PULSAR®
HYDRAULICS LTD.

D205 M SERIES
HYDRAULIC HOSE CRIMPER
OPERATORS MANUAL

SAFETY PRECAUTIONS

READ INSTRUCTIONS AND IDENTIFY ALL COMPONENT PARTS BEFORE USING CRIMPER.

CRIMPER CAN PRODUCE 80 TONS OF FORCE. KEEP BOTH HANDS AWAY FROM PINCH POINTS.

CONSULT PULSAR HYDRAULICS' SPECIFICATIONS FOR CORRECT MACHINE SETTINGS AND CRIMP MEASUREMENTS.

ALWAYS WEAR EYE PROTECTION.

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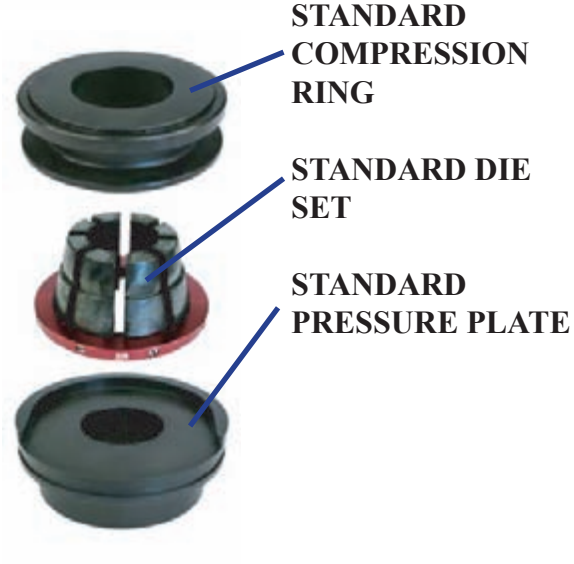
D205 SERIES COMPONENT IDENTIFICATION



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

CALIBRATION CHECK PROCEDURE

- PLUG THE CRIMPER DIRECTLY INTO A 220 VOLT 15 AMP SINGLE PHASE WALL OUTLET. *DO NOT USE AN EXTENSION CORD OR RUN FROM PORTABLE POWER SOURCES AS LOW VOLTAGE CAN DAMAGE THE MOTOR.*

- THE OIL LEVEL IN THE PUMP SHOULD BE APPROX. 1 1/2 INCHES BELOW THE FILLER/VENT PLUG.

- PLACE THE STANDARD COMPRESSION RING, ANY STANDARD DIE SET AND THE STANDARD PRESSURE PLATE IN THE BASE OF THE CRIMPER IN THE ORDER SHOWN.
- SLIDE THE PUSHER ONTO THE STUD OF THE HYDRAULIC RAM.
- SET THE MICRO-CRIMP ADJUSTER AT: "0" FOR METRIC UNITS.
- PRESS AND HOLD THE START SWITCH.
- IF THE RAM EXTENDS AND SHUTS OFF THE MOTOR IN APPROXIMATELY ONE SECOND AFTER THE PUMP STARTS TO BUILD PRESSURE, (THE SOUND OF THE PUMP WILL CHANGE) AND THE DIE SET IS FULLY CLOSED, THE CRIMPER IS CORRECTLY CALIBRATED.
- IF THE TIME TO SHUT OFF IS NOT APPROXIMATELY 1 SECOND, THE CRIMPER MUST BE RECALIBRATED. SEE INSTRUCTIONS.

METRIC

CRIMPING WITH STANDARD DIES

- **Insert the Standard Pressure Plate in the bottom flange making certain that the Pressure Plate is seated squarely in the bottom flange.**

  Note that the bottom Pressure Plate is held in place by a set screw. This screw can be loosened through the access hole in the front of the machine through the "Hand Hazard" decal.

- **Select the correct die set for the combination of hose and fitting being crimped. This information is available from the hose and fitting manufacturer.**

  The number etched on the die ring represents the fully closed diameter of the die set in either inches or millimeters depending upon the die set.

- **Lubricate the contact surfaces of the die fingers and the Compression Ring with the die lubricant furnished with the crimper.**
  Failure to lubricate the contact surfaces with the correct lubricant will cause the dies to seize in the compression ring.

- **Align the hose and fitting in the die set and place the Compression Ring loosely over the die set. Manually depress the compression ring until the fitting is held loosely in 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 visible, you must go to a larger die set. Crimping with an incorrect die size could result in damage to the die set and/or personal injury

- Set the Micro-Crimp Adjuster to the setting recommended by Pulsar Hydraulics for the hose and fitting being crimped.

- The metric micrometer (Readings of 0 to 10) is a direct reading micrometer. The setting on the micrometer is added to the number in mm etched on the die ring to obtain the final crimp diameter.

  For example:
  With a 39mm die and the METRIC micrometer set at 3.0 the finished crimp diameter would be 42.0 mm (39mm + 3.0mm)

- Recheck the fitting for correct alignment and depress the pneumatic Start/Stop switch bulb and keep it depressed until the crimper shuts off automatically.

- Check the diameter of the finished crimp to be certain that it is within Pulsar Hydraulics' specifications.

The D205 Crimper comes with standard features which increase accuracy and improve productivity for jobs which require repeat crimps of similar or identical assemblies.

- **The easily removable Coupling Stop provides an automatic stop for straight fittings without the need to sight the alignment of the fitting on every crimp. A short and a long Coupling Stop are furnished with each crimper to accommodate a wide range of fitting configurations.**

- **The adjustable Retraction Stop allows the operator to limit the retraction of the hydraulic ram at the point where the die set is open only enough to remove the hose and fitting. This feature can greatly speed up crimping on production jobs since the ram does not have to fully advance and retract on every cycle.**

When the crimper is correctly calibrated, the ram will extend and fully close the die set. After the die set is fully closed, the time from which the pump starts to build pressure and the point at which the motor shuts of automatically will be approximately 1 second.

Many problems associated with incorrect crimp diameters are caused by incorrect calibration.

CALIBRATION

- **Insert the Standard Pressure Plate, any die set, and the compression ring in the order illustrated.**
- **Set the Micro-Crimp adjuster at: "0" for metric units (0-10)**
- **Press and hold the start Switch.**
- **If the ram extends closing the dies to their fully closed position and the motor shuts off approximately 1 second after the pump starts to build pressure (the sound of the pump will change), then the crimper is correctly calibrated.**
- **If the crimper requires re-calibration, 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.**

If the time from which the pump starts to build pressure is greater than approximately 1 second, rotate the stem out slightly.

If the time is less than approximately 1 second, rotate the stem in slightly.

- **Recheck calibration.**

PROBLEM: CRIMPER WILL NOT RUN AT ALL

- **The white rocker switch is also a circuit breaker. Check to see that the circuit breaker has not been tripped.**
- **Check the wall outlet. The crimper comes from the factory wired for a 220 volt single phase circuit. Use of extension cords or outlets with inadequate power can damage the motor .**
  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 if it does not close the crimper will not 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 re-calibrate if required.**
- **Incorrect die being used. The closed diameter is the die size stamped on the die ring.**
- **Incorrect setting of the Micro-Crimp Adjuster. Check Pulsar Hydraulics' 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.**

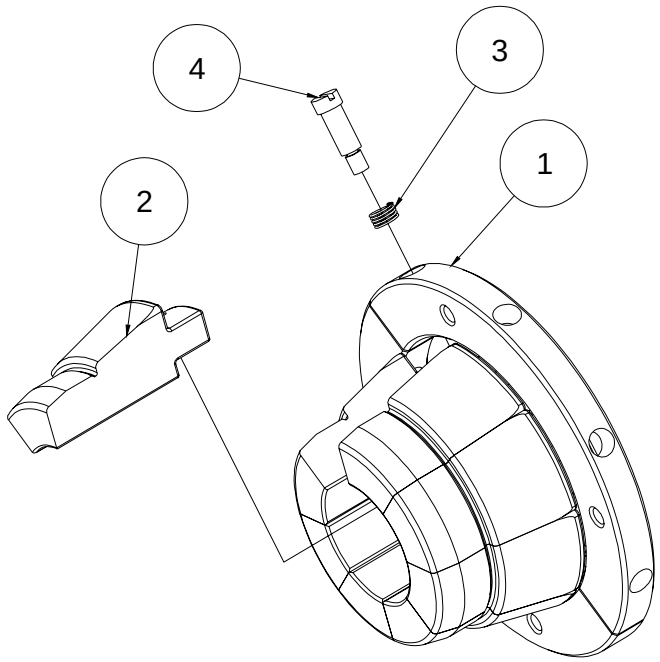
PROBLEM: CRIMP DIAMETER TOO SMALL

- **Check crimp diameter and re-calibrate if necessary.**
- **Incorrect die being used.**
- **Incorrect setting of the Micro-Crimp Adjuster. Check Pulsar Hydraulics' specifications.**

PROBLEM: DIES STICKING IN COMPRESSION RING

- **Inadequate lubrication of the compression ring and die surfaces.**

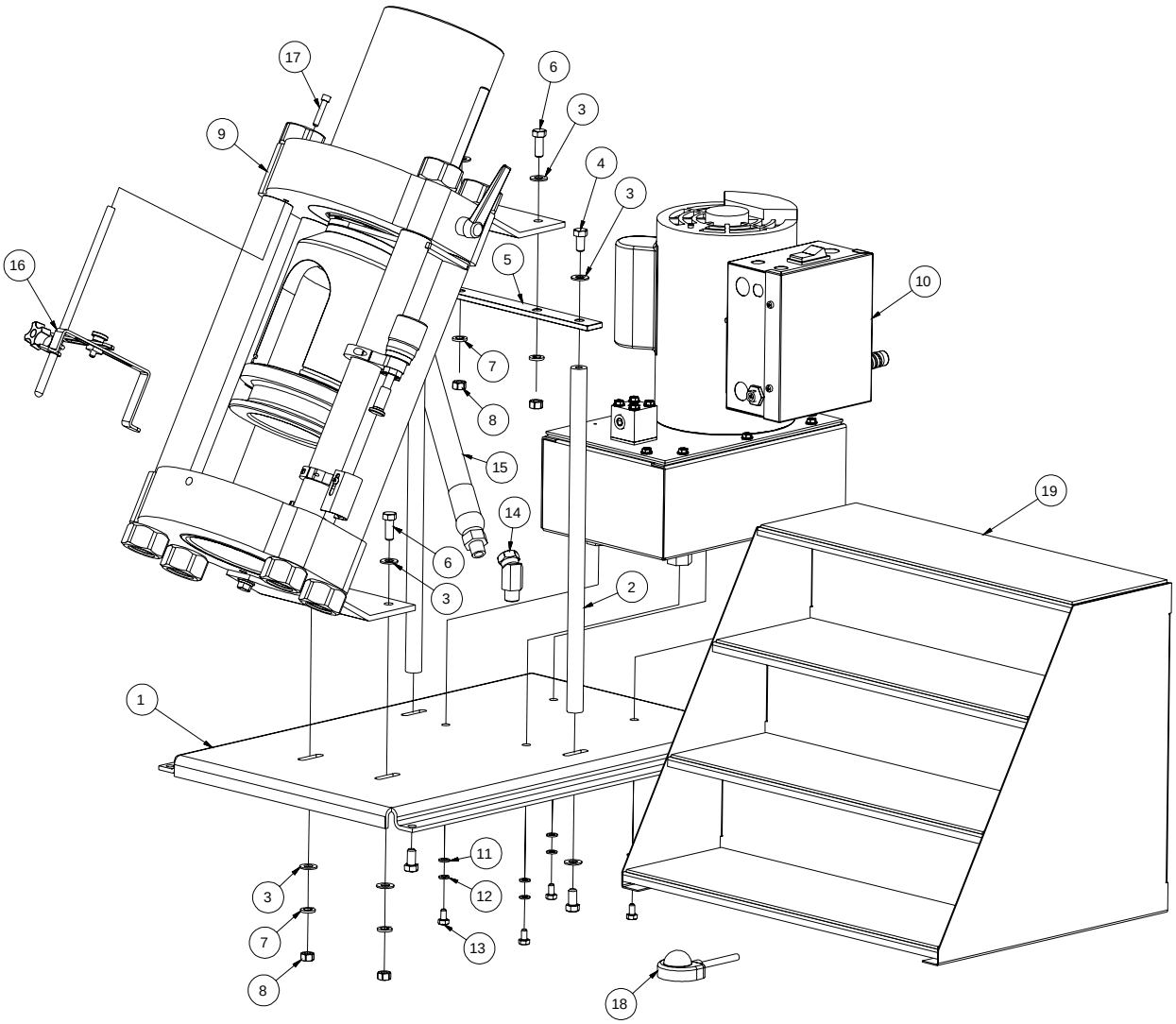
D200 SERIES DIE COMPONENT PARTS



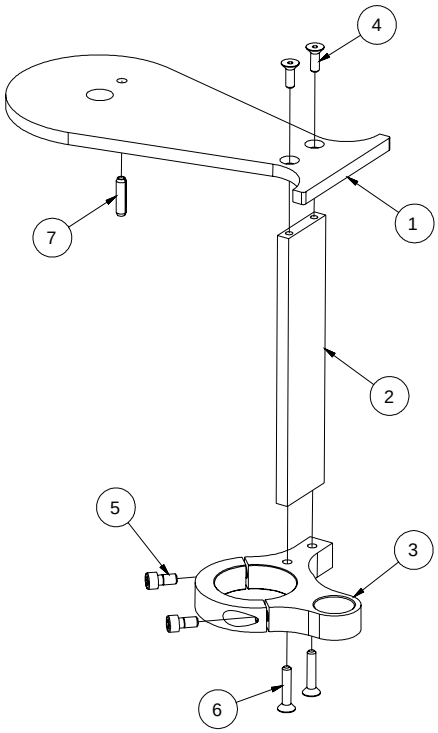
D200 Standard Series Dies

1) **Die Ring** **100753-COLOR**
2) **Die Finger** **Varies with die set**
3) **Die Spring** **LC 026 06 M**
4) **Die Screw** **EN82-004**

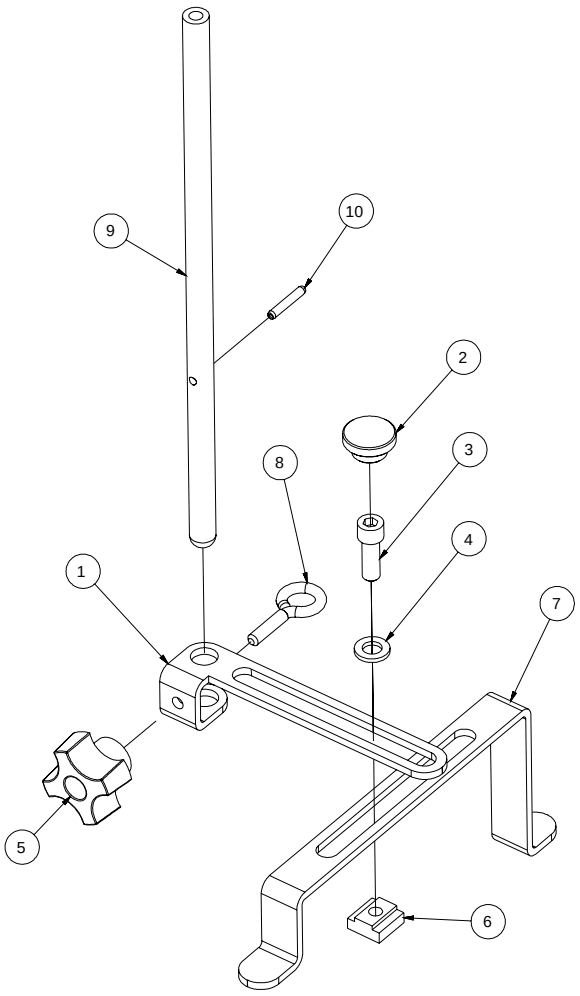
D205 SERIES EXPLODED PARTS VIEW



D205/D206 Crimper Assembly (101626)			
Item	Part Number	Description	Qty
1	101585	D205 Base	1
2	101624	D205 Support Rod	2
3	90126A031	3/8 Flat Washer	10
4	92865A622	3/8-16 X 3/4 Hex Bolt	4
5	101621	D205 Support Rod Brace	1
6	92865A624	3/8-16 X 1 Hex Bolt	4
7	91102A031	3/8 Lock Washer	4
8	95462A031	3/8-16 Nut	4
9	101634	D205 Head Assembly	1
10	101633	Pump Assembly	1
11	90126A029	1/4 Flat Washer	4
12	91102A029	1/4 Lock Washer	4
13	92865A540	1/4-20 X 3/4 Hex Bolt	4
14	60TA06X08	45°Hydraulic Fitting	1
15	101645	D205 Hydraulic Hose	1
16	101631	D205 Coupling Stop Assembly	1
17	91251A544	1/4-20 X 1 1/4 SHCS	1
18	101349	Pendant Switch & Plug	1
19	101625	D205 Die Shelf Assembly (Optional)	1

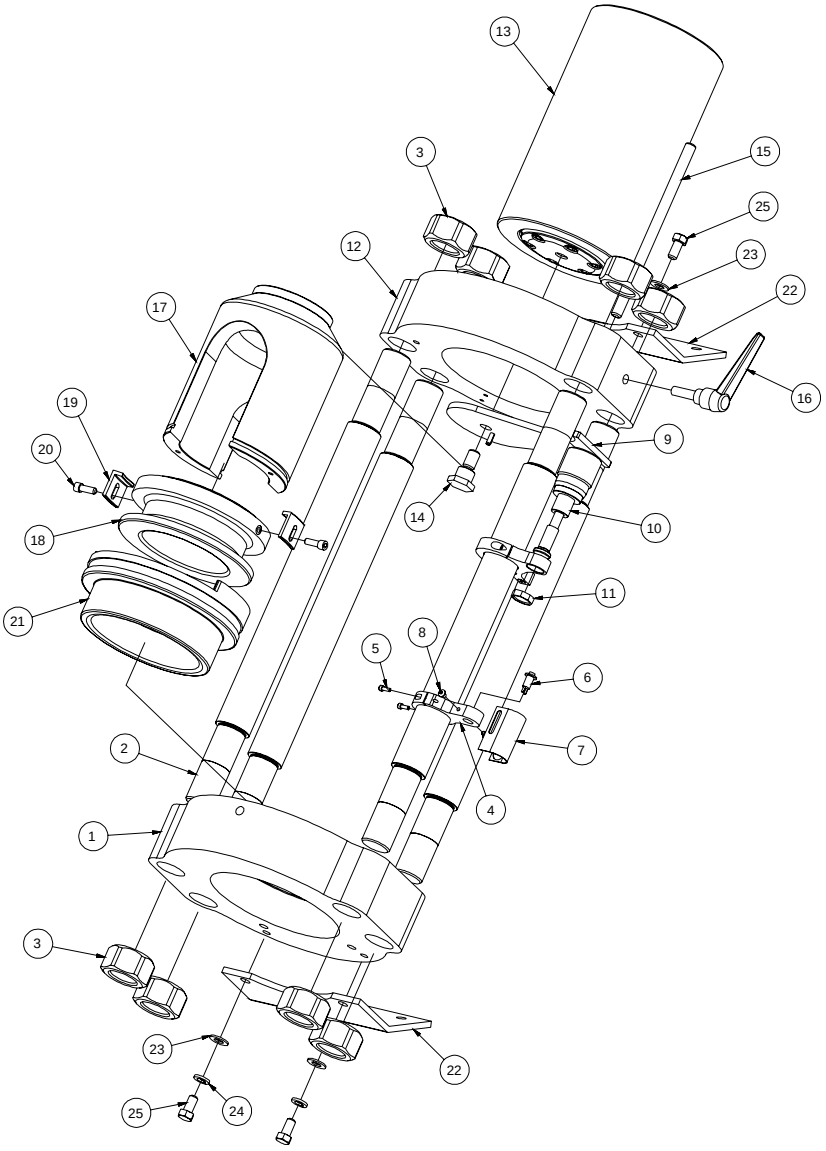


Micro Mount Assy (100641)			
Item	Part Number	Description	Qty
1	100641-01	Micro Plate	1
2	100641-02	Micro Brace	1
3	100672	Micrometer Bracket	1
4	91253A194	8-32 x 1/2 HSFHS	2
5	91251A240	10-24 x 3/8 SHCS	2
6	91253A197	8-32 x 3/4 HSFHS	2
7	98296A249	3/16 x 3/4 Slotted Spring Pin	1

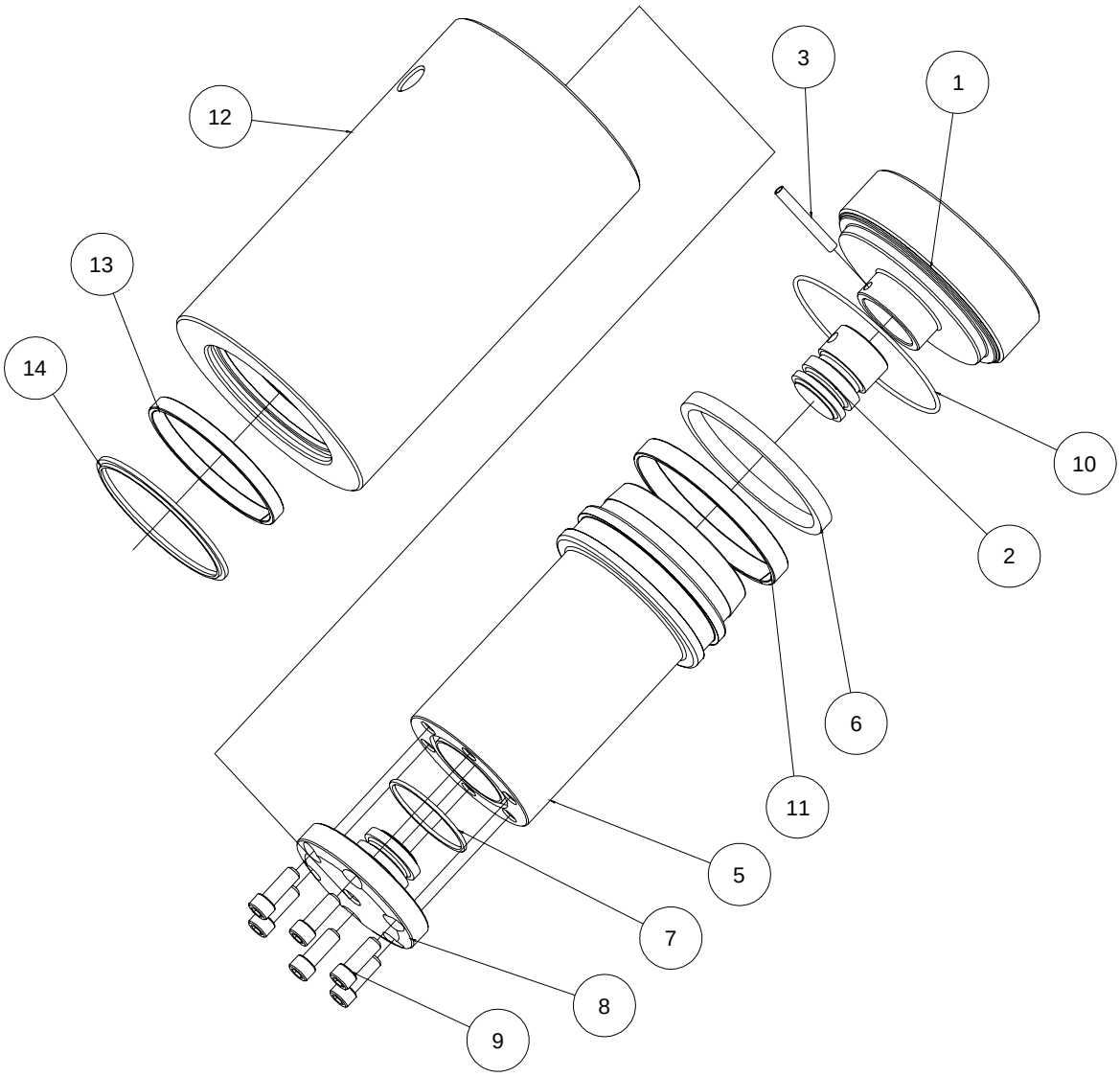


D205 Coupling Stop Assembly (101631)			
Item	Part Number	Description	Qty
1	100952	Adjustable Stop Arm	1
2	94052A133	Push-on Cap	1
3	91251A540	1/4-20 x 3/4 SHCS	1
4	90126A029	1/4 Flat Washer	1
5	DK-655	10-24 Knob	1
6	94750A588	1/4-20 T-Nut	1
7	101525	Fixed Stop Arm	1
8	9489T47	10-24 Eye Bolt	1
9	101632	D205 Coupling Stop Rod	1
10	92383A256	1/8 x 3/4 Long Spring Pin	1

D205 SERIES EXPLODED PARTS VIEW

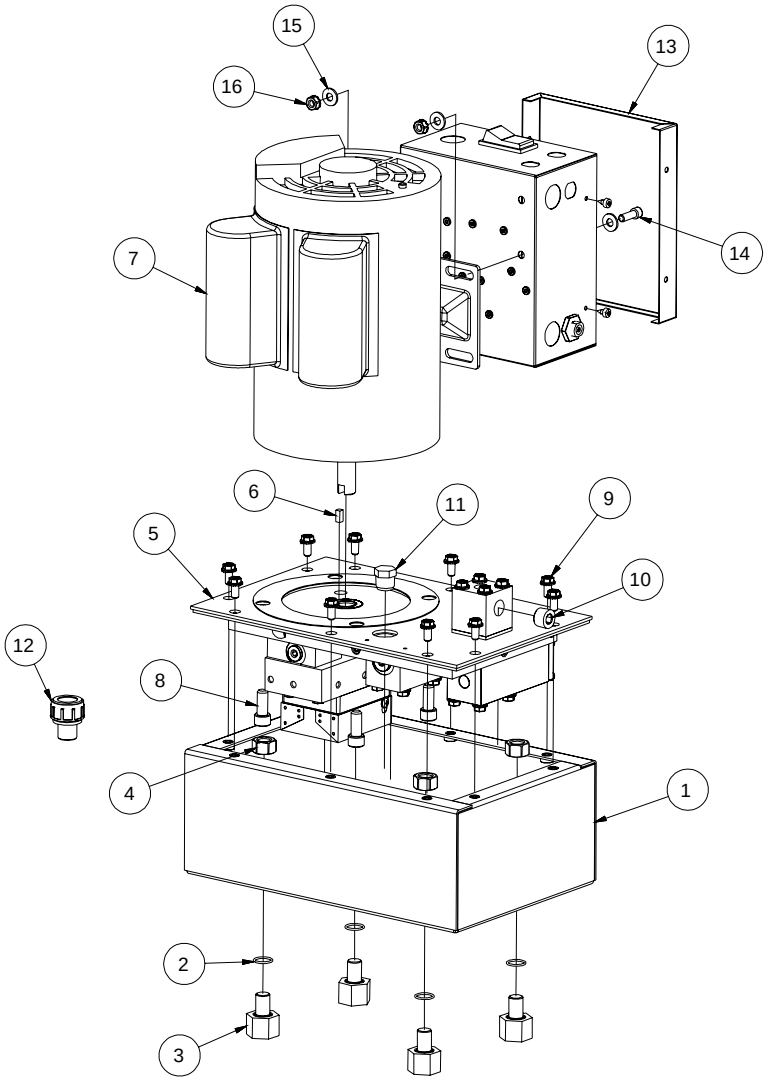


D205 Head Assembly (101634)			
Item	Part Number	Description	Qty
1	100679	80 Ton Cone Base	1
2	100642	Strain Rod	4
3	90500A040	Heavy Hex Nut 1 1/4-12 Gd.8	8
4	100661	Limit Switch Bracket	1
5	6_32X375SHCS	6-32 X 3/8 SHCS	2
6	903 Switch	Limit Switch	1
7	100692	Limit Switch Guard	1
8	91255A190	8-32 X 1/4 BHCS	2
9	100641	Micrometer Mount Assembly	1
N/A	N/A	N/A	
N/A	N/A	N/A	
10	101587	Metric Micrometer Assembly	1
11	100727	Micrometer Nut	1
12	100640	80 Ton Top Flange	1
13	100663	80-Ton Cylinder Assembly	1
14	100648	Pusher Suspension Pin	1
15	100711	Stop Rod	1
16	100710	Stop Rod Locking Handle	1
17	100818	Pusher	1
18	100712	Compression Cone	1
19	100843	Retaining Clip	2
20	91251A540	1/4-20 X 3/4 SHCS	2
21	100713	Pressure Plate	1
22	100680	Mounting Bracket	2
23	90126A031	3/8 Flat Washer	4
24	91102A031	3/8 Lock Washer	2
25	92865A622	3/8-16 X 3/4 Hex Bolt	4



80 Ton Cylinder Assy (100663)			
Item	Part Number	Description	Qty
1	100636	Top Cap	1
2	100653	Retaining Plug	1
3	90962A357	1/4 X 2 Roll Pin	1
4	100760	Spring (21 Coils)	1
5	100637	Cylinder Ram - 80 Ton	1
6	450 Polypak	4-1/2 X 4 X 3/8 Polypak	1
7	227 O-Ring	227 O-Ring - Disogrin	1
8	100635	End Cap	1
9	91251A424	3/8-24 X 1 SHCS (Gd. 8)	6
10	157 O-Ring	157 O-Ring - Disogrin	1
11	GP2C04500-T47	Ram Wear Ring	1
12	100639	Cylinder Body - 80 Ton	1
13	GR2B03750-T47	Ram Guide Wear Ring	1
14	375 Wiper	Wiper (SH940-35)	1
15	100663-REPAIR	Seal Repair Kit (Not Shown)	1

D205 SERIES EXPLODED PARTS VIEW



Pump Assembly (101633)			
Item	Part Number	Description	Qty
1	101435	1 Gallon Reservoir	1
1	101336	2 Gallon Reservoir	1
2	101358	015 Buna 70 O-Ring Seal	4
3	101432	Reservoir Standoff	4
4	95462A525	1/2-20 Hex Nut	4
5	101395	1HP/2HP Pump Sub-Assembly	1
6	101470	Square Shaft Key	1
N/A	N/A	N/A	
7	116260	2HP Electric Motor	1
8	101338	3/8-16 x 7/8 SHCS	4
9	101339	1/4-20 x 1/2 SHFCS	10
10	101377	3/8-18 NPTF Pipe Plug	1
11	101378	3/8-18 NPT Shipping Plug	1
12	101341	3/8-18 NPT Vented Filler Cap (Shipped Loose)	1
13	101438-110	110V Electrical Enclosure	1
13	101438-220	220V Electrical Enclosure	1
14	91251A540	1/4-20 x 3/4 SHCS	2
15	90126A029	1/4 Flat Washer	4
16	90675A029	1/4-20 KEPS Nut	2

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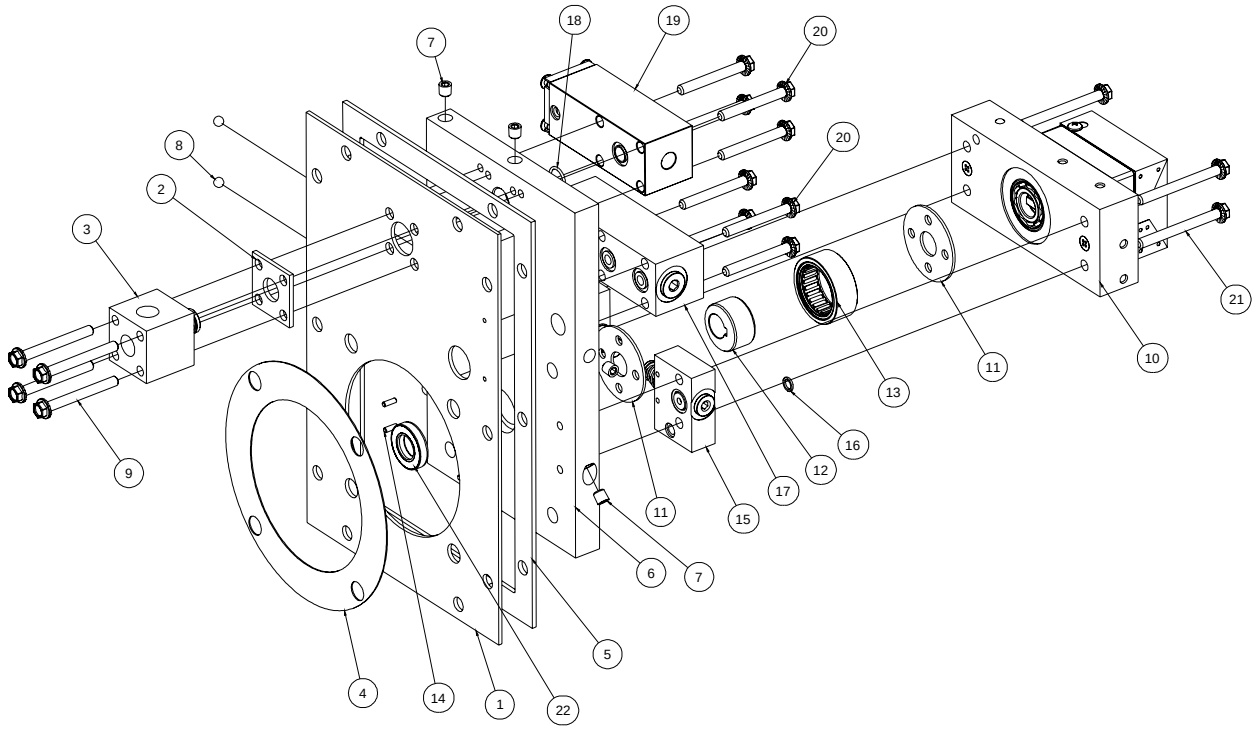
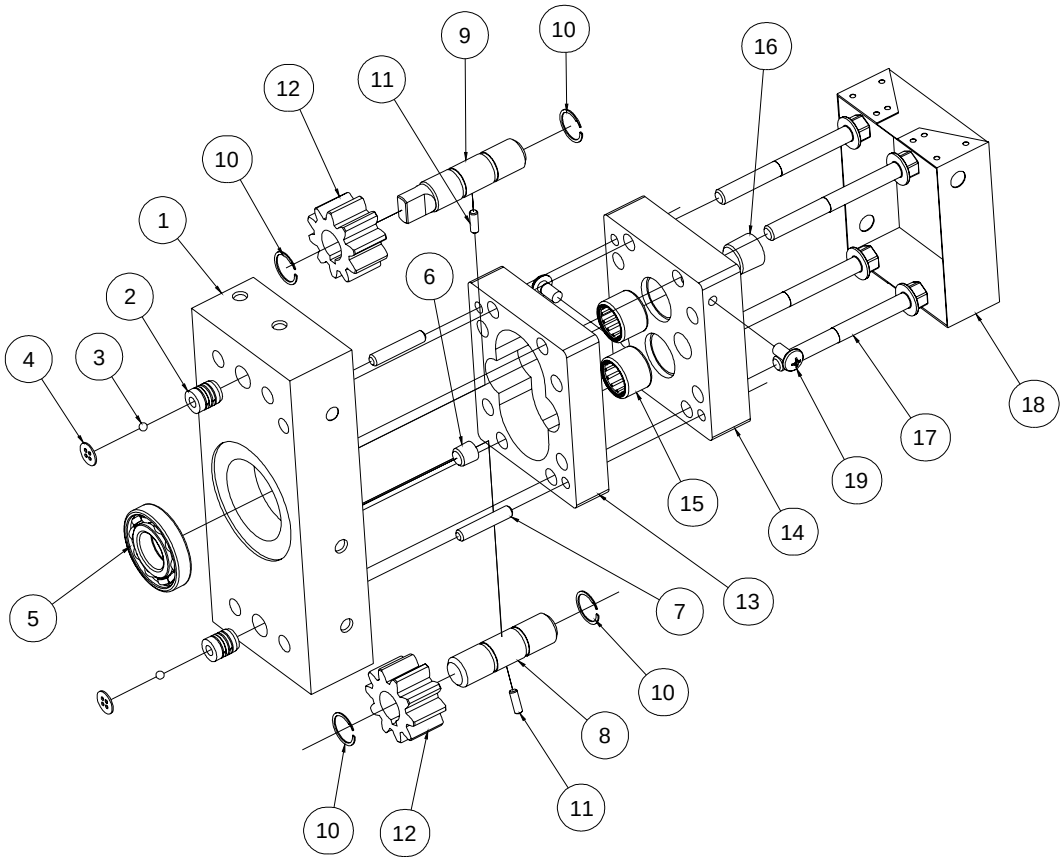
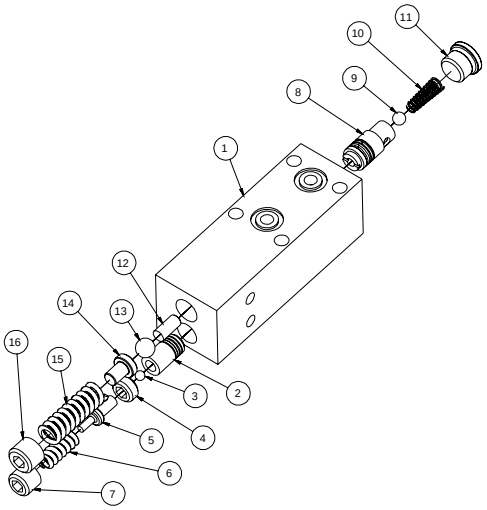


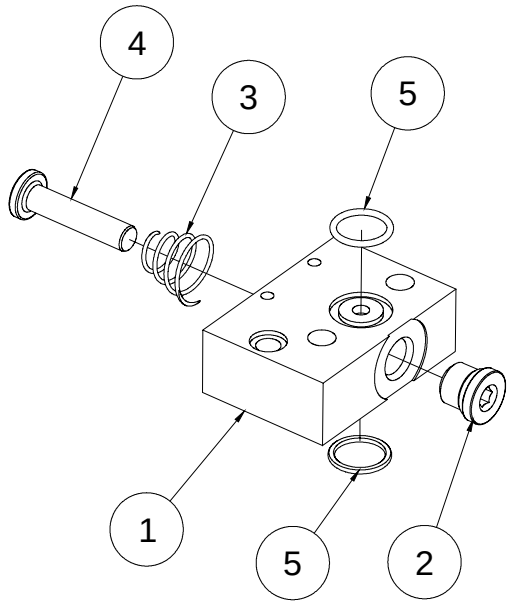
2 HP Pump Sub-Assembly (101395)				
Item	Part Number	Description	Qty	Ref. Part No.
1	101335	Reservoir Cover	1	132301
2	101337	Port Block Gasket	1	121304
3	101584	Port Block Assembly	1	
4	101330	Motor Gasket	1	121300
5	101329	Reservoir Gasket	1	121305
6	101400	Upper Plate	1	151300
7	101375	1/16-27 NPTF Pipe Plug	5	
8	9528K15	Ø1/4" Precision Ball	2	350301
9	101340	1/4-20 X 2 1/4 Serrated Hex FLHCS	4	345307
10	101477	Lower Plate & Gear Pump Ass'y.	1	200467
11	101406	Wear Washer	2	364300
12	101425	Eccentric - 5/8" Shaft	1	190300
13	101473	Bearing Sleeve Assembly	1	349200
14	101382	1/8 X 3/8 Dowel Pin	4	342301
15	101478	Piston Block Assembly	2	200215
16	101352	010 O-Ring	4	354313
17	101476	Unloading Block Assembly	1	200346
18	101355	014 Disogrin O-Ring	3	354302
19	101443	Dump Block Assembly	1	200203
20	92323A525	1/4-20 X 2" Serrated Hex FLHCS	8	345306
21	101385	1/4-20 X 2 1/2 Serrated Hex FLHCS	4	345308
22	101328	CR-6247 Shaft Seal	1	355303



Lower Plate & Gear Pump Assembly (101477)			
Item	Part Number	Description	Qty
1	101401	Lower Plate - 2 Piston	1
2	101466	Intake Seat Assembly	2
3	9528K11	Ø 1/8 Precision Ball	2
4	101447	Ball Retainer	2
5	R10 - Open	5/8 Ball Bearing	1
6	4534K39	1/16-27 NPTF Pipe Plug	1
7	98381A510	3/16 X 1 Dowel Pin	2
8	101446	Idler Shaft - 5/8	1
9	101426	Driver Shaft - 5/8	1
10	101379	Retaining Ring	4
11	98381A470	1/8 X 3/8 Dowel Pin	2
12	101361	Gear - 5/8	2
13	101410	Center Gear Plate - 5/8	1
14	101409	Lower Gear Plate	1
15	BA88ZOHX	Needle Roller Bearing	2
16	4534K42	1/4-18 NPTF Pipe Plug	1
17	92316A552	1/4-20 X 2 1/2 Hex Flg. Hd. Screw	4
18	101419	Screen	1
19	90272A827	10-32 X 3/8 Phillips Pan Hd. Mach. Screw	2

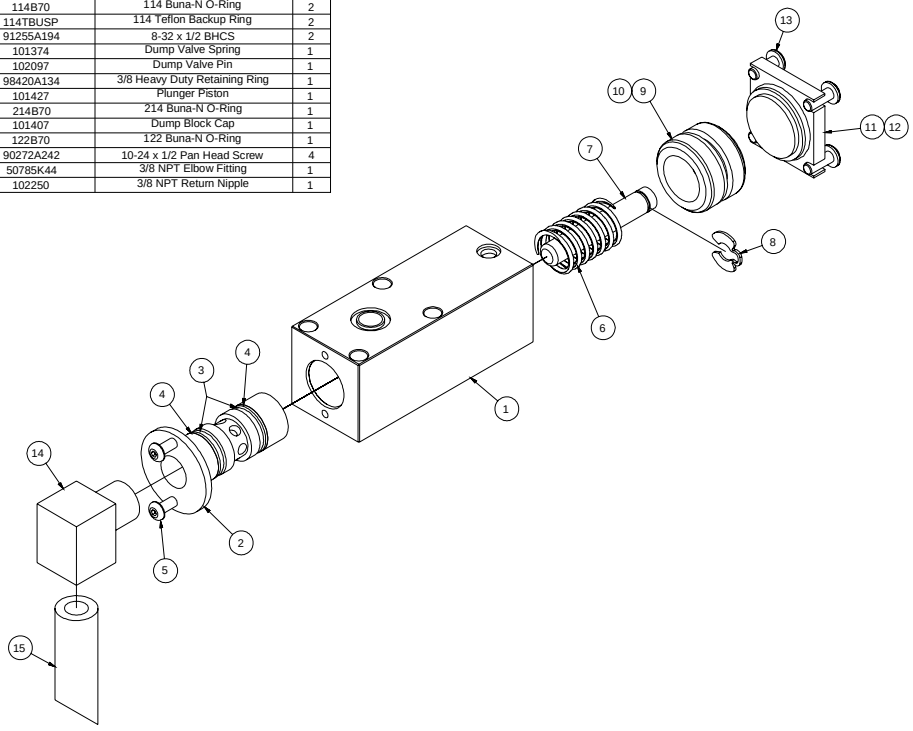


Unloading Block Assembly (101476)			
Item	Part Number	Description	Qty
1	101399	Unloading Block	1
2	101467	High PSI Seat Assembly	1
3	9528K13	3/16 Dia. Precision Ball	1
4	91301A180	1/4-20 x 1/4 Hollow Set Screw	1
5	101462	Relief Ball Retainer	1
6	101373	High Pressure Spring	1
7	101471	High Pressure Adjust. Screw	1
8	101474	Stick Valve Assembly	1
9	9528K15	1/4 Dia. Precision Ball	1
10	101371	Stick Valve Spring	1
11	50925K435	9/16-18 Port Plug	1
12	101464	Pin	1
13	9528K19	3/8 Dia. Precision Ball	1
14	101423	Ball Retainer	1
15	101370	Low Pressure Spring	1
16	101472	Low Pressure Adjust. Screw	1



Piston Block Assembly (101478)			
Item	Part Number	Description	Qty
1	101408	Piston Block	1
2	101381	Port Plug - 7/16-20	1
3	101372	Piston Spring	1
4	101445	Piston	1
5	101355	014 Disogrin O-Ring	2

Dump Block Assembly (101443)			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	102094	Dump Block W/Cavity	1
2	102093	Dump Block Cartridge Insert	1
3	114B70	114 Buna-N O-Ring	2
4	114TBUSP	114 Teflon Backup Ring	2
5	91255A194	8-32 x 1/2 BHCS	2
6	101374	Dump Valve Spring	1
7	102097	Dump Valve Pin	1
8	98420A134	3/8 Heavy Duty Retaining Ring	1
9	101427	Plunger Piston	1
10	214B70	214 Buna-N O-Ring	1
11	101407	Dump Block Cap	1
12	122B70	122 Buna-N O-Ring	1
13	90272A242	10-24 x 1/2 Pan Head Screw	4
14	50785K44	3/8 NPT Elbow Fitting	1
15	102250	3/8 NPT Return Nipple	1



WARRANTY STATEMENT

New crimping equipment is warranted to be free from defects in manufacturing and workmanship for a period of one year from the date of manufacture. Any equipment shown to be defective will be repaired or replaced free of charge at the option of the manufacturer.

This limited warranty is contingent upon the conditions that the equipment has been installed, maintained and operated within the limits of related normal usage for which the product was designed and the no alterations or modifications have been made.

In the case of electrical components, this warranty is contingent upon the conditions that the equipment has been connected to a power source of the correct voltage and amperage and used in the manner which would be considered normal usage.

The purchaser must establish that the product has been installed, maintained and operated within normal limits of intended usage and the purchaser must return the defective product if requested.