

MINI STUMP GRINDER

Operator's Manual
Maintenance & Parts Information



Read this Manual Before Use

TABLE OF CONTENTS

SAFETY	3-4
DECAL INFORMATION	5-6
MOUNTING INSTRUCTIONS	7
OPERATING INSTRUCTIONS	8-10
ROUTINE MAINTENANCE	11-14
PARTS INFORMATION	15-19
TORQUE INFORMATION	20
GENERAL SPECS	21
NOTES	22
WARRANTY	23

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.

Call Before You Dig
1-888-258-0808



SAFETY

Improper operation can cause serious injury or death.

PRE-OPERATION

- This attachment is designed for grinding stumps from just above ground level to below ground level. **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. 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

- Always wear eye protection that meets z87.1 or use with a loader enclosure that provides similar protection.
- Depending on how this attachment is used, dust can be created. Prolonged exposure to dust can cause chronic and acute health problems. A NIOSH-approved respirator may be required.

OPERATION (continued)

- 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.
- Keep people away from loader and attachment when in use. This attachment sends objects flying and has rotating parts. **NEVER** direct discharge toward people - rocks and debris can be thrown.
- **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.

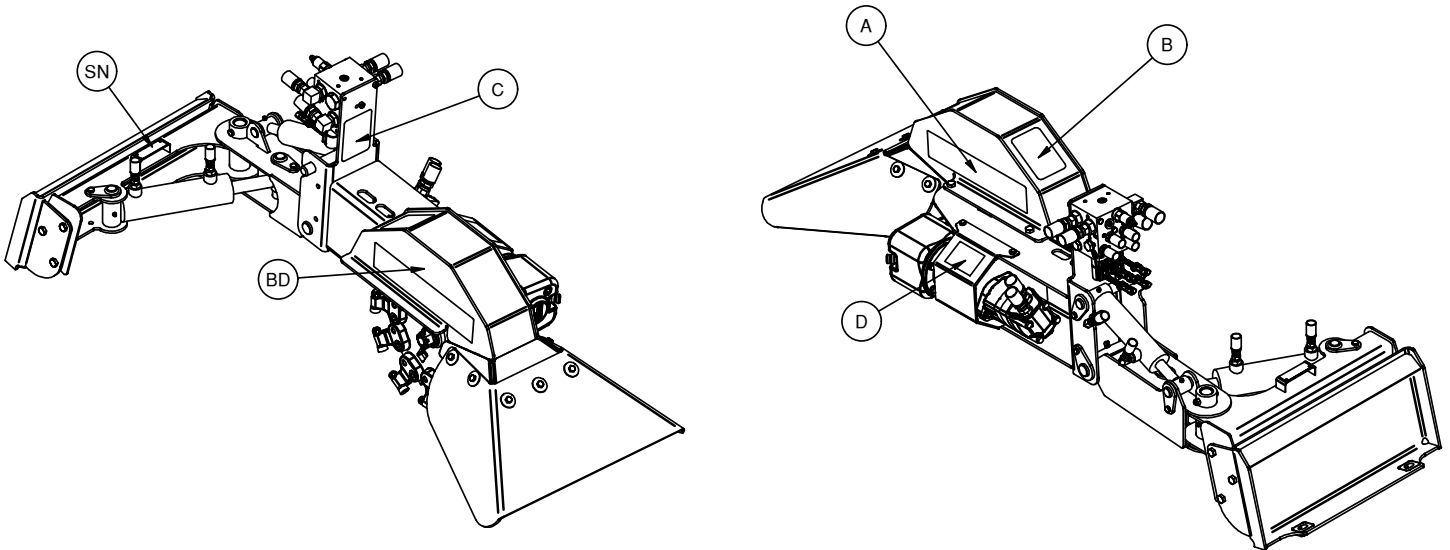
MAINTENANCE

- **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: 400294
Location: Both sides of cutter head
Quantity: 2

B



Part number: 203234
Location: Back of cutter head
Quantity: 1

C



Part number: 200001
Location: Front of valve mount
Quantity: 1

D



Part number: 420855
Location: Motor coupler cover
Quantity: 1

BD

ERSKINE[®]
ATTACHMENTS LLC

Brand Decal: Mini
Location: Both sides of cutter head
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: 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.

8. Connect attachment wire harness to loader wire harness receptacle (if attachment is equipped with hydraulic angle).
9. Make sure the hoses and wire harness are properly routed to fit your specific loader. If the hoses and harness are not routed correctly, hoses or harness may get pinched or rub on tires. Be sure to check the hose and harness routing through the full range of intended motion of the attachment before operating it.
10. More than one routing may be acceptable depending on the loader. Pick the routing that best suits your loader.

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

11. 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.

OPERATING INSTRUCTIONS

Hydraulic Controls

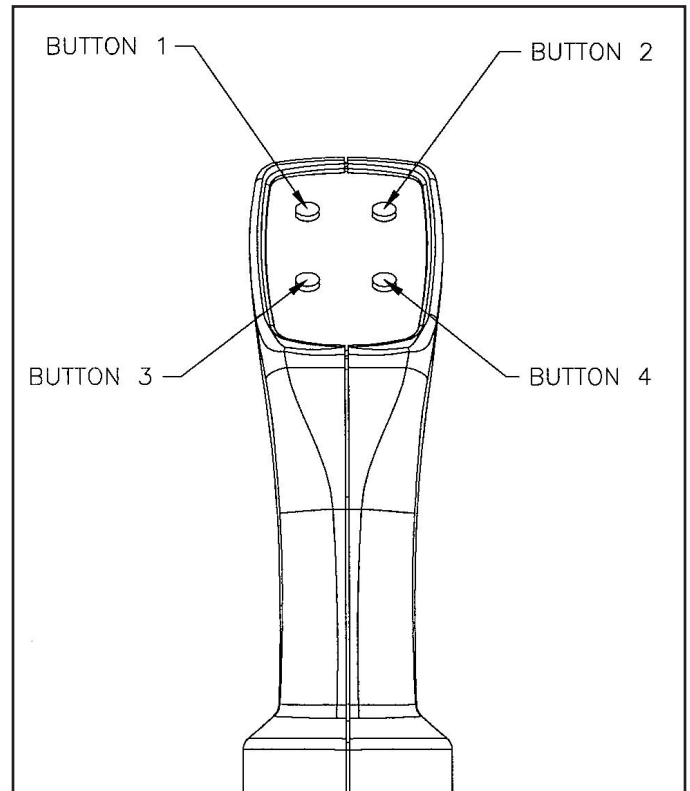
All functions can be activated by the steering lever switches on the loader (if loader is equipped), or with the pistol grip control harness.

NOTE: Your loader must have the attachment control kit installed to make use of the steering lever switches.

NOTE: For steering lever functions, refer to your loader's operator's manual.

If operating using the pistol grip control harness, functions are activated as follows:

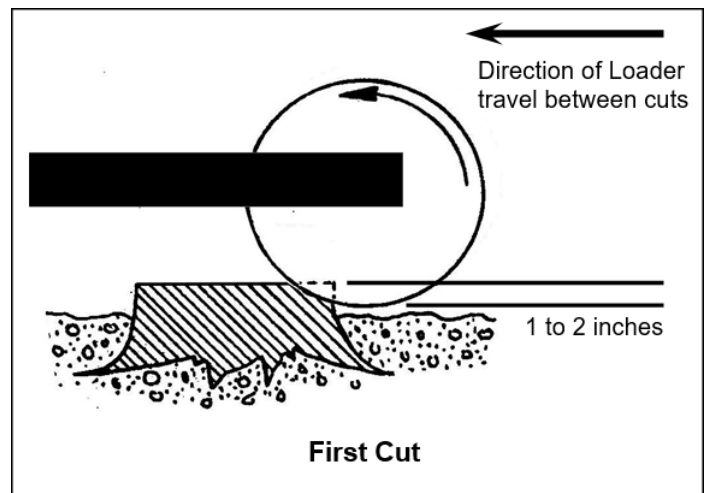
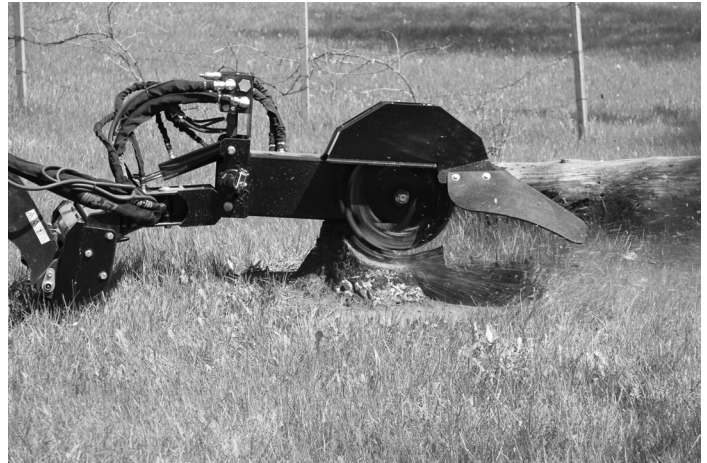
- (A) Button 1 moves grinder arm UP.
- (B) Button 2 moves grinder arm DOWN.
- (C) Button 3 swings grinder arm LEFT.
- (D) Button 4 swings grinder arm RIGHT.



OPERATING INSTRUCTIONS

Operation

1. Standing in the operator's position, make sure all controls are in neutral, and start the engine.
2. For proper operation of the attachment, try to approach the stump from a position that will allow the loader to sit as level as possible. Remember to position the grinder so that wood chips and debris will be thrown in a safe direction.
3. Swing the attachment all the way to the right side.
4. Position the loader so the attachment is on the far right side of the stump. Lift the attachment slightly above and to the right from the far side of the stump.
5. Fully lower the loader's boom arms and use the loader's tilt to get the pivot arm plum, this will ensure the grinder cuts level.
6. Engage the hydraulics on the loader, increase the throttle to maximum speed, and using the controls, lower the cutting wheel into the stump.



NOTE: Rate of cut will be determined by the condition of the teeth, type of tree, and condition the stump is in.

NOTE: Only cut approximately 1 to 2 inches of stump depth at a time.

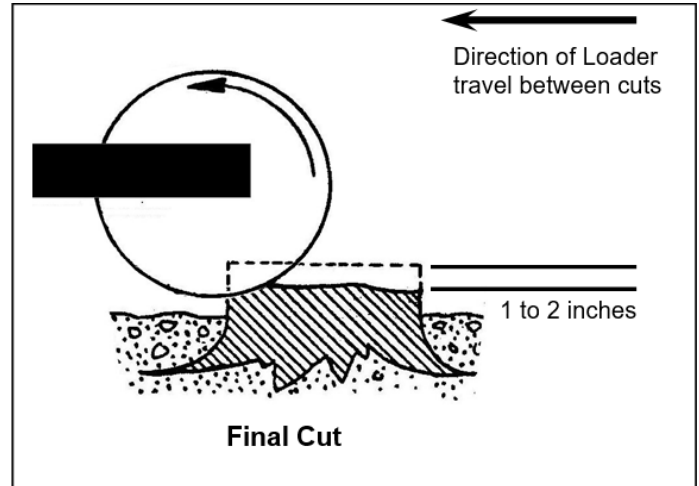
IMPORTANT: Do not move backward into the stump while the grinder arm is in motion. Doing so may result in vibration and/or damage to the motor.

OPERATING INSTRUCTIONS

7. Once the attachment has started cutting, engage the control to start the grinder arm swinging.

NOTE: The arm senses the difficulty of the cut and will automatically adjust the travel speed.

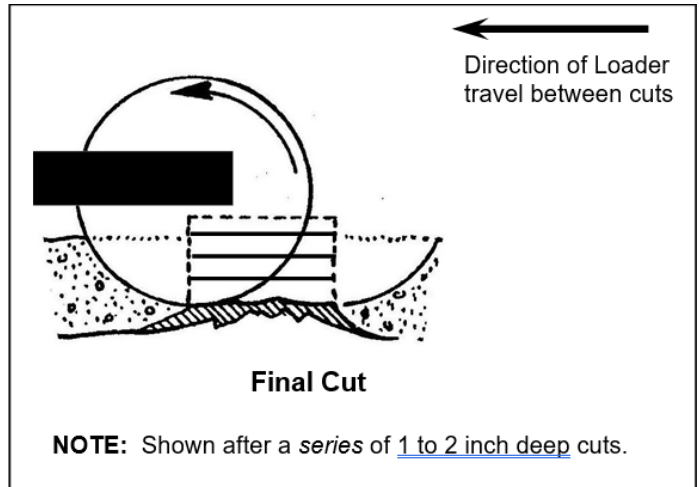
8. When the attachment has completed a pass, move the loader rearward about 1-1/2" and engage the control to cut back across in the opposite direction.



9. Continue until a completed layer of the stump has been ground off and then repeat the procedure starting again at the front of the stump.

10. The next cuts will be performed to take the stump below ground level, if wanted.

⚠ WARNING When cutting below grade you may be more likely to throw rocks or other debris. To avoid injury or death, never direct discharge toward people.



11. Follow the same procedures as cutting above ground level, with the addition of inspecting the area thoroughly for large rocks/debris that may damage the attachment.

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.

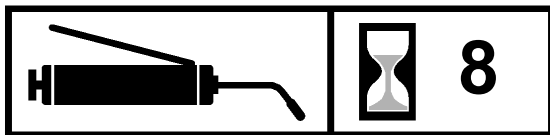
It is the operator's responsibility to make daily inspections of the loader and attachment for damage, loose bolts, fluid leaks, or anything else that could cause a potential service or safety problem. Preventive maintenance is the easiest and least expensive type of maintenance.

IMPORTANT: Bolts can loosen after initial usage. After the first hour of operation check all bolts.

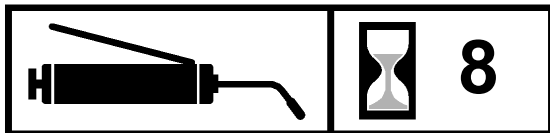
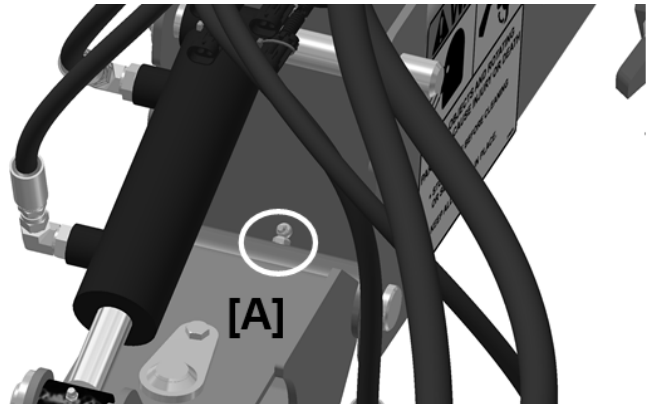
LUBRICATION

Lubrication Legend	 Multipurpose spray lube	 Multipurpose grease lube	 Multipurpose oil lube	 Intervals at which lubrication is required
---------------------------	---	--	--	--

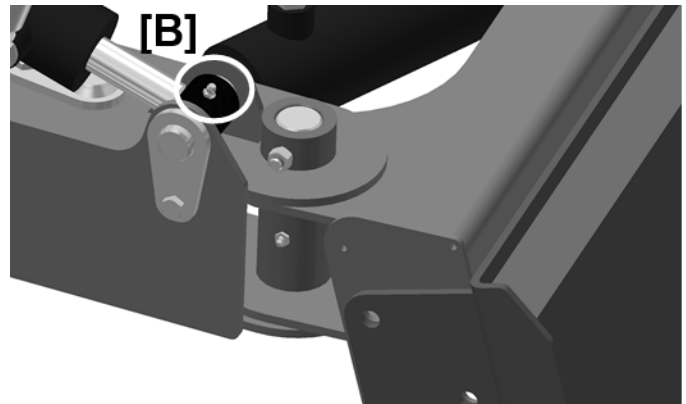
Use No. 2 lithium base gun grease when lubricating all attachment grease fittings.



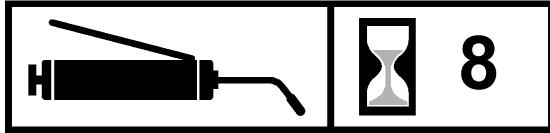
Grease the arm pivot bushing [A] after every 8 hours of operation.



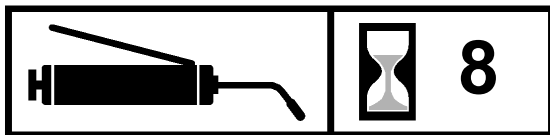
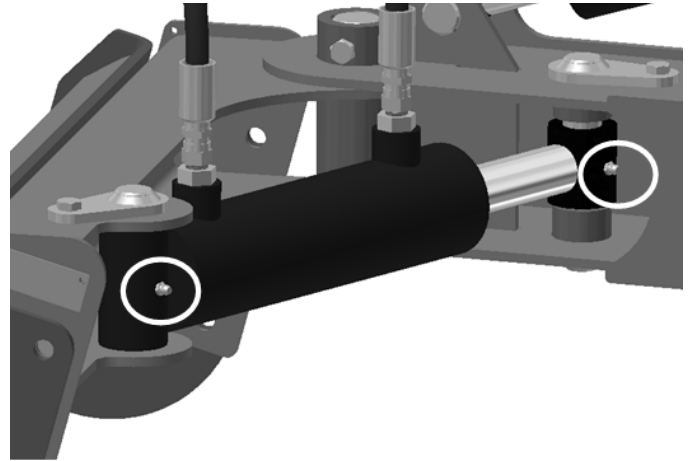
Grease the swing arm pivot bushing [B] after every 8 hours of operation.



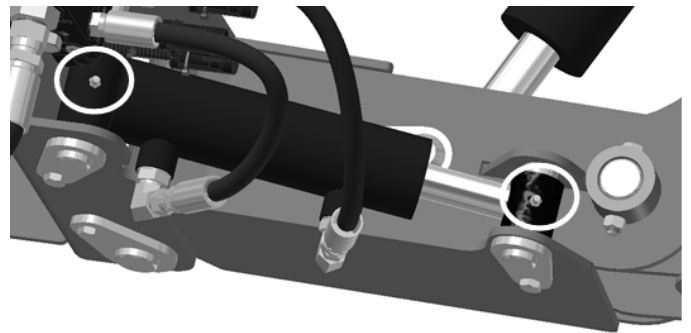
ROUTINE MAINTENANCE



Grease the (2) swing cylinder grease fittings after every 8 hours of operation.



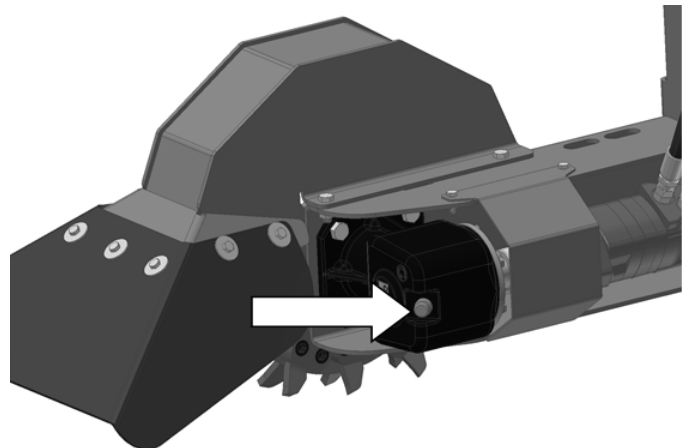
Grease the (2) lift cylinder grease fittings after every 8 hours of operation.



Gearbox Oil Level

Check the oil level in the gearbox at least once per year. The gearbox should be approximately 1/3 full. If it is too full, oil may seep out of the breather/fill plug.

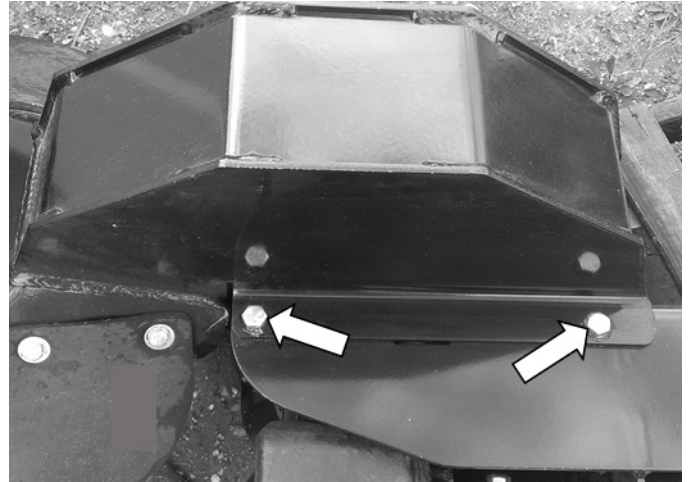
Change the oil at least once every three years. Use 80-90 gear lube. Gearbox oil capacity is approximately 32 ounces.



ROUTINE MAINTENANCE

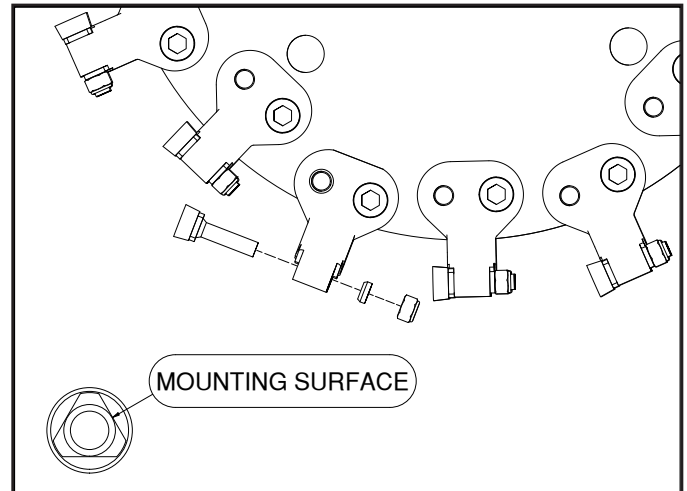
Teeth Removal and Replacement

1. With the attachment on a flat level surface, lift up the swing arm and brace with jack stands or blocks in a lifted position. Make sure the (2) skid shoes stay flat on the ground.
2. Remove the (2) bolts securing the cutter wheel shield.
3. Remove the lock nut that secures the tooth in place. Slide the spacer bushing off of the tooth shank, and slide the tooth out of the holder.



NOTE: It may be necessary to remove one tooth holder bolt and loosen the other in order to pivot the tooth for tool access to the lock nut.

NOTE: Each tooth has 3 flat mounting surfaces that engage the tooth holder. When one side of the tooth becomes worn, rotate the tooth to the next mounting surface for a fresh cutting surface. Repeat until tooth is worn in all positions, then replace tooth.



4. Insert the new tooth into the tooth holder.
5. Slide the spacer bushing over the tooth shank, with the chamfered end of the spacer toward the tooth holder.
6. Install the lock nut and tighten to secure the tooth in place.

IMPORTANT: Always use a new lock nut and spacer bushing when replacing teeth.

ROUTINE MAINTENANCE

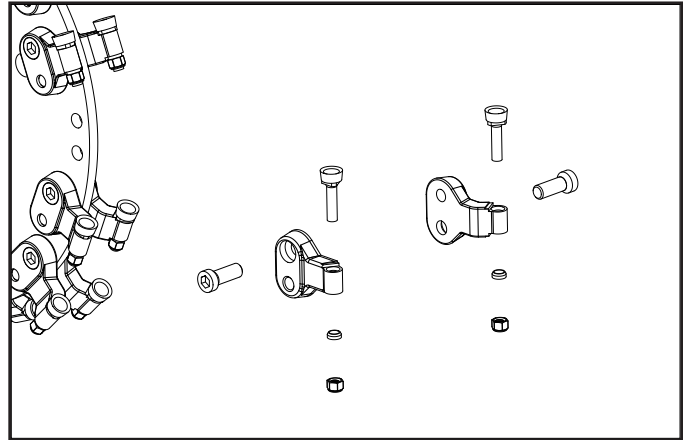
Tooth Holder Removal and Replacement

1. Remove the (2) bolts that hold each tooth holder in place.
2. Align new tooth holder with holes in cutting wheel.

IMPORTANT: Make sure new tooth holder is the same style and orientation as the old tooth holder. Changing the style or orientation of tooth holder may negatively impact stump grinder performance.

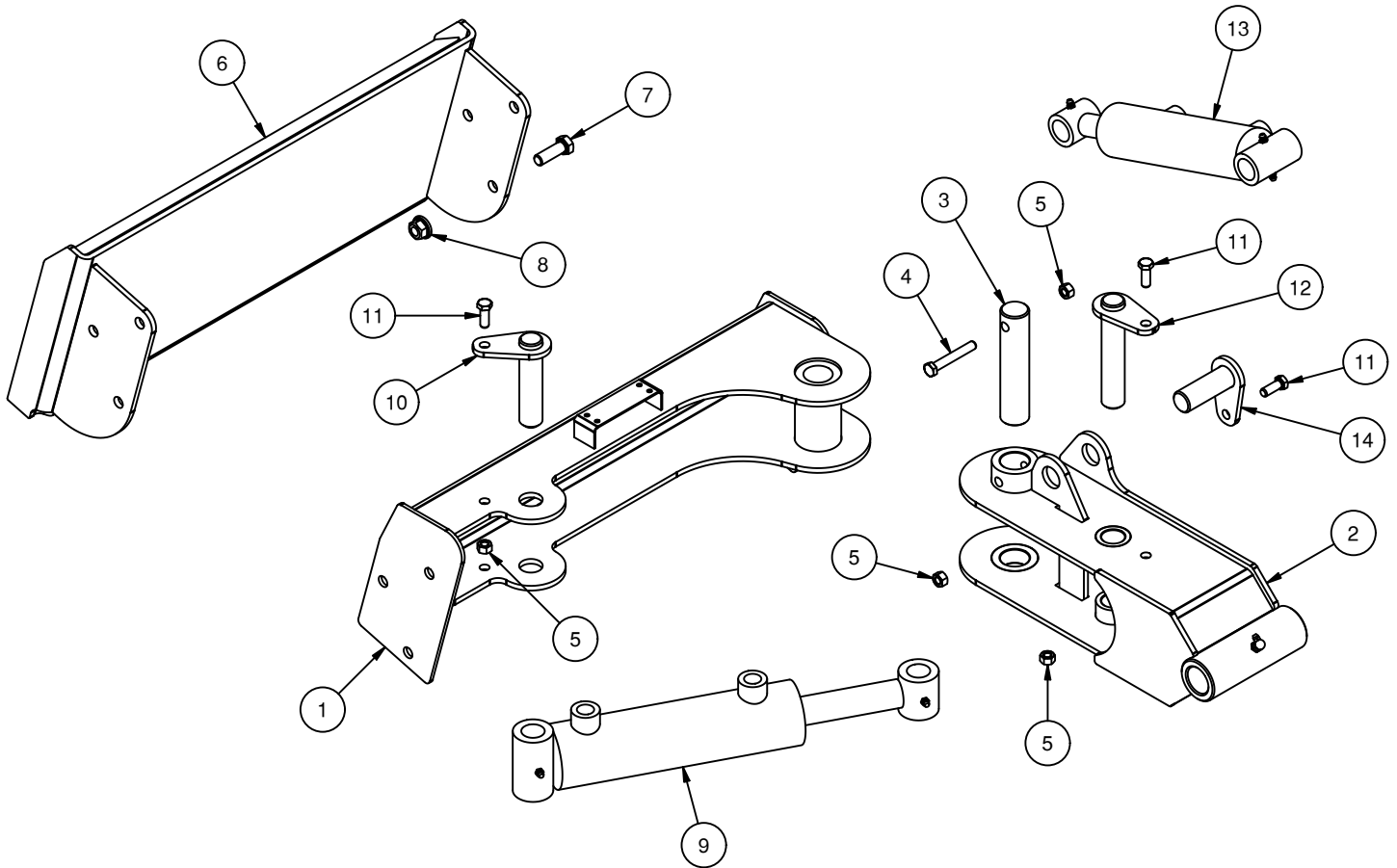
3. Apply anti-seize to threaded end of bolts.
4. Reinstall the (2) bolts that hold the tooth holder in place.

IMPORTANT: Torque the tooth holder bolts to 200 ft/lbs.



PARTS INFORMATION

ITEM	QTY	PART NUMBER	DESCRIPTION	STOCK NO.
1	1	400600	FRAME MOUNT GRINDER MINI W/A	
2	1	400601	FRAME SWING MINI SG W/A	
3	1	314079	PIN 1.25 X 5.75 W/H Z	
4	1	13113	BOLT HEX 3/8 X 2-1/2 NC GR5	
5	4	37212	NUT REV LOCK 3/8 NC	
6	1	400000	MOUNT FRAME MINI TORO W/A	OPT MOUNT PKG
	1	400001	MOUNT FRAME ASV MINI W/A	OPT MOUNT PKG
	1	400002	MOUNT FRAME BC MINI W/A	OPT MOUNT PKG
	1	300283	MOUNT FRAME UNIV MINI W/A	OPT. MOUNT PKG
	1	330622	MOUNT FRAME AVANT MINI W/A	AVANT MINI PKG 330753
7	6	15209	BOLT HEX 1/2 X 1-1/2 NC GR8 YZ	
8	6	167011	NUT TOP LOCK FLNG 1/2 NC GR8 YZ	
9	REF	400015	CYLINDER 2.5 X 6 W/BUSHINGS	
10	1	400041	PIN 1 X 4 W/A	

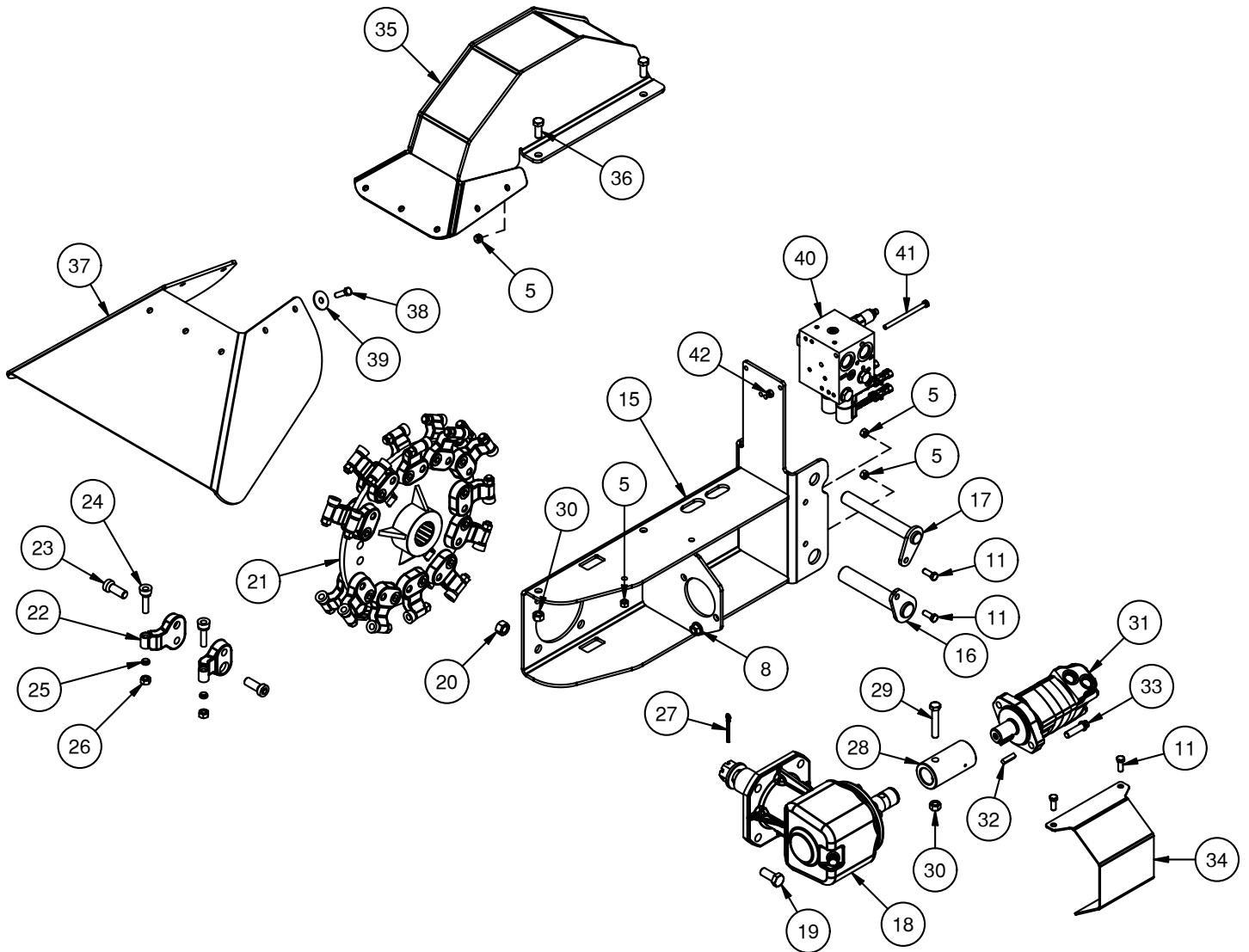


PARTS INFORMATION

ITEM	QTY	PART NUMBER	DESCRIPTION	STOCK NO.
5	11	37212	NUT REV LOCK 3/8 NC	
8	2	167011	NUT TOP LOCK FLNG 1/2 NC GR8 YZ	
11	4	13105	BOLT HEX 3/8 X 1 NC GR5	
15	1	400602	FRAME ARM MINI SG W/A	
16	1	311605	PIN 1.25 X 6.75 W/A	
17	1	310198	PIN 1.00 X 7.63 W/A	
18	1	314005	GEARBOX RC51 1:1.93	
19	4	13309	BOLT HEX 5/8 X 1-1/2 NC GR5	
20	4	37216	NUT REV LOCK 5/8 NC	
21	1	400603	DISK TOOTH MOUNT W/A	
22	24	311695	HOLDER TOOTH SG ANGLED	
23	24	360401	BOLT LOPRO 2"	
24	24	311699	TOOTH STUMP GRINDER 2 SIDED	
25	24	NSS	SPACER .61 X .44 X .23 (SEE 311699)	
26	24	NSS	NUT NYLOCK 7/16 NC (SEE 311699)	
27	1	65127	PIN COTTER 3/16 X 2	
28	1	314015	COUPLER MOWER 1.25 X 1.38	
29	1	13214	BOLT HEX 1/2 X 2-3/4 NC GR5	
30	3	37214	NUT REV LOCK 1/2 NC	
31	REF	300694	MOTOR HYD 6.2 2K STD	
32	1	300419	KEY SQ 5/16 X 1-1/4	
33	2	22888	BOLT FLG 12PT 1/2 X 1-3/4 NC Z	
34	1	400633	SHIELD COUPLER MSG PNTD	
35	1	400605	SHIELD MINI STUMP GRINDER W/A	
36	2	13207	BOLT HEX 1/2 X 1-1/4 NC GR5	
37	1	311657	SHIELD RUBBER	
38	7	13107	BOLT HEX 3/8 X 1-1/4 NC GR5	
39	7	33220	WASHER FENDER 3/8 X 1-1/2	
40	REF	311659	VALVE ASSM STUMP GRINDER	
41	2	13071	BOLT HEX 5/16 X 4-1/2 NC GR5	
42	2	37211	NUT REV LOCK 5/16 NC	

SERVICE PARTS NOT PICTURED		
QTY	ER P/N	DESCRIPTION
1	360404	PKG 900 SERIES TEETH & HOLDERS MINI SG
1	360406	PKG 900 SERIES TEETH ONLY MINI SG

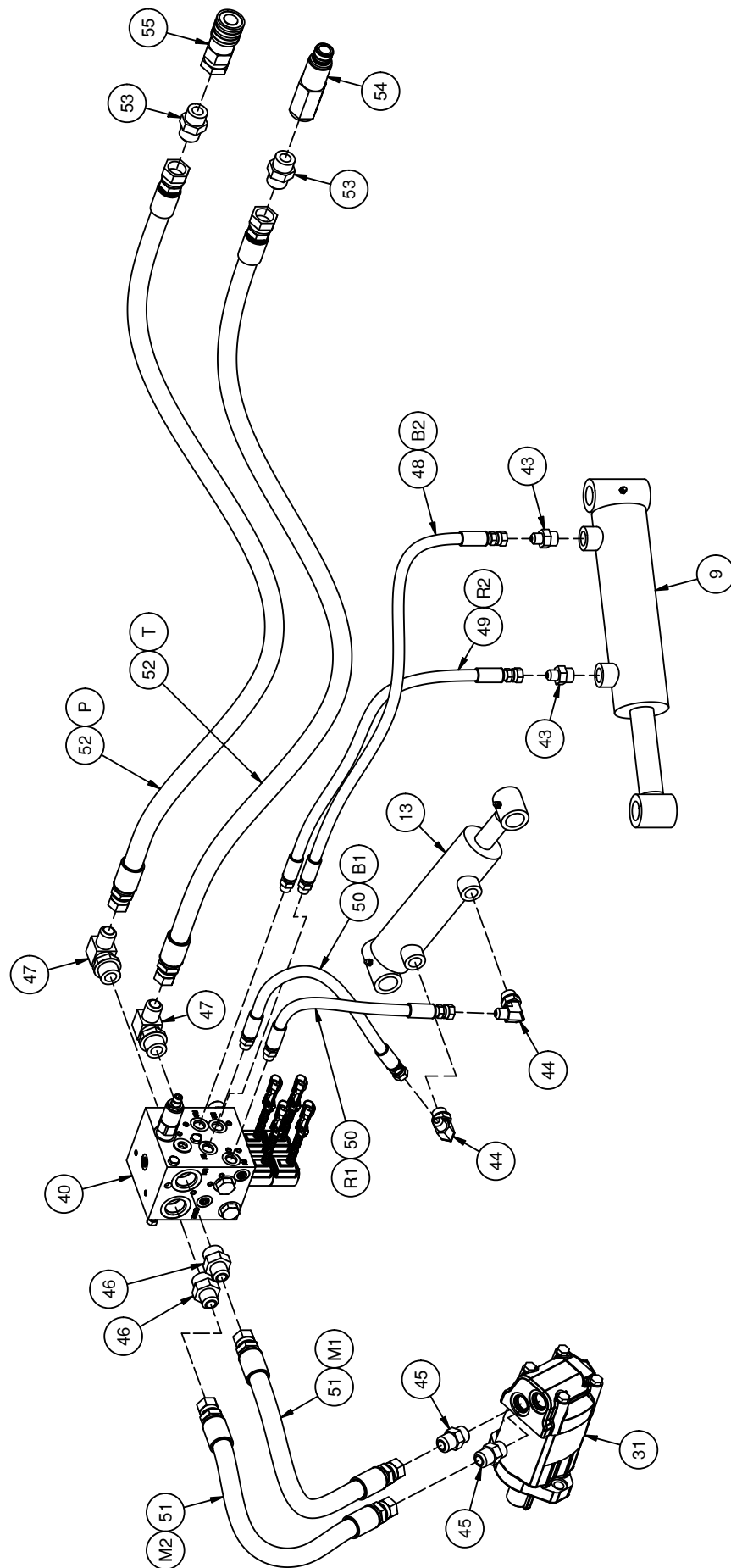
PARTS INFORMATION



PARTS INFORMATION

ITEM	QTY	PART NUMBER	DESCRIPTION	STOCK NO.
9	1	400015	CYLINDER 2.5 X 6 W/BUSHINGS	
13	1	400074	CYLINDER 2 X 4 W/BUSHINGS	
31	1	300694	MOTOR HYD 6.2 2K STD	
40	1	311659	VALVE ASSM STUMP GRINDER	
43	2	201925	ADPT STR 8MB-6MJ	
44	2	320089	ADPT ELB 8MB-6MJ-90	
45	2	201852	ADPT STR 10MB-10MJ	
46	2	201851	ADPT STR 12MB-10MJ	
47	2	300215	ADPT ELB 12MB-10MJ-90	
48	1	400624	HOSE 1/4 X 35" 6MB-6FJX	
49	1	400625	HOSE 1/4 X 31" 6MB-6FJX	
50	2	400626	HOSE 1/4 X 17" 6MB-6FJX	
51	2	400627	HOSE 5/8 X 21" 10FJX-10FJX	
52	2	400628	HOSE 5/8 X 60" 10FJX-12FJX	
53	2	103431	ADPT STR 12MB-12MJ	
54	1	320059	COUPLER HYD 1/2-12OR M FF CUP	
55	1	200258	COUPLER HYD 1/2-12OR FM FF	

PARTS INFORMATION



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	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.

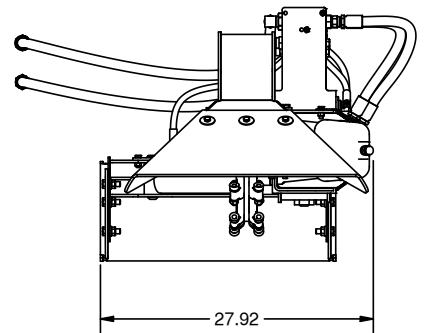
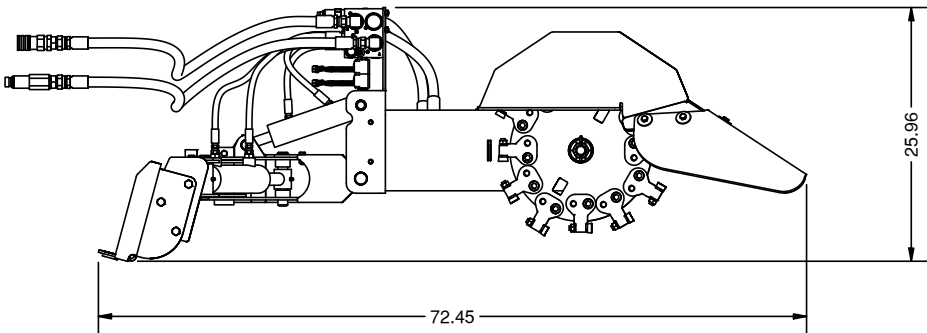
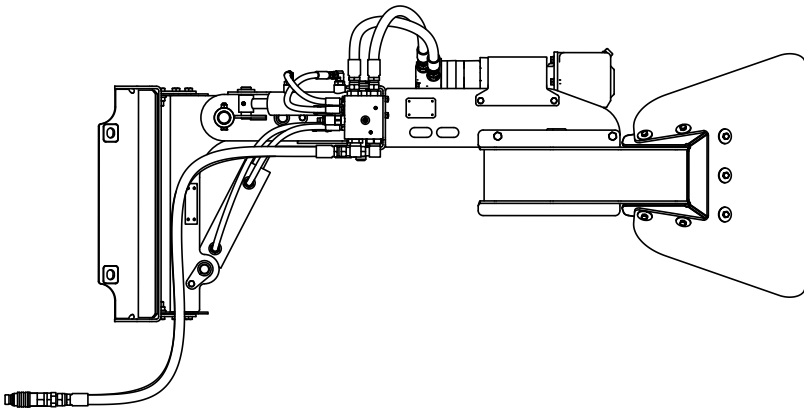
Torque values calculated from formula $T = KDF$

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

$K=0.20$ for “dry” conditions

GENERAL SPECS

MODEL	MINI SG
ERSKINE PART No.	901776
SHIPPING WEIGHT (LBS)	490
OPERATING WEIGHT (LBS)	415
COLOR	BLACK
HITCH	CII
HYDRAULIC FLOW REQUIREMENTS	7-17 GPM
MAXIMUM CUTTING DIAMETER	36"
MAXIMUM CUTTING DEPTH BELOW GROUND	6"
CUTTING ARC	66°
CUTTING WHEEL DIAMETER	18"
CUTTING WHEEL SPEED	500-1,000 RPM
NUMBER OF CARBIDE TEETH	24



[illegible]



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.

Erskine Attachments, LLC
P.O. Box 1083 Alexandria, MN 56308
Phone (218) 435-4045

