



CUSTOM CRIMP™

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D105M SERIES HYDRAULIC CRIMPERS OPERATORS MANUAL



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SAFETY PRECAUTIONS



- READ INSTRUCTIONS AND IDENTIFY ALL COMPONENT PARTS BEFORE USING CRIMPER.
- D105 SERIES CRIMPERS CAN PRODUCE 35 TONS OF CRIMPING FORCE.
- KEEP BOTH HANDS AWAY FROM PINCH POINTS.
- CONSULT HOSE AND FITTING MANUFACTURER FOR CORRECT MACHINE SETTINGS AND CRIMP MEASUREMENTS.
- ALWAYS WEAR EYE PROTECTION.



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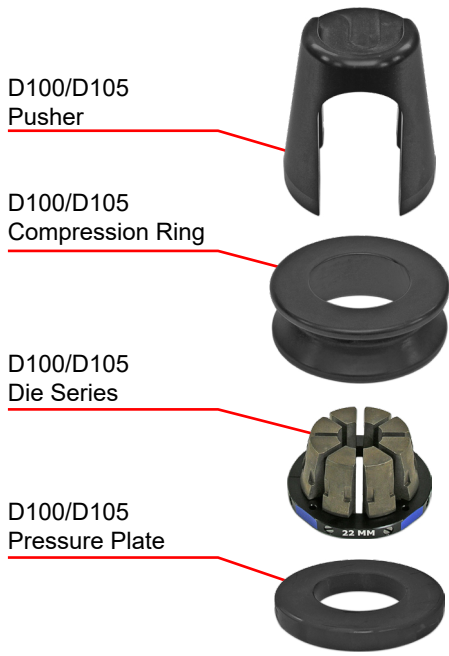
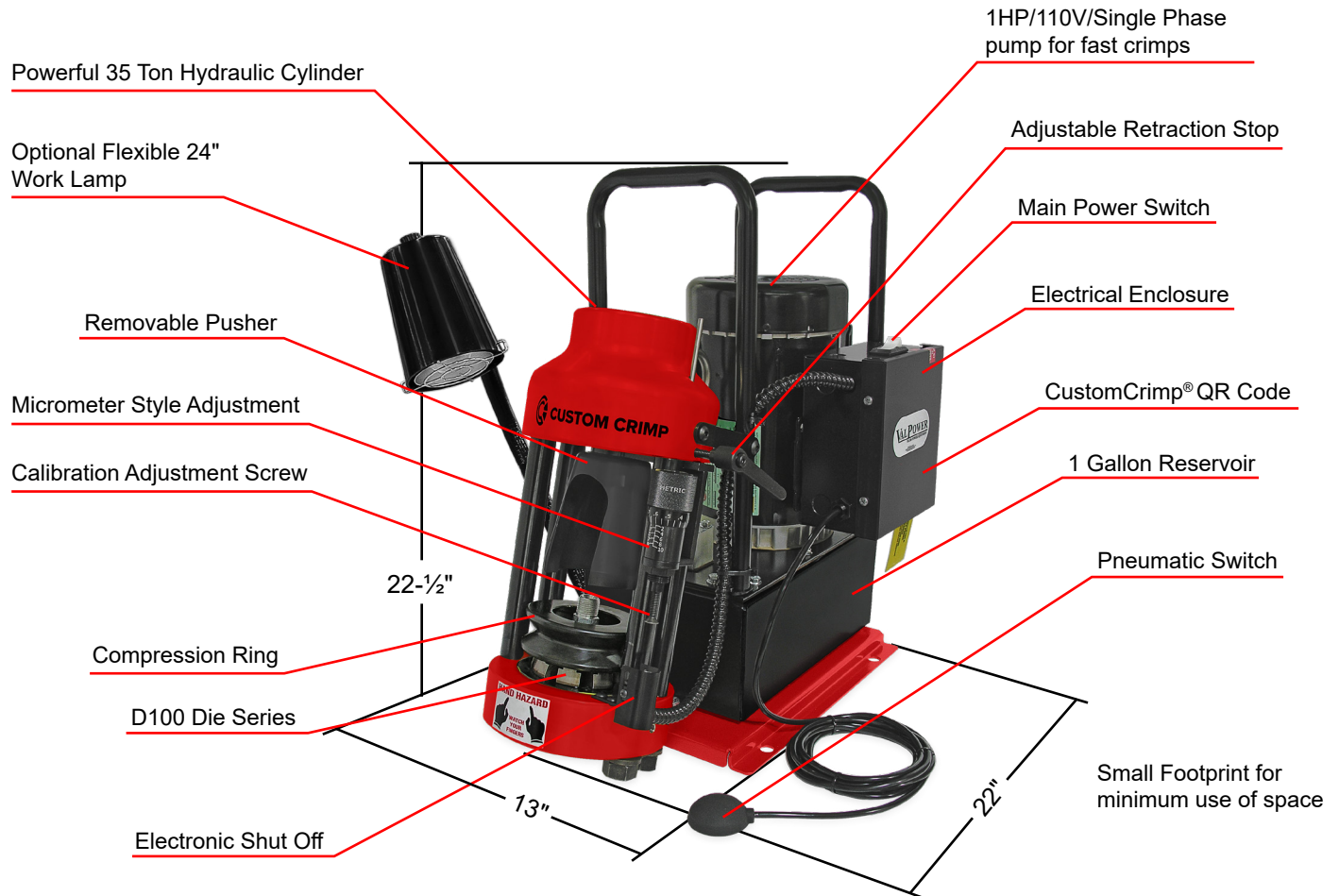
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D105M COMPONENT PARTS & TECHNICAL DATA



D105M Technical Specifications	
Crimping Force:	35 Ton
Hydraulic Hose Capacity:	2 Wire = 1" 4 Spiral = 3/4"
Crimper Size:	L: 22" x W: 13" x H: 22-1/2"
Crimper Weight:	114 lbs
Power:	1HP/110V/1Phase (Standard) 2HP/220V/1Phase (Optional)
Die series:	D100
Micrometer style adjustment:	Metric
Reservoir capacity:	1 US Gallon
Oil type:	ISO 46 Hydraulic Oil



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D105M FEATURES



Metric Micrometer “Micro-Crimp Adjuster” is fully adjustable to make precise and repeatable crimps.



Open design, two piece “slide in” die set and removable pusher allows the operator to accurately position the fitting prior to crimping.



Built-in adjustable retraction stop limits ram retraction for quick repetitive crimps.



An easily removable Coupling Stop makes repetitive crimps faster by not having to visually align the fitting before each crimp.



Automatic stop switch shuts the pump off when the crimp cycle is complete.



Easy calibration adjustment to increase or decrease crimp OD.



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INITIAL SET UP

FOLLOW THESE STEPS BEFORE YOU USE THE CRIMPER FOR THE FIRST TIME.

- Mount the crimper on a sturdy workbench in a well-lit area. Workbench should be able to support the crimper and components weight.

Note: The D105 series can be mounted on the D-Series Drawer/Stand and bolted onto the workbench. (See detailed instructions included with D-Series Drawer/Stand).

- The crimper should be mounted close enough to the edge of the work surface so that hose will not contact the bench or work surface while crimping. There must be enough clearance for the hose to align perpendicular with the cone base, or the dies will not seat properly and the crimps will not be accurate.

- Always check oil level in the D105 pump, should be 1-1/2 to 2 inches below the vent plug when the cylinder is in the retracted position and should be visible in the sight glass window of the pump reservoir.

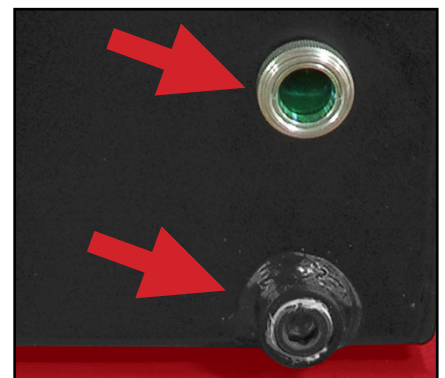
- If oil needs to be added use ISO 46 weight hydraulic oil.
- Oil can be drained from the rear oil port of the reservoir.
- Check to be certain that the shipping plug in the pump reservoir has been replaced with the vent plug shipped with the D165 crimper.

- Check electrical circuit to be certain that it matches the crimper requirements shown on the voltage tag attached to the crimper cord.

- Plug the D105 crimper directly into a 110 volt, 15 amp wall outlet.

Note: The optional 220 volts / 2HP unit must be connected to a 220 volts 20 amp wall outlet.

Note: Use of extension cords or outlets with inadequate power can damage the motor or crimper controls.





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LUBRICATION PROCEDURE



Grease Point # 1

Insert the pressure plate into the bottom flange of the crimper, making sure that it is seated squarely into the bottom flange.

Place a thin layer of CrimpX oil (supplied with crimper) or a high pressure molybdenum high pressure grease on the surface the dies sit on (as shown in photo # 1).



Photo # 1

Grease Point # 2

Before sliding the compression ring over the correct die set, place a thin layer of CrimpX oil (supplied with crimper) or a high pressure molybdenum high pressure grease on the entire area that dies come in contact with on the inner diameter (as shown in photo # 2).



Photo # 2

If Breaking Die Screws Often: Continue to lubricate / grease as explained above in addition to lubricating each die finger individually (as shown in photo # 3A).

If Compression Ring Sticks: The die fingers must be lubricated on each segment that comes in contact with the compression ring (as shown in photo # 3B).

Note: Lubrication is not required before each crimp.
Typical lubrication is after 100 crimps.

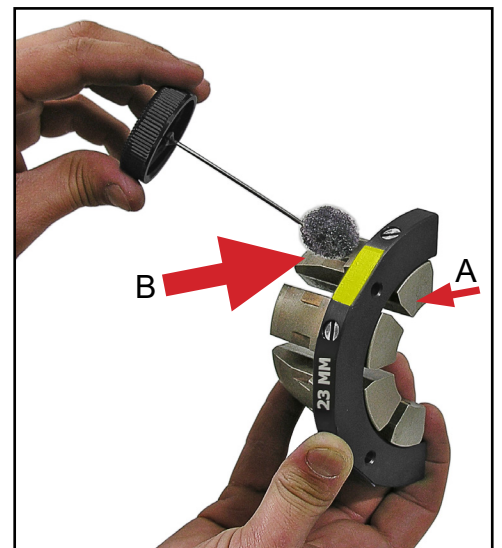


Photo # 3



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CRIMPING PROCEDURE

Note: Follow the lubrication procedure prior to crimping procedure.

NOTE: FAILURE TO LUBRICATE THE DIE SET AND COMPRESSION RING COULD RESULT IN THE DIE SET SEIZING IN THE BASE FLANGE.

Step 1: Insert the pressure plate into the bottom flange of the crimper, making sure that it is seated squarely into the bottom flange. Make sure is lubricated prior to inserting the die set.



Step 2: Select the correct die set for the combination of hose and fitting being crimped.

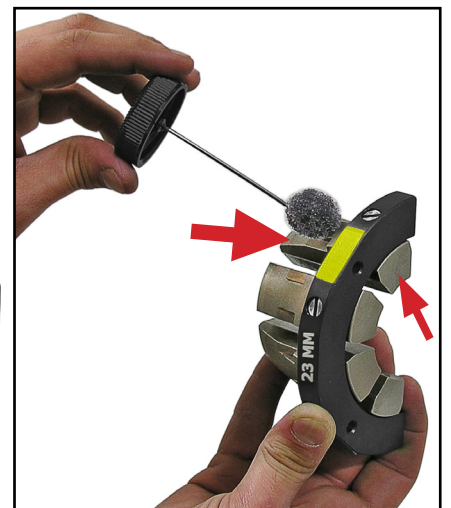
Note: Consult your hose and fitting manufacturer for the correct die size for the combination of hose and fitting being crimped.

Note: The number etched on the OD of the die ring represents the fully closed diameter of the die set in millimeters. In addition, die sets are color-coded for easier identification.



Step 3: Lubricate the contact surfaces, both bottom and outside edges of the die fingers, with CrimpX oil (supplied with crimper) or a high pressure molybdenum high pressure grease.

Failure to lubricate the contact surfaces with the correct lubricant will cause the dies to seize in the compression ring, causing damage to the die set as well as possibly damaging the crimper.





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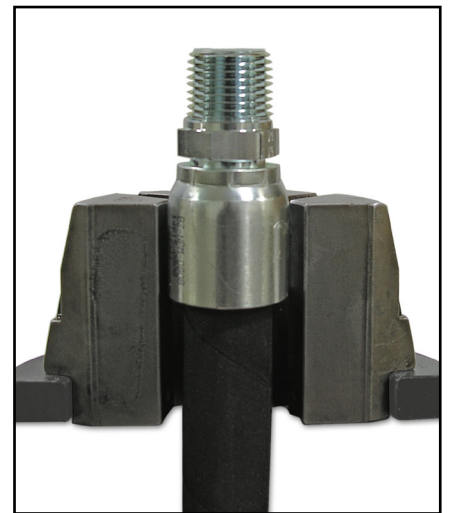
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CRIMPING PROCEDURE

Step 4: Place the lubricated die set squarely in the pressure plate.



Step 5: Align the fitting in the die set according to the hose and fitting manufacturer's recommendation.



Step 6: Place the lubricated compression ring over the die set and compress the die set by hand to hold the hose and fitting in place.





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CRIMPING PROCEDURE

Note: Make sure the compression ring is seated evenly on the die set.



CAUTION: The notches on the die set must be completely covered by the compression ring prior to starting the crimp.

- If the notches are showing, you must go to a larger die set.
- Crimping with an incorrect die size could result in personal injury.



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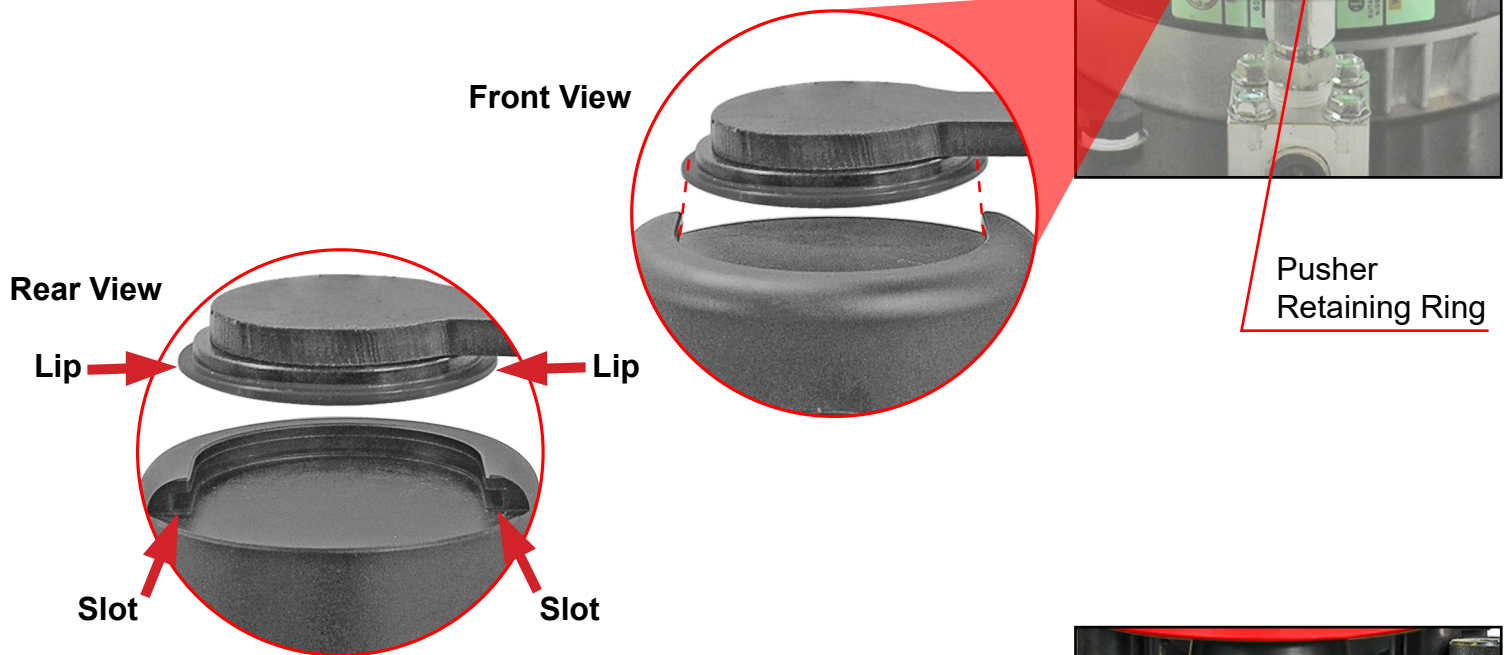
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CRIMPING PROCEDURE

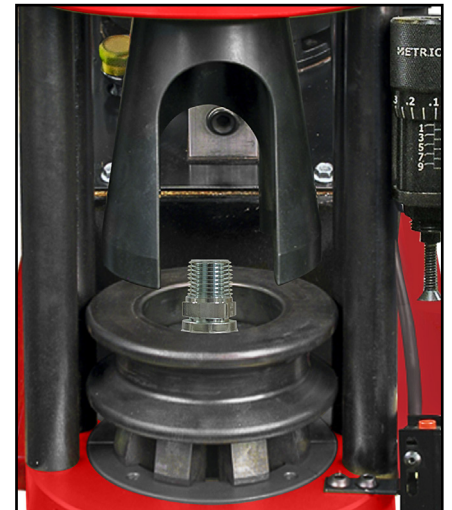
Step 7: Slide the Pusher onto the pusher retaining ring on the hydraulic cylinder.

Note: Make sure slot in pusher goes over lip on pusher retaining ring.

CAUTION: Damage to pusher and retaining ring can occur if misaligned.



Note: Make sure the pusher is positioned correctly as shown.





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CRIMPING PROCEDURE

Step 8: Set the **Micro-Crimp Adjuster** to the setting recommended by the hose and fitting manufacturer for the combination of hose and fitting being crimped.

NOTE: The Metric Micro-Crimp Adjuster is a direct reading micrometer. Add the setting on the micrometer to the closed diameter of the die set to obtain the finished crimp diameter.

For example: With a 23mm die set and the Micro-Crimp Adjuster set at 3.0, the finished crimp diameter would be 26.0 mm (23mm + 3.0mm).

Note: Each die set has a limited range of diameters for which a satisfactory crimp can be obtained. Always consult your hose and fitting manufacturer for the correct die set for the hose and fitting being crimped.

Step 9: Recheck the fitting for the correct alignment in the die set and depress the start/stop switch.

Depress and hold the Start/Stop switch, until the micrometer touched the electronic red button as shown, “count one mississippi” the automatic stop switch will shut the pump off, and the ram will return to the retracted position. Allow the pusher to return to the retracted position as well.

Step 10: Check the final crimp diameter with calipers to confirm that it is within manufacturer’s specifications.

Note: Always consult with your hose and fitting manufacturer to obtain the most current crimp specifications.





CALIBRATION CHECK PROCEDURE

THE CRIMPER IS CALIBRATED PRIOR TO SHIPMENT, BUT A CALIBRATION CHECK IS RECOMMENDED PRIOR TO USING THE CRIMPER FOR THE FIRST TIME.

Note: Follow the lubrication procedure prior to calibration check.

NOTE: FAILURE TO LUBRICATE THE DIE SET AND COMPRESSION RING COULD RESULT IN THE DIE SET SEIZING IN THE BASE FLANGE.

Step 1: Place the **Lubricated Pressure Plate**, into the bottom flange of the crimper, making sure that it is seated squarely into the bottom flange.

Step 2: Place **Any Lubricated Die Set** squarely in the pressure plate.

Step 3: Place the **Lubricated Compression Ring** over the die set.

Note: Make sure the compression ring is seated evenly on the die set.

Note: A hose and fitting are not required for a calibration check.

Step 4: Slide the **Pusher** onto the pusher retaining ring on the hydraulic cylinder.

Note: Make sure slot in pusher goes over lip on pusher retaining ring. Refer to page 11 for details if needed.

CAUTION: Damage to pusher and retaining ring can occur if misaligned.





CALIBRATION CHECK PROCEDURE

Step 5: Set the **Metric Micro-Crimp Adjuster** at “0”.

Note: Set the Micro-Crimp Adjuster at “100” for the Standard Micrometer.
Set the Micro-Crimp Adjuster at “95” for the DC Micrometer.



Step 6: Depress and hold the Start/Stop switch, until the Die set is completely closed and oil pressure has built up in the hydraulic cylinder.

If the ram extends, the dies are completely closed, the pump builds pressure (The sound of the pump will change) when the micrometer touched the electronic red button as shown, “count one mississippi” the automatic stop switch will shut the pump off, and the ram will return to the retracted position the crimper is correctly calibrated.



Step 7: If the above conditions are not met, the crimper requires recalibration, hold the micrometer barrel with a 5/16 inch open end wrench and rotate the stem either in or out with a 5/32 inch hex key wrench.

Note: 1/4 turn of screw will change crimp diameter approximately 0.008”.

- Rotating the stem out of the barrel decreases the time required for the pump to shut off.
- Recheck calibration.





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D105/D165 D-SERIES DRAWER ASSEMBLY / STAND

Note: This instructions can be used for D105/D165/D165-T420 series crimpers.



1

Install (2) 3/8-16 x 1" carriage bolts in front two holes (as shown in picture # 1). Use 3/8" plastic retaining washer to hold bolt into place.



2

Slide the drawer slightly out to access two rear holes (as shown in picture # 2). Install (2) 3/8-16 x 1" carriage bolts in rear two holes (as shown in picture # 2). Use 3/8" plastic retaining washer to hold bolt into place.



3

Place the D105/D165 base plate over the 4 screws as shown in picture # 3. Place 3/8" flat washer, 3/8" locking washer, and then the 3/8"- 16 nut over the bolt as shown.



4

Tighten each nut with a 9/16" wrench or socket until the nuts are tight as shown in picture # 4.

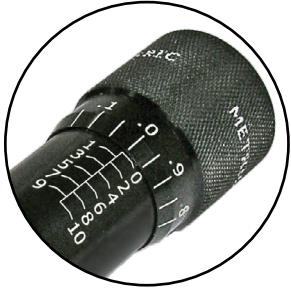
Note: Bolt the D105/D165 crimper drawer assembly / stand to work surface before use.



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INCLUDED ACCESSORIES



Metric Micrometer
P/N:101587



D100/D105 Pusher w/
Magnets P/N:100813-01



D100/D105 Compression Ring
P/N:100849



D100/D105 Pressure Plate
P/N:100869



Pneumatic Pendant Switch
(Included) P/N:101349



D165 Coupling Stop
P/N:100954



CRIMPX Die Lubricant Oil:
4 oz bottle with dauber cap
P/N:103886



Vent Plug
P/N:9847K13



(5) D100 Screws
P/N:EN84-115 (Sold individually)



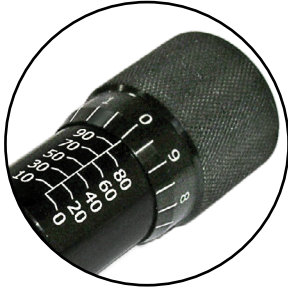
(5) D100 Spring
P/N:LC 022D 01 (Sold individually)



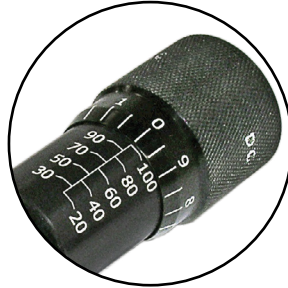
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AVAILABLE ACCESSORIES



Standard Micrometer
P/N:100628



DC Micrometer
P/N:101489



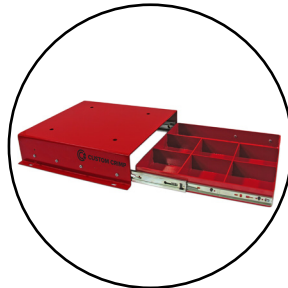
D100/D105 Notched
Compression Ring
P/N:101190



Flexible 24" Work Lamp
P/N:1668-02



Die Storage Shelf
P/N:101431



D-Series Drawer Assembly/Stand
P/N:104650



Die Removal Magnet
P/N:104679



CRIMPX Die Lubricant:
Grease 4 oz can with brush
P/N:104162



D100 Series Die Rings
Refer to page 19 for more details



CustomCrimp® Notched Digital
Caliper IN/MM P/N:CC-Caliper



TROUBLESHOOTING

PROBLEM: CRIMPER WILL NOT RUN AT ALL

- The power switch (white rocker switch) is also a circuit breaker. Make certain that this circuit breaker has not tripped.
- Check the wall outlet. The crimper comes from the factory wired for a 110 volt circuit. Use of extension cords or outlets with inadequate power can damage the motor or crimper controls. Do not run the crimper from a portable power source.
- Check the stop switch mounted to the switch bracket under the Micro-Crimp Adjuster. This is a normally closed switch and it must close to complete the circuit and allow the crimper to operate.
CAUTION: Do not operate the crimper with this switch jumpered as the pump will not shut off and the brackets can be damaged.
- Check the pneumatically actuated switch in the electrical box mounted on the motor. This switch controls power to the motor and is actuated with air pressure from the bulb on the end of the hose going into the box.

PROBLEM: CRIMP DIAMETER TOO LARGE

- Check crimper calibration and recalibrate if required.
- Incorrect die being used. Each die has a range of approximately 3mm (.120 in) above the closed diameter of the die. The closed diameter is the die size stamped on the die ring.
- Incorrect setting of the Micro-Crimp Adjuster. Check hose manufacturer's specifications.
- Inadequate pump pressure. Check oil level in the pump. It should be 1-1/2 to 2 inches below the fill plug. Replenish with ISO Viscosity Grade 46 hydraulic oil.
- Inadequate lubrication of the dies and compression ring causing the pump to work harder than normal to reach the required diameter.
- Inadequate pressure being generated by the pump. This is most likely if the crimper can crimp the smaller size hoses and not the larger hoses. When correctly adjusted, the pump should generate approximately 10,000 psi.
Do Not adjust pump to produce in excess of 10,000 psi as damage to components or personal injury may result.
- No pressure being generated by the pump. There should be a definite change in pitch of the pump as it cycles into high pressure mode and begins to "work" harder.

PROBLEM: CRIMP DIAMETER TOO SMALL

- Check crimp diameter and recalibrate if necessary.
- Incorrect die being used (See die range under Crimp Diameter Too Large).
- Incorrect setting of the Micro-Crimp Adjuster. Check hose manufacturer's specifications.

PROBLEM: DIES STICKING IN COMPRESSION RING

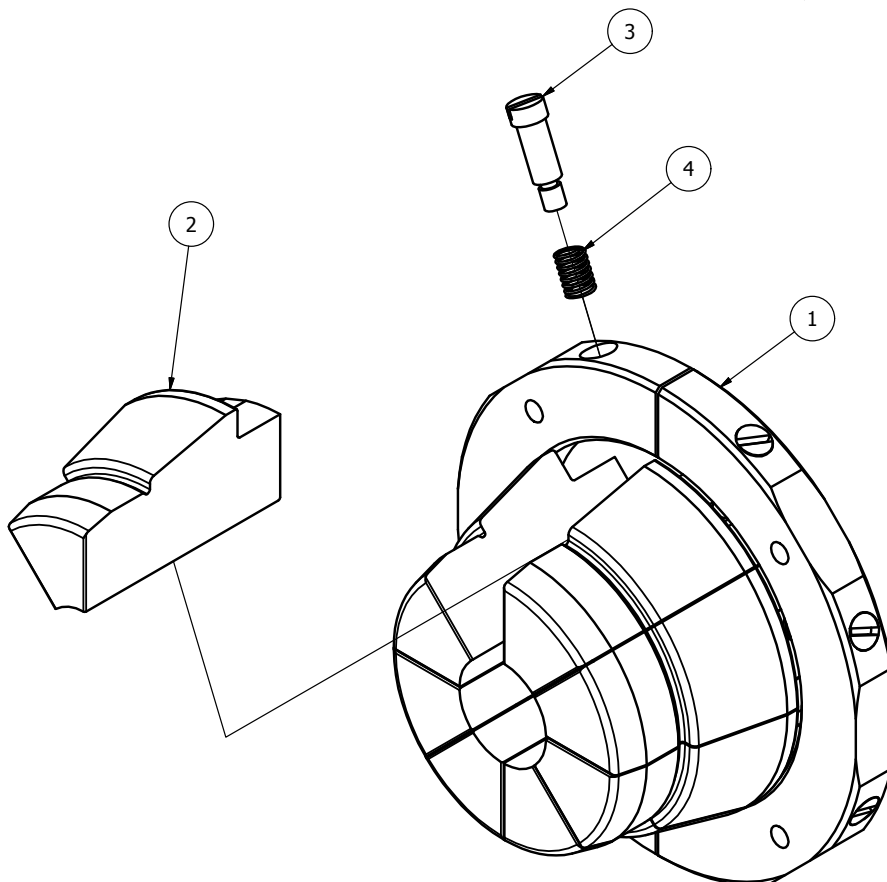
- Inadequate lubrication of the compression ring and die surfaces.



COMPONENT PARTS BREAKDOWN

D100 SERIES DIE PARTS (AI-100724)			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	101065-COLOR	DIE RING HALF D100 SERIES	2
2	VARIABLES WITH THE DIE SIZE	8 PC DIE FINGER SET	8
3	EN84-115	D100 SCREW	8
4	LC 022D 01	D100 SPRING	8

DIE RING HALF D100 SERIES	
PART NUMBER	DESCRIPTION
101065-BLACK	DIE RING HALF BLACK
101065-BLUE	DIE RING HALF BLUE
101065-BROWN	DIE RING HALF BROWN
101065-GREEN	DIE RING HALF GREEN
101065-ORANGE	DIE RING HALF ORANGE
101065-PURPLE	DIE RING HALF PURPLE
101065-RED	DIE RING HALF RED
101035-SILVER	DIE RING HALF SILVER
101065-YELLOW	DIE RING HALF YELLOW

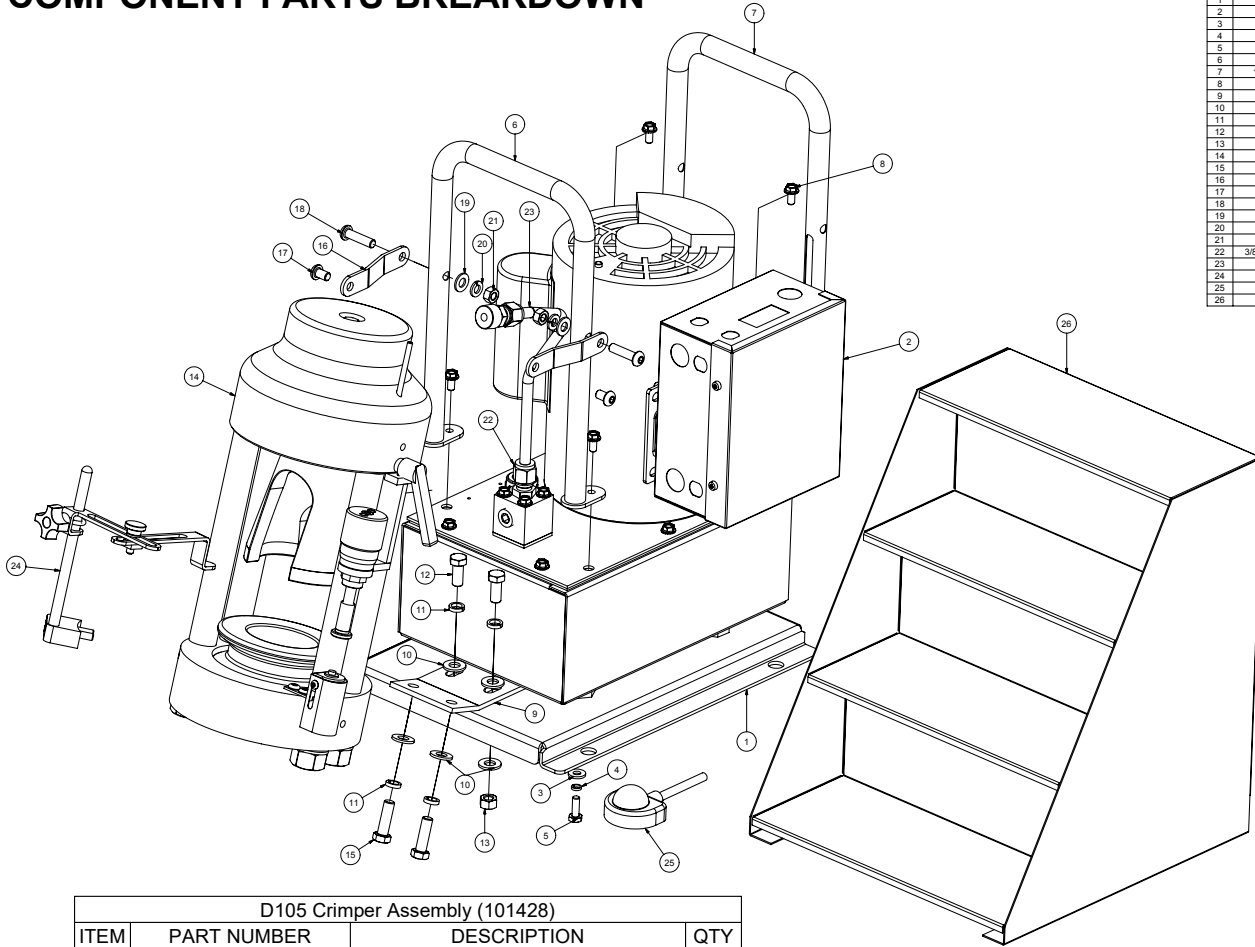




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COMPONENT PARTS BREAKDOWN

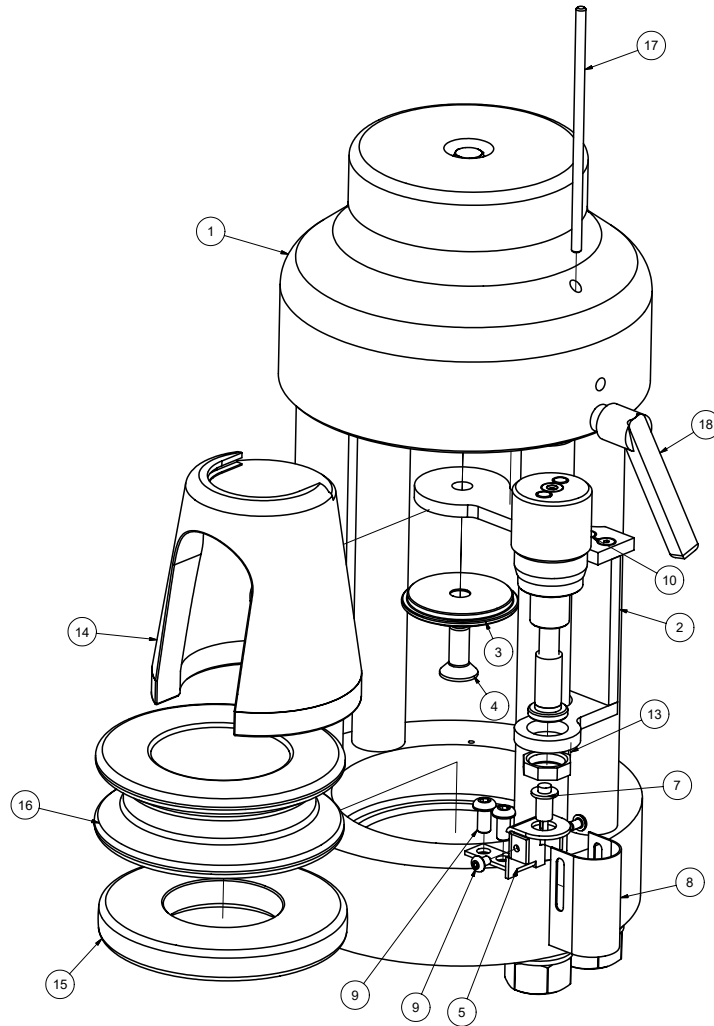


D105 Crimper Assembly (101428)			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	101430	D-105 Base Plate	1
2	101633	Pump Assembly	1
3	90126A029	1/4 Flat Washer	4
4	91102A029	1/4 Lock Washer	4
5	92865A540	1/4-20 x 3/4 Hex Bolt	4
6	101433	D105 Handle	1
7	101433-Slotted	D105 Slotted Handle	1
8	92323A516	1/4-20 x 3/4 SHFCS	4
9	101429	Mounting Bracket	1
10	90126A031	3/8 Flat Washer	6
11	91102A031	3/8 Lock Washer	4
12	92865A623	3/8-16 x 7/8 Hex Bolt	2
13	95462A031	3/8-16 Hex Nut	2
14	101480	D105 Head Assembly	1
15	92865A626	3/8-16 x 1 1/4 Hex Bolt	2
16	101434	Handle Brace	2
17	91255A578	5/16-18 x 1/2 BHCS	2
18	91255A585	5/16-18 x 1 1/4 BHCS	2
19	90126A030	5/16 USS Flat Washer	2
20	91102A030	5/16 Lock Washer	2
21	95462A030	5/16-18 Hex Nut	2
22	3/8 NPT Comp. Ftg	3/8 NPT Straight Compression Ftg.	2
23	101436-01	D105 Hydraulic Tube	1
24	100954	Coupling Stop Assembly	1
25	101349	Pneumatic Pendant Switch	1
26	101431	D105 Shelf Unit (Optional)	1

D105 Crimper Assembly (101428)			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	101430	D-105 Base Plate	1
2	101633	Pump Assembly	1
3	90126A029	1/4 Flat Washer	4
4	91102A029	1/4 Lock Washer	4
5	92865A540	1/4-20 x 3/4 Hex Bolt	4
6	101433	D105 Handle	1
7	101433-Slotted	D105 Slotted Handle	1
8	92323A516	1/4-20 x 3/4 SHFCS	4
9	101429	Mounting Bracket	1
10	90126A031	3/8 Flat Washer	6
11	91102A031	3/8 Lock Washer	4
12	92865A623	3/8-16 x 7/8 Hex Bolt	2
13	95462A031	3/8-16 Hex Nut	2
14	101480	D105 Head Assembly	1
15	92865A626	3/8-16 x 1 1/4 Hex Bolt	2
16	101434	Handle Brace	2
17	91255A578	5/16-18 x 1/2 BHCS	2
18	91255A585	5/16-18 x 1 1/4 BHCS	2
19	90126A030	5/16 USS Flat Washer	2
20	91102A030	5/16 Lock Washer	2
21	95462A030	5/16-18 Hex Nut	2
22	3/8 NPT Comp. Ftg	3/8 NPT Straight Compression Ftg.	2
23	101436-01	D105 Hydraulic Tube	1
24	100954	Coupling Stop Assembly	1
25	101349	Pneumatic Pendant Switch	1
26	101431	D105 Shelf Unit (Optional)	1



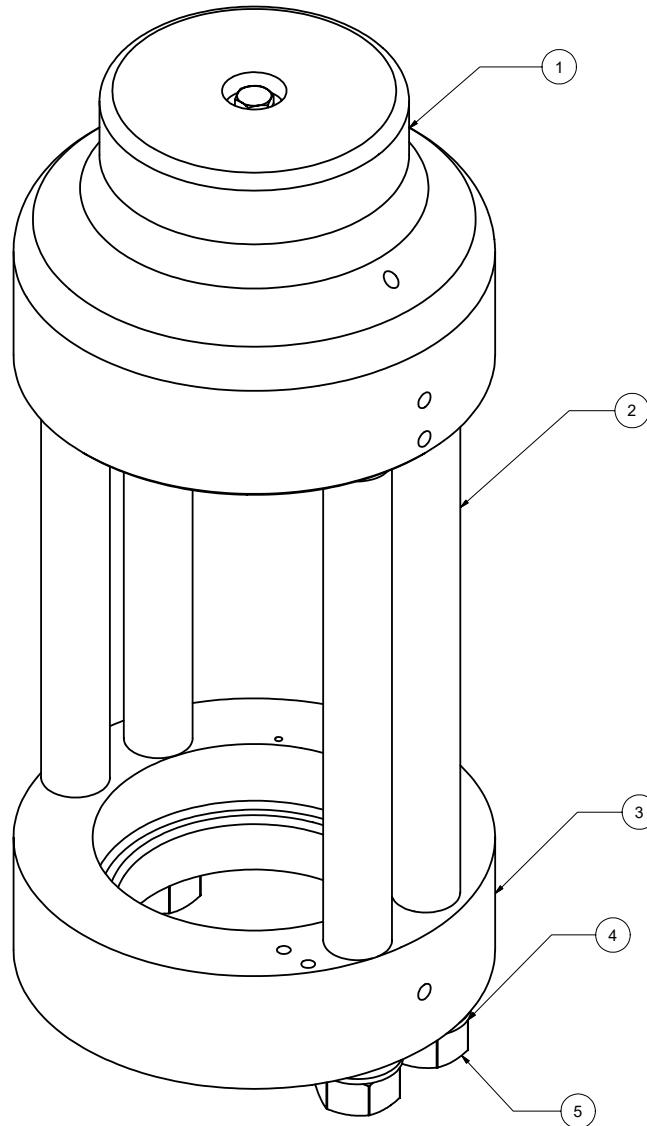
COMPONENT PARTS BREAKDOWN



D105 Head Assembly (101480)			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	101209	Head Sub-Assembly	1
2	101788	Micrometer Mount Assembly	1
3	100812	Pusher Retaining Pin	1
4	91253A624	3/8-16 x 1 FHCS	1
5	101092	Limit Switch Bracket	1
7	903	Switch	1
8	100692	Limit Switch Guard	1
9	91255A190	#8-32 x 1/4 BHCS	4
10	100628	Standard Micrometer Assembly	1
11	101489	DC Micrometer Assembly	1
12	101587	Metric Micrometer Assembly	1
13	100727	Micrometer Nut	1
14	100813	Pusher w/ Magnets	1
15	100869	Pressure Plate	1
16	100849	Compression Cone	1
17	101499	Stop Rod	1
18	101522	Ratchet Handle	1



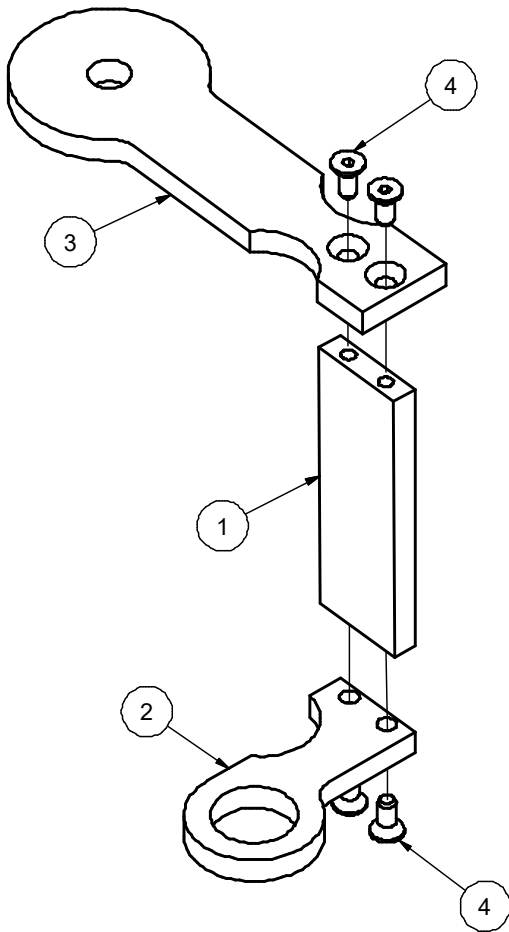
COMPONENT PARTS BREAKDOWN



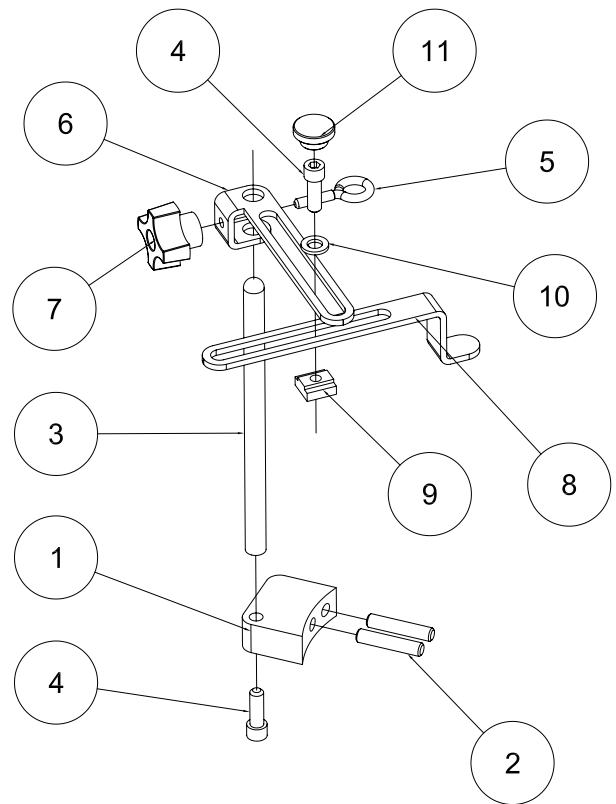
35-Ton Head Sub-Assembly (101209)			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	103122	35-Ton Cylinder/Flange	1
2	100329	Strain Rod - 8 1/2"	4
3	100325	Bottom Flange	1
4	750SPCL	3/4 Flat Washer - Special	4
5	95462A538	3/4-10 Hex Nut	4



COMPONENT PARTS BREAKDOWN



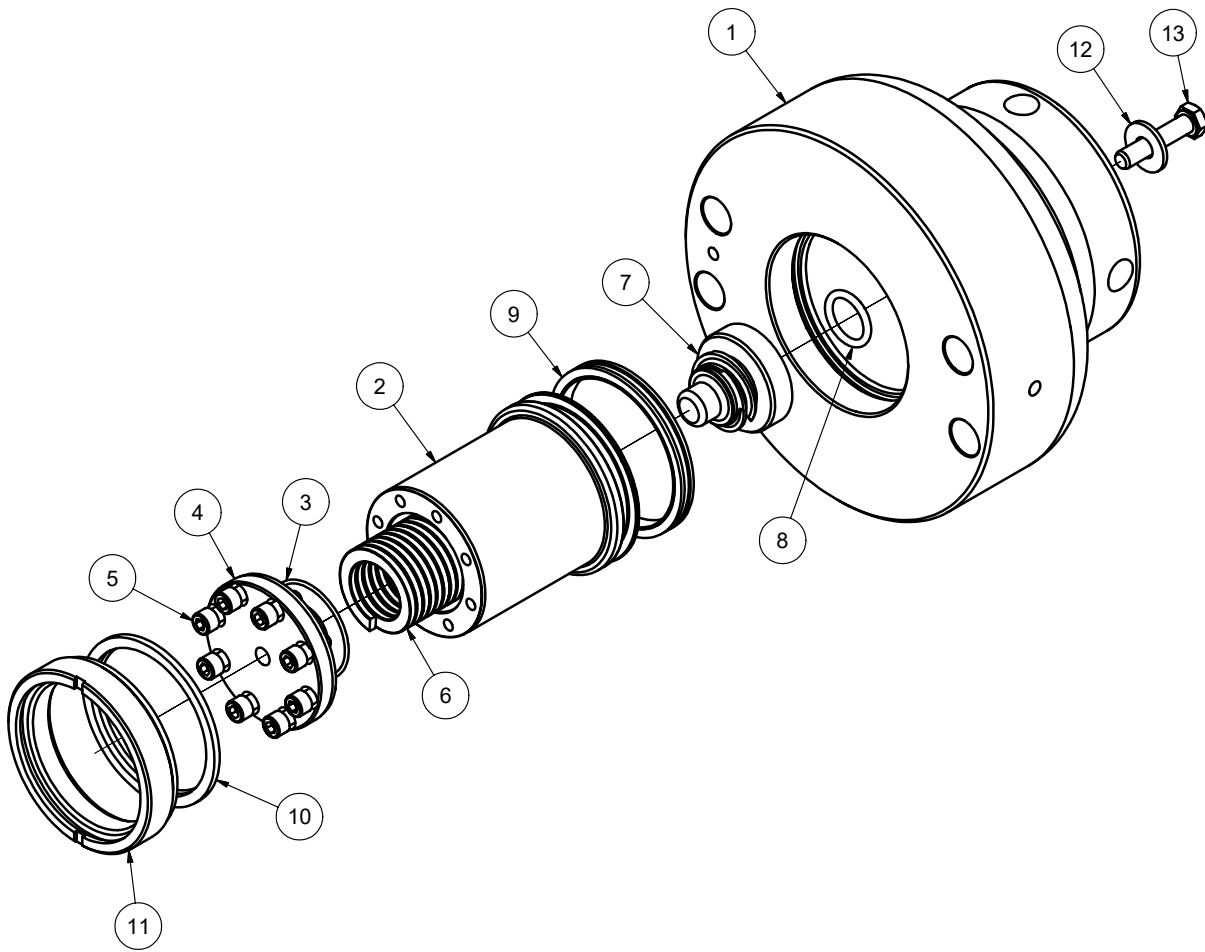
D105 Micrometer Mount Assembly (101788)			
Item	Part Number	Description	Qty
1	100898-01	Micrometer Arm	1
2	100898-02	Micrometer Base	1
3	100898-03	Micrometer Suspension Flange	1
4	91253A189	8-32 x 1/4 HSFHS	4



Coupling Stop Assy (100954)			
Item	Part No.	Description	Qty
1	100950	Coupling Stop Block	1
2	98381A544	1/4" x 1 1/4" Dowel Pin	2
3	100951	Stop Block Rod	1
4	91251A540	1/4-20 X 3/4 SHCS	2
5	9489T47	Eye Bolt	1
6	100952	Adjustable Stop Arm	1
7	DK-655	Knob	1
8	100953	Fixed Stop Arm	1
9	94750A588	T-Nut (1/4-20)	1
10	90126A029	1/4 Flat Washer	1
11	94052A133	Push-On Cap	1



COMPONENT PARTS BREAKDOWN



35 Ton Cylinder / Flange Assembly (103122)			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	102511	Cylinder Body	1
2	101515	Cylinder Piston	1
3	030D90	030 Disogrin O-Ring	1
4	100689	Cylinder Piston Cap	1
5	91251A539	1/4-20 X 5/8 SHCS	8
6	101282	Cylinder Spring	1
7	101516	Spring Plug	1
8	210D90	210 Disogrin O-Ring	1
9	TP032	T-Seal	1
10	SH959-26	Ram Wiper	1
11	101514	Cylinder Retaining Ring	1
12	90108A415	5/16 Flat Washer	1
13	92865A587	5/16-18 x 1.50 HHCS	1



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CUSTOMCRIMP® “NO-NONSENSE” WARRANTY STATEMENT

All Custom Crimp® Products are warranted to be free of defects in workmanship and materials for one year from the date of installation. This warranty ends when the product becomes unusable for reasons other than defects in workmanship or material.

Any Custom Crimp® Product proven to be defective in workmanship or material will be repaired or replaced at no charge. To obtain benefits of this warranty, first, contact Warranty Repair Department at Custom Machining Services at **(219) 462-6128** and then deliver via prepaid transportation the complete hydraulic product to:

**ATTN: WARRANTY REPAIR DEPT.
Custom Machining Services, Inc.
318 North Co. Rd 400 East
Valparaiso IN 46383**

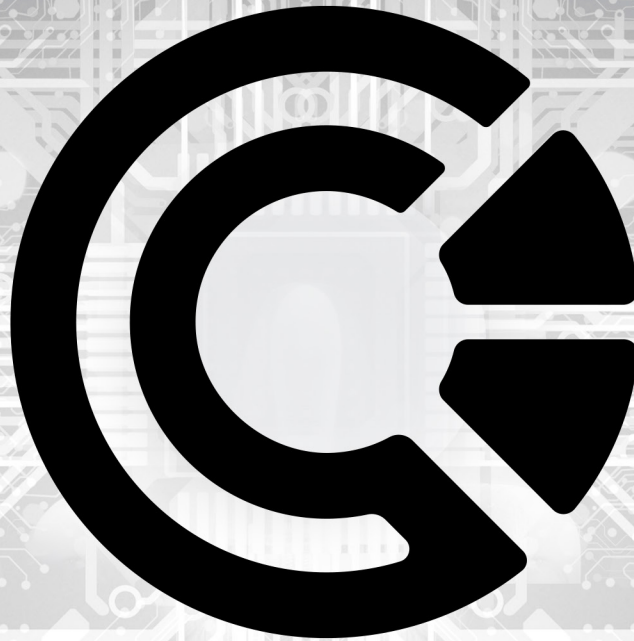
If any product or part manufactured by Custom Crimp® is found to be defective by Custom Crimp®, at its option, Custom Crimp® will either repair or replace the defective part or product and return via ground transportation, freight prepaid.

Custom Crimp® will not cover any incoming or outgoing freight charges for machines sold outside The United States.

This warranty does not cover any product or part which is worn out, abused, altered, used for a purpose other than for which it was intended, or used in a manner which was inconsistent with any instructions regarding its use.

Electric motors are separately warranted by their manufacturer under the conditions stated in their separate warranty.

CRIMP



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TEST

CUSTOM CRIMP®, YOUR SINGLE SOURCE FOR HOSE ASSEMBLY PRODUCTS.

CUSTOM CRIMP® | Custom Machining Services, Inc.
326 North 400 East Valparaiso, IN 46383



Visit us at: www.customcrimp.com



For sales: ccsales@customcrimp.us



For support: ccsupport@customcrimp.us



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