



Factory Refurbish and Recertification of **Renfro** Clamp's



ASME B30.20 recommends specific inspections of “Below the Hook” Lifting devices.

ASME B30.20 Section 20-1.3 lists inspection classifications for inspection, testing and maintenance of structural and mechanical lifting devices.

Replacement parts and Renfro Rebuild Kits are available for customer's to refurbish their Renfro clamps. If, however, you are not comfortable with performing this service for your customer, then J. C. Renfro and Sons, Inc. can provide this service.

A simple phone call to our customer service department will start the process. We will issue an RGA number to send the clamp(s) to us. Once received, we will inspect it/them and issue a quote for services required to put the clamp(s) into “as new” condition. If requested, we will provide a certificate of proof test.

SAFETY OPERATING AIDS (DO's and DON'TS)

- 1 **DO** read and understand the operator's manual before using clamp.
- 2 **DO** consult Operators Manual or RENFROE when in doubt.
- 3 **DON'T** lift over workmen. **DON'T** lift over safety areas or personnel.
- 4 **DO** attend a factory training class for establishing proper use of Renfro Products.
- 5 **DO** Lock clamp closed when clamps are fitted with a lock. **DON'T** lift with lock in open or "lock open" position.
- 6 **DON'T** use a connection that may release the clamp.
- 7 **DON'T** attach clamp directly to crane hook. **DO** use a flexible connection between crane hook and clamp shackle. **DON'T** use heavy flexible connection.
- 8 **DO** use correct clamp for job. **DON'T** use large capacity clamps to lift light loads.
- 9 **DO** use an adequate number of clamps to balance load. **DON'T** lift loads that are not balanced.
- 10 **DO** use clamps within their rated capacity. **DON'T** overload clamps.
- 11 **DO** inspect clamp before each lift, follow inspection and maintenance instructions outlined in the manual and use RENFROE replacement parts to assure proper operation of the clamp.
- 12 **DON'T** use clamp that has been overloaded. **DO** refer to pre-lift inspection in Operator's Manual.
- 13 **DON'T** side load with a straight shackle clamp.
- 14 **DON'T** misuse. **DON'T** lift plate from bottom of plate stack.
- 15 **DON'T** rush. **DON'T** lift more than one plate at a time with a vertical clamp.
- 16 **DON'T** improvise. Always use correct clamp for the job. **DON'T** lift plate horizontally with a vertical lift only clamp.
- 17 **DON'T** alter clamp. **DON'T** grind, weld or modify the clamp in any manner.

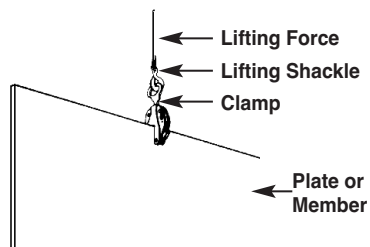


NOTICE OF EXCLUSION OF WARRANTY

RENFROE HAS HEREIN SET FORTH IN CONSPICUOUS LANGUAGE AN EXCLUSION OF ANY WARRANTY EITHER EXPRESSED OR IMPLIED, WHICH IS NOT SPECIFICALLY AND PARTICULARLY CONTAINED HEREIN. PLEASE REFER TO THAT STATEMENT FOR REPRESENTATIONS AND WARRANTIES OF PRODUCTS MANUFACTURED BY J.C. RENFROE & SONS, INC.

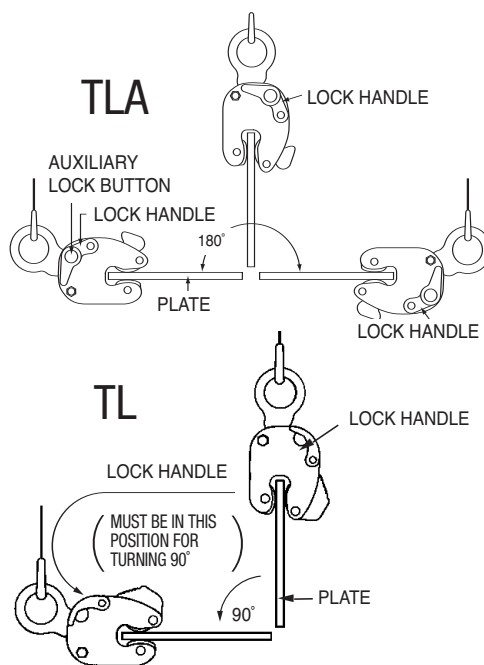
DEFINITIONS

VERTICAL LIFT: The lifting of a single plate or member in which the lifting force exerted by the rigging is directly above and in line with the lifting shackle as shown in the illustration below.



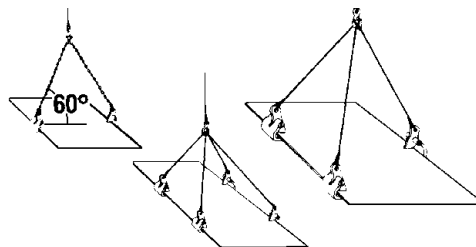
VERTICAL TURN/LIFT: A vertical turn/lift clamp is a vertical lifting clamp specifically intended to turn a single plate or member thru a ninety degree (90°) arc and back to vertical thru the same ninety degree (90°) arc or from horizontal to vertical to horizontal thru a one hundred and eighty degree (180°) arc. Refer to Application Section of specific Turn/Lift clamps for further detail.

During the turning operation the edge of the plate opposite the edge to which the clamp is attached should always be in contact with a supporting surface such as a factory floor and the load on the clamp should not exceed one half rated capacity of clamp — refer to illustrations shown below.



HORIZONTAL LIFT: Clamps (used in pairs or multiples) are attached to the side edges of a plate or bundle of plates positioned horizontally to the floor level. The rigging attached to clamps is generally multi-legged slings with the connecting point of the slings being approximately centered between the distance separating the clamps. Refer to illustrations shown below.

WARNING: The capacity of all horizontal clamps is based on a sling angle of sixty degrees (60°). See illustration below. Sling angles less than sixty degrees (60°) increase the load exerted on the clamps. Sling angles greater than 60° reduce gripping force, do not exceed 60°.



STEEL PLATES: Unless otherwise specified, lifting clamps are manufactured to handle hot-rolled steel plates whose Brinell Hardness does not exceed 300.

WARNING: Do not lift plates with coatings or mill scale that prevent the gripping surfaces of the clamp from making positive contact with the base metal.

For applications not covered by the above information, secure written recommendations from RENFROE.

FINISHED AND POLISHED PLATES:

Steel plates in this category having other than hot-rolled surfaces such as stainless steel, etc., are generally handled using non-marring clamps incorporating smooth gripping surfaces.

WARNING: For applications using clamps with serrated gripping surfaces on finished or polished plates, secure written recommendations from RENFROE.

STRUCTURAL MEMBERS —FABRICATED SECTIONS:

Unless otherwise specified, clamps described as capable of handling structural members and fabricated sections are limited to hot-rolled steel whose Brinell Hardness does not exceed 300.

WARNING: For applications not covered by the above information, secure written recommendations from RENFROE.

RATED CAPACITY: ALL RENFROE CLAMPS ARE RATED INDIVIDUALLY.

The rated capacity of a RENFROE product is based on the product being in “new or as new” condition and represents the maximum load the product is to be subjected to when utilized in the manner described in this manual. Wear, misuse, abuse and other factors relating to usage may reduce the rated capacity. Shock loading and the factors listed must be taken into consideration when selecting a RENFROE product for a given application.

PLATE THICKNESS: The minimum and maximum plate thickness a clamp specified for handling plates is capable of lifting.

DEFINITIONS

WARNING: Never use a clamp for lifting a plate where the plate thickness is less than or greater than the minimum and maximum stenciled on the clamp.

JAW OPENING: The minimum and maximum thickness of a member of a clamp specified as having a JAW OPENING is capable of handling.

WARNING: Never use a clamp on a member whose thickness is less than or greater than the range of jaw opening stenciled on the clamp.

OPERATING TEMPERATURES: Unless specified under the Applications Section of the individual model, the approved operating temperature of RENFROE clamps is from zero degrees Fahrenheit (-18 Celsius) to a maximum of 200 degrees Fahrenheit (+93 degrees Celsius). The minimum and maximum temperatures apply to both ambient and the material being handled by the clamp.

WARNING: Secure written authorization from RENFROE before using clamps in temperatures other than shown.

"HOT LIFTS": The Model R and S clamps are available in modifications that are capable of making lifts where the temperatures of the member being lifted exceeds 200 degrees Fahrenheit (+93 degrees Celsius). Depending on conditions, a lift may exceed 1000 degrees Fahrenheit (538 degrees Celsius). The exact application and temperatures of the plates to be handled are critical in selecting the proper model.

WARNING: Secure written instructions from RENFROE for all hot lift applications.

LOCKING CLAMPS: Locking clamps are divided into the categories listed below. With the exception of the "Locking Wedge" and "Locking Screw" type the purpose of the locks are to facilitate the attaching and removing of the clamp from the member being handled.

"Lock Closed" — an overcenter spring loaded mechanism in which the spring exerts a force on the gripping cam when the lock handle is moved to the "Lock Closed" position. When the handle is moved to unlocked position, the force exerted by the spring is relaxed and the gripping cam may be retracted by pushing the lifting shackle into the body of clamp. Refer to the Operation Section of specific models of "Lock Closed" clamps for additional details. Typical "Lock Closed" clamps are Models DG, FR, M and HRS.

"Lock Open Only" — normally used on "Hot Lift" clamps and consists of a manually operated "Lock Stop Pin" that is inserted when gripping cam of clamp is retracted and removed when clamp is positioned on the plate. Tag line may be used to permit operator to remove pin from a greater distance from clamp. Refer to the Operation Section of specific model of "Lock Open Only" clamps for additional details. Typical "Lock Open Only" clamp is the Model RO.

"Lock Open-Lock Closed" — an over-center spring loaded mechanism in which the spring exerts a force on the gripping cam when the lock handle is moved to the "Lock Closed" position. When the handle is moved to the "Lock Open" the gripping cam is maintained in the retracted position for ease in installing the clamp on a plate or member. The Model FRD contains individual "Lock Open" and "Lock Closed" mechanisms that must be operated separately. Refer to the Operation Section of specific models of the "Lock Open-Lock Closed" clamps for additional details. Typical "Lock Open-Lock Closed" clamps are Models FRD, R, S, SD, SEA, SX, TL, TLA and the J-Series.

"Locking Wedge" — is a fluted steel wedge that is driven in place with a hammer. The body of the wedge is positioned in a slot in the clamp body with the fluted edges contacting the member to which the clamp is being attached. Refer to Operation Section of specific models of the "Locking Wedge" clamps for additional details. Typical "Locking Wedge" clamps are Models A1, B1, B2 and PB.

"Locking Screw" — "Locking Screw" clamps depend on manually adjusting a screw to hold the gripping surface in place for lifting and removing the clamp from member being lifted. Refer to Operation Section of a specific model of "Locking Screw" clamps for additional details. Typical "Locking Screw" clamps are Models AC, ACP, BC, NM, PC, SCP, SCPA and RSC.

NON-LOCKING: "Non-Locking" clamps have no mechanisms to aid in attaching or removing clamp from member being lifted. It is necessary to have position of clamp maintained on the member being lifted until a properly applied force is exerted to the lifting shackle. Refer to Operation Section of specific models of the "Non-Locking" clamps for additional details. Typical "Non-Locking" clamps are Models AST, ASTL, BD, HR, HDR, HRS and WHSR.

WARNING: A POINTING OUT AND NOTICE OF DANGER. THE PURPOSE OF A "WARNING" IS TO APPRISE THE OPERATOR AND ALL OTHER AFFECTED PERSONS OF THE EXISTENCE OF DANGER OF WHICH HE SHOULD BE, BUT MAY NOT BE AWARE; AND TO ENABLE THE OPERATOR TO PROTECT HIMSELF AND OTHERS, WHERE APPLICABLE, AGAINST SUCH DANGER. AN ATTEMPT IS MADE HEREIN TO WARN AGAINST REASONABLE AND REASONABLY FORESEEABLE DANGER IN THE PROPER USE AND POSSIBLE REASONABLE MISUSE OF RENFROE PRODUCTS DESCRIBED IN THIS CATALOG.

RENFROE® Operator's Manuals

No operator should engage or attempt to engage in the use of any Renfroe product until the applicable manual has been read and fully understood.

Failure to review and utilize recommended applications, operating and maintenance instructions could result in serious injury to the operator and others.

An Application, Operation and Maintenance Manual is packaged with each Renfroe product. Additional copies are available by contacting J. C. Renfroe & Sons, Inc. at 1-800-874-8454 or by email: sales@jcrenfroe.com.



RENFROE® Rebuild Kit 15% savings when ordering in kits

The construction of RENFROE products permits the installation of repair parts to be accomplished by qualified personnel utilizing recommended procedures for inspection and installation of each product model as recommended in the Maintenance Section of the Operator's Manuals.

When necessary, the worn or damaged parts may be replaced by installing individual replacement parts or through the use of a RENFROE Rebuild Kit which includes all parts generally replaced due to normal wear. Parts not subjected to daily operating wear are not included in the Rebuild Kit and may be purchased separately.



KITS ARE AVAILABLE FOR THE FOLLOWING MODELS:

- | | | | |
|--------------|------------------|--------------|--------------|
| • MODEL AST | • MODEL FR | • MODEL RSC | • MODEL SEA |
| • MODEL ASTS | • MODEL FRD | • MODEL S | • MODEL SX |
| • MODEL ASTL | • MODEL J SERIES | • MODEL SH | • MODEL TL |
| • MODEL BD | • MODEL LJ | • MODEL SCP | • MODEL TLA |
| • MODEL DC | • MODEL M | • MODEL SCPA | • MODEL WHSR |
| • MODEL DG | • MODEL NM | • MODEL SCSL | AND HOT |
| • MODEL DWS | • MODEL R | • MODEL SD | LIFT CLAMPS |

GENERAL INFORMATION

IMPORTANT: Information contained in this catalog is for the presentation of pertinent illustrative and specification data for use in the selection of suitable RENFROE® products consistent with the use intended by RENFROE. Refer to Operator's Manuals for information on application, operation and maintenance of each particular model or product.

Photographs of products shown in this catalog which may include examples of applications are for illustrative purposes only. Please refer to the Operator's Manuals for approved applications of RENFROE products.

OPERATOR'S MANUALS: PRIOR TO PURCHASE AND/OR USE OF ANY RENFROE PRODUCT, EACH PURCHASER AND OPERATOR SHOULD READ AND UNDERSTAND FULLY ALL OF THE PERTINENT INSTRUCTIONS AND RECOMMENDATIONS CONTAINED IN THE OPERATOR'S MANUALS FOR THE PARTICULAR PRODUCT INVOLVED.

THE OPERATOR'S MANUAL:

Manuals contain recommended application, operation and maintenance instructions for all RENFROE products listed in this catalog. A copy of the Operator's Manual pertaining to each such product is attached to the product or enclosed within the shipping carton with each product. In addition, Operator's Manuals may be obtained from authorized RENFROE Distributors or by contacting J. C. Renfro & Sons, Inc. at 1-800-874-8454 or by email: sales@jcrenfroe.com.

TRAINING AIDS: RENFROE provides, upon request and at no charge, training films and posters, inspection kits containing coded inspection tags and maintenance inspection record forms.

RENFROE factory representatives are also available upon request, at no charge, to train and assist in establishing the proper use, inspection and maintenance of RENFROE products. Direct requests to J.C. Renfro & Sons, Inc. at 1-800-874-8454 or by email: sales@jcrenfroe.com.

INSPECTION AND REBUILD: RENFROE Factory Representatives are available upon request to inspect RENFROE products in use at Plant sites or such other reasonable locations where such products are in use. RENFROE products may be returned to the factory for inspection and rebuild in accordance with an established fee schedule. Neither operators nor maintenance personnel of the user of such products should engage in any modification of any RENFROE product for any reason. Installation of parts and Rebuild Kits should be effected only in accordance with instructions included within the Operator's Manual and as furnished with each RENFROE Rebuild Kit.

ENGINEERING SERVICE: Our Engineering Department is ready to assist in the solution of special problems and its service is available at all times to our customers.

DELAYS: J. C. RENFROE & SONS, INC. is not liable for any delays in manufacturing or shipping caused by fire, strikes, lockouts, war, insurrections, inability to secure materials, government interference or regulations, delays in transportation, or other circumstances beyond reasonable control.

EXCLUSION OF WARRANTY

THERE EXISTS NO WARRANTIES NEITHER EXPRESSED NOR IMPLIED WHICH EXTEND BEYOND THE DESCRIPTIONS OR STATEMENTS CONTAINED IN THE FACE OR ANY PART HEREOF.

This catalog supercedes all catalogs previously published by RENFROE and further supercedes any materials previously published or described by RENFROE or its distributors as to the contents hereof.

Stainless Steel Gripping Surfaces

KITS ARE AVAILABLE FOR THE FOLLOWING MODELS:

Vertical Clamps

- Model FR
- Model J
- Model JP
- Model JA
- Model JPA

- Model LJ
- Model SCP
- Model SCPA
- Model TL
- Model TLA

Horizontal Clamps

- Model HR
- Model HDR
- Model M
- Model WHSR