

OPERATOR'S AND PARTS MANUAL

***47" (1.2 M) ROTARY BROOM
MODEL 6650-B***

6625 MALE TRACTOR HITCH

SERIAL NO. 2702988 AND UP



Foreword

Thank you...for purchasing a Walker rotary broom. Every effort has been made to provide you with the most reliable product on the market, and we are sure you will be among our many satisfied customers. If for any reason this product does not perform to your expectations, please contact us at (970) 221-5614. Every customer is important to us. Your satisfaction is our goal.

Please... read this manual thoroughly! This manual is to be used in conjunction with this mower owner's manual and the engine manufacturer's manual for the specific engine on the mower model you are using. Before you operate your new rotary broom, please read this entire manual.

Some of the information is crucial for proper operation and maintenance of this product – it will help protect your investment and ensure that the rotary broom performs to your satisfaction. Some of the information is important to your safety and must be read and understood to help prevent possible injury to your operator or others. If anything in this manual is confusing or hard to understand, please call your service department, at (970) 221-5614, for clarification before operating or servicing this product.

This manual covers the Model 6650-B Rotary broom

All shields and guards must be in place for the proper and safe operation of this rotary broom. Where they are shown removed in this manual, it is for illustration purposes only. **Do not operate this product unless all shields and guards are in place.**

Walker Mfg. Co. is continually striving to improve the design and performance of its products. We reserve the right to make changes in specifications and design without thereby incurring any obligation relative to previously manufactured products.

Sincerely
WALKER MANUFACTURING COMPANY

A handwritten signature in black ink that reads "Bob Walker". The signature is written in a cursive, slightly slanted style.

Bob Walker, President

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INTRODUCTION

TO THE PURCHASER

All products are designed to give safe, dependable service if they are operated and maintained according to instructions. **Read and understand this manual before operation.**

This manual has been prepared to assist the owner and operators in the safe operation and suitable maintenance of the rotary broom. The information is applicable to products at the time of manufacture and does not include modifications made afterwards.

Read and understand this operator's manual before attempting to put equipment into service. Familiarize yourself with the operating instructions and all the safety recommendations contained in this manual and those labeled on the equipment and on the tractor. Follow the safety recommendations and make sure that those with whom you work follow them.

Illustrations

The illustrations may not necessarily reproduce the full detail and the exact shape of the parts or depict the actual models, but are intended for reference only.

Direction Reference

All references to right and left, forward or rearward, are from the operator's seat, facing the steering wheel.

To assist your dealer in handling your needs, please record hereafter the model number and serial number of your rotary broom and tractor. It is also advisable to supply them to your insurance company. It will be helpful in the event that rotary broom or tractor is lost or stolen.

TRACTOR

ROTARY BROOM

MODEL: _____

SERIAL NUMBER: _____

DATE OF PURCHASE: _____

DEALER NAME: _____

SAFETY PRECAUTIONS



SAFETY FIRST

This symbol, the industry's "Safety Alert Symbol", is used throughout this manual and on labels on the machine itself to warn of the possibility of personal injury. Read these instructions carefully. It is essential that you read the instructions and safety regulations before you attempt to assemble or use this rotary broom.



DANGER : Indicates an immediate hazardous situation which, if not avoided, will result in death or serious injury.



WARNING : Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION : Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

IMPORTANT : Indicates that rotary broom or property damage could result if instructions are not followed.

NOTE : Gives helpful information.

All products are designed to give safe, dependable service if they are operated and maintained according to instructions. **Read and understand this manual before operation.** It is the owner's responsibility to be certain anyone operating this product reads this manual, and all other applicable manuals, to become familiar with this rotary broom and all safety precautions. Failure to do so could result in serious personal injury or rotary broom damage. If you have any questions, consult your dealer.

BEFORE OPERATION

Children

Tragic accidents can occur if the operator is not alert to the presence of children. Children are generally attracted to machines and the work being done. Never assume children will remain where you last saw them.

1. Keep children out of the operating area and under the watchful eye of another responsible adult.
2. Be alert and turn machine off if children enter the work area.
3. Before and when backing, look behind for small children.
4. Never carry children while operating the machine. They may fall off and be seriously injured or interfere with the safe operation of the machine.
5. Never allow children to play on the machine or rotary broom even when they are turned off.
6. Never allow children to operate the machine even under adult supervision.
7. Use extra care when approaching blind corners, shrubs, trees, or other obstructions that might hide children from sight.

SAFETY PRECAUTIONS - continued

NOTICE

A safe operator is the best assurance against accidents. All operators, no matter how experienced they may be, should read this operator's manual and all other related manuals before attempting to operate the rotary broom. Please read the following section and pay particular attention to all safety recommendations contained in this manual and those labeled on the rotary broom and on the tractor.

SUBFRAME & ROTARY BROOM

Before Operation

1. Read and understand both the tractor and the rotary broom operator's manual before using the rotary broom. Know how to operate all controls and how to stop the unit and disengage the controls quickly. Lack of knowledge can lead to accidents.
2. Never wear loose, torn, or bulky clothing around the tractor, the subframe and the rotary broom. It may catch on moving parts or controls, causing injury.
3. Before and during seasons, thoroughly inspect the area where the rotary broom is to be used and remove all objects that may be thrown or cause damage to the rotary broom.
4. Do not operate rotary broom in wintertime without wearing adequate winter garments. Always wear protective clothing.
5. Never attempt to make any adjustments while engine is running. Read this manual carefully to acquaint yourself with the rotary broom as well as the tractor operator's manual. Working with unfamiliar rotary broom can lead to accidents. Be thoroughly familiar with the controls and proper use of the rotary broom.
6. Keep all safety guards in place and verify hardware for proper tightening.
7. Check for moving parts excessive wear regularly. Replace worn parts with genuine parts.
8. Replace all missing, illegible, or damaged safety and warning decals. See list of decals in operator's manual.
9. Do not modify or alter this rotary broom or any of its components, or any rotary broom function without first consulting your dealer.
10. Keep safety decals clean of dirt and grime.
11. Make sure the tractor is counterweighted as recommended by your dealer. Weights provide the necessary balance to improve stability, traction and steering.

SAFETY PRECAUTIONS - continued

Rotary Broom & Subframe Operation

1. Before leaving the tractor unattended, take all possible precautions. Park the tractor/rotary broom on level ground, place the transmission in neutral, set the parking brake, disengage the PTO, lower the rotary broom to the ground, place all levers including auxiliary control levers in neutral, shut off the engine and remove the ignition key.
2. Before starting the tractor/ rotary broom, inspect and clean every rotating part.
3. Prior to operation, clear work area of all objects that can be picked up and thrown. Mark all curbs, pipes, etc. that cannot be moved.
4. Be sure the PTO switch/lever is in OFF position before starting engine.
5. Exercise extreme caution when operating on or crossing a gravel drive, walks, or roads. Stay alert for hidden hazards or traffic.
6. Do not carry passengers.
7. Keep clear of all rotating parts. Do not put hands or feet under, or into rotary broom and subframe with engine running. Be especially observant of the rotary broom areas of discharge, intake or all other mechanical motions.
8. Park the tractor/rotary broom on level ground, place the transmission in neutral, set the parking brake, disengage the PTO, lower the rotary broom to the ground, place all control levers in neutral, shut off the engine, remove the ignition key and allow the rotating parts to stop BEFORE making any repairs, adjustments or inspections.
9. If the rotary broom starts to vibrate abnormally, disengage the PTO, stop the engine immediately and check for cause. Excessive vibration is generally a sign of trouble.
10. Do not run the engine indoors except when starting engine and transporting attachment in or out of building. Carbon monoxide gas is colorless, odorless and deadly.
11. Never operate rotary broom without guards, and other safety protective devices in place. All tractor and rotary broom shields and covers must be correctly installed at all times. When necessary to remove these, they must be reinstalled immediately.
12. Never operate rotary broom near glass enclosures, automobiles, window wells, embankments, etc., without proper adjustment of snow discharge angle.
13. Never operate rotary broom at high transport speeds on a slippery surface.
14. Use extra caution when backing up.
15. Disengage power to rotary broom when transporting or when not in use.
16. Never operate the rotary broom without good visibility and lighting.
17. Prolonged exposure to loud noise can cause impairment or loss of hearing. Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable noises.
18. Never allow anyone near the work area.
19. Securely connect rotary broom drive shaft. Check that all tractor and rotary broom drivelines are in good working order. Rotary broom drive shaft coupler must securely lock to and be retained by annular groove on tractor drive shaft.

SAFETY PRECAUTIONS - continued

- 20.** Never allow anyone to operate the rotary broom until they have read the manual completely and are thoroughly familiar with basic tractor and rotary broom operation.
- 21.** Make sure the tractor is counterweighted as recommended by your dealer. Weights provide the necessary balance to improve stability, traction and steering.
- 22.** Always make sure all rotary broom components are properly installed and securely fastened BEFORE operation.
- 23.** Make sure nobody is in the working area of the rotary broom. The debris that can be thrown could cause serious personal injuries.
- 24.** Do not allow passengers on the tractor/rotary broom at any time. There is no safe place for passengers on this rotary broom. The operator MUST sit in the tractor seat.
- 25.** Eye and hearing protection is recommended when operating the rotary broom.
- 26.** Inspect the rotary broom after striking any foreign object to assure that all rotary broom parts are safe and secure and not damaged.
- 27.** Be especially observant of the operating area and terrain. Watch for holes, rocks, or other hidden hazards. ALWAYS inspect the area prior to operating rotary broom.
- 28.** DO NOT operate rotary broom near the edge of drop-offs or banks.
- 29.** DO NOT operate rotary broom on steep slopes as overturn may result.
- 30.** Operate up and down (not across) intermediate slopes. Avoid sudden starts and stops.
- 31.** Drive tractor backwards up steeper slopes with rotary broom off. Then operate as you travel down the slope.
- 32.** Slow down before you change directions on any slope.
- 33.** Make sure the tractor is counterweighted as recommended by your dealer. Weights provide the necessary balance to improve stability, traction and steering.
- 34.** Never stand alongside of the rotary broom while the engine is running.
- 35.** Always disengage rotary broom drive prior to transporting unit.

SAFETY PRECAUTIONS - continued

MAINTENANCE

ALWAYS USE GENUINE PARTS WHEN REPLACEMENT PARTS ARE REQUIRED

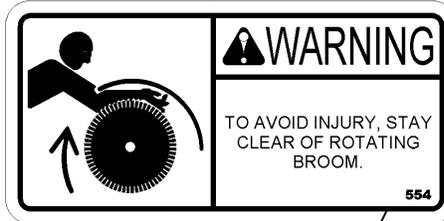
1. Keep the tractor and rotary broom properly maintained.
2. Park the tractor/rotary broom on level ground, place the transmission in neutral, set the parking brake, disengage the PTO, lower the rotary broom to the ground, place all control levers in neutral, shut off the engine and remove the ignition key and allow the rotating parts to stop BEFORE making any rotary broom adjustments.
3. To avoid injury, do not adjust, unblock the driving system, or service the rotary broom with the tractor engine running. Make sure rotating components have completely stopped before leaving the operator's seat.
4. Keep the tractor/rotary broom clean. Snow, dirt or ice build-up can lead to malfunction or personal injury from thawing and refreezing in garage.
5. Always wear eye protection when cleaning or servicing the rotary broom or subframe.
6. DO NOT service the tractor while the engine is running or hot, or if the unit is in motion. Always lower rotary broom to the ground. If necessary to service rotary broom in raised position, securely support with stands or suitable blocking before working underneath. Do not rely on hydraulically supported devices for your safety. They can settle suddenly, leak down, or be accidentally lowered.
7. Do not attempt to service machine, clear obstructions or unclog the rotary broom's driving system with the engine running. Always shut off engine and allow all motion to cease.
8. The manufacturer will not claim responsibility for fitment of unapproved parts and/or accessories and any damages as a result of their use.
9. Make sure all shields and guards are securely in place following all service, cleaning, or repair work.
10. Do not modify or alter this rotary broom or any of its components or operating functions. If you have questions concerning modifications, consult with your dealer.
11. Do not operate a rotary broom that is defective or has missing parts. Make sure that all recommended maintenance procedures are completed before operating the rotary broom.
12. Check all controls regularly and adjust where necessary. Make sure that the brakes are evenly adjusted.
13. Periodically check all nuts and bolts for tightness, especially wheel hub and rim nuts.
14. To avoid serious personal injury: Escaping hydraulic/diesel fluid under pressure can penetrate the skin causing serious injury. Do not use your hands to check for leaks. Use a piece of cardboard or paper to search for leaks.
15. Stop engine and relieve pressure before connecting or disconnecting hydraulic hoses. Tighten all connections before starting engine or pressurizing hoses.

DECALS

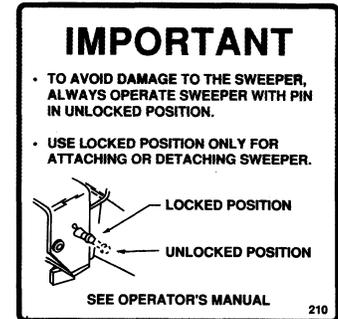
Replace immediately if damaged



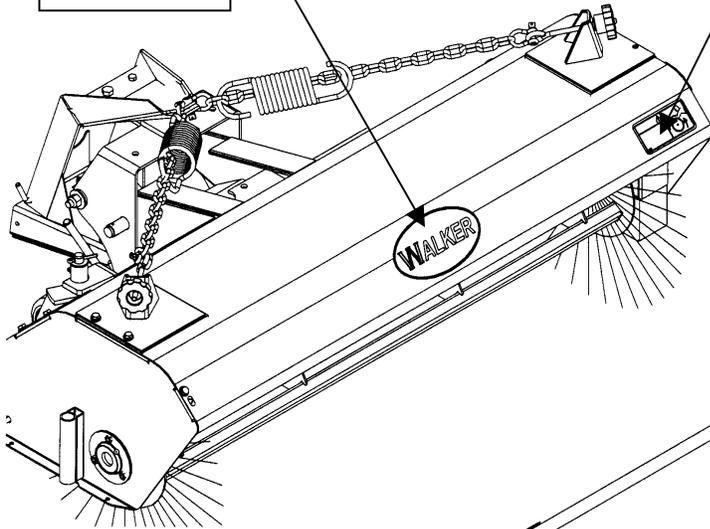
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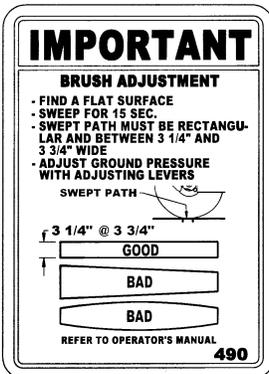
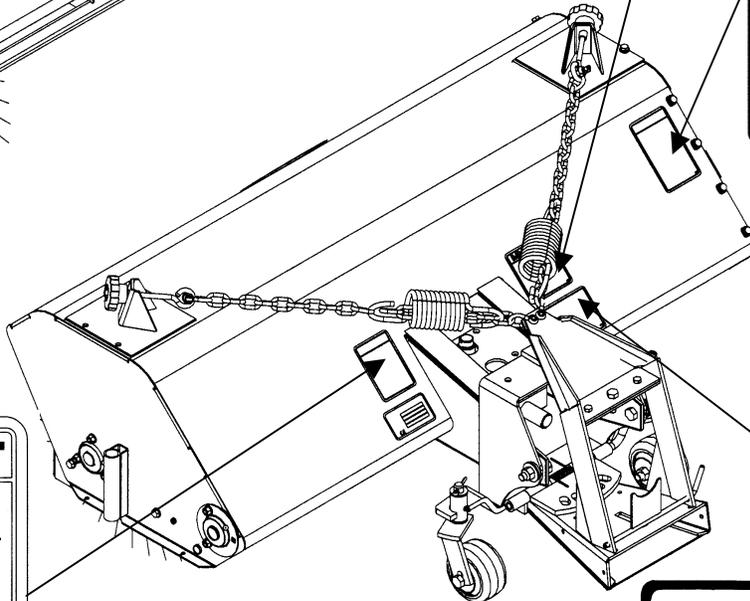
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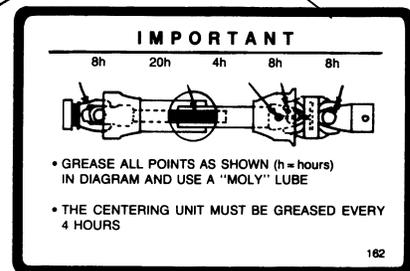
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ASSEMBLY

HITCH INSTALLATION – TRACTOR SIDE

Before installing this hitch make sure engine is off and parking brake is set.

Attaching Quick Hitch to Tractor

1. Lightly grease the deck support arm shaft (fig.1, item 1) on the tractor.
2. Engage adaptor frame tube sockets (fig.1, item 2) onto the tractor support arms (fig.1, item 1) and slide on as shown in figure 2. Continue to slide on until you can install a hitch pin (fig.3, item 1) through the hole in each end of the support arm shafts.

IMPORTANT: If tractor body needs to be raised, the PTO shield must be in closed or down position and the equipment must be in the lowered position. The only time the PTO shield needs to be open or raised is when connecting or disconnecting the driveline for the snowblower or the rotary broom.

Adjustment

Loosen the 3/4" jam nut (fig.4, item 1) or (fig.1, item 3). Adjust the 3/4" hexagon bolt (fig.4, item 2) until it contacts the cross-member of the tractor frame, and securely tighten the 3/4" nut to prevent the bolt from moving.

IMPORTANT: This adjustment is needed only once if the same tractor and adaptor are used together. If you plan to mix tractors and adaptors, this adjustment will be required each time you mount an equipment adaptor. Wiring

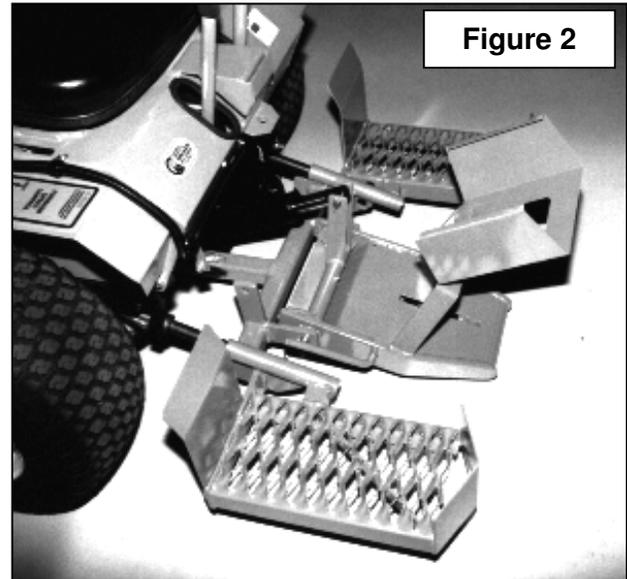


Figure 2

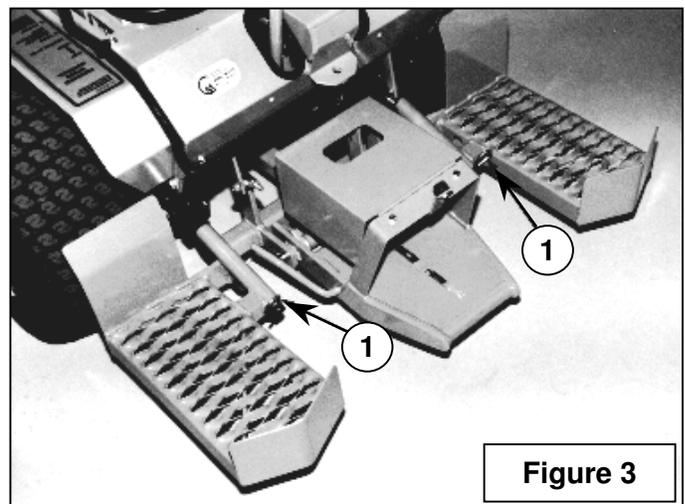


Figure 3

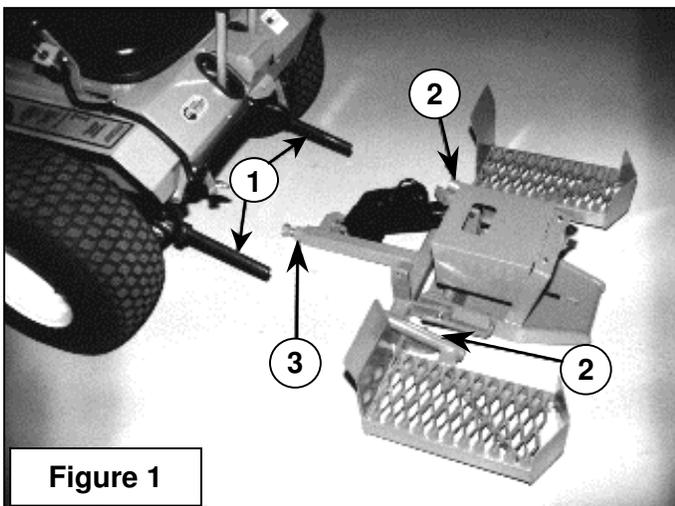


Figure 1

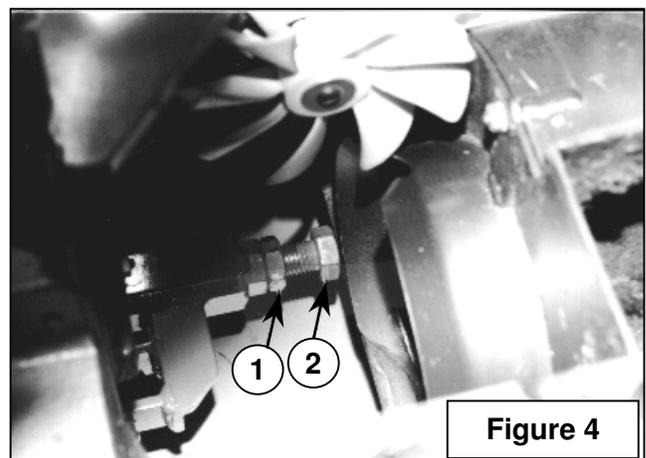


Figure 4

ASSEMBLY

3. **Figure 5:** Drill five 13/64" (5 mm) dia. holes in the tractor: two in the forward speed control arm and three in the body as.
4. **Figure 6:** Attach the toggle switch mounting bracket (item 1) on the forward speed control arm using two 10—24 x 1/2" bolts and kept nut. At this time, you need to connect the green ground wire from the wiring harness to a bolt of the switch mounting bracket.
5. **Figure 6:** Install the wiring harness to the tractor body as shown using three wiring clamps (item 2), three 10— 24 x 3/8" bolts and kept nuts.
6. Attach the toggle switch to the mounting bracket, placing the switch terminals toward the front of the tractor.

7. Connect the harness red wire to the free connector of the PTO clutch switch red wire.
8. Complete the wiring by connecting the wiring harness to the toggle switch and to the actuator motor.
9. **Figure 7:** Check wiring diagram and correct if necessary.

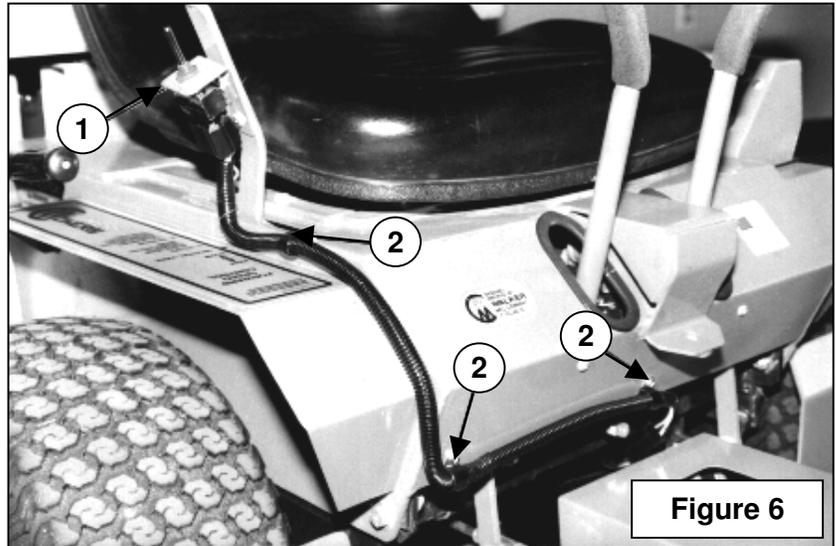


Figure 6

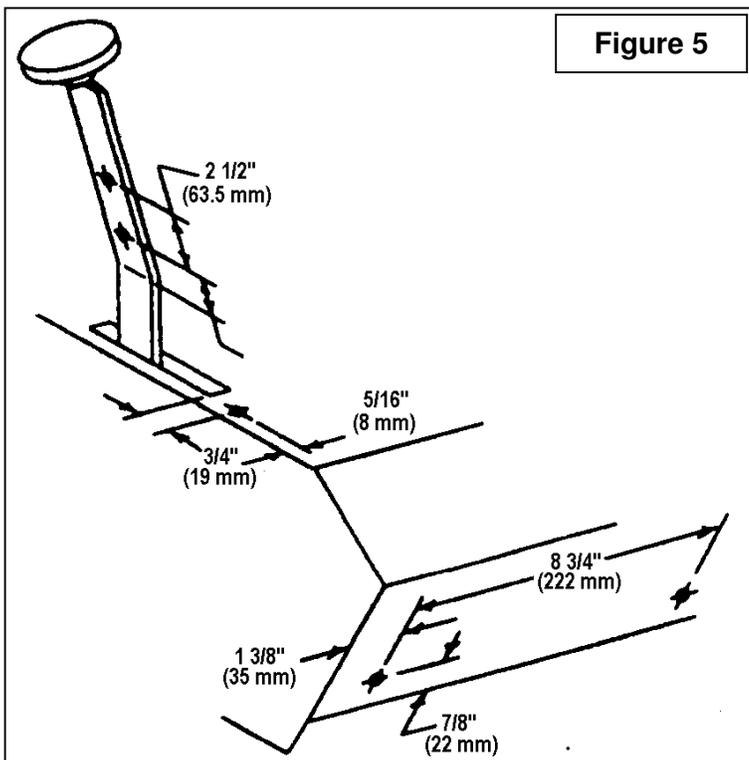


Figure 5

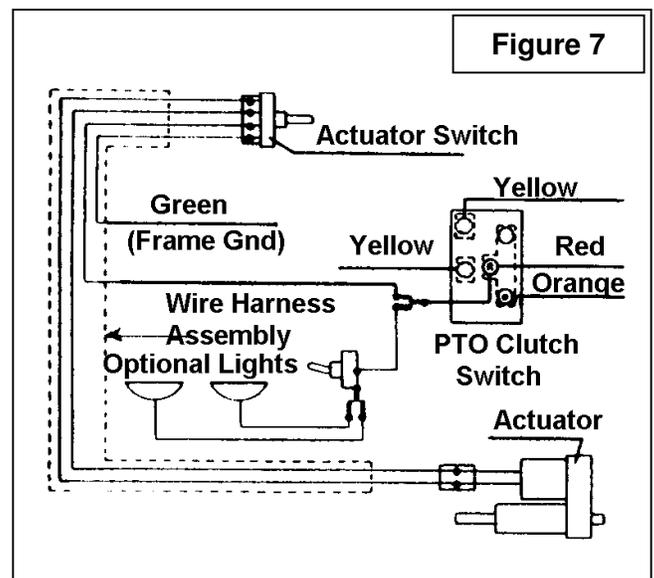


Figure 7

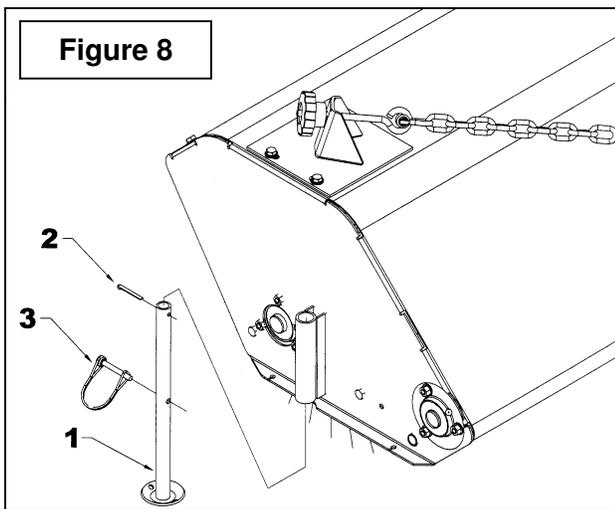
ASSEMBLY

ROTARY BROOM ASSEMBLY

The rotary broom is assembled at the factory, however, parts contained in the bag must be installed. Use the present manual and lay out all parts for assembly. Separate bolts and nuts into various sizes. After assembly, torque all the bolts according to the Torque Specification Table enclosed at the end of the manual.

Parking Stand (Figure 8)

1. Lift the broom until you can insert a parking stand (item 1) into each holder from the underside.
2. Install a 5/32" x 1 1/4" cotter pin (item 2) in the upper hole of each parking stand.
3. Set the parking stands in the position where they touch the ground and secure with 1/4" x 2" round wire lock pins (item 3).



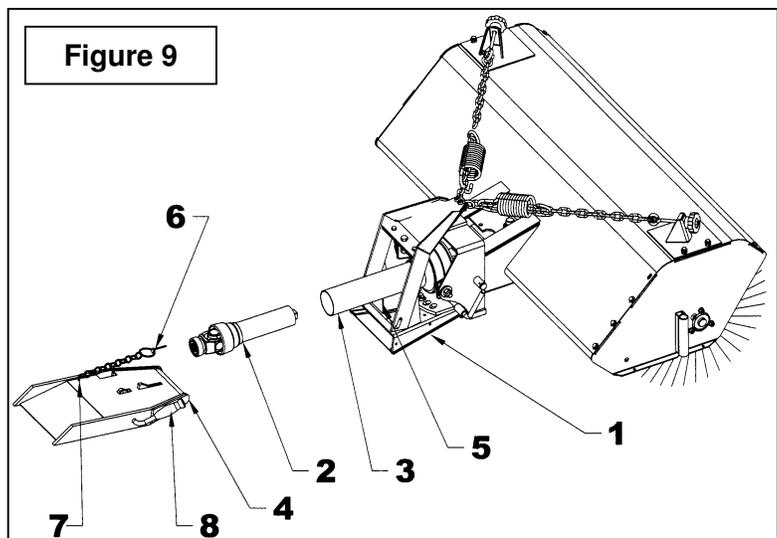
WARNING:

To avoid serious personal injuries: Before getting off the tractor: Park the tractor on level ground, place the transmission in neutral, set the parking brake, disengage the driving system, lower the nose of the male quick hitch as much as possible, place all levers including auxiliary control levers in neutral, shut off the engine and remove the ignition key.

Attaching Rotary Broom to Tractor (Figures 9-10)

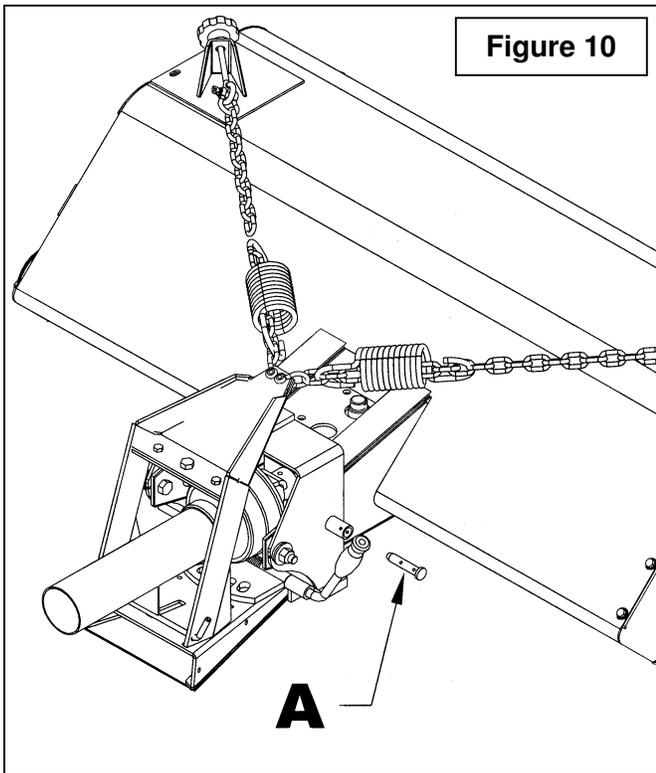
IMPORTANT: Make sure the pivot lock pin (fig 10, item A) is in the innermost position to prevent female hitch from bouncing and to facilitate hitching

1. Support the broom female hitch (item 1) on a 2 1/2" (60 mm) thick piece of wood.
2. Move quick hitch lever (item 8) rearward to unlock position.
3. Connect the male driveline (item 2) supplied with the drive kit to broom female driveline (item 3) and support with the driveline support (item 5).
4. Lower the nose of the male quick hitch as much as possible.
5. Introduce the male quick hitch (item 4) in the broom female hitch (item 1) and move the engagement lever (item 8) forward to locked position. Secure latch (item 7) with linch pin (item 6).
6. Connect male driveline (item 2) to subframe drive shaft by sliding back locking collar on driveline yoke and pushing yoke over shaft until locking collar snaps back and push driveline support down (item 5).



ASSEMBLY

- Put the pivot lock pin (fig. 10, item **A**) in the outermost position and secure with the hairpin.



WARNING:

To avoid serious personal injuries: This shaft turns at up to 2000 RPM. If the collar is not locked to the shaft at tractor end, or if the yoke at the broom end is not secured properly (a "click" must be heard), the driveline can fly loose with great force capable of causing serious injury or death.

Removing Rotary Broom from Tractor

Set and secure the parking stands in the position where they touch the ground, lower the rotary broom on a flat and level surface, put pivot lock pin (fig. 10, item **A**) in the innermost position then reverse the installation procedure.

ASSEMBLY

LAWN DETHATCHING WHEEL KIT - WAL0001 (OPTION)

Installation

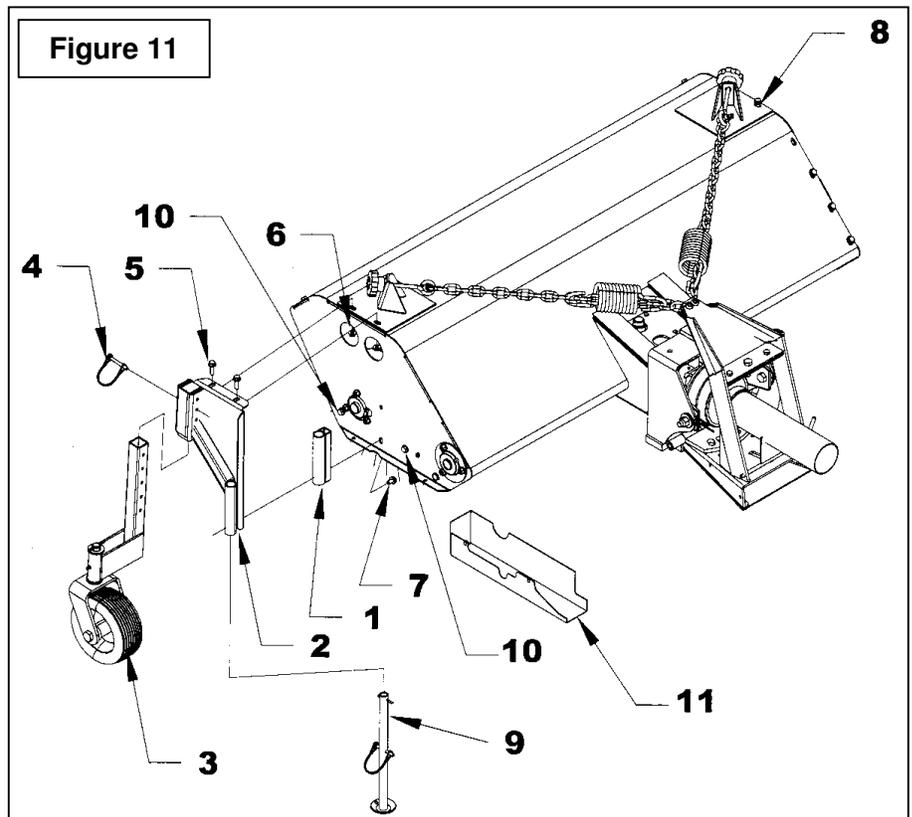
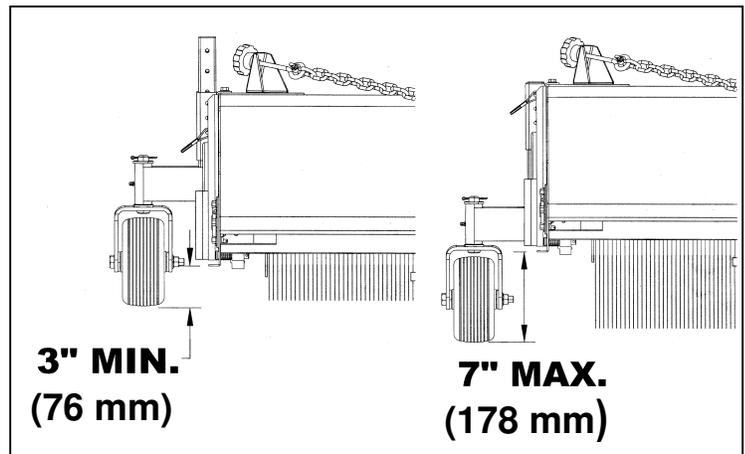
(Figure 11)

1. Remove the parking stands (item 9) from the supports (item 1) on each side of the broom. Remove the chain guard (item 11) by unscrewing the two bolts (item 10) to gain access to the inferior hole on the left side of the broom.
2. Remove the lower 5/16" x 1/2" flange bolt (item 7) from the support. Loosen the upper 5/16" x 1/2" flange bolt and then turn support counter clockwise to remove it.
3. Attach the left wheel assembly on the broom left side as shown on figure with two 5/16"NC x 1" serrated flange bolts (item 5), 5/16"NC serrated flange nuts (item 6) and a 5/16"NC x 1/2" serrated flange bolt (item 7).
4. Attach the right wheel assembly on the broom right side with the two existing bolts (item 8), and as for the left side, with a 5/16"NC x 1/2" serrated flange bolt (item 7).
5. Insert the assembled wheel adjustments (item 3) into the left and right wheel supports (item 2) and secure in place to the maximum height with a round wire lock pin (item 4).
6. Reinstall the parking stands (item 9) to the working position in the wheel supports as well as the chain guard (item 11).

Adjustment

To adjust the height of the wheel -1/2" (13 mm) at a time, from 3" (76 mm) minimum to 7" (178 mm) maximum - slide the inner tube upward or downward, as needed, and insert the round wire lock pin in the open hole.

We recommend adjusting the wheel height to 1" (25 mm) lower than the brush height to make a first try on the grass. Then raise or lower the wheels as required.



OPERATION

GENERAL PREPARATION

1. Check drive shaft tightening.
2. Make sure that the broom operates freely.
3. Adjust the lawn dethatching wheels (if installed).
4. Secure the parking stands in the position where they do not touch the ground (up).



WARNING: To avoid serious injuries:

- Do not allow bystanders near working area.
- Do not allow anyone to ride on rotary broom or quick hitch.
- Before cleaning, adjusting or repairing the rotary broom : bring the tractor to a complete stop, wait for all movement to stop, apply parking brake, lower the implement to the ground, shut off the engine and remove the ignition key.
- Never put any part of your body under the rotary broom while making adjustments.



ATTENTION

Always operate the broom from the operator's seat only. Never allow anyone to ride on the machine.



ATTENTION

Operate the broom at a speed that matches the working conditions. Be extremely careful when working on banks or uneven terrain.



ATTENTION

Always wear protective eyewear when operating the broom.

OPERATION

Rotary Broom Controls

1. Use the tractor PTO to start and stop the brush. Start the engine and put the throttle lever at 1/3 speed. Engage the PTO. To stop, disengage the PTO.
2. Raise and lower the broom using the hydraulic lift lever located on the left wing of the tractor. Pulling the lever backward raises the broom, pushing the lever forward lowers the broom and pushing the lever fully forward sets the broom in floating action.
3. Control brush speed with the throttle. Under most conditions, if the brush speed is too fast, it results in debris coming over the hood onto the operator.

Manual Angling Adjustment (Figure 12)

1. This rotary broom is able to swivel to five positions: straight, two left and two right (12.5° and 25°).
2. To adjust, raise the rotary broom off the ground, carefully lift the adjustment lever (item 1), select the desired angle position then release the lever. Make sure the rotary broom is locked in position at the desired angle.

Pivot Lock Pin (Figure 12)

The innermost position of the pivot lock pin (item 3) is used to prevent the female hitch from being pulled up by the action of the spring, to facilitate installation and removal of rotary broom. Do not work with the pivot lock pin in the innermost position or damage to the broom could occur.

OPERATION

Ground Pressure Adjustment (Figure 12)

This adjustment must be made when the broom is attached to the tractor.

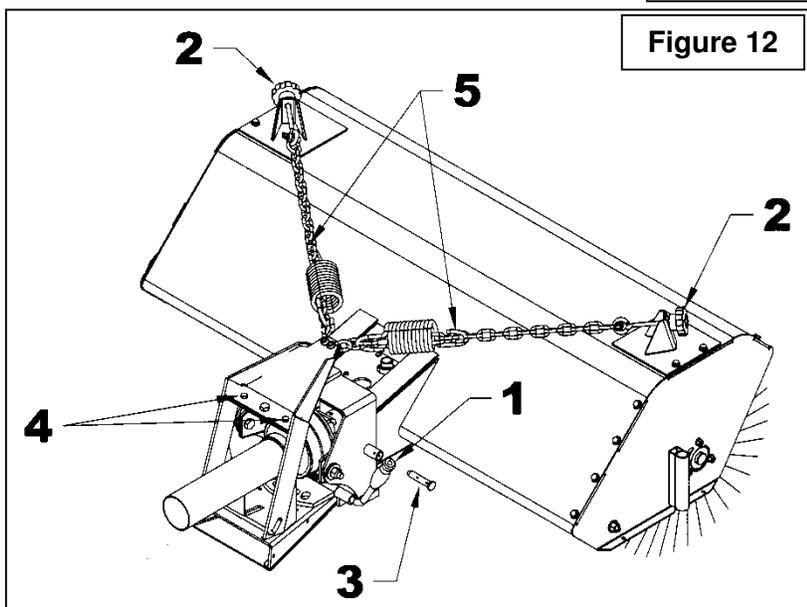
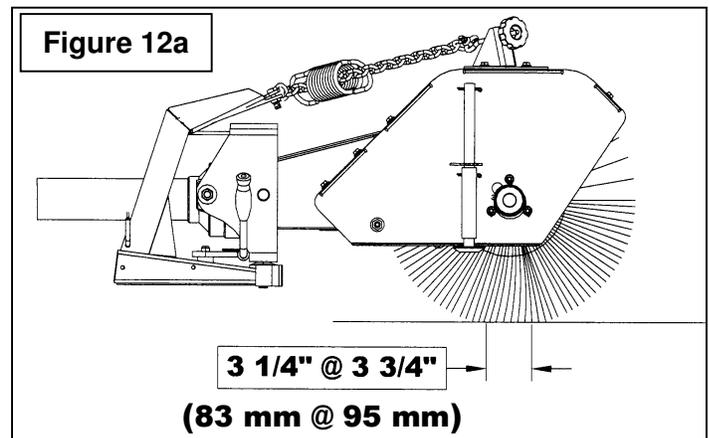
IMPORTANT: The pivot lock pin (item 3) **MUST BE** in the outermost position.

10. For the most efficient sweeping, the brush must have good ground contact without too much pressure being placed on the bristles in order to prevent them from bending which would result in premature wear of the brush.
11. Check to make sure the tractor's tire pressure is right.
12. Find a hard and dirty surface. Lower the broom to the ground, engage the broom and let the brush turn for 15 to 30 seconds while remaining in place. Disengage the broom with raising it and wait for the brush to stop turning.
13. Raise the broom and back away. Once immobilized, turn the engine off.
14. Measure the path cleaned. If the brush is adjusted properly, the path is between 3 1/4" and 3 3/4" wide (83 and 95mm) and both sides of the path are parallel.

15. If not, adjust the spring tension with the adjustment knobs (item 2) until you obtain ground contact between 3 1/4" and 3 3/4" wide (83 and 95 mm) (fig. 5a). Turn the knobs clockwise to reduce ground pressure and counter clockwise to increase ground pressure. Make sure the weight is evenly distributed on both sides. An asymmetric adjustment may be necessary to counterbalance the weight of the broom and the ground pressure.

NOTE: Further adjustment will be necessary to compensate for brush wear.

NOTE: The two side bolts on top of the female hitch (Fig. 12, item 4) must not be tightened to allow the rotary broom to follow ground contours with ease.



OPERATION

General Sweeping

IMPORTANT: Always use the float position when working with the broom.

1. Minimize dust by reducing brush speed and by sweeping on days with high moisture.
2. For light material, angle broom 12.5° right or left rather than fully angled to obtain a wider sweeping path.
3. For heavier material, reduce ground speed and angle the brush fully to the left or right to expel the accumulated debris from the sweeping path as quickly as possible thus preventing build up.
4. Prevent damage to the broom by removing large foreign objects.

Lawn Dethatching & Leaf Raking

IMPORTANT: Optional lawn dethatching wheels must be installed to perform these tasks in order to avoid excessive ground contact.

1. Bristles should barely touch the ground for lawn dethatching and leaf raking operations. (see adjustment in the section "Lawn Dethatching Wheel Kit")
2. Slower brush speed and ground speed are more adequate for lawn dethatching. This will avoid bouncing which could damage the lawn due to excessive ground contact.
3. Minimize dust by reducing brush speed and by sweeping when moisture is high (but not wet) whenever possible.

Snow Removal

 **WARNING:**

To avoid serious injuries: Foreign objects in snow may be thrown farther than the snow. Use the slowest brush speed that will perform the job. Stay aware of broom discharge direction.

 **WARNING:**

To avoid serious injuries: Snow or ice build-up on the sweeper hood can cause a loss of tractor steering control. Regularly remove any snow or ice from the sweeper hood to prevent the excess weight from affecting steering.

1. This broom's optimum performance is achieved when snow depth is 3" (76 mm) or less.
2. To avoid the snow from being blown back on the tractor and operator, sweep with the wind blowing in the direction of broom discharge.
3. Vary the brush speed and broom angle so the brush throws material on each side to prevent excessive accumulations.
4. Brush speed must be at its maximum to obtain a better performance in wet, heavy snow or slush

MAINTENANCE

MAINTENANCE

ALWAYS USE GENUINE PARTS WHEN REPLACEMENT PARTS ARE REQUIRED.

1. Avoid exposing broom bristles to direct sunlight for long periods to avoid damage.
2. Because of the dust raised during sweeping, the tractor air cleaner should be checked daily and replaced when necessary.

Hardware

Check and tighten all hardware, including factory-installed hardware, before operating the rotary broom and every 8 hours of operation.

TROUBLESHOOTING

Debris Accumulation in Front

- Reduce the travel speed.
- Increase the engine rpm.
- Make more than one pass.
- Raise the brush to decrease the contact area.
- Increase the broom angle.

Uneven Wear of the Brush

- Make sure there is no debris wrapped around the brush.
- Check the ground pressure adjustment (see page 16)
- Remove the accumulated debris under the hood.

Premature Wear of the Driveline

- Reduce travel speed.
- Make more than one pass especially in deep, heavy debris.
- Avoid ramming piles.
- Lack of lubrication – lubricate more often.

MAINTENANCE

Chain Replacement

(Figure 13 & 13a)

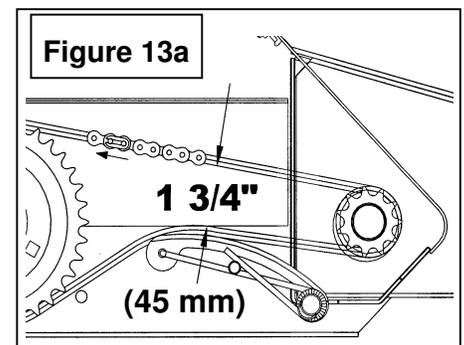
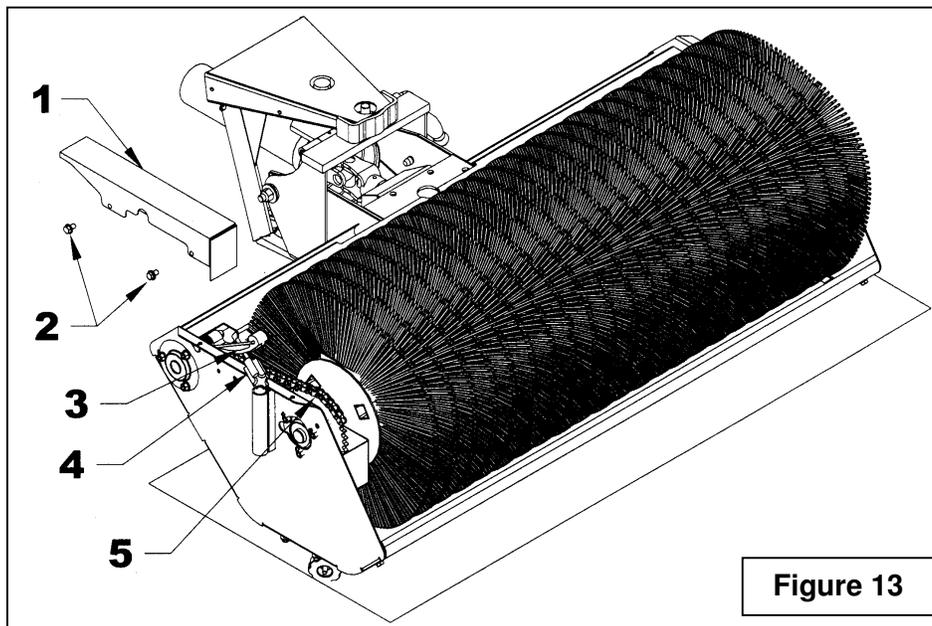
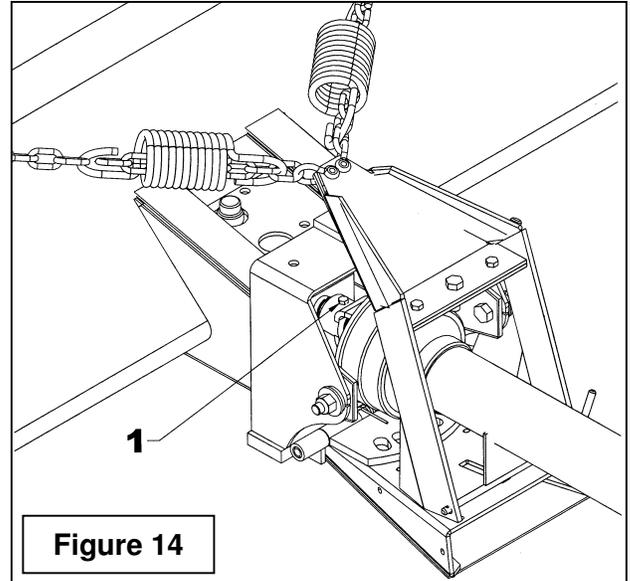
Replace the chain when the distance between the spans is reduced to 1 3/4" (45 mm) (see figure 13 a)

1. Remove the broom from the tractor.
2. Flip the broom over on some cardboard to protect the paint.
3. Remove the chain guard (item 1) by removing the two bolts (item 2).
4. Slide a long screwdriver (item 4) under the tensioner (item 3) to remove the tension from the chain (item 5).
5. Remove the connecting link from the chain and remove the chain.
6. Install the new chain making sure to position the connecting link's lock opening as shown on figure 7a.
7. Reinstall the chain idler making sure to align it properly.
8. Put the chain guard back in place.

Shearbolt Replacement

(Figure 14)

1. Remove the broken shearbolt (item 1) by aligning the hole of the driveline yoke with the hole of the gearbox shaft.
2. Use a drift punch to dislodge the broken bolt and replace with a 1/4" NC x 2 1/2" lg GR. 5 and 1/4" NC nylon insert locknut.



MAINTENANCE

Brush Replacement (Figures 15 & 15a)

When the brushes reach a diameter of 10" (254 mm), it is necessary to replace them in order to maximize the performance of your broom.

1. Place the tractor/equipment on level ground, place transmission in neutral, wait for all movement to stop and apply parking brake.
2. Raise the broom to its maximum and turn it completely to the left. Securely support with stands or suitable blocking. Do not rely on hydraulically supported devices for your safety. They can settle suddenly, leak down, or be accidentally lowered. Shut off the engine and remove the ignition key.
3. **Fig.15:** Remove the two bolts (item 2) and withdraw the chain guard (item 1).
4. **Fig.15:** Remove the right side of the broom (item 5) by unscrewing the three nuts (item 4), the nine bolts (item 3), the lockwasher and the nut (item 6).
5. **Fig.15:** Remove the bearing and the flanges (item 13) by unscrewing the two setscrews from the bearing.

6. **Fig.15:** Remove the retaining plate (item 7) by unscrewing the three bolts (item 8).
7. **Fig.15:** Remove the brushes by sliding them towards the outside of the brush support (item 11).
8. Begin installing the wafers on the brush support, ensuring the drive pins of each wafer section lock the wafer over one of the brush support's drive bar.
9. **Fig.15:** Insert the first brush on the brush support by aligning the guides (item 10) on each side of a brush support tube (item 11). Continue the same procedure with the remaining brushes by turning each brush 120° (12 o'clock, 4 o'clock and 8 o'clock) so the guides are distributed evenly on each brush support tube.

IMPORTANT: If you decide to install half steel / half polypropylene brushes, you must start and finish with a polypropylene brush.

IMPORTANT: The guides (item 10) of the first brush must point toward the inside to prevent interference.

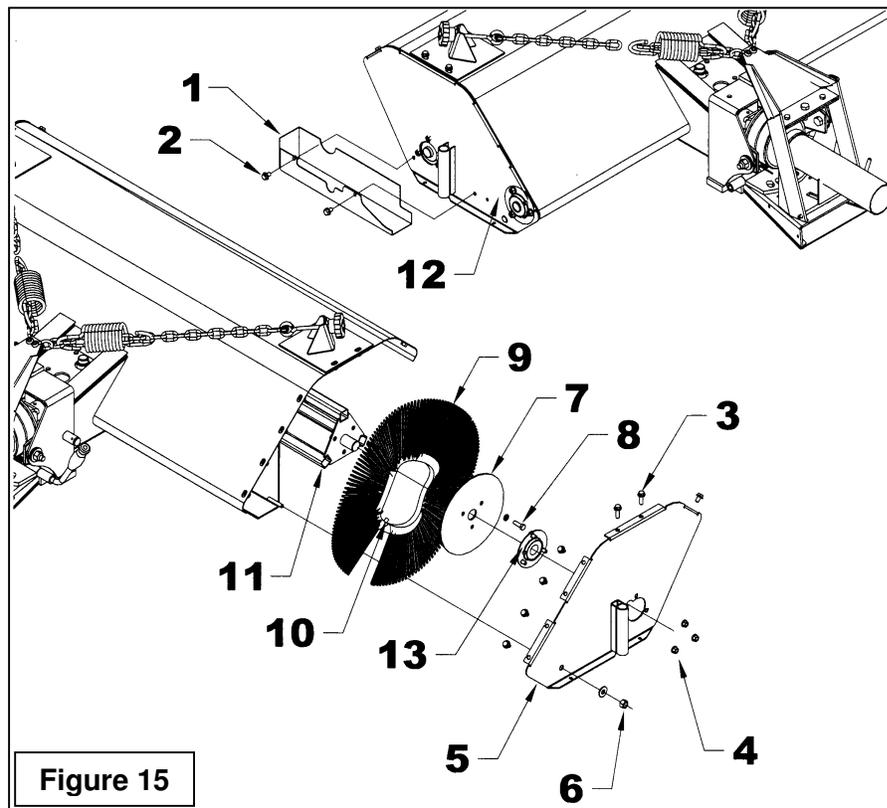


Figure 15

MAINTENANCE

10. SNUG FIT : To ensure a correct fit of the wafer assembly on the brush support, make sure to respect the following:

- **Fig.15a:** The distance **A** from the last wafer to the end of the brush support is approximately 1/4".
- Each wafer must present a small radial play after the retaining plate is reinstalled on the brush support

11. QUANTITY OF WAFERS : Since wafer width can vary from 1 7/8" and 2 1/8", the quantity of wafers to install on the brush may vary from one installation to another. It is possible that some wafers included in the new wafer set will be left unused once the installation is complete.

Fig.15a: If the distance **A** between the brush support end and the last wafer is more than 1/4", remove the last wafer, measure **A** and use procedure described in the following cases by rotating each wafer 120 degrees (12 o'clock, 4 o'clock and 8 o'clock) in each case:

- Measure **A = 3/8" to 1/2"**

Turn the last wafer in the same direction as the one preceding it and add 2 more wafers in the same direction. The result is four wafers in the same direction at the end of the brush.

- Measure **A = 5/8" to 1 1/8"**

Add 1 wafer in the same direction as the last one. The result is two wafers in the same direction at the end of the brush.

- Measure **A = 1 1/4" to 1 3/8"**

Turn the last wafer in the same direction as the one preceding it and add 3 more wafers in the same direction. The result is five wafers in the same direction at the end of the brush.

- Measure **A = 1 1/2" to 1 5/8"**

Add 2 wafers in the same direction as the last one. The result is three wafers in the same direction at the end of the brush.

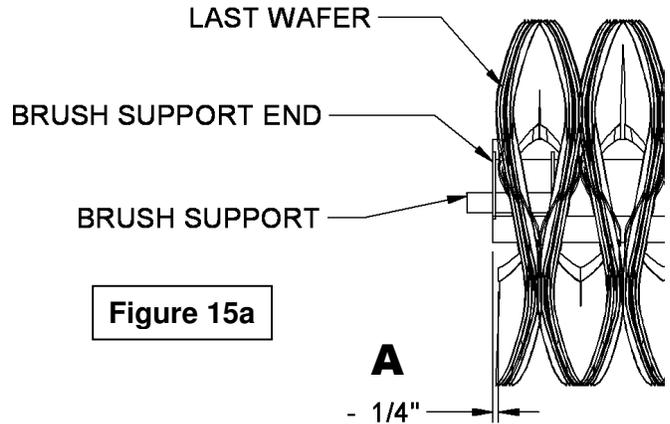
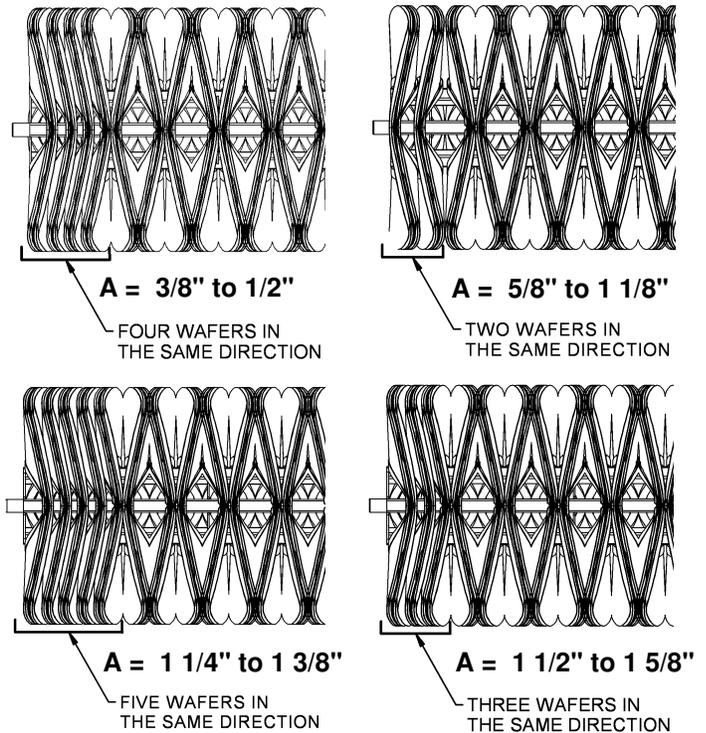


Figure 15a



12. **Fig.15:** Replace the retaining plate (item 7) by tightening the bolts (item 8) and lockwashers firmly.

13. **Fig.15:** Install the bearing and the flanges (item 13) on the right side (item 5) and reinstall the right side of the broom. Tighten the bearing setscrews (item 13).

14. **Fig.15:** Check the condition of the chain and realign the chain tensioner (item 12).

15. **Fig.15:** Reinstall the chain guard (item 1).

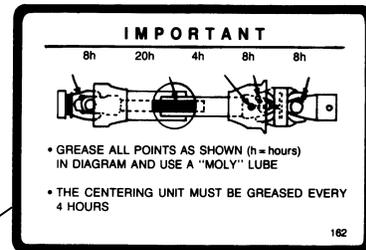
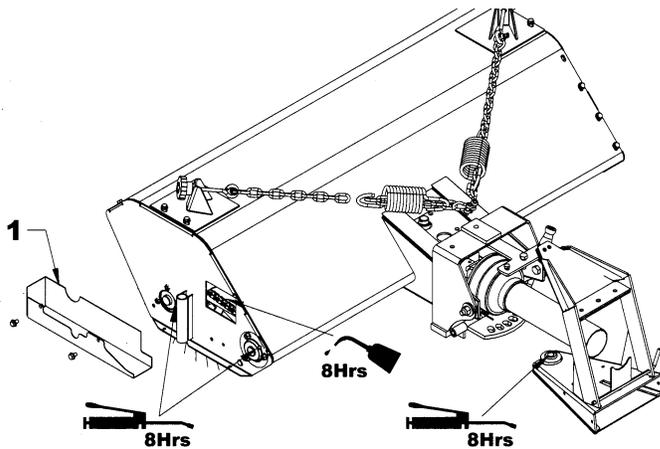
IMPORTANT: While installing the new brush, take care to tighten the bearing setscrews and to align the chain tensioner.

MAINTENANCE

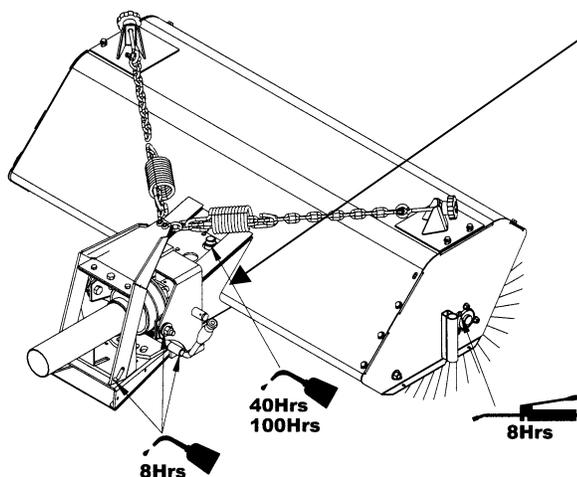
LUBRICATION

Use a grease gun, grease and lubricate as follows:

DESCRIPTION	TIME INTERVAL	LUBRICATION REQUIRED
Driveline	8 hours of operation	Grease each universal joint (see decal #658708)
	20 hours of operation	Separate the sliding parts and cover each one of them with grease (see decal #658708)
Drive Chain	8 hours of operation	Lubricate with chain lubricant (Remove chain guard item 1)
All pivot points	8 hours of operation	Use a good quality multipurpose lubricant
Gearbox	40 hours of operation	Check oil level. If needed, add AGMA 5EP extreme pressure oil, SAE 80W90 gear oil or equivalent
	100 hours of operation	Replace oil.
Bearing	8 hours of operation	Grease each bearing



658708

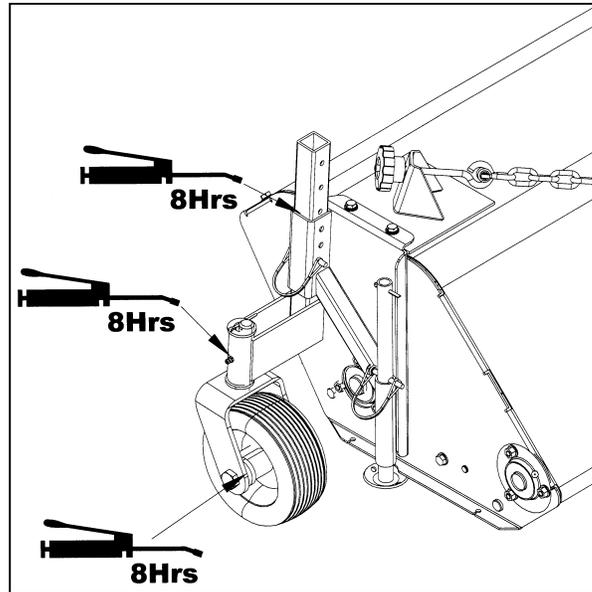


MAINTENANCE

Lawn Dethatching Wheel Kit

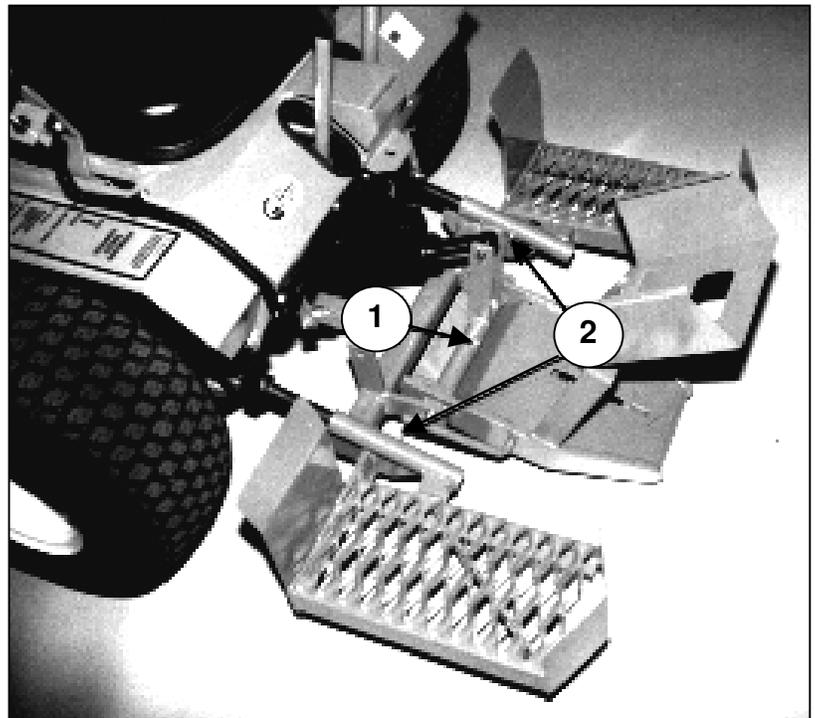
Use a grease gun, grease and lubricate as follows:

DESCRIPTION	TIME INTERVAL	LUBRICATION REQUIRED
Wheel bracket	8 hours of operation	Use a good quality multipurpose lubricant
Wheel support	8 hours of operation	Use a good quality multipurpose lubricant
Wheel	8 hours of operation	Use a good quality multipurpose lubricant



Male Quick Hitch

Lubricate pivot shaft (item 1) and deck support arms (item 2) by the grease fittings every 50 hours of operation or monthly.



MAINTENANCE

STORAGE

Before storing the rotary broom, certain precautions should be taken to protect it from deterioration.

1. Clean the rotary broom thoroughly.
2. Make all the necessary repairs.
3. Repaint all parts from which paint has worn or peeled.
4. Lubricate the rotary broom as instructed under *Lubrication*.
5. Replace all decals that are damaged, lost, or otherwise become illegible. If a part to be replaced has a sign on it, obtain a new decal from your dealer and install it in the same place as on the removed part.
6. When the rotary broom is dry, oil all moving parts. Apply oil liberally to all surfaces to protect against rust.

IMPORTANT: Do not allow oil or grease on broom bristles.

7. Store broom on parking stands so that the bristles do not touch the ground.
8. Store in a dry place.

IMPORTANT: If broom bristles are exposed to direct sunlight, protect bristles with a tarp.

PARTS

INTRODUCTION

All parts are illustrated in "exploded views" which show the individual parts in their normal relationship to each other. Reference numbers are used in the illustrations. These numbers correspond to those in the "Reference Number" (REF) column, and are followed by the description and quantity required.

O/L - "Obtain Locally" in the part number column indicates common hardware that is available at your local hardware supply.

All reference to right and left, forward or rearward from the operator's view standing behind the machine.

Orders must give the complete description, correct part number, the total amount required, the serial number, the method of shipment and the shipping address.

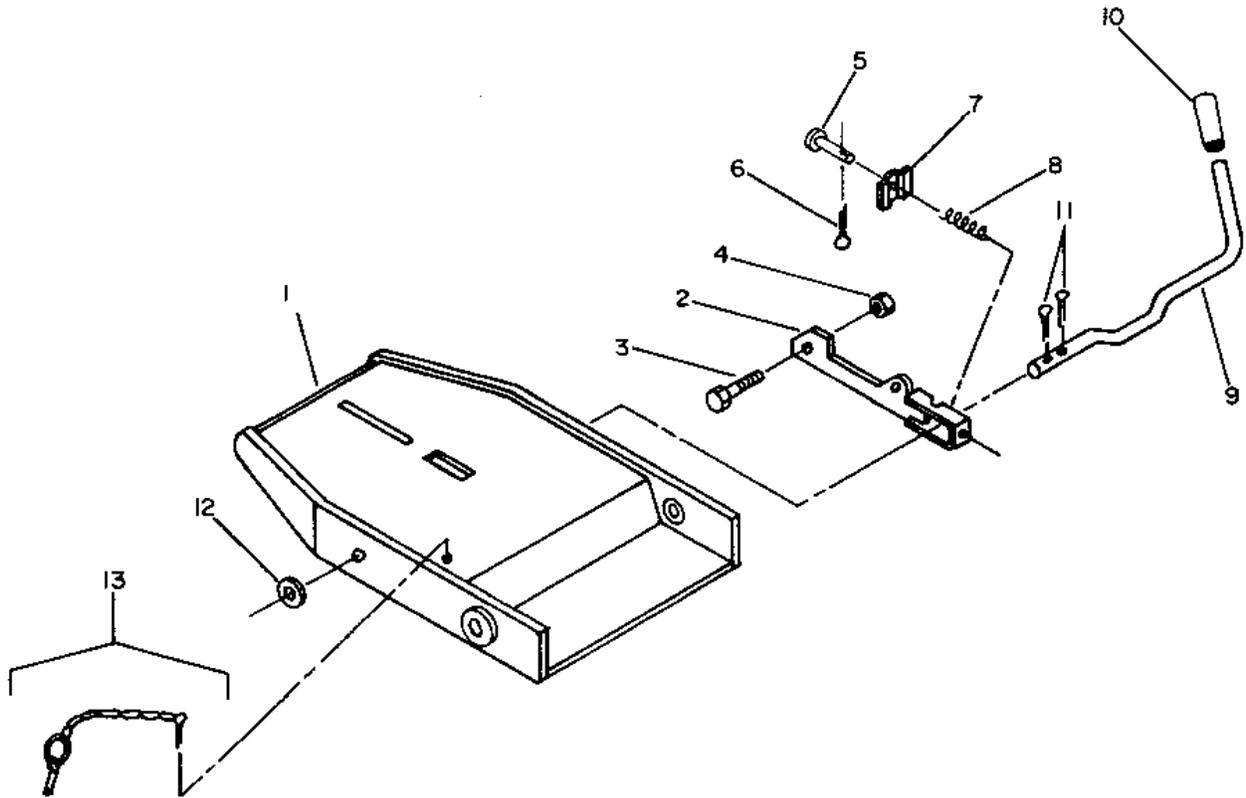
The manufacturer reserves the rights to change, modify, or eliminate from time to time, for technical or other reasons, certain or all data, specifications, or the product or products themselves, without any liability or obligation.

The parts listed here are available through your local dealer.

PARTS

MALE QUICK HITCH ASSEMBLY - 6625

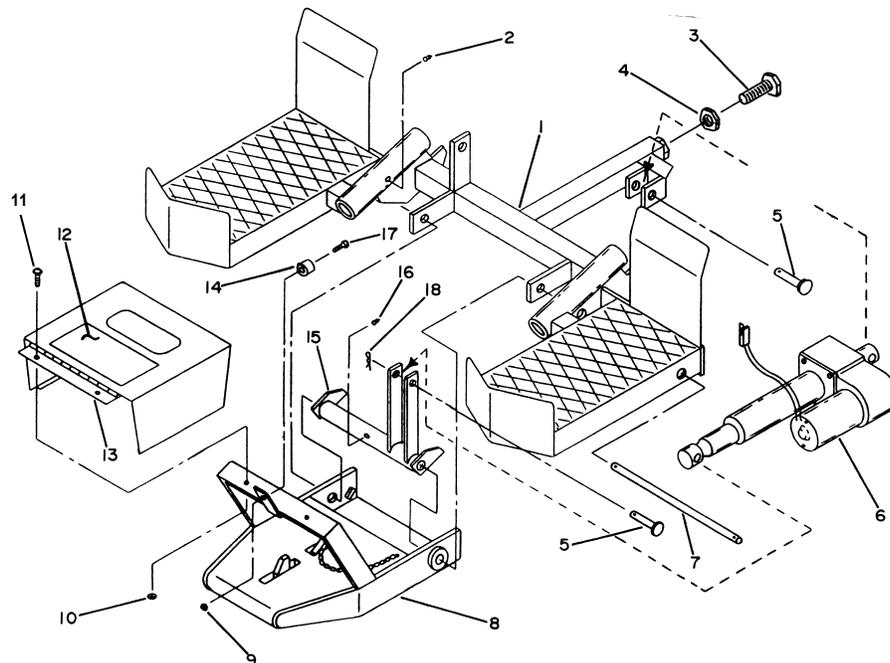
REF.	DESCRIPTION	QTY	PART NUMBER
1	Male quick hitch	1	660980
2	Quick hitch latch	1	657382
3	Hex. bolt 3/8" NC x 1 1/2"	1	O/L
4	Nylon lock nut 3/8" NC	1	O/L
5	Pin 1/4" dia x 1 11/16"	1	657384
6	Cotter pin 3/32" dia. x 3/4"	1	O/L
7	Spring plate	1	657383
8	Spring	1	657385
9	Attaching lever	1	657381
10	Plastic handle	1	656797
11	Cotter pin 1/8" dia x 1"	2	O/L
12	Flat washer 9/16" dia. hole	1	O/L
13	Safety chain ass'y	1	657632



PARTS

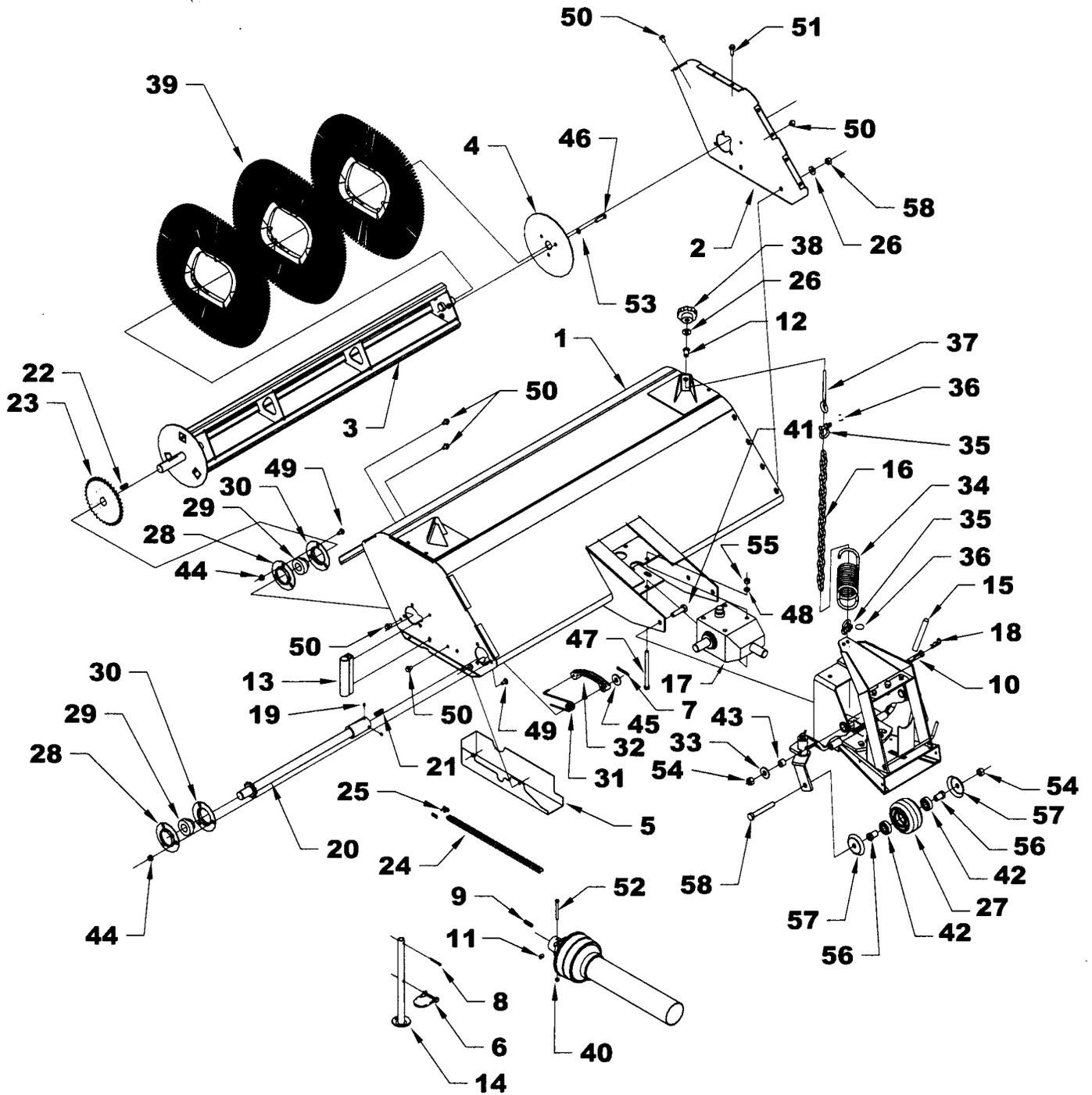
MALE QUICK HITCH SYSTEM

REF.	DESCRIPTION	QTY	PART NUMBER
1	Adaptor	1	6620-27
2	Grease fitting 45°.	2	5830-3
3	Hex. bolt 3/4"	1	F212
4	Jam nut 3/4"	1	F213
5	Clevis pin	2	6621-1
6	Actuator motor	1	6621
7	Pivot shaft	1	6620-17
8	Hitch	1	6620-24
9	Keps nut 10-24	1	F002
10	Keps nut 1/4-20	2	F005
11	Bolt 1/4-20 x 1/2"	2	F036
12	Decal	1	6620-29
13	PTO shield	1	6620-28
14	Bushing	1	5588
15	Actuator pivot	1	6620-16
16	Grease fitting	1	5830
17	Bolt 10-24 x 5/8"	1	F027
18	Cotter pin	4	F068
-	Wiring harness (not illustrated)	1	6622
-	Toggle switch (not illustrated)	1	6623
-	Actuator boot (not illustrated)	1	6623-1
-	Bolt 10-24 x 3/8" (not illustrated)	3	F025
-	Bolt 10-24 x 1/2" (not illustrated)	2	F026
-	Harness clamp (not illustrated)	3	5832



PARTS

ROTARY BROOM ASSEMBLY – 6650-B



PARTS

ROTARY BROOM ASSEMBLY – 6650-B

REF.	DESCRIPTION	QTY.	PART #
1	Housing	1	-----
2	Right side plate	1	667841
3	Brush support	1	666640
4	Retaining plate, brush	1	665650
5	Chain guard	1	666845
6	Round wire lock pin 1/4" x 2", PTD	2	1900006
7	Cotter pin 1/8" x 1 3/4", PTD	1	O/L
8	Cotter pin 5/32" x 1 1/4", PTD	2	O/L
9	Key 1/4" x 1/4" x 1 1/4" lg	1	654643
10	Pin 1/2" x 2 9/16" lg, PTD	1	658961
11	Setscrew 3/8" NC x 1/2"		
12	Wear tube	2	666844
13	Parking stand support bracket	2	659784
14	Parking stand	2	666907
15	Plastic handle	1	656797
16	Chain 25 1/2" lg., PTD	2	666881
17	Gearbox	1	4500024
18	Hair pin 3mm x 65mm lg., PTD	3	1800004
19	Set screw 5/16" NC x 1/4"	2	O/L
20	Drive shaft	1	666631
21	Key 1/4" X 1/4" X 1 1/4"	1	654643
22	Key 1/4" X 1/4" X 1"	1	655379
23	Sprocket 40B36	1	657405
24	Chain #40 (inc. connecting link)	1	3300011
25	Connecting link #40	1	656153
26	Flat washer 3/8" dia. hole, PTD	3	O/L
27	Wheel 4" x 2" wide	2	657991
28	Flange, 3 holes with grease fitting	3	4300031
29	Bearing, 1" dia. with locking screw, greasable	3	4300038
30	Flange, 3 holes with groove	3	4300030
31	Torsion spring	1	3800016
32	Chain tensioner	1	665960
33	Flat washer 9/16" dia. hole, PTD	2	O/L
34	Tension spring	2	660220
35	Shackle 1/4" x 7/16" pin, PTD	4	A-10368
36	Circle cotter 1" x 1/16", PTD	4	1900009
37	Eye bolt 5/16" NC x 6" with nut, PTD	2	663074
38	Knob 5/16" NC	2	657309
39	Brush set - 100% polypropylene 18"	1	BR0001
	Brush set - 50% polypropylene 50% steel 18"	1	BR0002
	Brush set - 100% steel 18"	1	BR0003
	Wafer brush - 100% polypropylene 18"	24	3800054
	Wafer brush – 100% steel; 18"	24	3800056

PARTS

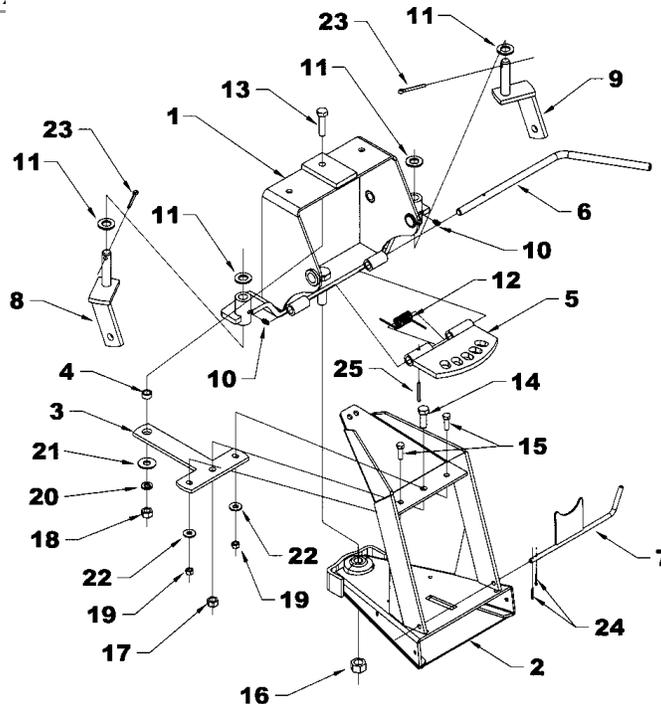
ROTARY BROOM ASSEMBLY – 6650-B

REF.	DESCRIPTION	QTY.	PART #
40	Nylon insert lock nut 1/4" NC, PTD	1	O/L
41	Hex. bolt 1/2" NC x 1 3/4" lg., gr. 5, PTD	2	O/L
42	Ball bearing	4	655537
43	Pivot bushing	2	658532
44	Flange nut 5/16" NC, PTD	9	0900036
45	Flat washer 9/16" dia. hole, PTD	1	O/L
46	Hex. bolt 5/16" NC X 1 1/4" lg., gr. 5, PTD	3	O/L
47	Hex. bolt 3/8" NC X 5" lg., gr. 5, PTD	4	O/L
48	Lockwasher 3/8", PTD	4	O/L
49	Carriage bolt 5/16" x 3/4" lg., gr. 5, PTD	9	0300002
50	Serrated flange bolt 5/16" x 1/2" lg., gr. 2, PTD	11	0200065
51	Serrated flange bolt 5/16" x 1" lg., gr. 2, PTD	2	0200091
52	Hex. bolt 1/4" NC x 2 1/2" lg., gr.5, PTD	1	O/L
53	Lockwasher 5/16", PTD	3	O/L
54	Nylon insert lock nut 1/2" NC, PTD	2	O/L
55	Hex. nut 3/8" NC, PTD	4	O/L
56	Wheel bushing	4	658536
57	Wheel cup	4	658531
58	Nylon insert lock nut 5/16" NC, PTD	1	O/L

PARTS

PIVOT BRACKET & FEMALE HITCH ASSEMBLY

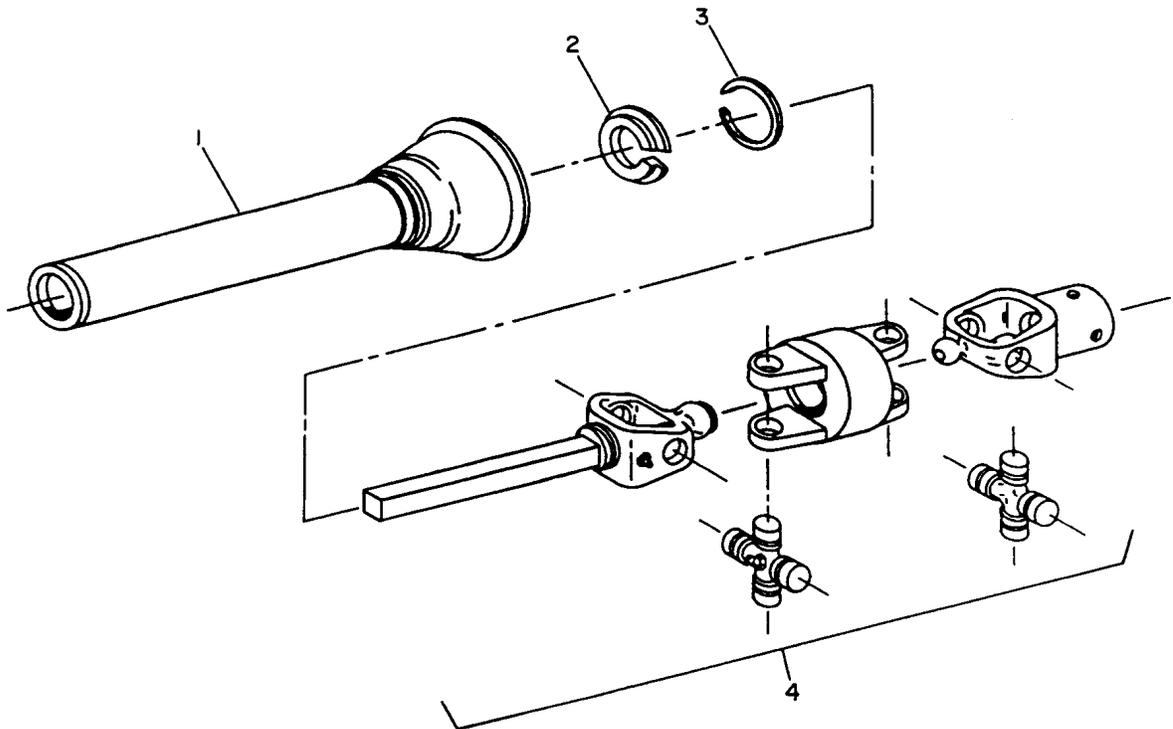
REF.	DESCRIPTION	QTY.	PART #
1	Broom pivot	1	667605
2	Female hitch	1	667129
3	Upper coupler	1	661009
4	Upper bushing	1	658528
5	Angling plate	1	659641
6	Handle	1	663640
7	Driveline support	1	666979
8	Wheel bracket - LH	1	658534
9	Wheel bracket - RH	1	658533
10	Grease fitting 1/4" NF	2	654106
11	Nylon ring 0.630" hole	4	658578
12	Tension spring $\varnothing 9/16"$ x 1 1/2"	1	657989
13	Hex. bolt 7/16" NC x 1 3/4" lg. Gr. 5, PTD	1	O/L
14	Hex. bolt 7/16" NC x 1 1/4" lg. Gr. 5, PTD	1	O/L
15	Hex. bolt 5/16" NC x 1" lg. Gr. 5, PTD	2	O/L
16	Stover nut 5/8" NC PTD	1	1100007
17	Nylon insert lock nut 7/16" NC, PTD	1	O/L
18	Hex. nut 7/16" NC, PTD	1	O/L
19	Nylon insert lock nut 5/16" NC, PTD	2	O/L
20	Lockwasher 7/16", PTD	1	O/L
21	Flat washer 1/2" hole, PTD	1	O/L
22	Flat washer 3/8" hole, PTD	2	O/L
23	Cotter pin 3/16 x 1 1/2" lg, PTD	2	O/L
24	Cotter pin 3/32 x 3/4" lg, PTD	2	O/L
25	Spring pin 3/16" x 1" lg, PTD	1	O/L



PARTS

DRIVELINE ASSEMBLY MALE PORTION 6651

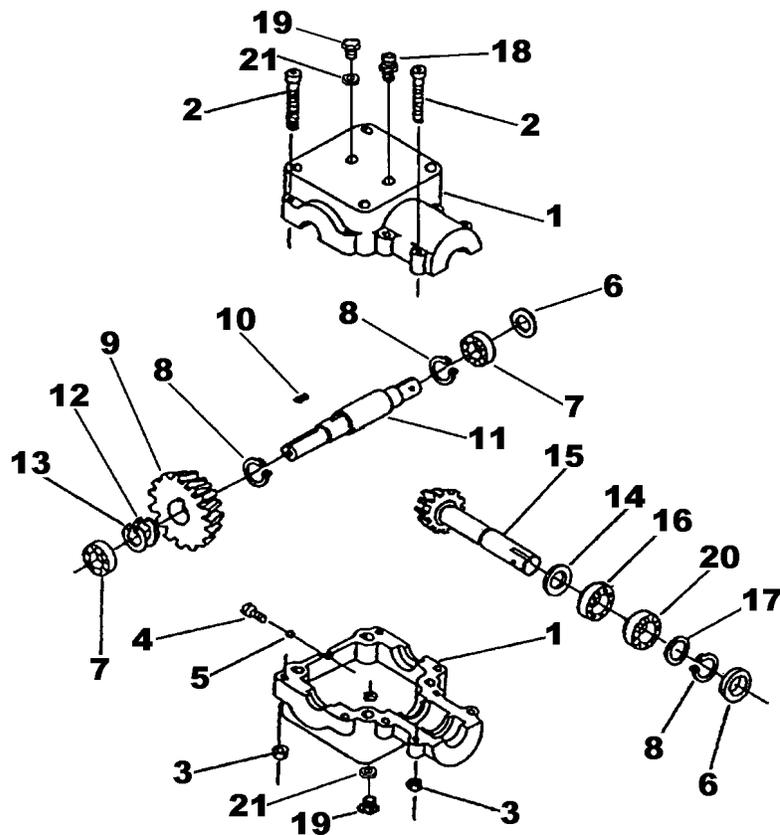
REF.	DESCRIPTION	QTY.	PART #
1	Outer shield	1	6651-1
2	Nylon bearing	1	6651-2
3	Bearing retainer	1	6651-3
4	Male shaft and yoke assembly	1	6651-4



PARTS

GEAR BOX - 4500024

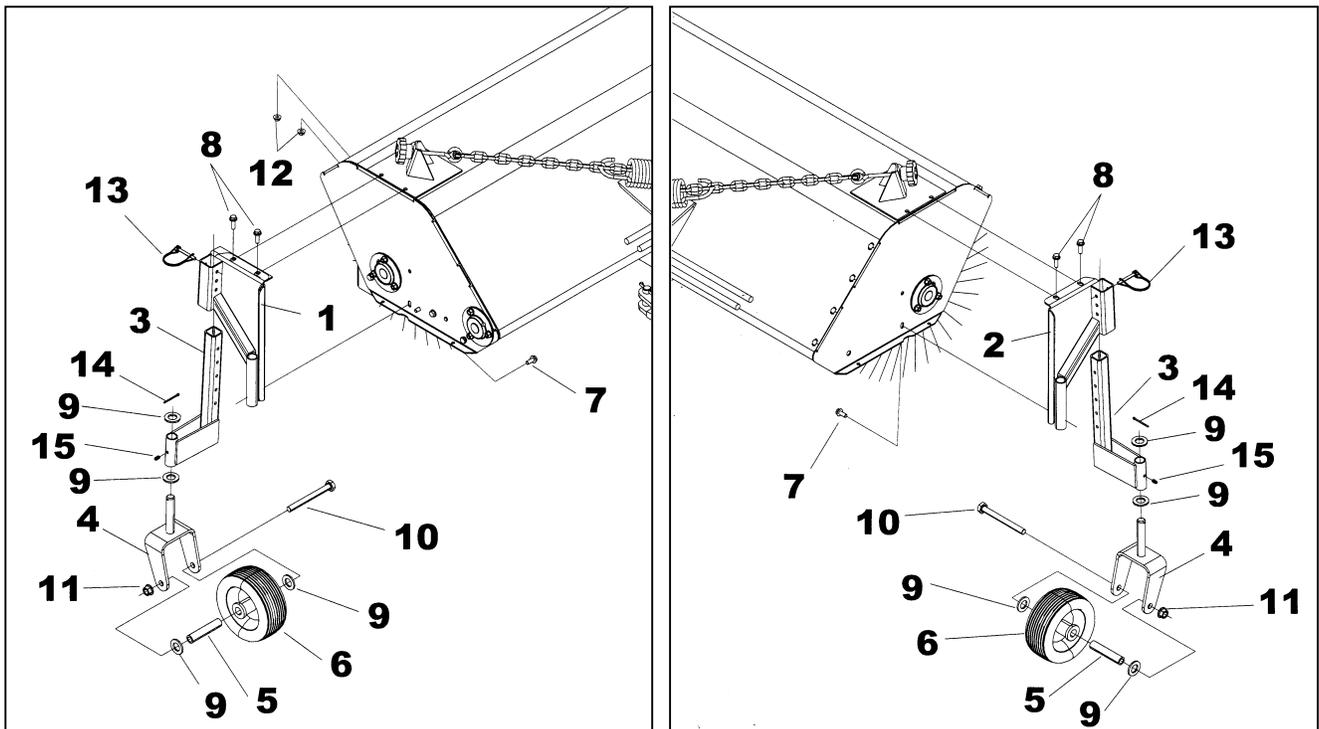
REF.	DESCRIPTION	QTY.	PART #
1	Casing	1	664659
2	Bolt M8 x 45	8	0200098
3	Hex. nut M8	8	0900029
4	Plug 3/8"	1	661739
5	O-ring	1	664656
6	Oil seal	2	661730
7	Bearing	2	661728
8	Snap ring	3	661734
9	Gear Z25 M3,5	1	661738
10	Parallel key A8 x 7 x 25	1	660063
11	Shaft	1	664657
12	Shim 25.6 x 0.8	1	661737
13	Shim 25.6 x 1.0	1	661736
14	Shim 25.6 x 0.7	1	661731
15	Pinion 29 M3.5	1	4500023
16	Bearing	1	661732
17	Shim 25.6 x 0.6	1	661733
18	Oil filler plug	1	661741
19	Plug 1/4 gas	1	664658
20	Bearing	1	663916
21	Spring Washer	2	664655



PARTS

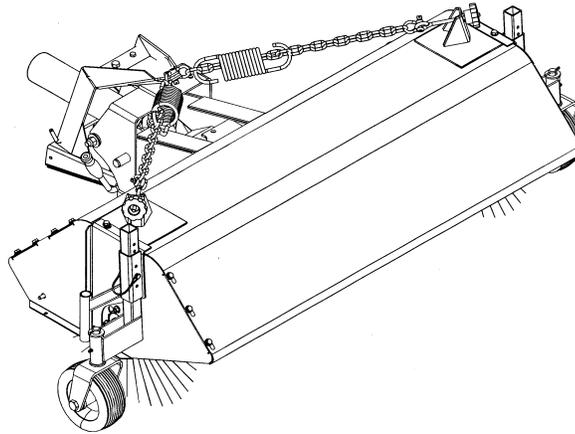
LAWN DETHATCHING WHEEL KIT – WAL0001 (OPTION)

REF.	DESCRIPTION	QTY	PART #
1	Wheel support LH	1	666941
2	Wheel support RH	1	666942
3	Wheel adjustment	2	666943
4	Wheel bracket	2	666944
5	Wheel bushing	2	666945
6	Wheel assembly	2	3800055
7	Serrated flange bolt 5/16" NC x 1/2" gr. 2 PTD	2	0200065
8	Serrated flange bolt 5/16" NC x 1" gr. 2, PTD	2	0200091
9	Flat washer Ø13/16" hole, PTD	8	O/L
10	Hex bolt 1/2" NC x 5" lg, gr.5 PTD	2	O/L
11	Serrated flange nut 1/2" NC, PTD	2	0900046
12	Serrated flange nut 5/16" NC, PTD	2	0900036
13	Round wire lock pin 1/4", PTD	2	1900006
14	Cotter pin Ø5/32" x 1 1/2. PTD	2	O/L
15	Grease fitting 1/4"	2	654106



AVAILABLE OPTION

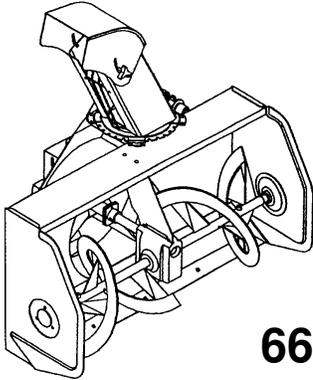
LAWN DETHATCHING WHEEL KIT



WAL0001

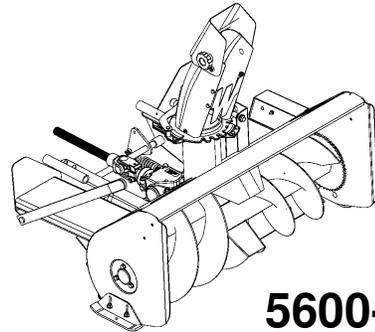
AVAILABLE EQUIPMENT

**42" (1.07 m) TWO STAGE
SNOWBLOWER**



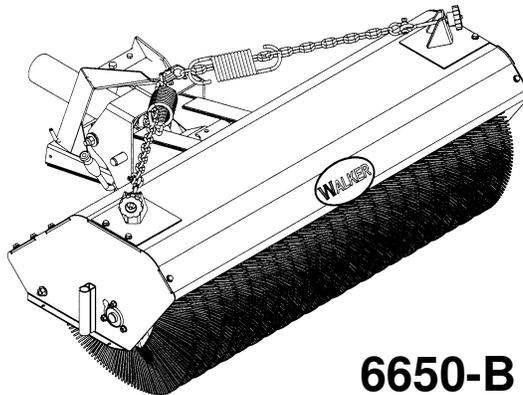
6670-1

**36" (.91 m) ONE STAGE
SNOWBLOWER**



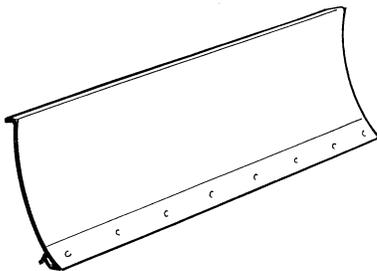
5600-20

47" (1.2 m) ROTARY BROOM



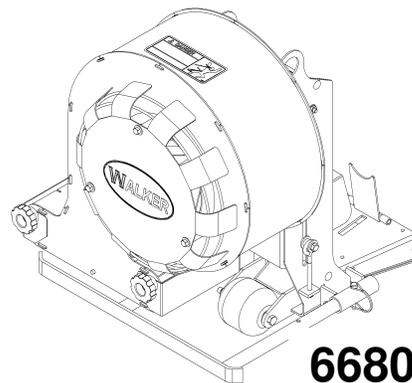
6650-B

46" (1.17 m) BLADE



6660

DEBRIS BLOWER



6680-21

TORQUE SPECIFICATION TABLE

GENERAL SPECIFICATION TABLE

Use the following torques when special torques are not given. Note: These values apply to fasteners as received from supplier, when dry. These values do not apply if lubricants are used.

BOLT SIZES (SAE)	TORQUE	
INCHES	Pounds-Foot	Newton-Meters
1/4	5	7
5/16	10	14
3/8	20	27
7/16	25	41
1/2	88	119
5/8	165	224
3/4	297	403
9/16	121	164
7/8	440	597
1	638	865
1 1/8	840	1139
1 1/4	1180	1600
1 3/8	1570	2129
1 1/2	2070	2807

BOLT SIZES (METRIC)	TORQUE	
MILLIMETERS	Pounds-Foot	Newton-Meters
M6	10	13
M8	22	30
M10	40	54
M12	59	80
M14	93	126
M16	130	176
M18	168	228
M20	205	278



WALKER MANUFACTURING CO.

5925 E. Harmony Road
Fort Collins, CO 80528
USA

Printed in Canada

