



CJ WINTER

Maintenance Manual

11069 Series

11070 Series

11071 Series

11072 Series

11073 Series

Cold Root Rolling Tools



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SAFETY NOTICE



- Always follow safe machining practices while operating tooling and machinery.
- Personnel who maintain, service, setup, and operate equipment must read and understand all manuals, instructions and warnings before using the equipment.
- We recommend to wear proper clothing and safety equipment designed to protect eyes, hearing and feet. Safety goggles/glasses and steel-toed boots should be worn at all times.
- Use of non-OEM parts is prohibited. Modifications made to the equipment is at the users own risk.
- Never operate tools with a plug or gauge that was not provided by CJWinter. The tool is under extreme pressure. Most commercially available fittings will fail under these loads.
- Reference CJWinter's Instruction Manual supplied with every tool for additional precautions.

- **CJWinter assumes no responsibility of damage to the tooling or machinery, nor injury to operator, should such damage and/or injury occur during this process.**

If you have any questions please contact us at info@cjwinter.com.

Tool Service & Inspection

The intent of this manual is to suggest maintenance intervals and procedure for parts in the cold root rolling tool series. Some sections are outlined more in depth in the product manual included with each cold roll tool purchase, and are referenced as needed.

If you experience a problem with any of your tooling and do not feel comfortable inspecting it, you can send it back to us to have the tool inspected at no cost. CJWinter's engineers will inspect and evaluate every component and get back to you with a report in a quote form of any parts that may need to be replaced to bring the cold roll tool back to new operating condition. If for some reason the tool cannot be repaired we will let you know at the time of the inspection. CJWinter's engineer will not perform any repairs without getting your approval first. There will never be a labor charge.

You will need a **RMA (Return Materials Authorization)** number from CJWinter prior to sending us your tool. Without this number we will have no documentation to know what is expected of us when the tool is received in. You can call or request the number by email as long as we issue the number before you send us the tool.

Phone: 1-800-288-ROLL or 1-800-288-7655

Fax: 585-235-6568

Web: www.cjwinter.com www.info@cjwinter.com www.coldrootrolling.com

You will be responsible for all shipping charges to and from,
CJWinter
167 Ames Street,
Rochester, N.Y. 14611.

Hydraulic Oil Inspection & Maintenance

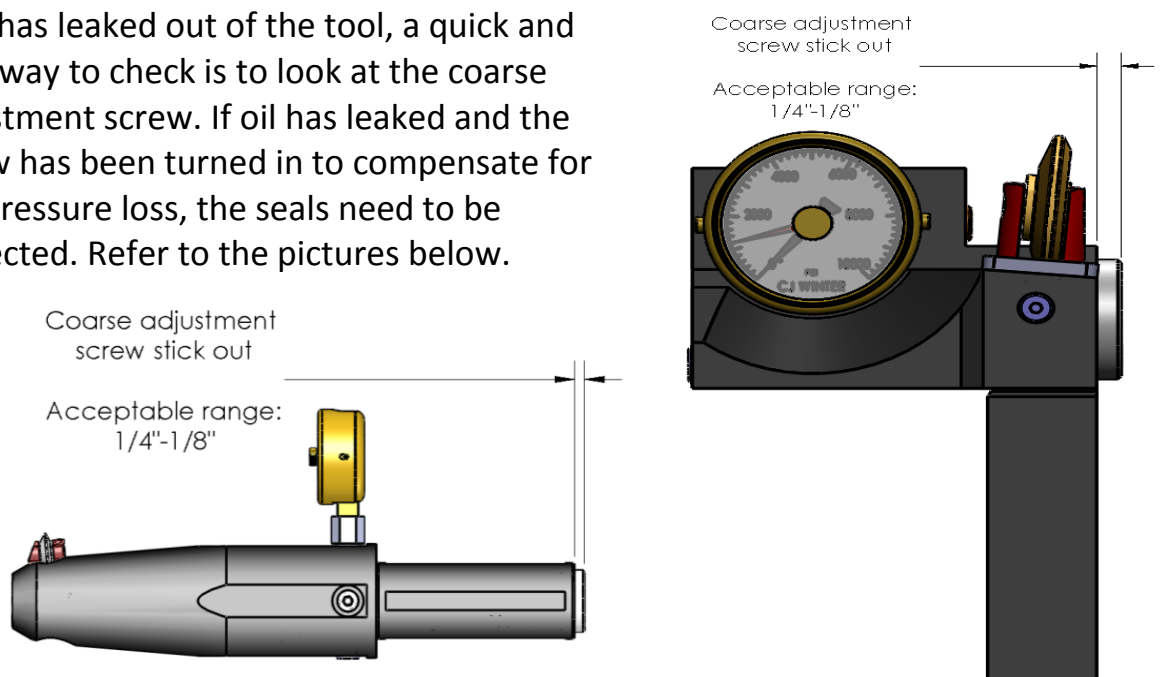
CAUTION the tool comes pre-filled with hydraulic fluid and can reach high pressures. ALWAYS be careful while servicing hydraulic fluid.

Service Interval:

Check for correct oil level every 3 Tool changes. If the large adjustment screw is within 1/8" to flush with the shank, there could be leak. See pg. 12 in the manual for correct filling procedure. Be sure to inspect other parts and replace leaking seals.

Notes:

- The Hydraulic oil should not need to be changed on a regular basis. The tool needs petroleum based hydraulic oil if it is ever filled. Use of other fluids may lead to leaking and ineffective rolling. Check your fluid for compatibility with:
Parker compound Nitrile N674-70 (O-ring seal material)
- The Hydraulic oil should never seep out of any seal on a cold rolling tool while in use. If you suspect a leak, **NEVER CHECK USING YOUR HAND**. The oil is under high pressure and cause injury. Look for pooling of oil near fittings, and use a rolled up piece of paper (or similar) to touch suspected area.
- If oil has leaked out of the tool, a quick and easy way to check is to look at the coarse adjustment screw. If oil has leaked and the screw has been turned in to compensate for the pressure loss, the seals need to be inspected. Refer to the pictures below.



Gauge Inspection & Recertification

Service Interval:

The 11070-31 & 32 gages **MUST** be re-certified every 6 months. If you are concerned about any feature of the gauges function before the 6 month interval, contact CJ winter.

Notes:

- CJWinter only recertifies the gauges, we do not recalibrate. If your gauge is tested and it passes within the tolerance of the master gauge we will return the gauge to you with a new certification.
- If the gauge test shows it is outside of the tolerance of the master gauge we will fail the test and return the gauge to you.
- **The gauges you purchased either separately or mounted on one of our cold rolling tools should have a certification in the container for 6 months. There is a location on the certification that you need to fill in the date when you start using the tools. That is when the 6 months period begins. It is up to your company when the gauge needs to be recertified. CJWinter mentions the 6 months which is what the DS-1 requires.**
- If you are not following DS-1 specification then you can determine your own process and time period for recertification.
- There is an example of the pressure gauge certified calibration record shown on the next page. This is what you should have received with each tool purchased. This is also an example of the certification you will receive back if your gauge meets the Master tolerances.
- The part number for the gage recertification is:
11070-312-C Analog Gauge Recertify of 11070-31 & 32

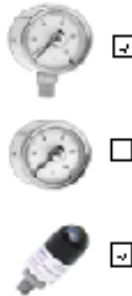
(Pressure gage certification form example)



Pressure Gauge - Certified Calibration Record

Traceable to NIST

Gauge Part #
(Highlight One ONLY)



- CJW #:** 11070-31 *Analog Gauge w/High Pointer, bottom stem*
OEM #: 25-300-10000-psi 1/4" CJW *ASME Grade:* A - w/MIP (dial type w/ Max Indicating Pointer)
- CJW #:** 11070-32 *Analog Gauge w/High Pointer, back stem*
OEM #: 25-310-10000-psi CJW *ASME Grade:* A - w/MIP (dial type w/ Max Indicating Pointer)
- CJW #:** 11070-35 *Bluetooth Wireless, 5kpsi, 7/16-20 SAE w/o-ring stem*
OEM #: TDWLB200500009-004 *ASME Grade:* 3A

Serial #: 29110A
 Calibration Date: 8/2/2018
 Service Installation Date: _____ (to be filled out by customer)
 Calibration Expiration Date: _____ (to be filled out by customer)
 Cal. Bench Temp: 70°F +/-7°F
 Cal. Bench Humidity: 20% to 70% RH

Increasing Pressure			
Gauge	Master	% FS error	ASTM Grade Max Error
0	-	0.00%	+/-0.25%
2,000	1,990	-0.10%	+/-0.25%
4,000	3,991	-0.09%	+/-0.25%
6,000	5,989	-0.11%	+/-0.25%
8,000	7,990	-0.10%	+/-0.25%
10,000	9,991	-0.09%	+/-0.25%

Decreasing Pressure			
Gauge	Master	% FS error	ASTM Grade Max Error
10,000	---	---	+/-0.25%
8,000	7,991	-0.09%	+/-0.25%
6,000	5,989	-0.11%	+/-0.25%
4,000	3,990	-0.10%	+/-0.25%
2,000	1,990	-0.10%	+/-0.25%
0	-	0.00%	+/-0.25%

Gauge Calibration performed by: Kyle Jribatto

Master Gauge Information				
Manufacturer	Model	Serial#	Calibration Date	Calibration Valid Until
Omega	DPG9030-10K	402210020	10/12/2016	10/12/2017

Note: The NIST traceable Master gauge is at least 4 times as accurate as the gauge being calibrated.
 The CALIBRATION VALID UNTIL date applies only to the Master gauge, not the process gauge.
 ASME Grade A tolerance w/ MIP is 1% higher than standard Grade A tolerance w/o MIP.

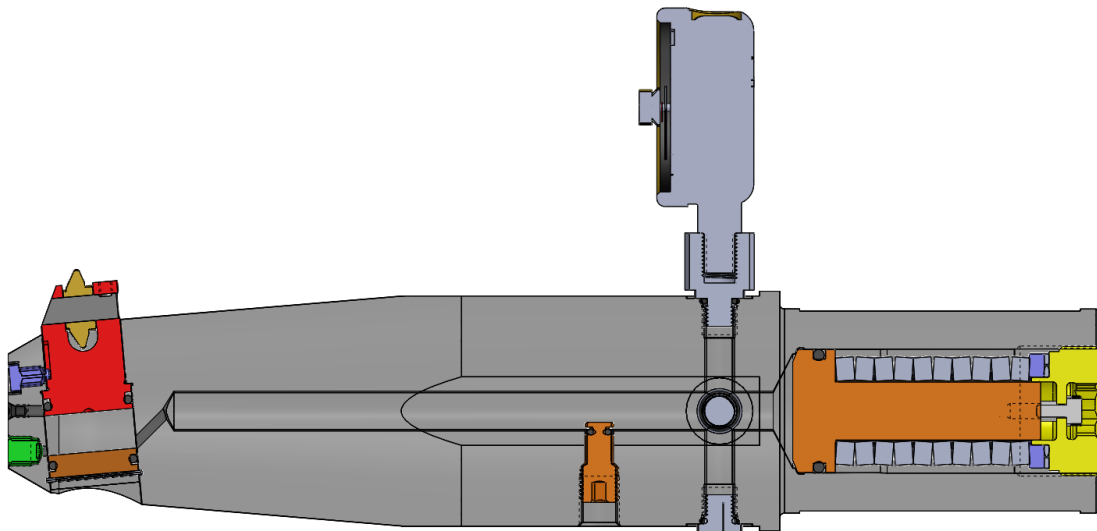
O Ring Inspection & Maintenance

Service Interval:

All O-Rings should be replaced annually, or if there is a leak. If the tool is used more heavily, or less than usual, this time limit can be adjusted accordingly.

Notes:

- The O-Rings are made from a Nitrile (Buna-N) compound. (Parker N674-70) If changing oil, always check to make sure it's compatible with O-ring material.
- Nitrile O-Rings have up to a 15 Year Shelf life. It is recommended to have a few extra sets on hand in case of an urgent need to re-seal your tool.
- Pg. 17 in the instruction manual mentions O-rings as part of a periodic preventative maintenance plan.



Above- Section View Showing Location of O-Rings in an 11070-65MM-SA

Roll Holder Inspection & Maintenance

Service Interval:

Visually inspect for cracks or excessive wear on faces before every use. Replace the roll holder if worn.

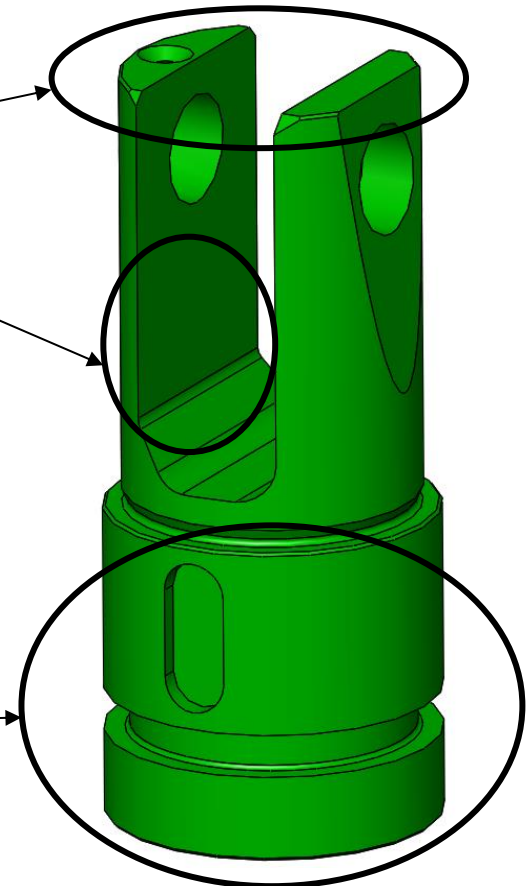
Notes:

- Look for deep scratches, hairline cracks, or burrs before using the tool. If cracked, or deeply marred, replace the holder. If burrs are found, remove them and continue use.

Below-Image showing a roll holder for an 11072 Tool with areas that are more likely to have issues.

Pay close attention to thinner areas like the sides and top. Cracks are more likely to develop there.

Check these surfaces for abrasive wear from the shank. The holders can become misaligned and rub



Carbide Pin Inspection & Maintenance

Service Interval:

Check for smooth finish on pin when changing cold roll wheels. Apply a layer of Never-Seize lubricant when inspecting the pin. Replace the carbide pin if worn.

Notes:

- Look for galling on the pin surface where the cold roll wheel spins. Galling will look like lines around the cylindrical face of the pin. Galling is a sign that the surfaces are building up too much friction and starting to stick to one another microscopically. This sticking action gets worse rapidly if left unattended, and can lead to the surfaces being welded together. This is easily preventable by regular inspection and lubrication.



Above-a pin for a tool with an example of what a galled surface could look like.

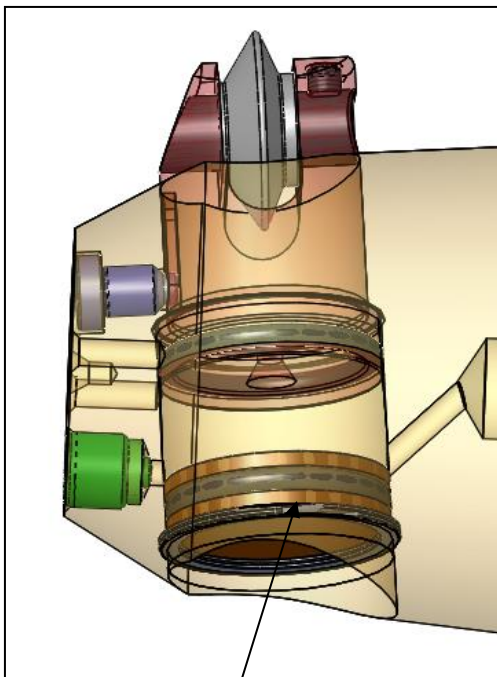
Shank Inspection & Maintenance

Service Interval:

- Check for burrs or any obvious signs of damage when installing the tool into a machine. The shank itself should not need service regularly.
- When roll holders are replaced or removed, the retaining ring needs to be replaced on 11070/11071 tools. Inspect the groove in the shank for any debris or defects before installing.
- Check the hole where the roll holder slides whenever the holder is removed for abrasions. The holder can sometimes get misaligned and scratch this area.

Notes:

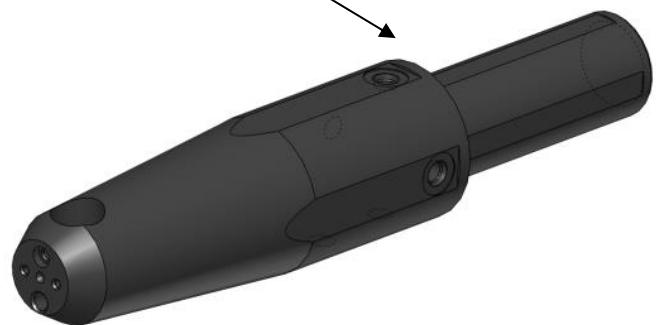
- See the picture below for a close up of the retaining ring on in the 11070-200-SA. This retaining ring will need to be replaced when the roll holder is replaced.



Check here for abrasions and scratches.

Left-11070-200-SA Retaining ring close-up.

Below-11070-250 Shank by itself.



Washer Stack Inspection & Maintenance

IMPORTANT whenever removing the washer stack, USE THE COARSE ADJUSTMENT SCREW ONLY. If you attempt to remove the fine adjustment screw, you may not be able to get the piston body out easily.

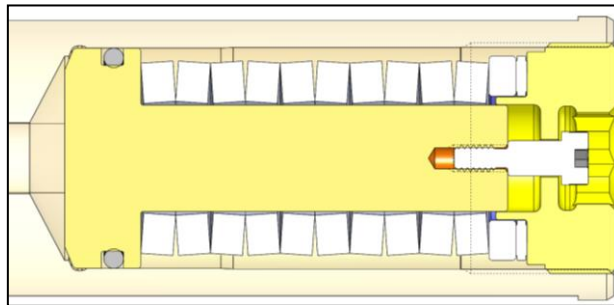
Service Interval:

- It is recommended that the Bellville washer stack is replaced every time a tool has a complete O-ring rebuild. (annually) Like the O-rings, this interval can vary based on the severity of use the tool sees.

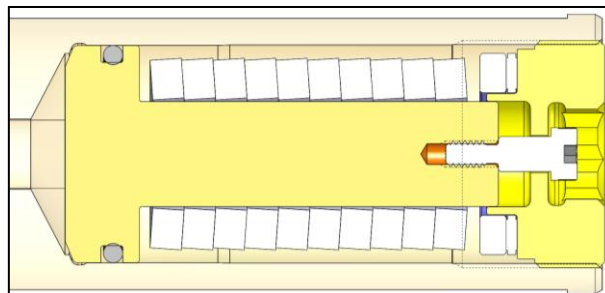
Notes:

- Whenever the stack is disassembled **ALWAYS REMEMBER** to assemble the washers in the right order. Bellville washers have a conical shape, and in this tool act like a spring under high pressure. Assemble the “cone” shape of the washer tip to tip, and bottom to bottom. See below image. When the washers are installed all facing the same way, the tool will not function properly. See images below.
- Pg. 17 in the instruction manual mentions the Bellville washer stack as part of a periodic preventative maintenance plan.

Correct - Notice the tip to tip and bottom to bottom washer orientation. There is no room for play in the stack.



WRONG - Notice the washers all face the same direction. This will leave room and the washers will slide around inside the attachment. There will be no spring action that the stack has.



USE YELLOW COARSE ADJ. SCREW TO REMOVE WASHER ASSEMBLY.

Cold Root Rolling Wheels

Service Interval:

- Before and during every operation, inspect the wheel you are using for any nicks, dings, flats or any other imperfections on its radius. These damages transfer similar defects to the root of your thread, and can cause a variety of issues. Replace the wheel if you see any of these defects.

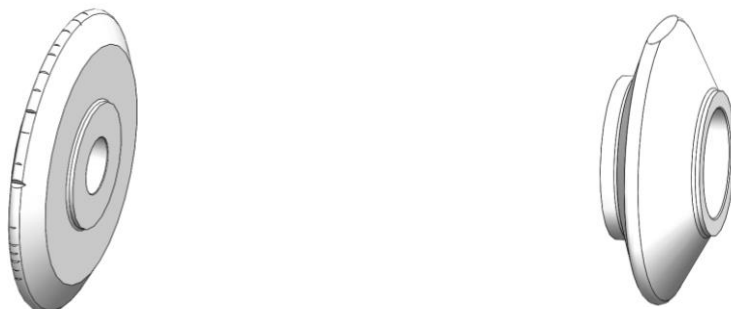
Notes:

- The radius on any cold roll wheel should be polished smooth. If the radius is unusually rough, it's probably a good idea to replace the rolls.
- Similarly to the carbide pin, check for galling on the inside of the wheel and pin when replacing cold roll wheels. Always lubricate the pin when it is removed and a new wheel is installed.
- Per DS-1 recommendation, check the wheels and thread roots with a magnifying glass for any imperfections that may be making their way to parts. This is a good way to catch defects that are hard to see with the naked eye.

GOOD- Rolls have smooth, polished profiles free of any surface imperfections.



BAD- Rolls have rough surface finishes with nicks, flats and dings. It's time to replace them.



DS-1 Spec. 10X Eye Loupe Magnifier Glass

The thread rolls and threads are not only easier to check if you use a magnifying glass, the DS-1 specification recommends that you use one.

The part number for the 10X magnifier is:

11070-42

If you are following the DS-1 specification for cold rolling it recommends you use a 10X magnifying glass to check that the thread has been plastically deformed as a result of cold rolling process. Plastic deformation can normally be identified by a polished or shiny appearance at the thread root surface.

Below is an example of a 10X magnifier that can be used to check the thread root.



These magnifying loupes have special lenses that allow our eyes to focus on an object at a much closer distance than is normally possible, making the object appear to be larger and revealing tiny details we couldn't see with our normal vision.

Ordering Parts

Our sales staff will be happy to assist you in ordering rolls or replacement parts for your tools. We can be contacted in a variety of ways.

Phone: 1-800-288-ROLL or 1-800-288-7655

Fax: 585-235-6568

Web: www.cjwinter.com www.info@cjwinter.com www.coldrootrolling.com

Standard rolls that conform to API specs can be ordered by the part number found in the Instruction Manual shipped with every tool. Rolls can also be manufactured to alternate geometry to meet your special requirements. Please consult a sales representative for your options or visit www.coldrootrolling.com to request a quote.

Legal Disclosure

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