

Mini Hydraulic Backhoe

Operation and Maintenance Manual



130500, 130505

Register your
WARRANTY
within 30 days
of purchase



888-376-7027 | BlueDiamondAttachments.com



BD-092

Introduction: Owner Information

Thank you for your decision to purchase a Blue Diamond® Mini Hydraulic Backhoe. 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 right top side of the mount as shown above.

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

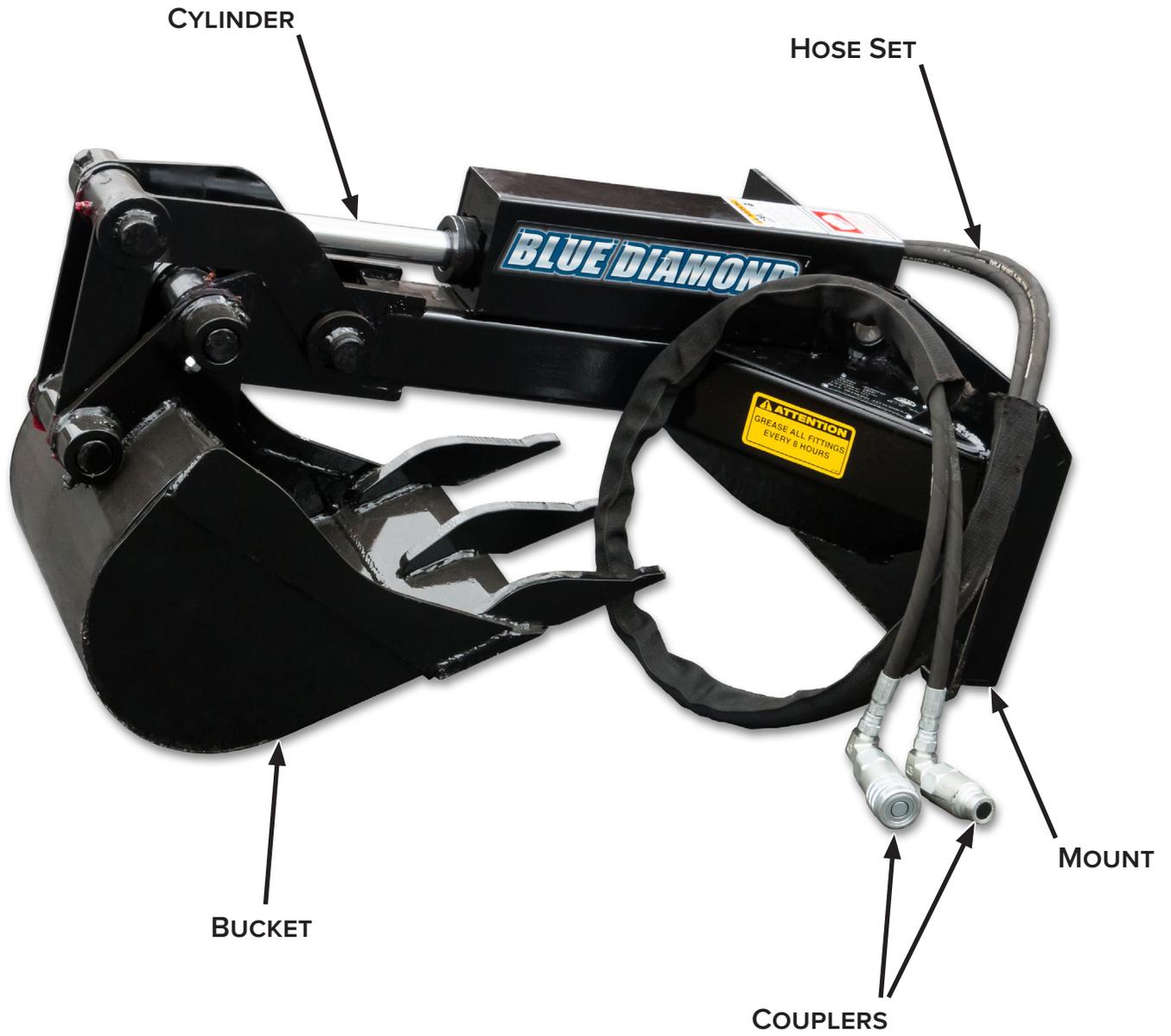
NOTE: The directions left, right, front, and rear, as mentioned throughout this manual, are as viewed from the operator's position.

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1. Introduction

1.1 Attachment Identification



1. Introduction

1.2 About this Attachment

The Blue Diamond® Mini Backhoe will take a serious beating! Designed specifically for Mini Skid Steers, this attachment is engineered to deliver full-size performance in a compact format. Select between 42” and 48” arm lengths and access tight spaces and hard to reach areas with ease. Great for digging trenches, moving dirt, removing shrubbery and roots, plus much more.

1.3 Attachment Model Numbers

MODEL NUMBER	ARM LENGTH
BACKHOE ONLY	
130500*	42”
130505*	48”

*Different mount options available. Contact Blue Diamond® for more information.

MODEL NUMBER	BUCKET WIDTH
BUCKET OPTIONS	
130509	8”
130512	10”
130515	12”
130516	12” Smooth

2. Safety

2.1 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.

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 Mini Hydraulic Backhoe can be attached to many different pieces of equipment; therefore, the terms “host machine”, “machine”, and “prime mover” will be used. Host machine, machine, and prime mover mean any vehicle, tractor, or skid steer providing power to the attachment.

Attachment, Implement, Equipment:

- The Mini Hydraulic Backhoe is the tool that is being attached to the host machine; therefore, the terms “attachment”, “implement”, and “equipment” will be used. The attachment, implement, and equipment mean any tool that is being used on any vehicle, 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. Safety

2.2 Operators

Qualified Operators

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

The operator is to follow the given instructions in this manual and the machine 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

- Any use of the machine other than the intended use is a non-intended use and is considered to be unauthorized and dangerous. Blue Diamond® is not liable for any damage or injury resulting from non-intended use.
- Before starting, and during operation of the attachment, make sure there are no people or animals in the operation area.
- 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. Safety

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.
- Do not try to make adjustments to the Mini Hydraulic Backhoe while the engine is running.
- 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.
- Never run the host machine's engine in a closed building without adequate ventilation. Exhaust fumes are highly dangerous.
- Always drive at a safe speed according to ground conditions and allows safe emergency braking.
- Always inspect the attachment after striking any foreign object to assure that all parts are safe, secure, and not damaged.

Machine Requirements and Capabilities

- Keep bystanders clear of moving parts and the work area. Keep children away.
- Do not exceed 3200 psi (221 bar) operating pressure.
- Use caution on slopes and near banks and ditches to prevent overturn.
- See "6.1 Attachment Specifications" on page 23 for more information.

2. Safety

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 cylinder 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 Mini Hydraulic Backhoe 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.

- Lubricate the attachment per the schedule outlined in the Maintenance section. See “4.1 Service Schedule” on page 15 for more information.
- Check the attachment mounting frame for damage or cracks.
- 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 attachment is properly connected to the machine.
- Check moving parts for excessive wear.



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.

- Check that hoses are not in potential “pinch” spots.
- Inspect the host machine for hydraulic leaks and proper tire inflation or condition of the tracks.

3. Operation

3.2 Entering & Exiting the Prime Mover



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

Entering the Operator's Position

Use the safety treads, handles, and steps on the attachment and machine to enter the operator's position. Always maintain three (3) points of contact.

When in the operator's position, secure the seatbelt, lower 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 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 parking brake, stop the engine, and wait for all moving parts to stop. Leave the operator's position.

3.3 Attachment Installation

Connecting Attachment to the Machine



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's 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 11.

3. Operation

3.3 Attachment Installation Cont'd

Connecting Attachment to the Machine Cont'd



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



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

Verify that all hydraulic couplings are compatible with the host machine.

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: return hose then pressure hose.

For the hydraulic hoses, the return hose must be connected before the pressure hose.

Pull on each hose to verify full connection is made.

NOTE: Hydraulics should operate smoothly. Hydraulic movement that is rough may indicate that there is air in the hydraulic lines.

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 then return hose.

The pressure hose must be disconnected before the return hose.

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 11.

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's mounting frame is free from the machine's mounting plate.

Drive the machine slowly backward, away from the attachment.

3. Operation

3.4 Operating the Attachment



IMPORTANT



The Hydraulic Backhoe is designed to dig powerfully only using the hydraulic cylinders on the attachment in combination with the loader arms.

DO NOT move the machine's tracks/wheels while the backhoe is engaged with the ground.

This can cause catastrophic failure of the cylinders and linkage pins.

The Mini Hydraulic Backhoe is intended for digging, material handling, landscape, and land clearing.

How to Dig

1. Using the machine's lift arms, raise the attachment high into the air.
2. Tilt the entire Backhoe forward while adjusting the slope of the bucket so that the front edge breaks into the ground.
NOTE: Avoid ramming it into the ground.
3. Continue to tilt the entire Backhoe forward by the mount plate until the bucket is full. Using the machine's auxiliary hydraulic controls, fully extend the cylinder to completely curl the bucket
4. With the bucket fully curled, tilt the mount plate backwards until the bucket is clear of the ground.
5. Once the loaded bucket is clear of the ground, skid turn the host machine to where the filled bucket is to the side of the trench/digging area.
6. Retract the cylinder, causing the bucket to uncurl and drop the removed material.
7. Turn the host machine so it is back in place over the desired digging area.

If wanting to move material to a dump site, see How to Travel with a Load.

8. Repeat steps 2 – 7 until the desired length is dug.

How to Travel with a Load

When traveling with a bucket full of material, be aware of the following:

- Pedestrians have the right of way.
- Keep the cylinder fully extended so that the bucket remains fully curled.
- Travel with the load close to the ground if possible.
- Constantly be vigilant of bystanders, animals, obstacles, etc. in your path, especially when turning.
- Always drive at a safe speed and slow down when going around curves or when turning. Do not brake suddenly if possible.
- When traveling on an incline, keep the load on the uphill side of the host machine, i.e. drive in reverse when going downhill to prevent material from spilling from the Backhoe's bucket.
- When possible, travel perpendicular to slopes, ramps, inclines, etc.
- Slow down when traveling over rough terrain.
- Do not transport loads on public roads.
- Plan the best route before traveling with a loaded bucket.

3. Operation

3.5 Operating Tips

- Always inspect the work area before using the attachment. Locate and mark any utilities, steel posts, rocks, or any other objects that could be damaged or would damage the attachment during operation.
- If there is any excessive vibration, immediately stop operation. Replace the necessary parts to stop the vibrations from occurring.
- To prevent tipping or loss of control, reduce speed when making runs or transitioning onto or off slopes. Do not carry the Backhoe bucket more than one foot off the ground during transport.
- Backhoes can be extremely dangerous due to excessive weight. All material must be carried in the lowest possible position so that potential tipping is minimized.
- If digging a trench, mark the length of the trench with a string line or with ground marking paint.
- Operate at a safe, slow speed that will allow the operator to observe the area surrounding the attachment and host machine.
- Avoid overloading the Backhoe.
- Save time by performing “skid” turns going forward instead of reversing when possible.

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 Cylinder	•	•				
Bucket	•	•				
All Hardware	•					
Grease Zerks	•	•	•			
Safety Decals	•					
Weekly Maintenance (or every 40 hours)						
Mount Frame (cracks, bends, or damage)	•					
Teeth on Bucket	•					
Seasonal Maintenance						
Teeth on Bucket	•					
Paint	•					
Safety Decals	•					
Exposed Cylinder Rod	•	•				
Hydraulic System	•					
All Hardware	•					

4. Maintenance

Proper and regular maintenance ensures a long life of the attachment, avoids failures, and saves times and repair costs.

Periodic inspections and maintenance operations described in this section must be performed by an operator in times and terms prescribed. Failure to comply with maintenance prescriptions can compromise the function and lifetime of the attachment, which will result in the warranty becoming void.

Repairs, maintenance, and modifications other than those mentioned in this manual should NOT be performed without consulting Blue Diamond® Product Support.

Wrong or inappropriate repairs or maintenance may generate abnormal operating conditions, equipment damage, and generate risks for the operator.



WARNING



AVOID SERIOUS INJURY OR DEATH

The following must always be performed prior to any adjustment being made:

- 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.
- Set the parking stand.

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

4.2 Lubrication

Grease the five (5) pivot points every eight (8) hours of operation to prevent excess wear.

Clean to remove all dirt and debris from the grease zerks prior to lubrication.

Each end of the cylinder has one (1) grease zerk.

The linkage arm weldment that attaches the bucket to the arm has one (1) grease zerk.

Two (2) grease zerks are located where the pair of linkage arms connects to the boom arm.

See Figure 1 for all lubrication points.

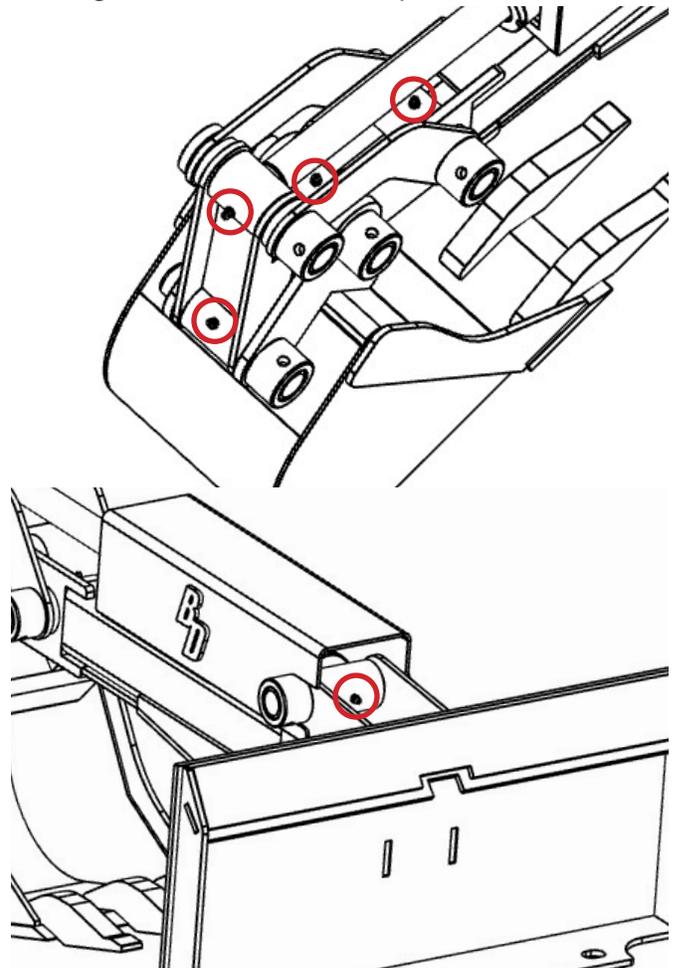


Figure 1

4. Maintenance

4.3 Before Every Use

Check that all hardware (nuts, bolts, etc.) are in their right place and are tight.

Inspect and replace any worn, torn, or missing safety decals.

Grease all lubrication points (see “4.2 Lubrication” on page 16 for more information).

Remove debris from the cylinder area.

Check to make sure the bucket is not warped or bent.

4.4 Every Week

Check the condition of the mounting frame. Repair if necessary.

Check the condition of the bucket. Make sure the front edge is not worn or damaged. Contact Blue Diamond® Product Support to order replacements for the teeth as soon as they become worn.

4.5 After Every Season

Inspect the attachment for any loose or worn parts that may need to be replaced prior to the next season.

Inspect the bucket's teeth. Replace if necessary.

Clean and repaint any area that looks worn or scratched to prevent further rusting. Use an equipment paint found at a local hardware store.

Replace any safety decals that have been lost or damaged.

Clean the exposed portion of the cylinder rod, and apply a light coating of oil.

Inspect hydraulic hoses for tears, kinks, or other possible damage.

Store the attachment in a shed or cover with a waterproof tarp to protect it from the weather.

Do not store in an area frequented by children.

4.6 Tooth Removal & Replacement

The teeth on the Backhoe's bucket are welded on but are replaceable. Make sure to angle the Backhoe so that the bucket is easily accessible.

1. Using a cutting torch or an air-arc gouger, remove the worn teeth from the bucket.
2. Grind to remove old weld material from the bucket.
3. Position the new teeth in the same position as the previous teeth. Make sure they are flush and aligned with the bucket's front edge.
4. Preheat the surrounding area (4" – 6" or 102 – 152 mm) of each tooth to 300 – 400°F (149 – 204°C) to prevent the metal from cracking.
5. Tack weld the new teeth in place. Start with 1" (25 mm) tacks on 6" (152 mm) centers. Blue Diamond® recommends using Tempile stick 400.

NOTE: To prevent excessive heat concentration and potential warping, Blue Diamond® recommends stagger welding: weld one side, then weld the other, and then finish in the center.

All welding should be performed in a fillet weld manner, which is the overlapping of weld passes in long, straight passes.

No weld pass should be wider than 2.5 times the diameter of the welding rod. This is to prevent trapping slag. Each pass should be cleaned of slag before proceeding with the next.

6. Once finished, allow the weld area to cool naturally.

Once cool, grind smooth if necessary to ensure no slag is left between the passes.

4. Maintenance

4.7 Bucket Removal & Replacement

The Mini Backhoe's bucket may become warped or worn and need replaced, or the operator may also need a different sized bucket. The bucket is held onto the attachment by four (4) pins.

Removing the Bucket

1. With the bucket resting level on the ground, remove the four (4) nuts from the bolts holding the linkage pins onto the attachment.
2. Remove the four (4) bolts.
3. Remove the four (4) linkage pins. Be careful removing the four linkage pins as these are responsible for holding the bucket to the attachment. Once released, the bucket may shift.

Replacing the Bucket

1. After removing the old bucket, place the new bucket on firm, level ground below the Backhoe's arm.
NOTE: The host machine/attachment may need adjusted for the new bucket if it is a different size.
2. With the linkage weldment placed within the Bucket's coupler, insert the two (2) linkage pins through the linkage arms.
3. Insert the other two (2) linkage pins through the holes at the end of the Backhoe's arm.
4. Insert bolts through the four (4) linkage pins and secure with the appropriate nuts and tighten to the proper torque (see "6.2 Torque Specifications – Imperial" on page 24).

4.8 Storage

Storage

Sometimes it may be necessary to store your Hydraulic Backhoe for an extended period of time. Below is a list of items to perform before storage.

- Make sure the hydraulic hose couplers are capped, plugged, or connected to each other.
- Thoroughly wash the attachment before storing it for long periods.
- Lubricate the attachment.
- Coat the exposed portion of the cylinder with oil.
- Check for loose hardware, missing guards, or damaged parts.
- Check for damaged or missing decals. Replace if necessary.
- Replace worn or damaged parts.
- Place the attachment flat on the ground in a dry, protected shelter.

NOTE: In muddy conditions or to prevent the attachment from freezing to the ground, put the attachment on planks or blocks before removing the attachment from the machine.

Return to Service

After the Hydraulic Backhoe has been in storage, it is necessary to follow a list of items to return the attachment to service.

- Lubricate the attachment.
- Clean the exposed portion of the cylinder rod and apply a light coating of oil.
- Connect and operate the attachment and check for correct function.
- Check for leaks. Repair as needed.

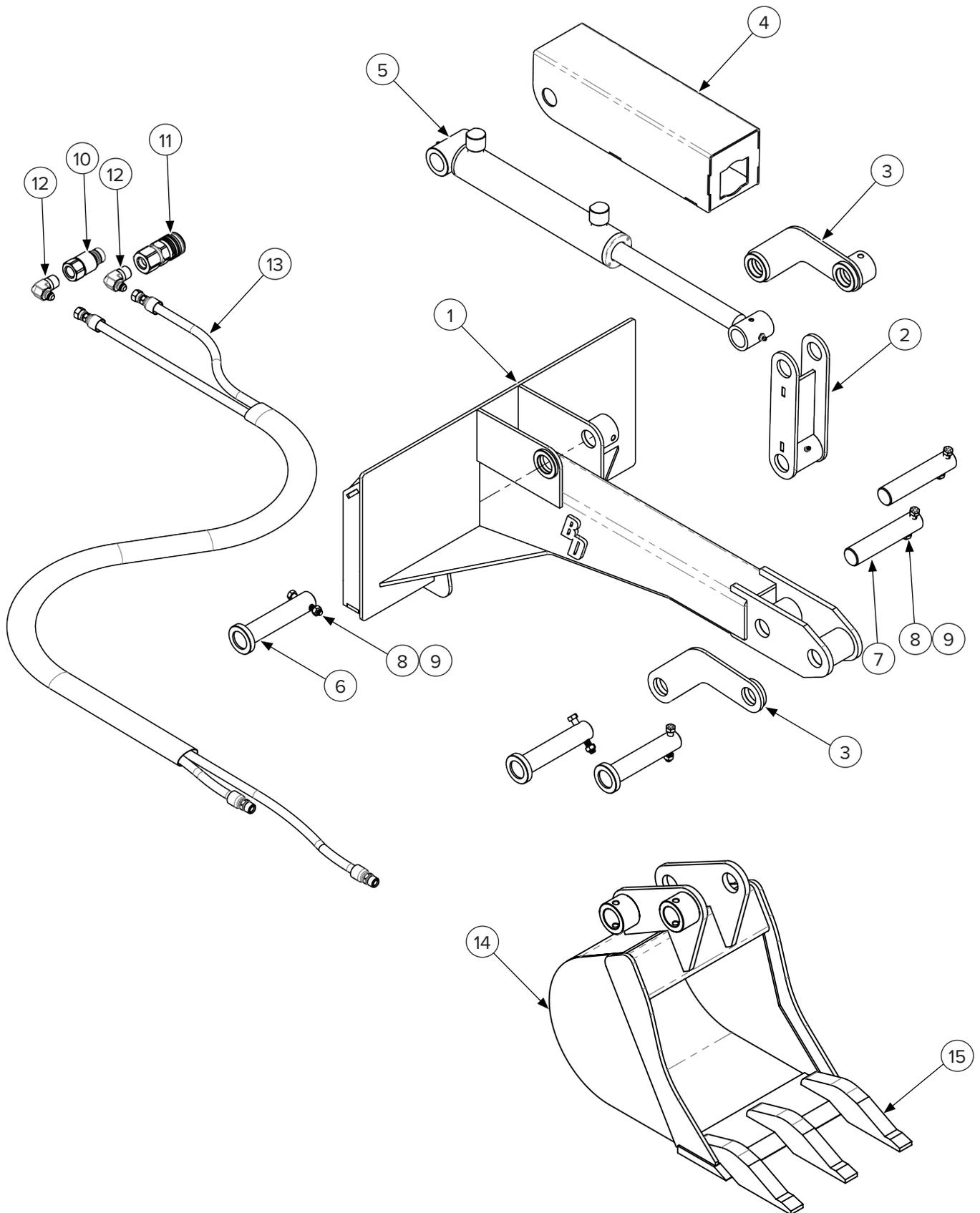
4. Maintenance

4.9 Troubleshooting

PROBLEM	CAUSE	SOLUTION
Hydraulic oil level goes down during operation.	Leak at hoses on the attachment	Investigate and repair.
	Leak in the prime mover hydraulic system	Investigate and repair.
Cylinder does not extend or retract	Quick disconnects not connected	Check and recouple quick disconnects.
	Hoses damaged	Check for a smashed or kinked hose. Replace if found.
	Skid steer auxiliary circuit inoperative.	Investigate and repair.
Bucket moves abnormally slow/weakly digs.	Restricted hose	Check for damaged hose between skid steer and cylinder. If damaged, replace the hose.
	Bad circuit relief on skid steer	Investigate and repair.
	Auxiliary valve spool on skid steer not shifting properly	Investigate and repair.
	Cylinder seals bypassing	Have cylinder repacked or replaced.

5. Parts

5.1 Main Components



5. Parts

5.1 Main Components Cont'd

ITEM	PART NUMBER	DESCRIPTION	QTY
1	—	42" Main Frame Weldment	1
	230505-25	48" Main Frame Weldment with Mini Universal Mount	
	230505-26	48" Main Frame Weldment with Bobcat MT Mount	
	230505-35	48" Main Frame Weldment with Avant Mount	
	230505-36	48" Main Frame Weldment with ASV RC30 Mount	
2	230215	Linkage Arm (Bucket Side)	1
3	230216	Linkage Arm (Boom Side)	1
4	206315	Cylinder Cover	1
5	206306	2" Bore x 10" Stroke Cylinder with 3/8" Ports	1
6	230212	Linkage Pin with Tab Weldment	3
7	206342	1 1/4" x 6" Pivot Pin	2
8	299329	3/8"—16 x 2 1/2" Hex Head Bolt Grade 8	5
9	299655	1/2"—13 Stover Lock Nut Grade 8	5
10	224006	Male Coupler, Flat Face Straight 1/2" Body Female #8 NPT	1
11	224005	Female Coupler, Flat Face Straight 1/2" Body Female #8 NPT	1
12	295030-M06JIC-M08NPT	Hydraulic 90 Degree Fitting Male #6 JIC to Male #8 Pipe Thread	2
13	230211	Machine Hose Set, 1/4" ID	1
14	130509	8" Bucket	1
	130512	10" Bucket	
	130515	12" Bucket	
	130516	12" Bucket, Smooth	
15	230201	Weld-On Replacement Tooth	3*

*NOTE: This applies to all bucket sizes.

5. Parts

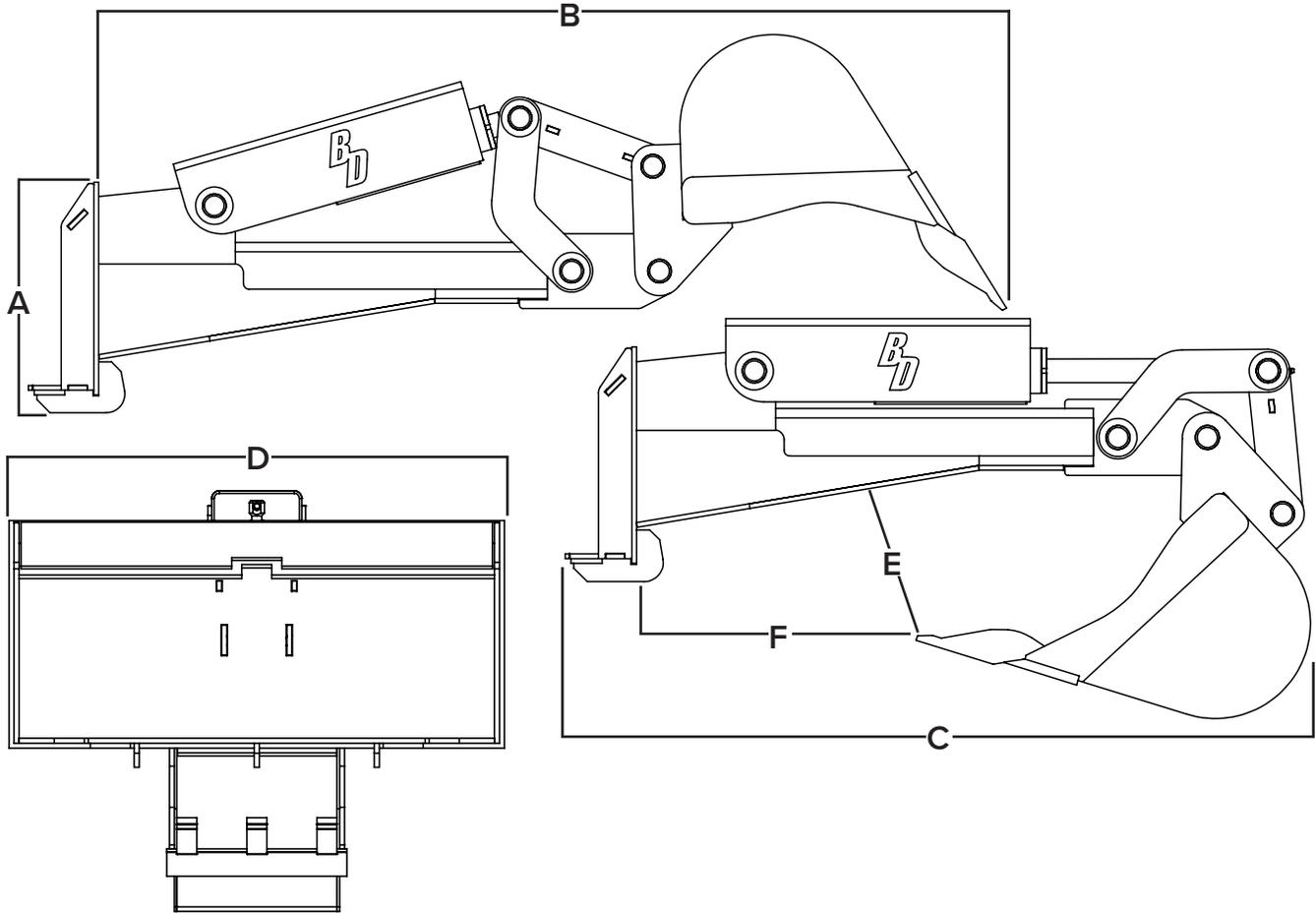
5.2 Safety Decals



ITEM	PART NUMBER	DESCRIPTION	QTY
1	BD-057	2.9" x 17.364" Decal, Blue Diamond	2
2	BD-001	3.0" x 3.0" Decal, Read Owner's Manual	1
3	BD-060	2.4375" x 3.375" Decal, Blue Diamond Attachments	2
4	BD-092	1.5" x 2.0" Decal, Warranty Registration QR	1
5	BD-123	3.0" x 3.0" Decal, High Pressure Fluid Hazard	1
6	BD-004	2.0" x 4.0" Decal, Grease All Fitting Every 8 Hours	1
7	BD-133	Decal, Tagline Single Line 1" Tall	1

6. Specifications

6.1 Attachment Specifications



DESCRIPTION	130500	130505
Arm Length	42 in. (1067 mm)	48 in. (1219 mm)
Height (A)	12 1/4 in. (311 mm)	
Retracted Length with Bucket (B)	42 3/4 in. (1086 mm)	48 3/4 in. (1238 mm)
Extended Length with Bucket (C)	33 in. (838 mm)	39 in. (991 mm)
Width (D)	24 3/4 in. (629 mm)	
Tooth to Arm Clearance when Retracted (E)	8 in. (203 mm)	
Tooth to Mount Clearance when Retracted (F)	9 in. (229 mm)	15 in. (381 mm)
Maximum Horsepower	45 HP	
Maximum Pressure	3200 PSI (221 bar)	
Weight without Bucket	106 lbs (48 kg)	113 lbs (51 kg)

6. Specifications

6.2 Torque Specifications – Imperial

Standard Hardware and Lock Nuts

BOLT TYPE	SAE GRADE 5		SAE GRADE 8		LOCK NUTS			
	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



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 Mini Hydraulic Backhoe 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.

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