

# **PATRIOT**™

**Patriot Gravity Bin™**  
**Operator's Manual**



**Manufactured by**  
**Minden Machine Shop Inc.**  
**1302 K Road**  
**Minden NE 68959**  
**308-832-0220**

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# INTRODUCTION

Thank you for purchasing a Patriot Equipment Gravity Bin! We know you will get many years of productive use from it. The product has been designed to perform a certain function. The Gravity Bin is a stationary storage system for bulk feed with an easy access chute and door to dispense bulk feed. All product users must read and understand this manual prior to equipment operation. This manual is considered part of your machine and should remain with the machine at all times. Do not allow anyone to operate or maintain this equipment if they have not fully read and comprehended this manual. Failure to follow the recommended procedures may result in personal injury or death or equipment damage.

Information in this manual is designed to help owners and operators to obtain the best results and safe operation from their investment. The life of any machine depends largely on the care it is given and we suggest that the manual should be read and understood and referred to frequently. If for any reason you do not understand the instructions and safety requirements, please contact your authorized dealer. The intent of this manual is to provide guidelines to cover general use and to assist in avoiding accidents and injuries.

There may be times when circumstances occur that are not covered in the manual. At those times it is best to use common sense and contact your authorized dealer or our factory.

The requirements of safety cannot be emphasized enough in this publication. We urge you to make safety your top priority when using and maintaining the equipment. We strongly advise that anyone allowed to operate this equipment be thoroughly trained and tested, to prove they understand the fundamentals of safe operation.

Some photographs, diagrams or illustrations in this manual may show doors, guards and shields opened or removed to aid in clarity and understanding of a particular procedure. All guards, shields and safety devices must be in their proper position prior to operation.

# SAFETY AND OPERATION RULES

## General Safety Statements

Safety precautions are essential when the use of any mechanical equipment is involved. These precautions are necessary when using, storing, and servicing mechanical equipment. Using this equipment with the respect and caution demanded will considerably lessen the possibilities of personal injury. If safety precautions are overlooked or ignored, personal injury or property damage may occur.

The machine was designed for a specific application. It should not be modified and/or used for any application other than which it was designed. If there are any questions regarding its application, please write or call. Do not use this unit until you have been advised. For more information contact:

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1302 K Rd  
Minden, NE 68959  
308-832-0220

Read this entire manual carefully. Know your equipment. Consider the application, limitations, and the potential hazards specific to your unit. Operator and bystander safety is of prime concern to us. This manual was written with the safety of the operator and others who come in contact with the equipment. This manual was written to help you understand the safe operating procedures of the product. We want you as our partner in safety. A copy of this manual should be available to all persons who may operate this machine.

It is your responsibility as an owner, operator, or supervisor to know what specific requirements, precautions, and work hazards exist and to make these known to all other personnel working with the equipment or in the area, so that they too may take any necessary safety precautions that may be required. Avoid any alterations of the equipment. Such alterations may create a dangerous situation where serious injury or death may occur and will void warranty.

Why is SAFETY important? Three reasons:

1. Accidents disable and kill
2. Accidents cost money
3. Accidents can be avoided

Note the use of the signal words **DANGER**, **WARNING**, and **CAUTION** with safety messages. The appropriate signal word for each message has been selected using the following guidelines:

**DANGER:** An immediate and specific hazard which will result in severe personal injury or death if proper precautions are not taken.

**WARNING:** A specific hazard or unsafe practice which could result in severe personal injury or death if proper precautions are not taken.

**CAUTION:** Unsafe practices which could result in personal injury if proper precautions are not taken or a reminder of good safety practices.

## Safety Alert Symbol



**BE ALERT! YOUR SAFETY IS INVOLVED!**

The symbol shown above is used to call your attention to instructions concerning your personal safety. Watch for this symbol – it points out important safety precautions. The symbol means Attention! Become Alert! Your personal safety is involved! Read the message that follows and be alert to the possibility of personal injury or death.

Read this manual before operating or working around the equipment! This manual must be delivered with the equipment to its owner and operator. Failure to read this manual and its safety instructions is a misuse of equipment.

## Safety Equipment

Please, remember safety equipment provides important protection for persons around a machine that is in operation. **Be sure ALL SAFETY SHIELDS AND PROTECTIVE DEVICES ARE INSTALLED AND PROPERLY MAINTAINED.** If any shields or guards are damaged or missing, contact Patriot Equipment for the correct items.

## Safety Procedures



1. Use only lifting equipment with the proper capacity when installing or removing the machine. Forklifts with too little capacity may tip towards the front where the lifted weight is.
2. Do not operate unit without safety shields or guards in place.
3. **IMPORTANT:** Use caution when transporting. Be alert of the transport unit's overall width when approaching obstacles, such as post sign and poles, along the road. Check the transport width of the unit to ensure clearance before entering.
4. Comply with all safety warnings and cautions in this manual as well as the operator's manuals of any tow vehicles that may be used.
5. Do not allow anyone on the machine when in use or while in storage.
6. Do not allow anyone to enter the hopper.
7. In case of any defect or awareness of potential danger, please contact Patriot Equipment at 1-308-832-0220 immediately.



## Operator Qualifications

Operation of this machine shall be limited to competent and experienced persons. In addition anyone who will operate or work around the machine must use good common sense. In order to be qualified, they must also know and meet all other requirements, such as:

1. Some regulations specify that no one under the age of 18 may operate power machinery. It is your responsibility to know what these regulations are in your own area or situation.
2. Current Occupational Safety Health Administration regulations state in part: “At the time of initial assignment and at least annually thereafter, the employer shall instruct every employee or user in the safe operation and servicing of all equipment with which the employee or user is, or will be involved.”
3. Unqualified persons are to stay out of the work area.
4. A person who has not read and understood all operating and safety instruction is not qualified to operate the machine.

## Safety Overview

YOU are responsible for SAFE operation and maintenance of the machine. YOU must ensure that you and anyone who is going to operate and maintain or work around the machine must be familiar with the operating, maintenance, and safety information contained in the manual.

Remember YOU are the key to safety. GOOD PRACTICES protect not only you but also the people around you. Make these practices a working part of your safety program. Be certain EVERYONE operating this machine is familiar with the procedures recommended and follows safety precautions. Remember, accidents can be prevented. Do not risk injury or death by ignoring any information addressed.

Machine owners must give operating instructions to operators before allowing them to operate the machine. They must be reviewed at least annually thereafter per OSHA regulation 1928.57.

The most important safety device on the equipment is a SAFE OPERATOR. It is the operator’s responsibility to read and understand ALL instructions in the manual and to follow them. All accidents can be avoided!

Any person who has not read and understood all operation and safety instructions is not qualified to operate the machine. An untrained operator exposes himself and bystanders to possible serious injury or death.

Do not modify the equipment in any way. Unauthorized modifications may impair the functions and/or safety and could affect the life of the equipment.

## Safety Affirmation

1. I have read and understand the operator's manual and all safety signs before operation, maintenance, adjusting, or unplugging the machine.
2. I will allow only trained persons to operate the machine. \*An untrained operator is not qualified to operate this equipment.
3. I have access to a fire extinguisher.
4. I have all guards in place and will not operate the machine without them.
5. I will not allow riders on the machine.
6. I understand the danger of moving parts (rotating parts, hydraulics, and pinch points) and will stop engine associated with the machine before servicing.
7. I recognize the danger of the machine coming in contact with power lines.
8. I have the safety lock up pins and know and understand where and when to use them.
9. I understand that any accidents that occur with the machine are my responsibilities.
10. I understand that Patriot Equipment will not be held responsible for any accidents that involve the machine.

## Sign Off Sheet

(This sheet should be signed annually as part of your safety program)

As a requirement of OSHA, it is necessary for the owner/employer to train the employee in the safe operation and safety procedures with this machine. We include this sign off sheet for your convenience and personal record keeping.

DATE	EMPLOYER SIGNATURE	EMPLOYEE SIGNATURE

## **Machine Inspection**

After delivery of your new machine and/or completion of assembly, and before each use, inspection of the machine is mandatory. This inspection should include, but not be limited to:

1. Check to see that all guards are in place, secured and functional.
2. That all fasteners are tight.
3. That all Hydraulic lines are free from leaks and defects.
4. That all electronics are working properly and wires are in good condition.
5. Check to see that all unnecessary personnel are out of the work area.
6. Inspect tires, if equipped, for the correct air pressure.

## **Lighting and Marking**

It is the responsibility of the customer to know the lighting and marking requirements of the local highway authorities and to install and maintain the equipment to provide compliance with the regulations. Add extra lights when transporting at night or during periods of limited visibility if necessary.

## **Serial Number**

To ensure efficient and prompt service, please furnish us with the model and serial number of the machine in all correspondence or other contact. The serial number is located on a visible location of the machine.

## **Safety Decals**

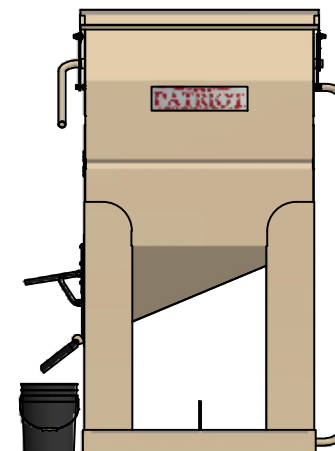
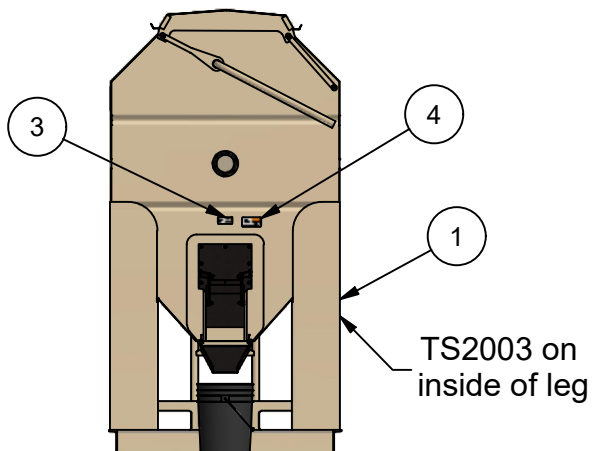
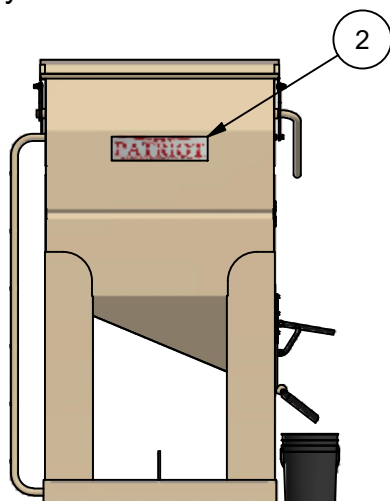
1. Keep safety decals clear and legible at all times.
2. Replace decals and signs that are missing or have become unreadable.
3. Safety signs are available from your Dealer or the Manufacturer.

## **How to install Safety Decals**

1. Be sure that the installation area is clean and dry.
2. Decide on the exact position before you remove the backing paper.
3. Align the decal over the specified area and carefully press the small portion with the exposed sticky backing in place.
4. Slowly peel back the remaining paper and carefully smooth the remaining portion of the decal in place.
5. Small air pockets can be pierced with a pin and smoothed out using a piece of decal backing paper.



## Gravity Bin Decals



TS2000



TS2003



TS2012



TS2017

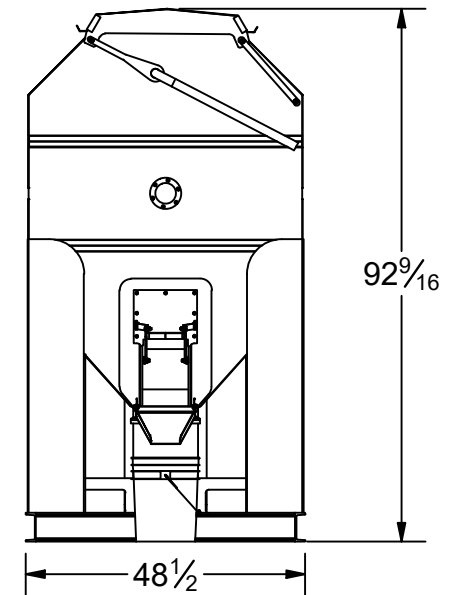
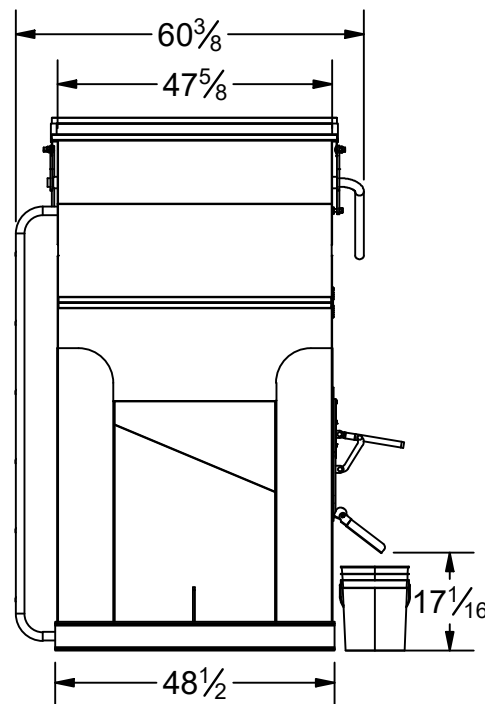
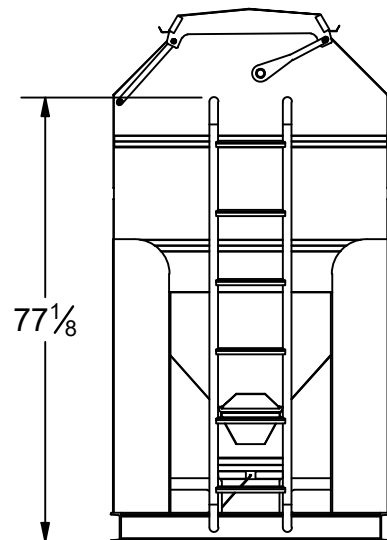
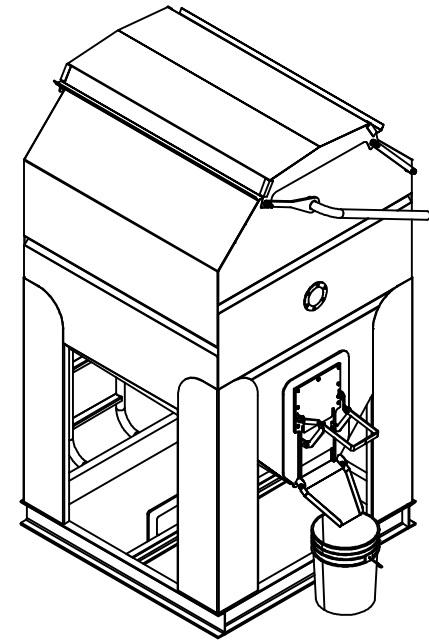
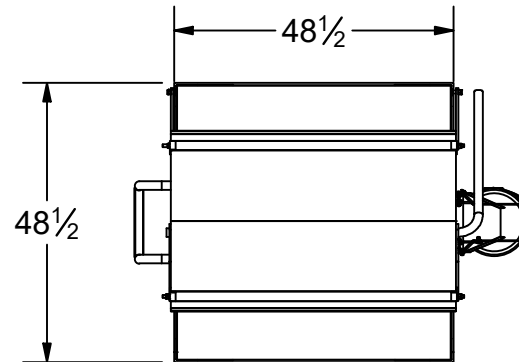
### Parts List

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	GB-112T	1 1/2 Ton Gravity Bin
2	2	TS2000	5x20 Red Patriot Decal
3	1	TS2017	Read Manual Before Use
4	1	TS2012	Single Pinch Point
5	1	TS2003	Serial Number Decal

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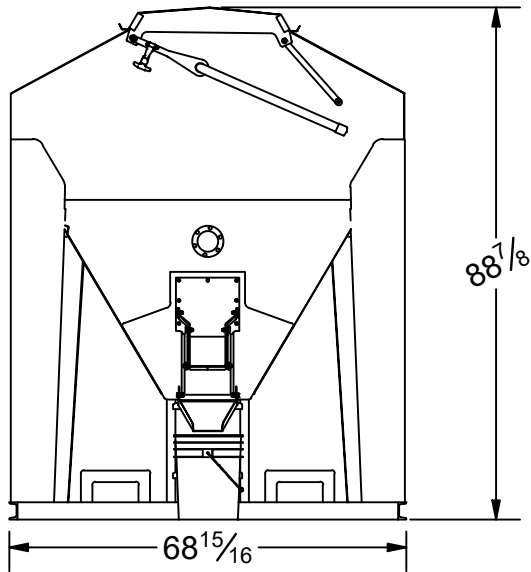
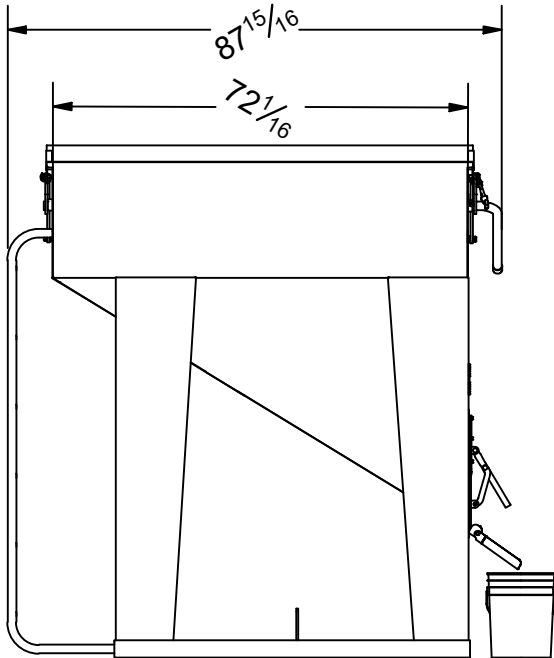
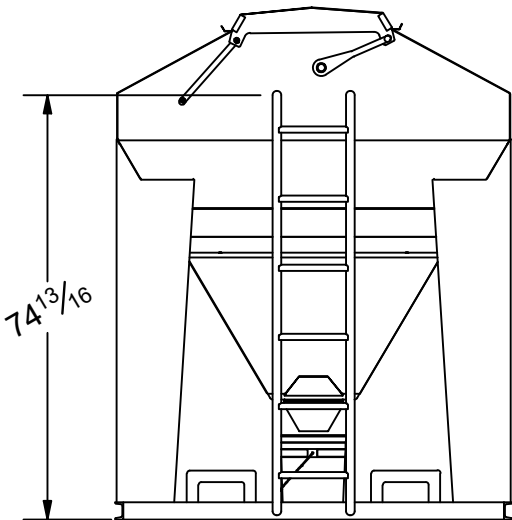
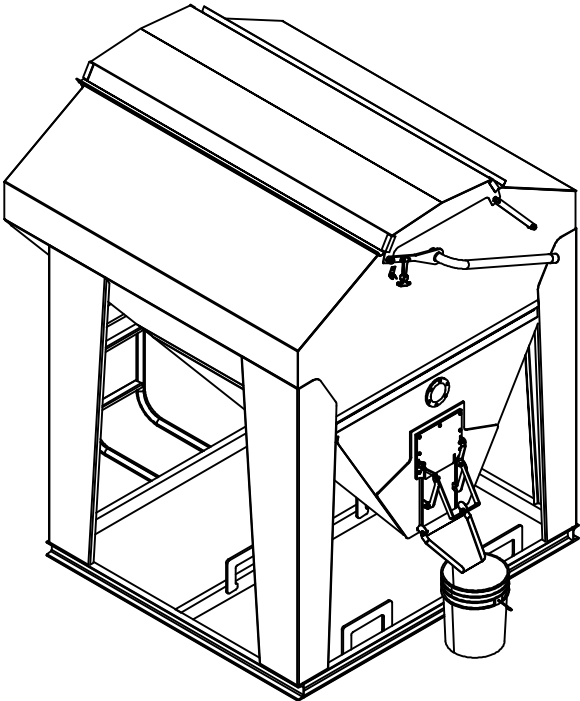
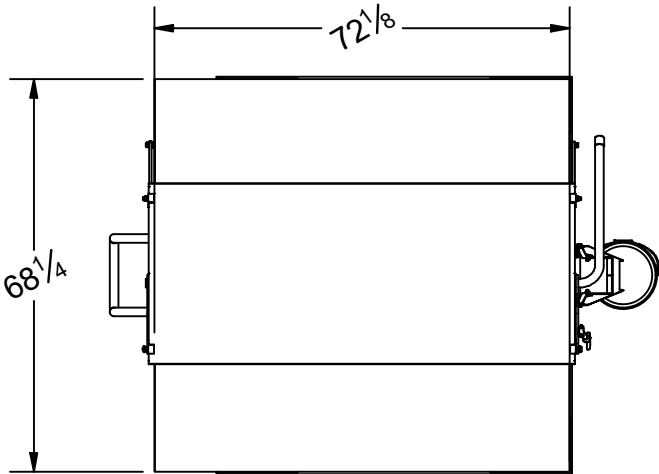
**Gravity Bin 1-1/2 Ton Dimensions**  
 Empty Weight: 538 lbs.



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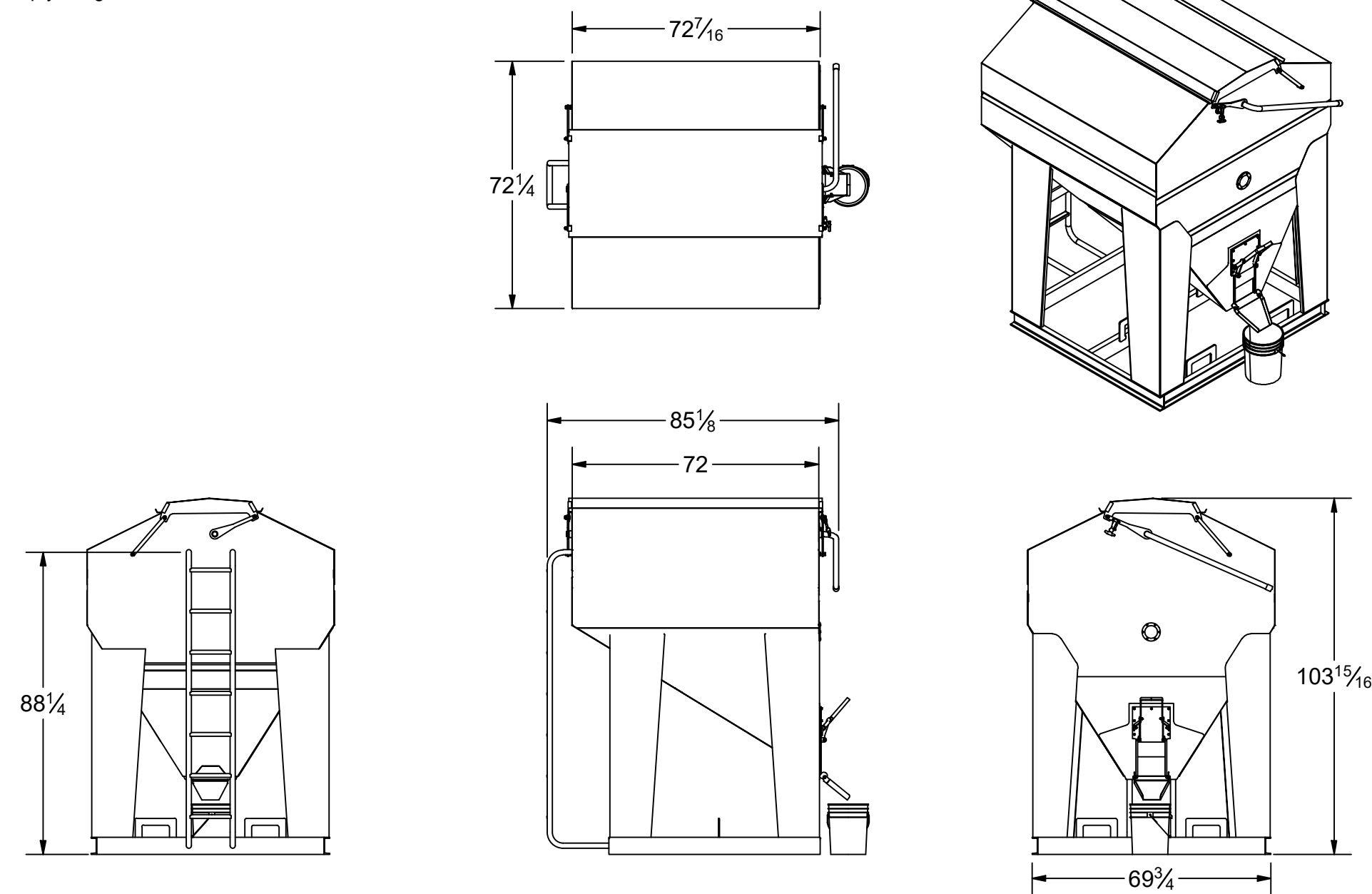
Gravity Bin 2 Ton Dimensions  
Empty Weight: 860 LBS



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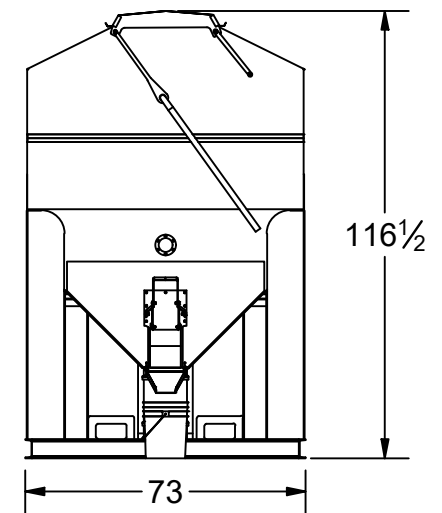
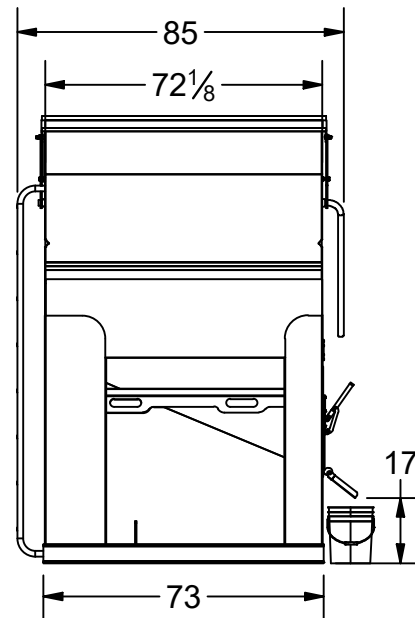
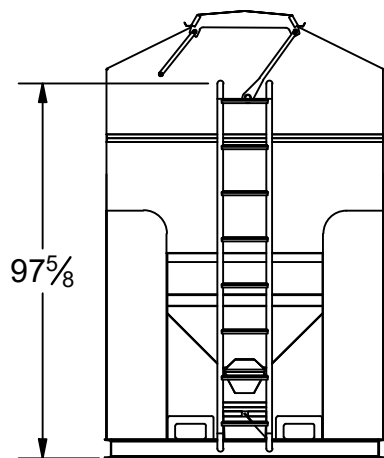
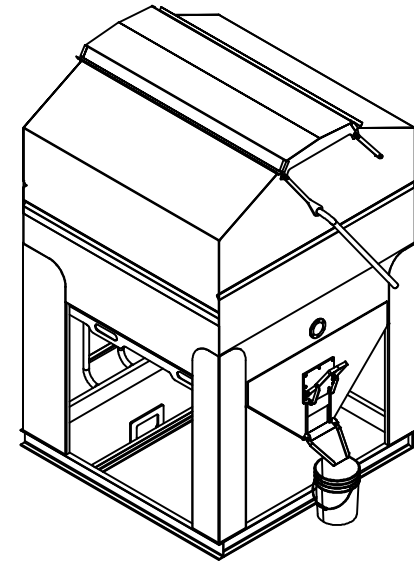
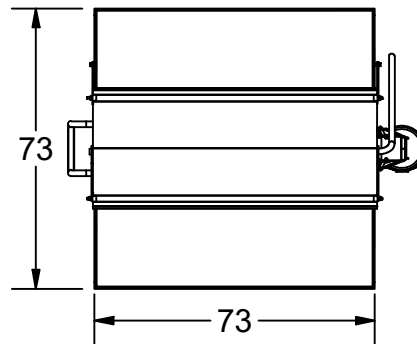
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Gravity Bin 3 Ton Dimensions  
Empty Weight: 900 LBS



# Gravity Bin 5 Ton Dimensions

Empty Weight: 1,116 lbs.



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## Torque Data for Standard Nuts, Bolts, and Capscrews

Tighten all bolts to torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt chart as guide. Replace hardware with same grade bolt.

Note: Unless otherwise specified, high-strength Grade 5 hex bolts are used throughout assembly of equipment.

**Bolt Torque for Standard Bolts**

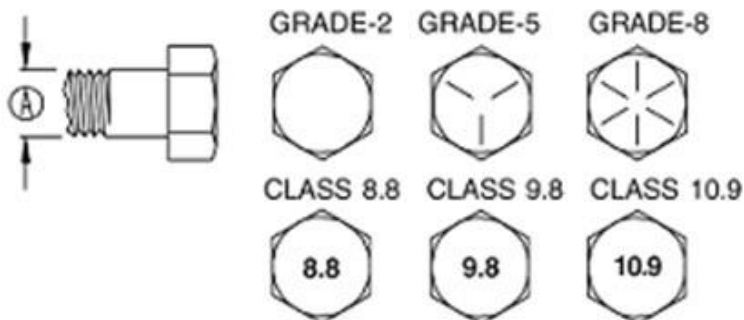
Bolt Size A	Grade 2		Grade 5		Grade 8	
	lb-ft	(N.m)	lb-ft	(N.m)	lb-ft	(N.m)
1/4"	6	8	9	12	12	16
5/16"	10	13	18	25	25	35
3/8"	20	27	30	40	45	60
7/16"	30	40	50	70	80	110
1/2"	45	60	75	100	115	155
9/16"	70	95	115	155	165	220
5/8"	95	130	150	200	225	300
3/4"	165	225	290	390	400	540
7/8"	170	230	420	570	650	880
1"	225	300	630	850	970	1310

Torque figures indicated are valid for non-greased or non-oiled threads and heads unless otherwise specified. Therefore, do not grease or oil bolts or capscrews unless otherwise specified in this manual. When using locking elements, increase torque values by 5%.

**Bolt Torque for Metric Bolts**

Bolt Size A	Class 8.8		Class 9.8		Class 10.9	
	lb-ft	(N.m)	lb-ft	(N.m)	lb-ft	(N.m)
6	9	13	10	14	13	17
7	15	21	18	24	21	29
8	23	31	25	34	31	42
10	45	61	50	68	61	83
12	78	106	88	118	106	144
14	125	169	140	189	170	230
16	194	263	216	293	263	357
18	268	363	..	..	364	493
20	378	513	..	..	515	689
22	516	699	..	..	702	952
24	654	886	..	..	890	1206

Grade or Class value for bolts and capscrews are identified by their head markings.



## Operating the Gravity Bin

The Patriot Gravity Bin allows for easy storage of bulk feed at a farm location or at a field. The Patriot Gravity Bin has a rear discharge to make it easy for the operator to get bulk feed into a bucket or other feed carrying tool.

### Placing the Gravity Bin



**WARNING! Always place the Gravity Bin on a flat, level surface to prevent tip over. Never place the Gravity Bin on a slope or uneven terrain as the Gravity Bin could tip over and cause serious injury or death!**

Place the Gravity Bin on a flat level surface to prevent the Gravity Bin from tipping over. Also, the placement should be made so that access to fill the Gravity Bin or get feed from the Gravity Bin is easy and safe. Do not place the Gravity Bin under power lines as these can be struck when refilling the Gravity Bin or be struck by the Gravity Bin itself.

### To fill the Patriot Gravity Bin

1. Undo the rubber lid latch to unlock the lid.
2. Grip the lid handle securely and move the handle in a downward direction to open the Gravity Bin lid.
3. The Gravity Bin can now be loaded.
4. Once the Gravity Bin is loaded to its desired capacity, the lid can be closed.
5. Grip the lid handle and move it towards the right side of the Gravity Bin. This motion will cause the lid to close.
6. Close the lid completely.
7. Place the rubber lid latch in the locked position to lock the lid closed.

### To distribute feed, simply:

1. Retrieve the bucket from the bucket holder of the Gravity Bin.
2. Place the bucket under the lowered discharge chute.
3. Open the discharge door by lifting up on the discharge door handle and fill the correctly placed bucket.
4. When the bucket has the amount of bulk feed desired, close the discharge door by pushing down on the discharge door handle.
5. The bulk feed can be taken to the distribution area.
6. Repeat the above steps until the desired amount of bulk feed has been dispensed.
7. Place the discharge chute back into the upright storage position and be sure the discharge door is closed securely.
8. Place the bucket back into the provided bucket holder.



**DANGER! Never enter the holding compartment of the Gravity Bin! Serious injury or death could result!**

## Troubleshooting

<u>Symptom</u>	<u>Solution</u>
Discharge chute difficult to lower and/or raise	Adjust the mounting bolts
Feed gate raises and lowers slowly	Clean any debris that may be in the guide Adjust the mounting bolts for the raise/lower handle
No feed is flowing	Tap on the bottom of the hopper. Is the hopper empty?

## Service and Maintenance

To ensure the proper operation of the Gravity Bin:

- Clean the hopper out periodically to prevent build-up of feed debris
- Charge the battery periodically if equipped
- Check the operation of lights if equipped before each use.
- Lubricate any pivot points and slides.

## Storage

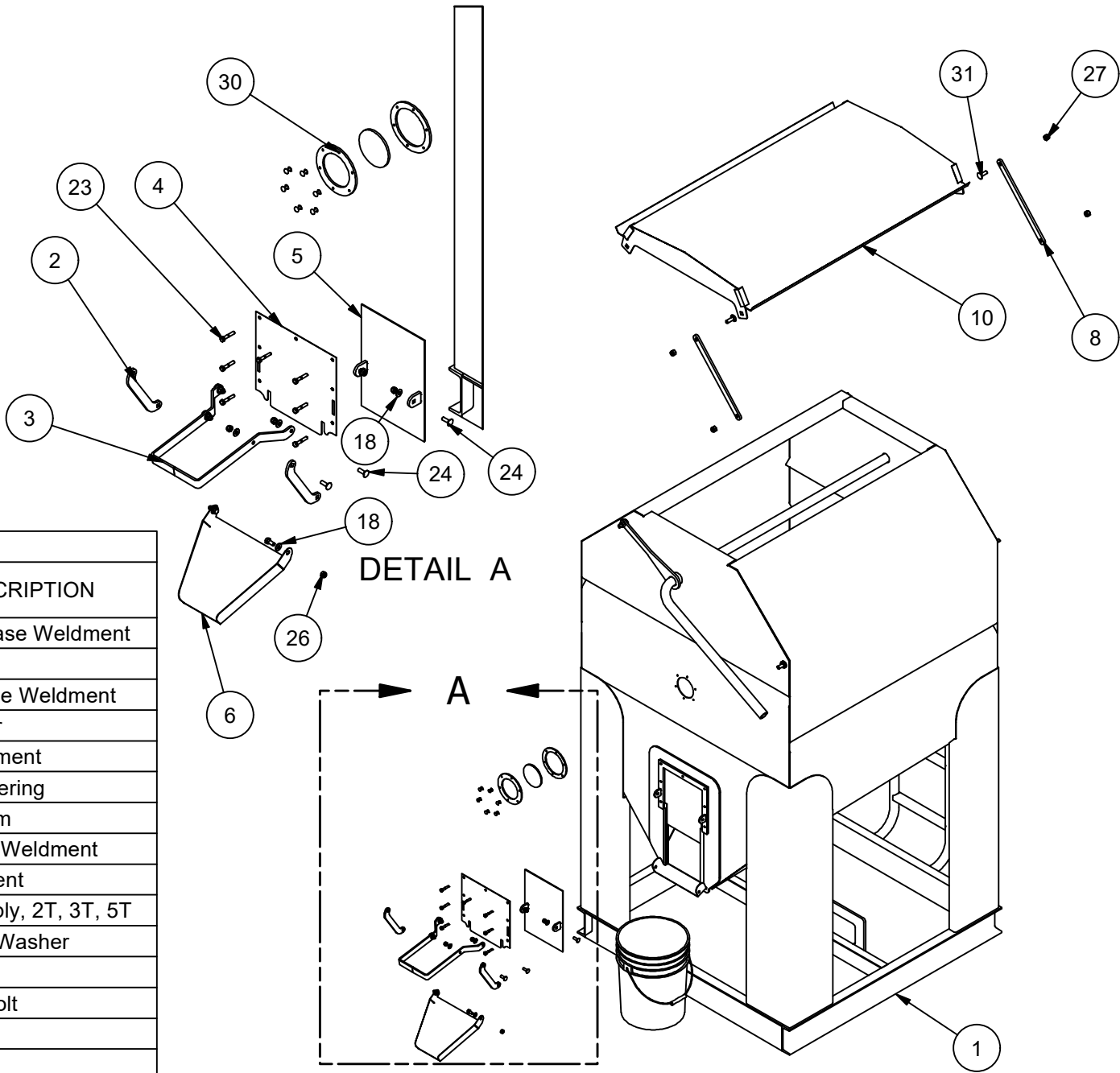
If the Gravity Bin is to be stored for an extended period of time:

- Clean out the hopper.
- If equipped with a battery, disconnect the battery
- Clean the Gravity Bin and perform touch up painting to prevent rust or any corrosion



## Gravity Bin Parts List

Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	GB-112T-A001	Body To Base Weldment
2	2	GT-CP-P018	Gate Link
3	1	GT-CP-A005	Gate Handle Weldment
4	1	GT-CP-P024	Gate Cover
5	1	GT-CP-A003	Gate Weldment
6	1	GT-CP-P020	Chute Foldering
8	2	GT-CP-P009	Lid Link Arm
9	1	GB-112T-A006	Lid Handle Weldment
10	1	GB-112T-A007	Lid Weldment
10.1	1	GB-CP-A001	Lid Assembly, 2T, 3T, 5T
18	8	W5/16NF	Nylon Flat Washer
23	7	B1/4x1.5	Hex Bolt
24	6	B5/16x1CB	Carriage Bolt
25	2	B5/16x0.75	Hex Bolt
26	8	N5/16NY	Nylock Nut
27	6	N1/2NY	Nylock Nut
28	7	N1/4NY	Nylock Nut
29	7	W1/4F	Flat Washer
30	1	GT-CP-A010	Window Flange Assembly
31	4	B1/2x1.5CB	Carriage Bolt



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## California Proposition 65

The Safe Drinking Water and Toxic Enforcement Act of 1986 (California Proposition 65, commonly known as Prop 65) applies to companies doing business in the State of California. The regulation is administered by the Office of Environmental Health Hazard Assessment (OEHHA) and mandates that no person in the course of doing business shall knowingly expose any individual to a chemical known to the State of California to cause cancer and/or reproductive toxicity without first giving clear and reasonable warning to individuals. If the business can prove that the exposure level poses no significant risk to the end consumer no warning is necessary.

Minden Machine Shop, Inc. is providing the information below to educate about the chemicals that are or could be found in the products that Minden Machine Shop, Inc. produces or uses in their products.

Material	Chemical	CAS #	Cancer, Reproductive Harm or Both?
Cast Iron	Nickel	7440-02-0	Cancer
	Arsenic	7440-38-2	Both
	Cobalt	7440-48-4	Cancer
	Lead	7439-92-1	Both
Steel	Nickel	7440-02-0	Cancer
Stainless Steel	Nickel	7440-02-0	Cancer
Paint Finishes	Carbon Black	1333-86-4	Cancer
	Toluene	108-88-3	Reproductive Harm
	Lead	7439-92-1	Both
Rubber Compounds	Acrylonitrile	107-13-1	Cancer
	Butadiene	106-99-0	Both
	DEHP	117-81-7	Both
EPDM	Carbon Black	1333-86-4	Cancer
Petroleum	Cadmium	-----	Both
Petroleum	Isoprene	78-79-5	Cancer

Additional information on Proposition 65 can be obtained by visiting the State of California's Proposition 65 website:

<https://oehha.ca.gov/proposition-65/about-proposition-65>

Summary of Proposition 65 requirements:

<https://oehha.ca.gov/proposition-65/general-info/proposition-65-plain-language>

Clear and reasonable notice requirements:

<https://oehha.ca.gov/proposition-65/crn/notice-adoption-article-6-clear-and-reasonable-warnings>

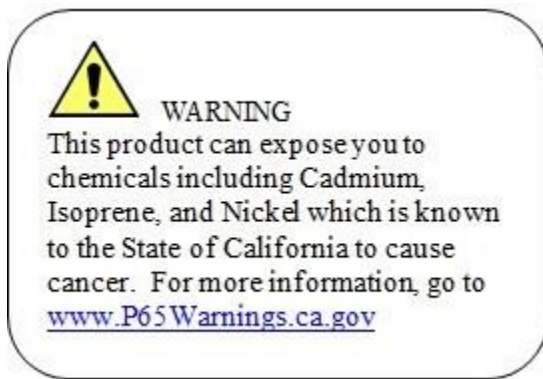
Chemicals and substances regulated by Proposition 65:

<https://oehha.ca.gov/proposition-65/proposition-65-list>

Proposition 65 Laws and Regulations:

<https://oehha.ca.gov/proposition-65/law/proposition-65-law-and-regulations>

Minden Machine Shop, Inc. has placed this decal on our products to alert the user to the possible exposures.



# Minden Machine Shop Inc

## LIMITED WARRANTY

Minden Machine Shop Inc warrants all products manufactured by it to be free of defect in material and workmanship for a period of one (1) year from the date of purchase.

This Minden Machine Shop Inc. warranty does not cover:

1. Parts and accessories supplied by Minden Machine Shop Inc. but manufactured by others. Minden Machine Shop Inc. will facilitate the other manufacturer warranty for the benefit of the purchaser but will not be bound thereby (example: augers, motors, trailers, tanks, etc.).
2. Products that have been altered by anyone other than a Minden Machine Shop Inc. employee or are used by the purchaser, for purposes other than what was intended at time of manufacture or used in excess of the "built specifications".
3. Products that are custom manufactured by Minden Machine Shop Inc. utilizing the purchaser's design which deviates from Minden Machine Shop Inc. normal production line manufactured or customized features of the products.
4. Malfunctions or damages to the product from misuse, negligence, customer alteration, accidents or product abuse due to incoming material or poor material flow ability or lack of required performance or required maintenance (e.g., poor material flow ability caused by incoming wet fertilizer or hot soybean meal, etc).
5. Loss of time, inconvenience, loss of material, down time or any other consequential damage.
6. Product use for a function that is different than designed intent (e.g., storing soybean meal in grain bin, unacceptable material in the bin such as hot bean meal when product originally designed for other application, etc).
7. Minden Machine Shop Inc is not responsible for any equipment that this product is attached to or mounted on.

To activate this warranty, the purchaser must make contact in writing with Minden Machine Shop Inc. within one (1) year of date of purchase. After contact, Minden Machine Shop Inc. has the right to determine the cause and qualify the legitimacy of the claim. Minden Machine Shop Inc., upon acceptance of a warranty claim, shall have a reasonable time to plan any repair or replacement and may affect repair or replacement out of its factory or through contract with a local repair service. If a purchaser after warranty notice is made, chooses to make the repair itself, Minden Machine Shop Inc. must approve any expenses before they are incurred to be responsible for customer reimbursement. Minden Machine Shop Inc. shall be liable on a warranty claim for repair or replacement of any defective products and this is the purchaser's sole and exclusive remedy. Minden Machine Shop Inc. will not be liable for any other or further remedy including claims for personal injury, property damage or consequential damage. The law of the State of Nebraska shall govern and any such claim and any issues with regard to the same shall be resolved in the Nebraska District Court for the county of Kearney.

## RETURN OF MERCHANDISE

Merchandise may not be returned without written approval from the factory. All returns must have a return authorization number. Obtain this number before the return and show it on all return items. A 15% restocking charge is made on merchandise returned. Returned merchandise must be shipped pre-paid.

## RECEIVING MERCHANDISE AND FILING CLAIMS

When receiving merchandise it is important to check both the number of parts and their description with packing slip. The consignee must make all claims for freight damage or shortage within 10 days from the date of delivery.

When the material leaves the factory it becomes the property of the consignee. It is the responsibility of the consignee to file a claim on any possible damage or loss. Please list your preferred routing on purchase orders.

## MODIFICATIONS

It is the policy of Minden Machine Shop Inc. to improve its products whenever possible and practical to do so. We reserve the right to make changes, improvements and modifications at any time without incurring the obligation to make such changes, improvements and modifications on any equipment sold previously.

# WARRANTY REGISTRATION

To register equipment, or file a claim, copy and paste the words on this page into an email or word document, fill out the appropriate information completely, and email it to [larry@mindenmachine.com](mailto:larry@mindenmachine.com) with the subject as EQUIPMENT WARRANTY, or fill it out and fax it to 308-832-1340.

**Dealer Information:** Not Applicable, check here: [   ]

Dealer Name:

Address:

City:

State:

Zip Code:

Phone #:

Email:

**End User Information:**

Purchaser:

Address:

City:

State:

Zip Code:

Phone #:

Email:

Equipment:

Serial #:

Date Of Purchase:     /     /