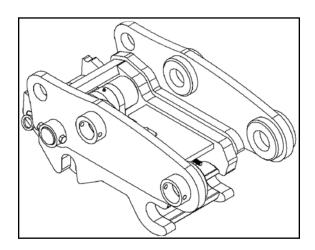
PRODUCT MANUAL AND INSTALLATION KIT

Spring Loaded Hydraulic Coupler



Serial No: _			
Model No:			
Date Manut	factured:		

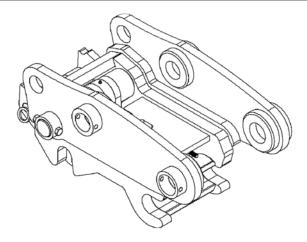


Werk-Brau Co., Inc.

P.O. Box 545 Findlay, Ohio 45839-0545 U.S.A. Phone 1-800-537-9561 Fax (419)422-7207

Visit Werk-Brau at: www.werk-brau.com





Thank you for your purchase. You have received a high quality hydraulic coupler that will increase a machine's productivity and versatility by enabling the operator to quickly change from one attachment to another. If installed and maintained properly, it should provide years of service in a rugged environment.

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

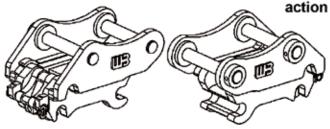
Serial No.:	
Model No.:	
Date Manufactured:	

Coupler Introduction

The coupler attaches onto addition to hydraulic cylinder, coupler. The safety pin is various tools by "hooking" the front pin and then rotating a locking device under the rear pin of the attachment. The lock is self-adjusting, so no adjustments are needed. While engaged, the lock is securely held in place by the cylinder and dual extension springs. The Werk-Brau coupler is equipped with a set of

In the event of hydraulic failure the coupler's safety lock will enable the coupler to hold the attachment. To disengage, remove safety pin and the operator simply sets the attachment on the ground and uses a switch installed in the cab. After engaging lock manually install safety pin and retaining device (lynch pin). Safety pin must be installed powerful tension springs in at all times during use of the

mandatory and serves two purposes. First, once installed it insures the operator that the lock is in fact properly seated under the pin. The safety pin can not be installed if the lock is only partially engaged. Second, it will prohibit inadvertent disengagement. NOTE: Pictures and diagrams thru out this manual may not be your exact Werk-Brau coupler. The pictures represent an action or a setup





Safety Statement Guide



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



→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

READ MANUAL PRIOR TO INSTALLATION



Improper installation, operation, or maintenance of this equipment could result in serious injury or death. Operators and maintenance personnel should read this manual as well as all manuals related to this equipment and the operating machine thoroughly before beginning installation, operation, or maintenance. FOLLOW ALL SAFETY INSTRUCTIONS IN THIS MANUAL AND THE OPERATING MACHINES MANUAL.

READ AND UNDERSTAND ALL SAFETY STATEMENTS



Read all safety decals and safety statements in all manuals prior to operating or working on this equipment. Know and obey all OSHA 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.

ADANGER

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.

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.

ADANGER

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.

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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.

AWARNING 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 Werk-Brau or the manufacturer!!!

SAFELY OPERATE THE EQUIPMENT

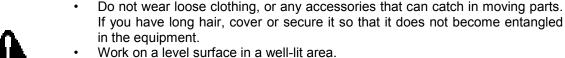
ADANGER

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.

NOTICE

- 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





- 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

DO NOT IMPROPERLY USE COUPLER
This coupler is designed to couple attachments and not for any other use.

ADANGER BE AWARE OF SURROUNDING UTILITIES

NOTICE

Operator must be aware of all utility line and overhead electrical lines. Operations must be able to clear all lines safely.

ADANGER

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.

DO NOT OPERATE WITH A LOOSE ATTACHMENT

WARNING Visually check the coupler to verify attachments are secure and lock is fully engaged and that the center to center of the attachment matches the up with the coupler.

PINCH POINTS

AWARNING Personal injury could result from the careless misuse of this coupler. Keep hands and body parts clear of the coupler 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.

COUPLER EXTENDS TIP RADIUS

Notice adding a coupler to machine extends the tip radius. This can cause clearance issues on some machines making it possible for a coupled attachment to come into contact with the machine causing damage.

SAFETY PIN NOTICE

Werk-Brau has approved of the following safety retaining pins for use with all Werk-Brau couplers. Pins vary in size, please use the appropriate size approved safety pin on all couplers. Please only use the approved safety pins shown below.



Standard Variable Pin Part # 00161397 (Above)



Half Inch Pin Part # EZG025RLP (Above)

SQC



TORQUE SPECS

			Torque Values Ft. Lbs.			S.
Dash	Tube	Thread	37° Flare		Straight Thread	
Size	O.D. (Ref)	Size	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	43-54
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.

COUPLER INSTALLATION

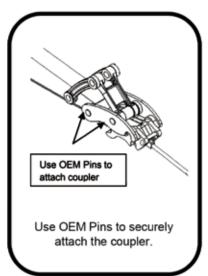
Un-package the coupler from the shipping skid, remove attaching pins and orient the coupler so that the open mouth of the coupler is towards the machine.

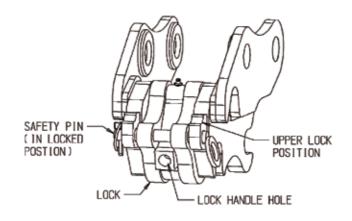
- Position and align the stick with the front bore on the coupler and install the machine's original front attaching pin. Do the same with the attachment link and install the original rear pin.
- 2. Install the pins provided with the coupler, into the attachment.
- 3. Secure and retain all pins.

IMPORTANT: Set the bucket on the ground and rotate in a dumping motion until the tracks come off the ground to check that the coupler has positively connected to the bucket. Do this every time attachment is changed.

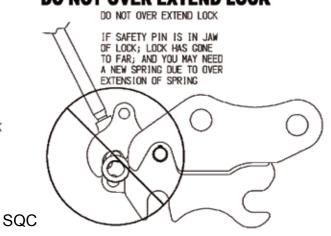
HYDRAULIC AND ELECTRICAL INSTALLATION

Please see the attached Quick-Coupler Lock Kit Installation Instruction.





DO NOT OVER EXTEND LOCK



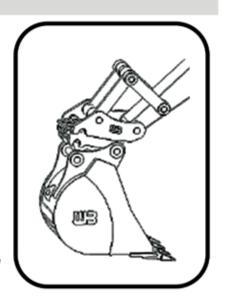
^{**} Do not use that excess will squeeze into the hydraulic lines.



CONNECTING TO AN ATTACHMENT

- Put switch in "unlock" or "release" position (a couple of seconds till switch beeps) until the lock is fully disengaged.
- 2. Position the front hooks of the coupler over the front in of the attachment and curl the coupler so that the rear hooks of the coupler go over the rear pin of the attachment. Continue to curl the coupler and attachment so that the weight of the attachment is on the coupler. Do not lift the attachment unsafely off the ground until the lock is engaged and safety pin is installed with lynch pin.
- Put switched in "lock" or "engaged" position and wait for several seconds for the lock to engage. Now install locking pin with lynch pin in the rear of the coupler.

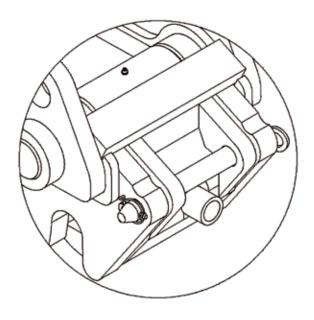
The switch is to remain in the "lock" or "engaged" (indicated by the green light on the switch) at all times while machine is in operation.



IMPORTANT: 1st visually and 2nd mechanically verify that attachment is connected properly. Visually check that the lock is properly "cupping" the rear pin and also that the safety pin installed and retained with lynch pin (see figure: safety pin installed). Mechanically inspect by setting the attachment on the ground and rotate in a dumping motion until the tracks come off the ground to check that the coupler has positively connected to the attachment....

DO THIS EVERY TIME AN ATTACHMENT IS CHANGED.

For most applications, the lock pin can be seen from the cab by rotating the attachment to the full dump position. Do this only when you are sure that all by standers are clear and at a safe distance.

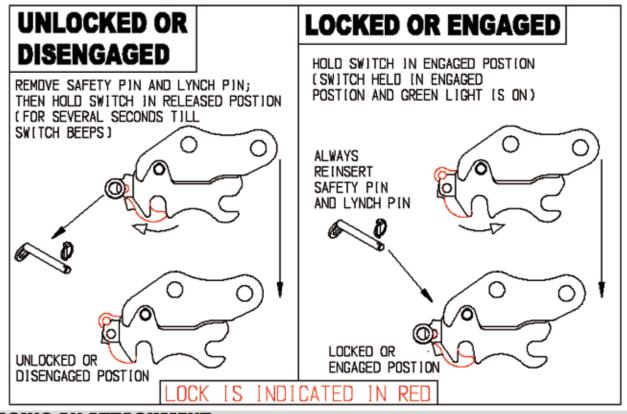


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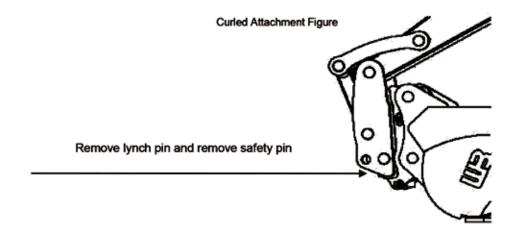
UNLOCKED VERSES LOCKED

Figure: Safety pin installed with lynch pin UNLOCKED vs. LOCKED FIGURE



RELEASING AN ATTACHMENT

Rotate attachment in full curl position as far as possible, remove lynch pin and remove safety pin (See figure below). Put switch in "unlock" or "disengage" position. Be sure to have the attachment is clear from by-standers and on the ground prior to "releasing" the attachment. And will "hold" the coupler in the disengaged position while moving from one attachment to another. **DO NOT OPERATE COUPLER IN THIS POSITION.** Rotate attachment outward. Allow it to release from coupler.





STICKERS

PLACEMENT OF THE WARNING/CAUTION DECAL

Place the warning/caution decal in the cab in close proximity to the coupler engaging switch. This will act as a safety reminder for the operator to double check and ensure that the coupler's correctly hooked up to the attachment or attachment.

SPRING ADJUSTMENTMENT AND REPLACEMENT

Inspect coupler occasionally to ensure years of rugged service.

There is a grease-zerk located on the lock. Grease as needed. With the proper servicing and adjustment, your Werk-Brau coupler should last years to come.

The following list below should be followed in order to lengthen the life of your WERK-BRAU product.

PROCEDURE	INTERVAL	NOTE
GREASE FITTINGS	WEEKY	
CHECK FOR HYDRAULIC LEAKS	DAILY	
INSPECT LOCKING MECHANISM	DAILY	

TROUBLE SHOOTING

Problem #1

Locking mechanism will not retract.

Cause/ Corrective Action

- A.) Foreign debris have caused locking mechanism to bind.
- B.) Safety pin is engaged- remove safety pin and lynch pin.

Problem # 2

Lock will not engage properly.

Cause/ Corrective Action

- A.) Foreign debris have caused locking mechanism to bind.
- B.) Verify that the attachment pin centers match that of the coupler.
- C.) Verify that the coupler is not contacting the attachment

Should you require any assistance or technical support installation assistance available by calling: 1-800-537-9561

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U. S. Department of Labor Occupational Safety and Health Administration Directorate of Science, Technology and Medicine Office of Science and Technology Assessment

Hazards of Inadequately Securing Hydraulic Excavator Buckets When Using Quick Coupling Devices Safety and Health Information Bulletin

SHIB 07-22-2005

Note: This Safety and Health Information Bulletin (SHIB) updates the "Revision of the Unintended Release of Buckets from Quick Couplers on Hydraulic Excavators" SHIB that was issued on August 26, 2004.

This Safety and Health Information Bulletin is not a standard or regulation, and it creates no new legal obligations. The Bulletin is advisory in nature, informational in content, and is intended to assist employers in providing a safe and healthful workplace. Pursuant to the Occupational Safety and Health Act, employers must comply with hazard-specific safety and health standards promulgated by OSHA or by a state with an OSHA-approved state plan. In addition, pursuant to Section 5(a)(1), the General Duty Clause of the Act, employers must provide their employees with a workplace free from recognized hazards likely to cause death or serious physical harm. Employers can be cited for violating the General Duty Clause if there is a recognized hazard and they do not take reasonable steps to prevent or abate the hazard. However, failure to implement any recommendations in this Safety and Health Information Bulletin is not, in itself, a violation of the General Duty Clause. Citations can only be based on standards, regulations, and the General Duty Clause.

Preface

Following a fatal accident caused by the unexpected release of an excavator bucket from a quick coupling device on a hydraulic excavator, the Occupational Safety and Health Administration (OSHA) reviewed its Integrated Management Information System (IMIS) accident data. The accident data revealed 15 incidents since January 1998 involving the unanticipated release of excavator buckets from quick couplers on hydraulic excavators. Eight workers died in these incidents. OSHA urges employers using quick couplers to inspect their quick couplers and take appropriate measures to prevent unintended bucket releases, which can result in death or serious injuries.

Purpose

The purpose of this Safety and Health Information Bulletin (SHIB) is to:

- Alert employers and employees of the need to follow manufacturer instructions regarding the installation, use, testing, inspection, and maintenance of guick coupling devices:
- Explain how buckets and other attachments can be unintentionally released from quick couplers; and
- Detail actions to prevent such unintended releases.

Background

The OSHA Madison, Wisconsin Area Office investigated a fatal accident where an excavator bucket was released unexpectedly from a quick coupler. OSHA's statistical database revealed fourteen additional incidents within the last six years involving the use of this type of equipment where excavator buckets unexpectedly released from quick couplers. Of the fifteen accidents reported by Federal and state OSHA offices, eight resulted in employee fatalities.

Accident Description

The accident prompting this Safety and Health Information Bulletin occurred at a site where a contractor was installing water mains and laterals. An excavation for a lateral had just been dug and an employee entered that lateral to prepare to install the pipe. The excavator operator changed buckets using a quick coupler on the hydraulic excavator. When the excavator was swung to continue digging on the main line, the bucket became detached from the quick coupler and rolled/slid into the lateral excavation, striking the employee and killing him. The investigation revealed that a locking pin had not been manually installed on this coupler to prevent accidental release of this attachment.



Quick Couplers

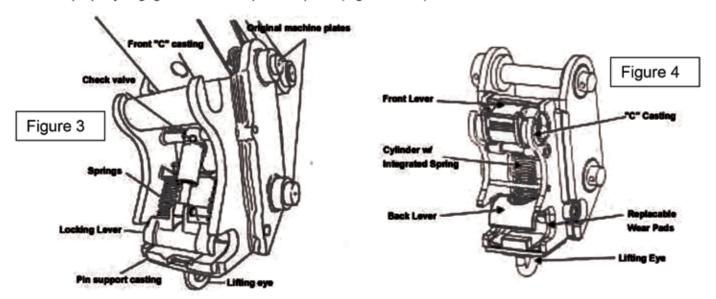
Most quick couplers are after-market devices that have been used on hydraulic excavators for several years and have steadily increased in popularity. They enable contractors to quickly make attachment changes on hydraulic excavators. Most quick couplers have a lifting eye to use for lifting material. (Figure 1).



By removing the bucket (Figure 2), the lifting capacity of the excavator is increased by the weight of the bucket. Additionally, removal of the bucket improves the excavator operator's line of vision during lifting.



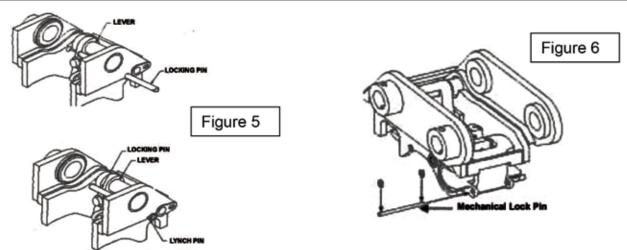
Many contractors like to use a large bucket to do the bulk of the digging and to then change to a smaller bucket for fine tuning and working in tight areas. The quick couplers also allow the operator to change from a bucket attachment to various other attachments. In most cases, the unexpected releases of buckets and other attachments are likely caused by the failure to properly engage and lock the quick couplers. (Figures 3 & 4).



Other Information

Quick couplers are made by various manufacturers. Manufacturers of quick couplers have recognized the hazard of the bucket or other attachments being unexpectedly released from the quick couplers and, in many cases, have provided users with a retrofit locking pin (Figures 5 & 6) which is manually inserted behind the front lever (stick pin) or rear lever (link pin) of the couplers to prevent unintended releases.





The National Institute for Occupational Safety and Health also has studied the hazards associated with hydraulic excavators and has issued DHHS Publication No. 2004-107 entitled, "Preventing Injuries When Working with Hydraulic Excavators and Backhoe Loaders". This publication addresses the hazard of excavator buckets being unintentionally detached from a quick disconnect mechanism.

Conclusions

Based upon experience, many manufacturers have retrofitted existing quick couplers, designed new and improved quick coupler systems, and developed safe use and operating procedures. Overall, these corrective actions have significantly decreased the probability of a bucket or other attachment being unintentionally released from a quick coupler. However, unintended releases of buckets and other attachments from quick couplers continue as evidenced by the fatal accident in Madison, Wisconsin and the IMIS accident data. Unintended releases appear to continue because: not all employers/contractors who use quick couplers are aware of the hazard and of the manufacturers' corrective actions; some users fail to retrofit the quick coupler with locking pins; and/or some users have insufficient training on installation and testing procedures associated with the use of such couplers. Given the number of manufacturers and the diversity of quick coupling devices, employers using quick couplers should contact the manufacturer if they have questions regarding the reliability of the quick coupling devices, or to determine whether additional steps or modifications are recommended in order for employees to safely use a particular quick coupling device.

Safety Measures to Prevent Accidents

Employers using hydraulic excavators with quick coupling devices can protect employees from the unintended release of attachments by:

- Inspecting all quick couplers to determine if they are subject to unexpected release hazards. Determine whether a
 manually installed locking pin and installation procedures (or other retrofitting methods) have been provided by the
 manufacturer.
- If appropriate, obtaining and installing retrofits recommended by the manufacturer, including positive locking pins and other devices that need to be manually installed.
- Using an independent secondary system to retain the bucket/work tool from falling, in the event of a failure of the
 primary system. The secondary system can be manual or automatic with a verification procedure for the user to
 check for proper attachment.
- Considering the use of newer models of quick couplers that have been specifically designed to prevent the
 unintended release of attachments.
- Following the manufacturer's recommendations for maintenance and inspection of the quick coupler to prevent a
 malfunction of the quick coupler that could cause an unintended release of the attachments.
- Following the manufacturer's installation procedures and recommendations for using and testing quick coupler devices and 4 attachment connections whenever an attachment is made.
- Training employees in: the proper use of quick couplers; making visual inspections; procedures for engaging attachments; and methods for testing connections.
- Requiring employees to use the proper procedures for engaging excavation attachments and incorporating the
 procedures into the company's safety and health program.



Werk-Brau Co. INC., 2800 Fostoria Rd P.O. Box 545 Findlay, Ohio 45839

For replacement parts, questions, and other matters please call your local dealer. If you can not reach a local dealer please call us and we will be happy to find a dealer for you and answer any questions.

PHONE: 1-800-537-9561

FAX: (419) 422-7207

WEBSITE: www.werk-brau.com

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Record of Revisions

Revision	Date	Notes
В	5/19/08	Removed Hydraulic and electrical instructions (replace with HCT)
С	6/24/08	Added notice for coupler extending TR Page 5
D	11/5/09	Added torque specs
E	2/3/11	Removed components list
F	7/18/2012	Graphics revision, header added, footer edited, added safety pin page (page 5).

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, skid steers, 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!

Tough Jobs Demand Tough Attachments



WARRANTY

To read the complete and most current version of Werk-Brau's Warranty Policy, and or to file a claim at any time please visit the Werk-Brau website.

Policy Online: http://www.Werk-Brau.com/warranty-claims
Claim Form Online: http://www.Werk-Brau.com/warranty-claims/form

Additionally you may directly contact Werk-Brau Company, Inc. @ 800/537-9561, Monday – Friday, 8:00am – 5:00pm, eastern standard time, and request a Werk-Brau customer service representative in the Warranty Claims department.

All returns must have prior authorization from a Werk-Brau customer service representative and must have a Return Authorization number (RA) assigned to the claim. This number must be referenced through all proceeding transactions.

Werk-Brau Company warrants buckets and non-hydraulic components against defaults in materials, faulty design and workmanship for a period of twelve months from the date of delivery or 2000 hours, whichever comes first. Hydraulic components and couplers are warranted for 12 months or 1000 hours, whichever comes first. Werk-Brau's warranty policy does not apply to purchased subassemblies including, teeth assemblies, tines (forks), cylinders, auxiliary edges and etc. Such items are subject to OEM's Warranty of their respective manufacturer.

Warranty Procedures

Prior to notifying Werk-Brau Company, Inc., please compile the following:

- 1. Serial Number of the bucket or attachment.
- 2. Description of specific failure and conditions prior to failure.
- 3. Name of reliable contact with regards to claim.
- 4. Number of hours on machine and attachment.
- 5. Comments from end-user and/or operator.

Return Policy

All items must have prior approval of Werk-Brau Company, Inc. and be assigned a Return Authorization Number.

Items ordered in error, can be returned with a 20% restocking fee and freight prepaid. Item(s) that have been placed in the ground or show any signs of use, will not be considered for return.

Werk-Brau Company, Inc. has the final "say so" in determining if a custom product or a product manufactured for a non-current machine can be returned with accordance to the Return Policy.

Cancellation Policy

Orders canceled are subject to a cancellation charge of 3% of the retail amount of the order. Items manufactured by the Werk-Brau Company have varied manufacturing times; therefore, this policy is at the discretion of Werk-Brau Company, Inc.

If order is complete and awaiting shipment or pickup by customer, cancellation, at that time, will have a penalty of 100% of the net invoice and will be charged to the purchasing customer.





Tough Jobs Demand Tough Attachments



WERK-BRAU CO., INC.

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