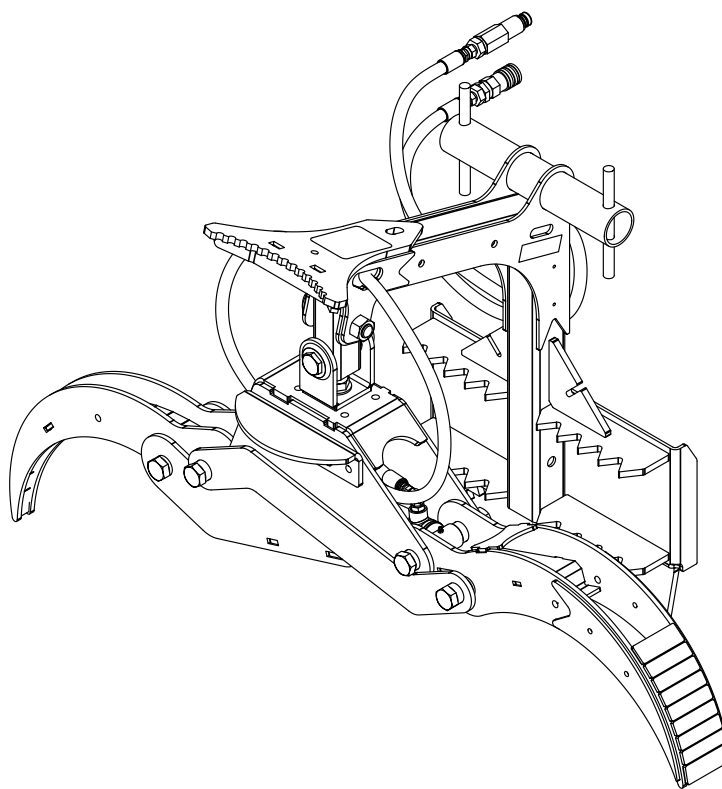


ERSKINE[®]

ATTACHMENTS



MINI MULTIPURPOSE GRAPPLE

Operator's Manual
Maintenance & Parts Information



Read this Manual Before Use

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NOTE: Write your serial number for your attachment in the spaces below. Always refer to this serial number when calling for services parts.

Serial Number

Attachment Dealer

Address

Phone Number

Contact

NOTE: Erskine 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.

SAFETY

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.

Erskine 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

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 grappling and handling construction and natural debris on loaders with a Rated Operating Capacity (ROC) of 1,500 pounds or less. **NEVER** use this attachment for purposes other than intended.
- Read the operator's manual for the "Skid Steer Loader". **NEVER** allow untrained people to operate.
- Operating instructions must be given to everyone before operating this machine 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 Erskine 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.

OPERATION

- Always wear eye protection that meets z87.1 or use with a loader enclosure that provides similar protection.
- Hydraulic connections may be hot after use. Use gloves if connecting or disconnecting after use.
- Check and be sure all operating controls are in neutral before starting the engine.

OPERATION (continued)

- Keep people away from loader and attachment when in use. **NEVER** lift load directly over people - load could fall.
- **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 hands near attachment 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.

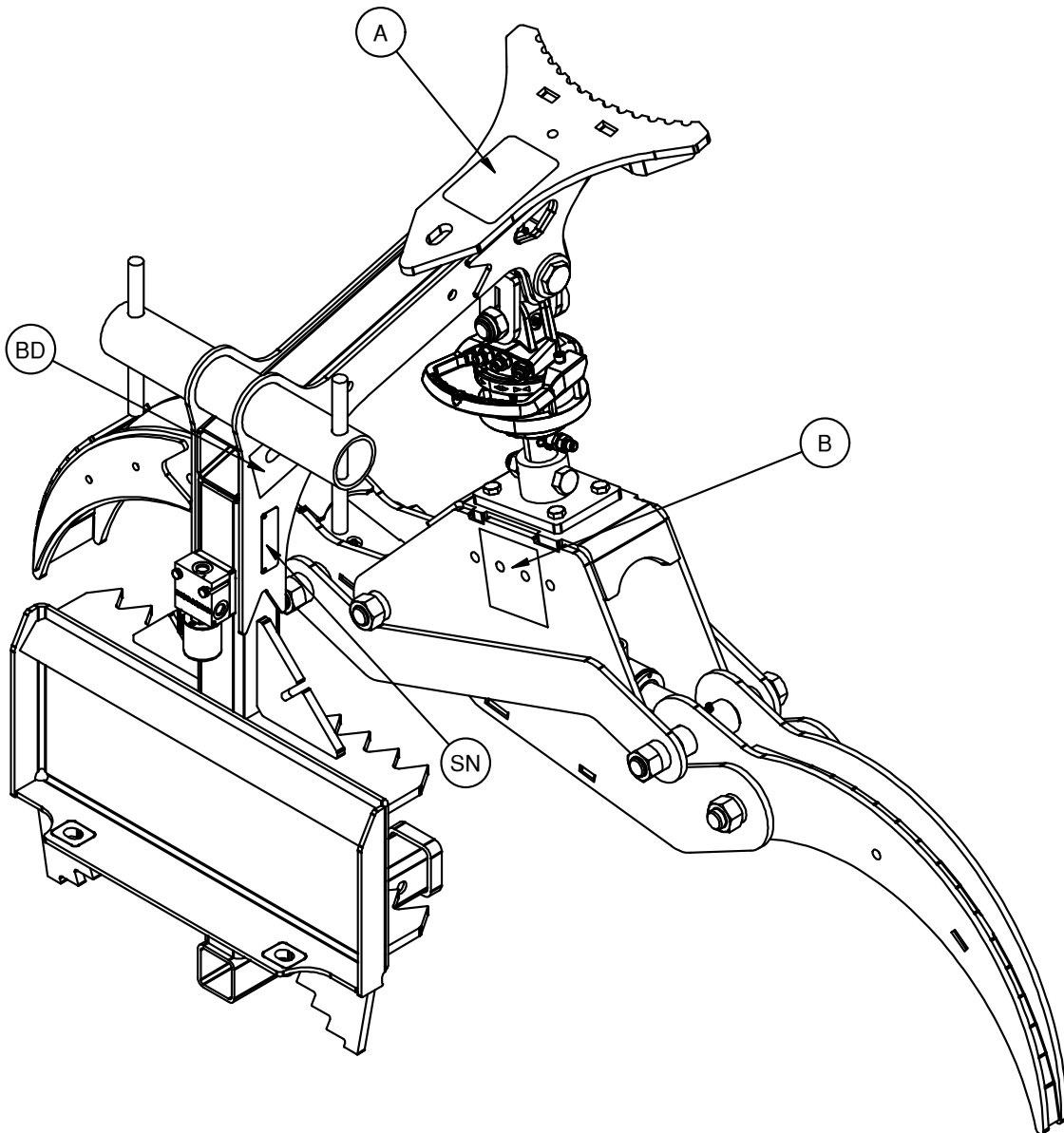
MAINTENANCE

- **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.

DECAL INFORMATION

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. Please see below for Serial Plate location.



DECAL INFORMATION

A



Part number: 200001
Location: Top of frame
Quantity: 1

B



Part number: 330900
Location: Face of grapple
Quantity: 1

BD

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ATTACHMENTS

Brand Decal: Small
Location: Both sides of frame tube
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 Erskine Attachments LLC (218-435-4045) for replacement decals.

MOUNTING INSTRUCTIONS

After the initial set-up assembly is completed use the following procedure to mount the attachment to the loader for user operation.

⚠ WARNING

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

1. Standing in the operator's position, make sure all controls are in neutral, and start the engine.
2. Drive the loader to the rear of the attachment. Put the loader quick attach coupler into the attachment mounting bracket.
3. Tilt the loader coupler backward a small amount until it is fully engaged in the attachment mounting bracket.
4. Stop the engine and engage the park brake.
5. Walk to the front of the loader and secure the coupler locking mechanism that attaches the attachment to the loader.
6. Connect the hydraulic quick couplers from the attachment to the loader.
7. Be sure to thread the hoses through the hose holder on the loader. Bungee straps can be used as an alternate method of securing the hoses.

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.

8. 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.

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

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.

OPERATING INSTRUCTIONS

Using the Mini Multipurpose Grapple

Brush

Brush can be transported and stacked or loaded into a chipper

⚠ WARNING To avoid injury or death, use extra caution and maintain a safe distance when working around a chipper.

Drive up to desired branches, open grapple and lower over larger portion of branch.

It may be desirable to group a few branches together either by hand or with the grapple before transporting them. This can reduce the number of trips taken and improve efficiency.

⚠ WARNING To avoid injury or death due to crushing or tip-over, always be aware of your surroundings when transporting any materials.

Logs

Logs can be sorted, stacked, and transported with the Multipurpose Grapple.

The knee on the main frame is designed to help support the rear end of the log to keep it more stable during handling.

⚠ WARNING Be aware of swing radius when turning. Stay at least 50 feet away from power lines.



Rocks

The multipurpose grapple can be used for moving rocks for landscaping purposes.

Drive up to desired rock, open grapple and lower onto the rock so that it is centered and slowly close the jaws around the rock. Lift the grapple a few inches off the ground and carefully transport to desired position.

Rocks that are too small will slip between the plates of the jaws. Rocks that are too large will either slip out of the grapple or overload your machine. Never exceed the rated operating capacity for your loader.

OPERATING INSTRUCTIONS

Manual Rotator (IF EQUIPPED)

The grapple rotates 180 degrees in each direction from the centered position.

IMPORTANT: Use caution to prevent hose damage.

Push against logs or the ground to rotate the grapple to the desired angle.

Hydraulic Rotator Option (IF EQUIPPED)

A hydraulic rotator on your Multipurpose Grapple is an option that can greatly improve ease of use and operator efficiency.

1. The primary function of the attachment is opening and closing the grapple.
2. The secondary function of the attachment is the rotation of the grapple head. To rotate the grapple, press and hold the appropriate button on your loader's controls (see loader's operator's manual) or on your pistol grip controller, if equipped. While holding the button activate the auxiliary hydraulics to rotate the grapple. Release the button to resume the primary function.

Volumetric Capacity

1. The removable bracket (PN 401921) can be bolted to the bottom of the grapple body to grip onto smaller diameter logs. This can be helpful when removing tree roots from the ground.
2. Remove this bracket and store on front or rear side of grapple body to increase the total capacity and wrap around diameter.

IMPORTANT: The Mini Multipurpose Grapple is designed for machines with a rated operating capacity (ROC) of 1,500 lbs or less. Operating the Mini Multipurpose Grapple with a machine that has a higher than recommended ROC could result in damage to the attachment and is not covered under warranty.



OPERATING INSTRUCTIONS

Saw Scabbard and Hitch

The Mini Multipurpose Grapple is equipped with a Saw Scabbard and a Hitch.

Saw Scabbard

The Scabbard will hold saws for transport to and from the worksite.

Loosen both plastic knobs before inserting the chainsaw into the scabbard. Once saw is seated fully into scabbard re-tighten the knobs onto the bar of the chainsaw.

⚠ CAUTION Do not operate the grapple without ensuring the chainsaw is tightly secured into scabbard.

Hitch

The receiver hitch can be installed in one of the many height adjustment holes or, rotated 90 degrees for convenient storage.

⚠ WARNING To prevent tipping do not exceed your loaders operating capacity.

⚠ WARNING To prevent serious injury or death never operate on public roadways.

⚠ WARNING Always connect trailer safety chains to safety lock slot when towing a trailer.



ROUTINE MAINTENANCE





⚠ WARNING

Lower the attachment to rest flat on the ground, shut down the engine, relieve the hydraulic pressure to the attachment, set the park brake, and wait for all motion to stop before leaving the operator's seat to perform service of any kind.

It is the operator's responsibility to make daily inspections of the loader and attachment 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 can loosen after initial usage. After the first hour of operation check all bolts.

LUBRICATION

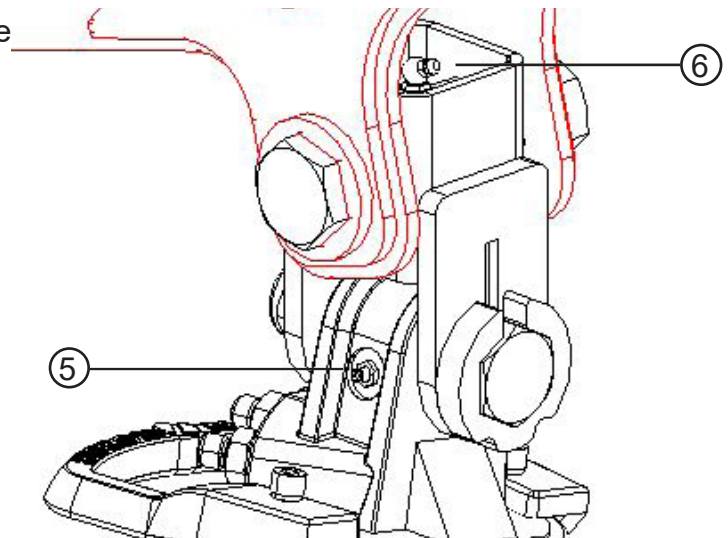
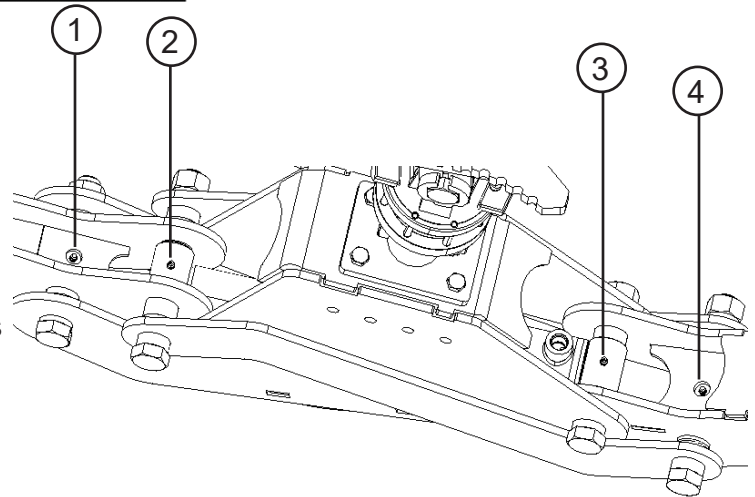
Lubrication Legend	 Multipurpose spray lube	 Multipurpose grease lube	 Multipurpose oil lube	 Intervals at which lubrication is required
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Use No. 2 lithium base gun grease when lubricating all attachment grease fittings.

Check the following items every 10 hours of operation:



1. Check entire attachment for excessive damage. Replace damaged parts as necessary.
2. Check all hardware. Re-tighten if necessary.
3. Check for damaged or missing decals. Replace if damaged or missing.
4. Check for damaged or leaking hydraulic hoses or fittings. Replace or tighten.
5. Grease machine every day of use.
6. See diagram for grease fitting location.
7. If a grease fitting does not take grease replace or clean it.



TORQUE INFORMATION

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	4,700	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

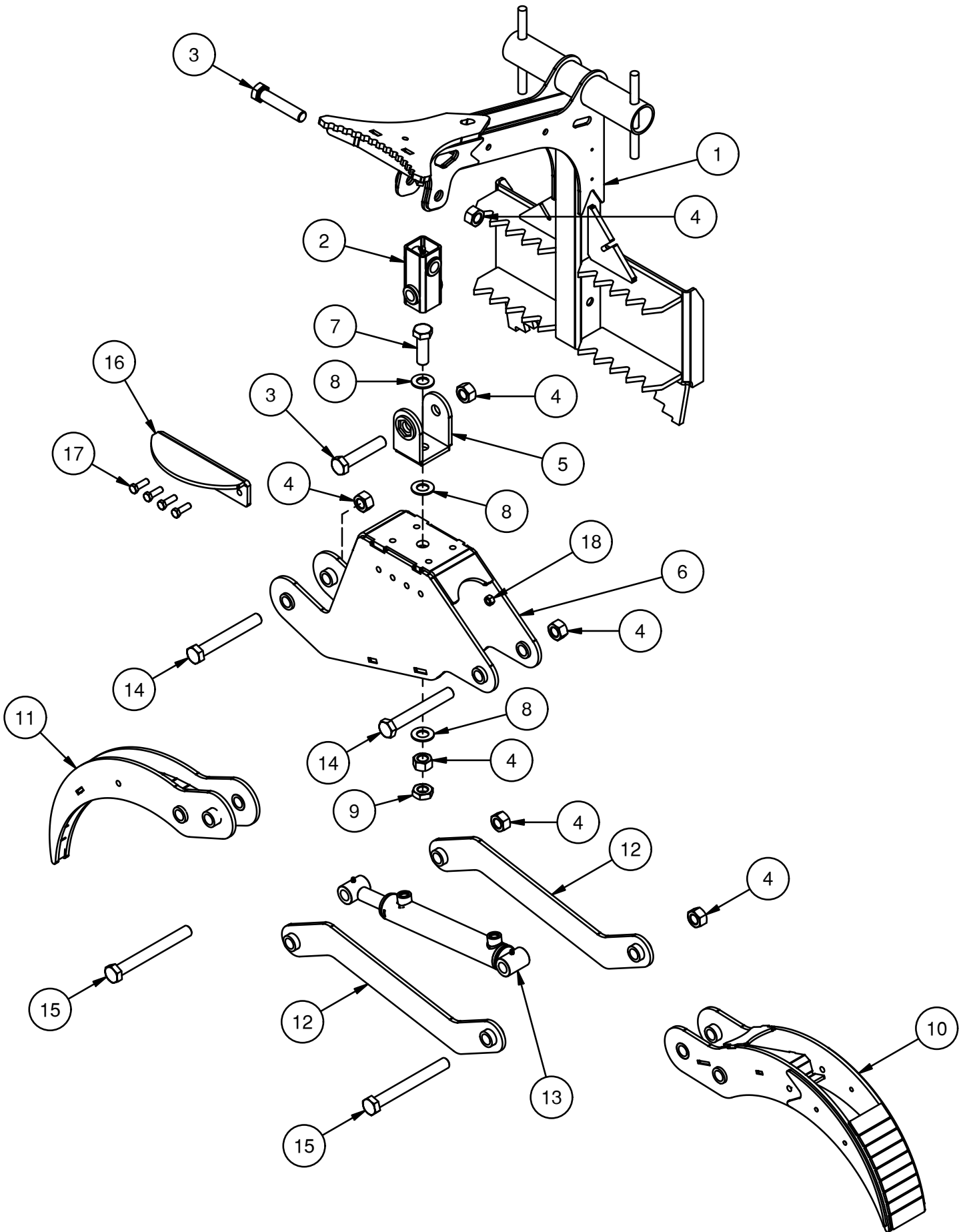
$K=0.20$ for "dry" conditions

PARTS INFORMATION

MANUAL ROTATE

ITEM	QTY	PART NUMBER	DESCRIPTION	STOCK NO.
1	1	401900	FRAME BOOM TORO W/A	
2	1	401910	LINK PIVOT W/A	MANUAL ROTATE ONLY
3	2	13473	BOLT HEX	1 X 5 NC GR5
4	7	37219	NUT REV LOCK	1 NC
5	1	401909	HANGER W/A	MANUAL ROTATE ONLY
6	1	401905	GRAPPLE BODY W/A	
7	1	13465	BOLT HEX 1 X 3 NC GR5	MANUAL ROTATE ONLY
8	3	33096	WASHER FLAT SAE 1	
9	1	36220	NUT HEX JAM	1 NC
10	1	401907	JAW OUTSIDE W/A	
11	1	401906	JAW INSIDE W/A	
12	2	401908	LINK JAW W/A	
13	1	401999	CYLINDER 2.0 X 10.0 X 19.0 B-B	
14	2	13478	BOLT HEX	1 X 7-1/2 NC GR5
15	2	13481	BOLT HEX	1 X 9 NC GR5
16	1	401921	BRKT BODY EXTENSION PNTD	
17	4	13209	BOLT HEX	1/2 X 1-1/2 NC GR5
18	4	37214	NUT REV LOCK 1/2 NC	

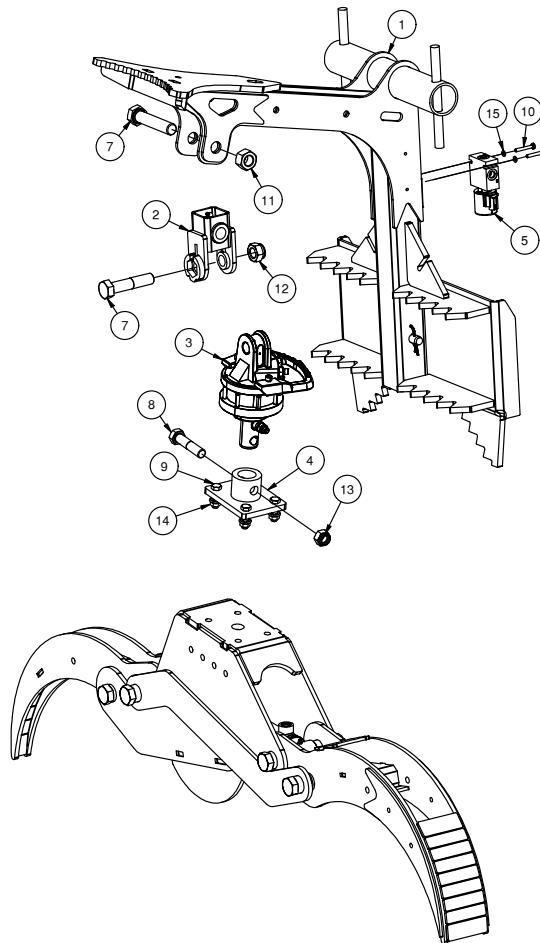
PARTS INFORMATION



PARTS INFORMATION

HYDRAULIC ROTATE

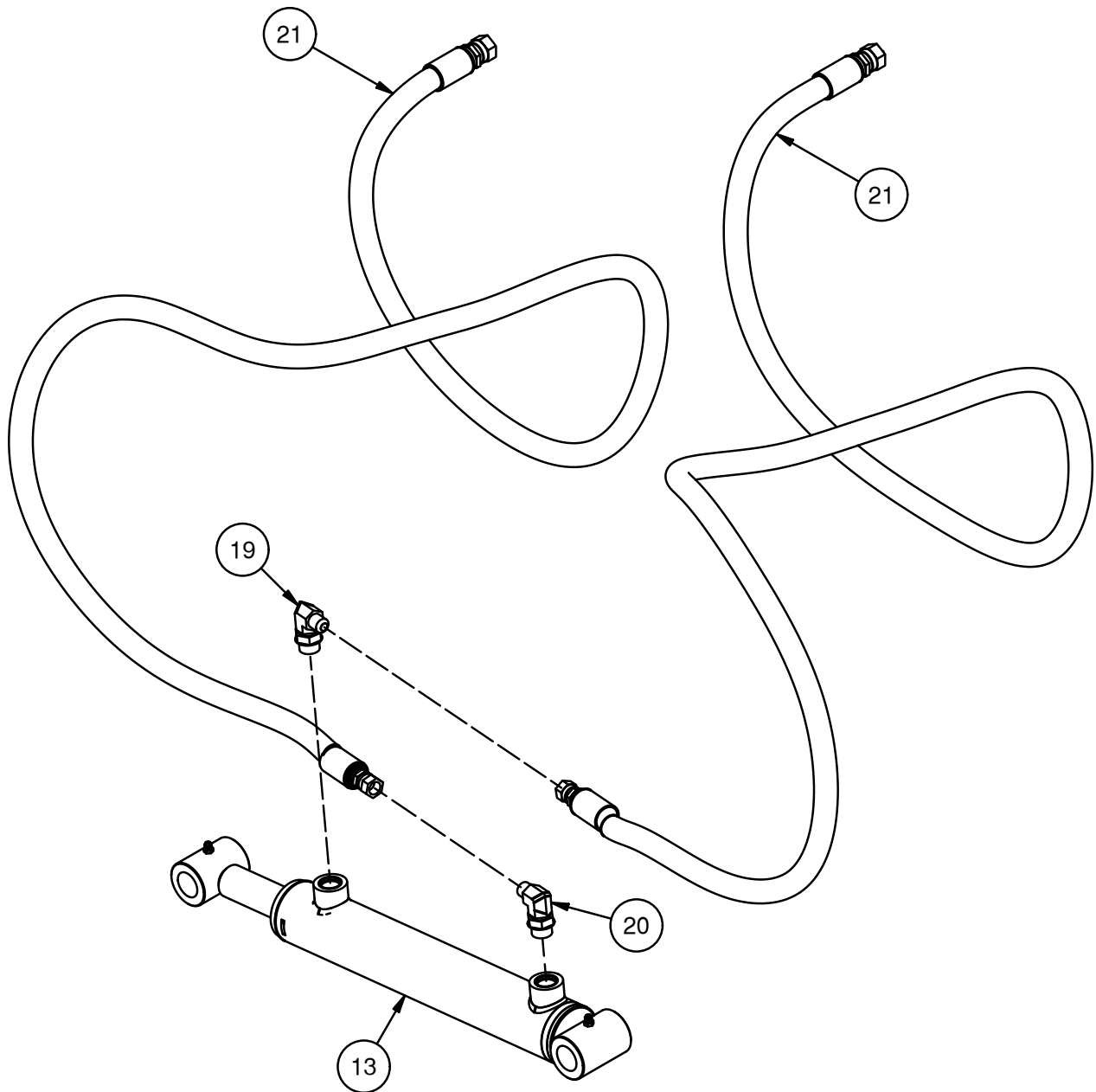
ITEM	QTY	PART NUMBER	DESCRIPTION	STOCK NO.
1	1	401900	FRAME BOOM TNA W/A	
2	1	401911	HANGER HYD ROTATE	
3	1	401912	HANGER ADPT HYD ROTATE W/A	
4	1	401926	ROTATOR HYDRAULIC CR100	
5	1	314752	VALVE ASSM-SELECTOR ELEC CP	
6	1	15473	BOLT HEX 1 X 5 NC GR8	
7	1	129004	BOLT HEX M24-3.0 X 110 CLASS 10.9	
8	1	128990	BOLT HEX M20-2.5 X 90 CLASS 10.9	
9	4	15210	BOLT HEX 1/2 X 1.75 NC GR8	
10	2	13802	BOLT HEX 1/4 X 1.75 NC GR5	
11	1	37219	NUT REV LOCK 1 GR5	
12	1	40193	NUT M24-3.0 NYLON LOCK	
13	1	40187	NUT M20-2.5 NYLON LOCK	
14	4	167011	NUT REV LOCK 1/2 GR5	
15	2	33618	WASHER SPLIT LOCK 1/4 GR5	



PARTS INFORMATION

MANUAL ROTATE

ITEM	QTY	PART NUMBER	DESCRIPTION	STOCK NO.
13	1	401999	CYLINDER 2.0 X 10.0 X 19.0 B-B	
19	1	300779	ADPT REST ELB 8MB-6MJ-90-.0625	
20	1	320089	ADPT ELB 8MB-6MJ-90	
21	2	401989	HOSE 1/2 X 118" 6FJX-8FJX	



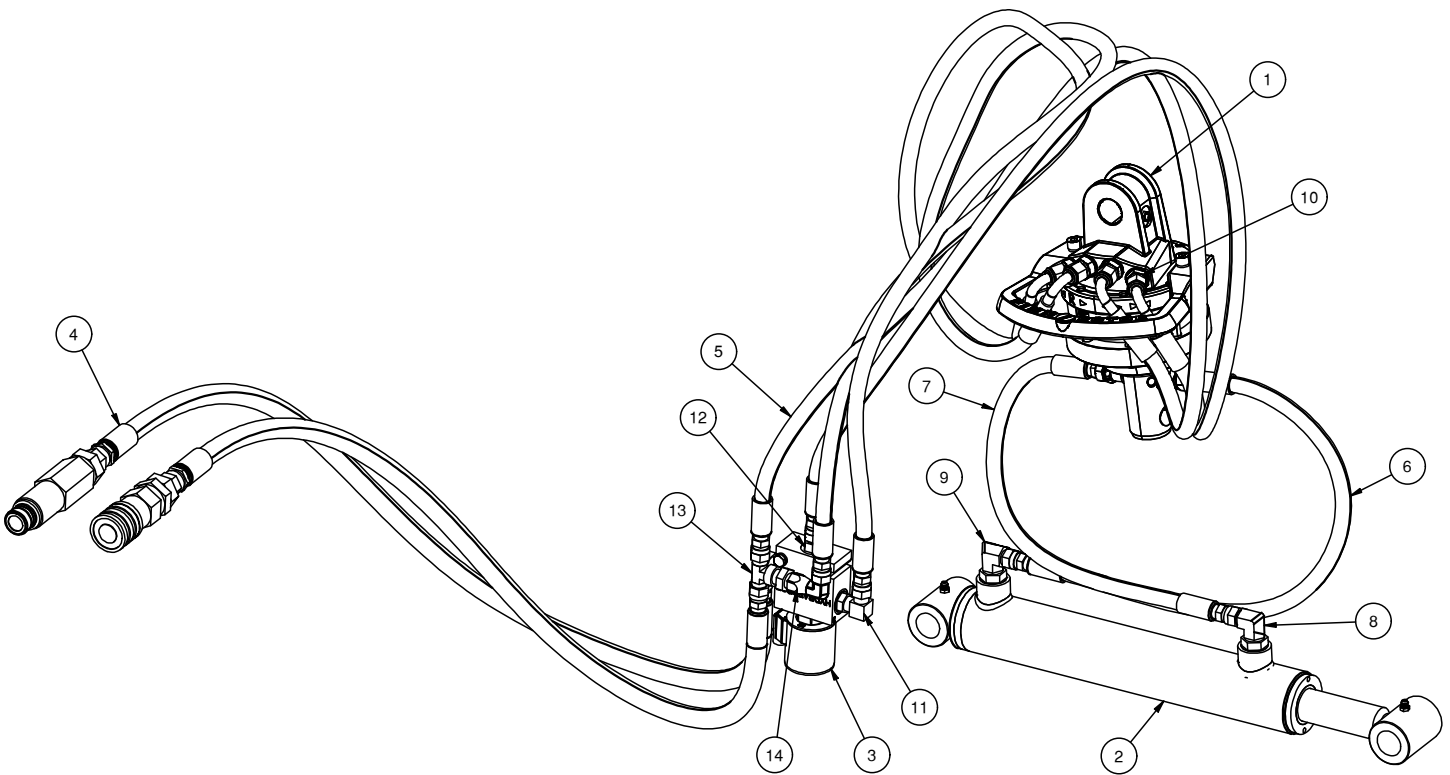
PARTS INFORMATION

HYDRAULIC ROTATE

ITEM	QTY	PART NUMBER	DESCRIPTION	STOCK NO.
1	1	401926	ROTATOR HYDRAULIC CR100	
2	1	401999	CYLINDER 2.0 X 10.0 X 19.0 B-B	
3	1	314752	VALVE ASSM-SELECTOR ELEC CP	
4	2	401988	HOSE 3/8 X 54" 6FJX-8FJX	LEAD HOSE
5	4	401987	HOSE 1/4 X 47" 6FJX-6FJX-90	ROTATOR TO VALVE AND RETURN
6	1	401985	HOSE 1/4 X 23.5" 6FJX-6FJX	ROTATOR TO CYL BASE
7	1	401986	HOSE 1/4 X 18.5" 6FJX-6FJX	ROTATOR TO CYL ROD
8	1	300779	ADPT REST ELB 8MB-6MJ-90-.0625	GRAPPLE CYLINDER ROD
9	1	320089	ADPT ELB 8MB-6MJ-90	GRAPPLE CYLINDER BASE
10	6	401984	ADPT STR 4BSPP-6MJ	ROTATOR PORTS
11	2	201539	ADPT ELB 6MB-6MJ-90	PORT 2, PORT3
12	1	311673	ADPT STR 6MB-6MJ	PORT 1
13	1	330611	ADPT TEE 6MJ-6MJ-6MJ BH DROP	RETURN LINE
14	1	314827	ADPT ELB 6FJX-6MJ-90	RETURN LINE

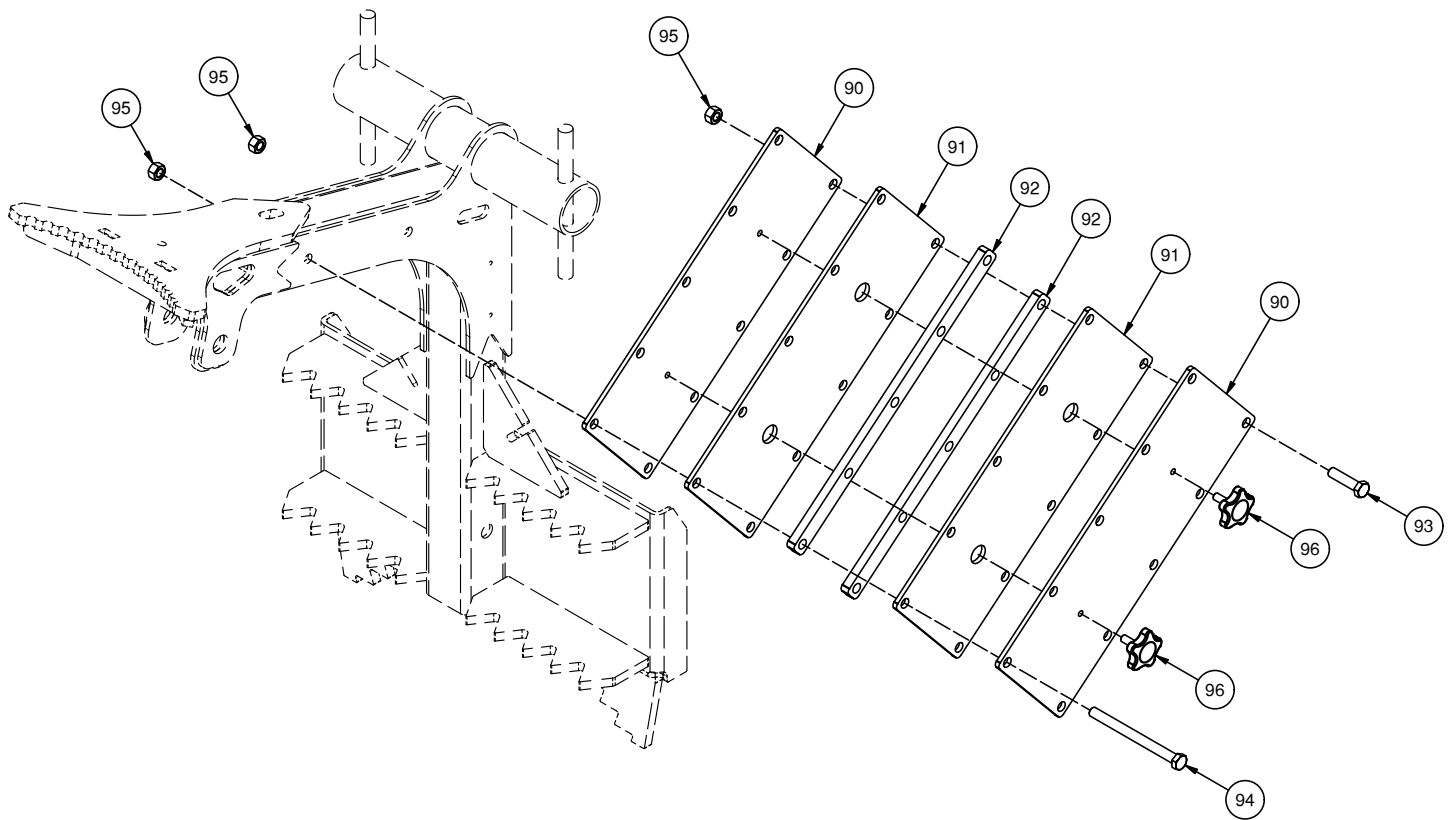
NOTE:

PORT 1 VALVE BLOCK TO GRAPPLE CLOSE PORT
 PORT 2 VALVE BLOCK TO PRESSURE LEAD HOSE
 PORT 3 VALVE BLOCK TO GRAPPLE ROTATE



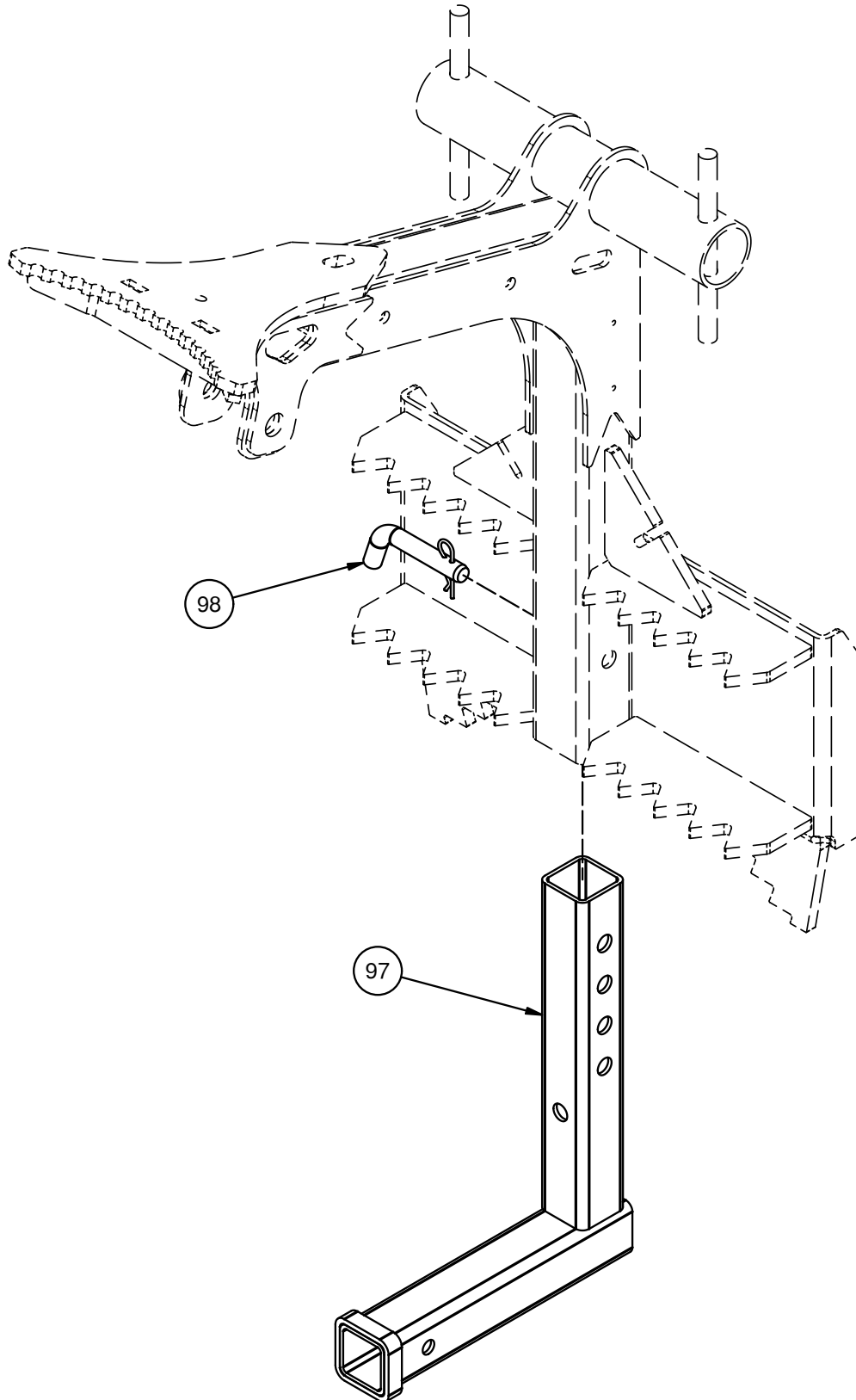
PARTS INFORMATION

ITEM	QTY	PART NUMBER	DESCRIPTION	STOCK NO.
90	2	401923	PLATE SAW HOLDER PNTD	
91	2	401924	PLATE UHMW .25 X 7.0 X 18.0 W/H	
92	2	401925	PLATE UHMW .5 X 1.0 X 18.0 W/H	
93	8	13211	BOLT HEX 1/2 X 2 NC GR5	
94	2	13225	BOLT HEX 1/2 X 6 NC GR5	
95	10	37214	NUT REV LOCK 1/2 NC	
96	2	421563	KNOB PLASTIC 3/8 X 1 NC STUD	



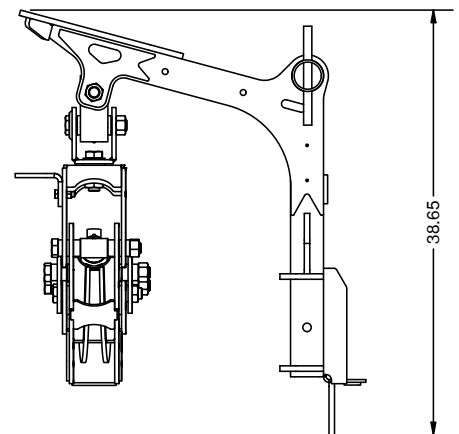
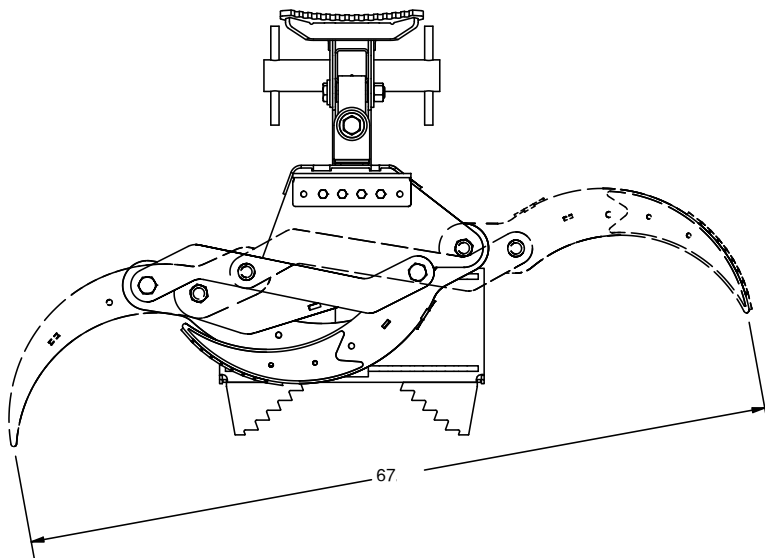
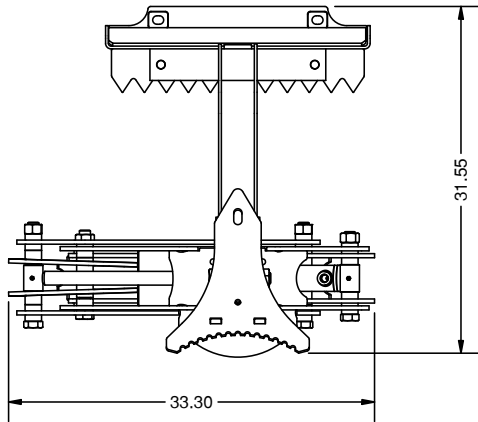
PARTS INFORMATION

ITEM	QTY	PART NUMBER	DESCRIPTION	STOCK NO.
97	1	401915	HITCH RECEIVER W/A	
98	1	420930	PIN HITCH 3/4 X 3.5 W/HANDLE Z	



GENERAL SPECS

MODEL	MINI MP GRAPPLE
SHIPPING WEIGHT (LBS)	360
OPERATING WEIGHT (LBS)	310
COLOR	BLACK
BRAND	ERSKINE
MOUNTING PLATE	MINI CII
MAXIMUM GRAPPLE OPENING	67"
MAXIMUM MATERIAL CLAMPING SIZE	36"
MINIMUM MATERIAL CLAMPING SIZE	1"
MAXIMUM HYDRAULIC PRESSURE RATING	3,000 PSI
MANUAL ROTATOR LOAD CAPACITY	3,000 LBS
MANUAL BOOM LOAD CAPACITY	3,000 LBS
HYDRAULIC ROTATOR LOAD CAPACITY	2,250 LBS
HYDRAULIC BOOM LOAD CAPACITY	3,000 LBS



LIMITED WARRANTY

Erskine 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, Erskine 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.

Erskine 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 Erskine Attachments, LLC has any authority to bind Erskine 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 Erskine Attachments, LLC to improve its products whenever it is possible and practical to do so. Erskine 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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