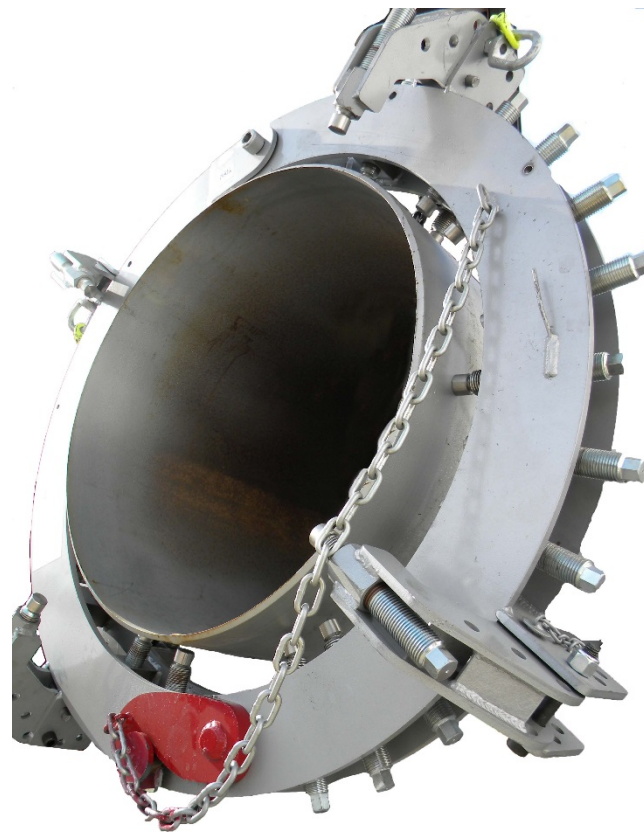




STANDARD & MEGA RIM CLAMP

Operations and Maintenance Manual



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MODEL # _____
SERIAL # _____

SAFETY INSTRUCTIONS

Mathey Dearman Equipment

ALL WARNINGS PROVIDED IN THIS MANUAL MUST BE READ AND ALL PROCEDURES FOLLOWED IN AN EFFORT TO PREVENT INJURY OR DEATH TO PERSONNEL AND / OR DAMAGE TO THE EQUIPMENT.

ONLY QUALIFIED AUTHORIZED PERSONNEL should operate Mathey Dearman equipment. This manual includes safety instructions throughout the operation instructions as well as those noted on this Safety Instruction page. Throughout this manual these warnings will be noted by these warning symbols.



Operation of this equipment should be in accordance with the instructions provided in this manual. No Mathey Dearman equipment should ever be used in a manner other than as described in this manual.

Operators should wear approved PPE at all times while using this equipment. PPE includes hard hat, ANSI approved eye protection, gloves, steel toe boots and protective clothing. Do not wear loose clothing that can become entangled in the equipment.



BE SAFE AT ALL TIMES. WEAR PPE.

SAFETY INSTRUCTIONS

STANDARD/MEGA RIM CLAMP OPERATION

- **IN ADDITION TO THE ABOVE WARNINGS ALL NATIONAL AND INTERNATIONAL SAFETY RULES FOR THE USE OF THE RIM CLAMP MUST BE FOLLOWED TO PREVENT ANY INJURIES OR DEATH AS A RESULT OF IMPROPER CLAMPING PROCEDURES.**
- **TO REDUCE THE RISK OF SERIOUS OR INJURY DEATH THE STANDARD OR MEGA RIM CLAMP SHOULD NEVER BE USED TO LIFT THE PIPE UNDER ANY CIRCUMSTANCES.** The pipe must have an external source of support at all times when the Standard or Mega Rim Clamp is being installed and during use.
- **ONLY QUALIFIED, TRAINED AND AUTHORIZED PERSONNEL** should operate Mathey Dearman Standard and Mega Rim Clamp. Other personnel should **NOT** be allowed to set-up, operate or maintain the Rim Clamp.
- The Standard or Mega Rim Clamp should be inspected for defects such as cracks, nicks, arc marks, and abrasions prior to use and during scheduled maintenance.
- Maintenance personnel must read and understand the parts and operating manual of the Rim clamp prior to attempting maintenance on the Standard or Mega Rim Clamp.
- The Standard or Mega Rim Clamp should be tested for proper function prior to use including the alignment or reforming of pipe or pipe fitting.
- The operator should insure that the area around the Standard or Mega Rim Clamp is clear of debris and other hazards that may pose a trip hazard to personnel during operation.
- **To avoid the risk of electrical shock** the operator must insure that the Rim Clamp or Mega Rim Clamp is within a safe distance from power lines or other electrical sources.
- **Never** use the Standard or Mega Rim Clamp as a ground for any purpose.
- Make sure loose clothing, tools, belts, etc. do not become entangled in the Rim clamp.
- The periodic maintenance instructions must be followed in the Rim Clamp parts and operating manual.
- The pipe must be secured from rotation, prior to mounting the Rim Clamp on the pipe.
- The Level and Support Device should never be used as the sole support of the pipe, fitting or valve.
- Make sure the Rim Clamp is in full contact with the mating pipe, fitting or valve.
- Use only the wrench provided with the Rim Clamp to prevent over torquing of jackscrews.
- **Never** use a cheater bar with the supplied wrench.
- The mating pipe, fitting or valve should not have a taper surface of more than 5 degrees at the point where the Flip Down Jackbar Jackscrew pad will contact the pipe.
- To avoid the risk of electrical shock or death keep the clamp as far away as possible from power lines.

WARRANTY INFORMATION

If any merchandise sold hereunder (except merchandise manufactured by other persons or firms) by Mathey Dearman, Inc. (the "Company") is not in accordance with specifications shown on the order within customarily accepted tolerances, or is defective on account of workmanship or material, and if such merchandise is returned at the customer's expense and risk, to the Company's manufacturing facility (or at the Company's option, is returned to a repair facility authorized by the Company), within one (1) year after the Company's date of shipment thereof, the Company will, at its option, replace or repair the merchandise. This agreement, however, is upon the conditions: (A) that the customer promptly notifies the Company in writing of any claim under this agreement, setting forth in details any such claimed defect. (B) That the Company be afforded a reasonable opportunity to examine the merchandise and to investigate the claimed defect at the Company's manufacturing facility or at an authorized repair facility, the Company shall not be, in any event, liable for damages beyond the price paid by the customer for such defective merchandise; specifically but without limitation, the Company may fulfill its obligations under this Agreement by tendering such purchase price at any time. **THE COMPANY SHALL NOT BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL, PUNITIVE, OR EXEMPLARY DAMAGES.** This agreement does not obligate the Company to bear any transportation charges in connection with the replacement or the repair of defective merchandise. As to any item manufactured by other persons or firms, the Company agrees to present a request for adjustment for repair to such manufacturer, and the customer agrees that the liability of the Company shall not exceed any adjustment with respect to which such manufacturer accepts responsibility. **THE ABOVE AGREEMENT IS IN LIEU OF ALL WARRANTIES, EXPRESSED OR IMPLIED AND IT IS AGREED THAT THERE IS NO EXPRESSED OR IMPLIED WARRANTY BY THE COMPANY AS TO THE FITNESS, MERCHANTABILITY CAPACITY, OR EFFICIENCY OF ANY MERCHANDISE SOLD, AND THAT THERE ARE NO ORAL OR WRITTEN EXPRESSED OR IMPLIED WARRANTIES MADE IN CONNECTION WITH ANY SALE BY THE COMPANY.** No modification or addition to this agreement, either before or after the contract of sale, shall be made except on written authority of the President or Vice President of the Company.

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INTRODUCTION

The Mathey Dearman Rim-Type Reforming Clamp is designed to reform pipe sizes from 4" to 72". Reforming capabilities are based on pipe diameter and wall thickness. The body is designed to allow a full circumference weld and/or grind without the need to remove the clamp.

There are two types of reforming clamps available. The first is the Standard Rim Clamp which has the capability to reform pipe with a maximum tensile strength of 45,000 psi. The second type is the Mega Rim Clamp which has the reforming capability to reform pipe with a maximum tensile strength of 80,000 psi.

Both clamps are designed with jackscrews mounted on the inside of the clamp. These jackscrews are tightened or loosened to shape the pipe to match the mating pipe or fitting prior to the welding process. There are 4 or more stabilizer bars that are used to prevent the clamp from moving on the pipe. There are 4 or more flip-up jack bars that can be moved to allow access to the two pipe joints for welding and/or grinding.



WARNING: IF THE STANDARD RIM CLAMP IS USED TO REFORM PIPE WITH A TENSILE STRENGTH OF MORE THAN 45,000 POUNDS PER SQUARE INCH, IT MAY RESULT IN SERIOUS INJURY OR DEATH.



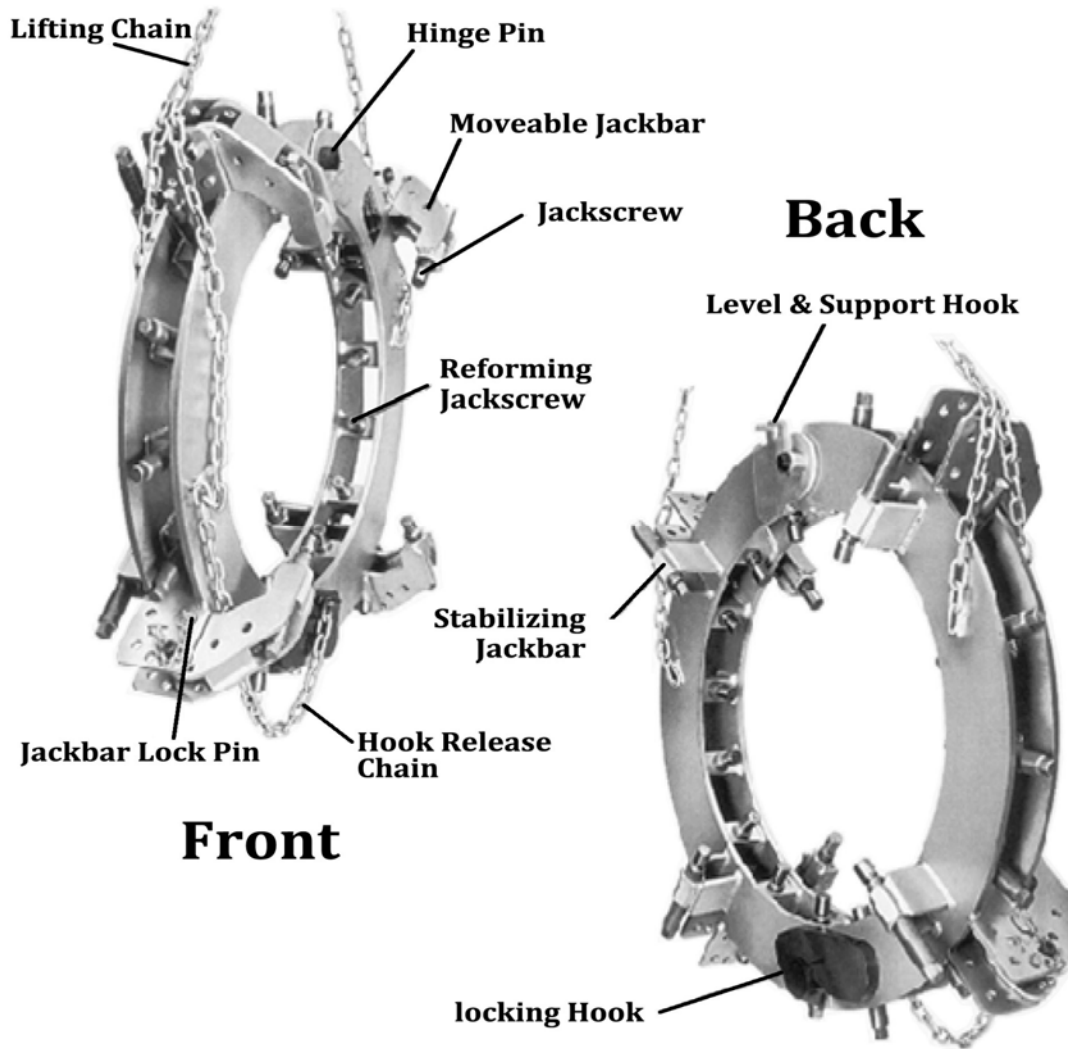
WARNING: USE OF THE RIM CLAMP BEYOND ITS OPERATING CAPACITY OR DESIGN WILL VOID THE RIM CLAMP WARRANTY.

Chart 1 - Standard (STD) and Mega (MEGA) Rim Clamp Reforming Capacity

Rim Clamp Type	Pipe Tensile Strength		Maximum Recommended Wall Thickness According to Pipe Diameter					
	PSI	MPA	4" - 12" DIA	14" - 24" DIA	26" - 30" DIA	32" - 48" DIA	50" - 60" DIA	62"-72" DIA
STD	45,000	310	1/2"	3/4"	7/8"	1"	1 1/8"	1 1/4"
MEGA	45,000	310	1/2"	3/4"	1"	1 1/8"	1 1/4"	1 3/8"
	65,000	448	7/16"	5/8"	3/4"	1"	1 1/8"	1 3/8"
	70,000	483	3/8"	1/2"	3/4"	7/8"	1"	1 1/4"
	80,000	552	3/8"	1/2"	5/8"	3/4"	1"	1 1/8"
Pipe Wall Thickness								

Note: As the temperature of the pipe decreases below 0°F (-18°) the ability of the Rim Clamp or Mega Rim Clamp to reform the pipe wall will sharply decrease.

MAIN COMPONENTS



WARNING: REDUCE THE RISK OF SERIOUS INJURY OR DEATH, **NEVER** USE THE STANDARD OR MEGA RIM CLAMP AS A LIFTING DEVICE FOR THE PIPE UNDER **ANY** CIRCUMSTANCES.

OPERATION INSTRUCTIONS

Prior to using the Rim Clamp ensure that the lifting pressure has been released from the chain lifting mechanism by allowing the clamp to lightly rest on a flat surface. Once the pressure has been released, the operator may then unlatch the red latch hook by pulling on the hook release chain. This will allow the clamp to open so that it can be lowered onto the pipe (Figure 1).

Smaller Rim Clamps, between 4" and 16" in size, may be placed over the pipe manually. Larger size rim clamps must be connected to a lifting device by using the chain lifting mechanism. (Figure 2).



Figure 1 - Red Latch Hook attached to chain.



WARNING: TO REDUCE THE RISK OF SERIOUS INJURY OR DEATH **NEVER** STAND UNDERNEATH THE CLAMP DURING THE LIFTING PROCESS.



WARNING: TO AVOID THE RISK OF SERIOUS INJURY OR DEATH ALL PERSONNEL SHOULD STAY CLEAR OF RIM CLAMP DURING THE LIFTING PROCESS AS WELL AS DURING THE POSITIONING OF THE RIM CLAMP ON THE PIPE.



Figure 2 - Lifting Eye and Chain

The operator must loosen all of the reforming jackscrews with the exception of the top two (2) prior to lifting the rim clamp onto the pipe. In the event that the reforming jackscrews are left tightened down, they may be damaged by the weight of the clamp, so therefore loosening them will help prevent damage to the clamp as well as allow the red latch hook room to latch completely shut.



Figure 3 - Reforming Jackscrews

Once the clamp is prepared, the operator should slowly lower the rim clamp onto the pipe so that the jackbars extend approximately two (2) inches beyond the end of the pipe. (See Figure 4)

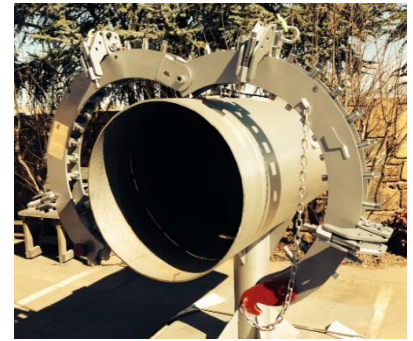


Figure 4 - Rim Clamp closing on pipe.

As the clamp is lowered onto the pipe, it will start to close. As the clamp starts to close, the red latch hook will automatically latch. If it does not start to latch at this time, the operator will need to push the two (2) separate sides of the clamp together until the red latch hook is securely closed. (See Figure 5)

The operator must then use the reforming jackscrews to center the clamp on the pipe. This adjustment must be within +/- 1" (25mm) of the pipe center to prevent the swivel pads from becoming disengaged from the jackscrews. The clamp should then be adjusted so that it is perpendicular to the pipe centerline. This is achieved by tightening or loosening the jackscrew located in the stabilizer bars.





Figure 5 - Rim Clamp secured on pipe.

The operator should then remove the Jackbar Lock Pin from the two (2) or three (3) upper movable jackbars and then rotate the moveable jackbars out of the way so that the jackbar lock pins can be reinserted. The mating pipe section will rest on the reforming jackscrews located on the two (2) or three (3) lower moveable jackbars. This will allow the mating pipe or pipe fitting to be inserted into the clamp for welding, buffing or grinding. (See Figures 6 & 7)



Figure 6 – Jackbar & Jackbar Lock Pin



WARNING: TO REDUCE THE RISK OF SERIOUS INJURY OR DEATH ALL PERSONNEL SHOULD KEEP HANDS AND FINGERS CLEAR FROM UNDERNEATH THE RIM CLAMP DURING CLAMP POSITIONING ON THE PIPE, WHILE TIGHTENING THE REFORMING JACKSCREWS OR WHEN ROTATING THE MOVEABLE JACKBAR AND THE JACKBAR MOUNTING BRACKET.



Figure 7 – Movable Jackbar

When the two (2) pipe joints or pipe and fitting are aligned as closely as possible, determine which reforming screws can be used to reform the pipe to the mating pipe. Adjust the reforming jackscrews as needed to reshape the pipe to match the pipe joint or fitting that is being aligned. The reforming jackscrews should only be used where high spots exist.

NOTE: It is not necessary to use all of the reforming jackscrews at the same time. Only tighten the reforming jackscrews that are over the high spots as well as the area of the pipe that is 180° from the high spot.

It will be necessary to reduce the pressure of some of the reforming jackscrews as you tighten others. It may be necessary to repeat this procedure several times before completing the fit-up. A small amount of pressure is all that is needed when the reforming jackscrews are used on the high spots.

At this point, the entire weld area will be exposed which will allow the weld to be completed as well as the grinding or buffing the weld without the need to release the reforming jackscrews from the clamp.

Note: In order to achieve a high quality weld, it is extremely important that the clamp operator follow these procedures to help prevent any chance of a weld fracture due to loss of pressure on a partially is completed weld.

Once the entire weld procedure has been completed, the clamp can then be removed. The clamp should be allowed to cool if the weld pass temperature exceeds 275°F (135°C) before attempting to remove the clamp.

The begin removal, the clamp operator will first loosen all of the stabilizers, reforming jackscrews and moveable jackbar screws with the exception of the top reforming jackscrews. The operator will leave one of the reforming jackscrews on each side of the hinging point extended. These jackscrews should extend approximately ½" or more further than all of the other jackscrews to allow the clamp to rest on them.

The red latch hook can be unlatched once the pressure on the clamp has been released. The operator will pull upward on the hook to release the chain while lifting the clamp.



WARNING: Do not allow hands or fingers to become caught underneath the Rim Clamp while tightening the reforming jackscrews.

MAINTENANCE INSTRUCTIONS

Before and after use, the Standard or Mega Rim Clamp should be inspected. The clamp frame should be checked for cracks or defects in the frame. All moving parts such as the stabilizers, reforming screws, moveable jackbar jackscrews, and red latch hook should be checked to insure proper movement and for any thread damage that may have occurred during use. All slag and debris should be cleaned and/or removed from the clamp prior to the next clamping operation.

If the threads on the jackscrews are damaged, the user should use a file to smooth any rough edges to insure that they smoothly move in and out of the jackscrew nuts. The jackscrews should be lubricated with Loctite C5-A Copper based Anti-Seize lubricant every 10 hours of operation.

Note: Any repairs made to the Standard or Mega Rim Clamp will void the Warranty. If repairs are needed, an authorized representative of the company must contact Mathey Dearman immediately at 918.477.1288 or 800.725.7311



WARNING: Any repairs made to the Standard or Mega Rim Clamp will void the Warranty. This may affect the integrity of the clamp and may result in serious injury or death or damage to equipment. Problems with the Standard or Mega Rim Clamp should be reported **IMMEDIATELY** to Mathey Dearman, Inc. Phone: 918.477.1288 | 800.725.7311

STANDARD AND MEGA RIM CLAMP SIZES & SPARE PARTS LIST

Standard Rim Clamp	Mega Rim Clamp	Pipe Size Range	
		Inch	Millimeter
D711-0406	D711-0406M	4-6	102-152
D711-0608	D711-0608M	6-8	152-203
D711-0810	D711-0810M	8-10	203-254
D711-1012	D711-1012M	10-12	254-305
D711-1214	D711-1214M	12-14	305-356
D711-1416	D711-1416M	14-16	356-508
D711-1618	D711-1618M	16-18	406-457
D711-1420	D711-1420M	14-20	356-508
D711-1824	D711-1824M	18-24	457-610
D711-2026	D711-2026M	20-26	508-660
D711-2228	D711-2228M	228-28	559-711
D711-2632	D711-2632M	26-32	660-813
D711-3036	D711-3036M	30-36	762-914
D711-3440	D711-3440M	34-40	864-1016
D711-3844	D711-3844M	38-44	965-1118
D711-4248	D711-4248M	42-48	1067-1219
D711-4450	D711-4450M	44-50	1118-1270
D711-4652	D711-4652M	46-52	1168-1321
D711-5056	D711-5056M	50-56	1270-1422
D711-5460	D711-5460M	54-60	1372-1524
D711-5864	D711-5864M	58-64	1473-1626
D711-6268	D711-6268M	62-68	1575-1727
D711-6672	D711-6672M	66-72	1676-1829

Assembly / Part Description	Rim Clamp Size
FLIP-UP JACKBARS	
DR-300	D711-0406 thru D711-1214M
DR-700	D711-1416 thru D711-6672M
JACKSCREWS	
DC-501 (JACKSCREW, 7/8-9 X 4 1/2" lg.)	D711-0406 thru D711-1214M
DR-500 (JACKSCREW, 1 1/4-8 ACME X 8 3/4" lg.)	D711-1416 thru D711-6672M
WRENCHES	
D900-002 (3/4" ELBOW WRENCH)	D711-0406 thru D711-1214M
D900-003M (7/8" ELBOW WRENCH)	D711-1416 thru D711-6672M
LIFTING CHAIN (includes Ring, Eye, Chain, and 5/8"-11 Female Eye)	
D711-001 (D711-1420 thru D711-2632) Total length 42"	
D711-002 (D711-3036 and Larger) Total length 72"	
LEVEL & SUPPORT DEVICE(Standard & Mega)	
DA-400S (STAINLESS STEEL LEVEL & SUPPORT DEVICE)	D711-0406 thru D711-1214M
DB-400S (STAINLESS STEEL LEVEL & SUPPORT DEVICE)	D711-1416 thru D711-1824M
DC-400 (CARBON STEEL LEVEL & SUPPORT DEVICE)	D711-2026 thru D711-6672M
DC-400S (STAINLESS STEEL LEVEL & SUPPORT DEVICE)	D711-2026 thru D711-6672M