OWNER'S MANUAL

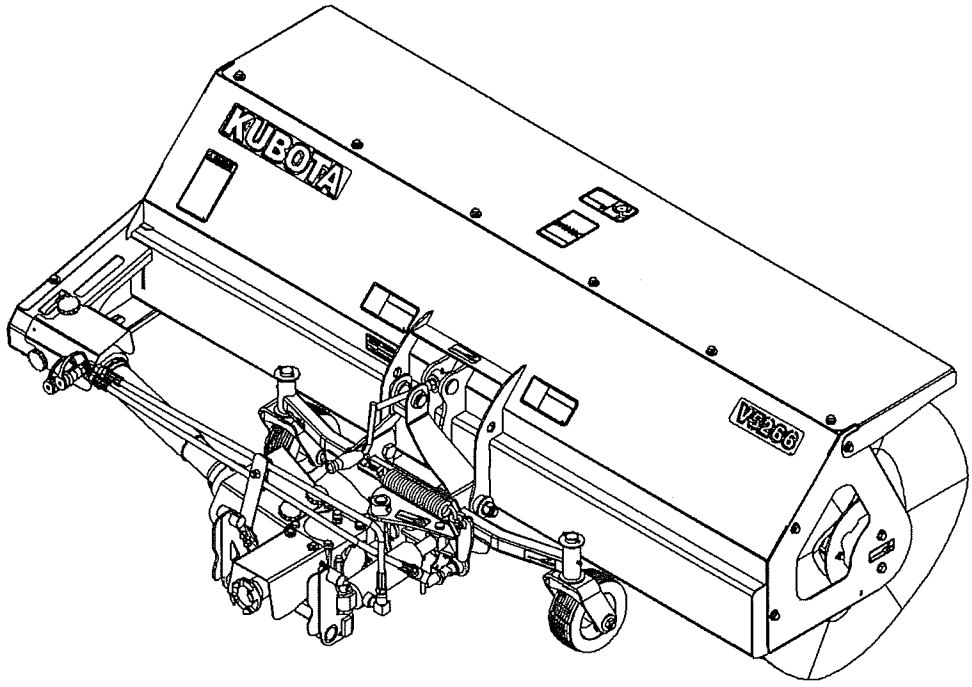
OM 0446BR-A / Rev3 01-19

MANUAL PN 77700-07666

Kubota®

V5266 - 66" ROTARY BROOM

SERIAL NO. 21615150 AND UP



FOR RTV-X1100C

Estimated installation time: ***15 minutes***

CALIFORNIA PROPOSITION 65

⚠ **WARNING:**

Cancer and reproductive harm - www.P65Warnings.ca.gov

PLEASE READ THIS MANUAL CAREFULLY

KEEP READY AT ALL TIMES

DISCLAIMER

LEGAL DISCLAIMER

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SPECIFICATIONS

Features and Specifications	V5266 Broom
Hitch system	4 point (K connect)
Category	B
Overall width	70 1/2" (179 cm)
Overall height	25" (63.5cm)
Overall length	47 1/2" (120.7cm)
Type of brush	Single Wafer, 100% polypropylene
Wafer brush kit 50% polypropylene 50% steel	Option
Brush diameter	24" (61cm)
Brush quantity	34
Working width, straight	65.5" (1663.7cm)
Working width at maximum angle	59.5" (151.1cm)
Direction of rotation at the entrance (from the user seat)	CCW
Steel Housing thickness	Main plate : 16 GA (0.0598") Side plate : 12 GA (0.1045") Rear reinforcement : 14 GA (0.0747")
Adjustment of the angle orientation	By hydraulic cylinder
Maximum angle of the orientation	25° to the left & 25° to the right
Brush to the ground pressure adjustment	By worm mechanism
Lateral deflection of the broom ends	8.5° up & 8.5° down
Reduction box ratio	2.78 :1
Chain reduction ratio	3.33 :1 (40 :12)
Revolution reduction total ratio	9.27 :1
Brush revolution speed when vehicle operates at 3000 RPM	243 RPM
Driving sprocket	H50A12
Driven sprocket	50A40
Type of driving chain	50H X 100 links
Lawn dethatching wheels	Included
Dust suppression system by water	Option
Outside package size	76 3/4" x 52 1/2" x 31 1/2" height (195 cm x 133.4 cm x 80 cm height)
Broom weight	300 lbs (136 kg)
Approx. shipping weight (packaged)	480 lbs (217.7 kg)

Time for Initial installation (approx): 15 minutes

Time for Brush replacement (approx.): 20 minutes

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 RTV. 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 RTV. It is also advisable to supply them to your insurance company. It will be helpful in the event that the rotary broom or RTV is lost or stolen.

	RTV	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 RTV.

SUBFRAME & ROTARY BROOM

Before Operation

1. Read and understand both the RTV 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 RTV, 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 RTV 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 RTV is counterweighted as recommended by the operator manual and/or your dealer for the RTV. Weights provide the necessary balance to improve stability, traction and steering.

WARNING: To avoid serious personal injury or death: The PTO drive system reduces the ground clearance of the vehicle. To avoid serious personal injury or death, always keep the vehicle in LOW GEAR when driving in rough roads or trails when equipped with the drive. (see page 22 for Ground Clearance information).

SAFETY PRECAUTIONS - continued

Rotary Broom & Subframe Operation

1. Before leaving the RTV unattended, take all possible precautions. Park the RTV/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 RTV/ 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 RTV/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 RTV 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 broom 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. Check that all RTV and rotary broom drivelines are in good working order.
20. Never allow anyone to operate the rotary broom until they have read the manual completely and are thoroughly familiar with basic RTV and rotary broom operation.
21. Make sure the RTV 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 RTV/rotary broom at any time. There is no safe place for passengers on this rotary broom. The operator MUST sit in the RTV seat.

SAFETY PRECAUTIONS - continued

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 RTV 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. Never stand alongside of the rotary broom while the engine is running.

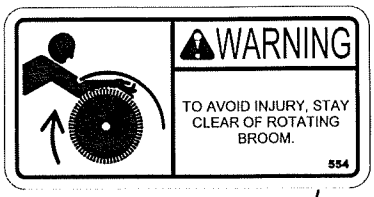
MAINTENANCE

ALWAYS USE GENUINE PARTS WHEN REPLACEMENT PARTS ARE REQUIRED

1. Keep the RTV and rotary broom properly maintained.
2. Park the RTV/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 RTV engine running. Make sure rotating components have completely stopped before leaving the operator's seat.
4. Keep the RTV/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 RTV 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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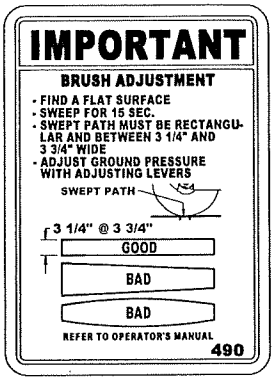

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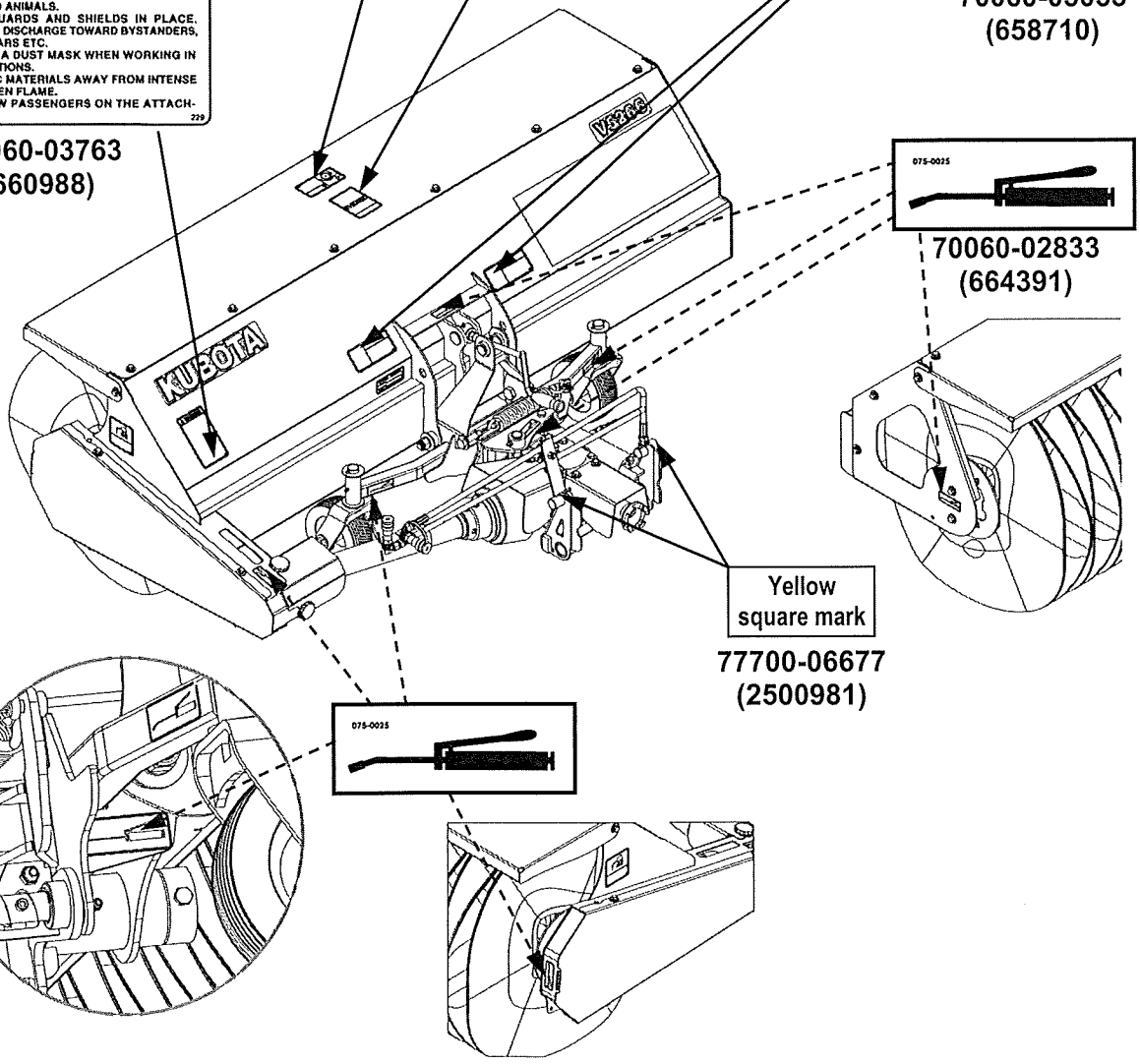

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DECALS

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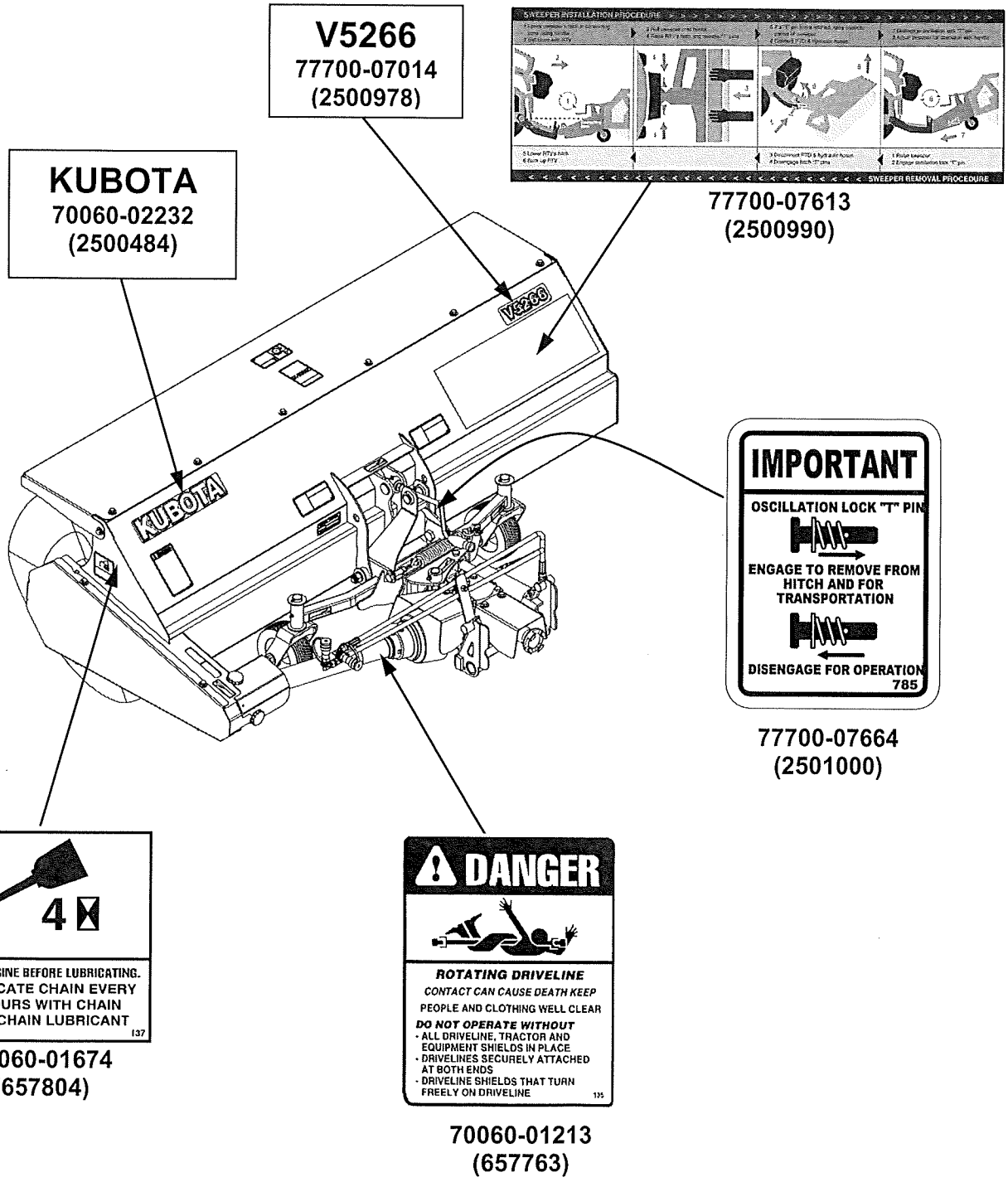


ASSEMBLY

ROTARY BROOM PREPARATION

(Figures 1 to 3)

1. **Figure 1:** Remove the hardware and the two broom brackets (item 3) which are used for retaining the brush (item 1) to the wooden cage (item 2). To move the brush, you can use the anchor points indicated in the figure.

   NOTE: The removed hardware and the two broom brackets will no longer be used.

2. **Figure 2:** Before connecting the brush to the 4 point hitch of the vehicle, make sure that the T pin broom lock (item 1) is in the engaged position by turning and pushing in Handle on the broom. The engagement of the T pin is to straighten the 4 point hitch of the brush (item 2) to place it parallel with the ground and the frame of the broom. This step is necessary to make the connection and disconnection of the broom on the 4 point hitch of the vehicle.

   IMPORTANT: The T pin broom lock (item 1) must be in the engaged position only during connection and disconnection of the brush to the RTV hitch. **The T pin broom lock must not be engaged during use of the brush**.

   IMPORTANT: Check and remove any debris and dirt that have accumulated on the female coupling shaft (item 3) and on the 4 point hitch.

3. **Figure 3:** Direct the swivel wheels forward (item 1) of the broom as illustrated in the figure.

4. **Figure 3:** Rotate the handle (item 2) to lower the 4 point hitch (item 3) down so that it is about 1" from the ground.

   NOTE: If the brush was previously used and adjusted, take note of the number of rotation turn of the handle (item 2) to reposition it correctly when the brush connection is completed.

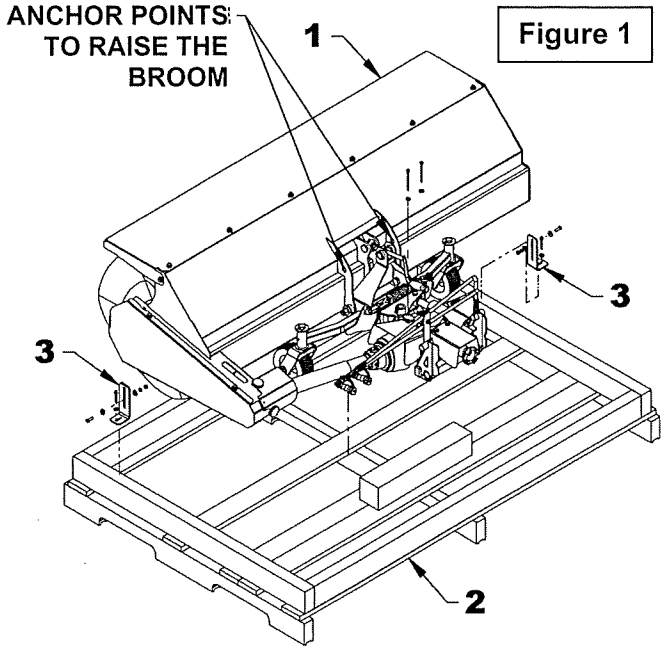


Figure 1

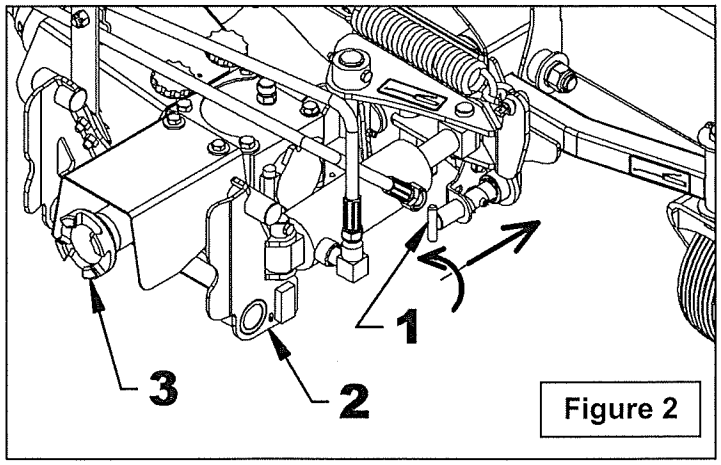


Figure 2

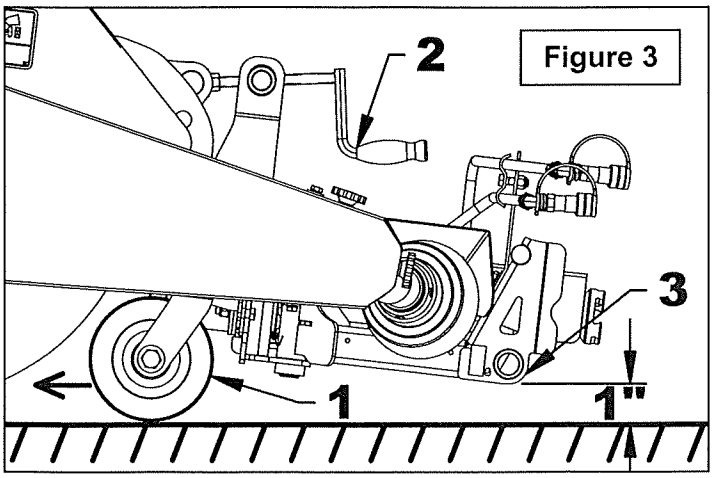


Figure 3

ASSEMBLY

ROTARY BROOM INSTALLATION

Connection of the Broom to the Vehicle Subframe

WARNING: To avoid serious personal injury or death: Park the vehicle on level ground, place the transmission in neutral, set the parking brake, place all control levers in neutral, shut off the engine, remove the ignition key and allow the rotating parts to stop BEFORE mounting the broom on the RTV.

1. **Figure 4:** Pull and rotate each subframe T pin (item 1) to engage them in the slots.
2. **Figure 4:** Move the drive system engagement lever (item 2) forward as shown on figure.

IMPORTANT: Check and remove any debris and dirt that have accumulated on the female coupling shaft (item 3) and on the 4 point hitch.

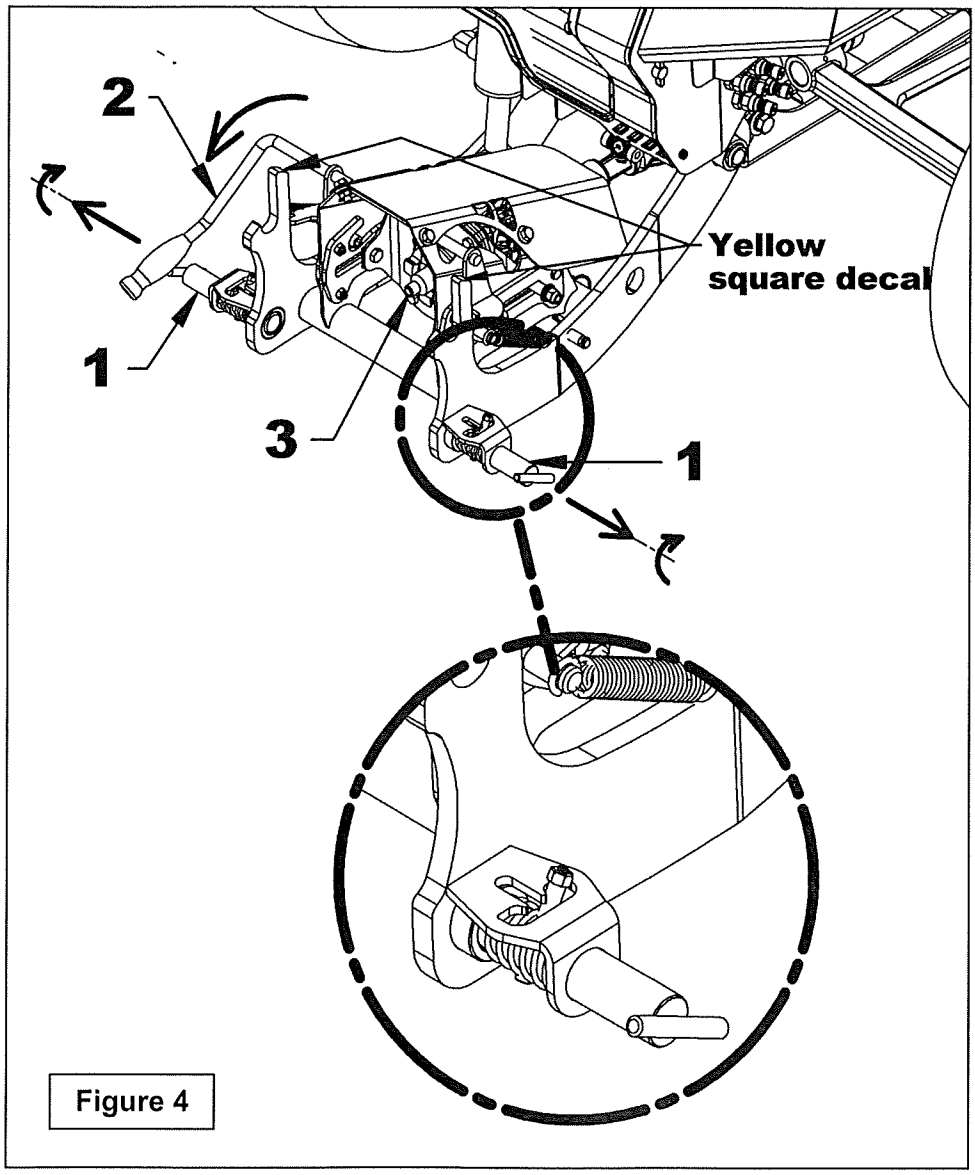


Figure 4

ASSEMBLY

3. **Figure 5 – STEP 1:** Lower the broom hitch in the connecting zone by rotating the handle (see figure).
4. **Figure 5 – STEP 2:** Move forward the RTV hitch close to the broom.

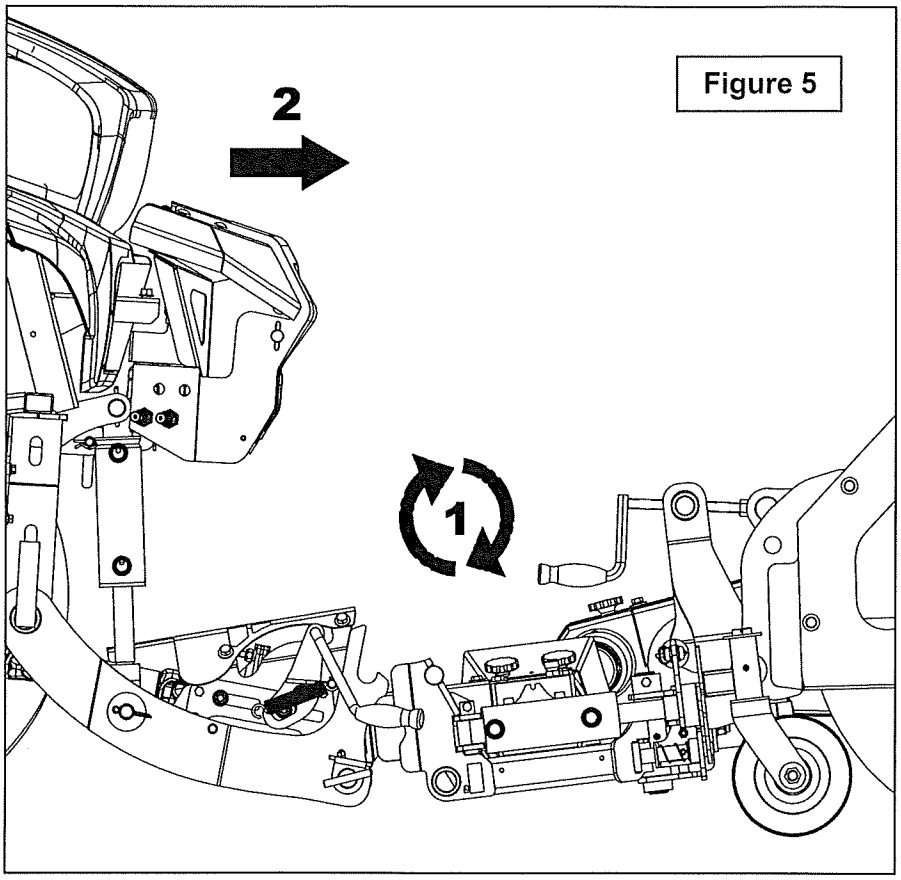


Figure 5

ASSEMBLY

5. **Figures 5a-5b – STEP 3:** Push in front of the broom and roll the broom pins onto the RTV subframe hooks.

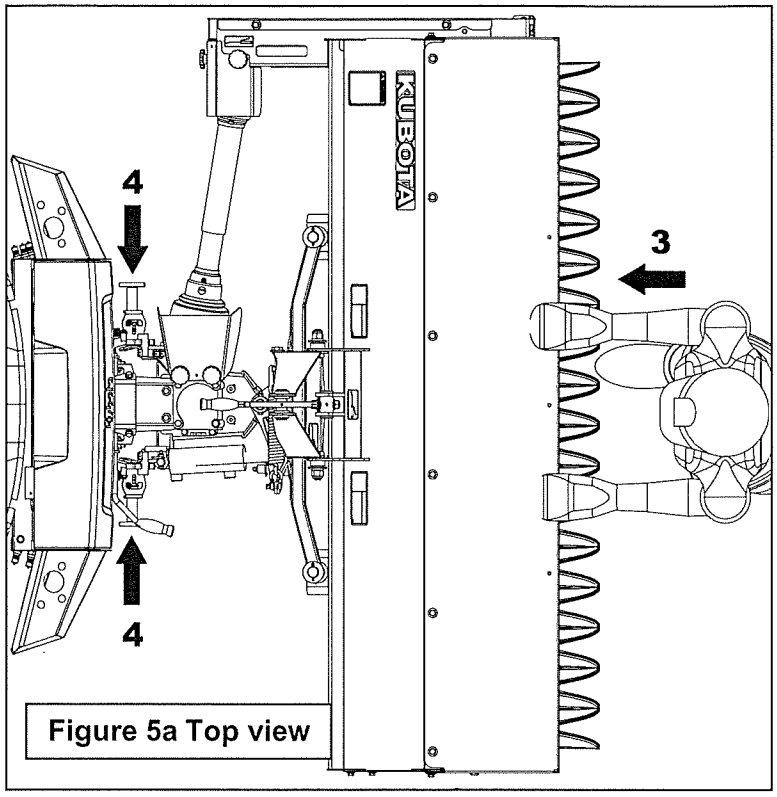


Figure 5a Top view

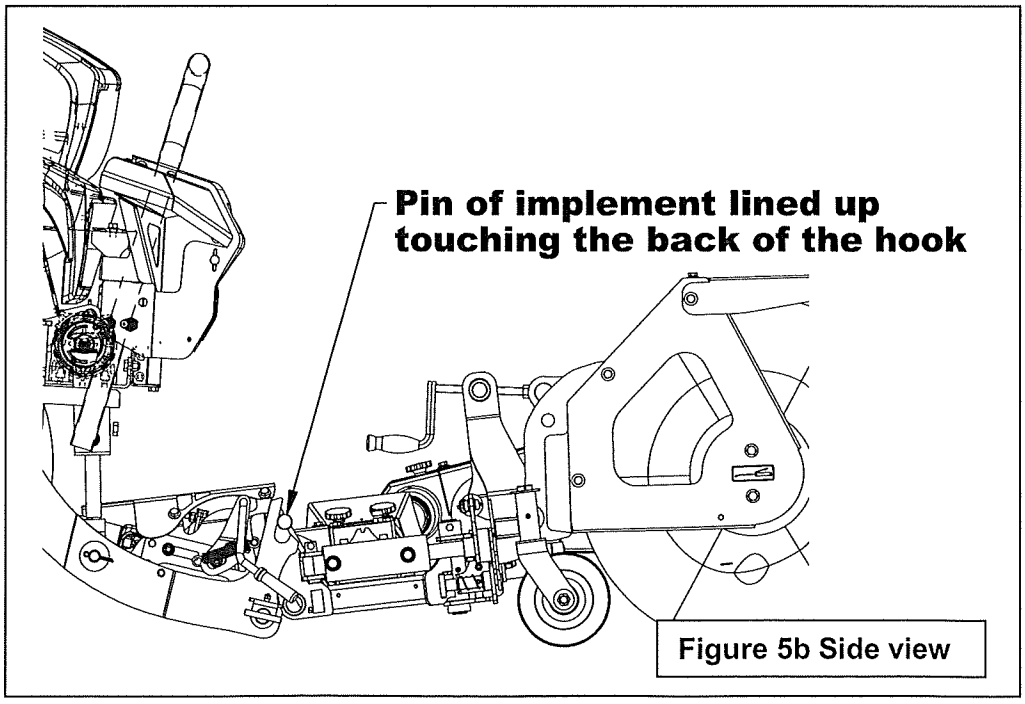


Figure 5b Side view

6. **Figure 5c – STEP 4:** Raise the RTV hitch and release the subframe T Pin (item 1).

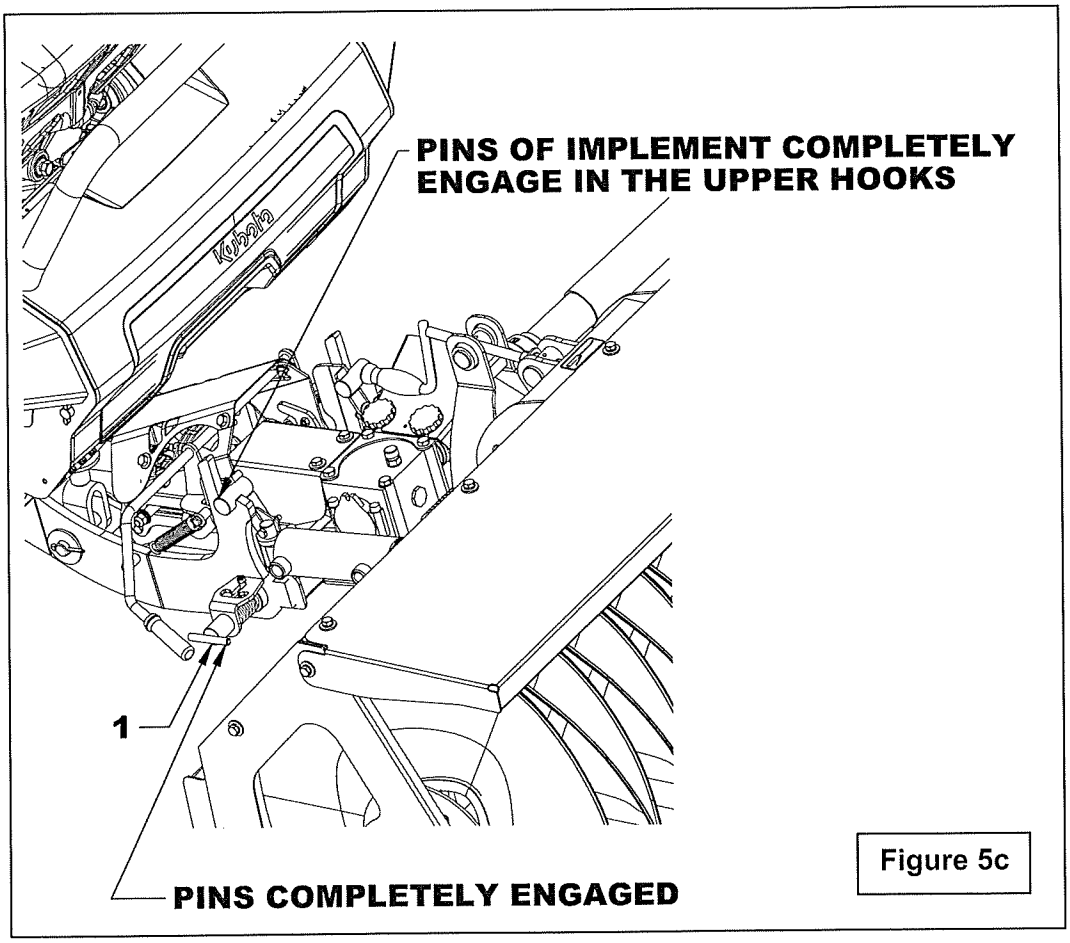


Figure 5c

ASSEMBLY

7. **Figure 6 – STEP 5:** If a subframe T pin is not latched, raise opposite corner of sweeper to latch it.
8. **Figure 6 – STEP 6:** Move up the K-Connect lever of the mechanical drive.

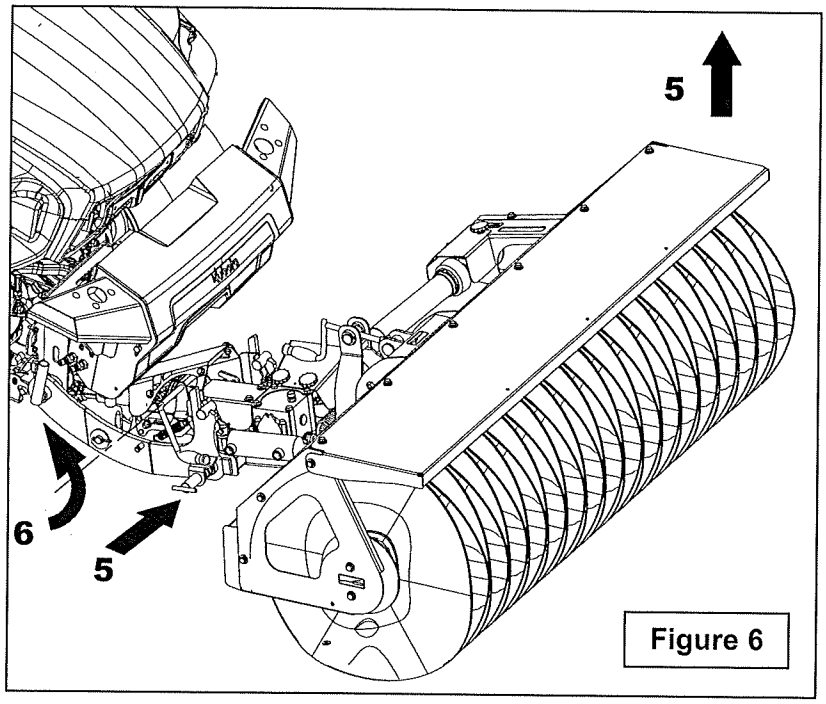


Figure 6

9. **Figure 7 – STEP 7:** Disengage oscillation broom lock T pin so that the broom can oscillate and perfectly follow the ground when in operation.
10. **Figure 7 – STEP 8:** Adjust the broom for operation with the rotation of the handle.

IMPORTANT: The T pin broom lock must not be engaged during use of the rotary broom.

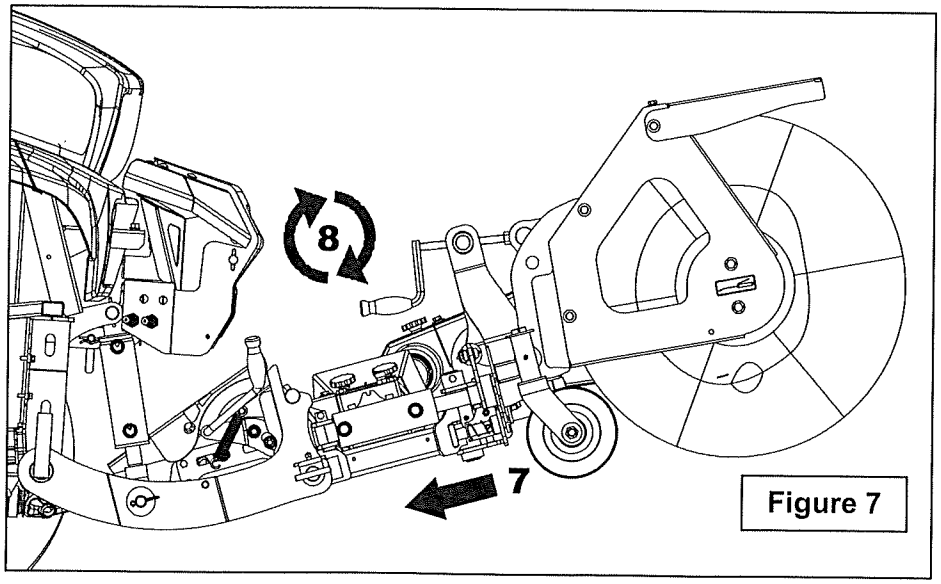


Figure 7

ASSEMBLY

11. **Figures 8-9:** To remove pressure on the system turn on the key without start the vehicle. Activated the float mode with the control handle (see the ***"Handle Control Function"*** Table on pages 23-24). Turn off the key. Connect the female hydraulic couplings of the broom hoses (items 1-2) to the male hydraulic couplings (items 1A-2A) of the vehicle hydraulic unit in the order shown in figures 8-9. Ensure that the color rings correspond to those of the vehicle hydraulic unit. If this is not the case, reverse the color rings of the hoses.
12. **Figure 9A:** Secure the two hoses together with a nylon tie wrap (item 1) as shown in figure.
13. To control the movements to the right and to the left, go to the ***"Handle Control Function"*** Table on pages 23-24.

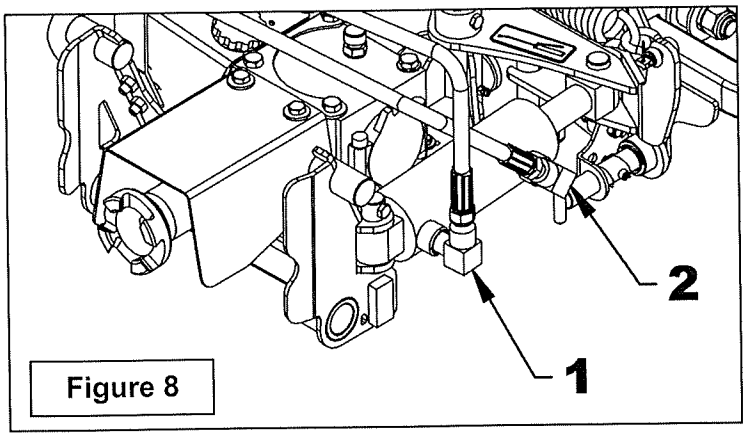


Figure 8

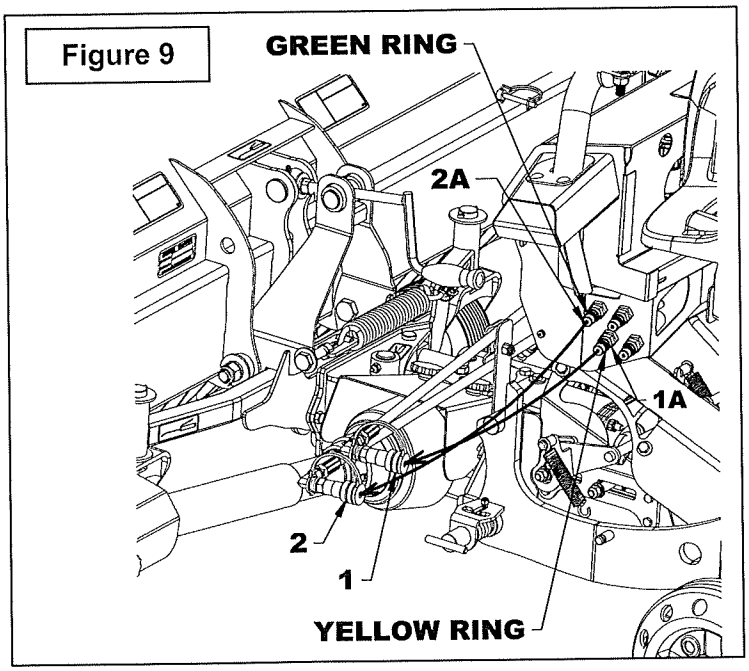
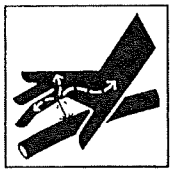
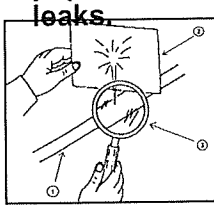


Figure 9

WARNING: To avoid serious personal injury or death. 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.**





1. Hydraulic hose
2. Cardboard
3. Magnifying glass

- **Stop engine and place in float mode with handle control (see Function Table on pages 23-24) before connecting or disconnecting lines.**
- **Torque all connections before starting engine or pressurizing lines.**

If any fluid is injected into the skin, obtain medical attention immediately or gangrene may result.

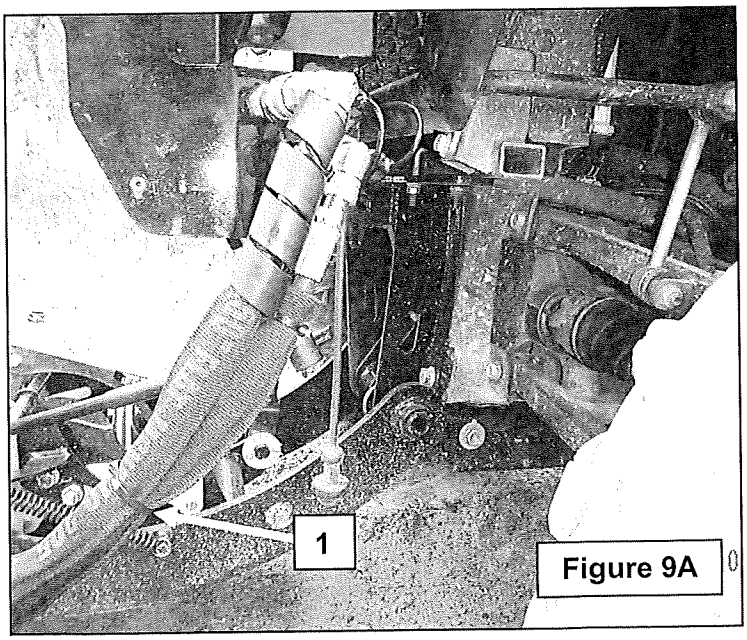


Figure 9A

ASSEMBLY

Disconnecting the Broom from the Vehicle (Figures 10 to 13)

1. **RAISE** the broom off the ground with the handle control (see the ***"Handle Control Function"*** Table on pages 23-24).
2. **Figure 10:** Place the T pin broom lock (item 1) in the engaged position. The engagement of the T pin broom lock is to straighten the 4 point hitch of the brush (item 2) parallel with the ground and the frame of the broom. This step is necessary to make the connection and disconnection of the broom on the 4 point hitch of the vehicle.

   IMPORTANT: The T pin broom lock (item 1) must be in the engaged position only during connection and disconnection of the broom to the RTV hitch. **The T pin broom lock must not be engaged during use of the brush.**
3. Using the handle control, place the broom straight to eliminate the angulation.
4. **Figure 11:** Stop engine and place in float mode with the handle control. Disconnect the two broom hoses (item 1) and install the dust plugs and dust caps on each hydraulic coupling. Then place the hoses on the broom.

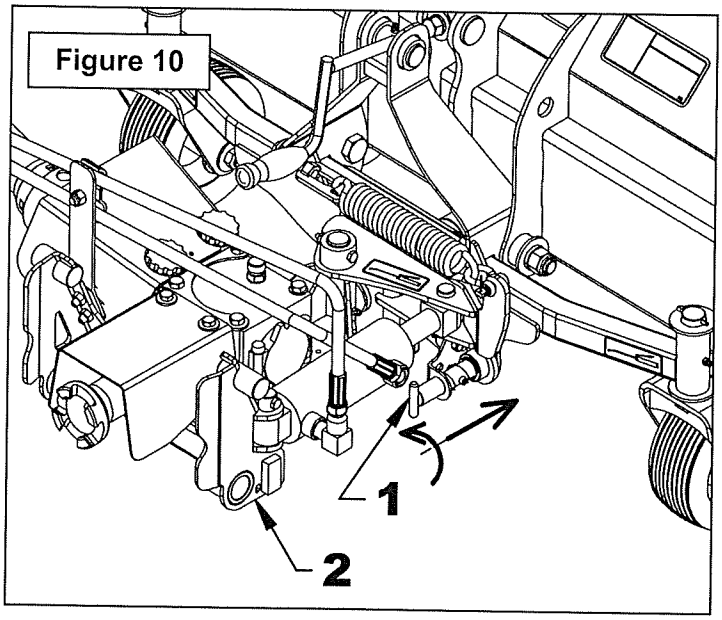


Figure 10

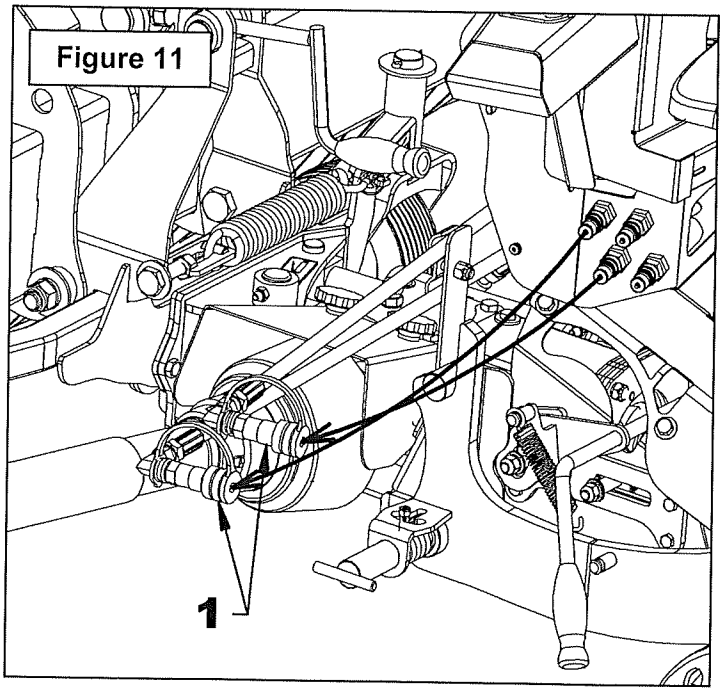
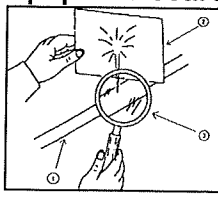


Figure 11

WARNING: To avoid serious personal injury or death. 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.**



1. Hydraulic hose
2. Cardboard
3. Magnifying glass

- **Stop engine and place in float mode with handle control (see Function Table on pages 23-24) before connecting or disconnecting lines.**
- **Torque all connections before starting engine or pressurizing lines.**

If any fluid is injected into the skin, obtain medical attention immediately or gangrene may result.

ASSEMBLY

5. **Figure 12:** Move down the K-Connect lever of the mechanical drive (item 2) as shown in figure.
6. **Figure 12:** Pull and rotate the two subframe T pins (item 1) into the slots. One subframe T pin on each side of the subframe. Left side subframe T pin shown in figure.
7. Using the vehicle handle control, completely move down the broom until the hooks of the hitch are released from the pins of the broom hitch.
8. Move back the vehicle to release the two hitches.
9. **Figure 13:** Direct the swivel wheels forward (item 1) of the broom as illustrated in the figure.

IMPORTANT : If the broom is stored more than two consecutive weeks you must put both sides of the broom on supports (items 3-4, not included) to clear the brush from the ground. This step is necessary to prevent the deformation of the brush hairs that might occur over time.

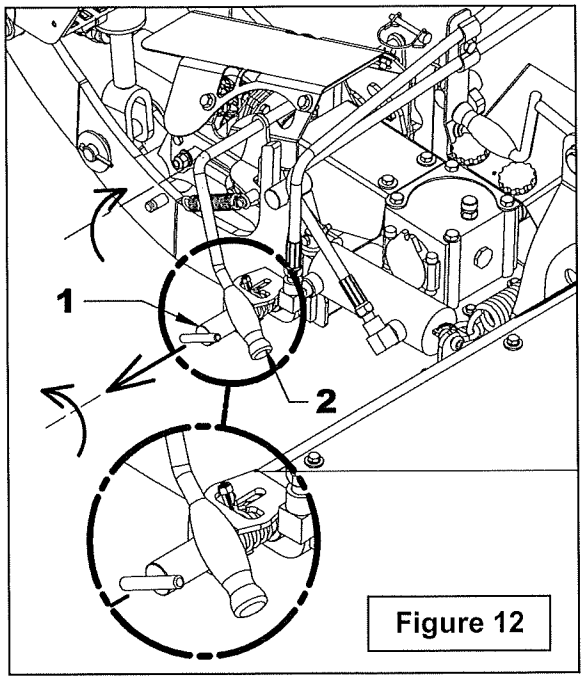


Figure 12

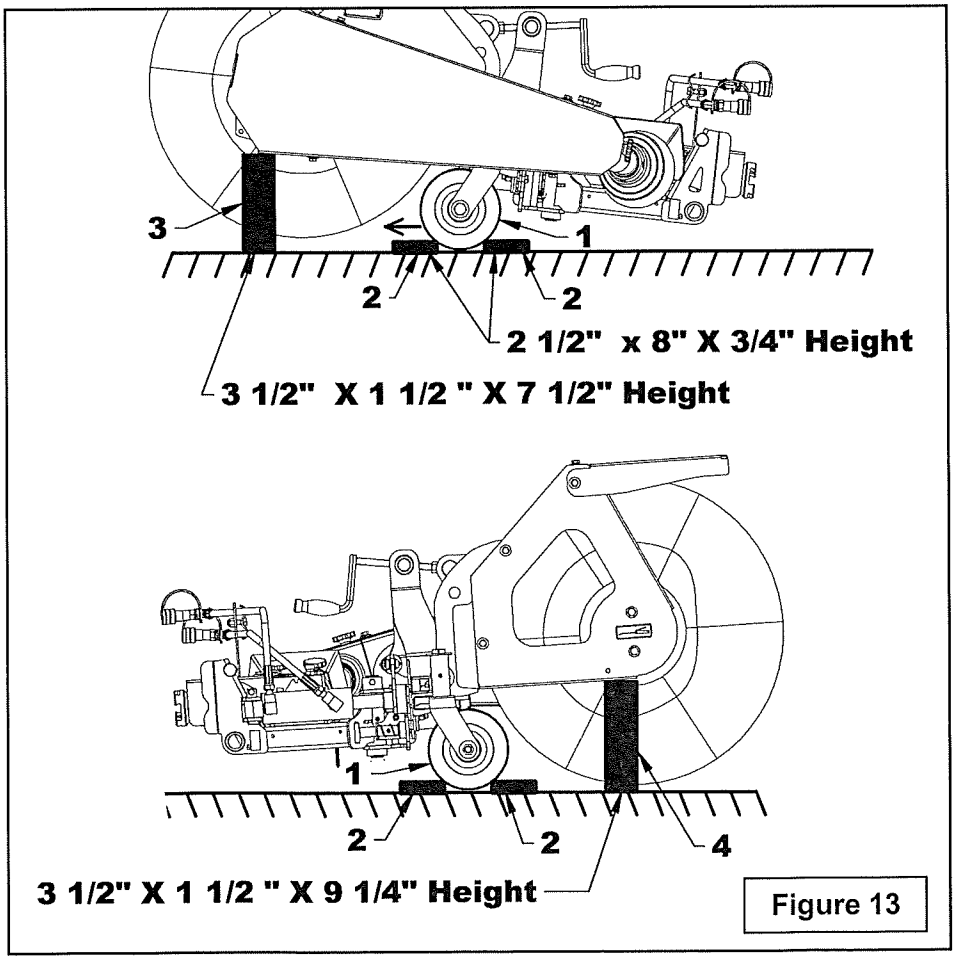


Figure 13

OPERATION

GENERAL PREPARATION

1. Read the operator's manual carefully before using the RTV and broom. Be thoroughly familiar with the controls and proper use of the equipment. Know how to stop the unit and disengage the controls quickly.
2. Check the oil level in the reduction box and if necessary, add AGMA 5EP, SAE 80W90 gear oil or equivalent.
3. Check drive shaft tightening.
4. Make sure that the broom operates freely.

WARNING: To avoid serious personal injury or death:

- **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 RTV 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.**

CAUTION

Always operate the broom while sitting on the RTV's seat. Never allow anyone to climb on the machine.

CAUTION

Operate the broom at a speed that corresponds to the working conditions. Always be careful when working near a slope or on an uneven surface.

CAUTION

Always wear eye protection while operating the broom.

ASSEMBLY

OPERATING CONTROLS

Engine Speed

1. Start the RTV engine. Let the engine warm up at least one minute before engaging the drive mechanism then increase speed gradually.
2. Make sure the broom is properly positioned and engage the drive mechanism (see the following "*Engaging the Drive Mechanism*").
3. Adjust the ground speed in low gear according to conditions. For maximum power, run engine at or near full throttle.

Engaging the Drive Mechanism

(Figure 14)

To engage the PTO, sit down on the operator's seat, turn the hand throttle lock knob counter clockwise (item 3) to unlock, press the button (item 2) with the thumb on the hand throttle and push down the handle (item 3), then release the button (item 2). Start the motor of the vehicle and activate the PTO switch (item 1). The PTO light in the dashboard will turn on (item 4). Push down with the thumb the button located on the cable handle (item 2) and pull up the handle to maximum (item 3) and release the button (item 2). Turn the knob (item 3) clockwise to lock.

NOTE: Run the vehicle in low gear for broom operation.

NOTE: If the operator leaves the seat more than 3 seconds, the PTO disengages.
To restart the PTO, sit down on the operator's seat, disengage the PTO switch and then restart the motor of the vehicle and activate the PTO switch.

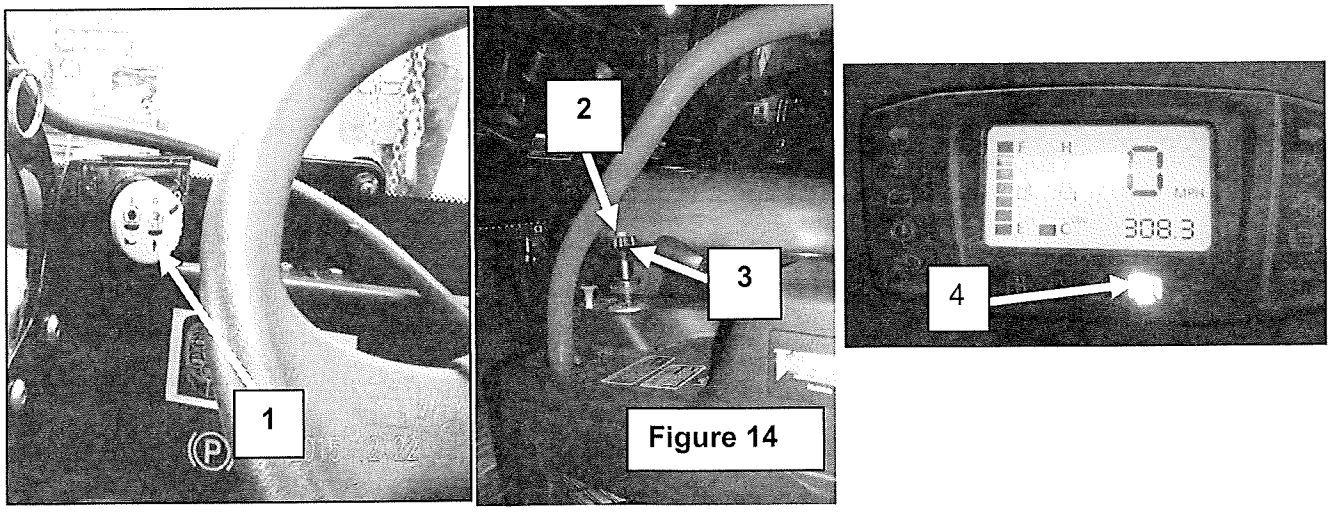


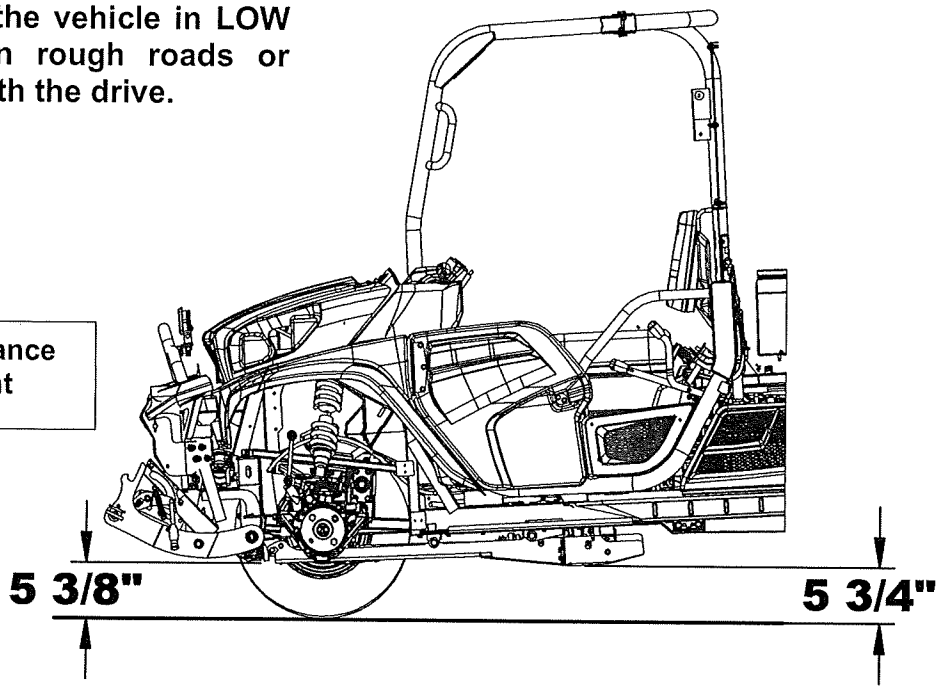
Figure 14

OPERATION

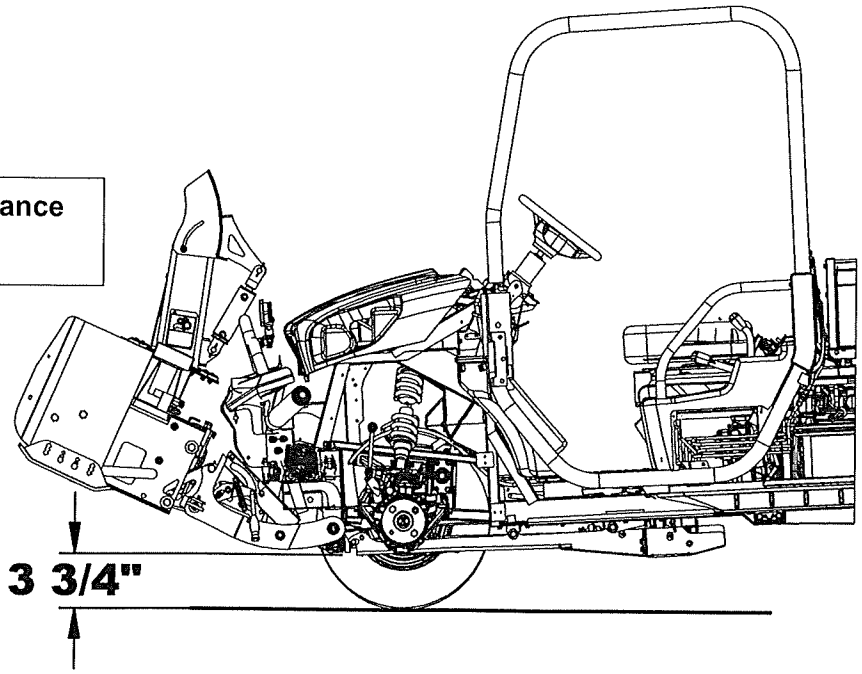
Ground Clearance of the Vehicle

WARNING: To avoid serious personal injury or death: The PTO drive system reduces the ground clearance of the vehicle. To avoid serious personal injury or death, always keep the vehicle in LOW GEAR when driving in rough roads or trails when equipped with the drive.

Mimimun ground clearance WITHOUT equipment

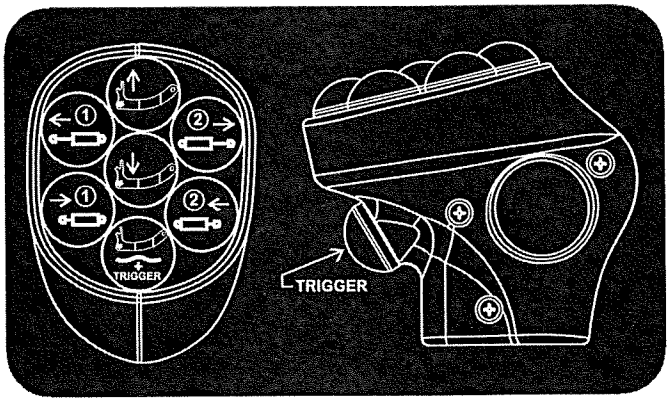


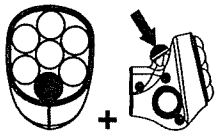
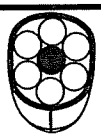
Mimimun ground clearance WITH equipment



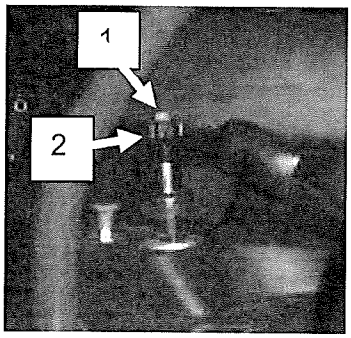
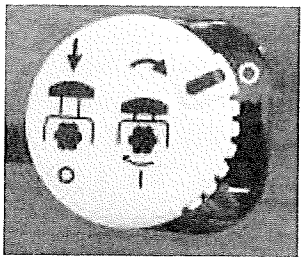
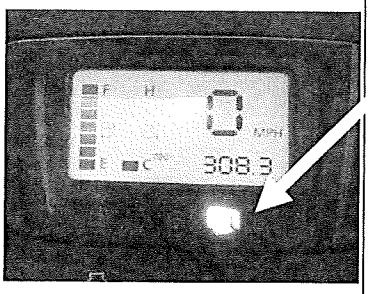
OPERATION

Broom Controls
and Handle Control Functions



Function	Button	Description
V5293 - 4 Point Hich control		
RAISE		Press the upper middle button to raise the 4 point hitch and disengage the "FLOAT" mode.
LOWER		Press the center middle button to lower the 4 point hitch and disengage the "FLOAT" mode.
FLOAT MODE - Activation		
FLOAT		Press the lower middle button and the rear button simultaneously to engage the "FLOAT" mode. The Blue LED light is ON
Note: The engine must be running or the key positioned to "KEY-ON" in order to be able to activate the float function.		
V5266 - Rotary Broom control		
IMPORTANT!		**DO NOT press the center button to lower the broom, so as not to unnecessarily increase the load on the wheels of the broom.**
ROTATION TO THE LEFT		Press the upper left button to rotate the implement to the left.
ROTATION TO THE RIGHT		Press the lower left button to rotate the implement to the right.
WARNING	**To avoid serious personal injury or death, engage the broom only when the engine is running at low RPM, and the broom brush does not touch the ground. Once the brush is engaged, lower the brush to ground level with the floating function and gradually increase the engine revolution.**	

OPERATION

Function	Button	Description
HAND THROTTLE CONTROL - Implement control		
SPEED OF ROTATION		The control of the speed of rotation of the implement is made from the hand throttle control located to the left of the operator's seat. • To **increase** the speed of rotation of the implement, unlock the hand throttle by turning the knob (item 2) counter clockwise, press the button (item 1) with the thumb on the knob (item 2), pull it upwards, then release the button (item 1). Lock the hand throttle by turning the knob clockwise. • To **decrease** the speed of rotation of the implement, unlock the hand throttle by turning knob (item 2) counter clockwise press the button (item 1) with the thumb on the knob (item 2), push it down, then release the button (item 1). Lock the hand throttle by turning the knob clockwise.
MECHANICAL ACTIVATION - Implement		
REVOLUTION	 	The activation of the mechanical revolution of the implement is made from the switch to the left of the operator's steering wheel. • To **activate** the revolution, press with the thumb and rotate the switch clockwise. The PTO light in the dashboard is on. Note: the operator must be seated to activate and maintain activation of the PTO system. • To **deactivate** the revolution, rotate the switch counter clockwise or simply press on the switch. The PTO light in the dashboard is off.

OPERATION

Brush-to-Ground Contact Adjustment (Figures 15-15a-15b)

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

1. Make sure the pressure of the RTV tires is properly adjusted.
2. Find a hard and dirty surface. With the brush off the ground, engage the broom and **LOWER** the brush to the ground by activating the **FLOAT** mode of the handle control. Let it turn 5 seconds without moving. **RAISE** the brush off the ground, disengage the broom and wait till the brush stops turning completely.
3. Back away the RTV then turn the engine off.
4. Measure the path cleaned. If the brush is adjusted properly, the path is between 3 1/4" and 3 3/4" wide (83 to 95mm) and both sides of the path are parallel.
5. To adjust the brush (item 2) of the broom:
   - rotate **clockwise** the handle (item 1) to lower the brush (item 2) and increase the width of the cleaned path
   - rotate **counterclockwise** to raise the brush (item 2) and decrease the width of the cleaned path.

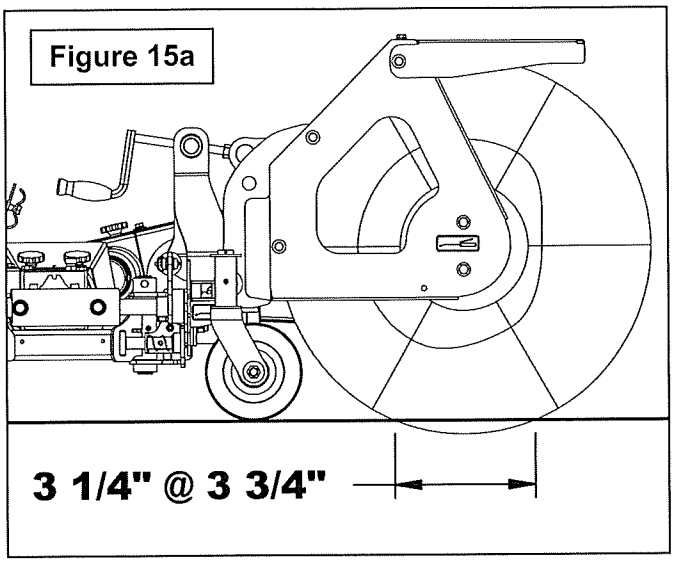


Figure 15a

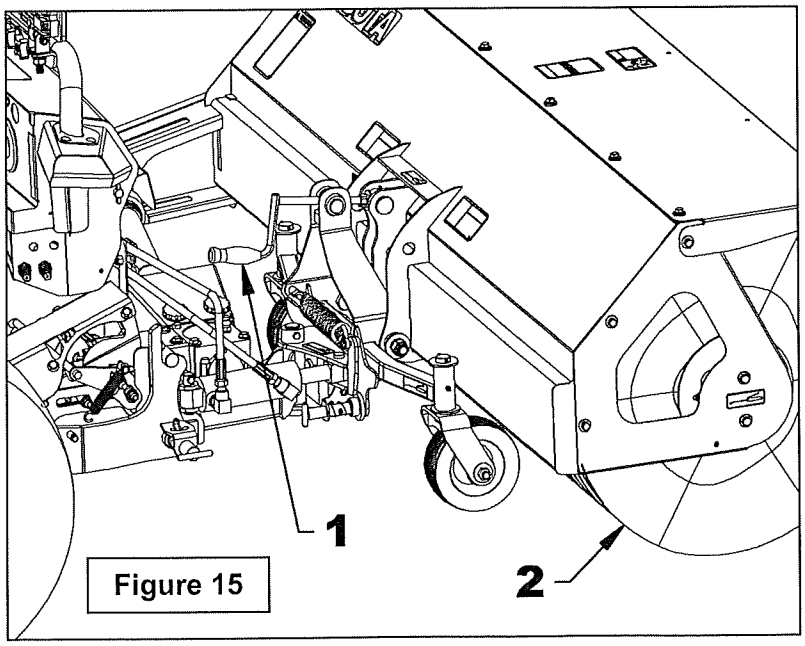


Figure 15

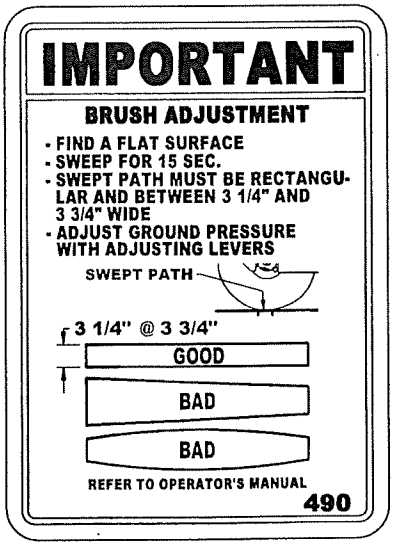
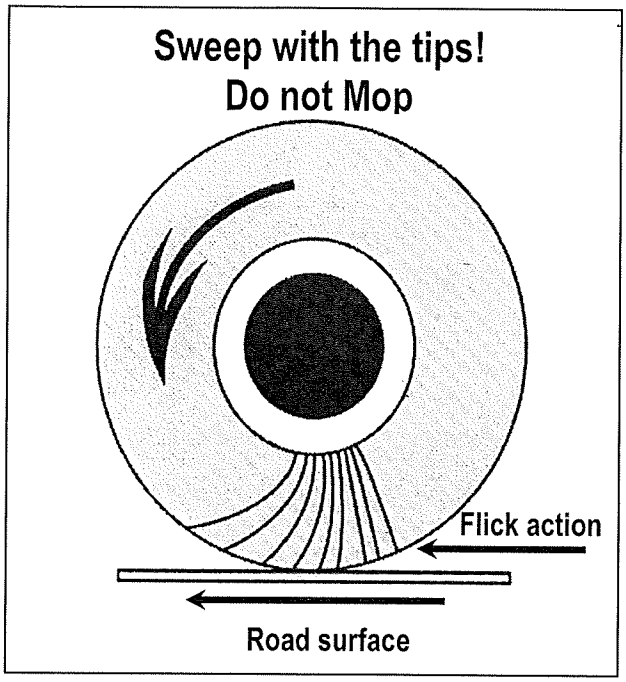


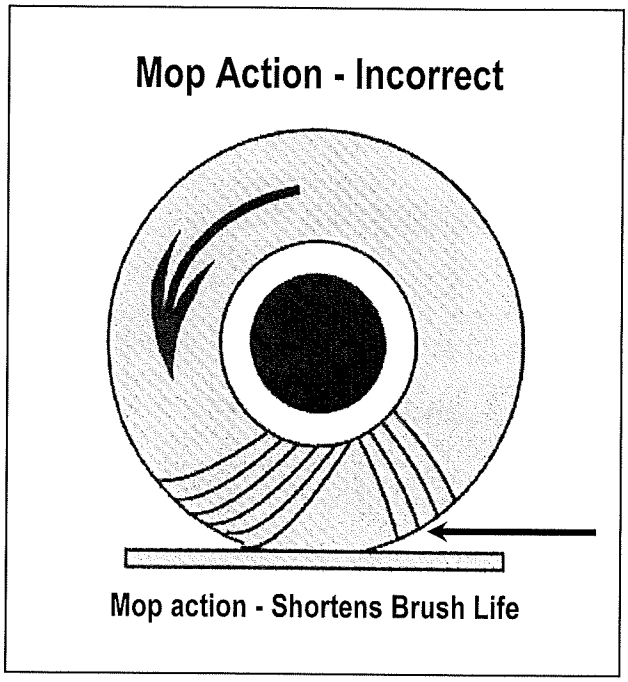
Figure 15b

OPERATION

The rotary broom's suspension design keeps the ground pressure of the brush constant and within a pressure range that makes the brush sweep with the tips of the bristles for a longer brush life.

Improper downward pressure can decrease brush life up to 95%. The broom must sweep with the bristle tips. When too much down pressure is applied, the broom no longer uses the tips; the broom cleans with the sides of the bristles. This limits the flicking action of the bristles and limits its sweeping effectiveness.





OPERATION

Adjustment of the Tension Spring and the Broom Friction Plates (Fig.16-17-18)

The role of the tension spring (item 6) is to counteract the extra weight on the left side of the broom to thereby maintain it parallel with the ground when it is raised clear of the ground for transporting.

The role of friction plates (items 2 and 3) is to create a resistance to movement of the broom oscillation and to keep it in a stable position when it is raised clear of the ground.

The tension spring (item 6) and the friction plates (items 2 and 3) have been pre-adjusted at the factory. However, if you find that the broom always tilts to one side and / or tends to easily oscillate during travel, then check and clean the residues that could have accumulated on the broom and inside of the frame. If the brush is clean and the problem persists, then make the adjustments described in the next steps.

To make adjustments:

1. Place the vehicle and the broom on a clean and flat surface, lift the broom to its maximum, set the parking brake and turn off the vehicle engine.
2. **Figure 16:** Then place a jack stand (item 1) under the 4 point hitch of the broom to prevent accidental lowering.

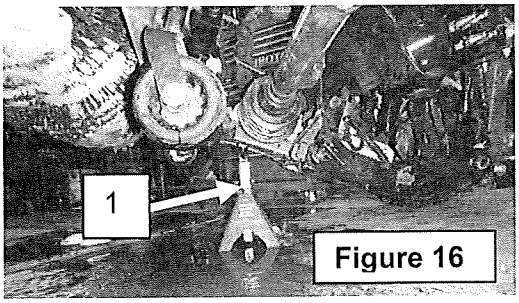


Figure 16

3. **Figures 17-18:** Partially unscrew the two bolts and nuts (item 1) on each side of the broom pivot so there is no more pressure on the friction plates (items 2-3). Then push on one end of the broom (item 4) and release to make it oscillate. Pay attention and check the position when the housing stabilizes. Make two to three repetitions to confirm the stabilization position.
   - If the broom is stabilizing, bowing to the left, tighten the bolt (item 5) to increase the spring tension (item 6).
   - If the broom is stabilizing, bowing to the right, loosen the bolt (item 5) to reduce the spring tension (item 6).
   - If the brush stabilizes parallel with the ground, then the bolt (item 5) should not be adjusted.
4. **Figure 16:** After completing the adjustment, torque the two bolts and nuts (items 1) of the friction plates to 12 lbs-ft so to create a resistance to the oscillation movement.

<u>IMPORTANT</u>: The broom must move without an exaggerated resistance when pushing and pulling on the ends of the broom. A force of around 55 lbs on the end is acceptable.

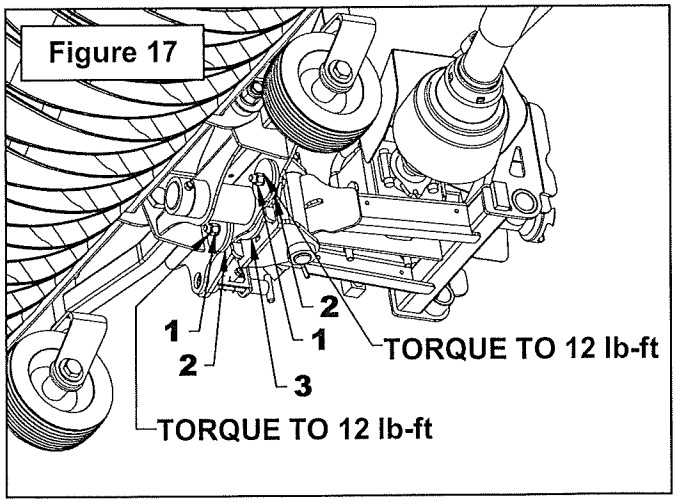


Figure 17

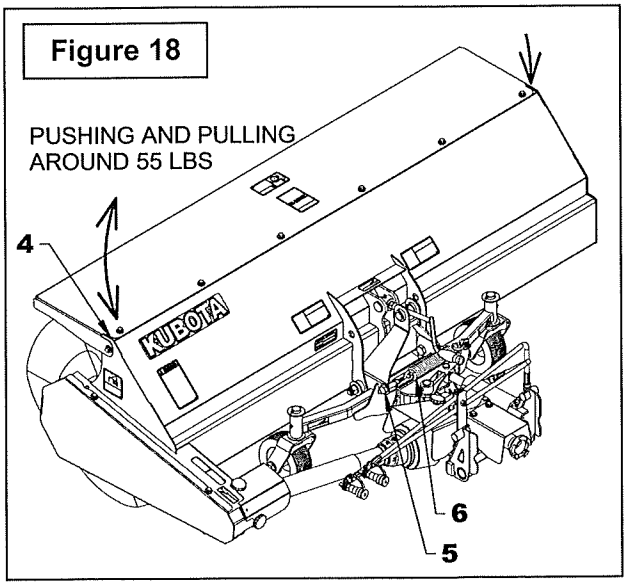


Figure 18

OPERATION

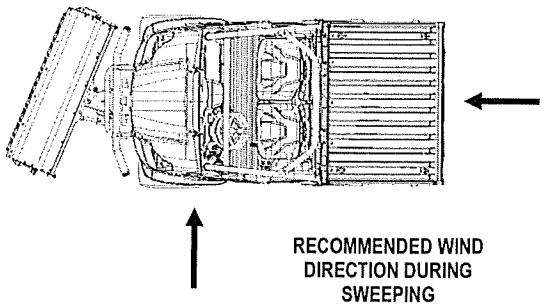
Lawn Dethatching & Leaf Raking

WARNING:

To avoid serious personal injuriy or death:

Before getting off the vehicle: Park the vehicle on level ground, place the transmission in neutral, set the parking brake, disengage the drive system, lower 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.

1. Bristles should barely touch the ground for lawn dethatching and leaf raking operations. To adjust the brush, **LOWER** the broom to the ground where the sweeping will be done by placing the vehicle control handle located on the left side of the vehicle steering wheel in **FLOAT** mode.
2. **RAISE** and **LOWER** the brush using the handle (**Figure 15**, Item 1). It is recommended to place the brush about 1" above the floor for the first test on the grass then lower or lift as needed.
3. 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.
4. Minimize dust by reducing brush speed and by sweeping when moisture is high (but not wet) whenever possible.



Snow Removal

WARNING:

To avoid serious personal injury or death: 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 personal injury or death: Snow or ice build-up on the sweeper hood can cause a loss of RTV 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" or less.
2. To avoid the snow from being blown back on the RTV 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.

Sweeping small gravel, dust and regular debris

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.

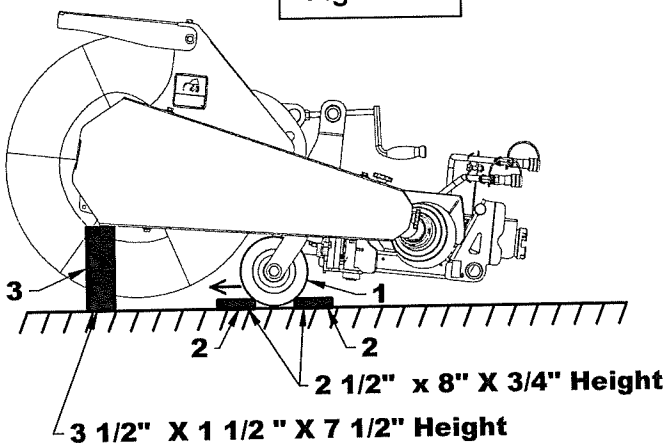
MAINTENANCE

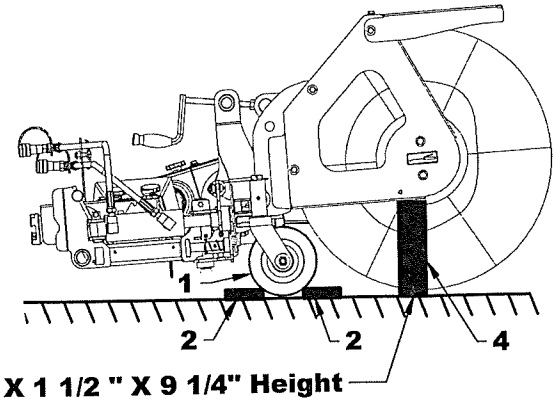
MAINTENANCE

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 RTV air cleaner should be checked daily and replaced when necessary.
3. Check and tighten all hardware, including the one installed at the factory, before operating the rotary broom after the first 8 hours of operation and then every 20 hours of operation.

Figure 19





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. 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.
4. Repaint all parts from which paint has worn or peeled.
5. Lubricate the rotary broom as instructed under *Lubrication*.
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. **Figure 19:** Store broom on blocks so that the bristles do not touch the ground. Direct the swivel wheels forward (item 1) of the broom as illustrated in the figure. Then place small blocks (item 2, not included) on each side of the wheels to block the broom
8. Store in a dry place.

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

IMPORTANT : If the broom is stored more than two consecutive weeks you must put both sides of the broom on supports (items 3-4, not included) to clear the brush from the ground. This step is necessary to prevent the deformation of the brush hairs that might occur over time.

MAINTENANCE

TROUBLESHOOTING

Rear Debris Being Thrown Back

1. The quantity of debris being swept is too large. Solution: Reduce the width of the sweeping path and place the broom at an angle to prevent an accumulation of debris.
2. Perform a second pass to complete the cleaning.

NOTE: The travel speed of the RTV and the down pressure of the brush will have little effect on this condition. It is therefore recommended keeping the same sweeping settings and to make a second pass to complete the job.

Debris Left on the Ground

1. The travel speed of the RTV is too fast. Slow down.
2. The ground pressure of the brush is too low. Solution: Increase pressure with the engagement levers located on the top of the broom.
3. Perform a second pass to complete the cleaning.

NOTE: The higher the ground pressure of the brush is, the more the brush life is reduced.

Uneven Wear of the Brush

1. Make sure there is no debris wrapped around the brush.
2. Check the ground pressure adjustment (see page 25)
3. Remove the accumulated debris under the hood.

Accumulation of Debris in the Front

1. Reduce ground speed.
2. Increase engine speed.
3. Make more than one pass.
4. **RAISE** the brush to reduce ground pressure.
5. Increase the broom angle.

Premature Wear of the Driveline

1. Reduce ground speed.
2. Make more than one pass especially when the debris is thick and heavy.
3. Avoid pushing piles of debris.
4. Avoid changing the broom angle when there is too much debris to push.
5. Requires lubrication. Lubricate more often.

MAINTENANCE

Drive Chain Adjustment
(Figures 20-20a)

WARNING:
To avoid serious personal injuriy or death: Before getting off the vehicle: Park the vehicle on level ground, place the transmission in neutral, set the parking brake, disengage the drive system, lower 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.

IMPORTANT: The chain adjustment must be done after the first 8 hours of operation and then every 24 hours of operation.

Premature wear of the chain can be caused by excessive tension. It is therefore important that the chain is not too tight.

1. **Figure 20:** To access the chain, remove the chain guard (item 1) by removing the four 5/16"NC x 3/4" lg bolts, lockwashers and flat washers (items 2-3-4).
2. **Figure 20a:** To check the chain tension, lift it up to maximum and measure the distance of movement. The measurement obtained should be between 1/2 "and 1". If the measurement is not correct, loosen the 3/8"NC nylon insert locknut (item 1) and move idler sprocket (item 2) to obtain the correct distance. Then tighten the 3/8"NC nylon insert locknut (item 1).
3. Reinstall the chain guard (item 1) using the four 5/16"NC x 3/4" lg bolts, lockwashers and flat washers (items 2-3-4).

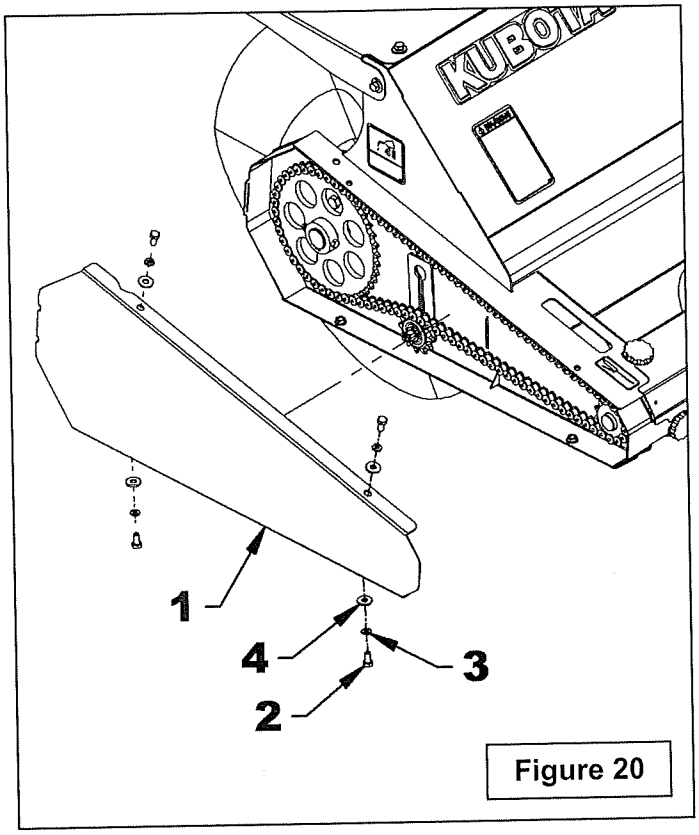


Figure 20

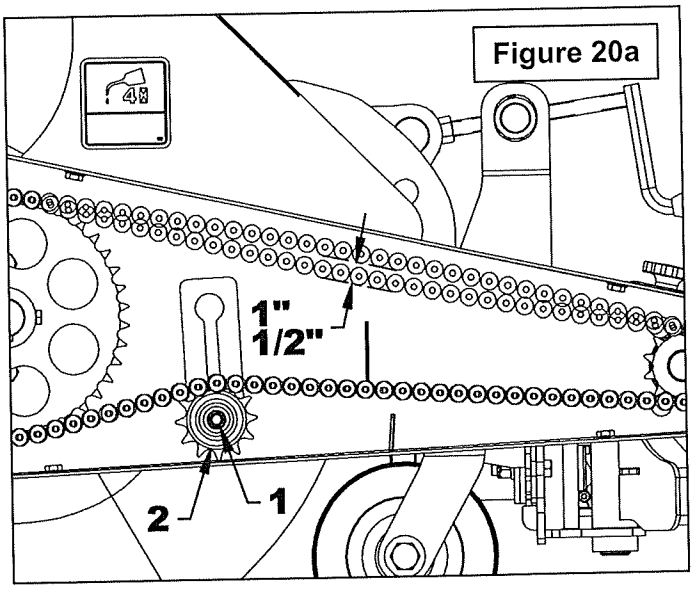


Figure 20a

MAINTENANCE

Brush Replacement
(Figures 22 to 24)

IMPORTANT: Replace the brushes when they reach a diameter of 15".

1. Place the vehicle equipped with the broom on a clean level ground, place transmission in neutral, apply parking brake, lift the broom with the handle control (see the ***"Handle Control Function"*** Table on pages 23-24), stop engine and wait for all movement to stop. Remove the ignition key.

CAUTION: Place a jack stand (**fig.22**, item 1) under the 4 point hitch to support the broom safely. Do not rely on hydraulic supports, they may break suddenly, accidentally be lowered or an oil leak could occur.

2. **Figure 22a:** Remove the two 3/8" x 1 1/2" lg bolts (item 1), 3/8" flat washers (item 2), lockwashers (item 3) and 3/8"NC nuts (item 4) on the right side of the broom (item 5) which are used for retaining the bearing that is fixed to the brush support.

   NOTE Figure 22b: The bearing (item 7) must remain secure on the brush support (item 5).

3. **Figure 22b:** Remove the right side (item 1) from the broom frame (item 6) by removing the three 5/16"NC x 3/4" lg bolts (item 2), flat washers and lockswashers (items 3-4).

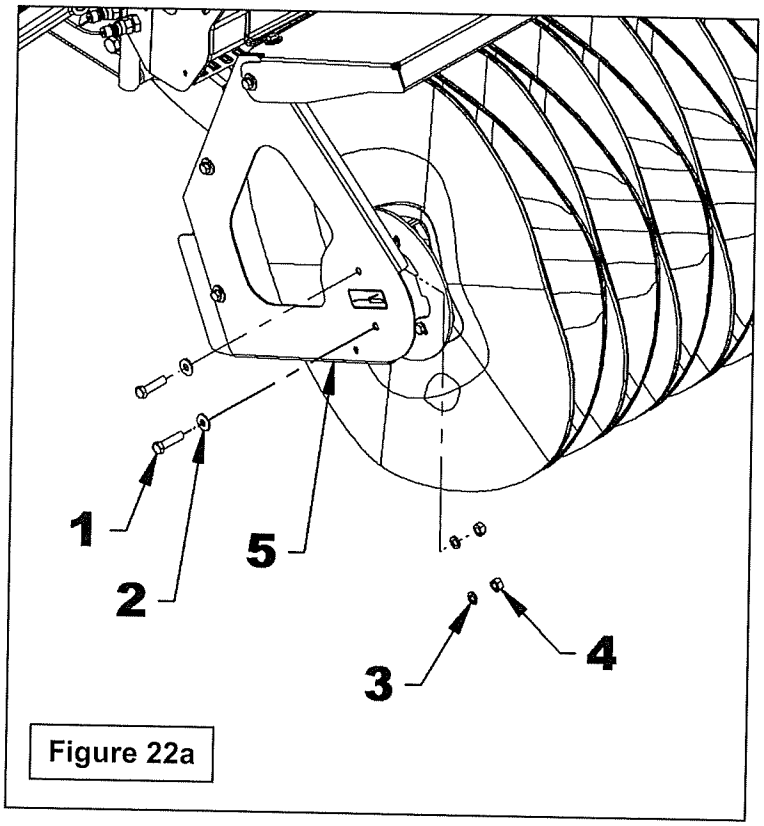


Figure 22a

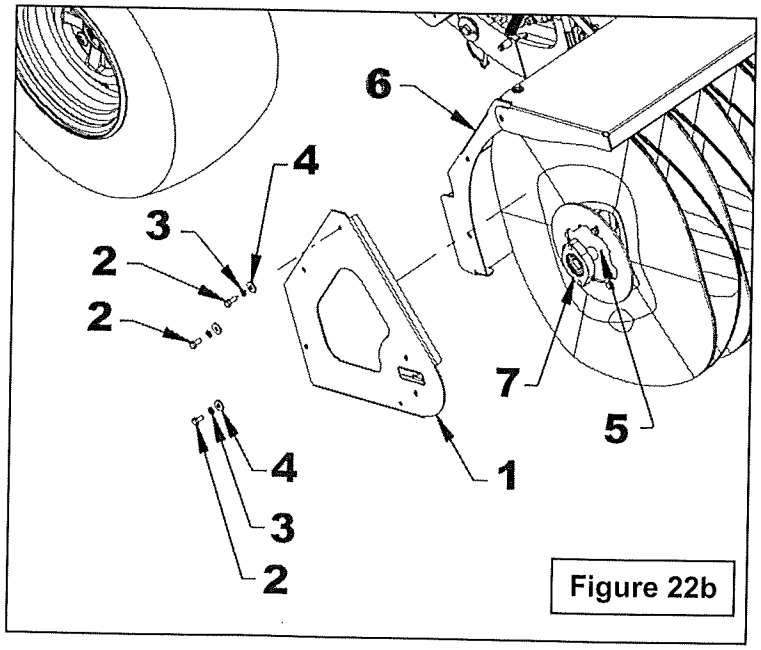


Figure 22b

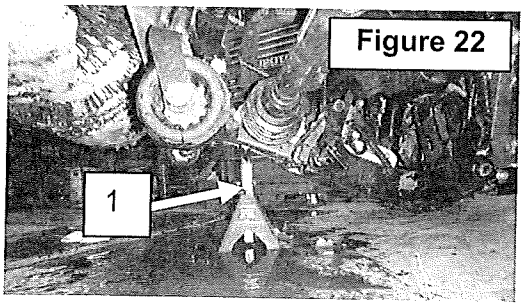


Figure 22

MAINTENANCE

4. **Figure 23:** Remove the three 5/16"NC x 1" bolts (item 3), the three 5/16" lockwashers (item 4) and the retaining plate (item 5) from the brush support (item 2). Then remove all brushes (item 1) from the brush support (item 2).

IMPORTANT: If you decide to install a 50/50 polypropylene/steel brush kit, start and finish with a polypropylene brush.

5. **Figure 23:** Install each brush (item 1) in the opposite direction of the one next to it. The two pins on each brush (item 1a) that secure the brushes to the support must be alternated 120° (1/3 of a turn) to obtain a balanced distribution on each of the support's three square tubes (item 2a).

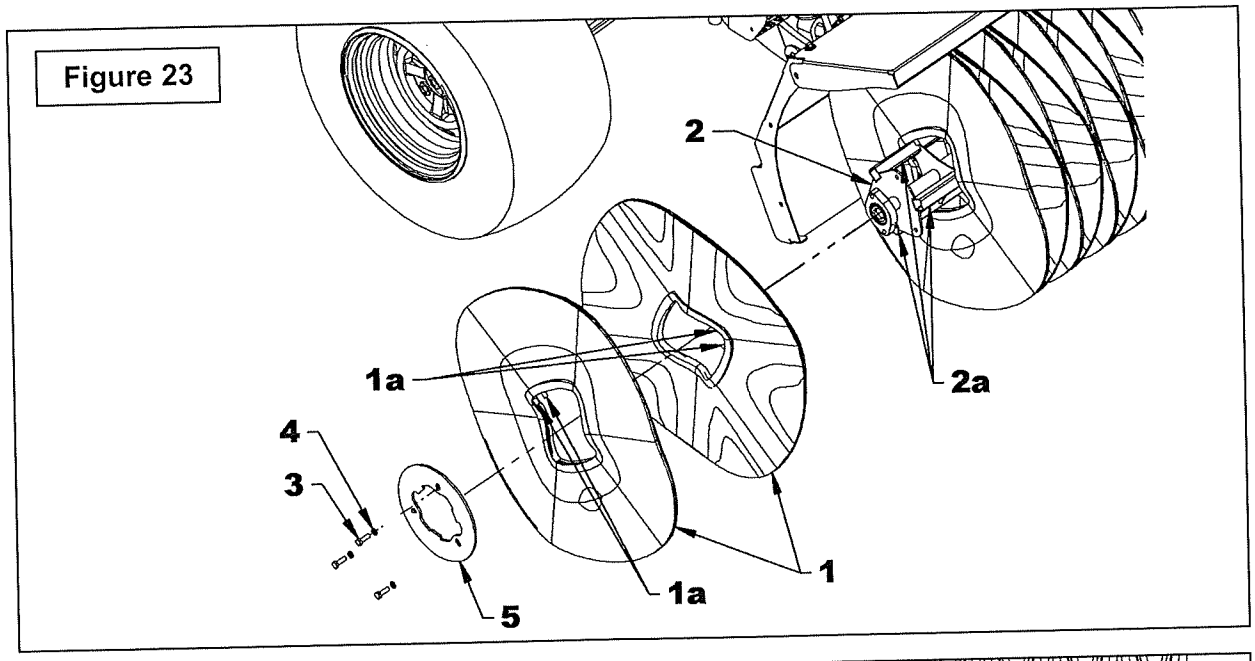
6. **Figure 23:** Secure the brushes with the retaining plate (item 5), the three 5/16" NC x 1" lg. hex bolts (item 3) and the three 5/16" lockwashers (item 4).

   NOTE - Figures 24: If the last brush (item 1a) exceeds the end of the brush support (item 2) of more than 1/2 "then the last brush needs to be reposition (item 1b) in the same direction as the preceding brush (item 1c)

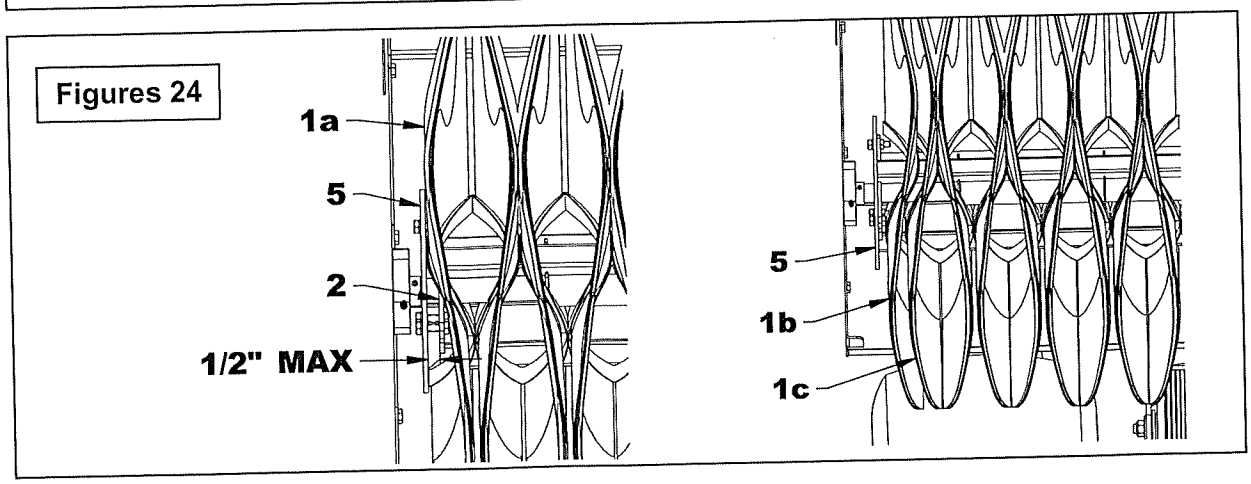
7. **Figure 22b:** Reinstall the right side (item 1) of the broom frame (item 6), the three 5/16"NC x 3/4" lg bolts (item 2), flat washers and lockswashers (items 3-4).

8. **Figure 22a:** Secure the bearing of the brush support to the broom right side (item 5) with the two 3/8" x 1 1/2" lg bolts (item 1), 3/8" flat washers (item 2), lockwashers (item 3) and 3/8"NC nuts (item 4).

Figure 23



Figures 24

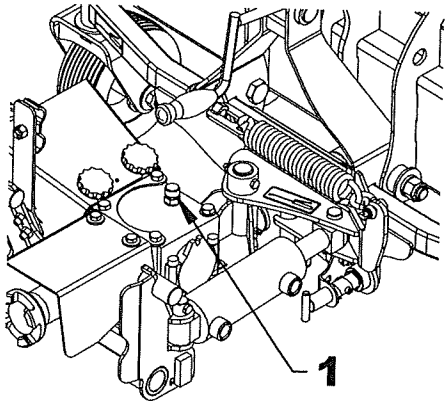


MAINTENANCE

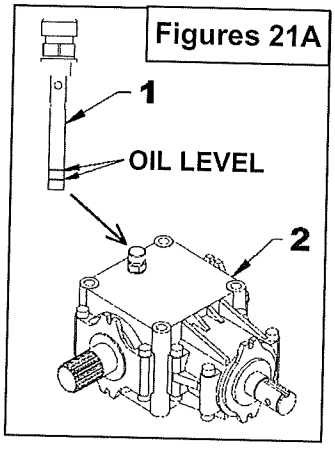
Gearbox Oil Level and Oil Change
(Figures 21-21A)

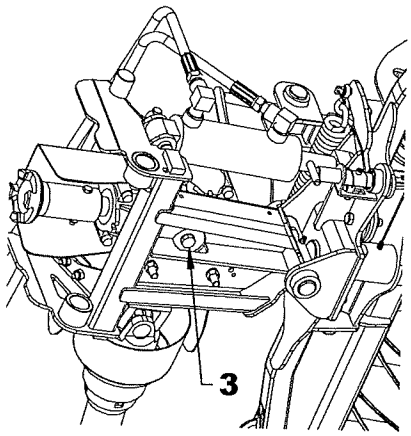
1. Check the oil level before the first use and after every 40 hours of use. The oil level must be checked by the breather located on the top of the gearbox (item 2). Place the broom on a flat and level surface and turn it off a few minutes before checking.
2. Remove the breather (item 1), wipe the stick and reinstall the breather and remove it once more. The oil level should be between the 2 lower lines on the breather stick as shown on figure 20A.
3. The oil must be changed every 100 hours of operation using SAE 80W90, AGMA 5EP oil or the equivalent.
4. To change the oil, place a container under the gearbox and remove the plug (item 3) located under the gearbox and let the oil drain completely.
5. Reinstall the plug (item 3), remove the breather (item 1) and add the new oil (approximately 300 ml).

NOTE: If you have exceeded the required amount of oil, you can remove the surplus by unscrewing the cap (item 4) located on the front of the gearbox.

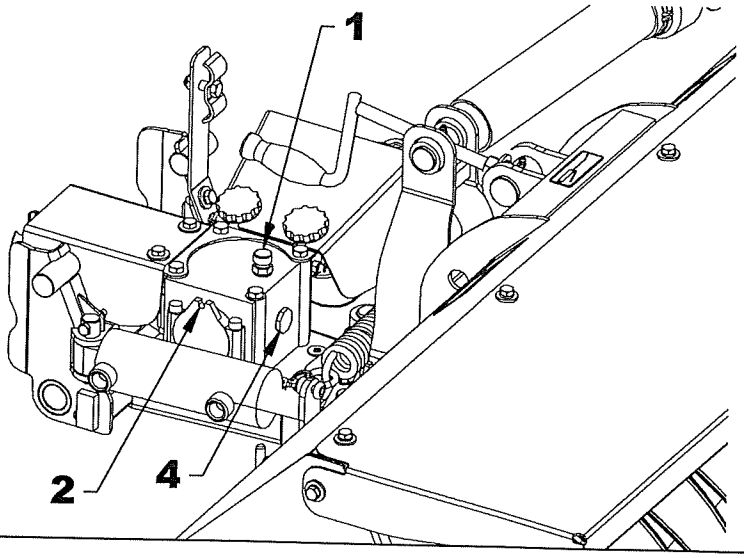


Figures 21A





Figures 21



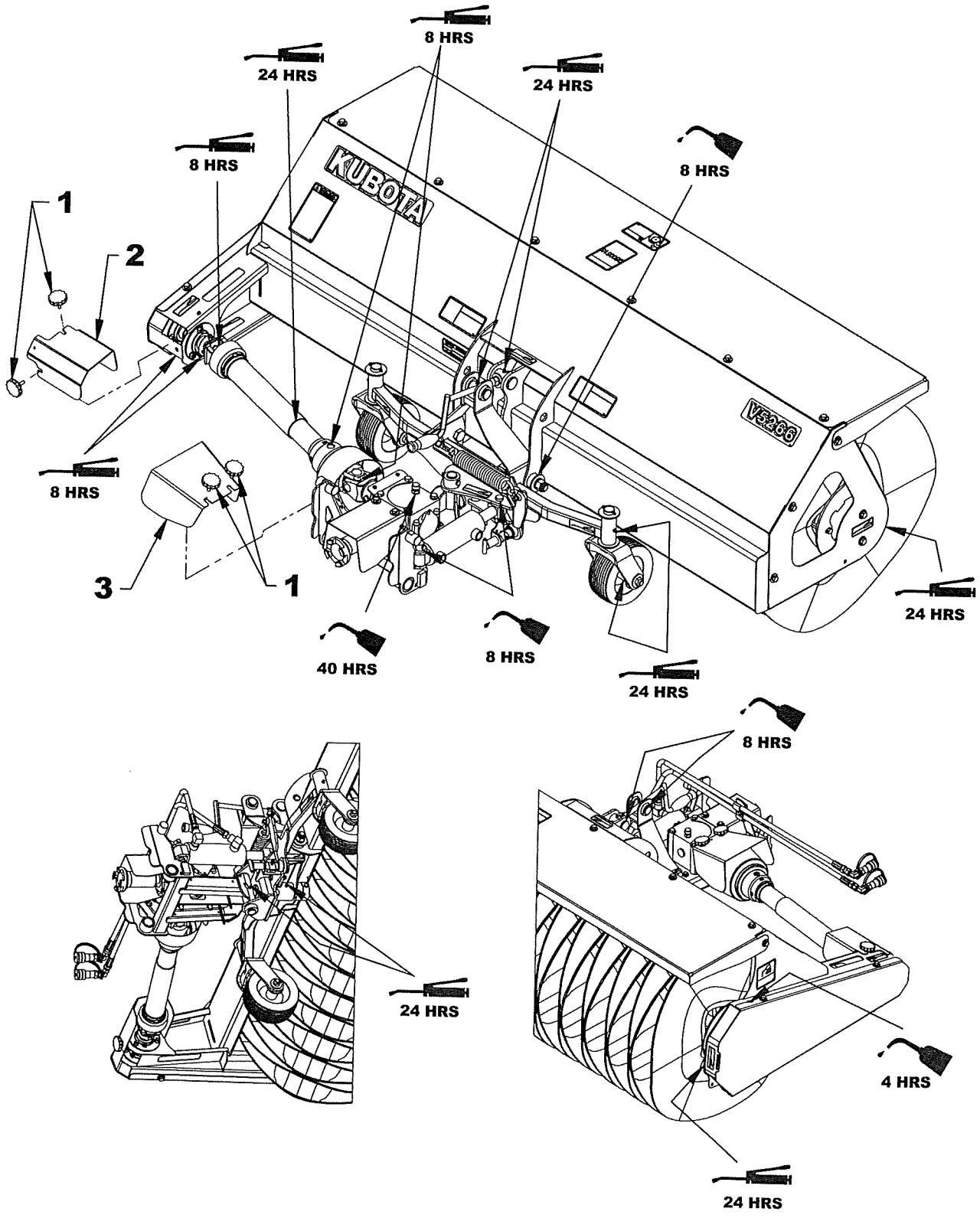
MAINTENANCE

Lubrication

Use a grease gun, grease and lubricate as follows:

DESCRIPTION	TIME INTERVAL	LUBRICATION REQUIRED
Driveline	8 hours of operation	Remove knobs and guards (items 1-2-3) Grease each universal joint. Use a grease Shell Gadus S5 V100 or equivalent.
	24 hours of operation	Separate the sliding parts and cover each with grease. Use a grease Shell Gadus S5 V100 or equivalent.
Drive Chain	4 hours of operation	Lubricate with chain lubricant.
All pivot points	8 hours of operation	Use a good quality multipurpose lubricant. Use grease "extreme pressure" and containing molybdenum disulfide. This grease may specify "Moly EP"on its label.
Gearbox (not applicable to the 4500022S)	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 of the Brush Support	24 hours of operation	Grease each bearing. Use a grease Shell Gadus S5 V100 or equivalent.
Bearing of the Drive system	8 hours of operation	Grease each bearing. Use a grease Shell Gadus S5 V100 or equivalent.

MAINTENANCE



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, is from the operator seat facing the equipment while in operation.

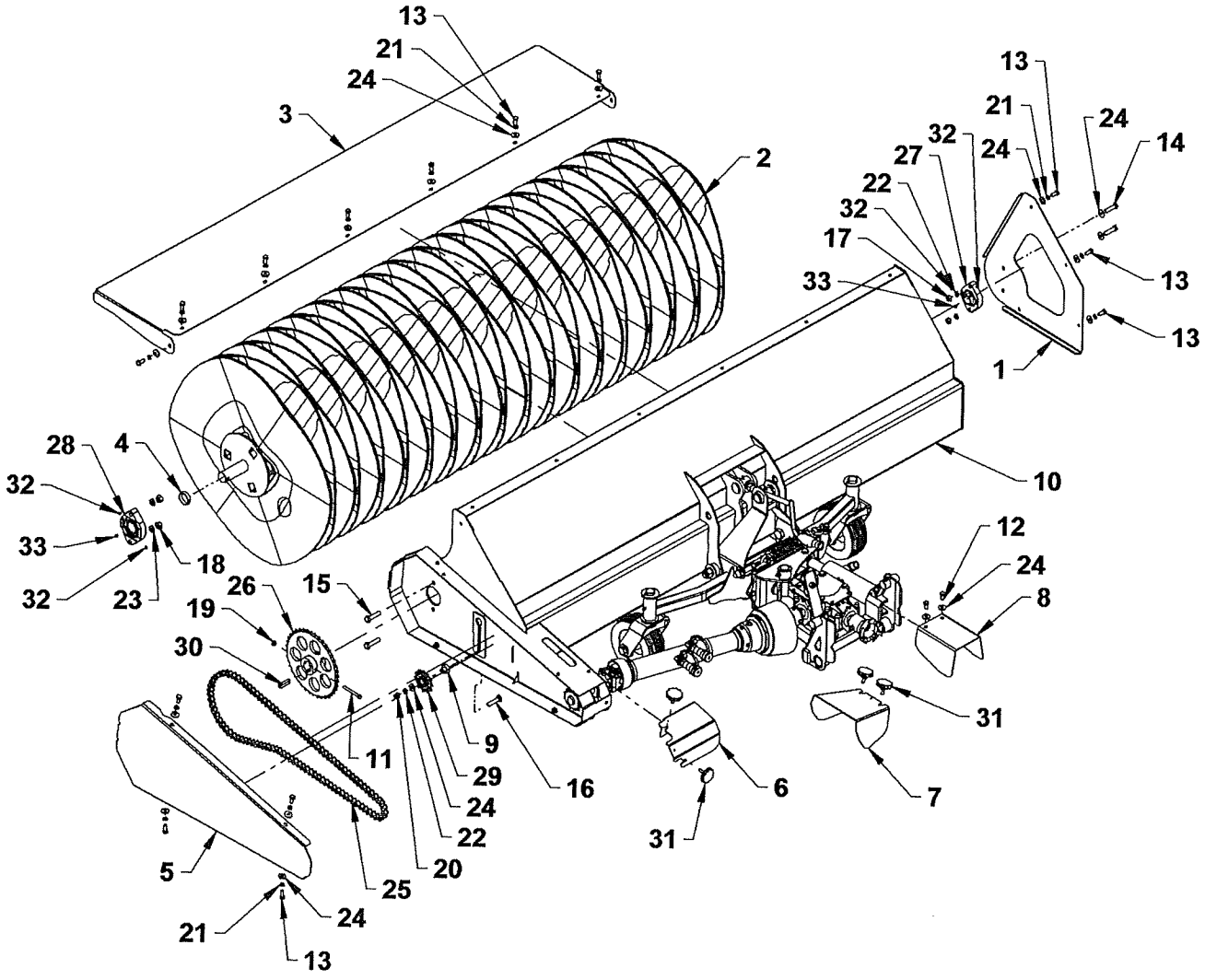
Orders must give the complete description, correct part number, the total amount required, the serial number, the method of shipment and the shipping address.

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

BRUSH AND ROTARY BROOM ASSEMBLY



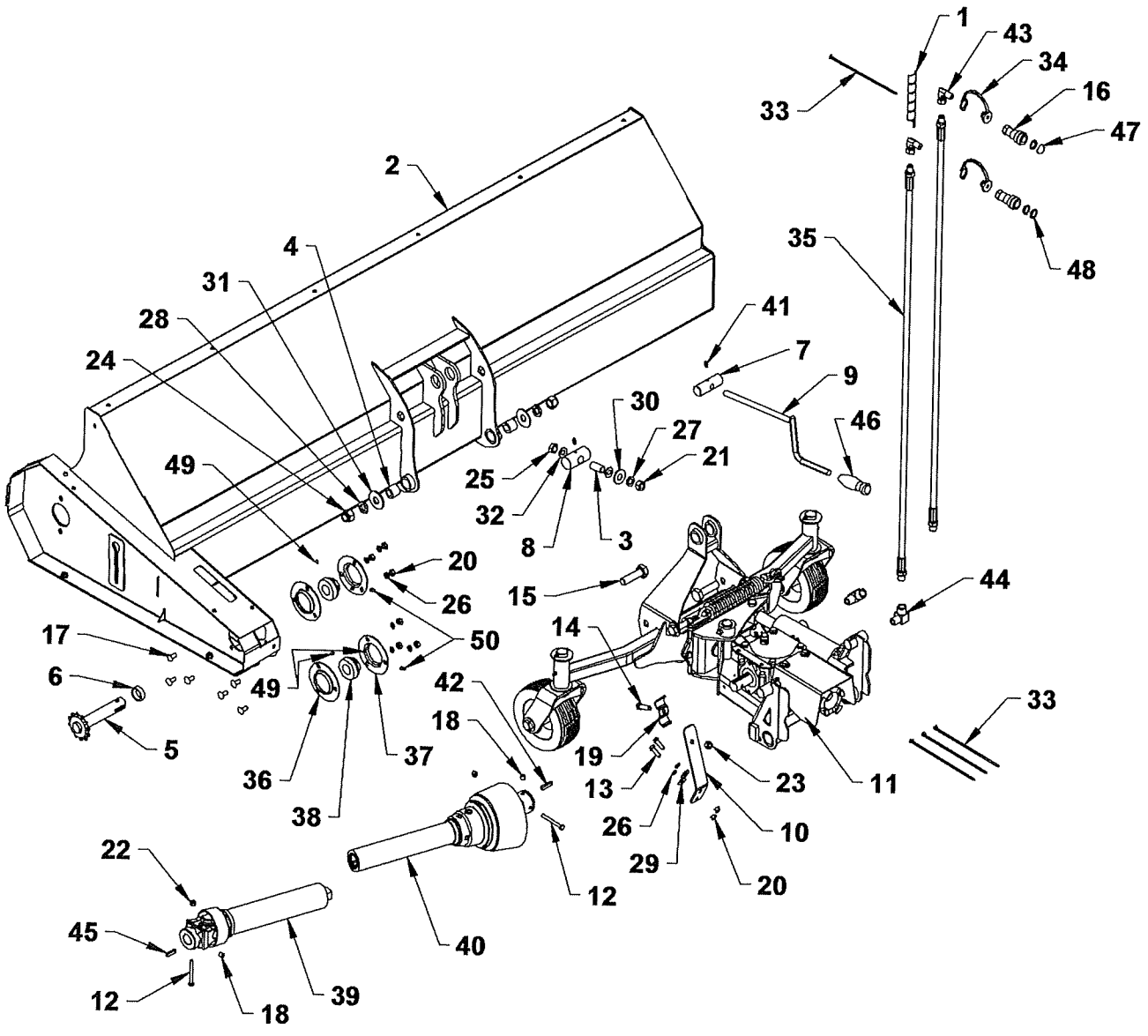
PARTS

Brush And Rotary Broom Assembly

Ref.	Part#	Qty	Description	Code
1	77700-07185	1	Right side of the broom	671500
2	SEE DETAILS	1	Brush 24" assembly	PAGE 33
3	77700-06685	1	Upper deflector	671359
4	77700-06686	1	Spacer ring 1 1/2"OD x 3/8" lg PTD	671360
5	77700-07008	1	Chain guard	671382
6	77700-07009	1	Left driveline shield	671383
7	77700-07010	1	Right driveline shield	671384
8	77700-07011	1	Gearbox shield	671385
9	77700-07012	1	Idler spacer	671386
10	SEE DETAILS	-	Hitch and Rotary Broom assembly	NEXT PAGE
11	75599-01150	1	Bolt hex. 1/4"NC x 2 1/2" gr.5 PTD	0100012
12	75599-01212	2	Bolt hex. 5/16"NC x 5/8" gr.5 PTD	0100017
13	75599-01215	15	Bolt hex. 5/16"NC x 3/4" gr.5 PTD	0100018
14	75599-01330	2	Bolt hex. 3/8"NC x 1 1/2" gr.5 PTD	0100040
15	77700-01678	2	Bolt hex. 7/16"NC x 1 3/4" lg. PTD	0100059
16	77700-07186	1	Carriage bolt 3/8"NC x 1 3/4" lg PTD	0300011
17	75599-31013	2	Nut hex. 3/8"NC PTD	0900003
18	75599-31014	2	Nut hex 7/16"NC PTD	0900005
19	75599-31911	1	Nylon insert locknut 1/4"NC PTD	1000003
20	75599-31913	1	Nylon insert locknut 3/8"NC PTD	1000006
21	75599-33012	14	Lockwasher 5/16" PTD	1200003
22	75599-33013	3	Lockwasher 3/8" PTD	1200004
23	75599-33014	2	Lockwasher 7/16" PTD	1200005
24	75599-32012	19	Flat washer 5/16" (3/8" int) PTD	1400003
25	77700-07015	1	Chain #50H x 100 links	3300064
26	77700-07016	1	Sprocket 50C40, hole ø1 1/4"	3300065
27	70060-02699	1	Ball bearing 1"	4300054
	70060-02707	2	-Set screw 1/4NF X 1/4" lg gr5	0500003
	70060-00940	1	-Grease fitting 1/4NF	654106
28	77700-00568	1	Ball bearing 1 1/4" w/ setscrew	4300075
29	70060-03984	1	Idler sprocket H50A12	655426
30	77700-04563	1	Key 3/8" x 3/8" x 1 1/2"	656518
31	70001-00517	4	Knob 5/16"NC	661832
32	70060-02707	4	Allen Set screw 1/4NF x 1/4 gr5 black	0500003
33	70060-00940	2	Grease fitting 1/4NF	654106

PARTS

HITCH AND ROTARY BROOM ASSEMBLY



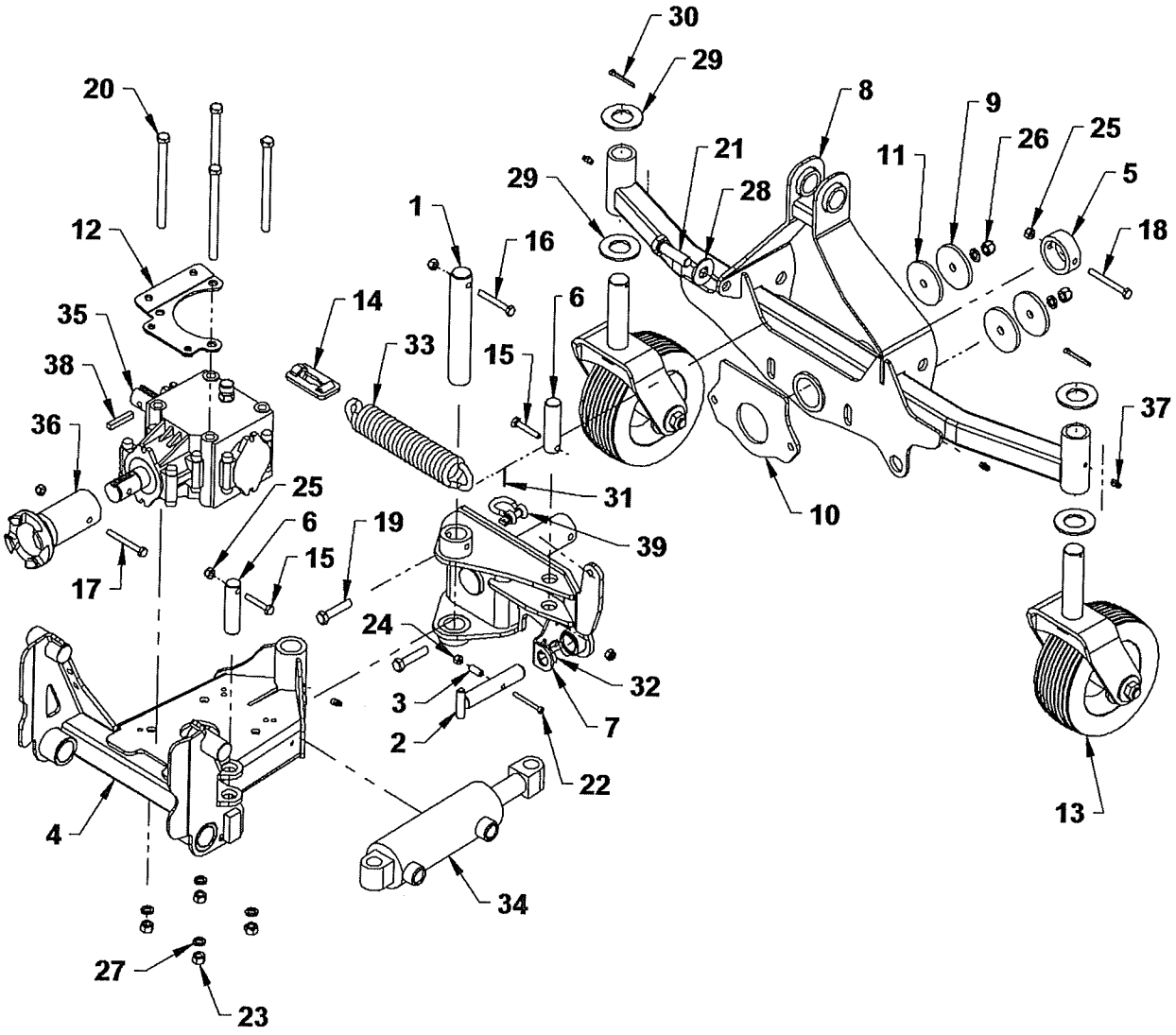
PARTS

HITCH AND ROTARY BROOM ASSEMBLY

REF.	PART#	QTY	DESCRIPTION	CODE
1	77700-04980	1	Plastic guard for hoses 6" lg black	670553
2	77700-06687	1	Broom frame ø24" x 66" lg	671361
3	77700-06688	1	Bushing 5/8" OD X 33/64" ID PTD	671362
4	77700-06689	2	Bushing 1" OD X 0.641" ID PTD	671363
5	77700-06690	1	Drive shaft 50A12	671364
6	77700-06691	1	Spacer ring 1 5/16" OD X 13/32" lg PTD	671365
7	77700-07004	1	Adjustment pin 1" x 2 13/16" lg PTD	671378
8	77700-07005	1	Slinding pin 1 1/4" PTD	671379
9	77700-07006	1	Adjustment lever (handle) PTD	671380
10	77700-07007	1	Hose support	671381
11	SEE DETAILS	-	Hitch and Pivot assembly	NEXT PAGE
12	75599-01150	2	Bolt hex 1/4"NC x 2 1/2" gr.5 PTD	0100012
13	75599-01220	2	Bolt hex 5/16"NC x 1" gr.5 PTD	0100019
14	75599-01325	1	Bolt hex 3/8"NC x 1 1/4" gr.5 PTD	0100039
15	75599-01745	2	Bolt hex 5/8"NC x 2 1/4", gr.5, PTD	0100096
16	70060-04310	2	Quick coupler 1/4"NPT Female	664668
17	70060-04188	6	Carriage bolt 5/16"NC x 3/4" PTD	0300002
18	77700-00593	2	Allen set screw 3/8"NC x 3/8" gr5 black	0500017
19	70060-02294	1	Hose clamp double PTD	666583
20	75599-31012	8	Nut hex 5/16"NC PTD	0900002
21	75599-31015	1	Nut hex 1/2"NC PTD	0900006
22	75599-31911	2	Nylon insert locknut 1/4"NC PTD	1000003
23	75599-31913	1	Nylon insert locknut 3/8"NC PTD	1000006
24	77700-01199	2	Nylon insert locknut 5/8"NC, PTD	1000012
25	70060-02440	1	Stover lock nut 1/2"NC PTD	1100006
26	75599-33012	8	Lockwasher 5/16" PTD	1200003
27	75599-33015	1	Lockwasher 1/2" PTD	1200006
28	70001-00804	2	Lockwasher 5/8" PTD	1200007
29	75599-32012	2	Flat washer 5/16" (3/8" int.) PTD	1400003
30	75599-32016	1	Flat washer 1/2" (9/16" int.) PTD	1400006
31	75599-32017	2	Flat washer 5/8" (11/16" int.) PTD	1400008
32	77700-00946	2	Flat washer 12mm (13 int.) PTD	1400030
33	70060-02398	4	Nylon tie wrap 8" lg X 4.8mm black	2100003
34	70060-00336	2	Dust plug	2600061
35	77700-07017	2	Hose 45", 1/4"NPT M x 3/8"NPT M rubber	3700291
36	70060-01972	2	Flange 3 bores with grease groove	4300030
37	70060-01971	2	Flange 3 bores with grease fitting & groove	4300031
38	70060-01970	2	Bearing 1" with setscrew , greasable	4300038
39	77700-04355	1	Driveline male 1" x 13 1/8" lg	4700265
40	77700-07020	1	Driveline female CV joint, S6R x 13 5/8"lg	4700313
41	70060-00940	2	Grease fitting 1/4"NF	654106
42	70060-00814	1	Key 1/4" x 1/4" x1 1/4"lg	654643
43	70001-00599	2	Elbow 90° 1/4"NPT M/SWF	655211
44	70060-70380	2	Elbow 90° 3/8"NPT M x 3/8"NPT F	655314
45	70060-00928	1	Key 1/4" x 1/4" x 1" lg	655379
46	70060-01318	1	Plastic handle	656797
47	70060-01569	2	Identification ring - yellow	658206
48	70060-01570	2	Identification ring - green	658209
49	70060-02707	4	Allen Set screw 1/4NF x 1/4 gr5 black	0500003
50	70060-00940	2	Grease fitting 1/4NF	654106

PARTS

HITCH AND PIVOT ASSEMBLY



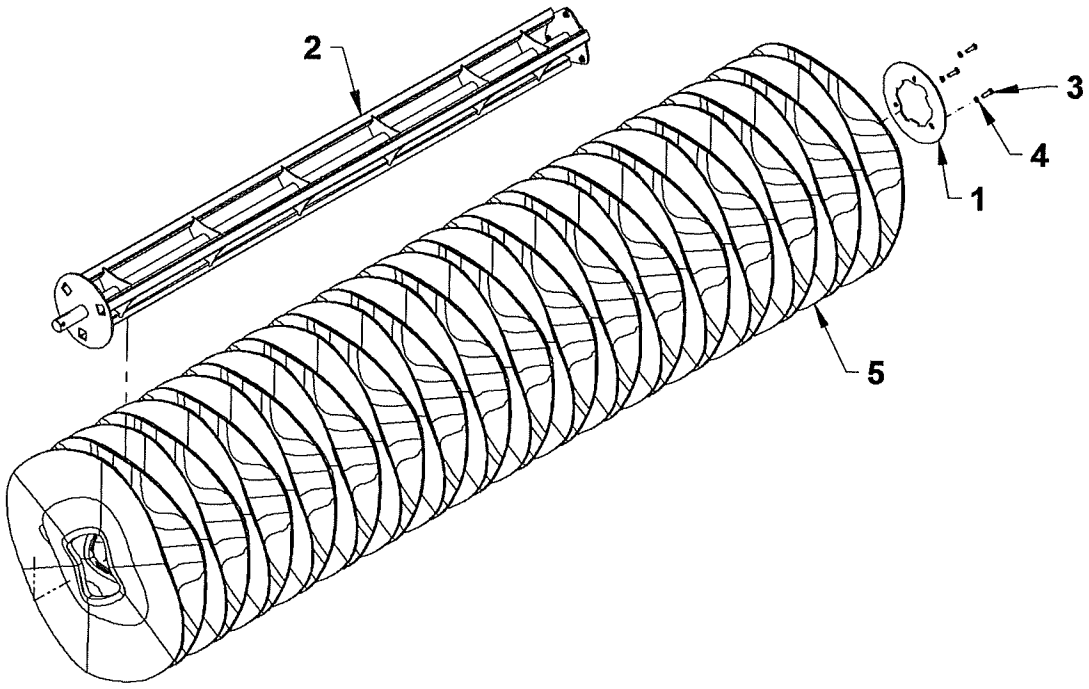
PARTS

Hitch And Pivot Assembly

Ref.	Part#	Qty	Description	Code
1	70001-00779	1	Pin 1" x 6 1/4" PTD	665189
2	77700-04105	1	Broom lock Pin "T" 3/4" PTD	670108
3	77700-04108	1	Locking dowel PTD	670111
4	77700-06692	1	4 point hitc0h	671366
5	77700-06693	1	Pivot lock PTD	671367
6	77700-06694	2	Pin 3/4" x 2 3/4" PTD	671368
7	77700-06695	1	Pivot hitch	671369
8	77700-06696	1	Broom pivot	671370
9	77700-06697	2	Retaining washer ø2 1/4"	671371
10	77700-06698	1	Friction plate UHMW	671372
11	77700-06699	2	Friction washer ø2 1/4" UHMW	671373
12	77700-07000	1	Shields bracket	671374
13	77700-07001	2	Swivel wheel ass'y	671375
14	77700-07003	1	Spring bracket	671377
15	75599-01130	2	Bolt hex 1/4"NC x 1 1/2" gr.5 PTD	0100007
16	75599-01140	1	Bolt hex 1/4"NC x 2" gr.5 PTD	0100010
17	75599-03145	1	Bolt hex 1/4"NC x 2 1/4" gr.5 PTD	0100011
18	75599-01150	1	Bolt hex 1/4"NC x 2 1/2" gr.5 PTD	0100012
19	75599-01335	2	Bolt hex 3/8"NC x 1 3/4" PTD	0100041
20	75599-01300	4	Bolt hex 3/8"NC x 5" gr.5 PTD	0100051
21	75599-01535	1	Bolt hex 1/2"NC x 1 3/4" lg gr.5 PTD	0100071
22	77700-01167	1	Allen socket head cap screw 10-24 x 1 3/4"	0800018
23	75599-31013	4	Nut hex 3/8"NC PTD	0900003
24	77700-00991	1	Nylon insert locknut 10-24 NC PTD	1000002
25	75599-31911	5	Nylon insert locknut 1/4"NC PTD	1000003
26	75599-31913	2	Nylon insert locknut 3/8"NC PTD	1000006
27	75599-33013	6	Lockwasher 3/8" PTD	1200004
28	75599-32016	1	Flat washer 1/2" (9/16" int.) PTD	1400006
29	77700-04371	4	Flat washer 1" (1 1/16" int) PTD	1400029
30	75599-53194	2	Cotter pin 5/32" x 1 1/4" lg PTD	1500007
31	70060-01999	1	Circle cotter ø1" x 1/16" PTD	1900009
32	77700-04110	1	Compression spring 0.975" x 1.75"lg wire 0.063"	2200028
33	77700-07013	1	Tension spring ø1.5" x 8" black	2200046
34	77700-04968	1	Cylinder 2" x 4 1/8"	3900491
	70001-00660	1	- Seal kit	665017
35	70060-01973	1	Gearbox CCW	4500022
36	77700-07655	1	Clutch shaft female	4700319
37	70060-00940	4	Grease fitting 1/4"NF	654106
38	70060-00862	1	Key 1/4" x 1/4" x 1 1/2" lg	654732
39	70060-01998	1	Clevis 5/16" pin	A-10368

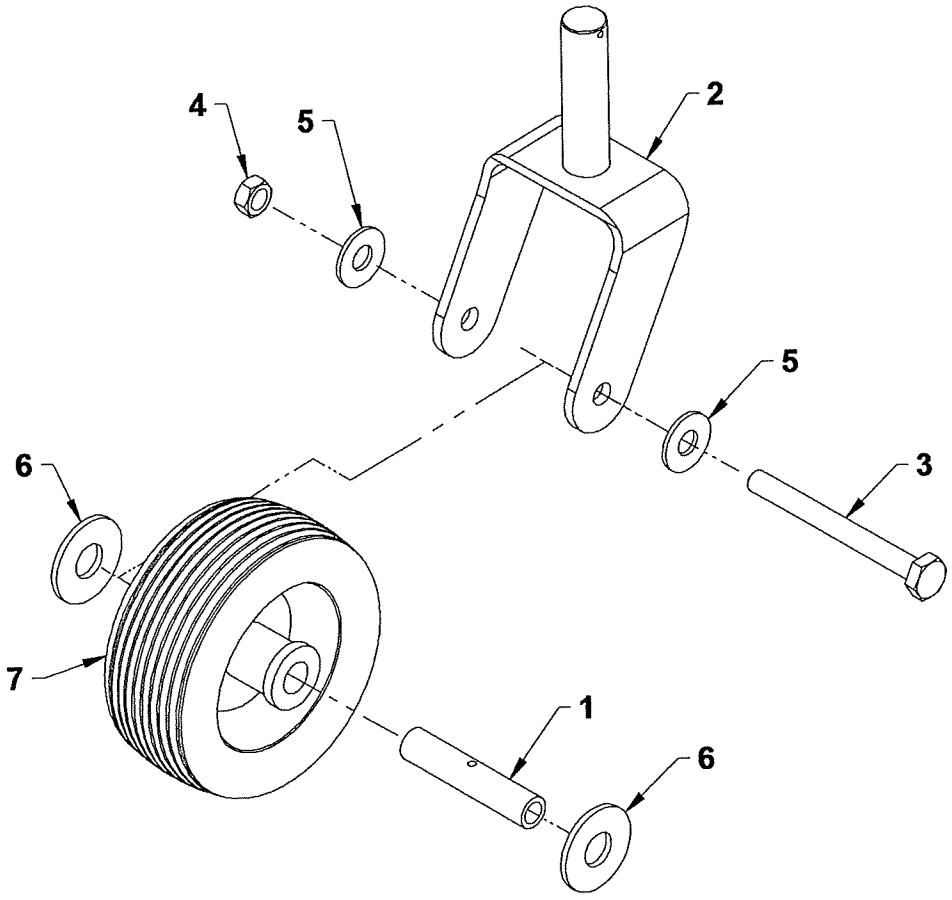
PARTS

BRUSH ASSEMBLY				
REF	PART #	QTY	DESCRIPTION	CODE
1	77700-01653	1	Retaining plate	669133
2	77700-06684	1	Brush support	671358
3	75599-01220	3	Bolt hex. 5/16"NC x 1" gr.5 PTD	0100019
4	75599-33012	3	Lockwasher 5/16" PTD	1200003
5	77700-07018	34	Wafer brush - 100% polypropylene 24"	3800081
-	77700-07019	16	Wafer brush - 100% steel 24"	3800082
-	77700-08353	1	Brush set - 100% polypropylene 24"	BR0019
-	V5269	1	Brush set - 50% polypropylene 50% steel 24"	-----



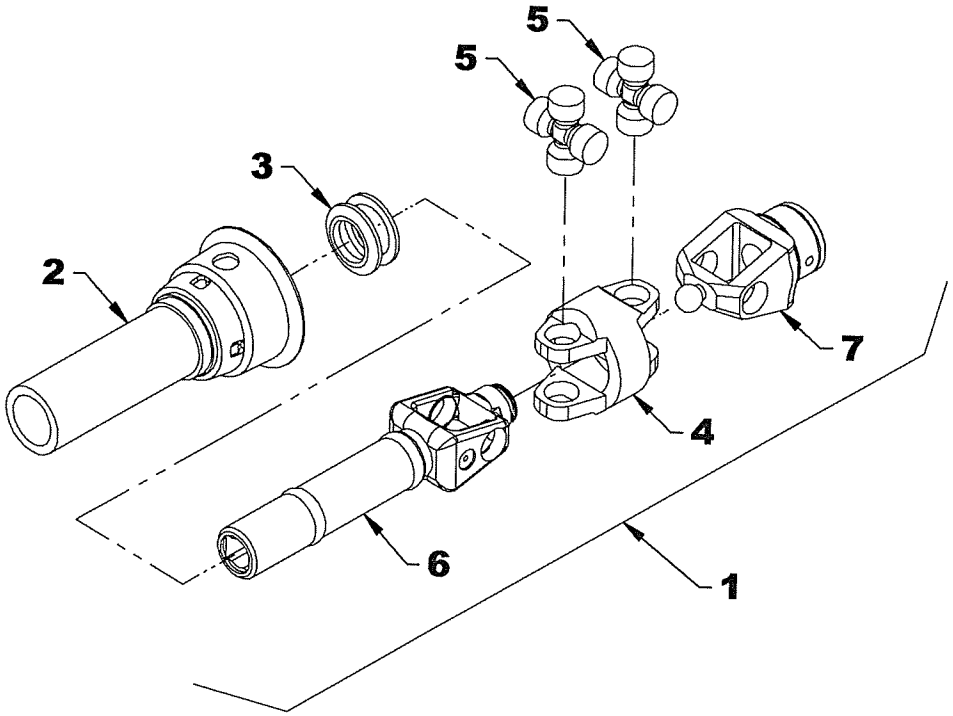
PARTS

Swivel Wheel Assembly				
Ref	Part #	Qty	Description	Code
1	77700-07187	1	Bushing 3/4"OD X 17/32" ID X 3 11/16" lg	669940
2	77700-07002	1	Wheel swivel support	671376
3	75599-01500	1	Bolt hex 1/2"NC x 5" lg PTD	0100082
4	70060-02440	1	Stover locknut 1/2"NC PTD	1100006
5	75599-32016	2	Flat washer 1/2" (9/16" int.) PTD	1400006
6	77700-00990	2	Flat washer 3/4" (13/16" int.) PTD	1400010
7	77700-07188	1	Wheel ø6 1/4" x 3" - ø3/4" roller bearing	3800077



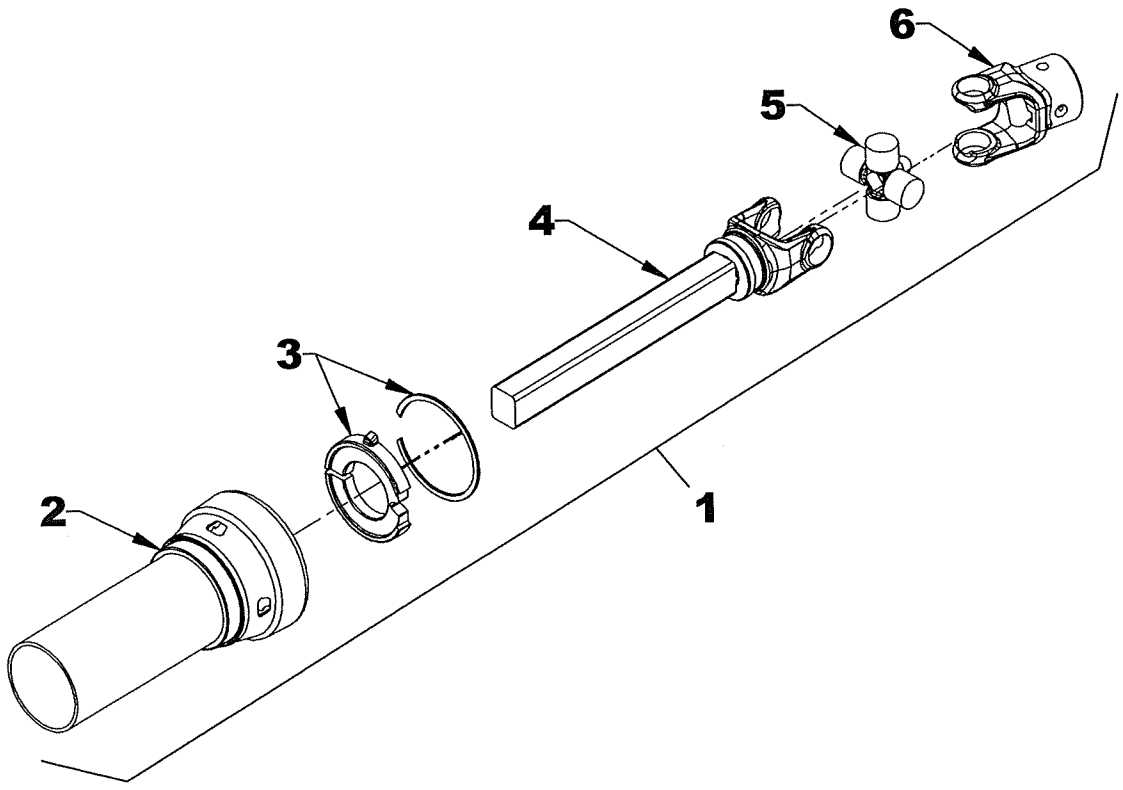
PARTS

DRIVELINE FEMALE - 77700-07020				
REF	PART #	QTY	DESCRIPTION	CODE
1	77700-07020	1	Driveline female ass'y	4700313
2	77700-07022	1	Inner guard	4700315
3	70060-04238	1	Nylon Repair Kit	661555
4	70060-01670	1	C.V. Centre Housing	658514
5	70060-01020	2	Universal joint kit	654478
6	77700-07021	1	Yoke and female tube	4700314
7	70060-03335	1	Yoke C.V. 1" dia.	658917
	70001-00787	1	Repair kit for C.V. joint	663632



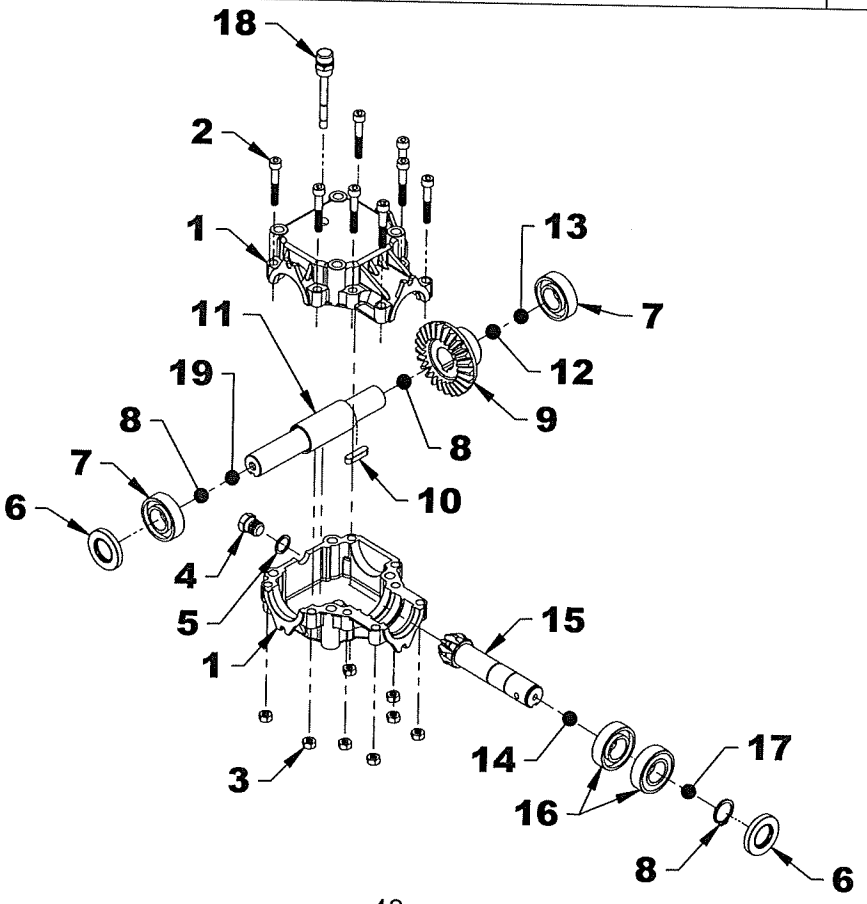
PARTS

DRIVELINE MALE – 77700-04355				
REF	PART #	QTY	DESCRIPTION	CODE
1	77700-04355	1	Driveline male ass'y	4700265
2	77700-04356	1	Outer shield	4700266
3	70060-04238	1	Nylon repair kit	661555
4	77700-00588	1	Yoke & male shaft ass'y	4700158
5	77700-00576	1	Universal joint kit	4700130
6	70060-01019	1	Yoke 1" dia.hole.	655740



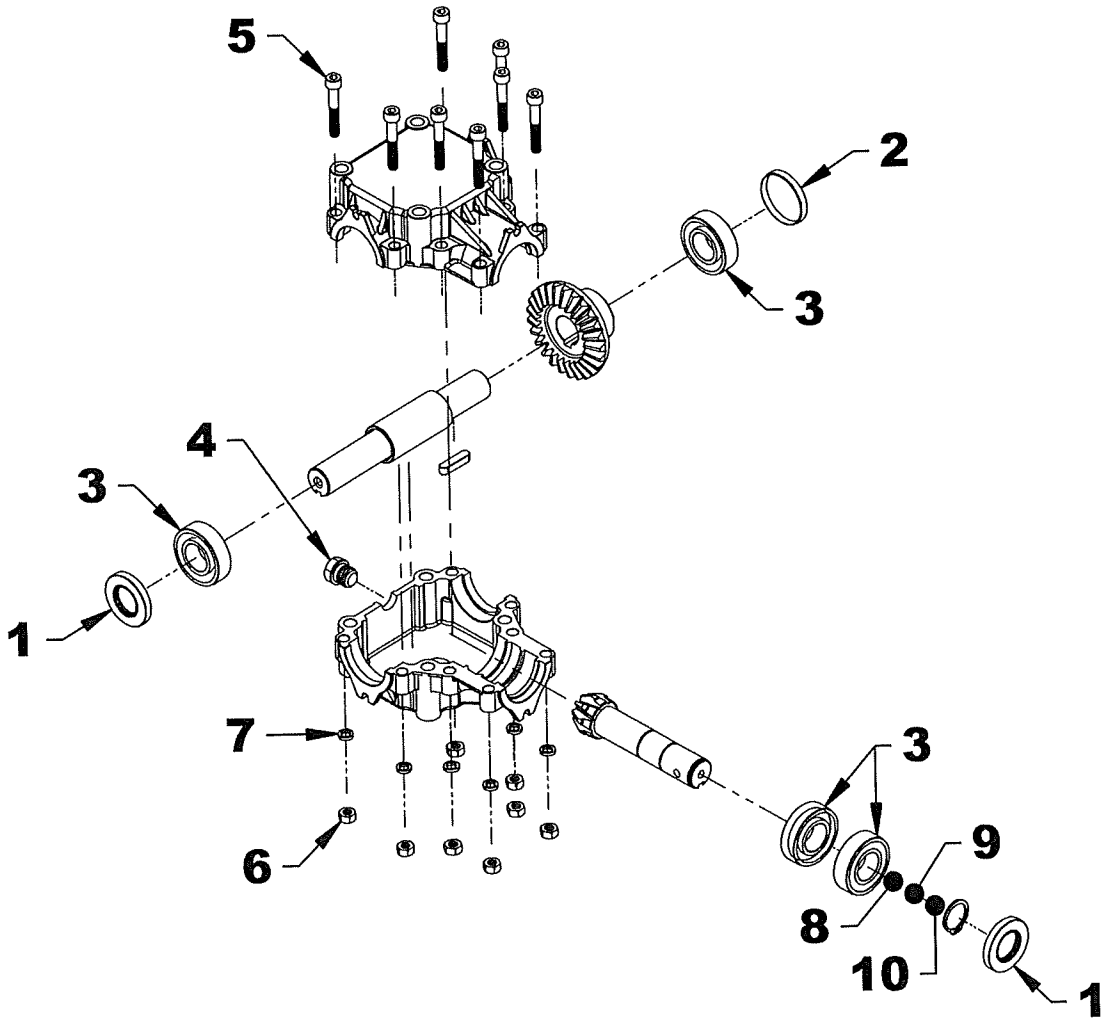
PARTS

GEARBOX – (70060-01973) – IDENTIFIED "COMER"				
REF	PART #	QTY	DESCRIPTION	CODE
-	70060-01973	1	Gearbox assembly	4500022
1	70060-04020	1	Casing	661740
2	70060-01844	8	Hex. bolt M8 x 1.25 x 45mm	0200098
3	70060-01845	8	Hex. nut M8 x 1.25	0900022
4	70060-04019	1	Plug 3/8" (with o-ring)	661739
5	70060-03794	1	O-ring	661144
6	70060-04010	2	Oil seal	661730
7	70060-04008	2	Bearing	661728
8	70060-04014	3	Snap ring	661734
9	70060-04018	1	Gear Z25 M3.5	661738
10	70060-03547	1	Parallel key A8 x 7 x 25	660063
11	70060-01842	1	Output shaft	663819
12	70060-04017	1	Shim 25.6 x 0.8	661737
13	70060-04016	1	Shim 25.6 x 1.0	661736
14	70060-04011	1	Shim 25.6 x 0.7	661731
15	70060-01974	1	Pinion 29 M3.5	4500023
16	70060-04012	2	Bearing	661732
17	70060-04013	1	Shim 25.6 x 0.6	661733
18	70060-04021	1	Plug 1/4" gas	661741
19	70060-01843	1	Shim 25.6 x 2.5	663820



PARTS

GEARBOX – (70060-01973) – IDENTIFIED "4500022S"				
REF	PART #	QTY	DESCRIPTION	CODE
1	70060-04010	2	Oil seal	661730
2	77700-08906	1	Cap	4500194
3	77700-00221	4	Bearing	4300059
4	77700-08847	1	Plug 3/8" (with o-ring)	4500192
5	77700-00238	8	Allen socket head cap screw M8X 1.25X45LG gr.8.8	0800036
6	70060-01845	8	Nut hex M8 x 1.25 PTD	0900022
7	70060-04371	8	Lockwasher 8mm PTD	1200017
8	77700-08907	1	Shim 25.5mm ID 32mm OD x 0.1	4500195
9	77700-08908	1	Shim 25.5mm ID 32mm OD x 0.3	4500196
10	77700-08909	1	Shim 25.5mm ID 32mm OD x 0.5	4500197



AVAILABLE OPTIONS

Dust Suppression kit

V5267

Note: Requires **V5292** Bed Mounted Water Tank

Wafer Brush kit
50% polypropylene 50% steel

V5269

Wafer Brush kit
100% polypropylene

BR0019

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 dry, or when lubricated with normal engine oil. They do not apply if special graphited or moly sidulphide greases or other extreme pressure lubricants are used. These values apply to dry conditions; under lubricated conditions reduce by 25% the torques in this table.

BOLT HEAD IDENTIFICATION

INCHES Bolt Size	Grade 2		Grade 5		Grade 8	
in-tpi [1]	N-m [2]	lbs-ft [3]	N-m	lbs-ft	N-m	lbs-ft
1/4" – 20NC	7.4	5.6	11	8	16	12
1/4" – 28NF	8.5	6	13	10	18	14
5/16" – 18NC	15	11	24	17	33	25
5/16" – 24NF	17	13	26	19	37	27
3/8" – 16NC	27	20	42	31	59	44
3/8" – 24NF	31	22	47	35	67	49
7/16" – 14NC	43	32	67	49	95	70
7/16" – 20NF	49	36	75	55	105	78
1/2" – 13NC	66	49	105	76	145	105
1/2" – 20NF	75	55	115	85	165	120
9/16" – 12NC	95	70	150	110	210	155
9/16" – 18NF	105	79	165	120	235	170
5/8" – 11NC	130	97	205	150	285	210
5/8" – 18NF	150	110	230	170	325	240
3/4" – 10NC	235	170	360	265	510	375
3/4" – 16NF	260	190	405	295	570	420
7/8" – 9NC	225	165	585	430	820	605
7/8" – 14NF	250	185	640	475	905	670
1" – 8NC	340	250	875	645	1230	910
1" – 12NF	370	275	955	705	1350	995
1 1/8" – 7NC	480	355	1080	795	1750	1290
1 1/8" – 12NF	540	395	1210	890	1960	1440
1 1/4" – 7NC	680	500	1520	1120	2460	1820
1 1/4" – 12NF	750	555	1680	1240	2730	2010
1 3/8" – 6NC	890	655	1990	1470	3230	2380
1 3/8" – 12NF	1010	745	2270	1670	3680	2710
1 1/2" – 6NC	1180	870	2640	1950	4290	3160
1 1/2" – 12NF	1330	980	2970	2190	4820	3560

METRIC Bolt Size	5.8 Class 5.8		8.8 Class 8.8		NP 10.9 Class 10.9	
mm x pitch [4]	N-m	lbs-ft	N-m	lbs-ft	N-m	lbs-ft
M 5 X 0.8	4	3	6	5	9	7
M 6 X 1	7	5	11	8	15	11
M 8 X 1.25	17	12	26	19	36	27
M 8 X 1	18	13	28	21	39	29
M10 X 1.5	33	24	52	39	72	53
M10 X 0.75	39	29	61	45	85	62
M12 X 1.75	58	42	91	67	125	93
M12 X 1.5	60	44	95	70	130	97
M12 X 1	90	66	105	77	145	105
M14 X 2	92	68	145	105	200	150
M14 X 1.5	99	73	155	115	215	160
M16 X 2	145	105	225	165	315	230
M16 X 1.5	155	115	240	180	335	245
M18 X 2.5	195	145	310	230	405	300
M18 X 1.5	220	165	350	260	485	355
M20 X 2.5	280	205	440	325	610	450
M20 X 1.5	310	230	650	480	900	665
M24 X 3	480	355	760	560	1050	780
M24 X 2	525	390	830	610	1150	845
M30 X 3.5	960	705	1510	1120	2100	1550
M30 X 2	1060	785	1680	1240	2320	1710
M36 X 3.5	1730	1270	2650	1950	3660	2700
M36 X 2	1880	1380	2960	2190	4100	3220

[1] in-tpi = nominal thread diameter in inches-threads per inch

[2] N-m = newton-meters

[3] lbs-ft= pounds-foot

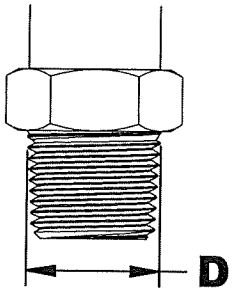
[4] mm x pitch = nominal thread diameter in millimeters x thread Pitch

*Torque tolerance +0%, -15% of torquing values. Unless otherwise specified use torque values listed above

***NOTE**: 1 lbs-ft = 12 lbs-in

ADAPTER INSTALLATION PROCESS

NPT THREAD IDENTIFICATION & TORQUE



D		Identification of adapter	Number of turns to do after manual tightening
in	mm		
0.375	9.5	1/8 NPT	2.0 - 3.0
0.500	12.5	1/4 NPT	2.0 - 3.0
0.625	15.9	3/8 NPT	2.0 - 3.0
0.780	19.8	1/2 NPT	2.0 - 3.0
0.988	25.1	3/4 NPT	2.0 - 3.0
1.236	31.4	1 NPT	1.5 - 2.5
1.583	40.2	1 1/4 NPT	1.5 - 2.5
1.823	46.3	1 1/2 NPT	1.5 - 2.5

RECOMMENDED ASSEMBLY

The method used to assemble fittings with NPT threads is done in two stages. First firmly tighten by hand then tighten once again according to the number of turns listed in the above table. The following steps are recommended to minimize the risks of leaks and/or damages to the parts.

STEP 1: Inspect threads and tapping to make sure they are clean.

STEP 2: Measure the diameter (D) of the adapter and take note of the size taken.

STEP 3: Apply a sealant/lubricant product to the NPT threads (teflon covered threads are preferable to other lubricating products). If PTFE tape (teflon) is used, make between 1.5 or 2 turns clockwise, when viewed by the fitting end, keeping free the two first threads.

CAUTION: **More than 2 turns can cause distortion or cracks in the orifice.**

STEP 4: Tighten the fitting manually.

STEP 5: Screw the fitting the number of turns listed on the above table making sure that in the case of an elbow fitting the end is aligned to the desired position to connect the tube or hose. **Never unscrew a fitting to obtain the proper alignment.**

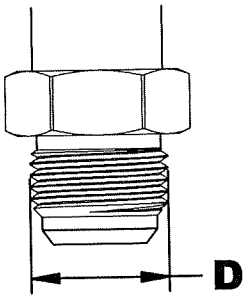
STEP 6: If a leak is detected after having followed the preceding instructions, check that the threads are not damaged and the number of seated threads is fulfilled (see details in next paragraph).

If the threads are damaged, replace the fitting. If the tapping is damaged, retap if possible or replace the part.

Usually, the number of threads seated is between 3.5 and 6. If the range is different it would indicate that the fitting was tightened too much or not enough or that the tightening was not within thread tolerances. If the fitting is not tight enough, tighten but never more than one turn. If it's too tight, inspect the threading and tapping and replace the section that has threads that are not within tolerances.

ADAPTER INSTALLATION PROCESS

JIC THREAD IDENTIFICATION & TORQUE



D		Identification of adapter	TORQUE	
in	mm		lbs-ft	N-m
-	-	5/16 JIC	6-7	8-10
-	-	3/8 JIC	6-9	8-12
0.433	11	7/16 JIC	9-12	12-16
0.496	12.6	1/2 JIC	14-15	19-21
0.559	14.2	9/16 JIC	18-20	24-27
0.740	18.8	3/4 JIC	27-39	37-53
0.870	22.1	7/8 JIC	36-63	49-85
1.055	26.8	1 1/16 JIC	65-88	88-119
1.185	30.1	1 3/16 JIC	75-103	102-140
1.307	33.2	1 5/16 JIC	85-113	115-153
1.618	41.1	1 5/8 JIC	115-133	156-180
1.870	47.5	1 7/8 JIC	125-167	169-226
2.492	63.3	2 1/2 JIC	190-258	258-350

JIC flare fittings seal with metal to metal contact between the flared nose of the fitting and the flared tube face in the female connection.

The minimum torque values listed are to provide a benchmark that give optimum results for leak free connections. Actual torque values should be based on individual application.

NOTE: Do not apply thread sealant (teflon tape) on the JIC threads.

Leaks can result from vibration, thermal cycling and from loads being supported by the connection (i.e. using the fitting in the connection to support mechanical loads).

IMPORTANT: Use the lowest torque value from the chart when wet torquing.

RECOMMENDED ASSEMBLY

STEP 1: Inspect for possible contamination or damage from shipping or handling. Sealing surface should be smooth.

STEP 2: Lubricate the threads and the entire surface of the cone with hydraulic fluid or a light lubricant.

STEP 3: Align mating components for hand connection and turn flare nut until sealing surfaces make full contact.

STEP 4: Torque nut to the values shown in the above table.

STEP 5: When torquing nut onto a straight flared fitting, it may be necessary to also place a wrench on the flared fitting wrench pad to prevent it from turning during assembly.

ALTERNATE ASSEMBLY METHOD

STEP 1: Inspect for possible contamination or damage from shipping or handling. Sealing surface should be smooth.

STEP 2: Lubricate the threads and the entire surface of the cone with hydraulic fluid or a light lubricant.

STEP 3: Align mating components for hand connection and turn flare nut until sealing surfaces make full contact.

STEP 4: Lightly wrench tighten the nut until there is resistance.

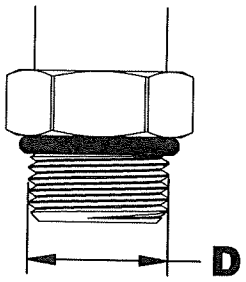
STEP 5: Place a wrench on wrench pad next to nut as near the 6 o'clock position as possible.

STEP 6: Place second wrench on nut as near the 3 o'clock position as possible.

STEP 7: Turn nut clockwise to no less than the 4 o'clock position, but no more than the 6 o'clock position. Required rotation generally decreases as size increases.

ADAPTER INSTALLATION PROCESS

ORB (O-RING BOSS) THREAD IDENTIFICATION & TORQUE



D		Identification of adapter	TORQUE	
in	mm		lbs-ft	N-m
-		3/8 ORB	8-9	12-13
0.433	11	7/16 ORB	13-15	18-20
0.496	12.6	1/2 ORB	14-15	19-21
0.559	14.2	9/16 ORB	23-24	32-33
0.740	18.8	3/4 ORB	40-43	55-57
0.870	22.1	7/8 ORB	43-48	59-64
1.055	26.8	1 1/16 ORB	68-75	93-101
1.185	30.1	1 3/16 ORB	83-90	113-122
1.307	33.2	1 5/16 ORB	112-123	152-166
1.618	41.1	1 5/8 ORB	146-161	198-218
1.870	47.5	1 7/8 ORB	154-170	209-230
2.492	63.3	2 1/2 ORB	218-240	296-325

SAE O-rings (O-Ring Boss) are straight thread fittings that seal using an O-ring between the thread and the wrench flats of the fitting. The O-ring seals against the machined seat on the female port.

O-ring fittings can be either adjustable or non-adjustable. Nonadjustable fittings are screwed into a port where no alignment is needed. Adjustable fittings can be oriented in a specific direction.

Fittings with O-rings offer advantages over metal-to-metal fittings. Under or over-tightening any fitting can allow leakage, but all-metal fittings are more susceptible to leakage because they must be tightened to a higher and narrower torque range. This makes it easier to strip threads or crack or distort fitting components, which prevents proper sealing.

NOTE: Do not apply thread sealant (teflon tape) on the ORB threads.

Leaks can also result from vibration, thermal cycling and from loads being supported by the connection (i.e. using the fitting in the connection to support mechanical loads).

IMPORTANT: Use the lowest torque value from the chart when wet torquing.

RECOMMENDED ASSEMBLY ORB (O-RING) NON-ADJUSTABLE

STEP 1: Inspect all components for damage or contamination.

STEP 2: Lubricate O-ring and threads on fitting with the same hydraulic fluid used in the tractor.

STEP 3: Turn fitting into port until finger tight, then torque to the value shown in the following table.

NOTE: Use the lowest torque value from the chart when wet torquing.

RECOMMENDED ASSEMBLY ORB (O-RING) ADJUSTABLE

STEP 1: Inspect all components for damage or contamination.

STEP 2: Lubricate O-ring and threads on fitting with the same hydraulic fluid used in the tractor.

STEP 3: Looking at fitting from the male ORB end, turn manually the nut as far as possible from the O-ring.

STEP 4: Using wrench, turn fitting into port until the washer touches thread nearest wrench pad.

STEP 5: Back off fitting counterclockwise not exceeding one revolution until it is oriented in the correct position.

STEP 6 : Place wrench on the wrench pad of fitting to prevent fitting from turning, and torque nut to the value shown in the above table.