

Swing Arm Stump Grinder

Operation and Maintenance Manual



104605, 104610, & 104615



888-376-7027 | BlueDiamondAttachments.com

Register your
WARRANTY
within 30 days
of purchase



Introduction: Owner Information

Thank you for your decision to purchase a Blue Diamond® Swing Arm Stump Grinder. To ensure maximum performance of your equipment, it is mandatory that you thoroughly study the Operator's manual and follow the recommendations. Proper operation and maintenance are essential to maximize equipment life and prevent personal injury.

Operate and maintain this equipment in a safe manner and in accordance with all applicable local, state, and federal codes, regulations and /or laws. Follow all on-product labeling and instructions.

Make sure that all personnel have read this Operator's Manual and thoroughly understand safe and correct operating, installation and maintenance procedures.

Blue Diamond is continually working to improve its products. Blue Diamond reserves the right to make any improvements or changes as deemed practical and possible without incurring any responsibility or obligation to make any changes or additions to equipment sold previously.

Although great care has been taken to ensure the accuracy of this publication, Blue Diamond makes no warranty or guarantee of any kind, written or expressed, implied or otherwise with regard to the information contained within this manual. Blue Diamond assumes no responsibility for any errors that may appear in this manual and shall not be liable under any circumstances for incidental, consequential or punitive damages in connection with, or arising from the use of this manual.

Keep this manual available for frequent reference. All new operators or owners must review the manual before using the equipment and annually thereafter. Contact your Blue Diamond Attachments Dealer for assistance, information, or additional copies of the manual. Contact www.bluediamondattachments.com or call 888-376-7027 for a complete list of dealers in your area.

Serial Number Location:

Please record attachment information in the space provided for future reference.



Model Number: _____

Serial Number: _____

Dealer Name: _____

Dealer Number: _____

Date of Purchase: _____

The serial number plate is located on the mount frame on the upper right hand side.

Always use your serial number when requesting information or when ordering parts.

NOTE: The directions left, right, front and rear, as mentioned throughout this manual, are as viewed from the operator's position.

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1. Introduction

1.1 About the Grinder

The stump grinder attachment is intended for use in stump grinding. Use of this attachment for any other use is considered to be contrary to the intended use of the attachment.

The Blue Diamond® Stump Grinder attachment is a necessity for tree companies, landscapers, agricultural producers, and rental companies looking to increase their productivity and efficiency when stump grinding.

The grinder is designed by people with years of experience with attachments for machinery. You can be sure that quality of our products is our first priority.

The grinder has been designed to deliver the productivity of a dedicated machine with four to five times less cost. This grinder is engineered for skid steers with high flow hydraulics (29 – 45 GPM). A hydraulic grinder motor for maximum productivity, heavy weight for increased stability, and super high efficiency cutting performance are just a few features that combine to bring you the world's finest stump grinder.

2. Safety

2.1 General Safety Information



SAFETY ALERT SYMBOL



This SAFETY ALERT SYMBOL identifies important safety messages on the equipment and in the owner's manual. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.



IMPORTANT



The signal word **IMPORTANT** identifies procedures which must be followed to avoid damage to the machine.



DANGER



The signal word **DANGER** on the machine and in the manuals indicates a hazardous situation which, if not avoided, will result in death or serious injury.



WARNING



The signal word **WARNING** on the machine and in the manuals indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION



The signal word **CAUTION** on the machine and in the manuals indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

Operating Safety

- Read and follow instructions in this manual and the machine's Operators Manual before operating.
- The manual must always remain with the machine. In case of loss or damage, request a new copy from your dealer or from Blue Diamond.
- Strictly follow all rules prescribed by the safety pictograms/decals applied to the machine. Ensure that all safety pictograms/decals are legible. If pictograms/decals are worn, they must be replaced with new ones obtained from Blue Diamond and placed in the position indicated by this manual.
- Before using the machine, make sure that all safety devices are installed and in good working conditions. In case of damage or shields, replace them immediately.
- It is absolutely forbidden to remove or alter safety devices and/or safety decals.
- Pay maximum attention to avoid any accidental contact with rotating parts of the machine.
- If the use of the machine is required at night or in conditions of reduced visibility, use the lighting system of the prime mover and possibly an auxiliary lighting system.
- Any modifications to the equipment may void warranty and relieve Blue Diamond® of liability of any resulting injury or damage.



WARNING



Leaking fluids under pressure can enter the skin and cause serious injury or death. Immediate medical attention is required.
Wear goggles. Use cardboard to check for leaks.



WARNING



Do not operate the grinder if any of the safety guards are not in place.

2. Safety

2.2 Operators

Qualified Operators

The operator is a person suited to the work and who is physically and psychologically able to withstand the demands connected with operating the equipment for its intended use. The operator must not allow anyone to approach the machine while it is working and must not allow external personnel to operate the machine or attachment.

He is to follow the given instructions in this manual and the machine operator's manual in order to obtain maximum performance, minimum consumption, and maximum safety for himself and for others.

The operator is responsible for scrupulously observing all the instructions given in this manual.



DANGER



AVOID SERIOUS INJURY OR DEATH

Operators must receive instructions before operating the machine. Untrained operators can cause serious injury or death.

For an operator to be qualified, he or she must not use drugs or alcoholic drinks which impair alertness or coordination while working. An operator who is taking prescription drugs must get medical advice to determine if he or she can safely operate a machine and the equipment.

For an operator to be qualified, he or she must have read and understood the instructions of this manual, he or she must make adequate preparation for the proper use of the machine, and he or she must hold a driving license.

In case of doubt regarding the use of the machine and/or the interpretation of this manual, the operator must contact either their dealer or Blue Diamond.

Operator Training

- Check the rules and regulations at your location. The rules may include an employer's work safety requirements. Regulations may apply to local driving requirements or use of a Slow Moving Vehicle (SMV) emblem. Regulations may identify a hazard such as a utility line.
- The new operator must start in an area without bystanders and use all the controls until he or she can operate the machine safely under all conditions of the work area.

Operator Safety

- Before starting, and during operation of the attachment, make sure there are no people or animals in the operation area; the machine can project material from the back with risks of serious injury or death.
- During operation, adjustment, maintenance, repairing, or transportation of the machine, the operator must always use appropriate Personal Protective Equipment (PPE) including but not limited to safety glasses, working gloves, dust-mask, safety helmet, and hearing protection.
- Do not operate the attachment or machine while wearing loose fitting clothing that can be entangled or caught in parts of the machine.



Proper Workclothes: To help ensure your safety as a designated operator wear proper workclothes including tight fitting clothes, protective gloves and shoes.



Safety Helmet and Eye/Ear Protection: To help ensure your safety as a designated operator wear a safety helmet and eye/ear protection.

- Do not operate the implement when tired, not in good condition, or under the influence of alcohol or drugs.

3. Operation

3.1 Entering and Exiting the Prime Mover



IMPORTANT



See the machine's Operator's Manual for detailed information on operating the loader.

Entering The Operator's Position

Use the attachment safety treads, handles and steps (on the machine) to enter the operator's position.

When in the operator's position, lower safety seat bar, start the engine and release the parking brake.

Leaving The Operator's Position



WARNING



AVOID SERIOUS INJURY OR DEATH

- Always park on a flat level surface.
- Lower lift arms and place attachment flat on the ground.
- Place all controls in NEUTRAL.
- Engage the park brake.
- Stop the engine and remove the key.
- Wait for all moving parts to stop.

SEE MACHINE'S OPERATOR'S MANUAL FOR ADDITIONAL INFORMATION.

Park the machine/attachment on a flat level surface.

Place all controls in neutral, engage the park brake, stop the engine and wait for all moving parts to stop. Leave the operator's position.

3.2 Attachment Installation

Connecting Attachment to the Prime Mover

NOTE: Before attempting to attach the grinder to the prime mover, verify that all hydraulic couplers are compatible.



CAUTION



Hydraulics should operate in an even and smooth manner. Hydraulic movement that is not even and smooth may indicate that air is in the hydraulic lines.



WARNING



Improper attachment to the prime mover may cause personal injury.



CAUTION



All hydraulic connections must be clean and free of debris before making any connections.

1. Place the grinder attachment on a level surface.
2. Position and align the prime mover to the rear of the attachment, within proximity of the front of prime mover.
3. Insert and connect the prime mover into the attachment.
4. Connect the hydraulic lines from the attachment to the prime mover.
5. Close latches (or other locking mechanism) to secure the attachment to the prime mover.
6. Using the prime mover with the Multifunction controller and harness, raise the attachment and move the attachment to ensure hydraulic lines are clear of air and operate properly.
7. Lower the attachment to ground level.

3. Operation

8. Route hoses away from pinch areas – install cable ties if necessary to assure extended hose life.
9. Inspect that the attachment is mounted properly and securely. If the attachment does not meet this requirement, follow the instructions to remove the grinder and re-attach using the instructions above.

Disconnecting Attachment from the Prime Mover



WARNING



Improper disconnection may result in personal injury or damage to the attachment and prime mover.



CAUTION



All hydraulic connections must be clean and free of debris before disconnection.

1. Using the prime mover, lower the attachment to the ground.
2. Relieve the pressure in the hydraulic system by following these instructions:
 - a. Turn the ignition to off
 - b. Turn the ignition back to the on position without starting the machine.
 - c. Move the auxiliary hydraulic function level back and forth to relieve the pressure in the hydraulic lines (this will greatly assist you when hooking the unit back up so that the hydraulic couplers connect easily).
3. Disconnect the hydraulic connection between the attachment and the prime mover. To prevent contamination, remove any dirt and debris from the couplers.
4. Disengage the prime mover latches (or other locking mechanism) from the attachment.
5. Remove the prime mover from the attachment.

NOTE: Hydraulic connections must be disconnected before disengaging latches to prevent damage to the prime mover or the attachment.

3.3 Pre-Operation Guidelines

Equipment Inspection

NOTE: Replace any damaged hardware, hoses, and fittings before using the equipment.

It is recommended to inspect the equipment for damage and wear before use. Use the following list as a guideline during equipment inspection.

	ITEMS
✓	Check all hardware connections to the prime mover for damage or fatigue such as cracks or other structural flaws.
✓	Check that all latches or locks are closed.
✓	Check that all hydraulic fittings are tight and free of leaks.
✓	Check that all hydraulic lines are free of leaks, holes, and/or cracks.
✓	Check that the tires on the prime mover are in good condition and have proper load ratings.

It is recommended to inspect the equipment for damage and wear before use. Use the following list as a guideline during equipment inspection.

	WARNING	
	<p>Leaking fluids under pressure can enter the skin and cause serious injury or death. Immediate medical attention is required.</p> <p>Keep body parts away from the leaking hydraulic lines and couplers that are under pressure.</p> <p>Wear goggles. Never use hands to check for hydraulic leaks. Use cardboard to check for leaks.</p>	

3. Operation

3.3 Pre-Operation Guidelines Cont'd

Usage Guidelines



DANGER



Keep all body parts away from the grinder when in use. The pivoting blade is dangerous and hazardous and could potentially cause serious bodily injury or death.



CAUTION



Always be aware of what is overhead when operating the grinder.

Before each use of the stump grinder, do the following:

- Perform the equipment inspection by performing a walk around.
- Perform daily inspection as indicated on the Inspection Checklist on page 8.
- Verify that the proper attachment is being used for the task.
- As with any power attachment, safety is critical. An enclosed cab prime mover with the operator wearing safety protection is required.
- Never operate the grinder with persons within 100 feet of range.
- Disengage grinder and shut off the engine before leaving the cabin of the prime mover.
- Use caution on slopes and uneven terrain.
- Never carry passengers.
- Never leave the machine running unattended.
- Never leave the stump grinder off the ground when out of the operator's seat.
- Never allow children or untrained personnel to operate the grinder.

Inspection Checklist

	ITEMS
✓	Are all safety notices and warning stickers in proper locations and visible?
✓	Are there any visible hydraulic leaks?
✓	Are any cracks visible in structure of the grinder?
✓	Is the cutting wheel bent?
✓	Are bolts holding teeth secure and tight?
✓	Has the prime mover been properly inspected for hydraulic leaks and proper tire inflation?
✓	Has the prime mover been properly maintained?

3. Operation

3.4 How to Grind Stumps

Align the cutter wheel with the left side of the stump (viewed from the machine control area) and position the machine so that it will cut about 4-6 inches off the top of the stump and 8-12 inches from the left side of the stump [Figure 1].

The rate of cut will depend on the type of tree, condition of the wood, and the condition of the cutters. Too light a feed will produce sawdust. The ideal feeding rate produces heavy wood chips, some of which may be about 1/16" thick by approximately 6-8 inches long, as well as chunks of wood. After completing the first cut through the stump, move the machine to the right (again as viewed from the control area) so the wheel can cut another 8-12 inches. Proceed with another cut. Additional passes, when the tree stump is very

large, are made in the same manner as described above. Repeat the procedure until the stump is cut to ground level.

Before cutting below the ground level, make certain that all rock or stone is removed from the immediate area of the cutting wheel. When you are cutting below the ground level, the feed rate should be reduced and the operator should be alert to the possibility of cutting hidden rock. Extra care used in this part of the operation can avoid costly damage to the cutting wheel and teeth.

The wheel is designed so that it can "saw" or cut its way into solid wood by dropping straight down on it. This operation works well for cutting off large roots.

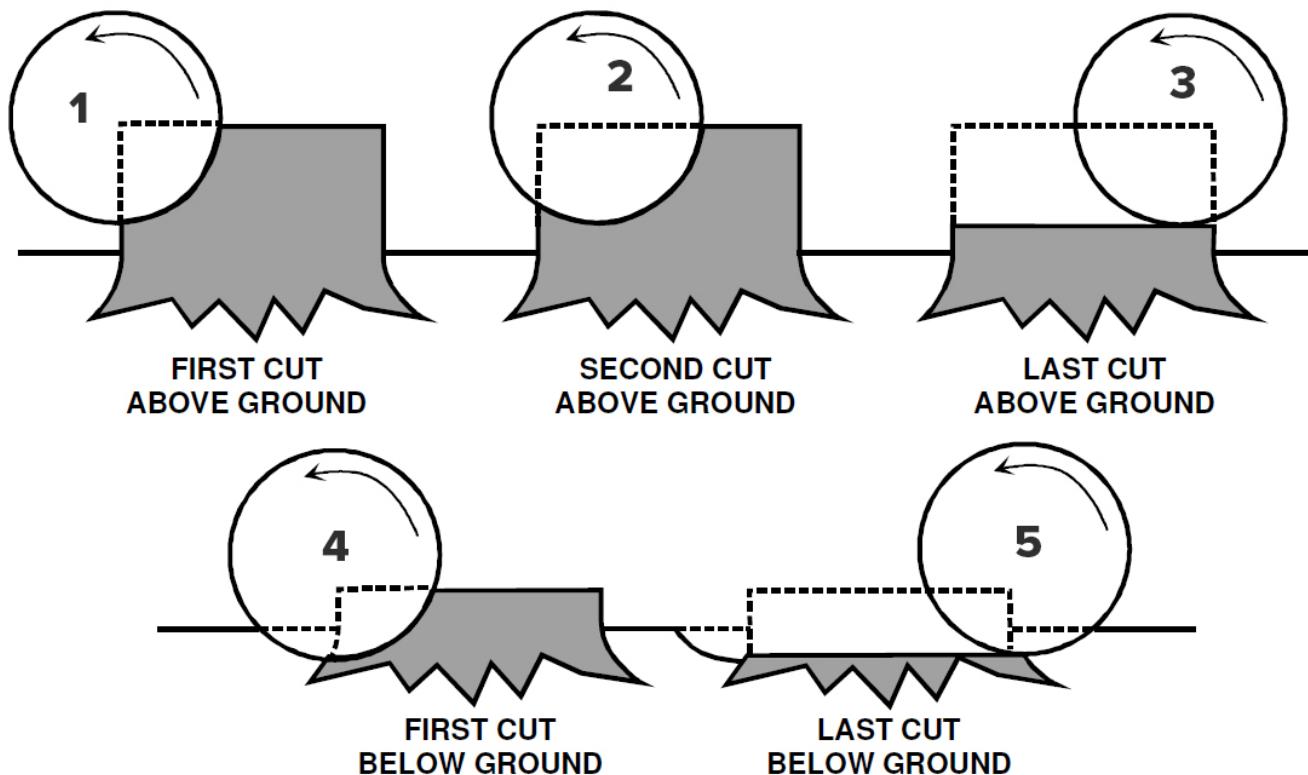


Figure 1

4. Maintenance

4.1 General Maintenance

NOTE: Disconnect the hydraulic connection between the attachment and the prime mover before performing any type of maintenance on the grinder.

Cutting Wheel

Be certain to check carbide cutting teeth for wear. Replace teeth as necessary.

Hoses

Check hoses occasionally for abrasion damage. This may save you from downtime. If in doubt, replace with genuine Blue Diamond® parts.

Pivot Pins

Pivot pins may be lubed with moly-type grease, same as what is used on your machine. Please check the cotter pins that retain all pivot/anchor pins after each use. If missing, replace! Severe damage could be caused by losing a pin.

Storage

Lubrication of pivot pins is recommended if unit is stored outside. Be certain hydraulic quick couplers are cleaned and joined together to keep dirt out. A light coating of oil film or diesel fluid is recommended to prevent corrosion. Touch-up paint should be used on all scratches to prevent further rust.

Grease Points

There are 7 grease points on the grinder. Each grease point should have new grease applied daily when being used. Approximately every 8 hrs. See Figures 2, 3, and 4 for grease point locations.



Figure 2



Figure 3

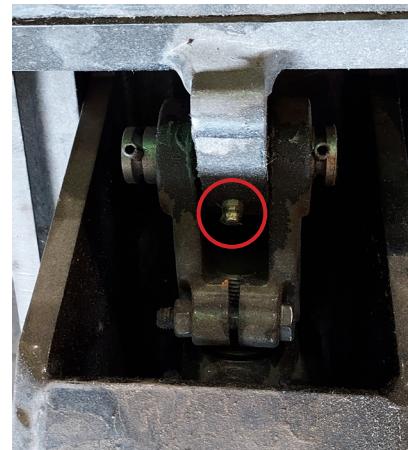
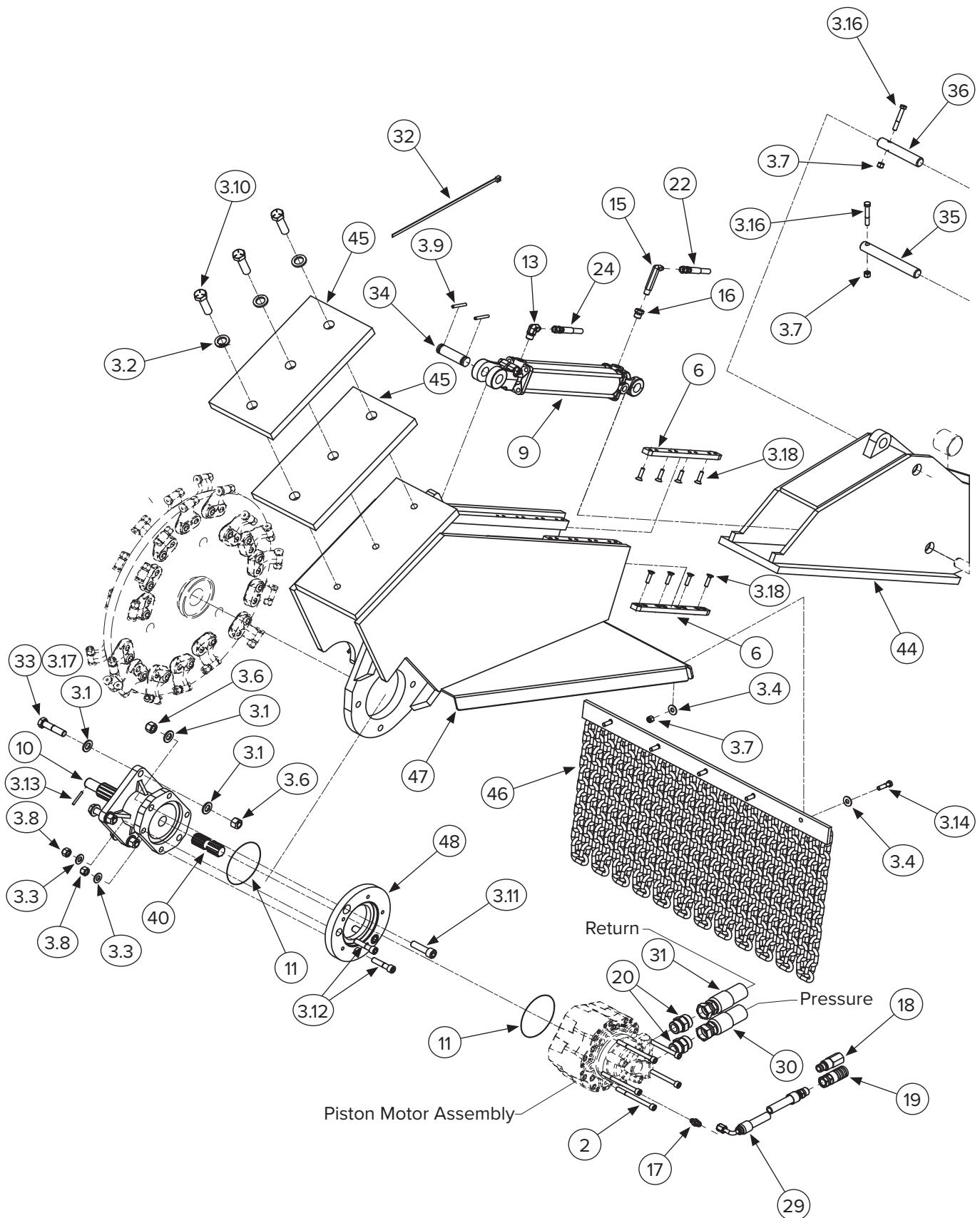


Figure 4

5. Parts

5.1 Deck Assembly Front



5. Parts

5.1 Deck Assembly Cont'd

ITEM	PART NUMBER	DESCRIPTION	QTY	TORQUE (ft-lb)
Piston Motor	204093	Motor, 60cc, 16-20 GPM, High Press Seal	1	
	204077	Motor, 75cc, 21-24 GPM, High Press Seal		
	204075	Motor, 90cc, 25-28 GPM, High Press Seal		
	204204	Motor, 130cc, 29-33 GPM, High Press Seal		
	204097	Motor, 150cc, 34-39 GPM, High Press Seal		
	204095	Motor, 170cc, 40-45 GPM, High Press Seal		
NS	204085	Motor Shaft Seal	1	
2	203415	M10-1.5 X 120mm Socket Cap Screw, Gr 12.0	5	62
3	204484	Bolt Kit	1	
3.1	299844	5/8 X 1.312 Thru-Hardened SAE FW, Yellow Zinc	10	
3.2	299727	3/4 SAE Gr 8 Flat Washer, Yellow	3	
3.3	299732	1/2 SAE Flat Washer Gr 8, Yellow Zinc	2	
3.4	299725	3/8 Thru-Hardened Flat Washer, Yellow Zinc	22	
3.6	109177	5/8"-11 Grade C Steel Top Lock	6	64
3.7	299625	3/8" NC Nylock Nut, Gr 8	15	
3.8	204302	1/2-13 Top Lock Nut Gr C, Zinc	2	106
3.9	204482	Roll Pin, 1/4' X 2"	2	
3.10	299489	3/4-10 X 2-3/4 Gr 8 Hex Cap Screw, Yellow Zinc	3	376
3.11	299453	5/8"-11 X 2-1/4" Socket Cap Screw, Plain	2	*238
3.12	299325	1/2-13 X 2-1/4 ASTM A574 Socket Cap, Black Oxide	2	*124
3.13	204061	M5 X 4mm Spring Pin, Plain	1	
3.14	299487	3/8"-16 X 1-1/2" Gr 8 Hex Cap, Yellow Zinc	9	44
3.16	299329	3/8"-16 X 2-1/2" Gr 8 Hex Cap, Yellow Zinc	2	44
3.17	299459	5/8"-11 X 2-3/4" Gr 8 Hex Cap, Yellow Zinc	4	*212
3.18	299311	5/16"-18 X 1-1/4" Flat Socket Cap Screw, Black	16	29
5	204475	Cylinder - Tie Rod 2.50 X 12.0	1	
6	204485	Block Slide, UHMW, Floating	4	
8 (NS)	204455	Harness, 6-Function, Attachment Side	1	
9 (NS)	204452	Controller, Multi-Function, Handheld	1	
10	204220	Bearing Housing - DMG/DSG	1	

*Critical Torque Values **MUST** be followed.

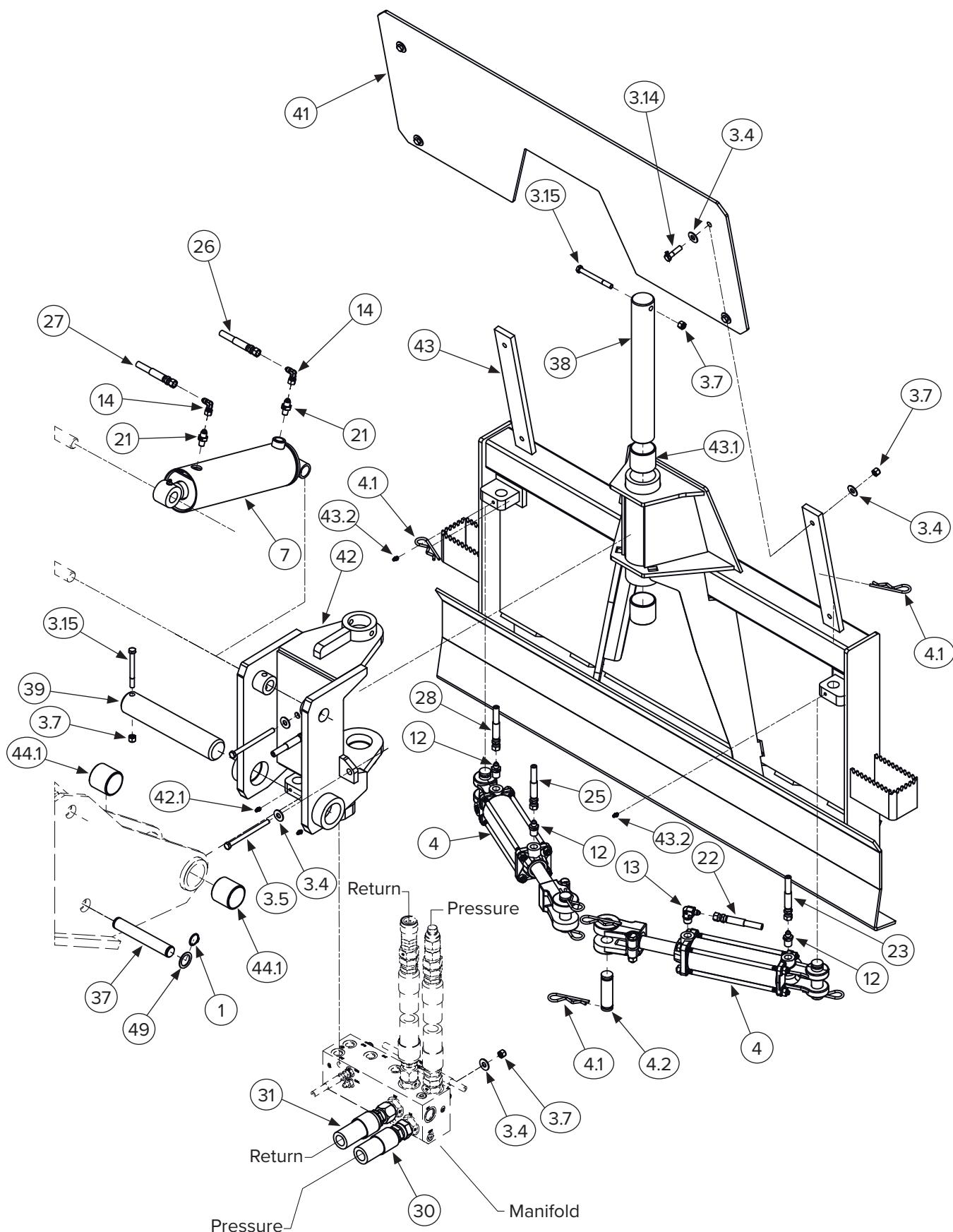
5. Parts

5.1 Deck Assembly Front Cont'd

ITEM	PART NUMBER	DESCRIPTION	QTY	TORQUE (ft-lb)
11	204207	O-Ring, Stump Grinder	2	
13	295030-M04JIC-M06NPT	1/4" MJIC X 3/8" MP-90EG, Fitting	2	
15	295030-M04JIC-M04NPTXL	1/4" MJIC X 1/4" MP-90DEG, Fitting X-Long	1	
16	204488	3/8" MP X 1/4" FP, Bushing	1	
17	204416	6 MJIC X 4 BSPP Adapter	1	
18	224064	3/8" Male Quick Coupler, Flat Face, No Spill	1	
19	224063	3/8" Female Quick Coupler, Flat Face, No Spill	1	
20	295010-M16ORFS-M16ORB	-16 MOR X -16 MOFS	2	
22	204489	Hose 1/4" X 21" (1/4" FJIC X 1/4" FJIC)	2	
24	204491	Hose 1/4" X 36" (1/4" FJIC X 1/4" FJIC)	1	
29	204496	Hose 3/8" X 143" (3/8" FJIC – 90 DEG X 1/2" MP)	1	
30	204497	Motor to Manifold Pressure Hose 1 X 67" 4000 PSI (-16 FFS X -16FFS) Kevlar	2	
31	204498	Motor to Manifold Return Hose 1" X 67 3000 PSI (1" FJIC X - 16FFS) Kevlar	2	
32	204081	14" Zip Tie, Wide	4	
33	204063	Loctite 243, 0.5mL (Blue)	1	
34	204465	Clevis Pin, 1" X 3-1/2"	1	
35	204500	Pin, Lift, Base End	1	
36	204501	Pin, Lift, Rod End	1	
40	204067	Stub Shaft, A3 Spline, For High Press HC05 Motor	1	
44	204445	Beam	1	
45	204446	Counter Weight Plate	2	
46	204447	Bracket-Chain	1	
47	204448	Slider	1	
48	204069	Adapter - Motor	1	

5. Parts

5.2 Deck Assembly Back



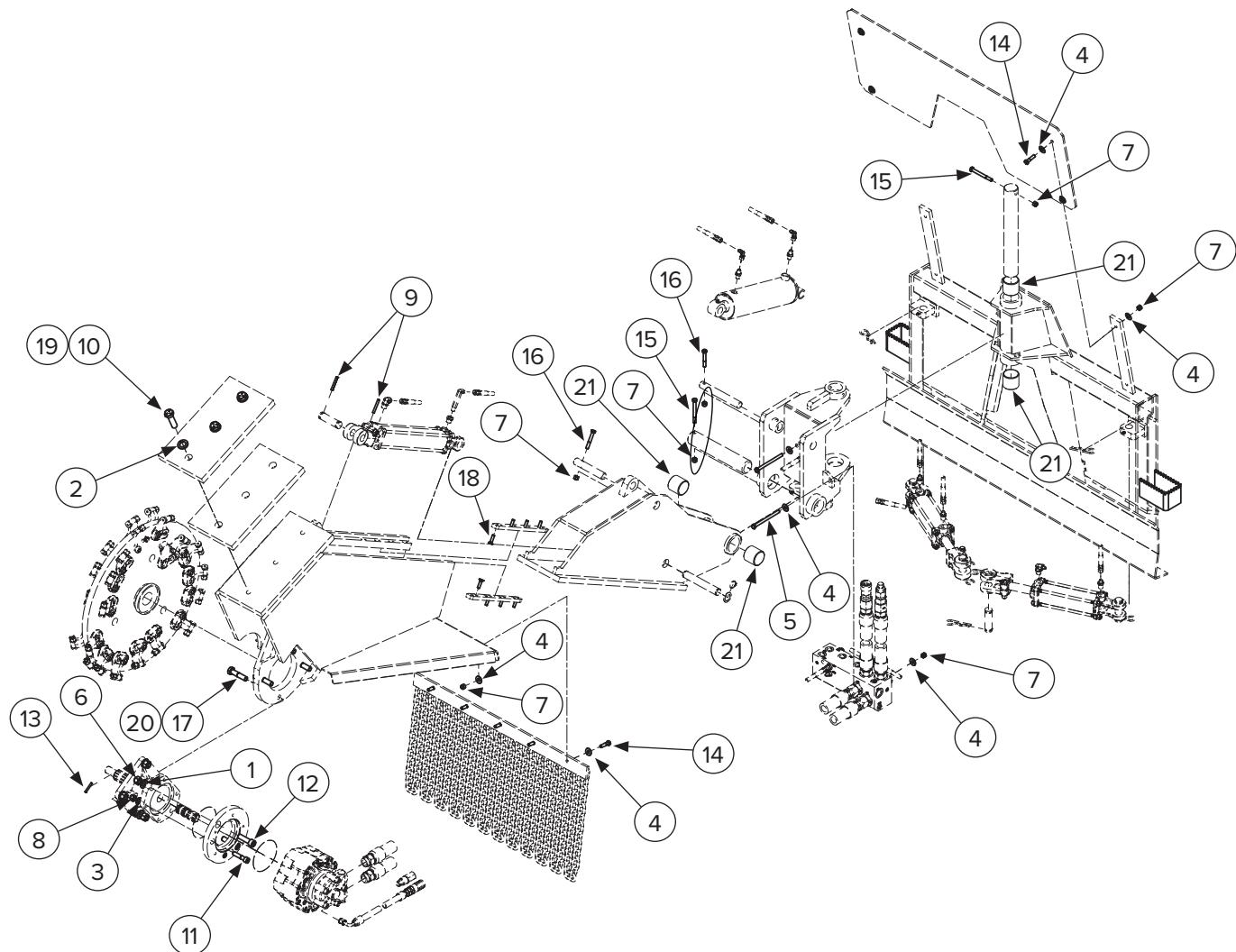
5. Parts

5.2 Deck Assembly Back Cont'd

ITEM	PART NUMBER	DESCRIPTION	QTY	TORQUE ft-lb
1	204483	Snap Ring, 1" External	2	
3	204484	Bolt Kit	1	
3.4	299725	3/8 Thru-Hardened Flat Washer, Yellow Zinc	22	
3.5	299486	3/8-16 X 5 Gr 5 Hex Cap, Zinc	2	31
3.7	299625	3/8" NC Nylock Nut, Gr 8	15	
3.14	299487	3/8" -16 X 1-1/2" Gr 8 Hex Cap, Yellow Zinc	9	44
3.15	299488	3/8"-16 X 3-3/4" Gr 8 Hex Cap, Yellow Zinc	2	44
4	204476	Cylinder - Tie Rod 2.50 X 6.00	2	
4.1	204481	3/16 R-Clip	4	
4.2	204465	Clevis Pin, 1' X 3-1/2"	2	
7	204486	Cylinder - Welded 3/50 X 8.00	1	
12	295010-M04JIC-M06NPT	1/4" MJIC X 3/8" MP, Fitting	3	
13	295030-M04JIC-M06NPT	1/4" MJIC X 3/8" MP-90deg, Fitting	2	
14	295030-M04JIC-F04JIC	1/4" MJIC X 1/4" FJIC-90deg, Fitting	2	
21	295010-M04JIC-M08NPT	1/4" MJIC X 1/2" MP, Fitting	2	
22	204489	Hose 1/4" X 21" (1/4" FJIC X 1/4" FJIC)	2	
23	204490	Hose 1/4" X 28" (1/4" FJIC X 1/4" FJIC)	1	
25	204492	Hose 1/4" X 26" (1/4" FJIC X 1/4" FJIC-90deg)	1	
26	204493	Hose 1/4" X 21" (1/4" FJIC X 1/4" FJIC-45deg)	1	
27	204494	Hose 1/4" X 25" (1/4" FJIC X 1/4" FJIC-45deg)	1	
28	204495	Hose 1/4" X 30" (1/4" FJIC X 1/4" FJIC)	1	
30	204497	Motor to Manifold Pressure Hose 1 X 67" 4000 PSI (-16 FFS X -16FFS) Kevlar	2	
31	204498	Motor to Manifold Return Hose 1" X 67 3000 PSI (1" FJIC X - 16FFS) Kevlar	2	
37	204502	Pin, Telescopic Base	1	
38	204503	Pin, Center Rotation	1	
39	204504	Pin, Center Tilt	1	
41	204602	Safety Glass	1	
42	204480	Swivel	1	
42.1	203072	Grease Zerk 1/4" Straight	2	
43	204700	Skid Attach Brkt	1	
43.1	204478	Bushing-Garlock 2.25 X 2 X 2	2	
43.2	203072	Grease Zerk 1/4" Straight	2	
44.1	204478	Bushing-Garlock 2.25 X 2 X 2	2	
49	204449	Washer, Machined	2	

5. Parts

5.3 Bolt Kit for Deck Assembly

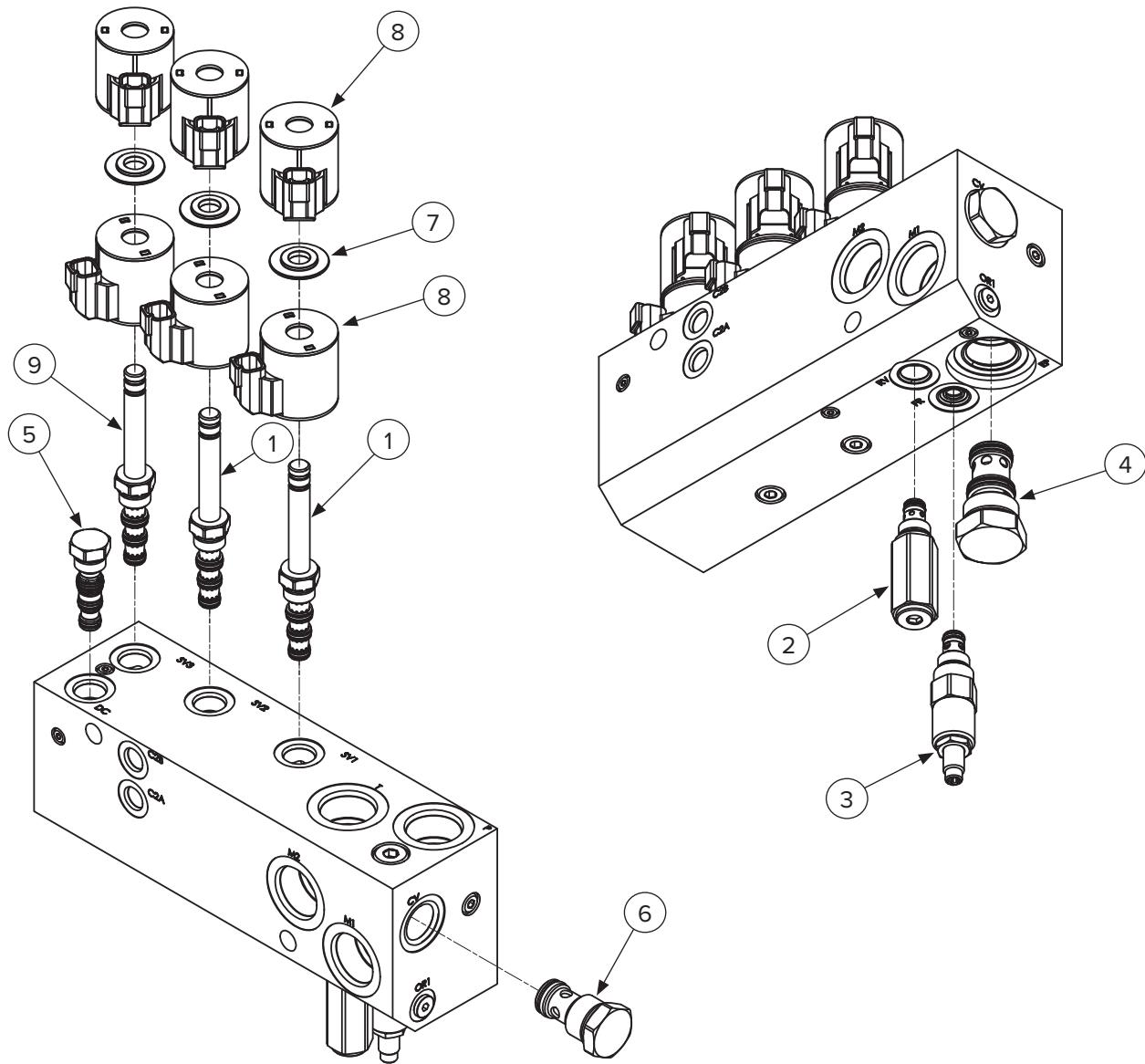


5. Parts

ITEM	PART NUMBER	DESCRIPTION	QTY	TORQUE ft-lb	TORQUE Nm
—	204484	Bolt Kit	1		
1	299844	5/8 X 1.312 Thru-Hardened SAE Flat Washer, Yellow Zinc	10		
2	299727	3/4 SAE Gr 8 Flat Washer, Yellow	3		
3	299732	1/2 X 1.062 Gr 8 SAE Flat Washer, Yellow Zinc	2		
4	299725	3/8 Thru-Hardened Flat Washer, Yellow Zinc	22		
5	299486	3/8-16 X 5 Gr 5 Hex Cap, Zinc	2	31	42
6	109177	5/8"-11 Grade C Steel Top Lock	6		
7	299625	3/8" NC Nylock Nut, Gr 8	15		
8	204302	1/2-13 Top Lock Nut Gr C, Zinc	2		
9	204482	Roll Pin, 1/4" X 2	2		
10	299489	3/4-10 X 2-3/4 Gr 8 Hex Cap Screw, Yellow Zinc	3	376	510
11	299453	5/8-11 X 2-1/4 ASTM A574 Socket Cap, Black Oxide	2	238	323
12	299325	1/2-13 X 2-1/4 ASTM A574 Socket Cap, Black Oxide	2	124	168
13	299453	M5 X 40mm Spring Pin, Plain	1		
14	299325	38"-16 X 1-1/2" Gr 8 Hex Cap, Yellow Zinc	9	44	60
15	204061	38"-16 X 3-3/4" Gr 8 Hex Cap, Yellow Zinc	2	44	60
16	299487	38"-16 X 2-3/4" Gr 8 Hex Cap, Yellow Zinc	2	44	60
17	299488	5/8-11 X 2-3/4 Gr 8 Hex Cap, Yellow Zinc	4	212	287
18	299329	5/16"-18 X 1-1/4" Flat Socket Cap Screw, Black	16	29	39
19	204082	Loctite Red 262	1		
20	204063	Loctite Blue 243	1		
21	204478	Bushing Garlock 2.25 X 2 X 2	4		

5. Parts

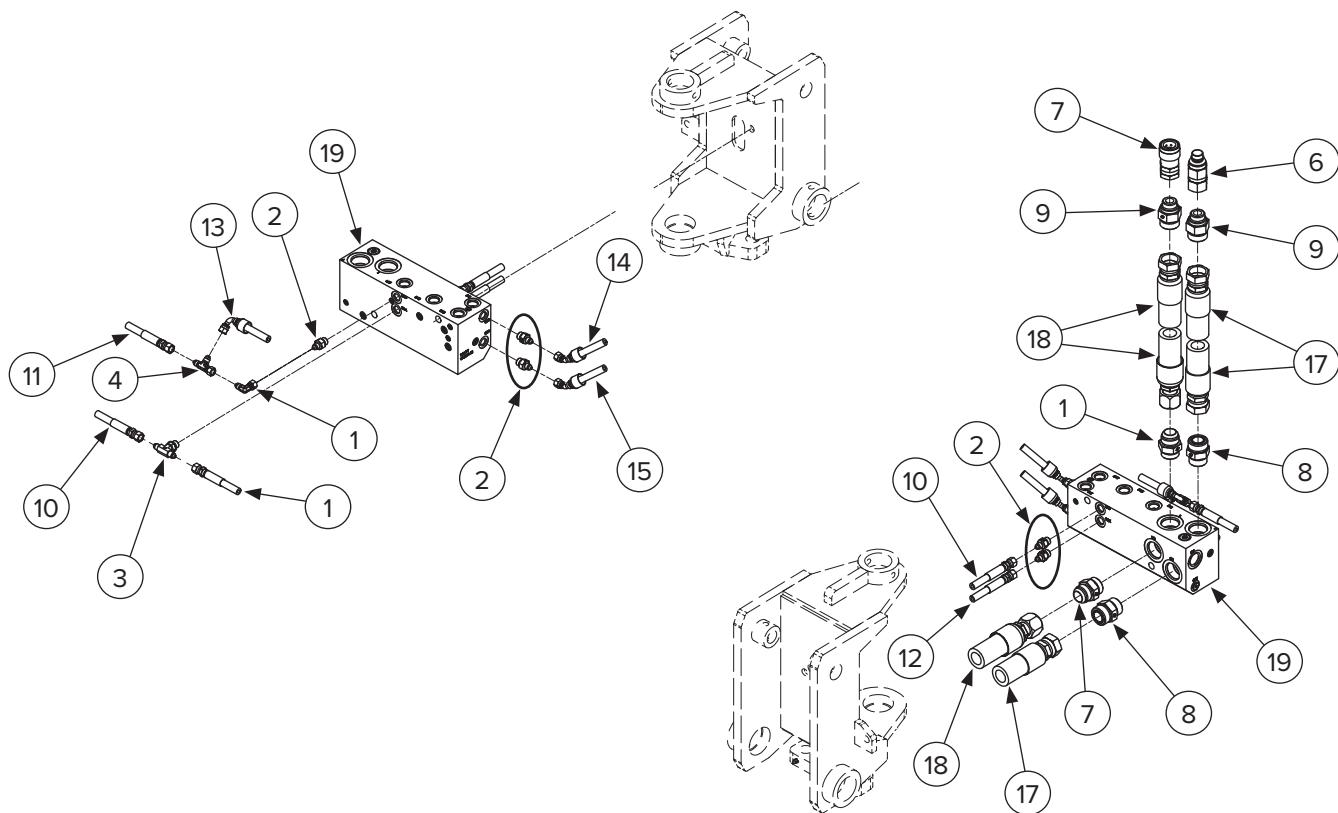
5.4 Manifold



ITEM	PART NUMBER	DESCRIPTION	QTY
1	204437	Spool-Type 4-Way 3-Position Tandem Center Valve	2
2	204438	Relief Differential Area Poppet-Type Relief Valve	1
3	204439	Relief Direct-Acting Poppet-Type Relief Valve	1
4	204440	Piloted Spool-Type Logic Element	1
5	204441	Pilot-Operated Check Valve	1
6	204442	Check Valve	1
7	204443	Coil Spacer	3
8	204487	Solenoid Valve Coil	6
9	204444	Spool-Type 4-Way 3-Position Open Center Valve	1

5. Parts

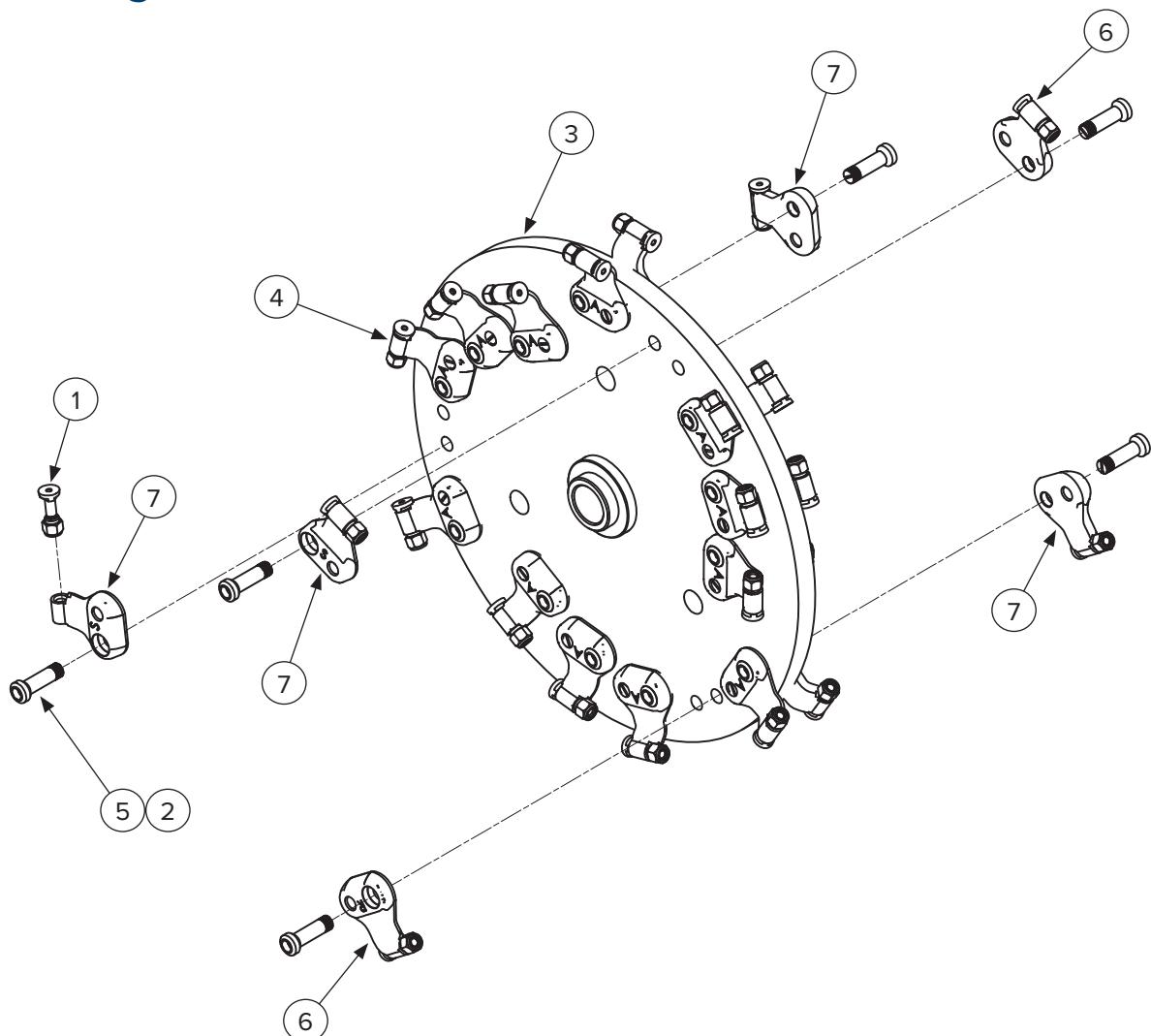
5.5 Manifold Deck Assembly



ITEM	PART NUMBER	DESCRIPTION	QTY
1	295010-M16ORB-M16JIC	1 MOR X 1 MJIC, Adapter	2
2	295010-M04JIC-M06ORB	1/4" MJIC X 3/8" MORB, Fitting	5
3	295050-M04JIC-M04JIC-M06ORB	1/4" MJ X 1/4" MJ X 3/8" MORB, Tee	1
4	295050-M04JIC-F04JIC-M04JIC	1/4" MJ X 1/4" FJ X 1/4" MJ, Tee	1
5	295030-M04JIC-F04JIC	1/4" MJIC X 1/4" FJIC-90deg, Fitting	1
6	224012	1/2" Male Quick Coupler X 3/4" SAE, Flat Face, No Spill	1
7	224011	1/2" Female Quick Coupler X 3/4" SAE, Flat Face, No Spill	1
8	295010-M16ORFS-M16ORB	-16 MOR X -16 MOFS	2
9	290320	Adapter, -16 MFS X -12 MOR	2
10	204489	Hose 1/4" X 21" (1/4" FJIC X 1/4" FJIC)	2
11	204490	Hose 1/4" X 28" (1/4" FJIC X 1/4" FJIC)	1
12	204491	Hose 1/4" X 36" (1/4" FJIC X 1/4" FJIC)	1
13	204492	Hose 1/4" X 26" (1/4" FJIC X 1/4" FJIC-90deg)	1
14	204493	Hose 1/4" X 21" (1/4" FJIC X 1/4" FJIC-90deg)	1
15	204494	Hose 1/4" X 25" (1/4" FJIC X 1/4" FJIC-45deg)	1
16	204495	Hose 1/4" X 30" (1/4" FJIC X 1/4" FJIC)	1
17	204497	Motor to Manifold Pressure Hose 1 X 67" 4000 PSI (-16 FFS X -16FFS) Kevlar	2
18	204498	Hose 1" X 67 3000 Psi (1" Fjic X -16ffs) Kevlar	2
19	204436	Manifold, Valve Assembly	1

5. Parts

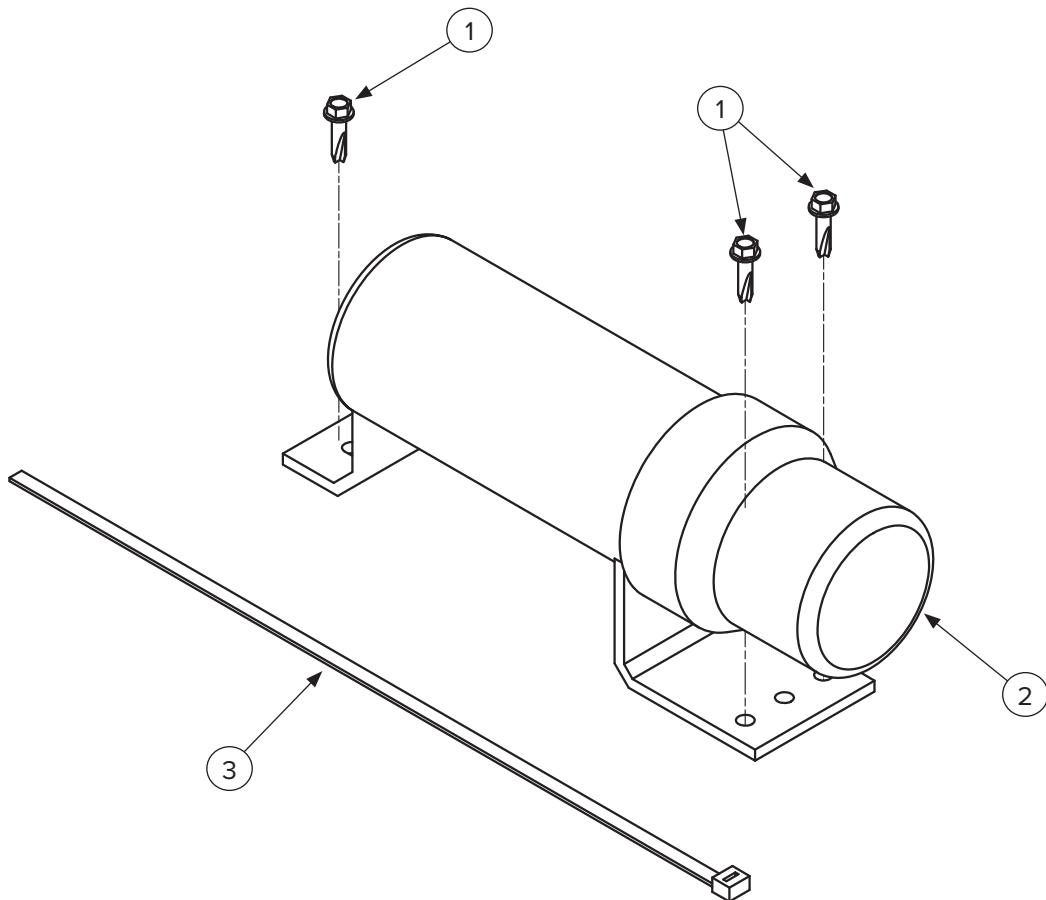
5.6 Cutting Wheel



ITEM	PART NUMBER	DESCRIPTION	QTY	TORQUE ft-lb	TORQUE Nm
1	204505	Tooth Wearsharp	30	35	47
2	204063	Loctite Blue 243	1		
3	204073	Wheel - 26"	1		
4	204510	Pocket, Angle Tooth, 18 ON LF 24 ON HF	24		
5	204508	Pocket, Bolt 24 ON LF, 30 ON HF	30	180	244
6	204512	Pocket, Reverse Tooth 2 ON LF & HF	2		
7	204514	Pocket, Straight Tooth 4 ON LF & HF	4		

5. Parts

5.7 Manual Tube



ITEM	PART NUMBER	DESCRIPTION	QTY
1	204479	1/4-14 X 1" Teks Screw, Hex Washer Head	3
2	216402	Large Manual Canister, 12" X 3/25"	1
3	204499	17" Zip Tie, Uv Resistant	2

6. Specifications

6.1 Attachment Specifications

DESCRIPTION	104605	104610	104615
Skid Steer Lifting Capacity	2,400 lbs		
Hydraulic HP	55 – 77	70 – 91	68 – 105
Hydraulic Flow	29 – 33 GPM	33 – 39 GPM	39 – 45 GPM
Hydraulic Pressure	3,000 – 4,061 PSI		
Case Drain	Yes		
Cutting Wheel Diameter	26"		
Cutting Wheel Thickness	1.25"		
Number of Teeth	32		
Weight	1,640		

6. Specifications

6.2 SAE Torque Specifications

Standard Hardware and Lock Nuts

BOLT TYPE	SAE GRADE 5		SAE GRADE 8		LOCK NUTS			
Nominal Size	Plated or Unplated Silver	Plated W/ ZnCr Gold	Plated or Unplated Silver	Plated W/ ZnCr Gold	Plated or Unplated Silver	Plated W/ ZnCr Gold	W/ Grade 5 Bolt	W/ Grade 8 Bolt
1/4	55 in / lb (6.2 N·m)	72 in / lb (8.1 N·m)	86 in / lb (9.7 N·m)	112 in / lb (12.6 N·m)	121 in / lb (13.6 N·m)	157 in / lb (17.7 N·m)	61 in / lb (6.9 N·m)	86 in / lb (9.8 N·m)
5/16	115 in / lb (13 N·m)	149 in / lb (17 N·m)	178 in / lb (20 N·m)	229 in / lb (26 N·m)	250 in / lb (28 N·m)	325 in / lb (37 N·m)	125 in / lb (14 N·m)	176 in / lb (20 N·m)
3/8	17 ft / lb (23 N·m)	22 ft / lb (30 N·m)	26 ft / lb (35 N·m)	34 ft / lb (46 N·m)	37 ft / lb (50 N·m)	48 ft / lb (65 N·m)	19 ft / lb (26 N·m)	26 ft / lb (35 N·m)
7/16	27 ft / lb (37 N·m)	35 ft / lb (47 N·m)	42 ft / lb (57 N·m)	54 ft / lb (73 N·m)	59 ft / lb (80 N·m)	77 ft / lb (104 N·m)	30 ft / lb (41 N·m)	42 ft / lb (57 N·m)
1/2	42 ft / lb (57 N·m)	54 ft / lb (73 N·m)	64 ft / lb (87 N·m)	83 ft / lb (113 N·m)	91 ft / lb (123 N·m)	117 ft / lb (159 N·m)	45 ft / lb (61 N·m)	64 ft / lb (88 N·m)
9/16	60 ft / lb (81 N·m)	77 ft / lb (104 N·m)	92 ft / lb (125 N·m)	120 ft / lb (163 N·m)	130 ft / lb (176 N·m)	169 ft / lb (229 N·m)	65 ft / lb (88 N·m)	92 ft / lb (125 N·m)
5/8	83 ft / lb (112 N·m)	107 ft / lb (145 N·m)	128 ft / lb (174 N·m)	165 ft / lb (224 N·m)	180 ft / lb (244 N·m)	233 ft / lb (316 N·m)	90 ft / lb (122 N·m)	127 ft / lb (172 N·m)
3/4	146 ft / lb (198 N·m)	189 ft / lb (256 N·m)	226 ft / lb (306 N·m)	293 ft / lb (397 N·m)	319 ft / lb (432 N·m)	413 ft / lb (560 N·m)	160 ft / lb (217 N·m)	226 ft / lb (306 N·m)
7/8	142 ft / lb (193 N·m)	183 ft / lb (248 N·m)	365 ft / lb (495 N·m)	473 ft / lb (641 N·m)	515 ft / lb (698 N·m)	667 ft / lb (904 N·m)	258 ft / lb (350 N·m)	364 ft / lb (494 N·m)
1	213 ft / lb (289 N·m)	275 ft / lb (373 N·m)	547 ft / lb (742 N·m)	708 ft / lb (960 N·m)	773 ft / lb (1048 N·m)	1000 ft / lb (1356 N·m)	386 ft / lb (523 N·m)	545 ft / lb (739 N·m)

6. Specifications

6.3 Metric Torque Specifications

Standard Hardware and Lock Nuts

BOLT TYPE	CLASS 4.8		CLASS 8.8 OR 9.8		CLASS 10.9		CLASS 12.9	
Size	Lubricated	Dry	Lubricated	Dry	Lubricated	Dry	Lubricated	Dry
M6	4.8 N·m	6 N·m	9 N·m	11 N·m	13 N·m	17 N·m	15 N·m	19 N·m
	3.5 in / lb	4.5 in / lb	6.5 in / lb	8.5 in / lb	9.5 in / lb	12 in / lb	11.5 in / lb	14.5 in / lb
M8	12 N·m	15 N·m	22 N·m	28 N·m	32 N·m	40 N·m	37 N·m	47 N·m
	8.5 in / lb	11 in / lb	16 in / lb	20 in / lb	24 in / lb	30 in / lb	28 in / lb	35 in / lb
M10	23 N·m	29 N·m	43 N·m	55 N·m	63 N·m	80 N·m	75 N·m	95 N·m
	17 in / lb	21 in / lb	32 in / lb	40 in / lb	47 in / lb	60 in / lb	55 in / lb	70 in / lb
M12	40 N·m	50 N·m	75 N·m	95 N·m	110 N·m	140 N·m	130 N·m	165 N·m
	29 in / lb	37 in / lb	55 in / lb	70 in / lb	80 in / lb	105 in / lb	95 in / lb	120 in / lb
M14	63 N·m	80 N·m	120 N·m	150 N·m	175 N·m	225 N·m	205 N·m	260 N·m
	47 in / lb	60 in / lb	88 in / lb	110 in / lb	130 in / lb	165 in / lb	150 in / lb	190 in / lb
M16	135 N·m	175 N·m	260 N·m	330 N·m	375 N·m	475 N·m	440 N·m	560 N·m
	100 in / lb	125 in / lb	195 in / lb	250 in / lb	275 in / lb	350 in / lb	325 in / lb	410 in / lb
M18	135 N·m	175 N·m	260 N·m	330 N·m	375 N·m	475 N·m	440 N·m	560 N·m
	100 in / lb	125 in / lb	195 in / lb	250 in / lb	275 in / lb	350 in / lb	325 in / lb	410 in / lb
M20	190 N·m	240 N·m	375 N·m	475 N·m	530 N·m	675 N·m	625 N·m	800 N·m
	140 in / lb	180 in / lb	275 in / lb	350 in / lb	400 in / lb	500 in / lb	460 in / lb	580 in / lb
M22	260 N·m	330 N·m	510 N·m	650 N·m	725 N·m	925 N·m	850 N·m	1075 N·m
	190 in / lb	250 in / lb	375 in / lb	475 in / lb	540 in / lb	675 in / lb	625 in / lb	800 in / lb
M24	330 N·m	425 N·m	650 N·m	825 N·m	925 N·m	1150 N·m	1075 N·m	1350 N·m
	250 in / lb	310 in / lb	475 in / lb	600 in / lb	675 in / lb	850 in / lb	800 in / lb	1000 in / lb
M27	490 N·m	625 N·m	950 N·m	1200 N·m	1350 N·m	1700 N·m	1600 N·m	2000 N·m
	360 in / lb	450 in / lb	700 in / lb	875 in / lb	1000 in / lb	1250 in / lb	1150 in / lb	1500 in / lb
M30	675 N·m	850 N·m	1300 N·m	1650 N·m	1850 N·m	2300 N·m	2150 N·m	2700 N·m
	490 in / lb	625 in / lb	950 in / lb	1200 in / lb	1350 in / lb	1700 in / lb	1600 in / lb	2000 in / lb
M33	900 N·m	1150 N·m	1750 N·m	2200 N·m	2500 N·m	3150 N·m	2900 N·m	3700 N·m
	675 in / lb	850 in / lb	1300 in / lb	1650 in / lb	1850 in / lb	2350 in / lb	2150 in / lb	2750 in / lb
M36	1150 N·m	1450 N·m	2250 N·m	2850 N·m	3200 N·m	4050 N·m	3750 N·m	4750 N·m
	850 in / lb	1075 in / lb	1650 in / lb	2100 in / lb	2350 in / lb	3000 in / lb	2750 in / lb	3500 in / lb

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Warranty

MANUFACTURER'S LIMITED WARRANTY

BLUE DIAMOND® ATTACHMENTS, a manufacturer of quality attachments, warrants new BLUE DIAMOND® ATTACHMENTS products and/or attachments at the time of delivery to the original purchaser, to be free from defects in material and workmanship when properly set up and operated in accordance with the recommendations set forth by BLUE DIAMOND® ATTACHMENTS, LLC.

BLUE DIAMOND® ATTACHMENTS liability for any defect with respect to accepted goods shall be limited to repairing the goods at a BLUE DIAMOND® ATTACHMENTS designated location or at an authorized dealer location, or replacing them, as BLUE DIAMOND® ATTACHMENTS shall elect. The above shall be in accordance with BLUE DIAMOND® ATTACHMENTS warranty adjustment policies. BLUE DIAMOND® ATTACHMENTS obligation shall terminate twelve (12) months for the Swing Arm Stump Grinder after the delivery of the goods to original purchaser.

This warranty shall not apply to any machine or attachment which shall have been repaired or altered outside the BLUE DIAMOND® ATTACHMENTS factory or authorized BLUE DIAMOND® ATTACHMENTS dealership or in any way so as in BLUE DIAMOND® ATTACHMENTS judgment, to affect its stability or reliability, nor which has been subject to misuse, negligence or accident beyond the company recommended machine rated capacity.

WARRANTY CLAIM

To submit a warranty claim, a claim must be filed with BLUE DIAMOND® ATTACHMENTS before work is performed. The BLUE DIAMOND® PRODUCT SUPPORT TEAM will advise repairs and applicable parts exchanges. Tampering with the failed part may void the warranty. This warranty does not include freight or delivery charges incurred when returning machinery for servicing. Dealer mileage, service calls, and pickup/delivery charges are the customers' responsibility.

EXCLUSIONS OF WARRANTY

Except as otherwise expressly stated herein, BLUE DIAMOND® ATTACHMENTS makes no representation or warranty of any kind, expressed or implied, AND MAKES NO WARRANTY OF MERCHANTABILITY IN RESPECT TO ITS MACHINERY AND/OR ATTACHMENTS ARE FIT FOR ANY PARTICULAR PURPOSE. BLUE DIAMOND® ATTACHMENTS shall not be liable for incidental or consequential damages for any breach or warranty, including but not limited to inconvenience, rental of replacement equipment, loss of profits or other commercial loss. Upon purchase, the buyer assumes all liability for all personal injury and property resulting from the handling, possession, or use of the goods by the buyer.

No agent, employee, or representative of BLUE DIAMOND® ATTACHMENTS has any authority to bind BLUE DIAMOND® ATTACHMENTS to any affirmation, representation, or warranty concerning its machinery and/or attachments except as specifically set forth herein.

This warranty policy supersedes any previous documents.

NOTE: Blue Diamond® Attachments is a trademark of BLUE DIAMOND® ATTACHMENTS



QUALITY | DEPENDABILITY | INTEGRITY

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