Cub Cadet® COMMERCIAL

OPERATOR'S MANUAL

80 lb. Stainless Steel Rotary Spreader

⚠ WARNING

READ AND FOLLOW ALL SAFETY RULES AND INSTRUCTIONS IN THIS MANUAL BEFORE ATTEMPTING TO OPERATE THIS MACHINE.
FAILURE TO COMPLY WITH THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY.

CUB CADET LLC, P.O. BOX 361131 CLEVELAND, OHIO 44136-0019

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To The Owner

1

Thank You

Thank you for purchasing a Cub Cadet Commercial Rotary Spreader It was carefully engineered to provide excellent performance when properly operated and maintained.

Please read this entire manual prior to operating the equipment. It instructs you how to safely and easily set up, operate and maintain your machine. Please be sure that you, and any other persons who will operate the machine, carefully follow the recommended safety practices at all times. Failure to do so could result in personal injury or property damage.

All information in this manual is relative to the most recent product information available at the time of printing. Review this manual frequently to familiarize yourself with the machine, its features and operation. Please be aware that this Operator's Manual may cover a range of product specifications for various models. Characteristics and features discussed and/or illustrated in this manual may not be applicable to all models. We reserve the right to change product specifications, designs and equipment without notice and without incurring obligation.

If you have any problems or questions concerning the machine, phone your local Cub Cadet dealer or contact us directly. Cub Cadet's Customer Support telephone numbers, web site address and mailing address can be found on this page. We want to ensure your complete satisfaction at all times.

Throughout this manual, all references to *right* and *left* side of the machine are observed from the operating position.

Table of Contents

Record Product Information

Before setting up and operating your new equipment, please locate the model plate on the equipment and record the information in the provided area to the right. You can locate the model plate by standing at the operator's position and looking at the back of the hopper. This information will be necessary, should you seek technical support via our web site or with your local Cub Cadet dealer.

MODEL NUMBER

SERIAL NUMBER

Customer Support

If you have difficulty assembling this product or have any questions regarding the controls, operation, or maintenance of this machine, you can seek help from the experts. Choose from the options below:

◊ Visit us on the web at www.cubcadet.com

◊ Locate your nearest Cub Cadet Dealer at (877) 282-8684

◊ Write us at Cub Cadet LLC • P.O. Box 361131 • Cleveland, OH • 44136-0019

Important Safe Operation Practices

2

WARNING: This symbol points out important safety instructions which, if not followed, could endanger the personal safety and/or property of yourself and others. Read and follow all instructions in this manual before attempting to operate this machine. Failure to comply with these instructions may result in personal injury.
When you see this symbol. **HEED ITS WARNING!**

CALIFORNIA PROPOSITION 65

WARNING: Engine Exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to State of California to cause cancer and birth defects or other reproductive harm.

WARNING: Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. *Wash hands after handling.*

DANGER: This machine was built to be operated according to the safe operation practices in this manual. As with any type of power equipment, carelessness or error on the part of the operator can result in serious injury. This machine is capable of amputating fingers, hands, toes and feet and throwing objects. Failure to observe the following safety instructions could result in serious injury or death.

WARNING - FOR THE STATE OF CALIFORNIA: A person shall not sell, offer for sale, lease, or rent to a person any equipment that is powered by an internal combustion engine subject to Section 4442 or 4443, and not subject to Section 13005 of Health and Safety Code, unless that equipment has a permanent writing label attached that is in plain view to the operator that states, 'WARNING-Operation of This Equipment May Create Sparks That Can Start Fires Around Dry Vegetation. A Spark Arrestor May be Required. The Operator Should Contact Local Fire Agencies For Laws or Regulations Relating to Fire Prevention Requirements.'

General Operation

1. Read this Operator's Manual completely before starting the machine. Study the controls and learn the proper sequence of operation. Retain Operator's Manual in a safe place for future reference.
2. Do not allow anyone to operate or maintain this machine who has not read the manual. Never permit children under the age of 16 to operate this machine.
3. Always have your feet and hands clear of the controls when starting the engine.
4. Do not remove any shields, guards, decals or safety devices. If a shield, guard, decal or safety device is damaged or does not function, repair or replace it before operating the machine.
5. Always wear safety glasses, long pants and safety shoes when operating or maintaining this unit. Do not wear loose-fitting clothing.
6. Never run the engine indoors without adequate ventilation. Exhaust fumes are deadly.
7. To avoid serious burns, do not touch the engine or muffler while the engine is running or until it has cooled for at least 30 minutes after it has been shut off.
8. Keep adults, children and pets away from the area to be spread/sprayed.
9. Spread/spray only in daylight.
10. Always check the area to be spread/sprayed and remove debris and other objects prior to spreading/spraying.
11. Watch for holes, sprinkler heads and other hidden hazards.
12. Reduce speed when making sharp turns.

13. Always have proper footing on slopes and hill sides and never operate when conditions are slippery. Be very careful on wet grass.
14. Always keep both hands on the handles.
15. Be careful when crossing gravel paths or road- ways.
16. Never leave the machine unattended without placing the ground speed control levers in neutral, engaging the park brake, shutting off the engine and closing the fuel shutoff valve.
17. Always park the unit and start the engine on a level surface with the ground speed control levers in neutral, and the park brake engaged.
18. If you hit a solid object while spreading/spraying, place the ground speed control levers in neutral, engage the park brake and stop the engine. Disconnect the spark plug wire and inspect for damage. Repair any damage.
19. Do not operate machine on excessively steep (more than 15 degrees) slopes. Go laterally or diagonally across the slope, not up and down the slope.
20. Always disconnect the spark plug wire to prevent the engine from accidentally starting before performing any maintenance on this machine.
21. Keep the machine and especially the engine/pump area clean and free of grease, grass and leaves to reduce the potential for over heating and fire.
22. The speed and direction control levers located on the handle are designed for your safety. Do not modify them or operate the machine if they are damaged.

General Requirements

Personal Protective Equipment (PPE):

OSHA Standard 1910.132 through 1910.139

23. OSHA standard 1910.132 states in relevant part:
    a. Protective equipment, including personal protective equipment or PPE, for eyes, face, head, and extremities, protective clothing, respiratory devices, and protective shields and barriers, shall be provided, used, and maintained in a sanitary and reliable condition where ever it is necessary by reason of hazards of processes or environment, chemical hazards, radiological hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical contact.

This standard is subject to change. Please check www.osha.gov for the latest regulatory updates

General

Sometimes, it is not possible to reduce a hazard by eliminating it, substituting a less hazardous process or product, making changes to equipment, or even by changing how you do the job. That is when you need personal protection.

PPE includes items like gloves, goggles, boots, hearing protection and respirators. Respirators filter out particles or block gases and vapors that can harm the respiratory system. With a surface area well supplied with blood vessels and equal in size to a tennis court, the lungs are the quickest and most direct route for absorbing harmful substance into your body.

NOTE: PPE does not prevent accidents, but it does prevent or reduce injury and even fatalities when used properly.

Equipment (PPE)

Protective equipment must be selected carefully. Always test fit the protective equipment to be sure it fits properly and comfortably. If it is not comfortable — it will not be worn; if it is not worn — it will not protect. PPE includes:

- Respirators
- Chemical-resistant clothing
- Hearing protectors
- Gloves
- Safety goggles and glasses
- Hard hats
- Sensors to detect hazardous substance
- Communication devices used for safe deployment of workers

Inhaling pesticide fumes and mists is a very common entry route of pesticides into the body. Absorption through the lungs is great and the sensitivity is high.

The National Institute for Occupational Safety and Health (NIOSH), under authority of the Federal Mine Safety and Health Act of 1977 and the Occupational Safety and Health Act of 1970, tests, approves, and certifies respiratory equipment as being safe for its intended purpose.

NOTE: Always be certain that the NIOSH compliance number is on the product before purchasing respiratory equipment.

Two systems of respiratory protection are available, depending on the type of respiratory risk involved: air-purification (filtering) and air-supplying. For most pesticide work, the air-purifying equipment is adequate and safe.

Protective equipment is usually required by the pesticide label in one form or another and is integral to safe pesticide application. Chemical-protective clothing consists of multi-layered garments made out of various materials that protect against a variety of hazards. Because no single material can protect against all chemicals, multiple layers of various materials usually are used to increase the degree of protection. Protection is maximized by total encapsulation (completely covering the wearer). An assortment of types of chemical-protective hats, hoods, gloves, and boot covers are used with the garments.

There are many brands and models of protective equipment available for use in pesticide application. Price is not always an indicator of quality, so shop carefully.

NOTE: Select equipment that is NIOSH tested and approved.

Protective equipment, appropriate for the task and hazards that an employee could be potentially exposed to, shall be provided by the employer. Since comfort and proper fit must be considered, the person who is going to use it must select the proper size to ensure correct fit and function. Unused protective equipment does not help anyone.

NOTE: Many supply centers, hardware stores, chemical retailers, and equipment/machinery dealers keep protective equipment in stock.

Training

Written procedures shall be developed for PPE use. These procedures shall include all information and guidance necessary for their proper selection, use and care. The employer shall provide fitting instructions including demonstrations and practice in how the PPE should be worn, It is essential that both supervisors and workers be properly instructed in PPE selection, use, and maintenance. Training shall provide the workers an opportunity to handle PPE, and have it fitted properly.

When to replace PPE

All PPE shall be inspected routinely before and after each use. A program for maintenance and care of PPE shall be initiated and be adjusted to the type of work place, working conditions, and hazards. It shall include the following:

- Inspection for defects and damage
- Cleaning and disinfecting
- Repair
- Storage

Many factors influence how long PPE (especially respirators) remains effective. As well as hours of use, an air-purifying respirator's service life is affected by the concentration of dust and other contaminants in the environment; the user's body size; how strenuously the user works while the respirator is worn; and how the respirator is stored.

NOTE: As a result, it's not possible to specify a length of time after which a respirator should be replaced.

In general, replace a mask or filter when it is visibly dirty or damaged, or when you experience difficulty breathing through it. Replace respirator cartridges when you can smell or taste chemical while or after using the respirator, or according to the manufacturer's recommendations. Replacement or repairs shall be done only by experienced person with parts designed for the PPE. No attempts shall be made to replace components or to make adjustments or repairs beyond the manufacturer's recommendations.

Slope Operation

Slopes are a major factor related to loss of control and tip-over accidents, which can result in severe injury or death.

CAUTION: All slopes require extra caution. If you cannot back up the slope or if you feel uneasy on it, do not make any turns on it.

For your safety, use the slope gauge included in this section to measure slopes before operating this unit on a sloped or hilly area. If the slope is greater than 15 degrees as shown on the slope gauge, do not operate this unit on that area or serious injury could result.

DO:

- Go across slopes, not up and down.
- Remove obstacles such as rocks, limbs, etc.
- Watch for holes, ruts or bumps. Uneven terrain could overturn the machine. Tall grass can hide obstacles.
- Use slow speed. Choose a low enough speed so that you will not have to stop while on the slope.
- Follow the manufacture's recommendations for counterweights with attachments to improve stability.
- Keep all movement on the slopes slow and gradual. Do not make sudden changes in speed or direction. Rapid acceleration or deceleration could cause the front of the machine to lift and rapidly flip over backwards, which could cause serious injury.
- Avoid starting or stopping on a slope. If the tires lose traction, disengage the blades and proceed slowly straight down the slope.

DO NOT:

- Do not turn on slopes unless necessary; then, turn slowly and use extra care.
- Do not operate near drop-offs, ditches or embankments. The unit could suddenly turn over if a wheel is over the edge of a cliff or ditch, or if an edge caves in.
- Do not operate on wet grass. Reduced traction could cause sliding.
- Do not try to stabilize the machine by putting your foot on the ground.

Transporting Machines

- Machines operated on public roads must comply with state & local ordinances, SAE J137, and ANSI/ASABE S279.
- Use care when loading or unloading machines onto trailers and trucks.
- If ramps are used, they must be full width, and secured to the trailer or truck.
- Machines must be secured onto trailers and trucks with straps, chains, cables, ropes, or other means deemed adequate for that purpose. The front and rear of the machines must be secured to the trailer or truck in both the lateral and vertical directions.

Service

Safe Handling of Gasoline:

1. To avoid personal injury or property damage use extreme care in handling gasoline. **Gasoline is extremely flammable and the vapors are explosive.** Serious personal injury can occur when gasoline is spilled on yourself or your clothes which can ignite. Wash your skin and change clothes immediately.

a. Use only an approved gasoline container.

b. 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.

c. When practical, remove gas-powered equipment from the truck or trailer and refuel it on the ground. If this is not possible, then refuel such equipment on a trailer with a portable container, rather than from a gasoline dispenser nozzle.

d. Keep the nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete. Do not use a nozzle lock-open device.

e. Extinguish all cigarettes, cigars, pipes and other sources of ignition.

f. Never fuel machine indoors.

g. Never remove gas cap or add fuel while the engine is hot or running. Allow engine to cool at least two minutes before refueling.

h. Never over fill fuel tank. Fill tank to no more than 1 inch below bottom of filler neck to allow space for fuel expansion.

i. Replace gasoline cap and tighten securely.

j. If gasoline is spilled, wipe it off the engine and equipment. Move machine to another area. Wait 5 minutes before starting the engine.

k. To reduce fire hazards, keep machine free of grass, leaves, or other debris build-up. Clean up oil or fuel spillage and remove any fuel soaked debris.

l. Never store the machine or fuel container inside where there is an open flame, spark or pilot light as on a water heater, space heater, furnace, clothes dryer or other gas appliances.

m. Allow a machine to cool at least five minutes before storing.

General Service

1. Never run an engine indoors or in a poorly ventilated area. Engine exhaust contains carbon monoxide, an odorless, and deadly gas.
2. Before cleaning, repairing, or inspecting, make certain all moving parts have stopped. Disconnect the spark plug wire and ground against the engine to prevent unintended starting.
3. Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.
4. After striking a foreign object, stop the engine, disconnect the spark plug wire(s) and ground against the engine. Thoroughly inspect the machine for any damage. Repair the damage before starting and operating.
5. Never attempt to make adjustments or repairs to the machine while the engine is running.
6. For safety protection, frequently check components and replace immediately with original equipment manufacturer's (O.E.M.) parts only, listed in the parts manual. "Use of parts which do not meet the original equipment specifications may lead to improper performance and compromise safety!"
7. Do not change the engine governor settings or over-speed the engine. The governor controls the maximum safe operating speed of the engine.
8. Maintain or replace safety and instruction labels, as necessary.
9. Observe proper disposal laws and regulations for gas, oil, etc. to protect the environment.

Do not modify engine

To avoid serious injury or death, do not modify engine in any way. Tampering with the governor setting can lead to a runaway engine and cause it to operate at unsafe speeds. Never tamper with factory setting of engine governor.

Notice Regarding Emissions

Engines which are certified to comply with California and federal EPA emission regulations for SORE (Small Off Road Equipment) are certified to operate on regular unleaded gasoline, and may include the following emission control systems: Engine Modification (EM), Oxidizing Catalyst (OC), Secondary Air Injection (SAI) and Three Way Catalyst (TWC) if so equipped.

Spark Arrestor

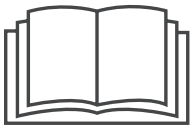
WARNING! This machine is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrestor meeting applicable local or state laws (if any).

If a spark arrestor is used, it should be maintained in effective working order by the operator. In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands.

A spark arrestor for the muffler is available through your nearest engine authorized service dealer or contact the service department, P.O. Box 361131 Cleveland, Ohio 44136-0019.

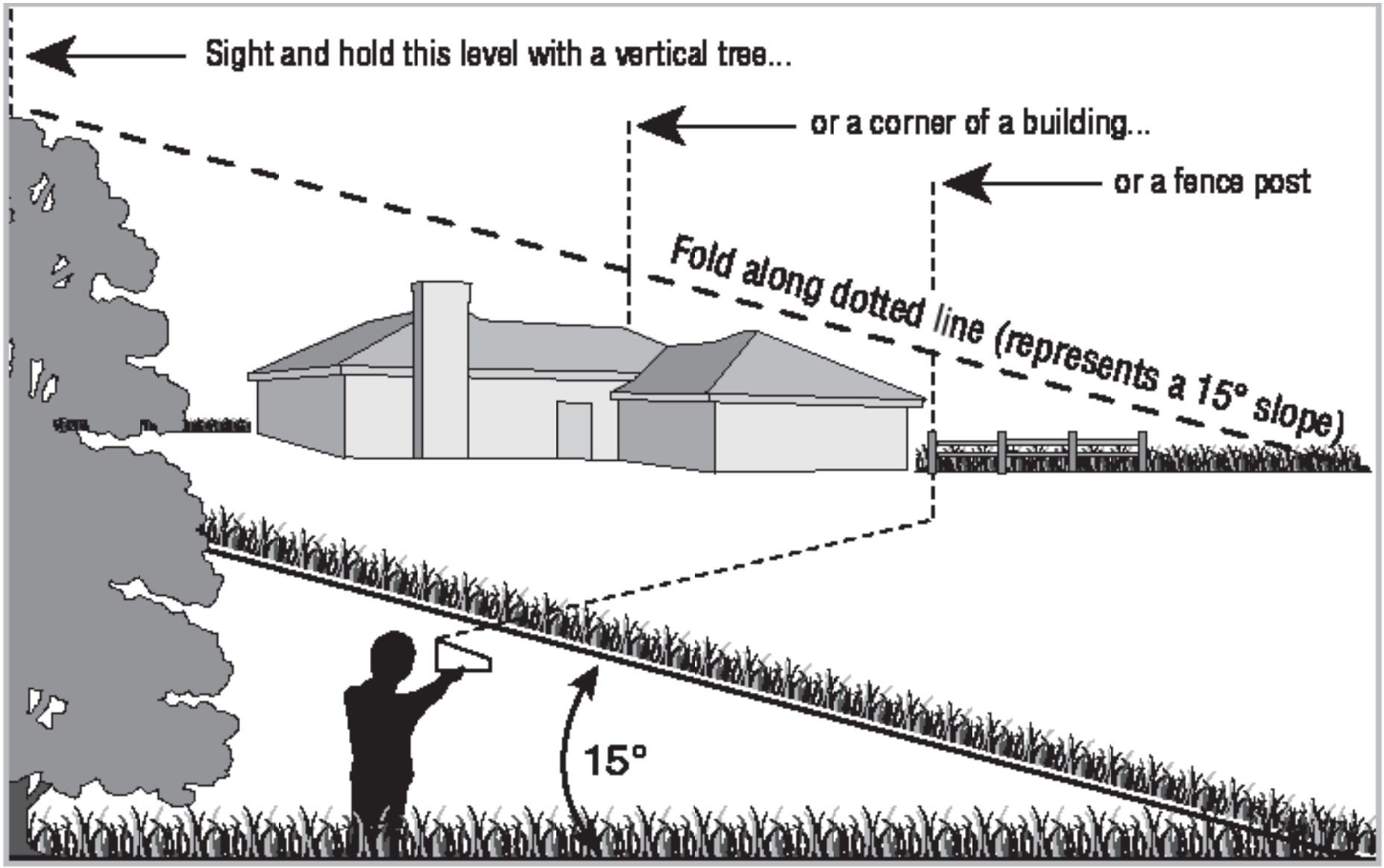
Safety Symbols

This page depicts and describes safety symbols that may appear on this product. Read, understand, and follow all instructions on the machine before attempting to assemble and operate.

Symbol	Description
	READ THE OPERATOR'S MANUAL(S) Read, understand, and follow all instructions in the manual(s) before attempting to assemble and operate
	DANGER — ROTATING BLADES To reduce the risk of injury, keep hands and feet away. Do not operate unless discharge cover or grass catcher is in its proper place. If damaged, replace immediately.
	DANGER — BYSTANDERS Do not mow when children or others are around.
	DANGER — HAND/ FOOT CUT Keep hands and feet away from rotating parts.
	DANGER — THROWN DEBRIS Remove objects that can be thrown by the blade in any direction. Wear safety glasses.
	DANGER — SLOPES Use extra caution on slopes. Do not mow slopes greater than 15°.
	WARNING—GASOLINE IS FLAMMABLE Allow the engine to cool at least two minutes before refueling.
	WARNING— CARBON MONOXIDE Never run an engine indoors or in a poorly ventilated area. Engine exhaust contains carbon monoxide, an odorless and deadly gas.
	WARNING— HOT SURFACE Engine parts, especially the muffler, become extremely hot during operation. Allow engine and muffler to cool before touching.

WARNING: Your Responsibility—Restrict the use of this power machine to persons who read, understand and follow the warnings and instructions in this manual and on the machine.

SAVE THESE INSTRUCTIONS!



Use this page as a guide to determine slopes where you may not operate safely.

WARNING: Do not operate your machine on such slopes. Do not operate on inclines with a slope in excess of 15 degrees (a rise of approximately 2-1/2 feet every 10 feet). A riding machine could overturn and cause serious injury. Operate across the face of slopes, never up and down slopes.

Assembly & Set-Up

3

Contents of Carton

- One Rotary Spreader Operator's Manual
- One Hopper & Frame
- One Leg
- One Lower Handle
- Two Handle Grips
- One Handle Assembly
- One On/Off Lever
- One Operating Lever Rod
- One Hardware Pack

Before beginning installation, remove all parts from the carton to make sure everything is present. Carton contents are listed above and shown in Fig. 3-1. A hardware pack is included in this kit and is detailed in Fig. 3-2.

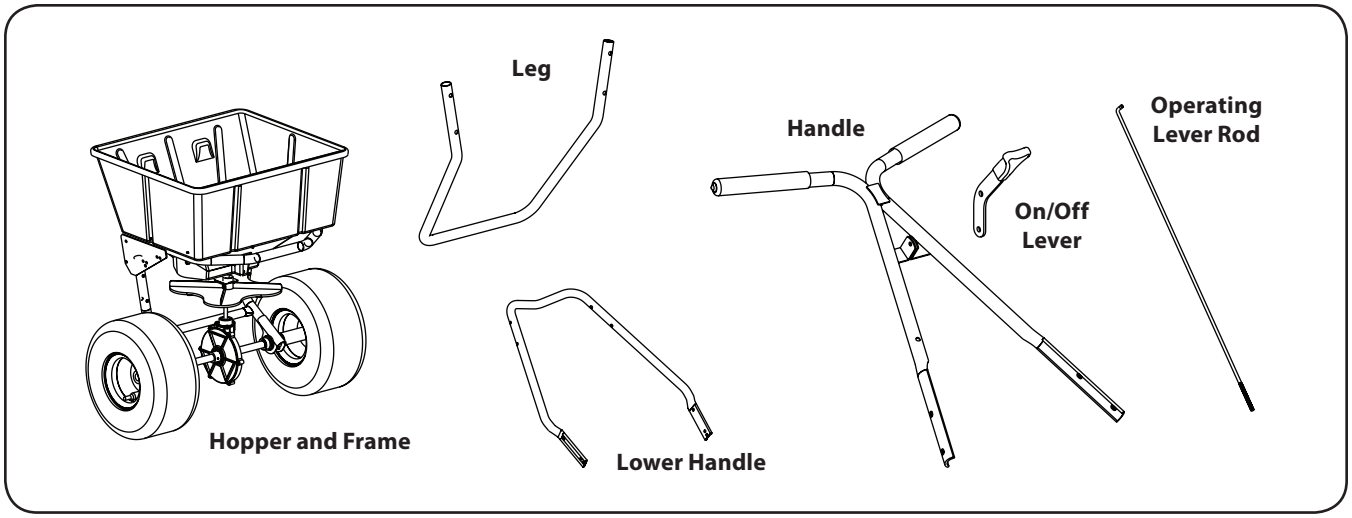


Figure 3-1

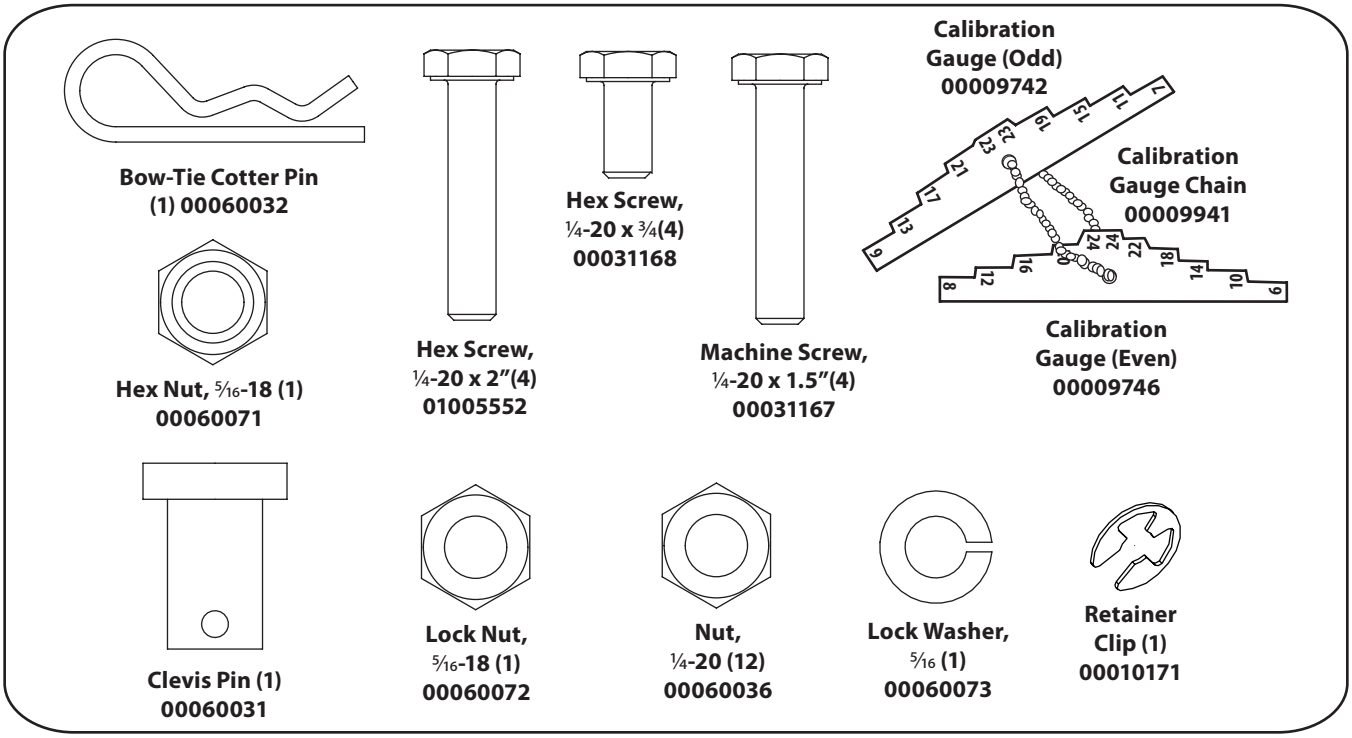


Figure 3-2

To assemble and set-up your new spreader, follow the instructions below:

NOTE: References to left and right are from the operator's position, unless otherwise stated.

1. Install the leg to the hopper and frame assembly by fastening with four hex screws (¼-20 x 2) and four nuts (¼-20). See Fig. 3-3.

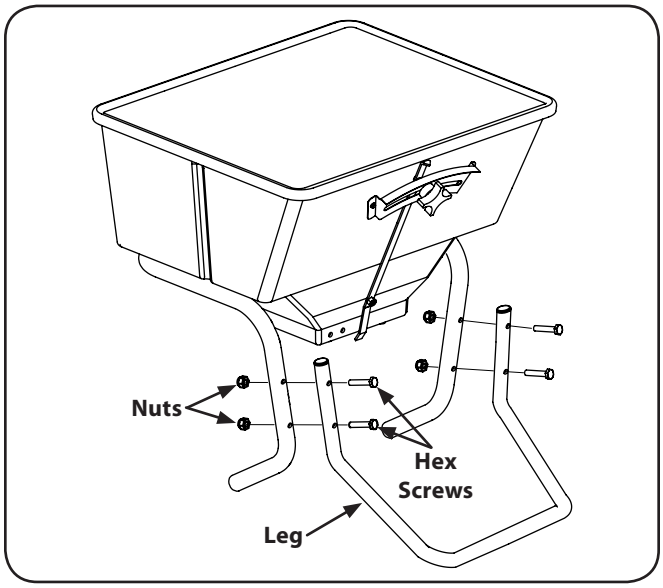


Figure 3-3

2. Attach the lower handle to the frame (with the "V" section of the closed section of the handle facing down) using four hex screws (¼-20 x ¾) and four nuts (¼-20). See Fig. 3-4.

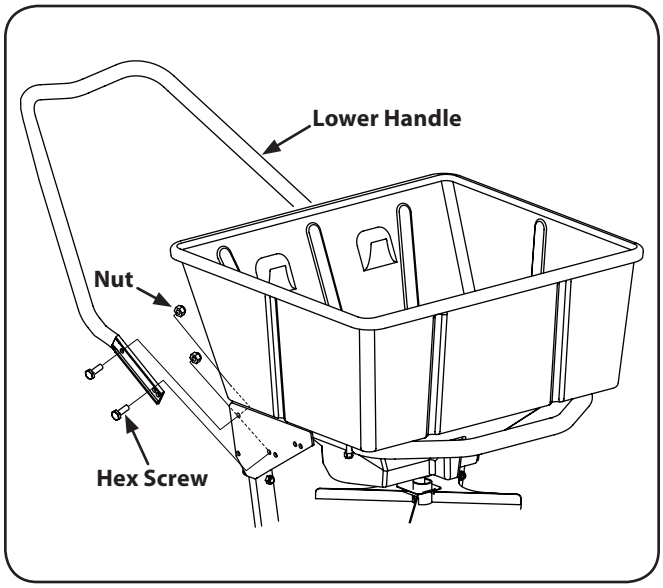


Figure 3-4

3. Attach the upper handle to the lower handle (with the On/Off bracket lugs facing up) using four hex screws (¼-20 x 1-½) and four nuts (¼-20). See Fig. 3-5.

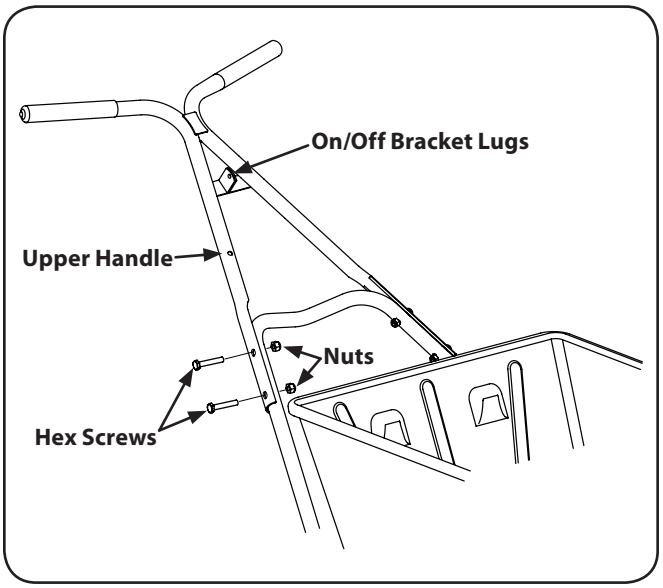


Figure 3-5

4. Fasten the On/Off lever to the handles bracket lugs using the clevis pin in the bottom hole of the lever. Insert the clevis pin from left to right, facing the rear of the hopper. Lock with the bow-tie cotter pin (3⁄32 x ½). See Fig. 3-6.

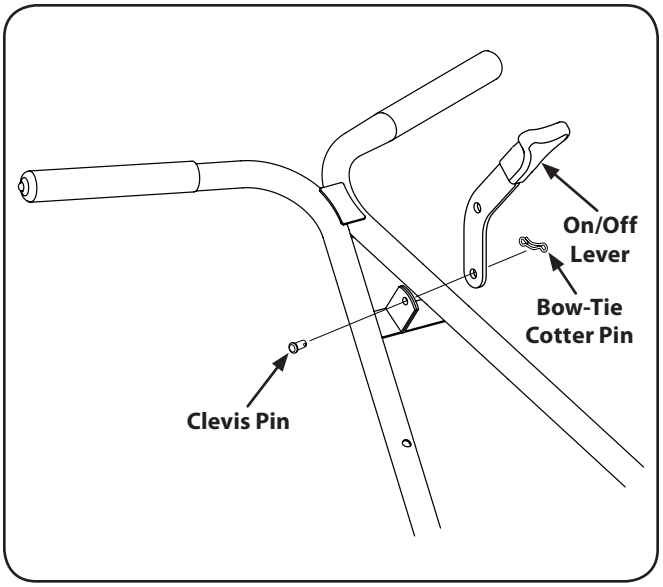


Figure 3-6

5. Attach the operating lever rod to the pivot lever assembly at the bottom-rear of the hopper and the On/Off lever

    a. First screw the 5⁄16 hex nut on the threaded end of the operating lever rod, add the 5⁄16 lock washer, then insert the rod through the hole in the pivot lever assembly and install the 5⁄16 lock nut. See Fig. 3-7.

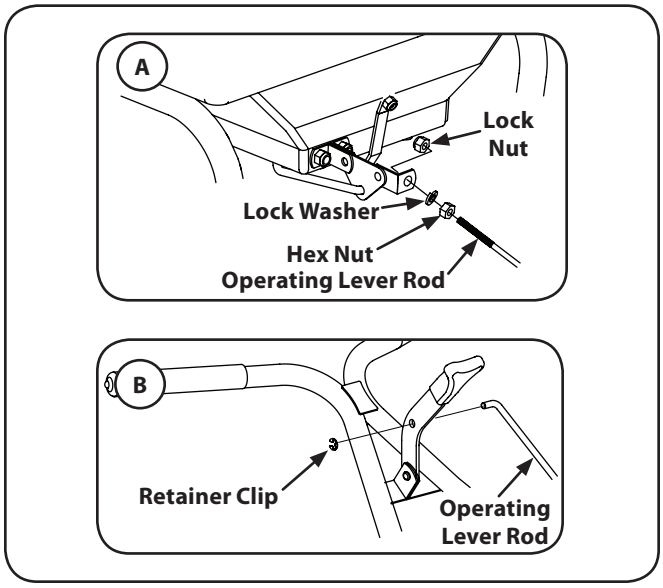


Figure 3-7

    b. Attach the operating lever rod to the On/Off lever by inserting the bent end of the rod into the top hole of the lever from left to right and install the retainer clip. See Fig. 3-7.

6. Pull the On/Off lever to the "OFF" position and move the shutoff plate assembly to the fully closed position by adjusting the 5⁄16 hex nuts on the bottom of the operating lever rod up or down. Refer to Fig. 3-7.
7. Grease the axle bearings and the gear support.
8. Read the spreader calibration instructions in the Maintenance & Adjustments section and calibrate following the instructions.

Controls & Features

4

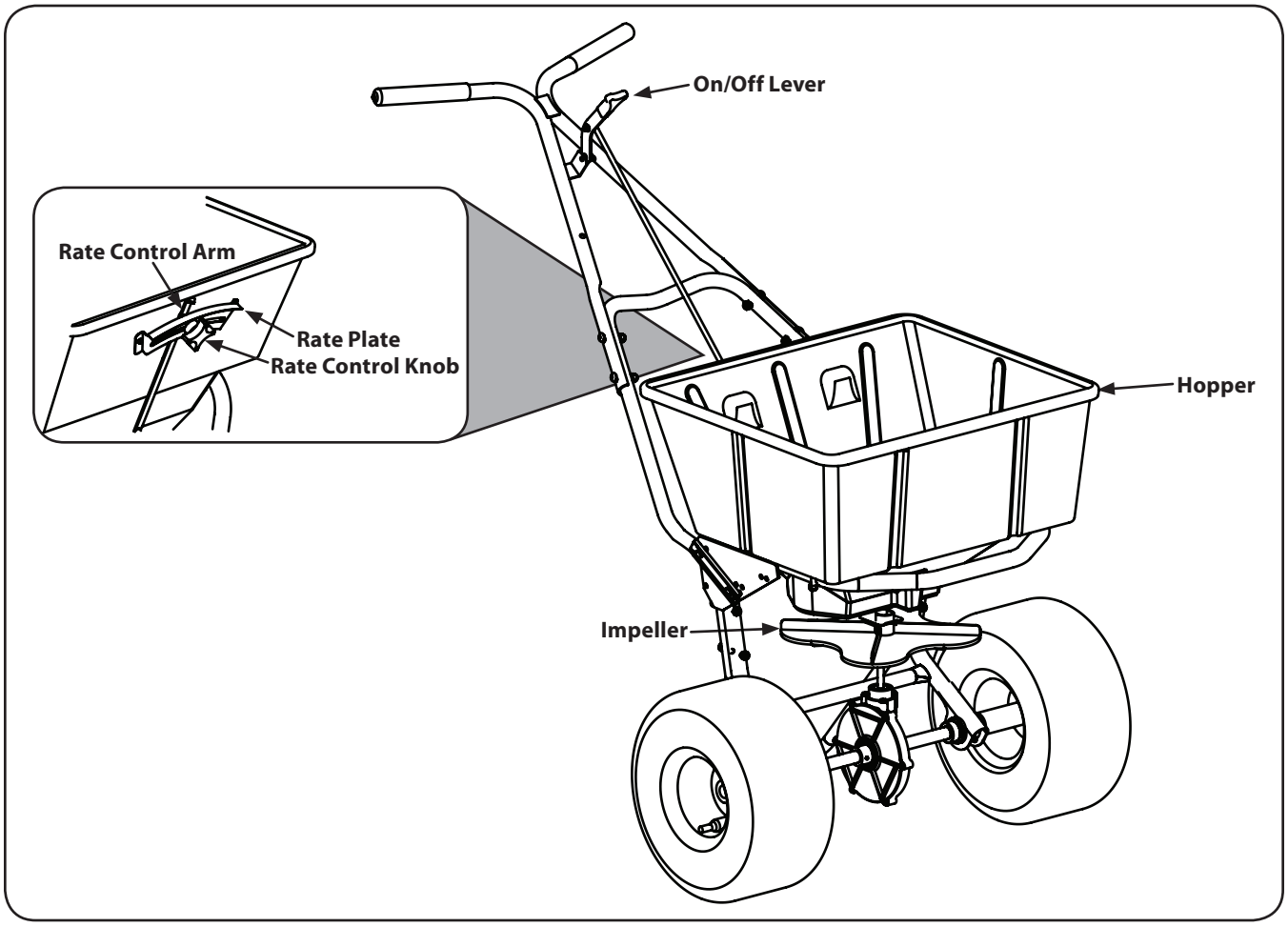


Figure 4-1

The Controls & Features of the 80# Rotary Spreader are discussed below and illustrated in Fig. 4-1.

On/Off Lever

The On/Off Lever is located on the upper handle and controls the shutoff plate on the bottom of the Hopper and the discharge of the product.

Rate Control Arm

The Rate Control Arm is located on the back of the Hopper and indicates on the Rate Plate the current discharge setting of the discharge holes.

Rate Control Knob

The Rate Control Knob is located on the back of the Hopper and is used to secure the Rate Control Arm in the proper discharge rate. The knob — when loosened — can be used to move the Rate Control Arm to the desired discharge rate.

Rate Plate

The Rate Plate is located on the back of the Hopper and indicates the different discharge settings of the spreader.

Impeller

The Impeller is located below the Hopper and distributes the product as it passes through the discharge holes.

Hopper

Application product is placed in the Hopper to be distributed by the spreader.

Mesh Screen (Not Shown)

The Mesh Screen is inside the Hopper and helps filter out larger materials to avoid clogging or damaging the spreader.

Using the Rotary Spreader

1. Check the rate setting on the product package.
2. Adjust the rate setting using the rate plate on the back of the hopper.

   NOTE: The rate settings on the product packaging is a recommended starting point. Always check the rate in a small area before treating a large area. See the Maintenance & Adjustments section for information on calibrating the spreader.
3. Make sure the On/Off Lever is in the "OFF" position and the mesh screen is in place. Then fill the hopper with the desired amount of application product.

   NOTE: Always fill the spreader on the driveway or sidewalk, not on the lawn.
4. Start walking with the spreader and move the On/Off Lever into the "ON" position to begin spreading product.

   NOTE: Always push the spreader, never pull.

   NOTE: Keep the handles of the spreader level while spreading. Tipping the spreader to far to one side or the other can cause uneven product distribution.
5. See Fig. 5-1 for a recommended pattern to follow when using the spreader.

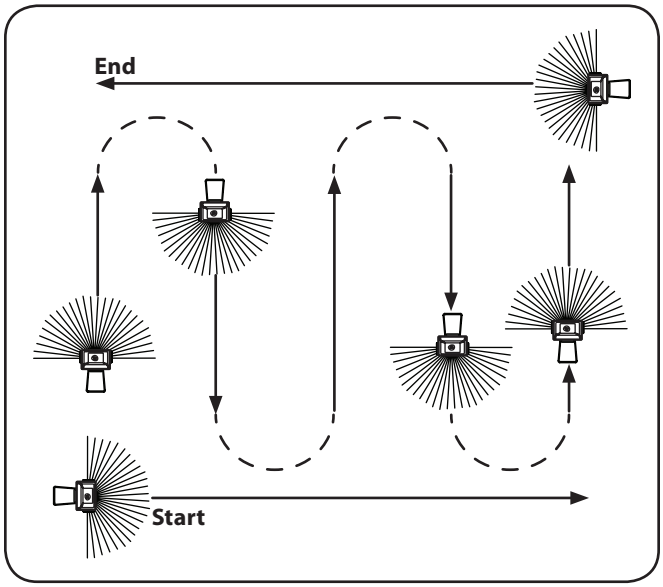


Figure 5-1

6. Push the spreader at a consistent speed (approximately 3 m.p.h. is recommended).
7. Empty the spreader after each use. Wash the spreader thoroughly and allow it to dry. Keep the impeller clean.
8. Lubricate all moving parts. Apply grease to the five grease fittings; two in the axle supports, two in the gear support and one in the idler wheel (if the idler wheel has a steel hub).

Spreader Calibration

Two items must be considered when calibrating a spreader. The first is the distribution pattern of the spreader. That is, the pattern the product makes as it strikes the ground after being thrown out by the spreader's impeller. There are many factors which affect the distribution pattern of a rotary spreader and some of them relate directly to the product. For this reason, we recommend that the spreader be calibrated separately for every product to be applied. Spreader calibration should be checked at least once a month, or more often when the spreader is used frequently.

The second item is the product application rate, that is the amount of product applied per thousand square feet. This is important because over-application can be costly and may cause plant injury, while under-application will reduce the effectiveness of the product.

To Calibrate a Spreader, Follow These Steps:

1. Check the spreader discharge holes with the operating lever in the closed position.
2. If the discharge holes are not fully closed, thread the upper jam nut on the operating lever rod further up the rod.
3. Tighten the lower locknut and recheck. Repeat this procedure until the holes are fully closed.

To Achieve a Uniform Distribution Pattern:

The accurate method for checking pattern uniformity is to lay out shallow boxes or pans in a row on a line perpendicular to the direction of spreader travel. Eleven boxes or pans, two inches high placed on one-foot centers will provide accurate calibration.

To conduct the test:

1. Begin with the pattern slide completely open and set the rate control arm at the suggested approximate setting.
2. Make three passes over the boxes, pushing the spreader in the same direction each time. The product caught in each box is then evaluated to determine the distribution pattern.
3. Weighing the product in each box is the most accurate, but a simpler method is to pour the contents of each box into a separate small vial or bottle.
4. Set the eleven vials or bottles side-by-side in order. This makes the pattern variation quite visible.
5. To reduce the amount of discharge to the right side (operator's right) the pattern slide should be partially closed and the test repeated until the distribution pattern is uniform.

To Achieve the Correct Product Application Rate:

1. The approximate spreader settings printed on any product label should only be used as the initial setting for calibration. Set the rate control arm at this approximate setting. See Fig. 6-1.

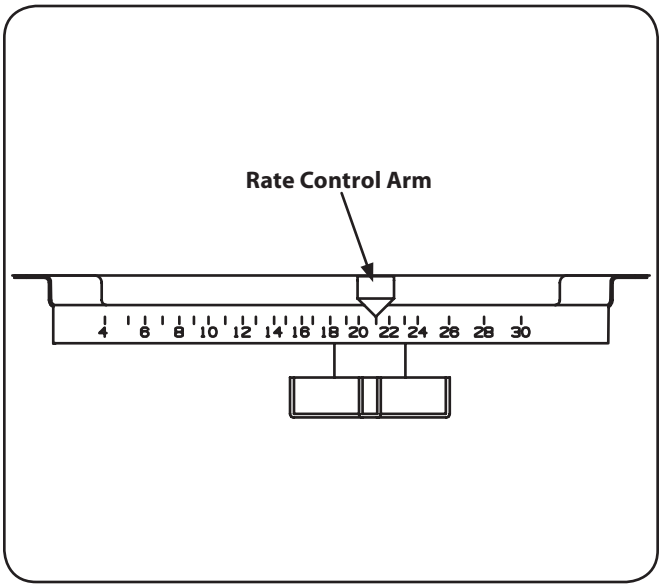


Figure 6-1

2. Using the collection boxes or pans, make a single pass over them to determine the effective pattern width. The effective pattern width is twice (2x) the distance to the point where the rate drops to one-half the average rate at the center.

   NOTE: If the product in the vials from the center boxes averages two inches in depth, count out to the vial which has one inch of product. If this is the fifth vial from the center and the boxes were on one-foot centers, the effective pattern width is ten feet (2 x 5 ft.).
3. Knowing the effective pattern width (ten feet), measure out a lineal distance to equal 1,000 sq. ft. (10 ft. x 100 ft. = 1,000 sq. ft.).
4. Weigh 20 lbs. of product and place it in the spreader hopper.
5. Spread it over the distance necessary to equal 1,000 sq. ft. (100 ft.).
6. Weigh the product left in the hopper and subtract this amount from the amount with which you started. The result is the application rate for this product in pounds per 1,000 sq. ft. that your spreader is currently adjusted to disperse.
7. Adjust the rate control arm up or down as needed and repeat this procedure until the correct application rate is achieved.

To Use the Calibration Gauges:

The Calibration Gauges provide a series of "steps", numbered in 1/32" increments, that will allow you to "fine-tune" the spreader. Refer to Fig. 6-2.

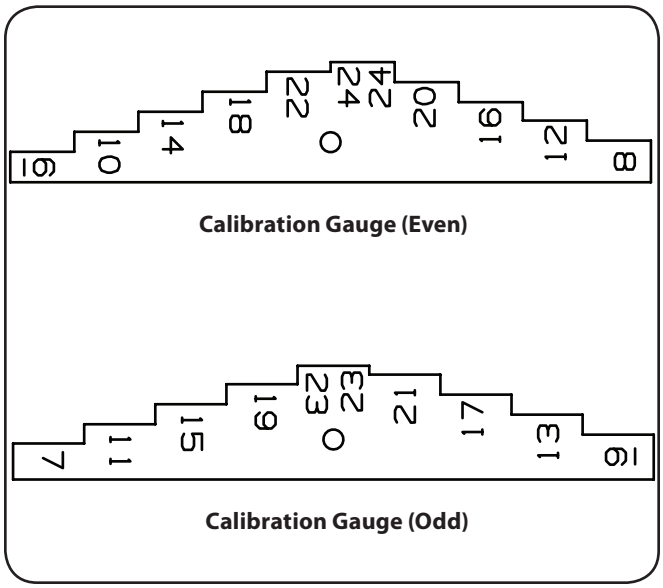


Figure 6-2

1. Once you have calibrated your rotary spreader for the product chosen, open the operating lever and insert the calibration gauges until you determine which step fits tightly into one of the open holes in the hopper bottom.
2. Record that step number for future reference when using that product. You may choose to set other rotary spreaders for application of the same product by adjusting the shut off plate to that calibration gauge step. This will provide consistent settings for all of your spreaders.
3. To re-calibrate your rotary spreader after a period of use, adjust the rate control arm to the "24" position.
4. Open the operating lever and insert the even-numbered Calibration Gauge into one of the open holes in the hopper bottom.
5. Close the operating lever and let the shut off plate on the underside of the hopper make contact with the number 10 step on the Calibration Gauge.
6. Move the rate control arm back toward the "6" position until the bottom of the arm makes contact with the shut off plate. If your spreader is properly adjusted, the top of the rate control arm should be at setting "10".
7. To correct variances, remove the rate control arm, place the bottom of the arm (up to the bolt hole) in a vise, and bend either to the right or the left.

Maintenance

1. Empty the spreader after each use. Wash the spreader thoroughly and allow it to dry. Keep the impeller clean.
2. Lubricate all moving parts. Apply grease to the five grease fittings; two in the axle supports, two in the gear support and one in the idler wheel (if the idler wheel has a steel hub).

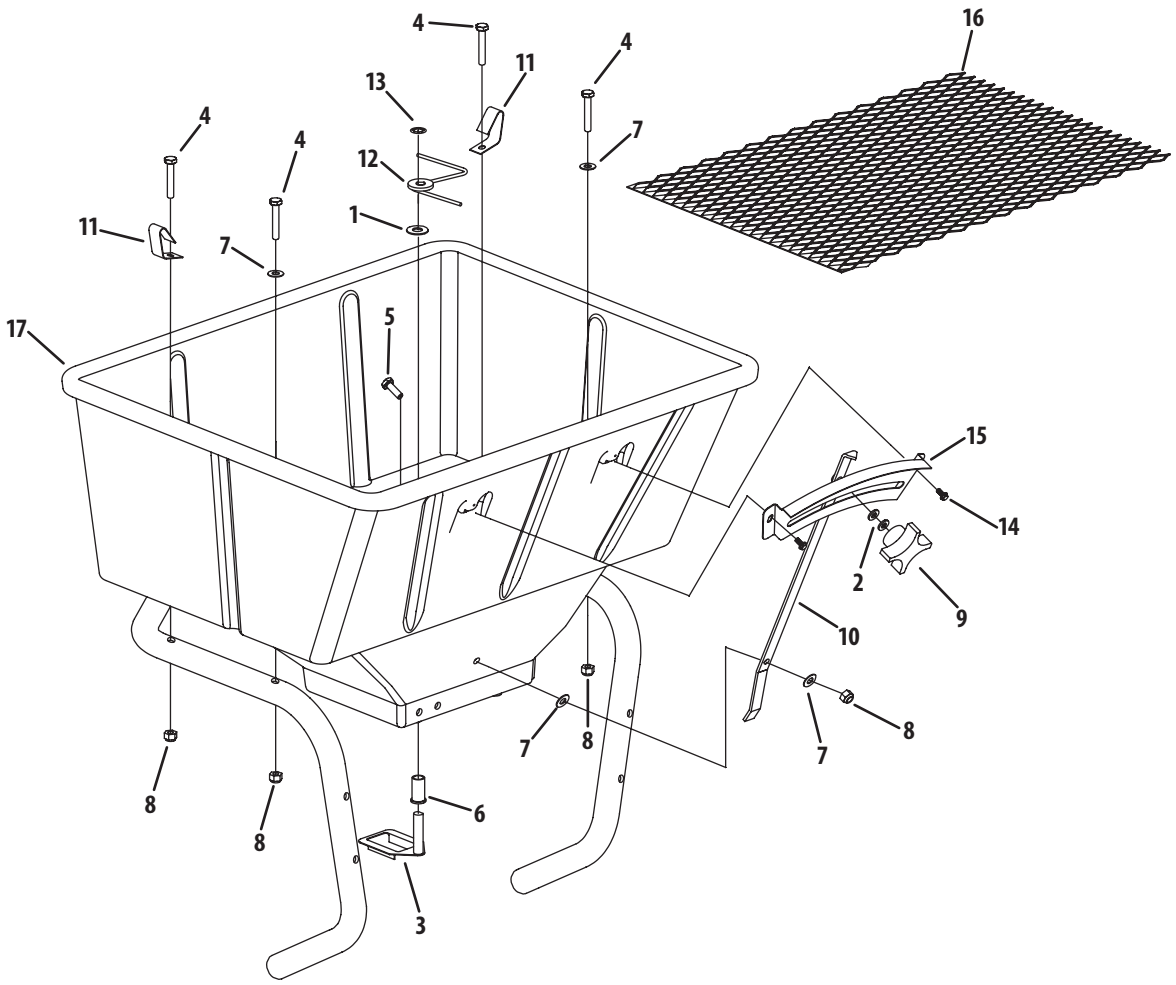
Troubleshooting

8

Problem	Cause	Remedy
Product not discharging	1. Discharge holes clogged 2. Product clumped together	1. Clear discharge holes 2. Break up clumps
Product discharging while On/Off Lever is in the "OFF" position.	1. On/Off Lever needs adjusted	1. Adjust lever, see Maintenance & Adjustments section

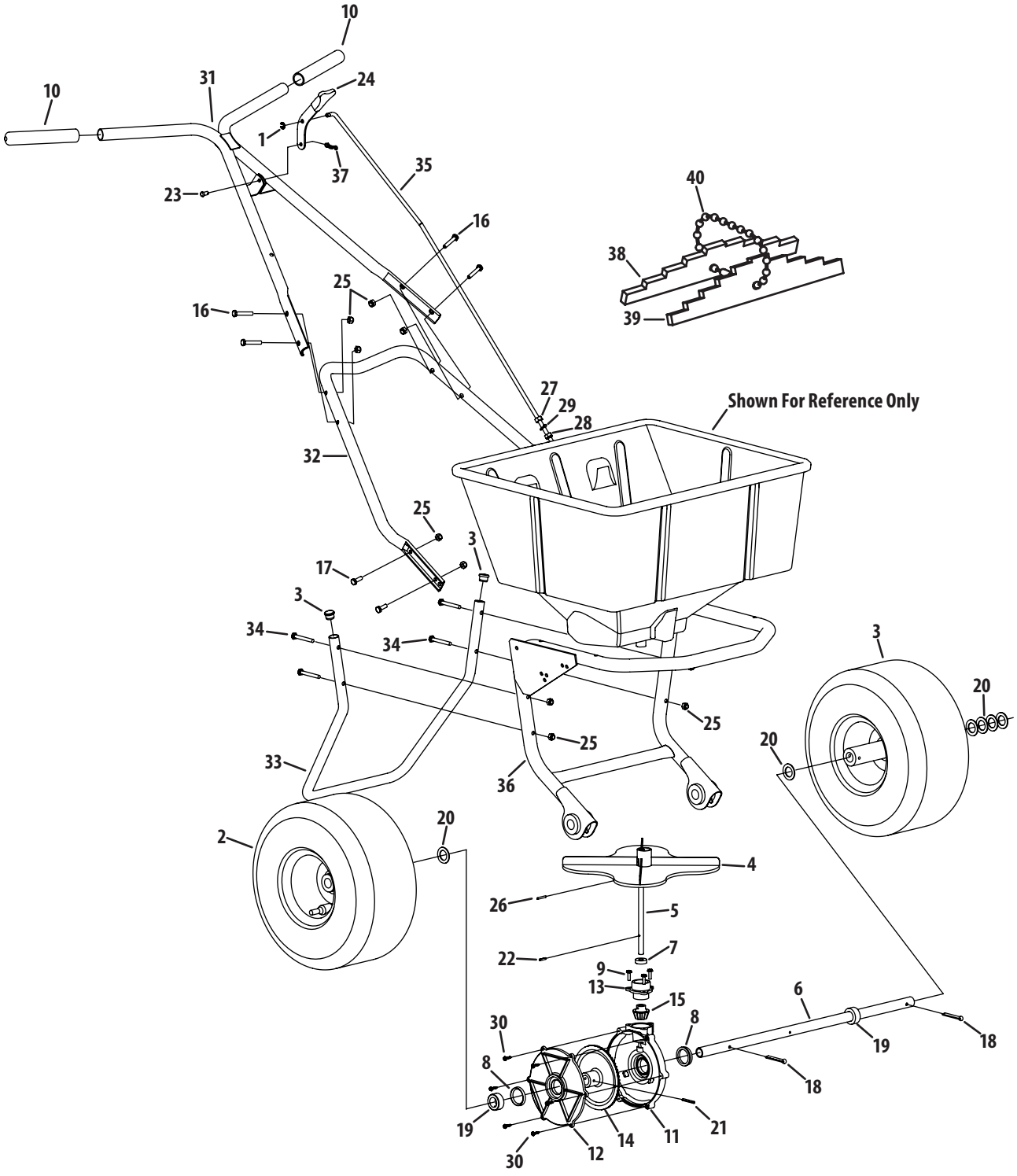
Illustrated Parts List

8



Ref.	Part Number	Description
1	00005530	Flat Washer, .406 x .812 x .062
2	00018628	Nylon Washer, ¼
3	00030322	Agitator Cam Assembly
4	00031167	Hex Screw, ¼-20 x 1.50
5	00031168	Hex Screw, ¼-20 x .75
6	00060027	Agitator Bearing Shaft
7	00060033	Flat Washer, ¼
8	00060036	Nut, ¼-20
9	00060043	Control Rate Knob

Ref.	Part Number	Description
10	00060044	Rate Control Arm
11	00060046	Screen Clip
12	00060049	Agitator Arm Assembly
13	00060050	Retainer Spring Clip, ⅜
14	01005631	Hex Washer Screw, #8 x ⅜
15	01006772	Numeric Rate Plate
16	01010116	Screen, 80-pound
17	02004176	80-pound Hopper Assembly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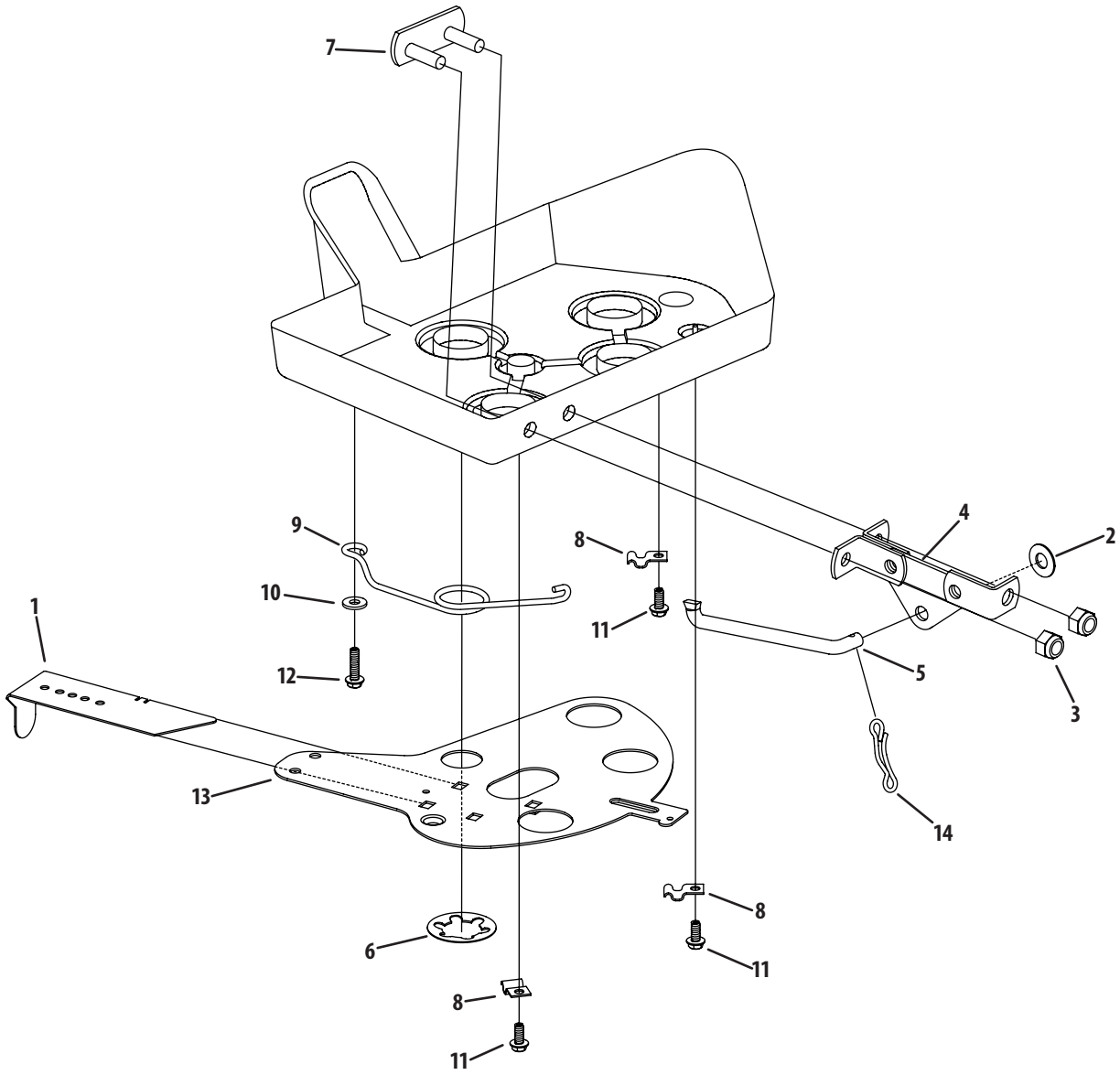
Ref.	Part Number	Description
1	00010171	Retainer Clip
2	00018901	Wheel Drive Assembly, 13 x 5.00 x 6
3	00020913	Plastic Plug
4	00030317	Impeller
5	00030382	Impeller Shaft
6	00030383	Axle
7	00030384	Oil Seal
8	00030385	Gearset Seal
9	00030415	Tap Screw, #10
10	00030446	Handle Grip
11	00030591	Gearset Housing
12	00030592	Gearset Cover
13	00030593	Gearset Cap
14	00030594	Bevel Gear
15	00030595	Pinion Gear
16	00031167	Hex Screw, ¼-20 x 1.50
17	00031168	Hex Screw, ¼-20 x .75
18	00060012	Cotter Pin, 3⁄16 x 1-¾
19	00060014	Axle Collar
20	00060017	Flat Washer, .06 x .776 x 1.25
21	00060019	Roller Pin, 5⁄32 x 1-1
22	00060022	Roller Pin, ⅛ x ⅝
23	00060031	Clevis Pin, ¼ x ½
24	00060034	Dual Remote Lever
25	00060036	Nut, ¼-20
26	00060069	Roller Pin, ⅛ x ⅞
27	00060071	Hex Nut, 5⁄16-18
28	00060072	Nut, 5⁄16-18
29	00060073	Lock Washer, 5⁄16
30	01000129	Hex Washer Screw, 8-18 x 6 x ⅝
31	01004875	Handle Assembly
32	01004876	Lower Handle
33	01004878	Support Leg
34	01005552	Hex Screw, ¼-20 x 2.00
35	01006035	Operating Lever Rod
36	01006129	Frame/Bearing Assembly
37	02004552	Bow-Tie Cotter Pin
38	00009742	Calibration Gauge (Odd)
39	00009746	Calibration Gauge (Even)
40	00009941	Gauge Chain



Ref.	Part Number	Description
1	00020492	Slide Lever
2	00060033	Flat Washer, ¼
3	00060036	Nylon Nut, ¼-20
4	00060060	Pivot Lever Assembly
5	00060061	Pivot Lever Rod
6	01004186	Clip Service Spring
7	01004539	Two Hole Plate Weldment
8	01004955	Shut-Off Plate Clip
9	01004956	Shut-Off Plate Spring
10	01005630	Flat Washer, #8
11	01005631	Hex Washer Screw, #8 x ⅜
12	01005632	Hex Washer Screw, #8 x ⅝
13	01006825	Shut-Off Plate, 80-pound
14	02004552	Bow-Tie Cotter Pin, 72

Attachments & Accessories

9

Part	Part No.
80-pound Hopper Cover	01001251
Remote Deflector	02004519
Remote 3rd Hole	02004521
Standard Deflector	02004523

Notes

CUB CADET LLC
MANUFACTURER'S LIMITED WARRANTY
FOR COMMERCIAL LAWN APPLICATION EQUIPMENT

IMPORTANT: To obtain warranty coverage owner must present an original proof of purchase and applicable maintenance records to the servicing dealer. Please see the operator's manual for information on required maintenance and service intervals.

The limited warranty set forth below is given by Cub Cadet LLC with respect to new merchandise purchased or leased and used in the

United States and/or its territories and possessions, and by MTD Products Limited with respect to new merchandise purchased or leased and used in Canada and/or its territories and possessions (either entity respectively, "Cub Cadet").

Cub Cadet warrants this product (excluding its *Normal Wear Parts, Batteries and Attachments* as described below) against defects in material and workmanship for a period of one (1) year commencing on the date of original retail purchase or lease and will, at its option, repair or replace, free of charge, any part found to be defective in materials or workmanship.

Normal Wear Parts are warranted to be free from defects in material and workmanship for a period of thirty (30) days or one hundred (100) operation hours, whichever comes first, commencing on the date of original retail purchase or lease. Normal wear parts include, but are not limited to items such as: belts, blades, blade adapters, grass bags, rider deck wheels, seats, and tires.

Batteries have a one-year prorated limited warranty against defects in material and workmanship, with 100% replacement during the first three months. After three months, the battery replacement credit is based on the months remaining in the twelve (12) month period dating back to the original date of original sale or lease. Any replacement battery will be warranted only for the remainder of the original warranty period.

Attachments — Cub Cadet warrants attachments for this product against defects in material and workmanship for a period of one (1) year, commencing on the date of the attachment's original purchase or lease. Attachments include, but are not limited to items such as: grass collectors and mulch kits.

This limited warranty shall only apply if this product has been operated and maintained in accordance with the Operator's Manual furnished with the product, and has not been subject to misuse, abuse, neglect, accident, improper maintenance, alteration, vandalism, theft, fire, water, or damage because of other peril or natural disaster. Damage resulting from the installation or use of any part, accessory or attachment not approved by Cub Cadet for use with the product(s) covered by this manual will void your warranty as to any resulting damage. In addition, Cub Cadet may deny warranty coverage if the hour meter, or any part thereof, is altered, modified, disconnected or otherwise tampered with.

HOW TO OBTAIN SERVICE: Warranty service is available, WITH PROOF OF PURCHASE AND APPLICABLE MAINTENANCE RECORDS, through your local authorized service dealer. To locate the dealer in your area:

In the U.S.A.:
Check your Yellow Pages, or contact Cub Cadet LLC at P.O. Box 361131, Cleveland, Ohio 44136-0019, call 1-877-282- 8684 or log on to our website at www.cubcadet.com.

In Canada:
Contact MTD Products Limited, Kitchener, ON N2G 4J1, call 1-800-668-1238 or log on to our website at www.mtdcanada.com.

Without limiting the foregoing, this limited warranty does not provide coverage in the following cases:

a. Routine maintenance items such as lubricants, filters, blade sharpening, tune-ups, brake adjustments, clutch adjustments, deck adjustments, and normal deterioration of the exterior finish due to use or exposure.

b. Service completed by someone other than an authorized service dealer.

c. Cub Cadet does not extend any warranty for products sold or exported outside of the United States and/or Canada, and their respective possessions and territories, except those sold through Cub Cadet's authorized channels of export distribution.

d. Replacement parts and\or accessories that are not genuine Cub Cadet parts.

e. Transportation charges and service calls.

There are no implied warranties, including without limitation any implied warranty of merchantability or fitness for a particular purpose. No warranties shall apply after the applicable period of express written warranty above. No other express warranties beyond those mentioned above, given by any person or entity, including a dealer or retailer, with respect to any product, shall bind Cub Cadet. The exclusive remedy is repair or replacement of the product as set forth above. The terms of this warranty provide the sole and exclusive remedy arising from the sale and/or lease of the products covered hereby. Cub Cadet shall not be liable for any incidental or consequential loss or damage including, without limitation, expenses incurred for substitute or replacement lawn care services or for rental expenses to temporarily replace a warranted product.

Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusions or limitations may not apply to you.

In no event shall recovery of any kind be greater than the amount of the purchase price of the product sold. **Alteration of safety features of the product shall void this warranty.** You assume the risk and liability for loss, damage, or injury to you and your property and/or to others and their property arising out of the misuse or inability to use the product.

This limited warranty shall not extend to anyone other than the original purchaser or to the person for whom it was purchased as a gift.

HOW LOCAL LAWS RELATE TO THIS WARRANTY: This limited warranty gives you specific legal rights, and you may also have other rights that vary in different jurisdictions.

Cub Cadet LLC, P.O. BOX 361131 CLEVELAND, OHIO 44136-0019, Phone: 1-877-282-8684
MTD Products Limited, Kitchener, ON N2G 4J1, Phone: 1-800-668-1238

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