

# COLD ROOT ROLLING HOW-TO-HANDBOOK

A guide to component removal & replacement

Edition 1



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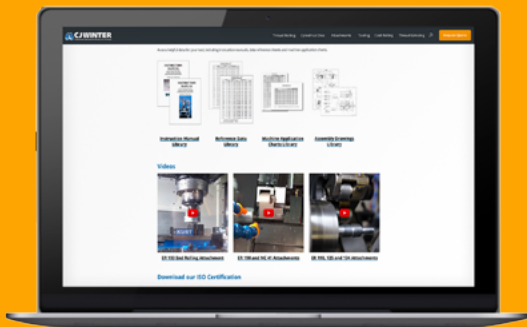
# INTRODUCTION

For over 60 years CJWinter has been an industry leader in supplying thread rolls and thread rolling tools globally. CJWinter has used that experience to design cold root rolling tools specifically for rotary shouldered connections and tool joints in the petroleum industry.

- Compliant with ANSI/API Specification 7.2:2008 and ISO 10424-2:2007
- In accordance with NS-1 cold root rolling procedures
- DS-1 Fourth Edition, Volume 3.33.7.

Currently, CJWinter is the ONLY cold roll tool manufacture that holds the Accreditation Qualification in conformance with the requirements of NS-1 Level 2.

CJWinter has created this booklet to assist our customers in the removal and replacement process of many of the components assembled within our tools.



As a supplement to this written guide, there are also "HOW-TO" VIDEOS online at [www.coldrootrolling.com/how-to-resources](http://www.coldrootrolling.com/how-to-resources)



# ROLL HOLDER REMOVAL FOR THE 11072 SERIES TOOLS

It does not matter if you are removing an EPL roll holder style or a GP roll holder style. Removal instructions are the same.

1. Insert the hex socket provided with a ratchet handle in the coarse adjustment screw.
2. Remove any preloaded pressure by backing out the coarse adjustment screw counter clockwise until the threads are sticking out at least 1/4" from the tool. Double check to see that there is no pressure registered on the gage. The black needle should be at zero. The red needle maybe displaying pressure which is OK. You can turn the center knob of the gage to move the red needle back to zero if you would like but is not necessary.
3. Remove the dog point screw completely from the tool using an allen wrench. Turn counter clockwise to remove.
4. Remove the (4) 10x32 screws from the retaining plate. Turn counter clockwise to remove.
5. Remove the retaining plate up and over the roll holder.
6. Pull the roll holder straight up for removal. Use caution when removing the roll holder from the tool that you do not damage the O ring.
7. Inspect the roll holder for cracks or damage. Do not reuse the roll holder if you believe there is any cracks or damage to the roll holder found.
8. Inspect the O ring for any damage. Do not reuse the O ring if there is any visible signs of wear or tearing.
9. Replace the O ring if necessary.

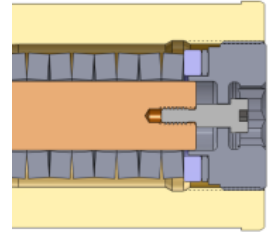
# ROLL HOLDER REPLACEMENT FOR THE 11072 SERIES TOOLS

It does not matter if you are installing an EPL roll holder style or a GP roll holder style. Installation instructions are the same.

1. Mount the tool in a vise or rigid work holding fixture with the roll holder facing upward.
2. It is not necessary to remove a cold roll wheel if still mounted to the roll holder for removal of the roll holder. It is recommended that the wheel is removed for ease of installation of the roll holder. Loosen the set screw at the front of the roll holder counter clockwise until you can pull out the carbide pin completely. Remove the wheel.
3. Install the O ring if not already installed on the roll holder.
4. Install the roll holder with caution in the counter bore not to damage the O ring with the slot facing the front of the tool.
5. Install the dog point screw completely until tight using an allen wrench. Turn clockwise to install.
6. Place the retaining plate over the roll holder.
7. Install the (4) 10x32 screws in the retaining plate. Turn clockwise to install.
8. Insert the hex socket with ratchet in to the coarse adjustment screw.
9. Adjust pressure to approximately 1500 PSI and check for any leaks. It will not hurt the tool to keep it under pressure but if you know the tool won't be used for some time you should back off the pressure for storage.

## FILLING THE TOOLS WITH HYDRAULIC FLUID

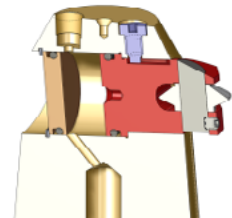
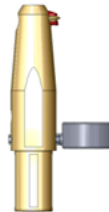
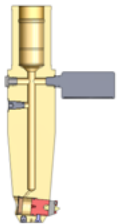
Your tool will typically come pre-filled from the factory, unless your local shipping regulations prohibit it. If required, fill the tool with hydraulic oil and bleed out air prior to first use. This tool can be filled with any petroleum-based hydraulic oil.



The use of synthetic hydraulic oil, or additives known to have compatibility issues with Nitrile is not recommended.

This may lead to leakage and ineffective rolling. Check with your lubricant supplier to insure the compatibility with Parker compound Nitrile N674-70.

## FILLING THE 11070 OR 11071 SERIES TOOLS: \*(NOT THE 11069 SERIES)



1. Remove the NPT plug where you wish to mount the gauge. Completely remove the course adjustment screw and accumulator assembly from the rear of the tool. Re-apply "never-seize" or similar thread lubricant to the threads prior to re-installation.
2. Clean the NPT threads with a wire brush. Install the gauge with Loctite® 5452 Fast Cure Thread Sealant into the indicated hole. Use of other thread sealants may require unacceptably long cure times, often a few hours or days, to reach the strength required to adequately seal a 10,000 psi connection.



Never operate tool with any plug or gauge that was not provided by CJWinter. This tool is under extreme pressure when rolling, and most commercially available fittings will leak or fail under these loads.

**FILLING THE 11070 OR 11071 SERIES TOOLS: \*(NOT THE 11069 SERIES) CONTINUED....**

3. Wait a minimum of 5 minutes for the thread sealant to cure (up to 30 minutes if room temperature is below 70°F, down to 32°F). Pull outward on the roll holder cylinder to ensure it is fully extended. Place the tool in a shallow oil drip-pan. Tip the tool upright, and fill the rear reservoir with oil within roughly 3.0" from the top. Replace the accumulator assembly. It may not be possible to thread the assembly in yet, but the O ring should seal the oil.
4. Flip the tool so the roller end is towards the top, and rock it back and forth several times, leaning towards and then away from each threaded port, to allow all air bubbles to rise to the top of the tool.
5. Place the Allen® driver and socket wrench into the coarse adjustment screw, and allow the tool to lay in the drip pan.
6. Slowly remove the air purge plug. Cover this port with a rag to prevent a sudden spray or jet from escaping air and oil. Make sure the O ring on the plug nose is still in place.
7. Gently push down on the tool, fully inserting the coarse adjustment screw in the rear of the tool. Rotate the tool, threading in the coarse adjustment screw that is prevented from spinning by the socket wrench, until oil starts to exit the air purge hole.
8. Continue threading in the coarse adjustment screw until between .125" to .250" stands out from the back of the shaft. It may be necessary to add or remove oil thru the air purge port to achieve this standout.
9. Replace the purge plug. Make sure the o-ring is seated on the plug nose.
10. Ensure all fittings are pressure tight. Due to the significant torque that must be applied to the screw, we suggest securing the tool in a machine's tool holder or sturdy bench vise. Wipe the tool down to remove any excess oil, and turn the coarse adjustment screw in until the pressure gauge reads the maximum pressure required for your application. Failure to reach this pressure indicates inadequate oil in the reservoir, entrapped air, or a leak. Absent of leaks, a slow but steady decrease of the pressure for the first few hours is normal, as the spring pack and o-rings take a set. This process can be accelerated by raising and lowering the pressure thru the range of 1000 to 4500 psi five to ten times.

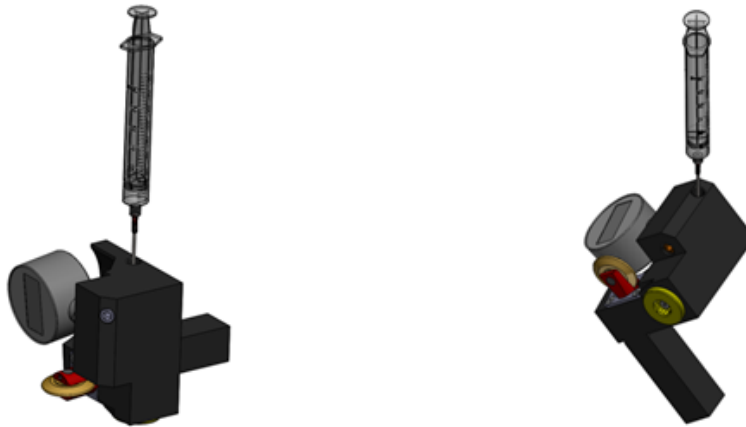


**DO NOT check for fluid leaks with your hand. Look for pooling of oil near fittings, and use a rolled up piece of paper, or some similar object if you suspect you may have a leak.**

## FILLING THE 11069 SERIES TOOLS (MINIATURE BOX-ROLLING TOOLS):

The procedure for filling 11069 tools is very similar to the 11070/11071 tool. The main difference is the 11069 tools lacks a forward purge screw. To purge air from the front working cylinder, the front cylinder must be cycled in-and-out several times when you fill the rear reservoir with oil. Also, you should rock the tool back and forth in this orientation to get as much of the entrapped air out of the cross-holes. Once the accumulator assembly is re-inserted, to purge excess oil, release the seal on one of the three SAE plugs located on the side of the tool until the proper .125" to .250" standout of the coarse adjust screw is achieved.

## FILLING THE 11072 SERIES TOOLS:



1. Remove the coarse adjustment screw from the tool and apply "never-seize" or similar thread lubricant. Re-install, leaving .188" to .125" protruding.
2. Pull outward on the roll holder cylinder to ensure it is fully extended. Orient the tool on the bench so that the rear fill port plug is facing upwards. Remove the plug, and make sure the o-ring on the plug nose is still in place.
3. Fill the syringe with your tool with 35 cc's of hydraulic oil. You typically only need 30 to 33cc's of oil to fill this tool, but fill amount will vary depending on the settings of the various adjustment screws.



**The use of synthetic hydraulic oil, or additives known to be incompatible with Nitrile, is not recommended.**

**This may lead to leakage and ineffective rolling. Please ask your lubricant supplier to insure the compatibility with Parker compound Nitrile N674-70.**



**FILLING THE 11072 SERIES TOOLS. CONTINUED....**

4. Insert the syringe until it meets resistance (roughly 3") and fill the tool. Stop when the oil starts to bubble up near the top of the fill port.
5. Replace the fill port plug. Make sure the O ring is seated on the plug nose.
6. Remove the second fill port plug located on the large chamfer angle, once again checking for the O ring.
7. Orient the tool so that this port is the highest point on the tool, and all faces are at roughly 30 to 45 degree angles to your workbench. Insert the syringe and continue filling the tool. Once oils starts to bubble near the top of the port, stop.
8. To bleed any air bubbles that may be trapped in cross-holes, tip the tool in various directions, always keeping the open port near the top of the tool. Top off with oil until the port seat is covered. Re-insert port plug.
9. Ensure all fittings are pressure tight. Due to the significant torque that must be applied to the coarse adjustment screw, we suggest securing the tool in a tool holder or sturdy bench vise. Wipe the tool down to remove any excess oil drips, and turn the coarse adjustment screw in until the pressure gauge reads the maximum pressure required for your application. Failure to reach this pressure indicates inadequate oil in the reservoir, entrapped air, or a leak. Absent of leaks, a slow but steady decrease of the pressure for the first few hours is normal, as the spring pack and O rings take a set. This process can be accelerated by raising and lowering the pressure thru the range of 1000 to 4500 psi five to ten times.

## REPLACING THE ROLL HOLDER FOR THE 11070 & 11071 SERIES TOOLS

1. Mount the tool in a vise or other rigid work holding fixture.
2. Inspect the roll holder for cracks and O ring damage prior to installing the holder in to the tool body.
3. Install the roll holder with the milled slot facing the front of the tool.
4. Make sure the O ring is installed in the O ring groove on the holder prior to installing the roll holder.
5. Push roll holder all the way down using your fingers.
6. Inspect the O ring on the roll holder cap prior to installing the cap in to the body of the tool.
7. Install the cap using your fingers to push downward against the topside of the roll holder.
8. Make sure the top of the cap is below the retaining ring groove. Install the retaining ring in the groove.
9. If the retaining ring is separated for any reason, it should be replaced.
10. Install the dog point screw until it is tight. This will be the lower positioned hole of the two located on the front of the tool.
11. Install the bleeder screw until it is tight. This will be the higher positioned hole of the two located on the front of the tool.

# PROGRAMMING THE TOOL PATHS FOR CJWINTER'S COLD ROLL TOOLS

When you purchase CJWinter's cold roll tools, you will receive an electronic file to be used for creating the tool path. You can request a copy of the electronic file to be emailed to you at [info@cjwinter.com](mailto:info@cjwinter.com)

Below, you'll find previews of the electronic files used for programming our major tooling:

### COLD ROLLING BOX TOOL PATH USING A MAZAK CNC LATHE

**CJ Winter - Mazatrol Cold Root Rolling Calculator**

*CJWinter's Cold Root Rolling Calculator generates recommended coordinates for starting points, ending points, and tool paths, for Cold Root Rolling, and calculates these points automatically with the program inputs. The calculator is to be used in order to replace manual programming and machining practices. Like all new CNC programs, verification in a safe manner is still required, to ensure the program can be executed without damaging the tooling, part, or machinery. While CJW has made every effort to ensure the recommended coordinates are correct, the user assumes all risk in applying these recommendations to their particular setup.*

The suggested tool path for the roller starts with the roller 3 full tooth heights above the thread at the start, engages the root of the root thread 2 to 3 full pitches into the part, and then follows the pin out minor diameter setting of the same point and diameter angle.

Use this calculator to determine optimal roller tool path geometry when programming cold root rolling in MAZAK/TRA.

---

#### Internal Threads (Box)

**Instructions / Notes:**

- Roller tool values in green cells must be entered by user for spin direction.
- Roller tool values in green cells are suggested values, but may be changed if required.
- Roller tool values in green cells have additional "comments" which can be modified by changing the cell with your cursor.
- The roller needs to stay clear of the thread at the start of the thread by 2 to 3 full pitches, and 2 full pitches at the end.
- Roller tool values in red cells are calculated. They are subject to manual override.
- Manual user information should be specified in process for thread geometry to pin out parameters to calculate approach, radial clearance, and axial distance.

VARIABLE INPUT TABLE									
ITEM	UNIT	DESCRIPTION	VALUE	UNIT	DESCRIPTION	VALUE	UNIT	DESCRIPTION	VALUE
1	MM	Thread Major Diameter	10.000	MM	Thread Pitch	1.500	MM	Thread Lead	1.500
2	MM	Pin Out Minor Diameter	8.000	MM	Pin Out Angle	45.000	DEG	Pin Out Distance	0.000
3	MM	Roller Major Diameter	10.000	MM	Roller Pitch	1.500	MM	Roller Lead	1.500
4	MM	Roller Pin Out Minor Diameter	8.000	MM	Roller Pin Out Angle	45.000	DEG	Roller Pin Out Distance	0.000

Thread Cutting Process									
Pos.	MEAS.	#	CHANG.	LEAD	AMPL.	MEAS. IN	MEAS. OUT	DEPTH	TOOL
1	10.000	0	+	1.500	10.000	1.500	10.000	0.000	1
2	8.000	1	-	1.500	8.000	1.500	8.000	0.000	2

Root Rolling Process									
Pos.	MEAS.	#	CHANG.	LEAD	AMPL.	MEAS. IN	MEAS. OUT	DEPTH	TOOL
1	10.000	0	+	1.500	10.000	1.500	10.000	0.000	1
2	8.000	1	-	1.500	8.000	1.500	8.000	0.000	2

*Mazatrol*  
Box Thread Cutting Toolpath - Pno. 1

*Mazatrol*  
Box Root Rolling Toolpath - Pno. 2

### COLD ROLLING PIN TOOL PATH USING A MAZAK CNC CONTROL

**CJ Winter - Mazatrol Cold Root Rolling Calculator**

*CJWinter's Cold Root Rolling Calculator generates recommended coordinates for starting points, ending points, and tool paths, for Cold Root Rolling, and calculates these points automatically with the program inputs. The calculator is to be used in order to replace manual programming and machining practices. Like all new CNC programs, verification in a safe manner is still required, to ensure the program can be executed without damaging the tooling, part, or machinery. While CJW has made every effort to ensure the recommended coordinates are correct, the user assumes all risk in applying these recommendations to their particular setup.*

The suggested tool path for the roller starts with the roller 3 full tooth heights above the thread at the start, engages the root of the root thread 2 to 3 full pitches into the part, and then follows the pin out minor diameter setting of the same point and diameter angle.

Use this calculator to determine optimal roller tool path geometry when programming cold root rolling in MAZAK/TRA.

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#### External Threads (Pin)

**Instructions / Notes:**

- Roller tool values in green cells must be entered by user for spin direction.
- Roller tool values in green cells are suggested values, but may be changed if required.
- Roller tool values in green cells have additional "comments" which can be modified by changing the cell with your cursor.
- The roller needs to stay clear of the thread at the start of the thread by 2 to 3 full pitches, and 2 full pitches at the end.
- Roller tool values in red cells are calculated. They are subject to manual override.
- Manual user information should be specified in process for thread geometry to pin out parameters to calculate approach, radial clearance, and axial distance.

VARIABLE INPUT TABLE									
ITEM	UNIT	DESCRIPTION	VALUE	UNIT	DESCRIPTION	VALUE	UNIT	DESCRIPTION	VALUE
1	MM	Thread Major Diameter	10.000	MM	Thread Pitch	1.500	MM	Thread Lead	1.500
2	MM	Pin Out Minor Diameter	8.000	MM	Pin Out Angle	45.000	DEG	Pin Out Distance	0.000
3	MM	Roller Major Diameter	10.000	MM	Roller Pitch	1.500	MM	Roller Lead	1.500
4	MM	Roller Pin Out Minor Diameter	8.000	MM	Roller Pin Out Angle	45.000	DEG	Roller Pin Out Distance	0.000

Thread Cutting Process									
Pos.	MEAS.	#	CHANG.	LEAD	AMPL.	MEAS. IN	MEAS. OUT	DEPTH	TOOL
1	10.000	0	+	1.500	10.000	1.500	10.000	0.000	1
2	8.000	1	-	1.500	8.000	1.500	8.000	0.000	2

Root Rolling Process									
Pos.	MEAS.	#	CHANG.	LEAD	AMPL.	MEAS. IN	MEAS. OUT	DEPTH	TOOL
1	10.000	0	+	1.500	10.000	1.500	10.000	0.000	1
2	8.000	1	-	1.500	8.000	1.500	8.000	0.000	2

*Mazatrol*  
Pin Thread Cutting Toolpath - Pno. 1

*Mazatrol*  
Pin Root Rolling Toolpath - Pno. 2

# PROGRAMMING THE TOOL PATHS FOR CJWINTER'S COLD ROLL TOOLS

## COLD ROLLING BOX TOOL PATH USING A FANUC CNC CONTROL

### CJ Winter - G32 Code Cold Root Rolling Calculator

CJ Winter's Cold Root Rolling Calculator generates recommended coordinates for starting points, ending points, tool sets, etc., for Cold Root Rolling, and calculates these points automatically with the proper inputs. The calculator is to be used in order to maintain good programming and machining practices. Like all new CNC programs, verification in a soft center is still required, to ensure the program can be executed without damaging the holding part, or workpiece. While CJW has made every effort to ensure the recommended coordinates are correct, the user assumes all risk in applying these recommendations to their particular setup.

The suggested tool path for the roller starts 2 full tooth heights above the thread at the start, engages the root of the cut thread 1 to 3 full pitches into the thread, and then follows the pre cut roller diameter setting at the same point and diameter angle. Use this calculator to determine optimal roller tool path geometry when programming cold root rolling in G32 Code.

#### Internal Threads (BOX)

**Instructions / Notes:**

- 1 Roll tool radius is given with tool diameter by user for application.
- 2 Roll tool radius is given with pin diameter by user for application.

**VARIABLE INPUT TABLE - values entered are from sample G32 code and pin/box printer NC38 pin connection**

Position	Description	Program Values
1	Start of thread path	0.0000 0.0000
2	Internal point	0.1750 0.0000
3	End of thread	0.1750 0.0000
4	End of diameter - End of tool contact	0.1750 0.0000
5	Internal point	0.1750 0.0000
6	Internal point	0.1750 0.0000

**NOTE:** \*When Cold Root Rolling (CRR) NC38 and/or smaller sized box connections - additional precautions need to be taken to prevent holder from crashing into ID of bore, particularly during set up\*

**Box Thread Cutting Toolpath**  
X (U)  
Z (W)

**Box Roll Rolling Toolpath**  
X (U)  
Z (W)

## COLD ROLLING PIN TOOL PATH USING A FANUC CNC CONTROL

### CJ Winter - G32 Code Cold Root Rolling Calculator

CJ Winter's Cold Root Rolling Calculator generates recommended coordinates for starting points, ending points, tool sets, etc., for Cold Root Rolling, and calculates these points automatically with the proper inputs. The calculator is to be used in order to maintain good programming and machining practices. Like all new CNC programs, verification in a soft center is still required, to ensure the program can be executed without damaging the holding part, or workpiece. While CJW has made every effort to ensure the recommended coordinates are correct, the user assumes all risk in applying these recommendations to their particular setup.

The suggested tool path for the roller starts 2 full tooth heights above the thread at the start, engages the root of the cut thread 1 to 3 full pitches into the thread, and then follows the pre cut roller diameter setting at the same point and diameter angle. Use this calculator to determine optimal roller tool path geometry when programming cold root rolling in G32 Code.

#### External Threads (PIN)

**Instructions / Notes:**

- 1 Roll tool radius is given with tool diameter by user for application.
- 2 Roll tool radius is given with pin diameter by user for application.

**VARIABLE INPUT TABLE - values entered are from sample G32 code and pin/box printer NC38 pin connection**

Position	Description	Program Values
1	Start of thread path	0.0000 0.0000
2	Internal point	0.1750 0.0000
3	End of thread	0.1750 0.0000
4	End of diameter - End of tool contact	0.1750 0.0000
5	Internal point	0.1750 0.0000
6	Internal point	0.1750 0.0000

**Pin Thread Cutting Toolpath**  
X (U)  
Z (W)

**Pin Roll Rolling Toolpath**  
X (U)  
Z (W)

# PROGRAMMING THE TOOL PATHS FOR CJWINTER'S COLD ROLL TOOLS

## COLD ROLLING PIN TOOL PATH USING A FANUC CNC CONTROL - G32 CYCLE FOR PIN & BOX

```

1  G30 U0.
2  G32 M05.
3  G04 Z0.
4  G00
5  G09
6  G00 Z0.148
7  G01 Z181.148
8  G0 G40 Z.2548
9  M3 S11
10 G18
11 X3.2883
12 G12 X3.8704 Z-0.375 E.25 (1st Thread-Cutting Pass) ----
13 G12 U-3 W-.125 E.25 (1st Thread/for pass # - relative R & Z moved) ----
14 G0 X4.131 (Rapid retract in X) ----
15 Z.2479 (Rapid retract in Z) ----
16 X3.2848 (Rapid position for next pass) ----
17 G12 X3.8704 Z-0.375 E.25 (2nd Thread-Cutting Pass) ----
18 G12 U-3 W-.125 E.25 (2nd Thread/for pass # - relative R & Z moved) ----
19 G0 X4.131 (Rapid retract in X) ----
20 Z.2027 (Rapid retract in Z) ----
21 X3.2027 (Rapid position for next pass) ----
22 G12 X3.8995 Z-0.375 E.25 (3rd Thread-Cutting Pass) ----
23 G12 U-3 W-.125 E.25 (3rd Thread/for pass # - relative R & Z moved) ----
24 G0 X4.131 (Rapid retract in X) ----
25 Z.2 (Rapid retract in Z) ----
26 X3.0928 (Rapid position for next pass) ----
27 G12 X3.8894 Z-0.375 E.25 (4th Thread-Cutting Pass) ----
28 G12 U-3 W-.125 E.25 (4th Thread/for pass # - relative R & Z moved) ----
29 G0 X4.131 (Rapid retract in X) ----
30 Z.2 (Rapid retract in Z) ----
31 X3.0928 (Rapid position for next pass) ----
32 G12 X3.8894 Z-0.375 E.25 (5th Thread-Cutting Pass) ----
33 G12 U-3 W-.125 E.25 (5th Thread/for pass # - relative R & Z moved) ----
34 G0 X4.131 (Rapid retract in X) ----
35 Z.2548 (Rapid retract in Z) ----
36 M09 (Coolant OFF) ----
37 G30 U0.
38 G32 M05.
39 M3 (COLD ROOT ROLLING)
40 G30 U0.
41 G30 M05.

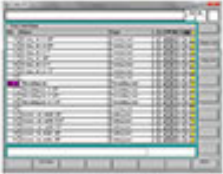
42  G30 U0.
43  G32 M05.
44  G04 Z0.
45  G00
46  G09
47  G00 Z0.148
48  G01 Z179.148
49  G0 G40 Z.8995
50 Z.2524
51 G18
52 X3.9511
53 G12 X3.1387 Z-4.312 E.25 (1st Thread-Cutting Pass) ----
54 G12 U-25 W-.125 E.25 (1st Thread/for pass # - relative R & Z moved) ----
55 G0 X2.8995 (Rapid retract in X) ----
56 Z.2483 (Rapid retract in Z) ----
57 X3.919 (Rapid position for next pass) ----
58 G12 X3.1387 Z-4.312 E.25 (2nd Thread-Cutting Pass) ----
59 G12 U-25 W-.125 E.25 (2nd Thread/for pass # - relative R & Z moved) ----
60 G0 X2.8995 (Rapid retract in X) ----
61 Z.2025 (Rapid retract in Z) ----
62 X3.2025 (Rapid position for next pass) ----
63 G12 X3.1274 Z-4.312 E.25 (3rd Thread-Cutting Pass) ----
64 G12 U-25 W-.125 E.25 (3rd Thread/for pass # - relative R & Z moved) ----
65 G0 X2.8995 (Rapid retract in X) ----
66 Z.2 (Rapid retract in Z) ----
67 X3.0925 (Rapid position for next pass) ----
68 G12 X3.1267 Z-4.312 E.25 (4th Thread-Cutting Pass) ----
69 G12 U-25 W-.125 E.25 (4th Thread/for pass # - relative R & Z moved) ----
70 G0 X2.8995 (Rapid retract in X) ----
71 Z.2 (Rapid retract in Z) ----
72 X3.0915 (Rapid position for next pass) ----
73 G12 X3.1267 Z-4.312 E.25 (5th Thread-Cutting Pass) ----
74 G12 U-25 W-.125 E.25 (5th Thread/for pass # - relative R & Z moved) ----
75 G0 X2.8995 (Rapid retract in X) ----
76 Z.2524 (Rapid retract in Z) ----
77 M09 (Coolant OFF) ----
78 M3 (COLD ROOT ROLLING)
79 G30 U0.
80 G30 M05.
81 M3 (COLD ROOT ROLLING)
82 G30 U0.
    
```

## COLD ROLLING PROCEDURE USING A WEILER CNC LATHE

**PROCEDURE FOR PROGRAMMING COLD ROLL TOOL (PIN CONNECTION)**


**Create a tool in the Tool database:**

The easiest way to do this is to take an existing External Threading Tool and **COPY** it to create the Cold Roll-OD tool



Go to **Tool Overview** and highlight existing Threading External Tool (T1)

Press the **COPY TOOL** softkey



Choose a number for the new tool- 121 (example)

T 21 will be copied and the new copy will be labeled **T 121**

# COLD ROLLING TOOL EXAMPLES

11069 BOX TOOL BORING BAR STYLE



11070 BOX TOOL BORING BAR STYLE



11071 BOX TOOL BORING BAR STYLE



11072 PIN TOOL SQUARE SHANK STYLE



# COLD ROLLING TOOL REPLACEMENT PARTS TABLE: SERIES 11070, 11071, 11072

Part Numbers are used with  
multiple Cold Roll Tools

Part Number	Description	11070	11071	11072
11070-1	EPL Roll Holder - for Internal 11070 Tool	70	-	
11070-1-GP	GP Roll Holder - for Internal 11070 Tool	70	-	
11070-2-200	Shank: Cold Roll Tool - 2.000" Round Shank SA or GP	70	71	-
11070-2-250	Shank: Cold Roll Tool - 2.500" Round Shank SA or GP	70	71	-
11070-3	Roll Pin - Internal (Carbide) for EPL Roll Holder 11070 Tool	70	-	-
11070-7	Lock Screw (1/4-28)	70	71	72
11070-8	Ring: Retaining, 1.205 x 0.999 x .050	70	71	-
11070-9	Cylinder End cap	70	71	-
11070-10	Beville Washer Stack	70	71	72
11070-11	Accumulator Piston: 11070 Tool	70	71	72
11070-12	Bearing: Thrust Needle Bearing	70	71	72
11070-13	Race for Needle Thrust Bearing	70	71	72
11070-14	Course Adj. Screw : 11070 Tool	70	71	72
11070-16	Screw: SHSS, .250 Dia. X .625 Shoulder Screw	-	71	-
11070-17	Fine Adjust Piston: 11070 Tool	70	71	72
11070-18	Screw: SHSS, .250 Dia. X .375 Shoulder Screw w/nylok	70	-	72
11070-20	O-Ring: 1.574 OD x 1.296 ID x .139 W	70	71	72
11070-21	O-Ring: 1.117 OD x 0.911 ID x .103 W (Two O' Rings )	70	71	72
11070-23	O-Ring: 0.375 OD x 0.250 ID x .070 W	70	-	72
11070-26	1/4-NPT Hex Plug	70	71	-
11070-27	Air Purge Screw	70	71	-
11070-31	Analog Gauge w/ Red Max Pointer, Liquid Filled Bottom Stem	70	71	72
11070-32	Analog Gauge w/ Red Max Pointer, Liquid Filled Back Stem	-	-	72
11071-1	EPL Roll Holder - for External 11071 Tool	-	71	-
11071-1-GP	GP Roll Holder - for External 11071 Tool	-	71	-
11071-3	Roller Pin - (Carbide) for EPL Holder 11071 or 11072 Tools	-	71	72
11071-3-GP	Roller Pin - (Carbide) for G P Holder 11071 or 11072 Tools	-	71	72
11072-1	EPL Roll Holder - for External 11072 Tool	-	-	72
11072-1-GP	GP Roll Holder - for External 11072 Tool	-	-	72
11072-2-100	Shank: Cold Roll Tool - 1.000" Square Shank	-	-	72
11072-2-125	Shank: Cold Roll Tool - 1.250" Square Shank	-	-	72
11072-27	Air Purge Screw	-	-	72
11072-8	Retaining Plate for 11072 Tool	-	-	72
125043	Screw: SSS, #8-32 x .188 Cup Point used on EPL Holders	70	71	72
108055	Screw: SSS, #6-32 x .188 Cup Point used on GP Holders	70	71	72
111026	Screw: FHCS, #10-32 x .750	-	-	72

**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.



**By phone at:** 1-800-288-ROLL  
1-800-288-7655

**By fax at:** 585-429-5095

**By email at:** [info@cjwinter.com](mailto:info@cjwinter.com)

**Or on the web at:** [www.cjwinter.com](http://www.cjwinter.com) [www.coldrootrolling.com](http://www.coldrootrolling.com)

Standard rolls that conform to API specs can be ordered as well as any proprietary or special forms. Rolls can also be manufactured to alternate geometry to meet your special requirements. Please consult a sales representative for your options.

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**ACKNOWLEDGEMENTS**

The information conveyed in this book should not be the sole source for determining adherence to any official specification or standard.



CJWinter encourages the users to acquire and familiarize themselves with the cited works as a whole, and to insure that newly released editions of these documents have not substantively changed the information provided since the printing of this book.

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**CONTACT INFORMATION**

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585-429-5000 1-800-288-ROLL

[www.cjwinter.com](http://www.cjwinter.com) [www.coldrootrolling.com](http://www.coldrootrolling.com)

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# ABOUT CJWINTER

CJWinter is one of the world's leading manufacturers of cold-displacement, cylindrical dies, and attachments. CJWinter products are found in traditional thread-rolling applications such as those used with multi-spindle screw machines, rotary transfer machines, and CNC – lathes.

CJWinter products and dies are also found in specialty applications like cold root rolling used by the oil and gas industry and in industries using dedicated rolling, forming, and shaping mills. We've applied our decades of experience designing tools for rotary shouldered connections to the petroleum industry to become the only self-contained, commercially available tool with ANSI/API Specification 7.2.2008 and ISO 10424-2.2007 compliance, in accordance with NS-1 and DS-1 Third Edition, Volume 3.33.6 standards.

CJWinter sells and services its products around the world and has installations on every continent except Antarctica. Renowned for its friendly customer service, expert technical assistance, fast delivery and custom engineered solutions, CJWinter should be your first choice when it comes to your material forming needs.

**CJWinter's knowledgeable and experienced engineering team helps you manufacture products faster, more easily, and with higher quality. We offer:**



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