



MOVE FORWARD. ALWAYS.™

D105DC/D100S-DC DAYCO OPERATORS MANUAL

REPLACES DAYCO DE30 MODELS





WARNING - SAFETY NOTE



IMPORTANT - DO NOT OPERATE THIS EQUIPMENT UNTIL YOU READ AND FULLY UNDERSTAND THIS MANUAL AND ITS ASSEMBLY INSTRUCTIONS

ALWAYS WEAR EYE PROTECTION

WARNING! USE ONLY THOSE HOSE AND COUPLING COMBINATIONS AND CRIMPING EQUIPMENT SPECIFIED IN DAYCO HYDRAULIC PUBLISHED LITERATURE. DAYCO RECOMMENDATIONS ARE BASED ON TESTING, AND USE OF HOSE AND COUPLING COMBINATIONS OTHER THAN THOSE RECOMMENDED BY DAYCO CAN RESULT IN SERIOUS INJURY, DEATH OR SUBSTANTIAL PROPERTY DAMAGE. DAYCO DISCLAIMS ALL LIABILITY FOR ANY HOSE AND COUPLING ASSEMBLY THAT IS NOT MADE ACCORDING TO DAYCO RECOMMENDATIONS. CONSULT YOUR LOCAL DAYCO REPRESENTATIVE OR DAYCO DISTRIBUTOR IF YOU HAVE ANY QUESTIONS.

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

CALIBRATION CHECK FOR THE D105DC

(See the following page for D100S-DC Calibration)

- PLUG THE CRIMPER DIRECTLY INTO A 110 VOLT 20 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 PRESSURE PLATE, ANY STANDARD DIE SET AND THE STANDARD COMPRESSION RING 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 "95" FOR THE D105DC

- 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.



FOLLOW THESE STEPS BEFORE YOU USE YOUR D100S-DC CRIMPER FOR THE FIRST TIME

CALIBRATION CHECK FOR THE D100S-DC

■ A HYDRAULIC POWER SOURCE CAPABLE OF GENERATING 10,000 PSI MUST BE ATTACHED TO THE D100S-DC CRIMPER.

■ PLACE THE STANDARD PRESSURE PLATE, ANY STANDARD DIE SET AND THE STANDARD COMPRESSION RING 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 "95" FOR THE D100S-DC

■ APPLY ENOUGH PRESSURE TO THE RAM TO BRING THE DIE SET TO THE FULLY CLOSED POSITION AND FULLY SEAT ALL COMPONENTS.

■ WHEN THE DIE SET IS FULLY CLOSED AND ALL OF THE COMPONENTS FIRMLY SEATED, THE WHITE LINE OF THE MICRO-SITE ADJUSTER SHOULD BE JUST VISIBLE AS SHOWN.

■ IF THE WHITE LINE DOES NOT APPEAR AS SHOWN AT THE RIGHT, LENGTHEN OR SHORTEN THE ADJUSTMENT SCREW AS REQUIRED.

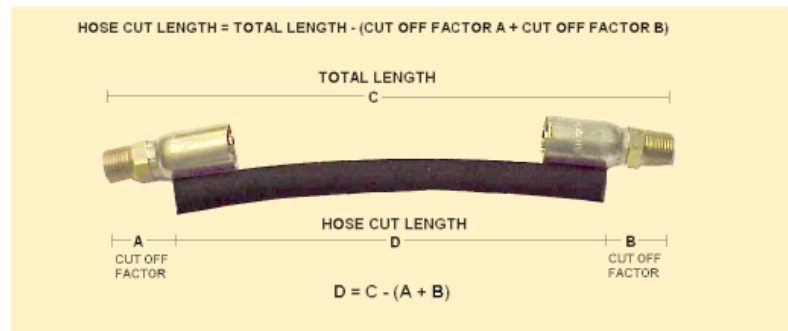


■ Dayco recommends that all users familiarize themselves with Dayco's warning statements, SAE J1273, and the Kwikrimp® concept, found in this operator's manual.

■ Select the Dayco hose and coupling to be assembled.

■ Determine the correct crimp setting from the crimp specifications sheet.

■ Determine hose cut length by subtracting the cutoff factor for each coupling from the overall length of the assembly. For these cutoff factors, see Dayco's published catalog data.

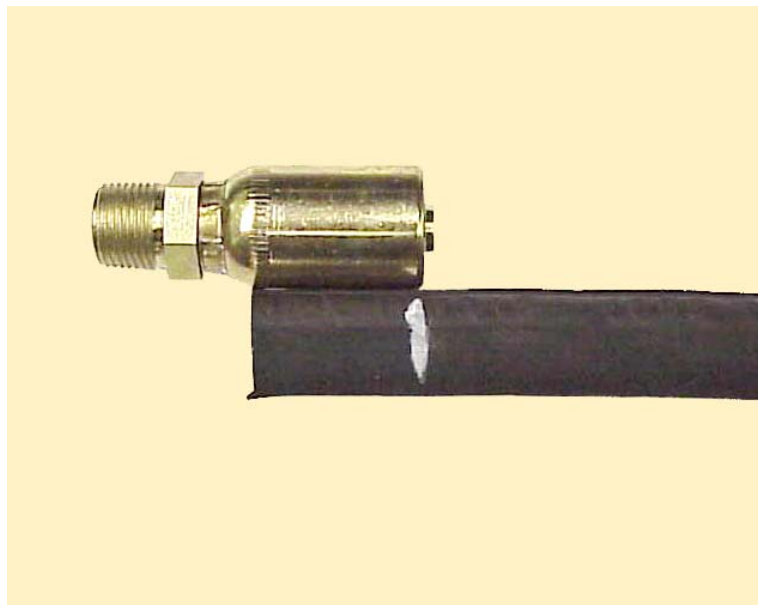


■ Cut the hose square and to the proper length with a suitable saw.

■ Coat the coupling stem with Dayco hose assembly lubricant (HAL16) to ease hose insertion. Insert the hose until it “bottoms” in the coupling shell.

To insure that the hose is bottomed in the collar, mark the insertion depth on the hose before inserting it into the coupling (see figure below).

Using a clockwise twisting motion or fixing the hex on the coupling in a vise may help when tolerances are tight.



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. Make certain that the seating area of the bottom flange is clean and allows the Pressure Plate to seat squarely in the bottom flange

■ Select the correct die set for the combination of hose and fitting being crimped.

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 can cause the dies to seize in the compression ring.

■ Align the hose and fitting in the die set. If the fitting has knurl marks, align as shown. If there are no knurl marks on the fitting, obtain the correct crimp length from the crimp specification chart and mark the fitting at the proper point.



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 personal injury*



- Position the dies in the crimper as shown making certain that the die rings set squarely on the pressure plate and that the die ring halves do not overlap each other.



- 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.



- Select the proper crimp setting from the Crimp Specification chart and set the Micro Crimp adjuster at the setting recommended.

Note: Each die set has a limited range of diameters for which a satisfactory crimp can be obtained. As a “rule of thumb” a standard die set can crimp 3 mm (.120 inches) above the closed diameter etched on the die ring. Always consult the hose and fitting manufacturer’s recommendation for the correct die set to use.



- Slide the Pusher into position on the hydraulic ram
- Recheck the fitting for correct alignment and depress the pneumatic Start/Stop switch bulb. Keep it depressed until the crimper shuts off automatically.
- For the D100S-DC, bring the Pusher down until the white Micro-Site line just appears on the micrometer and release the pressure source allowing the Pusher to retract.
- Measure the finished fitting diameter to be certain that it is within the crimp specification tolerances.
- Check the diameter of the finished crimp to be certain that it is within the hose and fitting manufacturer's specifications.
- If multiple fittings are being crimped set the Coupling Stop to automatically position the fitting and set the Ram Retraction Stop to limit the ram retraction to the position where the hose and fitting can just be easily removed.

Magnets embedded in the Pusher will retract the Compression Cone with the Pusher while still permitting the Compression Cone to align correctly for the next crimping operation.



COUPLING STOP



RAM RETRACTION STOP



CRIMPING WITH DOUBLE ANGLE DIES

Double Angle dies double the radial crimping force of the die set allowing heavier fittings to be crimped. Due to the doubling of the radial crimp force, they are effective for a smaller range of diameters than a standard die set. Also, the fitting must be approximately centered axially along the crimping face to avoid taper in the final crimp.

- Remove the standard flat Pressure Plate and replace it with the DBL BASE bottom compression ring.

Note: The angles are not the same on standard and double angle dies and the standard compression rings are not interchangeable with double angle compression rings.

- Lubricate the contact surfaces of both the upper and lower compression rings and the outer surfaces of the double angle dies with the die lubricant furnished with the crimper.

- Seat the appropriate size double angle die in the conical recess of the DBL BASE lower compression ring and align the fitting as specified by the hose manufacturer.

- Place the DBL TOP compression ring on top of the die set and manually compress the die set until it contacts the fitting.

- Slide the Pusher onto the cylinder stud and set the Micro-Crimp Adjuster at the appropriate setting.

- Press and hold the Start/Stop switch until the crimper shuts off. For the D100S-DC, bring the Pusher down until the Micro-Site ring just appears on the micrometer.

- When the crimp cycle is complete, check the fitting diameter to make certain that it is within the hose manufacturer's specifications.



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 off 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 “95”

- 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.

Note: for D105S-DC calibration, see Quick Start Guide

- 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.

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 110 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. 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 re-calibrate 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.

THE KWIKRIMP® CONCEPT IS AN ENGINEERED PROGRAM, DESIGNED TO INCORPORATE DAYCO HOSE, FITTINGS AND CRIMPERS INTO ONE EFFECTIVE AND RELIABLE HOSE ASSEMBLY SYSTEM.

The Kwikrimp® Concept is an affirmation to all Dayco Distributors, OEMs and users of the Kwikrimp® system that Dayco will support only those who use Dayco hose and couplings in the Kwikrimp® assembly system. However, the Kwikrimp® Concept is also a statement that serves to warn that Dayco will not be responsible when interchanging a Dayco hose and/or couplings with hose and/or couplings of any other manufacturer. Dayco products are part of an engineered system, which must be assembled and used in accordance with Dayco instructions and limitations.

Dayco hose, couplings and crimping machines are designed into an effective and reliable assembly system and the use of other than Dayco products may produce hose assemblies that will not meet rated performance. Failure to follow Dayco instructions and limitations could lead to premature hose failures resulting in property damage, serious injury or death.

Dayco's limited warranty shall apply only if the customer uses hose, fittings, hose fitting components and crimp equipment specifically engineered, designed and produced to Dayco process specifications.

DAYCO DISCLAIMS ANY RESPONSIBILITY OR LIABILITY FOR ANY CRIMPED HOSE ASSEMBLIES NOT PRODUCED FROM GENUINE DAYCO HOSE FITTINGS, HOSE AND EQUIPMENT, IN CONFORMANCE WITH DAYCO PROCESS SPECIFICATIONS FOR EACH SPECIFIC HOSE ASSEMBLY.

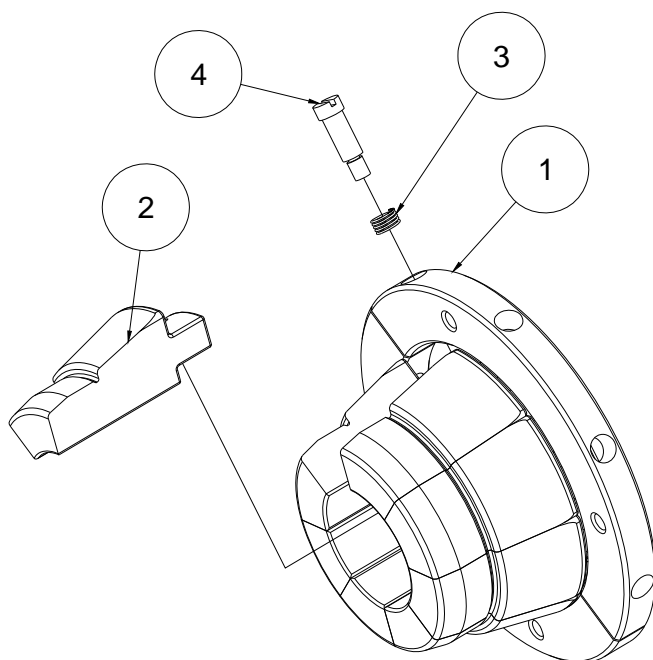
The argument that hoses branded with identical SAE numbers are the same and can be interchanged with Dayco couplings is not true! Hose with identical brand can be expected to perform only to the requirements of SAE when assembled with compatible couplings. SAE recognizes this fact as shown by the following statement taken from the 1998 SAE Handbook, J1273, Volume 2, and page 22.198.

3.10 Proper End Fitting – Care must be taken to insure proper compatibility exists between the hose and coupling selected based on the manufacturer's recommendations substantiated by testing to industry standards such as SAE J517.

All Dayco distributors, OEMs and Kwikrimp® users must recognize that the following points are critical when considering any and all aspects of the Kwikrimp® program.

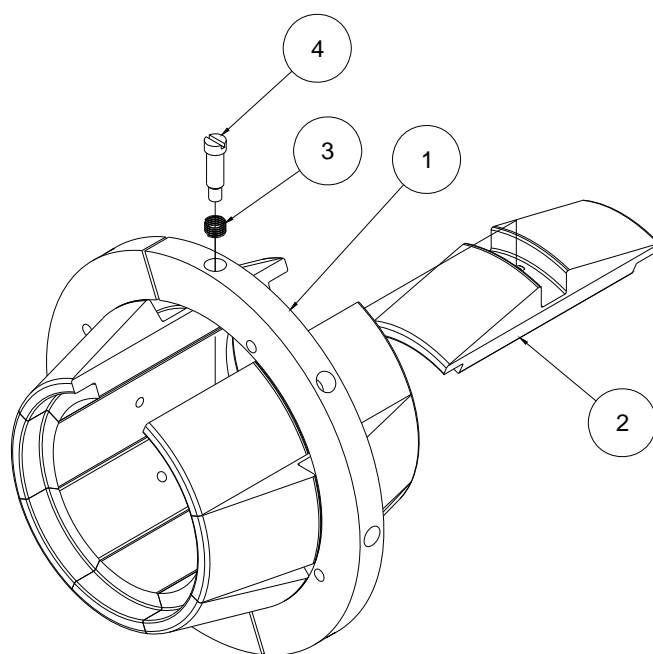
1. The data supplied with each Crimper was developed after extensive impulse testing with Dayco hose and couplings. All Dayco hose styles are tested with the proper Kwikrimp® couplings before they are added to the Dayco Approved List. Dayco is constantly checking and upgrading hose quality.
2. Dayco Kwikrimp® data does not apply to all hose and couplings, only those products bearing the Dayco identification with the proper Dayco catalog number.

Dayco couplings used with other than Dayco branded hose will not necessarily produce a good assembly. Identical hose styles, made by different suppliers, are not the same when it comes to performance with Dayco couplings.



D100 Standard Series Dies

- | | |
|---------------|---------------------|
| 1) Die Ring | 101065-COLOR |
| 2) Die Finger | Varies with die set |
| 3) Die Spring | LC 022D 01 M NF |
| 4) Die Screw | EN84-115 |



D100 DA (Double Angle Dies

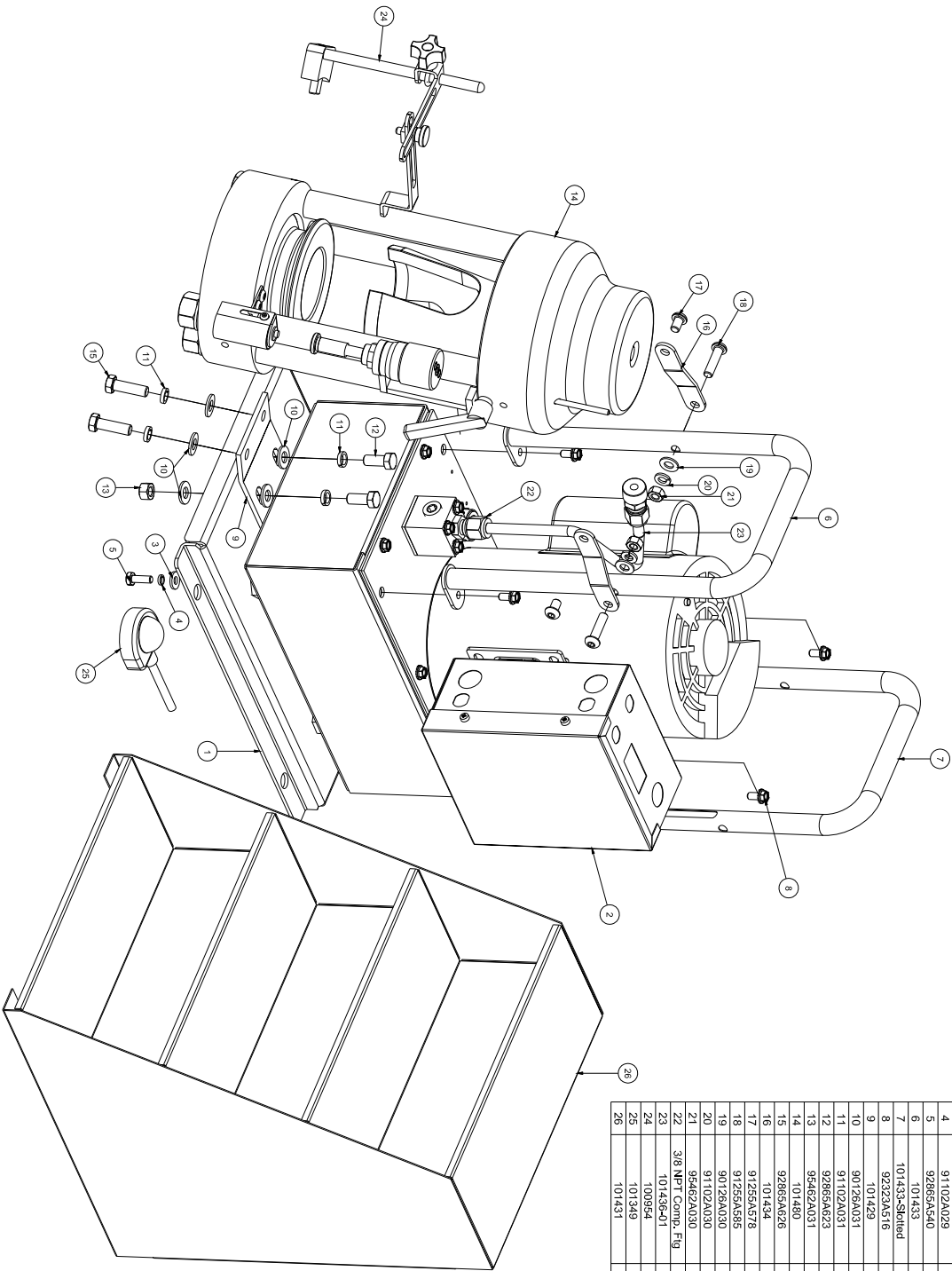
- | | |
|---------------|---------------------|
| 1) Die Ring | 101072-COLOR |
| 2) Die Finger | Varies with Die Set |
| 3) Die Spring | LC 022D 05 M MD |
| 4) Die Screw | EN84-115 |

Not Shown:

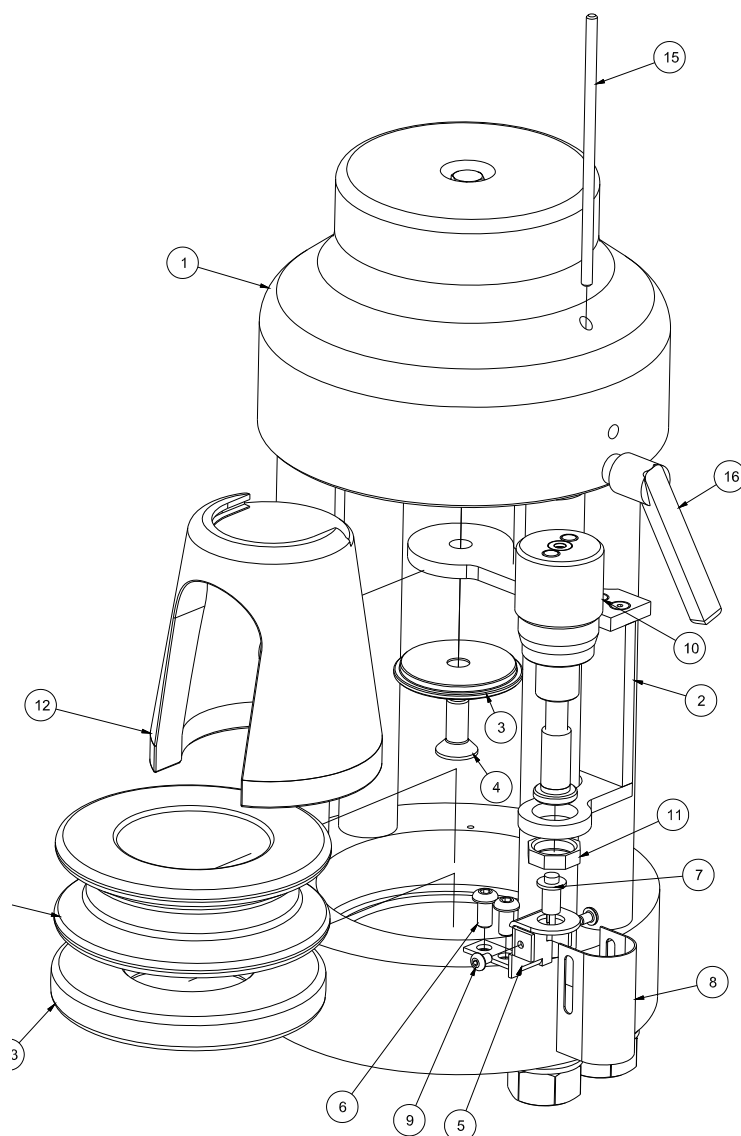
- | | |
|----------------|--------|
| DA Cone Insert | 100880 |
| DA Top Cone | 100881 |

Color Options

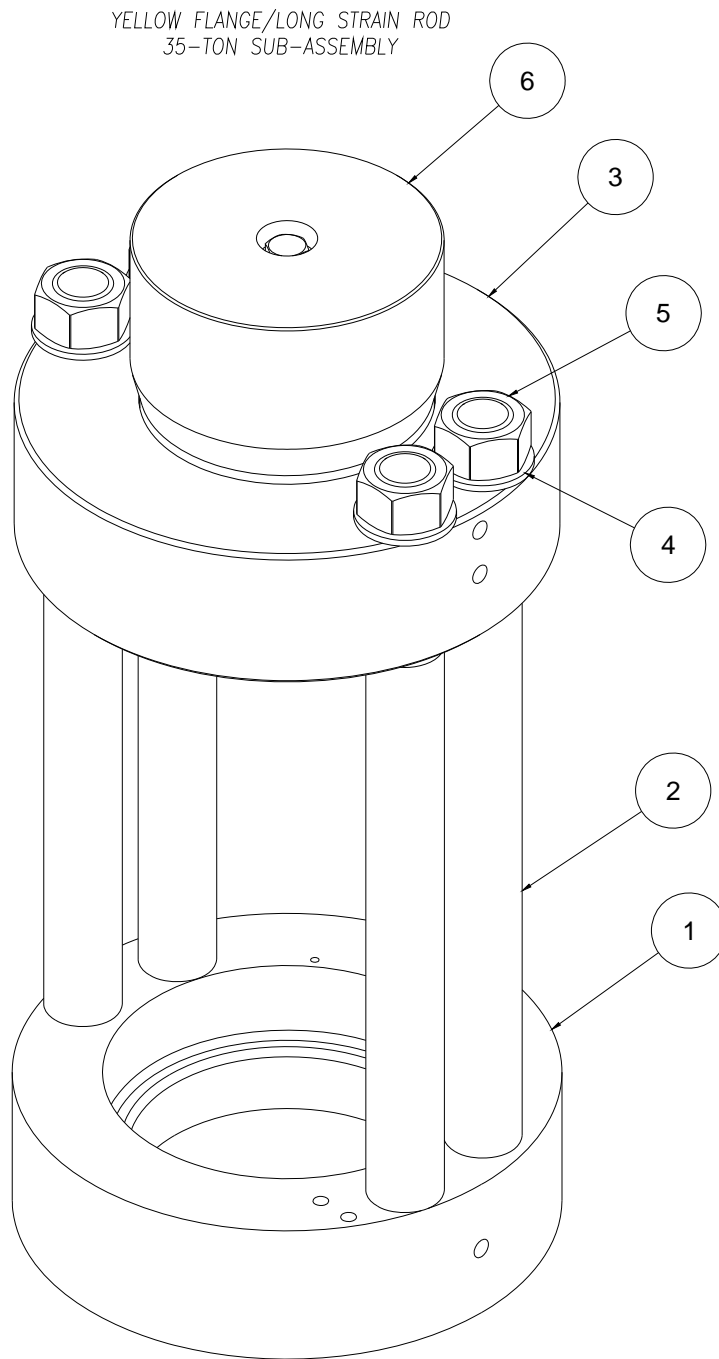
Red
Orange
Yellow
Purple
Green
Blue
Black
Silver
Brown



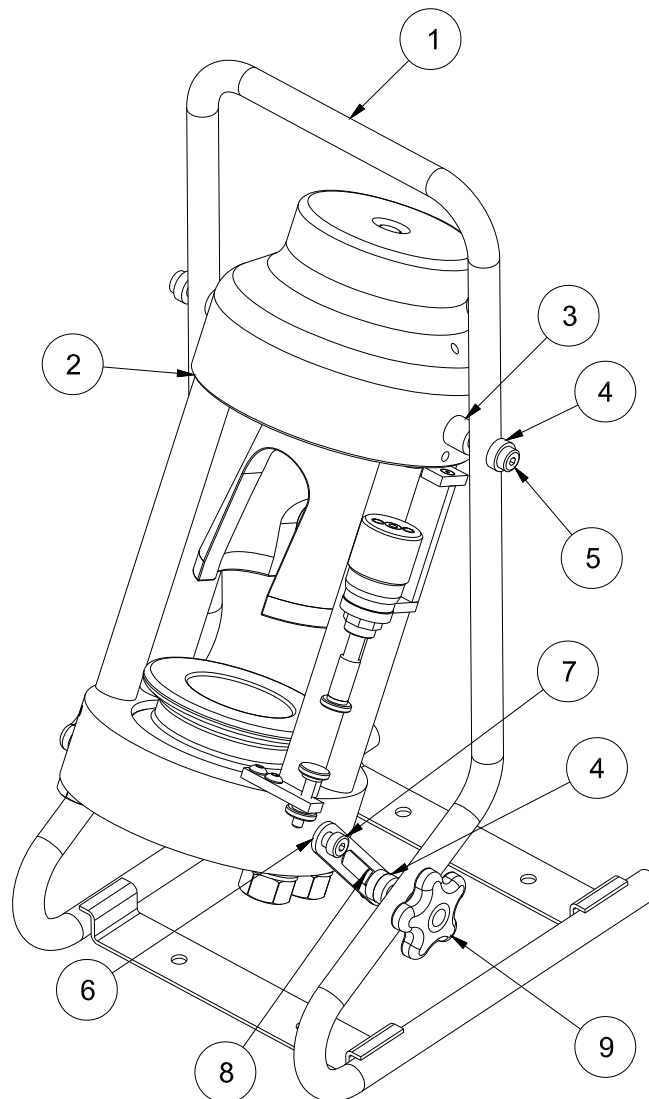
D105 Chirper Assembly (101428)			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	101430	D-105 Base Plate	1
2	101633	Pump Assembly	1
3	90126A029	1/4 Flat Washer	4
4	91102A029	1/4 Lock Washer	4
5	92865A540	1/4-20 x 3/4 Hex Bolt	4
6	101433	D105 Handle	1
7	101433-Skilled	D105 Slotted Handle	1
8	92323A516	1/4-20 x 3/4 SHCS	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	101460	D105 Head Assembly	1
15	92865A626	3/8-16 x 1 1/4 Hex Bolt	2
16	101434	Handle Brace	2
17	91265A6378	5/16-18 x 1/2 BHCS	2
18	90126A030	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 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



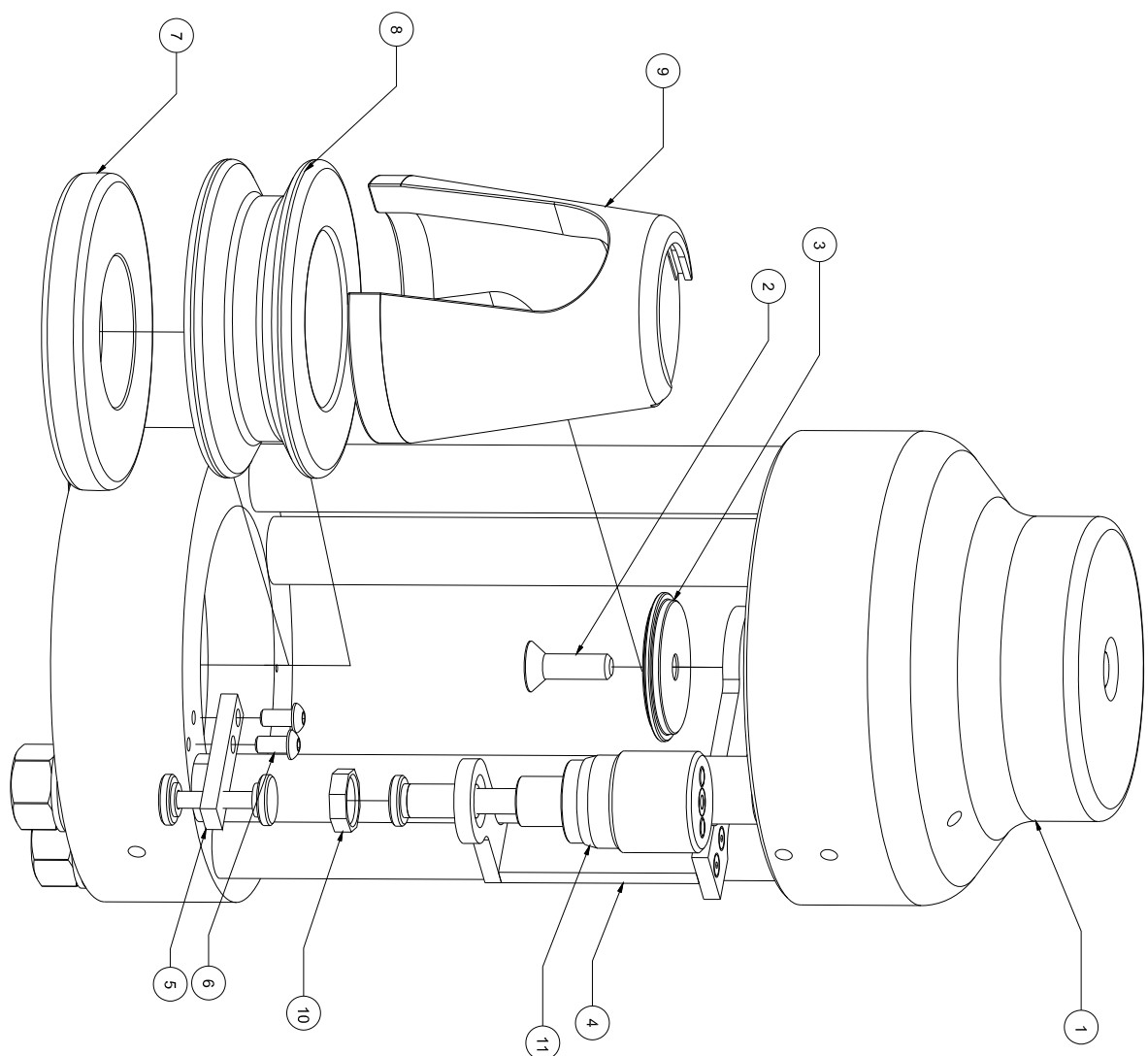
D105 Head Assembly (101480)			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	101209	Head Sub-Assembly	1
2	101788	Micrometer Mount Assembly	1
3	100812	Pusher Retaining Pin	1
4	91253A624	3/8-16 x 1 HSFHS	1
5	101092	Limit Switch Bracket	1
6	91255A537	1/4-20 x 1/2 BHCS	2
7	903 Switch	Limit Switch	1
8	100692	Limit Switch Guard	1
9	91255A190	8-32 x 1/4 BHCS	2
10	100628	Standard Micrometer Assembly	1
10	101489	DC Micrometer Assembly	1
10	101587	Metric Micrometer Assembly	1
11	100727	Micrometer Nut	1
12	100813_01	Pusher w/ Magnets	1
13	100869	Pressure Plate	1
14	100849	Compression Cone	1
15	101499	D105 Stop Rod	1
16	KHA-122	Stop Rod Locking Lever	1



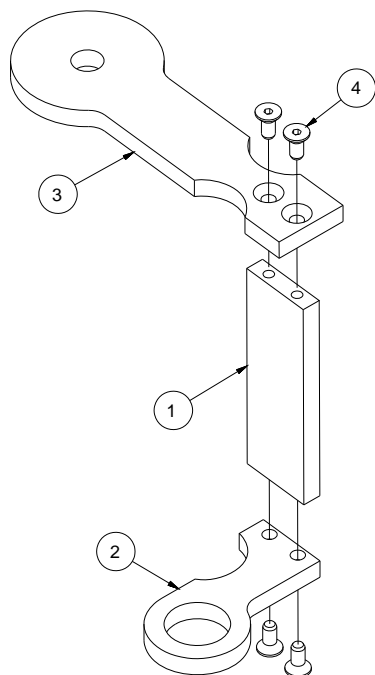
35-Ton Head Sub-Assembly (101209)			
Item	Part Number	Description	Qty
1	100325 (Yellow)	Bottom Flange	1
2	100329	Strain Rod - 8 1/2"	4
3	100326 (Yellow)	Top Flange	1
4	3/4 Special	3/4 Flat Washer - Special	4
5	95462A538	3/4-10 Hex. Nut	4
6	100685	35-Ton Cylinder Assembly	1



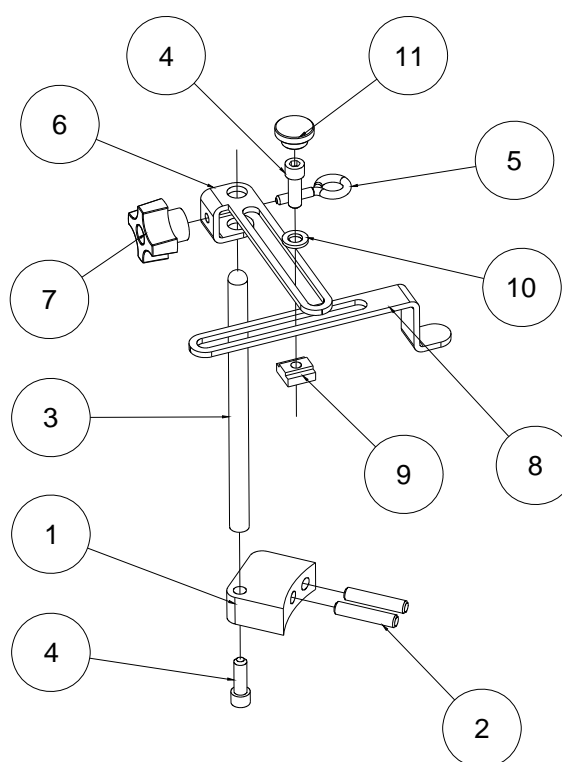
D100S Portable Crimper Assembly (101013)			
Item	Part Number	Description	Qty
1	100905	D100 Crimper Frame	1
2	100929	D100 Head Assembly	1
3	101040	3/8 x 3/4 x 5/8 Spacer	2
4	100956	3/8 x 3/4 x 1/4 Spacer	6
5	91259A628	3/8 x 1 1/2 Shoulder Screw	2
6	100980	Adjustment Arm	2
7	91259A617	3/8 x 3/8 Shoulder Screw	2
8	93548A628	3/8-16 x 1 1/2 Carriage Bolt	2
9	DK-186	Angle Adjustment Knob	2



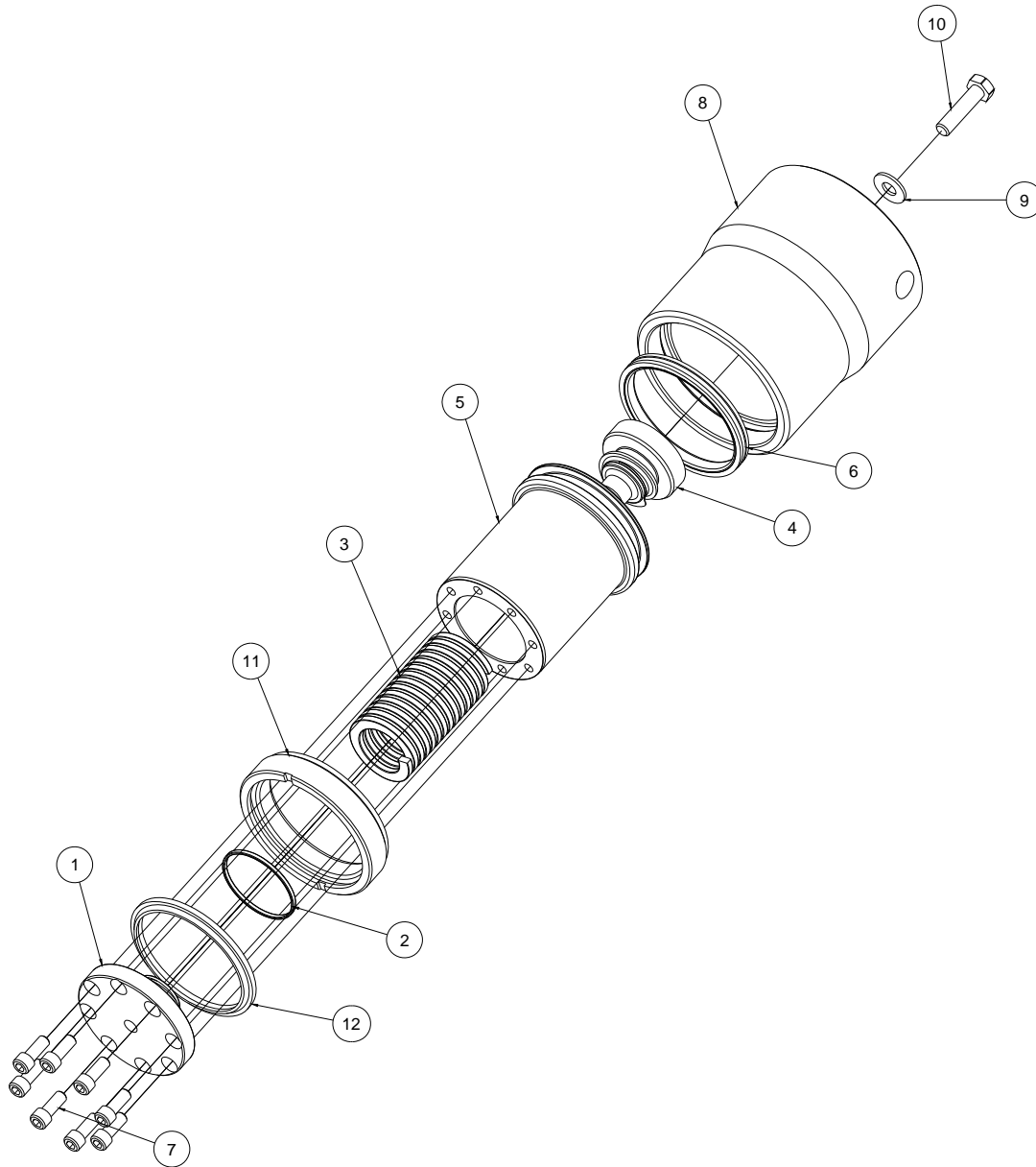
D100 Head Assembly (100929)		
ITEM	PART NUMBER	DESCRIPTION
1	101209	35-Ton Head Sub-Assembly
2	91253A624	3/8-16 x 1 HSEHS
3	100812	Pusher Retaining Pin
4	101788	Micrometer Mount Assembly
5	100898-04	Micro Pad Assembly
6	91255A537	1/4-20 x 1/2 BHCS
7	100869	Pressure Plate
8	100849	Compression Cone
9	100813	Pusher (No Magnets)
10	100727	Micrometer Nut
11	100628	Standard Micrometer Assembly
12	101489	DC Micrometer Assembly
13	101587	Metric Micrometer Assembly



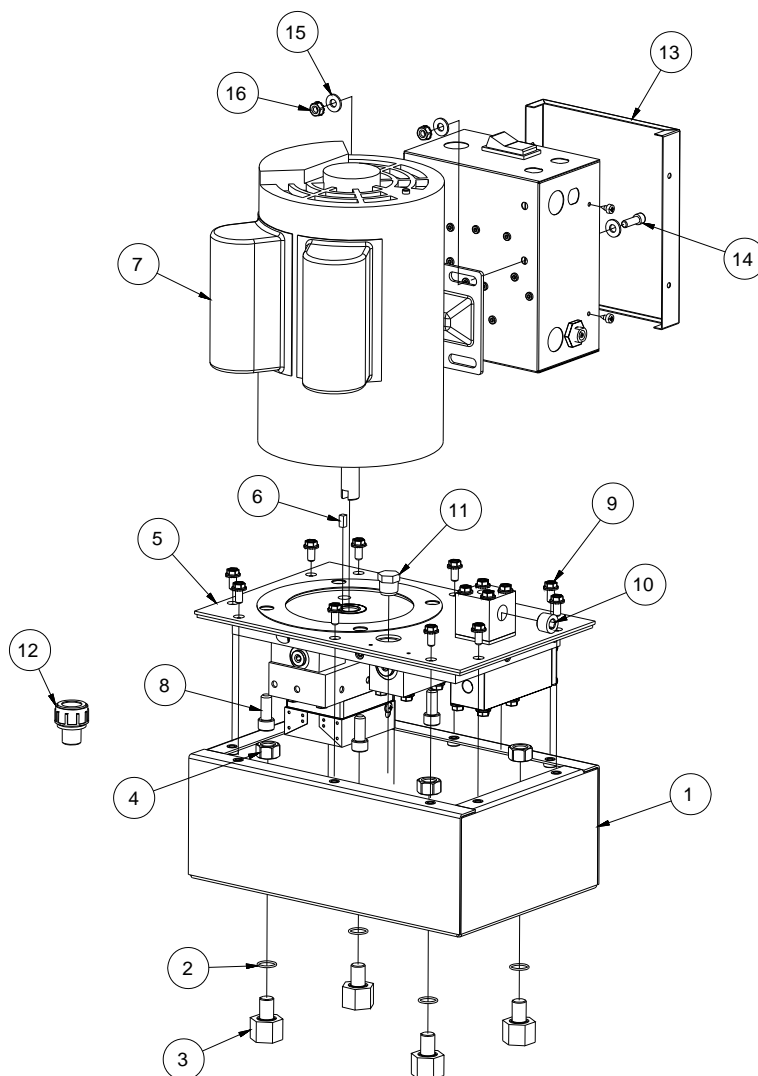
D105 Micrometer Mount Assembly (101788)			
Item	Part Number	Description	Qty
1	100898-01	Micrometer Arm	1
2	100898-02	Micrometer Base	1
3	100898-03	Micrometer Suspension Flange	1
4	91253A189	8-32 x 1/4 HSFHS	4



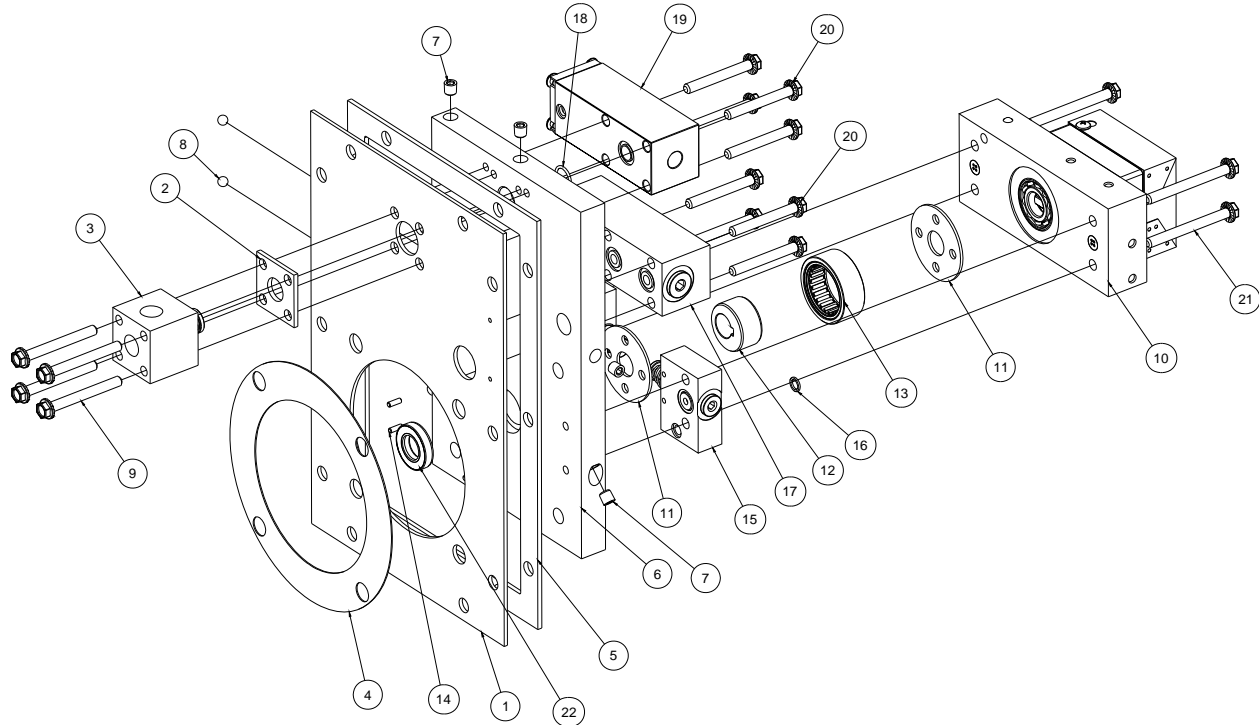
Coupling Stop Assy (100954)			
Item	Part No.	Description	Qty
1	100950	Coupling Stop Block	1
2	98381A544	Stop Block Pin	2
3	100951	Stop Block Rod	1
4	91251A540	1/4-20 X 3/4 SHCS	2
5	9489T47	Eye Bolt	1
6	100952	Adjustable Stop Arm	1
7	DK-655	Knob	1
8	100953	Fixed Stop Arm	1
9	94750A588	T-Nut (1/4-20)	1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



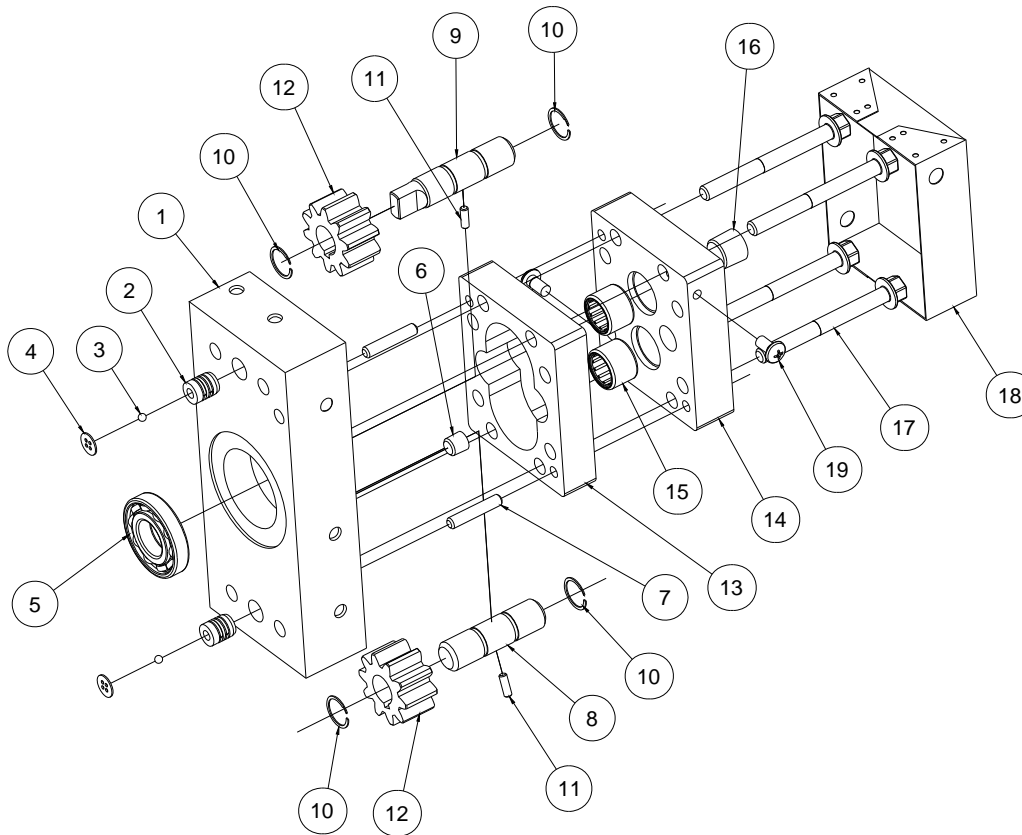
35 Ton Cylinder Assembly (100685)			
Item	Part Number	Description	Qty
1	100689	Ram End Cap	1
2	030D90	030 Disogrin O-Ring	1
3	101282	Retraction Spring	1
4	101516	Spring Retainer	1
5	101515	Ram	1
6	102-33400-173-0450	Ram Guide Ring/Seal	1
7	72096	1/4-20 X 3/4 SHCS Gd 8	8
8	101517	Cylinder Body	1
9	93744A030	5/16 Washer - Copper	1
10	92865A585	5/16-18 X 1 1/4 HHCS Gd.5	1
11	101514	Ram Guide	1
12	SH959-26	Wiper	1



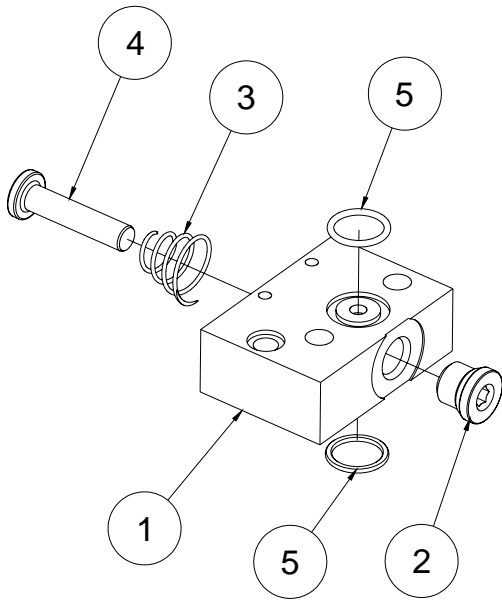
Pump Assembly (101633)			
Item	Part Number	Description	Qty
1	101435	1 Gallon Reservoir	1
1	101336	2 Gallon Reservoir	1
2	101358	015 Buna 70 O-Ring Seal	4
3	101432	Reservoir Standoff	4
4	95462A525	1/2-20 Hex Nut	4
5	101395	1HP/2HP Pump Sub-Assembly	1
6	101470	Square Shaft Key	1
7	116259	1HP Electric Motor	1
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



1 HP/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	O10 O-Ring	4	354313
17	101476	Unloading Block Assembly	1	200346
18	101355	O14 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

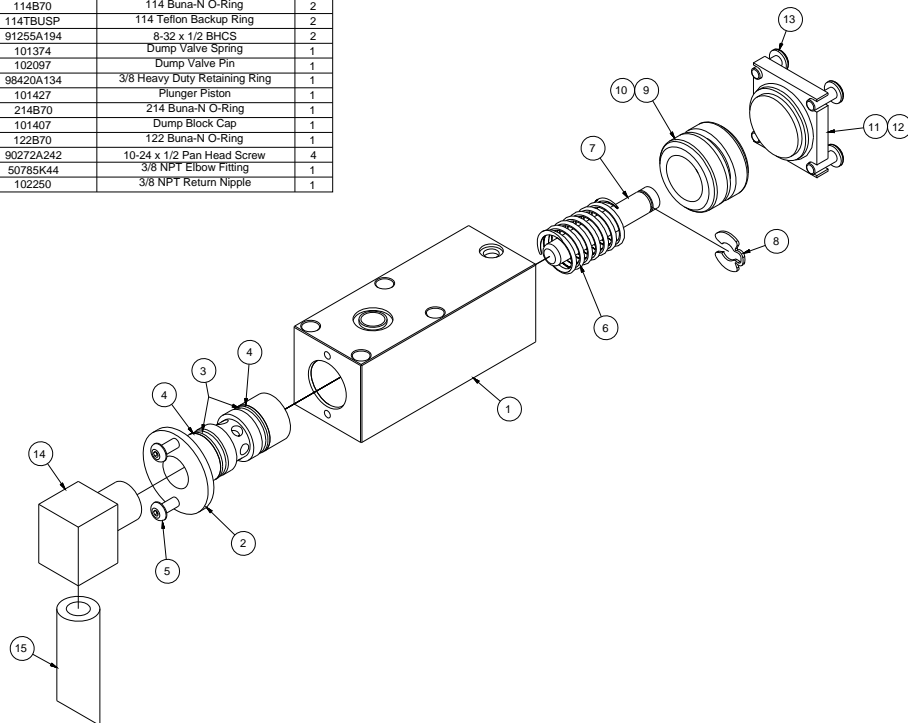


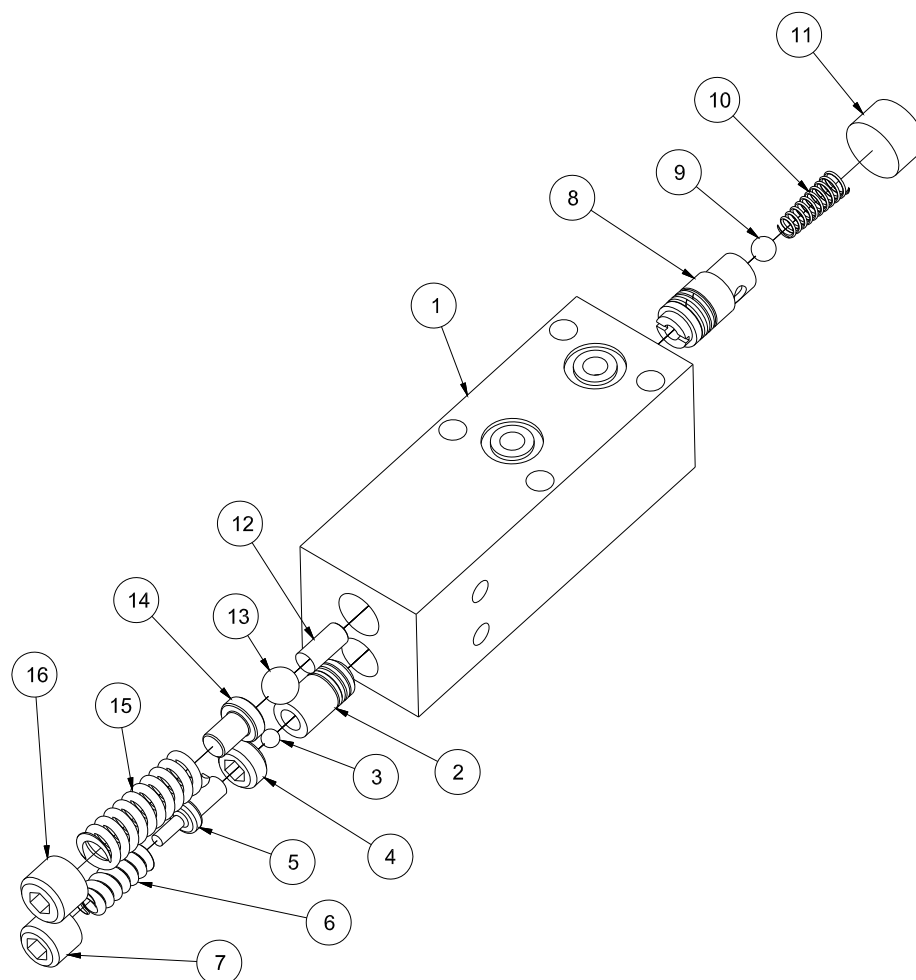
Lower Plate & Gear Pump Assembly (101477)			
Item	Part Number	Description	Qty
1	101401	Lower Plate - 2 Piston	1
2	101466	Intake Seat Assembly	2
3	9528K11	Ø 1/8 Precision Ball	2
4	101447	Ball Retainer	2
5	R10 - Open	5/8 Ball Bearing	1
6	4534K39	1/16-27 NPTF Pipe Plug	1
7	98381A510	3/16 X 1 Dowel Pin	2
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 Fig. Hd. Screw	4
18	101419	Screen	1
19	90272A827	10-32 X 3/8 Phillips Pan Hd. Mach. Screw	2



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	101457	Plunger Pin	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





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	4534K43	3/8-18 NPT Flush Mount 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

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