JCM INDUSTRIES

Installation Instructions

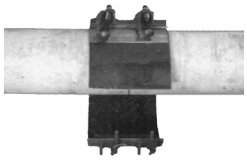
Models 103, 104, 133, 134, 173, 174 Tapped Outlet Universal Clamp Couplings

Read instructions before starting installation*
Review of "Tricks of the Trade" on the reverse will assist with installation.
For purposes other than water, contact JCM Industries for application and product assistance.

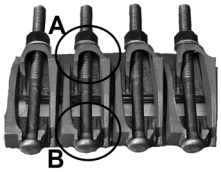
***For Tapped Clamps: tapped outlet clamps are for use in the repair of damaged pipe, leaking service outlet areas and applications that involve previously drilled/tapped pipe. They are not intended to be used for tapping applications.**

1. Clean and scrape pipe. Remove any scale, pipe wrap, debris or dirt that may interfere with the complete sealing of the gasket. Inspect pipe for integrity, size, outside diameter and surface irregularities. Confirm the proper size and range of repair clamp. Inspect fitting to ensure all parts are included.
2. Lubricate the pipe and the fitting gasket with soapy water. **Do not use oil base pipe lubricant.** Loosen nuts of bolts and back nuts to the end of the bolt (complete removal of bolts is not necessary). Release oval necked bolts from lug ears and open the clamp.

3. ***For Model 103*** - Place clamp on pipe and center over damaged area. Tuck tapered gasket in place; mesh finger lugs and rotate clamp in direction of arrow to smooth tapered gasket flap. Position bolting lug for easy access to continued bolt tightening. Rotate so that tapped outlet is in the proper position.Engage bolts in receiver lugs and finger tighten to hold in place. Begin bolt tightening sequence. See step 4.



For 104 Multi Band Clamps *- with multi lug segments. One section has "closed ears" (A) and "open ears" (B) for bolt engagement. Locate lug segment with open "ear" to loosen bolts. Loosen bolts of other lug segments. Do not remove bolts.*



Open clamp at open ear lug segment and place clamp on pipe so that gasket flap is on top is facing you. Bring back half of clamp around pipe. Feed tapered gasket end into place, mesh top lug fingers into "open ears" and engage bolts. Rotate clamp in direction of arrow to smooth tapered gasket flaps. Rotate so that tapped outlet is in the proper position. Finger tighten bolts to hold in place. Begin tightening bolts to proper torque values. Continue around pipe at each lug segment. Avoid tightening lugs to metal bound at any one segment - *gaps between lugs should be approximately even on both sides. Continue bolting sequence to proper torque values below.*

4. Tighten all bolts evenly to the following torque values:

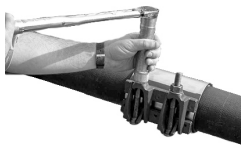
   5/8" Bolts to 70 Foot Pounds

   3/4" Bolts to 90 Foot Pounds

5. Complete installation of fitting, return after approximately 15 minutes and confirm minimum bolt torque levels have been maintained.

   Ensure proper torque level with a field grade, calibrated torque wrench. Thin wall, small diameter & flexible types of pipe are subject to many variables which affect torque values. Use discretion when tightening fittings on thin wall, small diameter & flexible pipe in order to not crush or severely deform the pipe.

   This product does not prevent pipe movement or provide restraint. Take steps to prevent pipe pullout.



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*Ensure fitting is suitable for application (confirm size, materials, pressure ratings, line content, meets local governing & association standards, etc.). Pipeline operation forces, including pressure fluctuations, thermal expansion/contraction, movement/shifting, etc. will influence the success of the application. Proper anchorage, restraint, harnessing, thrust blocks or other devices must be provided to prevent pipe movement (lateral, angular, axial) or pipe pullout from the bolt-on fitting. Inspection of the pipe integrity is the responsibility of the end user. JCM recommends the use of calibrated torque wrench. Failure to follow installation instructions will result in voided product warranty.

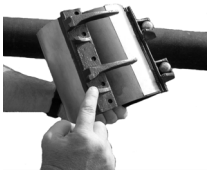
For application review or questions contact JCM Industries at 1-800-527-8482, 903-832-2581

JCM INDUSTRIES

Installation Instructions
Models 173 and 174
Universal Clamp Couplings
Removable Lug

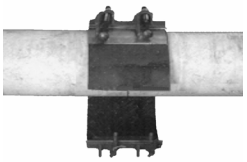
Read instructions before starting installation*
Review of "Tricks of the Trade" on the reverse will assist with installation.
For purposes other than water, contact JCM Industries for application and product assistance.

***For Tapped Clamps: tapped outlet clamps are for use in the repair of damaged pipe, leaking service outlet areas and applications that involve previously drilled/tapped pipe. They are not intended to be used for tapping applications.**

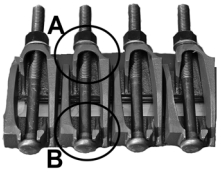


1. Clean and scrape pipe. Remove any scale, pipe wrap, debris or dirt that may interfere with the complete sealing of the gasket. Inspect pipe for integrity, size, outside diameter and surface irregularities. Confirm the proper size and range of repair clamp. Inspect fitting to ensure all parts are included. This clamp has a removable lug section to ease installation on pipe applications in rock bound soil, narrow piping galleries and other tight repair locations. The removeable lug section is identified by visually inspecting the open weld ports.

2. Lubricate the pipe and the fitting gasket with soapy water. **Do not use oil base pipe lubricant.** Loosen nuts of bolts and back nuts to the end of the bolt (complete removal of bolts is not necessary). Release oval necked bolts from lug ears and open the clamp.



3. ***For Model 173*** - To remove the lug, slide the open ear bolt lug to the side (if necessary, lug end may be tapped with hammer or field tool to assist removal). Take care not to bend or cause any damage to the stainless band that may prevent re-installation of the finger lug. Place clamp on pipe. Reinstall lug by sliding edge of stainless band back into the lug slot. Center clamp over damaged area. Tuck tapered gasket in place; mesh finger lugs and rotate clamp in direction of arrow to smooth tapered gasket flap. Rotate so that tapped outlet is in the proper position. Position bolting lug for easy access to continued bolt tightening. Engage bolts in receiver lugs and finger tighten to hold in place. Begin bolt tightening sequence. See step 4.

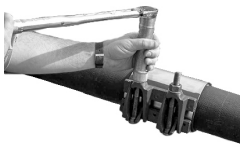


For 174 Multi Band Clamps *- Note: Only one lug section is removable - identified by the open weld ports in which the stainless steel band is visible. When identified, proceed with process described as above. For multi lug segments. One section has "closed ears" (A) and "open ears" (B) for bolt engagement. Locate lug segment with open "ear" to loosen bolts. Loosen bolts of other lug segments. Do not remove bolts.*

Open clamp and place clamp on pipe so that gasket flap is on top is facing you. Reinstall lugs by sliding edge of stainless band back into the lug slot. Bring back half of clamp around pipe. Feed tapered gasket end into place, mesh top lug fingers into "open ears" and engage bolts. Rotate clamp in direction of arrow to smooth tapered gasket flaps. Rotate so that tapped outlet is in the proper position.Finger tighten bolts to hold in place. Begin tightening bolts to proper torque values. Continue around pipe at each lug segment. Avoid tightening lugs to metal bound at any one segment - *gaps between lugs should be approximately even on both sides. Continue bolting sequence to proper torque values below.*

4. Tighten all bolts evenly to the following torque values, ensure torque values with calibrated field torque wrench:

5/8" Bolts to 70 Foot Pounds
3/4" Bolts to 90 Foot Pounds



5. Complete installation of fitting, return after approximately 15 minutes and confirm minimum bolt torque levels have been maintained.

Ensure proper torque level with a field grade, calibrated torque wrench. Thin wall, small diameter & flexible types of pipe are subject to many variables which affect torque values. Use discretion when tightening fittings on thin wall, small diameter & flexible pipe in order to not crush or severely deform the pipe.

This product does not prevent pipe movement or provide restraint. Take steps to prevent pipe pullout.

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