

PATRIOT™

Patriot Seed Treater

Owners Manual



**Manufactured by
Minden Machine Shop Inc.
1302 K Road
Minden NE 68959
1-800-264-6587**

Seed Treater
Serial # _____
Date of Purchase _____

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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.

This unit was designed for specific applications. It should not be modified or/and used for any application other than which it was designed. If there are any questions regarding its application, write or call. Do not use this unit until you have been advised. For more information, call 1-800-264-6587.

Read this entire manual carefully - know your equipment. Consider the application, limitations, and the potential hazards specific to your unit. Occupational 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 as our prime concern. The manual presents some of the day-to-day work problems encountered by the operator and other personnel. We wrote this manual to help you understand safe operating procedures for Patriot Seed Treaters. We want you as our partner in safety. A copy of this manual should be available to all persons who may operate this equipment.

It is your responsibility as an owner or 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.

Why is SAFETY important to you?

3 BIG REASONS

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

Signal Words

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 This Symbol - It Points Out Important Safety Precautions. It 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.

Anyone who will operate or work around a Seed Treater shall first read this manual! This manual must be delivered with the equipment to its owner. 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 and auger that is in operation. Be sure ALL safety shields and protective devices are installed and properly maintained. If you find any shields or guards damaged or missing, contact Minden Machine Shop Inc. for the correct items.

SERIAL NUMBER

To ensure efficient and prompt service, please furnish us with the model and serial number of your Patriot Seed Treater in all correspondence or other contact.

SAFETY PROCEDURES

1. Use only lifting equipment with the proper capacity when loading or lifting bulk bags or lifting the Patriot Seed Treater. Forklifts with too little capacity may tip towards the front where the lifted weight is.
2. Do not use makeshift systems to handle seed or equipment as you may create an unsafe condition.
3. Do not attempt to raise the Patriot Seed Treater unit by hoist or forklift when it is loaded with product.
4. When bulk bag is placed over the Patriot Seed Treater a danger exists when pulling open the pull cord. Hydraulics could fail or operator could make an error causing your arm to be pinned. Do not place a hand or arm into such a position. Extend the pull chord by tying a rope addition or string to lengthen it; this will allow you to pull the string without placing your arm or hand in danger.
5. Do not operate unit without safety shields or guards in place.
6. Do not enter the hoppers when it has product in it as suffocation could result
7. Do not place flammable objects close to engine. This could cause a fire.
8. In case of any defect or awareness of potential danger please contact the plant at 1-800-264-6587 immediately.

OPERATOR QUALIFICATIONS



Operation of this Seed Treater shall be limited to competent and experienced persons. In addition anyone who will operate or work around a Seed Treater 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. This includes Seed Treaters. It is

your responsibility to know what these regulations are in your own area or situation.

2. Current OSHA 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 as shown in the work diagrams.

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 your Patriot Seed Treater.

YOU must ensure that you and anyone who is going to operate, maintain, or work around the seed treater must be familiar with the operating, maintenance, and safety information contained in the manual. This manual will take you step by step through your working day and alerts you to all good safety practices while operating the treater.

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, most accidents can be prevented. Do not risk injury or death by ignoring any information addressed.

Treater owners must give operating instructions to operators before allowing them to operate the treater. 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 seed treater. 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

I have read and understand the operator’s manual and all safety signs before operation, maintenance, adjusting or unplugging the treater.

I will allow only trained persons to operate the Patriot Seed Treater. *An untrained operator is not qualified to operate this equipment.

I have access to a fire extinguisher.

I have all guards and shields will be in place and will not operate the Patriot Seed Treater without them.

I understand the danger of flowing liquid and will not service the unit when pump is running.

I am aware that the seed treater needs a firm base and will not load a treater that is not on level flat ground

I understand the danger of working with bulk bags as they are placed over the Patriot Seed Treater.

I understand that any accidents that occur with the Patriot Seed Treater are my responsibilities.

I understand that Minden Machine Shop will not be held responsible of any accidents that involve the Patriot Seed Treater.

SIGN OFF SHEET (this must be signed annually as part of your safety program)

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

DATE	EMPLOYER SIGNATURE	EMPLOYEE SIGNATURE



MACHINE INSPECTION

After delivery of your new Seed Treater and/or completion of assembly, 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. Check all safety signs and replace any that are worn, missing or illegible.
3. Are all fasteners tight?
4. Is hoses clamps and tip holders are tight and properly adjusted?

SAFETY DECALS

1. Keep safety decals clear and legible at all times.
2. Replace decals and signs that are missing or have become unreadable.

DESIGNATED WORK AREA

WORK AREA DIAGRAM

Before starting the Seed Treater, a designated work area should be established. The work area should be a perimeter in which no persons should be allowed that are not directly involved the operation of the Seed Treater. Also all persons in the work area must have read and understand this manual.

RULES FOR SAFE WORK AREA

Under no circumstances should persons not involved in the operation be allowed to trespass into the work area. It shall be the duty of all operators to see that children and/or other persons stay out of the work area! Trespass into the work area by anyone not involved in the actual operation, or trespass into hazard area by anyone, shall result in immediate shut down by the operator. It shall be the responsibility of all operators to see that the work area has secure footing, is clean and free of all debris, and tools, which might cause tripping and/or falling. It shall also be their responsibility to keep the work area clean and orderly during the operation.

OPERATING PROCEDURES

STARTUP AND BREAK-IN PROCEDURES



It is essential to inspect all fittings and electrical hookups before adding power and know how to shut down in an emergency. During the operation of your treater, one person shall be in a position to monitor the operation.

CAUTION: During the initial start up and break-in period, the operator shall be aware of any unusual vibrations or noises that would indicate a need for service or repair. Keep all safety shields and devices in place. Keep hands, feet and clothing away from moving parts. The operator should have a full view of the work area and check that all personnel are clear of designated work area before adding power.

SHUT OFF POWER AND LOCKOUT THE PUMP TO ADJUST, SERVICE OR CLEAN.

TROUBLE SHOOTING

LOW CAPACITY

The bean ladder may not be getting enough grain. Check to see the intake has not “bridged over” restricting the flow.

SPRAY NOT SPRAYING

The pump could be bad check. Power may not be getting to the switch. Have a qualified electrician check out your system. Tips or screens may be plugged. Remove and clean.

LETDOWN LADDER FOR CONVEYERS



- ❖ Semi universal fit
- ❖ Allows coated seed to separate
- ❖ Less seed damage
- ❖ Poly belting

MINDEN MACHINE SHOP INC

PRODUCT 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. 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, trailers, inoculation 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).

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.

To obtain the PSI needed to apply the right amount of chemical to the right amount of seed in the right amount of time you will need to follow these three simple steps.

STEP 1 -- Determine Seed Flow Through Grain Gate

Measure opening and set according to Chart 1 for the seed flow in units per minute you desire.

Run seed through system and adjust gate opening till you get the desired seed flow per minute.

STEP 2 -- Determine Chemical Flow

Pick the desired application rate per unit (Chart 2) as recommended by the chemical manufacturer and follow across to the seed flow in units per minute (from Chart 1) you have chosen -- follow down to the Ounces need per minute (Chart 2) to determine the ounces needed to apply the right amount of chemical per minute.

STEP 3 -- Determine Pressure

Now that you have Ounces needed per minute from (Chart 2) follow down Chart 3 in either the 2 tip or the 3 tip column to that flow rate and follow across the the PSI needed.

Chart 1

Approximate opening size in grain gate	1/2 inch	5/8 inch	3/4 inch	7/8 inch	1 inch	1 1/8 inch
Approximate Seed flow in units per minute	5.000	6.000	7.000	8.000	9.000	10.000
minutes to do 50 units	10.000	8.333	7.143	6.250	5.556	5.000

Chart 2

Application rate per unit as recommended by chemical manufacturer	Ounces needed per minute to get the rate desired					
	5.000	6.000	7.000	8.000	9.000	10.000
1.000	5.000	6.000	7.000	8.000	9.000	10.000
1.100	5.500	6.600	7.700	8.800	9.900	11.000
1.200	6.000	7.200	8.400	9.600	10.800	12.000
1.300	6.500	7.800	9.100	10.400	11.700	13.000
1.400	7.000	8.400	9.800	11.200	12.600	14.000
1.500	7.500	9.000	10.500	12.000	13.500	15.000
1.600	8.000	9.600	11.200	12.800	14.400	16.000
1.700	8.500	10.200	11.900	13.600	15.300	17.000
1.800	9.000	10.800	12.600	14.400	16.200	18.000
1.900	9.500	11.400	13.300	15.200	17.100	19.000
2.000	10.000	12.000	14.000	16.000	18.000	20.000
2.100	10.500	12.600	14.700	16.800	18.900	21.000
2.200	11.000	13.200	15.400	17.600	19.800	22.000
2.300	11.500	13.800	16.100	18.400	20.700	23.000
2.400	12.000	14.400	16.800	19.200	21.600	24.000
2.500	12.500	15.000	17.500	20.000	22.500	25.000
2.600	13.000	15.600	18.200	20.800	23.400	26.000
2.700	13.500	16.200	18.900	21.600	24.300	27.000
2.800	14.000	16.800	19.600	22.400	25.200	28.000
2.900	14.500	17.400	20.300	23.200	26.100	29.000
3.000	15.000	18.000	21.000	24.000	27.000	30.000
3.100	15.500	18.600	21.700	24.800	27.900	31.000
3.200	16.000	19.200	22.400	25.600	28.800	32.000
3.300	16.500	19.800	23.100	26.400	29.700	33.000
3.400	17.000	20.400	23.800	27.200	30.600	34.000
3.500	17.500	21.000	24.500	28.000	31.500	35.000
3.600	18.000	21.600	25.200	28.800	32.400	36.000
3.700	18.500	22.200	25.900	29.600	33.300	37.000
3.800	19.000	22.800	26.600	30.400	34.200	38.000
3.900	19.500	23.400	27.300	31.200	35.100	39.000
4.000	20.000	24.000	28.000	32.000	36.000	40.000
4.100	20.500	24.600	28.700	32.800	36.900	41.000
4.200	21.000	25.200	29.400	33.600	37.800	42.000
4.300	21.500	25.800	30.100	34.400	38.700	43.000
4.400	22.000	26.400	30.800	35.200	39.600	44.000
4.500	22.500	27.000	31.500	36.000	40.500	45.000
4.600	23.000	27.600	32.200	36.800	41.400	46.000
4.700	23.500	28.200	32.900	37.600	42.300	47.000
4.800	24.000	28.800	33.600	38.400	43.200	48.000
4.900	24.500	29.400	34.300	39.200	44.100	49.000
5.000	25.000	30.000	35.000	40.000	45.000	50.000

Chart 3

XR1101VS TEEJET TIP		
OZPM	OZPM	PSI
2 TIPS	3 TIPS	needed
15.36	23.04	15
15.86	23.80	16
16.35	24.53	17
16.83	25.24	18
17.29	25.93	19
17.74	26.60	20
18.17	27.26	21
18.60	27.90	22
19.02	28.53	23
19.43	29.14	24
19.83	29.74	25
20.22	30.33	26
20.61	30.91	27
20.99	31.48	28
21.36	32.04	29
21.72	32.58	30
22.08	33.12	31
22.43	33.65	32
22.78	34.17	33
23.13	34.69	34
23.46	35.19	35
23.80	35.69	36
24.12	36.19	37
24.45	36.67	38
24.77	37.15	39
25.08	37.62	40
25.39	38.09	41
25.70	38.55	42
26.01	39.01	43
26.31	39.46	44
26.60	39.91	45
26.90	40.35	46
27.19	40.78	47
27.48	41.22	48
27.76	41.64	49
28.04	42.07	50
28.32	42.48	51
28.60	42.90	52
28.87	43.31	53
29.14	43.72	54
29.41	44.12	55
29.68	44.52	56
29.94	44.91	57
30.20	45.31	58
30.46	45.69	59
30.72	46.08	60