

QUICK ATTACH



Razor Tooth™ 915PS, 925PS, & 945PS For Skid Steer Loaders

Operation & Maintenance Manual

⚠ Read this manual before use.

⚠ WARNING Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- Lead from lead based paints,
- Crystalline silica from bricks and cement and other masonry products, and
- Arsenic and chromium from chemically treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

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REFERENCE INFORMATION

Write the serial number for your attachment in the spaces below. Always refer to this serial number when calling for service or parts.

Serial Number.....

YOUR ATTACHMENTS DEALER

ADDRESS:

PHONE:

CONTACT:

NOTE: Quick Attach Attachments LLC reserves the right to make improvements in design or changes in specifications at any time without notice and without incurring any obligations to install them on units previously sold.

DO NOT use or perform maintenance on this machine until this manual has been read and understood. In addition, read the Operation and Maintenance Manual(s) pertaining to the attachment and the attachment carrier (“Loader”).

The user is responsible for inspecting the machine daily, and for having parts repaired or replaced when continued use of the machine would cause damage, excessive wear to other parts or make the machine unsafe for continued operation.

If an operating procedure, tool device, maintenance or work method not specifically recommended is used; you must satisfy yourself that it is safe for you and others. You must also ensure that the attachment will not be damaged or made unsafe by the procedures you choose.

Quick Attach Attachments LLC cannot anticipate every possible circumstance that might involve potential hazard. The safety messages found in this manual and on the machine are therefore not all inclusive.

Call Before You Dig
1-888-258-0808



The signal words **CAUTION**, **WARNING**, or **DANGER** are used to indicate hazards

⚠ CAUTION Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

⚠ WARNING Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ DANGER Indicates a potentially hazardous situation which, if not avoided, will result in death or serious injury.

The word **IMPORTANT** is used in the text when immediate damage will occur due to improper technique or operation.

The word **NOTE** is used to convey information that is out of context with the manual text; special information such as specifications, techniques, reference information, and other information of a supplementary nature.

SAFETY

Improper operation can cause serious injury or death.

Pre-operation

- This attachment is designed for trenching through cement, asphalt, and rocky soil conditions. **NEVER** use this machine for any other purpose.
- Read the operators manual for the “Skid Steer Loader.” **NEVER** allow untrained people to operate.
- Operating instructions must be given to everyone before operating this attachment and at least once a year thereafter in accordance with OSHA regulations.
- **NEVER** exceed the maximum recommended input power or speed specifications for the attachment. Over-powering or over-speeding the attachment may cause personal injury and/or machine damage.
- Keep all shields, guards, and covers in place.
- Do not modify equipment or add attachments that are not approved by Quick Attach Attachments LLC.
- Use adequate safety warning lights and devices as required by local regulations. Obey all local laws and regulations regarding machine operation on public property. Always call before you dig (1-888-258-0808). When you call, you will be directed to a location in your state/city for information about buried lines (electric, telephone, cable TV, water, sewer, gas, etc.).

Operation

- Milling concrete and asphalt can release dust containing silica. According to OSHA, exposure to silica can result in respiratory diseases (affecting your ability to breath), including silicosis, lung cancer, and kidney disease. Refer to OSHA for more information about controlling exposure to silica. Occupational use of this attachment may be subject to OSHA regulations specific to respirable silica.
- To protect the operator from hearing loss, ear protection is required unless the loader is equipped with a noise reduction cab that meets OSHA 1910.95 standard.

Operation (continued)

- Keep people away from loader, attachment and discharge when in use. This attachment sends objects flying and has rotating parts.
- **NEVER** operate near embankments or terrain that is so steep that rollover could occur.
- Always stay in the operator position when using the attachment.
- Before leaving the operators position, disengage hydraulic drive, lower the attachment to rest flat on the ground, stop engine, set park brake, and wait for all motion to stop.
- **NEVER** place head, hands, feet, or objects in the discharge area or clear debris while engine is running.

Avoid High Pressure Fluids Hazard



- Escaping fluid under pressure can penetrate the skin causing serious injury.
- Avoid the hazard by relieving the pressure before disconnecting hydraulic lines.
- Use a piece of paper or cardboard, NOT BODY PARTS, to check for suspected leaks. Wear protective gloves and safety glasses or goggles when servicing or performing maintenance on hydraulic systems.
- If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.

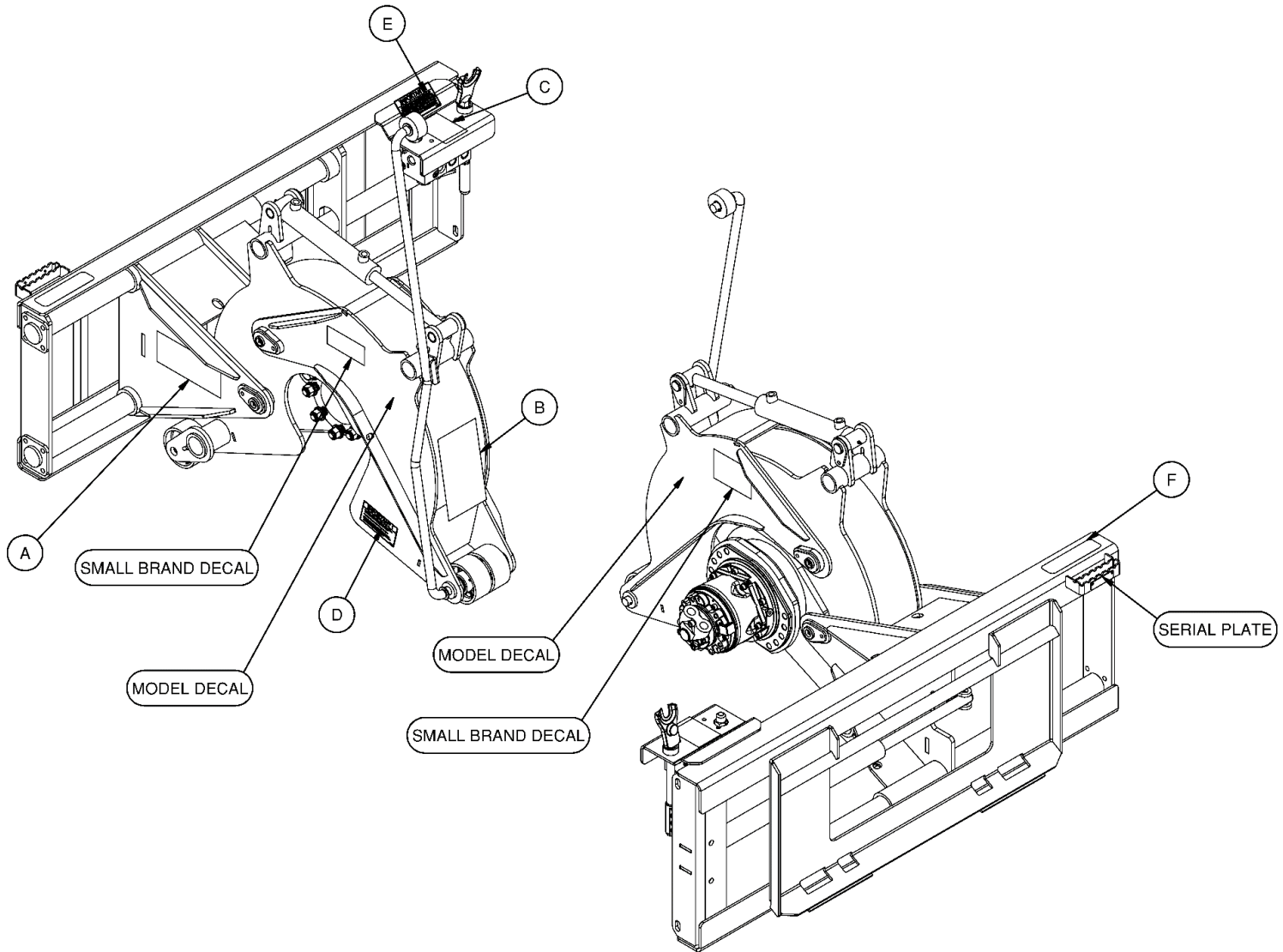
Maintenance

- **NEVER** make adjustments, lubricate, clean, or perform any service on the machine while it is in operation.
- Make sure the attachment is serviced on a daily basis. Improper maintenance can cause serious injury or death in addition to damage to the attachment and/or your equipment.

SERIAL NUMBER AND SAFETY DECAL LOCATIONS

Serial Number Location:

It is important to refer to the serial number of your attachment when making repairs or ordering parts. Early or later models (identification made by serial number) may use different parts, or it may be necessary to use different procedures in doing a specific operation. Serial number plate is located on the upper right side step.



Part Number: Model Decal

319440 – 915PS

319441 – 925PS

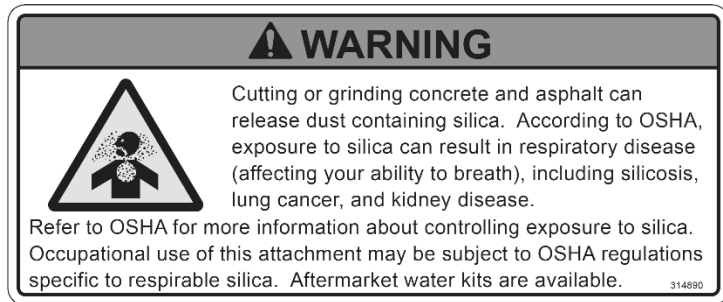
319442 – 945PS

Location: Each side of rotor w/a

Quantity: 2

SERIAL NUMBER AND SAFETY DECAL LOCATIONS

(A)

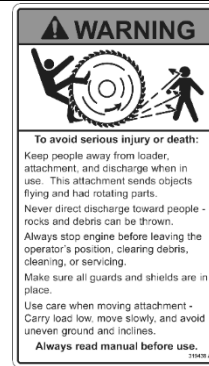


Part Number: 314890

Location: On RH side of frame

Quantity: 1

(B)



Part Number: 319438

Location: On lower front of rotor

Quantity: 1

(C)



Part Number: 200001

Location: Top of mount over valve

Quantity: 1

(D)

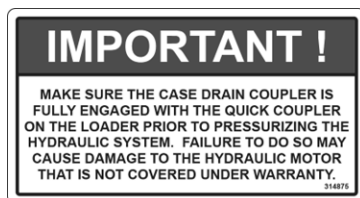


Part Number: 319439

Location: On RH of rotor Shield

Quantity: 1

(E)



Part Number: 314875

Location: Top of mount over valve

Quantity: 1

(F)

Part Number: 202152 (2x8 Skid Tape)

Location: Top of mount centered

Quantity: 1

Small Brand Decal

Location: Each side of rotor w/a

Quantity: 2

Safety Decals Locations:

The locations of the safety decals are shown. If these decals are missing, damaged, or painted over they must be replaced. Call Quick Attach Attachments LLC (320-759-1551) for replacement decals.

MOUNTING INSTRUCTIONS

After uncrating the attachment, use the following procedure to mount the Pavement Saw to the loader.



WARNING! Coupler wedges or pins must extend through the holes in the attachment mounting plate. Levers must be fully down and locked. Failure to secure wedges or pins can allow attachment to come off and cause injury or death.



1. Use the step, treads, and grab handles to get on and off the loader and Pavement saw.

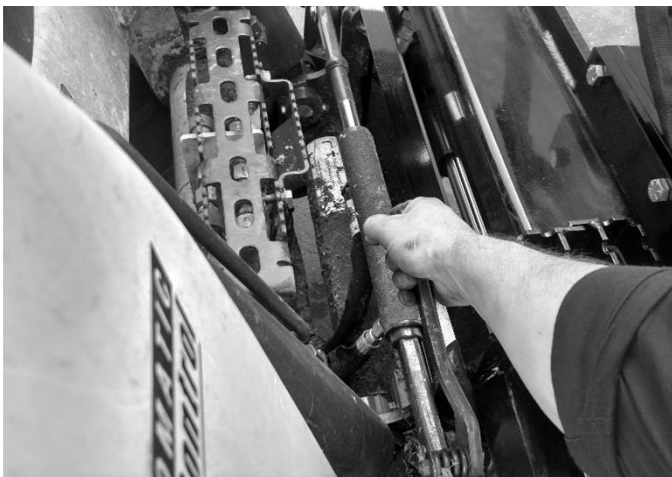
2. Sitting in the operator's seat, lower seat bar and fasten the seat belt.



3. Drive the loader to the rear of the attachment. Put the loader quick attach coupler into the attachment mounting bracket.

4. Tilt the loader coupler backward a small amount until it is fully engaged in the attachment's mounting bracket.

Mounting Plate Connections



Coupler Locking Mechanism

5. If equipped, engage the coupler locking mechanism that attaches the attachment to the loader.

6. Stop the engine and engage the park brake.

7. Secure the coupler locking mechanism that attaches the attachment to the loader.

MOUNTING INSTRUCTIONS

IMPORTANT: Make sure the quick couplers are fully engaged. If the quick couplers do not fully engage, check to see that the couplers are the same size and brand. Do not force the quick couplers together.

IMPORTANT: Wipe the ends of the hydraulic quick couplers (both lead and loader) with a rag to remove any possible contamination. Contamination can cause hydraulic components to fail and is not covered under warranty.

NOTE: See the Loader's Operation and Maintenance Manual.

NOTE: Attachment is shipped with 12FJX (1-1/16" Female JIC Swivel) fittings on the ends of the lead hoses and a 6FJX (9/16" Female JIC Swivel) fitting on the end of the case drain hose.

8. Connect the hydraulic quick couplers from the attachment to the loader.
9. Connect the wire harness to the loader's wire harness receptacle. (Disregard if a pistol grip controller is supplied with the attachment.)

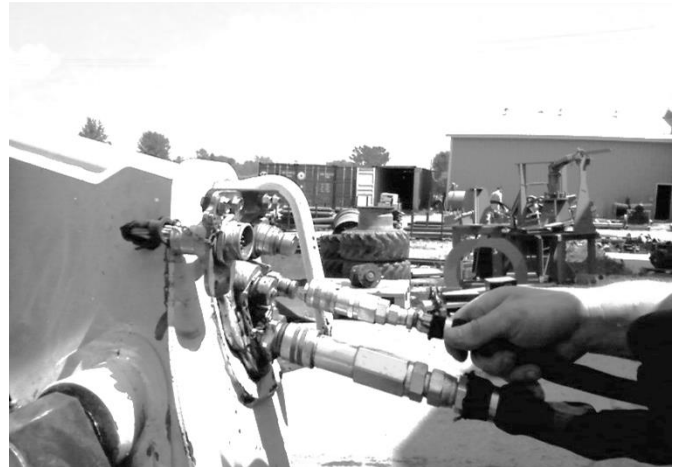
Make sure the hoses are properly routed to fit your specific loader. If the hoses are not routed correctly, hoses may get pinched or rub on tires. Be sure to check the hose routing through the full range of intended motion of the attachment before operating it.

More than one routing may be acceptable depending on the loader. Pick the routing that best suits your loader.

IMPORTANT: Proper hose routing is the responsibility of the owner and/or operator. Pinched or stretched hoses are not covered under warranty.

NOTE: Make sure the pressurized hose from the skid steer is routed to the "P" port of the valve block. If not the attachment will not operate properly.

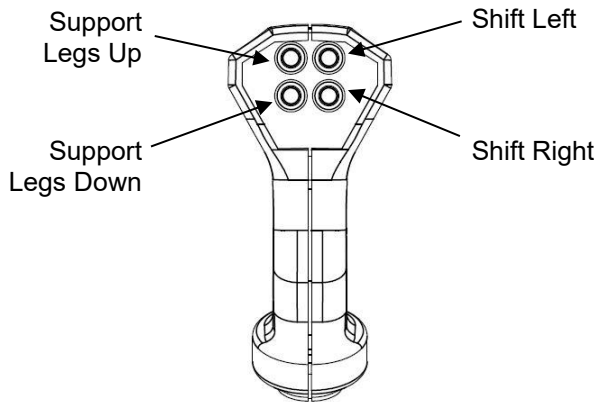
Mounting is now complete and you are ready to use the attachment. Use the above instructions in a reverse order to dismount the attachment from the loader.



Hydraulic Connections



14 Pin Wire Harness Connection



Pistol Grip Harness Control

Pavement Saw Precut Setup

NOTE: Make sure to understand how the controls of the skid steer will interact with the functions of the Pavement saw attachment prior to operating. (If pistol grip harness applies, see image to the left for proper operation.)

1. In the operator's seat of the loader, seat belt fastened and seat bar lowered (if so equipped), start the engine.
2. Roll the skid steer arms fully back and raise the cutter head 6 to 8 inches off the ground.
3. At low engine idle speed, activate the high flow auxiliary hydraulic system, and engage the oil flow in the reverse direction.

NOTE: The Pavement saw cutter head is designed not to rotate when the oil flow is activated in the reverse direction, although a small amount of rotation may be seen with some loaders.

4. Increase the loader engine speed to medium idle.
5. Move the cutter head left or right using the appropriate electric controls until it is in the desired position. (Use the guide roller for positioning if needed.)

IMPORTANT: Pavement saw cutter head must be raised above the ground while operating the side shift feature or damage to the attachment may occur.

NOTE: Set the cutter head as close to the centerline of the loader as possible.

6. Use the controls to lower the front shield all the way if it is not already in this position.
7. Finally disengage the auxiliary hydraulic oil flow and reduce the engine speed to low idle.



Depth of Cut Indicator

OPERATING INSTRUCTIONS

Operation

⚠ WARNING To avoid injury or death from tipover, never use attachment on an incline.

⚠ WARNING To avoid injury or death, carry attachment as low as possible.

NOTE: If using the guide roller be sure to place it onto the ground prior to climbing in the skid steer.

1. In the operator's seat of the loader, seat belt fastened, and the seat bar lowered (if so equipped), start the engine.
2. Roll the skid steer arms fully back and raise the cutter head 6 to 8 inches off the ground.
3. At low engine idle speed, activate the high flow auxiliary hydraulic system, and engage the oil flow in the forward direction to start the cutter head rotation.

IMPORTANT: To prevent hydraulic system damage when operating in temperatures below 40°F, allow attachment to run with engine at idle for at least 10 minutes to warm oil before slowly increasing to operating speed.

NOTE: Certain loaders may not operate in high flow mode without a special wire harnesses. Others require the control switches to be operated in a specific way. It may also be necessary to switch the hose couplers around to match your loader. (See the loader's operation and maintenance manual.)

4. Increase the loader engine speed to high idle.
5. Lower the loader boom completely and slowly rotate the loader coupler forward until all four rollers are on the ground.
6. Continue rotating the loader coupler forward until the front of the skid loader is off the ground 2 to 4 inches during the plunge cut.
7. Once the desired depth has been reached, start to move forward with the loader, increasing the speed until an optimal cut speed is reached.
8. Use the controls to slowly raise the front shield until the desired cutting depth is achieved. (Up to 9" for most models.)



Proper Precut Position

NOTE: For optimal performance, keep all four rollers on the ground at all times and the front tires of the skid loader elevated 2 to 4 inches. Transferring the loader weight to the attachment will result in a faster, smoother, and more efficient cut. (Track loaders tend to perform better with the entire length of track on the ground.)

NOTE: If the cutter head rotation stalls; stop or reverse the direction of the loader and allow the cutter head to return to full operating speed before continuing.

⚠ CAUTION Picks may be hot after operation. To avoid burns, allow the picks to cool before inspecting.



WARNING: Lower the Pavement saw to rest on the skid shoes and rollers, shut down the engine, relieve the hydraulic pressure to the attachment, wait for all motion to stop, and set park brake before leaving the operator's seat to perform service of any kind.

It is the operator's responsibility to make daily inspections of the attachment and loader for damage, loose bolts, fluid leaks, or anything else that could cause a potential service or safety problem. Preventive maintenance is the easiest and least expensive type of maintenance.

IMPORTANT: Bolts and set screws can loosen after initial usage. After the first hour of operation check all bolts and set screws. This must also be done daily before operation. If nuts or bolts are missing or damaged, replace immediately.

Lubrication Legend



Multipurpose
spray lube



Multipurpose
grease lube



Multipurpose
oil lube



Intervals at which
lubrication is required

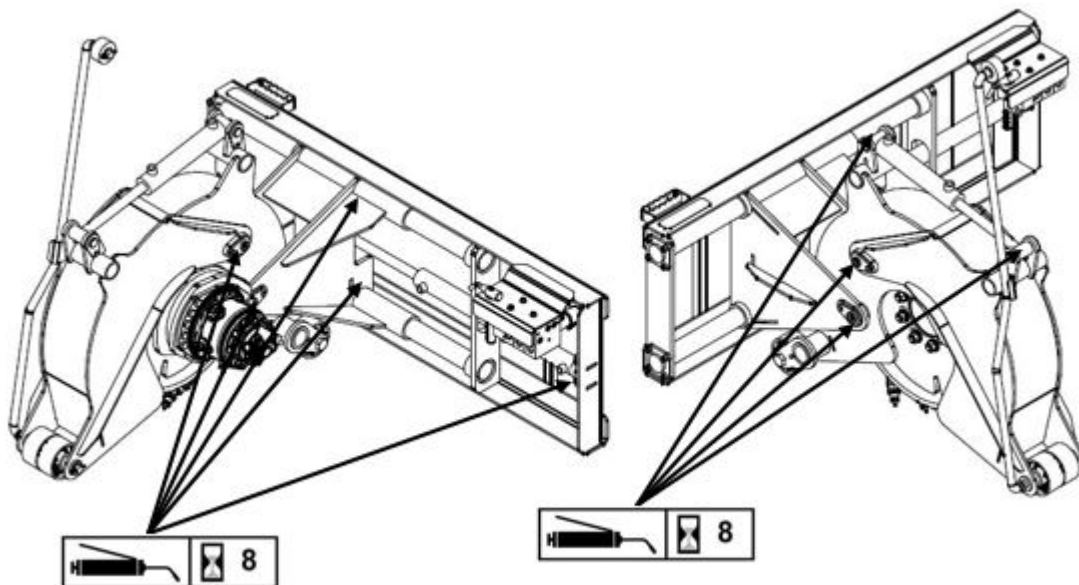
INSPECTION & SERVICE SCHEDULE

Follow the attachments service schedule and check the following items every **1 hour** of operation:

1. Check picks for excessive wear and replace if necessary. *(For details see page 12)*
2. Be sure the picks are free to rotate in the holders.
3. Check pick holders for cracks or excessive damage and replace if necessary.

Follow the attachments service schedule and check the following items every **8 hours** of operation:

4. Check entire attachment for weld cracks or excessive damage and repair if necessary.
5. Check all hardware and retighten if loose or replace if damaged.
6. Check for damaged or missing safety decals and replace if illegible or missing.
7. Check for damaged or leaking hydraulic hoses or fittings and repair if necessary.
8. Apply grease to all other zerks with a multipurpose grease every 8 hours.

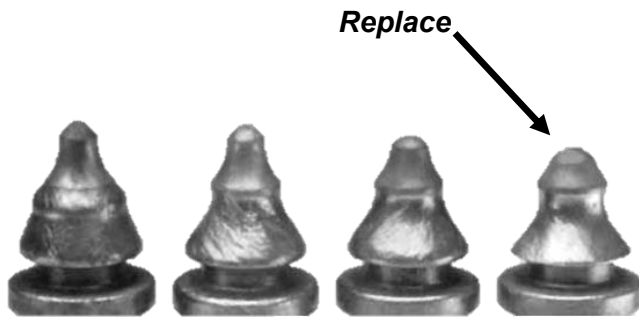


ROUTINE MAINTENANCE

Pick Inspection, Setup, Removal, & Installation

Inspection:

The factory installed carbide picks are specifically designed to be a wear product. The life expectancy of the picks will depend greatly on the hardness, the abrasiveness, and the thickness of the material being cut. It is also very critical that the picks rotate freely in the holders to maintain even and consistent wear throughout the life of the picks. A normal pick wear progression is depicted to the left. The pick seen furthest to the right is an example of one that should be replaced, with the carbide almost gone and the body is nearly worn to the base.



Pick Wear Progression

IMPORTANT: Continued use of the picks beyond this point will have adverse effects, such as poor productivity, possible cutter head failure, and other costly repairs.

NOTE: Examples of abnormal pick wear causes and solutions are on page 28.

NOTE: See the parts explosion on page 19 for replacement pick packages and part numbers.

Setup:

⚠ WARNING Moving parts may cause injury or death. Always uncouple the loader from the Pavement saw prior to performing any maintenance.

1. Find a hard flat level surface to place the Pavement saw while servicing it.
2. Be sure to place the Pavement saw so that the skid shoe legs and rear rollers are placed firmly onto the ground.
3. Make sure the cutter head is supported up off the ground by the Pavement saw in such a way that it will be allowed to rotate freely by hand. (See image to the left)
4. Once the Pavement saw is in position, disconnect the loader from the Pavement saw and begin the pick replacement process.



Cutter Head off the Ground

⚠ WARNING Always wear eye protection that meets ANSI Z87.1 when removing and installing picks.

Removal:

IMPORTANT: The use of an improper tool to remove or install the picks may cause damage to the picks or pick holders. Always use the pick installation/removal tool provided with the Pavement saw.

1. Place the jaw of the installation/removal tool in the puller groove, or between the base of the pick and the hardened washer.
2. Use a hammer to hit the striking surface on the installation/removal tool as seen in the image to the right.
3. It may take multiple hits to remove the pick completely.
4. Repositioning the cutter head can be done by hand while removing the remaining picks.

NOTE: Inspect the pick holders for cracks or areas that are worn thin while removing the old picks.

IMPORTANT: Continued use of the Pavement saw with damaged holders may have adverse effects, such as accelerated pick failure and possible cutter head damage.

Installation:

1. Place puller groove of the pick into the jaw of the pick installation/removal tool.
2. Hold the shank end of the pick over the bore of the pick holder as shown.
3. Use a hammer to hit the striking surface on the installation/removal tool.
4. It may take multiple hits to install the pick completely.

NOTE: The pick and the hardened washer should spin freely by hand. If not, the pick is not seated completely and may require another hit with the installation/removal tool.

5. Reposition the cutter head by hand and install the remaining picks.



Old Pick Removal



New Pick Installation

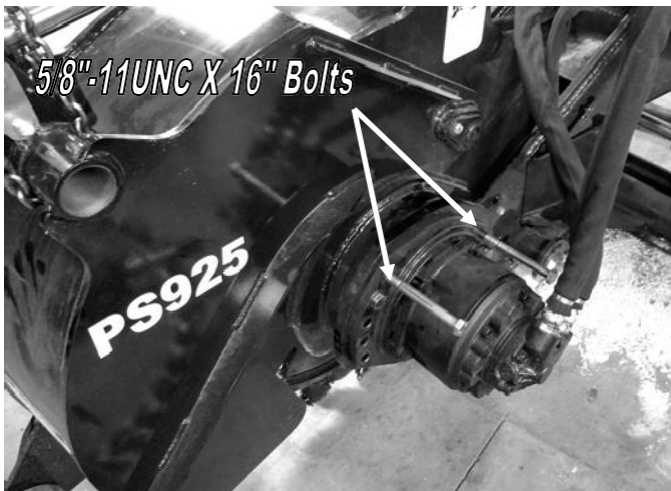
ROUTINE MAINTENANCE

Required parts and tools:

10. Wheel Chocks
11. 6" x 12" Piece of Plywood
12. 1 Ton Hoist (Minimum)
13. Hammer
14. $\frac{3}{16}$ " Drift Punch
15. $\frac{5}{32}$ " Allen Wrench
16. 8mm ($\frac{5}{16}$ ") Allen Wrench
17. $\frac{3}{4}$ " Wrench or Socket
18. $\frac{15}{16}$ " Wrench or Socket
1. $\frac{3}{4}$ " Drive 30mm ($1\frac{3}{16}$ ") Socket
2. $\frac{3}{4}$ " Drive Breaker Bar
3. $\frac{3}{4}$ " Drive Torque Wrench (600 ft-lbf. minimum)
4. (2) $\frac{5}{8}$ "-11UNC x 6" Hex Bolts
5. 21 oz. 80/90 Gear Lube or Equivalent
6. Approved Oil Drain Pan
7. Emery Cloth
8. Anti-Seize Lubricant
9. High Strength Thread Locker (Red)



Cutter Head Lug Nut Removal



Motor Supported by Bolts

Pavement Saw Cutter Head Replacement

1. Position the Pavement saw in a location that will allow the use of a hoist to lift the saw frame off of the cutter head.
2. Hoist the saw so the cutter head is just off the ground and it can be rotated freely by hand.
3. Place a bar through the slots in the cutter head to keep it from rotating while loosening the lug nuts as seen in the image to the left. (Large pry bar shown.)
4. With a 30mm ($1\frac{3}{16}$ ") socket and a large ratchet or breaker bar remove the eight M20 hex flange nuts that secure the cutter head to the wheel motor.
5. Remove the cutter head from the lugs and rest it on the floor inside the shield.
6. Once the cutter head is removed go around to the other side of the saw and replace the top two motor mount bolts with $\frac{5}{8}$ "-11UNC X 6" hex bolts (hand tight only) as seen in the image to the left.
7. After installing the two 6" bolts remove the remaining eight motor mount bolts and slide the motor out away from the mounting flange as shown in the image to the left.

WARNING: It is very important that the cutter head be securely stabilized prior to lifting the saw up and away from it. Cutter head is extremely heavy and could cause injury or death if not secured properly while removing, reinstalling or transporting.

8. Finally hoist the front of the saw up and away from the cutter head; being sure that it is securely stabilized.

Pavement Saw Cutter Head Replacement (continued)

10. With the front of the saw still lifted up, carefully place the new cutter head under the saw shield.

WARNING: Cutter head is extremely heavy and could cause injury or death if not secured properly while removing, reinstalling or transporting.

11. Be sure the cutter head teeth are pointing in a counter clockwise direction as viewed from the right hand side of the attachment.

IMPORTANT: Make sure the cutter head is oriented in the proper direction when installing. The proper orientation is as follows. When facing the hub side of the motor, rotation will be in a CCW direction. Therefore the teeth on the cutter head should also be pointing in a CCW direction. See image to the right for verification.

12. Lower the saw back down over the cutter head until the motor hub is approximately centered with cutter head.

13. Go around to the motor side of the saw. Slide the motor back in towards the cutter head and slide the hub bolts into through cutter head mount holes.

14. Once mounted onto the hub bolts lift the saw again slightly off the floor and replace the eight M20 hex flange nuts.

15. Go around to the motor side of the saw reinstall and tighten all ten motor mount bolts using lock tight to secure them in place.

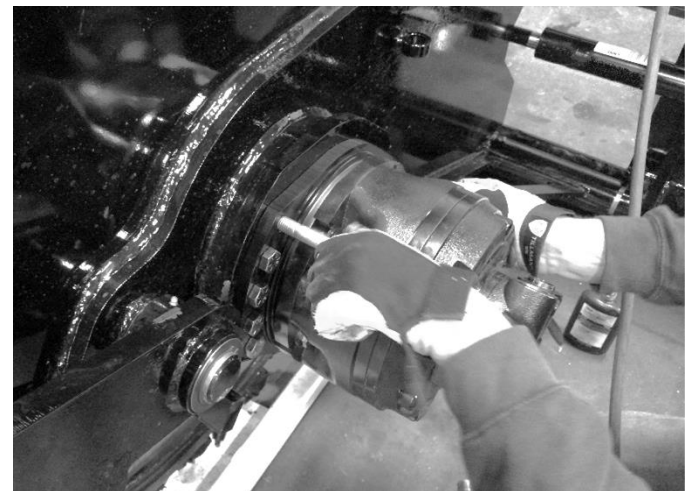
16. Go back around to the cutter head side and reinstall the bar through the slots in the cutter head to keep it from rotating as seen in the image to the right. (Large pry bar shown.)

17. With a 30mm (1 3/16") socket and a large torque wrench, torque the eight M20 hex flange nuts down to 470 ft. lbs.

18. Remove the bar used to retain the cutter head and rotate it by hand to verify that there are no interferences.



Cutter Head Rotation Direction



5/8"-11 X 6" Bolt Connection



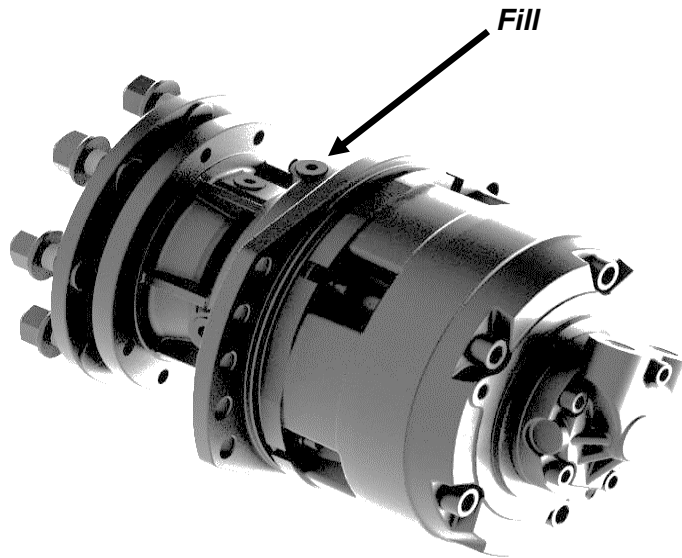
Cutter Head Lug Nut Reinstall

ROUTINE MAINTENANCE

GEARBOX MAINTENANCE

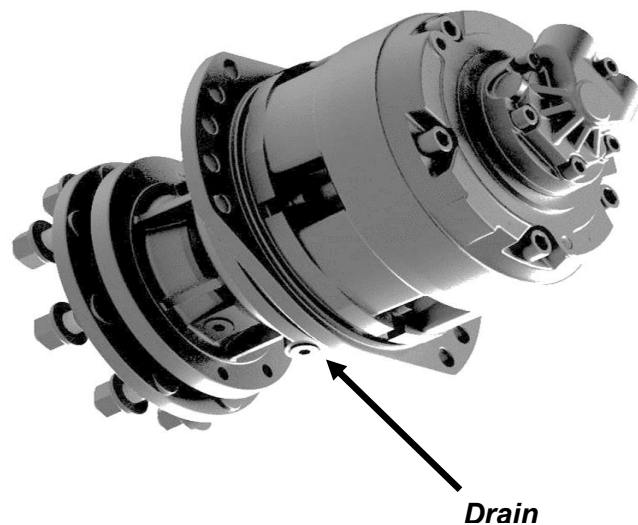
The first gearbox oil change must be done between the first 15 – 20 hours of use. Subsequent gearbox oil changes should occur between 800 – 1000 hours of use or annually whichever comes first.

IMPORTANT: Fluids such as engine oil, gear lube, and hydraulic fluid must be disposed of in an environmentally safe manner. Some regulations require that certain spills and leaks be cleaned in a specific manner. Check local, state, and federal regulations for the correct disposal.



Pavement Saw Gearbox Oil Replacement

1. Follow the instructions on the previous pages to get the motor slid out and supported by the two 5/8"-11UNC X 6" hex bolts (hand tight only) as seen in the image to the left.
2. Use an approved oil drain pan and place it below the gearbox.
3. Remove the fill plug located on the top of the gearbox with a 3/8" Allen wrench.
4. Remove the drain plug located on the bottom of the gearbox with a 3/8" Allen wrench.
5. Reinstall the drain plug into the port on the bottom side of the gearbox. (Inspect the compression washer on the plug for damage prior to reinstalling it.)
6. Add 21 ounces of 80/90 gear lube or equivalent to the top port on the gearbox.
7. Reinstall the fill plug into the top port on the gearbox.
8. Follow the instructions on the previous page to reinstall the motor and cutter head.

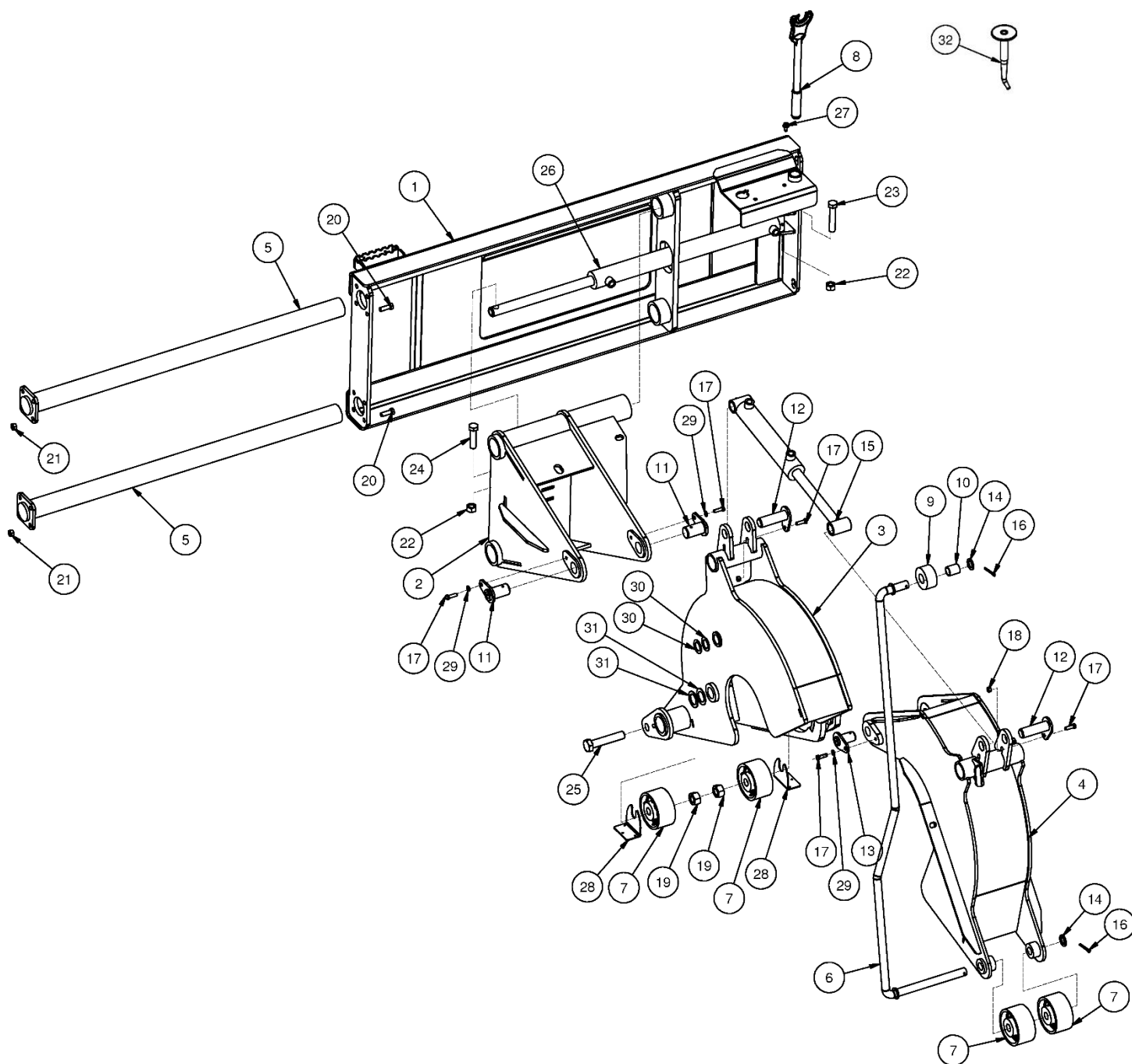


WARNING: Cutter head is extremely heavy and could cause injury or death if not secured properly while removing, reinstalling or transporting.

PARTS INFORMATION

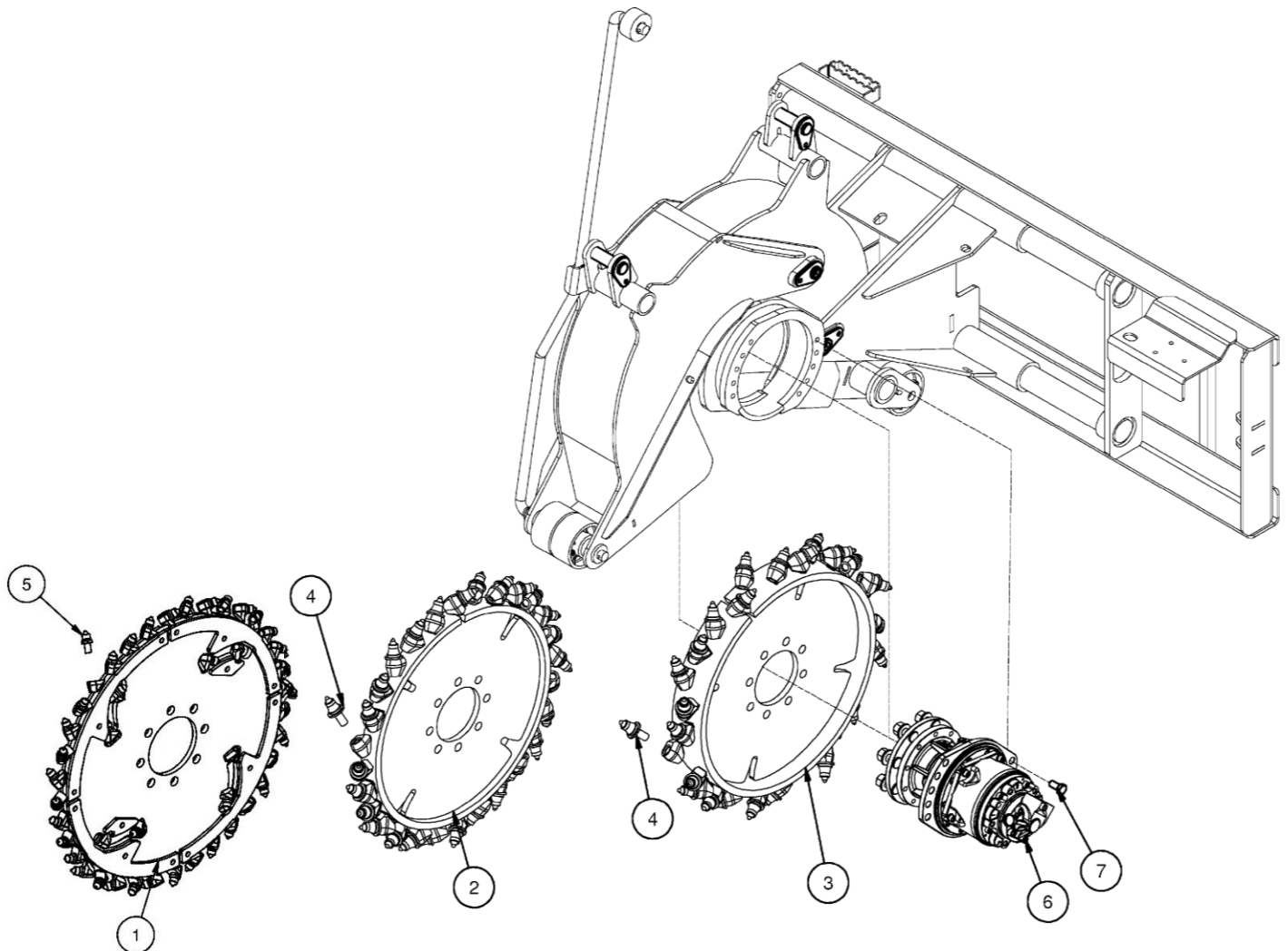
ITEM	QTY	PART NO.	DESCRIPTION	STOCK NO.
1	1	319300	MOUNT FRAME P-SAW W/A	
2	1	319301	FRAME SLIDER P-SAW W/A	
3	1	319302	FRAME MNT MOTOR P-SAW W/A	
4	1	319303	FRAME SHIELD P-SAW W/A	
5	2	319304	SHAFT GUIDE SLIDER W/A	
6	1	319305	ARM GUIDE ROD W/A	
7	4	319327	ROLLER CAST 5 X 1 X 2.75	
8	1	320795	TOOL PICK REMOVAL ASPH/CONCRT	MODEL 2.5 & 4.5 ONLY
	1	314874	TOOL BIT REMOVER ASSEMBLY	OBSOLETE
9	1	319328	BUSHING 3 X 1.27 X 1.5 Z	REPLACED 319329
	1	319329	BUSHING 3 X 1.27 X 1 PNTD	OBSOLETE
10	1	319373	BUSHING OILITE 1 X 1.25 X 1.5	
11	2	319372	PIN 1.5 X 2.94 GRS W/A	
12	2	314057	PIN 1.25 X 4.00 W/A	
13	2	319370	PIN 1.25 X 2.63 GRS W/A	
14	2	33446	WASHER MB 1 10GA NARROW	
15	1	311370	CYLINDER 2 X 10 B-B	DEPTH
16	2	65127	PIN COTTER 3/16 X 2	
17	6	13107	BOLT HEX	3/8 X 1-1/4 NC GR 5
18	2	37212	NUT REV LOCK	3/8 NC
19	2	37219	NUT REV LOCK	1 NC
20	8	15209	BOLT HEX	1/2 X 1-1/2 NC GR 8 YZ
21	8	37214	NUT HEX 1/2 REV LOCK	1/2 NC
22	2	37217	NUT HEX	3/4 NC
23	1	13369	BOLT HEX	3/4 X 4 NC GR 5
24	1	13365	BOLT HEX	3/4 X 3 NC GR 5
25	2	13473	BOLT HEX	1 X 5 NC GR 5
26	1	317274	CYLINDER 2 X 24	SIDE SHIFT
27	3	19929	BOLT FLANGED	3/8 X 3/4 NC FLG
28	2	319451	BRKT SHIPPING PAVE/ROCK SAW	
29	4	103880	WASHER LOCK	3/8"
30	4	33465	WASHER MB 1 1/4 14 GA NARROW	QTY VARIES FOR SPACING
31	4	33475	WASHER MB 1 1/2 14 GA NARROW	QTY VARIES FOR SPACING
32	1	318670	TOOL BIT PUNCH	MODEL 1.5 X 9 ONLY

PARTS INFORMATION



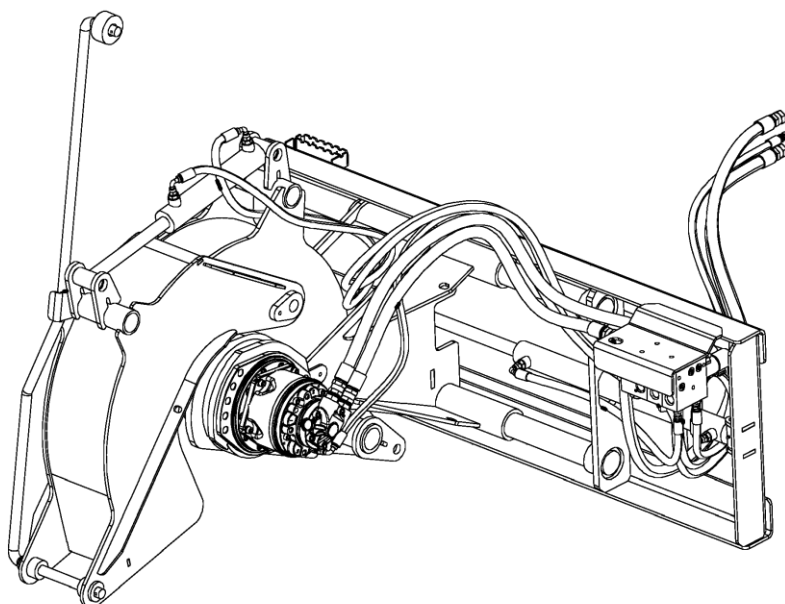
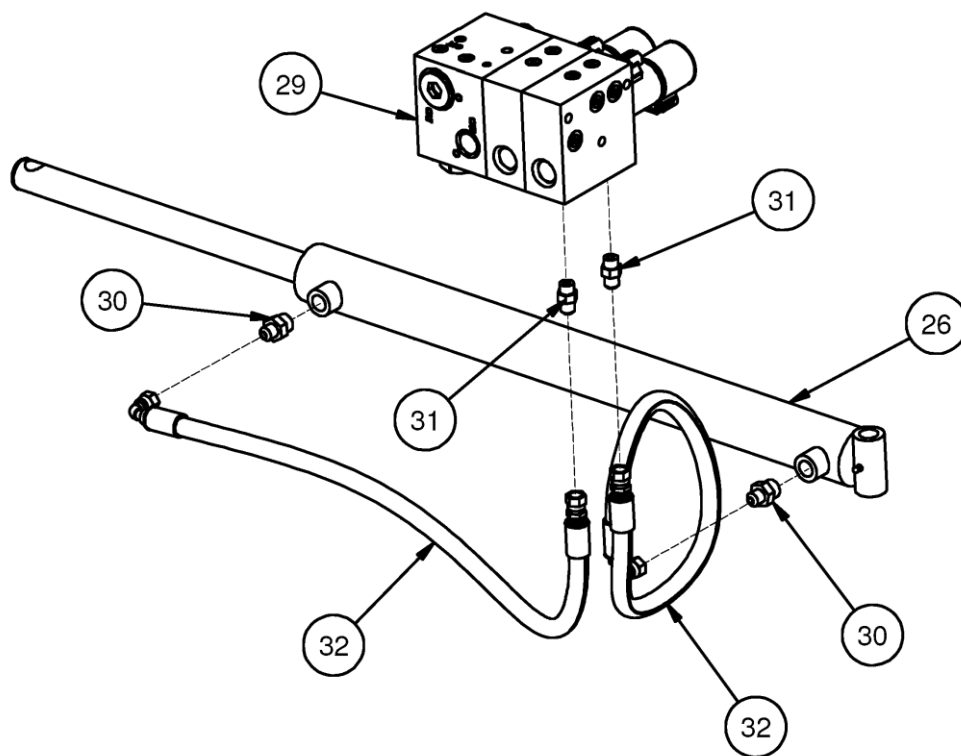
PARTS INFORMATION

ITEM	QTY	PART NO.	DESCRIPTION	STOCK NO.
		318682	PKG ROTOR BLADE WHEEL HD 1.5 X 30 PS	
		319481	PKG ROTOR BLADE WHEEL 1.5 X 30 PS	OBSOLETE
		319482	PKG ROTOR BLADE WHEEL 2.5 X 30 PS	
		319483	PKG ROTOR BLADE WHEEL 4.5 X 30	
1	1	318683	ROTOR BLADE WHEEL HD 1.5 X 30 W/A	USED IN PKG 318682
	1	319313	ROTOR BLADE WHEEL 1.5 X 30 W/A	OBSOLETE USED IN PKG 319481
2	1	319316	ROTOR BLADE WHEEL 2.5 X 30 W/A	USED IN PKG 319482
3	1	319317	ROTOR BLADE WHEEL 4.5 X 30 W/A	USED IN PKG 319483
4	28	314828	TOOTH BULLET CP UTILITY (Standard)	925 & 945 REPLACEMENT PKG 319489
	28	314829	TOOTH BULLET CP/RS ASPHALT	925 & 945 REPLACEMENT PKG 318905
	28	314830	TOOTH BULLET CP/RS CONCRETE	925 & 945 REPLACEMENT PKG 318908
5	36	319526	TOOTH BULLET HD 14MM	915 REPLACEMENT PKG 318679
	36	319527	HOLDER TOOTH 14MM	
	1	319460	MOTOR ASSM	
6	10	15307	BOLT HEX	5/8 X 1-1/4 NC GR 8 YZ
7				



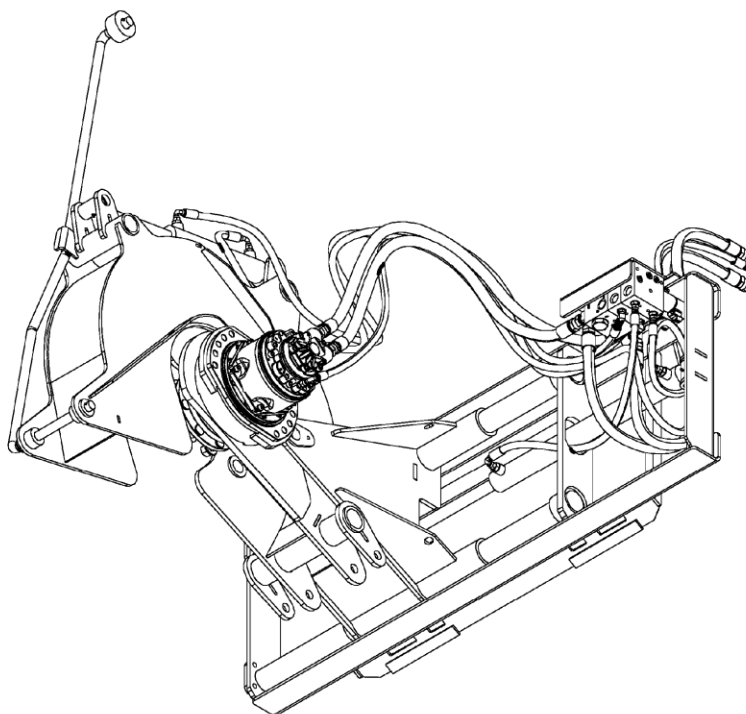
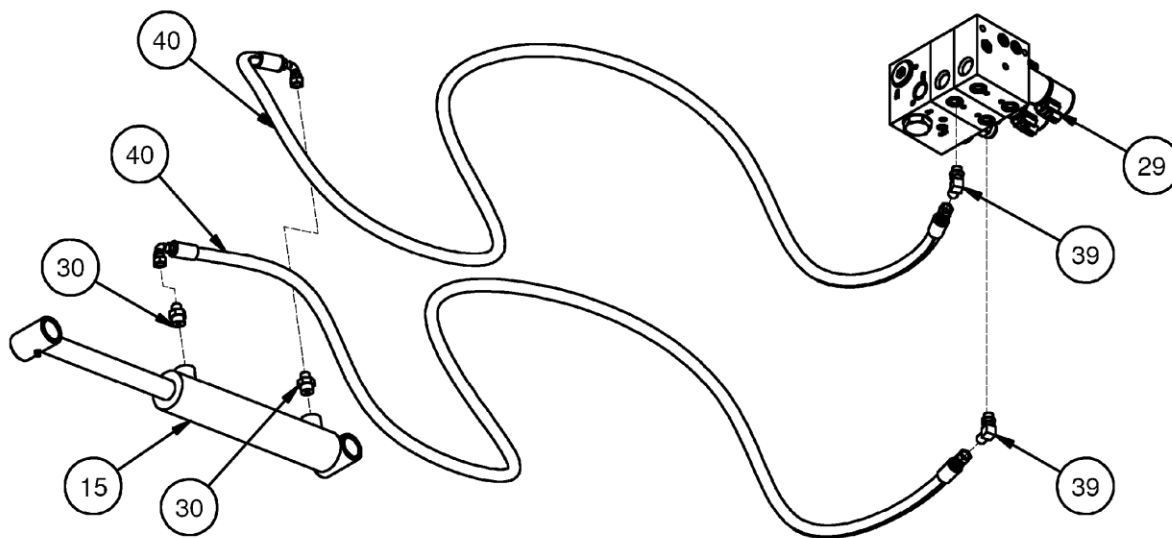
PARTS INFORMATION

ITEM	QTY	PART NO.	DESCRIPTION	STOCK NO.
26	1	317274	CYLINDER 2 X 24	SIDE SHIFT CYLINDER
29	1	319475	VALVE ASSM ROCK SAW 2 FUNC	REPLACED 319473
	1	319473	VALVE ASSM ROCK SAW 2 FUNC	REPLACED BY 319475
30	4	201925	ADPT STR 8MB-6MJ	
31	2	311673	ADPT STR 6MB-6MJ	
32	2	319324	HOSE 3/8 X 36 6FJX-6FJX90	CYL BASE TO PORT A ON BLOCK



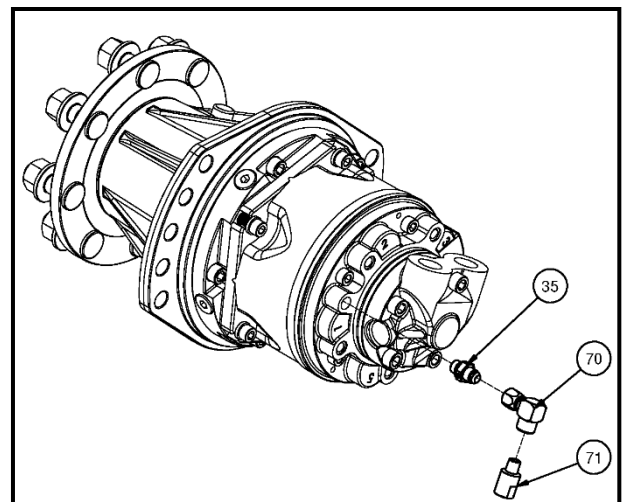
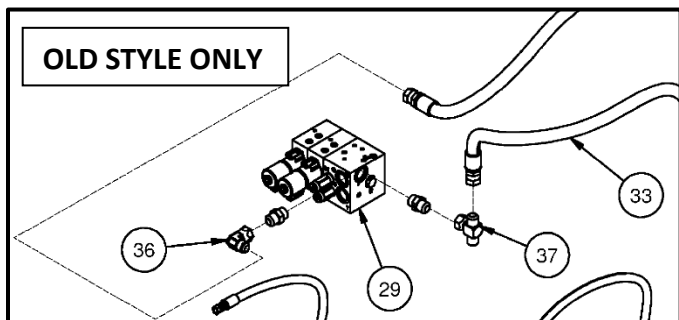
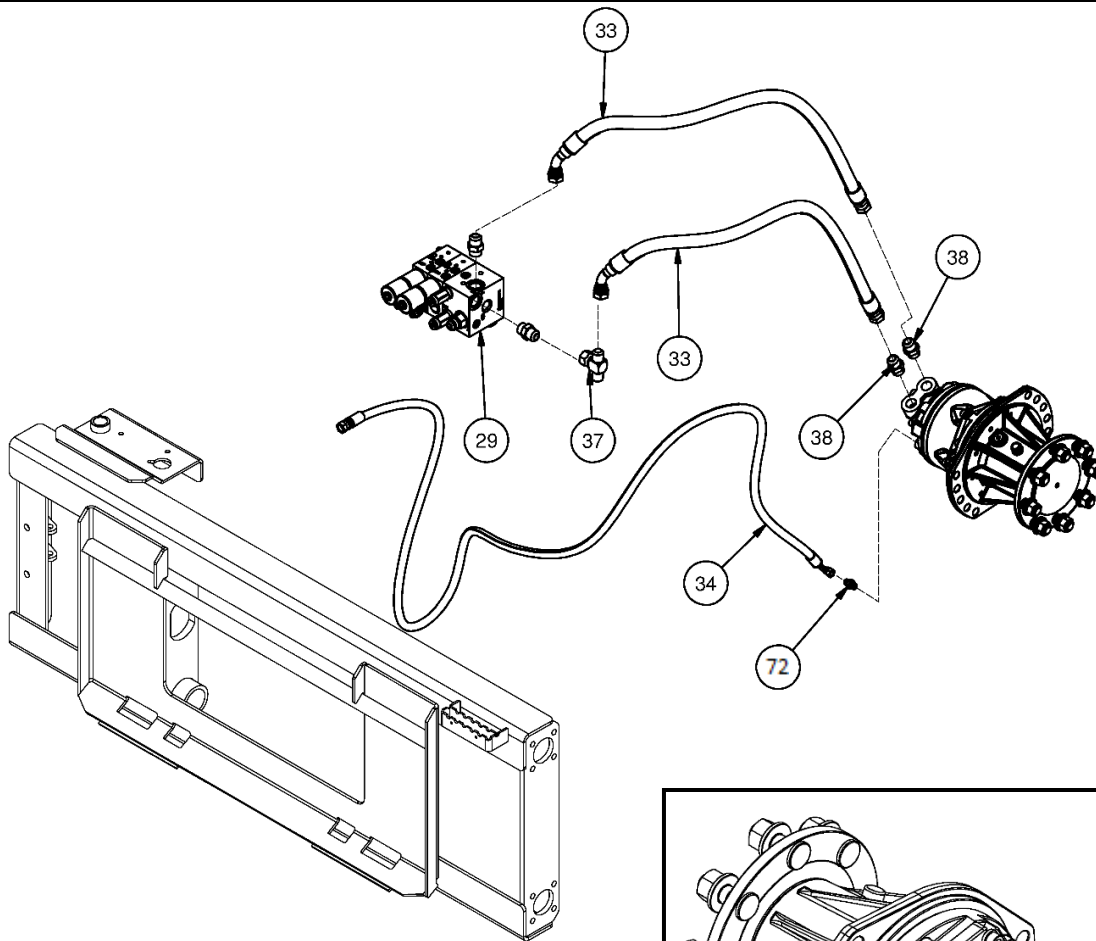
PARTS INFORMATION

ITEM	QTY	PART NO.	DESCRIPTION	STOCK NO.
15	1	311370	CYLINDER 2 X 10 B-B	DEPTH
29	1	319475	VALVE ASSM ROCK SAW 2 FUNC	REPLACED 319473
	1	319473	VALVE ASSM ROCK SAW 2 FUNC	REPLACED BY 319475
30	2	201925	ADPT STR 8MB-6MJ	
39	2	201539	ADPT ELB 6MB-6MJ-90	
40	2	319323	HOSE 3/8 X 110 6FJX-6FJX90	CYL BASE TO PORT B ON BLOCK



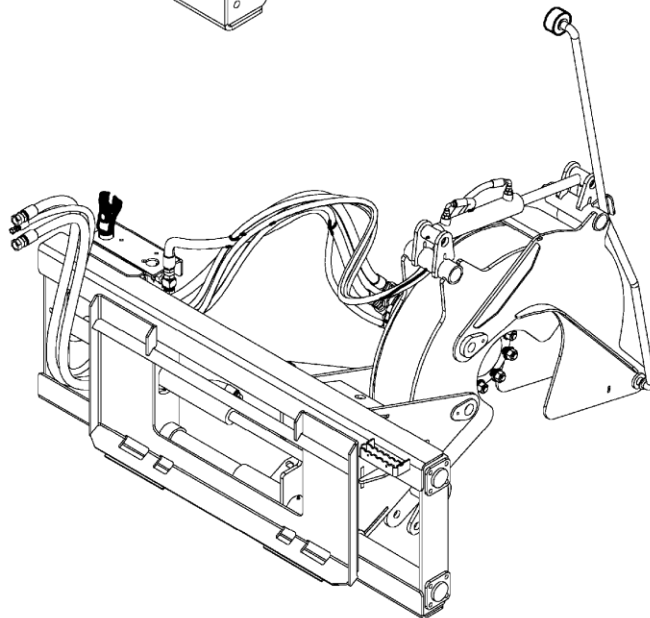
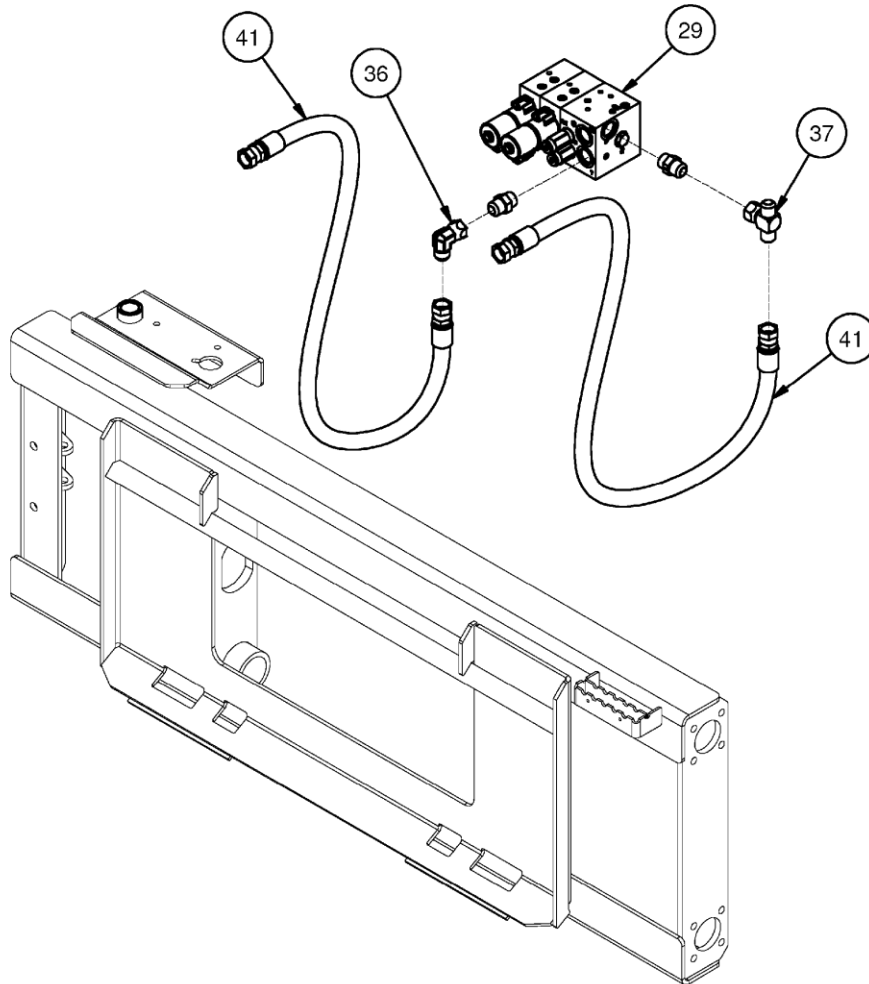
PARTS INFORMATION

ITEM	QTY	PART NO.	DESCRIPTION	STOCK NO.
6	1	319460	MOTOR ASSM	
29	1	319475	VALVE ASSM ROCK SAW 2 FUNC	REPLACED 319473
	1	319473	VALVE ASSM ROCK SAW 2 FUNC	REPLACED BY 319475
33	2	319364	HOSE 3/4 X 54 12FJX-12FJX-45	MOTOR PORT B TO BLOCK PORT P
	2	319322	HOSE 3/4 X 60 12FJX-12FJX	OBSOLETE REPLACED BY 319364
34	1	330897	HOSE 1/2 X 130 8FJX-8FJX90	CD (REPLACED 319325)
	1	319325	HOSE 3/8 X 130 6FJX-6FJX90	CD (REPLACED BY 330897)
35	1	319476	ADPT STR 4MBPSS-6MJ	
36	1	314826	ADPT ELB 12MJ-12FJ-90	OBSOLETE (319473 VALVE ONLY)
37	1	330782	ADPT TEE 12MJ-12MJ-12FJX	
38	2	103431	ADPT STR 12MB-12MJ	
70	1	330813	ADPT ELB 4FP-6FJX90	MOTOR
71	1	331384	ADPT STR 4MP RELIEF 225 PSI	MOTOR (NOT PART OF HOSE KIT)
72	1	330849	ADPT STR 4MBSSPP-8MJ	CASE DRAIN TO MOTOR



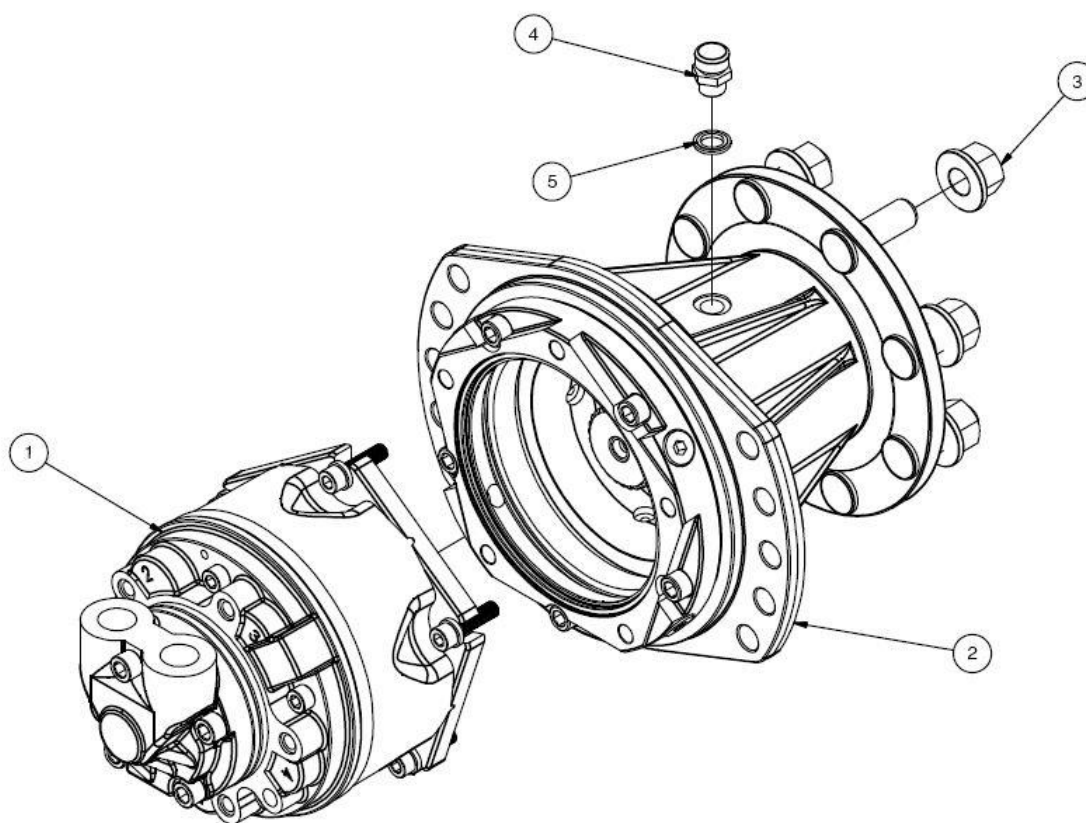
PARTS INFORMATION

ITEM	QTY	PART NO.	DESCRIPTION	STOCK NO.
29	1	319475	VALVE ASSM ROCK SAW 2 FUNC	REPLACED 319473
	1	319473	VALVE ASSM ROCK SAW 2 FUNC	REPLACED BY 319475
36	1	314826	ADPT ELB 12MJ-12FJ-90	
37	1	330782	ADPT TEE 12MJ-12MJ-12FJX	
41	2	319312	HOSE 3/4 X 72 12FJX- 12FJX	LEAD



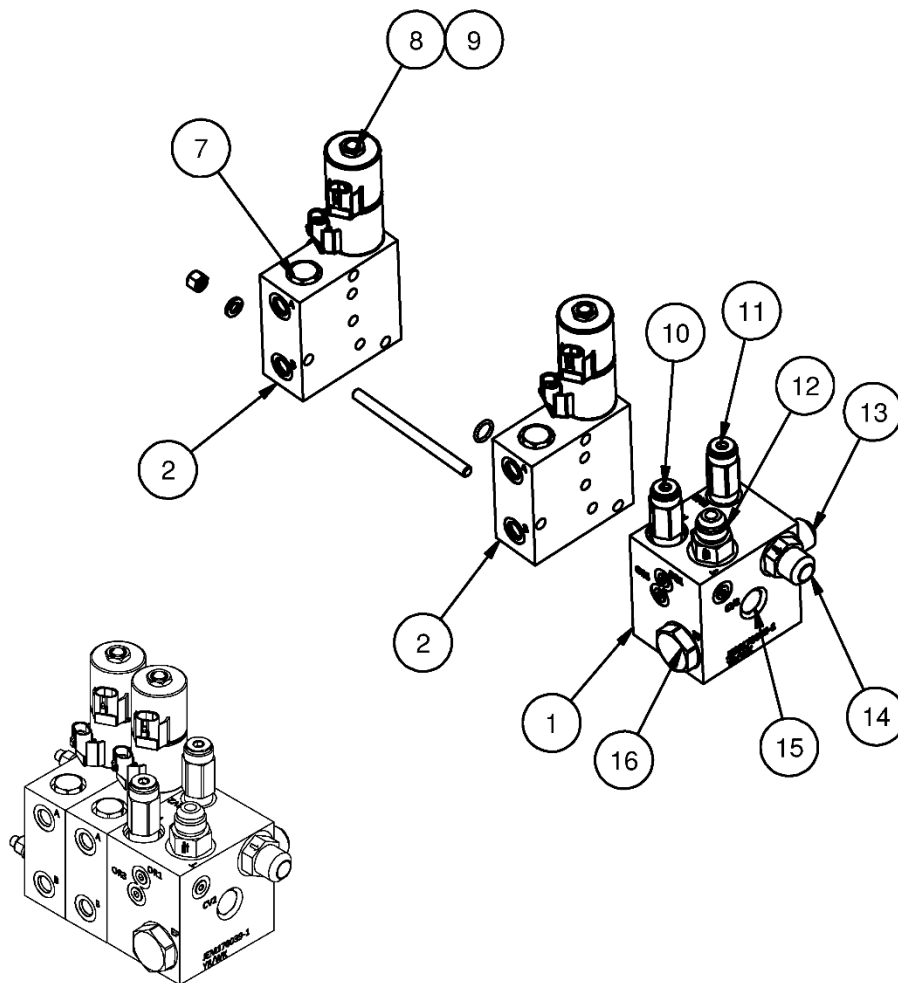
PARTS INFORMATION

ITEM	QTY	PART NO.	DESCRIPTION	STOCK NO.
		319460	MOTOR ASSM	80/90W LUBE 210Z
1	1	319461	MOTOR ASSM 11.07	
2	1	319462	GEARBOX PSW50 4.35:1	REPLACED BY 319463
3	8	330789	NUT FLG M20-1.5 GR 10.9	
4	1	319467	ADPT BREATHER 6BSPP	
5	1	319991	ADPT SEAL 6BSPP	



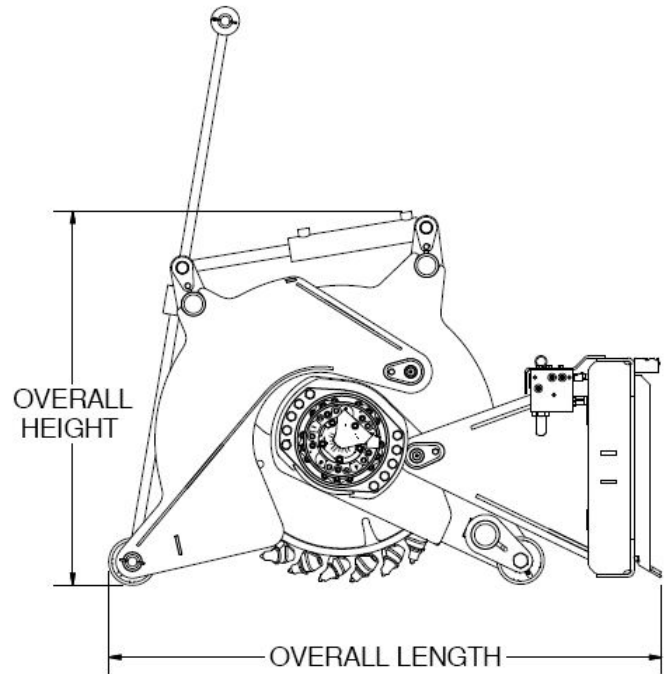
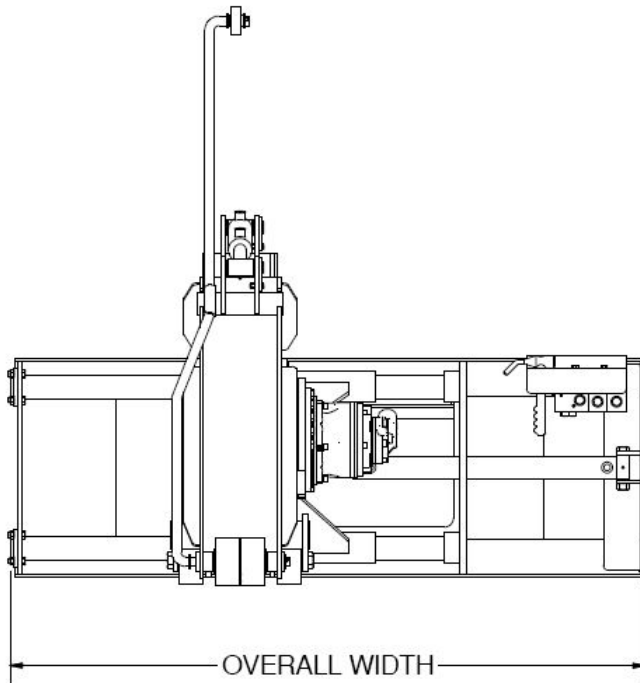
PARTS INFORMATION

ITEM	QTY	PART NO.	DESCRIPTION	STOCK NO.
		319475	VALVE ASSM ROCK SAW 2 FUNC	REPLACED 319473
		319473	VALVE ASSM ROCK SAW 2 FUNC OBLT	REPLACED BY 319475
1	1	319474	VALVE ASSM ROCK SAW INLET-2	
	1	319470	VALVE ASSM ROCK SAW INLET	319473 VALVE ONLY
2	2	319471	VALVE ASSM ROCK SAW CYL SECTION	
7	1	300982	VALVE CHECK 100PSI	
8	1	300955	WASHER E-COIL SPACER SP10	
9	2	314899	COIL VALVE 12V ECOIL CP	
10	1	300984	VALVE RELIEF 2000PSI	
11	1	300985	VALVE RELIEF	
12	1	300983	ADPT STR 12MB-12MJ-.10 ORIFICE	
13	1	103431	ADPT STR 12MB-12MJ	
14	1	313141	ADPT STR 12MB-12MJ CHECK	
15	2	300987	VALVE CHECK 4PSI	
16	1	300986	LOGIC ELEMENT PILOTED 70PSI	



GENERAL SPECIFICATIONS

Pavement Saw Specifications				
	PS915	PS925	PS945	
Motor Specs				
Minimum Flow Rate	22 GPM	25 GPM	25 GPM	
Maximum Flow Rate	40 GPM	40 GPM	40 GPM	
Maximum Speed	180 RPM	180 RPM	180 RPM	
Minimum Operating Pressure	2800 PSI	2800 PSI	3000 PSI	
Maximum Pressure	5500 PSI	5500 PSI	5500 PSI	
Maximum Power Output	60	60	60	
Maximum Torque	5000 lb ft	5000 lb ft	5000 lb ft	
Saw Specs				
Hydraulic Flow Classification	High Flow	High Flow	High Flow	
Number of Teeth	36	28	28	
Width of Cut	1.5"	2.5"	4.5"	
Depth of Cut	9"	9"	9"	
Depth Control	Hydraulic	Hydraulic	Hydraulic	
Side Shift Distance	24"	24"	24"	
Side Shift Control	Hydraulic	Hydraulic	Hydraulic	
Overall Width	67"	67"	67"	
Overall Length	59"	59"	59"	
Overall Height	40"	40"	40"	
Overall Weight	1300 lbs.	1335 lbs.	1365 lbs.	



BOLT TORQUE CHART

Torque-Tension Relationships for SAE J429 Grade Bolts

Nominal Thread Size	SAE J429 Grade 2			SAE J429 Grade 5			SAE J429 Grade 8		
	Clamp Load (lbs)	Tightening Torque		Clamp Load (lbs)	Tightening Torque		Clamp Load (lbs)	Tightening Torque	
		K = .15	K = .20		K = .15	K = .20		K = .15	K = .20
Unified Coarse Thread Series									
1/4-20	1,300	49 in-lbs	65 in-lbs	2,000	75 in-lbs	100 in-lbs	2,850	107 in-lbs	143 in-lbs
5/16-18	2,150	101	134	3,350	157	210	4700	220	305
3/8-16	3,200	15 ft-lbs	20 ft-lbs	4,950	23 ft-lbs	31 ft-lbs	6,950	32.5 ft-lbs	44 ft-lbs
7/16-14	4,400	24	30	6,800	37	50	9,600	53	70
1/2-13	5,850	36.5	49	9,050	57	75	12,800	80	107
9/16-12	7,500	53	70	11,600	82	109	16,400	115	154
5/8-11	9,300	73	97	14,500	113	151	20,300	159	211
3/4-10	13,800	129	173	21,300	200	266	30,100	282	376
7/8-9	11,425	125	166	29,435	321	430	41,550	454	606
1-8	15,000	187.5	250	38,600	482.5	640	54,540	680	900
Unified Fine Thread Series									
1/4-28	1,500	55 in-lbs	75 in-lbs	2,300	85 in-lbs	115 in-lbs	3,250	120 in-lbs	163 in-lbs
5/16-24	2,400	112	150	3,700	173	230	5,200	245	325
3/8-24	3,600	17 ft-lbs	22.5 ft-lbs	5,600	26 ft-lbs	35 ft-lbs	7,900	37 ft-lbs	50 ft-lbs
7/16-20	4,900	27	36	7,550	42	55	10,700	59	78
1/2-20	6,600	41	55	10,200	64	85	14,400	90	120
9/16-18	8,400	59	79	13,000	92	122	18,300	129	172
5/8-18	10,600	83	110	16,300	128	170	23,000	180	240
3/4-16	15,400	144	193	23,800	223	298	33,600	315	420
7/8-14	12,610	138	184	32,480	355	473	45,855	500	668
1-12	16,410	205	273	42,270	528	704	59,670	745	995

Clamp load estimated as 75% of proof load for specified bolts.





Torque values for 1/4 and 5/16 inch series are in inch-pounds. All other torque values are in foot-pounds.

Torque values calculated from formula $T = KDF$

where: $K=0.15$ for “lubricated” conditions

$K=0.20$ for “dry” conditions

TROUBLESHOOTING

PROBLEMS	POSSIBLE CAUSE	POSSIBLE SOLUTION
 Poor Rotation	<p>Worn pick holders.</p> <p>Excess material build-up on pick shank.</p> <p>Holder not properly aligned.</p> <p>Excessive machine speed.</p>	<p>Replace the worn holders.</p> <p>Clean holder & shank with solvent.</p> <p>Remove incorrect holder and reposition.</p> <p>Slow down the machine.</p>
 Excessive Steel Body Wear	<p>Caused by soft abrasive material.</p> <p>High rotational speed.</p>	<p>Consider using a larger diameter carbide tip base.</p> <p>Consider using a heavier body pick.</p>
 Extreme Carbide Tip Wear	<p>Hard material (aggregate)</p> <p>Heat build-up on the pick.</p>	<p>Consider using a larger carbide tip.</p> <p>Consider cooling picks with water.</p>
 Tip Fractures	<p>Extremely hard material (aggregate)</p> <p>Heat build-up on the pick.</p> <p>Improper pick installation.</p> <p>Poor rotation.</p>	<p>Consider using a larger carbide tip base diameter.</p> <p>Consider cooling picks with water.</p> <p>Use pick installation tool, rubber mallet, or copper hammer.</p> <p>See above instructions.</p>

TROUBLESHOOTING

PROBLEMS	POSSIBLE CAUSE	POSSIBLE SOLUTION
Motor on the saw will not operate.	<p>Auxiliary hoses not hooked up to the skid steer.</p> <p>Obstruction in hydraulic lines.</p> <p>Hydraulic motor damaged or seals blown.</p> <p>Skid steer auxiliary valve not engaged.</p>	<p>Engage Couplers</p> <p>Remove obstruction and replace if necessary.</p> <p>Call service department for instructions.</p> <p>Engage auxiliary valve.</p>
Cutter head rotates sluggishly.	<p>Insufficient hydraulic flow from the skid steer.</p> <p>Damaged quick coupler.</p> <p>Hydraulic motor damaged or seals blown.</p> <p>Oil filter on skid steer is dirty.</p>	<p>Refer to skid steer's owner's manual.</p> <p>Replace if necessary.</p> <p>Call service department for instructions.</p> <p>Refer to skid steer's owner's manual.</p>
Leaking Oil.	<p>Loose or damaged hydraulic line.</p> <p>O-Rings on fittings damaged.</p> <p>Hydraulic motor damaged or seals blown.</p> <p>Fittings loose or damaged.</p> <p>Cylinder seals damaged.</p>	<p>Tighten or replace.</p> <p>Replace if necessary.</p> <p>Call service department for instructions.</p> <p>Tighten or replace.</p> <p>Replace cylinder seals.</p>
Insufficient power.	<p>Insufficient hydraulic flow from the skid steer.</p> <p>Relief valve setting adjusted too low.</p> <p>Hydraulic motor damaged or seals blown.</p> <p>Oil filter on skid steer is dirty.</p>	<p>Refer to skid steer's owner's manual.</p> <p>Refer to skid steer's owner's manual.</p> <p>Call service department for instructions.</p> <p>Refer to skid steer's owner's manual.</p>
Cutter head rotates in the wrong direction.	<p>Hoses from the valve to the motor incorrectly connected.</p>	<p>Switch hoses at the motor end.</p>
Excessive vibration during cutting operation.	<p>Picks are worn or broken.</p> <p>Picks contain flat spots or are not rotating freely.</p> <p>Insufficient down force due to incorrect operating procedure.</p>	<p>Visually inspect the picks and replace as necessary.</p> <p>Visually inspect the picks and replace as necessary.</p> <p>Refer to the Operating section of this manual.</p>

TROUBLESHOOTING

PROBLEMS	POSSIBLE CAUSE	POSSIBLE SOLUTION
Excessive oil temperature.	Hydraulic oil level too low. Obstruction in hydraulic lines. Hydraulic oil or oil filter in skid steer is dirty. Relief valve setting adjusted too low.	Refer to skid steer's owner's manual Remove obstruction and replace if necessary. Refer to skid steer's owner's manual. Refer to skid steer's owner's manual.
All hydraulic cylinders not functioning.	Blown fuse on skid steer. Damaged electrical wiring.	Refer to skid steer's owner's manual. Test and replace if necessary.
A Hydraulic cylinder not operating.	Insufficient hydraulic flow from the skid steer. Solenoid valve spool bent. Retaining nut on solenoid valve too tight. Cylinder rod bent. Cylinder seals damaged. Obstruction in hydraulic lines.	Refer to skid steer's owner's manual. Replace spool. Loosen nut. Visually inspect the cylinder for damage. Replace cylinder seals. Remove obstruction and replace if necessary.
Hydraulic cylinders only operating in one direction.	Contaminants in the hydraulic system and solenoid valve. Damaged electrical wiring. Solenoid valve spool bent. Retaining nut on solenoid valve too tight. Air in the hydraulic cylinder.	Remove spool from solenoid valve and check for foreign material. Clean or replace. Remove spool from solenoid valve and check seals for damage. Replace if necessary. Test and replace spool if necessary. Loosen nut. Loosen a fitting on the cylinder and bleed the air out of the line.



LIMITED WARRANTY

Quick Attach Attachments LLC warrants each new machine manufactured by us to be free from defects in material and workmanship for a period of twenty-four (24) months from date of delivery to the original purchaser.

Our obligation under this warranty is to replace free of charge, at our factory or authorized dealership, any part proven defective within the stated warranty time limit.

All parts must be returned freight prepaid and adequately packaged to prevent damage in transit.

This warranty does not cover:

1. New products which have been operated in excess of rated capacities or negligence
2. Misuse, abuse, accidents or damage due to improperly routed hoses
3. Machines which have been altered, modified or repaired in any manner not authorized by our company
4. Previously owned equipment
5. Any ground engaging tools in which natural wear is involved, i.e. tooth tips, cutting teeth, etc
6. Normal maintenance
7. Fork tines
8. Hydraulic motors that have been disassembled in any manner

In no event will the Sales Representative, Dealership, Quick Attach Attachments LLC, or any other company affiliated with it or them be liable for incidental or consequential damages or injuries, including but not limited to the loss of profit, rental or substitute equipment or other commercial loss. Purchaser's sole and exclusive remedy being as provided here in above.

Quick Attach Attachments LLC must receive immediate notification of defect and no allowance will be made for repairs without our consent or approval.

This warranty is in lieu of all other warranties, express or implied by law or otherwise, and there is no warranty of merchantability or fitness purpose.

No agent, employee, or representative of Quick Attach Attachments LLC has any authority to bind Quick Attach Attachments LLC to any warranty except as specifically set forth herein. Any of these limitations excluded by local law shall be deemed deleted from this warranty; all other terms apply.

This warranty may not be enlarged or modified in any manner except in writing signed by an executive officer of Quick Attach Attachments LLC to improve its products whenever it is possible and practical to do so. Quick Attach Attachments LLC reserves the right to make changes and or add improvements at any time without incurring any obligation to make such changes or add such improvements to products previously sold.

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Quick Attach Attachments LLC

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