

Heavy Duty Series 2 Brush Cutter

Operation and Maintenance Manual



103007 & 103012



Register your
WARRANTY
within 30 days
of purchase



888-376-7027 | BlueDiamondAttachments.com

Introduction: Owner Information

Thank you for your decision to purchase a Blue Diamond® Heavy Duty Series 2 Brush Cutter. 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 left side of the attachment, just forward of the mounting plate.

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.

Table of Contents

1. Safety	4-5
2.1 General Safety Information.....	4
2.2 Qualified Operators.....	5
2. Operation	6-10
2.1 Attachment Installation.....	6
2.2 Brush Cutter Operation	8
2.3 Inspection Schedule.....	9
3. Parts.....	11-14
3.1 Direct Drive Spindle.....	11
3.2 Blade Assembly Breakdown	13
4. Specifications	14
4.1 Torque Specifications.....	14
5. Warranty	15

1. Safety

1.1 General Safety Information



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.



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



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.



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.



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.

Safety Requirements

- 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 condition. In case of damaged or missing shields, replace them immediately.
- It is absolutely forbidden to remove or alter safety devices.
- 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.
- Pay maximum attention to avoid any accidental contact with rotating parts of the machine.
- Do not operate the attachment or machine while wearing loose fitting clothing that can be entangled or caught in parts of the machine.
- Do not operate the implement when tired, in poor condition, or under the influence of alcohol or drugs.

1. Safety

Safety Requirements



DANGER



AVOID SERIOUS INJURY OR DEATH

Do not raise the back of the cutter more than 12” off the ground while operating the attachment. Raising the cutter during operation may result in 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, gloves, and hearing protection.

NOTE: Additional safety equipment may be required depending on the operating environment and worksite conditions.

- It is the responsibility of the operator to follow all local, state, and federal safety regulations. Improper use of this equipment may result in personal injury, property damage, and/or damage to the equipment.

NOTE: Fasten the safety chain to your machine tie down brackets with very little slack. This is usually below the front of the cab between the front wheels.



Modifications

Any modifications made to this equipment may void any warranty and relieve the manufacturer of liability of any resulting injury or damage.

1.2 Qualified Operators

Safe Operation Needs a Qualified Operator



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.

2. Operation

2.1 Attachment Installation



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, fasten the seatbelt, lower the safety seat bar, start the engine and release the parking brake.

Leaving The Operator's Position



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.

Connecting Attachment To The Machine

NOTE: Before attempting to attach the Brush Cutter to the prime mover, verify that all hydraulic couplings are compatible.



Improper attachment to the prime mover may cause personal injury.



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



CRUSH HAZARD

- Before moving the machine, look in all directions and make sure no bystanders, especially small children are in the work area. Do not allow anyone between the machine and attachment when approaching the attachment for connecting.
- Keep fingers and hands out of pinch points when connecting and disconnecting the attachment.

1. Place the Brush Cutter attachment on a level surface.
2. Position and align the prime mover to the rear of the attachment, within proximity of the front of the prime mover.
3. Insert and connect the prime mover to 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.

2. Operation

- Using the prime mover, raise the attachment and move the attachment to ensure hydraulic lines are clear of air and operate properly.



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.

- Lower the attachment to ground level.
- Inspect that the attachment is mounted properly and securely. If the attachment does not meet this requirement, follow the instructions to remove the Brush Cutter and re-attach using the instructions above.
- Connect the safety chain as described in “Safety Requirements” on page 5.

Disconnecting Attachment From the Machine



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 connection.

- Using the prime mover, lower the attachment to the ground.
- To prevent contamination, remove any dirt and debris from the couplings. Disconnect the hydraulic connection between the attachment and the prime mover.

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

- Disconnect the safety chain.
- Disengage the prime mover latches (or other locking mechanism) from the attachment.
- Back the prime mover slowly away from the attachment.

2. Operation

2.2 Brush Cutter Operation

Brush Cutter Operation

- Always operate this attachment with a prime mover with an enclosed cab.
- Wear proper safety equipment as required by working conditions and local, state, and Federal laws.
- Never operate the Brush Cutter within 100 feet of people, animals, or damageable property. Clear the area of objects that could become projectiles, such as rocks, trash, and construction debris.
- Never operate the Brush Cutter with the back more than 12" off the ground or where your view is obstructed.
- Never operate the Brush Cutter with any guards removed.
- Never operate the Brush Cutter without the safety chain securely fastened to your machine.
- Disengage the Brush Cutter and shut off the engine before leaving the cab of your machine.
- Do not place hands or feet near the Brush Cutter while the machine is running.

 **DANGER** 

Keep all body parts away from the Brush Cutter when in use.

 **ATTENTION**

Disassembly of motor voids manufacturers warranty.

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

 **DANGER** 

ROTATING BLADES WILL CAUSE SERIOUS INJURY OR DEATH

- Never put hands, feet or objects into or under brush cutter when engine is running.
- Keep bystanders away.
- No riders.
- Stop engine before leaving the machine to service.

 **WARNING** 



THROWN OBJECTS OR ROTATING BLADES CAN CAUSE SERIOUS INJURY OR DEATH

- Clear work area of all debris, such as rope, wire, cable or other materials that can wrap around blade carrier and blades, causing entanglement and attachment damage.
- **DO NOT** operate brush cutter in vicinity of bystanders, animals, or damageable property. Objects can be thrown more than several hundred feet.
- Keep all chains and shields installed. Repair or replace if damaged or missing.
- Check blade carrier, blades and mounting hardware. Replace if damaged. Never weld or modify.

2. Operation

2.3 Inspection Schedule

Equipment Inspection Schedule

We recommend that you inspect the equipment for damage and wear before use. Use the following list as a guideline during equipment inspection

**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.

NOTE: Shut off the prime mover and disengage the Brush Cutter before performing any maintenance.

Daily Inspection and Maintenance

Inspect the Brush Cutter by performing a walk around daily before and after use. Use the following inspection checklist as a guideline.

	ITEMS
✓	After the Brush Cutter has been attached, 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, or cracks. Replace if needed.
✓	Check all hardware connections to the prime mover for damage or fatigue such as cracks or other structural flaws.
✓	Inspect the safety chain for damage.
✓	Inspect blades and bolts for wear, damage, and loosening.
✓	Check for wire or debris under the deck, remove any present.
✓	Check for any signs of grease under the deck (potential damaged seal on the direct drive)
✓	Clean debris from the motor and drive area.
✓	Check that all guards and safety equipment are in good condition.

2. Operation

2.3 Inspection Schedule Cont'd

Weekly Inspection

	ITEMS
✓	Check blade bolts for correct torque (1,440 ft/lb)
✓	Check all bolts for tightness. 3/8" bolts: 50 lbs ft/lb & 1/2" bolts: 100 lbs ft/lb.
✓	Inspect the deck for cracks, bends, or damage.
✓	Inspect discharge chains and replace any missing or broken chains.

Monthly Inspection

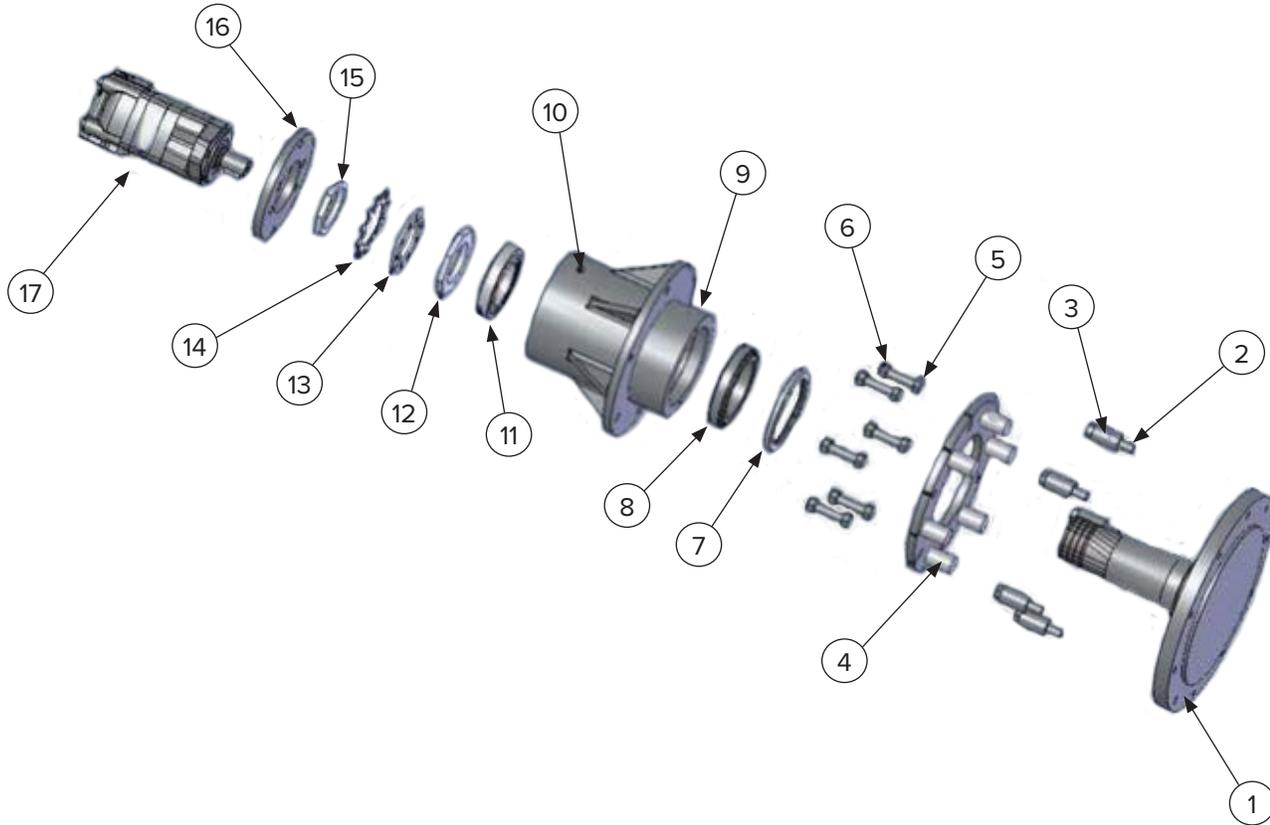
	ITEMS
✓	Inspect the blades for cracks, bends, or excessive wear.
✓	Check skid plates for wear.
✓	Inspect the bolts on the motor and drive. Tighten if required.
✓	Check that all bolts are tight.
✓	Grease drive system every 250 hours of use (1 fitting on direct drive).

Inspection Checklist

	ITEMS
✓	Are all safety notices and warning stickers in proper locations and visible?
✓	Are all safety guards properly installed and in good condition?
✓	Are there any visible hydraulic leaks?
✓	Has the drive been greased?
✓	Are there vines or wires wound under the deck?
✓	Is there any sign of grease under the deck?
✓	Are any cracks visible in the brush cutter's structure?
✓	Are the blades worn, bent, or broken?
✓	Has all debris been removed from the motor and drive area?
✓	Has the prime mover been properly inspected for hydraulic leaks and proper tire inflation?
✓	Has the prime mover been properly maintained?

3. Parts

3.1 Direct Drive Spindle



ITEM	PART NUMBER	DESCRIPTION	QTY
1	203068	Direct Drive Spindle	1
2	203914	Lower Bearing Seal Protector (Bushing & Bolt)	5
3			
4	203134	Upper Bearing Seal Protector	1
NS	203087	Retention Ring	1
5	203056	Housing Bolt 3/4"	6
6	299657	Housing Nut 3/4" (included with bolt)	6
7	203086	Lower Bearing Seal	1
8	203074	Direct Drive Lower Bearing & Race	2
9	203076	Direct Drive Housing	1
NS	203109	Small Straight Thread for Grease Outlet	1
10	203072	Grease Zerk	1
11	203075	Direct Drive Upper Bearing & Race	2
12	203105	Direct Drive Spindle Nut, Lower	1
13	203095	Direct Drive Lock Ring	1
14	203100	Direct Drive Star Lock Washer	1
15	203090	Direct Drive Spindle Nut, Upper	2
16	203156	Motor to Drive Flange	1
17	203763	Hydraulic Motor 100cc	1
	203768	Hydraulic Motor 160cc	1

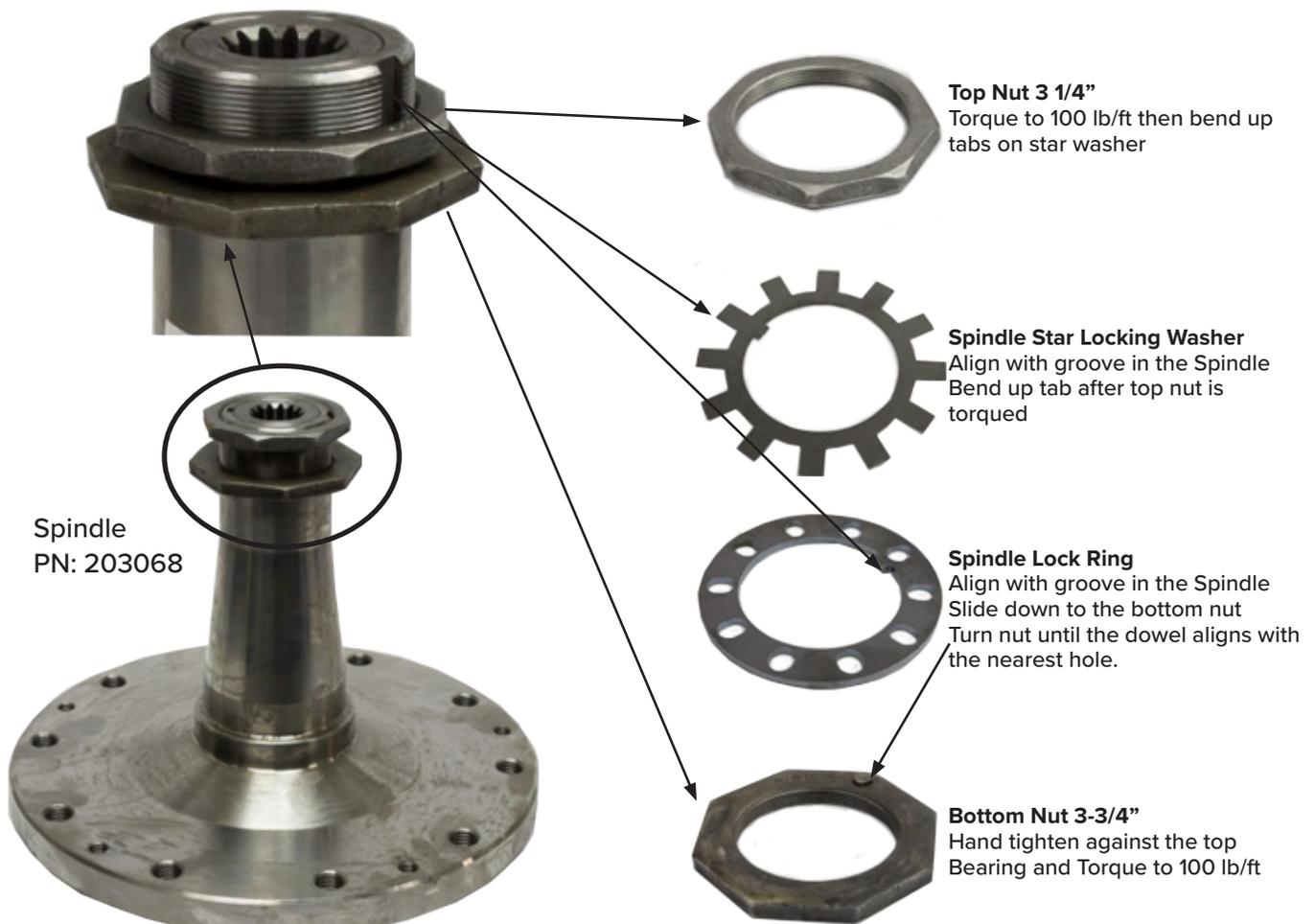
3. Parts

3.1 Direct Drive Spindle Cont'd

Disassembly and Reassembly of Brush Cutter Direct Drive

1. Support the Brush Cutter by the blade carrier.
2. Remove Motor Cover
3. Remove hoses to motor
4. Remove motor and 4 bolts at flange.
5. Remove top nut 3-1/4", star washer, lock washer, bottom nut 3-3/4", and top bearing/race (items 11 – 15 on page 11).
6. Lift brush cutter straight up using the skid steer leaving behind the spindle, blade carrier, and blades on the support.
7. Remove nuts and bolts holding the direct drive housing to the mower deck (items 5 and 6 on page 11)
8. Remove the direct drive housing (item 9 on page 11).
9. Remove lower seal and bottom bearing (items 7 and 8 on page 11).
NOTE: the bottom bearing is pressed in.
10. Reassembly is the reverse. See below for details on top nuts.

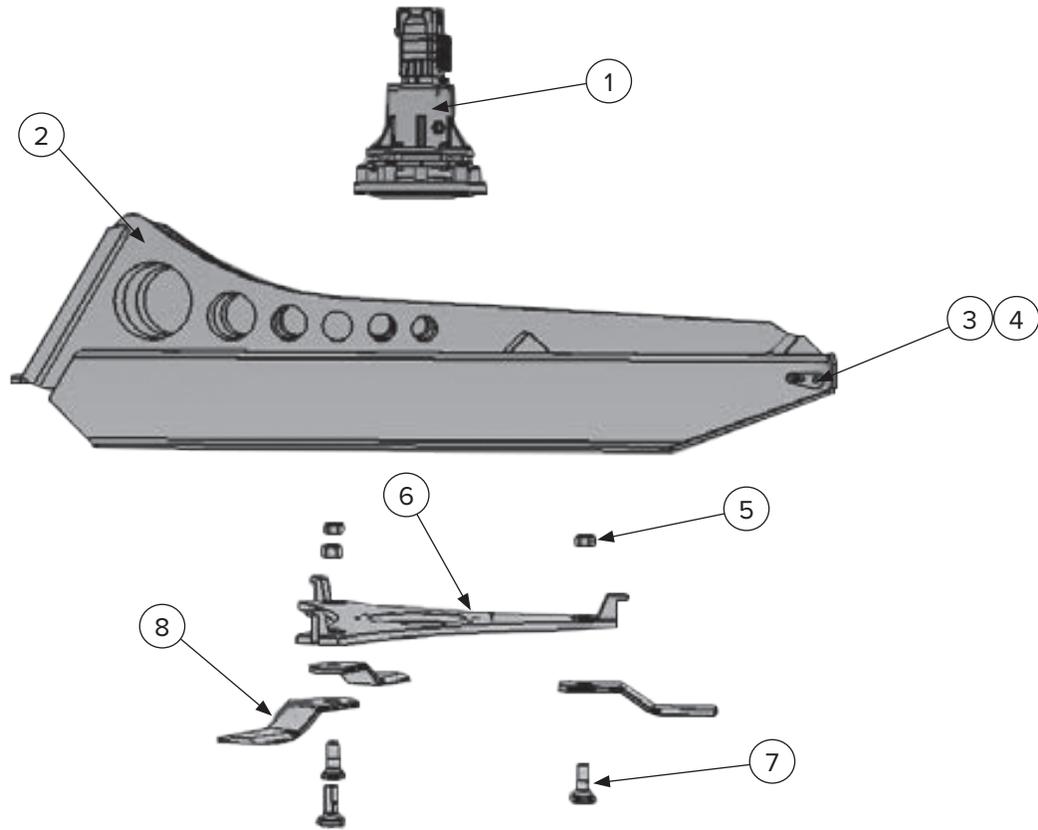
Top Nuts Details



Use red Loctite on the threads of both the lower and upper nut.

3. Parts

3.2 Blade Assembly Breakdown



ITEM	PART NUMBER	DESCRIPTION	QTY 60"	QTY 60"
1	203073	Drive Assembly (See page 11)	1	
2	203500	Deck Weldment 60"	1	
	—	Deck Weldment 72"		
NS	203008	Blade Access Cover	1	
NS	203006	Blade Access Cover Self-Tapping Bolts	2	
3	203045	4 Link Chain	36	44
4	203050	Chain Retainer Bar 60"	1	
	203055	Chain Retainer Bar 72"		
5	203030	Lock Nut for Blade	3	
6	203043	Blade Carrier 60" – 3 Blade	1	
	203041	Blade Carrier 72" – 3 Blade		
7	203025	Pivot Bolt	3	
8	203028	Blade for 60"	3	
	203027	Blade for 72"		

4. Specifications

4.1 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
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)



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 Heavy Duty Series 2 Brush Cutter 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

Blue Diamond® Attachments
4512 Anderson Road, Knoxville, TN 37918
888-376-7027