



# SRW1400

## Pivoting Rock Windrower

Published 10/04

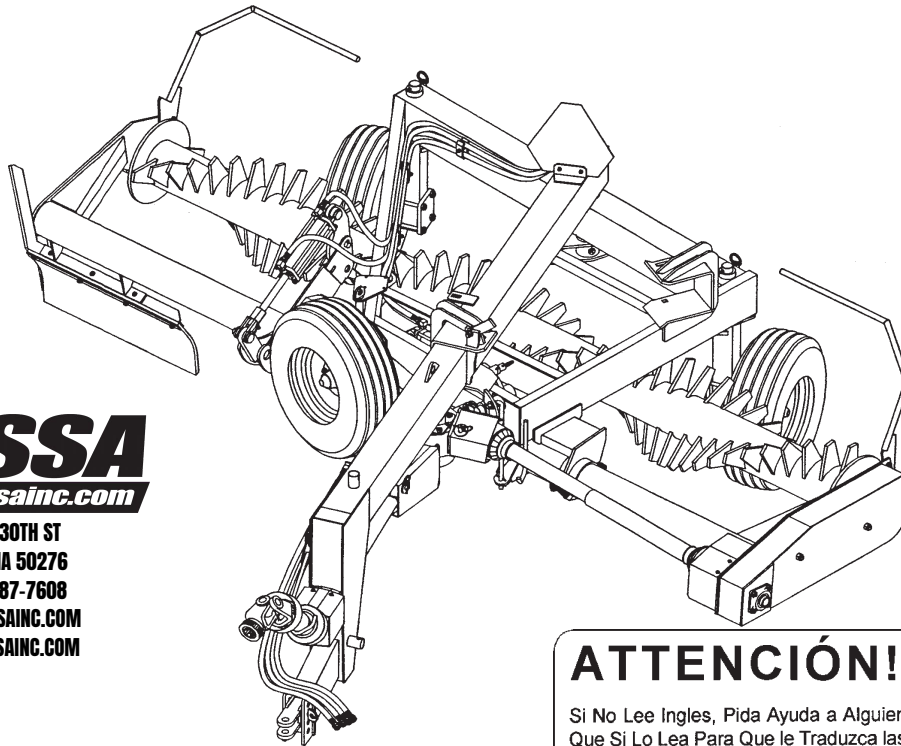
S/N range R20000381411 to R20000420411 inclusive

Part No. R200-010C

# OPERATOR'S MANUAL



This Operator's Manual is an integral part of the safe operation of this machine and must be maintained with the unit at all times. **READ, UNDERSTAND, and FOLLOW** the Safety and Operation Instructions contained in this manual before operating the equipment.



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## ATENCIÓN!

LEA EL INSTRUCTIVO

Si No Lee Ingles, Pida Ayuda a Alguien  
Que Si Lo Lea Para Que le Traduzca las  
Medidas de Seguridad.



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\$0.00

# TO THE OWNER/OPERATOR/DEALER

All implements with moving parts are potentially hazardous. There is no substitute for a cautious, safe-minded operator who recognizes the potential hazards and follows reasonable safety practices. The manufacturer has designed this implement to be used with all its safety equipment properly attached to minimize the chance of accidents.

## BEFORE YOU START!!

Read the safety messages on the implement and shown in your manual.  
Observe the rules of safety and common sense!



# DANGER

FAILING TO FOLLOW SAFETY MESSAGES AND OPERATING INSTRUCTIONS CAN CAUSE SERIOUS BODILY INJURY OR EVEN DEATH TO OPERATOR AND OTHERS IN THE AREA.

1.



2. NO RIDERS, NO CHILDREN OPERATORS



3. USE SEATBELT, ROPS AND PPE



4. BLOCK UP SECURELY BEFORE WORKING UNDER.



1. Study and understand Operator's Manuals, Safety Signs, and Instructional Decals for tractor & implement to prevent misuse, abuse, & accidents. Learn how to stop engine suddenly in an emergency. Be alert for Passersby and Especially children.

2. Allow no children on or near implement or tractor. Allow no riders on tractor or implement. Falling off can cause serious injury or death from being run over by tractor or implement or contact with rotating components..

3. Operate only with tractor having Roll-Over Protective Structure (ROPS) and with seatbelt fastened securely and snugly to prevent injury and possible death from falling off or tractor overturn. Personal Protective Equipment such as Hard Hat, Safety Glasses, Safety Shoes, and Ear Plugs are recommended.

4. Block up or support raised machine and all lifted components securely before putting hands or feet under or working underneath any lifted component to prevent crushing injury or even death from sudden inadvertent Dropping. Make certain that area is clear before lowering.

5. Before transporting, put Lift Lever in Lift (Detent) position and follow traffic codes. Slow down at night, in turns and on hillsides. .

6. Make certain that SMV sign, Warning Lights, and Reflectors are clearly visible.

7. Never operate with implement raised off ground to reduce possibility of injury from objects thrown under Implement structure.

8. Before dismounting, secure implement in transport position or lower to ground. Stop PTO, put tractor in park or set Brake, stop engine and remove key. Never mount or dismount a moving vehicle. Crushing from run over may can use injury or death

5. TRANSPORT SAFELY,



6. USE SMV, LIGHTS, & REFLECTORS.



7. DO NOT OPERATE WITH UNIT RAISED



8. DO NOT MOUNT OR DISMOUNT WHILE MOVING.



226-331

## WARRANTY INFORMATION:

Read and understand the complete Warranty Statement found in this Manual. Fill out the Warranty Registration Form in full and return it to Alamo within 30 Days. Make certain the Serial Number of the Machine is recorded on the Warranty Card and on the Warranty Form that you retain.

## **DEALER'S PREDELIVERY SERVICE GUIDE**

### for the SCHULTE SRW1400

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DETAILS OF ITEMS LISTED BELOW ARE COVERED IN THIS OPERATOR'S MANUAL

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- \_\_\_\_\_ Shipping damage corrected
  - \_\_\_\_\_ Set up machine as outlined in the shipping instructions attached to these instructions.
  - \_\_\_\_\_ Check that all safety decals are in good condition, replace if necessary.
  - \_\_\_\_\_ Check that gearboxes have been filled with oil.
  - \_\_\_\_\_ Check that all grease fittings have been lubricated.
- 

## **DEALER'S DELIVERY GUIDE**

### for the SCHULTE SRW1400

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- \_\_\_\_\_ Mounting and removal from tractor
  - \_\_\_\_\_ Operation
  - \_\_\_\_\_ Adjustments
  - \_\_\_\_\_ Lubrication
  - \_\_\_\_\_ Maintenance
  - \_\_\_\_\_ Operator's safety precautions
  - \_\_\_\_\_ User's responsibility and warranty
  - \_\_\_\_\_ Operator's manual delivered to owner
  - \_\_\_\_\_ Operator instructed on contents of owner's manual
-

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# **SAFETY SECTION**

# SAFETY

## SAFETY

A safe and careful operator is the best operator. Safety is of primary importance to the manufacturer and should be to the owner/operator. Most accidents can be avoided by being aware of your equipment, your surroundings, and observing certain precautions. The first section of this manual includes a list of Safety Messages that, if followed, will help protect the operator and bystanders from injury or death. Read and understand these Safety Messages before assembling, operating or servicing this implement. This equipment should only be operated by those persons who have read the Manual, who are responsible and trained, and who know how to do so safely and responsibly.

The Safety Alert Symbol combined with a Signal Word, as seen below, is used throughout this manual and on decals which are attached to the equipment. The Safety Alert Symbol means: **“ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!”** The Symbol and Signal Word are intended to warn the owner/operator of impending hazards and the degree of possible injury faced when operating this equipment..

**Practice all usual and customary safe working precautions and above all---remember safety is up to YOU. Only YOU can prevent serious injury or death from unsafe practices.**

### CAUTION!

The lowest level of Safety Message; warns of possible injury. Decals located on the Equipment with this Signal Word are Black and Yellow.



### WARNING!

Serious injury or possible death! Decals are Black and Orange.



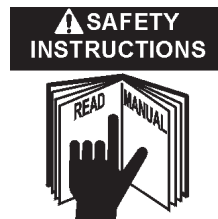
### DANGER!

Imminent death/critical injury. Decals are Red and White. (SG-1)



**READ, UNDERSTAND, and FOLLOW** the following Safety Messages. Serious injury or death may occur unless care is taken to follow the warnings and instructions stated in the Safety Messages. Always use good common sense to avoid hazards.

(SG-2)



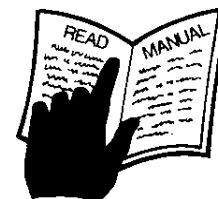
# SAFETY

SAFETY

## PELIGRO!



Si no lee Ingles, pida ayuda a alguien que si lo lea para que le traduzca las medidas de seguridad. (SG-3)



!LEA EL INSTRUCTIVO!

## DANGER!



Never operate the Tractor or Implement until you have read and completely understand this Manual, the Tractor Operator's Manual, and each of the Safety Messages found in the Manual or on the Tractor and Implement. Learn how to stop the tractor engine suddenly in an emergency. Never allow inexperienced or untrained personnel too operate the Tractor and Implement without supervision. Make sure the operator has fully read and understood the manuals prior to operation. (SG-4)



## WARNING!

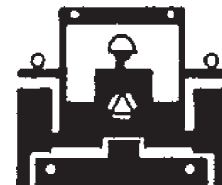


Always maintain the safety decals in good readable condition. If the decals are missing, damaged, or unreadable, obtain and install replacement decals immediately. (SG-5)

## WARNING!



Make certain that the "Slow Moving Vehicle" (SMV) sign is installed in such a way as to be clearly visible and legible. When transporting the Equipment use the Tractor flashing warning lights and follow all local traffic regulations. (SG-6)



## WARNING!



Operate this Equipment only with a Tractor equipped with an approved roll-over-protective system (ROPS). Always wear seat belts. Serious injury or even death could result from falling off the tractor-particularly during a turnover when the operator could be pinned under the ROPS. (SG-7)



## WARNING!

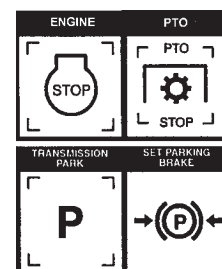


Do not modify or alter this Implement. Do not permit anyone to modify or alter this Implement, any of its components or any Implement function. (SG-8)

## DANGER!



BEFORE leaving the tractor seat, always engage the brake and/or set the tractor transmission in parking gear, disengage the PTO, stop the engine, remove the key, and wait for all moving parts to stop. Place the tractor shift lever into a low range or parking gear to prevent the tractor from rolling. Never dismount a Tractor that is moving or while the engine is running. Operate the Tractor controls from the tractor seat only. (SG-9)



## DANGER!



Never allow children or other persons to ride on the Tractor or Implement. Falling off can result in serious injury or death. (SG-10)



# SAFETY

## SAFETY

### DANGER!



Never allow children to operate or ride on the Tractor or Implement. (SG-11)



### WARNING!



Do not mount the Tractor while the tractor is moving. Mount the Tractor only when the Tractor and all moving parts are completely stopped. (SG-12)



### DANGER!



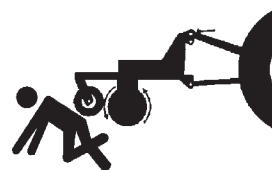
Start tractor only when properly seated in the Tractor seat. Starting a tractor in gear can result in injury or death. Read the Tractor operators manual for proper starting instructions. (SG-13)



### DANGER!



Never work under the Implement, the framework, or any lifted component unless the Implement is securely supported or blocked up to prevent sudden or inadvertent falling which could cause serious injury or even death. (SG-14)



### DANGER!



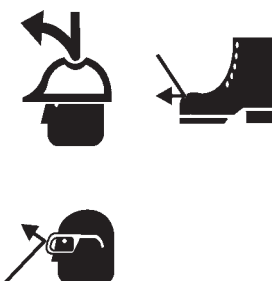
Do not operate this Equipment with hydraulic oil leaking. Oil is expensive and its presence could present a hazard. Do not check for leaks with your hand! Use a piece of heavy paper or cardboard. High-pressure oil streams from breaks in the line could penetrate the skin and cause tissue damage including gangrene. If oil does penetrate the skin, have the injury treated immediately by a physician knowledgeable and skilled in this procedure. (SG-15)



### WARNING!



The operator and all support personnel should wear hard hats, safety shoes, safety glasses, and proper hearing protection at all times for protection from injury including injury from items thrown by the equipment. (SG-16)





# SAFETY

## SAFETY

### CAUTION!



#### **PROLONGED EXPOSURE TO LOUD NOISE MAY CAUSE PERMANENT HEARING LOSS!**

Tractors with or without an Implement attached can often be noisy enough to cause permanent hearing loss. We recommend that you always wear hearing protection if the noise in the Operator's position exceeds 80db. Noise over 85db over an extended period of time will cause severe hearing loss. Noise over 90db adjacent to the Operator over an extended period of time will cause permanent or total hearing loss. *Note:* Hearing loss from loud noise [from tractors, chain saws, radios, and other such sources close to the ear] is cumulative over a lifetime without hope of natural recovery. (SG-17)



### WARNING!

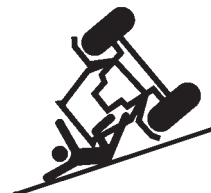


Transport only at safe speeds. Serious accidents and injuries can result from operating this equipment at unsafe speeds. Understand the Tractor and Implement and how it handles before transporting on streets and highways. Make sure the Tractor steering and brakes are in good condition and operate properly.



Before transporting the Tractor and Implement, determine the safe transport speeds for you and the equipment. Make sure you abide by the following rules:

1. Test the tractor at a slow speed and increase the speed slowly. Apply the Brakes smoothly to determine the stopping characteristics of the Tractor and Implement. As you increase the speed of the Tractor the stopping distance increases. Determine the maximum safe transport speed for you and this Equipment.
2. Test the equipment at a slow speed in turns. Increase the speed through the turn only after you determine that it is safe to operate at a higher speed. Use extreme care and reduce your speed when turning sharply to prevent the tractor and implement from turning over. Determine the maximum safe turning speed for you and this equipment before operating on roads or uneven ground.
3. Only transport the Tractor and Implement at the speeds that you have determined are safe and which allow you to properly control the equipment.



Be aware of the operating conditions. Do not operate the Tractor with weak or faulty brakes. When operating down a hill or on wet or rain slick roads, the braking distance increases: use extreme care and reduce your speed. When operating in traffic always use the Tractor's flashing warning lights and reduce your speed. Be aware of traffic around you and watch out for the other guy. (SG-19)

### WARNING!



Never attempt to lubricate, adjust, or remove material from the Implement while it is in motion or while tractor engine is running. Make sure the tractor engine is off before working on the Implement. (SG-20)

### WARNING!



Always read carefully and comply fully with the manufacturers instructions when handling oil, solvents, cleansers, and any other chemical agent. (SG-22)



# SAFETY

## SAFETY

### WARNING!



Periodically inspect all moving parts for wear and replace when necessary with authorized service parts. Look for loose fasteners, worn or broken parts, and leaky or loose fittings. Make sure all pins have cotter pins and washers. Serious injury may occur from not maintaining this machine in good working order. (SG-21)



### DANGER!



Never run the tractor engine in a closed building or without adequate ventilation. The exhaust fumes can be hazardous to your health.

(SG-23)

### DANGER!



KEEP AWAY FROM ROTATING ELEMENTS to prevent entanglement and possible serious injury or death.

(SG-24)



### DANGER!



Never allow children to play on or around Tractor or Implement. Children can slip or fall off the Equipment and be injured or killed. Children can cause the Implement to shift or fall crushing themselves or others. (SG-25)

### WARNING!



Do not exceed the rated PTO speed for the Implement. Excessive PTO speeds can cause Implement driveline or component failures resulting in serious injury or death. (SG-26)

### DANGER!



**NEVER use drugs or alcohol** immediately before or while operating the Tractor and Implement. Drugs and alcohol will affect an operator's alertness and coordination and therefore affect the operator's ability to operate the equipment safely. Before operating the Tractor or Implement, an operator on prescription or over-the-counter medication must consult a medical professional regarding any side effects of the medication that would hinder their ability to operate the Equipment safely. **NEVER** knowingly allow anyone to operate this equipment when their alertness or coordination is impaired. Serious injury or death to the operator or others could result if the operator is under the influence of drugs or alcohol. (SG-27)



### DANGER!



Operate the Tractor and/or Implement controls only while properly seated in the Tractor seat with the seat belt securely fastened around you. Inadvertent movement of the Tractor or Implement may cause serious injury or death. (SG-29)

# SAFETY

## SAFETY

### WARNING!



**Engine Exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to the state of California to cause cancer and birth defects or other reproductive harm. (SG-30)**

### WARNING!



**Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the state of California to cause cancer and birth defects or other reproductive harm. Wash Hands after handling. (SG-31)**

### WARNING!



Prolonged operation may cause operator boredom and fatigue affecting safe operation. Take scheduled work breaks to help prevent these potentially impaired operating conditions. Never operate the Implement and Tractor in a fatigued or bored mental state which impairs proper and safe operation. (SG-32)

### WARNING!



Use extreme caution when getting onto the Implement to perform repairs, maintenance and when removing accumulated material. Only stand on solid flat surfaces to ensure good footing. Use a ladder or raised stand to access high spots which cannot be reached from ground level. Slipping and falling can cause serious injury or death. (SG-33)

### WARNING!



Avoid contact with hot surfaces including hydraulic oil tanks, pumps, motors, valves and hose connections. Relieve hydraulic pressure before performing maintenance or repairs. Use gloves and eye protection when servicing hot components. Contact with a hot surface or fluid can cause serious injury from burns or scalding. (SG-34)

### WARNING!



Perform service, repairs and lubrication according to the maintenance section. Ensure the unit is properly lubricated as specified in the lubrication schedule and all bolts and nuts are properly torqued. Failure to properly service, repair and maintain this Implement in good operating condition could cause component failure and possible serious injury or even death. (SG-35)

### DANGER!



**DO NOT** operate this Implement on a Tractor that is not properly maintained. Should a mechanical or Tractor control failure occur while operating, immediately shut down the Tractor and perform repairs before resuming operation. Serious injury and possible death could occur from not maintaining this Implement and Tractor in good operating condition. (SG-36)

# SAFETY

## SAFETY

### WARNING!



Many varied objects, such as wire, cable, rope, or chains, can become entangled in the rotating parts of the Implement. These objects could then swing outside the housing at greater velocities than the blades. Such a situation is extremely hazardous and could result in serious injury or even death. Inspect the working area for such objects before working in the area. Remove any such objects from the site. Never allow the blades to contact such objects. (STL-6)

### WARNING!



Operate at the speed that you can safely operate and control the tractor and implement. Safe operation speed depends on terrain condition and soil type, density, and height of operation. Normal ground speed range is from 0 to 5 mph. Use slow operation speeds when operating on or near steep slopes, ditches, drop-offs, overhead obstructions, power lines, or when debris and foreign objects are to be avoided. (SGM-7)

### WARNING!



Avoid operating in reverse direction when possible. Check to make sure there are no persons behind the implement and use extreme care when operating in reverse. Operate only at a slow ground speed where you can safely operate and control the tractor and implement. Never operate on an area that you have not inspected and removed debris or foreign material. (SGM-8)

### WARNING!

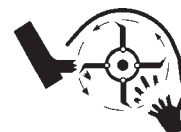


Operate only in conditions where you have clear visibility in daylight or with adequate artificial lighting. Never operate in darkness or foggy conditions where you cannot clearly see at least 100 yards in front and to the sides of the tractor and implement. Make sure that you can clearly see and identify passersby, steep slopes, ditches, drop-offs, overhead obstructions, power lines, debris and foreign objects. If you are unable to clearly see this type of items discontinue operation. (SGM-1)

### DANGER!



Do not put hands or feet under implement. Blade Contact can result in serious injury or even death. Stay away until all motion has stopped and the frame is securely blocked up. (STL-3)



### WARNING!



Do not operate with two machines in the same area except with Cab tractors with the windows closed. (SGM-11)

### WARNING!



DO NOT weld or repair rotating implement components. Welds and other repairs may cause severe vibration and/or component failure resulting in parts being thrown from the implement causing serious bodily injury. See your Authorized Dealer for proper repairs. (SGM-13)

# SAFETY

## SAFETY

### DANGER!



Always disconnect the main PTO Driveline from the Tractor before performing service on the implement. Never work on the implement with the tractor PTO driveline connected and running. Blades or Drivelines could turn without warning and cause immediate entanglement, injury or death. (SRM-3)

### DANGER!



Do not turn so sharp or lift implement so high to produce a severe "knocking" of the Driveline which will cause accelerated wear and breakage of drive train components and could result in injury from the separated Driveline sections. (SRM-4)

### WARNING!



**Do not let the drum teeth turn when the implement is raised for any reason. Raising the implement exposes the drum teeth which creates a potentially serious hazard and could cause serious injury or even death from objects thrown from the drum teeth.**



### DANGER!



Be particularly careful when transporting the Implement using the tractor. Turn curves or go up or down hills only at a low speed and at a gradual steering angle. Make certain that at least 20% of the tractor's weight is on the front wheels to maintain safe steering. Slow down on rough or uneven surfaces. (STI-1)

### WARNING!



**Never unhitch without using the Hitch Jack stand.** The Tongue is very heavy. Attempting to lift the hitch without using the Hitch Jack stand could cause **strains or other injury**. Allowing the tongue to fall **suddenly and unexpectedly** could result in **crushing injury**. Use the Hitch Jack stand for **lifting the Implement only**. Overloading the Hitch Jack stand can cause failure with possible **serious bodily injury or even death**. (STI-4)

### DANGER!



Do not operate the implement while wearing loose fitting clothing. Entanglement of the clothing with the rotating elements can result in serious injury or even death. Stay clear of all rotating elements at all times. (SSP-3)

### DANGER!



Never crawl under a raised Implement supported solely by the Tractor 3-Point hitch. Release of the control lever or mechanical failure will result in the Implement falling and possible injury or death. Always securely block up the Implement before crawling underneath to perform repairs and service. (S3PT-19)

### DANGER!



Make sure the PTO shield, integral driveline shields, and input shields are installed when using PTO-driven equipment. Always replace any shield if it is damaged or missing. (S3PT-8)



# SAFETY

## SAFETY

### WARNING!



Relieve hydraulic pressure prior to doing any maintenance or repair work on the Implement. Place the Implement on the ground or securely blocked up, disengage the PTO, and turn off the tractor engine. Push and pull the Remote Cylinder lever in and out several times prior to starting any maintenance or repair work. (S3PT-9)



### DANGER!



Always disconnect the main PTO Driveline from the Tractor before performing service on the Implement. Never work on the Implement with the tractor PTO driveline connected and running. Rotating Parts like drivelines could turn without warning and cause immediate entanglement, injury or death. (S3PT-11)

### DANGER!



This Implement is wider than the Tractor. Be careful when operating or transporting this equipment to prevent the Implement from running into or striking sign posts, guard rails, concrete abutments or other solid objects. Such an impact could cause the Implement and Tractor to pivot violently resulting in loss of steering control, serious injury, or even death. Never allow the Implement to contact obstacles. (S3PT-12)

### WARNING!



Before operating the Implement, check to make sure the Implement input driveline will not bottom out or become disengaged. Bottoming out occurs when the inner shaft penetrates the outer housing until the assembly becomes solid-it can shorten no more. Bottoming out can cause serious damage to the Tractor PTO by pushing the PTO into the Tractor and through the support bearings or downward onto the PTO shaft, breaking it off. A broken drive line can cause personal injury. (S3PT-18)

### WARNING!



Allow sufficient clearance for the Implement to swing outward while turning. Implements carried behind the Tractor will swing outside the tire path when making turns. Contacting a solid object while turning will cause equipment damage and possible injury. (S3PT-20)

### WARNING!



**DO NOT** use a PTO adapter to attach a non-matching Implement driveline to a Tractor PTO. Use of an adapter can double the operating speed of the implement resulting in excessive vibration and thrown objects. Adapter use will also change the working length of the driveline exposing unshielded driveline areas. Serious bodily injury and/or equipment failure can result from using a PTO adapter. Consult an authorized dealer for assistance if the Implement driveline does not match the Tractor PTO. (S3PT-14)

# SAFETY

## SAFETY

### WARNING!



Relieve hydraulic pressure prior to doing any maintenance or repair work on the Implement. Place the implement on the ground or securely supported on blocks or stands, disengage the PTO, and turn off the engine. Push and pull the control Levers or Joystick several times to relieve pressure prior to starting any maintenance or repair work. (SBM-6)

### DANGER!



Always shut the Tractor completely down, place the transmission in park, and set the parking brake before you or anyone else attempts to connect or disconnect the Implement and Tractor hitches. (S3PT-15)

### WARNING!



When attaching the Implement input driveline to the Tractor PTO, it is important that the connecting yoke spring activated locking collar slides freely and the locking balls are seated securely in the groove on the Tractor PTO shaft. A driveline not attached correctly to the Tractor PTO shaft could come loose and result in personal injury and damage to the Implement. (S3PT-17)

### DANGER!



There are obvious and hidden potential hazards in the operation of this Implement as in all power-driven or pulled equipment. **REMEMBER!** This machine is often operated in rough terrain conditions that include tall grass, weeds, gullies, holes, slopes, hidden obstructions and the like. Serious injury or even death may occur unless care is taken to assure the safety of the operator and bystanders in the area. Do not operate this machine with anyone in the immediate area. (S3PT-7)

### WARNING!



Never operate the Tractor and unit if the Implement input driveline is directly connected to the Tractor transmission. Tractor braking distances can be substantially increased by the momentum of the rotating implement driving the Tractor transmission even though the Tractor clutch has been disengaged. Install an over running clutch between the Tractor PTO and the Implement driveline to prevent this potentially dangerous situation. (S3PT-16)

## PARTS INFORMATION

Schulte Products use balanced and matched system components for blade carriers, blades, cuttershafts, knives, knife hangers, rollers, drivetrain components, and bearings. These parts are made and tested to Schulte Industry specifications. Non-genuine "will fit" parts do not consistently meet these specifications. The use of "will fit" parts may reduce the performance, void Schulte warranties, and present a safety hazard. Use genuine Schulte parts for economy and safety.

(SPSI-1)

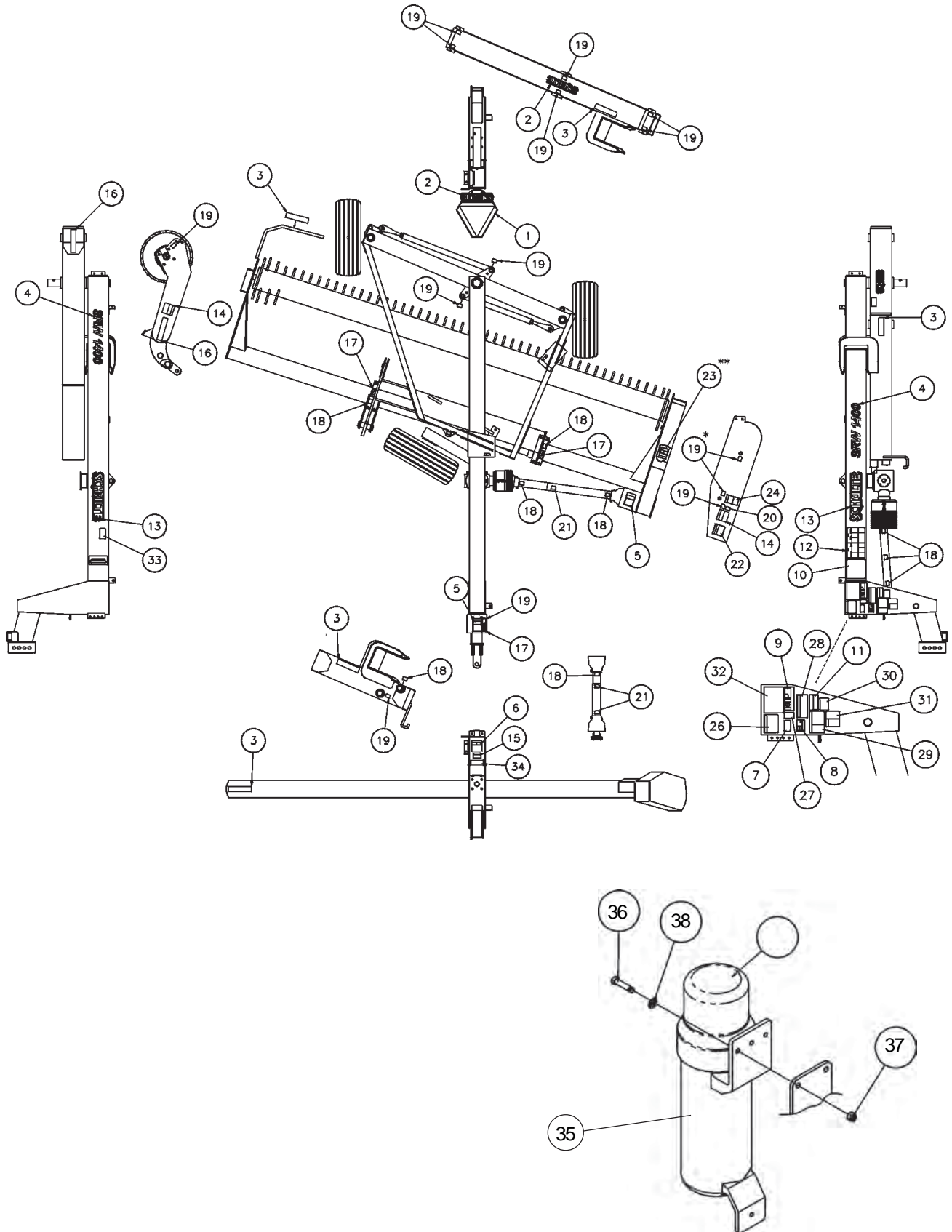
## SEE YOUR SCHULTE DEALER

In addition to the design and configuration of this Implement, including Safety Signs and Safety Equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence, and proper training of personnel involved in the operation, transport, maintenance, and storage of the machine. Refer also to Safety Messages and operation instruction in each of the appropriate sections of the Tractor and Equipment Manuals. Pay close attention to the Safety Signs affixed to the Tractor and Equipment. (SG-18)



# SAFETY

## SAFETY





# SAFETY

## SAFETY

ITEM	PART NO.	QTY.	DESCRIPTION
1	226-013	1	SMV Sign
2	226-117	2	Decal 'SCHULTE'
3	226-154	5	Decal Amber Reflector
4	226-178	2	Decal, 'SRW 1400'
5	226-032	2	Decal, Danger Rotating Driveline
6	226-148	1	Decal, Warning High Pressure
7	226-073	1	Decal, Patent #
8		1	Decal, Serial # Plate
9	226-084	1	Decal, Made In North America
10	226-340	1	Decal, Multi Warning
11	226-081	1	Decal, Check Oil Level
12	226-179	1	Decal, Windrower Transport Instructions
13	226-118	2	Decal, SCHULTE
14	226-151	2	Decal, Danger Thrown Rock
15	226-037	1	Decal, Warning 540 RPM Only
16	226-153	2	Decal, Red Deflector
17	226-044	3	Decal, Grease Nipple on Underside
18	226-181	9	Decal, 8 Hour Grease Interval
19	226-182	14	Decal, 50hr Grease Interval
20	226-183	1	Decal, 8 hr Oil Interval
21	226-180	3	Decal, 4hr Grease Interval
22	226-192	1	Decal, Danger Moving Part Hazard
23	226-193	1	Decal, Danger Guard Missing
24	226-191	1	Decal, Peligro
26	226-323	1	Decal, Important Tractor Drawbar Adjustment
27	226-004	1	Decal, Fema Decal
28	226-049	1	Decal, Genuine Parts
29	226-048	1	Decal, Do not Transport
30	226-070	1	Decal, Shear Bolt Breakage
31	226-314	1	Decal, Peligro Driveline Manual
32	226-317	1	Decal, Driveline Installation
33	226-318	1	Decal, Notice To Owner
34	226-319	1	Decal, Attention Slip Clutches
35	280-201	1	Canister, Manual
36	250-002	3	Bolt 1/4"
37	255-025	3	Locknut
38	256-018	3	Flatwasher 1/4"

**NOTE:** Schulte supplies safety decals on this product to promote safe operation. Damage to the decals may occur while in shipping, use, or reconditioning. Schulte cares about the safety of its customers, operators, and bystanders, and will replace the safety decals on this product in the field, free of charge (Some shipping and handling charges may apply). Contact your Schulte dealer to order replacement decals.

# SAFETY

SAFETY



# SCHULTE®

# SRW 1400

1 -- 226-013

2- 226-117

4- 226-178

**! DANGER**



**ROTATING DRIVELINE-  
CONTACT CAN CAUSE DEATH  
KEEP AWAY!**

**DO NOT OPERATE WITHOUT-**

- All driveline guards, tractor and equipment shields in place
- Drivelines securely attached at both ends
- Driveline guards that turn freely on driveline

226-032

5- - 226-032

THIS EQUIPMENT IS PROTECTED BY ONE OR MORE OF THE FOLLOWING PATENTS:

USA 5,127,214	USA 5,241,808
USA 5,113,640	USA 6,138,445
USA 6,260,629	AUS 634,140
CAN 2,063,477	
CANADIAN PATENTS PENDING	

226-073

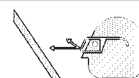
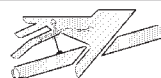
7-- 226-148

## IMPORTANT

**CHECK OIL LEVEL  
IN ALL GEARBOXES  
BEFORE OPERATION**

11 -- 226-081

**! WARNING**



**HIGH-PRESSURE FLUID HAZARD**

To prevent serious injury or death:

- Relieve pressure on system before repairing or adjusting or disconnecting.
- Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands.
- Keep all components in good repair.

226-148

6-- 226-148



**MADE IN NORTH AMERICA**

9 -- 226-084

# SCHULTE®

13- 226-118

3 -- 226-154 AMBER REFLECTOR

8 -- SERIAL PLATE

16 -- 226-153 RED REFLECTOR

# SAFETY

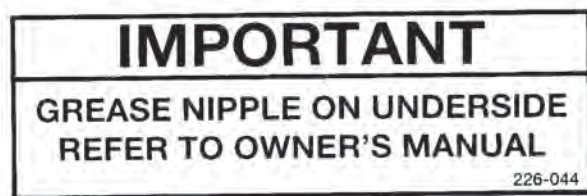
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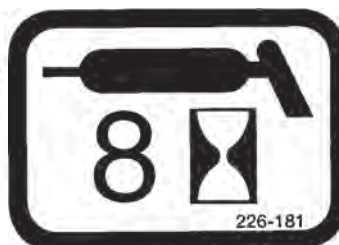
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15 - 226-037



17 - 226-044



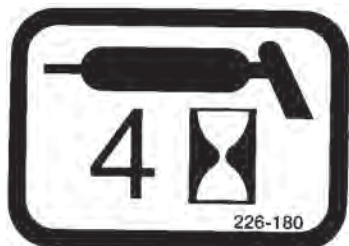
18 - 226-181



19 - 226-182



20 - 226-183



21 - 226-180



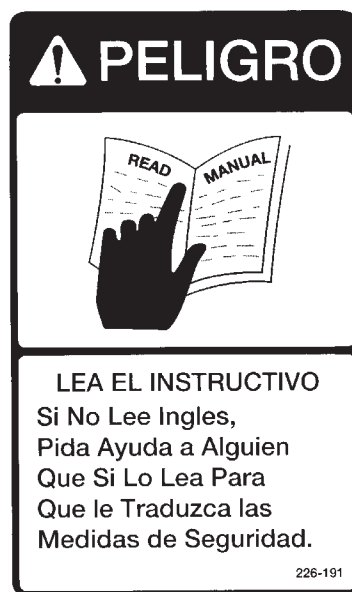
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# SAFETY

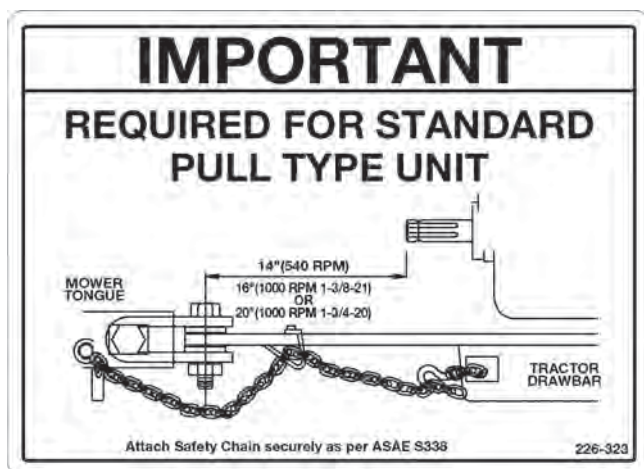
## SAFETY



23 - 226-193



24 -- 226-191



26 -- 226-323



27 -- 226-004



# SAFETY

# SAFETY

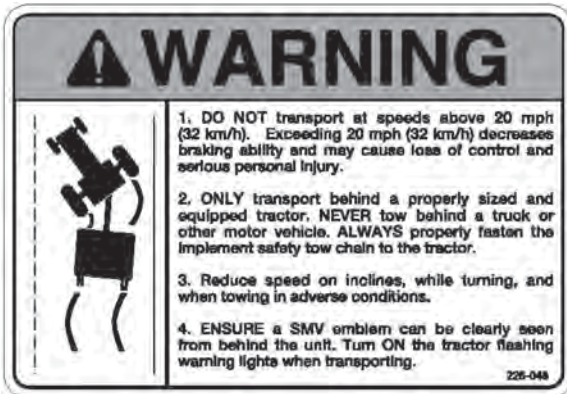
## IMPORTANT

For your safety and to guarantee optimum product reliability, always use Genuine SCHULTE replacement parts. The use of inferior "will-fit" parts will void Warranty of your SCHULTE implement and may cause premature or catastrophic failure which can result in serious injury or death. If you have any questions concerning the repair parts you are using, contact Schulte Industries Ltd, Englefeld SK Canada S0K 1N0 1-800-404-6044

**SCHULTE**

226-049


28 - 226-049



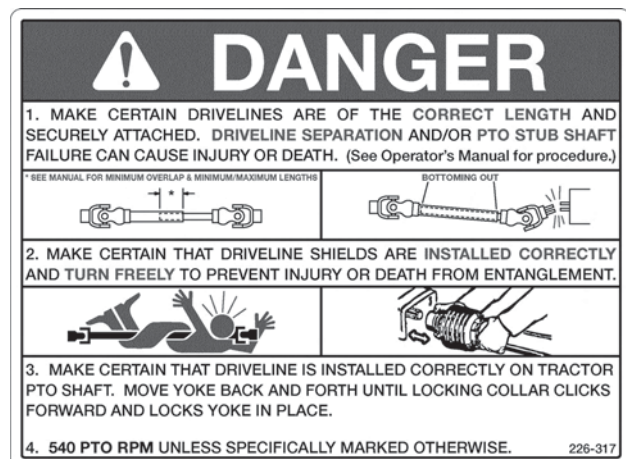
29 - 226-048



30 - 226-070

<p><b>PELIGRO</b></p> <p>Un manual de la seguridad de la línea de conducción n/p 00773776 está disponible en español. Llame el número enumerado para una copia gratis.</p>	 <p><b>LÍNEA DE CONDUCCIÓN GIRATORIA- EL CONTACTO PUEDE CAUSAR LA MUERTE ¡MANTENERSE LEJOS! NO FUNCIONE SIN QUE-</b></p> <ul style="list-style-type: none"> <li>• Todos los protectores de la línea de Conducción, alimentador y blindajes del Equipo estén en su lugar</li> <li>• Las líneas de conducción estén conectadas con seguridad en ambos extremos</li> <li>• Los protectores de la línea de conducción den vuelta libremente en la línea de Conducción</li> </ul> <p>226-314</p>
--	--

31-226-314



32-226-317

# SAFETY

## SAFETY

### NOTICE TO OWNER

An OPERATOR'S MANUAL (with Repair Parts Listing) and a WARRANTY REGISTRATION CARD were attached to this implement during final inspection at the factory. If they were not attached at the time of purchase, please contact your selling dealer at once.

1. Read and understand Manual before operating the implement.
2. Complete, sign, and mail the Warranty Registration Card in Today.

226-318

33--226-318

### ATTENTION

Do not operate PTO until ALL Slip Clutches are properly adjusted and checked to make certain that **NONE ARE FROZEN** and **ALL WILL SLIP** under excessive load. See Operator's Manual for complete Instructions.

226-319

34 - 226-319



### DANGER

FAILING TO FOLLOW SAFETY MESSAGES AND OPERATING INSTRUCTIONS CAN CAUSE SERIOUS BODILY INJURY OR EVEN DEATH TO OPERATOR AND OTHERS IN THE AREA.

1.	2. NO RIDERS, NO CHILDREN OPERATORS	3. USE SEATBELT, ROPS AND PPE	4. BLOCK UP SECURELY BEFORE WORKING UNDER
----	-------------------------------------	-------------------------------	---

1. Study and understand Operator's Manuals, Safety Signs, and Instructional Decals for tractor & implement to prevent misuse, abuse, & accidents. Learn how to stop engine suddenly in an emergency. Be alert for Passersby and Especially children.
2. Allow no children on or near implement or tractor. Allow no riders on tractor or implement. Falling off can cause serious injury or death from being run over by tractor or implement or contact with rotating components.
3. Operate only with tractor having Roll-Over Protective Structure (ROPS) and with seatbelt fastened securely and snugly to prevent injury and possible death from falling off or tractor overturn. Personal Protective Equipment such as Hard Hat, Safety Glasses, Safety Shoes, and Ear Plugs are recommended.
4. Block up or support raised machine and all lifted components securely before putting hands or feet under or working underneath any lifted component to prevent crushing injury or even death from sudden inadvertent Dropping. Make certain that area is clear before lowering.
5. Before transporting, put Lift Lever in Lift (Detent) position and follow traffic codes. Slow down at night, in turns and on hillsides.
6. Make certain that SMV sign, Warning Lights, and Reflectors are clearly visible.
7. Do not back or operate implement in the reverse direction, possible rocks or debris can fly out and cause severe injury or even death.
8. Before dismounting, secure implement in transport position or lower to ground. Stop PTO, put tractor in park or set Brake, stop engine and remove key. Never mount or dismount a moving vehicle. Crushing from run over may cause injury or death.

5. TRANSPORT SAFELY,	6. USE SMV, LIGHTS, & REFLECTORS.	7. DO NOT OPERATE WITH UNIT IN REVERSE DIRECTION	8. DO NOT MOUNT OR DISMOUNT WHILE MOVING
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10-226-340

# SAFETY

## FEDERAL LAWS AND REGULATIONS

This section is intended to explain in broad terms the concept and effect of federal laws and regulations concerning employer and employee equipment operators. This sections is not intended as a legal interpretation of the law and should not be considered as such.

### Employer-Employee Operator Regulations

U.S. Public Law 91-596 (The Williams-Steiger Occupational and Health Act of 1970) OSHA

#### This Act Seeks:

"...to assure so far as possible every working man and woman in the nation safe and health working conditions and to preserve our human resources..."

#### DUTIES

Sec. 5 (a) Each employer-

- (1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;
- (2) shall comply with occupational safety and health standards promulgated under this Act.
- (b) Each employee shall comply with occupational safety and health standards and all rules, regulations and orders issued pursuant to this Act which are applicable to his own actions and conduct.

### OSHA Regulations

OSHA regulations state in part: " At the time of initial assignment and at least annually thereafter, the employer shall instruct every employee in the safe operation and servicing of all equipment with which the employee is, or will be involved."

#### Employer Responsibilities:

To ensure employee safety during Tractor and Implement operation, it is the employer's responsibility to:

1. Train the employee in the proper and safe operation of the Tractor and Implement.
2. Require that the employee read and fully understand the Tractor and Implement Operator's manual.
3. Permit only qualified and properly trained employees to operate the Tractor and Implement.
4. Maintain the Tractor and Implement in a safe operational condition and maintain all shields and guards on the equipment.
5. Ensure the Tractor is equipped with a functional ROPS and seat belt and require that the employee operator securely fasten the safety belt and operate with the ROPS in the raised position at all times.
6. Forbid the employee operator to carry additional riders on the Tractor or Implement.
7. Provide the required tools to maintain the Tractor and Implement in a good safe working condition and provide the necessary support devices to secure the equipment safely while performing repairs and service.
8. Require that the employee operator stop windrowing if bystanders or passerbys come within 25 feet.

### Child Labor Under 16 Years of Age

Some regulations specify that no one under the age of 16 may operate power machinery. It is your responsibility to know what these regulations are in your own area or situation. (Refer to U.S. Dept. of Labor, Employment Standard Administration, Wage & Home Division, Child Labor Bulletin #102.)

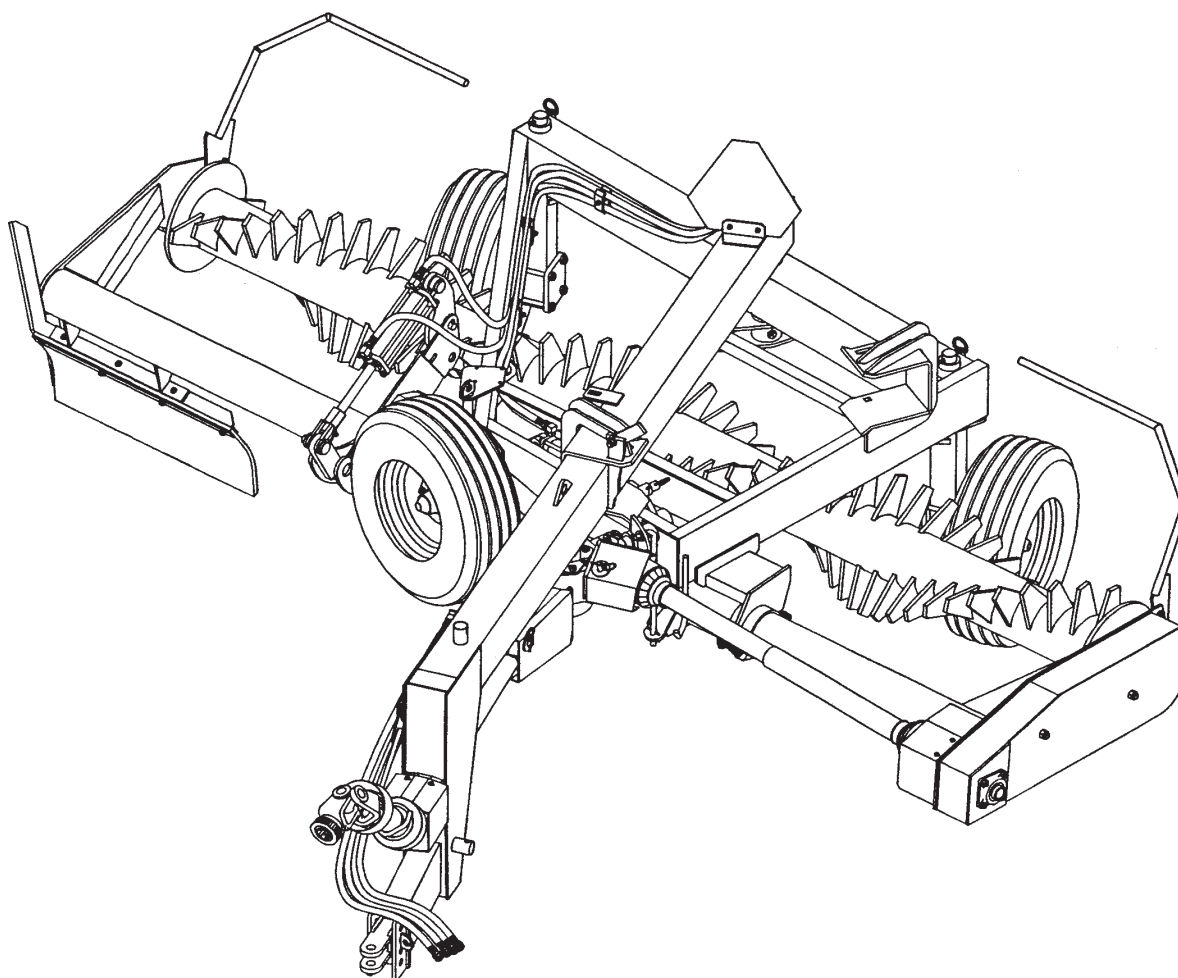




# **INTRODUCTION SECTION**

# INTRODUCTION

## INTRODUCTION



Your SRW1400 is designed to windrow small to medium surface rocks, roots, stumps, and other debris in the fields. The SRW1400 windrower can also be used for reclaiming gravel from road sides. Check local regulations before operating on road ways. With proper maintenance as described in this manual, your SRW1400 windrower will provide you with years of dependable service with a minimum of repairs.

It is required that all operators of this implement read this manual or be instructed of its contents as to safety, proper operation, and maintenance before beginning operation.

Your windrower has been assembled for operation with a tractor PTO input speed of 540 RPM.

When ordering replacement parts for the Gearboxes and the Drivelines, be sure to specify the serial number. The serial number is located on the left hand side attached to the SRW1400 hitch pole.

Driveline Integral Shields, and Gearbox Shields are standard equipment and are to be used at all times.

To place the warranty into effect, fill out the warranty card in full, giving all the requested information, and mail promptly. Be sure to give the serial number of the SRW1400.

# INTRODUCTION

## INTRODUCTION

### ATTENTION OWNER/OPERATOR

BEFORE OPERATING THIS MACHINE:

1. Carefully read the Operator's Manual, completely understand the Safety Messages and instructions, and know how to operate correctly both the tractor and Windrower.
2. Fill out the Warranty Card in full. Be sure to answer all questions, including the Serial Number of the Windrower. Mail within 30 days of delivery date of this implement.

**NOTE:** Warranties are honored only if completed "Owner Registration and Warranty" forms are received by Schulte within thirty days of delivery of the Windrower.

3. Record the Windrower Model and Serial Numbers on the Warranty page at the front of the Operator's Manual. Keep this as part of the permanent maintenance file for the Windrower.

## IMPORTANT

For your safety and to guarantee optimum product reliability, always use Genuine SCHULTE replacement parts. The use of inferior "will-fit" parts will void Warranty of your SCHULTE implement and may cause premature or catastrophic failure which can result in serious injury or death. If you have any questions concerning the repair parts you are using, contact Schulte Industries Ltd, Englefeld SK Canada S0K 1N0 1-800-404-6044

**SCHULTE**

225-049



# **ASSEMBLY SECTION**

# ASSEMBLY

## ASSEMBLY

### Before Operation

**IMPORTANT: THE GEARBOX IS SHIPPED DRY. FILL WITH GEAR OIL BEFORE OPERATING.**

Refer to the 'Maintenance' section of this manual for recommended oil type and viscosity.

Lubricate all grease fittings. Refer to the grease schedule in this manual.

Remove the chain case cover and check that the drive chain is properly tensioned and lubricated. Refer to the 'Maintenance' section of this manual.

Check that all nuts and bolts are in place and properly tightened. Refer to the 'Maintenance' section of this manual for proper bolt grades and torques.

Check that the pivoting wheel standard axle plates are set properly. The center of the lower 5/8" mounting bolts must be set to a maximum 2-1/4" from the bottom of the pivoting wheel standard legs as shown below. A setting higher than 2-1/4" may result in the tires contacting the drum.

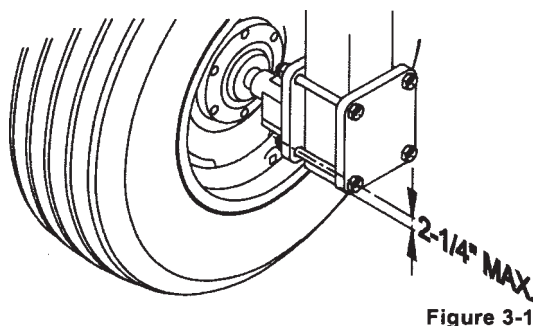


Figure 3-1

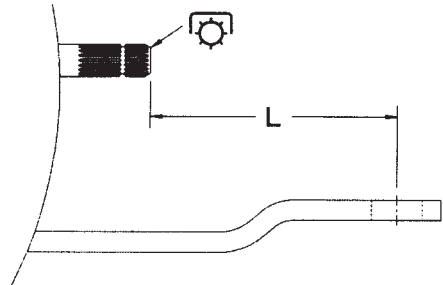
Check tire inflation pressure. Tires should be inflated to 25 PSI. Higher pressures may cause excessive bouncing over rough ground.

Gearbox output driveline should be installed with the shear bolt torque limiter at the gearbox.

### Connection to Tractor

Pin the hitch jack to the forward stub on the hitch pole and raise the hitch clevis to line up with the tractor drawbar.

**WARNING! NEVER STAND BETWEEN THE TRACTOR AND THE ROCK WINDROWER WHILE THE TRACTOR IS BEING BACKED TO THE HITCH**



**IMPORTANT:** Adjust tractor drawbar length so distance from end of PTO shaft to pin hole on drawbar is as follows:

540 RPM PTO - 1-3/8" 6 Spline:

**L = 14"**

Figure 3-2

# ASSEMBLY

**IMPORTANT:** Damage to the tractor PTO and to the rock windrower can result if the drawbar is of non-standard length. Check and make adjustments if necessary.

Connect the universal joint assembly to the tractor PTO.

**WARNING! BE SURE THAT THE TRACTOR PTO SPEED (540 RPM) MATCHES THE ROCK WINDROWER GEARBOX SPEED.**



Adjust the front hitch clevis up or down to obtain a level running position for the PTO universal joint assembly. The universal joint assembly should not be more than 5" (127 mm) out of line (up or down) from input to output end.

Once the machine is hitched to the tractor, remove the hitch jack and place it in its storage position on the top of the hitch pole.

## Leveling the Windrower

**NOTE:** The rock windrower must be in working position before the machine can be leveled.

To level the machine the following procedure is recommended: First find a level piece of ground or concrete pad to set the machine on. Insert the 1-3/8" diameter transport pin in the lock pin hole. Refer to figure 3-3

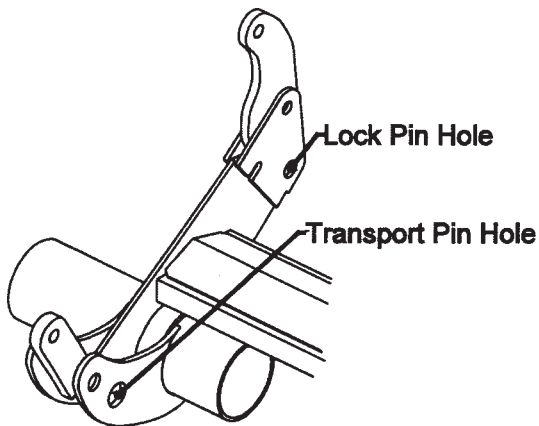


Figure 3-3

**WARNING!** Ensure that no one is near the machine while the hydraulics are being operated.



Lower the windrower drum until the rear wheels are lifted off the ground slightly. Next loosen the bolts holding the axle plates. Raise or lower the windrower frame until it is level front to back. The tires should be resting evenly on the ground. Retighten the axle plates.

**IMPORTANT:** Periodically re-check the tightness of the axle plate bolts especially before transporting the machine on public roads.

Remove the transport pin from the lock pin hole and return it to the storage hole on the main frame.

# ASSEMBLY

## Wheel Lock Pins

The transport wheel lock pin comes equipped with two holes for the snapper pin. Refer to Figure 3-4. When the rock windrower is in transport position, the transport wheel lock pin should be secured in the transport position.

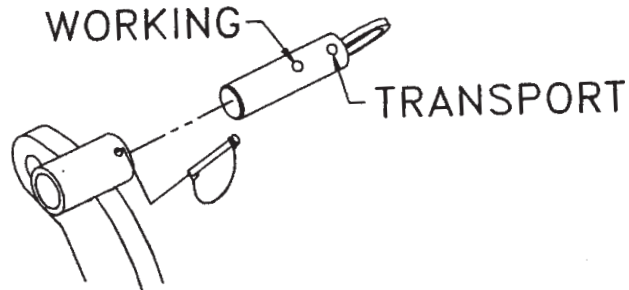


Figure 3-4

The wheel lock pins come equipped with two holes for the hairpin. Refer to Figure 3-5. When the rock windrower is pivoting between transport and working positions, the wheel lock pins should be secured in the up position as indicated.

When the rock windrower is in working or transport positions, the wheel lock pins should be secured in the down position as indicated.

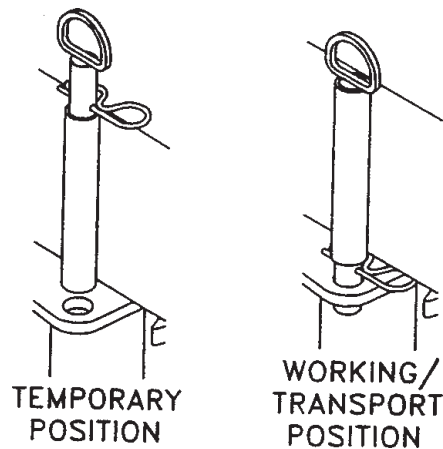


Figure 3-5

## Driveline Shield Chains

Attach PTO shield chain to tractor or windrower hitch allowing sufficient slack for turning.

**IMPORTANT:** OSHA, ASAE, and SAE standards require that all rotating shafts be guarded against contact. The unchained plastic shields can rotate with the driveline but must stop when they contact another object, (Note: these shields may also be chained.)

The shields **must** be regularly greased and checked that they rotate freely on the driveline. Refer to the Lubrication section for greasing intervals.



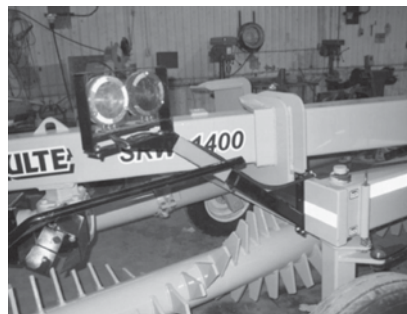
# ASSEMBLY

## Light Kit

The pivoting action of the SRW 1400 enables the implement to decrease its transport width to under 3 metres, thereby eliminating the need for additional lighting for width. However, should the implement be used for reclaiming gravel from roadsides, a light kit is required.

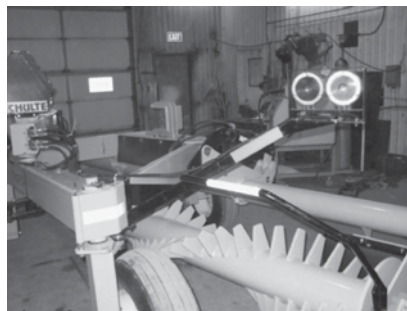
### Installation of Left Light Bar

1. The left light bar is the shorter of the two.
2. Locate the light bar as shown in figure 3-6.
3. Place a backing plate on opposite side of tube from light bar.
4. Insert the 3/8" x 3" bolts provided through backing plate and light bar. Secure with 3/8" locknuts provided.



### Installation of the Right Light Bar

1. Locate the light bar as shown in figure 3-7. The light bar should be positioned as close to the back of the machine as possible.
2. Place backing plate on opposite side of tube from light bar.
3. Insert the 3/8" x 3" bolts provided through backing plate and light bar. Secure with 3/8" locknuts provided.

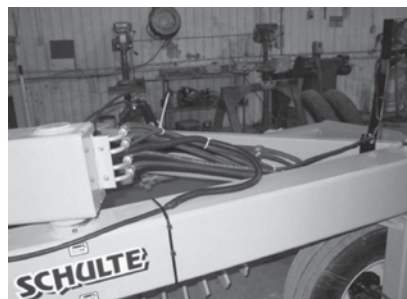
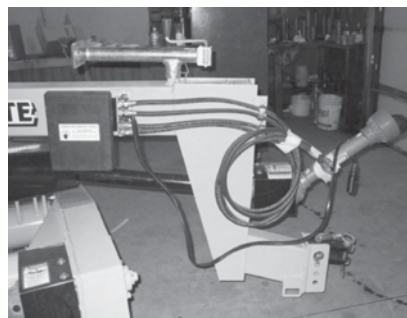


### Installation of Lights

1. Install the lights onto the light bars using 5/16" hardware provided. Ensure that the red lights are inside and facing to the rear as shown in figures 3-6 & 3-7.

### Wiring Harness

1. Feed a length of wire through the hitch pole where the wiring harness will go. See figures 3-8 & 3-9
2. Fasten the wiring harness to the wire at the front end of the hitch pole.
3. Gently pull the wiring harness through the hitch pole. You may need to loosen the hydraulic line mountings to facilitate this.
4. The wiring harness should enter the hitch pole as shown in figure 3-8 and exit as shown in figure 3-9.
5. The short leg of the wiring harness should go to the lights on the right side of the machine. Plug the wiring harness into lights following the color coding on the wiring harness.
6. Ensure that the wiring harness will not limit the machine's range of movement and use the wire ties provided to secure the wiring harness. Use figures 3-6 through 3-9 as a guide for final placement of the wiring harness and the wire ties.



# ASSEMBLY

## PRE CUSTOMER DELIVERY CHECKLIST

- ☐ 1. Is oil level in the gearboxes to correct level?
- ☐ 2. Has the proper oil been used in the Gearboxes?
- ☐ 3. Are the Tires clear of the Mainframe, even when turning during axle articulation?
- ☐ 4. Are all hoses tight and do not leak?
- ☐ 5. Are all decals in place? See manual for decal description and placement.
- ☐ 6. Are all bolts tight?
- ☐ 7. Have all hoses been properly routed so that hoses do not kink or bind when windrower is articulated through all motions?
- ☐ 8. Is machine equipped with proper operator protection?
- ☐ 9. Is drum rotation correct? Are teeth hard surfaced?
- ☐ 10. Does implement operate smoothly at normal operating speed? Implement should not vibrate excessively.

# **OPERATION SECTION**

# OPERATION

## SCHULTE SRW1400 OPERATION INSTRUCTIONS

SCHULTE SRW1400 windrower is manufactured with quality material by skilled workers. The windrower is designed to windrow small to medium surface rocks, roots, stumps, and other debris in the fields. The implement is equipped with enough protective gear to prevent objects being thrown from the SRW1400 teeth, however, no shielding is 100% accurate. All shields and guards must be maintained in good operational condition.

It is the operator's responsibility to be knowledgeable of all potential operating hazards and to take every reasonable precaution to ensure oneself, others, animals, and property are not injured or damaged by the SRW1400, tractor, or a thrown object. Do not operate the SRW1400 if passersby, pets, livestock, or property are within 25 feet of the unit.

This section of the Operator's Manual is designed to familiarize, instruct, and educate safe and proper implement use to the operator. Pictures contained in this section are intended to be used as a visual aid to assist in explaining the operation of a SRW1400 windrower and are not necessarily of a SRW1400 windrower. Some pictures may show shields removed for picture clarity. NEVER OPERATE these implements without all shields in place and in good operational condition. The operator must be familiar with the SRW1400 and tractor operation and all associated safety practices before operating the SRW1400 and tractor. Proper operation of the SRW1400 windrower, as detailed in this manual, will help ensure years of safe and satisfactory use.

**IMPORTANT:** To avoid implement damage, retorque all bolts after the first 10 hours of operation.

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# OPERATION

## OPERATION

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(14) TROUBLE SHOOTING GUIDE.....	4-35

### READ AND UNDERSTAND THE ENTIRE OPERATING INSTRUCTIONS AND SAFETY SECTION OF THIS MANUAL AND THE TRACTOR MANUAL BEFORE ATTEMPTING TO USE THE TRACTOR AND IMPLEMENT.

If you do not understand any of the instructions, contact your nearest authorized dealer for a full explanation. Pay close attention to all safety signs and safety messages contained in this manual and those affixed to the Implement and tractor.

#### DANGER!



**READ, UNDERSTAND, and FOLLOW the following Safety Messages. Serious injury or death may occur unless care is taken to follow the warnings and instructions stated in the Safety Messages. Always use good common sense to avoid hazards.** (SG-2)

#### SAFETY INSTRUCTIONS



#### PELIGRO!



**Si no lee Ingles, pida ayuda a alguien que si lo lea para que le traduzca las medias de seguridad.** (SG-3)

#### !LEA EL INSTRUCTIVO!



# OPERATION

## SRW1400 Windrower Equipment And Specifications

### General Data

Weight (approx.)	3550 lbs. (1614 kg)
Working width	190 in. (4,826 mm)
Working length	180 in. (4,572 mm)
Drum width	14 ft. (4,267 mm)
Drum angle	18°
Drum speed	150 rpm
Power requirement	40-80 HP (30-60 kW)
Maximum ground speed	5 mph (8 km/h)
Transport width	93" (2,362 mm)
Transport length	235" (5,969 mm)
Tractor PTO speed	540 rpm

### SRW 1400 Pivoting Rock Windrower

## 1. OPERATOR REQUIREMENTS

Safe operation of the windrower is the responsibility of a qualified operator. A qualified operator has read and understands both the windrower and tractor Operator Manuals and is experienced in tractor and windrower operations and all associated safety practices. In addition to the safety messages contained in this manual, safety message decals are affixed to the windrower and tractor. If any part of the operation and safe use of the windrower and tractor is not completely understood, consult an authorized dealer for a full explanation.

Safe operation requires that the operator wear approved Personal Protective Equipment (PPE) for the job conditions while connecting, operating, servicing and repairing the mower and tractor. PPE is designed to provide operator protection from bodily injury and includes the following:

### Personal Protective Equipment (PPE)

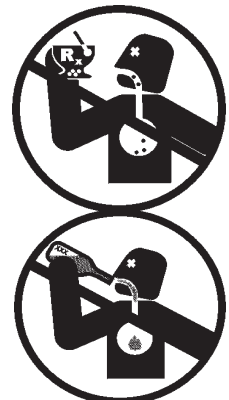
- Protective eye glasses, goggles, or face shield
- Hard hat
- Steel toed safety footwear
- Gloves
- Hearing protection
- Close fitting clothing
- Respirator or filter mask



### DANGER!



**NEVER** use drugs or alcohol immediately before or while operating the Tractor and Implement. Drugs and alcohol will affect an operator's alertness and coordination and therefore affect the operator's ability to operate the Equipment safely. Before operating the Tractor or Implement, an operator on prescription or over-the-counter medication must consult a medical professional regarding any side effects of the medication that would hinder their ability to operate the Equipment safely. **NEVER** knowingly allow anyone to operate this Equipment when their alertness or coordination is impaired. Serious injury or death to the operator or others could result if the operator is under the influence of drugs or alcohol. (SG-27)



## 2. TRACTOR REQUIREMENTS

The tractor used to operate the windrower must have the power capacity to lift, pull, and operate the Power Take Off (PTO) at the windrower's rated speed while traveling at a ground speed between 2 and 5 MPH. Operating the windrower with a tractor that does not meet the following requirements may cause tractor or windrower damage and be a potential danger to the operator and passersby.

### Tractor Requirements and Capabilities

- ASAE approved Roll-Over Protective Structure (ROPS) or ROPS cab and seat belt.
- Tractor Safety Devices..... Slow Moving Vehicle (SMV) emblem, lighting, PTO master shield
- Tractor Horsepower - Recommended..... SRW1400 40-80 HP (30-60 kW)
- Drawbar..... Set length according to operating speed and driveline type, rated to carry weight of the mower, safety chain attachment point
- Hydraulics ..... 5 gpm @ 1800 psi, dual remote outlet
- Front End Weights..... As needed to maintain 20% weight on front axle
- Power Take Off..... Operating speed and shaft size should be 540 RPM
- Tire Spacing..... Set tires minimum width of 60" inside to inside of tires.

### 2.1 ROPS and Seat Belt

A Roll-Over-Protective-Structure (ROPS) and seat belt are essential to protect the operator from falling off the tractor, especially during a roll over where the driver could be crushed and killed. The ROPS and seat belt must be used in conjunction with one another. Only operate the tractor with the ROPS in the raised position and seat belt fastened. Tractor models not equipped with a ROPS and seat belt should have these life saving features installed by an authorized tractor dealer.

#### WARNING!



**Operate this Equipment only with a Tractor equipped with an approved roll-over-protective system (ROPS). Always wear seat belts. Serious injury or even death could result from falling off the Tractor--particularly during a turnover when the operator could be pinned under the ROPS. (SG-7)**



### 2.2 Tractor Safety Devices

If transporting or operating the tractor and windrower near a public roadway, the tractor must be equipped with proper warning lighting and a Slow Moving Vehicle (SMV) emblem which are clearly visible from the rear of the unit. Lights and a SMV emblem must be equipped directly on implements if the visibility of the tractor warning signals are obscured.

Maintain all manufacturer equipped safety shields and guards. Always replace shields and guards that were removed for access to connect, service, or repair the tractor or windrower. Never operate the tractor PTO with the PTO master shield missing or in the raised position.

# OPERATION

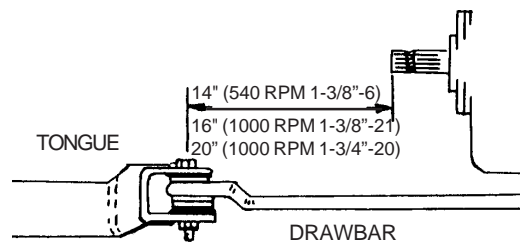
## 2.3 Tractor Horsepower

The horsepower required to operate the implement depends on several operating factors including terrain condition, operator experience, condition of the implement and tractor, and other factors. The recommended tractor HP for the SRW1400 is 40-80 HP (30-60 kW). Operating the implement with a larger tractor will greatly increase the risk of damaging the implement.

## 2.4 Drawbar

Position the length of the drawbar from the end of the tractor PTO shaft to the drawbar hitch hole according to the operating speed of the implement. If the implement is a 540 RPM unit, position the drawbar length from shaft end to hitch hole at 14".

### Tractor Drawbar Length (Based on Mower Operating Speed)



## 2.5 Tractor Hydraulics

The windrower has two hydraulic cylinders one is used to lift the height of the drum up or down. The second one is used to set the hydraulic cylinder either in the transport positions or working position. The hydraulic cylinders are operated by the tractors hydraulic pump. The tractor requires a 5 gpm @ 1800 psi, dual remote outlet.

## 2.6 Front End Weight

A minimum of 20% total tractor weight must be maintained on the tractor front end at all times. Front end weight is critical to maintain steering control and to prevent the tractor from rearing up while driving. If the front end is too light, add weight until a minimum of 20% total weight is reached on the front tires. Front weights and weight carriers can be purchased through an authorized tractor dealership.



# OPERATION

## 2.7 Power Take Off (PTO)

The implement is designed to operate at a PTO speed of 540 RPM. Most tractors operate at either 540, or a combination of 540 and 1000 RPM PTO speeds. The operating speed of the implement and tractor can be determined by the number of splines on the driveline yoke and PTO output shaft. Those operating at 540 RPM will have a 1-3/8" diameter 6-spline shaft and those operating at 1000 RPM will have a 1-3/8" 21-spline shaft or a 1-3/4" 20 spline shaft. Refer to the tractor owner's manual for instructions to change PTO speeds on models that operate at more than one speed.

If operating an older model tractor where the tractor's transmission and PTO utilize one master clutch, an over-running clutch must be used between the PTO output shaft and the driveline of the mower. An authorized tractor dealer can provide the over-running clutch and its installation if needed.

### WARNING!



**DO NOT use a PTO adapter to attach a non-matching Implement driveline to a Tractor PTO. Use of an adapter can double the operating speed of the Implement resulting in excessive vibration and thrown objects. Adapter use will also change the working length of the driveline exposing unshielded driveline areas. Serious bodily injury and/or equipment failure can result from using a PTO adapter. Consult an authorized dealer for assistance if the Implement driveline does not match the Tractor PTO.**

(S3PT-14)

### WARNING!



**Never operate the Tractor and unit if the implement main driveline is directly connected to the Tractor transmission. Tractor braking distances can be substantially increased by the momentum of the rotating implement driving the Tractor transmission even though the Tractor clutch has been engaged. Install an over running clutch between the Tractor PTO and the implement driveline to prevent this potentially dangerous situation.**

OPERATION

## 2.8 Tire Spacing

Tractor tires should be set a minimum of 60" apart measured from inside of tire to inside of tire. Refer to the tractor Operator's Manual or consult an authorized dealer for instructions to change tractor tire spacing.



# OPERATION

## 3. GETTING ON AND OFF THE TRACTOR

Before getting onto the tractor, the operator must read and completely understand the windrower and tractor operator manuals. If any part of either manual is not completely understood, consult an authorized dealer for a complete explanation.

### WARNING!



**Do not mount the Tractor while the tractor is moving. Mount the Tractor only when the Tractor and all moving parts are completely stopped.** (SG-12)



### 3.1 Boarding the Tractor

Use both hands and equipped handrails and steps for support when getting on the tractor. Never use tractor control levers for support when mounting the tractor. Always seat yourself in the operator's seat and fasten the seatbelt. Only operate the tractor and windrower with the ROPS in the raised position.

Never allow passengers to ride on the tractor or mower. Riders can easily fall off and be seriously injured or killed from being ran over by both the tractor and mower. It is the operator's responsibility to forbid riders.

### DANGER!



**Never allow children or other persons to ride on the Tractor or Implement. Falling off can result in serious injury or death.** (SG-10)



### DANGER!



**Never allow children to operate or ride on the Tractor or Implement.** (SG-11)



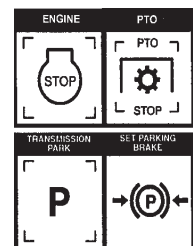
### 3.2 Dismounting the Tractor

Before dismounting, park the tractor and implement on a reasonably level surface, apply the parking brake, idle the engine down, disengage the PTO, and lower the implement to the ground. Shut down the tractor engine according to the operator's manual, remove the key, and wait for all motion to completely stop. Never leave the seat until the tractor, its engine and all moving implement parts are completely stopped.

### DANGER!



**BEFORE leaving the Tractor seat, always engage the brake and/or set the Tractor transmission in parking gear, disengage the PTO, stop the engine, remove the key, and wait for all moving parts to stop. Place the Tractor shift lever into a low range or parking gear to prevent the Tractor from rolling. Never dismount a Tractor while it is moving or while the engine is running. Operate the Tractor controls from the Tractor seat only.** (SG-9)



Use hand rails and steps when exiting the tractor. Be careful of your step and use extra caution when mud, ice, snow or other matter has accumulated on the steps or hand rails. Use all handrails and steps for support and never rush or jump off the tractor.

## 4. STARTING THE TRACTOR

The operator must have a complete understanding of the placement, function, and operational use of all tractor controls before starting the tractor. Review the tractor operator's manual and consult an authorized dealer for tractor operation instructions if needed.

Essential Tractor Controls:

- Locate the light control lever
- Locate the engine shut off control
- Locate the brake pedals and the clutch
- Locate the PTO control
- Locate the 3 point hitch control lever
- Locate the hydraulic remote control levers

Before starting the tractor ensure the following:

- Conduct all pre-start operation inspection and service according to the tractor operator's manual.
- Make sure all guards, shields, and other safety devices are securely in place.
- The parking brake is on.
- The PTO control lever is disengaged.
- The 3-point hitch control lever is in the lowered position.
- The hydraulic remote control levers are in the neutral position.
- The tractor transmission levers are in park or neutral.

Refer to the tractor owner's manual for tractor starting procedures. Only start the tractor while seated and belted in the tractor operator's seat. Never bypass the ignition switch by short circuiting the starter solenoid.

After the tractor engine is running, avoid accidental contact with the tractor transmission to prevent sudden and unexpected tractor movement.

**DANGER!**



**Never run the Tractor engine in a closed building or without adequate ventilation. The exhaust fumes can be hazardous to your health.** (SG-23)

**DANGER!**



**Start the Tractor only when properly seated in the Tractor seat. Starting a Tractor in gear can result in injury or death. Read the Tractor operator's manual for proper starting instructions.** (SG-13)



## 5. CONNECTING THE WINDROWER TO THE TRACTOR

Use extreme caution when connecting the SRW1400 to the tractor. The SRW1400 should be securely resting at ground level with the parking jack foot. Place a block in front of and behind wheels to prevent the SRW1400 from moving. Keep hands and feet out from under the SRW1400 and clear of pinch points between the tractor and SRW1400.

**DANGER!**



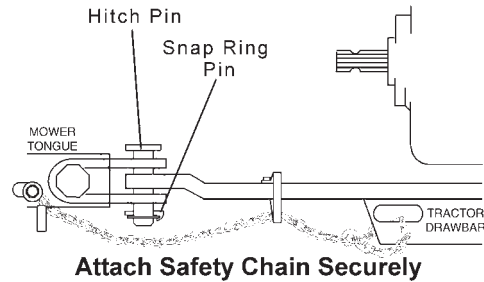
**Always shut the Tractor completely down, place the transmission in park, and set the parking brake before you or anyone else attempts to connect or disconnect the Implement and Tractor hitches.** (S3PT-15)

# OPERATION

## 5.1 Connecting the Windrower Tongue to the Tractor

1. Ensure the tractor is equipped with the correct PTO shaft and the drawbar is set at the correct length.
2. Using the parking jack, position the tongue clevis to the height of the tractor drawbar.
3. Board the tractor and start the engine. Back the tractor to the SRW1400 aligning the drawbar hitch hole with the SRW1400 tongue clevis. Turn off the tractor engine, place the tractor in park, and set the parking brake before dismounting.

### Tongue Connection

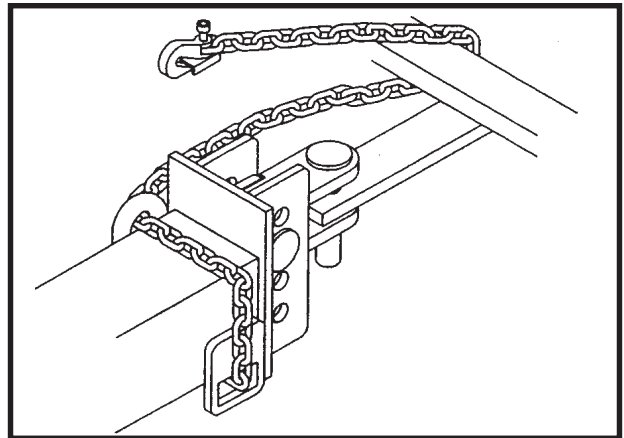


#### **DANGER!**



Always shut the Tractor completely down, place the transmission in park, and set the parking brake before you or anyone else attempts to connect or disconnect the Implement and Tractor hitches. (S3PT-15)

4. To attach the SRW1400 insert the hitch pin through the drawbar and tongue clevis. Once the pin is inserted, attach the snap ring pin through the hole on the hitch pin and snap in place.
5. Attach safety tow chain to flex arm and tractor. Fasten the large loop of the safety chain to the hitch. Then pass hook end of safety chain through the large loop. Refer to your tractor operator's manual for complete instructions to attach to tractor. Adjust length to allow only enough slack as is needed for turning. Lock hook on chain. Ensure chain rating is equal to or greater than gross weight of towed equipment.
6. Lower the jack until the tongue is completely supported by the drawbar. Remove jack from the tongue and place on storage bracket of windrower



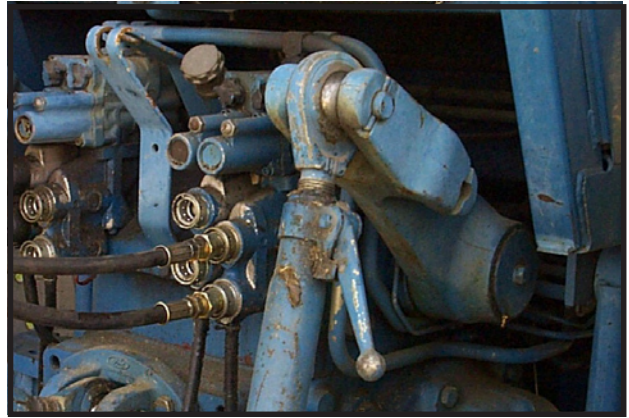
#### **Safety Tow Chain**

If the SRW1400 is towed on a public roadway, a safety chain with tensile strength equal to or greater than the gross weight of the SRW1400 must be connected between the tractor and SRW1400. This will help control the implement in the event the tongue becomes disconnected from the drawbar. After connecting both ends of the safety chain, drive the tractor to the right and left to check for proper chain length. Adjust length as necessary and allow only enough slack in the chain to make a maximum turn in both directions.

# OPERATION

## 5.3 Connecting Windrower Hydraulic Lines to the Tractor

With the tractor shut down and secured in position, relieve hydraulic pressure from the tractor by moving the control levers back and forth several times or placing the levers in the float position. Keep implement hydraulic lines, hoses, quick couplers, and swivels free of contamination. Never leave a disconnected hose end open and cap the tractor hydraulic outlet ports when not in use. If the tractor ports, SRW1400 ports and hydraulic hose ends become contaminated, wipe clean with a rag before connecting.



### DANGER!



Do not operate this Equipment with hydraulic oil leaking. Oil is expensive and its presence could present a hazard. Do not check for leaks with your hand! Use a piece of heavy paper or cardboard. High-pressure oil streams from breaks in the line could penetrate the skin and cause tissue damage including gangrene. If oil does penetrate the skin, have the injury treated immediately by a physician knowledgeable and skilled in this procedure. (SG-15)



### Hydraulic Cylinder Priming

Hydraulic Cylinder must be filled with hydraulic oil before operating the windrower in a certain angle. Hydraulic cylinders and lines are filled by holding the valve control levers in the extended position until the cylinder fully retracts and extends. Place control levers in the float position and repeat process several more times to purge all air from the system.

## 6. SETTING THE WINDROWER

Properly setting the height is essential for efficient and safe operation. A properly set implement will windrow more evenly and require minimal tractor work, and follow the contour of uneven terrain. Note: Avoid very low windrowing heights, striking the ground with the teeth gives the most damaging shock loads and will cause damage to the windrower and drive. Windrower teeth contacting the ground may cause objects to be thrown out from under the windrower deck.

### DANGER!



**Never work under the Implement, the framework, or any lifted component unless the Implement is securely supported or blocked up to prevent sudden or inadvertent falling which could cause serious injury or even death.** (SG-14)

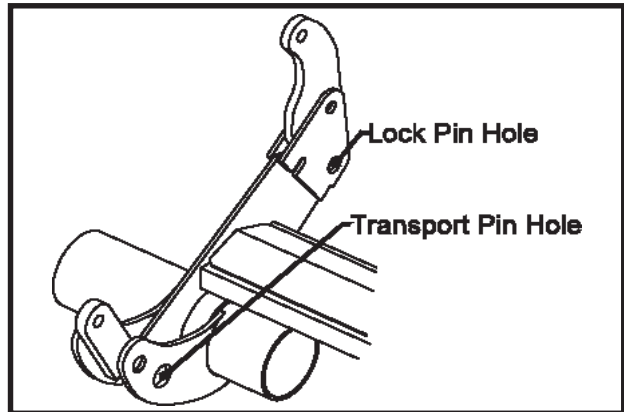




# OPERATION

## 6.1 Leveling Windrower

NOTE: The rock windrower must be in working position before the machine can be leveled. To level the machine the following procedure is recommended: First find a level piece of ground or concrete pad to set the machine on. Insert the 1-3/8" diameter transport pin in the lock pin hole. Refer to figure



### DANGER!



Ensure that no one is near the machine while hydraulics are being created.

Lower the windrower drum until the rear wheels are lifted off the ground slightly. Next loosen the bolts holding the axle plates. Raise or lower the windrower frame until it is level front to back. The tires should be resting evenly on the ground. Retighten the axle plates.

**IMPORTANT:** Periodically re-check the tightness of the axle plate bolts especially before transporting the machine on public roads.

Remove the transport pin from the lock pin hole and return it to the storage hole on the main frame.

## 7. DRIVELINE ATTACHMENT

Pivot the divider gearbox shield back, and out of the way. Remove any tape from the gearbox shafts, and any booklets from the driveline. Slide the clamp collar end of the tractor shaft onto the gearbox shaft. Insert the tapered pin/ bolt into the yoke. Push the yoke until the groove of the shaft lines up with the hole, and the pin extends through. Tighten the locknut to squeeze the yoke onto the shaft.

Connect the universal joint assembly to the tractor PTO. Align the quick disconnect yoke splines with the tractor PTO splines. Compress the lock collar spring and slide the yoke into place. Release the spring to lock onto the PTO shaft.



### WARNING!



When attaching the PTO yoke to the Tractor PTO shaft, it is important that the spring activated locking collar slides freely and the locking balls are seated securely in the groove of the PTO shaft. A driveline not attached correctly to the Tractor PTO shaft could slip off and result in personal injury and damage to the cutter.

# OPERATION

## WARNING!



Before operating the Implement, check to make sure the Implement input driveline will not bottom out or become disengaged. Bottoming out occurs when the inner shaft penetrates the outer housing until the assembly becomes solid-it can shorten no more. Bottoming out can cause serious damage to the Tractor PTO by pushing the PTO into the Tractor and through the support bearings or downward onto the PTO shaft, breaking it off. A broken drive line can cause personal injury. (S3PT-18)

## 8. PRE-OPERATION INSPECTION AND SERVICE

Before each use, a pre-operation inspection and service of the windrower and tractor must be performed. This includes routine maintenance and scheduled lubrication, inspecting that all safety devices are equipped and functional, and performing needed repairs. Do not operate the windrower and tractor if the pre-operation inspection reveals any condition affecting safe operation. Perform repairs and replacement of damaged and missing parts as soon as noticed. By performing a thorough pre-operation inspection and service, valuable down time and repair cost can be avoided.

## DANGER!



Always disconnect the main PTO Driveline from the Tractor before performing service on the implement. Never work on the implement with the tractor PTO driveline connected and running. Teeth or Drivelines could turn without warning and cause immediate entanglement, injury or death. (SRM-3)

## DANGER!



Never work under the Implement, the framework, or any lifted component unless the Implement is securely supported or blocked up to prevent sudden or inadvertent falling which could cause serious injury or even death. (SG-14)



## WARNING!



Periodically inspect all moving parts for wear and replace when necessary with authorized service parts. Look for loose fasteners, worn or broken parts, and leaking or loose fittings. Make sure all pins have cotter pins and washers. Serious injury may occur from not maintaining this Implement in good working order. (SG-21)



# OPERATION

## 8.1 Tractor Pre-Operation Inspection/Service

Refer to the tractor operator's manual to ensure a complete pre-operation inspection and scheduled service is performed according to manufacturer recommendations. The following is a partial list of items requiring inspection:

- Tire condition/air pressure
- Wheel lug bolts
- Steering linkage
- PTO shield
- SMV sign is clean and visible
- Tractor's lights are clean and functional
- Tractor Seat belt is in good condition
- Tractor cab or ROPS is in good condition
- ROPS is in the raised position
- No tractor oil leaks
- Radiator free of debris
- Engine oil level and condition
- Engine coolant level and condition
- Power brake fluid level
- Power steering fluid level
- Fuel condition and level
- Sufficient lubrication at all lube points
- Air filter condition

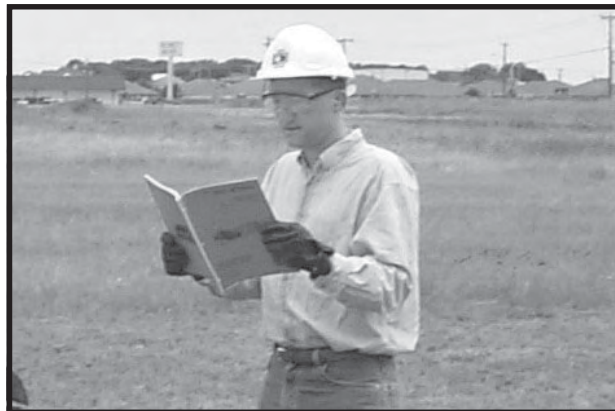


## 8.2 Windrower Pre-Operation Inspection/Service

Before each implement use, a complete inspection and service is required to ensure the implement is in a good and safe working condition. Damaged and/or broken parts should be repaired and/or replaced immediately. To ensure the implement is ready for operation, conduct the following.

- Ensure that the Manual Holder secured to the Implement with the Operator's Manual inside.
- Ensure all decals are in place and legible. Replace missing, worn, and unlegible decals.

**NOTE:** The windrowers Operator's Manual and affixed Decals contain important instructions on the safe and proper use of the windrower. Maintain these important safety features on the windrower in good condition to ensure the information is available to the operator at all times.





# OPERATION

- Ensure the mower hitch is securely attached to the tractor drawbar with a proper size pin.
- Ensure that a properly rated safety tow chain is equipped securing the windrower to the tractor.
- Check that the main driveline is securely attached to the tractor and the locking collar is seated in the groove of the PTO shaft.
- Ensure the divider drivelines are secure at both ends



- Ensure the drum roller is in good condition and rotate freely.
- Ensure the driveline integral shields are in good condition and rotate freely.
- Inspect that all bolts and screws are in position and are properly torqued.
- Ensure each implement slip clutch shield is secured in place and in good condition.
- Ensure the driveline slip clutches are properly adjusted and the friction plates are not frozen together. Reference the Maintenance Section for proper slip clutch maintenance.



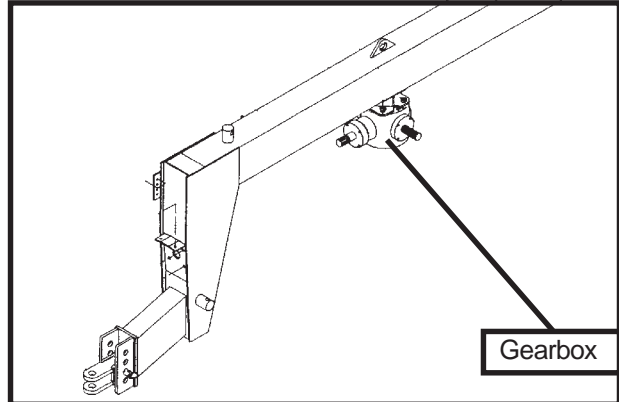
- Inspect the condition of the chain belts.
- Ensure the slip clutch shields and chain belt shield is in place and in good repair.
- Ensure the tractor PTO master shield is in place, lowered and in good condition.



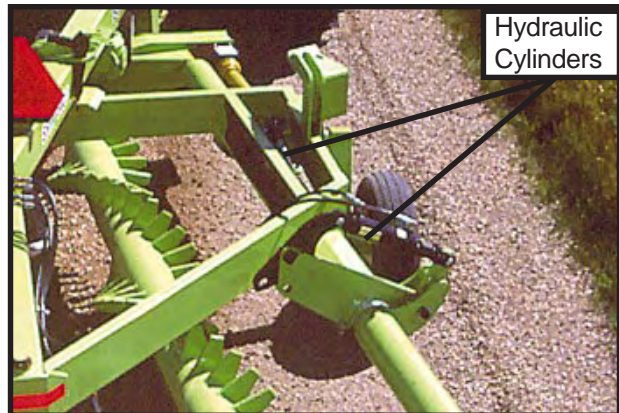
# OPERATION

## OPERATION

- Perform scheduled lubrication as specified in the maintenance section.
- Inspect each gearbox oil level and replenish if needed. A low oil level is a warning sign that the gearbox may be cracked or its seal is damaged and needs to be replaced.
- Ensure all gearbox vents are in place and free from clogs.



- Ensure hydraulic cylinder is installed and retained correctly. Ensure the proper size pins are used to retain the cylinder in place and are secured with pins.
- Check for hydraulic oil leaks on the cylinder, along the hydraulic lines, and at tractor hydraulic ports.  
**IMPORTANT:** DO NOT use your hands to check for oil leaks. Use a piece of heavy paper or cardboard to check for hydraulic oil leaks.



- Inspect windrower tire condition, wheel bearings, and lug nut torque.



- Inspect the windrower teeth and make sure that they are hard surfaced and that the bare tooth is not exposed. If the hard surfacing is not properly maintained, highly accelerated tooth wear will result.



## 9. DRIVING THE TRACTOR AND WINDROWER

Safe tractor transport requires the operator possess a thorough knowledge of the model being operated and precautions to take while driving with an attached implement. Ensure the tractor has the capacity to handle the weight of the implement and the tractor operating controls are set for safe transport. To ensure safety while driving the tractor with an attached implement, review the following.

### WARNING!



Transport only at safe speeds. Serious accidents and injuries can result from operating equipment at unsafe speeds. Understand the Tractor and Implement and how it handles before transporting on streets and highways. Make sure the Tractor steering and brakes are in good condition and operate properly. Before transporting the Tractor and Implement, determine the safe transport speeds for you and the equipment. Make sure you abide by the following rules:

1. Test the Tractor at a slow speed and increase the speed slowly. Apply the Brakes smoothly to determine the stopping characteristics of the Tractor and Implement. As you increase the speed of the Tractor the stopping distance increases. Determine the maximum safe transport speed for you and this Equipment.
2. Test the equipment at a slow speed in turns. Increase the speed through the turn only after you determine that it is safe to operate at a higher speed. Use extreme care and reduce your speed when turning sharply to prevent the Tractor and Implement from turning over. Determine the maximum safe turning speed for you and this equipment before operating on roads or uneven ground.
3. Only transport the Tractor and Implement at the speeds that you have determined are safe and which allow proper control of the equipment.

Be aware of the operating conditions. Do not operate the Tractor with weak or faulty brakes. When operating down a hill or on wet or rain slick roads, the braking distance increases, use extreme care and reduce your speed in these conditions. When operating in traffic, always use the Tractor's flashing warning lights and reduce your speed. Be aware of traffic around you and watch out for the other guy. (SG-19)

### DANGER!



This Implement is wider than the Tractor. Be careful when operating or transporting this equipment to prevent the Implement from running into or striking sign posts, guard rails, concrete abutments or other solid objects. Such an impact could cause the Implement and Tractor to pivot violently resulting in loss of steering control, serious injury, or even death. Never allow the Implement to contact obstacles. (S3PT-12)



# OPERATION

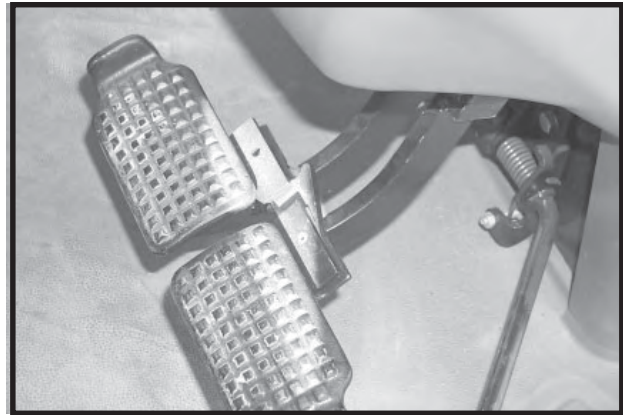
## 9.1 Starting the Tractor

The procedure to start the tractor is model specific. Refer to the tractor operator's manual for starting procedures for your particular tractor. Consult an authorized dealer if the starting procedure is unclear. Ensure the 3-point control lever is in the lowered position and the PTO is disengaged before starting the tractor.



## 9.2 Brake and Differential Lock Setting

Make sure the tractor brakes are in good operating condition. Tractor brakes can be set to operate independently allowing single rear wheel braking action or locked together to provide simultaneous rear wheel braking. **FOR MOST DRIVING AND WINDROWING CONDITIONS, THE BRAKE PEDALS SHOULD BE LOCKED TOGETHER TO PROVIDE THE MOST EFFECTIVE BRAKING ACTION.**



OPERATION

### WARNING!



**Be aware of the operating conditions. Do not operate the Tractor with weak or faulty brakes. When operating down a hill or on wet or rain slick roads, the braking distance increases; use extreme care and reduce your speed in these conditions. When operating in traffic, always use the Tractor's flashing warning lights and reduce your speed. Be aware of traffic around you and watch out for the other guy.**

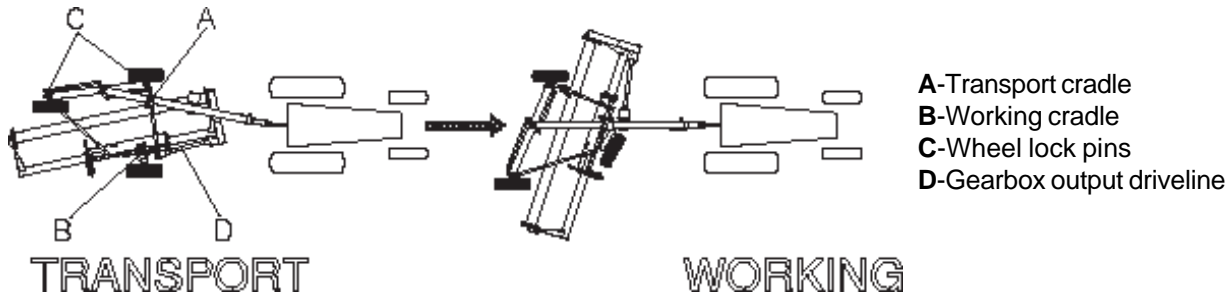
Always disengage the tractor differential lock when turning. When engaged the differential lock will prevent or limit the tractor from turning. During normal operating conditions, locking the differential provides no benefit and should not be used.

# OPERATION

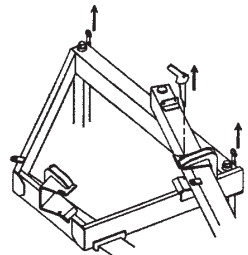
## 9.3 Driving the Tractor and Windrower

Before operating the windrower, the windrower needs to be set to the working position. Follow the following procedure:

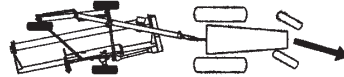
### Transport to Working Position



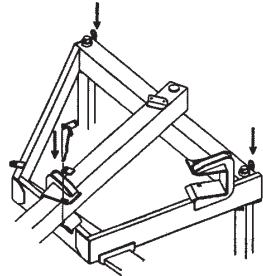
**IMPORTANT:** Before putting the rock windrower into working position, be sure that the drum is locked into transport position. Refer to the transportation section of this manual for complete drum lock up instructions.



- Raise wheel lock pins to the temporary position.
- Remove the wedge lock from the transport cradle.
- Store the wedge lock in the holder on the hitch pole.

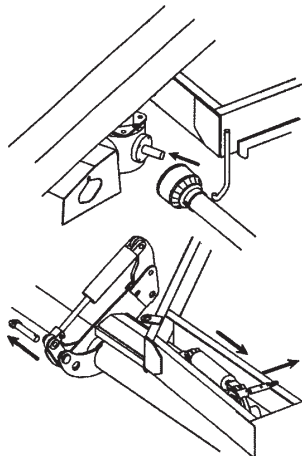


- Drive the tractor ahead while turning the wheels to the right.
- Pivot the windrower until the hitch pole fits securely into the working cradle.



- Lower the wheel lock pins into the pivoting wheel assembly.
- Install the wedge lock into the working cradle.

**NOTE:** The flat edge of the wedge lock should be against the hitch pole.



- Remove output driveline from storage location.
- Connect the output driveline to the gearbox.
- Push and pull on the quick disconnect yoke several times to ensure that the yoke is connected to the gearbox shaft.
- Move the transport wheel lock pin into working hole.
- Raise the transport wheel.
- Reinstall the transport wheel lock pin.
- Remove the drum transport lock pin.
- Store the drum transport lock pin in the storage hole on the main frame.

# OPERATION

Once unit has been set to working position, start off driving at a slow speed and gradually increase your speed while maintaining complete control of the tractor and windrower. Moving slowly at first will also prevent the tractor from rearing up and loss of steering control. The tractor should never be operated at speeds that cannot be safely handled or which will prevent the operator from stopping quickly during an emergency. If the power steering or engine ceases operating, stop the tractor immediately as the tractor will be difficult to control.

## WARNING!



Allow sufficient clearance for the Implement to swing outward while turning. Implements carried behind the Tractor will swing outside the tire path when making turns. Contacting a solid object while turning will cause equipment damage and possible injury. (S3PT-20)

Perform turns with the tractor and windrower at slow speeds to determine how the tractor with the attached implement handles a turn. When operating the Windrower the overall working length of the unit is increased. Allow additional clearance for the windrower when turning. Extra precaution should be taken to avoid hitting parked vehicles, sign, road structures, bystanders, and animals due to the overall length and width of the implement.



To avoid overturns, drive the tractor with care and at safe speeds, especially when operating over rough ground, crossing ditches or slopes, and turning corners. Rear tractor tire spacing should be increased when working on inclines or rough ground to reduce the possibility of tipping.



Use extreme caution when operating on steep slopes. Keep the tractor in a low gear when going downhill. DO NOT coast or free-wheel downhill.

## WARNING!



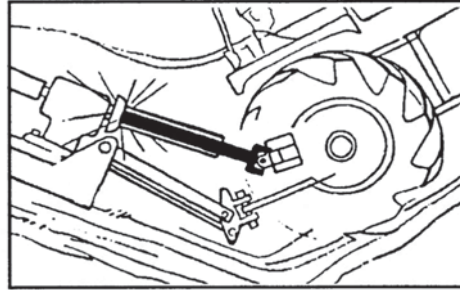
Do not let the drum teeth turn when the implement is raised for any reason, including clearance or for turning. Raising the implement exposes the drum teeth which creates a potentially serious hazard and could cause serious injury or even death from objects thrown from the drum teeth.



# OPERATION

## 9.4 Crossing Ditches and Steep Inclines

When crossing ditches with steep banks or going up sharp inclines, it is possible that the main driveline inner profile will penetrate into the outer housing to its maximum depth until the assembly becomes solid (driveline is at its extreme shortest length). This type of abusive operation can cause serious damage to the tractor and mower drive by pushing the PTO into the tractor and through the support bearings or downward onto the PTO shaft, breaking it off.



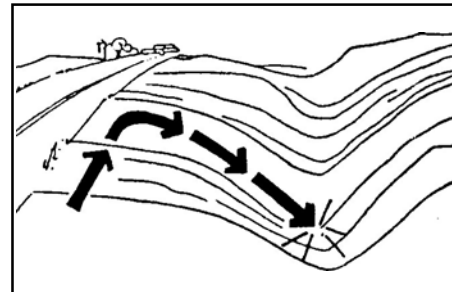
### WARNING!



**Damage resulting from over-collapse of the driveline's inner profile and its outer housing may allow the driveline to come loose from the Tractor which could cause bodily injury to the operator or bystanders and/or extensive damage to the Tractor or Implement**

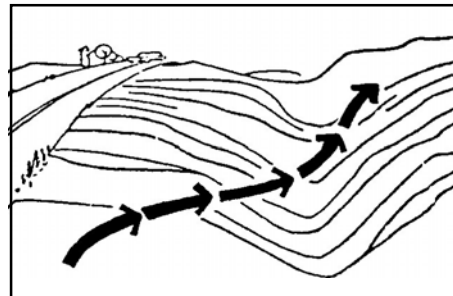
When confronted with an incline or ditch, do not approach from an angle which is perpendicular or straight on as damage to over collapse of the driveline may occur.

When crossing such terrain, the implement should be fully lowered for a lower center of gravity and added stability.



**INCORRECT: DO NOT** approach ditch straight on.

Inclines and ditches should be approached along a line which is at an angle as shown. This type of path will reduce the possibility of over-collapse of the driveline and resulting damage. If the gradient is so steep that such an approach increases the possibility of a tractor roll-over, select an alternate crossing path.



**CORRECT: Approach ditch at an angle**

When operating the tractor and implement across slopes and inclines, through ditches, and other uneven terrain conditions, it is important to maintain sufficient deck to ground clearance. If too much dirt is being carried in to the windrower, reduce the working depth. Ground contact also produces a severe shock load on the windrower drive and resulting in possible damage and premature wear.



# OPERATION

## 10. OPERATING THE TRACTOR AND WINDROWER

**THE OPERATOR MUST COMPLETELY UNDERSTAND HOW TO OPERATE THE TRACTOR AND WINDROWER AND ALL CONTROLS BEFORE ATTEMPTING TO OPERATE.** The operator must read and understand the Safety and Operation Sections of the windrower and tractor operator's manuals. These manuals must be read and explained to any operator who cannot read. Never allow someone to operate the windrower and tractor without complete operating instructions.

Before starting any operation, the operator must become familiar with the area to be windrowed and any obstacles and hazards contained within to ensure safety to the operator, bystanders, and equipment. Special attention should be paid to foreign debris, rough terrain, steep slopes, and passersby and animals in the area.



### WARNING!

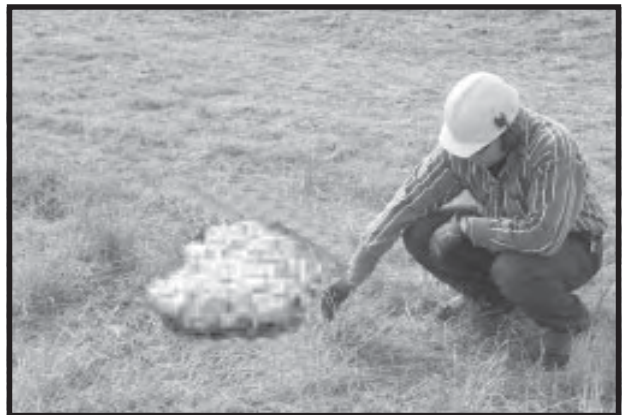


Many varied objects, such as wire, cable, rope, or chains, can become entangled in the rotating parts of the Implement. These objects could then swing outside the housing at greater velocities than the blades. Such a situation is extremely hazardous and could result in serious injury or even death. Inspect the cutting area for such objects before working in the area. Remove any such objects from the site. Never allow the teeth to contact such objects. (STL-6)

## OPERATION

### 10.1 Foreign Debris Hazards

Before windrowing, inspect the area to make sure there are no objects larger than 25" to windrow or debris that can get entangled on the drum. Remove all foreign objects and debris. If objects are too big to remove, mark them clearly and be sure to prevent the implement from contacting them.





# OPERATION

If you hit a solid object or foreign debris that is larger than 25", stop the implement and tractor at once. Immediately idle the engine speed and disengage the PTO. Wait for all rotating motion to stop, then raise the implement and move the tractor and implement off the object. Inspect the area and mark the location of the debris. Inspect the condition of the implement and make any needed repairs immediately. Make sure the teeth on drum are not damaged before resuming operation.

Always wear your seat belt securely fastened and only operate the tractor and windrower with the ROPS in the raised position. If the tractor or windrower hits a tree stump or bump, a sudden movement could throw you off of the seat and under the tractor and windrower. The seat belt is your best protection from falling off the tractor and the ROPS provides protection from being crushed during a tractor roll-over.

## WARNING!



Be sure you have adequate knowledge of the property you will be working on. Take time to make yourself aware of any area underground lines or cables. Contact with buried lines or cable could result in **serious injury** or **death**. (STL-1)

## DANGER!



There are obvious and hidden potential hazards in the operation of this Implement as in all power-driven or pulled equipment. **REMEMBER!** This machine is often operated in rough terrain conditions that include grass, weeds, gullies, holes, slopes, hidden obstructions and the like. Serious injury or even death may occur unless care is taken to assure the safety of the operator and bystanders in the area. Do not operate this machine with anyone in the immediate area. Stop operating if anyone comes within 25 feet of the equipment. (STL-4)

## 10.2 Engaging the Power Take Off (PTO)

Before engaging the PTO, make certain that the area is clear of bystanders and passersby. Set the tractor engine speed at approximately 1,000 RPM before engaging the PTO. Shift the PTO control to the on position, and slowly increase the engine speed until the PTO is operating at the rated speed. If you hear unusual noises or see or feel abnormal vibrations, disengage the PTO immediately. Inspect the windrower to determine the cause of the noise or vibration and repair the abnormality.

## DANGER!



Do not put hands or feet under rotating windrower drum. Teeth Contact can result in serious injury or even death. Stay away until all motion has stopped and the frame is securely blocked up. (STL-3)



## DANGER!



Make sure the PTO shield, integral driveline shields, and input shields are installed when using PTO-driven equipment. Always replace any shield if it is damaged or missing. (S3PT-8)



# OPERATION

## 10.3 PTO RPM and Ground Speed

Ground speed for windrower will depend upon the size of the rocks being windrowed. Recommended speed for efficient windrower performance is 5 mph. Operate the implement at its full rated PTO speed to maintain speed for windrower operation. Refer to the tractor operator's manual or the tractor instrument panel for the engine speed and gear to provide the required PTO and desired ground speed. Make sure that the windrower is operating at its full rated speed before entering the field to be windrowed. If it becomes necessary to temporarily regulate engine speed, increase or decrease the throttle gradually.

Ground speed is achieved by transmission gear selection and not by the engine operating speed. The operator may be required to experiment with several gear range combinations to determine the best gear and range which provides the most ideal performance from the windrower and most efficient tractor operation. As the severity of windrowing conditions increase, the ground speed should be decreased by selecting a lower gear to maintain the proper operating PTO speed.

### WARNING!



**Do not exceed the rated PTO speed for the Implement. Excessive PTO speeds can cause Implement driveline or blade failures resulting in serious injury or death.** (SG-26)

## 10.4 Operating the Windrower

When ready for field use be sure to remove the drum transport pin. After completing field work always prepare machine for road transport by reinstalling the transport pins. Refer to "Leveling the Windrower" in the 'AssemblySection' for location of drum transport pin hole.

Then set the working depth of the windrower teeth to desired level. Do this by screwing the depth stop collar on the drum of the hydraulic cylinder in or out.

In order to protect the driveline against excessive shock loads a shear bolt is provided on the universal joint assembly between the gearbox and chain case. Should the shear bolt break during operation replace as outlined in the 'Maintenance' section of this manual.

**IMPORTANT:** Fully raise the drum off the ground BEFORE engaging the PTO. Failure to do so could result in shear bolt breakage.

Do not exceed 5 mph (8 km/h) while operating the windrower. In heavy rock conditions reducing your forward speed will ensure that rocks are not skipped.

If too much dirt is being carried into the windrow, reduce the working depth. The axle plates can also be adjusted up or down to bias the working depth to one side or the other. Typically the axle of the right leg on the pivoting wheel standard is set 1" lower than the left leg. This is to help bring material to the surface.

If large rocks are being carried into the windrow, slow the tractor rpm.

# OPERATION

Some important notes when using the SRW1400 to reclaim the gravel ridge left on the sides of gravelled roads.

The axle on the left side of the windrower must be set  $\frac{3}{4}$ " lower than the axle on the right side. Running the discharge end of the drum slightly higher allows smaller material to drop out as the ridge moves across the drum. Only grass will be left, which will dry and blow away. The windrower should never be operated on the center (crown) of the road as this will cause excessive wear of the hard surfacing on the teeth near the center of the drum.



Only skim the surface of the road when moving the ridge from the side of the road to the center. Letting the teeth "hammer" the surface of the road will cause accelerated wear of the hard surfacing.

The drum should be checked frequently for wear. Teeth must be hard surfaced before the bare tooth is exposed. If the hard surfacing is not properly maintained, highly accelerated tooth wear will result. Excessive tooth wear caused by lack of maintenance of the hard surfacing is considered neglect by Schulte Industries Ltd.

Avoid windrowing in the reverse direction when possible. In situations where the implement must be backed to access areas to be windrowed make sure there are no persons, posts, animals, or foreign debris behind the unit before windrowing in reverse.

## DANGER!



Operate the Tractor and/or Implement controls only while properly seated in the Tractor seat with the seat belt securely fastened around you. Inadvertent movement of the Tractor or Implement may cause serious injury or death. (SG-29)

## WARNING!



**Do not windrow with two machines in the same area except with Cab tractors with the windows closed.** (SGM-11)

Use extreme care when transporting the windrower on public highways and roads. The combination of windrower and the tractor is longer in length. The implement is also wider than the tractor. Allow ample clearance when transporting the tractor and implement to insure that they do not contact any bystanders, signs, road structures, or other vehicles.

Never raise the implement entirely while the teeth are turning. If the implement must be raised higher than 12" from ground level, disengage the tractor PTO and wait for all implement rotation to come to a complete stop before proceeding to raise the implement. If implement is raised to high while the unit is running there is a possibility of damaging the driveline.

# OPERATION

## WARNING!



**Do not let the drum teeth turn when the implement is raised for any reason, including clearance or for turning. Raising the implement exposes the drum teeth which creates a potentially serious hazard and could cause serious injury or even death from objects thrown from the drum teeth.**



Stay alert and watch for trees, powerlines, posts, signs, and all other overhead and ground obstructions while you are windrowing. Use extreme care to avoid hitting these types of obstructions.

## 10.5 Shutting Down the Implement

To shut down the implement, first bring the tractor to a complete stop. Then slow down the windrower by reducing the engine speed before disengaging the PTO. Wait for all rotating motion to stop before proceeding to drive or shut down the tractor.

Park the tractor on a level surface, place the transmission in park or neutral and apply the parking brake, lower the attached implement to the ground, shut down the engine, remove the key, and wait for all motion to come to a complete stop before exiting the tractor.



## 11. DISCONNECTING WINDROWER FROM THE TRACTOR

## DANGER!



**Always shut the Tractor completely down, place the transmission in park, and set the parking brake before you or anyone else attempts to connect or disconnect the Implement and Tractor hitches. (S3PT-15)**

Before disconnecting the implement, the PTO must be disengaged and drum rotation at a complete stop. Move the implement to a level storage location and lower the implement to the ground. If the implement is not resting securely on the ground, block the implement up securely before attempting to disconnect it from the tractor.

Use extreme care to keep feet and hands out from under the implement and clear of any pinch points when disconnecting the implement from the tractor.

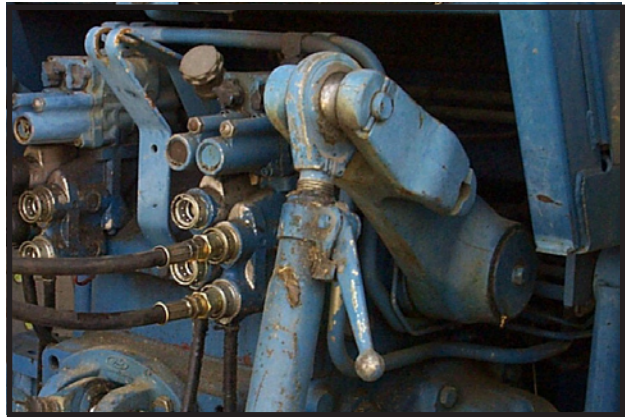
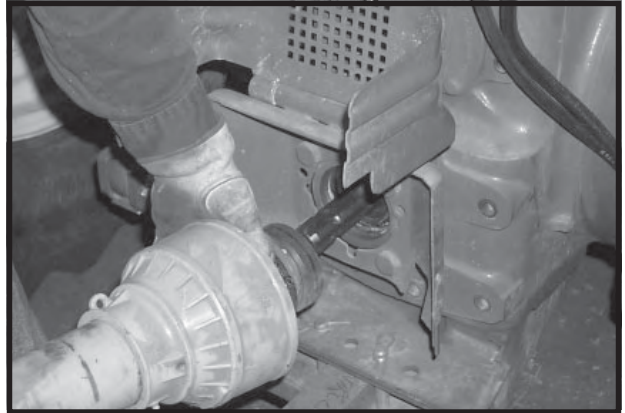
# OPERATION

## DANGER!



**Never stand or allow another person to stand between a running Tractor and the Unit when disconnecting the Implement from the Tractor 3-point hitch. Always shut the Tractor off completely and set the parking brake before attempting to disconnect the Implement pins from the Tractor hitch.**

1. When disconnecting windrower the tractor should be completely shut down and secured in position. Relieve hydraulic pressure by moving the control levers back and forth several times.
2. Lower the parking jack and raise the windrower until the tongue clevis is no longer resting on the tractor drawbar and is supported solely by the jack. Make sure the jack foot is securely resting at ground level or securely supported by a block before raising the windrower.
3. Once the windrower tongue is being supported entirely by the jack, remove the hitch bolt, locknut, and washers.
4. Remove the windrower driveline from the tractor PTO shaft. Place the driveline in its storage bracket to prevent it from contacting mud or dirt which can contaminate the universal joint bearings and shorten the life of the driveline.
5. Remove the hydraulic hoses from the tractor and secure to the windrower to prevent contact with dirt.
6. After the driveline has been removed from the tractor, place the PTO master shield back in the operating position.





# OPERATION

## 12. WINDROWER STORAGE

Properly preparing and storing the windrower at the end of the season is critical to maintaining its appearance and to help ensure years of dependable service. The following are suggested storage procedures:

1. Thoroughly clean all debris off the implement to prevent damage from rotting grass and standing water.
2. Lubricate all implements points and fill gearbox oil levels as detailed in the maintenance section.
3. Tighten all bolts and pins to the recommended torque.
4. Check the implement for worn and damaged parts. Perform repairs and make replacements immediately so that the implement will be ready for use at the start of the next season.
5. Store the implement in a clean, dry place with the implement frame resting securely on blocks or at ground level.
6. Keep the drivelines yokes from sitting in water, dirt and other contaminants.
7. Use spray touch-up enamel where necessary to prevent rust and maintain the appearance of the implement.



### DANGER!



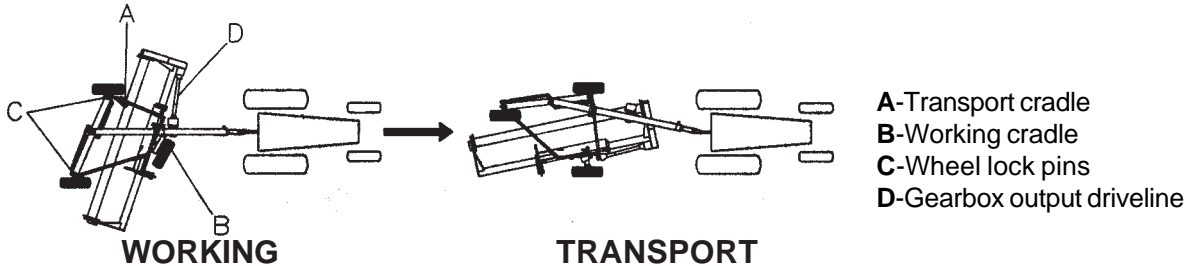
**Never allow children to play on or around the Tractor and Implement. Children can slip or fall off the Equipment and be injured or killed. Children can cause the Implement to shift or fall crushing themselves and others. (SG-25)**

It is critical that driveline clutches slip when an obstacle or heavy load is encountered to avoid implement and tractor damage. If the implement sits outside for an extended period of time or are exposed to rain and/or humid air, the clutch lining plates must be inspected to ensure they are not frozen together from rust or corrosion. If the implement has been exposed to such conditions, at the start of each season, and any time it is suspected that the slip clutch plates may be frozen together, readjust the slip clutch as explained in the maintenance section of this manual

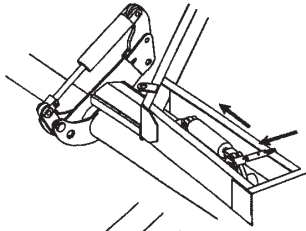
## 13. TRANSPORTING THE TRACTOR AND WINDROWER

Inherent dangers of operating the tractor and implement and the possibility of accidents are not left behind when you finish windrowing an area. Therefore, the operator must employ good judgement and safe operation practices when transporting the tractor and implement between locations. By using good judgement and following safe transport procedures, the possibility of accidents while moving between locations can be substantially minimized.

### Transport to Working Position

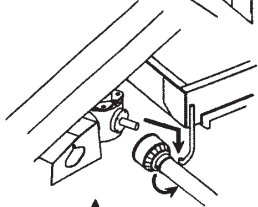


**IMPORTANT:** Before putting the rock windrower into transport position, be sure that the drum is locked into transport position. Refer to the transportation section of this manual for complete drum lock up instructions.



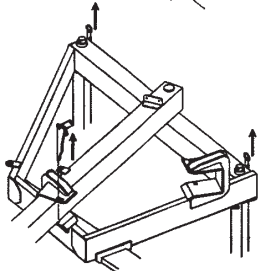
- Lower transport wheel.
- Secure the transport wheel lock pin with the transport hole.

**NOTE:** The interlock rotator prevents the hitch pole from sliding out of the working cradle until the transport wheel has been lowered.

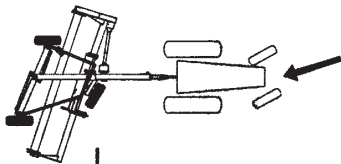


- Disconnect gearbox output driveline.
- Hang driveline in storage location.

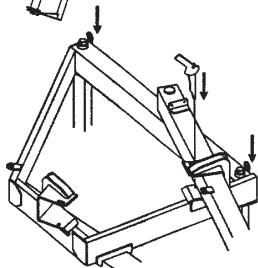
**IMPORTANT:** Failure to disconnect the driveline will result in damage to the driveline.



- Raise the wheel lock pins into the temporary position.
- Remove the wedge lock from the transport cradle.
- Store the wedge lock in the holder on the hitch pole.



- Back up tractor while turning the wheels to the left.
- Pivot the windrower until the hitch pole fits securely into the transport cradle.



- Lower the wheel lock pins into the pivoting wheel assembly.
- Install the wedge lock into the transport cradle.

**NOTE:** The flat edge of the wedge lock should be against the hitch pole.

# OPERATION

**DANGER!**



**Never allow children or other persons to ride on the Tractor or Implement. Falling off can result in serious injury or death.**

(SG-10)



Before transporting the tractor on a public roadway or boarding a trailer for transport, the tractor brake pedals should be locked together. Locking the pedals ensures that both wheels brake simultaneously while stopping, especially when making an emergency stop.

Use extreme caution and avoid hard applications of the tractor brakes when towing heavy loads at road speeds. Never tow the implement at speeds greater than 20 MPH.



If the tractor's hydraulic pump is not independent of the tractor PTO, or if the tractor PTO has to be run to have hydraulic power, disconnect the mower driveline from the tractor PTO output shaft. Secure the driveline to the mower deck to prevent driveline damage or loss during transport.

**WARNING!**



In wet conditions where there is a likelihood of material collecting on the Implement, make certain that this material is removed before travelling on public roadways. (STL-7)



# OPERATION

## 13.1 Transporting on Public Roadways

### DANGER!



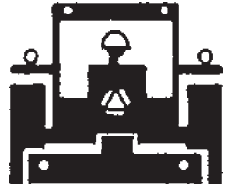
**Never allow children or other persons to ride on the Tractor or Implement. Falling off can result in serious injury or death.** (SG-10)



### WARNING!



**Make certain that the “Slow Moving Vehicle” (SMV) sign is installed in such a way as to be clearly visible and legible. When transporting the Equipment use the Tractor flashing warning lights and follow all local traffic regulations.** (SG-6)



Extreme caution should be used when transporting the tractor and implement on public roadways. The tractor must be equipped with all required safety warning features including a SMV emblem and flashing warning lights to alert drivers of the tractor's presence. Remember that roadways are primarily designed for automotive drivers and most drivers will not be looking out for you, therefore, you must look out for them. Check your side view mirrors frequently and remember that vehicles will approach quickly because of the tractor's slower speed. Be extremely cautious when the piece of equipment that you are towing is wider than the tractor tire width and/or extends beyond your lane of the road.

The SMV (Slow-Moving Vehicle) emblem is universal symbol used to alert drivers of the presence of equipment traveling on roadways at a slow speed. SMV signs are a triangular bright orange with reflective red trim for both easy day and night visibility. Make sure the SMV sign is clean and visible from the rear of the unit before transporting the tractor and implement on a public roadway. Replace the SMV emblem if faded, damaged, or no longer reflective.



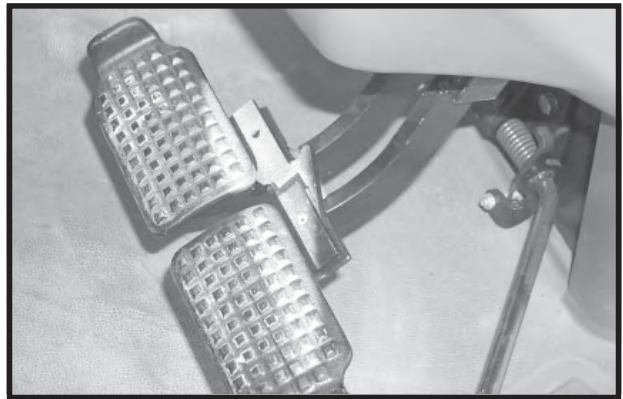
Make sure that all tractor flashing warning lights, headlights, and brake/taillights are functioning properly before proceeding onto public roads. While newer model tractors have plenty of lighting to provide warning signals and operating lighting, most older models were only equipped with operating lights. Consult an authorized tractor dealer for lighting kits and modifications available to upgrade the lighting on older tractor models.

# OPERATION

When operating on public roads, have consideration for other road users. Pull to the side of the road occasionally to allow following traffic to pass. Do not exceed the legal speed limit set in your area for agricultural tractors. Always stay alert when transporting the tractor and mower on public roads. Use caution and reduce speed if other vehicles or pedestrians are in the area.



Reduce speed before turning or applying the brakes. Ensure that both brake pedals are locked together when operating on public roads.



When transporting the minimum transport width is achieved by pivoting the hitch pole into transport position.

## OPERATION

### DANGER!



This Implement is wider than the Tractor. Be careful when operating or transporting this equipment to prevent the Implement from running into or striking sign posts, guard rails, concrete abutments or other solid objects. Such an impact could cause the Implement and Tractor to pivot violently resulting in loss of steering control, serious injury, or even death. Never allow the Implement to contact obstacles. (S3PT-12)

### WARNING!



Allow sufficient clearance for the Implement to swing outward while turning. Implements carried behind the Tractor will swing outside the tire path when making turns. Contacting a solid object while turning will cause equipment damage and possible injury. (S3PT-20)

### DANGER!



Be particularly careful when transporting the Implement using the tractor. Turn curves or go up or down hills only at a low speed and at a gradual steering angle. Make certain that at least 20% of the tractor's weight is on the front wheels to maintain safe steerage. Slow down on rough or uneven surfaces. (STI-1)

# OPERATION

## WARNING!



Only tow the Implement behind a properly sized and equipped Tractor which exceeds the weight of the Implement by at least 20%. DO NOT tow the Implement behind a truck or other type of vehicle. Never tow the Implement and another Implement connected in tandem. Never tow the Implement at speeds over 20 MPH. (STI-6)

## WARNING!



Secure the Implement for transport before traveling on public roads. For pull-type Implements, secure the center axle using cylinder stops or transport pin and properly attach a safety chain between the Implement and Tractor. (STI-7)

## WARNING!

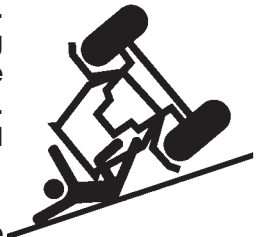


Transport only at safe speeds. Serious accidents and injuries can result from operating this equipment at unsafe speeds. Understand the Tractor and Implement and how it handles before transporting on streets and highways. Make sure the Tractor steering and brakes are in good condition and operate properly.



Before transporting the Tractor and Implement, determine the safe transport speeds for you and the equipment. Make sure you abide by the following rules:

1. Test the tractor at a slow speed and increase the speed slowly. Apply the Brakes smoothly to determine the stopping characteristics of the Tractor and Implement. As you increase the speed of the Tractor the stopping distance increases. Determine the maximum safe transport speed for you and this Equipment.
2. Test the equipment at a slow speed in turns. Increase the speed through the turn only after you determine that it is safe to operate at a higher speed. Use extreme care and reduce your speed when turning sharply to prevent the tractor and implement from turning over. Determine the maximum safe turning speed for you and this equipment before operating on roads or uneven ground.
3. Only transport the Tractor and Implement at the speeds that you have determined are safe and which allow you to properly control the equipment.



Be aware of the operating conditions. Do not operate the Tractor with weak or faulty brakes. When operating down a hill or on wet or rain slick roads, the braking distance increases: use extreme care and reduce your speed. When operating in traffic always use the Tractor's flashing warning lights and reduce your speed. Be aware of traffic around you and watch out for the other guy. (SG-19)

# OPERATION

## 13.2 Hauling the Tractor and Windrower

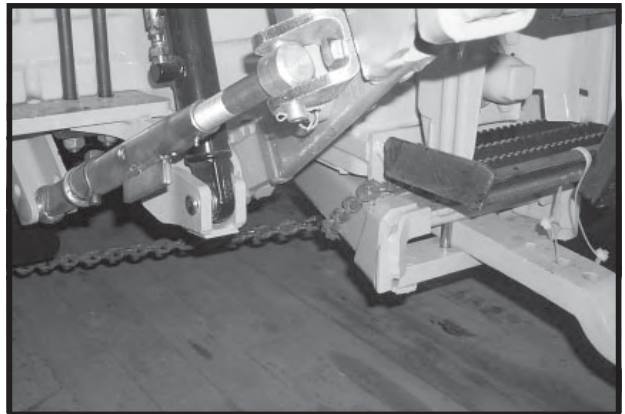
Before transporting a loaded tractor and implement, measure the height and width dimensions and gross weight of the complete loaded unit. Ensure that the load will be in compliance with the legal limits set for the areas that will be traveled through.



Use adequately sized and rated trailers and equipment to transport the tractor and implement. Consult an authorized dealer to determine the proper equipment required. Using adequately sized chains, heavy duty straps, cables and/or binders, securely tie down both the front and rear of the tractor utilizing the proper tie down locations as specified by the tractor manufacturer.



Arrange the chains so that when tightened, the chains are pulling downward and against themselves. Carefully tighten the securing chains or other fasteners used as much as possible using boomers or binders to apply maximum tension. Use extreme care when attaching and removing the securing devices as the extreme tension involved when released has the potential to inflict serious injury.



While hauling the tractor and implement, make occasional stops to check that the tractor and implement have not moved or shifted and that the securing chains have maintained tension. If during transport a hard braking, sharp turning, or swerving action was performed, stop at the next safe location to inspect the security of the load.

# OPERATION

## 14. TROUBLE SHOOTING GUIDE (WINDROWER)

TROUBLE	POSSIBLE CAUSE	POSSIBLE REMEDY
Excessive Shear Bolt breakage	1. Seized slip clutch	Free up slip clutch and reset spring height
	2. Worn shear bolt hole	Replace shear yoke assembly
	3. Ground too hard	Reduce depth
	4. Overloading drum	Reduce PTO speed to approximately 400 RPM
Hitch pole won't swing easily	1. Improper pivoting procedure	Refer to pivoting instructions and repeat steps
	2. Too much drawbar load	Adjust transport wheel or hitch clevis to remove weight from hitch pole.
Blade bolts working loose	1. Bolts not tightened sufficiently	Tighten bolts to correct torque
	2. Bolt hole elongated or oversized	Rebuild or replace blade carrier
	3. Locknut worn out	Replace locknut
Accelerated wear of universal joint cross.	1. Inadequate greasing	Carefully follow greasing instructions
Accelerated wear of universal joint sliding members	1. Inadequate greasing	Carefully follow greasing instructions
Torque limiter slipping excessively	Excessive load	Machine is overloaded, reduce ground speed & reduce depth
	Improper adjustment	Adjust springs
	Friction plates worn	Replace Plates
	Oil on friction plates	Replace Plates



# **MAINTENANCE SECTION**



# MAINTENANCE

## Nuts And Bolts

Check all nuts and bolts for tightness after the first 8 hours of operation then weekly. Check the condition of cotter pins, roll pins and other fasteners weekly and replace if necessary.

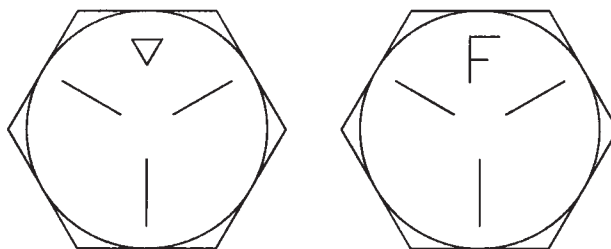
### Bolt Grades and Torque

When replacing damaged bolts use only plated Grade 5 bolts unless otherwise specified. Use only bolts of the correct length [ Refer to the "Parts Manual" ]. Do not replace lock nuts with nuts and lock washers. Use only original equipment lock nuts.

Recommended Torques in foot pounds for SAE Grade 5 bolts, based on dry assembly:

Bolt Size	UNC		UNF	
	Ft-lbs	Nm	Ft-lbs	Nm
1/4"	8	11	10	14
5/16"	17	23	19	26
3/8"	31	42	35	47
7/16"	49	66	55	75
1/2"	75	102	85	115
5/8"	150	203	170	230
3/4"	269	365	297	403
1"	644	873	704	954
1-1/4"	1255	1700	1380	1870

GRADE (5) Bolt Head



### Drive Chain

The drive chain is tightened by loosening the 3/4" bolt holding the idler sprocket and forcing it down until the chain is at the proper tension. Allow 5/8" of movement up or down at the center of the bottom chain section.

Clean out any dirt accumulated in the chain case. Use a brush to spread an even coat of lubrication over the entire length of chain.

### Windrower Teeth

Hard surfacing applied to the windrower teeth should be reapplied before the original hard surface material has been worn off. Once the hard surface material is gone wear to the base metal of the teeth will be very rapid. CX170 hard surfacing electrodes are recommended.

### Driveline Shields

The plastic cones shielding the slip clutch and shear bolt need to be periodically/ frequently cleaned. Stop the tractor engine, disconnect the PTO shaft and remove any debris that has accumulated inside the shield.



# MAINTENANCE

## Hubs And Spindles

Check hubs weekly for bearing play and condition of seal.

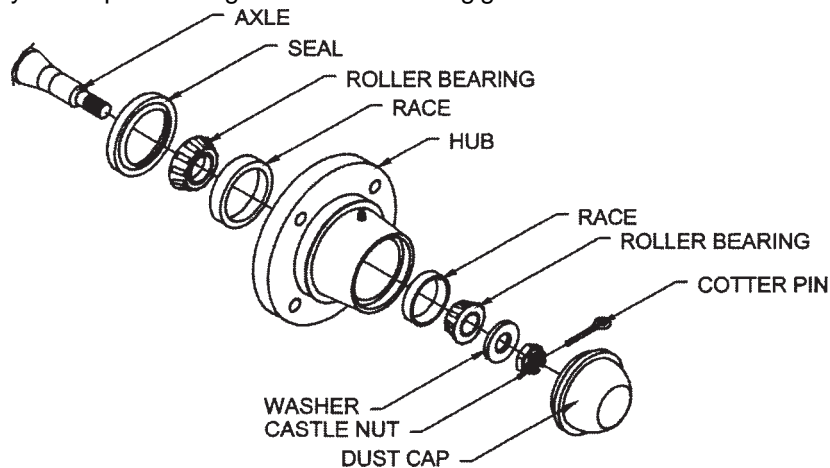
### Greasing and Installation

It is recommended that hubs are dismantled, cleaned and repacked every year. Use the diagram and following instructions for maintaining the wheel hubs. Whenever a worn or damaged seal is replaced the bearing assembly should be cleaned and repacked with a good grade of wheel grease.

#### WARNING!



Always wear protective gloves when handling grease.



1. Using a grease packer, pack both roller bearings with a good grade of wheel grease. The bearings should be thoroughly coated with grease. Spread grease on the outside of the bearing with your gloved finger. Ensure that no dirt or filings contact the grease or the bearings.
2. Pack the inside of the hub with grease. Grease needs to cover complete surface area inside hub but does not need to fill cavity.
3. Smear grease on both races.
4. Install the large bearing into the back of the hub and rotate the bearing several times.
5. Install the dust/grease seal using the right size seal driver. Spread a film of grease on the dust seal rubber and on the axle where the seal fits.
6. Position the hub on the axle and firmly push into place then pull hub towards you about 1". Slowly rotate hub while gently pushing the hub back onto the axle.
7. Check dust seal to ensure seal rubber is positioned correctly.
8. Install the small or outer bearing.
9. Install the axle washer and castle nut on the axle.

# MAINTENANCE

## Tightening Instructions for 511 & 517 Hubs

Proper setting for the tapered roller bearings is described in the following procedure. Always use a new cotter pin when making adjustments to the hubs.

1. Tighten the castle nut to 20 foot pounds while turning hub. Then back the nut off 1/2 of a turn. Spin the hub 2 or 3 times. While slowly turning hub clockwise, finger tighten the castle nut until castle nut notch lines up with hole in axle. If notch will not line up, back off nut to next notch.
2. Put the cotter pin in the axle hole. Before bending the cotter pin, spin the hub. The hub should free wheel from 1 to 2 full turns.
3. If the hub spins the right amount, finish installing the cotter pin by bending the ends.
4. Coat the inside of the dust cap with a thin coat of grease by using your gloved finger. Then install on hub using the right dust cap driver.
5. Wipe off all excess grease from hub and axle.

**IMPORTANT:** There should not be any drag noticed when spinning a tire installed on a hub. If the axle nut is too tight, the rollers of the wheel bearings will remove the grease from the bearing races, decreasing the life of the bearings.

## Tires

Periodically check tire pressure. Tires should be inflated to manufacture's suggested specifications. Higher pressures may cause excessive bouncing over rough ground. Lower pressures may cause excessive wear.

To remove tires for repair or replacement, securely block the frame. Relieve hydraulic pressure. Shut off tractor, apply parking brake and disengage PTO.

**WARNING!** AVOID PERSONAL INJURY. DO NOT work under windrower without support blocks to keep the frame from falling.



## Shear Bolt

In order to protect the driveline against excessive shock loads a shear bolt is provided on the universal joint assembly between the gearbox and chain case. Should the shear bolt break during operation replace with a bolt of the following specification:

M8 x 45 mm bolt grade 10.9. with interfering type lock nut.  
If possible use original equipment shear bolt part #341-4015.

**IMPORTANT:** Tighten nut only enough to draw the shear plates together. Do not over tighten the nut. Normal wrench torques to not apply. Occasionally apply grease to the shear plates.

**IMPORTANT:** Replacement of the shear bolt with one of any other grade or size will be considered unauthorized modification and warranty will be void.

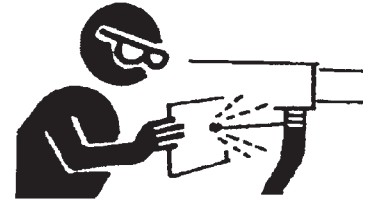
# MAINTENANCE

## Hydraulics

Periodically clean dirt and debris from the bottom side of the depth stop ring.

Inspect hydraulic hoses, fittings and cylinders for wear or leaks. Use a piece of cardboard or wood rather than hands to search for suspected leaks. Replace if necessary.

Before applying pressure to the hydraulic system, be sure all connections are tight and that the hoses are not damaged.



### DANGER!



Do not operate this Equipment with hydraulic oil leaking. Oil is expensive and its presence could present a hazard. Do not check for leaks with your hand! Use a piece of heavy paper or cardboard. High-pressure oil streams from breaks in the line could penetrate the skin and cause tissue damage including gangrene. If oil does penetrate the skin, have the injury treated immediately by a physician knowledgeable and skilled in this procedure. (SG-15)



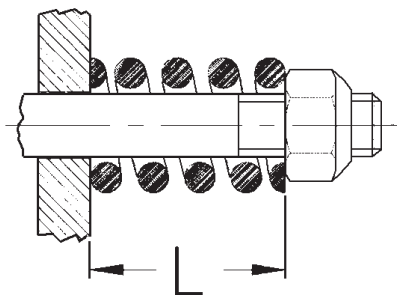
## Slip Clutch

**NOTE:** Remove the retaining bolt from the yoke linked to the slip clutch. This allows the slip clutch to float so the adjustment can be made. Secure the retaining bolt after the slip clutch is adjusted.

**IMPORTANT:** If the rock windrower has been left unused for a period of time, eg. A month, or even less in damp, wet conditions, the clutch friction liners may tend to bond to the clutch plates. To free up the friction liners, the clutch springs should be backed off and the friction liners pried away from their backing plates. It has been found that simply running the rock windrower with the slip clutches loose will not necessarily free up the friction liners and may in fact cause them to become glazed. The springs should be tightened down to the heights indicated in the following illustration.

As the friction liners on the slip clutch wear the springs may have to be readjusted. By tightening or loosening the bolt running through the clutch springs the releasing torque of the clutch can be set. If the bolt is set too tight the slip clutch will not slip and damage to the universal joint shafts will occur. Setting the bolt too loose will cause excessive slipping and the friction plates will wear out quickly.

Refer to the following illustration and set the height of the clutch springs as indicated. Tighten nuts following an alternating cross pattern. Check that the height is constant for all springs.



### Slip Clutch Setting

**540 RPM DRIVE**  
**L=28.0mm (1.102")**

# MAINTENANCE

## Lubrication

### Gearboxes

**IMPORTANT: Remember that the gearbox was shipped dry and should have been filled with oil.**

Replace oil in gearbox after the first 50 hours of operation then yearly.

Check gearbox oil level frequently. Steady loss of oil will indicate damaged seals, which should be replaced immediately to prevent ruining the gearbox. Gearbox oil should be maintained to the height of the level plug located in the side of the gearbox.

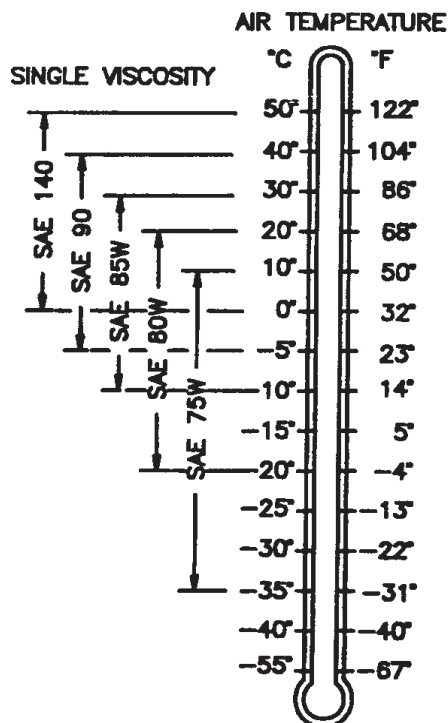
Procedure for refilling of gearboxes:

1. Park unit on a level surface
2. Remove drain plug and drain out oil
3. Reinstall drain plug
4. Remove vent plug and level plug (level plug is always located in the middle of the gear case)
5. Fill the gearbox until oil runs out the level plug hole
6. Reinstall the vent plug and level plug
7. Dispose of the old oil in accordance with the local regulations.

Gear case oil should meet the following specifications:

- API Service Classifications GL-5
- Military Specification MIL-L-2105C

Consult the following chart for the oil viscosity recommendations:



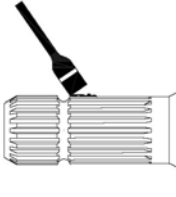
**NOTE: Use SAE 80-90Gear Oil**

# MAINTENANCE

## Grease Schedule

Grease should meet the following recommendations:

- SAE Multi-purpose grease
- SAE Multi-purpose grease containing 3 to 5 per cent molybdenum disulfide



Use SAE (NLGI) #2

**IMPORTANT:** Before attaching the driveline, clean and grease the tractor PTO and the Implement shaft.

## Universal Joint Assemblies.

-Cross Journal: Every 8 hours.

Apply only one or two strokes from a hand-type grease gun. Over lubrication may cause damage to seals.

-Shield Retaining Bearing: Every 8 hours.

-Inner Sleeve: Every 20 hours. Pull the universal joint halves apart and apply grease to all sides of the slip shaft.

-Push Pin: Every 20 hours.

-Telescoping Tubes: Every 4 hours. Apply grease to the collar located at the middle of the shaft. Occasionally (monthly) pull the universal joint halves apart and apply grease to all sides of the slip shaft. At least once per year (more often in dusty or dirty conditions) the shielding should be removed and the old grease removed with a solvent. A fresh coat of grease should then be applied to the entire surface of the inner tube.

**IMPORTANT:** If the universal joint sliding members are allowed to dry out to the point where two halves cannot slip freely, damage to the rock windrower or tractor may occur.

## Windrower Frame

-Drum Frame Clamps: 8hrs

-Interlock Rotator: 8 hrs

-Transport Wheel: 50 hrs

-Pivoting Wheel Assembly: 50 hrs, 8 Locations

-External Flange Bearings: 50 hrs 3 locations. All flange bearings are permanently lubricated, however grease fittings are provided on the external units. Grease should be pumped into the bearing until it is seen purging at the clearance between the outer race and slinger.

## Wheel Hubs

-Wheel Hubs: Yearly. Fill until grease is seen purging at the axle seals.

# MAINTENANCE

## Drive Chain

Apply light grease or oil to the drive chain after every 8 hours of operation. Operating conditions may require that the chain be lubricated more frequently. Do not allow the chain to dry out.

## STORAGE

It is recommended that the chain be removed from the machine, cleaned and stored in oil over the winter months.

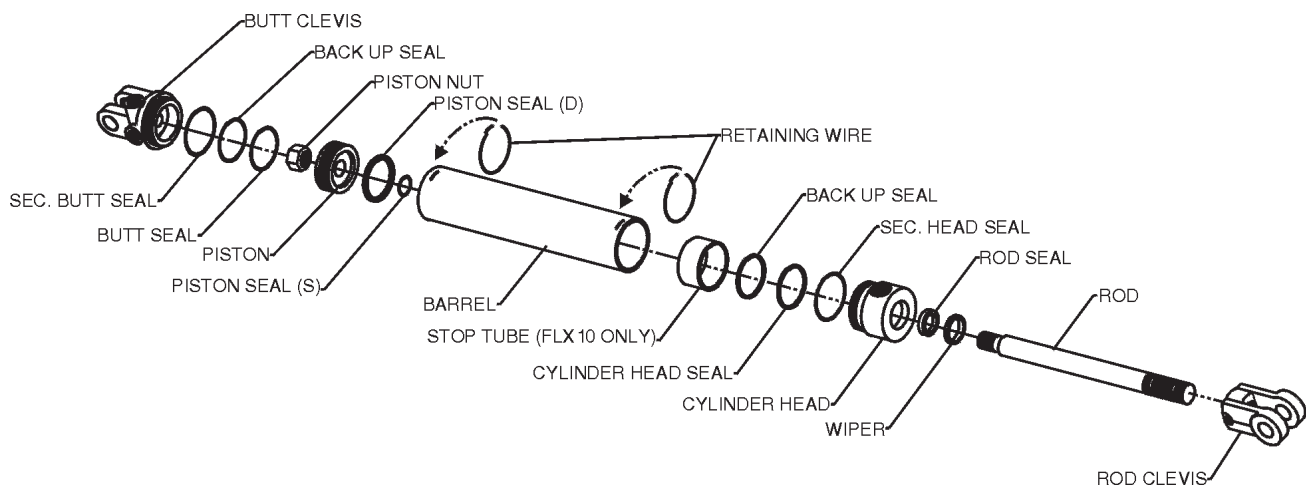
Install the drum transport pin. Disconnect the main lift cylinder at the rod end and retract the rod for storage. Retracting the cylinder rods will prevent rusting, ensure that the cylinders are full of oil, and relieve pressure in the hydraulic circuit. If the cylinder rods are not retracted smear grease over any exposed hydraulic cylinder rods.

Install the hitch jack on the jack mount located on the outer hitch frame.

The slip clutch should be removed from the machine and stored inside when not in use for long periods of time.

When disconnecting from the tractor for short period of time, use the driveline holders. When storing the rock windrower for an extended period of time, it is recommended the drivelines be removed from the machine and stored inside.

## RAMLOK DISASSEMBLY PROCEDURE



1. Replacement cylinder head and butt seals must be available before beginning disassembly as they will be damaged during the procedure. The piston seal may also be subject to damage during disassembly.
2. Secure the cylinder snugly in a vice. Do not over tighten the vice or the barrel will compress.
3. Locate the slots at either end of the barrel. The cylinder head will be removed first.
4. Using a thin blade screwdriver, insert the blade into the end of the slot near the cylinder head and pry the retaining wire up slightly.

# MAINTENANCE

5. With the screwdriver under the wire, rotate the cylinder head to thread the wire out. The cylinder head can be turned with a pin wrench in the holes provided, with a pipe wrench, or with a strap wrench.
6. Thread the wire completely out of the barrel. Note which hole in the cylinder head that the wire was inserted in (there are 4 holes in the cylinder head. When reinstalling the cylinder head, the wire must be inserted in the same hole and the wire must be installed in the opposite rotation from removal (ie. If the cylinder head was turned clockwise to remove the wire, it must be turned counterclockwise for installation). This will ensure correct port orientation.
7. With the cylinder head wire completely removed, disassembly can continue. Ensure that the ports at both ends of the cylinder are open to the atmosphere. Insert a long pin or a bar thru the pin hole on the shaft mount. Use this bar to fully extend the shaft. A hard pull should dislodge the cylinder head from the barrel.
8. Continue to pull on the shaft until the o-ring on the cylinder head becomes lodged in the slot in the barrel. Insert a knife in the slot and cut the o-ring and back up seal. These seals can be threaded out thru the slot in the barrel.
9. Continue to pull on the shaft. The cylinder head, piston and shaft will pull free from the barrel.
10. If the seal at the butt end of the cylinder needs to be replaced, disassembly is the same as for the cylinder head (see steps #3, 4 and 5). Again, note the rotation used to remove the wire and use the opposite rotation for assembly. There is only one wire hole in the butt.
11. To remove the piston nut, do not clamp the shaft in a vice as it may be damaged. Locate a pin that will fit nicely thru the shaft clevis. Insert the pin vertically in a vice and tighten it securely. Insert the shaft clevis over the pin.
12. Remove the piston nut. The piston and cylinder head can now be removed.
13. Inspect all components for wear and scoring. Closely inspect the bore of the barrel for scoring or wear marks. Check the shaft closely for wear marks, scoring, pitting or rust (discoloration of nitrosteel shafts is normal). Check the bore of the cylinder head for wear marks, scoring and rust. Check the outside diameter of the piston for wear marks or scoring. Check seals for wear, nicks, tearing or other damage.
14. Replace all damaged components. It is recommended that all seals be replaced, even if there is no visible damage.
15. Assembly is the opposite of disassembly. Use a small amount of oil to lubricate all seals prior to assembly. Caution must be used to prevent seal damage.







## **SCHULTE INDUSTRIES LIMITED WARRANTY POLICY FOR THE SRW1400**

**Schulte Industries Limited** ("the manufacturer") warrants to the original purchaser only, that in the event of any defect in material or workmanship in the Schulte SRW1400, the subject of this warranty ("the goods") during the warranty period mentioned below the manufacturer will provide the cover specified below.

This warranty is in place of any other warranty or guarantee whether implied or expressed in any conditions of purchase of the buyer, and does not extend to impose any further liability on the manufacturer than set out below.

### **CONDITIONS**

1. This warranty does not extend to:
  - (A) Damage or deterioration after delivery from the manufacturer's works not attributable to defective material or workmanship.
  - (B) Any goods after they have been altered or repaired other than by the manufacturer's employees or its' agents in each case authorized in writing by the manufacturer to effect that specific alteration or repair to those specific goods.
  - (C) Any equipment or machinery of any kind furnished by the buyer, or belonging to, or acquired from third parties at the buyer's request, or supplied, or made to the buyer's specifications.
  - (D) Any goods which have sustained damage or deterioration attributable to damage from foreign objects (e.g. stones, iron, material other than grass and brush), inadequate or faulty assembly, improper or inadequate maintenance, or neglect, or abuse.
  - (E) Normally wearing parts ( e.g. teeth, sprockets, roller chain, and tires )
  
2. This warranty is conditional upon:
  - (A) Care maintenance and operation in accordance with the manufacturer's specifications and recommendations (as set out, or referred to in the 'manual') supplied for the goods.
  - (B) Filling out the manufacturer's Warranty Validation form, and returning it to the manufacturer within thirty (30) days of receipt of goods by the buyer.
  - (C) Filling out the manufacturer's Warranty Claim form and returning it to the manufacturer within thirty (30) days of the repair.
  - (D) Examination of the goods by the manufacturer or one of its agents to verify that the goods are defective in material or workmanship.

## **COVER**

1. In respect of claims notified:

Commercial use - During the first six (6) months, parts and labour on repair.

Non-commercial, governmental, municipal or farm use - During the first twelve (12) months, parts and labour on repair.

Rental use - During the first thirty (30) days, parts and labour on repair.

2. The buyer is responsible for any labour charges exceeding a reasonable amount as determined by the manufacturer and for returning the goods to the dealer, whether or not the claim is approved. The buyer is responsible for the transportation costs of the goods or part(s) from the dealer to the designated factory.

## **WARRANTY PERIOD**

3. Commercial use - The warranty period shall be the period of six (6) months from the date that the goods are received by the buyer.

Non-commercial, governmental, municipal or farm use - The warranty period shall be the period of twelve (12) months from the date that the goods are received by the buyer.

Rental use - The warranty period shall be the period of thirty (30) days from the date that the goods are received by the buyer.

4. All notices and correspondence to the manufacturer shall be confirmed by letter addressed to:

Attention: Warranty Compliance  
Schulte Industries Limited  
P.O. Box 70  
Englefeld, Saskatchewan  
S0K 1N0, CANADA

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