



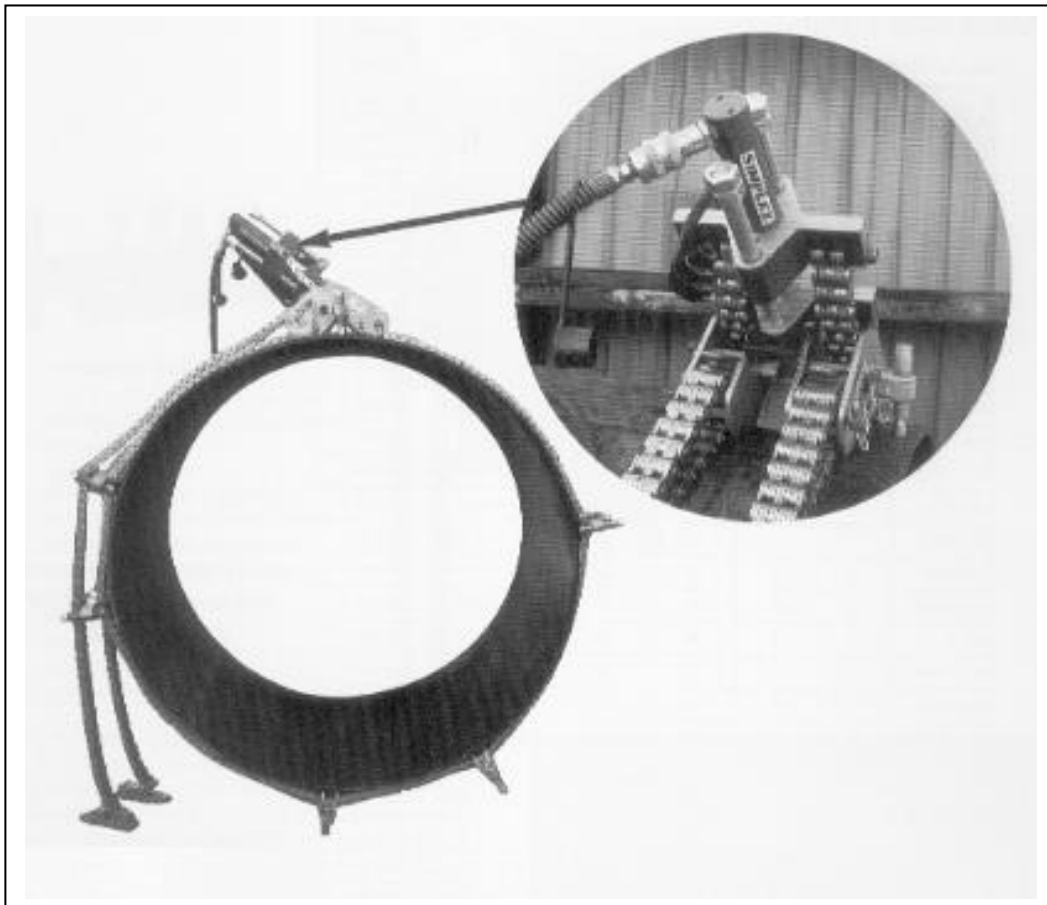
Mathey Dearman, Inc.

4344 South Maybelle Ave. Tulsa, OK 74107

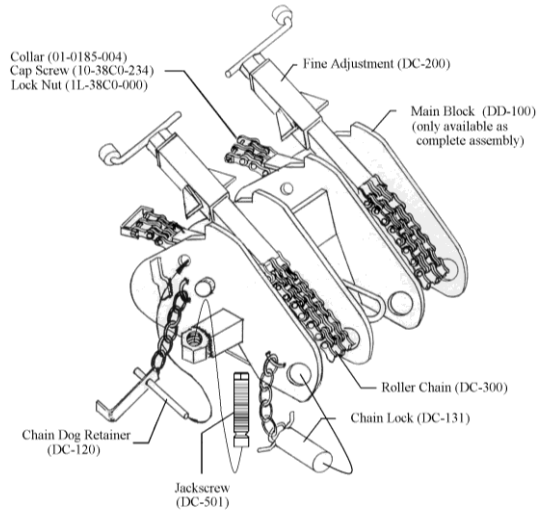
Phone: 800-725-7311 • 918-447-1288 • Fax: 918-447-0188

Hydraulic Double Chain Clamp

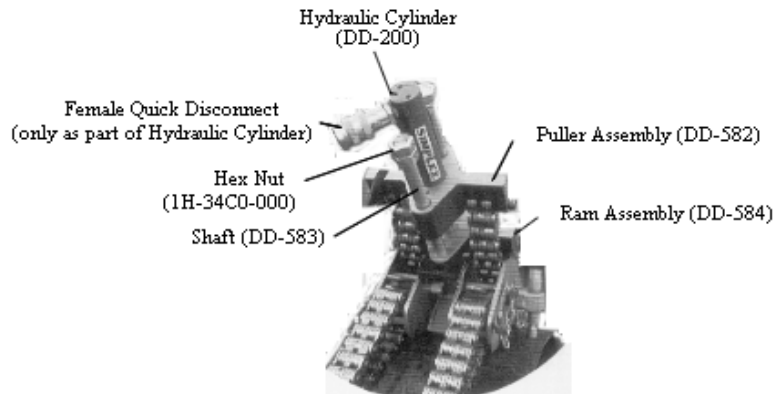
Parts and Operating Manual



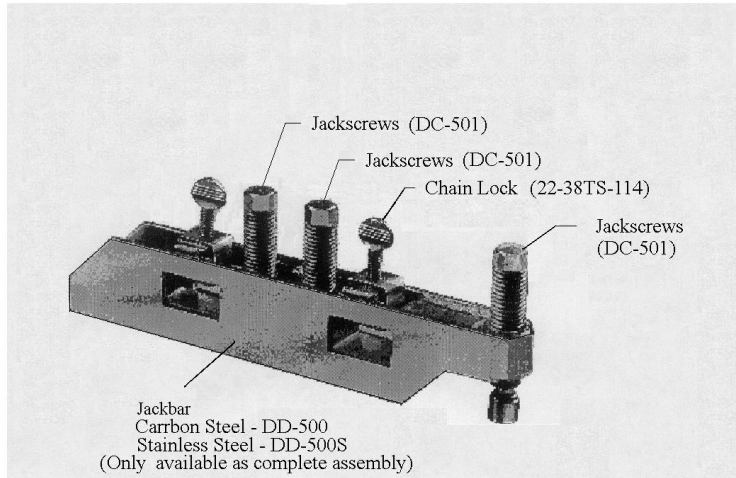
Large Diameter Double Chain Clamps may have one or more Main Block Assemblies depending on the clamping range of the Clamp in order to properly and uniformly take up the slack in the Chain. Each section of the clamp will have a Main Block and Fine Adjustment to remove the slack in the chain. Multiple Main Blocks enable the operator to remove the slack in a section of the chain. The use of Multiple greatly aids in the installation, application and function of the clamp.



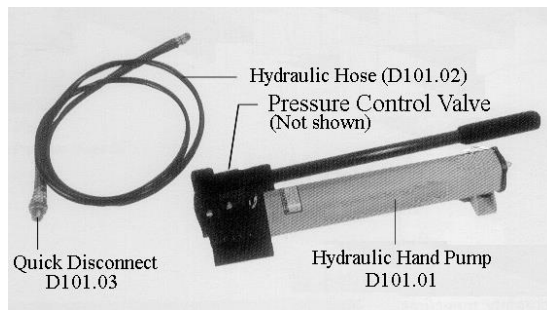
Main Block



Hydraulic Ram Assembly



Jackbar



Hydraulic Pump Assembly



Heavy-Duty Cable Puller (Come-A-Long)

Installing the Clamp on the Pipe without Heavy-Duty Cable Puller (Come-A-Long)

1. Lay out the clamp on the floor or table with Jackbars as shown below. Make sure all jackscrews are touching the floor and the Jackbar is not elevated off the floor.



2. If 2 or more clamp sections need to be joined together for a large diameter pipe see section “Installing the Chain in the Main Block.”
3. Lift the clamp and lower it over each side of the pipe. If there is enough clearance above the pipe, lower the clamp on the pipe with a crane.
4. Fit the clamp on pipe with the end of the Jackbars protruding past the end approximately 1” (25mm).
5. Adjust the main block of the Chain Clamp so that it is at a convenient height (waist high).
6. With Ram Assembly of the Hydraulic Ram Assembly in the notch of the main block, install the 2 Chain Locks and into the main block over the Roller Chain.
7. Pull both roller chains through the chain dog of both main block assemblies until both chains are tight against the side of the vessel.

Note: The portion of the Roller Chains that were pulled through the Main Block should be equal.

To loosen the Roller Chain

If you do not have enough slack in the roller chain, with the crank assembly on the fine adjustment let out all the way, to position the fine adjustment ears on the Main Block, remove the Chain Dog Retainer (6), lift the Chain Dogs and pull the chains through the Main Block.

To Tighten the Roller Chain

Lift the 2 Chain Dog retainers off the chain in the Main Block. Pull the Roller Chain through the Chain Dog to take up the slack in the Roller Chain. Pull one chain end and then the other keeping their length as even as possible. The Chain Dog is spring-loaded to clamp the Roller Chain automatically. To release the chain, lift the trigger on the Chain Dog to let the chain go through the Main Block.

Note - It is very important to keep both Roller Chains as evenly tensioned as possible. Keep the loose ends of the Roller Chains as near the same length as possible.

Caution: Be sure to replace both Chain Dog Retainers before tightening the crank handle of the Fine Adjustment.

7. Rotate the valve of the Hydraulic hand pump clockwise.
8. Pump the handle of the Hydraulic Hand Pump to tension the clamp on the pipe.
9. Rotate as many Jackscrews as necessary so that the mating pipe will fit in the clamp.
10. Move the other section of the pipe forward until pipe rest on the Jackscrews (I). If too much HI-LOW exists, you may have to remove some of the out of roundness of the pipe in order fit the pipe into the clamp. If you are aligning fabricated shells with an out of round condition, it may be necessary to place a brace about 1” (25mm) smaller than the inside diameter into the shell to remove some of the out of round condition. After you make the fit-up the brace can be easily removed.

Caution: It should never be necessary to tighten all jackscrews (I). Tighten only those jackscrews where the HIGHS exist. It is common for the operator to tighten jackscrews at points where it is unnecessary. When adjust the pipe diameters to match, it may be necessary to loosen some jackscrews, which were tightened previously.

Caution: Do not attempt to adjust all Jackscrews at the same to time to remove the high points.

11. Tighten each Jackscrews a little at a time. Go around the Vessel as many times as necessary until you have a good fit-up.

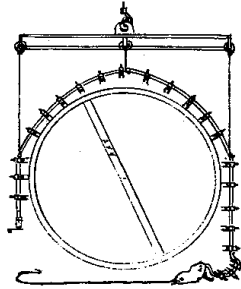
Caution: We suggest you do not tack vessels before you get a good fit-up all the way around the vessel.

12. When possible, make a complete 360° weld on inside of vessel before removing the clamp. This eliminates the need to tack the outside pipe. When inside welding is not possible, Jackbars should be arranged to give an 80% weld area.

Note: If a full circle weld is not possible, we suggest that all unrestricted areas be welded on the outside of the pipe before removing the clamp. This will normally prevent cracking of the skip-welds. Before removing the clamp, raise the jackscrews about a ¼” (6mm) of the vessel surface.

13. To remove the clamp from the pipe, reverse the procedure used to install the clamp.

Spreader Bar Design that will make installation of the chain clamp easy.



Approximately dimensions of the spreader bar cable for use on 15’ diameter vessel: center cable 2’ long, end cables 9’6” long. When hooking to the clamp, space hook at 11’7” from center of hook.

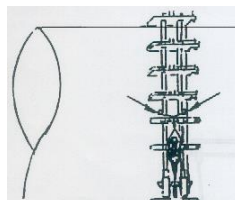
Instructions for mounting the Double Chain Clamp using a Heavy-Duty Cable Puller (Come-A-Long)

1. Lay out the clamp on the floor or table with Jackbars as shown below. Make sure all jackscrews are touching the floor and the Jackbar is not elevated off the floor 2. Lift the clamp and lower it over each side of the pipe. If there is enough clearance above the pipe, lower the clamp on the pipe with a crane.

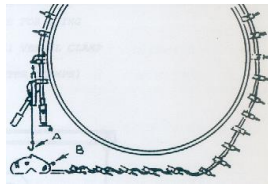


2. If 2 or more clamp sections need to be joined together for a large diameter pipe see section “Installing the Chain in the Main Block.”
3. Lift the clamp and lower it over each side of the pipe. If there is enough clearance above the pipe, lower the clamp on the pipe with a crane.
4. Fit the clamp on pipe with the end of the Jackbars protruding past the end approximately 1” (25mm).
5. Adjust the Main Block of the Chain Clamp so that it is at a convenient height (waist high).

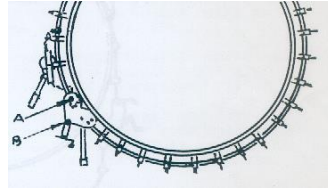
6. Place hook (B) of the Cable Puller on the outside of the Double Chain above one of the Jackbars and bring the Cable of the Heavy-Duty Cable Puller to center between the Jackscrews.



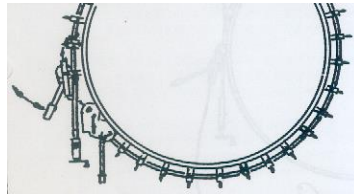
- Hook (A) on the end of the Heavy-Duty Cable Puller to eye (B) in the center of the Main Block.



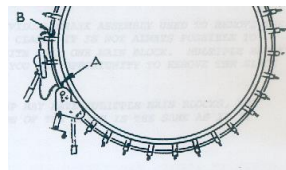
- Ratchet the Handle (C) of Heavy-Duty Cable Puller to move the Main Block into position on the pipe.



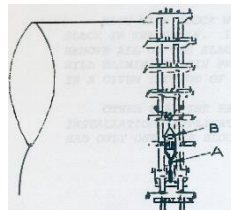
- With the Double Chain Clamp in place around the pipe, put the Chain Locks into the Main Block over chains.



- Place the ears of the Ram Assembly of the Hydraulic Ram Assembly into the notches of the Main Block.
- Tighten the pressure control valve and pump the hand of the Hydraulic Hand pump to tension the clamp against the pipe.
- Move Latch (D) to down position. Pull back on latch (E) and with the other hand pull cable down to obtain slack



- Unhook Hook (A) from the Main Block (A). Remove hook (B) from the double Chain of Double Chain Clamp. The clamp is now ready to start the fit-up.



- Move the other section of the pipe forward until pipe rest on the Jackscrews (I). If too much HI-LOW exists, you may have to remove some of the out of roundness of the pipe in order fit the pipe into the clamp. If you are aligning fabricated shells with an out of round condition, it may be necessary to place a brace about 1" (25mm) smaller than the inside diameter into the shell to remove some of the out of round condition. After you make the fit-up the brace can be easily removed.

Caution: It should never be necessary to tighten all jackscrews (I). Tighten only those jackscrews where the HIGHS exist. It is common for the operator to tighten jackscrews at points where it is unnecessary. When adjust the pipe diameters to match, it may be necessary to loosen some jackscrews, which were tightened previously.

Caution: Do not attempt to adjust all Jackscrews at the same to time to remove the high points.

- Tighten each jackscrew a little at a time. Go around the Vessel as many times as necessary until you have a good fit-up.

Caution: We suggest you no not tack vessels before you get a good fit-up all the way around the vessel.

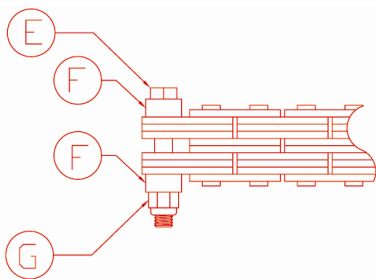
- When possible, make a complete 360° weld on inside of vessel before removing the clamp. When inside welding is not possible, Jackbars should be arranged to give an 80% weld area.

Note: If it is not possible to weld the inside first, we suggest that all unrestricted areas be welded on the outside before removing the clamp. This will normally prevent cracking of the skip-welds. Before removing the clamp, raise the jackscrews about a 1/4" (6mm) of the vessel surface.

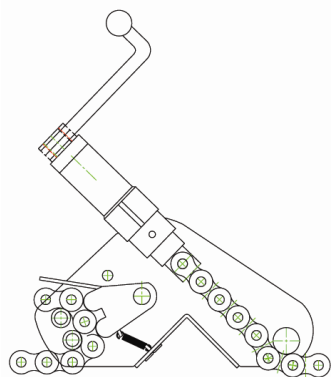
- To remove the clamp, reverse the procedure used to install the clamp.

Installing the Chain in the Main Block

1. Remove Lock Nut (G), Spacers (F) and Hex Head Bolt (E) from the end of the chain. Save these Items as you will need them later.



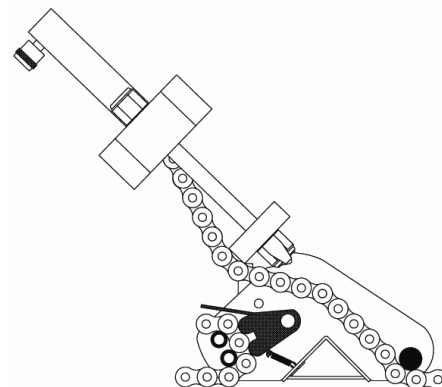
2. Run the end of the Roller Chain from which items E, F and G were removed through the bottom side of the Main Block and underneath the chain dog.



Manual Tensioning
Hydraulic Tensioning

Chain Routing in Main Block

3. Reinstall Hex Nut, Spacers and Hex Head Bolt on the end of the chain.



Maintenance

1. All Jackscrews should be inspected after each clamping operation for splatter and other foreign debris. Any slag, splatter and other foreign debris should be removed prior to the next clamping operation.
2. Check all Jackscrews should be checked for damaged threads. If the threads are damaged the threads should be filed smooth so that the Jackscrew will smoothly move in and out of the Jackscrew Nut.
3. Anti-seize should be applied to all Jackscrews daily.
4. Check Segments of the Chain for arc marks. If chain exhibits arc marks replace the chain.

In USA:

Mathey Dearman

4344 South Maybelle, Tulsa, OK 74107

Phone: 1-800-725-7311 • 918-447-1288 • Fax: 918-447-0188

E-mail: sales@mathey.com Internet: <http://www.mathey.com>

In Europe:

CIA Mathey Italiana, s.r.l.

Via Isonzo, 26 - 20050 San Damiano di Brughiero (MI), Italy

Phone: (39) (039) 831019 – 2020021 • Fax: (39) (039) 2020079

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