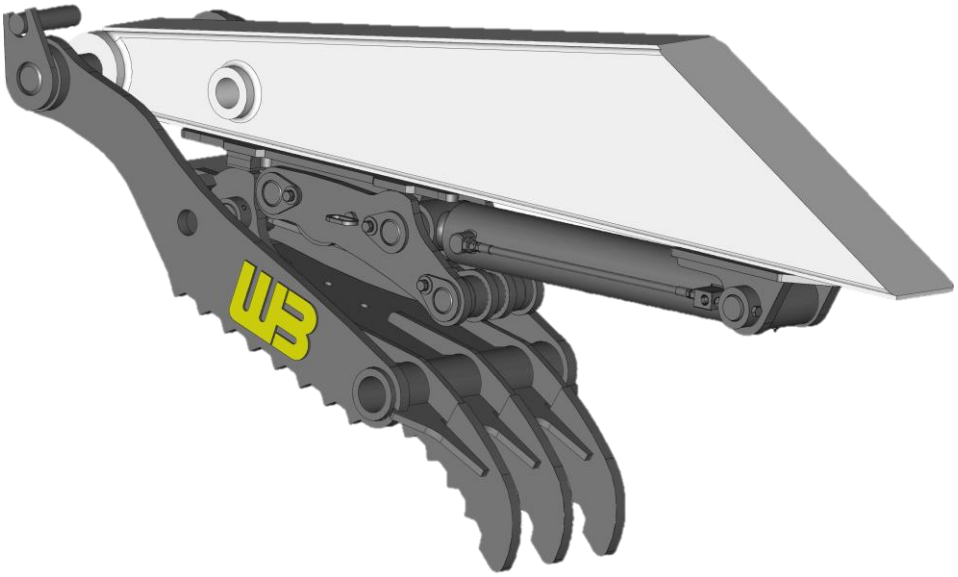
PRODUCT MANUAL
&
INSTALLATION KIT



EZG-PRO SERIES (MINI)
PRODUCT MANUAL & INSTALLATION KIT

THANK YOU FOR YOUR PURCHASE You have received a high quality, extremely versatile attachment that will increase your backhoe or excavator capability. This product will help you manipulate material and debris. With inspections and proper care your EZG-PRO will last you a long time in a rugged environment.

TELL US WHAT YOU THINK Werk-Brau would like to know what you think about its products. Please visit our website & share your experience with us!

WERK-BRAU CO., INC.
2800 FOSTORIA AVE.
FINDLAY, OH 45840

WWW.WERK-BRAU.COM

YOUR PARTNER IN PRODUCTION

IMPORTANT This instruction manual describes the installation, operation, and maintenance for a Werk-Brau EZG-PRO Series attachment. Please take the time to record the information listed below.

Machine Make & Mode: _____

Attachment Serial No.:_____

Attachment Part No.:_____

Date Manufactured: _____

ABOUT WERK-BRAU Since 1947, Werk-Brau has manufactured the highest quality and most innovative specialty products for the heavy equipment industry. Werk-Brau is respected internationally for providing outstanding customer service and being dedicated to excellence in all aspects of our business. Duke Werkheiser and Dutch Brautigan, for whom the company is named after, first opened their blacksmith shop in Findlay Ohio. Still today Werk-Brau manufactures and produces in Findlay Ohio, in a state of the art facility.

Over the decades Werk-Brau has grown and become so much more than a simple blacksmith operation. Today Werk-Brau proudly employs an industry leading team of professionals who work hard to follow the vision set by the founders of Werk-Brau to “Provide Excellence in Customer Service”. As a modern company Werk-Brau is efficient, high-tech, dedicated to its customers, and deeply proud of the quality of products manufactured.

Werk-Brau manufactures a complete line of O.E.M. and replacement attachments for excavators, mini excavators, backhoes, mini and full size loaders and crawler loaders. All over the world Werk-Brau attachments can be found hard at work in the toughest of conditions.

THANK YOU FOR YOUR PURCHASE!

WORK SAFE

SAFETY STATEMENT GUIDE

DANGER ➔Danger tags are used in major hazard situations where an immediate hazard presents a threat of death or serious injury to operator and anyone about.

WARNING ➔ Warning tags are used to represent a hazard level between “Caution” and “Danger”, instead of the required “Caution” tag, provided that they have a signal word of “Warning,” an appropriate major message.

CAUTION ➔ Caution tags are used in minor hazard situations where a non-immediate or potential hazard or unsafe practice presents a lesser threat of injury.

NOTICE ➔A notice label is used where equipment or property damage could result if the instructions are not followed properly.

➔This symbol by itself or used with a safety signal word throughout this manual is used to call your attention to instructions involving your personal safety or the safety of others. Failure to follow these instructions can result in injury or death.

GENERAL SAFETY PRECAUTIONS

DANGER **READ MANUAL PRIOR TO INSTALLATION** Improper installation, operation, or maintenance of this equipment could result in serious injury or death. Operations and maintenance personnel should read this manual as well as manuals related to equipment and the operating

WARNING **READ AND UNDERSTAND ALL SAFETY STATEMENTS** Read all safety decals and safety statements in all manuals prior to operating or working on the equipment. Know and obey all OHSA regulations, local laws and other professional guidelines for your operation. Know and follow good work practices when assembling, maintaining, repairing, mounting, removing or operating this equipment.

DANGER

NOTICE **KNOW YOUR EQUIPMENT** Know your equipment’s capabilities, dimensions and operations before operating. Visually inspect your equipment before you start, and never operate equipment that is not in proper working order with all safety devices intact. Check all hardware to assure it is tight. Make certain that all locking pins, latches, and connection devices are properly installed and secured. Remove and replace any damaged, fatigued or excessively worn parts. Make certain all safety decals are in place and are legible. Keep decals clean, and replace them if they become worn and hard to read.

WARNING **PROTECT AGAINST FLYING DEBRIS** Always wear proper safety glasses, goggles with a face shield when driving pins in or out or when any operation causes dust, flying debris, or any other hazardous material.

DANGER **LOWER OR SUPPORT RAISED EQUIPMENT** Do not work under raised booms without supporting them. Do not use support material made of concrete blocks, logs, buckets, barrels or any other material that could suddenly collapse or shift positions. Make sure support material is solid, not decayed, warped, twisted, or tapered. Lower the boom(s) to ground level or onto block(s). Lower the boom(s) and attachment(s) to the ground before leaving the cab or operator’s station.

GENERAL SAFETY PRECAUTIONS *(continued)*

WARNING **USE CARE WITH HYDRAULIC FLUID PRESSURE** Hydraulic fluid under pressure can penetrate the skin and cause serious injury or death. Hydraulic leaks under pressure may not be visible. Before connecting or disconnecting hydraulic hoses, read your operating machines operator's manual for detailed instructions on connecting and disconnecting hydraulic hoses or fittings.

- Keep unprotected body parts, such as face, eyes, and arms as far away as possible from a suspected leak. Flesh injected with hydraulic fluid may develop gangrene or other permanent disabilities. Wear safety glasses, protective clothing, and use a sound piece of cardboard or wood when searching for hydraulic leaks. *DO NOT USE YOUR HANDS!*
- If injured by injected fluid, see a doctor at once. If your Doctor is not familiar with this type of injury, ask him to research immediately to determine proper treatment.

WARNING **DO NOT MODIFY MACHINE OR ATTACHMENTS** Modifications may weaken the integrity of the attachment and may impair the function, safety, life and performance of the attachment. When making repairs, use only the manufacturer's genuine parts, following authorized instructions. Other parts may be substandard in fit and quality. For loaders, never modify any ROPS (Roll Over Protection System) equipment or device. *ANY MODIFICATIONS MUST BE AUTHORIZED IN WRITING BY THE MANUFACTURER.*

DANGER

NOTICE

SAFELY OPERATE THE EQUIPMENT Do not operate equipment until you are completely trained by a qualified operator in how to use the controls, know its capabilities, dimensions, and all safety requirements. See your operating machines manual for these instructions.

- Keep all step plates, grab bars, pedals, and controls free of dirt, grease, debris, and oil.
- Be sure that all bystanders are out of harms way when operating.
- Do not allow riders on the attachment or operating machine
- Do not operate the equipment from anywhere other than the correct operators position.
- Never leave equipment unattended with the engine running or with this attachment in a raised position.
- Do not alter or remove any safety feature from the operating machine or this attachment.
- Know your work site safety rules as well as traffic rules and flow. When in doubt on any safety issue, contact your supervisor or safety coordinator for an explanation.

SAFELY MAINTAIN AND REPAIR EQUIPMENT

- Do not wear loose clothing, or any accessories that can catch in moving parts. If you have long hair, cover or secure it so that it does not become entangled in the equipment.
- Work on a level surface in a well-lit area.
- Use properly grounded electrical outlets and tools.
- Use the correct tool for the job at hand. Make sure tools are in good condition.
- Wear all protective equipment specified by the tool manufacturer.

OPERATING PRECAUTIONS

WARNING **DO NOT IMPROPERLY USE ATTACHMENT** This attachmment is designed to grab objects and debris and not for any other use.

DANGER **BE AWARE OF SURROUNDING UTILITIES** Operator must be aware of all utility line and overhead electrical lines. Operations must be able to clear all lines safely.

NOTICE

DANGER **BE AWARE OF OVERHEAD DANGER** Operator must be aware of all possible overhead dangers that are within the range of motion of the operating machine.

WARNING **DO NOT OPERATE WITH A LOOSE ATTACHMENT** Visually check the thumb to verify attachments are secure and lock is fully engaged and that the center to center of the attachment matches the up with the thumb.

WARNING **PINCH POINTS** Personal injury could result from the careless misuse of this thumb. Keep hands and body parts clear of the thumb when it's in the process of hooking up to an attachment. Be sure the machine is off and the attachment is on the ground prior to making adjustments.

TORQUE SPECIFICATIONS

Please observe these approved specs. Failure to observe these specs can result in damage and other undesirable results.

Dash Size	Tube O.D. (Ref)	Thread Size	Torque Values Ft. Lbs.			
			37° Flare		Straight Thread	
			Ft. Lbs.	Nm.	Ft. Lbs.	Nm.
4	1/4	7/16-20	10-12	14-16	15-19	20-25
5	5/16	1/2-20	13-16	18-21	20-25	27-33
6	3/8	9/16-18	20-25	27-33	32-40	45-54
8	1/2	3/4-16	34-42	46-56	54-67	73-90
10	5/8	7/8-14	46-58	62-78	74-92	100-124
12	3/4	1-1/16-12	64-80	87-108	102-128	138-173
14	7/8	1-3/16-12	80-100	109-135	128-160	173-216
16	1	1-5/16-12	97-117	131-158	150-187	203-253
20	1-1/4	1-5/8-12	145-165	197-223	227-264	308-357
24	1-1/2	1-7/8-12	230-250	312-338	363-400	492-542

**Apply enough pipe sealer to contact all threads.*

***Do not use that excess will squeeze into the hydraulic lines.*

Welding Guide for Attachments

Disclaimer: *This "Welding Guide" is designed to give recommended welding guidelines for the application of mounting a Werk-Brau grip for our valued customers. It is a general welding guide and is not all inclusive. Each customer application may require special welding practices. Werk-Brau accepts no responsibility for the misuse or misinterpretation of this information. It is the responsibility of the customer to have the weld process installation of the thumb assembly comply with the latest version of* AWS D14.3/D14.3M-Specification for Welding Earthmoving, Construction, and Agricultural Equipment and ANSI Z49.1-Safety in Welding, Cutting, and Allied Processes.

- Workmanship requirements for all arc welding processes:
  - Only qualified personnel and procedures should be used when performing the welding during installation.
  - The surfaces to be welded will be free of moisture, paint, loose or thick scale, slag, heavy rust, grease or oil, or any other foreign material which could adversely affect the structural integrity of the finished weld.
  - No welding shall be performed within 1/2" (13mm) minimum of paint or any other heavy contamination.
  - Welding shall not be performed when the weldment is exposed to high winds, drafts, or moisture.
  - Welding shall not be performed when the temperature of the part(s) is lower than 50°F (10°C).
  - Arc strikes outside of the joint must be ground off.
  - Minimum fillet weld leg size, including root passes for multi-pass welds, shall not be smaller than 3/16" (5mm).
  - Maximum fillet weld leg size deposited in one pass shall not exceed 5/16" (8mm).
  - Allow all welds to naturally cool in still ambient air. Do not quench or air cool.
  - Weld joint gaps should not exceed 1/8" (3mm). Gaps exceeding 1/8" (3mm), that cannot be corrected, should have the weld size increased to include the gap measurement.

- Processes:
  Welding should be done by any or combination of the following processes:
  - Shielded Metal Arc Welding (SMAW)
  - Gas-Metal Arc Welding (GMAW)
  - Metal-Cored Arc Welding (MCAW)
  - Flux-Cored Arc Welding (FCAW)

- Recommended filler metal:
  The following filler metal should be used but are not limited to:

Process	AWS Specification	AWS Classification
SMAW*	AWS A5.1	E7015, E7016, E7018
GMAW	AWS A5.18	ER70S-X
MCAW	AWS A5.18	E70C-XX (except –GS)
FCAW	AWS A5.20	E7XT-X(M) (except -2, -3, -10, -13, -14, or -GS)

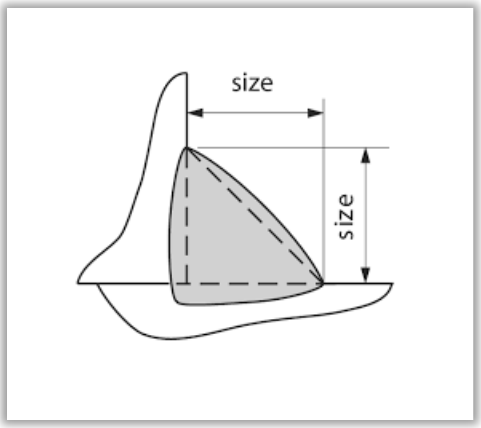
  Special care should be taken to ensure that low hydrogen electrodes are properly conditioned.

- Shielding gas:
  - Shielding gas for GMAW, MCAW, and FCAW-G should be of welding grade quality complying with the latest edition of *AWS A5.32/5.32M Specification for Welding Shielding.*

- Electrical characteristics:
  - All welding should be done using direct current reverse polarity (DC+)
  - Filler metal manufacturer's recommended welding parameters and variables should be followed.
  - Voltage and amperage range for GMAW, MCAW, and FCAW should be sufficient enough to produce a spray, or globular transfer. Short-circuit transfer is not recommended.

- Position
  - All welding should preferably be done in a flat or horizontal position.

- Fillet Weld Size:
    - Fillet weld sizes detailed on the installation instructions are metric and given as leg size (shown below). Weld size can deviate slightly but shall not exceed -0.5/+3mm.



Revision	Prepared By:	Approved By:	Date:
A	D. Rizor	N. Heintzelman	10/12/18

MINI EXCAVATOR PRO-LINK THUMB INSTALLATION INSTRUCTIONS

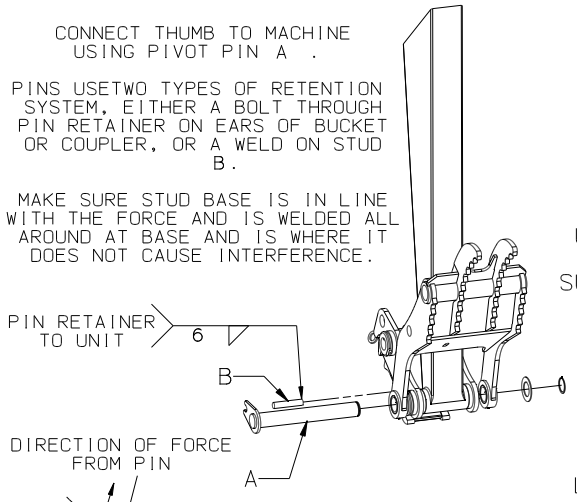
Max Pressure for all Models 2500psi.

DISCONNECT THE BATTERY BEFORE USING WELDER ON MACHINE

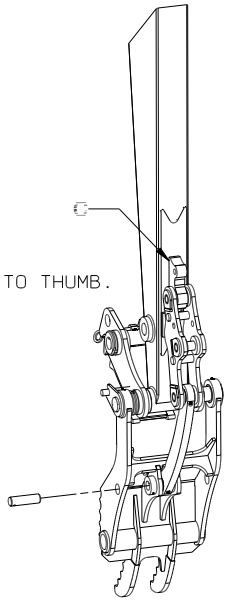
CONNECT THUMB TO MACHINE USING PIVOT PIN A .

PINS USETWO TYPES OF RETENTION SYSTEM, EITHER A BOLT THROUGH PIN RETAINER ON EARS OF BUCKET OR COUPLER, OR A WELD ON STUD B.

MAKE SURE STUD BASE IS IN LINE WITH THE FORCE AND IS WELDED ALL AROUND AT BASE AND IS WHERE IT DOES NOT CAUSE INTERFERENCE.

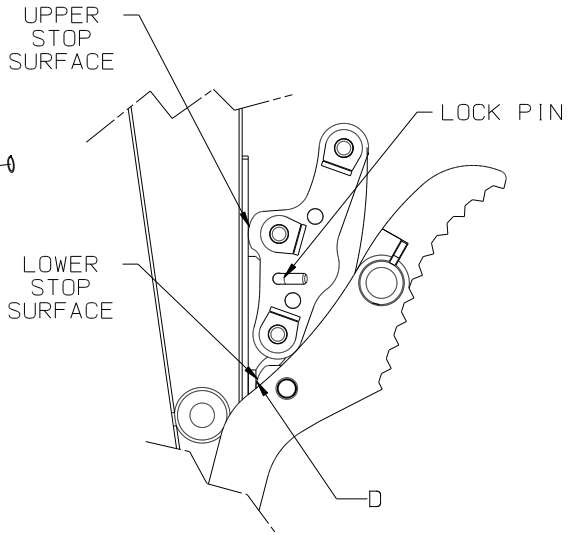


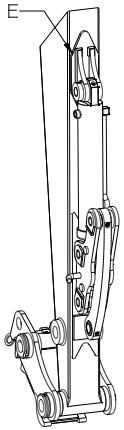
CONNECT LINK C TO THUMB.



ROTATE THUMB UP TO RETRACTED POSITION. THIS POSITION IS WHEN THE TOP OF THE CLEVICE D IS HITTING ON THE LOWER STOP SURFACE OF THE MOUNT AND THE OUTER LINKS ARE HITTIN ON THE UPPER STOP SURFACE (USE LOCK PIN).

MAKE SURE ALL PAINT IS REMOVED UNDER MOUNT. TACK MOUNT IN PLACE

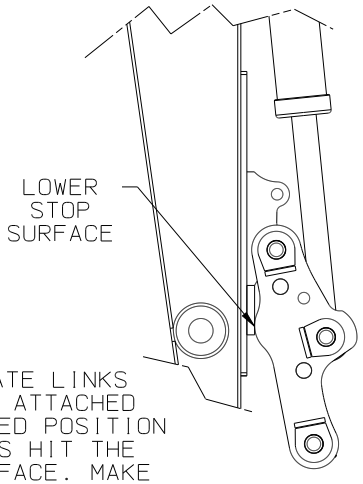




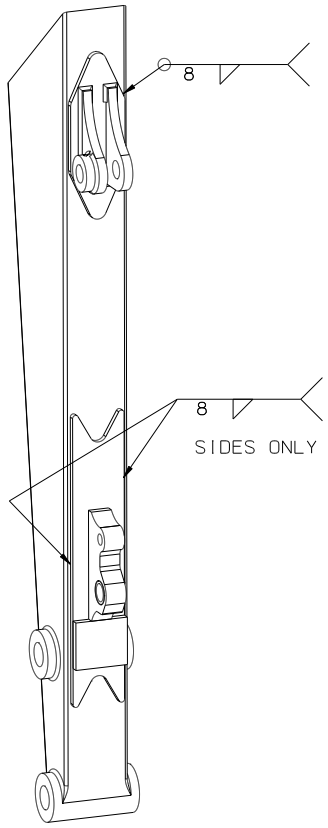
CONNECT CYLINDER AND MOUNT ASSEMBLY F TO LINKS. PULL CYLINDER SLIGHTLY (LESS THAN 6mm) FROM FULLY RETRACTED POSITION.

MAKE SURE ALL PAINT IS REMOVED UNDER CYLINDER MOUNT.

TACK CYLINDER MOUNT IN POSITION



MANUALLY ROTATE LINKS WITH CYLINDER ATTACHED TO FULLY EXTENDED POSITION WHEN THE LINKS HIT THE LOWER STOP SURFACE. MAKE SURE THERE IS NO BINDING OR CYLINDER DOES NOT BOTTOM OUT BEFORE LINKS HIT STOP SURFACE BEFORE WELDING.



SEE WB WELDING GUIDE FOR ATTACHMENTS

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REV	DATE	CHANGE DESCRIPTION	BY	CHECKED	WELD CHECK
B	10-4-18	UPDATED/ADDED WELD SIZES	AJZ	-	DBR
-	-	-	-	-	-
-	-	-	-	-	-

EZG-MN-PL-INST.ckd