

Operator's manual



Rock Monster RM8090

RR0180-00004

REV. January 2020



Operator's manual



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OPERATOR'S MANUAL

Introduction

Congratulations on your purchase of your new S Houle Inc., equipment!

This equipment will advantageously complement your agricultural machinery. It has been designed and built specifically for an agricultural market that is always in need of more efficient, better performing equipment.

This Operator's Manual is your principal reference in regards to your new equipment. To ensure your equipment delivers many years of quality use, it is important that you follow the use and maintenance guidelines set out in this manual. We urge you and those who will be using and/or performing maintenance on this equipment to ensure that **you have read and understood the contents of this manual prior to first use.**

Please keep this Operator's Manual within reach so that you may quickly consult it, as often as necessary. In case of ownership transfer, please ensure that you also remit this manual to the new owner or user.

Should you have any questions, or to obtain more information or additional copies of this manual, please contact us at:

S Houle Inc.

*300 Industrial boil ,
St-Germain-de-Grantham (Qc) Canada, J0C 1K0
Tel: (819)395-4380 FAX: (819) 395-5516
Toll free: (888) 404-4380
Email: INFO@SHOULE.COM
Web: [HTTP://WWW.SHOULE.COM](http://WWW.SHOULE.COM)*



Security

Locate this symbol – it could save your life

This symbol is standard safety symbol. You will find it on most of the decals on your equipment. It is also used throughout this manual.

This symbol is used mainly to draw your attention and to warn you of possible dangers and / or potential injuries.



It is vital that you read and understand completely the following instructions and safety rules prior to using your equipment.



The safety symbol accompanied by the word "DANGER" indicates an immediate danger capable of causing serious injury or death.



The safety word accompanied by the word "WARNING" indicates a potential danger capable of causing serious injury and death.



The safety word accompanied by the word "CAUTION" indicates a potential danger capable of causing serious injury and death.

Think SAFETY! Work SAFETY!



As the owner of this equipment, you are responsible for the safety of its users and those who are responsible for its maintenance. You and any other person using or performing maintenance on this equipment must be familiar with its operation and maintenance, as well as the safety measures contained in this manual. Having safe working practices guarantees a safer work environment.

The owner of this equipment must inform any user of all instructions related to proper operation and use of this equipment, prior to first use.

The user must read, understand and respect all operating and safety instructions contained in this manual. A user who is unaware or ignores the operating and safety instructions contained herein is not qualified to operate this equipment, and exposes him/herself and bystanders to possible serious injury and or death.

Do not in any way modify this equipment. Unauthorized modifications could impair the proper functioning and/or safety of this equipment and possibly affect its useful life as well.

General Safety Measures

1. Read and understand all operating and safety instructions and guidelines contained in this manual prior to using, maintaining or adjusting the equipment.
2. Ensure all safety guards and shields are properly installed prior to using the equipment.
3. Always have a first aid kit within reach, and know how to use it.
4. Always have a fire extinguisher within reach, and know how to use it.
5. Wear appropriate safety gear, such as: hard hat, safety boots, safety goggles, gloves, ear plugs, etc.
6. Clear the area of people, especially children, prior to engaging the equipment.



Operating Safety

In addition to reading and fully understanding this manual, you should:

1. Lower the equipment, stop the tractor's engine, set controls to neutral, engage the emergency brake, remove the tractor's ignition key and wait for all moving parts to come to a full stop prior to detaching or servicing the equipment
2. Keep hands, feet, hair and all clothing away from all moving parts and/or rotating parts.
3. Do not allow bystanders on the equipment or the tractor.
4. Do not remove protective guards or shields. Ensure they are in place and properly attached.
5. Clear the area of all people, especially small children, prior to engaging the equipment and/or the tractor.
6. Be extremely cautious while servicing or while near high pressure hydraulic systems. Ensure all components are fully sealed and in good working order prior to operating the equipment.
7. Inquire with local transportation and road authorities to met all Lightning regulations.
8. Keep away from equipment and tractor during operation to avoid being hit by them.

Maintenance Safety

In addition to reading and fully understanding this manual, you should:

1. Lower the equipment, stop the tractor's engine, set controls to neutral, engage the emergency brake, remove the tractor's ignition key and wait for all moving parts to come to a full stop prior to detaching or servicing the equipment
2. Keep hands, feet, hair and all clothing away from all moving parts.
3. Clear the area of all people, especially small children, prior to engaging the equipment and/or the tractor.
4. Place safety stands or blocks underneath the frame prior to working underneath the equipment.
5. Install the locking devices on the bucket's cylinders before working underneath the equipment.
6. Be extremely cautious while servicing or while near high pressure hydraulic system. Ensure all components are fully sealed and in good working order prior to operating the equipment. Wear appropriate safety gear to protect your eyes and hands. Use a piece of wood or cardboard as a shield when examining a hose or fitting for a leak.
7. Always relieve pressure prior to disconnecting or servicing hydraulics.
8. Always use original parts **SHOULE** when any need replacing.
9. Do not in any way modify this equipment, its components or its intended use. SHoule Inc. will not be held responsible should breakage or injury occur as a result of using any non-approved parts or accessories.
10. Do not operate equipment that is defective or that has parts missing.
11. Inspect nuts and bolts regularly and ensure they are tightly secured.





Hydraulic system Safety

In addition to reading and fully understanding this manual, you should:

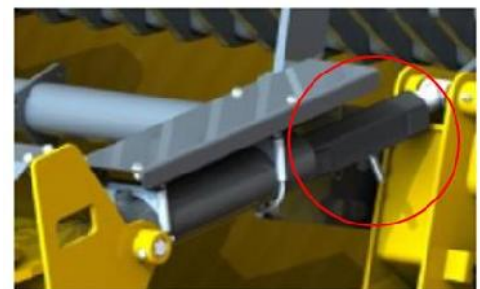
1. Always set the hydraulic controls to neutral prior to disassembling the hydraulic system.
2. Be extremely cautious while servicing or while near high pressure hydraulic systems. Ensure all components are fully sealed and in good working order prior to operating the equipment. Wear appropriate safety gear to protect your eyes and hands. Use a piece of wood or cardboard as a shield when examining a hose or fitting for a leak.



Transportation Safety

In addition to reading and fully understanding this manual, you should:

1. Check with local authorities to ensure you are compliant with all machinery transportation safety requirements.
2. Be sure the SMV sign is facing to the rear. (see illustration on the right)
3. Clean the SMV sign, lights, and reflectors. If the SMV sign of the tractor is partially hidden by the rock picker, a second SMV sign must be present on the rock picker.
4. Always use the hazard flashers on the tractor when transporting.
5. Slow down and pull off to the side of the road when meeting other traffic
6. Do not exceed 20 mph (32 km/h) when transporting. Never exceed a safe travel speed. Slow down when cornering or on rough roads.
7. Do not allow riders on the machine or tractor when transporting.
8. Always install the locking device on the tilt hydraulic cylinders before bringing the equipment on the road. (see illustration on the right)
9. Be sure that the lock valve of the draw bar is in locking position when the draw bar is completely return to transport position before bringing the equipment on the road. (see illustration on the right)





Safety stickers

1. Make sure the safety stickers are visible, clean and legible.
2. Missing or illegible stickers must be replaced.
3. All new additions and parts must have their safety sticker.

Stickers Glossary



The Rock Monster RM 8090 is not designed for use on public roads. To travel on public roads, please comply with local traffic regulations in advance.






When moving the Rock Monster RM8090 onto the road, make sure you have emptied the bucket of debris, rocks, etc. The rocks could fall and cause an accident. Rocks, debris and others must be transported in a truck or trailer.



Before unloading the bucket, make sure that your pull bar is securely attached to the tractor, the pull bar may rise up abruptly and hurt you.



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 AVERTISSEMENT	
	TOUJOURS UTILISER LES 4 DISPOSITIFS DE SÉCURITÉ COUPLES AUX 4 VÉRINS HYDRAULIQUES LORS DE L'ENTRETIEN ET DU TRANSPORT.
	ALWAYS USE THE 4 COUPLED SECURITY DEVICES AT 4 HYDRAULIC CYLINDERS DURING MAINTENANCE AND TRANSPORT.
 WARNING	

In the case of maintenance, clearing of stones, etc. and that you have to lift the bucket, to go under or even in the bucket, you must in any case install the safety devices to the hydraulic cylinders. This device is a brake preventing the bucket from falling back on you.



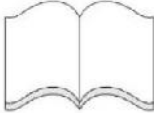

Failure to install this device could result in serious injury, even death.

 AVERTISSEMENT	
	AVANT DE DÉPLACER OU D'OPÉRER LA RAMASSEUSE À ROCHES ASSUREZ-VOUS DE LA SÉCURITÉ DE TOUS
	BEFORE MOVING OR OPERATING THE ROCK PICKER, ENSURE SECURITY OF ALL PERSONS NEARBY
 WARNING	

Before moving or operating the Rock Monster RM 8090, do you make sure you have a clear space. You must ensure the safety of each person present before operating the rock collector. It could result in injury, even death.

 AVERTISSEMENT	
	AVANT DE VIDER LA BENNE DE LA RAMASSEUSE À ROCHES, ASSUREZ-VOUS DE LA SÉCURITÉ DE L'EMPLACEMENT DU DÉPÔT.
	BEFORE EMPTYING BUCKET ROCK PICKER, ENSURE THAT THE DUMPING AREA IS SECURE.
 WARNING	

Before emptying the Rock Monster RM 8090, make sure the security of the repository location.

 AVERTISSEMENT


 WARNING

Anyone (operator, etc.) must have read the information in the Rock Monster RM8090 Operator Guide and Part Book before using the equipment.

You must read, understand and comply at all times with all operating, safety and maintenance instructions contained in this manual and on the stickers on the Rock Monster RM8090 equipment.

Allow only responsible and properly trained people to operate and/or maintain this farm equipment.

Any damaged and/or illegible stickers must be replaced.

Failure to comply with the instructions contained in the parts book and the operator's guide can result in serious injury and even death.

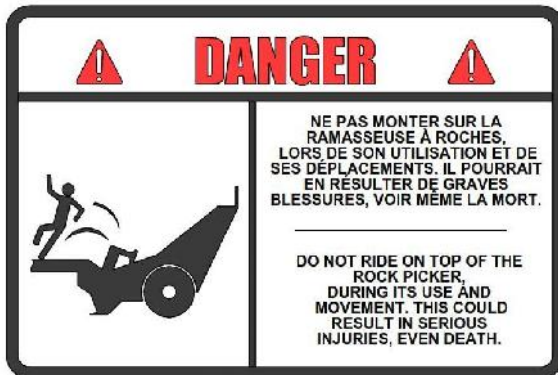
The owner and/or user of this equipment must have read and understood the contents of this manual before using this equipment.



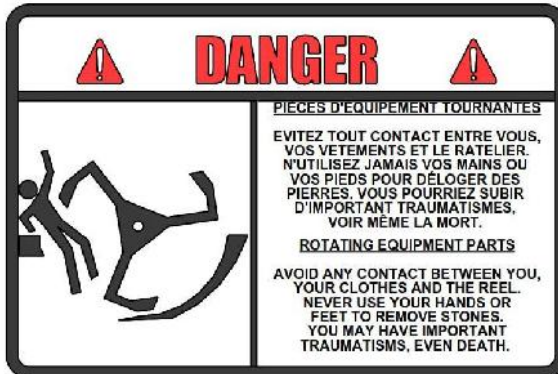
OPERATOR'S MANUAL



When the Rock Monster RM8090 is de-rigged, you must shut down the agricultural machine motor and remove any hydraulic pressure from the hoses before approaching the Rock Monster RM8090. Leave the hydraulic system in the neutral position.



During the operation or movement of the Rock Monster RM8090, no person shall climb the rock collector. This could result in serious injury and even death.



The Rock Monster RM8090 Rack is a rotating part, stay away from you and your clothes during the operation and avoid contact. You could be dragged inside the dumpster by the rack and suffer serious injuries, even death.



Stay at a safe distance when using the rack, stones and debris could be thrown at you. You could suffer serious injuries, even death.



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Never place your hands and feet in the area of the rack and bucket, you may be hit or even stuck in these areas by moving parts. You must be alert and aware of the serious injuries that may result



Rock Monster Operation

Rock Monster Position.

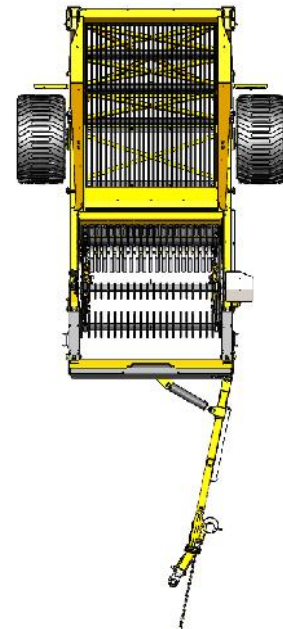
When putting into circulation on public roads and/or emptying the rock bucket, the rock collector must be in the circulating position. To do this you must have the positioning cylinder in the closed position. When putting into circulation on public roads you must also close the ball valve on the positioning cylinder.



positioning cylinder 1



Emptying the rock bucket1



Circulating position – Plan view 1

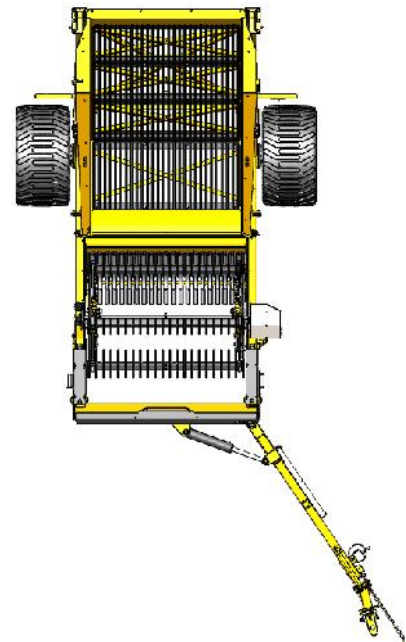


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When the rock collector is put into operation, the rock collector must be in the working position. To do this you must have the positioning cylinder in the open position.



Working position 1

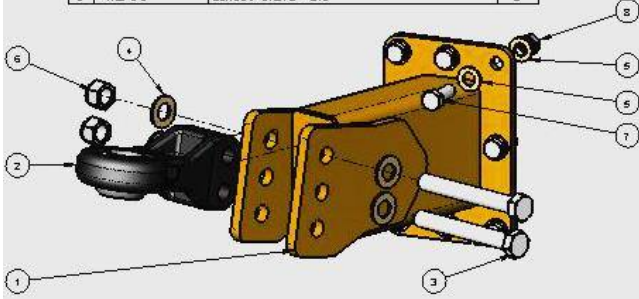


Working position – Plan view1



Adjusting the pull bar

ITEM	NO	DESCRIPTION	Quantité
1	22-2204	SARRE DE 1" RE RAM. À RONDIE RAMB	1
2	200192	AFFICHE À ROULE CA 9 (RHS146X)	1
3	43A51000000	BOULON HEX 1"-20X4 3" GR3	2
4	43A5100	RONDILLE PLATE / REMPLIE 1"	4
5	43A5012	RONDILLE PLATE / REMPLIE 24"	16
6	47A51000	ECROU 1/2" 1.25X	2
7	43A51210024	BOULON HEX 3/4"-16X2 1/4" GR3	2
8	47A51210	ECROU 3/2" OVER 24"-16X	2



With the male ball joint hand, you can adjust the fastener height by unscrewing the two (2) 1" DIA bolts.

Adjust the attachment hand so that the sweeper arrow is level when the attachment hand is tied to the tractor.

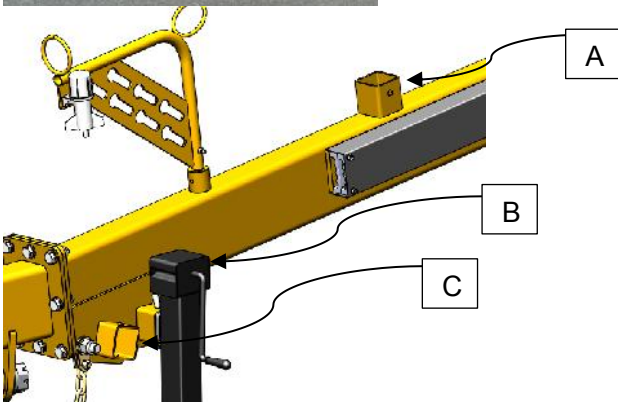


With the female ball joint hand, you cannot adjust the height of the joint.

Use of jack



When hitching or unsetting the rock collector to the tractor, use the jack. The drawbar is much heavier than it looks.



A- Position of jack, during rock pick-up operation or in transport. (Make sure you hitch the rock pick-up machine before removing the lifting cylinder)

B- Jack's position in working mode (parking)

C- Jack's Position in Traffic or Transport Mode (Parking)



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Coupling of the rock collector to the tractor

Hitch the rock collector to the tractor with the help of the lifting cylinder. Attach the chains provided for this purpose and hitch the pick-up machine to the tractor.

Hydraulic system

CAUTION: Under no circumstances should you uncouple the rock collector when the bucket is in the raised position.

Connect the hydraulic hoses

- A hose set is used to adjust the rack tooth pick-up height
- A hose assembly is used for the motor drive of the rotary rack.
- A set of hoses is used to control the positioning cylinder, see page 14
- The last set of hoses is used for lifting the bucket.

Electrical system

Connect electrical wires to tractor before use
Check condition and operation of signal lights.

Rock Monster – circulating position



Check before taking the road

To move the Rock Picker to the circulating position:

- you must put the bucket in the lowest position;
- lock hydraulic cylinders using hydraulic safety devices;
- put the rock collector in the circulating position (see photo opposite) and close the ball valve.

Check tire condition, jack's position, circulating position, hydraulic and electrical connections, signal lights, and safety devices installed on hydraulic cylinders.

(For required tire pressure, see tire types section)



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Rock monster operated



To move the rock collector to the working position:

- You must have the bucket positioned in the pick-up position (see photo opposite);
- Hydraulic safety devices shall be removed and arranged at designated locations;
- Ball valve must be in open position

Emptying the bucket



To drain, safely, the rock bucket:

- The positioning cylinder must be in the closed position;
- Hydraulic safety devices shall be removed and arranged at designated locations;
- The ball valve should be in the open position.
- Have in advance, check the location of the repository



Adjustment and maintenance

Storage

After the season's use, completely inspect all major systems of the machine. Repair or replace any worn or damaged components to prevent unnecessary down time at the beginning of next season. The machine should be carefully prepared for storage to ensure that all dirt, mud, debris and moisture has been removed.

Follow this procedure when preparing for storage:

1. Wash the entire machine thoroughly using a water hose or pressure washer to remove all dirt, mud debris or residue.
2. Inspect all moving or rotating parts to see if anything has become entangled in them. Remove the entangled material.
3. Lubricate all grease fittings to remove any moisture in the bearings
4. Run the machine slowly for 1 minute to distribute lubricant to all surfaces.
5. Inspect all hydraulic hoses, fittings, lines and couplers. Tighten any loose fittings. Replace any hose that is badly cut, nicked or abraded or is separating from the crimped end of the fitting.
6. Touch up all paint nicks and scratches to prevent rusting.
7. Oil the exposed rams on the hydraulic cylinders to rusting.
8. Select an area that is dry, level and free of debris.
9. Store the equipment in an area well away from human activity.
10. Store the equipment in the lowered position. (working position)
11. Do not allow children to play near the stored equipment.



1.0 Prior to First Use

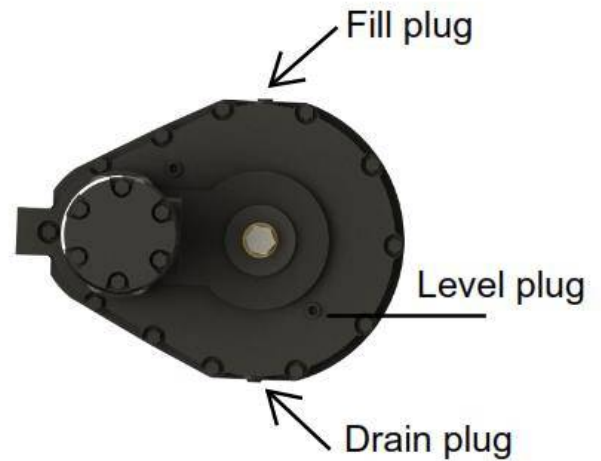
- 1.1 Read this operator's manual carefully.
- 1.2 Lubricate all grease points.
- 1.3 Check all nuts, bolts and hardware
- 1.4 Check gear box oil level. (see illustration on the right)

2.0 After two (2) et eight (8) hours of use

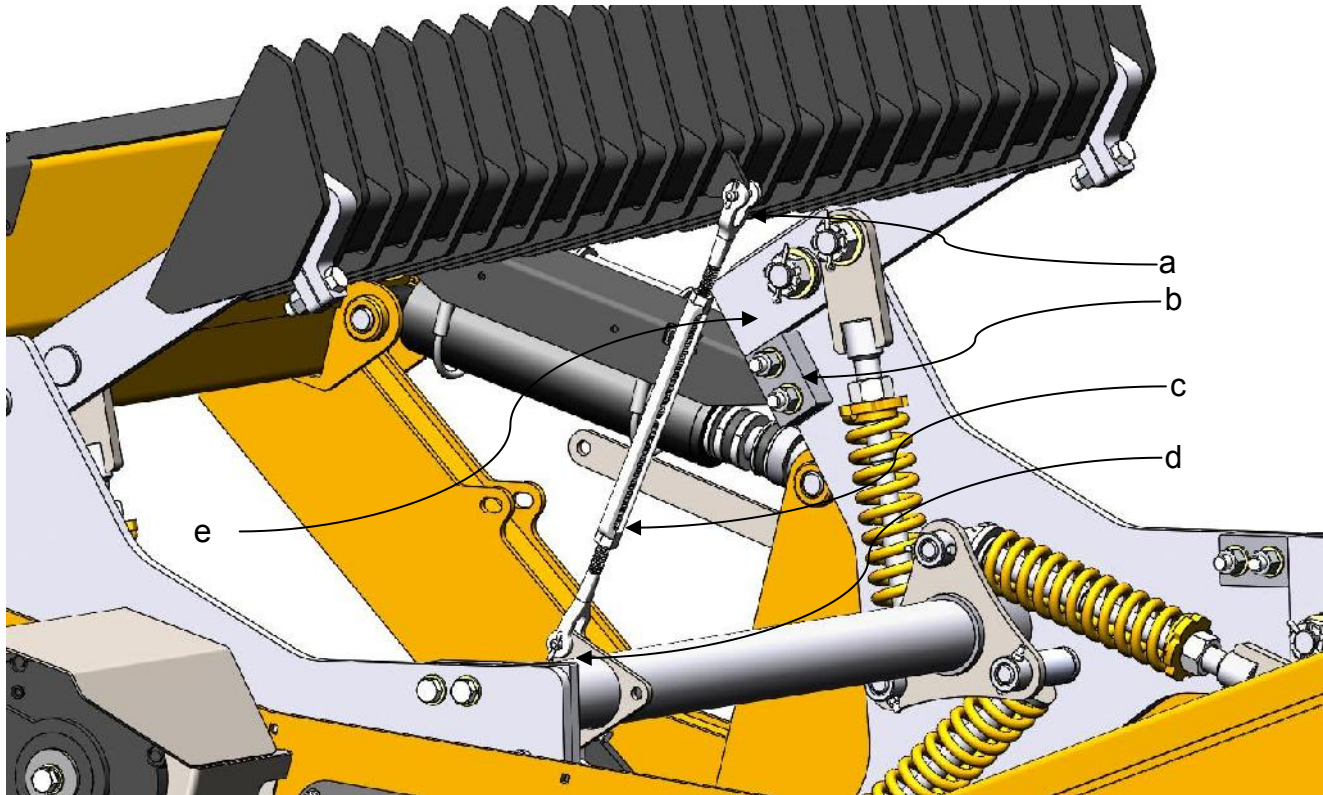
- 2.1 Make a visual inspection of unit
- 2.2 Tighten wheel bolts
- 2.3 Check all hardware
- 2.4 Check all hydraulic system fittings.

3.0 Every Twenty-five (25) hours of use

- 3.1 Lubricate all grease points
- 3.2 Lubricate spiral drum bearings
- 3.3 Check and adjust gearbox oil level. Fill with new oil at the beginning of a new season.



Changing the teeth of rotary rack.



Rotary rack teeth change procedure.

1. Install a turnbuckle with clevis with a minimum capacity of 1500 pounds, diameter of both pins up to $\frac{1}{2}$ inch in diameter and a length of 20 inches to 37 inches. See annotation "c" on the photo above. You must install the turnbuckle between the socket in RR-06019, central shaft of the rotary rack, and the socket directly on the teeth of the turnbuckle (part RR-06031).
2. Unscrew the four $\frac{3}{4}$ "-10 x 4" long screws by a few turns, indicate "b" in the photo above.
3. Stretch the turnbuckle.
4. Remove the two $\frac{3}{4}$ " \varnothing screws, nuts, washers and bumper (part # R-06027), indicate in annotation "b" in photo above.
5. Uninstall the rake teeth and the turnbuckle to annotation « a »
6. Install the new rack teeth and turnbuckle as shown in the "a" annotation in the photo above.
7. Unscrew the turnbuckle a few turns and align the holes with the stops taking care to attach the part indicated in the annotation « e » of the photo above.
8. Screw the four $\frac{3}{4}$ "-10 x 4" long screws, indicate in the photograph above annotation "b".
9. Remove the turnbuckle from the "a" and "d" parts of the photo above.



Inverting the Rock Monster's Teeth

The spiral drum's teeth have been designed to be inverted when one side becomes too worn. To invert, remove the bolts. Turn the tooth over and simply bolt it back into place securely, with Stover nuts ($\frac{3}{4}$ "-16 NC x 2 1/2" bolts with $\frac{3}{4}$ "-16 NC Stover nuts).



Adjusting the springs preload of the Rock Monster's Teeth

When you notice that the rock picker's teeth are triggering too much or, conversely, they are not triggering enough, you will have to adjust the trigger springs using the tool specially designed for this purpose





Greasing

Locate grease stickers

(See illustration on the right)



1. Use a manual grease gun.
2. Clean the couplers and the adaptors with a clean wipe before lubricating them.
3. Change and/or repair the damaged coupler.
4. If the couplers are difficult to lubricate, remove them so that they can be cleaned properly or change them if necessary. Also clean the passage of lubricant.
5. Inject lubricant until the excess is expelled through bearings and bushings.

Types of lubricants

1. Grease

Use a high temperature multipurpose grease SAE offering extreme pressure performance (EP). A multipurpose lithium grease is also acceptable.

2. Oil for gear box

Use a gear oil 80W90 compatible SAE in all operating conditions.

3. Lubricant storage

Always use clean, contaminant-free lubricants. Keep them in clean and uncontaminated containers, which have not been used to store other substances. Make sure that store space is free of dust, moisture and other contaminants.

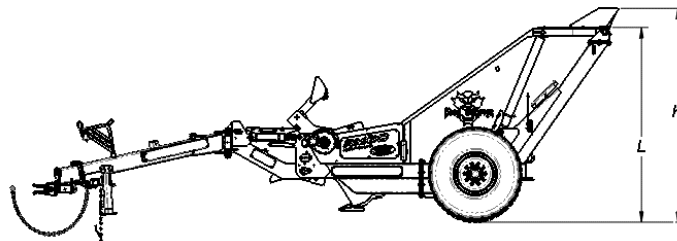
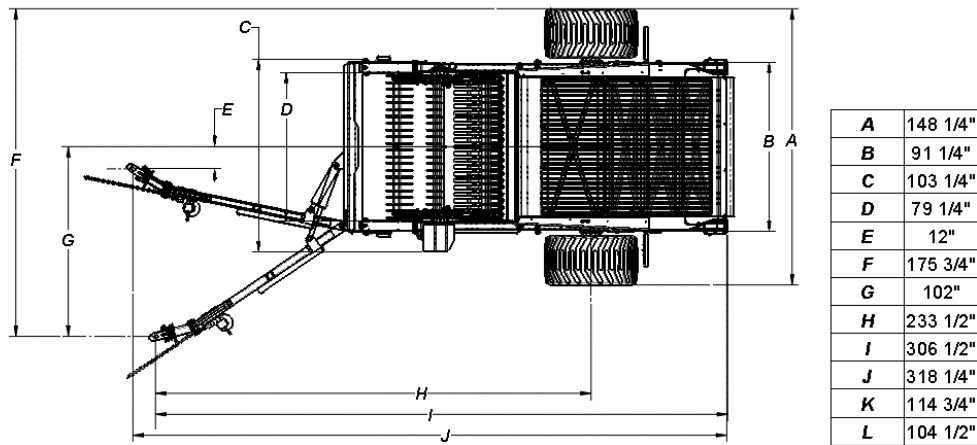
Types of tire

The Rock Monster can be delivered with two (2) types of tires

Types of tire	Required pressure
550/45x22.5	41 PSI (283 kPa)
700/50x22.5	41 PSI (283 kPa)



SPECIFICATIONS		
		ROCK MONSTER
Model		RR0180-00004
Weight	lb (Kg)	11775 (5069)
bucket Capacity	pi^3 - (m^3)	201 - (5.95)
Tire size		700/50x22.5 16 PRTL
Tire pressure	PSI (kPa)	41 (283)
Required Horsepower	HP (kW)	100 (74.5)
Recommends HP	HP (kW)	150 (112)
Hydraulic Drive		YES
Picking Style		Reel
Number of bats		3
Minimum Rock diameter	po	2 (5)
Maximum rock diameter	po	24 (61)
Lift Cylinder		4" DIA X 48"
Recommended tractor speed	Mph	2 (3.2)
Recommended reel speed	RPM	40
Minimum hydraulic required		3
Flow required	GPM	18 to 26 (82 to 118)
Hydraulic pressure	PSI (mPa)	2500 to 3000 (17.2 to 20.6)





Troubleshooting

General troubleshooting

Troubleshooting	Trouble	Solution
The rock collector does not move into the working position.	Hydraulic safety devices are installed.	Remove safety devices and store them in designated areas.
	Hydraulics cylinders	Check the hydraulic connection
	Ball valve	Open the ball valve
The rock collector does not move into the circulating position.	Hydraulics cylinders	Check the hydraulic connection
The rock collector does not stay into the circulating position.	Hydraulic safety devices are not installed.	Install safety devices at hydraulic cylinder
	Ball valve	Close the ball valve

Rack

Troubleshooting	Trouble	Solution
The rack does not turn	Jamming between racks, teeth and rocks or other debris	Unjam the debris entering into conflict with teeth rack. (Please follow the security indications)
	Gear box	Check coupling between moto and gear box Check oil level Check general condition
	Hydraulic motor	Check hydraulic connections
	Bearing	Check the greasing and the condition of two bearings located on each side of rack.
	Release Spring	Adjust the release spring with tool especially designated
Le rack of rock collector does not collect rocks.	Spring tension	Tightening the springs with the relevant key
	Double pressure relief valve	Check the hydraulics connection and the double pressure relief valve
	Improperly Tightened Rack Bolts	Tight the bolts

Bucket

Troubleshooting	Trouble	Solution
The bucket does not rise or does not rise properly	Hydraulic cylinders	Check the conditions of hydraulic connections
	The load to empty is too heavy	Emptying part of the bucket without using hydraulic equipment
	Hydraulic safety devices	Remove safety devices and store them in designated areas.
	Stuck rocks	Release the bucket of stuck rocks
	Pivot point	Check condition and pivot point greasing
The bucket does not decrease not completely	Stuck rock onto the bucket	Unjam the stuck rocks respecting all security rules.
	Hydraulic safety devices	Remove safety devices and store them in designated areas

**S Houle inc.**

300 boul. Industriel
St-Germain-de-Grantham, Québec, Canada, J0C 1K0
Tél : 819 395-4380 Téléc. : 819 395-5516
Sans frais : 1 888-404-4380
Courriel: info@shoule.com
Web: www.shoule.com

S Houle Inc.

300 Industrial Blvd.
St-Germain-de-Grantham, Québec, Canada, J0C 1K0
Phone: 819 395-4380 Fax.: 819 395-5516
Toll free: 1 888-404-4380
E-mail: info@shoule.com
Web: www.shoule.com