

Heavy Duty Push Broom

Operation and Maintenance Manual



316040, 316045, 316055



888-376-7027 | BlueDiamondAttachments.com

Register your
WARRANTY
within 30 days
of purchase



Introduction: Owner Information

Thank you for your decision to purchase a Blue Diamond® Heavy Duty Push Broom. 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 rear of the broom frame on the right side 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. Pre-Delivery Inspection Instructions

Use this checklist to verify safety, function, and readiness prior to delivery.

END USER'S NAME: _____

DATE: _____

ITEM NUMBER & DESCRIPTION: _____

SERIAL NO.: _____

HOST MACHINE MAKE/MODEL: _____

1.1 Safety & Documentation

- ☐ Operation and Maintenance Manual is included.
- ☐ Safety decals are present and legible.
- ☐ Model and serial number plate is present and intact.

1.2 Visual Inspection

- ☐ Unit is free of shipping damage, dents, cracked welds, etc.
- ☐ Verify mount is in place and secure.

- ☐ Fasteners are properly torqued.

1.3 Final Delivery

- ☐ Maintenance schedule located in Operation and Maintenance Manual has been reviewed.
- ☐ Bristle change procedure and maintenance safety have been explained.
- ☐ Register the attachment for warranty by following the instructions below:
 - ☐ Fill out this form and email it to warranty@battachments.com

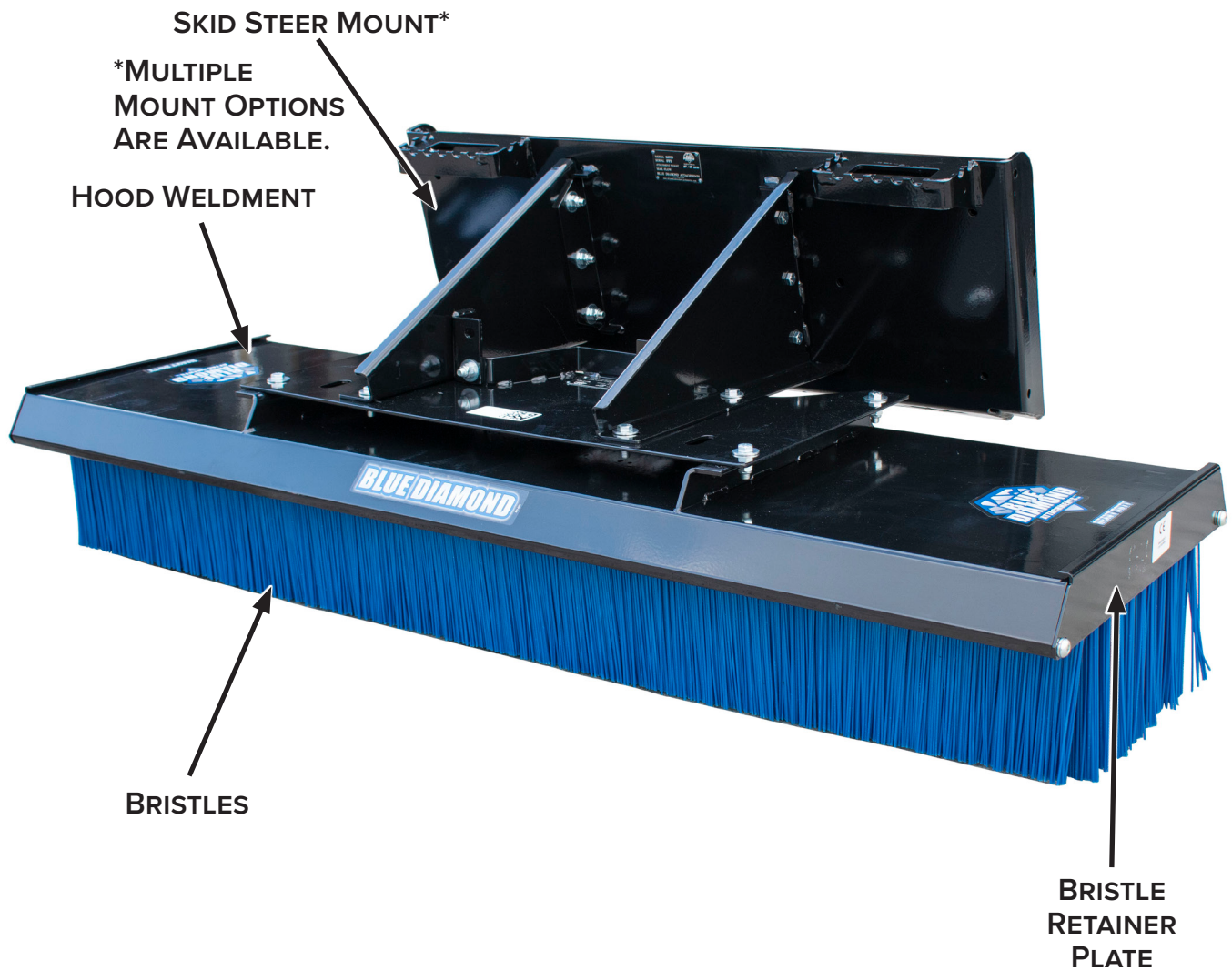
TECHNICIAN: _____

CUSTOMER: _____

DATE: _____

2. Introduction

2.1 Attachment Identification



2. Introduction

2.2 About this Attachment

The Blue Diamond® Push Broom has endless uses when it comes to sweeping. It clean up job sites, push light snow, sweep leaves, squeegee water, groom ball fields, and so much more. Add our heavy duty magnet for picking up screws, nails, and other steel debris that might be lost otherwise.

The Push Broom is safe around people and animals. It also quicks up less dust when compared to a rotary broom. This broom is force-driven, eliminating the need of auxiliary hydraulics. This broom can be mounted onto just about any host machine, including but not limited to tractors, mini excavator, and skid steers. The Push Broom can move just about anything ranging from dust to small rocks. The best part is that this broom does not require any lubrication. All the user has to do is change the bristles when they eventually become worn.

2.3 Attachment Model Numbers

MODEL NUMBER	WIDTH	MOUNT TYPE
316040	60"	Skid Steer
316040-25		Mini Skid Steer
316040-26		Bobcat MT
316040-EX		Excavator
316040-FL		Forklift
316045	72"	Skid Steer
316045-25		Mini Skid Steer
316045-EX		Excavator
316045-FL		Forklift
316055	96"	Skid Steer
316055-25		Mini Skid Steer
316055-EX		Excavator
316055-FL		Forklift

3. Safety

3.1 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 Heavy Duty Push Broom 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, excavator, mini skid steer, or skid steer providing power to the attachment.

Attachment, Implement, Equipment:

- The Heavy Duty Push Broom 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, excavator, mini skid steer, 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 attachment. 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 attachment. 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.

3. Safety

3.1 General Safety Information Cont'd

Operating Safety Cont'd

- 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.

3.2 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.

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.
- It is the skill, care, common sense, and good judgment of the operator that will determine how efficiently and safely the job is performed.
- 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.



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 attachment, and he or she must hold a driving license.

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

Operator Safety

- Any use of the attachment 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; the machine can project material.
- 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 or attachment.
- Do not operate the implement when tired, not in good condition, or under the influence of alcohol or drugs.

3. Safety

3.3 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.
- 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 host 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. Any unauthorized modification will void the warranty.
- 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.
- The operator is responsible for the safety of all people in the vicinity of the operating area. If any person enters the operating area, the operator must immediately stop the machine and attachment.
- Make sure everyone on site is accounted for and their location is known.
- **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.
- Know the capabilities of your equipment and practice its operation to become familiar with the controls, emergency shut down procedures, and the way it handles your machine.
- Wear safety glasses, gloves, hearing protection, and other protective clothing when required.

Machine Requirements and Capabilities

- Keep bystanders clear of moving parts and the work area. Keep children away.
- Use caution on slopes and near banks and ditches to prevent overturn.

3. Safety

3.3 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.

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.

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.

4. Operation

4.1 Pre–Operation Inspection

Before operating the Push Broom 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.
-
- Inspect the attachment for shipping damage. If damage does exist, do not operate until the damaged parts have been replaced or repaired.
 - Check the attachment mounting frame for damage or cracks.
 - Check that all shields and guards are in place.
 - Check for loose hardware (i.e. nuts, bolts, screws, etc.), 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 for wear and tear on the bristles, and replace any damaged and/or excessively worn parts.
- Use only Blue Diamond® recommended replacement parts. Other parts may be substandard in fit and quality.
- Ensure any damaged or excessively worn parts are replaced.
- Always wear safety goggles or glasses when inspecting equipment.

4.2 Entering & Exiting the Prime Mover



IMPORTANT



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

Entering the Operator's Position

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

Skid Steer

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

Mini Skid Steer

When in the operator's position, face forward and grip the handles. Place both feet on the rear operator platform to engage the operator presence system, start the engine, and release the parking brake.

Excavator & Forklift

When in the operator's position, secure the seatbelt, adjust the seat if necessary, start the engine, and release the parking brake.

4. Operation

4.2 Entering & Exiting the Prime Mover 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 parking brake, stop the engine, and wait for all moving parts to stop. Leave the operator's position.

4.3 Attachment Installation with Skid Steer & Mini Skid Steer

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.

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

4. Operation

4.3 Attachment Installation with Skid Steer & Mini Skid Steer Cont'd

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.

4.4 Attachment Installation with Excavator

Connecting Attachment to the Machine



WARNING



AVOID SERIOUS INJURY OR DEATH

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

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

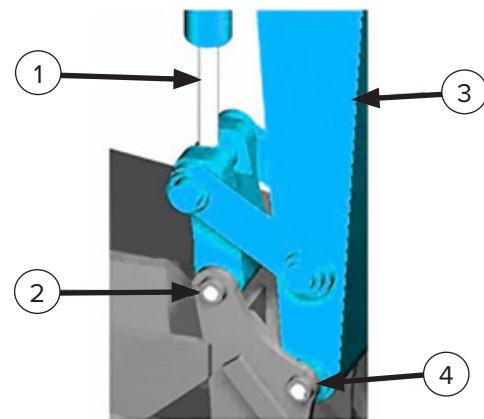


Figure 1

Order the appropriate bracket interchange from your local Blue Diamond® Attachments dealer by supplying the brand and model information of your machine.

The bracket interchange is secured to the attachment with bolts.

Use an appropriate lifting device and slings to place the bracket interchange onto the attachment.

Align the holes between the bracket interchange and deck and install the appropriate hardware.

Torque hardware to the specification detailed in the "7.2 Torque Specifications – Imperial" on page 26.

Position the excavator at the rear of the attachment.

Extend the tool cylinder [Figure 1, Item 1] and paddle until the pin position is aligned.

4. Operation

4.4 Attachment Installation with Excavator Cont'd

Connecting Attachment to the Machine Cont'd

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

Install the pin through the attachment and paddle, and secure with appropriate hardware.

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

Adjust the height of the dipperstick ["Figure 1" on page 13, Item 3] to align with the pin position [Item 4].

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

Install the pin through the attachment and paddle and secure with appropriate hardware.

NOTE: Some excavators are equipped with hydraulic locking systems, which are operated from the cab of the machine.

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.

Remove hardware securing the pins and remove the pins from the paddle and attachment.

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

Raise the dipperstick to clear the attachment.

Drive the machine slowly backward, away from the attachment.

4.5 Attachment Installation with Forklift

Connecting Attachment to the Machine



WARNING



AVOID SERIOUS INJURY OR DEATH

The chain must be connected to the attachment's mount and securely wrapped around the top of the tine mount frame with a chain binder tightened until the broom is firmly secured to the forklift.

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

With the Push Broom equipped with the correct mount when using a forklift as the host machine, before connecting to the attachment, inspect the tines to make sure they are not bent and are in good condition for attaching the Push Broom. Align the tines so they match the width of the mount. Lift the tines until they are the same height as the mount.

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

Slowly drive forward, inserting the tines into the fork pockets. Stop once the tines are fully inside the fork pockets.

Once the tines are properly inserted into the mount, leave the operator's position. See "Leaving the Operator's Position" on page 12.

Connect one chain to the outermost left rear tine mount. Loop the other end of the chain around of top of the host machine's carriage.

Fully open the chain binder. Hook one end of the chain binder onto part of the chain that is wrapped around the top of the carriage. Hand pull the chain binder until the chain has enough tension to keep the broom secured to the host machine when pushing the broom both forwards and backwards.

Once the appropriate tension has been achieved, place the second hook through a chain link and pull the lever so that the chain binder is now locked. Never use any other than your hand to tighten the chain binder.

4. Operation

4.5 Attachment Installation with Forklift Cont'd

Connecting Attachment to the Machine Cont'd

Be sure any excess chain links are properly secured away from both the host machine and attachment to prevent any possible damage that could occur.

Repeat for the right side of the attachment.

See Figure 2 for what the Push Broom should look like when properly attached to a forklift.

Disconnecting the Attachment From the Machine

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.

Release the chain binder by flipping the lever, allowing the hooks on the chain binder to become loose. Remove the chain binder from the chain.

Unwrap the chain from the top of the carriage.

Lay the chain on the hood of the Push Broom, and make sure it is away from the tines.

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

Slowly drive the forklift backwards, away from the attachment.

4.6 Operating the Attachment

Intended Use

**WARNING**

AVOID SERIOUS INJURY OR DEATH
Never allow riders on the attachment.

The Heavy Duty Push Broom has eleven (11) rows of bristles and is best suited for sweeping lumber yards, construction sites, nursery yards, job sites, roadways, parking lots as well as recycling and industrial sites. Typical applications are material spills, broken pallet scraps, mud, sludge, water, scrap metal, light snow, glass, construction debris, bricks, tires, steel shavings, and large rocks.

How to Sweep

These instructions are written to be applicable for all host machines. Adjust if necessary to better suit the host machine compatibility or operator's needs.

1. Remove large obstacles from the work area, and clearly mark objects that cannot be removed.



Figure 2

4. Operation

4.6 Operating the Attachment Cont'd

How to Sweep Cont'd

2. Enter the operator's position. See "Entering the Operator's Position" on page 11.
3. Start the host machine's engine.
4. Plan a path according to what needs to be removed.
5. Lower the Push Broom until the bristles make firm contact with the sweeping surface (ground, floor, etc.).

NOTE: Do not press the Push Broom into the sweeping surface as this could shorten the life span of the bristles.

6. Make sure the Push Broom is level.
7. Once the Push Broom is level and in firm contact with the sweeping surface, drive straight forward at a slow and controlled speed, just above idle, to gather debris in front of the bristles.

NOTE: Follow these instructions but drive straight backwards if wanting to use the Push Broom in reverse. Be sure to close attention to possible bystanders and obstacles when driving in reverse.

4.7 Operating Tips

- Overlap each pass by a few inches to ensure no debris is left behind.
- Leave the debris at the end of the pass before continuing and starting a new overlapping pass. Doing this with each path ensures that the broom is not oversaturated with dirt and debris and creates a central pile that can be easily be collected by a different attachment/tool for disposal.
- Depending on the size of the material being swept, extend the path by stopping once saturation occurs. Lift the Push Broom, back up to just past where the debris pile begins, drop the broom down behind the edge of the pile. Continue sweeping.

- For even bristle wear and maximum performance, occasionally sweep in the opposite direction.

Dirt, Sand, & Gravel

- Keep bristle contact perpendicular to the sweeping surface because if too much of an angle is used, the bristles will drag and not function properly.
- If the sweeping surface is hard, such as pavement, a slow, steady brush will clean best.
- Excessive down pressure does not make the Push Broom sweep better. Gentle down pressure is best.
- To sweep dirt or gravel off a grassy area, be sure the dirt is dry.
- Do not use the Push Broom to move piles of dirt, sand, or gravel. Contact Blue Diamond® for an attachment to better suit this need.
- Keep the Push Broom's full weight off of the sod to ensure minimal sod disturbance.

Leaves

- A light touch and low-speed action does the best job for sweeping leaves.
- Sweep in the direction of the wind to get the pile where desired.
- If leaves are wet and packed, more than one pass may be necessary to clean the area.

Snow

- The Blue Diamond® Push Broom is ideal for clearing light snow in sensitive areas, such as sidewalks and brick paver areas. It will not injure sod, underground sprinkler heads, edging, etc.
- Light snow can easily be removed when using Blue Diamond® Push Brooms. Do not use the Push Broom when the snow is wet and heavy. Contact Blue Diamond® for an attachment to better suit this need.
- Remove alternate bristle rows to prevent snow build-up in the Push Broom.

5. Maintenance

5.1 Service Schedule

DESCRIPTION	SERVICE PROCEDURES					
	Check	Clean	Lube	Rotate	Adjust	Drain
Every 4 Hours						
Bristles	•			•		
Every 8 Hours						
Mount	•	•				
All Hardware	•					
Hood Weldment	•	•				
Forklift Chains (if equipped)	•	•				
Safety Decals	•					
Seasonal Maintenance						
All Hardware	•				•	
Safety Decals	•			•		
Paint	•			•		

5. Maintenance

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

5.2 Before Every Use

Check to make sure all bristles are not worn or bent.

NOTE: Bristles are worn when they reach approximately 50% of their original height.

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.

Check to make sure the mount matches that of the host machine. The mount must be in good condition.

5.3 After Every Use

Check the condition of the bristles, i.e. bent, broken, worn, dirty, etc. To replace damaged or worn bristles, see “5.6 Bristle Replacement” on page 19.

If sweeping in a singular motion, rotate each bristle end over end, meaning the left end of the bristle becomes the right end, to achieve a more even wear. This must occur after every four (4) hours of operation. See “5.5 Bristle Rotation” on page 19.

Clean the attachment, both the hood weldment and the bristles.

If equipped, make sure the chain and chain binders are in good condition after removing from the forklift. If the chain and/or chain binder is worn or damaged, contact Blue Diamond® immediately for a replacement.

Make sure all safety decals are completely intact and legible. If not, replace immediately.

5. Maintenance

5.4 After Every Season

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

Check the condition of the bristles, i.e. bent, broken, worn, dirty, etc. To replace damaged or worn bristles, see “5.6 Bristle Replacement” on page 19.

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.

See “5.9 Storage” on page 20 for instructions on how to store your attachment.

5.5 Bristle Rotation



WARNING



AVOID SERIOUS INJURY OR DEATH

To avoid serious injury or death, do not go underneath any part of the unsupported Push Broom when servicing this attachment.

After every four (4) hours of operation, the bristles must be rotated end over end to achieve a more even wear, especially if using a singular sweeping motion, either only forwards or only backwards.

To rotate each bristle, perform the following:

1. Lift the Push Broom from the ground by lifting with a forklift, skid steer, etc. Be sure to place safety blocks underneath the attachment to secure prior to any maintenance performed.
2. Remove the hardware [Figure X, Item 1] from the bristle retainer plate.
3. Remove the bristle retainer plate.
4. Slide out the broom's bristle.
5. Rotate the bristle so that the right end of the bristle is now the left end when re-inserted into the hood weldment.
6. Repeat until every bristle has been replaced.

7. Once all bristles have been rotated, place the bristle retainer plate back onto the hood weldment, and secure with the hardware that was originally removed.

5.6 Bristle Replacement

Despite regularly rotating the Push Broom's bristles, they will eventually wear. The bristles must be replaced once they have lost approximately 50% of their original length.

As bristles wear down, they will become stiff and less flexible. This may allow less action at the bristle tips and result in an undesirable smear.

To replace the bristles, perform the following:

1. Lift the Push Broom from the ground by lifting with a forklift, skid steer, etc. Be sure to place safety blocks underneath the attachment to secure the attachment prior to any maintenance performed.
2. Remove the hardware [Figure 3, Item 1] from the bristle retainer plate [Item 2].
3. Remove the bristle retainer plate.
4. Slide out the broom's worn bristle.
5. Slide in the new bristle.
6. Repeat until all bristles have been replaced.
7. Once all bristles have been replaced, place the bristle retainer plate back onto the hood weldment, and secure with the hardware that was originally removed.



Figure 3

5. Maintenance

5.7 Magnet Bar (Optional)

Magnet bars are an additional tool that can be used to safely and quickly collect hazardous metal material, such as screws, nails, staples, metal shavings, etc.

Installation

To install a magnet bar to your Push Broom, perform the following:

1. Connect one end of the provided chains to the magnet bar.
2. Place the magnet bar in front of the attachment.
3. Hook the other end of the chain to the front of the attachment. The magnet should be placed at least a couple inches from the ground to prevent scraping and other potential damage to the magnet.
4. Make sure the magnet bar is properly attached to the Push Broom.

To remove the magnet bar from the attachment, unhook the chain from the front of the attachment.

5.8 Spare Parts & Accessories

To maintain safety, performance, and product reliability, Blue Diamond® recommends the use of genuine Blue Diamond® replacement parts for all repairs and service.

Genuine Blue Diamond® parts are specifically designed and tested for your attachment. These components include critical items, such as hydraulic motors, cylinders, and structural weldments.

Use of non-genuine parts for components identified as Blue Diamond® OEM may affect product performance and could void applicable warranty coverage.

To obtain replacement parts, contact Blue Diamond® Product Support with the following information:

- Type of attachment
- Serial number

- Part number and/or description of part(s) needed
- Quantity of part(s) needed

5.9 Storage

Storage

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

- Thoroughly wash the attachment before storing it for long periods.
- Check for loose hardware, missing guards, or damaged parts.
- Check for damaged or missing decals. Replace if necessary.
- Replace worn or damaged parts.
- Store the attachment so that the brush pressure is equal on all bristle strips. Below are some suggestions on how this can be achieved:
 - Block both ends so the weight of the unit is not resting on the bristles.
 - Store the broom upside down.
 - Store blocked so the brooms sits level with the bristles are still in contact with the ground.
- 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 Push Broom has been in storage, it is necessary to follow a list of items to return the attachment to service.

- Connect and operate the attachment and check for correct function.
- Make sure the bristles are level and even.

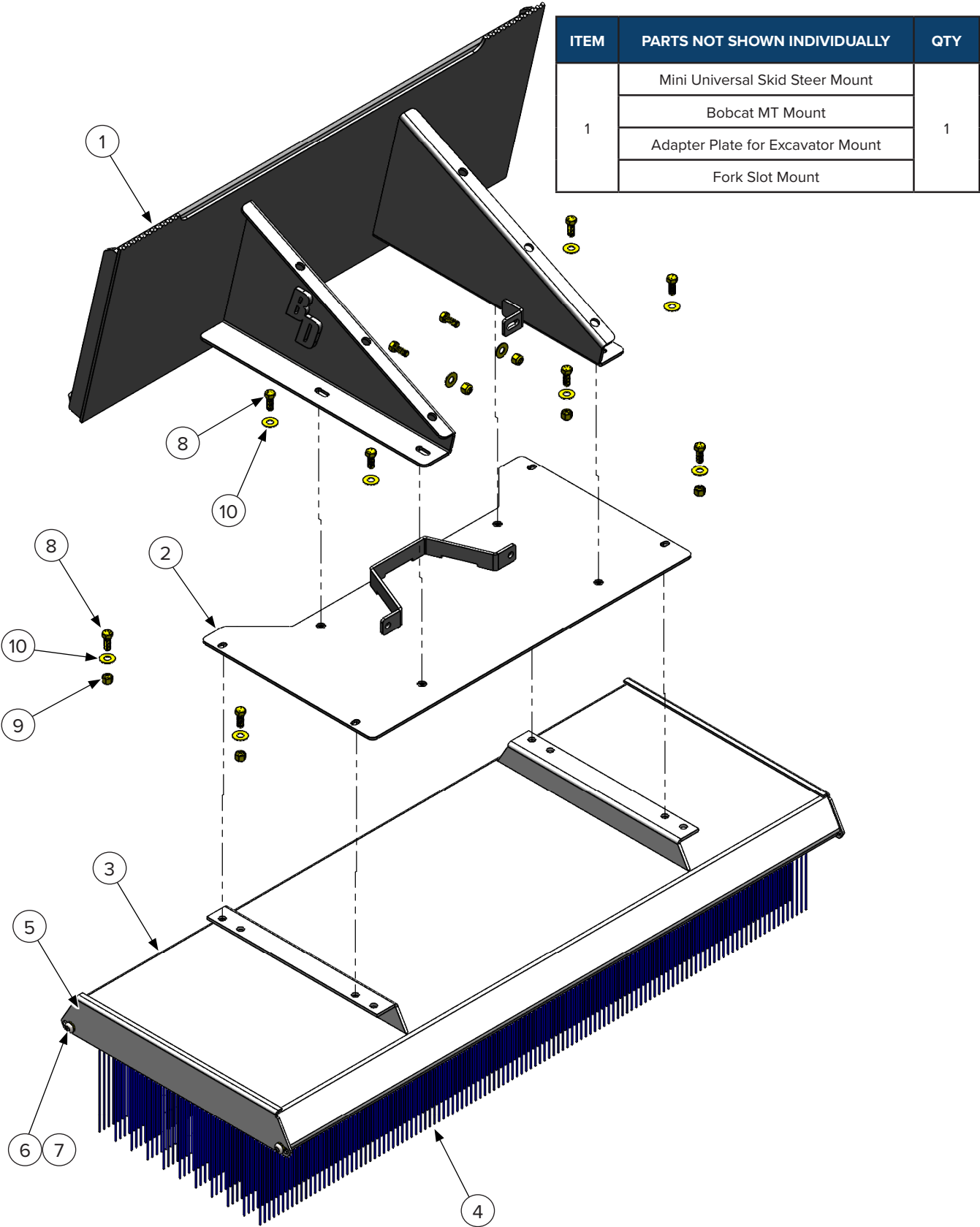
5. Maintenance

5.10 Troubleshooting

PROBLEM	CAUSE	SOLUTION
Uneven bristle wear	Too much down pressure	Use the host machine to slightly lift the Push Broom from the ground.
Bent frame/structural damage	Broom hitting curbs, posts, hidden debris, etc	Clear all large obstacles that cannot be moved by the Push Broom, and flag the obstacles that cannot be removed.
Missing debris	Push Broom lifted too high	Lower the Push Broom until it firmly comes into contact with the ground.
	Worn or bent bristles	Replace bristles.
Too much dust	Sweeping too fast	Maintain a controlled speed when sweeping.

6. Parts

6.1 Main Components



6. Parts

6.1 Main Components Cont'd

ITEM	PART NUMBER	DESCRIPTION	60" QTY	72" QTY	96" QTY
1	116026	Universal Skid Steer Mount	1	1	1
1	116026-25	Mini Universal Skid Steer Mount	1	1	1
1	116026-26	Bobcat MT Mount	1	—	—
1	116027-EX	Adapter Plate for Excavator Mount	1	1	1
1	116020	Fork Slot Mount	1	1	1
1	116027	Hood to Mount Adapter Plate	1	1	1
2	216016	60" Hood Weldment	1	—	—
2	216017	72" Hood Weldment	—	1	—
3	216019	96" Hood Weldment	—	—	1
4	216042	Bristle for 36" Models	—	—	11
4	216044	Bristle for 60" Models	11	—	11
4	216046	Bristle for 72" Models	—	11	—
5	216014	Bristle Retainer Plate	2	2	2
6	299231	1/2"–13 x 5/8" Button Head Bolt	4	4	4
7	299830	1/2" Lock Washer Grade 8	4	4	4
8	205560	1/2" Bolt	10	10	10
9	299655	1/2"–13 Stover Locknut Class C	6	6	6
10	299730	1/2" Flat Wide Washer Zinc Plated	10	10	10

6.2 Wear Parts

Bristle Replacement Kits

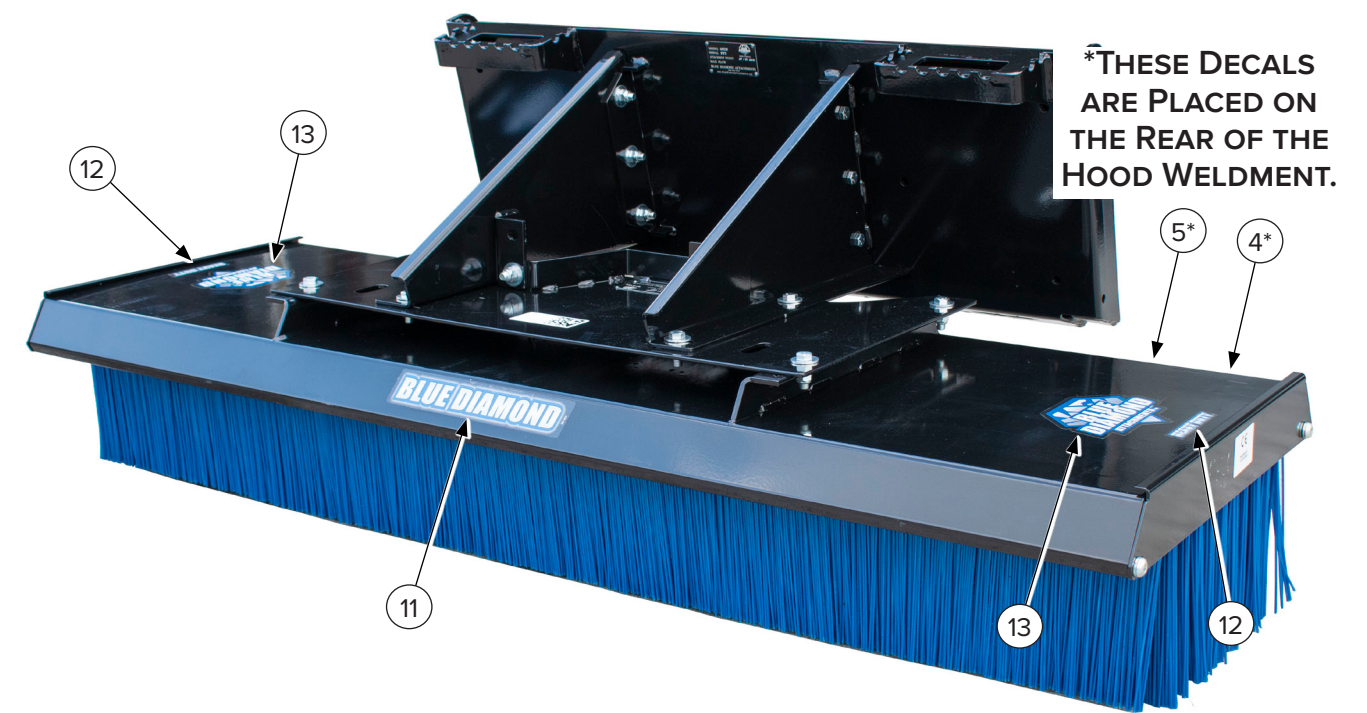
PART NUMBER	DESCRIPTION	60" QTY	72" QTY	96" QTY
216506	Bristle Replacement Kit for 60" Model	1	—	—
216500	Bristle Replacement Kit for 72" Model	—	1	—
216510-KIT	Bristle Replacement Kit for 96" Model	—	—	1

Magnet Bar Kits

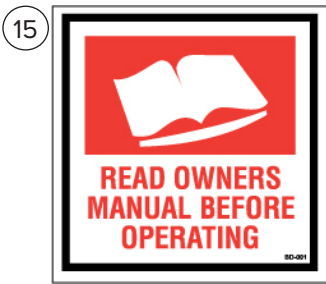
PART NUMBER	DESCRIPTION	60" QTY	72" QTY	96" QTY
216020	Magnet Bar Kit for 60" Model	1	—	—
216025	Magnet Bar Kit for 72" Model	—	1	—

6. Parts

6.3 Safety Decals



11 **BUILT STRONG. ATTACHED FOR LIFE.**



ITEM	PART NUMBER	DESCRIPTION	60" QTY	72" QTY	96" QTY
11	BD-134	2" Tall Decal, Tagline Single Line	1	1	1
12	BD-059	0.97" x 5.16" Decal, Heavy Duty	2	2	2
13	BD-060	2.4375" x 3.375" Decal, Blue Diamond Attachments	2	2	2
14	BD-092	1.5" x 2.0" Decal, Warranty Registration QR	1	1	1
15	BD-001	3.0" x 3.0" Decal, Read Owner's Manual	1	1	1

7. Specifications

7.1 Attachment Specifications

DESCRIPTION	316040	316045	316050
Width	60 in. (1524 mm)	72 in. (1829 mm)	96 in. (2438 mm)
Length*	27 in. (685 mm)		
Height*	12 in. (304 mm)		
Required Hydraulic Flow (GPM)	None Required		
Number of Bristles	11 Rows		
Weight**	426 lbs (193 kg)	459 lbs (208 kg)	535 lbs (242 kg)

*Mount not included

**Weight may vary depending on the mount being used.

7. Specifications

7.2 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

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Warranty Policies

OUR WARRANTY PROMISE

At Blue Diamond® Attachments, we stand by our products. Our warranty ensures you can depend on our attachments for your toughest jobs. We are committed to your satisfaction and peace of mind, offering reliable support for continued productivity.

MANUFACTURER'S LIMITED WARRANTY

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

BDA's liability for any defect with respect to accepted goods shall be limited to repairing the goods at a BDA designated location or at an authorized dealer location, or replacing them, as BDA shall elect. The above shall be in accordance with BDA warranty adjustment policies.

WARRANTY TERM

BDA's warranty obligation is subject to the following terms, whichever occurs first:

- The warranty terminates twelve (12) months after the date of delivery of the attachment from the dealer to the end user (original purchaser); or
- The warranty terminates thirty-six (36) months after the date of BDA's invoice to the dealer, regardless of whether the attachment has been sold to an end user.

For the purposes of this warranty, "delivery" means the date on which the authorized dealer delivers the attachment to the end user.

WARRANTY ELIGIBILITY AND REGISTRATION

BDA warrants its products to the original purchaser only. Warranty coverage is not transferable.

Product registration is strongly encouraged and assists BDA in processing warranty claims efficiently. Registration may be completed at any time prior to filing a warranty claim at bluediamondattachments.com/warranty-registration. If registration has not been completed at the time a claim is filed, BDA may request a valid bill of sale or other proof of original purchase to verify eligibility.

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

USED AND SECONDARY MARKET EQUIPMENT

Attachments sold through used equipment channels, dealer-to-dealer transactions, auctions, or any source other than the original authorized sale to an end user do not carry BDA warranty coverage unless BDA has explicitly granted warranty coverage for that specific attachment by serial number in writing. No implied warranty coverage applies to used or secondary market purchases.



Warranty Policies Cont'd

HOW TO SUBMIT A WARRANTY CLAIM

At Blue Diamond® Attachments, streamlining your warranty claim is a priority. Contact the Product Support Team at the first sign of equipment issues for efficient management of your claim.

SUBMITTING A WARRANTY CLAIM ONLINE

To file a warranty claim, complete the online form at www.bluediamondattachments.com/warranty-claim. Before starting, gather the information below to ensure your claim can be processed without delay:

- Contact and shipping information, including your name, company, phone, email, and billing and shipping addresses.
- Attachment details, including the model number, attachment type, attachment name, and serial number.
- Purchase information, including the purchase invoice date, invoice number, and the name and city of the selling dealer.
- Failure information, including the failure date, the host machine make and model, and a description of the issue.
- Photos of the failure, including detailed images of the failed component and overall images showing the condition of the attachment.

When completing the form, provide a clear response in each of the following fields:

- Complaint, describing what is not functioning correctly.
- Cause, describing what you believe led to the failure.
- Correction, describing any corrective action taken or proposed.
- Key Part, providing the part number of the components that caused the failure.

Upload all supporting photos, accept the warranty policies, and click Submit. A member of the BDA Product Support Team will follow up to advise on next steps. Do not perform any repairs or disassembly until your claim has been reviewed and approved by BDA.

GENERAL CLAIM TERMS

A claim must be filed with BDA and approved before any work is performed.

BDA will advise on repairs and applicable parts exchanges.

Submit detailed photos of the issue and images of overall condition of the attachment to warranty@bdattachments.com. Photos are required for processing.

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 and delivery charges are the customer's responsibility and will not be paid by BDA.

BDA covers standard Less-Than-Truckload (LTL) freight and UPS ground shipping on warranty parts and attachments sent from the factory to the dealer or end user. Next Day Air (NDA) or any other special freight services are not covered under warranty but can be arranged at the dealer and/or end user's expense.

Labor, where covered, is typically credited to your account at \$105 per hour. When more than four (4) hours are needed for repair, BDA requires an estimate before work is performed.

Coverage of travel time, host machine service and repairs, diagnostics, and business downtime are neither expressed or implied.



Warranty Policies Cont'd

EXCLUSIONS OF WARRANTY

Except as otherwise expressly stated herein, BDA makes no representation or warranty of any kind, expressed or implied, AND MAKES NO WARRANTY MERCHANTABILITY IN RESPECT TO ITS MACHINERY AND/OR ATTACHMENTS OR THAT THEY ARE FIT FOR ANY PARTICULAR PURPOSE.

BDA shall not be liable for incidental or consequential damages for any breach of 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 personal injury and property damage resulting from handling, possession, or use of goods by the buyers.

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

PLEASE NOTE: Replacing genuine OEM parts with aftermarket parts may void the warranty.

HOSES, COUPLERS, HOSE ROUTING, AND CONNECTIONS

BDA supplies attachments with hoses that are universal in length, but hose configuration may vary by machine manufacturer. BDA cannot guarantee that the hose length will be correct on every machine or for every routing.

It is the responsibility of the end user to adjust hose length to fit their specific machine and to ensure that hose routing does not result in hoses becoming tangled, caught, pinched, crushed, or run over during operation.

- It is the end user's responsibility to ensure that hose routing clears pinch points and allows the attachment to move properly.
- BDA will not cover hose or coupler damage due to poor hose routing. Hose extenders and hose keeps are available at additional cost.

BDA supplies most attachments with standard size quick couplers; some attachments may have couplers sold separately. Coupler configuration varies by machine manufacturer, and BDA cannot guarantee that the standard coupler will be correct for every application. Coupler changes can be made before the attachment leaves the BDA facility if noted on the sales order. BDA is not responsible for coupler compatibility after the attachment has left the facility unless a specific configuration was requested at the time of order.

HYDRAULIC MOTORS

Do not disassembly any hydraulic motor. Disassembly of the motor voids the warranty.

BDA products equipped with hydraulic motors or gearbox assemblies carry a one (1) year warranty on parts and labor. A warranty claim must be submitted and reviewed by an authorized BDA representative before any action is taken.

Under no circumstances should a hydraulic motor or gearbox be disassembled by the customer. Disassembled units cannot be returned to the original manufacturer and will void the warranty. BDA will replace motors or gearboxes found to be defective under warranty. There are no user-serviceable internal parts in these components while under warranty.

CYLINDERS

Defective cylinders are covered for one (1) year. Disassembly of the cylinder will void the cylinder warranty. In any event of cylinder, submit a warranty claim prior to disassembly or repair. Cylinders under warranty are exchanged if found to be defective. For a cylinder claim to be granted, the defective cylinder must be returned to BDA.



Warranty Policies Cont'd

FREIGHT DAMAGE AND CONCEALED FREIGHT DAMAGE

Blue Diamond Attachments, LLC ("BDA") is not responsible for damage that occurs during shipment once the product has been released to the carrier. It is the responsibility of the receiving dealer or end user ("Receiver") to inspect all shipments immediately upon delivery, regardless of shipping method, including small package carriers (e.g. UPS, FedEx) and Less-Than-Truckload (LTL) freight.

VISIBLE FREIGHT DAMAGE

All shipments must be inspected at the time of delivery prior to signing the Bill of Lading (BOL) or delivery receipt. Any visible damage, shortage, or indication of mishandling must be clearly noted on the BOL or delivery receipt at the time of delivery and acknowledged by the carrier. The Receiver must retain a copy of the signed BOL with damage notation and submit clear photographic evidence of the damage and packing to BDA.

If the BOL or delivery receipt is signed without notation of damage or shortage, the shipment will be deemed received in good condition. No freight damage claim may be made in such cases, and responsibility for any damage rests solely with the Receiver.

CONCEALED FREIGHT DAMAGE

Concealed damage is damage that is not reasonably apparent at the time of delivery and is discovered only after unpacking. The Receiver must notify BDA of any concealed damage within five (5) business days of receipt. Notification must include written notice and clear photographic documentation of the damage and all original packaging materials.

Failure to notify BDA and provide required documentation within five (5) business days will result in the concealed damage being deemed the responsibility of the Receiver, and BDA will have no obligation or liability for such damage.

GENERAL CONDITIONS

- All original packaging must be retained until any freight damage claim is resolved.
- BDA reserves the right to request additional documentation or inspection as required by the carrier.
- Freight damage claims are separate from and not covered under BDA's product warranty.
- BDA's determination regarding freight damage claims shall be final.

WARRANTY MAY BE VOIDED IF ATTACHMENT IS ALTERED IN ANY WAY.

This warranty policy supersedes any previous documents.

For the most current information, visit bluediamondattachments.com/warranty-policies.

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



QUALITY | DEPENDABILITY | INTEGRITY

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