

OWNERS MANUAL

For Thumbs, Grapples, Moldboard Rakes, & Bucket Forks



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Precautions

- **READ MANUAL PRIOR TO INSTALL or OPERATION**

Improper installation and operation of this equipment could result in serious injury or death. Operators should read all manuals related to this equipment thoroughly before beginning installation and operation.

- **PROTECT AGAINST FLYING DEBRIS**

When driving pins always guard against injury from flying pieces of metal or debris. WEAR SAFETY GLASSES.

- **SUPPORT RAISED EQUIPMENT**

Do not work under raised loader booms, buckets, or grapples without supporting them.

- **DO NOT MODIFY EQUIPMENT**

Do not modify equipment in any way. Modifications may weaken the integrity of the equipment and may impair its function, safety, and performance.

- **DO NOT IMPROPERLY USE EQUIPMENT**

All equipment is used as material handling tools for loading and transporting material. Do not use for any methods outside of this.

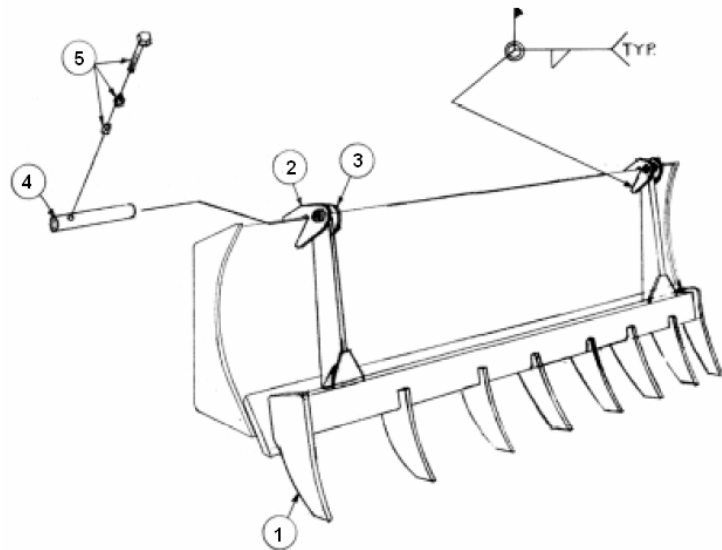
MOLDBOARD RAKE MOUNTING INSTRUCTIONS



Step1. Center rake on moldboard. Position the bottom of the beam $\frac{1}{4}$ " up from the cutting edge. See **Figure A**.

Step2. Install the mounting brackets and the weld brackets in place (the brackets may need to be trimmed). See **Figure B** for different bracket positions.

Figure A



Part
1-Rake Weldment
2- Mounting Bracket Weldment
3- Mounting Bracket
4- Pin
5- $\frac{1}{2}$ "X4" Hex Bolt w/Nut & Lock Washer

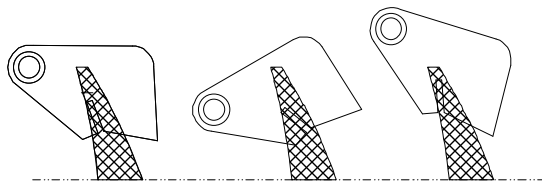


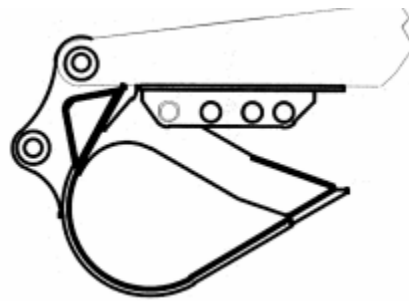
Figure B

MECHANICAL THUMB WELDING INSTRUCTIONS

Step1. Locate the thumb mounting bracket as close as possible to the bucket pivot. Allow ½” clearance with bucket in full curl position.

Step2. Weld electrode and procedure as follows: weld using E7018 or equivalent electrode. All welding to be performed by a qualified or certified welder. All welding to be peened and the end of each weld ground and tapered to eliminate weld stress and stress risers. See **Figure A**.

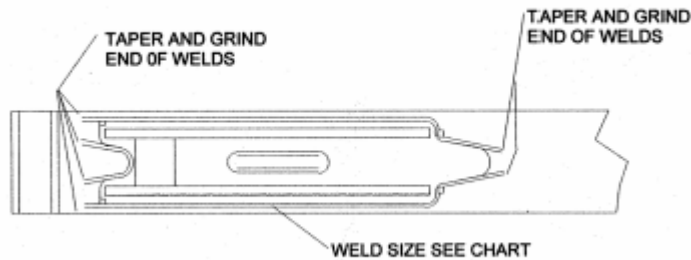
***All welding practices to be in accordance with the American Welding Society**



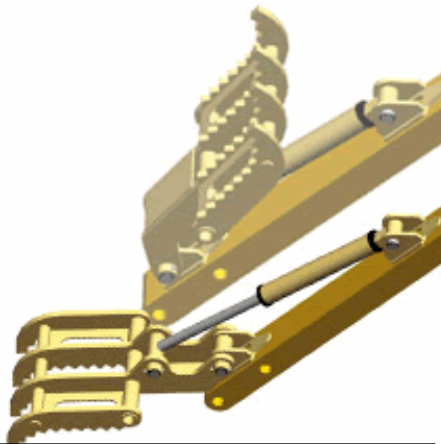
The above drawing shows how it should appear once the thumb has been attached.

Thinnest Material Size	Single Fillet
1/2"	7/16"
3/4"	1/2"
1"	3/4"
1-1/2"	1"

Figure A



HYDRAULIC THUMB MOUNTING INSTRUCTIONS

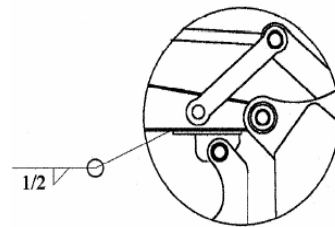


Installing the Cylinder Base Bracket

- Step1.** Install the cylinder bracket to the dimension shown and tack weld in place. The tack weld to be sufficient to hold the bracket, thumb and cylinder.
- Step2.** Move the thumb to the minimum and maximum cylinder stroke; check that the cylinder is free and that it has no contact that would damage the cylinder.
- Step3.** Finish welding the brackets to the boom using 70-18 electrode.
- Step4.** The thumb is now ready for use.

Installing the Front Bracket

- Step1.** Position the bucket in full curl and locate the bracket as shown in **Figure A**. Allow 1/2" clearance between the bracket and the bucket. Then clamp or tack weld the bracket in place. The tack weld or clamp to be sufficient to hold the bracket and thumb.
- Step2.** Install the thumb to the bracket.
- Step3.** Check the bracket and thumb position as shown in **Figure B**. The thumb to be Positioned 90° to the flat part of the stick as shown. Bring the bucket and thumb together as shown in **Figure B2**. The thumb must contact the bucket cutting edge or bucket teeth. The bucket must contact the thumb only in this area. When the thumb contacts the bucket in another area the bracket position is to be moved back on the stick to remove the contact area.



B1 Front Bracket Installation

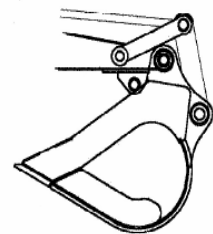


Figure A
Full Curl

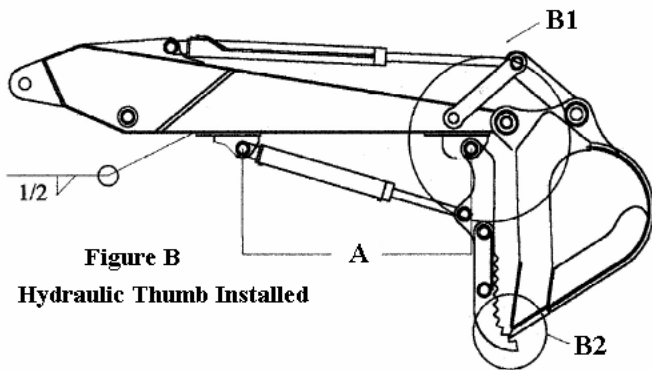


Figure B

Hydraulic Thumb Installed

Note: If problems occur installing the thumb contact the manufacturer to resolve the problem.

**MAX.
PRESSURE
2,500 psi**

* Operating pressure *MUST* not exceed 2,500 psi or warranty will be void.

Thumb	A Dimension
8x28	29 1/4
8x34	29 1/4
12x35	38 15/16
12x40	38 15/16
12x42	38 15/16
18x46	52 3/4
18x50	52 3/16
18x56	52 3/16
24x53	59 11/16
24x58	59 3/8
30x62	59 3/8
30x67	59 3/8
32x58	59 11/16
32x67	59 11/16
34x63	82 1/4
34x75	82 1/4

HYDRAULIC THUMB WELDING INSTRUCTIONS

If boom is wider than bracket,
please refer to **Figure A.**

If boom is more narrow than
bracket, please refer to **Figure B.**



Figure A

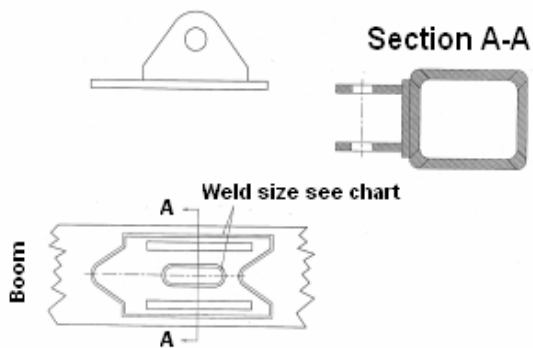
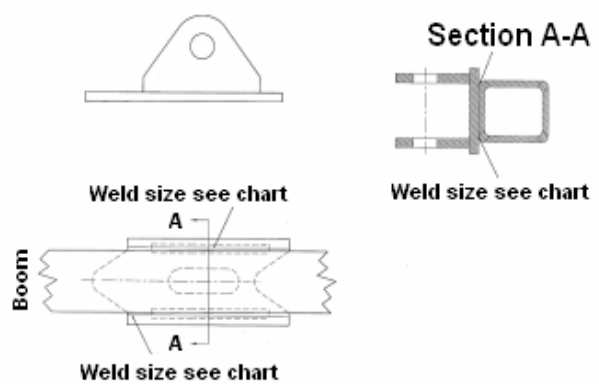


Figure B



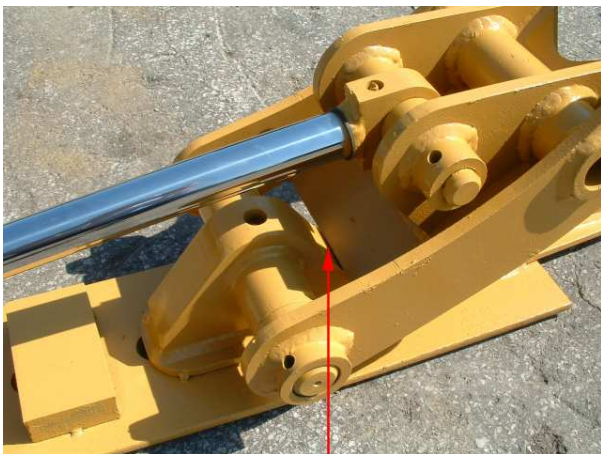
ADDITIONAL INSTRUCTIONS FOR 12X35 AND 12X42 HYDRAULIC THUMBS



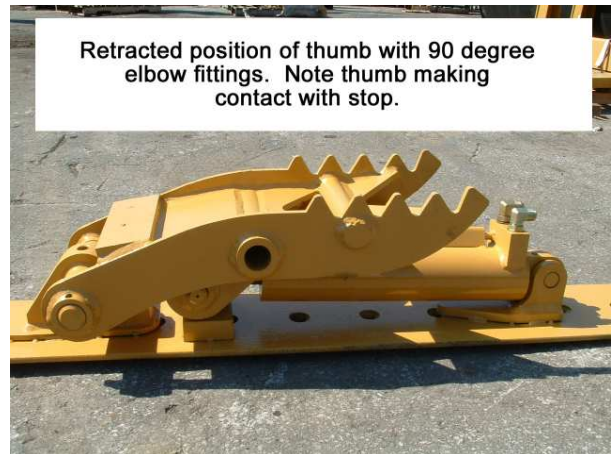
90 degree position of thumb. Note stop blocks.



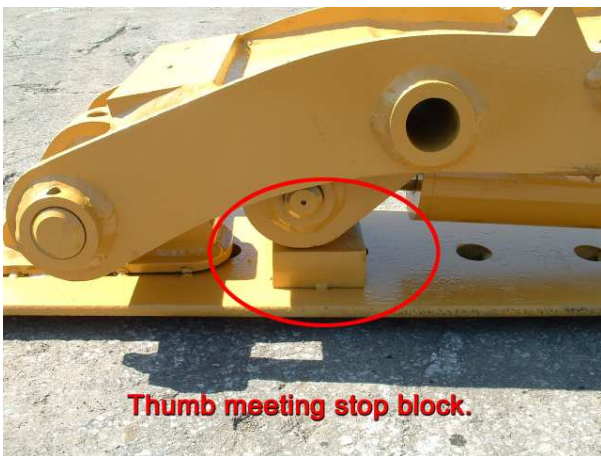
Fully extended view of thumb.



Stop block making contact in extended position. 1/8" of stroke left in cylinder.



Retracted position of thumb with 90 degree elbow fittings. Note thumb making contact with stop.

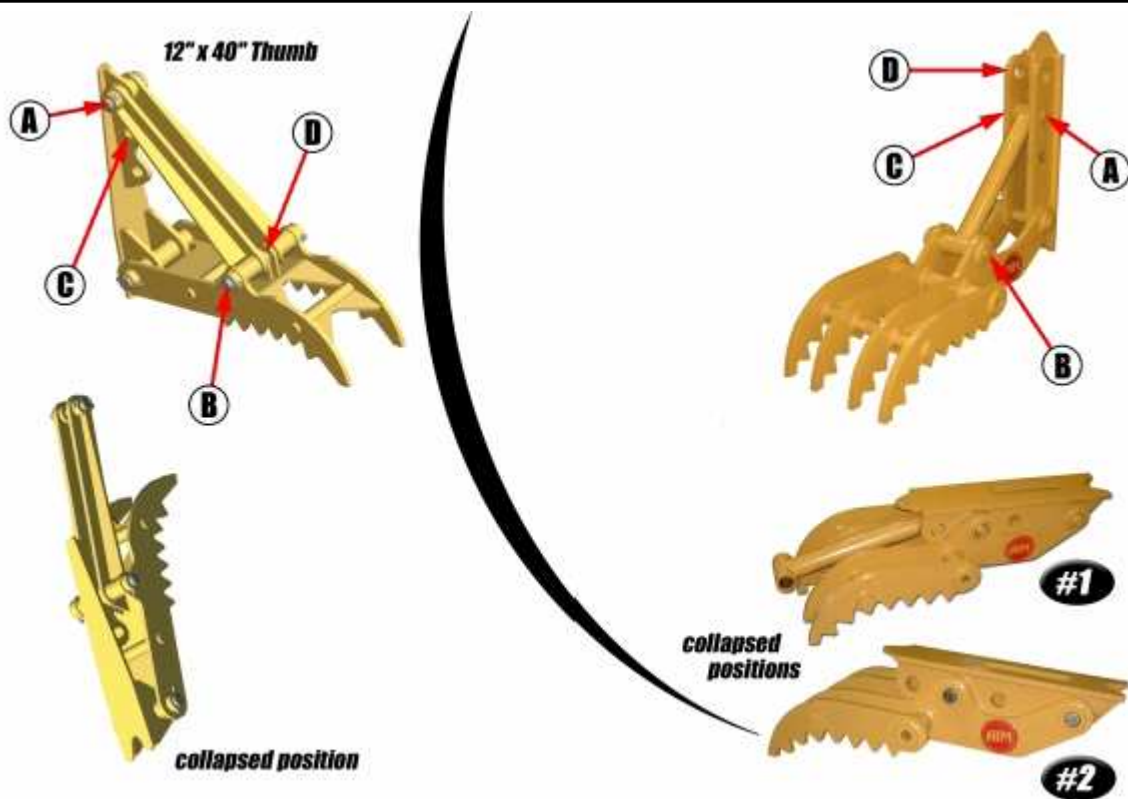


Thumb meeting stop block.



Clearance of thumb and cylinder when stop is properly used.

THUMB FOLDING INSTRUCTIONS



Step1. Remove pin **A**.

Step2. Pull pin **B** $\frac{3}{4}$ way out, past position **D**.

Step3. Rotate main thumb up to mounting bracket and secure by inserting pin **B**.

Step4. Replace pin **A**.

Method #1

Step1. Remove pin **A**.

Step2. Secure stiff arm in top position **D** with pin **A**.

Step3. Pull pin **B** out until stiff arm is free.

Step4. Rotate main thumb up to mounting bracket and secure by inserting pin **B** through position **C**.

Method#2

Step1. Remove pin **A**.

Step2. Pull pin **B** out until stiff arm is free.

Step3. Remove stiff arm.

Step4. Fold up completely and secure by inserting pin **B** through the position **C** on the mounting bracket.

EXCAVATOR GRAPPLE INSTALLATION INSTRUCTIONS



Step1. Don't remove both pins at the same time.

Step2. Attach the grapple to the hydraulic and main bucket pins.

Step3. Place dipper stick in a vertical position with grapple hanging below.

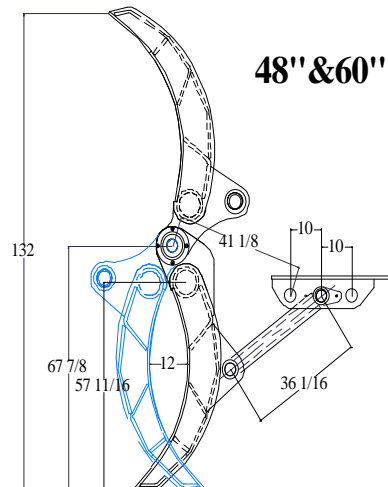
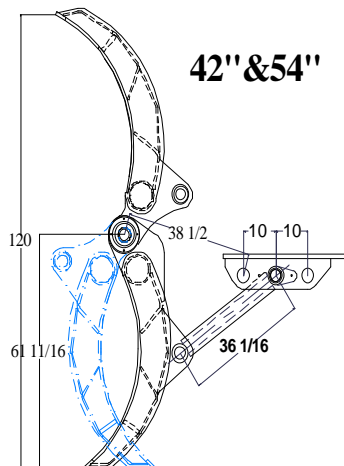
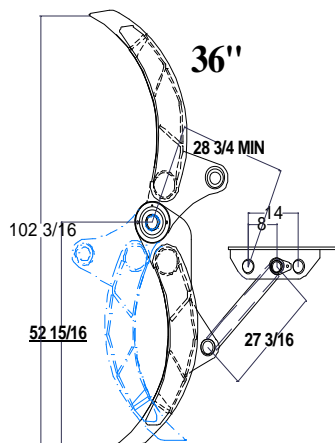
Step4. Using hydraulics, angle the grapple approx. 35° from vertical position toward the cab.

Step5. Place the stiff arm in the top hole of the grapple and the bottom hole on the mounting plate.

Step6. Tack-weld mounting plate to stick by following the diagrams below depending on the unit you are installing. Gently open and close until grapple is satisfactory for applications.

Step7. Use welding instructions on opposite page.

Step8. Grease often.



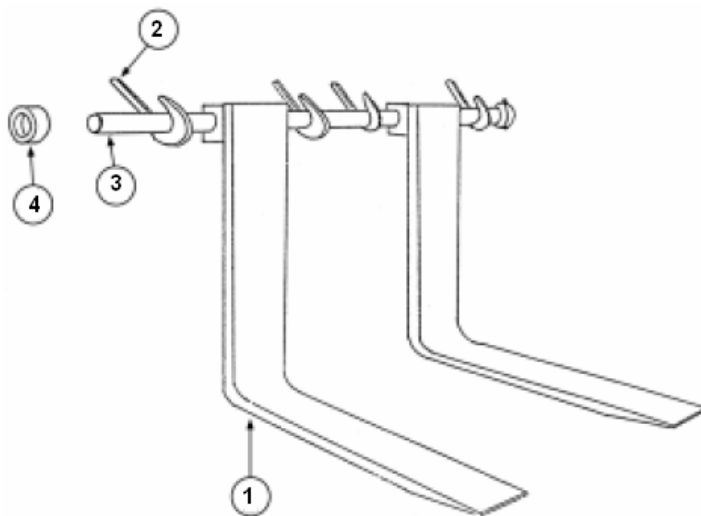
BUCKET FORK ASSEMBLY INSTRUCTIONS



Step1. Weld brackets on spill guard (bracket spacing variable).

Step2. Slip shaft tines into brackets.

Description	Qty
1-Tine assembly	2
2-Brackets	4
3-Shaft	1
4-Locking Collars	2



Aim Attachments Warranty

I. Proprietary information- Any specifications, drawings, designs, manufacturing data, and/or other information transmitted to Buyer in connection with the performance of this order are the property of the Seller and are disclosed in confidence upon the condition that they are not to be produced or copied or used in furnishing information or equipment to others, or for any other purpose detrimental to the interest of the Seller.

II. Prices- Prices are F.O.B point of manufacture of shipment. Unless otherwise set forth, the Buyer agrees to pay all expenses including, but not limited to, transportation, handling, insurance, sales, excise and other applicable taxes levied on Buyer or AIM Attachments in conjunction with this sale.

III. Cancellation and Changes- Changes made in the specifications shall be valid only if in writing signed by authorized representatives of the Buyer and AIM Attachments. AIM Attachments reserves the right to charge the Buyer with any additional expense caused by changes in any order. Changes made in shipping schedules or complete cancellation must be requested in writing. All such changes may be subject to charges imposed by the manufacturer, or may be refused altogether.

IV. Returns- No items may be returned to AIM Attachments without written approval and shipping instructions. All returns are subject to charges which will vary in accordance with the conditions, e.g. standard or special product, stocking or non-stocking items, quality, etc.

V. Approval of Orders- Any contract resulting from a quotation is subject to approval by AIM Attachments in writing. Any purchase order acknowledgement submitted by Buyer shall be deemed to constitute a confirmation and acceptance of the terms and conditions of this quotation, even if such document states terms additional to or different terms contained in any document submitted to AIM Attachments by Buyer. Signature by AIM Attachments on Buyer's purchase order acknowledgement form does not constitute acceptance of or agreement to any terms and conditions in addition to or different from those contained herein, but shall constitute only acknowledgement or receipt of such document.

VI. Limited Warranty and Disclaimer-

A. Equipment manufactured by AIM Attachments is warranted to be free from defects in material or workmanship for a period of one (1) year from the date such products are shipped to the Buyer.

B. This warranty shall terminate in the event of alteration made or commenced by a party other than AIM Attachments without prior written approval from AIM Attachments.

EXCEPT AS SPECIFICALLY PROVIDED ABOVE IN IV a, AIM Attachments DISCLAIMS ANY AND ALL EXPRESS AND IMPLIED WARRANTIES WITHOUT RESPECT TO OR IN ANY WAY RELATING TO EQUIPMENT, INCLUDING WITHOUT LIMITATION THE WARRANTY OF MERCHANTABILITY AND THE WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

VII. Limitation of Liability and Remedies-

A. The liabilities of AIM Attachments under its warranty in VI a&b shall be strictly and exclusively limited to furnishing materials required for repair or replacement provided prompt notification in writing is given to AIM Attachments.

B. AIM Attachments shall not be liable or responsible for CONSEQUENTIAL DAMAGES OR INCIDENTAL DAMAGES for any cause arising out of or in connection with this agreement, including, but not limited to, downtime, overhead, labor, damage to machinery, interruption or spoiled production, loss of profit, accident or injury.

VIII. Literature- AIM Attachments assumes no liability as to the accuracy of content of any advertising material or reference material. Advertising materials are submitted solely for the purpose of illustration and do not constitute any term of the proposal or sale.

IX. Errors- AIM Attachments reserves the right to correct any typographical or clerical errors which may be present in the prices, specification, or acknowledgement.

X. Delays- AIM Attachments shall not be responsible for delays in delivery or any other nonperformance of this agreement due to causes beyond its control, labor disputes or any other similar or dissimilar causes including, but not limited to, transportation availability, material shortages, or the delay in delivery or failure to deliver by AIM Attachments suppliers.

XI. Shortages- No claim for shortages or error will be considered unless submitted in writing to AIM Attachments within ten (10) days after receipt of shipment by Buyer.

XII. Safety- The Buyer agrees to indemnify AIM Attachments and save AIM Attachments harmless from any liability or obligation incurred by AIM Attachments to persons injured directly or indirectly in connection with the installation, maintenance, or operation of the equipment sold hereunder because of the Buyers negligent installation, maintenance, or operation of the equipment, or because of the lack of devices on the equipment to protect personnel from injury while the equipment is in operation whether or not required by law or regulations of government bodies having jurisdiction.

XIII. Waiver- There are no rights, warranties, or conditions expressed or implied, statutory or otherwise, other than those herein contained. This agreement contains the entire agreement between Buyer and AIM Attachments and can be modified or rescinded only in writing signed by both parties. No waiver of any provision of this agreement shall be binding unless in writing signed by an authorized representative of the party against whom the waiver is asserted, and, unless expressly made generally applicable, shall only apply to the specific case for which the waiver is given. Failure of either party to insist upon strict performance of this agreement shall not be construed as a waiver of any terms and conditions thereof.

XIV. Compliance with Laws- Buyer, except as stated in Section XIII above, shall be responsible for compliance with the provisions of all federal, state, and local laws and regulations, the violation of which may result in liability to Buyer, including Fair Labor Act Standards Act of 1938 as amended. This order shall not be considered to be a subcontract under any government contract unless the Buyer specifically so states in writing. In such event, the Buyer and AIM Attachments agree to negotiate as to the terms and conditions in addition to the above which shall be included in such government contract.

XV. Applicable Law- Any contract resulting from this quotation shall be governed by the laws of the State of Ohio.