inspect fuel tank making sure that it is clean and fill with fresh fuel. Use a mixture of 40:1.
(See Fuel and Oil Mixture on page 6)

WHEN MIXING GASOLINE WITH TWO CYCLE ENGINE OIL, USE ONLY GASOLINE WHICH CONTAINS NO ETHANOL OR METHANOL (TYPES OF ALCOHOL). THIS WILL HELP TO AVOID POSSIBLE DAMAGE TO ENGINE FUEL LINES AND OTHER ENGINE PARTS. DO NOT MIX GASOLINE AND OIL DIRECTLY IN THE ENGINE FUEL TANK.

IMPORTANT: Failure to follow proper fuel mix instructions may cause damage to the engine.

1. When preparing fuel mixture, mix only the amount needed for the job you are to do. Do not use fuel that has been stored longer than two months. Fuel mixture stored longer than this will cause hard starting and poor performance. If fuel mix has been stored longer than this time, it should be removed and filled with a fresh mixture.

WARNING



DANGER

2. Never fill the fuel tank to the very top.
3. Never add fuel to the tank in a closed non-ventilated area.
4. Do not add fuel to this unit close to an open fire or sparks.
5. Be sure to wipe off spilled fuel before attempting to start engine.
6. **Do not attempt to refuel a hot engine.**

CHECK POINTS BEFORE OPERATION

1. Check for loose bolts, nuts and fittings.
2. Check the air cleaner for dirt. Clean the air filter of all dirt, etc. before operation.
3. Check to be sure that air intake screen is securely in place.

WARNING



DANGER

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.



OPERATIONS

ENGINE STARTING AND STOPPING PROCEDURES

• STARTING COLD ENGINE

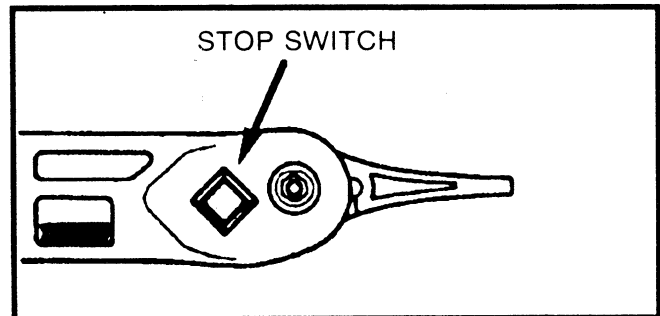
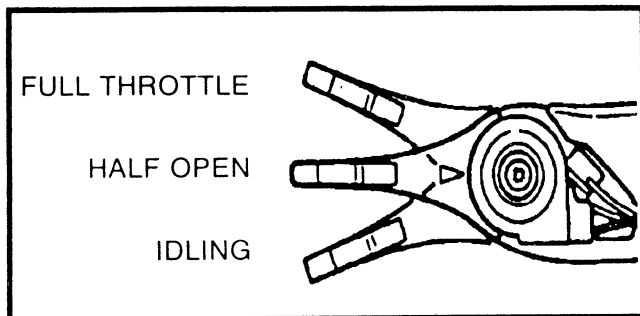
1. Move the throttle lever to the half open position.
2. Give a gentle push on the primer pump repeatedly (7-10 times) until fuel comes into the primer pump.
3. **Cold Starts:** Move lever to close choke position.
4. Pull starter handle until engine false fires (sputters).
5. Remove choke (excessive cranking with choke on will cause flooding of engine making it difficult to start).
6. Pull starter handle until engine starts.
7. Allow engine to warm up for a few minutes before using.

• STARTING WARM ENGINE

1. If fuel tank was not run dry, pull starter one to three times and engine should start. **(DO NOT USE CHOKE)**
If fuel tank was run dry, after refilling repeat steps 2 through 7 in **STARTING COLD ENGINE**.

• STOPPING THE ENGINE

1. Move throttle lever to slow position. Wait a few seconds to allow engine to cool down. Depress the **RED STOP Button** (located on reverse side of throttle lever) until the engine comes to a stop.



OPERATION OF BLOWER

Allow the engine to warm up for a few minutes.

FRADAN BB-70 can be run at any speed between an idle of 2800 RPM and maximum load speed of 7300 RPM.

The velocity of the air stream can therefore readily be controlled from a gentle breeze to a high speed blast moving at 210 MPH, which will move garden leaves, twigs, and other debris from lawns and paved areas.

Use a low speed to blow dry leaves from a lawn or flower bed.

Use a medium to high speed to clean grass and leaves from walks, patios, and driveways.

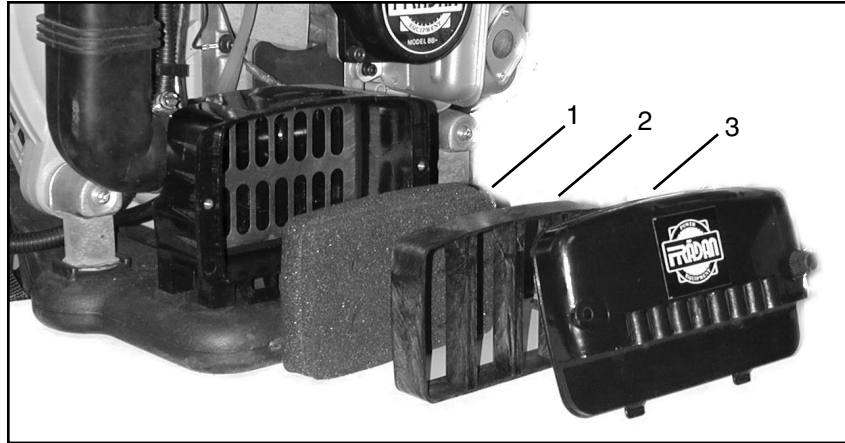
Use a high speed to move gravel, dirt, snow, bottles or cans from driveways, streets, parking lots, or stadiums.

• CAUTION

Do not point the blower pipe in the direction of people or pets. Always wear safety glasses and use a face filter mask. Read carefully "Safety Rules and Precautions."



MAINTENANCE AND CARE



• AIR FILTER

Accumulative dust in the air filter will reduce engine efficiency, increase fuel consumption and allow abrasive particles to pass into the engine. Remove the air filter as often as necessary to maintain in a clean condition.

Light surface dust can readily be removed by tapping the filter. Heavy deposits should be washed out in suitable solvents. After washing filters, add 2 table spoons of oil on the grey foam part of the filter. Failure to do so will allow dust and dirt to enter the engine and cause permanent damage. To remove the air filter, loosen both filter knobs on filter box. *(To reassemble filter, follow photograph above.)*

• ADJUSTING CARBURETOR

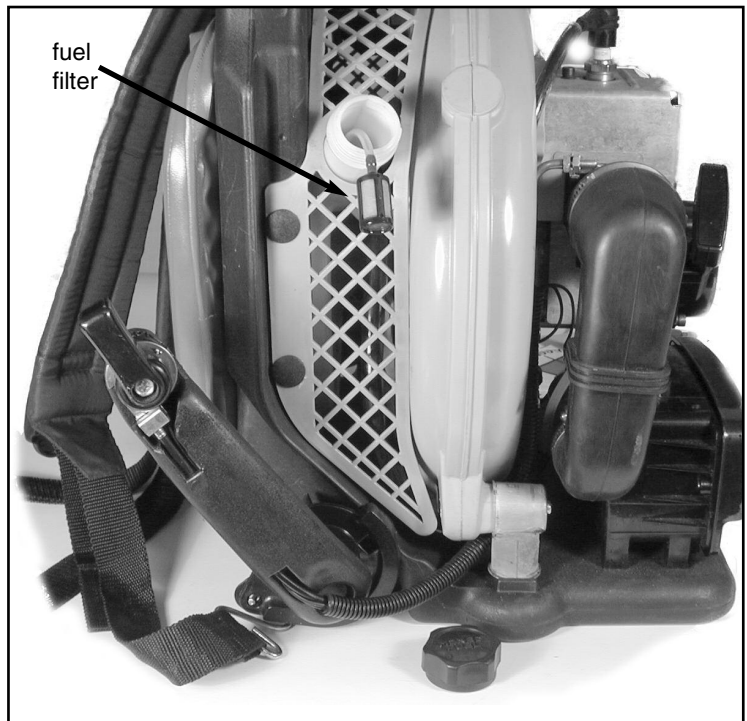
NOTE: Do not adjust carburetor unless necessary. If you have trouble with carburetor, see your dealer. Improper adjustment may cause engine damage and void warranty.

• FUEL FILTER

Fuel tank is fitted with a fuel filter. Filter is situated at the free end of fuel pipe and can be picked out through fuel port with piece of hooked wire or the like.

Check the fuel filter periodically. Do not allow dust or debris to enter into fuel tank. Clogged fuel filter will cause difficulty in starting engine or abnormalities in engine performance.

When the filter is dirty, replace the filter. When the inside of the fuel tank is dirty, it can be cleaned by rinsing the tank out with gasoline.



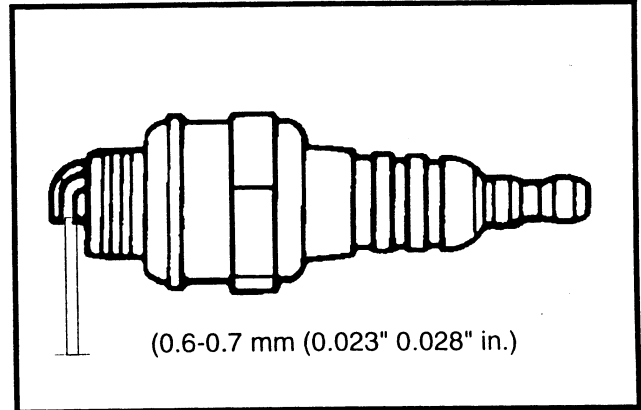


MAINTENANCE AND CARE

• **SPARK PLUG**

Do not attempt to remove the plug from a hot engine in order to avoid possible damage to the threads.

Clean or replace the plug if fouled with heavy or oily deposits. Replace the plug if the center electrode is worn rounded at the end. Spark gap 0.6-07 mm (.023"-.028") Fastening torque= 145-155kg.cm (125-135 in. lb)



• **MAGNETO**

The unit incorporates an electronic ignition system, which does not require any adjustment.

• **MUFFLER AND EXHAUST PORT**

In the event that the engine should lose power and overheat, the muffler should be removed and checked for excessive carbon deposits. Carbon build up in the exhaust port should be removed with a piece of wood, making sure that particles of carbon are not allowed to enter the cylinder. Remove all carbon deposits from the muffler flange area and wash the complete unit in a suitable solvent. Make sure the spark arrestor screen is clean. This should be checked periodically.



SPARK ARRESTOR SCREEN

TROUBLESHOOTING



FAILURES such as difficulty in starting engine, irregularity in functions and abnormality in performance can normally be prevented if careful attention is paid to all operating instructions and maintenance procedures.

Should the engine not function properly, check the following:

- That the fuel system is in good condition and fuel is flowing to the engine.
- The ignition system is in good condition and the spark plug, sparks correctly.
- Compression of the engine is adequate.

FAILURE TO START

- Dispose of fuel in tank.
- Insure that fuel is fresh and clean.
- Check fuel filter to make sure it is clean. (Replace filter if necessary).
- Make sure air filter elements are clean.
- Install new, properly gapped spark plug.
- When there is serious trouble with the unit, **do not try to repair it yourself,** but have your FRADAN distributor or dealer do it for you.

EXTENDED STORAGE

- Inspect, clean and repair unit if necessary.
- Remove all fuel from tank.
- Start engine - This will consume all fuel in fuel line and carburetor.
- Remove spark plug and pour one teaspoon of clean motor oil into spark plug hole of cylinder - replace spark plug.
- Store in clean, dry, dust free area.

FRADAN LIMITED WARRANTY POLICY

Effective January 1, 1999 • Replaces all undated Warranties and all Warranties dated before January 1, 1999

This limited warranty is extended by **FRADAN MANUFACTURING CORP.** to the first retail purchaser only and is not transferable to subsequent owners. For 90 days from the date of purchase **FRADAN** Manufacturing will repair any defect in material or workmanship at no charge. From the 91st day until one year from the date of purchase, **FRADAN** will furnish replacement parts for any defective parts, free of charge. You pay for labor. The responsibility of **FRADAN MANUFACTURING CORP.** under this warranty is limited to replacement or repair of any defective part by an authorized **FRADAN** dealer subject to approval by **FRADAN MANUFACTURING CORP.** This warranty does not include or cover damage to the complete product caused by:

- Lack of lubrication or engine failure due to improper oil fuel ratio.
- Parts not warranted are normal maintenance items such as spark plugs, air and fuel filters, hoses, blowing tubes, starter rope, vibration isolators, throttle cable, all cutting attachments, lubricants, engine tune-ups, and sparks arrestor screen.
- Alterations or modifications including aftermarket parts not authorized by **FRADAN MANUFACTURING CORP.**
- Damage caused by the use of gasoline containing methyl (wood) alcohol or gasoline containing less than 89 octane. Only use gasoline which contains 89 octane or higher. Gasohol which contains a maximum 10% ethyl (grain) alcohol or 15% MTBE (methyl tertiary-butyl ether) is also approved. The prescribed mixing ratio of gasoline to oil is listed in the **FRADAN** owner's manual.
- Defects, malfunctions, or failures resulting from abuse, misuse, neglect, modifications, alterations, improper servicing, improper storage, use of unauthorized attachments, replacements parts including failure to provide or perform required maintenance services as prescribed in the owner's manual.
- Preventive maintenance is the warranty holder's responsibility.
- Damages caused by tampering with engine speed governors, or running engines above specified and recommended engine speed.
- Engine damage caused by the use of other or any starting fluids.
- Damages caused by dirt, salt water corrosion, rust, varnish, and moisture.
- Operation of the unit with improperly serviced, damaged, or removed air filter.
- Failure to follow the setup, predelivery service, and adjustment outlined in operator's manual.
- Damage caused by the pressure of steam cleaning the product.

Parts replaced or repaired under this warranty are warranted only for the balance of the warranty period. All defective parts replaced under warranty become the property of **FRADAN MANUFACTURING CORP.** For warranty repairs, you must at your own expense, arrange to deliver the shipment (and return after repairs are completed) of your **FRADAN** unit to **FRADAN MANUFACTURING CORP.** or an authorized **FRADAN** servicing dealer. Under no circumstances is **FRADAN** responsible for extra expenses including shipping and handling, travel, payment for lost time or pay and for any inconvenience and storage. To locate your nearest authorized **FRADAN** servicing dealer call (914) 632-3769.

THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER EXPRESS WARRANTIES. ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY OR OTHERWISE APPLICABLE TO THIS PRODUCT, SHALL BE LIMITED IN DURATION TO THE DURATION OF THIS LIMITED WARRANTY. FRADAN CORP. SHALL NOT BE LIABLE FOR ANY SPECIAL INCIDENTAL OR CONSEQUENTIAL DAMAGES.

To validate this warranty, complete and return within ten (10) days of the date of purchase the warranty registration card supplied with your **FRADAN** product. Your receipt of purchase should be maintained and presented to an authorized **FRADAN** servicing dealer for warranty service.

SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER LEGAL RIGHTS WHICH VARY FROM STATE TO STATE.

FRADAN MANUFACTURING CORP.
Manufacturers of Power Equipment

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