OWNER'S MANUAL

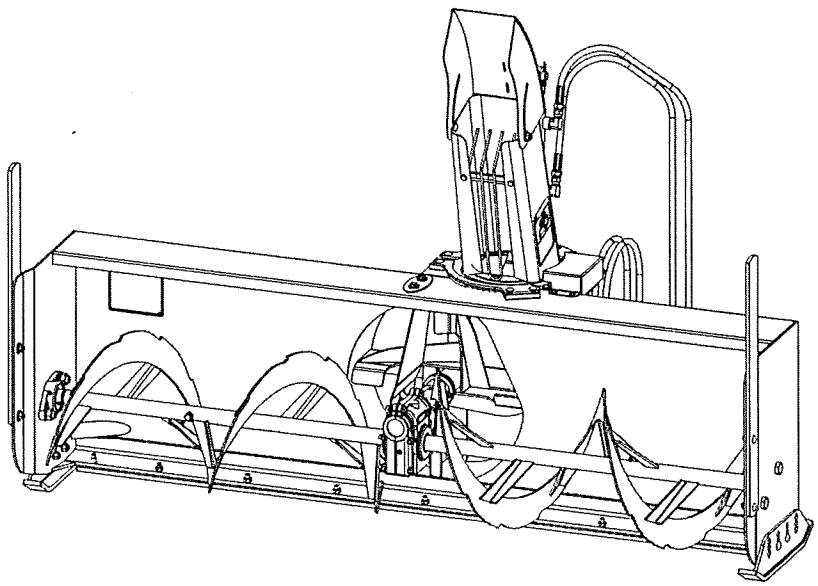
OM 0446SBC-A Rev8 07-17

MANUAL PN 77700-07077

Kubota®

V5296 –66" SNOWBLOWER

SERIAL NO. 21500001 AND UP



FOR RTV-X1100C

Estimated installation time: 60 min.

PLEASE READ THIS MANUAL CAREFULLY

KEEP READY AT ALL TIMES

DISCLAIMER

LEGAL DISCLAIMER

Kubota Corporation notes that specifications and technical information are subject to change without notice and Kubota does not represent or warrant that the information in this publication is completely accurate or current; however, Kubota used reasonable efforts to set forth and include accurate and up to date information in this publication. Kubota disclaims all representations and warranties, whether express or implied, including, but not limited to, warranties of merchantability and fitness for a particular purpose and Kubota shall not be liable for any damages, whether compensatory, direct, indirect, incidental, special, or consequential, arising out of or in connection with the use of this publication, or the information therein.

The Product(s) described in this Publication are designed and manufactured only for the country in which they are initially wholesaled by Kubota. Kubota does not provide parts, warranty or service for any Product which is re-sold or retailed in any country other than the country for which the Product(s) were designed or manufactured.

TABLE OF CONTENTS

TABLE OF CONTENTS

SPECIFICATIONS

Features and Specifications	V5296
Working Width	66"
Working Height	20"
Length	30"
Single/Dual Auger	Single
Auger Diameter	12 3/4"
Auger Flighting Thickness	0.179"
Impeller Diameter	16"
Impeller Width	5 5/8"
Impeller Shaft Diameter	1 3/8"
Number of Impeller blades	4
RTV RPM	2 200
Impeller RPM	772
Auger RPM	155
PTO – description	7E
Skid shoes	Adjustable and replaceable, 3 positions
Skid shoe material	Carbon steel
End Plate Thickness	3/16"
Back Plate Thickness	12 GA
Impeller Housing Thickness	12 GA
Impeller Blade Thickness	3/16"
Cutting Edge	High Carbon steel replaceable & reversible
Cutting Edge Dimension	3/8" x 1 1/2"
Parking Stand	No
Hitch Category	4 point
Operating Weight (lb) -hyd. rot. & defl.	340
Shipping Weight	540
Approx. Set-up Time (min.)	60 minutes
Chute Deflector Adjustment (standard)	Hydraulic
Chute Rotation (standard)	Hydraulic with motor
Chute Type	Two part

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 snowblower. 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 snowblower into service. Familiarize yourself with the operating instructions and all the safety recommendations contained in this manual and those labeled on the snowblower 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 snowblower and RTV. It is also advisable to supply them to your insurance company. It will be helpful in the event that snowblower or RTV is lost or stolen.

	RTV	**SNOWBLOWER**
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 snowblower.

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 snowblower 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 snowblower and all safety precautions. Failure to do so could result in serious personal injury or snowblower 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 snowblower 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 snowblower. Please read the following section and pay particular attention to all safety recommendations contained in this manual and those labeled on the snowblower and on the RTV.

SNOWBLOWER

Before Operation

1. Read and understand both the RTV and this operator's manual before operating the equipment. Know how to operate all controls and how to stop the unit and disengage the controls quickly. Lack of knowledge could lead to accidents.
2. Never wear loose, torn, or bulky clothing around the RTV, the snowblower. It may catch on moving parts or controls, causing injury.
3. Before and during seasons, thoroughly inspect the area where the snowblower is to be used and remove all objects that may be thrown or cause damage to the snowblower.
4. Set transmission to neutral and disengage clutch, if equipped, before starting the engine.
5. Do not operate snowblower in wintertime without wearing adequate winter garments. Always wear protective clothing.

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 21 for Ground Clearance information).

6. Never attempt to make any adjustments while engine is running. Read this manual carefully to acquaint yourself with the snowblower as well as the RTV operator's manual. Working with unfamiliar snowblower can lead to accidents. Be thoroughly familiar with the controls and proper use of the snowblower.
7. Keep all safety guards in place and verify hardware for proper tightening.
8. Check for moving parts excessive wear regularly. Replace worn parts with genuine parts.
9. Replace all missing, illegible, or damaged safety and warning decals. See list of decals in operator's manual.
10. Keep safety decals clean of dirt and grime.
11. Do not modify or alter this snowblower or any of its components, or any snowblower function without first consulting your dealer.
12. Make sure the RTV is counterweighted as recommended by your dealer. Weights provide the necessary balance to improve stability, traction and steering.

SAFETY PRECAUTIONS - continued

Snowblower Operation

1. Before leaving the RTV/snowblower unattended, take all possible precautions. Park the RTV/snowblower on level ground, place the transmission in neutral, set the parking brake, disengage the PTO, lower the snowblower 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/ snowblower, remove the ice that might have accumulated on the auger/fan, 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/disengaged 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 snowblower with engine running. Be especially observant of the snowblower areas of discharge, intake or all other mechanical motions.
8. For your safety, do not work under any hydraulically supported machine elements that may creep down, suddenly drop or be accidentally lowered.
9. Park the RTV/snowblower on level ground, place the transmission in neutral, set the parking brake, disengage the PTO, lower the snowblower 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 unclogging the housing or the chute and making any repairs, adjustments or inspections. Use only a 36" long stick of wood to unclog the snowblower.
10. If the snowblower starts to vibrate abnormally, disengage the PTO, stop the engine immediately and check for cause. Excessive vibration is generally a sign of trouble.
11. 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.
12. Do not attempt to operate on steep slopes. If operating on slopes is necessary, exercise extreme caution when changing direction.
13. Never operate snowblower without guards, and other safety protective devices in place. All RTV and snowblower shields and covers must be correctly installed at all times. When necessary to remove these, they must be reinstalled immediately.
14. Never operate snowblower near glass enclosures, automobiles, window wells, embankments, etc., without proper adjustment of snow discharge angle.
15. Never operate machine at high transport speeds on a slippery surface.
16. Use extra caution when backing up.
17. Disengage power to auger/fan when transporting or when not in use.
18. Never operate the snowblower without good visibility and lighting.
19. 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.
20. Never allow anyone near the work area.
21. Never allow anyone to operate the snowblower until they have read the manual completely and are thoroughly familiar with basic RTV and snowblower operation.

SAFETY PRECAUTIONS - continued

22. Make sure the RTV is counterweighted as recommended by your dealer. Weights provide the necessary balance to improve stability, traction and steering.
23. Always make sure all snowblower components are properly installed and securely fastened BEFORE operation.
24. Adjust housing height to clear gravel or crushed rocks surface.
25. Keep away from chute discharge. This chute has the capacity to throw debris at far distances.
26. Never direct chute discharge towards people or animals. A thrown debris can cause serious injury.

SAFETY PRECAUTIONS - continued

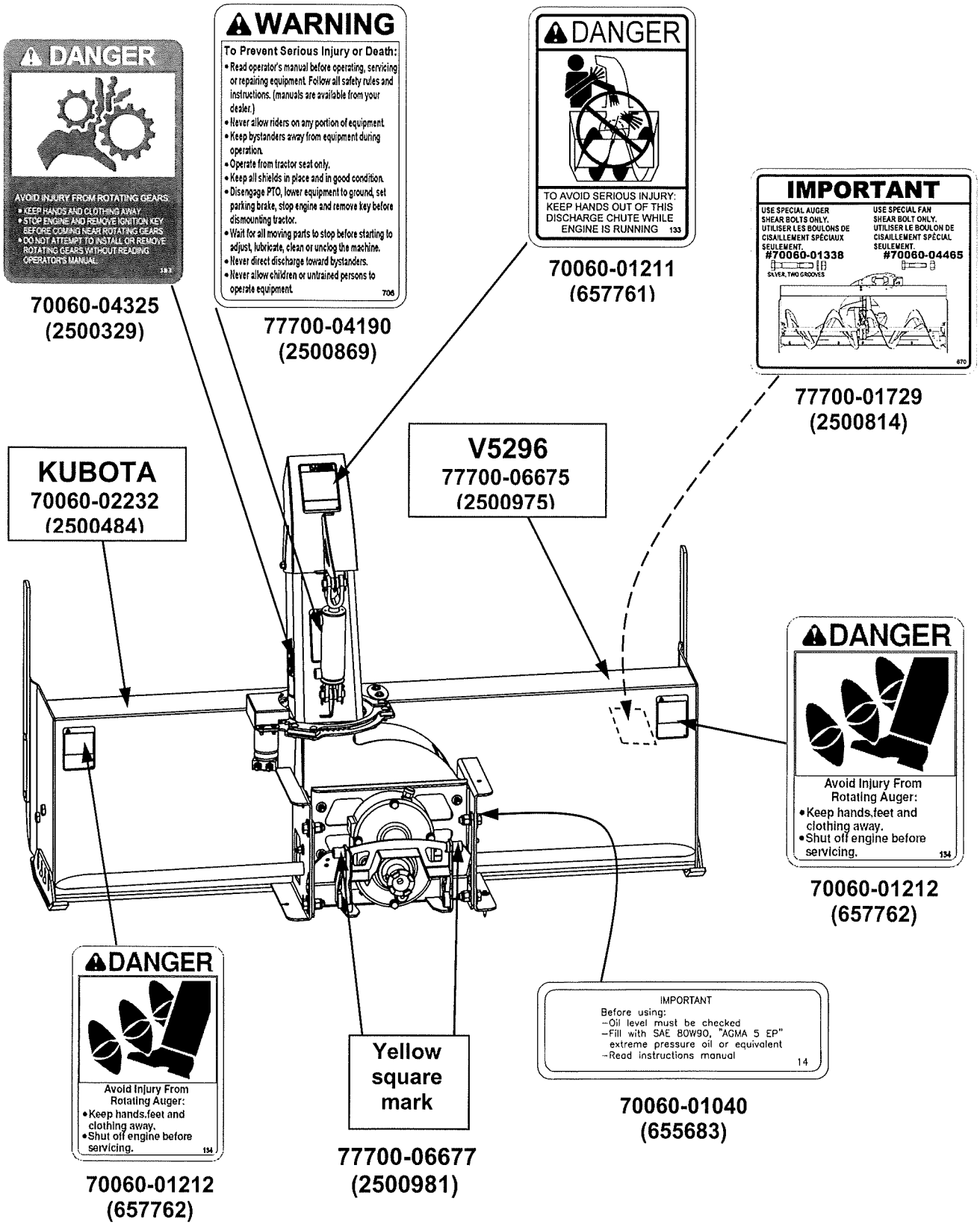
MAINTENANCE

ALWAYS USE GENUINE PARTS WHEN REPLACEMENT PARTS ARE REQUIRED

1. Keep the RTV and snowblower properly maintained.
2. Park the RTV/snowblower on level ground, place the transmission in neutral, set the parking brake, disengage the PTO, lower the snowblower 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 snowblower adjustments.
3. To avoid injury, do not adjust, unblock the driving system, or service the snowblower with the RTV engine running. Make sure rotating components have completely stopped BEFORE leaving the operator's seat.
4. Keep the RTV/snowblower 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 snowblower.
6. DO NOT service the RTV while the engine is running or hot, or if the unit is in motion. Always lower snowblower to the ground. If necessary to service snowblower 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 snowblower 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 snowblower or any of its components or operating functions. If you have questions concerning modifications, consult with your dealer.
11. Do not operate a snowblower that is defective or has missing parts. Make sure that all recommended maintenance procedures are completed before operating the snowblower.
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. If you are injured by escaping high pressure fluid, see a medical doctor at once.
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



70060-04325
(2500329)

77700-04190
(2500869)

70060-01211
(657761)

77700-01729
(2500814)

70060-01212
(657762)

70060-01212
(657762)

77700-06677
(2500981)

70060-01040
(655683)

ASSEMBLY

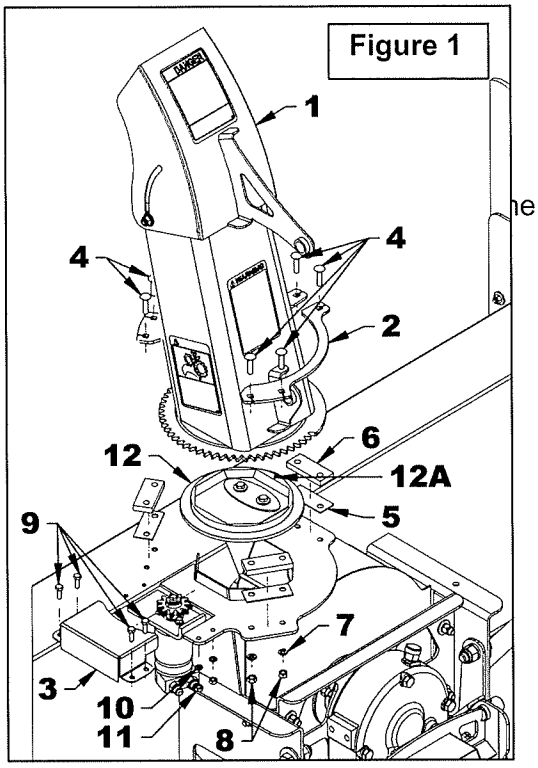
SNOWBLOWER ASSEMBLY

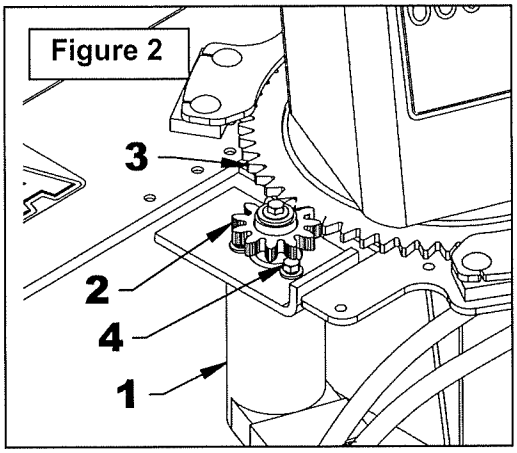
The snowblower is assembled at the factory; however, the chute must be installed. After assembly, torque all the bolts according to the "**Torque Specification Table**" enclosed at the end of the manual.

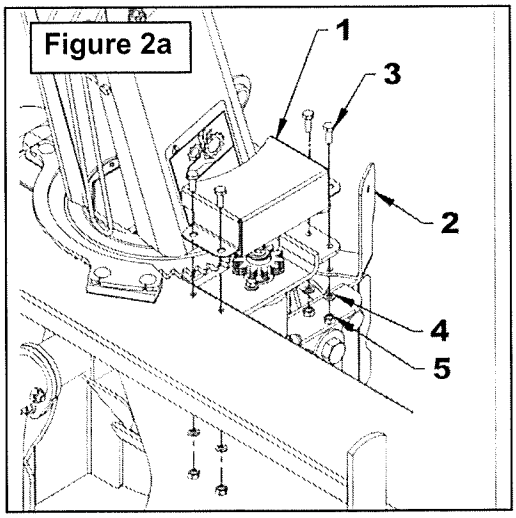
WARNING: To avoid serious personal injury or death: Park the RTV on level ground, place the transmission in neutral, set the parking brake, disengage the drive system, put all levers to neutral, shut off the engine, remove the ignition key and wait for all movement to stop BEFORE starting installation.

Chute Installation (Figures 1-2)

1. **Figure 1:** Remove the gear shield (item 3) by unscrewing the four 1/4" x 3/4" lg hex. bolts (item 9), lockwashers and nuts. Retain the parts.
2. **Figure 1:** Grease the bottom of the retaining plates (item 2) before installing them on the snowblower. **NOTE:** use a High quality grease designating "extreme pressure" and containing molybdenum disulfide. This grease may specify "Moly EP" on its label.
3. **Figure 1:** Place the rotation bushing (item 12) over the fan output placing the marker (item 12A) facing up and towards the right of the snowblower, then the chute (item 1), align the three 3/8" spacers (item 6) and the three 1/16" spacers (item 5) with the six holes on the housing and secure the two retaining plates (item 2) with six 5/16" x 1 1/4" lg carriage bolts (item 4), lockwashers and nuts (items 7-8) in the exact positions shown. Torque the bolts according to the "**Torque Specification Table**" enclosed at the end of the manual.
4. **Figure 2:** Rotate the hydraulic motor (item 1) so the gear teeth (item 2) connect as much as possible with the gear teeth of the chute (item 3). Tighten the bolts (item 4) to 10 ft-lb (13 N-M). Do not use the Torque Table at the end of manual for these bolts.
5. **Figure 2a:** Place the gear shield (item 1) and the hose support (item 2) on the snowblower housing and lock in place with the four 1/4" NC x 3/4" hex. bolts, 1/4" lockwashers and 1/4" nuts (items 3-4-5). Torque the bolts according to the "**Torque**







ASSEMBLY

Installation of the Hydraulic Hoses
(Figures 3 to 5)

NOTE: Always apply thread sealant on the NPT threads.

1. **Figure 3:** On the NPT end of the four hoses identified with their part number (item 1), connect an identification ring according to the color shown in figure, a 1/4"NPT M/SWF 90° elbow (item 2), a female quick coupler (item 3) and a dust plug (item 4). Tightening 1/4" NPT quick connect to elbow (refer to Torque Table and the end of the manual). **Do not tighten the swivel end of the 90° elbow (item 2).**
2. **Figure 4A:** Install the 3/8"NPT male end of the 90° elbows on the two cylinder ports. Direct the swivel ends at the angle shown in figure.
3. **Figure 4:** Remove the cotter pins (item 1) on both pins (item 2) of the cylinder (item 3). Connect the cylinder base end with one pin (item 2) to the chute base (item 4a). Then connect the cylinder rod end with the other pin (item 2) to the top chute deflector (item 4b). Secure the pins with the previously removed cotter pins (item 1).
4. **Figure 4:** Connect the 49" hose with the orange identification ring (item 5) to the 90° elbow in the cylinder rod end port (item 6). Then connect the 49" hose with the white identification ring (item 7) to the 90° elbow in the cylinder base end port (item 8).
5. **Figure 5:** Install the 9/16"ORB male end of the two adaptors in both port of the hydraulic motor (item 2).
6. **Figures 5-5a:** Connect the 28" hose with the green identification ring (item 3) to the left motor adaptor (item 1). Then connect the 28" hose with the yellow identification ring to the right adaptor. Position the elbow of the hose at a 45° angle as shown in figure 5a.

NOTE: The hoses must be installed as shown in figures.

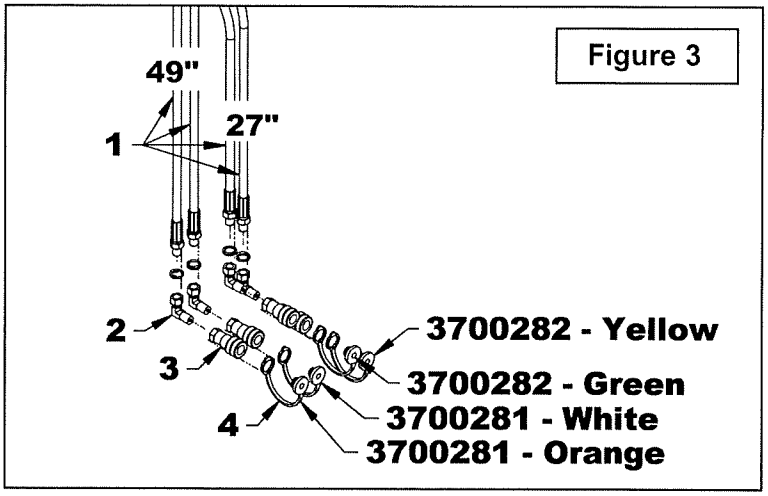


Figure 3

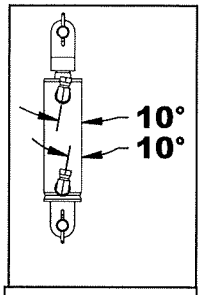


Figure 4a

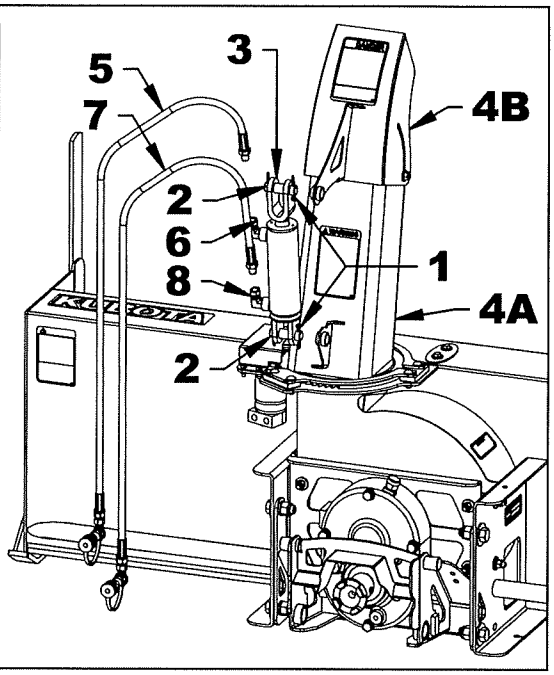


Figure 4

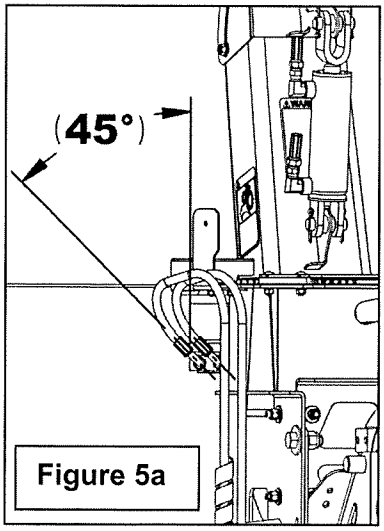


Figure 5a

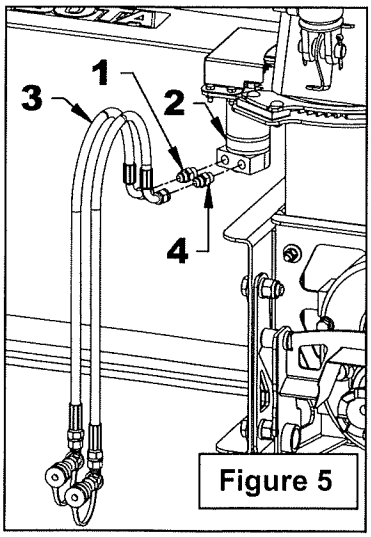


Figure 5

ASSEMBLY

Installation of the Female Clutch Shaft
(Figure 6)

Insert the key 1/4" x 1/4" x 1 1/2" (item 1) on the reduction box shaft (item 2). Slide the female clutch shaft (item 3) on the reduction box shaft (item 2) and secure with a 1/4"NC x 2 1/2" hex bolt (item 4) and 1/4" nylon insert locknut (item 5). Torque the bolt according to the "**Torque Specification Table**" enclosed at the end of the manual.

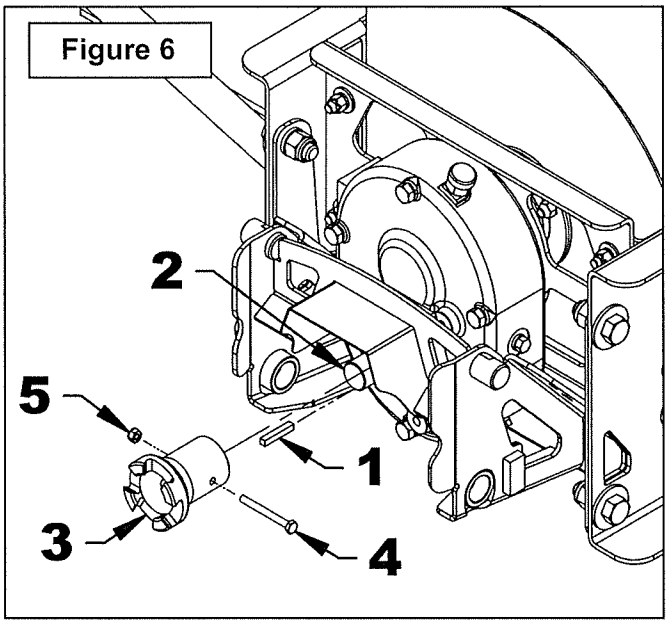


Figure 6

Installation of the Drift Cutters
(Figure 7)

Secure the left and the right drift cutters (item 1) with two 5/16" x 1" carriage bolts, 5/16" (3/8" hole) flat washers and 5/16" stover locknuts (items 2-3-4) as shown in figure.

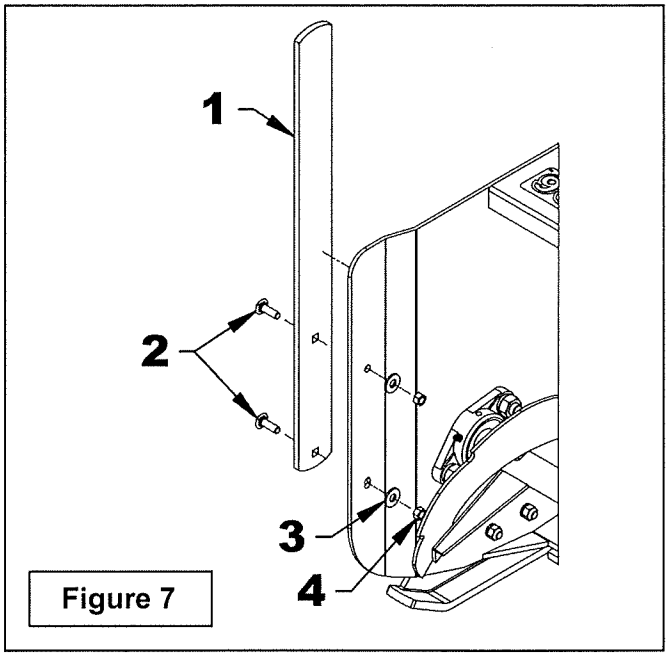


Figure 7

ASSEMBLY

Connection of the Snowblower 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 snowblower on the RTV.

1. **Figure 8:** Pull and rotate each subframe T pin (item 1) to engage them in the slots.
2. **Figure 8:** Move the drive system engagement lever (item 2) forward as shown in figure.

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

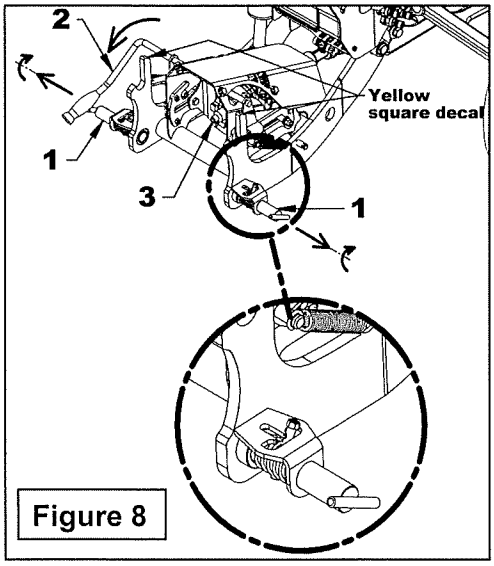


Figure 8

Alignment Mirror Assembly

1. **Figure 8a:** Install the positioning arm (item 1) in the alignment mirror holder pin (item 2).
2. **Figure 8a:** Attach the alignment mirror support (item 3) to the other end positioning arm (item 1).
3. **Figure 8a:** Insert the threaded rod (item 4) of the alignment mirror of the V4358 kit, in the alignment mirror support (item 3). Secure with two flat washers (item 5), the lockwasher (item 6) and the nut (item 7) supplied with the V4358 alignment mirror kit.

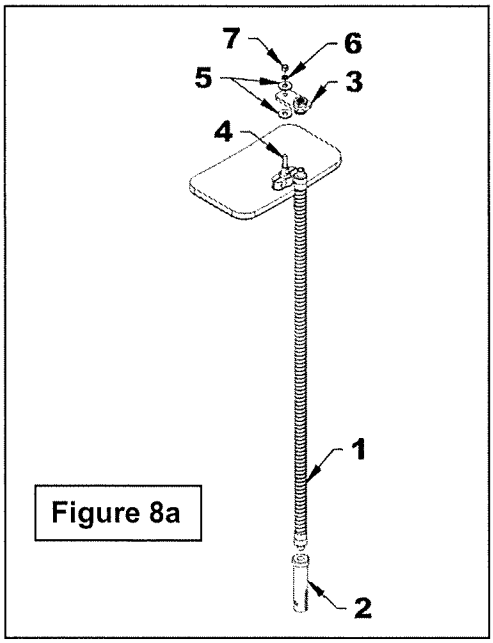
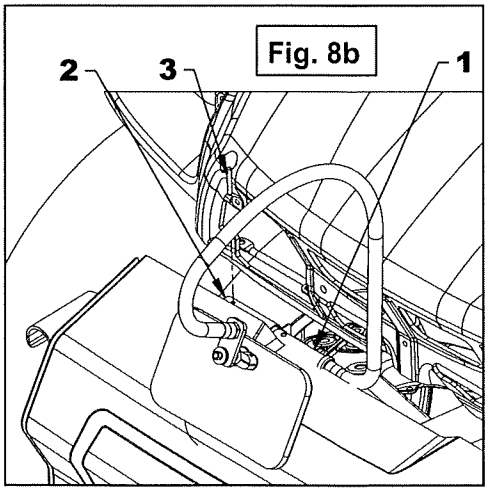


Figure 8a

Hitch Positioning using the Alignment mirror

IMPORTANT: Check and remove any debris and dirt that have accumulated on the female coupling shaft and on the 4pt hitch.

1. **Figure 8b:** Insert the pin of the alignment mirror assembly (item 1) in the bushing of the hydraulic unit (item 2). Secure with the 3/16" x 1" lg quick-release shoulder pin (item 3).



ASSEMBLY

2. **Figure 9:** From the operator's seat look in the alignment mirror to verify if you can see the two upper hooks of the hitch. If you can't see these hooks in the alignment mirror, adjust the alignment mirror until you can see these hooks.
3. Start the vehicle, remove the parking brake and drive forward slowly lining up the RTV hitch perpendicular with the center of the hitch and to the broom hitch. Get as close as possible but DO NOT connect the snowblower.
4. **Figure 9a: LOWER** the 4pt hitch (item 1) until the vehicle starts to raise, then activate the **FLOAT** mode (see the *"Handle Control Function"* Table on page 22).
5. **Figures 9-9a-9b:** Slightly **RAISE** the hitch. Then move slowly looking in the alignment mirror to align the yellow square connection mark decals of the hitches to finally insert the hooks of the vehicle hitch (item 1) on the pins of the equipment hitch (item 2).
6. If only one side of the snowblower pin is touching the back of the hook, turn the wheel toward the side that is touching, drive forward and the other side's pin should touch the back of the hook. **RAISE** the 4pt hitch to connect.
7. **Figure 9b:** Reposition the two subframe T pins (item 1, right side view), and the engagement lever of the mechanical drive, of the subframe according to the procedure at steps 9-10 next page. **Make sure the pins are completely inserted.**
8. Remove the alignment mirror and store it under the driver seat.

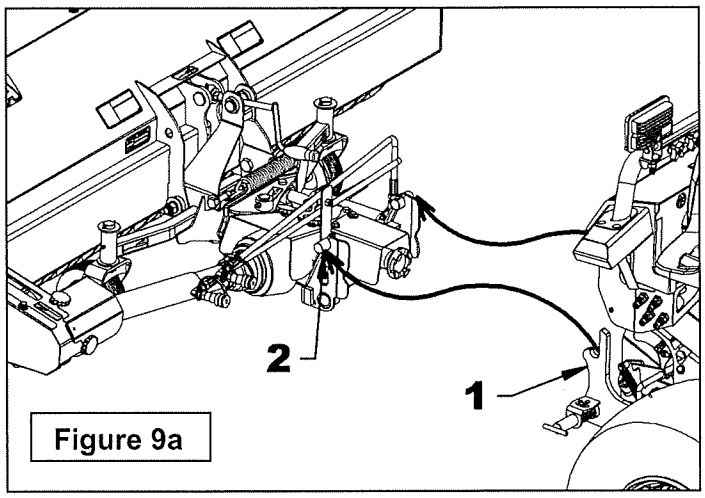


Figure 9a

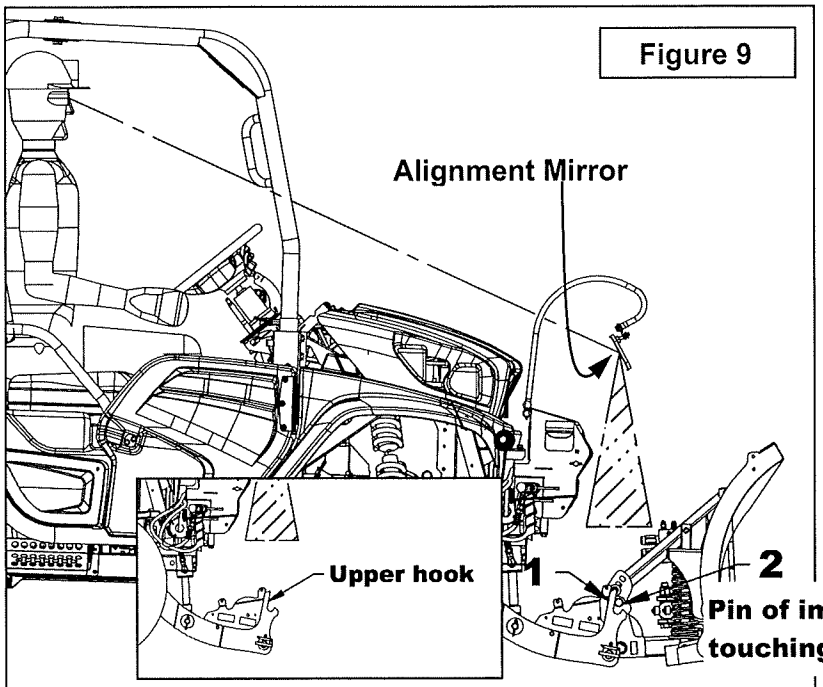


Figure 9

Note: The implement may differ on these three figures 9.

PINS OF IMPLEMENT COMPLETELY ENGAGE IN THE UPPER HOOKS

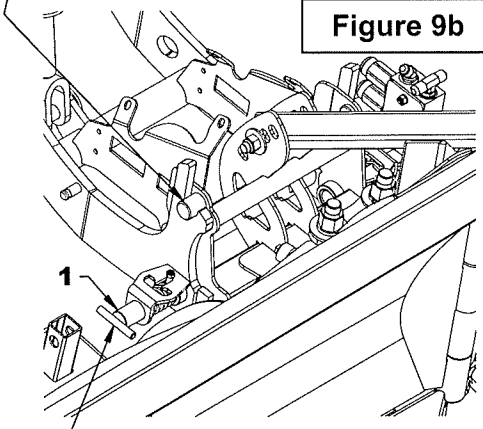


Figure 9b

Pin of implement lined up touching the back of the hook.

ASSEMBLY

9. **Figure 10:** When the snowblower hitch is well connected to the vehicle hitch, pull and rotate the subframe T pins (item 1) then release so they engage in the snowblower hitch bushings. **Make sure the pins are completely inserted.**

10. **Figure 10:** Move up the K-connect lever of the mechanical drive (item 2) as shown in figure.

NOTE: Stop engine and see **WARNING** below.

11. **Figure 11:** Connect the female hydraulic couplings of the snowblower hoses (items 1 to 4) to the male hydraulic couplings (items 1A to 4A) of the vehicle hydraulic unit in the order shown in figure 11. 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.

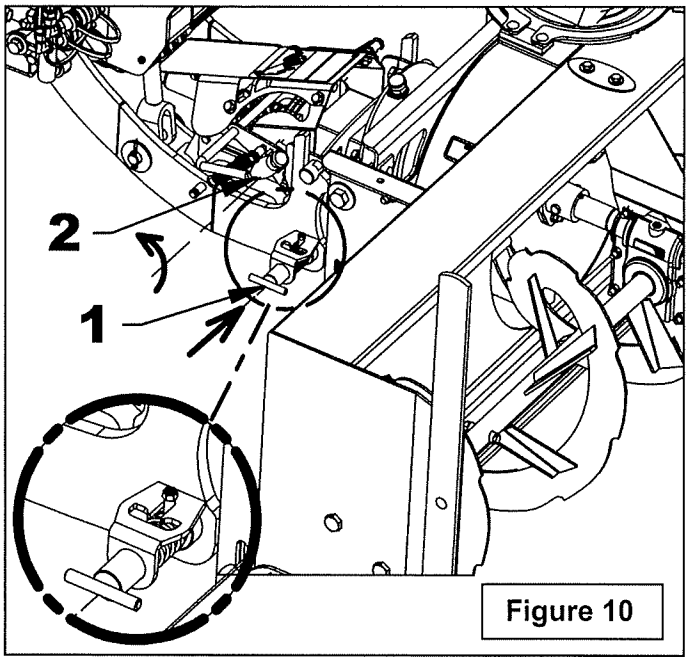


Figure 10

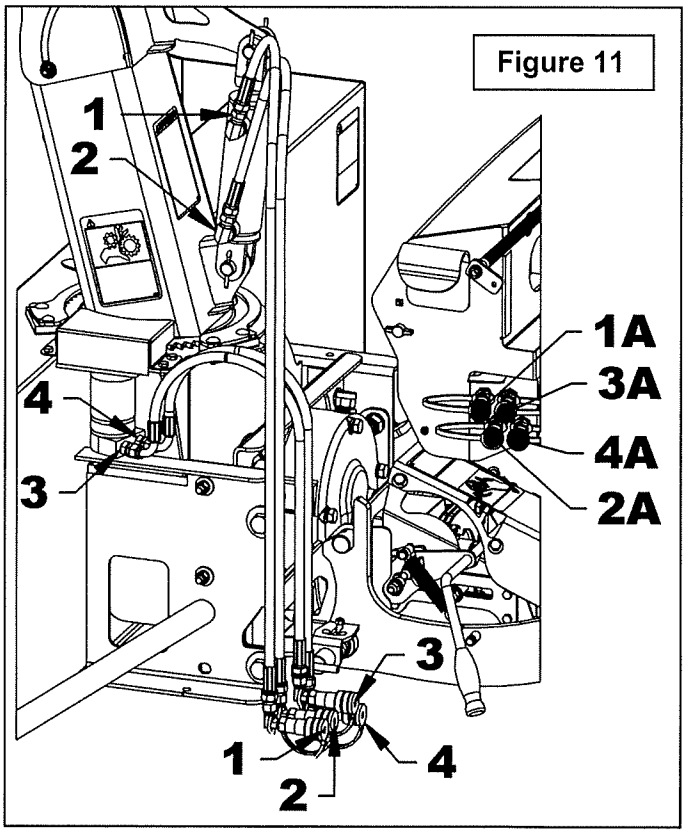
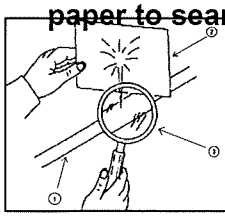


Figure 11

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 page 22) before connecting or disconnecting lines.**
- **Tighten 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

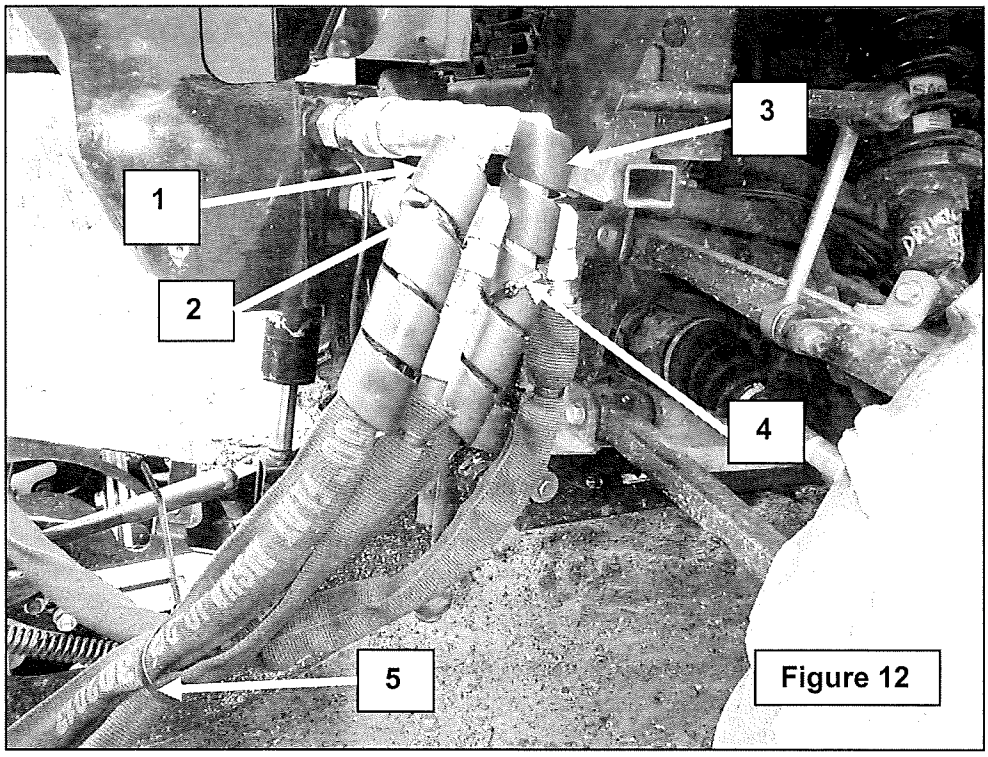


Figure 12

12. **Figure 12:** Install a plastic guard (item 1) on the metal end of the hose with a green identification ring and secure with a nylon tie wrap (item 2). Install a plastic guard (item 3) on the metal end of the hose with an orange identification ring and secure with a nylon tie wrap (item 4). Secure the four hoses together with a nylon tie wrap (item 5) in the location shown in the figure.
13. **Figure 12a**: Lower the snowblower to the maximum (see the *"Handle Control Function"* Table on page 22). Use the house clamp (item 1) to fix the hydraulic deflector hoses (items 2-3) to the hose support (item 4) and secure with a 1/4"NC x 1" lg socket head cap screw and a 1/4"NC nylon insert locknut (items 4-5). Verify if you can turn the chute completely to the right and the left (see the *"Handle Control Function"* Table on page 22). If not, add more hose length on the deflector side.
14. To control the movements of the chute, go to the *"Handle Control Function"* Table on page 22.

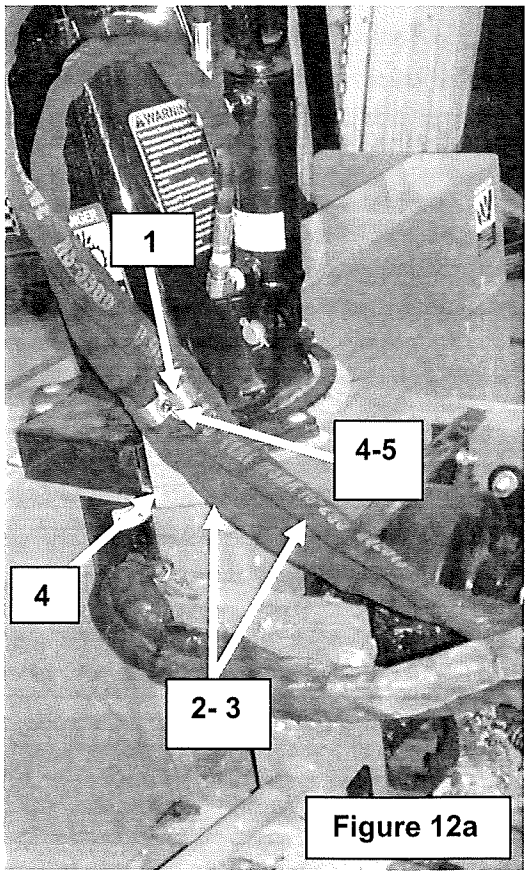


Figure 12a

ASSEMBLY

Disconnecting the Snowblower from the Vehicle (*Figures 13-14*)

WARNING: To avoid serious personal injury or death: Park the RTV on level ground, place the transmission in neutral, set the parking brake, disengage the drive system, put all levers to neutral, shut off the engine, remove the ignition key and wait for all movement to stop BEFORE starting the uninstallation.

1. Raise the snowblower off the ground with the RTV lever.
2. **LOWER** the 4pt hitch and activate the **FLOAT** mode (see the *"Handle Control Function"* Table on page 22).
3. **Figure 13:** Disconnect the four snowblower hydraulic hoses (items 1 to 4) and install the dust plugs and dust caps on each hydraulic couplings. Then place the hoses on the snowblower.
4. **Figure 14:** Move down the engagement lever of the mechanical drive (item 2) as shown in figure.
5. **Figure 14:** Pull and rotate each subframe T pin (item 1) to engage them in the slots.
6. **Figure 14a:** Using the vehicle handle control, (see the *"Handle Control Function"* Table on page 22), completely move down the snowblower until the hooks of the hitch are released from the pins of the snowblower hitch.
7. Reverse the vehicle slowly to release the two hitches.

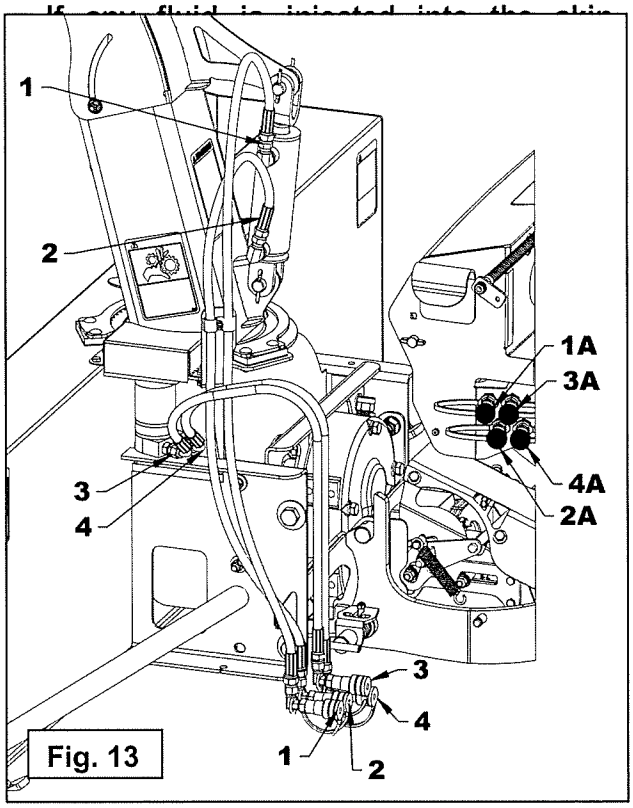


Fig. 13

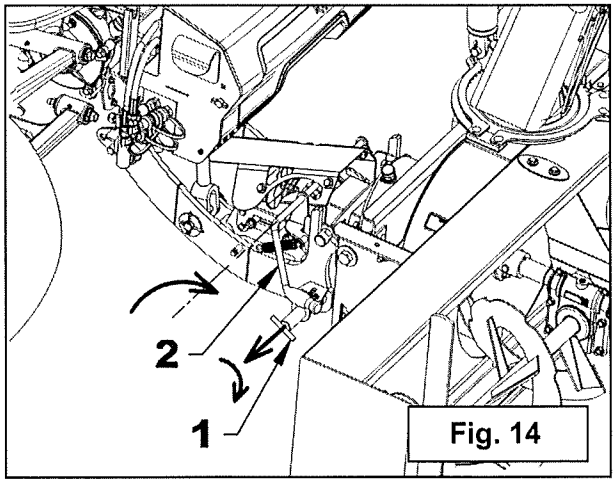


Fig. 14

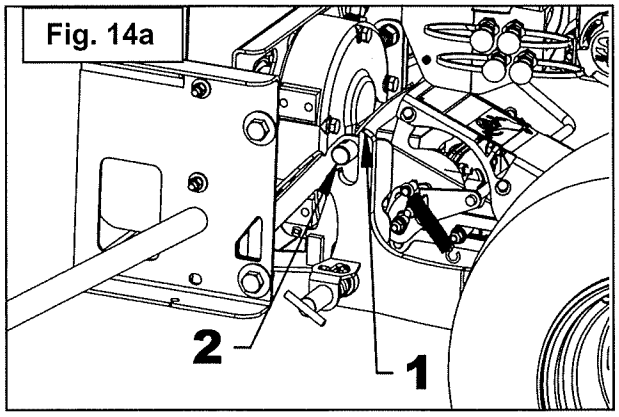
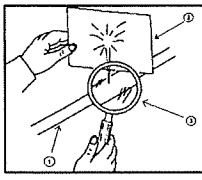


Fig. 14a

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 page 22) before connecting or disconnecting lines.**
- **Tighten all connections before starting engine or pressurizing lines.**

OPERATION

GENERAL PREPARATION

1. Read the operator's manual carefully before using the RTV and snowblower. Be thoroughly familiar with the controls and proper use of the equipment. Know how to stop the unit and disengage the controls quickly.
2. Wear adequate winter outer garments while operating the equipment.
3. Make sure the snowblower is clear of snow and other material before engaging the snowblower.
4. Make sure the auger and fan operate freely.
5. Check the oil level in the reduction box and if necessary, add AGMA 5EP, SAE 80W90 gear oil or equivalent.
6. Check the three shear bolts, one on each auger section and one between the fan and gearbox for proper tightness.
7. Adjust the skid shoes so the snowblower runs leveled.
8. Before engaging the snowblower drive, always have the engine running at idle.
9. Operate the snowblower at maximum engine RPM.

WARNING

To avoid serious personal injury or death: Make sure RTV engine and snowblower come to a complete stop and RTV drive mechanism is disengaged BEFORE making any adjustments.

Skid Shoe Adjustment

(Figure 15)

Adjust the snowblower so that the skid shoes run level and according to the surface conditions so that stones are not thrown with the snow.

Adjust both skid shoes (item 1) to the same height to keep the cutting edge level and adjust upwards for smooth surfaces.

Loosen skid shoe bolts (item 2), adjust according to instructions below and securely tighten bolts:

Clearance between cutting edge and surface:

- ***Level paved surface:*** Insert bolts in bottom holes
- ***Uneven or gravel surface:*** Insert bolts to the required distance: 1/2" - center hole
  1" - upper hole

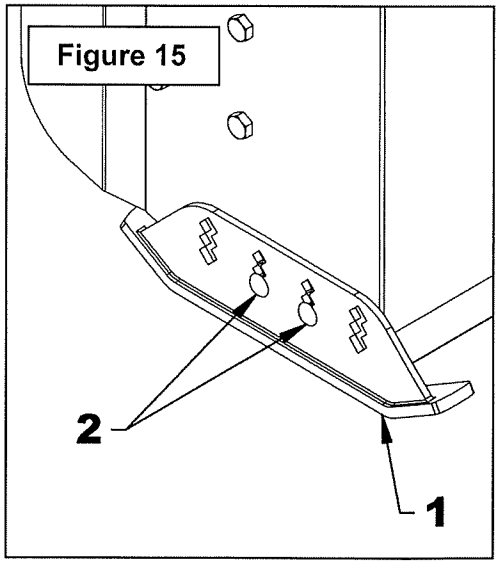


Figure 15

OPERATION

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 snowblower head is properly positioned and engage the drive mechanism.
3. Adjust the ground speed according to conditions. For maximum power, run engine at or near full throttle.

IMPORTANT: Set hand throttle to maximum RPM power when removing wet, sticky snow. Low RPM power will tend to clog the chute.

WARNING To avoid serious personal injury or death: Do not use your hands to unclog the chute. Use a 36" (925mm) stick or board. Do not attempt to unclog the chute while engine is running. If the chute is clogged, shut off the RTV engine, remove the key and clear the snow from the chute.

Increasing Traction and Stability

Make sure the RTV is counterweighted as recommended by your dealer. Weights provide the necessary balance to improve stability, traction and steering.

Engaging the Drive Mechanism
(Figure 16)

To engage the PTO, sit down on the operator's seat, turn the hand throttle's locking 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 hand throttle (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 snowblower operation.

NOTE: If the operator leaves the seat more than 3 seconds, the PTO disengages and the engine shuts down.
To restart the PTO, sit down on the operator's seat, turn off the PTO switch, restart the engine of the vehicle and activate the PTO switch.

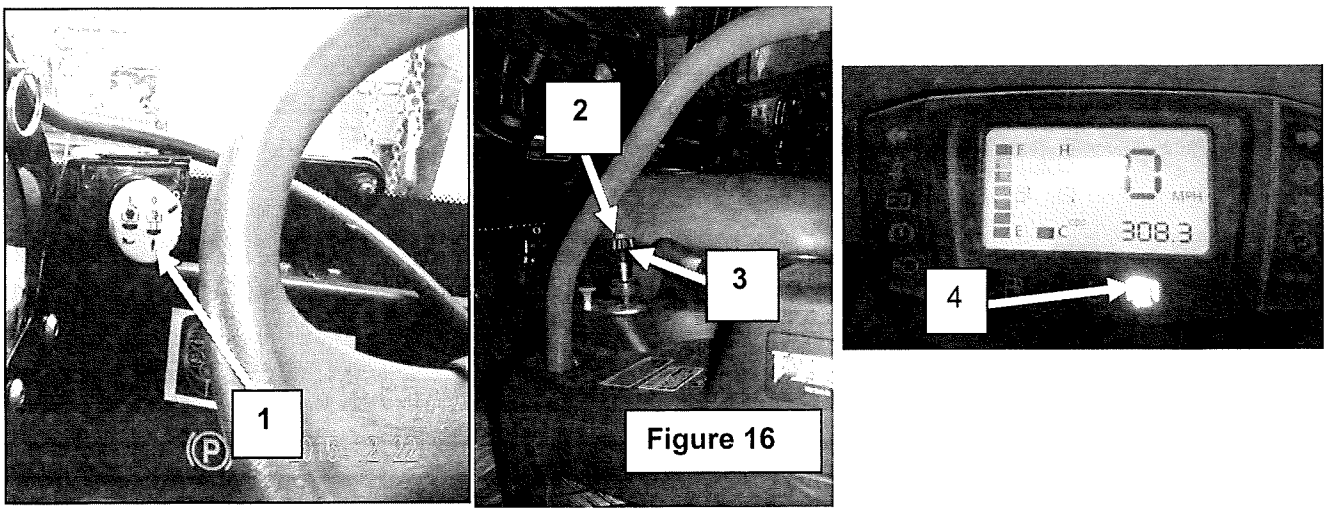


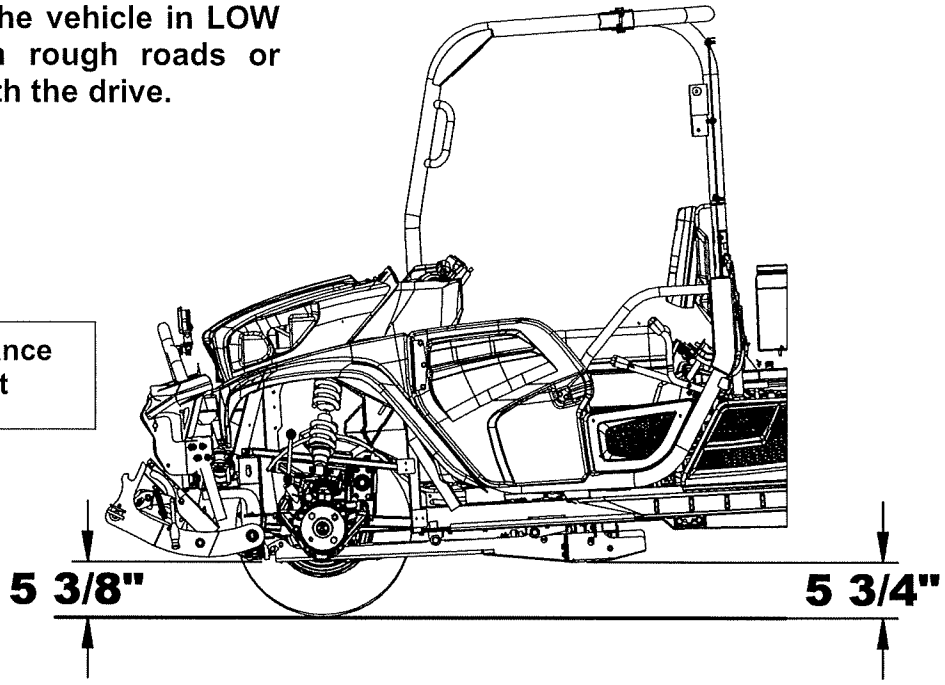
Figure 16

OPERATION

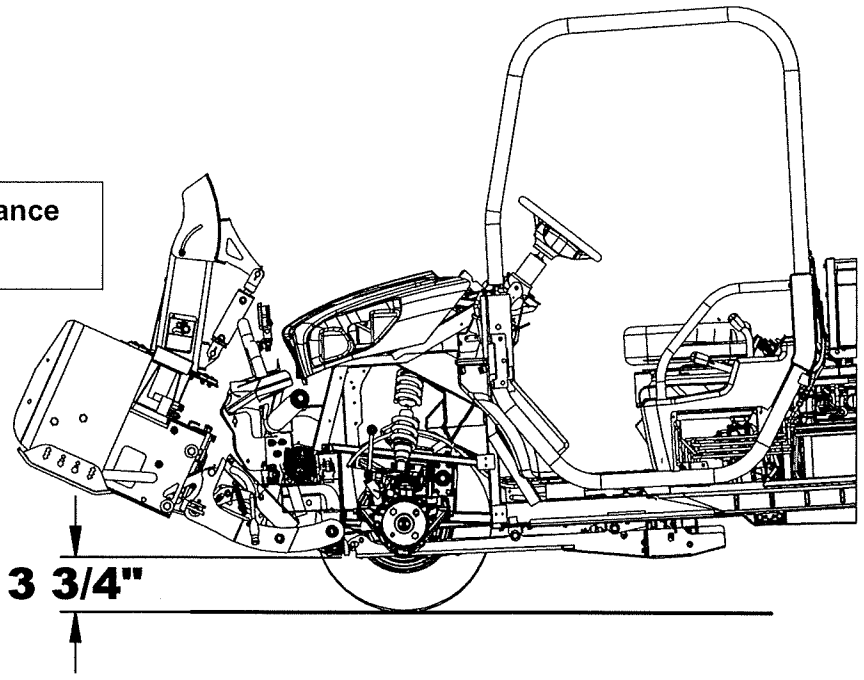
Ground Clearance of the Vehicle

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

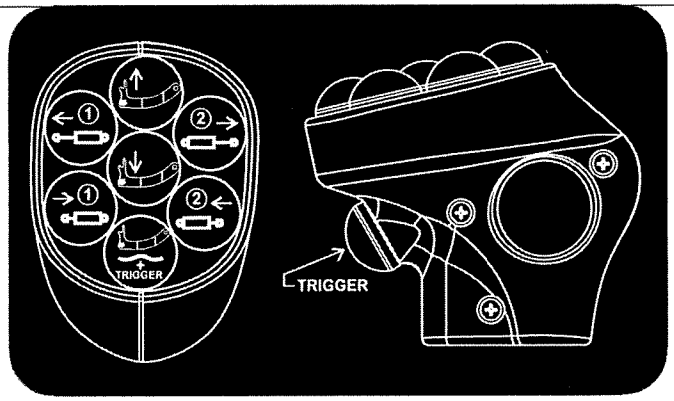


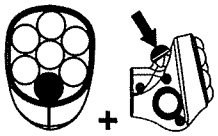
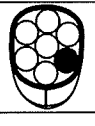
Mimimun ground clearance WITH equipment

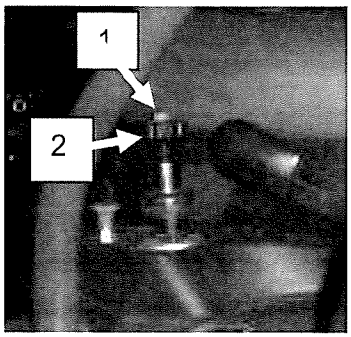
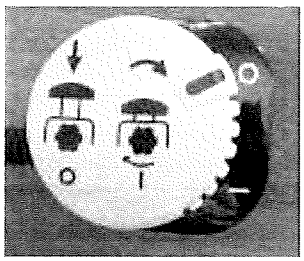
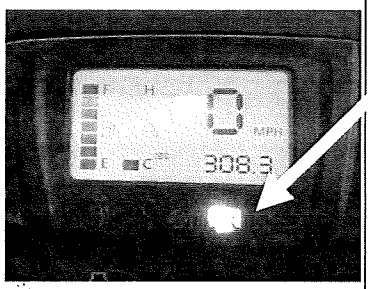


OPERATION

Snowblower Controls and Handle Control Functions



Function	Button	Description
V5293 - 4pt Hich control		
RAISE		Press the upper middle button to raise the 4pt hitch and disengage the "FLOAT" mode.
LOWER		Press the center middle button to lower the 4pt 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.		
V5296 - Snowblower control		
MOVING DOWN THE CHUTE DEFLECTOR		Press the upper left button to extend the chute cylinder (the chute deflector move down forward).
MOVING UP THE CHUTE DEFLECTOR		Press the lower left button to retract the chute cylinder (the chute deflector move up backward).
LEFT ROTATION OF THE CHUTE		Press the upper right button to rotate the chute to the left.
RIGHT ROTATION OF THE CHUTE		Press the lower right button to rotate the chute to the right.

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

SNOW REMOVAL METHODS

When removing snow, do not use the snowblower as a dozer blade to push snow. Let the snowblower work its way through deep drifts. If the speed of your RTV is too fast, the snowblower may become overloaded and clog. For best results, raise the snowblower and remove a top layer of snow. A second pass with the snowblower will remove the remaining snow.

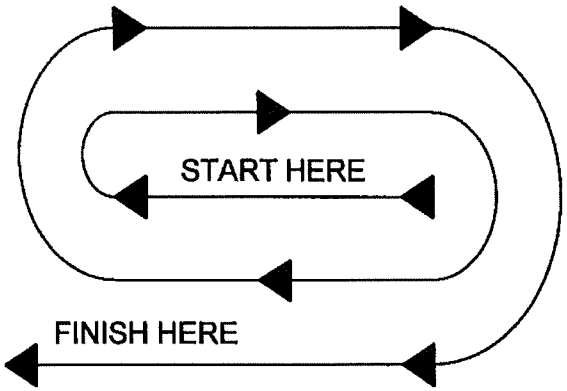
IMPORTANT: Use full RPM power when removing wet, sticky snow. Low RPM power will tend to clog the chute.

WARNING: To avoid serious personal injury or death: Do not use hands or feet to unclog chute. Do not attempt to clear clogged chute of snow while RTV engine is running. If the chute clogs, disengage the drive shaft, shut off the RTV engine, remove the ignition key, wait for all movement to stop, and then clear the snow from the chute.

A definite pattern of operation is required to thoroughly clean the snow area. These patterns will avoid throwing snow in unwanted places as well as eliminating a second removal of snow.

PATTERN 1

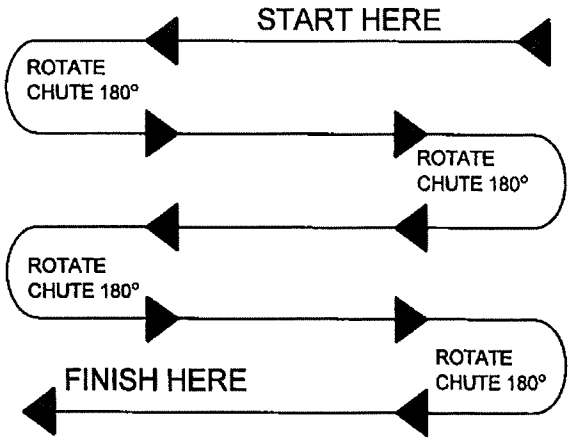
DISCHARGE SNOW BOTH SIDES



DISCHARGE SNOW BOTH SIDES

Where it is possible to throw the snow to the left and right (above), as on a long driveway, it is advantageous to start in the middle. Plow from one end to the other, throwing snow to both sides without changing the direction of the discharge guide

PATTERN 2



DISCHARGE SNOW THIS SIDE ONLY

If the snow can only be thrown to one side of the driveway or sidewalk (above), start on the opposite side. At the end of the first pass, rotate the discharge guide 180 degrees for the return pass. At the end of each succeeding pass, rotate the discharge guide 180 degrees to maintain direction of throw in the same area.

MAINTENANCE

MAINTENANCE

ALWAYS USE GENUINE PARTS WHEN REPLACEMENT PARTS ARE REQUIRED

WARNING

To avoid serious personal injury or death:

- **Before cleaning, adjusting or repairing the snowblower: bring the RTV to a complete stop, lower the implement shut off the engine and remove the ignition key.**
- **Never park the RTV inside a building where an open flame or sparks are present. Allow the engine to cool down before storing in any enclosure.**
- **Run the snowblower a few minutes after blowing snow to prevent freeze up of auger and fan.**
- **Always remove the snowblower of the hitch if you need to do some work on it.**

Gearbox and Reduction Box

When servicing either the gearbox or the reduction box, the sealing of the casing must be restored. To do so, apply a layer of silicone to the casing before closing it. Allow the silicone to cure for at least 24 hours before filling it with oil.

Oil Level – Oil Fill Up

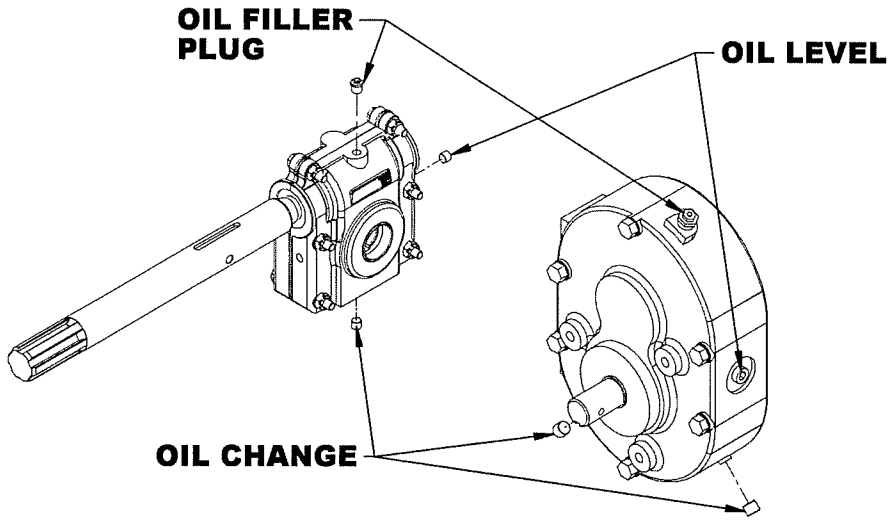
To check oil level: Remove oil level plug, check if the oil is flush with the plug. If not, remove the oil filler plug and fill until the oil flows through the oil level plug hole. Reinstall both plugs.

Oil Change

Change the oil in the gearbox and in the reduction box once a year.

1. Remove oil filler plug.
2. Remove oil change plug and let oil flow through until only small drops are coming out.
3. Reinstall oil change plug and remove oil level plug. Fill gearbox/ reduction box with SAE 80W90 oil, AGMA 5EP extreme pressure oil or equivalent, until oil reaches oil level plug. Reinstall oil level plug, then oil filler plug.

NOTE: For the reduction box oil change, use the lower oil change plug.



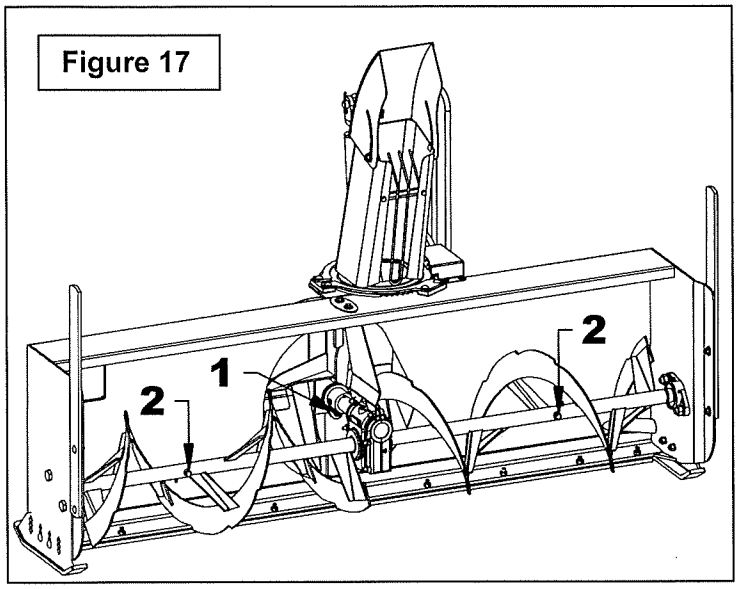
MAINTENANCE

Shearbolts
(Figure 17)

1. Always use a grade 2 shearbolt (77700-04339) on fan (item 1) and special grade 5 grooved shear bolts (70060-01338) on the auger sections (item 2) as shown on decal (77700-01729).

2. Check shear bolts at frequent intervals for proper tightness to be sure the snowblower is in safe working condition.

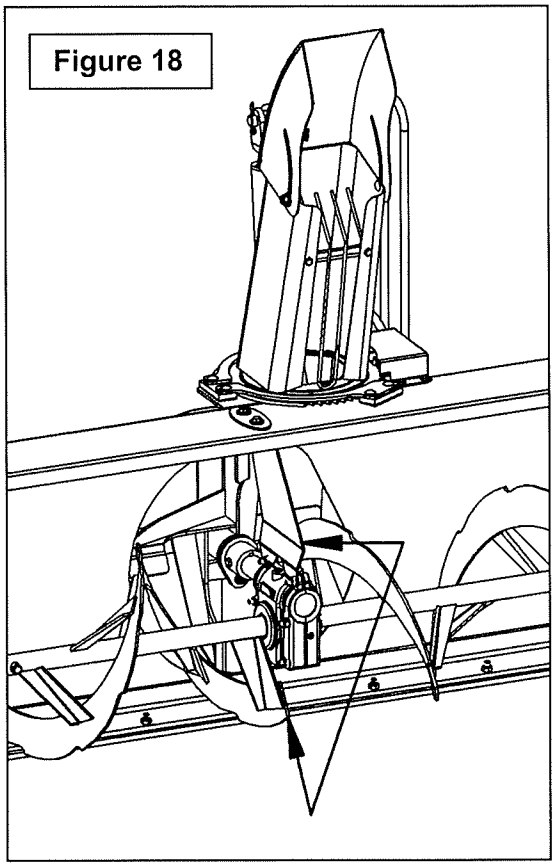
Figure 17



Auger Repositioning
(Figure 18)

After shear bolt breakage on one of the augers, make sure to reposition the augers as shown on the figure below; opposite 180° from each other.

Figure 18



MAINTENANCE

PROBLEM: HYDRAULIC CHUTE ROTATION IS SLOW OR DOESN'T TURN

When activating the chute rotation, it turns very slowly or not at all

WARNING To avoid serious personal injury or death: Always wear safety glasses while doing the instructions below.

SOLUTION:

Do not attempt to check cross over relief valve pressure limiters settings with a standard pressure gauge.

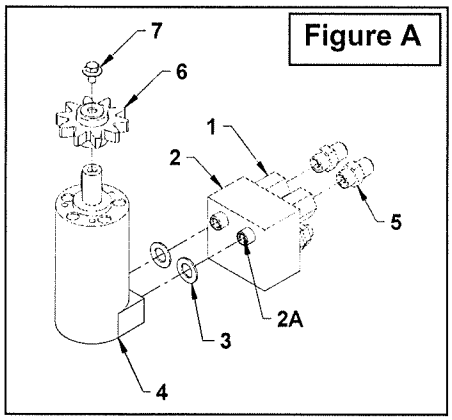
1. Check if the RTV valve works well. Test it by plugging another equipment to the valve. If it does not work well, refer to the appropriate operator's manual.
2. **Figure A:** Check if the chute itself rotates well. To do so, remove the serrated flange bolt (item 7) and the motor gear (item 6) attached to the motor shaft (item 4) and check if the chute rotates well in both directions by turning it by hand. If it does not rotate well, correct the problem by checking if there is some excess wear or debris locked between components.
3. **Figure A:** If the chute rotates well in one direction, check if there are residues in the hydraulic system by removing the serrated flange bolt (item 7) and the gear (item 6) attached to the motor shaft (item 4) and activate the rotation in the direction where the engine runs well for about 1 minute to evacuate residues.
4. Then rotate the chute in the direction it did not turn well and check if the problem is resolved. - If not or if the chute does not rotate well in either direction, release pressure on the system: turn on the key without starting the vehicle, activate the float mode with the handle control (see Function Table on page 22), and turn off the key. Then disconnect the motor hoses, remove the two flow restrictors (item 5) attached to the valve (item 2) and inspect the holes of the two flow restrictors carefully. Remove the residues if needed. If no residue is present, disconnect hoses and clean them with compressed air (see WARNING at top of page).
5. If the problem persists, disassemble the cross over relief valve (item 2) from the motor (item 4) by taking care to leave the plunging screws (item 1) in the cross over relief valve and check if there are residues inside the motor or in the holes of the plunging screws (item 2A). Clean with compressed air the inside of the two motor inputs and the holes of the two plunging screws. You can also turn the motor shaft in both directions while shooting compressed air.

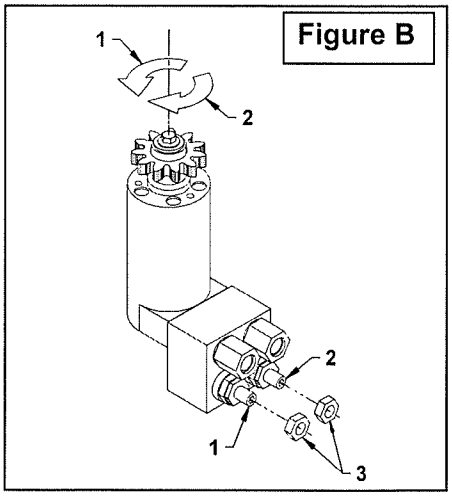
   Note: The plunging screws (item 1) must be tightened at a torque of 53 ft-lb.
6. **Figure B:** Check the adjustment of the cross over relief valve pressure limiters. To do so, check which direction the chute rotates slowly and remove the associated jam nut (see figure B). Then completely tighten the adjusting screw (item 1 or 2) associated with the direction rotating slowly, unscrew precisely 5 turns and check if the chute rotates well. If not, tighten gradually, a maximum of 2 turns, while checking the effect on the chute.

   IMPORTANT: the adjustment must always be between 3 and 5 unscrewed turns. Never exceed those values.

   Note: The factory adjustment is of 4 1/4 turns unscrewed. After the adjustment, tighten the two jam nuts (item 3).

IIMPORTANT: When removing connectors, always make sure to install the plugs and caps on the hoses and RTV valve connectors. This will prevent contamination of the hydraulic circuit and obstruction of the flow restrictor hole.





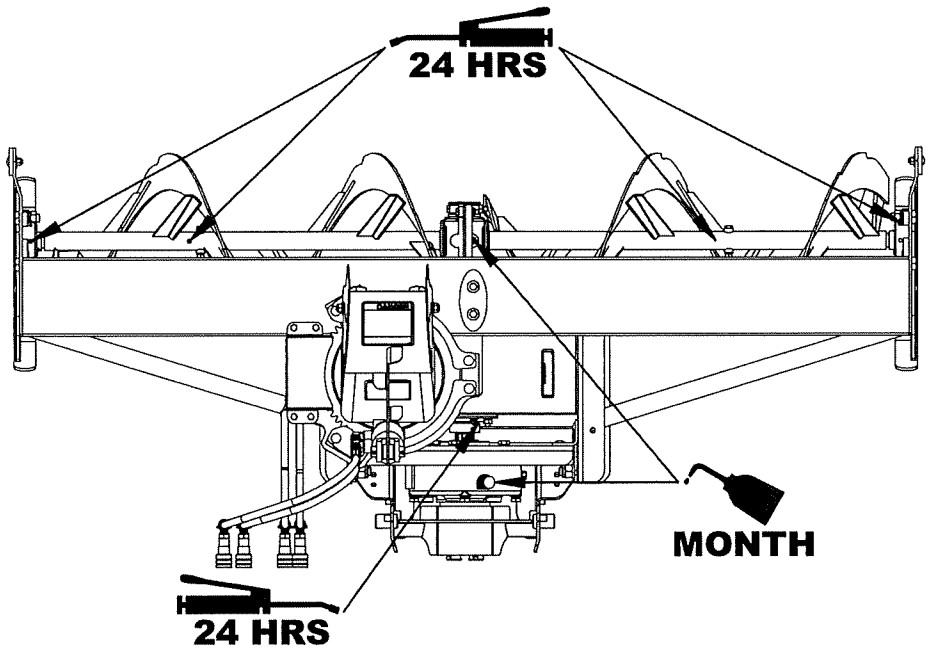
MAINTENANCE

LUBRICATION

Use a grease gun and lubricate as follows:

DESCRIPTION	INTERVAL	LUBRICATION REQUIRED
Reduction box & Gearbox	Once a month	Check oil level. If needed, add AGMA 5EP extreme pressure oil, SAE 80W90 gear oil or equivalent.
Auger	24 hours of operation or once a year whichever comes first	Grease fitting on each auger section. Use a grease Shell Gadus S5 V100 or equivalent
Bearing	24 hours of operation	Grease each auger bearing. Use a grease Shell Gadus S5 V100 or equivalent

IMPORTANT: Perform entire lubrication yearly before storage and if used for less than 20 hours per year.



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.

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

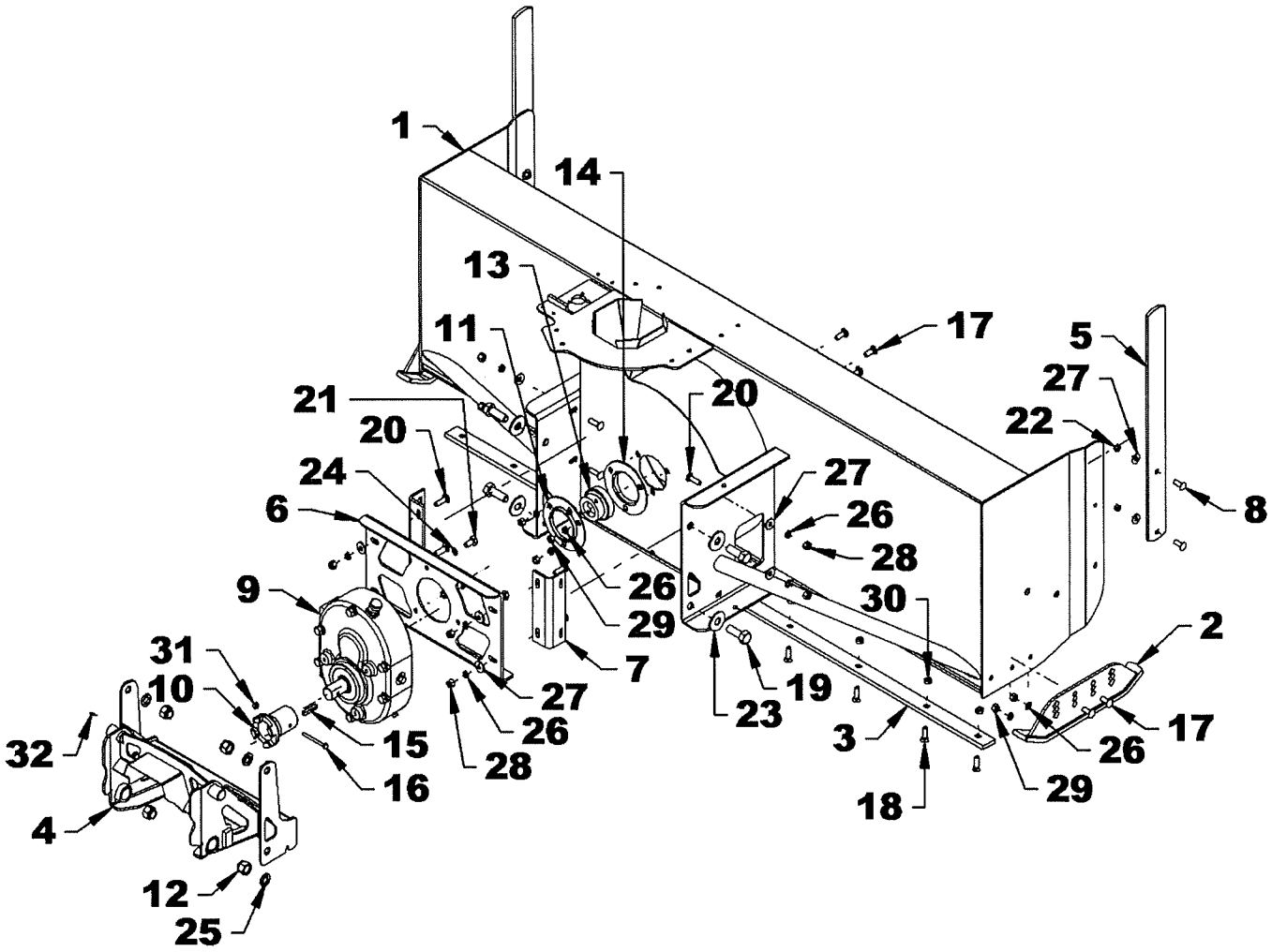
Orders must give the complete description, correct part number, the total amount required, the serial number, the method of shipment and the shipping address.

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

SNOWBLOWER ASSEMBLY - REAR

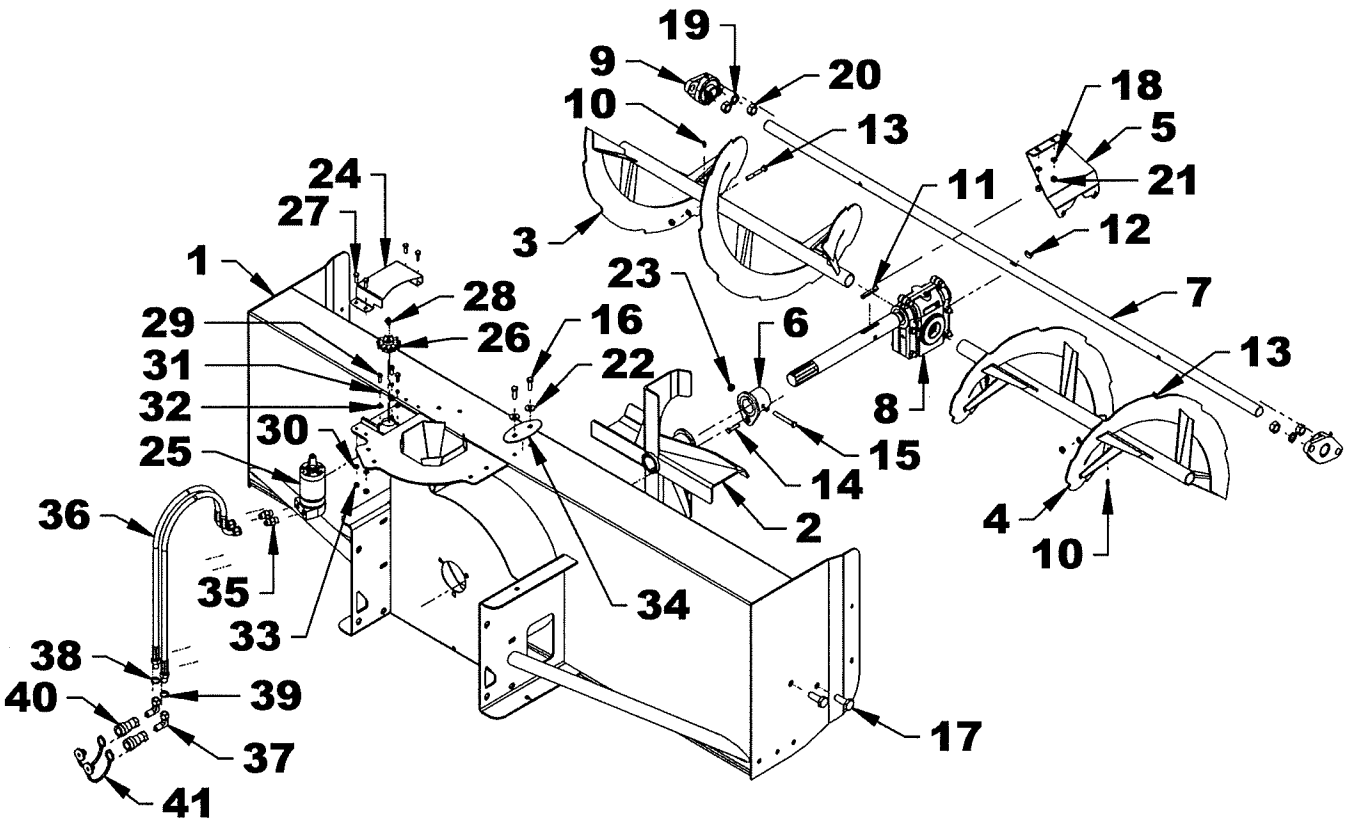


PARTS

SNOWBLOWER ASSEMBLY - REAR				
REF.	PART#	QTY	DESCRIPTION	CODE
1	77700-06610	1	66" snowblower housing	671275
2	77700-02283	2	Adjustable skid shoe	669586
3	77700-06611	1	Cutting edge	671276
4	77700-06616	1	4pt hitch	671283
5	77700-05879	2	Drift cutter	670942
6	77700-01741	1	Gearbox support - plate	669248
7	77700-01737	2	Gearbox support - side	669244
8	70001-00793	4	Carriage bolt 5/16"NC x 1" gr.5 PTD	0300003
9	77700-04338	1	Reduction box	4500148
10	77700-04555	1	Female clutch shaft	4700282
11	77700-05949	1	Flange 1 3/8" with grease fitting	4300128
12	77700-01199	4	Nylon insert locknut 5/8"-11NC PTD	1000012
13	77700-01749	1	Bearing 1 3/8" greasable with set screw	4300091
14	77700-01747	1	Flange 1 3/8" with grease groove	4300089
15	70060-00862	1	Key 1/4" x 1/4" x 1 1/2" lg	654732
16	75599-01150	1	Bolt hex 1/4"NC x 2 1/2" gr.5 PTD	0100012
17	70050-94230	7	Carriage bolt 3/8"NC x 1" gr.5 PTD	0300008
18	70001-00789	9	Plow bolt 3/8"NC x 1 1/4" gr.5 PTD	0400002
19	77700-01254	4	Bolt hex 5/8"NCx 1 3/4" gr.5 PTD	0100094
20	77700-01243	8	Carriage bolt 3/8"NC x 1 1/4" gr.5 PTD	0300009
21	70060-04370	3	Bolt hex 10M x 1.5 x 20 lg gr.8.8 PTD	0200012
22	70001-00794	4	Stover lock nut 5/16"NC PTD	1100002
23	75599-32017	4	Flat washer 5/8" (11/16" int.) PTD	1400008
24	70060-00792	3	Lockwasher M10 PTD	1200018
25	70001-00804	4	Lockwasher 5/8" PTD	1200007
26	75599-33013	15	Lockwasher 3/8" PTD	1200004
27	75599-32014	12	Flat washer 3/8" (7/16" int.) PTD	1400004
28	75599-31913	8	Nylon insert locknut 3/8"-16NC PTD	1000006
29	75599-31013	7	Nut hex 3/8"NC PTD	0900003
30	70060-04442	9	Stover lock nut 3/8"NC PTD	1100003
31	75599-31911	2	Nylon insert locknut 1/4"-20NC PTD	1000003
32	77700-06677	2	Decal "CONNECTION MARK" yellow	2500981

PARTS

SNOWBLOWER ASSEMBLY - FRONT



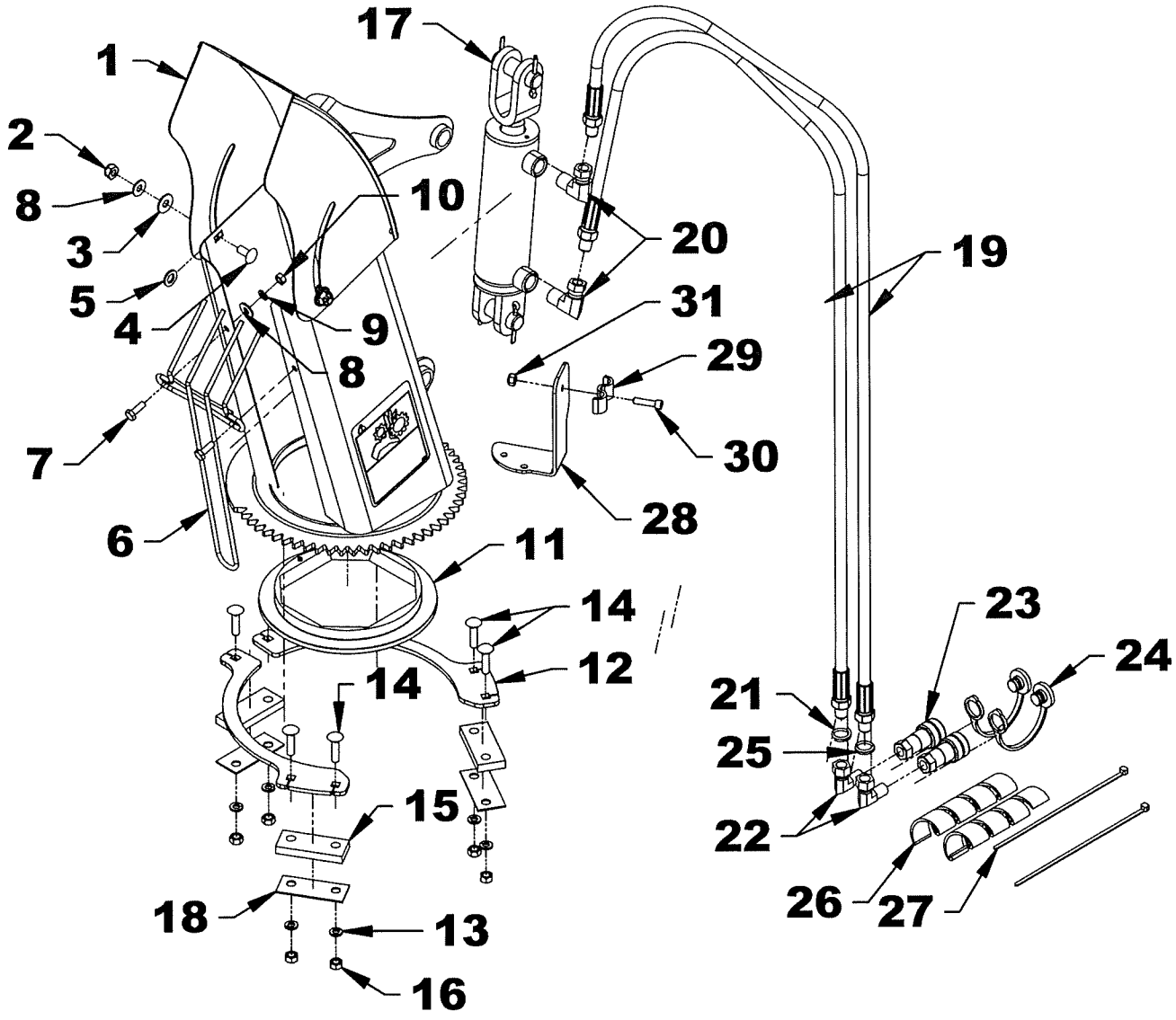
PARTS

SNOWBLOWER ASSEMBLY - FRONT

REF.	PART#	QTY	DESCRIPTION	CODE
1	77700-06610	1	66" snowblower housing	671275
2	77700-01732	1	Fan - 4 blades	669237
3	77700-06613	1	Left auger	671278
4	77700-06612	1	Right auger	671277
5	70060-01410	1	Worm gearbox support	657332
6	77700-01735	1	Shear plate	669241
7	77700-06614	1	Output shaft	671279
8	77700-01751	1	Gearbox	4500119
9	70060-00387	2	Ball bearing Ø1" incl. setscrew	4300025
10	70060-00940	2	Grease fitting 1/4"-28 NF	654106
11	70060-03253	1	Key 1/4" x 1/4" x 2 lg	658188
12	70060-01306	1	Woodruff key 1/4" x 7/8"	655967
13	70060-01338	2	Shear bolt 5/16"NC x 2 1/4" gr. 5 with lockwasher & nut	657295
14	77700-04339	1	Shear bolt 1/4"NC x 1 1/4" gr.2 with lockwasher & nut	669596
15	77700-01718	1	Bolt hex 5/16" NC x 2 1/2" gr. 5 PTD	0100026
16	75599-01220	2	Bolt hex 5/16" NC x 1" gr.5 PTD	0100019
17	77700-01744	4	Bolt hex 9/16" NC x 1 1/2"lg gr.5 PTD	0100258
18	75599-33012	2	Lockwasher 5/16" PTD	1200003
19	70060-02169	4	Lockwasher M14 PTD	1200014
20	75599-31016	4	Nut hex 9/16"-12 NC PTD	0900028
21	75599-31012	2	Nut hex 5/16"NC PTD	0900002
22	75599-32012	2	Flat washer 5/16"(3/8" int.) PTD	1400003
23	75599-31912	1	Nylon insert locknut 5/16"-18NC PTD	1000005
24	77700-01740	1	Gear shield	669247
25	77700-00775	1	Hydraulic motor	3910014
	77700-00776	1	- Seal kit	3910015
26	70060-00717	1	Motor gear	665688
27	75599-01115	4	Bolt hex 1/4"NC x 3/4" gr.5 PTD	0100003
28	70060-02529	1	Serrated flange bolt M6 x 1.0 x 10 PTD	0200103
29	70060-02530	3	Bolt hex M6 x 1.00 x 16 lg PTD	0200096
30	75599-33011	4	Lockwasher 1/4" PTD	1200002
31	70060-02731	3	Lockwasher M6 PTD	1200013
32	77700-01248	3	Flat washer #12 (1/4" int.) PTD	1400016
33	75599-31011	4	Nut hex 1/4"NC PTD	0900001
34	77700-05890	1	Reinforcement plate	670919
35	70001-00878	2	Adaptor 9/16"ORB M x 9/16"JIC M	661544
36	77700-06644	2	Hose 1/4" x 27" - 1/4"NPT M x 9/16"JIC SWF SHB90 w/protective nylon sheath	3700282
37	70001-00599	2	Elbow 90° 1/4"NPT M x 1/4"NPT SWF	655211
38	70060-01570	1	Identification ring - green	658209
39	70060-01569	1	Identification ring - yellow	658206
40	70060-04310	2	Female quick coupler 1/4"NPT	664668
41	70060-00336	2	Dust plug 1/4"	2600061

PARTS

CHUTE & HYDRAULIC ROTATION

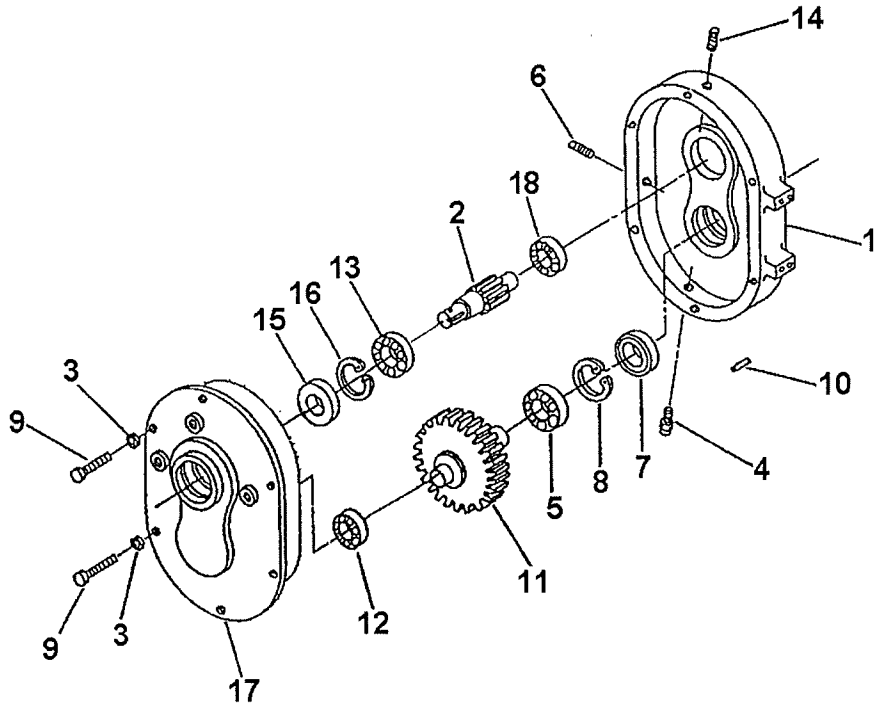


PARTS

CHUTE & HYDRAULIC ROTATION				
REF.	PART#	QTY	DESCRIPTION	CODE
1	77700-06615	1	Chute CW ass'y w/english decals	671280
2	75599-31912	2	Nylon insert locknut 5/16"-18NC PTD	1000005
3	70060-03052	2	Nylon washer 11/32"	658467
4	70001-00793	2	Carriage bolt 5/16"NC x 1" gr.5 PTD	0300003
5	70060-03053	2	Nylon washer 7/16"	658468
6	70060-01358	1	Hand guard	657308
7	75599-01115	2	Bolt hex 1/4"NC x 3/4" gr.5 PTD	0100003
8	75599-32011	4	Flat washer 1/4" (5/16" int.) PTD	1400002
9	75599-33011	2	Lockwasher 1/4" PTD	1200002
10	75599-31011	2	Nut hex 1/4"NC PTD	0900001
11	70060-01357	1	Nylon ring for chute	657338
12	77700-01738	2	Retaining plate	669245
13	75599-33012	6	Lockwasher 5/16" PTD	1200003
14	70060-04190	6	Carriage bolt 5/16"NC x 1 1/4" gr.5 PTD	0300004
15	77700-01743	3	Spacer	669251
16	75599-31012	6	Nut hex 5/16"NC PTD	0900002
17	70001-00871	1	Cylinder 2" x 5" with pins	665433
	70001-00872	1	- Seal kit	665434
18	77700-01777	3	Spacer 1/16" thick x 1 1/4" wide x 3" lg	669316
19	77700-06643	2	Hose 1/4" x 49" - 1/4"NPT M x 1/4"NPT M w/prot. nylon sheath	3700281
20	70060-00886	2	Elbow 90° 3/8"NPT M x 1/4"NPT SWF	654438
21	77700-00997	1	Identification ring - white	4200032
22	70001-00599	2	Elbow, 90° 1/4"NPT M x 1/4"NPT SWF	655211
23	70060-04310	2	Female quick coupler 1/4"NPT	664668
24	70060-00336	2	Dust plug 1/4"	2600061
25	77700-00998	1	Identification ring - orange	4200033
26	77700-05084	2	Plastic guard for 6" hose black	670747
27	70060-02398	2	Nylon tie wrap 8" lg x 4.8mm black	2100003
28	77700-07183	1	Hose support	671476
29	77700-04674	1	Double hose clamp 1/4" compact PTD	670414
30	77700-04365	1	Allen socket head cap screw 1/4"NC x 1" PTD	0800007
31	75599-31911	1	Nylon insert locknut 1/4"NC PTD	1000003

PARTS

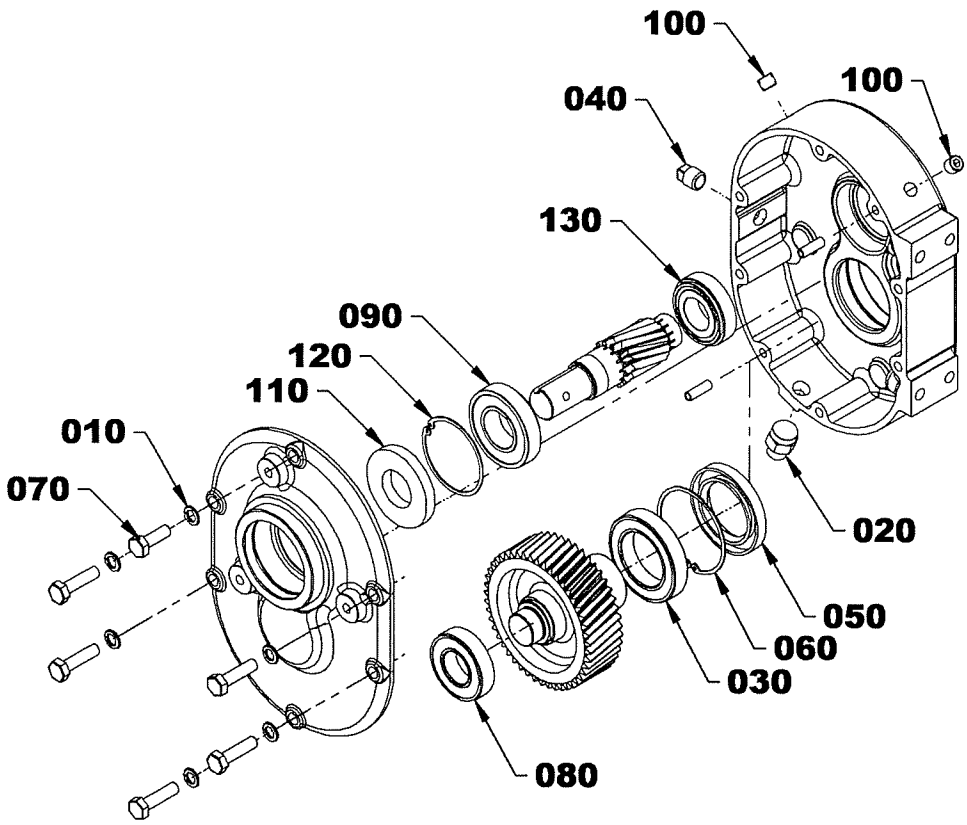
REDUCTION BOX -77700-04338- "COMER" IDENTIFICATION				
REF.	PART#	QTY	DESCRIPTION	CODE
	77700-04338	1	Reduction Box ass'y	4500148
1	n/a	1	Casing	n/a
2	n/a	1	Pinion	n/a
3	70060-00792	6	Lockwasher 10mm	1200018
4	70060-03343	1	Breather	656662
5	70060-03344	1	Ball bearing	659838
6	70060-03345	1	Plug 3/8"	655259
7	70060-03346	1	Oil seal	659839
8	70060-03347	1	Snap ring	656642
9	70060-70410	6	Hex. bolt M10 x 1.5 x 30mm - 8,8	0200016
10	n/a	2	Spring pin	n/a
11	n/a	1	Gear	n/a
12	70060-03351	1	Bearing	659843
13	70060-04536	1	Cone bearing	656647
14	70060-70419	2	Plug 1/4"	663570
15	70060-03354	1	Oil seal	659845
16	70060-03355	1	Snap ring	656654
17	n/a	1	Cover	n/a
18	70060-04532	1	Cone bearing	4300069
-	70060-03353	1	Shim (not shown & qty as desired)	656649



PARTS

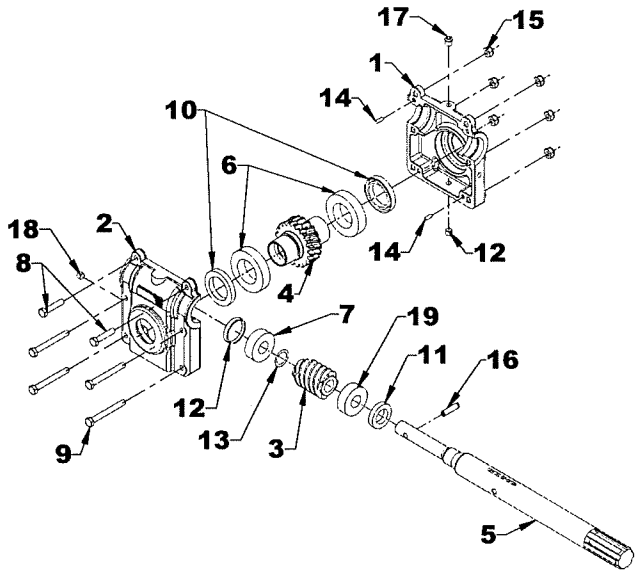
REDUCTION BOX - 77700-04338 - "4500148S" IDENTIFICATION

REF.	PART#	QTY	DESCRIPTION	CODE
-	77700-04338	1	Reduction Box ass'y	4500148
010	70060-00792	6	Lockwasher 10mm	1200018
020	70060-03343	1	Breather	656662
030	70060-03344	1	Ball bearing	659838
040	70060-03345	1	Plug 3/8"	655259
050	70060-03346	1	Oil seal	659839
060	70060-03347	1	Snap ring	656642
070	70060-70410	6	Hex. bolt M10 x 1.5 x 30mm - 8,8	0200016
080	70060-03351	1	Bearing	659843
090	70060-04536	1	Cone bearing	656647
100	70060-70419	2	Plug 1/4"	663570
110	70060-03354	1	Oil seal	659845
120	70060-03355	1	Snap ring	656654
130	70060-04532	1	Cone bearing	4300069
-	70060-03353	1	Shim (not shown & qty as desired)	656649



PARTS

WORM GEARBOX				
REF.	PART#	QTY	DESCRIPTION	CODE
	77700-01751	1	Worm Gearbox assembly	4500119
	70060-01913	1	Casing kit (items 1 and 2)	4500021
1	------	1	Left casing	------
2	------	1	Right casing	------
	Not available	1	Worm and gear kit (items 3 and 4)	Not Available
3	------	1	Gear	------
4	------	1	Worm	------
5	77700-05798	1	Driving shaft 18 11/16" lg	4500165
6	70060-03797	2	Bearing	661147
7	70060-01908	2	Tapered roller bearing	663234
8	75599-01230	2	Hex. bolt 5/16" NC x 1 1/2" lg. gr. 5 PTD	0100021
9	70090-20742	4	Hex. bolt 5/16" NC x 2 3/4" lg. gr. 5 PTD	0100027
	70060-01066	1	Seal kit (items 10 & 11)	665775
10	------	2	Seal	------
11	------	1	Seal	------
12	70060-03800	1	Cap	661150
13	77700-01758	1	Spacer	4500124
14	70060-01910	2	Pin 3/16" dia. x 1/2" lg.	663245
15	75599-31912	6	Nylon insert nut 5/16" NC, PTD	1000005
16	70060-01909	1	Spring pin 5/16" x 1 1/4"	663243
17	70060-00840	1	Breather 1/8" NPT, 5 PSI, PTD	654927
18	70060-01428	2	Plug 1/8" NPT, PTD	656090
19	77700-05799	1	Tapered roller bearing	4300125



AVAILABLE OPTIONS

HARD PLASTIC SKID SHOES
& HARD PLASTIC CUTTING EDGE KIT

V5297

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		10.9 NP 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

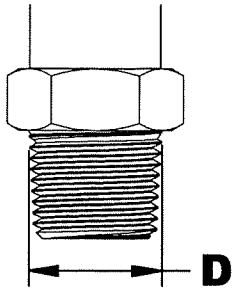
[4] mm x pitch = nominal thread diameter in millimeters x thread Pitch

*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.**

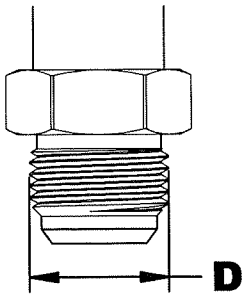
STEP 6: If a leak is detected after having followed the preceding instructions, check that the threads are not damaged and the number of seated threads is fulfilled (see details in next paragraph).

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	TORQUE	
in	mm	of adapter	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.

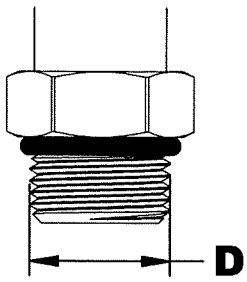
STEP 5: Place a wrench on wrench pad next to nut as near the 6 o'clock position as possible.

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	TORQUE	
in	mm	of adapter	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.