

W & A

150° FOLDING PULVAMIZER

OPERATOR'S MANUAL

TO THE OWNER:

Congratulations on your purchase of a new W & A 150° Folding Pulvamer . Your selection is an indication of your awareness of the need for intensive engineering, research, design, durability and dependability that has gone into its production.

Be sure to read all the instructions in this manual before placing the machine in use. Safety precautions along with adjustments should be learned and also taught to anyone who operates the machine. Remember, an implement which is properly maintained, adjusted, and safely operated saves time, labor and money.

After the operating season, thoroughly clean your machine and inspect it. Preventive maintenance pays dividends. Your dealer has original equipment parts which assure proper fit and best performance.

Thank you for purchasing this W&A product.

For your convenience, please fill in the following:

Model: _____ Serial No. _____

Dealer Name: _____ Date Purchased _____



Quality Products from

W & A MANUFACTURING COMPANY

P.O. Box 5238, Pine Bluff, Arkansas 71611

Phone: (870) 534-7420

Fax: (800) 336-1318

Website: www.wamfgco.com

SAFETY

SI NO LEE INGLES, PIDA AYUDA A AIGUIEN QUE SI LO LEA PARA QUE LE TRADUZCA LAS MEDIDAS DE SEGURIDAD.



THIS SYMBOL MEANS

-ATTENTION!

-BECOME ALERT!

-YOUR SAFETY IS INVOLVED!

SIGNAL WORDS:

The signal words DANGER, WARNING and CAUTION are used with the safety messages in this manual and with each safety sign. They are defined as follows:

DANGER: Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations typically for machine components which, for functional purposes, cannot be guarded. The color for DANGER is RED.

WARNING: Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices. The color for WARNING is ORANGE.

CAUTION: Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices. The color for CAUTION is YELLOW.

- Safety of the operator and bystanders is one of the main concerns in designing and developing our products. However, every year accidents occur which could have been avoided by a few seconds of thought and a more careful approach to handling equipment. You, the operator, can avoid many accidents by observing the following precautions in this manual. To avoid personal injury or death, study the following precautions and insist those working with you, or for you, follow them.



If you have any questions not answered in this manual, require additional copies or the manual is damaged, please contact your dealer or W & A Manufacturing Company, P. O. Box 5238, Pine Bluff, Arkansas 71611. (Telephone) 870-534-7420, (FAX) 870-534-1318. Manuals can also be found at www.wamfgco.com



This is the safety alert symbol. When you see this symbol on your machine or in this manual, be alert to the potential for personal injury or death. Follow the Safety Requirements!



GENERAL SAFETY REQUIREMENTS



- Before operating your 150° Folding Pulvamer, thoroughly read and understand your operator's manual. If you do not understand any portion of the operator's manual, contact your dealer or W & A Manufacturing Company immediately.
- Never operate the machine under the influence of alcohol or drugs, or while you are otherwise impaired.
- This equipment is dangerous to children and persons unfamiliar with its operation. The operator should be a responsible adult familiar with farm machinery and trained in this equipment's operations. **Do not allow persons to operate or assemble this unit until they have read this manual and have developed a thorough understanding of the safety precautions and of how it works.**
- Clear the area of people, especially children, before starting unit.
- Do not allow anyone to ride on any part of the equipment for any reason.
- If safety signs are missing, unreadable, or damaged, they should be replaced. See list of safety signs. Keep safety signs clean and legible. Do not paint over safety signs.
- Furnish this manual to the new owner if the machine is sold.
- Inspect machine daily for worn parts, hydraulic leaks, frayed hoses, and make necessary repairs. Tighten all bolts and make sure all fasteners are in place.
- Unauthorized modifications to the machine may impair the function and/or safety and affect machine life. Make NO unauthorized modifications. DO NOT REMOVE orifice fittings from hydraulic cylinders.
- Never stand between implement and tractor when hitching. Extreme care should be used to prevent injury to the hands or fingers. *Stop tractor engine and set brake before installing hitch pins.*
- Lower wings, unit and front & rear parking stands and relieve hydraulic pressure before servicing, unplugging, adjusting, leaving, or storing machine.
- Raised equipment can fall unexpectedly and crush persons underneath. Never allow anyone to enter the area underneath raised equipment during operation.
- Do not read, eat, drink, talk or text or use a mobile phone while using this equipment.
- Review the safety instructions with all users annually.



TRANSPORTING



- Comply with all federal, state, and local laws for implement transport on public roads.
- Watch for obstructions overhead and to side while transporting.
- Travel speed should be such that you maintain complete control and machine stability at all times.
- Make sure that the brake pedal latch is engaged. You must lock brake pedals together for road travel.
- Slow down and signal before turning. Pull over to allow faster traffic to pass.
- Never transport machine unless hydraulic systems are completely charged with hydraulic oil and transport safety locks are engaged.
- Raised wings can contact electric utility lines and overhead obstructions. Severe shock, injury, or death can result. Electrocution can occur without direct contact. Drive carefully. Measure overall transport height and be sure of clearance.
- When transporting on a road or highway, use adequate warning symbols, reflectors, and SMV (slow moving vehicle) emblem and appropriate lighting to meet local regulations. Avoid transporting at night or low light conditions.



OPERATIONS



- Never start or operate machine unless sitting on tractor seat.
- Always make sure hydraulic system is fully charged with oil before use. Failure to bleed the system of all air can cause folded wings or entire machine to drop suddenly.
- Make sure front of tractor is properly weighted for safe steering control and operation.
- Clear the area of people, especially children, before starting the unit.
- Do not allow anyone to stand between tractor and implement when hitching.
- Do not operate hydraulic wings and/or arms until you are sure all bystanders are clear of area.
- Coulter, disk and marker blades are sharp. Use extreme care when adjusting or servicing. Keep hands and feet from beneath blades.



SERVICE / MAINTENANCE



- Before working on this machine stop the tractor, set the brakes, disengage the PTO and power drive, shut off the engine and remove the ignition key.
- Securely block machine when working on or under it. To prevent injury in case of hydraulic failure or inadvertent lowering by another person, unfold wings and arms and securely block. Never use a jack to support the implement.
- Always use the proper tools or equipment for the job.
- Properly tighten all hardware.
- Relieve pressure from hydraulic system before servicing or disconnecting from tractor.
- Inspect all hydraulic hoses and components to be sure they are in good condition and that all connections are tight.
- Escaping hydraulic oil under pressure can produce enough force to penetrate the skin, causing serious personal injury or infection. Before applying pressure to the system, be sure all connections are tight and that lines, pipes, and hoses are not damaged. Before disconnecting lines, be sure to relieve all pressure. Hydraulic oil escaping from a very small hole can be almost invisible. Wear proper eye and hand protection and use a piece of cardboard or wood - not your hands - to search for suspected leaks. If injured by escaping hydraulic oil, **seek emergency medical attention immediately**. Serious infection or reaction can develop if proper medical treatment is not administered immediately.
- When remote cylinders are connected to the hydraulic system, cycle the control lever about three times to remove air from the cylinder and hoses. With air in the system, raised equipment can drop accidentally and cause personal injury or damage.
- Never use machine until all guards and safety devices are securely in place.
- After servicing, be sure all tools, parts and service equipment are removed.
- Where replacement parts are necessary for periodic maintenance and servicing, genuine factory replacement parts must be used to restore your equipment to original specifications. The manufacturer will not claim responsibility for use of unapproved parts and/or accessories and other damages as a result of their use.
- If equipment has been altered in any way from original design, the manufacturer does not accept any liability for injury or warranty.

SAFETY SIGNS

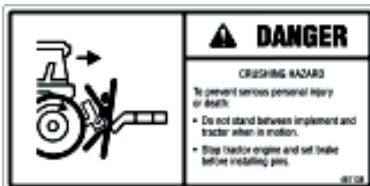
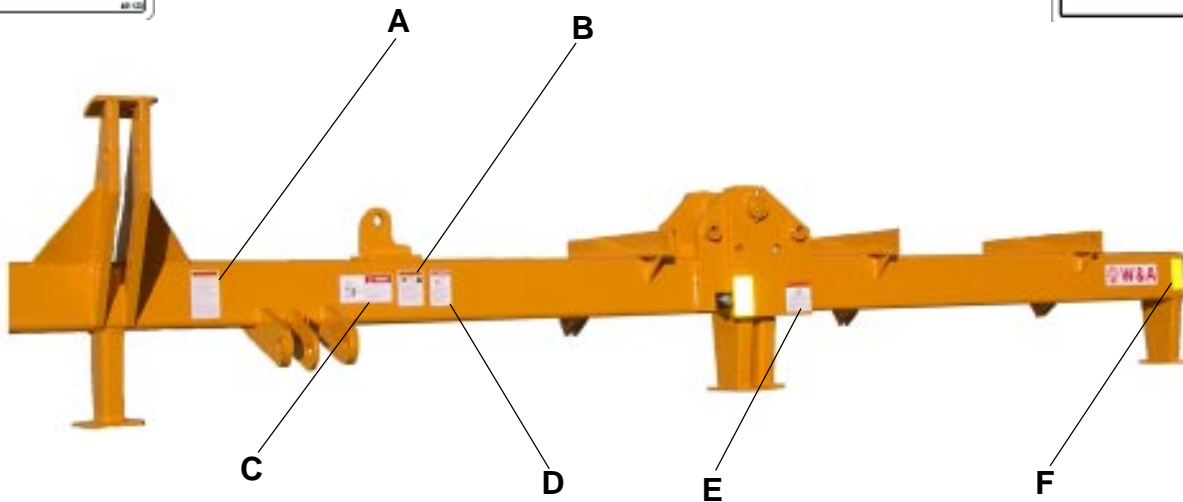
- Keep safety signs clean and legible at all times.
- Replace safety signs that are missing or have become illegible.
- Replaced parts that displayed a safety sign should also display the current sign.
- Safety signs are available from your dealer or W & A Manufacturing Company.



A. WARNING - Operator's Manual Sign Number 461123

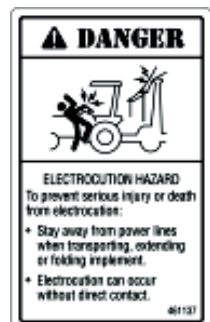


B. WARNING - High pressure Fluid Hazard Sign Number 461113



C. DANGER - Crushing Hazard Sign Number 461138

D. DANGER - Electrocutation Hazard Sign Number 461137



E. WARNING - Overhead Wing Hazard Sign Number 461135



F. Amber Reflectors - Also located at both front ends of center section and at front ends of wings. Total of six required. Sign Number 461200.

N/I. Red Reflectors - Located on rear of harrow frames. Total of six required. Sign Number 461201

LUBRICATION & MAINTENANCE



Lower Wings and Unit Before Servicing, Adjusting or Leaving Unit.

DAILY OR AFTER 10 HOURS OF OPERATION:

Grease all hinge assemblies and top leveling arm pins. Grease reel bearings.

Retighten all bolts and check that all fasteners and keepers are in place and secure. Special attention should be given to roll pins securing wing pivot pins and bolts securing leveling arm pins.

PERIODICALLY:

Thoroughly clean and inspect your machine. Tighten all bolts as needed and check that all fasteners and keepers are in place and secure.



Be sure all hydraulic connections are tight and hoses are not worn or damaged. Hydraulic oil leaking under pressure can penetrate the skin and cause infection or other injury.

TO PREVENT PERSONAL INJURY:

Relieve all pressure before disconnecting lines. Before applying pressure, make sure all connections are tight and in good condition. Never use your hand to check for suspected leaks under pressure. Wear proper eye and hand protection and use a piece of cardboard or wood for this purpose. If injured by leaking fluid, SEEK EMERGENCY MEDICAL ATTENTION IMMEDIATELY.

Check cylinder pins and hitch pins for wear and replace as required.

Grease all hinge assemblies and top leveling arm pin and grease reel bearings before storing implement for an extended period of time.

Review safety instructions with all operators annually.



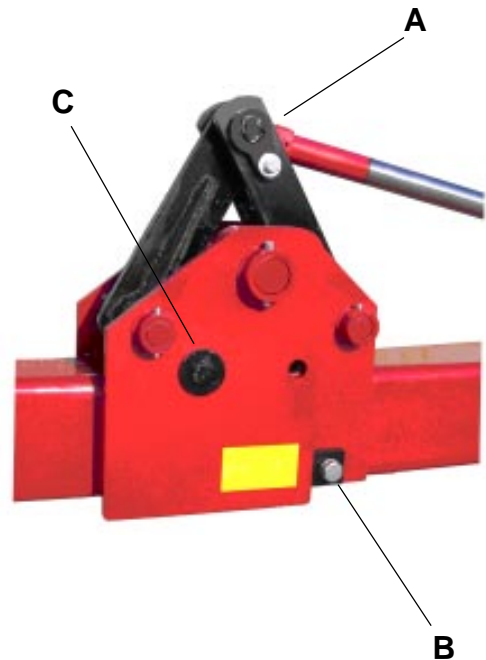
*Be Extra Cautious
around Moving Machinery!*

ADJUSTMENTS & OPERATION



Lower Wings and Unit Before Servicing, Adjusting, or Leaving Unit.

1. Make all adjustments on a flat level service.
2. Level wings by adjusting clevis (A) on cylinders. Large adjustments can be made by changing contact side of "stop blocks" (B). There are three different positions on each block. Be sure that all four blocks are set the same.
3. When remote cylinders are connected to the hydraulic System, cycle the control lever about three times to remove air from cylinders and hoses. With air in the system, raised equipment can drop accidentally and cause personal injury or damage. **IMPORTANT:** Orifice size is correct for safe operation of Folding Pulvamer. Do not drill nor remove orifice.
4. Adjust harrow chains to allow harrow teeth to penetrate at desired depth. Secure with ¼" klik pins.
5. Adjust tension spring assemblies on dragboard legs to give sufficient down pressure to firm the soil as desired.
6. Set gauge wheels to allow machine to work at desired depth.
7. This machine is designed to operate at a speed of no more than 7 miles per hour. To insure long machine life, **DO NOT OPERATE AT FASTER SPEED.**
8. Wing Lock Pin (C) can be used to lock down wings if desired. Always remove Wing Lock Pins before folding unit.
9. Never attempt to turn with implement in down or working position.
10. Lower wings and parking stands before lowering unit to unhook tractor.



Install proper ballast on front of tractor to insure safe and proper steering at all times.

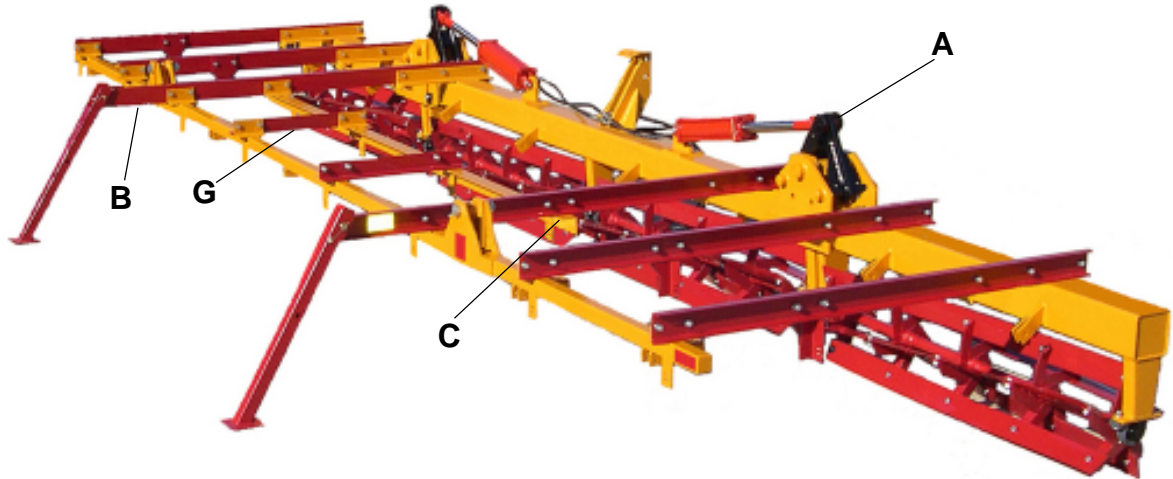


DO NOT LOWER wings until you are first sure that nobody is standing under or near tool bar.

ASSEMBLY

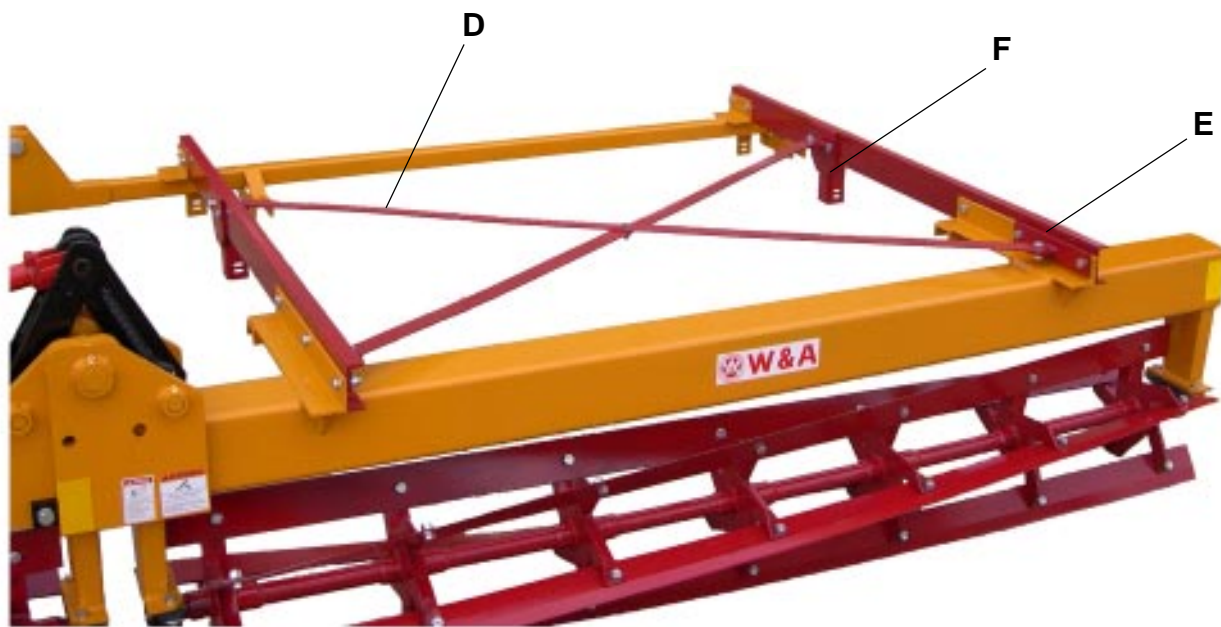


EXTREME CARE SHOULD BE USED DURING ASSEMBLY TO PREVENT INJURY TO HANDS, FINGERS AND FEET.



1. Mount center section to three point hitch of appropriately sized tractor and park on a flat level surface. Connect hydraulic hoses to tractor remotes and extend both cylinder rods.
2. Grease 2" pivot pins found in wings.
3. Keeping wing level, align wing pivot hole with hole in center section and install 2" pivot pin. Be sure end of pivot pin with $\frac{1}{2}$ " hole matches hole in wing collar, and secure pin with $\frac{1}{2}$ " roll pin provided.
4. Partially remove Cylinder Lock Pin (A) from cylinder clevis and Follow Arm. Align wing Folding Arm with cylinder clevis and Follow Arm and secure with $\frac{1}{2}$ " x $1\frac{1}{2}$ " bolt, flat washer, and lock washer provided.
5. Using same method, install other wing.
6. Level wings by adjusting cylinder clevis and/or Stop Blocks. (See instructions on page 8)
7. Install right hand and left hand Stand Channels (B) to center reel frame angles located under hydraulic cylinders with $\frac{5}{8}$ " x $1\frac{1}{2}$ " hex bolts and lock nuts. Insert Rear Parking Stands into tubing holders at ends of Stand Channels and secure with $\frac{1}{2}$ " x $5\frac{1}{2}$ " Safety Lock Pins provided. On twelve row unit install two Connecting Channels (80") to remaining center reel frames angles.

8. Attach Front Center Angle Harrow Holder (C) to Connecting Channels using 5/8" x 1½" hex bolts and lock nuts. Chain hangers should be towards the front of the machine.
9. On eight row units, install two Connecting Channels (80") to wing reel frame angles and secure with 5/8"x 1½" hex bolts and lock nuts. On twelve row units, unfold Wing Brace Assembly (D) and attach it's Front Brace Brackets (E) to Connecting Channels and wing reel frame angles using 5/8" x 2" hex bolts and lock nuts. Rear hole of angles use 5/8" x 1½" hex bolts.
10. On eight row units, install Chain Hangers (F) to Connecting Channels using 5/8"x 1½" hex bolts and lock nuts. On twelve row units, Rear Brace Brackets of Wing Brace Assembly to Connecting Channels and Chain Hangers using 5/8" x 2" hex bolts. Chain Hangers chain slots should be in line with chain slots on Front Center Angle Harrow Holder.

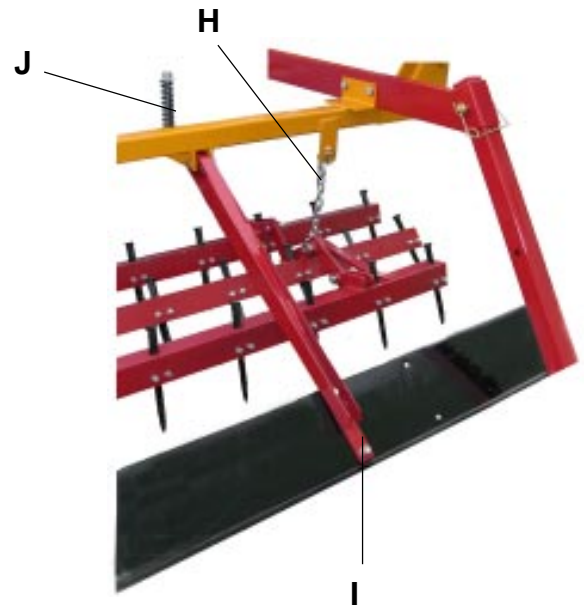


11. Attach rear center tubing harrow holder and wing harrow holders to connecting channels using 5/8" x 1½" hex bolts and lock nuts. (Leg brackets should be towards the front of the machine and chain hangers to the rear of the machine.) Install 1¼" x 6½" Gr. 5 Pivot Bolts and secure with 1¼" jam nuts. Do not over tighten hinge assemblies. Grease hinge bolts
12. Install Rear Connecting Angles (29¼" Long) (G) from angles on Front Center Angle Harrow Holder to center angles of Rear Center Tubing Harrow Holder using 5/8" x 1½" hex bolts.
13. Unroll harrow sections and position behind reel frame. Connect harrow pull links to reel frame with 5/8" x 2¼" Knurled and Threaded Clevis Pins and 5/8" lock nuts.

14. Place Harrow Lift Chains (H) through chain slots on harrow carrying frames. Secure chains in place with ¼" klik pins.

15. Attach Drag Board Legs (I) to harrow carrying frame with ½" x 3" bolts and lock nuts. NOTE: These bolts serve as pivot points for drag boards and should not be over tightened.

16. Put the 5/8" x 8" bolt (J) through the 5/8" concave washer and the 7" coil compression spring and then insert through the hole in the attaching bracket on the harrow carrying frames. Secure to drag board leg with 5/8" lock nut.



17. Attach drag boards to legs using ½" x 1¼" carriage bolts, nuts and lock washers.

18. Attach gauge wheel assemblies to reel frame at proper locations to run in middles using 5/8" x 4" Grade 5 hex bolts, lock washers and nuts provided.

19. Inspect factory installed hydraulics.



Be sure that all hydraulic connections are tight and that hoses are not damaged. Hydraulic oil leaking under pressure can penetrate the skin and cause infection or other injury.

TO PREVENT PERSONAL INJURY:

Relieve all pressure before disconnecting lines. Before applying pressure make sure all connections are in good condition. NEVER USE YOUR HAND to check for suspected leaks under pressure. Wear proper eye and hand protection, and use a piece of cardboard or wood for this purpose. If injured by leaking fluids SEEK MEDICAL ATTENTION IMMEDIATELY.



When remote cylinders are connected to the hydraulic system, cycle the control lever about three times to remove air from the cylinder & hoses. With air in the system, raised equipment can drop accidentally and cause personal injury or damage.

WARRANTY

W & A Manufacturing Company warrants all products manufactured and sold by it to be free of defects in material and workmanship and to perform as represented, subject to the following conditions

- (A) Warranty applies only if installed and operated according to instructions.
- (B) Written authorization must be obtained prior to return of material for inspection. Material is to be returned prepaid.
- (C) Warranty does not apply to labor for parts replacement, nor does it apply to damage by accident, abuse, misuse or failure caused by not operating according to instructions.
- (D) Warranty is void if changes are made in the product in the field by other than a W & A representative or by instructions from the factory.

W & A Manufacturing Company reserves the right at any time to make changes in the design, materials and/or specifications of any of its products without thereby becoming liable to make similar changes in equipment previously manufactured.

Written authorization must be obtained prior to the return of any equipment purchased from W & A Manufacturing Company. No penalties will be charged if equipment had been placed on display by a W & A representative or if reasons for return are errors or faults of W & A Manufacturing Company. If return is for the benefit of the customer and the equipment is returned by prepaid freight in a new, unused and resalable condition, credit (based on original purchase price) will be issued less a 10% fee for restocking and other handling expenses.



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