Severe Duty Brush Cutter Series 1 & Series 2

Operation and Maintenance Manual

BLUE DIAMOND ATTACHMENTS

Register your WARRANTY within 30 days of purchase

BD-092

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Introduction: *Owner Information*

Thank you for your decision to purchase a Blue Diamond® Severe Duty 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.

Series 2

Series 1

Model Number:_____

Serial Number: _____

Dealer Name: _____

Dealer Number:_____

Date of Purchase:_____

For the Series 2, the serial plate is located on the right side of the attachment mounting plate as shown above. For the Series 1, the serial plate is located on the right side of the motor enclosure.

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.

Revision Date: 07.01.2025

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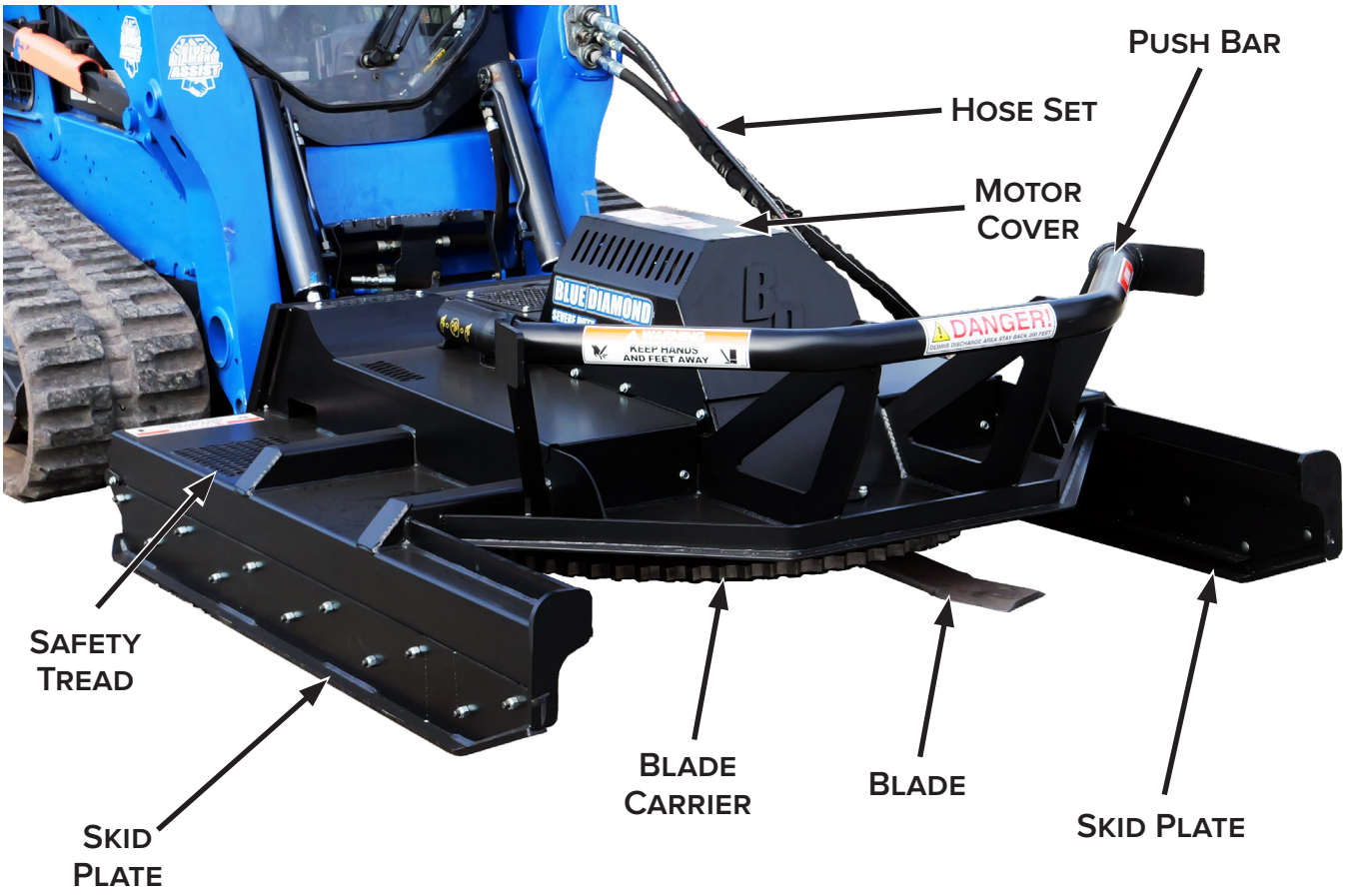
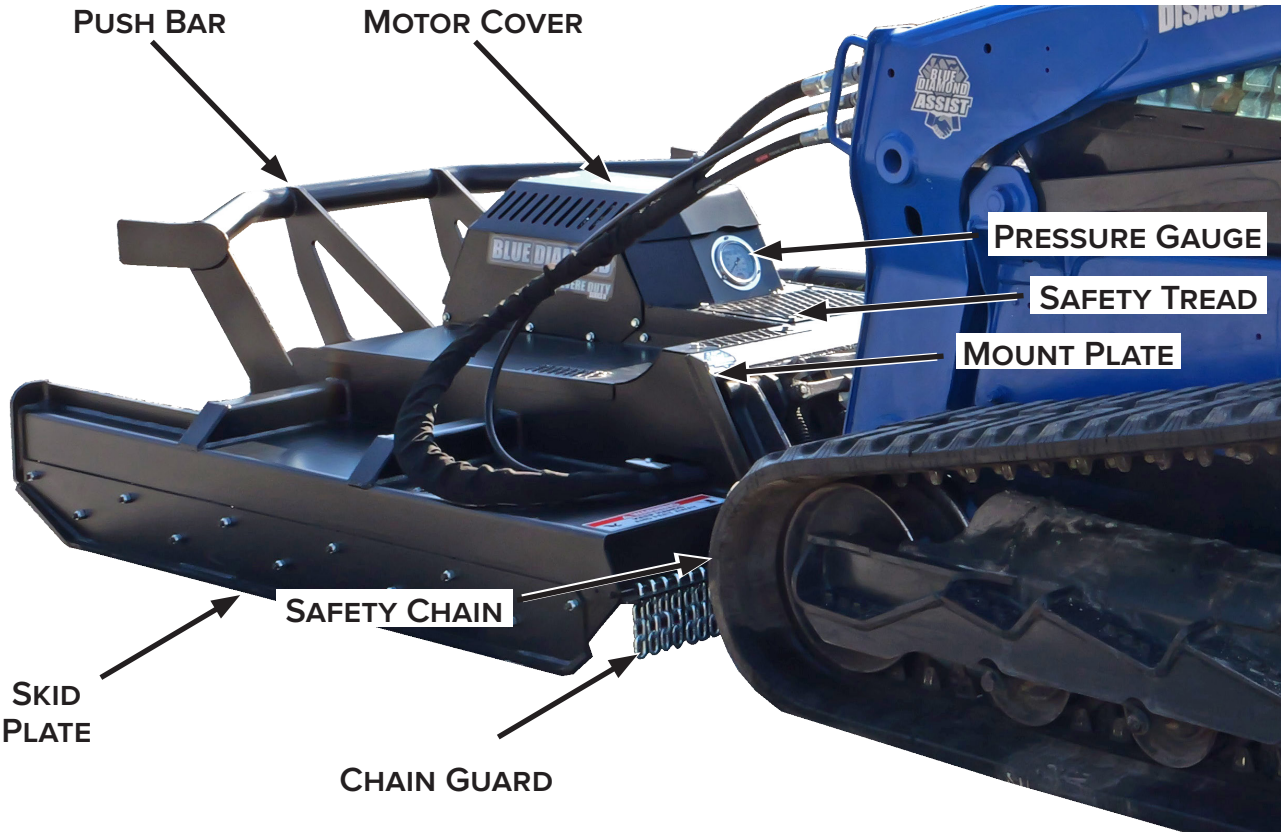
1. Introduction

1.1 *Attachment Identification*





1. Introduction

1.2 *About this Attachment*

The incredible power and versatility of the Blue Diamond® Severe Duty Brush Cutters will all but remove the need for a mulching head. Its 10” cutting capacity and incredible performance in grass make this brutally tough unit the top in its class. Using the highest quality piston motor on the market, the torque throughout its flow range is unmatched. The visible pressure gauge keeps you aware of the workload and will allow you to work at peak performance, increasing productivity tremendously! Adjustable skid shoes allow the cutting height to be adjusted. The mammoth 1” thick blade carrier weighs over 500 lbs and has a serrated edge to help with mulching and destroying fence wire that so often takes out brush cutters. The innovative debris covers prevent brush and other materials from building up on the top of the deck. Keeping this surface clear of debris ensures maximum life of the durable powder coat as well as adding safety for entering and exiting the machine.

1.3 *Attachment Model Numbers*

Model Number	Model	Width	Motor Size	GPM
103120	Series 1	72”	150cc	16 – 26
103122	Series 2	72”	150cc	16 – 26
103125	Series 1	72”	200cc	27 – 35
103127	Series 2	72”	200cc	27 – 35
103130	Series 1	72”	250 cc	35 – 45
103132	Series 2	72”	250 cc	35 – 45

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.

NOTE: Notes are used to indicate important information. This information may be repeated in other areas of the manual.

Terminology

Host Machine, Machine, Prime Mover:

- The Road Saw can be attached to many different pieces of equipment; therefore, the terms "host machine", "machine", and "prime mover" will be used. Host machine and machine mean any equipment, tractor, or skid steer providing power to the attachment.

Attachment, Implement, Equipment:

- The Road Saw is the tool that is being attached to the host machine; therefore, the terms "attachment", "implement", and "equipment" will be used. The attachment and implement mean any tool that is being used on any equipment, tractor, or skid steer being used for different applications.

Operating Safety

- Read and follow instructions in this manual and the machine's Operator's 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 and/or safety precautions
- 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 an auxiliary lighting system if required.

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.

The operator is to follow the given instructions in this manual and the machine's Operator's Manual in order to obtain maximum performance, minimal fuel 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.
- Do not operate the implement when tired, not in good condition, or under the influence of alcohol or drugs.

2.3 *Safety Guidelines*

Operating Safety

- Read and follow instructions in this manual and the machine's Operator's Manual before operating.
- Under no circumstances should young children be allowed to work with this equipment.
- This equipment is dangerous to persons unfamiliar with its operation.
- Check for overhead and / or underground lines before operating equipment (if applicable).
- In addition to the design and configuration of equipment, hazard control, and accident prevention are dependent upon the awareness, concern, prudence, and proper training of personnel involved in the operation, transport, maintenance, and storage of equipment.
- Check that the attachment is securely fastened to the machine.
- Make sure all the machine controls are in the NEUTRAL before starting the machine.
- Operate the equipment only from the operator's position.
- Operate the equipment according to the Operator's Manual.
- When learning to operate the equipment, do it at a slow rate in an area clear of bystanders.
- Do not permit personnel to be in the work area when operating the equipment.
- The equipment must be used ONLY on approved machines.
- Do not modify the equipment in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the equipment.
- Do not make any adjustments or repairs on the equipment while the machine is running.
- Keep shields and guards in place. Replace if damaged.
- DO NOT operate equipment in poor visibility conditions such as fog, darkness, or any conditions that limit clear visibility less than 300 feet (100 m) in front of and to the sides of the equipment.
- When conditions make it necessary to slow ground speed, shift to a lower gear rather than reducing engine speed. The engine will maintain rated speed and keep cutter running at optimum cutting speed.
- DO NOT operate in a work area that has not been inspected for foreign debris and obstacles.
- Remove any foreign objects and clearly mark any objects that cannot be removed.
- Wear safety glasses, gloves, hearing protection, and other protective clothing when required.

Machine Requirements and Capabilities

- The machine's operator's cab should be equipped with a thermoplastic polycarbonate or similar material front window, and similar protection on the sides of the operator's cab before operating the equipment.
- Keep bystanders clear of moving parts and the work area. Keep children away.
- Do not exceed 4000 psi (275 bar) operating pressure.
- Use caution on slopes and near banks and ditches to prevent overturn.

2.3 *Safety Guidelines Cont'd*

Fire Prevention Safety

- Flammable debris (leaves, grass, etc.) must be removed regularly. If flammable debris is allowed to accumulate, it can cause a fire hazard. Clean often to avoid this accumulation.
- The equipment's hydraulic motor compartment must be inspected every day and cleaned if necessary to prevent fire hazards and overheating.
- All fuels, most lubricants, and some coolant mixtures are flammable. Flammable fluids that are leaking or spilled onto hot surfaces or onto electrical components can cause a fire.

Transporting Safety

- Comply with state and local laws governing highway safety and movement of machinery on public roads.
- Check local laws for all highway lighting and marking requirements.
- Always yield to oncoming traffic and move to the side of the road so any following traffic may pass.
- Never allow riders on either machine or equipment.
- If transporting the equipment on a truck or trailer, make sure the equipment is properly secured to the transport vehicle.

Hydraulic System

- Check hydraulic tubes, hoses, and fittings for damage and leakage. Never use open flame or bare skin to check for leaks. Hydraulic tubes and hoses must be properly routed and have adequate support and secure clamps. Tighten or replace any parts that show leakage.
- Always clean fluid spills. Do not use gasoline or diesel fuel for cleaning parts. Use commercial nonflammable solvents.

Personal Protective Equipment

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

Hand Protection: To help ensure your safety as a designated operator wear protective gloves.

Protective Shoes: To help ensure your safety as a designated operator wear protective shoes.

Safety Helmet: To help ensure your safety as a designated operator wear a safety helmet.

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

3. Operation

3.1 *Pre–Operation Inspection*

Before operating the Brush Cutter for the first time and each time thereafter, use the following list as a guideline during equipment inspection.

WARNING

AVOID SERIOUS INJURY OR DEATH

- **Disengage machine's auxiliary hydraulics, engage the machine's parking brake, stop the engine, and make sure all moving parts are completely stopped before connecting, disconnecting, adjusting, or cleaning equipment.**
- **Always keep shields and guards in place when using the equipment.**
- **Disengage machine's auxiliary hydraulics for road travel.**
- **Keep hands, feet, and clothing away from rotating parts.**

- Fully clean the attachment.
- Lubricate the attachment per the schedule outlined in the Maintenance section. See "4.1 Service Schedule" on page 19.
- Check the attachment's mounting frame for damage or cracks. Repair as necessary prior to operation.
- Check that all shields and guards are in place.
- Check for loose bolts and tighten them if necessary.
- Check all welds on the attachment for wear and damage each time the attachment is removed from the machine.
- Check for damaged or missing safety decals. Replace if necessary.
- Inspect the machine's mounting frame. (See the machine's Operator's Manual for inspecting the mounting frame.) Replace any parts that are damaged, bent, or missing. Keep all fasteners tight. Look for cracked welds.
- Verify that the Brush Cutter is properly connected to the machine.
- Inspect the safety chain for damage.
- Make sure safety chain is properly attached to the machine (see "Connecting Safety Chain" on page 13).

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.

- Check the condition of all hydraulic components for leaks. Repair as required.

NOTE: Do not operate with hydraulic leaks.

3.2 *Attachment Inspection*

Daily Inspection

NOTE: Inspect the attachment by performing a walk–around daily before and after use. Use the following inspection checklist as a guideline.

Check the following items every eight (8) hours of operation:

- Verify that the Brush Cutter is properly connected to the machine.
- Check that all shields and guards are in place.
- Check hydraulic lines, connections, and fittings for hydraulic oil leaks. Repair or replace damaged parts if necessary.
- Check the Brush Cutter mounting hardware for wear or damage. Inspect the pins and mount (on the attachment) for wear or damage. Repair or replace damaged parts if necessary.

3.2 *Attachment Inspection Cont'd*

Weekly Inspection

Check the following items every 40 hours of operation:

- Check the blade bolts for correct torque – 1440 lbf•ft (1952 N•m).
- Check all bolts for tightness.
  - 3/8" bolts should be torqued to 50 lbf•ft (68 N•m).
  - 1/2" bolts should be torqued to 100 lbf•ft (135 N•m).
- Inspect the deck for cracks, bends, or damage.
- Inspect the discharge chain, and replace any missing or broken chains.

Monthly Inspection

Check the following items once a month during operation:

- Inspect the blades for cracks, bends, or excessive wear.
- Check skid shoes for wear.
- Check that all bolts are tight.
- Check the blades and mounting plate for cracks or damage. Replace if necessary.
- Check blade mounting hardware for the correct torque – 1440 lbf•ft (1952 N•m). Check the mounting plate hardware.
- Check the chains, deck, shields, and guards. Repair if damaged or replace if necessary.
- Check for damaged or missing decals. Replace if necessary.
- Check for damaged or leaking hydraulic hoses or fittings. Replace if necessary.
- Clean all debris, leaves, grass, and flammable material from the deck area and under covers.
- Lubricate as required.

WARNING

AVOID SERIOUS INJURY OR DEATH

Before servicing the attachment:

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

SEE MACHINE'S OPERATOR'S MANUAL FOR ADDITIONAL INFORMATION

3.3 *Attachment Installation*

IMPORTANT

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

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.

3.3 *Attachment Installation Cont'd*

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 parking 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

WARNING

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.

Before connecting to the attachment, inspect the machine's mounting plate. (See the machine's Operator's Manual for inspecting the mounting frame).

Enter the operator's position. See "Entering The Operator's Position" on page 11.

Drive the machine slowly forward until the top edge of the machine's mounting plate is under the top flange of the attachment mounting frame.

Slowly tilt the machine's mounting plate back until the attachment mounting frame fully contacts the front of the machine's mounting plate.

Leave the operator's position. See "Leaving The Operator's Position" on page 12.

WARNING

AVOID SERIOUS INJURY OR DEATH

The locking pins / wedges must extend through the holes in the attachment mounting frame. Failure to secure locking pins / wedges can allow attachment to come off.

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

Engage attachment locking levers / wedges (See the machine's Operator's Manual for detailed information).

Connecting Hydraulic Hoses

IMPORTANT

Throughly clean the quick couplers before making connections. Dirt can quickly damage the hydraulic system.

Remove dirt or debris from the male and female couplers. Visually inspect the couplers for corroding, cracking, damage, or excessive wear. Replace as needed.

Connect the attachment hydraulic hoses to the machine. The hydraulic hoses must be connected in the following order: case drain, return hose, and pressure hose.

IMPORTANT

The case drain MUST be connected to the machine; otherwise, it will result in damage to the attachment.

3.3 *Attachment Installation Cont'd*

Connecting Hydraulic Hoses Cont'd

Pull on each hose to verify full connection is made, especially the case drain.

Connecting Safety Chain

The safety chain is designed to keep the rear of the brush cutter below the host machine door to prevent debris being thrown against the machine cab's windshield.

Attach the safety chain to a secure point on the host machine frame with enough slack for the brush cutter to be lifted but not lifted higher than the bottom edge of the cab door. See Figure 1.

The connection point may be different depending on the host machine, but any tie–down point or other firm connection point can be used.

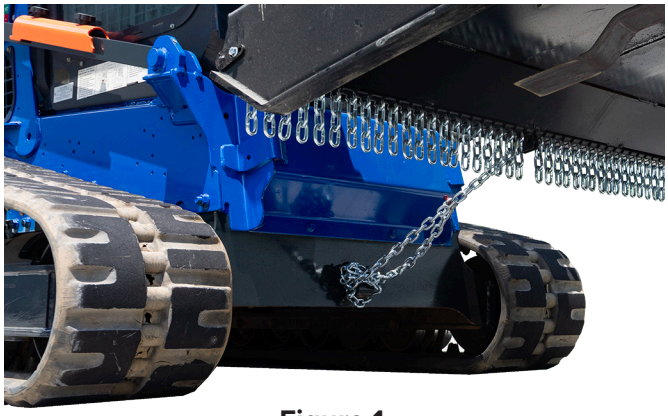


Figure 1

Disconnecting Hydraulic Hoses

WARNING

AVOID SERIOUS INJURY OR DEATH

Hydraulic fluid, tubes, fittings, and quick couplers can get hot during operation. Be careful when connecting and disconnecting hydraulic hoses.

Relieve auxiliary hydraulic pressure. (See the machine's Operator's Manual for correct procedure.)

Disconnect attachment hydraulic hoses from the machine. The hoses must be disconnected in the following order: pressure hose, return hose, and case drain.

Disconnecting Attachment From the Machine

Relieve auxiliary hydraulic pressure. (See the machine's Operator's Manual for correct procedure.)

Park the machine and attachment on a flat level surface. Lower the attachment flat on the ground.

Leave the operator's position. See "Leaving The Operator's Position" on page 12.

Disconnect attachment hydraulic hoses from the machine.

Disengage locking pins / wedges. (See the machine's Operator's Manual for correct procedure.)

Enter the operator's position. See "Entering The Operator's Position" on page 11.

Slowly tilt the machine's mounting plate forward until the attachment mounting frame is free from the machine's mounting plate.

Drive the machine slowly backward, away from the attachment.

3. Operation

3.4 *Machine Requirements*

DANGER

FLYING DEBRIS OR OBJECTS WILL CAUSE SERIOUS INJURY OR DEATH

To protect the operator from any flying debris or objects, it is important that the machine's operator's cab should be equipped with a thermoplastic polycarbonate or similar material front window, and similar protection on the sides of the operator's cab before operating the Severe Duty Brush Cutter.

DANGER

ROTATING BLADES WILL CAUSE SERIOUS INJURY OR DEATH

- Never put hands, feet or objects into or under attachment 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 attachment 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.

WARNING

Never allow riders onto the attachment.

Model Number	Model	Width	Motor Size	Required GPM	Required HP	Required Lift Capacity
103120	Series 1	72”	150cc	16 – 26	75 HP & Larger	2700 lbs
103122	Series 2					
103125	Series 1		200cc	27 – 35		
103127	Series 2					
103130	Series 1		250 cc	35 – 45		
103132	Series 2					

3.4 *Machine Requirements Cont'd*

WARNING

AVOID SERIOUS INJURY OR DEATH

- Never operate the Brush Cutter with the back of the deck more than 24 in. (610 mm) off the ground.
- Never operate the Brush Cutter with any guards removed, including the motor cover.
- Never operate the Brush Cutter without the safety chain securely fastened to the machine.

IMPORTANT

DO NOT operate the Brush Cutter when excessive vibration is present. Serious damage can result. Check the blade carrier, blades, and mounting hardware. Replace if damaged.

NOTE: The ground conditions and the type of the brush being cut will determine the best cutting procedure and ground speed. The Severe Duty Brush Cutter is designed to cut short or tall grass, brush, and small trees up to 10 in. (254 mm) in diameter.

3.5 *Clear Work Area*

IMPORTANT

- DO NOT operate in a work area that has not been cleared of foreign debris and obstacles.
- Rocks, metal, construction debris, and other objects can damage the blade carrier and blades.
- Clearly mark any objects that cannot be removed.

3.6 *Initial Setup*

Install the Brush Cutter onto the machine. (See "Connecting Attachment To The Machine" on page 12.)

Enter the operator's position. (See "Entering The Operator's Position" on page 11.)

Engage the machine's auxiliary hydraulics.

Using the machine's auxiliary hydraulic controls, start blade rotation.

IMPORTANT

To minimize larger cut material discharging to the rear, always keep the machine between the material being cut (work area) and buildings, occupied areas, or roadways.

3.6 *Initial Setup Cont'd*

CAUTION

AVOID DAMAGE TO MACHINE & ATTACHMENT
DO NOT exceed 4000 PSI operating pressure. Damage can result.

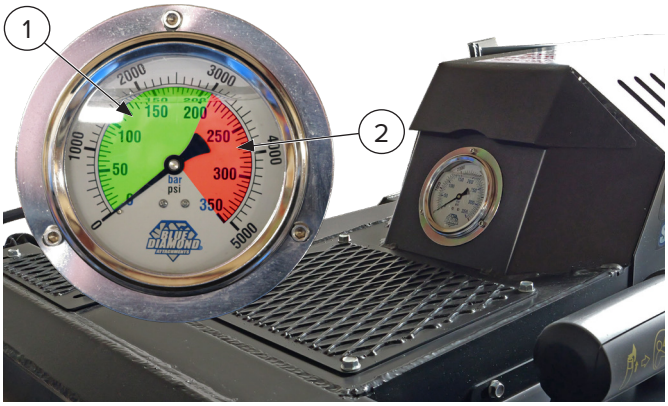


Figure 2

The pressure gauge mounted at the rear of the motor enclosure on the Brush Cutter will show the hydraulic system pressure when the auxiliary hydraulics are activated and blades rotating [Figure 2].

The Green area [Item 1] indicates that the Brush Cutter is cutting efficiently and operating within normal pressure.

The Red area [Item 2] indicates that the Brush Cutter is at or near relief pressure, meaning that the blade carrier is slowing and encountering great resistance, such as rocks or logs, causing it to overheat. Reverse the host machine away from the material to allow the blade carrier to regain speed and momentum. If this issue persists, adjust the cutting height or angle of the Brush Cutter to reduce the force being used to cut various types of vegetation.

3.7 *Cutting Procedures*

Brush Cutting

With the blades rotating, tilt the machine's mounting frame backward, raising the front of the Brush Cutter to roughly a 30° – 45° angle. Slowly drive forward to cut the brush. Slightly lift the rear of the Brush Cutter off the ground, tilt the front of the attachment down until it comes in contact with ground, and reverse over the freshly cut material to finely mulch the material.

Grass Cutting

With the blades rotating, tilt the machine's mounting frame until the Brush Cutter deck is parallel to the ground. Lower the Brush Cutter deck to the ground or the desired cutting height. Slowly drive forward to cut the grass.

Tree Cutting

With the blades rotating, tilt the machine's mounting frame backward, raising the front of the Brush Cutter to roughly a 45° angle. Slowly drive forward toward the tree. Cut the lower branches to expose the trunk of the tree.

Tilt the machine's mounting frame until the Brush Cutter deck is parallel to the ground or slightly tilted backward. Slowly drive into the tree until the push bar makes contact with the tree trunk. Maintain slow, steady pressure, cutting the trunk (as low to the ground as possible) and allowing the push bar to push the tree away from the machine.

To remove the stump, level the Brush Cutter, and raise it until the blades are a few inches below the top of the stump. Drive forward until the top of the stump is removed, and repeat the process until the stump is level with or below the ground surface.

To mulch the trunk and branches of the tree, start at the top of the tree with the small branches. Lower the rear of the attachment to the ground, and raise the front to a 45° angle. Slowly drive forward to cut the trunk. If necessary, mulch the material into a finer finish by reversing back over the material with the rear of the Brush Cutter slightly raised and the front of deck lowered to the ground.

3.8 *Blade Reversing Procedure*

IMPORTANT

AVOID DAMAGE TO MACHINE & ATTACHMENT

Pay close attention to which blade reversing procedure matches which version of Severe Duty Brush Cutter you own. The wrong procedure for the wrong machine can severely damage the attachment and host machine. If you have any questions, please contact Blue Diamond® Product Support.

Series 1 – Figure 3

Series 2 Revision 000 & 001 – Figure 4

Step 1: Confirm Coupler Setup

New from the factory, these Brush Cutters are designed to spin *clockwise* when properly connected to the host machine. If the blades are spinning *counterclockwise*, then the couplers must be reversed.

NOTE: Male and female couplers may or may not be attached to the correct ports for your specific machine. Always verify which line is supply from the host machine before operating the Brush Cutter.

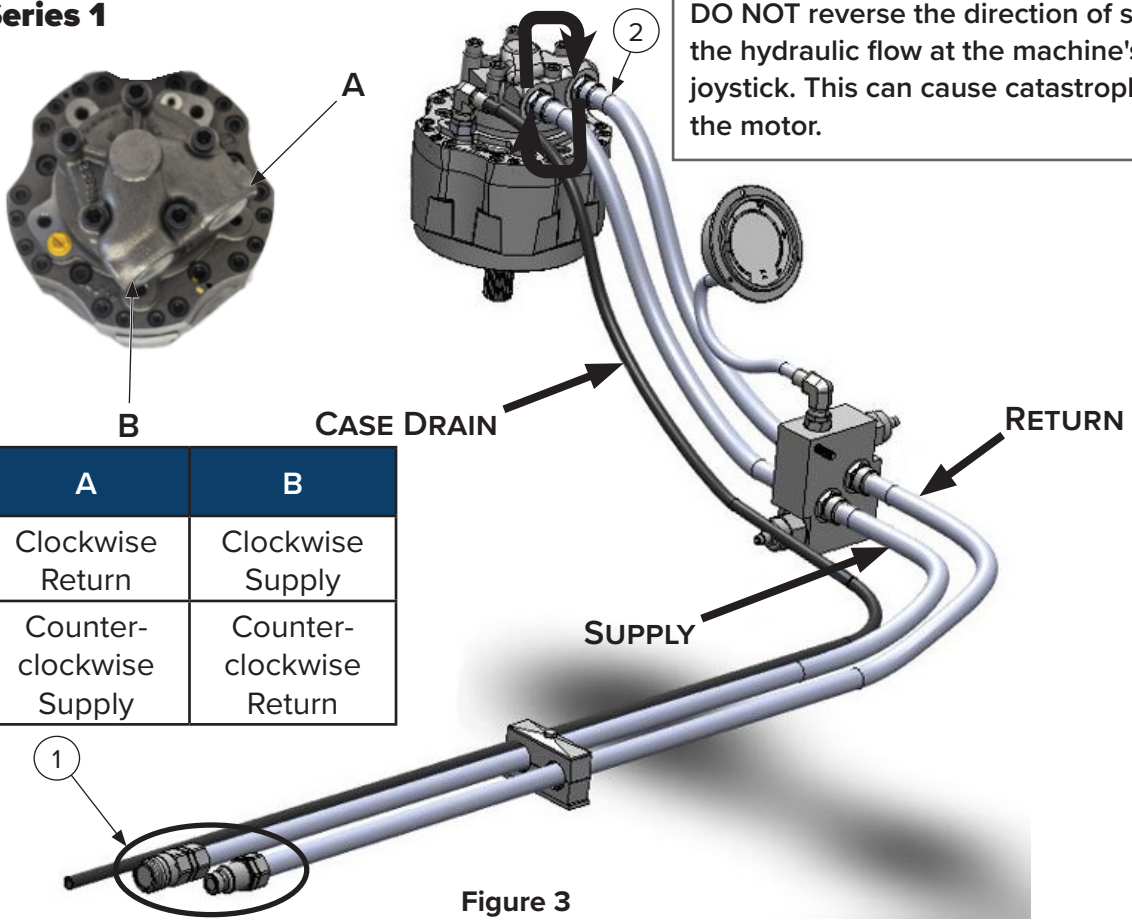
Step 2: Reversing Procedure

1. Remove the motor cover, and disconnect the hydraulic hoses at the motor.
   - For Series 2 Revision 000 & 001, remove the relief cartridges from the motor distributor. Reinstall each on the opposite side of the distributor.
2. Reconnect each hose to the opposite motor port.
3. Test the operation of the brush cutter, and inspect for leaks; the blades should now be spinning *counterclockwise.*
4. Reinstall the motor cover.

WARNING

DO NOT reverse the direction of spin by reversing the hydraulic flow at the machine's control joystick. This can cause catastrophic damage to the motor.

Series 1

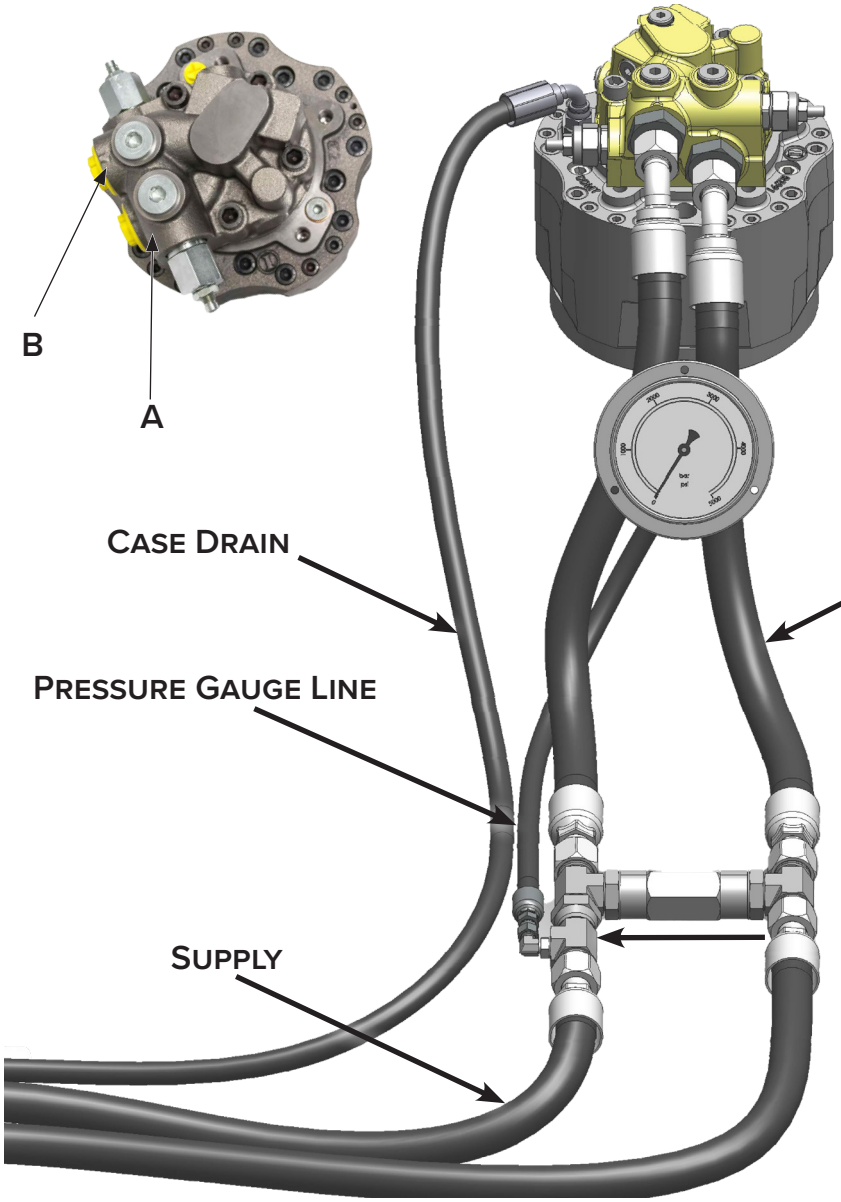


A	B
Clockwise Return	Clockwise Supply
Counter-clockwise Supply	Counter-clockwise Return

Figure 3

3.8 *Blade Reversing Procedure Cont'd*

Series 2 Revision 000 & Revision 001



WARNING

DO NOT reverse direction of spin by reversing the hydraulic flow at the machine's control joystick. This can cause catastrophic damage to the motor.

A	B
Clockwise Return	Clockwise Supply
Counter-clockwise Supply	Counter-clockwise Return

Figure 4

For Series 2 Revision 002

1. With the hydraulic flow disengaged and the blade carrier at a complete stop, remove the motor cover.
2. Move the pressure gauge hose to the opposite side of the distributor.
3. Using the machine's joystick controls, reverse the hydraulic flow, testing the operation of the cutter, and inspect for leaks; the blades should now be spinning *counterclockwise*.
4. Reinstall the motor cover.

NOTE: Male and female couplers may need swapped, depending on the host machine.

4. Maintenance

4.1 *Service Schedule*

DESCRIPTION	SERVICE PROCEDURES					
	Check	Clean	Lube	Change	Adjust	Drain
Daily Maintenance (or every 8 hours)						
Hydraulic Fittings	•					
Hydraulic Hoses	•					
Hydraulic Motor	•	•				
Blades (wear, damage, and loosening)	•					
Blade Carrier	•					
All Hardware	•					
Deck	•	•				
Chain Guard	•					
Safety Chain	•					
Weekly Maintenance (or every 40 hours)						
Blade Bolt Torque – 1440 lbf•ft (1952 N•m)	•					
All Hardware	•					
Deck (cracks, bends, or damage)	•					
Chain Guard (replace missing/broken chains)	•					
Safety Chain	•					
Monthly Maintenance						
Blades (cracks, bends, or excessive wear)	•					
Skid Shoes	•					
All Hardware	•					
Lubrication						
See "4.2 Direct Drive Assembly Lubrication" on page 20.						

4.2 *Direct Drive Assembly Lubrication*

IMPORTANT

Fluid, such as hydraulic fluid, coolants, grease, etc., must be disposed of in an environmentally safe manner. Some regulations require that certain spills and leaks on the ground must be cleaned in a specific manner. See local, state, and federal regulations for correct disposal.

Series 1

The Severe Duty Series 1 Brush Cutter has a grease–filled direct drive.

The direct drive assembly needs greased every 250 hours.

1. Loosen the bolts [Figure 5, Item 1], and remove the cover to access the direct drive.

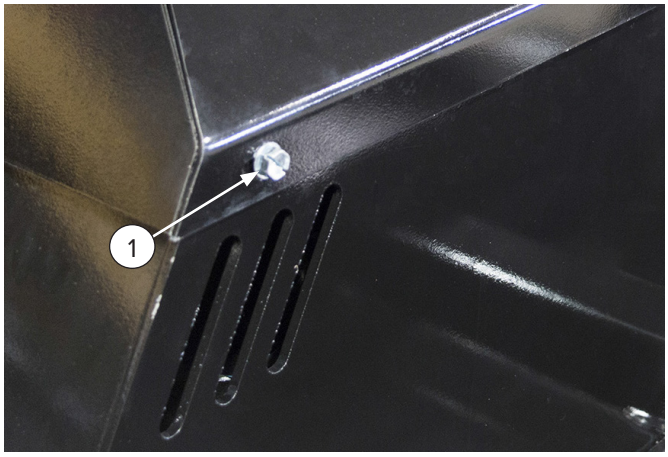


Figure 5

2. Remove the grease bellows on the side of the direct drive.
3. Empty the grease bellows into a waste bucket.
4. Insert 10 pumps of grease at the grease zerk [Figure 6, Item 1]. Use a Red Lithium High Temperature grease, such as Shell Gadus S3 V220C 2 (BD#203069).
5. Reinstall the grease bellows on the side of the direct drive.
6. Align cover, reinstall, and tighten bolts.

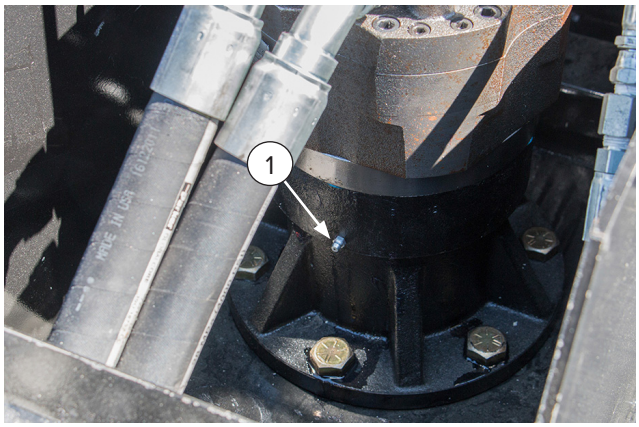


Figure 6

Series 2

Type

In normal applications, use an extreme pressure lubricant API–GL–5 approved. Blue Diamond® recommends SAE 80W, 90, 80W–90, and 85W–90 grades of lube under normal climate and operating conditions. See chart below.

For severe or abnormal applications with special requirements contact Blue Diamond® Product Support, your local dealer, or lubricant manufacturer for further assistance.

LOW TEMPERATURE GEAR LUBE REQUIREMENT	
VISCOSITY GRADE	RECOMMENDED MINIMUM TEMPERATURE
75W–90	–40°F (–40°C)*
80W, 80W–90	–15°F (–26°C)*
85W, 85W–90	10°F (–12°C)*
90	35°F (2°C)*

*Maximum temperature for Brookfield Viscosity[1] of 150,000 centipoise (cP)[2] per SAE J306 MAR85

[1]Brookefield Viscosity – ***apparent viscosity*** as determined under ASTM D 2983

[2]150,000 cp determined to provide sufficient low temperature lube properties

Synthetic lubricants are compatible as long as they meet the above specified parameters.

4.2 *Direct Drive Assembly Lubrication Cont'd*

Series 2 Cont'd

Change Interval

Every change should occur every 1000 hours or yearly, whichever comes first.

Lube Temperature

Continuous operating temperature of 160°F (71°C) are allowable. Maximum intermittent temperature recommended is 200°F (93°C).

Inspection

The Severe Duty Series 2 Brush Cutter has an oil–filled direct drive and should not need topped off.

1. Loosen the bolts [Figure 5, Item 1], and remove the motor cover to access the direct drive.
2. Check for any oil on top of the deck near the direct drive [Figure 7]. If oil is visible under or on top of the cutter deck, check the motor and direct drive for leaks. Contact Blue Diamond® Product Support or your local dealer for assistance.
3. Reinstall the motor cover, and tighten the bolts.

Oil Change

1. Clean the area around the fill plug to prevent dirt from contaminating the oil.
2. Remove the fill plug on the top of the direct drive.
3. If the oil level is too low, check for any leaks. Repair before refilling.
4. To remove the old oil, use an extractor pump inserted through the fill plug.
5. To refill, pour the oil into the fill hole until the level reaches the fill hole.

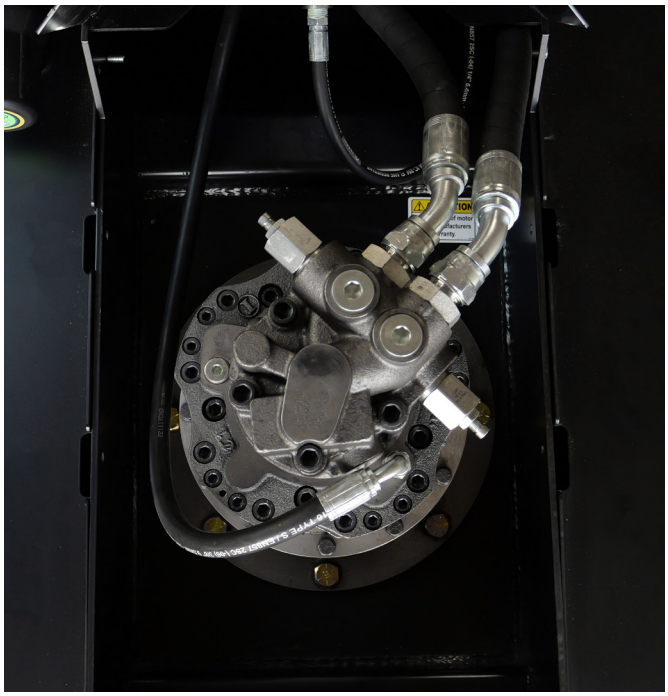


Figure 7

4. Maintenance

4.3 *Blades*

DANGER

AVOID INJURY OR DEATH

Before servicing the Brush Cutter:

- Lower the lift arms and place the brush cutter on flat, level surface.
- Engage parking brake, stop engine, and exit the machine.
- Disconnect attachment hydraulic hoses.

Tools Required:

- Impact Driver
- Breaker Bar
- 9/16" Impact Socket
- 1 11/16" Impact Socket
- Torque Multipler with at least 2,000 lbf•ft (2712 N•m) output
- Torque Wrench capable of the necessary input to achieve 1440 lbf•ft (1952 N•m) when paired with a torque multiplier [e.g. 480 lbf•ft (651 N•m) is required for use with a 1:3 ratio multiplier].

Blade Removal

1. Rest the Brush Cutter's skid shoes on blocks to provide easy access to the blades and bolts.
2. Connect the male coupler to the female coupler on the attachment hoses to equalize hydraulic pressure and allow the blade carrier to be turned by hand.
3. Using the 9/16" socket and impact driver, remove the access cover bolts [Figure 8, Item 1].

Figure 8

4. Using the torque multiplier and breaker bar, remove the nut. The blade and blade bolt should fall to the ground. If not, use a hammer to strike the bolt until the blade and bolt are released from the blade carrier.

   NOTE: The motor cover can be removed if required to provide more stability for the torque multiplier.
5. Turn the blade carrier by hand to align the next blade nut with the access hole.
6. Repeat steps 3—5 until all blade nuts and bolts have been removed.

Blade Installation

WARNING

AVOID SERIOUS INJURY OR DEATH

The blade's bolt and nut MUST be replaced at the same time of the blades. DO NOT reuse a bolt or a nut that has been previously used. Used hardware does not maintain torque, greatly increasing the risk of loosening and / or failing, which could result in serious injury and / or death if in operation.

1. Put a new blade on a bolt. Align the shoulder of the bolt with the D–shaped hole, and push the bolt up through the blade carrier. Verify that the blade and bolt are fully seated.
2. Fit a new nut onto the blade bolt, and hand–tighten it.
3. Using the torque multiplier and torque wrench, tighten the nut until the correct torque of 1440 lbf•ft is reached (+/– 5%).
4. Repeats steps 1–3 until all blades, nuts, and bolts have been installed.
5. Reinstall the access cover, using the 9/16" socket and impact driver.

4.4 *Direct Drive Disassembly & Reassembly for Series 1*

Disassembly

1. Support the Brush Cutter by the blade carrier.
2. Remove the motor cover.
3. Remove the hoses from the motor.
4. Remove the motor. (See "4.6 Motor Removal — Series 1 Only" on page 25.)
5. Remove the Top Nut 3.25" [Figure 9, Item 1], Star Washer [Item 2], Lock Washer [Item 3], Bottom Nut 3.75" [Item 4], and Top Bearing [Item 5].
6. Pick the Brush Cutter straight up with the skid steer, leaving the spindle, blade carrier, and blades on the support.
7. Remove the nuts and bolts holding the direct drive housing to the cutter deck [Items 12 & 14].
8. Remove the direct drive housing [Item 8].
9. First remove the retaining ring [Item 11], then the seal [Item 10], and the bearing [Item 9] last.

   NOTE: The bottom bearing is pressed in.

Reassembly

Perform the steps of disassembly but in reverse.

- See page 24 for details on the top nuts.

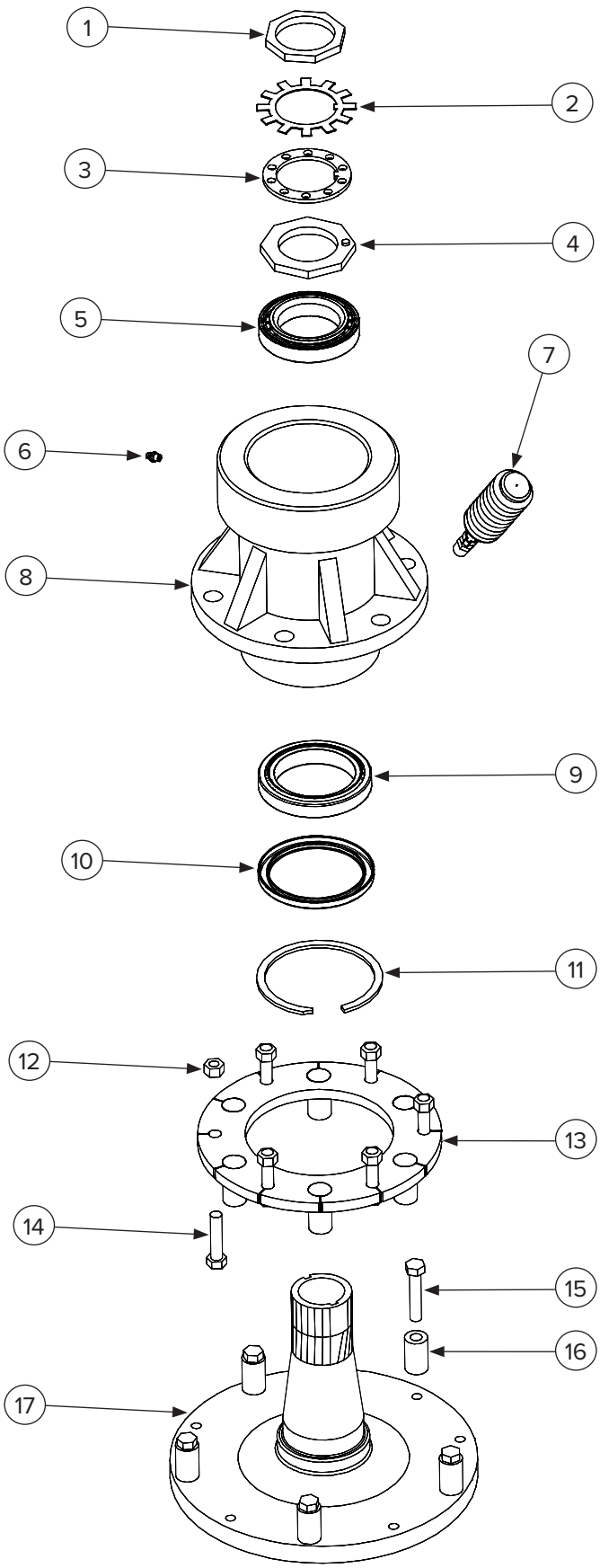
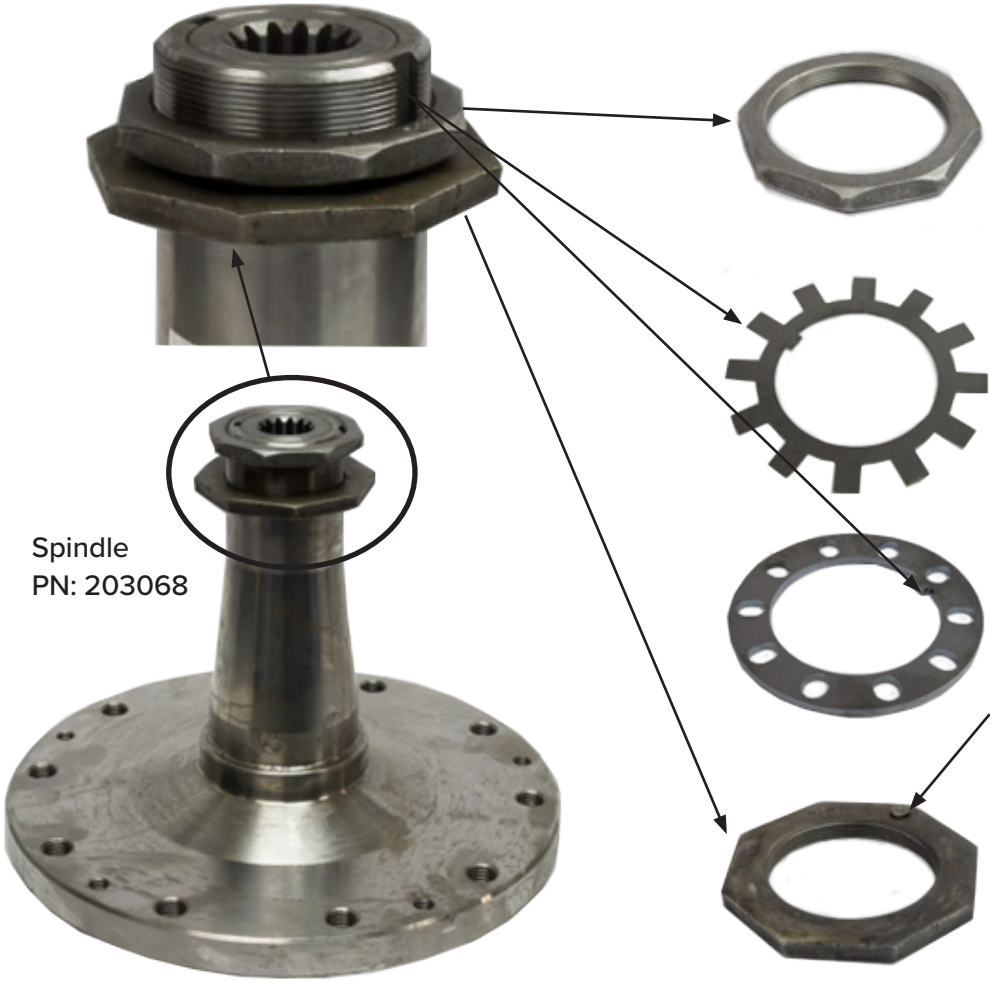


Figure 9

4.4 *Direct Drive Disassembly & Reassembly for Series 1 Cont'd*

Top Nut Details



Spindle
PN: 203068

Top Nut 3 1/4”
Torque to 100 lbf•ft (135 N•m) then bend up tabs on star washer.

Spindle Star Locking Washer
Align with groove in Spindle. Bend tab up after top nut is torqued.

Spindle Lock Ring
Align with groove in the Spindle. Slide down to the bottom nut. Turn nut until the dowel aligns with the nearest hole.

Bottom Nut 3 3/4"
Hand tighten against the top bearing. Torque to 100 lbf•ft.

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

4.5 *Direct Drive Disassembly & Reassembly for Series 2*

Contact Blue Diamond® Product Support before disassembly of the direct drive. The disassembly of the motor and / or direct drive will void the warranty.

4.6 *Motor Removal — Series 1 Only*

The Severe Duty Series 1 Brush Cutter motor has four (4) through bolts that attach the motor to the adapter ring. To remove the motor, follow these steps:

1. Support the Brush Cutter by the blade carrier.
2. Remove the motor cover.
3. Remove all three hoses. Mark which hose is connected to each port. The port labeled "B" is the supply port for default clockwise rotation and should be connected to the skid steer supply coupler from the factory. See Figure 10.
4. Remove the four (4) bolts indicated in the photo below.
5. Lift the motor off the adapter ring.
6. Remove the four bolts that attach the ring adapter to the top of the direct drive.

To reassemble, perform these steps in reverse.

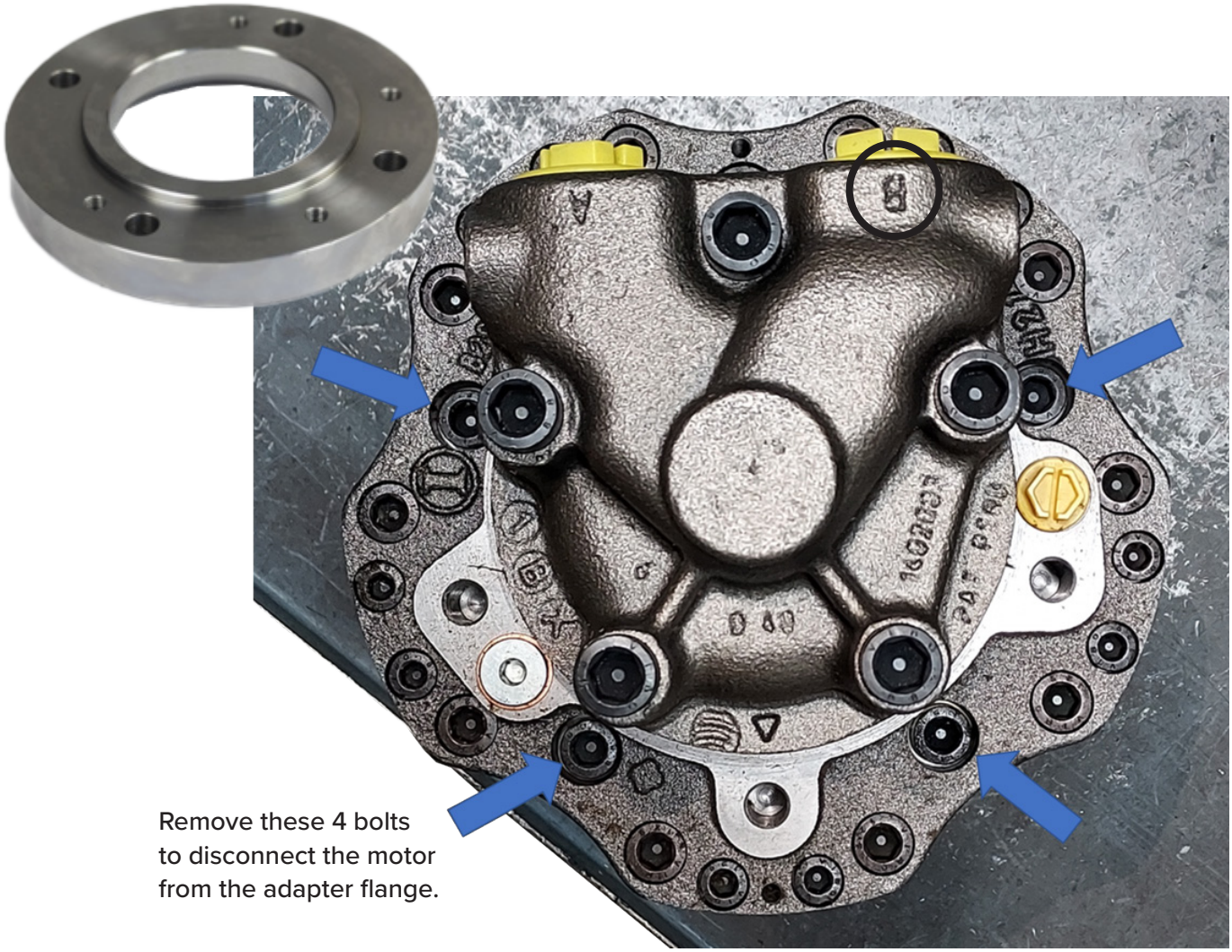


Figure 10

4.7 *Cleaning the Attachment*

WARNING

AVOID SERIOUS INJURY OR DEATH

Before servicing the Brush Cutter:

- Disconnect the attachment's hydraulic hoses.
- Raise the lift arms, and tilt the Brush Cutter fully forward (down) until the front of the Brush Cutter comes in contact with the ground.
- Engage the parking brake, stop the engine, and leave the operator's position.

Park the machine and attachment on a flat, level surface. Lower the attachment flat of the ground.

Leave the operator's position. See "Leaving The Operator’s Position" on page 12.

Disconnect the attachment's hydraulic hoses from the machine.

Disconnect the safety chain from the machine.

Enter the operator's position. See "Entering The Operator’s Position" on page 11.

Start the engine, slowly raise the machine's lift arms, while tilting the brush cutter forward (down) until the front of the brush cutter comes in contact with the ground [Figure 11].

Stop the engine, engage the parking brake, and leave the operator's position. See "Leaving The Operator’s Position" on page 12.

Use water or air pressure to clean debris from under the brush cutter.

Be careful when removing any obstructions that are wrapped around blades and the blade carrier.

Figure 11

4. Maintenance

4.8 *Troubleshooting*

PROBLEM	CAUSE	SOLUTION
Brush Cutter Vibrating	Broken or damaged blades	Check blades and replace as needed.
	Debris under deck or on blade carrier	Remove all debris and verify all parts rotate freely.
	Loose or missing blade bolts	Replace missing bolts, and tighten all blade bolts.
Low Pressure at Start Up / Blades Turning Too Slow	Hydraulic couplers are reversed	Reverse male and female couplers. Check for correct pressure.
	Faulty relief valve on brush cutter or host machine	Contact your dealer or Blue Diamond® Product Support.
	High flow hydraulics are not engaged (if required)	Engage high flow hydraulics.
Hydraulic Pressure But No Blade Rotation	Debris jammed under deck or on blade carrier	Remove all debris, and verify all parts rotate freely.
	Against an obstacle preventing the blade carrier from rotating	Adjust the Brush Cutter until blades rotate freely.
	Damaged or seized drive	Check blades and blade carrier. Verify that the blades and blade carrier rotate freely. Replace damaged or seized drive.
	Damaged motor shaft or seized motor.	Contact your dealer or Blue Diamond® Product Support.
	FOR SERIES 2 REVISIONS 000 – 001 ONLY Pressure relief cartridges in the motor are set incorrectly.	**FOR SERIES 2 REVISIONS 000 – 001 ONLY** Adjust the valves according to which brand cartridge you have: • If it is a SUN cartridge, back the screw out (counter-clockwise) until it stops. Then turn the screw back in (clockwise) 3 full turns. This will approximately be 3,500 PSI. Every 1 1/4 turn in equals 1,000 PSI. With the screw all the way out, the factor setting is 1,000 PSI. • If it is a FPM cartridge, back the screw out (counter-clockwise) until there is no resistance on the screw. Turn the screw back in until you feel resistance. At this point, the valve is set up at approximately 290 PSI. Turn the screw in (clockwise) 2 full turns. This will approximately be 3,700 PSI. Every turn in (clockwise) is equal to 1,750 PSI.
Poor Cutting	Travel speed too slow	Increase travel speed during operation.
	Broken or dull blades	Replace blades as needed.
	High flow hydraulics not engaged (if required)	Engage high flow hydraulics.

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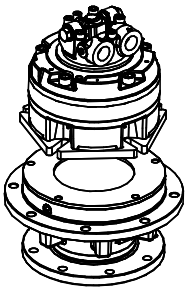
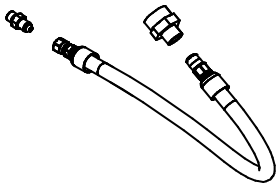
5. Parts

5.1 *Differences Between Revisions*

Series 2 Revision 002

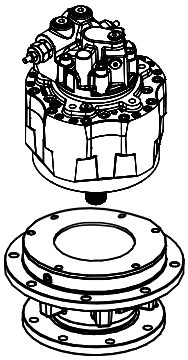


SAI motor & Plan–Star direct drive



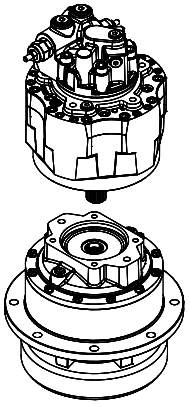
Single pressure gauge hose

Series 2 Revision 001



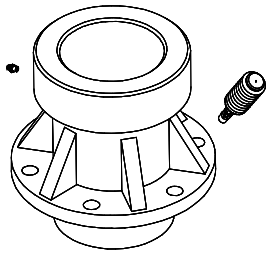
Fluidgear motor & Plan–Star direct drive

Series 2 Revision 000



Fluidgear motor & Auburn Gear Direct Drive

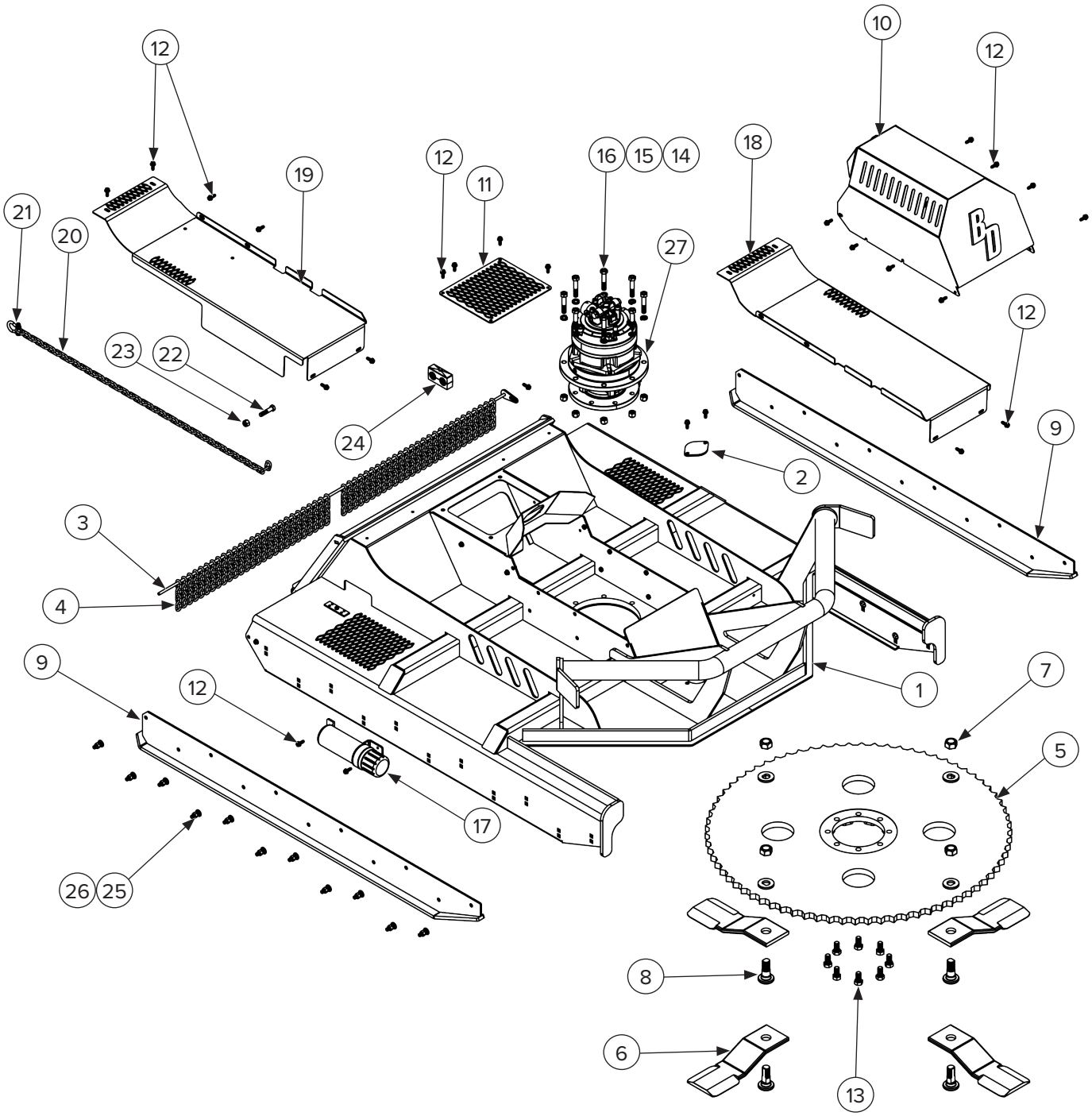
Series 1



Grease–filled direct drive with bellow assembly

5. Parts

5.2 *Main Components*



5. Parts

5.2 *Main Components Cont'd*

Series 2 Revision 002

ITEM	PART NUMBER	DESCRIPTION	QTY
1	203400	Deck Weldment	1
2	203008	Blade Bolt Access Cover	1
3	203055	Chain Retainer Bar	1
4	203045	4–Link Discharge Chain	55
5	203438	Blade Carrier	1
6	203025	Blade	4
7	203030	Blade Nut	4
8	203035	Blade Bolt	4
9	203464	Skid Shoe	2
10	203404-2	Motor Cover	1
11	203436	Access Cover	1
12	203006	3/8"–16 x 1" Screw Thread–Forming	29
13	299454	3/4"–10 x 2" Bolt Hex Head Grade 8	8
14	299845	5/8" Lock Washer Grade 8	8
15	299627	5/8"–11 Lock Nut Grade 8	8
16	299445	5/8"–11 x 3 1/4" Bolt Hex Head Grade 8	8
17	216402	Manual Storage Tube	1
18	203480-L	Left Debris Cover	1
19	203480-R	Right Debris Cover	1
20	203048	96" Safety Chain and Clevis	1
21	299340	Steel Clevis & 7/16" Pin Shackle (Included with Item #20)	1
22	299414	9/16"–12 x 2 1/2" Bolt Hex Head Grade 8	1
23	299619	9/16"–12 Lock Nut Grade 8	1
24	206825*	Hose Clamp with 5/16"–18 x 2 3/8" Bolt, Fits 1" Dual Hoses	1
25	299336	1/2"–13 x 1 1/2" Carriage Bolt Grade 8	22
26	299655	1/2"–13 Stover Locknut	22
27*	203941	150cc Motor & Direct Drive Assembly (see page 34)	1
	203942	200cc Motor & Direct Drive Assembly (see page 34)	
	203943	250cc Motor & Direct Drive Assembly (see page 34)	

*Type of motor needed is dependent upon what model of cutter was purchased. Contact Blue Diamond® Product Support for further assistance.

5.2 *Main Components Cont'd*

Series 2 Revision 000 & 001

ITEM	PART NUMBER	DESCRIPTION	QTY
1	203400	Deck Weldment	1
2	203008	Blade Bolt Access Cover	1
3	203055	Chain Retainer Bar	1
4	203045	4–Link Discharge Chain	55
5	203438	Blade Carrier	1
6	203025	Blade	4
7	203030	Blade Nut	4
8	203035	Blade Bolt	4
9	203464	Skid Shoe	2
10	203404-2	Motor Cover	1
11	203436	Access Cover	1
12	203006	3/8"–16 x 1" Screw Thread–Forming	29
13	299454	3/4"–10 x 2" Bolt Hex Head Grade 8	8
14	299845	5/8" Lock Washer Grade 8	8
15	299627	5/8"–11 Lock Nut Grade 8	8
16	299445	5/8"–11 x 3 1/4" Bolt Hex Head Grade 8	8
17	216402	Manual Storage Tube	1
18	203480-L	Left Debris Cover	1
19	203480-R	Right Debris Cover	1
20	203048	96" Safety Chain and Clevis	1
21	299340	Steel Clevis & 7/16" Pin Shackle (Included with Item #20)	1
22	299414	9/16"–12 x 2 1/2" Bolt Hex Head Grade 8	1
23	299619	9/16"–12 Lock Nut Grade 8	1
24	206825	Hose Clamp with 5/16"–18 x 2 3/8" Bolt, Fits 1" Dual Hoses	1
25	299336	1/2"–13 x 1 1/2" Carriage Bolt Grade 8	22
26	299655	1/2"–13 Stover Locknut	22
27	See page 36	Motor and Direct Drive Assembly	1

5. Parts

5.2 *Main Components Cont'd*

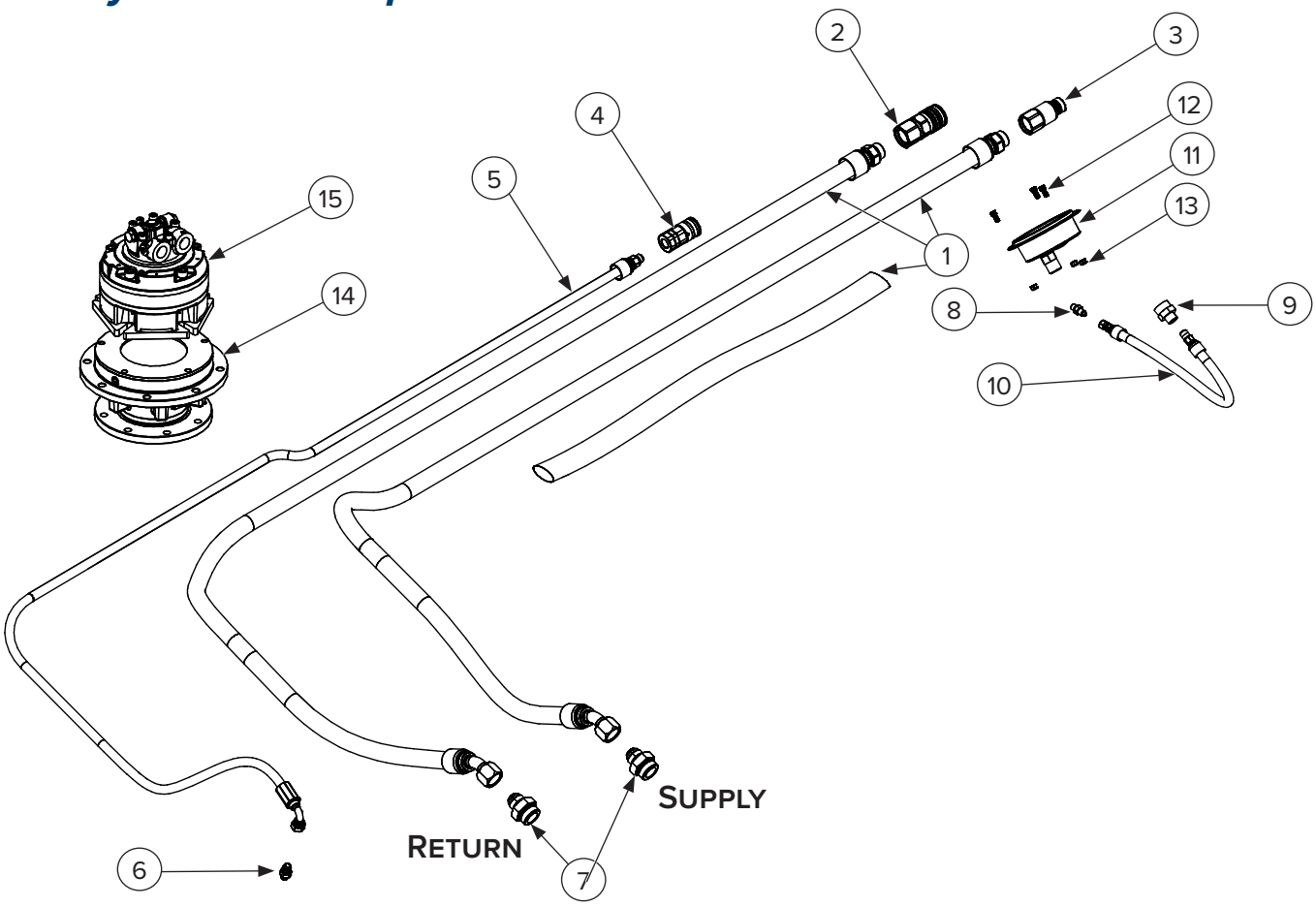
Series 1

ITEM	PART NUMBER	DESCRIPTION	QTY
1	203401	Deck Weldment	1
2	203008	Blade Bolt Access Cover	1
3	203055	Chain Retainer Bar	1
4	203045	4–Link Discharge Chain	55
5	203439	Blade Carrier	1
6	203025	Blade	4
7	203030	Blade Nut	4
8	203035	Blade Bolt	4
9*	203430	Left Skid Shoe	1
	203432	Right Skid Shoe	1
10	203404	Motor Cover	1
11	203436	Access Cover	1
12	203006	3/8"–16 x 1" Screw Thread–Forming	11
13	299454	3/4"–10 x 2" Bolt Hex Head Grade 8	10
15	Included with Item 16	3/4" Nut	8
16	203056	3/4" Bolt	8
17	216402	Manual Storage Tube	1
20	203048	96" Safety Chain and Clevis	1
21	299340	Steel Clevis & 7/16" Pin Shackle (Included with Item #20)	1
22	299414	9/16"–12 x 2 1/2" Bolt Hex Head Grade 8	1
23	299619	9/16"–12 Lock Nut Grade 8	1
24	206825	Hose Clamp with 5/16"–18 x 2 3/8" Bolt, Fits 1" Dual Hoses	1
25	299336	1/2"–13 x 1 1/2" Carriage Bolt Grade 8	20
26	299655	1/2"–13 Stover Locknut	20
27	See page 38	Motor and Direct Drive Assembly	1

*Item 9 by the motor cover is the left skid shoe. The other is the right skid shoe.

5. Parts

5.3 *Hydraulic Components — Series 2 Revision 002*



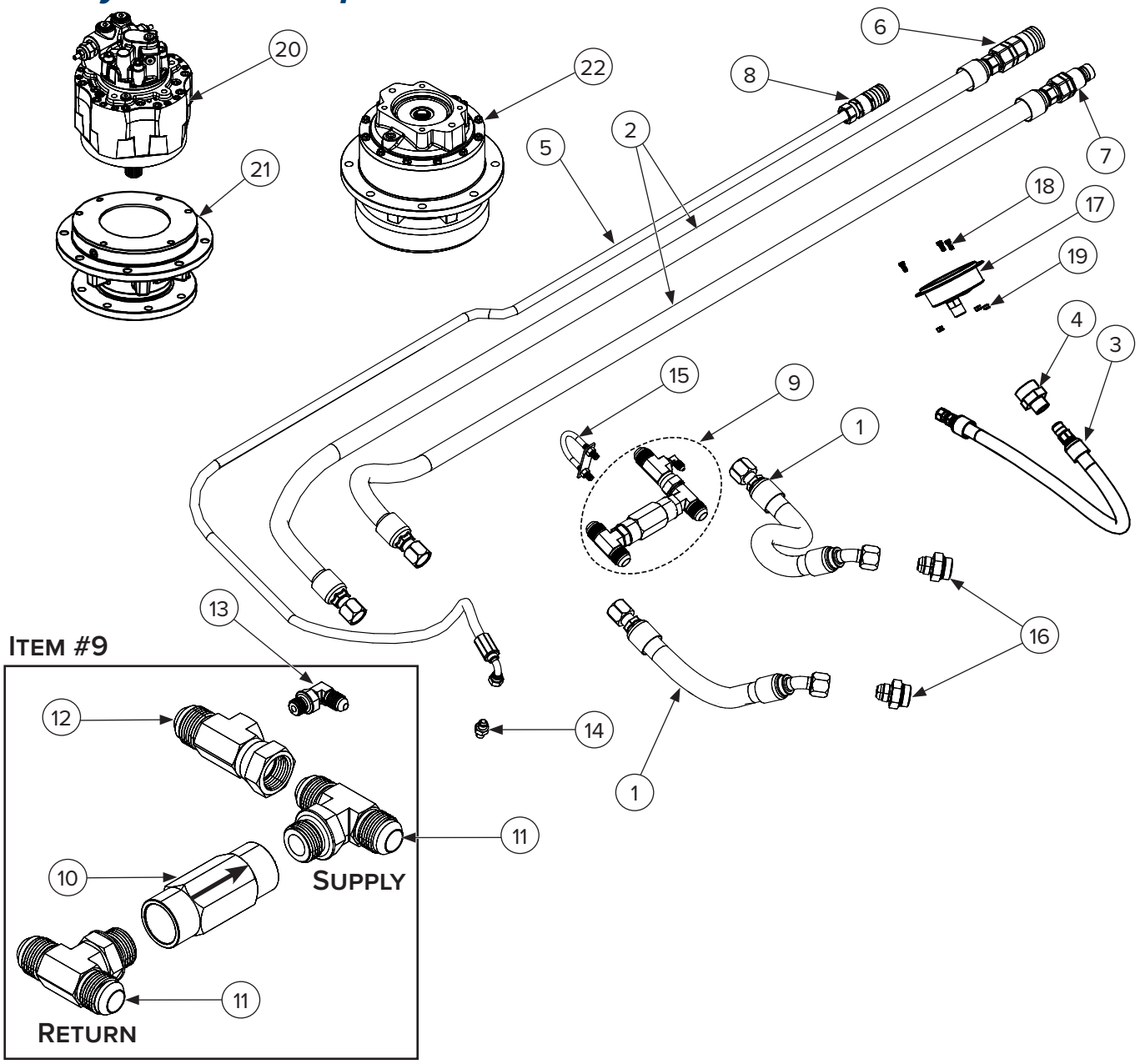
5. Parts

5.3 *Hydraulic Components — Series 2 Revision 002 Cont'd*

ITEM	PART NUMBER	DESCRIPTION	QTY
1	203939	Machine Host Set 2 Hoses 132" OAL 3/4" ID 45 Degree Female #12 JIC to Straight Male #12 ORB with 66" Protective Sleeve	1
2	224011	Coupler Female Flat Face Straight 1/2" Body Female #12 O–Ring Boss	1
3	224012	Coupler Male Flat Face Straight 1/2" Body Female #12 O–Ring Boss	1
4	224063	Case Drain Coupler Female Flat Face Straight 3/8" Body Female #8 NPT	1
5	203413	Case Drain Hose 125" OAL 3/8" ID 45 Degree Female #6 JIC Swivel to Straight Male #8 NPT	1
6	295010-M04BSPP-M06JIC	Hydraulic Straight Fitting Male #4 BSPP x Male #6 JIC	1
7	295010-M12JIC-M16ORB	Hydraulic Straight Fitting Male #12 JIC x Male #16 O–Ring Boss	2
8	295010-M04JIC-M04ORB	Hydraulic Straight Fitting Male #4 JIC x Male #4 O–Ring Boss	1
9	295010-F08NPT-F04NPT	Hydraulic Straight Fitting Female #8 Pipe Thread to Female #4 Pipe Thread	1
10	203428	Pressure Gauge Hose 1/4" ID	1
11	203414	Pressure Gauge	1
12	203427-1B	Pressure Gauge Bolt 10–24 x 1/2"	3
13	203427-1N	Pressure Gauge Locknut 10–24	3
14	203949	Direct Drive for 17T Spline	1
15	203944	Piston Motor 150cc with 17T Spline	1
	203945	Piston Motor 200cc with 17T Spline	
	203946	Piston Motor 250cc with 17T Spline	

5. Parts

5.4 *Hydraulic Components — Series 2 Revision 000 & 001*



ITEM	PART NUMBER	DESCRIPTION	QTY
1 – 9	203470	Complete Hose Set – Includes Hoses, Couplers, & H–Valve	1
1	203472	Valve Block to Machine Hose 20" OAL 3/4" ID 45 Degree Female #12 JIC to Straight Female #12 JIC	2
2	203476	Machine Side Hose Set & Hose Wrap 106" OAL 3/4" ID Straight Female #12 JIC to Straight Male #12 O–Ring Boss	1
3	203428	Pressure Gauge Hose 21" OAL 1/4" ID Straight Male #4 Pipe Thread to Straight Female #4 JIC	1
4	295010-F08NPT-F04NPT	Hydraulic Straight Fitting Female #8 Pipe Thread to Female #4 Pipe Thread	1
5	203413	Case Drain Hose 125" OAL 3/8" ID Straight Male #8 Pipe Thread to 45 Degree Female #6 JIC Swivel	1
6	224012	Coupler Male Flat Face Straight 1/2" Body Female #12 O–Ring Boss	1
7	224011	Coupler Female Flat Face Straight 1/2" Body Female #12 O–Ring Boss	1
8	224063	Case Drain Coupler Female Flat Face Straight 3/8" Body Female #8 Pipe Thread	1

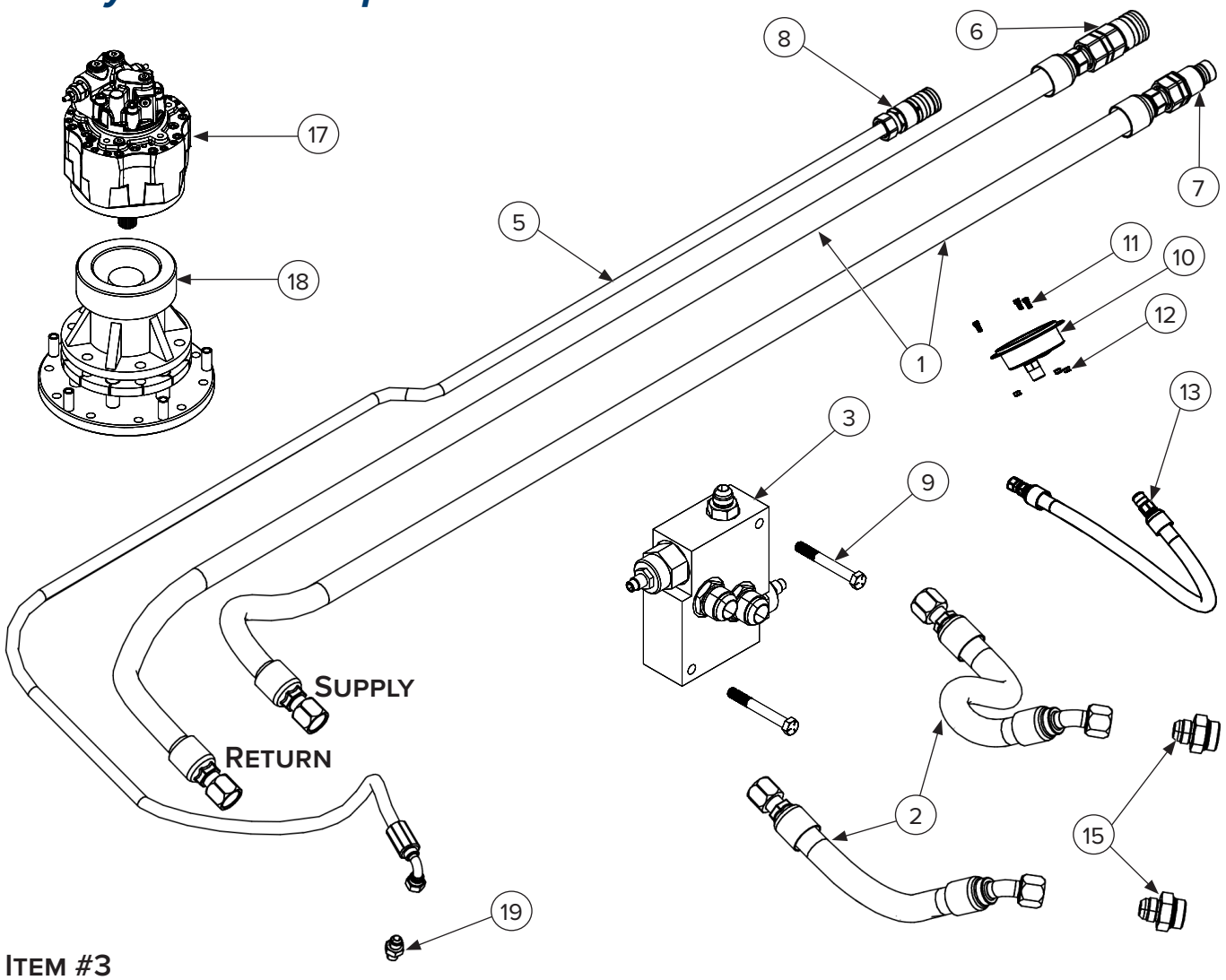
5. Parts

5.4 *Hydraulic Components — Series 2 Revision 000 & 001 Cont'd*

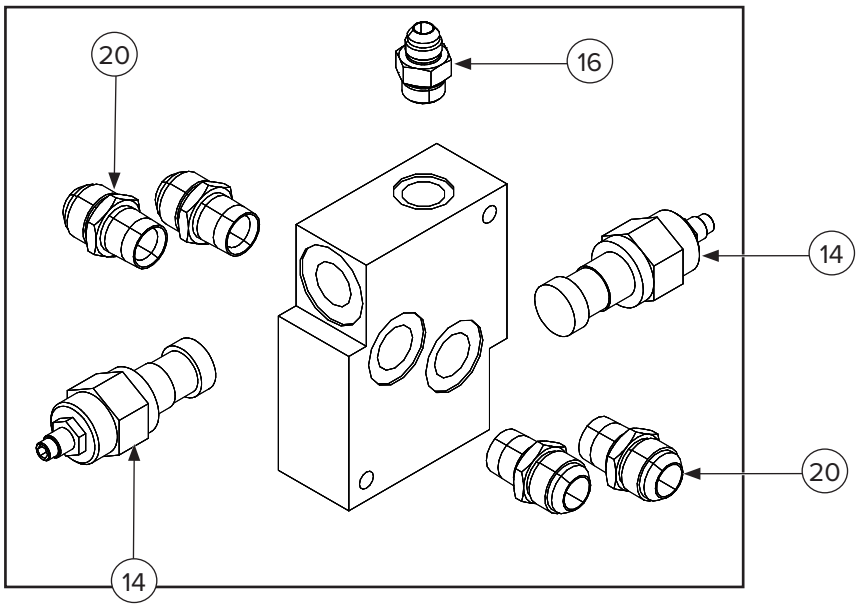
ITEM	PART NUMBER	DESCRIPTION	QTY
9	203474	H–Valve	1
10	203475	H-Valve Check Valve Only – No Fittings (Arrow indicates flow direction)	1
11	295050-M12JIC-M12JIC-M12ORB	Hydraulic Tee Fitting Male #12 JIC x Male #12 JIC x Male #12 O–Ring Boss	2
12	295050-F12JIC-M12JIC-F04ORB	Hydraulic Tee FItting Female #12 JIC x Male #12 JIC x Female #4 O–Ring Boss	1
13	295030-M04JIC-M04ORB	Hydraulic 90 Degree FItting Male #4 JIC x Male #4 O–Ring Boss	1
14	295010-M04BSPP-M06JIC	Case Drain Hydraulic Straight Fitting Male #4 BSPP x Male #6 JIC	1
15	203478	U–Bolt	1
16	295010-M12JIC-M16ORB	Hydraulic Straight Fitting Male #12 JIC x Male #16 O–Ring Boss	2
17	203414	Pressure Gauge	1
18	203427-1B	Pressure Gauge Bolt 10–24 x 1/2"	3
19	203427-1N	Pressure Gauge Locknut 10–24	3
20	203402-H/IR	Hydraulic Piston Motor with Integrated 3500 PSI Relief Valves 150cc	1
	203405-H/IR	Hydraulic Piston Motor with Integrated 3500 PSI Relief Valves 200cc	
	203407-H/IR	Hydraulic Piston Motor with Integrated 3500 PSI Relief Valves 250cc	
21	PSR100A8	Plan–Star Direct Drive with 14T Input for Revision 001	1
22	203350	Auburn Gear Direct Drive Assembly for Revision 000	1
NS	203469	Motor to Direct Drive Adapter Flange	1
NS	203415	Motor to Flange Bolts	4
NS	202850	Plan–Star Direct Drive Motor to Drive O–Ring for Revision 001	1
NS	203776	Auburn Gear RTV Gasket, 2.7 oz. Tube for Revision 000	1
NS	299305	Flange to Direct Drive Bolt 1/2"–13 x 1 3/8" Socket Head ASTM A574 Alloy Steel Zinc Plated	4
NS	203451	Flange Ring Oil Seal (Included with 203469)	1
NS	203807	Motor to Flange O–Ring	1

5. Parts

5.5 *Hydraulic Components — Series 1*



ITEM #3

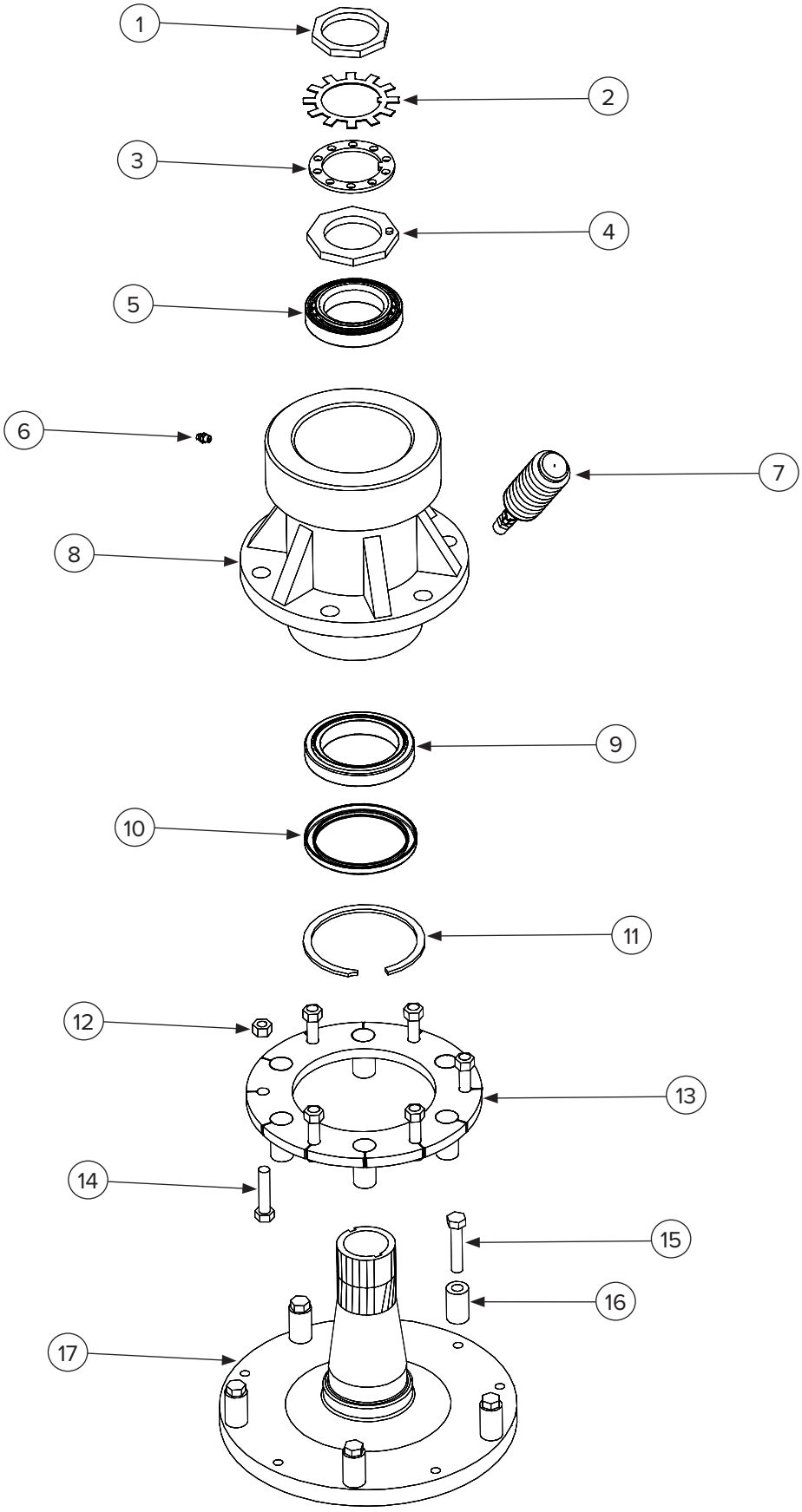


5. Parts

5.5 *Hydraulic Components — Series 1 Cont'd*

ITEM	PART NUMBER	DESCRIPTION	QTY
1	203410	Machine Side Hose Kit with Couplers, 2 Hoses	1
2	203429	Motor to Block Hoses	2
3	203417	Valve Block Assembly	1
5	203413	Case Drain Hose 125" OAL 3/8" ID 45 Degree Female #6 JIC Swivel to Straight Male #8 NPT	1
6	224011	Coupler Female Flat Face Straight 1/2" Body Female #12 O–Ring Boss	1
7	224012	Coupler Male Flat Face Straight 1/2" Body Female #12 O–Ring Boss	1
8	224060	Case Drain Coupler Female Flat Face Straight 3/8" Body Female #8 O–Ring Boss	1
	224062	Case Drain Coupler Male Flat Face Straight 3/8" Body Female #8 O–Ring Boss	
9	299425	3/8"–16 x 3" Bolt Hex Head Grade 8	2
10	203427	Pressure Gauge & Hose	1
11	203427-1B	Pressure Gauge Bolt 10–24 x 1/2"	3
12	203427-1N	Pressure Gauge Locknut 10–24	3
13	Included with Item 10	Pressure Gauge Hose 1/4" ID	1
14	203424	Valve Cartridge	2
15	295010-M12JIC-M16ORB	Hydraulic Straight Fitting Male #12 JIC x Male #16 O–Ring Boss	2
16	295010-M10ORB-M06JIC	Hydraulic Straight Fitting Male #10 O–Ring Boss x Male #6 JIC	1
17	203402-H	Hydraulic Piston Motor 150cc with High Pressure Seal	1
	203405-H	Hydraulic Piston Motor 200cc with High Pressure Seal	
	203407-H	Hydraulic Piston Motor 250cc with High Pressure Seal	
18	203073	Direct Drive Assembly, Tapered Spindle, Wide Top C Flange Fits 3/4" Blade Carrier Bolts (See page 40)	1
19	203460	Hydraulic Fitting for Case Drain	1
20	295010-M12JIC-M12ORB	Hydraulic Straight Fitting Male #12 JIC x Male #12 O–Ring Boss	4
NS	203469	Motor to Direct Drive Adapter Flange	1
NS	203415	Motor to Flange Bolts	4
NS	203811	Flange to Direct Drive Bolts	4
NS	203451	Flange Oil Seal (Included with 203469)	1
NS	203807	Motor to Flange O–Ring	1
NS	203453	Flange to Direct Drive O–Ring	1
NS	203232	Flange to Direct Drive Gasket	1

5.6 *Direct Drive System Components — Series 1*



5. Parts

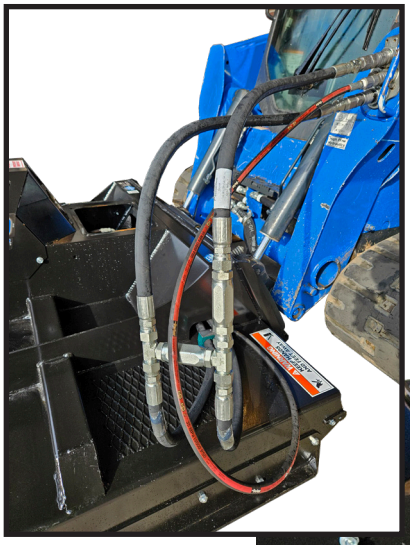
5.6 *Direct Drive System Components — Series 1 Cont'd*

ITEM	PART NUMBER	DESCRIPTION	QTY
1	203090	Upper Spindle Nut	1
2	203100	Spindle Star Lock Washer	1
3	203095	Spindle Lock Ring	1
4	203105	Lower Spindle Nut	1
5	203075	Upper Bearing & Race (4 1/2" Diameter)	1
6	203072	1/4"–28 Straight Grease Zerk	1
7	203109	Grease Bellow Assembly	1
8	203076	Direct Drive Housing, Wide Top C–Flange for Tapered Spindle	1
	203071	Direct Drive Housing, Large Bearing Style for Straight Spindle	1
9	203074	Lower Bearing & Race (5" Diameter)	1
10	203086	Main Seal, Large Bearing Style for Tapered Spindle	1
	203085	Lower Bearing Seal for Straight Spindle	1
11	203087	Retaining Ring	1
14	203056	Bolt, 3/4" (for Direct Drive Housing)	6
12	Included with Item 14	Nut, 3/4" (for Direct Drive Housing)	6
13	203134	Upper Seal Guard Ring, 3/4" Holes	1
15	203914	Bolt (Lower Wire Guard)	5
16	Included with Item 15	Bushing (Lower Wire Guard)	5
17	203068	Spindle, Tapered	1
	203077	Spindle, Straight	1
1 – 17	203073	Direct Drive Assembly, Tapered Spindle, Wide Top C–Flange, Fits 3/4" Blade Carrier Bolts	1

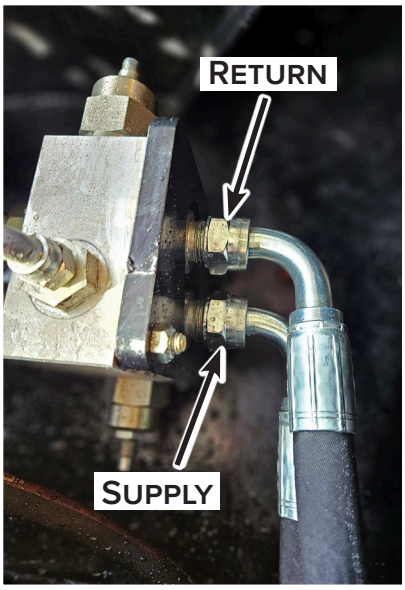
5. Parts

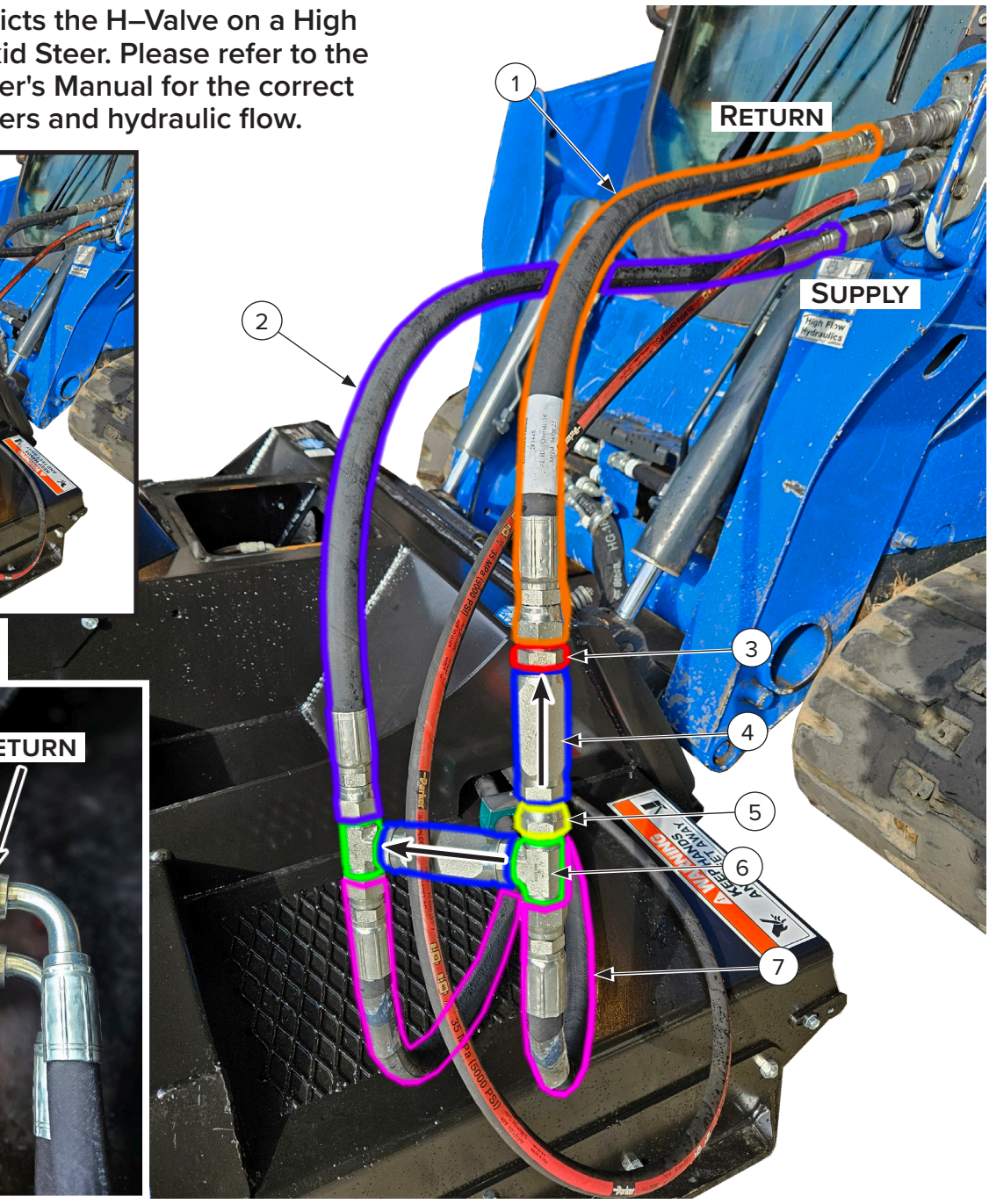
5.7 *H–Valve Kit — Series 1*

This image depicts the H–Valve on a High Flow Bobcat Skid Steer. Please refer to the machine's Owner's Manual for the correct hydraulic couplers and hydraulic flow.



VALVE BLOCK





ITEM	PART NUMBER	DESCRIPTION	QTY
1	203448	Hose, 36" OAL 3/4" ID 12FJX x 12 FJX 4000 PSI	1
2	203449	Hose, 41" OAL 3/4" ID 12FJX x 12 FJX 4000 PSI	1
3	295010-M12JIC-M12ORB	Hydraulic Straight Fitting Male #12 JIC x Male #12 O–Ring Boss	1
4	203475	H-Valve Check Valve Only – No Fittings (Arrow indicates flow direction)	2
5	295010-M12ORB-F12JICS	Hydraulic Straight Fitting Male #12 O–Ring Boss to Female #12 JIC	1
6	295050-M12JIC-M12JIC-M12ORB	Hydraulic Tee Fitting Male #12 JIC x Male #12 JIC x Male #12 O–Ring Boss	2
7	203447	Hose, 51" OAL 3/4" OAL 12FJX 90 to 12 FJX 4000 PSI	2

5. Parts

5.8 *Safety Decals*

1


2


3


4


5


6


7


8


9


10


11


12


13


14


5. Parts

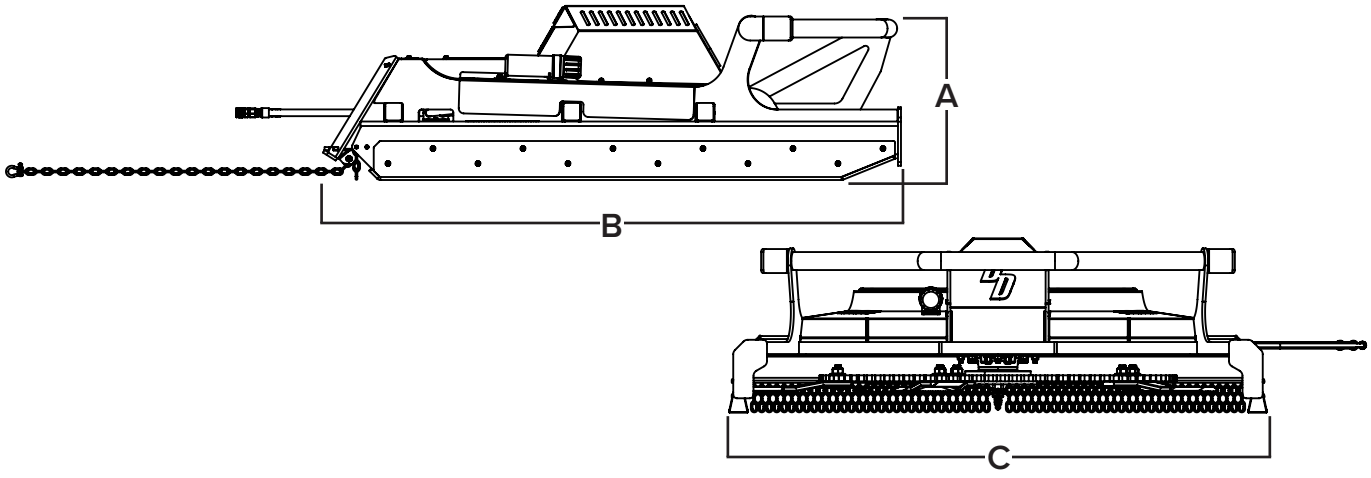
5.8 *Safety Decals Cont'd*

ITEM	PART NUMBER	DESCRIPTION	SERIES 1 QTY	SERIES 2 QTY
1	BD-057	3.0" x 17.0" Decal, Blue Diamond	2	2
2	BD-060	2.4375” x 3.375” Decal, Blue Diamond Attachments	2	2
3	BD-118	1.5" x 8.1" Decal, Severe Duty	1	—
4	BD-118-2	1.875" x 8.125" Decal, Severe Duty Series 2	—	1
5	BD-070	Decal, Do Not Operate Without Safety Chain in Place	1	1
6	BD-081	3.0" x 12.0" Decal, Warning Keep Hands and Feet Away	4	4
7	BD-007	3.0" x 4.75" Decal, High Pressure Fluid Hazard	1	1
8	BD-055	3.0" x 12.0" Decal, Danger Debris Discharge Area	1	1
9	BD-087	2.0" x 4.0" Decal, Grease Drive Every 250 Hours	1	—
10	BD-008	Decal, See Owner's Manual for Lubrication Instructions	—	1
11*	BD-072	2.5" x 4.0" Decal, Max Flow 26 GPMs	1	—
	BD-104	Decal, Max Flow 35 GPMs		
	BD-097	2.5" x 4.0" Decal, Max Flow 45 GPMs		
12	BD-092	1.5” x 2.0” Decal, Warranty Registration QR	1	1
13	BD-001	3.0” x 3.0” Decal, Read Owner’s Manual	1	1
14	BD-082	2.0" x 3.0" Decal, Attention Disassembly of Motor Voids Warranty	1	1

*This safety decal depends on the motor size of your brush cutter. See 6.1 Attachment Specifications for maximum hydraulic flow.

6. Specifications

6.1 *Attachment Specifications*



Series 2 Revision 002

DESCRIPTION	with 150cc Motor	with 200cc Motor	with 250cc Motor
Overall Height (A)	29 in. (737 mm)		
Overall Length (B)	83 3/4 in. (2127 mm)		
Overall Width (C)	77 1/4 in. (1962 mm)		
Cutting Height (minimum from ground)	2 1/2 in. (63 mm)		
Cutting Width	72" (1829 mm)		
Weight	2250 lbs (973 kg)		
Blade Type	Double Edge, Drop Down, 6 1/4" Wide, Heat Treated		
Blade Rotation	Bidirectional		
Number of Blades	4		
Maximum Cutting Capacity	10 in. (254 mm)		
Drive System	Direct Drive		
Minimum Hydraulic Flow	16 GPM (61 L/min)	27 GPM (102 L/min)	35 GPM (133 L/min)
Maximum Hydraulic Flow	26 GPM (95 L/min)	35 GPM (133 L/min)	45 GPM (170 L/min)
Rated HP	75 and Larger		
Maximum Relief Pressure	4000 PSI (275 bar)		

6. Specifications

6.1 *Attachment Specifications Cont'd*

Series 2 Revision 001 & 000 and Series 1

DESCRIPTION	with 150cc Motor	with 200cc Motor	with 250cc Motor
Overall Height (A)	30 3/4 in. (781 mm)		
Overall Length (B)	84 1/2 in. (2146 mm)		
Overall Width (C)	78 in. (1981 mm)		
Cutting Height (minimum from ground)	2 1/2 in. (63 mm)		
Cutting Width	72 in. (1829 mm)		
Weight	1920 lbs (922 kg)		
Blade Type	Double Edge, Drop Down, 6 1/4" Wide, Heat Treated		
Blade Rotation	Clockwise (See "3.8 Blade Reversing Procedure" on page 17)		
Number of Blades	4		
Maximum Cutting Capacity	10 in. (254 mm)		
Drive System	Direct Drive		
Minimum Hydraulic Flow	16 GPM (61 L/min)	27 GPM (102 L/min)	35 GPM (133 L/min)
Maximum Hydraulic Flow	26 GPM (95 L/min)	35 GPM (133 L/min)	45 GPM (170 L/min)
Rated HP	75 and Larger		
Maximum Relief Pressure	4000 PSI (275 bar)		

6. Specifications

6.2 *Torque Specifications – Imperial*

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	4.6 lbf•ft	6.0 lbf•ft	7.2 lbf•ft	9.3 lbf•ft	10.0 lbf•ft	13.1 lbf•ft	5.1 lbf•ft	7.2 lbf•ft
	6.2 N•m	8.1 N•m	9.7 N•m	12.6 N•m	13.6 N•m	17.7 N•m	6.9 N•m	9.8 N•m
5/16	9.6 lbf•ft	12.5 lbf•ft	14.8 lbf•ft	19.2 lbf•ft	20.7 lbf•ft	27.3 lbf•ft	10.3 lbf•ft	14.8 lbf•ft
	13 N•m	17 N•m	20 N•m	26 N•m	28 N•m	37 N•m	14 N•m	20 N•m
3/8	17 lbf•ft	22 lbf•ft	26 lbf•ft	34 lbf•ft	37 lbf•ft	48 lbf•ft	19 lbf•ft	26 lbf•ft
	23 N•m	30 N•m	35 N•m	46 N•m	50 N•m	65 N•m	26 N•m	35 N•m
7/16	27 lbf•ft	35 lbf•ft	42 lbf•ft	54 lbf•ft	59 lbf•ft	77 lbf•ft	30 lbf•ft	42 lbf•ft
	37 N•m	47 N•m	57 N•m	73 N•m	80 N•m	104 N•m	41 N•m	57 N•m
1/2	42 lbf•ft	54 lbf•ft	64 lbf•ft	83 lbf•ft	91 lbf•ft	117 lbf•ft	45 lbf•ft	65 lbf•ft
	57 N•m	73 N•m	87 N•m	113 N•m	123 N•m	159 N•m	61 N•m	88 N•m
9/16	60 lbf•ft	77 lbf•ft	92 lbf•ft	120 lbf•ft	130 lbf•ft	169 lbf•ft	65 lbf•ft	92 lbf•ft
	81 N•m	104 N•m	125 N•m	163 N•m	176 N•m	229 N•m	88 N•m	125 N•m
5/8	83 lbf•ft	107 lbf•ft	128 lbf•ft	165 lbf•ft	180 lbf•ft	233 lbf•ft	90 lbf•ft	127 lbf•ft
	112 N•m	145 N•m	174 N•m	224 N•m	244 N•m	316 N•m	122 N•m	172 N•m
3/4	146 lbf•ft	189 lbf•ft	226 lbf•ft	293 lbf•ft	319 lbf•ft	413 lbf•ft	160 lbf•ft	226 lbf•ft
	198 N•m	256 N•m	306 N•m	397 N•m	432 N•m	560 N•m	217 N•m	306 N•m
7/8	142 lbf•ft	183 lbf•ft	365 lbf•ft	473 lbf•ft	515 lbf•ft	667 lbf•ft	258 lbf•ft	364 lbf•ft
	193 N•m	248 N•m	495 N•m	641 N•m	698 N•m	904 N•m	350 N•m	494 N•m
1	213 lbf•ft	275 lbf•ft	547 lbf•ft	708 lbf•ft	773 lbf•ft	1000 lbf•ft	386 lbf•ft	545 lbf•ft
	289 N•m	373 N•m	742 N•m	960 N•m	1048 N•m	1356 N•m	523 N•m	739 N•m

6. Specifications

6.3 *Torque Specifications – Metric*

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 lbf•ft	4.5 lbf•ft	6.5 lbf•ft	8.5 lbf•ft	9.5 lbf•ft	12 lbf•ft	11.5 lbf•ft	14.5 lbf•ft
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 lbf•ft	11 lbf•ft	16 lbf•ft	20 lbf•ft	24 lbf•ft	30 lbf•ft	28 lbf•ft	35 lbf•ft
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 lbf•ft	21 lbf•ft	32 lbf•ft	40 lbf•ft	47 lbf•ft	60 lbf•ft	55 lbf•ft	70 lbf•ft
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 lbf•ft	37 lbf•ft	55 lbf•ft	70 lbf•ft	80 lbf•ft	105 lbf•ft	95 lbf•ft	120 lbf•ft
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 lbf•ft	60 lbf•ft	88 lbf•ft	110 lbf•ft	130 lbf•ft	165 lbf•ft	150 lbf•ft	190 lbf•ft
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 lbf•ft	125 lbf•ft	195 lbf•ft	250 lbf•ft	275 lbf•ft	350 lbf•ft	325 lbf•ft	410 lbf•ft
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 lbf•ft	125 lbf•ft	195 lbf•ft	250 lbf•ft	275 lbf•ft	350 lbf•ft	325 lbf•ft	410 lbf•ft
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 lbf•ft	180 lbf•ft	275 lbf•ft	350 lbf•ft	400 lbf•ft	500 lbf•ft	460 lbf•ft	580 lbf•ft
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 lbf•ft	250 lbf•ft	375 lbf•ft	475 lbf•ft	540 lbf•ft	675 lbf•ft	625 lbf•ft	800 lbf•ft
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 lbf•ft	310 lbf•ft	475 lbf•ft	600 lbf•ft	675 lbf•ft	850 lbf•ft	800 lbf•ft	1000 lbf•ft
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 lbf•ft	450 lbf•ft	700 lbf•ft	875 lbf•ft	1000 lbf•ft	1250 lbf•ft	1150 lbf•ft	1500 lbf•ft
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 lbf•ft	625 lbf•ft	950 lbf•ft	1200 lbf•ft	1350 lbf•ft	1700 lbf•ft	1600 lbf•ft	2000 lbf•ft
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 lbf•ft	850 lbf•ft	1300 lbf•ft	1650 lbf•ft	1850 lbf•ft	2350 lbf•ft	2150 lbf•ft	2750 lbf•ft
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 lbf•ft	1075 lbf•ft	1650 lbf•ft	2100 lbf•ft	2350 lbf•ft	3000 lbf•ft	2750 lbf•ft	3500 lbf•ft

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 Severe Duty Series 1 and Series 2 Brush Cutters 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. Please see bluediamondattachments.com/warranty-policies for the most up to date warranty information.

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

QUALITY | DEPENDABILITY | INTEGRITY

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888-376-7027