Hay Accumulator Grapple

Operation and Maintenance Manual





111405



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® Hay Accumulator Grapple. 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 onproduct 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 side of the frame as shown above.

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

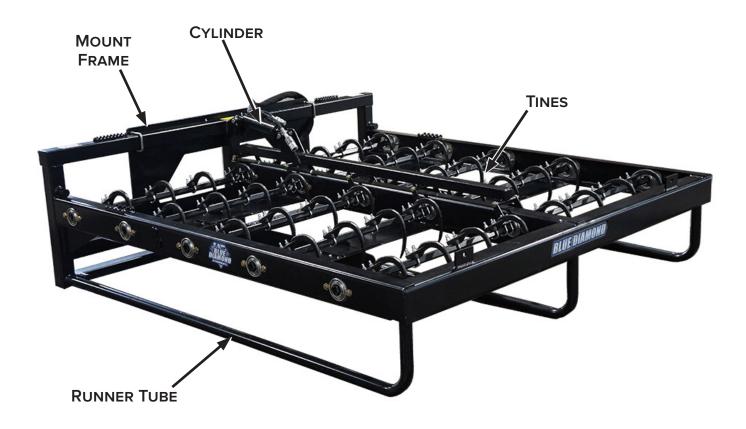
NOTE: The directions left, right, front, and rear, as mentioned throughout this manual, are as viewed from the operator's position.

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1. Introduction

1.1 Attachment Identification



1.2 About this Attachment

The Blue Diamond® Hay Accumulator Grapple is the most efficient attachment out there for collecting hay bales. It allows you to gather 8–10 square bales at a time and transport them quickly and easily with your skid steer. The grapple can also be used to load and unload trailers or stack piles of hay, making this attachment a priceless hay transportation tool. The dividers and side tubes are removable for faster grappling.

This attachment makes gathering and organizing hay truly a one tool job, saving you time and money and making your life that much easier!

1.3 Attachment Model Numbers

MODEL NUMBER	CAPACITY
111405	8–10 Square Bales

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.

▲ 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 Hay Accumulator Grapple 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 Hay Accumulator Grapple 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.

2.2 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

- 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, dustmask, 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.

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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 operate in a work area that has not been inspected for foreign debris and obstacles.
- Remove any foreign objects and clearly mark any objects that cannot be removed.
- Wear safety glasses, gloves, hearing protection, and other protective clothing when required.

Machine Requirements and Capabilities

- Keep bystanders clear of moving parts and the work area. Keep children away.
- Do not exceed the maximum PSI operating pressure stated in "6.1 Attachment Specifications" on page 23.
- Use caution on slopes and near banks and ditches to prevent overturn.

2.3 Safety Guidelines Cont'd

Fire Prevention Safety

- Flammable debris (leaves, grass, etc.) must be removed regularly. If flammable debris is allowed to accumulate, it can cause a fire hazard. Clean often to avoid this accumulation.
- 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.

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3.1 Pre-Operation Inspection

Before operating the Hay Accumulator Grapple 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.
- 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.





Leaking fluids under pressure can enter the skin and cause serious injury or death. Immediate medical attention is required.

Wear goggles. Use cardboard to check for leaks.

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

NOTE: Do not operate with hydraulic leaks.

3.2 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



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.

3.3 Attachment Installation

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 10.

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

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

Leave the operator's position. See "Leaving the Operator's Position" on page 10.

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 A



Throughly 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. Pull on each hose to verify full connection is made.

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.

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 10.

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 10.

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

Drive the machine slowly backward, away from the attachment.

3.4 Setup Instructions



WARNING



AVOID SERIOUS INJURY OR DEATH

- Handle all parts carefully
- Do not place hands or fingers between parts.
- Use personal protective equipment (PPE)
 as indicated in the attachment's Operator's
 Manual, including protective eyewear, gloves,
 and footwear.



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.

Mount Height Adjustment (Rev 001 Only)

The Hay Accumulator Grapple mount can be raised or lowered to fit the host machine in case of interference between the lift arms and the cab door.

- Set the attachment on a flat, level surface. Support the mount weldment with the machine or an approved lifting device.
- 2. Remove the four (4) bolts holding the mount weldment to the main frame.
- 3. Raise or lower the mount weldment to an appropriate height for the host machine.
- 4. Reinstall the four (4) bolts and tighten according to the specifications in "6.2 Torque Specifications Imperial" on page 24.

Tine Adjustment

The tine hooks may not be in the ideal position when shipped for holding bales securely.

Additional tines can also be ordered and installed if necessary for specific applications.

- Loosen both nuts on each tine U-bolt.
- 2. Slide the tine to a new position.
- Tighten both nuts according to the specifications in "6.2 Torque Specifications – Imperial" on page 24.

Divider Removal & Installation

If desired, the dividers can be removed for faster grappling.

Revision 001

- Remove the two (2) clevis pins from the frame at the top of each divider, and the single clevis pin from the back of the frame near the mount.
- 2. Reinstall the clevis pins in their holes for storage.
- 3. For installation, follow the steps in reverse order.

Revision 000

- Remove the single clevis pin from the back of the frame near the mount.
- Slide the divider forward until the two (2) tabs at the top of the divider are free from the frame.
- 3. Reinstall the clevis pin in its hole for storage.
- 4. For installation, follow the steps in reverse order.

Side Tube Adjustment

If required for a different bale size, the side tubes can be installed in different width positions, or removed completely. Revision 001 has three (3) positions, Revision 000 has two (2).

- Remove the clevis pins from the front and back of each tube.
- 2. Slide the side tube to the new position, and align the pin holes.
- 3. Reinstall the clevis pins.

3.5 Operating the Attachment

Machine Requirements



WARNING



Never allow riders on the attachment

Only use the attachment on compatible loaders. Refer to the machine's Operator's Manual for flow and pressure specifications. Refer to the machine's Operator's Manual for instructions on how to raise and lower the tines as well as height and tilt functions of the machine's arms.

Engaging the Attachment for the First Time



IMPORTANT



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

After starting the machine, lift the attachment 10" (254 mm) off the ground surface:

- 1. With the machine's engine RPMs just above idle, slowly engage the auxiliary hydraulics to lower the tine hooks. With the machine's RPMs just above idle, slowly engage the auxiliary hydraulics to lower the tines. Move the auxiliary control pedal, lever, or switch in the opposite direction to raise the tines. Repeat this three (3) times to purge any air from the system.
- 2. Lower the attachment to the ground and shut off the host machine's engine. Leave the operator's position. See "Leaving the Operator's Position" on page 10.
- 3. Check the machine's hydraulic oil level, and add oil if necessary.
- 4. Inspect the attachment's hydraulic system for any noticeable leaks. If leaks are present, correct before continuing operation.

Operating the Hay Accumulator Grapple



CAUTION



AVOID INJURY

Be cautious when operating on uneven ground surfaces. A machine rollover could result in minor or serious injury. Always wear your seatbelt when operating machinery.

- Install the attachment onto the host machine. (See "3.3 Attachment Installation" on page 10.)
- 2. Enter the operator's position. (See "Entering the Operator's Position" on page 10.)
- 3. Raise the attachment slightly off the ground.
- 4. Cycle the Hay Accumulator Grapple's cylinder several times to purge the hydraulic system of air. (See the machine's Operator's Manual for precise instructions in regards to these functions.)
- 5. To collect bales, fully raise the tines and drive forward with the attachment slightly off the ground. Line up the first eight (8) bales end-to-end in the slots at the back of the attachment. Position the last two (2) bales across the front of the attachment perpendicular to the direction of travel.
- 6. Stop the host machine, lower the attachment to the top of the bales, and cycle the cylinders to engage the tines and secure the bales.
- 7. Lift the attachment of the ground, tilt it back slightly, and carry the bales to the trailer or stacking location.
- 8. Lower the bales to the ground or trailer deck, and release the tines while slowly raising the rear of the attachment.
- 9. If stacking multiple layers of bales, place the layers in alternating directions to keep the stacks steady.

3. Operation

3.6 Operating Tips

- Plan a route that starts ten (10) bales away from the unloading point for maximum efficiency.
- Look ahead of the travel path to see any terrain variations that require change in direction or speed.
- To cross ditches or furrows, engage the tines into the bales and lift the attachment. Lower the attachment and release the bales before continuing.
- Approaching the bales at a slight angle may make it easier to line up the bales into the back of the slots.

4. Maintenance

4.1 Service Schedule

DESCRIPTION	SERVICE PROCEDURES					
DESCRIPTION	Check	Clean	Lube	Change	Adjust	Drain
Daily Maintenance (or every 8 hours)						
Hydraulic Fittings	•					
Hydraulic Hoses	•					
Tines (wear, damage, and loosening)	•					
All Hardware	•					
Frame	•	•				
Grease Fittings			•			

4. Maintenance

4.2 Lubrication Points

Grease the two (2) cylinder pivot points every eight (8) hours.

4.3 Storage

Storage

Sometimes it may be necessary to store your Hay Accumulator Grapple 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 Hay Accumulator Grapple 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.

4.4 Troubleshooting

PROBLEM	CAUSE	SOLUTION		
Lludraulia ail laval gaga	Leak at hoses on the attachment	Investigate and repair.		
Hydraulic oil level goes down during operation.	Leak in the prime mover hydraulic system	Investigate and repair.		
	Quick disconnects not connected	Check and recouple quick disconnects.		
	Hoses damaged	Check for a smashed or kinked hose. Replace if found.		
Tines do not open or close.	Object(s) jamming tine or pivot system.	Remove object(s) to clear the jam.		
	Skid steer auxiliary circuit inoperative.	Investigate and repair.		
	Restricted hose	Check for damaged hose between skid steer and cylinder. If damaged, replace the hose.		
Tines move abnormally	Bad circuit relief on skid steer	Investigate and repair.		
slow.	Auxiliary valve spool on skid steer not shifting properly	Investigate and repair.		
	Cylinder seals bypassing	Repack or replace cylinder		
	Tines engaged before attachment is fully lowered	Fully lower the attachment onto the bales before engaging the tines.		
Bales are not being picked	Broken or damaged tines	Replace damaged tines.		
up or are falling from the attachment.	Bales loosely wound or not secured with string	Add tines, resecure the string, or check the baler for correct operation.		
	Excessive travel speed shaking bales loose	Reduce travel speed.		

5. Parts

5.1 Difference Between Revisions

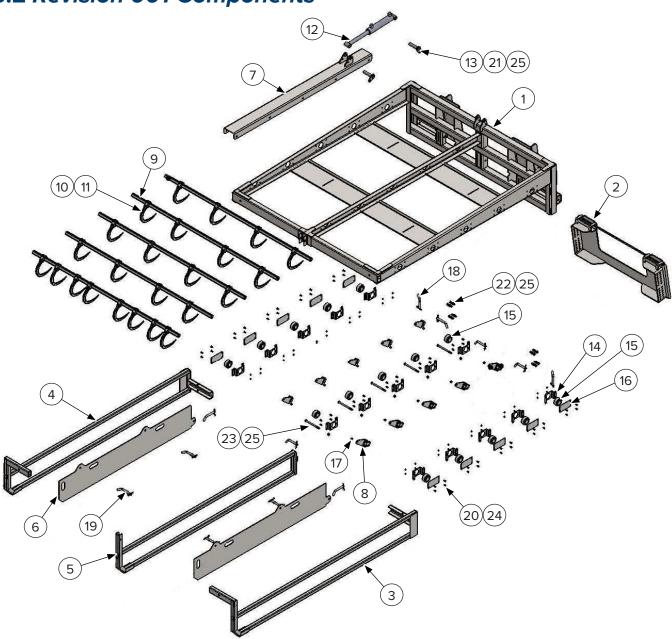
Revision 001

- Adjustable mount height.
- Plastic bushings for tine pivot bars.
- Welded frame side tubes.

Revision 000

- Fixed mount height.
- Radial bearings for tine pivot bars.
- Single-piece side tubes.

5.2 Revision 001 Components



5. Parts

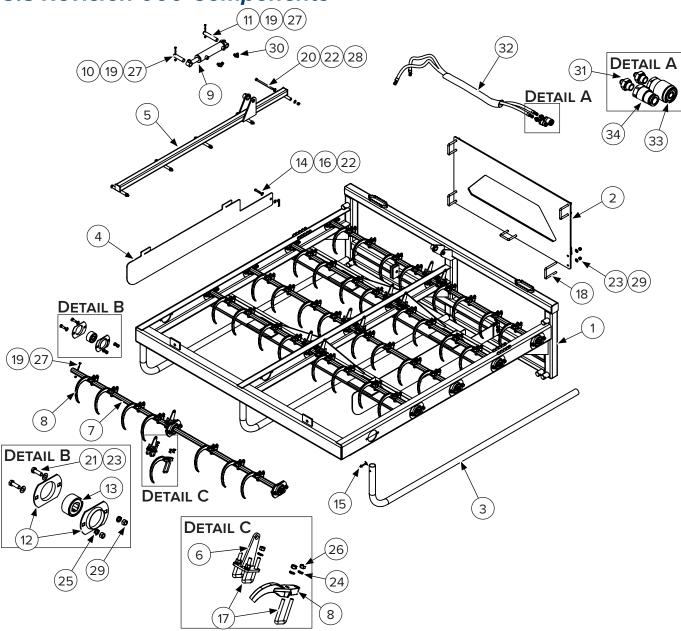
5.2 Revision 001 Components Cont'd

ITEM	PART NUMBER	DESCRIPTION	QTY
1	_	Main Frame Weldment	1
2	_	Mount Weldment	
3	_	Left Side Tube Weldment	1
4	_	Right Side Tube Weldment	1
5	_	Center Tube Weldment	1
6	_	Divider	2
7	_	Pivot Linkage Pusher Bar	1
8	_	Linkage Lever	10
9	_	Tine Tube	5
10	_	Tine Hook with Hardware	24
11	_	U–Bolt Kit (Included in Item #10)	10
12	_	2" Bore x 8" Stroke Cylinder	1
13	_	Cylinder Pin	2
14	_	Bushing Holder	15
15	_	Plastic Pivot Bushing	15
16	_	Bushing Cover	10
17	_	1/2" Nylon Bushing	10
18	299522	5/8" x 4" Bent Pull Clevis Pin with Clip	8
19	_	5/8" x 4" Clevis Pin with Roll Pin & Clip	4
20	_	1/4"–20 x 3/4" Carriage Bolt	60
21	299432	1/2"–13 x 1 1/2" Bolt Hex Head	2
22	299433	1/2"-13 x 2" Bolt Hex Head	8
23	_	1/2"-13 x 7" Bolt Hex Head	5
24	299615	1/4"–20 Nylock Nut	60
25	299618	1/2"–13 Nylock Nut	15
NS	295030-M06ORB-M06JIC	Cylinder Fittings, 90 Degree Fitting Male #6 JIC to Male #6 O–Ring Boss	2
NS	_	Machine Hose Set 3/8" ID Straight Female #6 JIC Swivel to Straight Male #8 NPT	1
NS	224005	Female Coupler	1
NS	224006	Male Coupler	1

Blue Diamond® Attachments

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5.3 Revision 000 Components



5. Parts

5.3 Revision 000 Components Cont'd

ITEM	PART NUMBER	DESCRIPTION	QTY
1	211450	Main Frame Weldment	1
2	_	Mount Weldment	1
3	_	Side Tube	3
4	_	Divider	2
5	_	Pivot Linkage Pusher Bar	1
6	211430	Linkage Lever	10
7	211455	Tine Tube	5
8	211405	Tine Hook	40
9	216050	2" Bore x 6" Stroke Cylinder	1
10	_	1" OD x 4 1/8" Long Cylinder Pin	1
11	_	1" OD x 5 5/8" Long Cylinder Pin	1
12	_	Bearing Flange Plate	30
13	_	Bearing	15
14	_	7/16" OD x 2" Long Clevis Pin	2
15	_	5/16" x 2 1/4" Ring Lock Pin	3
16	_	R–Clip	2
17	_	3/8" x 1 3/8" x 3" U-Bolt	60
18	_	1/2" x 3 1/16" x 4 1/4" U-Bolt	5
19	299415	1/4"-20 x 2" Bolt Hex Head	12
20	_	7/16"–14 x 7" Bolt Hex Head	5
21	299432	1/2"–13 x 1 1/2" Bolt Hex Head	30
22	299716	7/16" Washer SAE	14
23	299732	1/2" Washer SAE	40
24	299825	3/8" Lock Washer	120
25	299830	1/2" Lock Washer	30
26	299572	3/8"–16 Hex Nut	120
27	299653	1/4"–20 Stover Lock Nut	12
28	299451	7/16"–14 Stover Lock Nut	5
29	299655	1/2"–13 Stover Lock Nut	40
30	295030-M06ORB-M06JIC	Hydraulic 90 Degree Fitting Male #6 JIC to Male #6 O–Ring Boss	2
31	295010-M06JIC-M06ORB	Hydraulic Straight Fitting Male #6 JIC to Male #6 O–Ring Boss	2
32	211435	1/4" ID 6' – 7' Long Machine Hose Kit	1
33	224009	Coupler, Female Flat Face Straight 1/2" Body Female #8 O–Ring Boss	1
34	224010	Coupler, Male Flat Face Straight 1/2" Body Female #8 O–Ring Boss	1

5.4 Safety Decals









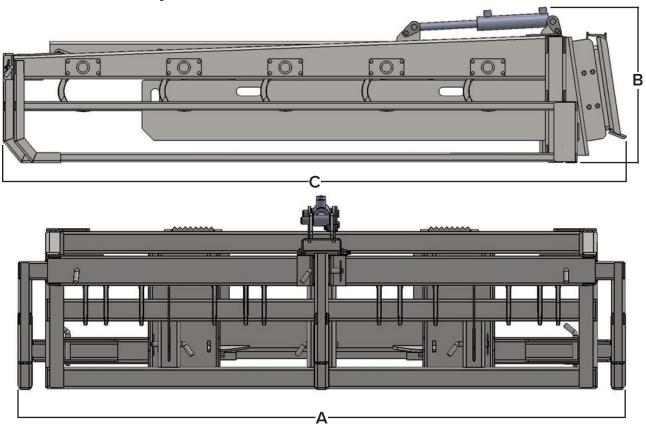




ITEM	PART NUMBER DESCRIPTION		QTY
1	BD-057	2.0" x 12.0" Decal, Blue Diamond	1
2	BD-001	3.0" x 3.0" Decal, Read Owner's Manual	1
3	BD-060	2.4375" x 3.375" Decal, Blue Diamond Attachments	2
4	BD-092	1.5" x 2.0" Decal, Warranty Registration QR	1
5	BD-123	3.0" x 3.0" Decal, High Pressure Fluid Hazard	1
6	BD-004	2.0" x 4.0" Decal, Grease All Fitting Every 8 Hours	1

6. Specifications

6.1 Attachment Specifications



DESCRIPTION	Rev 001	Rev 000		
Overall Width (A)	85"	90"		
Overall Height (B)	27"			
Overall Length (C)	108"	93"		
Bale Capacity	8 Bales – 45" x 18" x 16" 10 Bales – 36" x 18" x 16"			
Side Tube Positions	3 2			
Maximum Pressure	3000 PSI	4000 PSI		
Maximum Hydraulic Flow	Standard Flow Only			
Weight	998 lbs	1075 lbs		

6. Specifications

6.2 Torque Specifications — Imperial Standard Hardware and Lock Nuts

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
4/4	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
1/4	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
E /46	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
5/16	13 N•m	17 N•m	20 N•m	26 N•m	28 N•m	37 N•m	14 N•m	20 N•m
2/0	17 lbf•ft	22 lbf•ft	26 lbf•ft	34 lbf•ft	37 lbf•ft	48 lbf•ft	19 lbf•ft	26 lbf•ft
3/8	23 N•m	30 N•m	35 N•m	46 N•m	50 N•m	65 N∙m	26 N•m	35 N•m
7/46	27 lbf•ft	35 lbf•ft	42 lbf•ft	54 lbf•ft	59 lbf•ft	77 lbf•ft	30 lbf•ft	42 lbf•ft
7/16	37 N•m	47 N•m	57 N•m	73 N•m	80 N•m	104 N•m	41 N•m	57 N•m
4/2	42 lbf•ft	54 lbf•ft	64 lbf•ft	83 lbf•ft	91 lbf•ft	117 lbf•ft	45 lbf•ft	65 lbf•ft
1/2	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
9/16	81 N•m	104 N•m	125 N•m	163 N•m	176 N•m	229 N•m	88 N•m	125 N•m
F /0	83 lbf•ft	107 lbf•ft	128 lbf•ft	165 lbf•ft	180 lbf•ft	233 lbf•ft	90 lbf•ft	127 lbf•ft
5/8	112 N•m	145 N•m	174 N•m	224 N•m	244 N•m	316 N•m	122 N•m	172 N•m
2/4	146 lbf•ft	189 lbf•ft	226 lbf•ft	293 lbf•ft	319 lbf•ft	413 lbf•ft	160 lbf•ft	226 lbf•ft
3/4	198 N•m	256 N•m	306 N•m	397 N•m	432 N•m	560 N•m	217 N•m	306 N•m
7/0	142 lbf•ft	183 lbf•ft	365 lbf•ft	473 lbf•ft	515 lbf•ft	667 lbf•ft	258 lbf•ft	364 lbf•ft
7/8	193 N•m	248 N•m	495 N•m	641 N•m	698 N•m	904 N•m	350 N•m	494 N•m
4	213 lbf•ft	275 lbf•ft	547 lbf•ft	708 lbf•ft	773 lbf•ft	1000 lbf•ft	386 lbf•ft	545 lbf•ft
1	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 Hay Accumulator Grapple after the delivery of the goods to original purchaser.

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

WARRANTY CLAIM

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

EXCLUSIONS OF WARRANTY

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

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

This warranty policy supersedes any previous documents. Please see bluediamondattachments.com/warranty-policies for the most up to date warranty information.

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



QUALITY | DEPENDABILITY | INTEGRITY

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