

Multi-Blade Heavy Duty

Operation and Maintenance Manual



- 60" - 122010
- 72" - 122015
- 84" - 122020
- 96" - 122025



Register your
WARRANTY
within 30 days
of purchase



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Manufacturer's Warranty

Two-Year Limited Warranty

Blue Diamond Attachments LLC, hereinafter referred to as Blue Diamond warrants new Blue Diamond Multi-Blade 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. Blue Diamond's liability for any defect with respect to accepted goods shall be limited to repairing the goods at a Blue Diamond designated location or at an authorized dealer location, or replacing them as Blue Diamond shall elect. The above shall be in accordance with Blue Diamond warranty adjustment policies. Blue Diamond's obligation shall terminate twenty-four (24) months after the delivery of the goods to original purchaser including cutting edge breakage or wear. This warranty shall not apply to any machine or attachment which shall have been repaired or altered outside the Blue Diamond factory or authorized Blue Diamond dealership or in any way so as in Blue Diamond's 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 return authorization from Blue Diamond must be obtained. The failed part may then be returned. 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 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 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 has any authority to bind Blue Diamond to any affirmation, representation or warranty concerning its machinery and/or attachments except as specifically set forth herein.

This warranty does not cover abuse, modifications by others, or leaking hoses due to improper routing, abrasion or pinching.

This warranty policy supersedes any previous documents.

No claims for warranty shall be considered unless warranty registration has been completed within 30 days of purchase!

Foreword

Congratulations on the purchase of your Heavy Duty Multi-Blade, the finest snow plow on the market today!

Blue Diamond Attachments Snow Plows are designed by people with years of experience. You can be sure that the quality and innovation of the **Multi-Blade** is our first priority. Getting to know your new snow plow should be the first step in learning its features and limitations. This manual is designed to assist you in the operation and maintenance of your **Multi-Blade**.

Document History

The list below shows all revisions of the Multi-Blade Operation and Maintenance Manual.

Document Revision	Summary of Changes	Publication Date
Second Publication	First Revision	2021

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About this Manual

This manual contains information about the usage and maintenance required for the equipment. This document must be available for review by the operator before using the attachment to ensure proper safety, maintenance and usage.

NOTE

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

Hazard Notices Used in Manual

The following hazard notices are used in this document

NOTE	Notes are used to indicate important information. This information may be repeated in other areas of the manual.
CAUTION	Cautions are used to indicate a potentially hazardous situation which, if not avoided, may result in damage to the equipment or other property.
WARNING	Warnings are used to indicate a potentially hazardous situation which, if not avoided, could result in serious injury or death.
DANGER	Danger is used to indicate a potentially hazardous situation which, if not avoided, will result in serious injury or death.

Terminology

Prime Mover: The Blue Diamond Attachments Multi-Blade Snow Plow can be attached to many different pieces of equipment; therefore the term “prime mover” will be used. A prime mover is any loader, tractor or equipment, providing power to the attachment.

Safety

Safety Notices

Before operating or conducting maintenance on this equipment, it is important to wear proper protection. Recommended safety equipment when operating and maintaining this equipment includes earplugs, eye protection, and a hard hat.

Only qualified and trained personnel should operate, maintain, and service this attachment. It is recommended that this equipment be inspected regularly for leaks, cracks, or other conditions that may impair proper usage of the equipment. Verify that all repairs have been completed and inspected prior to using the attachment under load.

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

Modifications to Equipment

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

About the Heavy Duty Multi-Blade Attachment

The Multi-Blade attachment is designed primarily for use in snow, however the lockout pins will allow it to also be used for light dirt work.



Blue Diamond Attachments Multi-Blades

Snow plows are designed by people with years of experience in harsh Minnesota winters. You can be sure that the quality of the Multi-Blade is our first priority.

The Multi-Blade has been designed for absolute maximum durability and efficiency, regardless of snow conditions. Extra tight blade curl reduces horsepower requirements to get snow rolling, 35° angle gives you the most efficient snow discharge, and our patent pending spring-assisted down pressure lets you scrape like no other! Simply put, you've purchased the world's finest snowplow!!



Attaching the Multi-Blade to the Prime Mover

NOTE

Before attempting to attach the Multi-Blade to the prime mover, verify that all hydraulic couplings are compatible.

CAUTION

Hydraulics should operate in an even and smooth manner. Hydraulic movement that is not even and smooth may indicate that air is in the hydraulic lines.

WARNING

Improper attachment to the prime mover may cause personal injury.

CAUTION

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

1. Place the Multi-Blade attachment on a level surface.
2. Position and align the prime mover to the rear of the attachment, within proximity of the front of prime mover. Insert and connect the prime mover into the attachment. Connect the hydraulic lines from the attachment to the prime mover.
3. Close latches (or other locking mechanism) to secure the attachment to the prime mover.
4. Using the prime mover, raise the attachment and move the attachment to ensure hydraulic lines are clear of air and operate properly.
5. Lower the attachment to ground level.
6. Route hoses away from pinch areas – install cable ties if necessary to assure extended hose life.
7. Inspect that the attachment is mounted properly and securely. If the attachment does not meet this requirement, follow the instructions to remove the Snow Plow and re-attach using the instructions above.
- 8.
- 9.

Removing the Multi-Blade from the Prime Mover

WARNING

Improper disconnection may result person injury or damage to the attachment and prime mover.

CAUTION

All hydraulic connections must be clean and free of debris before disconnection.

NOTE

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

1. Using the prime mover, lower the attachment to the ground.
2. Relieve the pressure in the hydraulic system by following these instructions:
 - a. Turn the ignition to off.
 - b. Turn the ignition back to the on position without starting the machine.
 - c. Move the auxiliary hydraulic function lever back and forth to relieve the pressure in the hydraulic lines. (This will greatly assist you when hooking the unit back up so that the hydraulic couplers connect easily)
3. Disconnect the hydraulic connection between the attachment and the prime mover. To prevent contamination, remove any dirt and debris from the couplings.
4. Disengage the prime mover latches (or other locking mechanism) from the attachment.
5. Move the prime mover from the attachment.

Operation & Maintenance

NOTE

Replace any damaged hardware, hoses, and fitting before using the equipment.

WARNING

Do not use hands to check for hydraulic leaks. Keep body parts away from leaking hydraulic lines and couplings that are under pressure.

DANGER

Keep all body parts away from the Multi-Blade when in use. The pivoting blade is dangerous and hazardous and could potentially cause serious bodily injury or death.

Inspection Checklist

- √ Are all safety notices and warning stickers in proper locations and visible? √
- Are there any visible hydraulic leaks?
- √ Are any cracks visible in Multi-Blade structure?
- √ Is the cutting edge worn or bent?
- √ Are the bolts holding blades secure and tight?
- √ Has the prime mover been properly inspected for hydraulic leaks and proper tire inflation?
- √ Has the prime mover been properly maintained?

Equipment Inspection

It is recommended to inspect the equipment for damage and wear before use. Use the following list as a guideline during equipment inspection.

- Check all hardware connections to the prime mover for damage or fatigue such as cracks or other structural flaws.
- Check that all latches or locks are closed.
- Check that all hydraulic fittings are tight and free of leaks
- Check that all hydraulic lines are free of leaks, holes, or cracks.

Check that the tires on the prime mover are in good condition and have proper load ratings.

Usage Guidelines

Before each use do the following:

- Perform the equipment inspection by performing a walk around.
- Perform daily inspection as indicated in the Inspection Checklist.
- Verify that the proper attachment is being used for the task.

Operation

Always be sure the A-frame of your Multi-Blade is level (perpendicular) with the ground when plowing, to insure proper cutting edge wear. You can regulate the scraping ability of your Multi-Blade by increasing or decreasing the down pressure you apply via your tilt cylinders. The angle of your Multi-Blade can be changed at any time by using your auxiliary circuit. As you become experienced with the Multi-Blade, you will find its productivity will amaze you.

If you are on extremely uneven ground, you may prefer to raise your boom arms slightly, lower the Multi-Blade to the ground using your tilt cylinders, then put your boom arms in the float position (if machine is equipped) to better follow the contours of the ground. You will learn from experience what works best for you in each situation.

Operation Continued

The Multi-Blade has been designed to stack snow if you wish. This will not damage the plow no matter how high you push it into a pile of snow. Watch your hose routing carefully so as not to stretch and ruin your hoses.

DANGER – Always be aware of what is overhead.

Maintenance

Disconnect the hydraulic connection between the attachment and the prime mover before performing any type of maintenance to the Multi-Blade

Inspect the Multi-Blade daily before use. It is also recommended to inspect after extreme use or damage. Use the following inspection checklist as a guideline.

- As with any power attachment, safety is critical. An enclosed cab prime mover with the operator wearing safety protection is required.
- Never operate the Multi-Blade with persons within 100 feet.
- Disengage Multi-Blade and shut off engine before leaving the cabin of the prime mover.
- Keep all body parts away from the Multi-Blade when in use.
- Use caution on slopes and uneven terrain.
- Never carry passengers.
- Never leave machine running unattended.
- Never leave Multi-Blade off the ground when out of operator's seat.
- Never allow children or untrained personnel to operate the Multi-Blade !
STAY CLEAR

Cutting Edge

Be certain to replace bolt-on cutting edge when it wears within 1/2" -3/4" of the bolt head securing it to the trip-edge. Replace only with genuine Blue Diamond Attachments cutting edge and hardware.

Cylinder Gland Nut

Periodically check cylinder gland nuts for tightness. Usually they will leak first if they become loose. A large slip-joint pliers or pipe wrench can be used to tighten. Do not over tighten!

Hoses

Check hoses occasionally for abrasion damage. This may save you from downtime. If in doubt, replace with genuine Blue Diamond Attachments parts.

Pivot Pins

Pivot pins may be lubed with moly-type grease, same as used on your machine. Please check the cotter pins that retain all pivot/anchor pins after each use. If missing, replace! Severe damage could be caused by losing a pin.

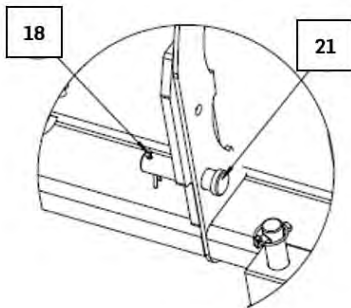
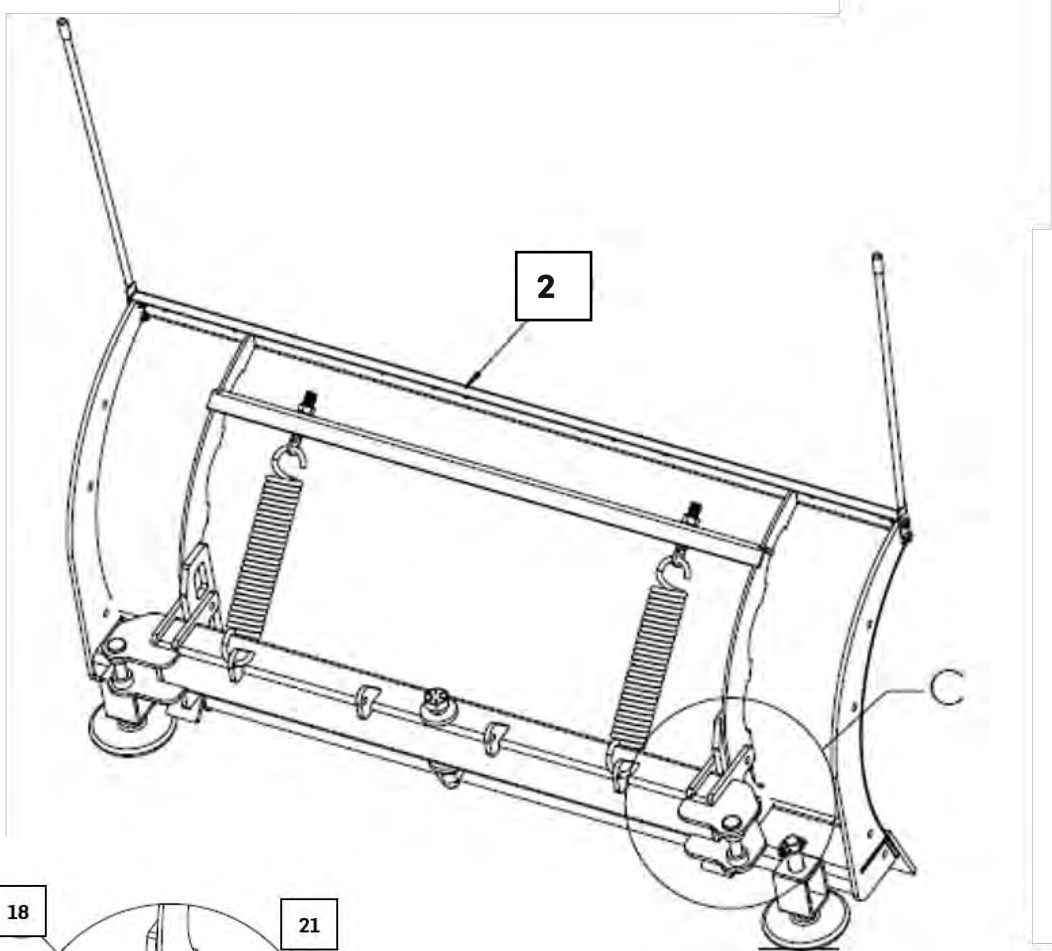
Springs

Multi-Blade springs are adjusted by the two large jam nuts on the rod between each spring. Springs are adjusted correctly when you can fit a business card between the coils. It is very important to set them after your first use, then twice per year thereafter. Use of grease or "Anti Seize" on the rod and jam nuts will keep them from rusting to each other.

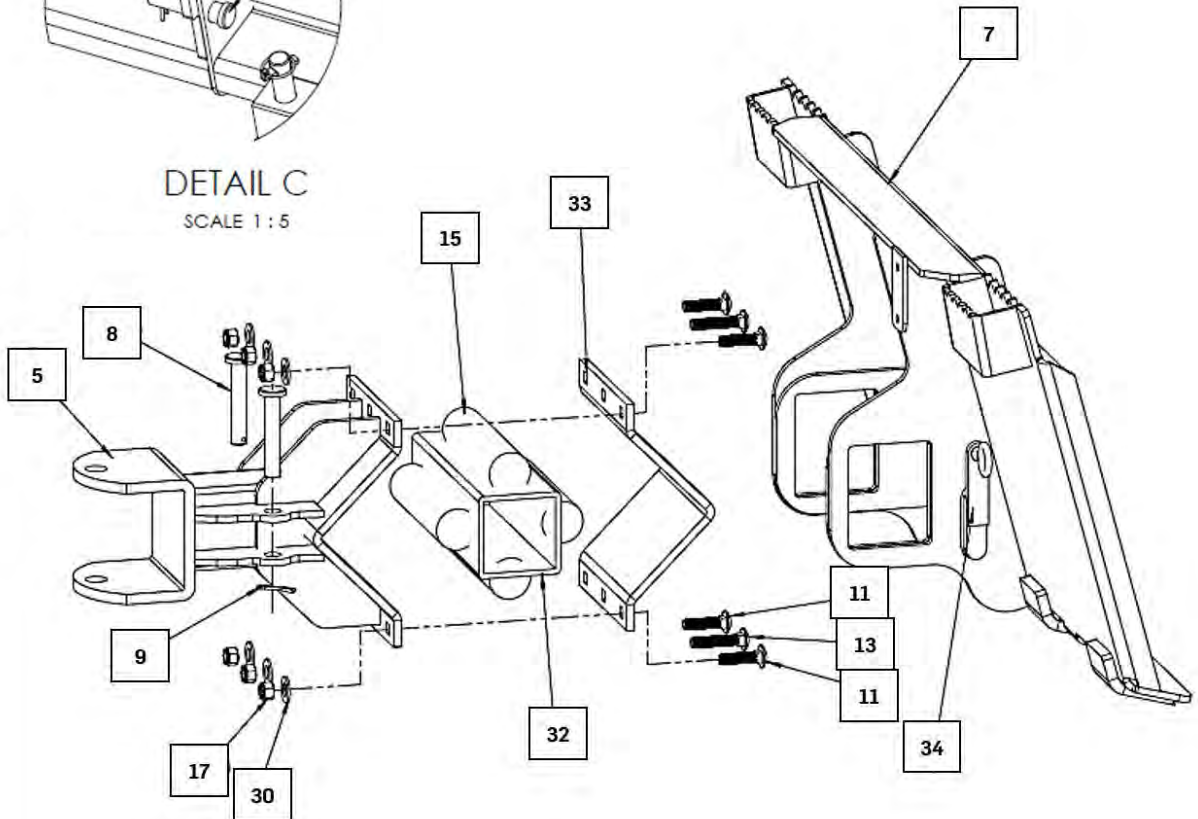
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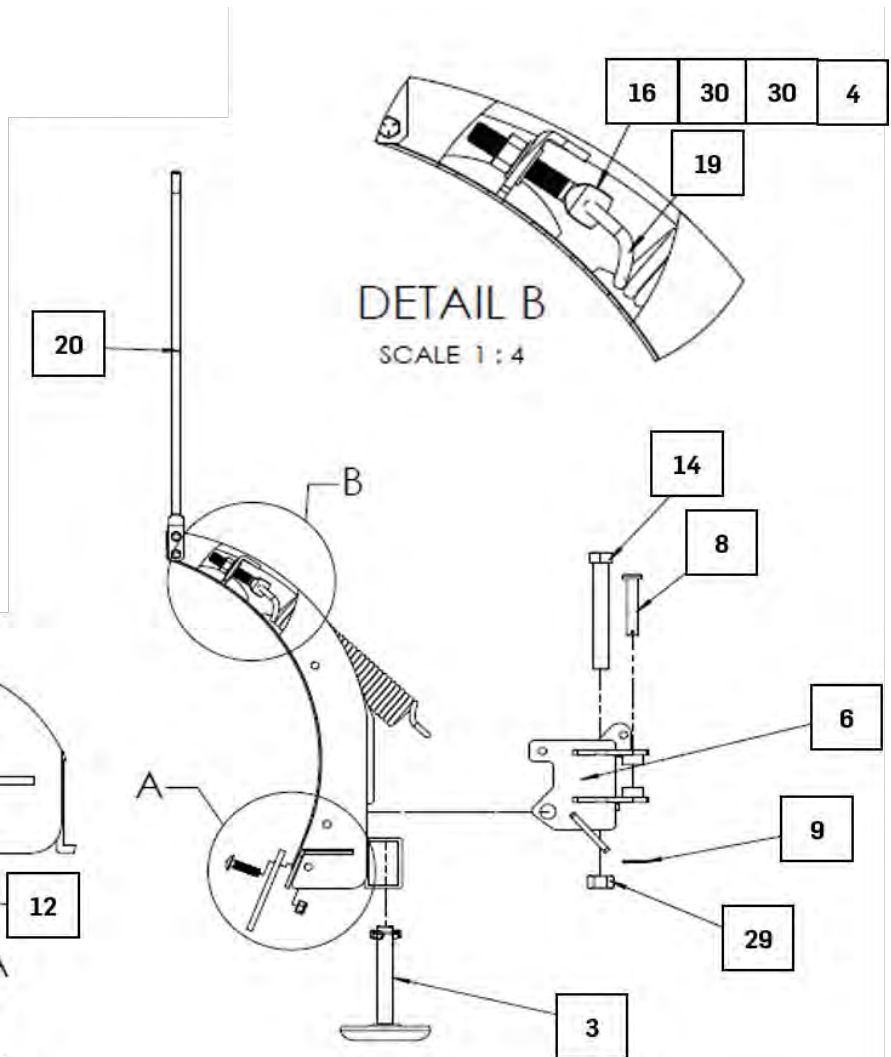
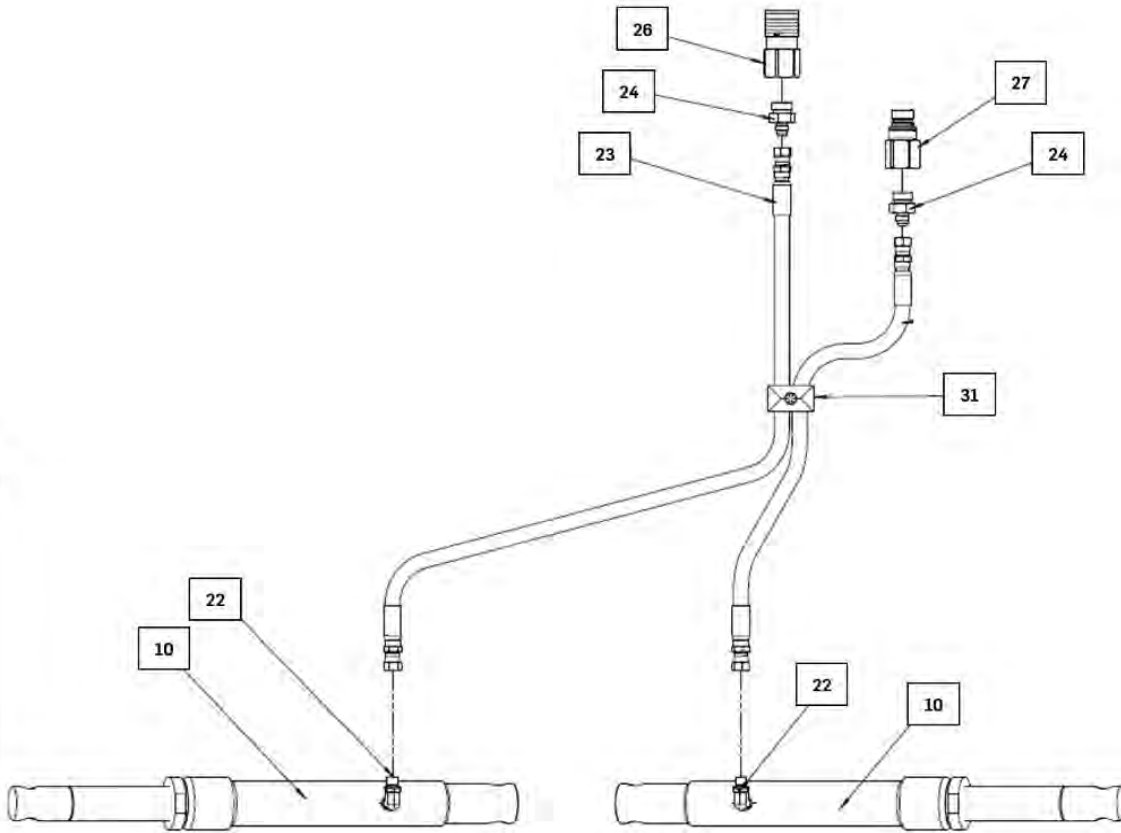
Lubrication of pivot pins is recommended if unit is stored outside. Be certain hydraulic quick couplers are cleaned and joined together to keep dirt out. Put a light coating of grease on exposed rod portion of cylinders to prevent corrosion. Touch-up paint should be used on all scratches to prevent further rust.

Detailed Parts Diagram



DETAIL C
SCALE 1 : 5





DETAIL B
SCALE 1 : 4

DETAIL A
SCALE 1 : 4

Detailed Parts List

Table 1 – Parts List

Item#	Part#	Description
	DC16	Blue Diamond Decal, Multi-Blade by Blue Diamond
	DC17	Blue Diamond Decal
1	222043	Cutting Edge, 8' with hardware
1	222042	Cutting Edge, 7' with hardware
1	222041	Cutting Edge, 6' with hardware
1	222040	Cutting Edge, 5' with hardware
2	P20004-1	Moldboard Weldment, 8', 2016 or newer
2	P20005-1	Moldboard Weldment, 7', 2016 or newer
2	P20006-1	Moldboard Weldment, 6', 2016 or newer
2	P20007-1	Moldboard Weldment, 5', 2016 or newer
3	P20008	Wear Shoe Weldment
3	P20008-S	Wear Shoe Set, L & R, with Hardware
	P20009	Spacer Kit for 20008
	P20012	Klik Pin 20008
4	P20016	Locknut, 5/8 – 11
	P20019	Decal, "DANGER PINCH AREA"
5	P20020-2	T-Frame Weldment , 2016 or newer
6	P20021-2	Quadrant Weldment, 2016 or newer
7	P20022-1	Universal Skid Steer Mount, 2016 or newer
8	P20029	Pin, 3/4 x 3
9	P20030	Cotter Pin, 5/32 x 1 1/4
10	P20031	Angle Cylinder, Chrome rod
11	P20034 299336	Carriage Bolt, 1/2 - 13 x 1-1/2", for Steel Cutting Edge
12	P20035 299618	Hex Nut, 1/2", for Cutting Edge
13	P20036 299335	Carriage Bolt, 1/2 - 13 x 2", for Poly Cutting Edge
	P20037	8' Polymer Cutting Edge Kit with hardware
	P20038	7' Polymer Cutting Edge Kit with hardware
	P20039	6' Polymer Cutting Edge Kit with hardware
	P20040	5' Polymer Cutting Edge Kit with hardware
14	P20041	Pivot Bolt, 1" x 7-1/2", 2016 or newer
15	P20042	Rubber Insert for T-Frame
16	P20043	5/8-11x4 Eyebolt
17	P25045	Grade C Locknut 1/2-13
18	P40007	Cotter Pin, 3/16 x 3
19 *	222433 223125 or 223058	Trip Spring, 6'-10' New Style Ultra (15" long)
20	P50001	Blade Marker Guide Set
21	P50005	Ram Anchor Pin, Frame End

22	P50007	90° Restricted Angle Fitting
23	P50008	Hose Assembly, 78" long
	P50008-B	Hose Assembly, 30" long, Crossover **
24	P50009-A	Adapter, #8 MJIC x #12 MORB, Hose to Coupler
25	P50009-B	Adapter, #6 MJIC x #10 MORB, Crossover to Hose **
	P50010	ISO Flat Face Coupler Set
26	P50010F	ISO Flat Face Coupler, Female
27	P50010M	ISO Flat Face Coupler, Male
	P60002	Crossover Relief Valve **
28	P60008	Carriage Bolt, 5/8-11 x 2-1/2 (for Poly Cutting Edge)
29	P60024	1" Grade C Locknut for Torsion and Parallel Plates
30	P60096	FLAT WASHER, 5/8" SAE
31	P50026	Hose Clamp Kit with hardware
32	P20048	Torsion Beam
33	P20049	Torsion Retainer Plate
34	P20047	Oscillation Lockout Kit, 2016 or newer **

****Optional upgrade items. Not on all Multi-Blades.**

Multi-Blade Specifications

Table 2 – Specifications

Description	Pro-5.0	Pro-6.0	Pro-7.0	Pro-8.0
Blade Width	5'	6'	7'	8'
Blade Width at Full Angle	50"	59"	68.8"	78.6"
Blade Height	28"	28"	28"	28"
Weight	479#	541#	543#	638#
Gauge of Moldboard	12 Ga	12 Ga	12 Ga	12 Ga
Trip Springs	2 (4 opt.)	2 (4 opt.)	2 (4 opt.)	2 (4 opt.)
Wear Shoes	Yes	Yes	Yes	Yes
Cutting Edge (1085 High Carbon)	3/8" x 6"	3/8 x 6"	3/8 x 6"	3/8" x 6"
Angle Rams	1 1/2" x 10	1 1/2" x 10	1 1/2" x 10	1 1/2" x 10
Vertical Ribs	4	4	4	6
Moldboard Radius	15"	15"	15"	15"
Full Trip	Yes	Yes	Yes	Yes
Oscillation	Std.	Std.	Std.	Std.
Universal Skid Steer Mount	Std.	Std.	Std.	Std.
Trip Lock-Out	Std.	Std.	Std.	Std.

Blue Diamond Attachments Multi-Blade Accessories



Soft Touch Cutting Edge

Eliminate damage on brick, paver and other delicate surfaces. Unlike rubber, there is no maintenance required. Constructed of non-marking and non-sparking proprietary high wear polymer for maximum service life. Available for all sizes of the Blue Diamond Attachments Multi-Blades.



Poly Snow Deflector

Recommended for all light, fluffy snow conditions and for all machines capable of 8 MPH or greater. Available for all sizes of **Blue Diamond Attachments Multi-Blade**.