



## Fradan Manufacturing Corp. www.frandanpower.com

Write your SERIAL NUMBER here:

Write your DATE OF PURCHASE here:



**Congratulations!** Thank you for purchasing *The Fradan Tornado*. It was carefully engineered to provide excellent performance when properly operated and maintained. It is designed primarily for blowing leaves and Debris on residential or commercial properties.

Before operating your new *Fradan Tornado* it is strongly recommended all operators carefully read this manual in its entirety before operating the equipment. This manual explains how to operate and maintain the product properly and safely to avoid injury and property damage.

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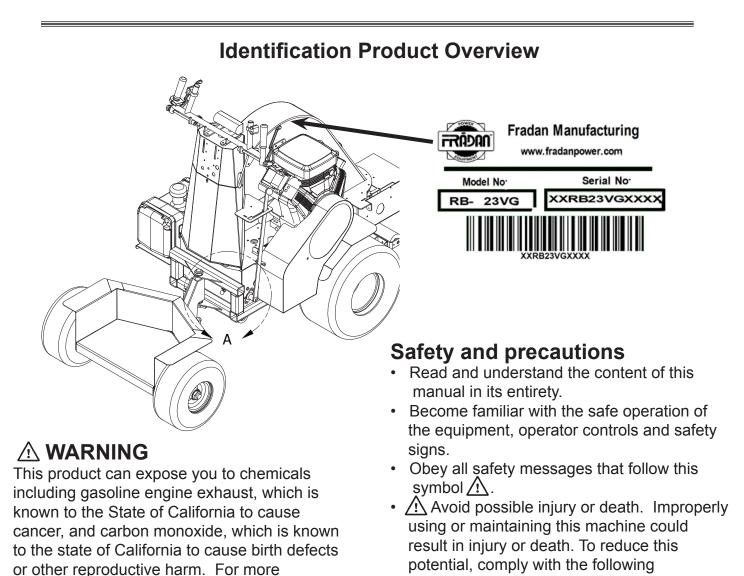


## Introduction

The *FRADAN Tornado Ride on Blower* model (RB-23V) is a ruggedly built, high performance gasoline powered unit specially designed for blowing leaves and debris. Proper maintenance and use of the *FRADAN Tornado Ride on Blower* will guarantee years of safe, service-free, reliable operation.

We wish for you to gain sufficient knowledge from this booklet before operating your Fradan and make the best use of it in the future. We urge you to follow these instructions to assure safe and reliable operation.

An engine manufacturer's owner's manual has also been provided with your machine. This will provide maintenance and troubleshooting information for the engine installed in your machine.



information go to www.P65Warngings.ca.gov.

safety instructions.



## Specifications

Engine	
Make	Briggs & Stratton
Model	3864470445G1
Electrical System	12volt, 20amp alter- nator; Battery: NP18- 12B
Chassis	
Fuel Tank Capacity	6 Gallons (26 L) total
Rear Wheel Tire Size	15 x 6.00-6
Rear Wheel Inflation Pressure	30psi (1.5 bar)
Front Wheel Tire Size	20 x 10.00-8
Front Wheel Tire Infla-	22psi (1.9 bar)
tion Pressure	
Dimentions	
Width	38" (96 cm)
Height	56" (142 cm)
Length	75" (190 cm)
Weight	650lbs (295 kg)
Transmission	
Make	Hydro-Gear
Model	T3- CDBF-2X3C- 15XD
Hydraulic Fluid	20W-50 Synthetic oil
Speed	Infinitely Variable

## **Operating Safety**

Note: Determine the left and right sides of the machine from the normal operating position

## **▲ Before Operating:**

- Read, understand, and follow all instructions on the machine and in the manual(s) before starting. Keep this manual in a safe place for future and regular reference.
- Determine what and if accessories and attachments are needed to perform the job properly and safely.

If needed, see manufacturer's instructions for proper and safe operation and installation of accessories. Only use accessories approved by the manufacture.

- Only allow responsible adults, who are familiar with the instructions to operate this machine.
- Be sure the area is clear of people, pets, moving objects or vehicles before operating. Stop machine if anyone enters the area.
- Clear the area of objects such as rocks, sticks, toys, wire etc., which could be thrown by the machine.
- Operate machine only in daylight or good artificial light.
- Lightening can cause severe injury or death. If you see lightening or hear thunder in the area, do not operate the machine; seek shelter.
- Never operate machine while under the influence of alcohol or drugs.
- Evaluate working area and establish a safe blowing pattern. Do not operate machine on unsafe terrain.
- Without discharging air, perform a test drive through target area, slowing down while traveling the over rough terrain.
- Check wheel hardware before operation. Injury can occur if wheel hardware is not fastened properly.
- Check wheel hardware torque often during the first 100 hours of operation.
- Wheel hardware must be torqued to proper specification.

## Appropriate Clothing

- Always wear the proper safety equipment appropriate for the job.
- Always wear substantial footwear while operating. Never operate the machine barefooted or while wearing sandals or open toes shoes.
- Always wear close fitting clothing and long trousers. Shorts should never be worn while operating.
- Ties, scarfs, and jewelry should never be worn while machine is running.
- Always keep long hair tied back while machine is running.
- Always wear protective eyewear (safety googles/safety glasses with side shields) and hard hat while operating machine.



# Appropriate Clothing (Continued)

 Always wear protective hearing devices (Protective earmuffs or ear plugs).
Hearing protectors reduce the noise exposure level and the risk of hearing loss or impairment.

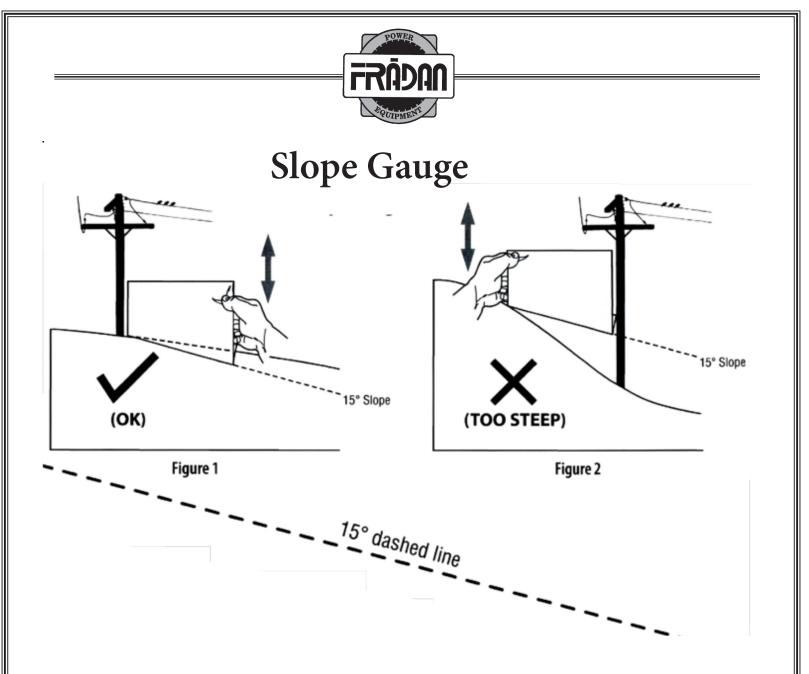
## Children and Pets

• A Tragic accidents can occur if the operator is not alert to the presence of children or pets. Children are often attracted to the machine and the ability to ride on. Never assume that children and pets will remain where you last saw them.

- Always be alert and turn the machine off if a child or pet enters the area.
- Before and while backing up, look down and behind the machine carefully, especially for children.
- Keep children and pets out of the blowing area and under the watchful care of a responsible adult other than the operator.
- Never allow children to operate the machine.
- Never carry children on a machine or attachment. This machine was never intended as a recreational vehicle or to entertain children.
- Use extra care when approaching blind corners, shrubs, trees, or other objects that may block your view of a child or pet.
- Be especially watchful of children and pets darting into the area while operating.

## **▲Safety While Operating**

- Never use this machine as a recreational vehicle to entertain.
- A Only the operator should operate this machine. Never allow anyone to ride the machine with operator. This is dangerous and could result in severe injury or death.
- Do not place hands or feet near or under the machine.
- Keep clear of the discharge opening at all times.
- Never leave a running machine unattended.
- Always look down and behind before operating and while moving backward.
- Never direct discharge material against a wall or obstruction. Material may ricochet back toward the operator.
- If the machine should start to vibrate abnormally, stop the engine and check for the cause immediately. Vibration is generally a warning of trouble.
- Stop the engine and wait until the fan comes to a complete stop before attempting to clean the machine, removing grass, or unclogging the discharge chute.
- Always keep hands, feet, and loose clothing away from rotating impeller and moving parts; serious injury can occur.
- Rotating impeller can throw objects causing serious injury and property damage
- Exhaust muffler and pipes become extremely hot. Never attempt to touch it or lay objects on it.
- Failure to observe safety instructions could result in serious injury or death.



### USE THIS SLOPE GAUGE TO DETERMINE IF A SLOPE IS TOO STEEP FOR SAFE OPERATION!

To check the slope, proceed as follows:

- 1. Remove this page and fold along the dashed line.
- 2. Locate a vertical object on or behind the slope (e.g. a pole, building, fence, tree, etc.)
- 3. Align either side of the slope gauge with the object (See Figure 1 and Figure 2).
- 4. Adjust gauge up or down until the left corner touches the slope (See Figure 1 and Figure 2).
- 5. If there is a gap below the gauge, the slope is too steep for safe operation (See Figure 2 above).

WARNING! Slopes are a major factor related to tip-over and roll-over accidents which can result in severe injury or death.

Do not operate machine on slopes in excess of 15 degrees. All slopes require extra caution. Always blow across the face of slopes, never up and down slopes.



## Slope Operation

<u>A</u>Warning Slopes are a major factor related to loss-of-control, tip-over accidents causing machine to turn over, which can result in severe injury or death. Operation on all slopes require extra caution. If you feel uneasy on a slope do not operate blower.

- Blow across the face of slopes; never up and down. Exercise extreme caution when changing direction of slopes.
- Do not operate on wet grass or excessively steep slopes. Tires may lose traction; poor traction could cause an accident.
- Even though brakes are functioning properly. tires may lose traction on slopes.
- Watch for holes, ruts, bumps, rocks, exposed roots, or other hidden objects. Uneven terrain could cause a slip and fall accident. Tall grass can hide obstacles.
- Do not operate near drop-off, ditches, embankments, or embodies of water. The machine could suddenly roll over if a wheel goes over the edge or the edge caves in.
- Choose a low ground speed, to minimize stopping on slopes.
- Drive machine very slowly and avoid guick stops.
- Avoid starting, stopping, or turning on a slope. If the tires lose traction, turn, and proceed slowly down slope.
- Keep all movement on slopes slow and gradual. Do not make sudden changes in speed or direction, which could cause the machine to roll over.

## Parking Safety Steps

- Step 1: Always stop machine on level surface, never on a slope.
- Step 2: Lower the throttle
- Step 3: Close the deflector.
- Step 4: Engage the parking brake.
- Step 5: Using the key turn off the engine.
- Step 6: Remove the key.
- Step 7: Wait for engine and all moving parts to stop before leaving the operator's station. Step 8: Close fuel shut-off valve.

- - - in a tire explosion. Never stand in front or over the tire assembly while inflating tires. Always use a clip-on chuck and extension hose long enough to allow you to stand to one side.

## Safe Handling of Gasoline

Fuel is extremely flammable, and the vapors are explosive. To avoid personal injury or property damage, use extreme care in handling fuel.

A Explosive separation of a tire and rim parts

Always maintain the correct tire pressure.

Check tires for low pressure, cuts, bubbles,

damaged rims or missing studs and nuts.

Do not attempt to mount a tire without the

Welding a rim can structurally weaken or

deform the wheel. The heat can cause

an increase in the air pressure resulting

proper equipment and experience to perform

Never weld or heat a wheel and tire assembly.

can cause serious injury or death.

recommended pressure.

the job.

DO NOT inflate the tire above the

- Extinguish all cigarettes, cigars, pipes, and other source of ignition.
- Use only an approved fuel container. Use only non-metal, portable fuel containers approved by the Underwriter's Laboratory (U.L) or the American Society for testing & Materials (ASTM). If using a funnel, make sure it is a plastic and has no screen or filter.
- Never remove the fuel cap or add fuel while the engine is running.
- Do not fuel machine in an enclosed room or near open flames. Assure adequate ventilation. Outdoor refueling is recommended.
- Never store the machine or fuel container where there is an open flame, spark, or pilot light such as on a water heater or on other appliances.
- Remove fuel- powered equipment from the truck or trailer and refuel it on the ground. If this is not possible, then refuel such equipment with a portable container, rather than from a gasoline dispenser nozzle.

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# Safe Handling of Gasoline (continued)

- Never fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground away from your vehicle before filling.
- If fuel is spilled on clothing, change clothing immediately.
- Never attempt to start a machine near spilled fuel. Move the machine away from the area of spillage. Avoid creating any source of ignition until fuel vapors have dissipated.
- Clean up spilled fuel immediately.
- Prevent fire and explosion caused by static electric discharge. Static electric discharge can ignite fuel vapors in a underground fuel container.
- Always keep the nozzle in contact with the rim of the fuel tank or container opening until fueling is complete. Do not use a nozzle lock open device.
- Never overfill fuel tank. Replace fuel cap and tighten securely.
- Read engine manual.

### **Prevent Fires**

- Remove debris from engine compartment and muffler area, before and after operating machine, especially after blowing in dry conditions.
- ALWAYS shut off fuel when transporting or storing machine, the machine has a fuel shut off.
- DO NOT store machine near an open flame or source of ignition, such as a water heater or furnace.
- Check fuel lines, tank, cap and fittings frequently for cracks or leaks. Replace if necessary.

## **General Service**

- Never operate machine indoors or a closed area. Exhaust contains carbon monoxide, an odorless deadly poison gas that can kill you.
- California Proposition 65 Warning. The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.
- Keep all nuts and bolts tight to be sure the equipment is in safe working condition.
- Never tamper with safety devices. Check their proper operation regularly.

- Keep machine free of grass, leaves, or other debris build up. Clean up oil or fuel spillage and remove any fuel-soaked debris. Allow machine to cool before storing.
- If you strike a foreign object, stop, and inspect the machine. Repair, if necessary, before starting.
- Never make any adjustments or repairs with the engine running. Disconnect the spark-plug wires and ground against engine to prevent unintended starting.
- Do not change the engine governor setting or overspeed the engine.
- Maintain or replace safety and instruction labels as necessary.

# Safety and operational Decals



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### **Operations** Steps to check Engine oil Level

#### Always check oil level before starting Machine.

- 1. Move the machine to a level surface.
- 2. Remove the dipstick, wipe it clean, and fully insert the dipstick.
- 3. Remove the dipstick and read the oil level. If the oil level is below the full line, slowly pour oil into the oil fill tube until the oil level reaches the Full line on the dipstick.
- 4. Note: Do not overfill. (refer to engine manual)
- 5. Install the dipstick securely.

### Steps to check Gearbox Oil level

- Remove belt guard cover on engine side. 1.
- 2. Observe the sight glass on the gear box, oil level must be at midway mark.
- 3. To add oil, remove top vent cap and pour oil in hole with appropriate funnel.
- 4. Total gear box capacity is 200ml of 80-90w SAE gear oil.

#### Turn CCW to Lock Wheels

#### **Traction Control** Note: Under poor traction conditions use traction control

- To engage traction control, bring machine to a complete stop.
- Use left hand to twist grip counterclockwise and hold position.
- To disengage traction control, bring machine to a complete stop.
- Use left hand to release grip and twist clockwise.
- Note: When traction control is engaged the machine will drive straight and be difficult to steer.

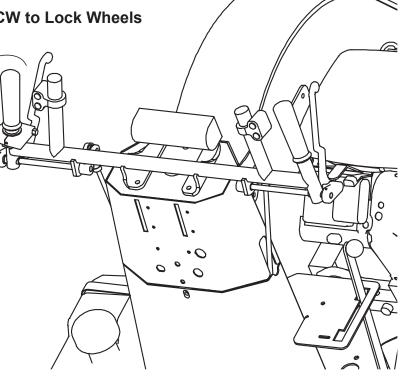




Figure 1

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Free Wheeling Lever

## Filling the Fuel tank

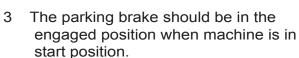
• <u>/!</u> Warning/ Danger: Gasoline is extremely flammable and explosive. A fire or explosion from gasoline can burn you and others.

- Shut Engine **OFF** before filling fuel tank.
- To prevent a static charge from igniting the gasoline, place the container and/ or machine directly on the ground before filling not in a vehicle or on an object.
- Fill the tank outdoor when the engine is cold.
- Wipe up spills immediately.
- Use an approved plastic funnel without screen or filter.
- Use a non-metallic funnel with a plastic mesh strainer when filling the fuel tank or container.
- Do not handle gasoline when smoking or around an open flame or sparks.
- Store gasoline in an approved fuel container, out of reach of children.
- For best results use clean, fresh, unleaded gasoline, refer to engine manual.

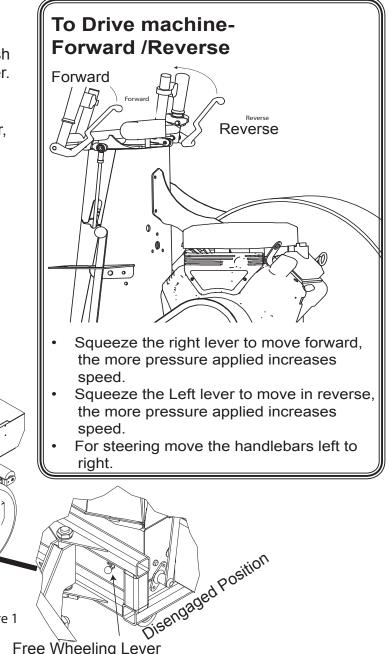
## Starting the machine

- 1. Become familiar with the controls on the dash before operation.
- 2. Make sure the freewheeling lever is in the disengaged position.

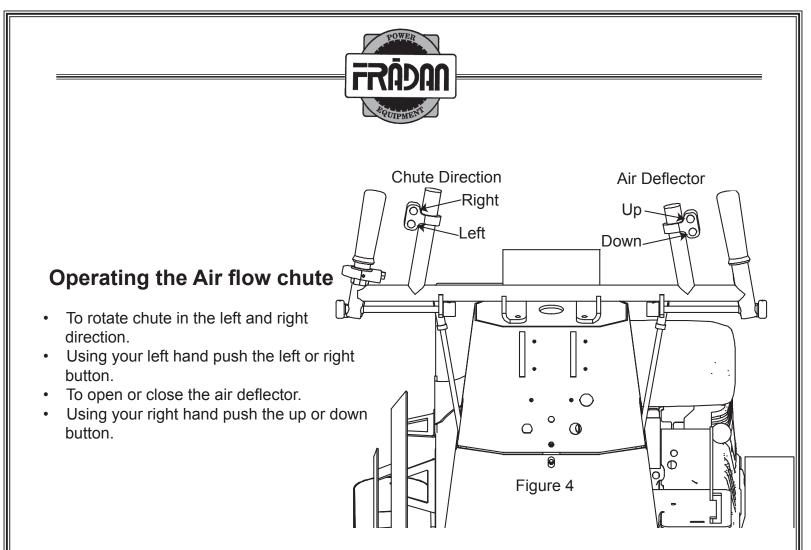




- 4. Turn gas valve to on position (CCW).
- In cold start, apply choke lever to choke 5. position.
- 6. Squeeze and release the right lever to place machine into neutral position.
- 7. Turn key to start engine.
- Once engine has started, open choke 8. lever.



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#### Maintenance

SERVICE ITEM	Break- In (After 1st 10 Hours)	Every 40 Hours	Every 100 Hours	Every 500 Hours	Annualy
Change engine oil and filter	$\checkmark$		$\checkmark$		$\checkmark$
Check hydraulic fluid level	$\checkmark$	$\checkmark$			
Check Parking brake	$\checkmark$	$\checkmark$			
Check Wheel lug nut torque	$\checkmark$	$\checkmark$			
Check air pressure in tires	$\checkmark$	$\checkmark$			
Check drive belts	$\checkmark$	$\checkmark$			
Check air cleaner elements		$\checkmark$			
Clean behind engine shrouds and expose fins		$\checkmark$			
Change hydraulic oil				$\checkmark$	
Change fuel filter					$\checkmark$
Replace spark plugs					$\checkmark$
Clean battery terminals					$\checkmark$



## Preparing for Maintenance

Never allow untrained personnel to service machine. Understand service procedure before doing work.

- A Warning NEVER operate machine in a closed area where dangerous carbon monoxide fumes can collect.
- Stop the engine and wait for all moving parts to stop.
- Disconnect the spark-plug wires from the spark plugs before performing any maintenance procedure.
- Allow the engine to cool down before preforming maintenance.
- Before servicing machine or attachments, carefully release pressure from any components or springs.
- Disconnect battery or remove spark plugs (for gas engines) before making any repairs. Disconnect the negative terminal first and then the positive last. Reconnect positive first then negative last.
- Shut off fuel while storing or transporting. Do not store fuel near flames or drain indoors.
- Prior to performing maintenance, park machine on level ground.
- Keep hands, feet, clothing, jewelry, and long hair away from moving parts.
- Charge battery in an open well-ventilated area, away from spark and flames.
  Unplug charger before connecting or disconnecting from battery. Wear protective clothing and use insulated tools.
- Make sure all nuts, bolts and hardware are securely tightened and all parts are in safe working condition.
- Allow the engine to run until it stops. When you can no longer start the engine, it is sufficiently dry.
- Replace all worn or damaged decals.
- Clean all debris from machine, drives, mufflers, and engine to help prevent fires. Clean up oil or fuel spillage.
- Check brake operation frequently

#### Storage

#### Preparing the machine for storage

A Warning: Gasoline vapors can explode

- Do not store gasoline more than 30 days.
- Do not store the machine in an enclosure near an open flame.
- Allow the engine to cool before storing it.
- On the last refueling of the year, add fuel stabilizer to the fuel as directed by the engine manufacturer.
- Run the machine until the engine stops from running out of fuel.
- Disconnect the wire from the spark plug.
- Tighten all nuts, bolts, and screws.

# Handling Waste Product and Chemicals

- Waste products, such as, used oil, fuel. Coolant, brake fluid, and batteries, can harm the environment and people.
- DO NOT use beverage containers for waste fluid. Someone might drink from them.
- Contact your local Recycling Center or authorized dealer to learn how to recycle or get rid of waste products.



# Warranty Statement

#### FRADAN MANUFACTURING PRODUCTS WARRANTY POLICY LIMITED WARRANTY

*Fradan* Manufacturing warrants that, during the warranty period specified below, it will repair or replace, free of charge, any part that is defective in material or workmanship or both. Transportation charges on product submitted for repair or replacement under this warranty must be borne by purchaser. This warranty is effective for and is subject to the time periods and conditions stated below. For warranty service, find the nearest Authorized Service Dealer in our dealer locator map at www.fradanpower.com/dealer-locator The purchaser must contact the Authorized Service Dealer, and then make the product available to the Authorized Service Dealer for inspection and testing.

There is no other express warranty. Implied warranties, including those of merchantability and fitness for a particular purpose, are limited to the warranty period listed below, or to the extent permitted by law. Liability for incidental or consequential damages are excluded to the extent exclusion is permitted by law. Some states or countries do not allow limitations on how long an implied warranty lasts, and some states or countries do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation and exclusion may not apply to you. This warranty gives you specific legal rights and you may also have, other rights which vary from state to state or country to country.

#### WARRANTY PERIOD

Covered Parts	Standard Warranty Period	Rental Warranty Period
Ride on Leaf Blower	1 Year	90 Days
Belts, Tires, Hoses, Battery, Switches, Bearings, Electrical Components	90 Days	90 Days
Engine	See Engine Operators Manual	See Engine Operators Manual

The warranty period begins on the date of purchase by the first retail or commercial customer.

To ensure prompt and complete warranty coverage, register your product at the website shown above or at www.fradanpower.com/ fradan-warranty, or mail the completed registration card (if provided).

Save your proof of purchase receipt. If you do not provide proof of the initial purchase date at the time warranty service is requested, the manufacturing date of the product will be used to determine the warranty period. Product registration is not required to obtain warranty service on Briggs & Stratton products.

#### ABOUT YOUR WARRANTY

Warranty service is available only through *Fradan* Authorized Service Dealers. This warranty covers only defects in materials or workmanship. It does not cover damage caused by improper use or abuse, improper maintenance or repair, normal wear and tear, or stale or unapproved fuel.

**Improper Use and Abuse -** The proper, intended use of this product is described in the Operator's Manual. Using the product in a way not described in the Operator's Manual or using the product after it has been damaged will not be covered under this warranty. Warranty coverage will also not be provided if the serial number on the product has been removed or the product has been altered or modified in any way, or if the product has evidence of abuse such as impact damage or water/chemical corrosion damage.

**Improper Maintenance or Repair -** This product must be maintained according to the procedures and schedules provided in the Operator's Manual, and serviced or repaired using genuine *Fradan* parts or equivalent. Damage caused by lack of maintenance or use of non-original or non-equivalent parts is not covered by warranty.

**Normal Wear and Tear -** Like most mechanical devices, the unit is subject to wear even when properly maintained. This warranty does not cover replacement or repairs when normal use has exhausted the life of a part or the equipment. Except as noted in the warranty period, maintenance and wear items such as filters, belts, cutting blades, and brake pads are not covered by warranty due to wear characteristics alone, unless the cause is due to defects in material or workmanship.

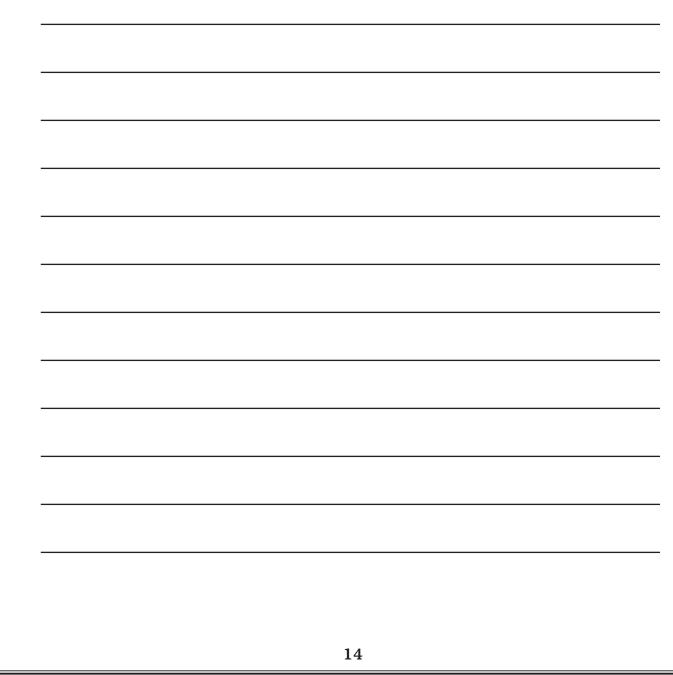
Stale or Unapproved Fuel - In order to function correctly, this product requires fresh fuel that conforms to the criteria specified in the Operator's Manual. Engine or equipment damage caused by stale fuel or the use of unapproved fuels (such as E15 or E85 ethanol blends) is not covered by warranty.

**Other Exclusions -** This warranty excludes damage due to accident, abuse, modifications, alterations, improper servicing, freezing or chemical deterioration. Attachments or accessories that were not originally packaged with the product are also excluded. This warranty does not include used, reconditioned, second-hand, or demonstration equipment or engines. This warranty also excludes failures due to acts of God and other force majeure events beyond the manufacturer's control.



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# NOTES





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