

# SCHULTE®

## RS320

“JUMBO” ROCK PICKER

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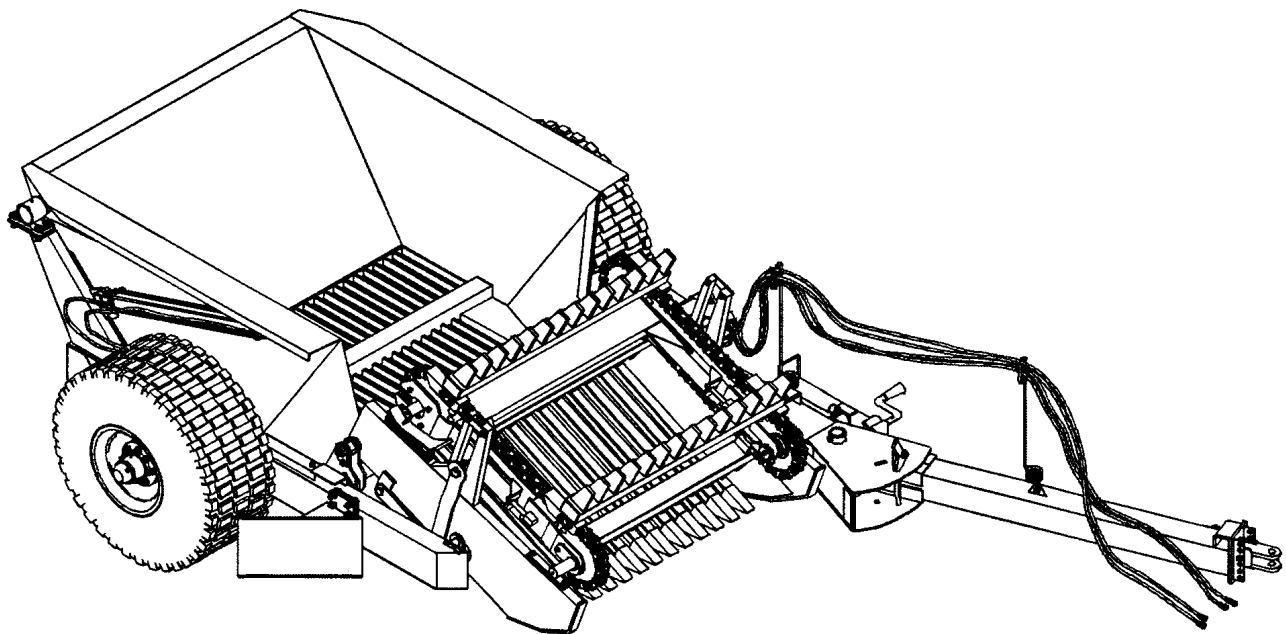
Part No. 90-010C

## 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. *C01-Cover*

FC-0002



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ISO 9001



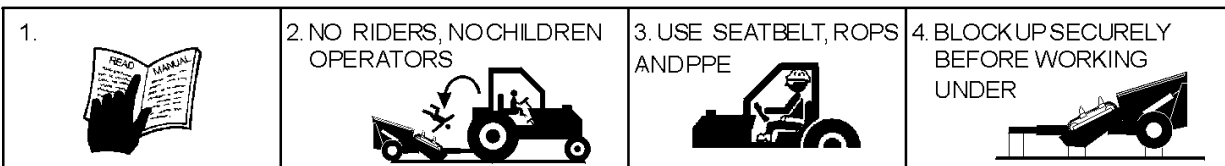
# To the Owner/Operator/Dealer

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.

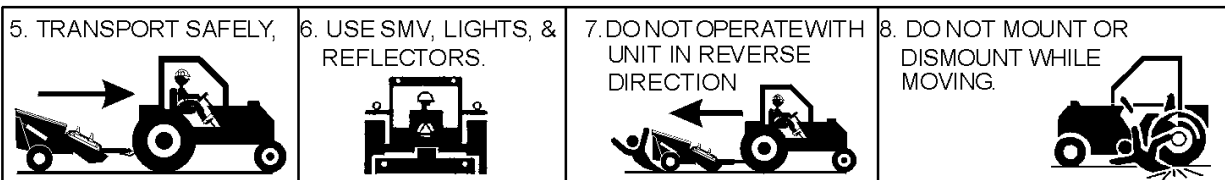
**BEFORE YOU START!** Read the safety messages on the implement and shown in your manual. Observe the rules of safety and common sense!



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



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.



## 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 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.

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# **SAFETY SECTION**

Safety Section 1-1

# SAFETY

## SAFETY

### GENERAL SAFETY INSTRUCTIONS AND PRACTICES

A 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 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.



Indicates an imminently hazardous situation that, if not avoided, WILL result in DEATH OR VERY SERIOUS INJURY.



Indicates an imminently hazardous situation that, if not avoided, COULD result in DEATH OR SERIOUS INJURY.



Indicates an imminently hazardous situation that, if not avoided, MAY result in MINOR INJURY.



Identifies special instructions or procedures that, if not strictly observed, could result in damage to, or destruction of the machine, attachments or the environment.

**NOTE:** *Identifies points of particular interest for more efficient and convenient operation or repair.* (SG-1)

READ, UNDERSTAND, and FOLLOW the following Safety Messages. Death or serious injury 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)



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!**



# SAFETY

## OPERATOR SAFETY INSTRUCTIONS AND PRACTICES

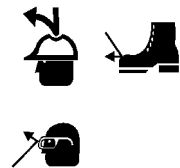
### DANGER

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 to operate the Tractor or Implement without supervision. Make sure the operator has fully read and understood the manuals prior to operation. (SG-4)



### 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 that may be thrown by the equipment. (SG-16)



### 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

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



### 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. Inadvertent contact with controls can cause the Implement to shift or fall crushing themselves or others. (SG-25)

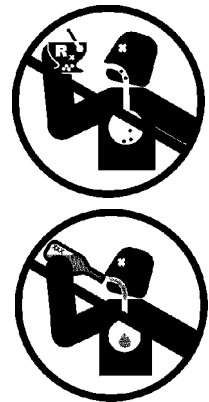
SAFETY

# SAFETY

## SAFETY

### **⚠ DANGER**

DO NOT 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)



### **⚠ 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)

### **⚠ 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)

### **⚠ 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-03)

### **⚠ WARNING**

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

### **⚠ WARNING**

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

# SAFETY



Do not approach the Implement while in motion. Use extreme care near the drive unit to keep your hands or feet clear of the rotating shaft and drive chain. Contact with the rotating items can result in serious injury or even death. Stay clear until the implement is securely parked and all motion has stopped. (STL-12)



Keep fingers clear of tongue lock pin holes. A sudden movement could cause injury or even amputate fingers. **KEEP CHILDREN AWAY WHEN CHANGING TONGUE POSITION.** (STL-18)



Never attempt to remove a jam or service the implement until the Implement Hydraulic Hoses have been **DISCONNECTED AND REMOVED** from the tractor. Serious body injury or death can result from entanglement with the rotating components of the conveyer. (STL-25)

## EQUIPMENT OPERATION SAFETY INSTRUCTIONS AND PRACTICES



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)



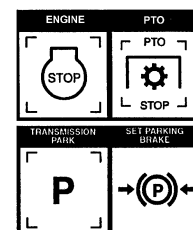
Operate this Implement only in conditions where you have clear visibility in daylight or with adequate artificial lighting. Never operate in darkness or foggy conditions where you cannot clearly see at least 100 yards in front and to the sides of the tractor and implement. Make sure that you can clearly see and identify passersby, steep slopes, ditches, drop-offs, overhead obstructions, power lines, debris and foreign objects. If you are unable to clearly see these types of items discontinue operating this equipment. (S3PT-21)



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)



**BEFORE** leaving the tractor seat, lower the implement, set the parking 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)



# SAFETY

## SAFETY



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



Never allow children to operate, ride on, or come close to the Tractor or Implement. Usually, 16-17 year-old children who are mature and responsible can operate the implement with adult supervision, if they have read and understand the Operator's Manuals, been trained in proper operation of the tractor and Implement, and are physically large enough to reach and operate the controls easily. (SG-11)



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



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)



Do not operate this Equipment with hydraulic oil or fuel leaking. Oil and fuel are explosive and their presence could present a hazard. Do not check for leaks with your hand! High-pressure oil streams from breaks in the line could penetrate the skin and cause tissue damage including gangrene. To check for a hose leak, SHUT the unit ENGINE OFF and remove all hydraulic pressure. Wear oil impenetrable gloves, safety glasses and use cardboard to check for evidence of oil leaks. If you suspect a leak, REMOVE the HOSE and have it tested at a Dealer. If oil does penetrate the skin, have the injury treated immediately by a physician knowledgeable and skilled in this procedure. (SG-15)



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



In case of mechanical difficulty during operation, place the transmission in the park position, set the parking brake, shut down all power, including the PTO and the engine and remove the key. Wait until all rotating motion has stopped before dismounting. (SG-39)

# SAFETY

## **WARNING**

Do Not operate this equipment in areas where insects such as bees, may attack you and/or cause you to lose control of the equipment. If you must enter in such areas, use a tractor with an enclosed Cab and close the windows to prevent insects from entering. If a tractor cab is not available, wear suitable clothing including head, face, and hand protection to shield you from the insects. Attacking insects can cause you to lose control of the tractor, which can result in serious injury or death to you or bystanders. Never dismount a moving tractor. (SG-40)

## **DANGER**

The rotating parts of this machine have been designed and tested for rugged use. However, the components could fail upon impact with heavy, solid objects such as metal guard rails and concrete structures. Such impact could cause the broken objects to be thrown outward at very high velocities. To reduce the possibility of property damage, serious injury, or even death, never allow the implement to contact such obstacles. (SGM-4)

## **DANGER**

Never leave the Power Unit and Implement unattended while the Implement is in the lifted position. Accidental operation of the lifting lever or a hydraulic failure may cause a sudden drop of the unit with possible injury or death by crushing. Fully lower the Implement to ground level to disconnect the Implement or to perform service. Do not put hands or feet under lifted components. (SPU-30)

## **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 great velocity. Such a situation is extremely hazardous and could result in serious injury or even death. Inspect the area for such objects before working in the area. Remove any such objects from the site. Never allow the implement to contact such objects. (STL-6)

## **WARNING**

Do Not attempt to raise or lower the rock bin unless the Implement tongue is securely attached to the Tractor drawbar. The Implement could tip over and cause equipment damage and possible serious injury or death. Raise or Lower the bin only while seated in the Tractor operator's seat with the seat belt securely fastened. (STL-14)

## **WARNING**

Raise the unit to the transport position and secure with the retaining pins before traveling on public roads and when storing. (STL-16)

## **DANGER**

Never leave the Rock Picker unattended while the hopper bin is in the raised position. Accidental operation of the lifting lever or a hydraulic failure may cause a sudden drop of the unit which could result in injury or death by crushing. If the hopper must be raised for a purpose other than the time required to normally dump, or if someone is going to get under the hopper for any reason, always secure the hopper safety prop into position. (STL-19)

# SAFETY

## SAFETY



**DANGER**

Make sure no bystanders or animals are within 25 feet of the Implement when dumping contents from the hopper. Hopper contents, which may exceed several thousand pounds, could fall and crush a bystander or an animal resulting in possible injury or death. (STL-20)



**DANGER**

Never allow riders in the implement hopper bin. Hopper contents, which may exceed several thousand pounds, could fall and crush a rider resulting in possible injury or death. (STL-21)



**WARNING**

Hopper contents, which may exceed hundred pounds, could fall and crush a person resulting in possible injury or death. Use extreme care when handling or working on or in load hopper bin. (STL-22)



**DANGER**

Never place body parts under a raised conveyor when servicing or removing a jam. Accidental or unanticipated movement of the lifted conveyor may cause a sudden drop of the unit which could result in injury or death by crushing. If the conveyor is raised in the event of a material jam, or if someone is going to get under the conveyor for any reason, always securely block up the conveyor safety to prevent it from falling. (STL-24)

## **CONNECTING OR DISCONNECTING IMPLEMENT SAFETY INSTRUCTIONS AND PRACTICES**



**WARNING**

Never unhitch without using the Tongue Jack. The Tongue is very heavy. Attempting to lift the Tongue without using the Tongue Jack could cause strains or other injury. Allowing the tongue to fall suddenly and unexpectedly could result in crushing injury. Use the Tongue Jack for lifting the Implement only. Overloading the Tongue Jack can cause failure with possible serious bodily injury or even death. (STI-04)

# SAFETY

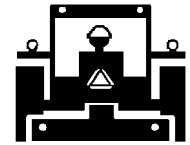
## TRANSPORTING SAFETY INSTRUCTIONS AND PRACTICES



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)



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)



Transport only at speeds where you can maintain control of the equipment. Serious accidents and injuries can result from operating this equipment at high 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 proper transport speeds for you and the equipment. Make sure you abide by the following rules:

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 transport speed not to exceed 20 mph (30 kph) for transporting this equipment.

Test the equipment at a slow speed in turns. Increase the speed through the turn only after you determine that the equipment can be operated 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 turning speed for you and this equipment before operating on roads or uneven ground.

Only transport the Tractor and Implement at the speeds which allow you to properly control the equipment.



Be aware of the operating conditions. Do not operate the Tractor with weak or faulty brakes or worn tires. 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)



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-01)

# SAFETY

## SAFETY



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-06)



Your driving vision may be reduced or impaired by the tractor, cab, or implement. Before driving on public roadways identify any limited vision areas, and make adjustments to your operating position, mirrors, and the implement transport position so that you can clearly see the area where you will be traveling, and any traffic that may approach you. Failure to maintain adequate vision of the public roadway and traffic can result in serious injury or even death. (STI-10)



Raise the unit to the transport position and secure with the retaining pins before traveling on public roads and when storing. (STL-15)

## MAINTENANCE AND SERVICE SAFETY INSTRUCTIONS AND PRACTICES



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. Disconnect and remove the Implement hydraulic hoses from the tractor prior to starting any maintenance or repair work. (STL-17)



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



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)



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)



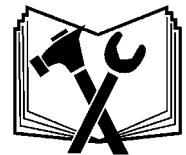
# SAFETY



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



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)



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)



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

## 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



Always disconnect the auxiliary hydraulic couplers from the Power Unit before performing service on the Implement. Never work on the Implement with the Power Unit auxiliary hydraulics connected. Rotating parts could turn without warning and cause immediate entanglement, injury or death. (SPU-31)



Ensure any remote starting system is inoperative before servicing or cleaning the machine. Inadvertent engine start up could result in entanglement or runover causing serious injuries or death. (SSB-17)

# SAFETY



Use extreme care when climbing onto the Equipment to perform repairs, maintenance, and cleaning. Use proper stands and ladders to access areas that cannot be reached from ground level. Slipping and falling off the Equipment can cause serious injury or death. (SSB-25)



All Safety Shields, Guards and other safety devices including (but not limited to) Deflectors, Steel Guards and Gearbox Shields must be used and maintained in good working condition. All safety devices should be inspected carefully at least daily for missing or broken components. Missing, broken, or worn items must be replaced at once to reduce the possibility of injury or death from thrown objects, entanglement, or contact. (SSM-07)



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



## WARNING

**Cancer and Reproductive Harm** [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

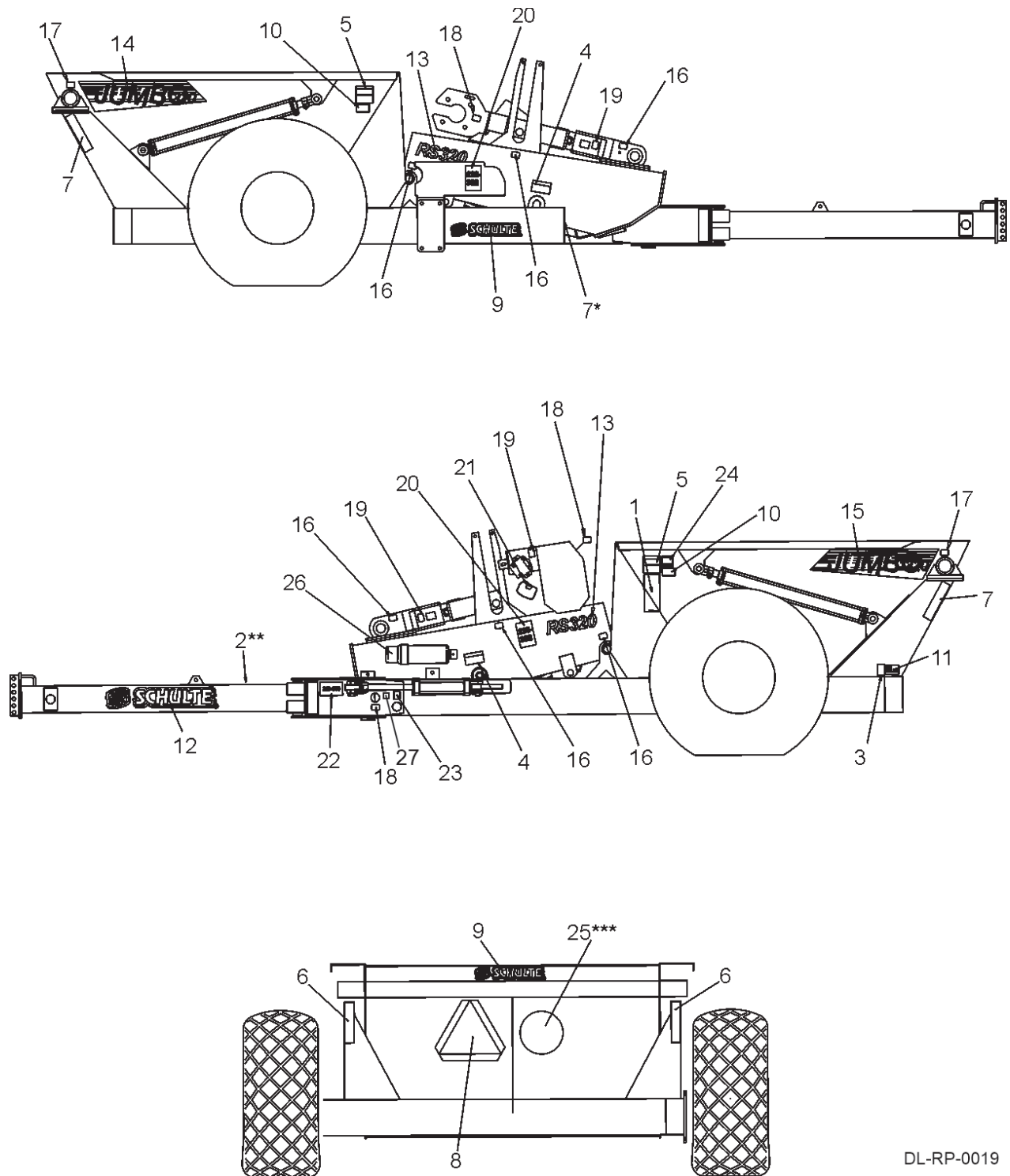
## CONCLUDING SAFETY INSTRUCTIONS AND PRACTICES

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

## Decal Location



DL-RP-0019

# SAFETY

## SAFETY

ITEM	PART	QTY.	TYPE	DESCRIPTION
1.	226-438	1	DANGER	Multi Hazard
2.	226-374	1	DANGER	Failure to Follow
3.	226-004	1	LOGO	FEMA Member
4.	226-020	2	CAUTION	Remove Transport Pins
5.	226-151	2	DANGER	Thrown Rock Hazard
6.	226-153	2	REFLECT	Red Reflector
7.	226-154	3	REFLECT	Amber Reflector
8.	226-013	1	REFLECT	SMV Sign
9.	226-117	2	LOGO	Schulte Small
10.	226-334	2	DANGER	Crushing Hazard
11.	226-100	1	SER PLT	Serial Number Plate
12.	226-118	1	LOGO	Schulte Large
13.	226-143	2	NAME	RS320
14.	226-038	1	NAME	JUMBO 320 (Right)
15.	226-039	1	NAME	JUMBO 320 (Left)
16.	226-180	6	INSTRUCT	Grease Interval 4hrs
17.	226-181	2	INSTRUCT	Grease Interval 8hrs
18.	226-182	3	INSTRUCT	Grease Interval 50hrs
19.	226-183	3	INSTRUCT	Oil Interval 8hrs
20.	226-382	2	DANGER	Entanglement
21.	226-446	1	DANGER	Guard Missing
22.	226-386	1	WARNING	Shearing Hazard
23.	226-431	1	WARNING	Jack Stand - 2500 LB.
24.	226-513	1	WARNING	Use Genuine Schulte Parts
25.	226-628	1	IMPORTANT	20 MPH Speed Symbol
	226-630	1	IMPORTANT	30 KMP Speed Symbol
26.	280-201	1	-----	Manual Canister
	90-010C	1	-----	Operator's Manual
27.	226-659	1	NOTICE	Park on level ground Max 10% ground slope

\* Trim to Fit




\*\* Located on Top of Swing Arm

\*\*\* Canadian Units get 30 KMP Decal - Others get 20 MPH Decal

**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

## Decal Description

<b>⚠ WARNING</b>		
		
<p><b>TO AVOID DEATH OR SERIOUS INJURY FROM HIGH PRESSURE HYDRAULIC OIL LEAKS PENETRATING SKIN:</b></p> <ul style="list-style-type: none"> <li>• DO NOT OPERATE equipment with oil or fuel leaks.</li> <li>• KEEP all hydraulic hoses, lines and connections in good condition and tight before applying system pressure.</li> <li>• Relieve hydraulic pressure before disconnecting lines or working on the system.</li> <li>• REMOVE and replace hose if you suspect it leaks. Have dealer test it for leaks.</li> </ul> <p><b>HIGH PRESSURE FLUID LEAKS CAN BE INVISIBLE. WHEN CHECKING FOR HYDRAULIC LEAKS AND WORKING AROUND HYDRAULIC SYSTEMS:</b></p> <ul style="list-style-type: none"> <li>• DO NOT use hands to check for leaks.</li> <li>• ALWAYS WEAR safety glasses with side shields (marked to comply with ANSI Z87) and impenetrable gloves.</li> <li>• USE paper or cardboard to search for leaks.</li> <li>• KEEP hands and body AWAY from pin holes and nozzles ejecting hydraulic fluid.</li> <li>• Hydraulic fluid may cause gangrene if not surgically removed immediately by a doctor familiar with this form of injury.</li> </ul> <p style="text-align: right;">226-438_1</p>		

<b>⚠ WARNING</b>		
		
<p><b>TO AVOID DEATH OR SERIOUS INJURY WHEN TOWING EQUIPMENT:</b></p> <ul style="list-style-type: none"> <li>• DO NOT TOW with trucks or other vehicles.</li> <li>• ONLY transport with properly sized and equipped tractor. (see Operator's Manual)</li> <li>• ATTACH implement SAFETY CHAIN to tractor.</li> <li>• CHECK SMV sign, reflectors and warning lights for visibility behind unit.</li> <li>• TURN ON tractor flashing warning lights.</li> </ul> <p><b>TO AVOID LOSS OF TOWING CONTROL:</b></p> <ul style="list-style-type: none"> <li>• DO NOT tow at speeds over 20 mph.</li> <li>• REDUCE SPEED on inclines, in turns and in poor towing conditions.</li> </ul> <p style="text-align: right;">226-438_2</p>		

# SAFETY

## SAFETY

### ⚠ WARNING

#### TO AVOID EQUIPMENT AND GRASS FIRES:

- CLEAR AWAY grass or debris from slip clutches, gearboxes, drivelines and decks.

#### TO AVOID FIRE IGNITION:

- DO NOT ALLOW BLADES TO CONTACT rocks, metal or solid objects.



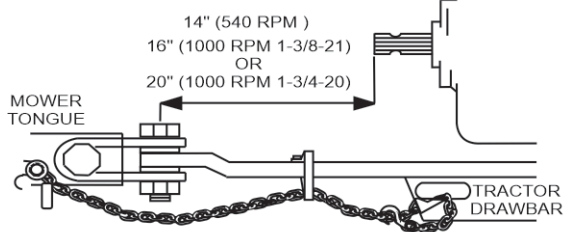
226-438\_3



### IMPORTANT

Required for Standard Pull Type Units.

226-438\_4



Attach Safety Chain securely.

226-438



### ⚠ WARNING

Rated Vertical: 2500 lbs  
Loads Side: 700 lbs

#### TO AVOID SERIOUS INJURY:

- Fully engage jack retaining pin.
- DO NOT exceed rated loads.










226-431

### ⚠ CAUTION

↓ REMOVE TRANSPORT PINS BEFORE OPERATING ↓

226-020

# SAFETY

 <b>DANGER</b>			
<b>FAILING TO FOLLOW SAFETY MESSAGES AND OPERATING INSTRUCTIONS CAN CAUSE DEATH OR SERIOUS INJURY TO OPERATOR OR OTHERS IN THE AREA.</b>			
<b>1. READ MANUAL.</b>  226-374	<b>2. NO RIDERS, NO CHILDREN OPERATORS.</b> 	<b>3. USE SAFETY SHOES, HARD HAT, SAFETY GLASSES, SEATBELT, &amp; ROPS</b> 	<b>4. BLOCKUP SECURELY BEFORE WORKING UNDER.</b> 
<ol style="list-style-type: none"> <li>1. Study and understand Operator's Manuals, Safety Signs, and Instructional Decals for tractor &amp; implement to prevent misuse, abuse &amp; accidents. Learn how to stop engine suddenly in an emergency. Be alert for passers by and children.</li> <li>2. Allow no children on or near implement or tractor. Allow no riders on tractor or implement. Falling off can cause death or serious injury from being run over by tractor or implement or contact with rotating components.</li> <li>3. Operate only with tractor having Roll-Over Protective Structure (ROPS) and with seatbelt fastened securely and snugly to prevent death or serious injury from falling off tractor or tractor overturn. Personal Protective Equipment such as Hard Hat, Safety Glasses with side shields (marked to comply with ANSI Z87), Safety Shoes, and Ear Plugs are recommended.</li> <li>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 death or crushing injury from sudden inadvertent dropping. Make certain that area is clear before lowering.</li> <li>5. Before transporting, put Lift Lever in Lift (Detent) position and follow traffic codes. Slow down at night, in turns and on hillsides.</li> <li>6. Make certain that SMV sign, Warning Lights and Reflectors are clearly visible</li> <li>7. Do not back or operate implement in the reverse direction, possible rocks or debris can fly out and cause death or serious injury.</li> <li>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 death or serious injury.</li> </ol>			
<b>5. ALWAYS ATTACH TOW CHAIN</b> 	<b>6. USE SMV, LIGHTS AND REFLECTORS.</b> 	<b>7. DO NOT OPE.RATE WITH UNIT IN REVERSE DIRECTION</b> 	<b>8. DO NOT MOUNT OR DISMOUNT WHILE MOVING.</b> 


**DANGER**



**THROWN ROCK HAZARD  
KEEP AWAY**

- DEATH OR SERIOUS INJURY CAN RESULT FROM THROWN ROCK
- KEEP OTHERS AWAY
- STAY ALERT

226-151


**DANGER**

226-446



**GUARD MISSING  
To Avoid Death Or Serious Injury Do Not Operate**

**NOTICE**

Do not tow at speeds greater than 20 MPH(30 KM/H).  
 Ensure mass of towing vehicle is at least 2/3 times the mass of the towed machinery.  
 Be sure to park on level ground to a maximum of 10% ground slope.

226-659

## SAFETY

## SAFETY

### **WARNING**

#### TO AVOID DEATH OR SERIOUS INJURY:

- ONLY use genuine SCHULTE replacement parts, which have been validated and tested to use on Schulte equipment by the manufacturer.
- The equipment manufacturer cannot verify the material or structural integrity of third-party supplied non-genuine replacement parts.
- Using non-genuine parts can result in the part failing, creating hazardous conditions for operator and bystanders.

Contact local dealer or SCHULTE  
about repair parts at:  
PO BOX 70, Englefeld,  
Saskatchewan Canada S0K 1N0  
Customer Service: 306-287-3715.  
Email: [info@schulte.ca](mailto:info@schulte.ca)



[www.algqr.com/swe](http://www.algqr.com/swe)

### **WARNING**

#### Cancer and Reproductive Harm

[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

226-513

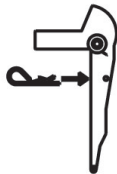
### **WARNING**

#### CRUSHING/SHEARING HAZARD



#### To Avoid Serious Injury.

Keep Fingers Away From Adjusting  
Holes To Prevent Crushing/Shearing  
Off.



Fasten Retaining Pin After Installing  
Wedge Lock.

## SAFETY

## SAFETY



# 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 section 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 healthful 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 Training Requirements

**Title 29, Code of Federal Regulations Part 1928.57(a)(6). [www.osha.gov](http://www.osha.gov)**

Operator instructions. At the time of initial assignment and at least annually thereafter, the employer shall instruct every employee who operates an agricultural tractor and implements in the safe operating practices and servicing of equipment with which they are or will be involved, and of any other practices dictated by the work environment.

Keep all guards in place when the machine is in operation;

Permit no riders on equipment

Stop engine, disconnect the power source, and wait for all machine movement to stop before servicing, adjusting, cleaning or unclogging the equipment, except where the machine must be running to be properly serviced or maintained, in which case the employer shall instruct employees as to all steps and procedures which are necessary to safely service or maintain the equipment.

Make sure everyone is clear of machinery before starting the engine, engaging power, or operating the machine.

### 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 operation if bystanders or passersby come within 300 feet.

### Child Labor Under 16 Years of Age

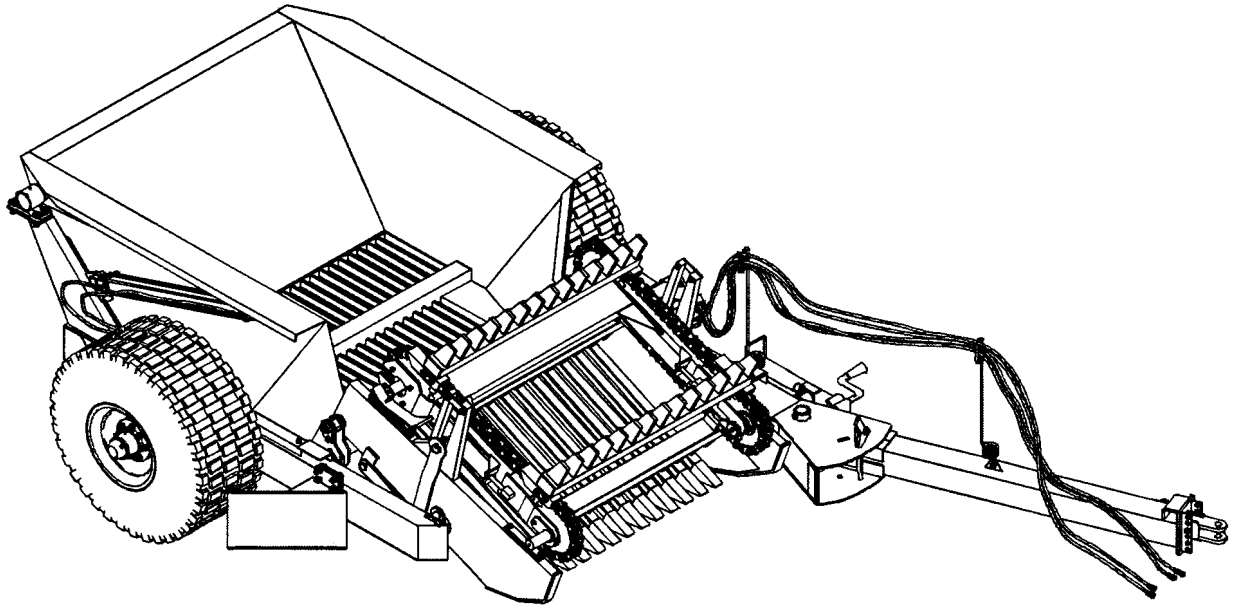
Some regulations specify that no one under the age of 16 may operate power machinery. It is your responsibility to know what these regulations are in your own area or situation. (Refer to U.S. Dept. of Labor, Employment Standard Administration, Wage & Home Division, Child Labor Bulletin #102.)

# INTRODUCTION SECTION

Introduction Section 2-1

# INTRODUCTION

FC-0002



Your RS320 Jumbo Rock Picker is designed for picking surface rock 2"(51mm) to 28" (711 mm) in diameter. With proper maintenance as described in this manual, your Rock Picker 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.

When ordering replacement parts for the rock picker, be sure to specify the serial number. The serial number is located on the rear, left upright on the main frame.

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 RS320.

For the purpose of this Schulte equipment, the following definitions apply.

**Left Hand Side:** Side which is to the left when the operator is facing in the normal forward direction of the tractor.

**Right Hand Side:** Side which is to the right when the operator is facing in the normal forward direction of the tractor.

# 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 implement
2. Fill out the Warranty Card in full. Be sure to answer all questions, including the Serial Number of the implement. 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 implement.

3. Record the Rock Picker 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 implement.



## WARNING

**TO AVOID DEATH OR SERIOUS INJURY:**

- ONLY use genuine SCHULTE replacement parts, which have been validated and tested to use on Schulte equipment by the manufacturer.
- The equipment manufacturer cannot verify the material or structural integrity of third-party supplied non-genuine replacement parts.
- Using non-genuine parts can result in the part failing, creating hazardous conditions for operator and bystanders.

Contact local dealer or SCHULTE about repair parts at:  
PO BOX 70, Englefeld,  
Saskatchewan Canada S0K 1N0  
Customer Service: 306-287-3715.  
Email: [info@schulte.ca](mailto:info@schulte.ca)



[www.algqr.com/swe](http://www.algqr.com/swe)



## WARNING

**Cancer and Reproductive Harm**

[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov) 226-513

# INTRODUCTION



## **SCHULTE INDUSTRIES LIMITED - RS320 Jumbo Rock Picker**

### **GENERAL STATEMENT AFFECTING ALL SCHULTE WARRANTY**

**Schulte Industries Ltd.** warrants to the original purchaser only, that in the event of any defect in material or workmanship in the product sold by Schulte Industries, the subject of this warranty ("the goods") during the warranty period mentioned below the manufacturer will provide the coverage 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.

**Any work done to the product without being authorized by Schulte, may not be covered by Schulte.**

#### **WARRANTY COVERAGE: All coverage applies to manufacturer's defects only.**

##### **For Commercial, Agricultural, and Government Use**

- Structural Warranty is 1 year from the date of purchase.
- Component is 1 year from the date of purchase.
- Tires and Rims are covered for 1 year against manufacturer's defects only.

##### **For Rental Use**

- Structural warranty is 30 days from the first in-service date.
- Component Warranty is 30 days from the first in-service date.
- Tires and Rims are covered for 1 year against manufacturer's defects only.

Coverage includes replacement parts and labor.

Only Schulte replacement parts will qualify for coverage under this warranty.

##### **Where legislation allows:**

- The dealer is responsible for any labor charges exceeding a reasonable amount as determined by the manufacturer.
- The customer is responsible for the transportation costs of the product or parts to the dealer for repair.
- Ground freight charges for shipping new warrantable replacement parts to the dealer or customer will be covered by Schulte. **Only ground transportation will qualify for reimbursement.**

# INTRODUCTION

## **CONDITIONAL COVERAGE**

All warranty is conditional upon:

- Care, Maintenance and Operation in accordance with the manufacturer's specifications and recommendations (as referred to in the "Operator's Manual") supplied with the product.
- Submission of the Warranty Registration immediately upon sale of the product.
- The Pre-Delivery Inspection sheet must be sent with the Warranty Registration. Failure to comply, **MAY** result in warranty claims being denied.

## **EXCLUSIONS**

This warranty does not extend to:

- Damage or deterioration after delivery from the manufacturer not attributable to defective material or workmanship.
- A Product of Schulte's that has been physically altered without the approval of the manufacturer.
- Any goods which have sustained damage or deterioration due to encounters with foreign objects for which the product is not intended, inadequate or faulty assembly, improper or inadequate maintenance, neglect, or abuse.
- Shop supplies such as the use of tools, oil or grease used in the repair or replacement of a warrantable part or component.
- Normal wearing parts such as sprockets, conveyor chain, drive chain, and batt teeth.
  - Extending the life of the roller chains and the conveyor chain means proper lubrication and adjusting as required to maintain proper tension.
  - Extending the life of the batt/teeth/drum requires that teeth be hard surfaced when the original hard surface has worn down.
  - Extending Sprocket life requires proper chain tension and proper alignment of the sprockets.

## **THE WARRANTY CLAIM PROCESS:**

- A Warranty Claim must be submitted within (30) days of the repair.
- The dealer must allow for the examination of the goods by the manufacturer or one of its agents, when requested by the manufacturer to verify that the goods are defective in material or workmanship.
- The Dealer must keep the failed part until the claim is processed, to allow Schulte Industries the option of further examination of the part.

*Further examination may mean that pictures are sent, or that the part be returned to Schulte.*

- A Return Goods Authorization (RGA) must be sent with any returned part.
- Schulte will reimburse ground freight only on failed parts that are returned for examination. Any other types of freight will not be covered unless authorized on the RGA.

**NOTE:** For warranty service or parts the unit can be taken to any authorized Schulte dealer.

## **Warranty Contacts:**

All warranty questions can be emailed to [info@schulte.ca](mailto:info@schulte.ca) or phone Schulte Industries at 1-800-404-6044. Schulte reserves the right to change and modify this warranty policy at any time.



# ASSEMBLY SECTION

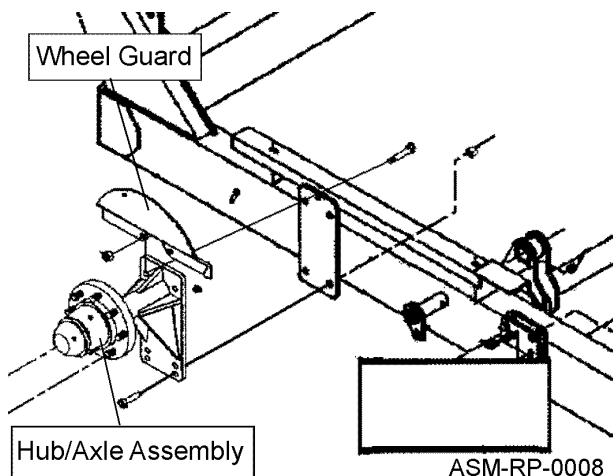
Assembly Section 3-1

# ASSEMBLY

## ASSEMBLY

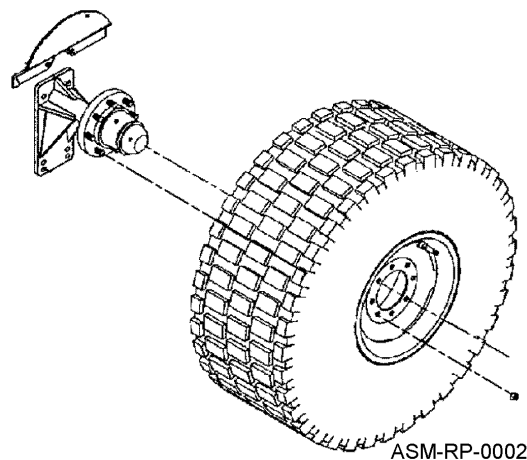
### HUB AXLE ASSEMBLY

Bolt the hub/axle assemblies to the main frame using (4) 5/8" x 2" bolts, (4) 5/8" x 2-1/2" bolts, and (8) 5/8" locknuts. Use the 5/8" x 2-1/2" bolts to fasten the wheel guards to the axle assembly. A tab is welded into the axle assembly to prevent incorrect installation. Bolt orientation is important to prevent tire damage.



### TIRE & RIM ASSEMBLY

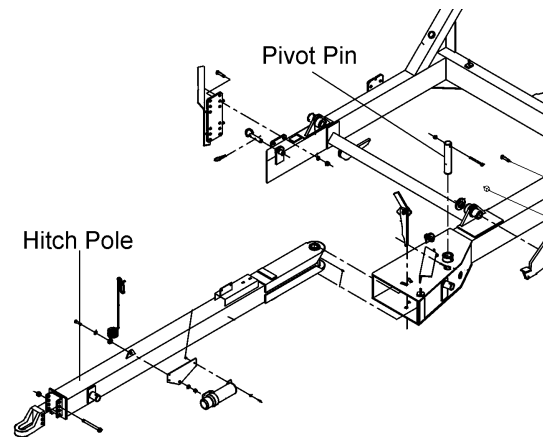
Install the tire/rim assemblies onto the hubs using the six wheel nuts per side. Inflate tires to 35 PSI pressure. Check tightness of wheel nut, 5/8" wheel nuts should be torqued to 170 ft. lbs.



# ASSEMBLY

## HITCH POLE ASSEMBLY

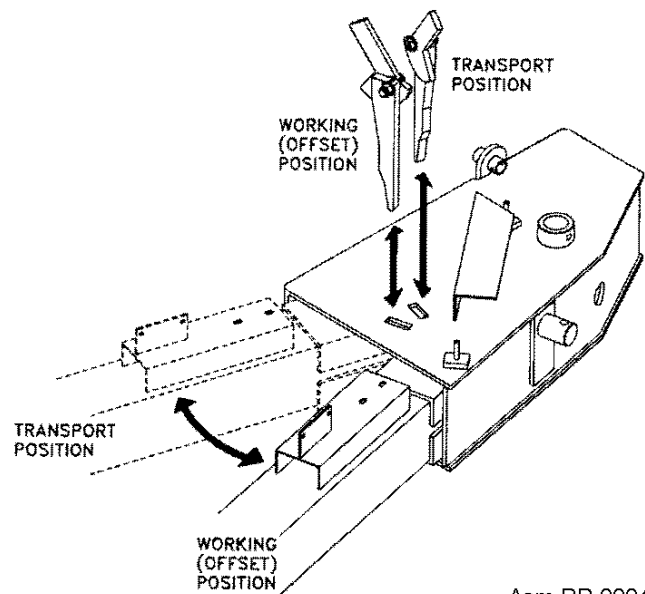
Install the hitch pole into the bell of the main frame using the 2" pivot pin. Secure the pivot pin to the bell using a 1/2" x 4" bolt and lock nut.



ASM-RP-0003

## WEDGE LOCK ASSEMBLY

Swing the hitch into working position, and drop the wedge lock assembly into slot of the bell assembly. Install the 1/4" lynch pin. Use of wedge lock is required with or without hydraulic swing option.



Asm-RP-0004

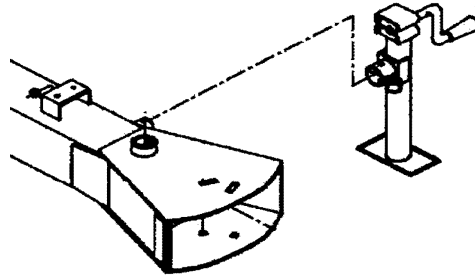
ASSEMBLY

# ASSEMBLY

## ASSEMBLY

### HITCH JACK ASSEMBLY

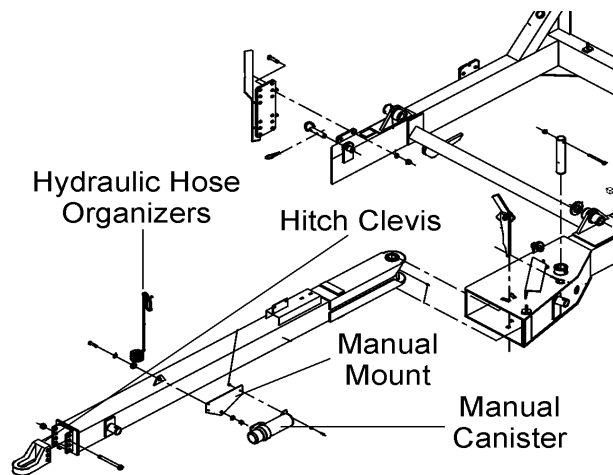
Install the hitch jack onto it's mounting spot on the main frame



ASM-RP-0009

### HYDRAULIC HOSE BRACKET ASSEMBLY

- 1 . Bolt the hydraulic hose organizers to the tabs on the hitch pole and main frame using a 5/8" x 1-3/4" bolt, lock ALWAYS leave some slack in the tractor hose assemblies to allow for turning or travelling over rough ground.
- 2 . Bolt the manual canister to the manual mount using (3) 1/4" x 1" bolts, washers and lock nuts.
- 3 . Install the hitch clevis in the front of the hitch pole using (3) 3/4" x 6" bolts and (3) lock nuts and flat washers. On the main frame, add the manual mount to the outside of the hose organizer.



ASM-RP-0006

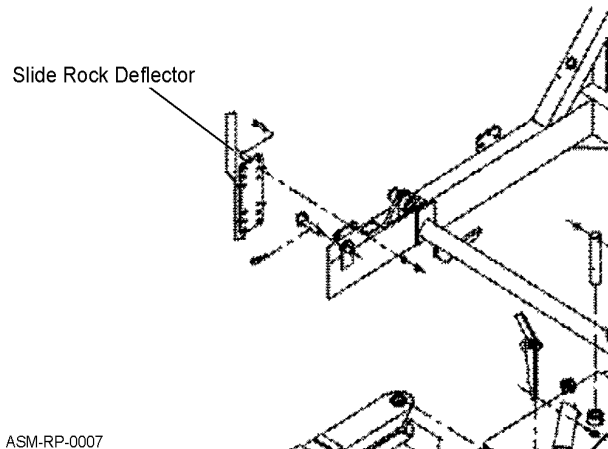


**NEVER STAND BETWEEN THE TRACTOR AND THE UNIT WHILE THE TRACTOR IS BEING BACKED UP FOR HOOK UP TO THE HITCH.**

# ASSEMBLY

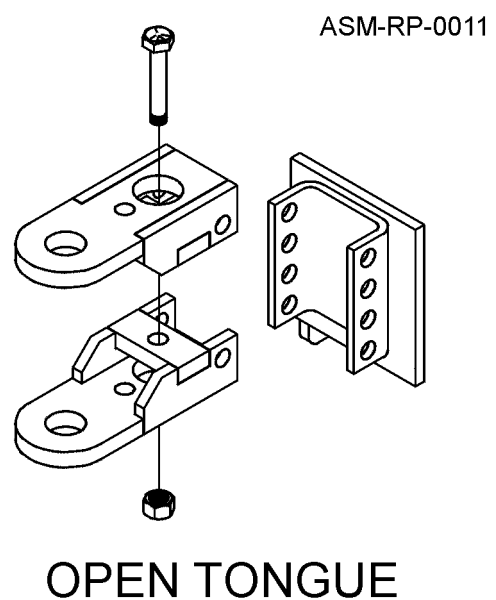
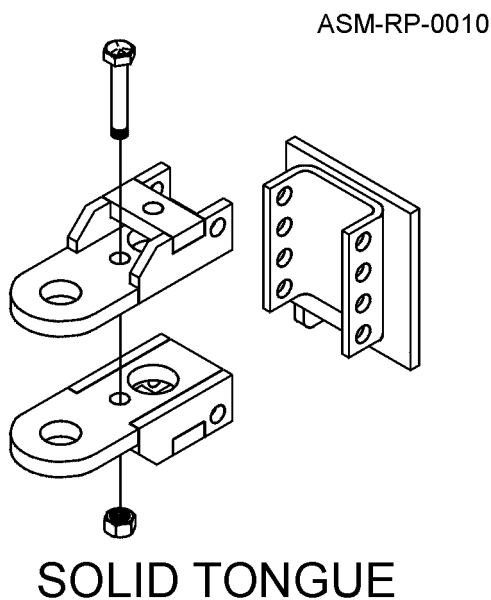
## **ROCK DEFLECTOR AND GRATE GUARD ASSEMBLY**

1. Bolt the side rock deflector to the main frame using (4) 5/8" x 2-1/4" bolts and locknuts.
2. Apply grease to all grease fittings on the rock picker. Oil the drive chain. Check that all bolts are secure.
3. Refer to the operator's manual for operation and safety instructions.



## **HITCH CLEVIS CONFIGURATION**

The clevis tongue can be bolted together in two configurations, solid or open, depending on your requirements. To change the clevis configuration, remove the 3/4" x 2-1/2" bolt, flip the clevis halves around and reinsert the bolt into the specified hole.



# ASSEMBLY

## TRANSPORT LIGHT INSTALLATION

### Installation of Lights

The light assemblies are installed onto the left and right rock deflector uprights. Drill 3/8" diameter holes as shown and install lights with 5/16" x 3/4" bolts and lock nuts. Install the lights with the red and amber lenses facing to the rear, with the amber on top.

### Wiring Harness

The seven pin plug and wiring harness is pre-wired with the 6' leg to attach to the left hand light assembly and the 12' leg to attach to the right hand light assembly.

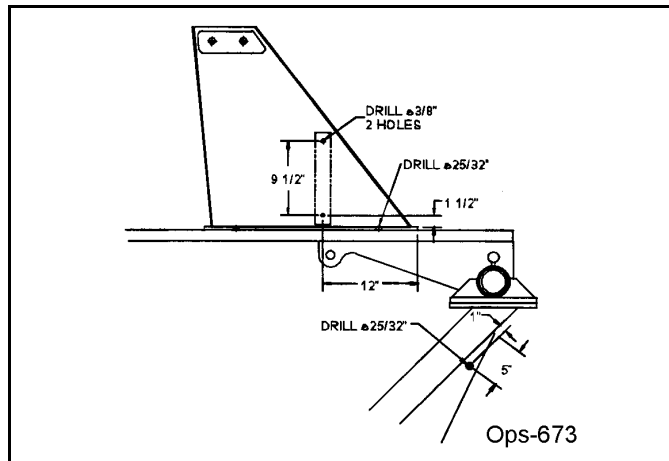
Drill 25/32" diameter holes through the bucket lip at the open mount hole at the rear of the deflector uprights and on the frame uprights as shown. Feed the harness legs through the holes in the frame uprights from the inside and through the bucket lip from the bottom. Leave 24" of slack wire between the two holes. The wiring harness plugs are colored coded for connection to the appropriately colored lamp. Route the right leg under the hydraulic shield along the rearframe. Route the harness to the front of the picker under the hydraulic shields. There should be approximately 4' to 5' of harness extending past the hitch point for connection to the tractor.

### Circuit Testing

The seven pin plug is wired as follows:

The lights should operate in unison with your tractor lights.

Terminal 1	Ground
Terminal 3	LH Turn & Flash
Terminal 5	RH Turn & Flash
Terminal 6	Tail Lamps



# ASSEMBLY

## **PRE DELIVERY CUSTOMER CHECKLIST**

- ☐ Are the Tires clear of the Mainframe?
- ☐ Are all hoses tight and do not leak?
- ☐ Are all decals in place? See manual for decal description and placement.
- ☐ Are all bolts tight?
- ☐ Have all hoses been properly routed so that hoses do not kink or bind when Rock Picker is articulated through all motions
- ☐ Is machine equipped with proper operator protection?
- ☐ Are Reel Drive Chains tightened? Is Hydraulic drive chain tightened?
- ☐ Does implement operate smoothly at normal operating speed? Implement should not vibrate excessively.



# OPERATION SECTION

Operation Section 4-1

# OPERATION

## SCHULTE RS320 OPERATION INSTRUCTIONS

SCHULTE RS320 Jumbo Rock Picker is manufactured with quality material by skilled workers. The rock picker is designed for picking surface rock 2"(51mm) to 28" (711 mm) in diameter. 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 Rock Picker, tractor, or a thrown object. Do not operate the Rock Picker 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 RS320 Rock Picker and are not necessarily of a RS320 Rock Picker. 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 RS320 and tractor operation and all associated safety practices before operating the RS320 and tractor. Proper operation of the RS320 Rock Picker, 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.

**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. OPS-U- 0001

READ, UNDERSTAND, and FOLLOW the following Safety Messages. Death or serious injury 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)



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!**



# OPERATION

## **1. STANDARD EQUIPMENT & SPECIFICATIONS**

Weight (approximate)	5522 lbs (2501 kg)
Overall Length	210" (5.334 m)
Width With Tires	117" (2.972 m)
Width Without Tires	83" (2.108 m)
Hopper Capacity	3.2 cubic yards(2.4 m <sup>3</sup> )
Dumping Height	45" (1.143 m)
Tire Size	16.5L x 16.1 SL
Power Requirement	75 hp (56 kW)
Maximum ground speed	5 mph (8 km/h)

### **Drive Options**

Hydraulic drive

Hydraulic reservoir kit

### **Options**

Rock deflector kit

Motor valve kit

# OPERATION

## OPERATION

### 2. OPERATOR REQUIREMENTS

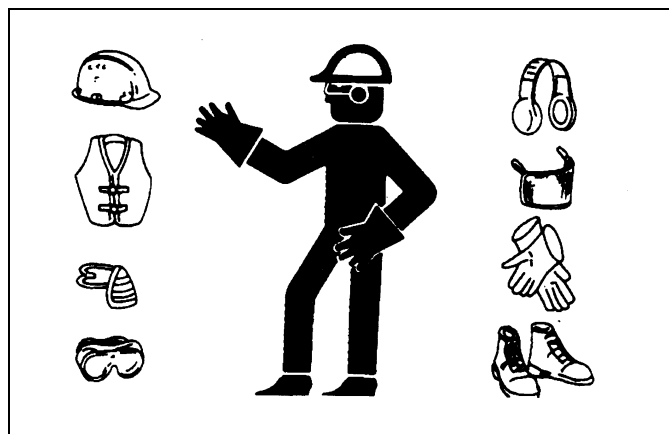
Safe operation of the unit is the responsibility of a qualified operator. A qualified operator has read and understands the implement and tractor Operator's Manuals and is experienced in implement and tractor operation and all associated safety practices. In addition to the safety messages contained in this manual, safety signs are affixed to the implement and tractor. If any part of the operation and safe use of this equipment is not completely understood, consult an authorized dealer for a complete explanation.

If the operator cannot read the manuals for themselves or does not completely understand the operation of the equipment, it is the responsibility of the supervisor to read and explain the manuals, safety practices, and operating instructions to the operator.

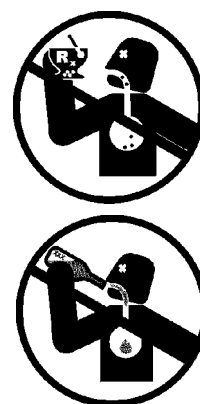
Safe operation of equipment requires that the operator wear approved Personal Protective Equipment (PPE) for the job conditions when attaching, operating, servicing, and repairing the equipment. PPE is designed to provide operator protection and includes the following safety wear:

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

- Always Wear Safety Glasses with Side Shields (marked with ANSI Z87)
- Hard Hat
- Steel Toe Safety Footwear
- Gloves
- Hearing Protection
- Close Fitting Clothing
- Respirator or Filter Mask (depends on operating conditions) OPS-U- 0002



DO NOT 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)



# OPERATION

## 3. TRACTOR REQUIREMENTS

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

### Tractor Requirements and Capabilities

- ASABE 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 .....RS320 75 hp(56kW)
- Hitch - Pull Type .....Safety chain attachment point.
- Hydraulics ..... 12 gpm @ 1750 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

### 3.1 ROPS and Seat Belt

The tractor must be equipped with a Roll-Over-Protective-Structure (ROPS) (tractor cab or roll-bar) and seat belt to protect the operator from falling off the tractor, especially during a roll over where the driver could be crushed and killed. 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 dealer. *OPS-U- 0003*



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)



### 3.2 Tractor Safety Devices

If transporting or operating the tractor and implement 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 implement. Never operate the tractor PTO with the PTO master shield missing or in the raised position. *OPS-U- 0004*

# OPERATION

## OPERATION

### **3.3 Tractor Horsepower**

The horsepower required to operate the Rock Picker depends on several operating factors including the vegetation to be cut, terrain condition, operator experience, condition of the Rock Picker and tractor, and other factors. The minimum tractor HP for the RS320 is 75 HP(56kW). Operating the implement with a larger tractor will greatly increase the risk of damaging the implement.

### **3.4 Drawbar**

Ensure that the drawbar is rated to carry the tongue weight of the implement. Also Ensure there is a safety chain attachment point on the drawbar.

### **3.5 Tractor Hydraulics**

This SCHULTE Rock Picker with hydraulic drive option, requires that the tractor have a minimum hydraulic capacity of 12 GPM @ 1750 psi (45 litres/min @ 12 MPa) measured at the remote outlets, and dual remote hydraulic circuits. PTO hydraulic drive equipped rock pickers require only 5 GPM @ 1750 PSI (19 litres/min @ 12 MPa) hydraulic capacity and single remote hydraulic circuit. Standard conveyor speed should be 20-24 batt cycles per minute with an 18.9 cu. in motor (310 cc). Large diameter rocks may require reducing conveyor speed to about 17 batt cycles per minute.

A single hydraulic circuit operates both the grate and the bucket. Once the grate lifting cylinder is fully retracted the bucket will begin to dump. Familiarize yourself with the operation of the grate and bucket before attempting field work. Connecting the grate and bucket cylinders eliminates the need for a rop pull type selector valve on the rock picker.

Tractors with an open center hydraulic system, should use a hydraulic motor valve kit. A motor valve kit should be installed as shown in the parts section. With the motor valve kit, the hydraulic oil from the motor passes through an electric solenoid valve. The push switches mounted in the tractor cab are then used to raise and lower the grate while picking.

### **3.6 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. OPS-U-0005

### **3.7 Tire Spacing**

Tractor tires should be set a minimum of 60" (1.5 m) apart measured from inside of tire to inside of tire, or maximum width possible. Refer to the tractor Operator's Manual or consult an authorized dealer for instructions to change tractor tire spacing. OPS-R-0062



# OPERATION

## **4. GETTING ON AND OFF THE TRACTOR**

Before getting onto the tractor, the operator must read and completely understand the implement and tractor operator manuals. If any part of either manual is not completely understood, consult an authorized dealer for a complete explanation. *OPS-U-0007*



**WARNING**

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



### **4.1 Boarding the Tractor**

Use both hands and equipped handrails and steps for support when boarding the tractor. Never use control levers for support when mounting the tractor. Seat yourself in the operator's seat and secure the seat belt around you.

Never allow passengers to ride on the tractor or attached equipment. Riders can easily fall off and be seriously injured or killed from falling off and being ran over. It is the operator's responsibility to forbid all extra riders at all times. *OPS-U- 0008*



**DANGER**

Never allow children to operate, ride on, or come close to the Tractor or Implement. Usually, 16-17 year-old children who are mature and responsible can operate the implement with adult supervision, if they have read and understand the Operator's Manuals, been trained in proper operation of the tractor and Implement, and are physically large enough to reach and operate the controls easily. (SG-11)



**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)



### **4.2 Dismounting the Tractor**

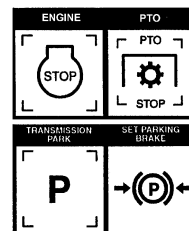
Before dismounting, park the tractor and implement on a reasonably level surface, apply the parking brake, idle the engine down, disengage the PTO, and lower the implement to the ground. Shut down the tractor engine according to the operator's manual, remove the key, and wait for all motion to completely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

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. *OPS-U- 0009*

# OPERATION



BEFORE leaving the tractor seat, lower the implement, set the parking 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)



## 5. 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 switch.
- 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. OPS-U-0028



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



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)



# OPERATION

## 6. Connecting the Rock Picker to the Tractor

Use extreme caution when connecting the RS320 to the tractor. The RS320 should be securely resting at ground level with the parking jack foot. Place a block in front of and behind wheels to prevent the RS320 from moving. Keep hands and feet out from under the RS320 and clear of pinch points between the tractor and RS320.

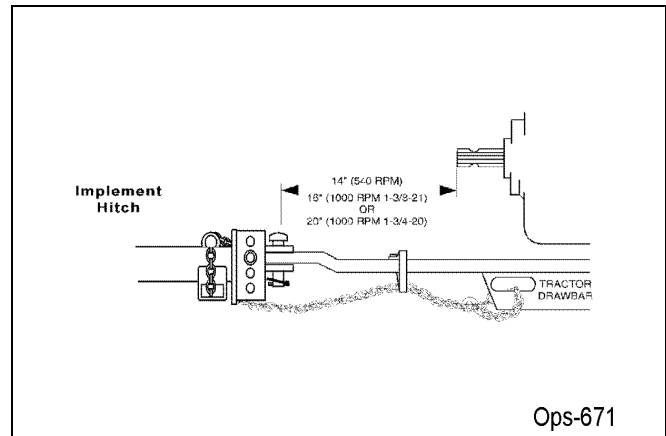


**DANGER**

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)

### 6.1 Connecting the Rock Picker Hitch to the Tractor

1. Ensure the tractor is equipped with a drawbar and has a safety chain attachment point.
2. Using the parking jack, position the tongue clevis to the height of the tractor drawbar. Adjust the front hitch clevis up or down so that the rock picker main frame is parallel to the ground or as near as possible.
3. Board the tractor and start the engine. Back the tractor to the rock picker aligning the drawbar hitch hole with the rock picker tongue clevis. Turn off the tractor engine, place the tractor in park, and set the parking brake before dismounting.
4. To attach the rock picker, place the hitch pin through the hitch clevis and drawbar hole. Then insert the lynch pin to the hitch pin and secure.
5. Once the hitch pin is secured, attach the unit safety chain to the tractor drawbar or drawbar support frame.
6. Lower the jack until the tongue is completely supported by the drawbar. Remove jack from the tongue and place on storage bracket of implement.



**CAUTION**

Do not use safety chain for towing. Replace entire chain if any link or end fitting is broken, stretched or otherwise deformed.

# OPERATION

## OPERATION

### **6.2 Safety Tow Chain**

If the implement is towed on a public roadway, a safety chain with tensile strength equal to or greater than the gross weight of the implement must be connected between the tractor and implement. This will help control the implement in the event the tongue becomes disconnected from the drawbar. Make sure the chain is attached to a secure location on the tractor and not to an intermediate support.

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. When not in use, store the safety chain to protect it from mud or standing water by wrapping the chain around the tongue. Replace the safety chain if one or more links or end fittings are broken, stretched or otherwise damaged or deformed. *OPS-U-0039*



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)

### **6.3 Connecting Rock Picker 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.

When connecting the hydraulic lines, keep 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, RS320 ports and hydraulic hose ends become contaminated, wipe clean with a rag before connecting.

Connect the hydraulic hoses to the tractor. Arrange the hydraulic hoses on the hose organizer. Allow some slack in the section of hoses between the tractor and hose clamp, otherwise the hose may tighten while traveling over rough terrain and cause damage to the ports, brackets, or hoses.



Ops-674



Check the tractor hydraulic fluid level after filling cylinders as the cylinders will take several liters out of the tractors hydraulic system.

# OPERATION

## **⚠ WARNING**

Do not operate this Equipment with hydraulic oil or fuel leaking. Oil and fuel are explosive and their presence could present a hazard. Do not check for leaks with your hand! High-pressure oil streams from breaks in the line could penetrate the skin and cause tissue damage including gangrene. To check for a hose leak, SHUT the unit ENGINE OFF and remove all hydraulic pressure. Wear oil impenetrable gloves, safety glasses and use cardboard to check for evidence of oil leaks. If you suspect a leak, REMOVE the HOSE and have it tested at a Dealer. If oil does penetrate the skin, have the injury treated immediately by a physician knowledgeable and skilled in this procedure. (SG-15)



OPERATION

### **Hydraulic Cylinder Priming**

Hydraulic Cylinders must be filled with hydraulic oil before operating the RS320 bucket or grate. 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.

# OPERATION

## OPERATION

### **7. PRE-OPERATION INSPECTION AND SERVICE**

Before each use, a pre-operation inspection and service of the rock picker 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 rock picker 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.



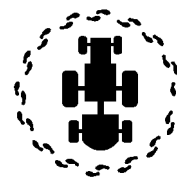
Always disconnect the main PTO Driveline from the Tractor before performing service on the Implement. Never work on the Implement with the tractor PTO driveline connected and running. Rotating Parts, or Drivelines could turn without warning and cause immediate entanglement, injury or death. (S3PT-11)



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)



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)



# OPERATION

## **7.1 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 the manufacturers recommendations. The following are some of the items that require daily service and 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 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 *OPS-U-0030*



## **7.2 Rock Picker 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.

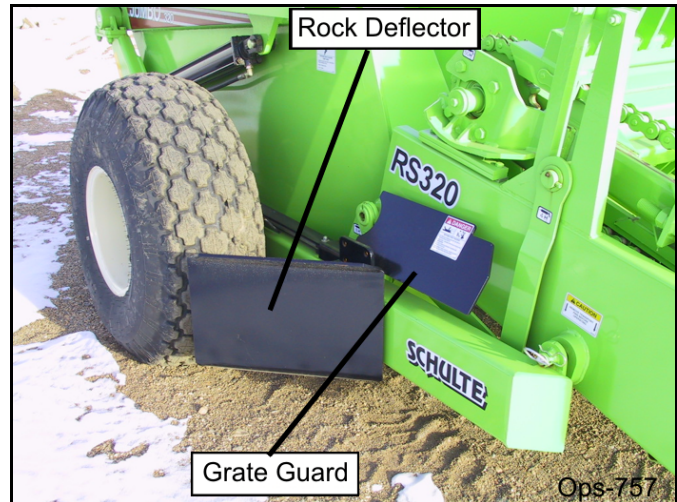
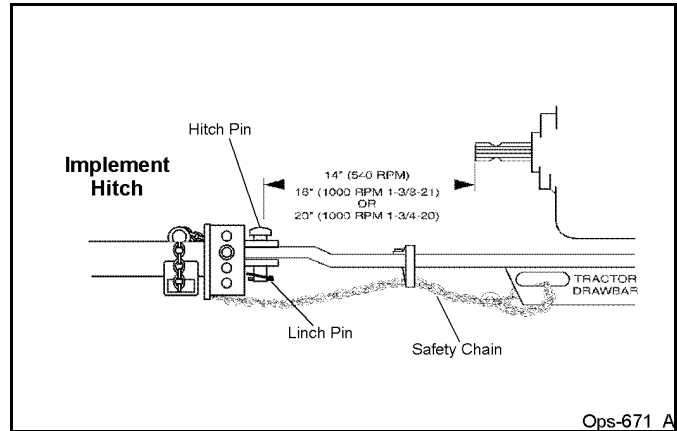
The operator's manual and safety signs affixed on the unit contain important instructions on the safe and proper use of the equipment. Maintain these important safety features on the implement in good condition to ensure the information is available to the operator at all times.

- Ensure the manual canister is secured to the equipment with the operator's manual inside.
- Ensure all safety signs are in place and legible. Replace missing, damaged, and illegible decals. *OPS-U- 0011*

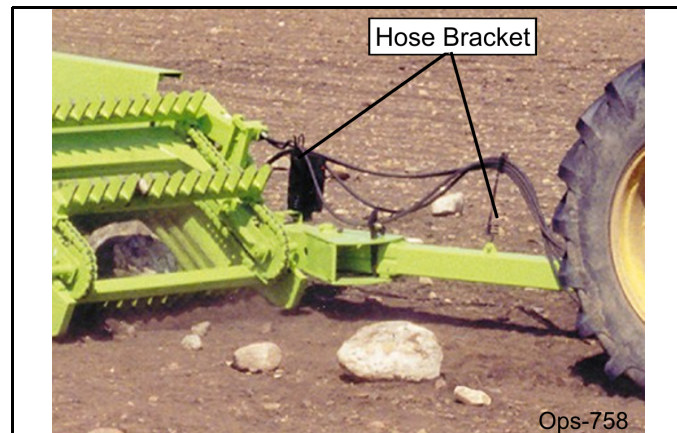


# OPERATION

- Ensure the rock picker is securely attached to the tractor drawbar with a proper size pin and lynch pin.
- Ensure that a properly rated safety tow chain is equipped securing the rock picker to the tractor.
- Ensure rock deflector and rock deflector kit are in position and not damaged. Replace worn, broken, and missing sections immediately.
- Inspect that all bolts and screws are in position and properly torqued. *OPS-RP-0001\_A*



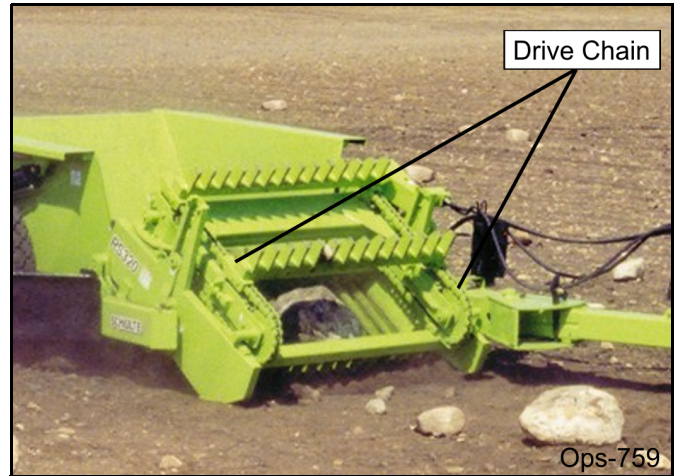
- Ensure hydraulic hose brackets are in place and bolted on correctly.
  - Ensure hydraulic hoses have enough slack while being operated or in transport.
  - Ensure hydraulic hose are connected correctly in tractor hydraulic ports and implement hydraulic ports.
- OPS-RP-0002\_A*



## OPERATION

- Perform scheduled lubrication as specified in the maintenance section.
- Ensure drive chain is lubricated as per the maintenance section of this manual.
- Ensure conveyor drive chains are tightened and adjusted according to the maintenance section of this manual. Periodically check tightness of the conveyor drive chains.
- Inspect all bolts and screws that they are in position and are properly torqued.

OPS-RP-0003\_A



- Ensure hydraulic cylinders are installed and retained correctly. Ensure the proper size pins are used to retain the cylinders in place and are secured with pins.
- Ensure bucket cylinders are raising correctly.
- Check for hydraulic oil leaks on the cylinders, 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.

OPS-RP-0004\_A



Do Not attempt to dump the Rock Picker bucket unless the Rock Picker tongue is securely attached to the tractor drawbar. The Rock Picker could tip over and will cause equipment damage and possible injury.

# OPERATION

- Inspect rock pickers tire condition, wheel bearings, and lug nut torque.
- Ensure tire pressure is to suggested specifications. Refer to maintenance sections of your operators manual. *OPS-RP-0005\_A*



Ops-761

# OPERATION

## Tractor PRE-OPERATION Inspection



Tractor ID# \_\_\_\_\_ Make \_\_\_\_\_

Date: \_\_\_\_\_ Shift \_\_\_\_\_



Before conducting the inspection, make sure the tractor engine is off, all rotation has stopped and the tractor is in park with the parking brake engaged. Make sure the implement is resting on the ground or securely blocked up and all hydraulic pressure has been relieved.

Item	Condition at Start of Shift	Specific Comments if not O.K.
The flashing lights function properly (tractor & implement)		
The SMV Sign is clean and visible (tractor & implement)		
The tires are in good condition with proper pressure		
The wheel lug bolts are tight		
The tractor brakes are in good condition		
The steering linkage is in good condition		
There are no visible oil leaks		
The hydraulic controls function properly		
The ROPS or ROPS Cab is in good condition		
The seatbelt is in place and in good condition		
The 3-point hitch is in good condition		
The drawbar pins are securely in place		
The PTO master shield is in place		
The engine oil level is full		
The brake fluid level is full, if applicable		
The power steering fluid level is full, if applicable		
The fuel level is adequate		
The engine coolant fluid level is full		
The radiator is free of debris		
The air filter is in good condition		
Proper hourly greasing is done as per Operator's Manual		

Operator's Signature: \_\_\_\_\_

**DO NOT OPERATE an UNSAFE TRACTOR or IMPLEMENT**

OPERATION

# OPERATION

## Rock Picker PRE-OPERATION Inspection



Mower ID# \_\_\_\_\_

Date: \_\_\_\_\_

**IMPORTANT:** Scan this QR Code for an electronic copy of this inspection sheet.

Inspection Sheets



[www.algqr.com/rpi](http://www.algqr.com/rpi)



Before conducting the inspection, make sure the tractor engine is off, all rotation has stopped and the tractor is in park with the parking brake engaged. Make sure the implement is resting on the ground or securely blocked up and all hydraulic pressure has been relieved.

Table 1:

Item	Condition at Start of Shift	Specific Comments if
The Operator's Manual is in the canister on the		
All safety decals are in place and legible		
The tongue/hitch connection bolts & pins are tight		
There are no cracks in tongue, hitch or implement		
Tow chain is Properly attached to the tractor &		
The hydraulic cylinders pins are properly retained		
There are no leaking or damaged hoses		
The Conveyor Rollers are in good condition, turn freely *If applicable		
Reel/Conveyor chains are adjusted correctly		
Reel/Conveyor chains are properly lubricated		
Check for damaged or missing Reel/Conveyor teeth		
Tires are properly inflated and in good condition		
Wheel lug nuts are tight		
Transport locks are in good condition & operational		
Check for damaged or missing grate teeth		
Proper hourly greasing done as per Operator's Man-		

Make: \_\_\_\_\_

Shift: \_\_\_\_\_

Operator's Signature: \_\_\_\_\_

**DO NOT OPERATE an UNSAFE TRACTOR or IMPLEMENT**

# OPERATION

## 8. DRIVING THE TRACTOR AND ROCK PICKER

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 speeds where you can maintain control of the equipment. Serious accidents and injuries can result from operating this equipment at high 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 proper transport speeds for you and the equipment. Make sure you abide by the following rules:

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 transport speed not to exceed 20 mph (30 kph) for transporting this equipment.

Test the equipment at a slow speed in turns. Increase the speed through the turn only after you determine that the equipment can be operated 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 turning speed for you and this equipment before operating on roads or uneven ground.



Only transport the Tractor and Implement at the speeds which allow you to properly control the equipment.

Be aware of the operating conditions. Do not operate the Tractor with weak or faulty brakes or worn tires. 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)



**DANGER** This Implement may be 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

## OPERATION

### 8.1 Starting the Tractor

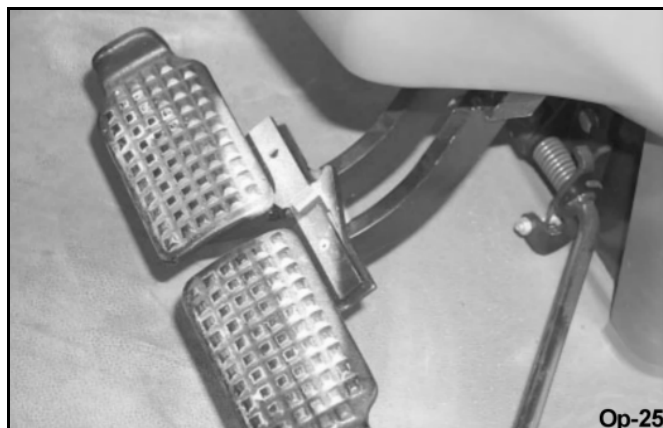
The procedure to start the tractor is model specific. Refer to the tractor operator's manual for starting procedures for your particular tractor. Consult an authorized dealer if the starting procedure is unclear. Ensure the 3-point control lever is in the lowered position and the PTO is disengaged before starting the tractor. *OPS-U-0033*



### 8.2 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 OPERATING CONDITIONS, THE BRAKE PEDALS SHOULD BE LOCKED TOGETHER TO PROVIDE THE MOST EFFECTIVE BRAKING ACTION.

Always disengage the tractor differential lock when turning. When engaged the differential lock will prevent or limit the tractor from turning. During normal conditions, locking the differential provides no benefit and should not be used. *OPS-U-0013*



#### **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.

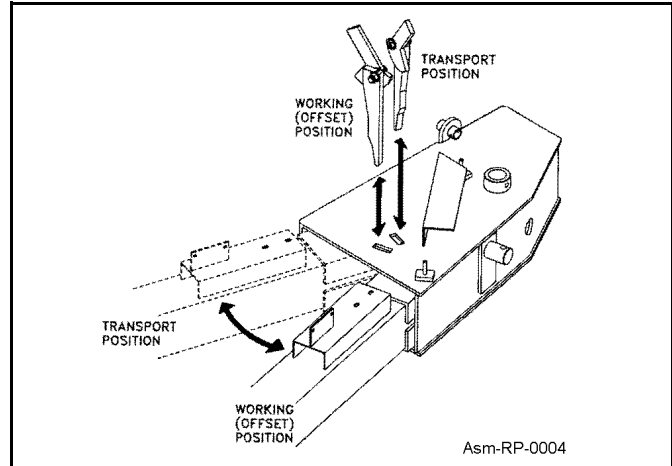
Always disengage the tractor differential lock when turning. When engaged the differential lock will prevent or limit the tractor from turning. During normal operating conditions, locking the differential provides no benefit and should not be used.

# OPERATION

## 8.3 Driving the Tractor and Rock Picker

Swing the rock picker into working position using the following procedure: Remove the wedge lock from its slot by removing the snap ring and pounding on the cam to loosen the wedge. Drive the tractor slowly ahead while turning to the left. If the pole does not swing freely place a block in front of the right tire of the rock picker. Reinstall the wedge lock into its new position and reinstall the snap ring. Use of wedge lock is required with or without hydraulic swing option.

Once pole is swinging freely start off driving at a slow speed and gradually increase your speed while maintaining complete control of the tractor and rock picker. 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.



Before starting field work remember to remove transport pins. After completing field work always prepare the machine for road transport by reinstalling the transport pins.



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 rock picker at slow speeds to determine how the tractor with the attached implement handles a turn. When operating the rock picker the overall working length of the unit is increased. Allow additional clearance for the rock picker 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.

# OPERATION

## OPERATION

### **9. OPERATING THE TRACTOR AND IMPLEMENT**

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

Before starting any operation, the operator must become familiar with the area to be worked in 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. *OPS-U- 0015*



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 great velocity. Such a situation is extremely hazardous and could result in serious injury or even death. Inspect the area for such objects before working in the area. Remove any such objects from the site. Never allow the implement to contact such objects. (STL-6)

#### **9.1 Foreign Debris Hazards**

Before rock picking, inspect the area to make sure there are no objects larger than 27" to rock pick or debris that can get entangled on to the grate. 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.

If you hit a solid object or foreign debris that is larger than 27" , stop the implement and tractor at once. Immediately idle the engine speed and disengage the PTO. Wait for all rotating motion to stop 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 drive chain or conveyor is not damaged before resuming operation.



Always wear your seat belt securely fastened and only operate the tractor and rock picker with the ROPS in the raised position. If the tractor or rock picker hits a tree stump or bump, a sudden movement could throw you off of the seat and under the tractor and rock picker. 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. *OPS-RP-0008*

# OPERATION

## **⚠ WARNING**

Be sure you have adequate knowledge of the property you will be working on. Take time to make yourself aware of any area underwater or 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)

# OPERATION

## **9.2 Ground Speed**

Ground speed for rock picker will depend upon the size of the rocks being picked. Recommended speed for efficient rock picker performance is 5 mph. Operate the implement at its full rated speed to maintain speed for rock picker operation. It is important to match conveyor speed with ground speed. Forward ground speed help propel the rocks up the grate and into the hopper. Refer to the tractor operator's manual or the tractor instrument panel for the engine speed and gear to provide the required ground speed. Make sure that the rock picker is operating at its full rated speed before entering the field to be rock picked. 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 rock picker and most efficient tractor operation. As the severity of cutting conditions increase, the ground speed should be decreased by selecting a lower gear to maintain the proper operating speed.

## **9.3 Operating the Rock Picker**

When ready for field use remember to remove the transport pins. After completing field work always prepare Adjust the reel speed to 18-20 RPM. Reel speed can be adjusted using the flow control valve on the rock picker. Adjust the lever on the flow control valve until proper reel speed is obtained then lock the lever in place using the screw on valve. We recommend that a reel speed of 36-37 RPM be initially tried. If there is a flow control adjustment on the tractor, we recommend that the rock picker flow control be set fully open and the flow adjustment be made at the tractor. To obtain 36-37 RPM, 9.6 GPM (36 liters/minute) is required. Higher speeds will cause throw over of rocks and slower speed will cause excessive batt tripping. It is important to match reel speed to ground speed. Forward ground speed help propel the rocks up the grate and into the hopper. the machine for road transport by reinstalling the transport pins.

Do not exceed 5 mph while operating the rock picker. In windrowed rock conditions slower ground speeds will be required to effectively clear the grate.



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# OPERATION

## OPERATION

When ready for dumping be sure there are no bystanders, animals, or property that can get damaged when dumping in that area. Also make sure there are no low hanging powerlines since bucket is raised considerably high when dumping.

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



Ensure that all persons are well clear of the rock picker before putting it into operation.



Always operate the rock picker with the hitch pole in the working (offset) position.



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)



Do not rock pick with two machines in the same area except with Cab tractors with the windows closed.

Use extreme care when transporting the rock picker on public highways and roads. The combination of rock picker 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.



Ensure that all persons are well clear of the rock picker before dumping the bucket. Watch for low hanging overhead lines.



Do not transport the rock picker at high speeds when it is fully loaded. Take special care while transporting a loaded rock picker over rough ground.

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

### **9.4 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.

# OPERATION

## 10. DISCONNECTING THE ROCK PICKER 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)



**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.

Before disconnecting the Rock Picker, the master switch must be disengaged and all rotation must be at a complete stop. Move the implement to a level storage location. If the implement is not resting securely on the ground, block the unit up securely before attempting to disconnect it from the tractor.

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

1. When disconnecting the implement, 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 unit 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 unit.
3. Once the unit tongue is being supported entirely by the jack, remove the hitch pin, and lynch pin.
4. Remove the hydraulic hoses from the tractor and secure to the unit to prevent contact with dirt.



**WARNING**

**SHUT DOWN** the tractor completely before servicing or adjusting any part of the machine.

# OPERATION

## OPERATION

### 11. ROCK PICKER STORAGE

Properly preparing and storing the rock picker 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:

- Thoroughly clean all dirt or debris off the implement to prevent damage from rotting grass and standing water.
- Lubricate all implements points as detailed in the maintenance section.
- Tighten all bolts and pins to the recommended torque.
- 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.
- Store the implement in a clean, dry place with implement frame resting securely on blocks or at ground level.
- Keep the hydraulic lines from sitting in water, dirt and other contaminants.
- Use spray touch-up enamel where necessary to prevent rust and maintain the appearance of the implement. *OPS-RP-0006*



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

### 12. TRANSPORTING THE TRACTOR AND IMPLEMENT

Inherent hazards of operating the tractor and implement and the possibility of accidents are not left behind when you finish working in 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. *OPS-U- 0017*

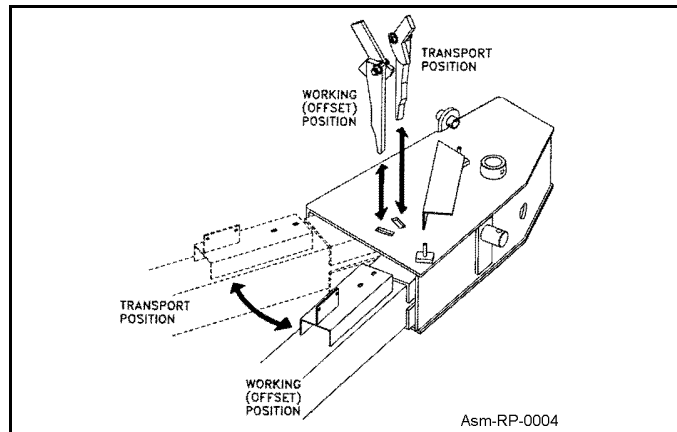
# OPERATION

## OPERATION

To set the rock picker in to transport position, remove the wedge lock from its slot by pounding on the cam to loosen the wedge. Drive the tractor slowly ahead while turning to the right. If the pole does not swing freely place a block in front of the left tire of the rock picker.

Reinstall the wedge lock in its new position and reinstall the snap ring. Use of wedge lock is required with or without hydraulic swing option.

Check local highway regulations concerning moving machinery on highways. If the rock picker obscures the tractor warning or tail lights (for example if equipped with a rock deflector kit), the rock picker must be equipped with Transport Light Kit S000-035. Refer to parts section.

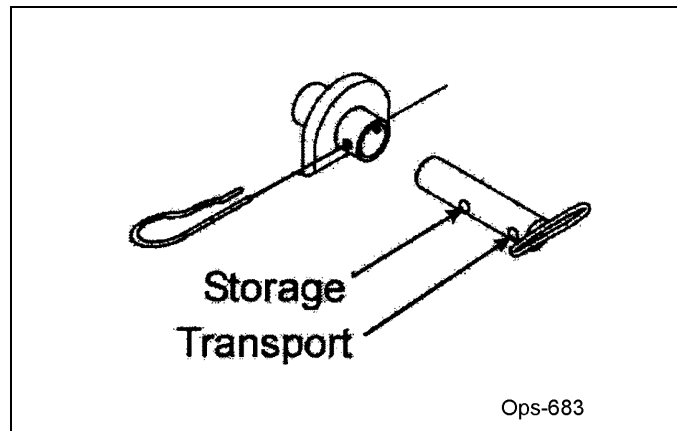


Never allow children or other persons to ride on the Tractor or Implement. Falling off can result in serious injury or death. (SG-10)



Two transport pins are provided on the grate as a safety feature to be used while transporting the machine on public roads. A hairpin is provided for holding the transport pins in place. Refer to the following illustration.

**IMPORTANT:** Remember to place the pin in the storage position before operating the hydraulic lift cylinders. OPS-RP-0007

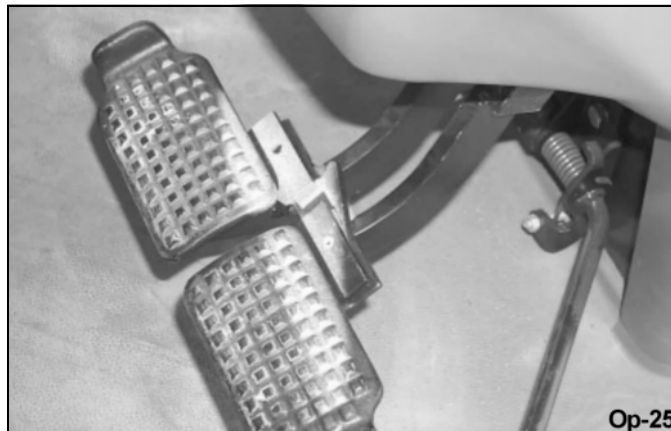


# OPERATION

## OPERATION

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 (32 kph). *OPS-U- 0018*



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

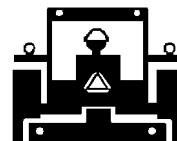
## 12.1 Transporting on Public Roadways



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



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.

# OPERATION

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. *OPS-U- 0020*



Make sure that all tractor flashing warning lights, headlights, and brake/tail lights 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 are only equipped with operating lights. Consult an authorized tractor dealer for lighting kits and modifications available to upgrade the lighting on older tractor models. *OPS-U- 0021*



When operating on public roads, have consideration for other road users. Pull to the side of the road occasionally to allow all following traffic to pass. Do not exceed the legal speed limit set in your country for agricultural tractors. Always stay alert when transporting the tractor and implement on public roads. Use caution and reduce speed if other vehicles or pedestrians are in the area. *OPS-U- 0022*

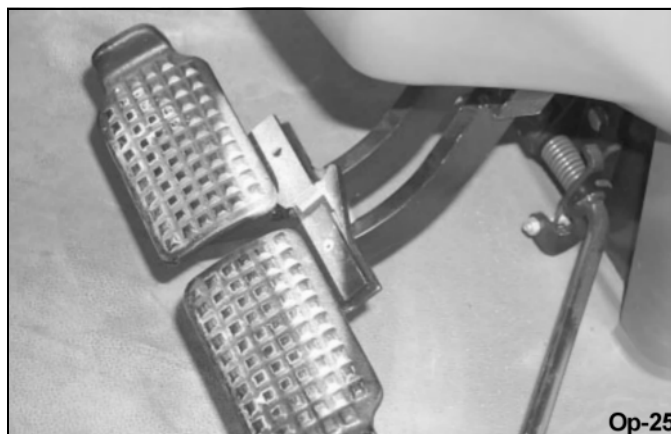


# OPERATION

## OPERATION

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 (32 kph). *OPS-U- 0018*



### **⚠ DANGER**

This Implement may be 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 steering. Slow down on rough or uneven surfaces. (STI-01)

### **⚠ CAUTION**

Always install the transport pins before transporting the machine on public roads.

### **⚠ 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-06)



### **⚠ 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. Secure wings in upright position on folding Implements using wing transport locks. (STI-7)

# OPERATION



Transport only at speeds where you can maintain control of the equipment. Serious accidents and injuries can result from operating this equipment at high 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.



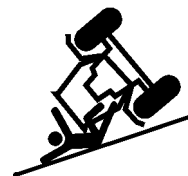
Before transporting the Tractor and Implement, determine the proper transport speeds for you and the equipment. Make sure you abide by the following rules:

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 transport speed not to exceed 20 mph (30 kph) for transporting this equipment.

Test the equipment at a slow speed in turns. Increase the speed through the turn only after you determine that the equipment can be operated 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 turning speed for you and this equipment before operating on roads or uneven ground.

Only transport the Tractor and Implement at the speeds which allow you to properly control the equipment.

Be aware of the operating conditions. Do not operate the Tractor with weak or faulty brakes or worn tires. 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)



## **12.2 Hauling the Tractor and Implement**

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. OPS-U- 0024



## OPERATION

### OPERATION

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. *OPS-U- 0025*



Arrange the chains so that when tightened, the chains are pulling downward and against themselves. Carefully tighten the securing chains or other fasteners 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. *OPS-U- 0026*



# OPERATION

## OPERATION

### **13. TROUBLESHOOTING GUIDE**

<b>Problem</b>	<b>Possible Cause</b>	<b>Remedy</b>
Conveyor does not turn	Oil not getting into hydraulic motor.	Check hydraulic connections Check tractor flow control valve
Throwing rocks over back	Conveyor speed too fast	Adjust flow control on tractor
Rocks jamming in grate	Batts too loose	Tighten conveyor chain
Excessive jerky conveyor motion	Loose drive chain	Tighten chain by adjusting motor mount
Rock thrown over sides and forward	Overfilling bucket	Dump bucket more frequently
Bucket not filling	Insufficient conveyor speed	Adjust flow control to tractor
Picking too much dirt	Poor field conditions Teeth penetrating too much	Soil should be firm and dry Minimum of surface debris Raise grate so teeth just skim surface
Conveyor slows significantly when the grate is moved	Open center hydraulic system on the tractor	Install a motor valve kit
Hydraulic lever "kick out" frequently	Detent valve pressure on tractor is set too low	Consult tractor dealer
Hydraulic motor seal is leaking	Run drive chain too loose	Tighten chain Replace seal kit



# **MAINTENANCE SECTION**

Maintenance Section 5-1

# MAINTENANCE

## GENERAL MAINTENANCE

**NOTE:** Experience has shown that the majority of breakdowns are the result of inadequate or improper service and inspection.

## DRIVE CHAIN

Apply oil periodically with a brush or spout can, preferably at least once every 8 hours of operation and after use, this allows the oil to soak into the chain joints. Use SAE30 oil as heavier oils or greases are generally too stiff to enter and fill the chain joints.

Conveyor drive chains are tightened by adjusting the tension bolts found on the conveyor side rails. The chains should be kept tight enough so that the upper section of the conveyor chain does not sag from the weight of the batts. However, DO NOT OVER TIGHTEN the conveyor chains as damage to the conveyor sprockets and bearings will result. Leave 1/2" slack in the conveyor chains.

### Important

Periodically check tightness of the conveyor drive chains.

The hydraulic drive chain should be tightened so that about 1/4" of slack remains in the bottom of the chain.

### Important

After the first three hours of operation check the tightness of the hydraulic drive chain and retighten if necessary. Afterwards periodically check for proper tightness.

## NUTS AND BOLTS

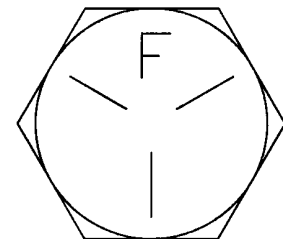
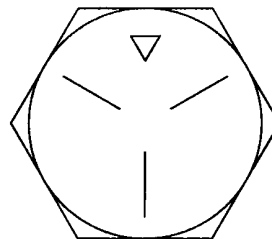
Check all nuts and bolts for tightness after the first 8 hours of operation then weekly. Check the condition of cotter pins, roll pins and other fasteners weekly and replace if necessary.

### 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" section]. 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



Mnt-R-0285

# MAINTENANCE

## HUBS AND SPINDLES

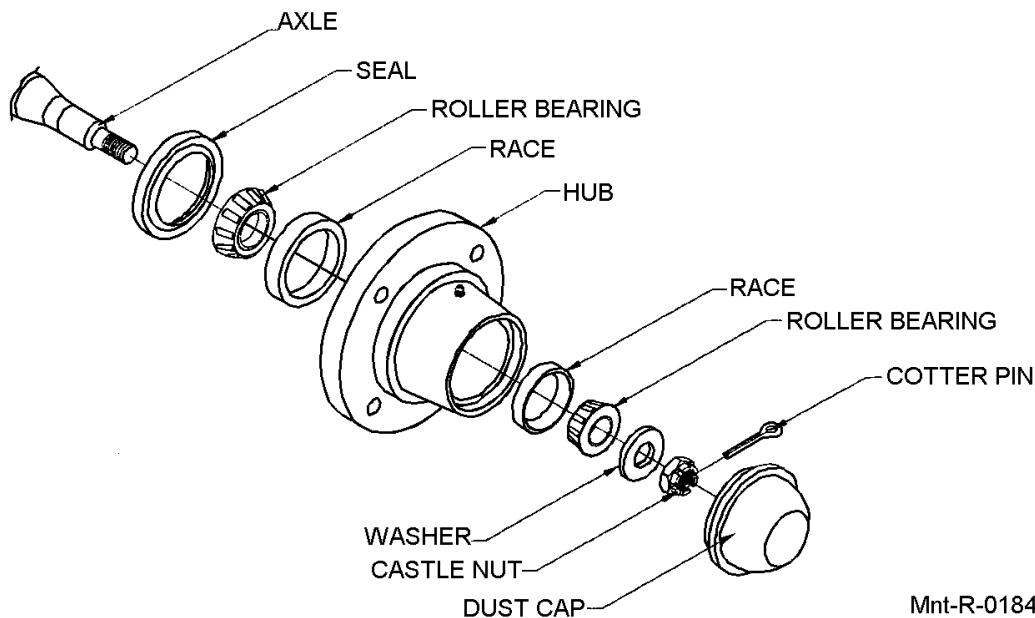
Check hubs weekly for bearing play and condition of seal.

### 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.



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

## MAINTENANCE

### Tightening Instructions for 812 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.

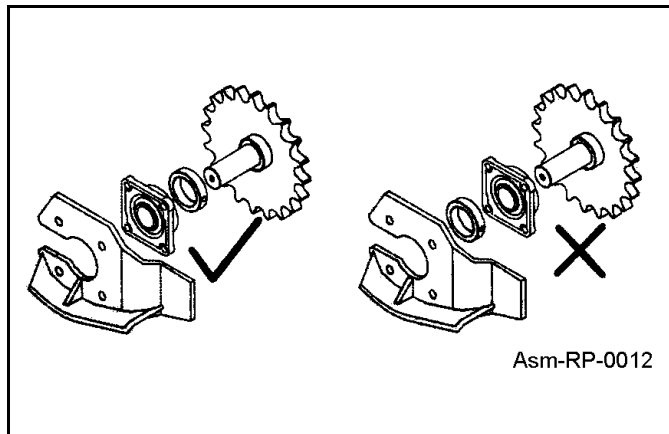
1. Tighten the castle nut to 20 foot pounds while turning hub clockwise. Then back the nut off 1/2 of a turn. Spin the hub 2 or 3 times. While slowly turning hub clockwise, finger tighten the castle nut until castle nut notch lines up with hole in axle. If notch will not line up, back off nut to previous 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.

### HEADER DRIVE SHAFT BEARING

The lock collar of the 2" flange bearing located on the header assembly must be installed to the inside of the flange bearing. Improper orientation of the lock collar will result in inadequate greasing.



# MAINTENANCE

## TIRES

Periodically check tire inflation pressure. Tires should be inflated to manufacturers' suggested specifications. Higher pressures may cause excessive bouncing over rough ground. Lower pressures may cause excessive wear. Recommended cold pressure is 35 PSI.

**Note:** Maximum speed ratings are 32 km/h (20 m.p.h.)

To remove tires for repair or replacement, install the grate transport lock pins. Relieve hydraulic pressure. Shut off tractor, and apply parking brake. Loosen the wheel nuts with wrench. DO NOT remove them. Use a hydraulic jack to lift the back end of the picker frame near the axle plate. Securely block the frame so the tire can spin freely before removing the wheel nuts. Check tightness of wheel nut, 5/8" wheel nuts should be torqued to 170 ft. lbs.

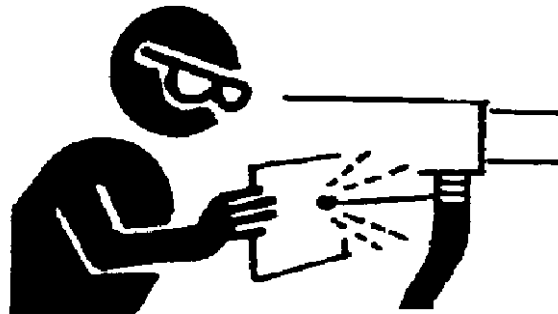


**WARNING** AVOID PERSONAL INJURY, keep the frame from falling. DO NOT work under picker without support blocks to provide you with support.

## HYDRAULICS

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.



Do not operate this Equipment with hydraulic oil or fuel leaking. Oil and fuel are explosive and their presence could present a hazard. Do not check for leaks with your hand! High-pressure oil streams from breaks in the line could penetrate the skin and cause tissue damage including gangrene. To check for a hose leak, SHUT the unit ENGINE OFF and remove all hydraulic pressure. Wear oil impenetrable gloves, safety glasses and use cardboard to check for evidence of oil leaks. If you suspect a leak, REMOVE the HOSE and have it tested at a Dealer. If oil does penetrate the skin, have the injury treated immediately by a physician knowledgeable and skilled in this procedure. (SG-15)



# MAINTENANCE

## MAINTENANCE

### **LUBRICATION**

#### **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

#### **Rock Picker Grease Points**

- Grate pivot bushing: 8 hours
- Idler Pin: 4 hours
- Bucket pivot bushings: 8 hours
- Conveyor roller bearings: 4 hours
- Wear pad pivot assembly: 50 hours
- Swing pole bushing: 50 hours. Hitch pole must be in the working (offset) position to grease the bushing. Fitting is accessed through hole in frame behind hitch jack lug.
- Apply grease to both sides of the two conveyor uprights. This aids in the ease of vertical conveyor travel.
- Flange Bearings: 50 hours. All flange bearings are permanently lubricated, however grease fittings are provided. Grease should be pumped into the bearing until it is seen purging at the clearance between the outer race and slinger.
- Wheel Hubs: 50 hours, fill until grease is seen purging at the bearing seals.

### **STORAGE**

If possible, store your rock picker under cover.

Install hitch jack on lug at front of hitch pole.

It is recommended that drive chains be removed from the machine, cleaned and stored in oil over the winter months. If this is not possible apply oil to all chains and sprockets.

Fully retract the hydraulic cylinders and install the transport pins. Retracting the cylinder rods will prevent rusting, ensure that the cylinders are full of oil, and relieve pressure in the hydraulic circuit. Smear grease over any part of the hydraulic cylinder rod that remains exposed.



Before disconnecting hydraulic lines place the grate in transport position and install the transport pins



