



Mastercool[®] Inc.

"World Class Quality"

REPAIR REFERENCE GUIDE

REPAIR REFERENCE GUIDE

1. Hydraulic Pumps

- Troubleshooting and Replacement Parts for 71201
- Troubleshooting, Repair and Replacement Parts for 71500
- Troubleshooting and Replacement Parts for 71601
- Troubleshooting and Replacement Parts for 71700

2. Electronic Refrigerant Scale

- Troubleshooting and Replacement Parts for 98210-B1
- Calibration Procedure

3. Vacuum Pumps

- Troubleshooting and Replacement Parts for 90060
- Troubleshooting and Replacement Parts for 90065 and 90067

4. Electronic Leak Detectors

- Troubleshooting and Replacement Parts for 55100
- Troubleshooting and Replacement Parts for 55200
- Troubleshooting and Replacement Parts for 55500
- Troubleshooting and Replacement Parts for 55750

5. Digital Manifolds

- Preamble: How to Re-Calibrate the 99103-A & 99903 Manifold
- Vacuum Sensor Field Calibration Procedure
- How to Re-Calibrate a K-Type Temperature Sensor on a Digital Manifold in the Field (99103-A & 99903)
- How to Re-Calibrate a New Pressure Sensor on a Digital Manifold in the Field (99103-A & 99903)
- How to Replace a Pressure Sensor on a 2-Way Digital Manifold in the Field
- How to Replace a Pressure Sensor on a 4-Way Digital Manifold in the Field
- Replacement Parts for 99903
- Replacement Parts for 99103-A

“World Class Quality”



Mastercool[®]
"World Class Quality"

HYDRAULIC PUMPS

TROUBLESHOOTING (71201, 71500, 71601, 71700)

LEAKS: When looking at the outside of the pump there may be certain areas where you can see oil. Locating the area of the leak will help in determining the appropriate replacement or repair.

	ISSUE	SOLUTION
1.	Oil on or around the piston	Backup and o-rings with snap ring need to be replaced
2.	Oil under the pump handle indicates handle shaft assembly is leaking	Either replace o-rings on the shaft assembly or replace entire shaft assembly
3.	Handle not pumping	This could indicate air or not enough oil in the pump
4.	Handle not coming back up	• Check that the handle shaft is straight • Shaft assembly may need to be replaced • Check valve (71201-001A-20) may need to be cleaned or replaced
5.	Air in the pump	Bleed air from pump by opening bottom of handle. Then open the side valve and squeeze reservoir. Pump about ten times. Close the side valve, lie on table and lightly push down on the reservoir while pumping. Air should be out and oil should be pushing piston up. (May need to repeat this procedure more than once).

RECOMMENDED REPAIR KITS FOR HYDRAULIC PUMPS

71201-001A-REPK		71500-REPAIRKT		71600-PARTS	
PART #	DESCRIPTION	PART #	DESCRIPTION	PART #	DESCRIPTION
71201-18-SR	Snap Ring	71500-001A-1	Handle Shaft Assembly	71600-17-R	Piston Shaft & Allen Set Screw
71201-18-BO	Backup O-Ring	71500-33-0	O-Ring	71201-18-0	O-Ring
71201-001A-49	Back Check Valve	71500-37A	Back Pin & Ring for 71500	71600-CONE	Cone
71201-18-0	O-Ring for Shaft	71500-40K-NEW	New Valve Assembly Kit	71600-16	Spring
71500-40K-NEW	New Valve Assembly Kit	71201-001A-49	Back Check Valve	71600-15	Piston Cap
71500-001A-1	Handle Shaft Assembly	71500-18-0	O-Ring for Hydra-Krimp		
		71500-18-BO	Backup O-Ring for Hydra Krimp		

71201-001A-REPK

TOTAL REPAIR KIT FOR 71475, 71480, 71300, 71400, 71450

71201-18-SR	Snap Ring "C-Clip" (FIG. A)	71201-18-O	O-Ring for Shaft (FIG. K)
71201-18-B0	Back Up O-Ring for Shaft (FIG. J)	71500-40K-NEW	New Valve Assembly Kit (FIG. H1)
71201-001A-49	Back Check Valve (FIG. S)	71500-001A-1	Handle Shaft Assembly (FIG. N)

71201-RE-KIT PISTON SHAFT SEAL REPAIR KIT

- 71201-18-O O-Ring for Shaft (FIG. K)
- 71201-18-B0 Back Up O-Ring for Shaft (FIG. J)
- 71201-18-SR Snap Ring "C-Clip" (FIG. A)

REPLACEMENT

1. Remove snap ring "c-clip" (Fig. A)
2. Remove adapter holder. (Fig. B)
3. Unscrew yolk assembly. (Fig. C)
4. Remove allen set screw using a 2.5mm allen wrench. (Fig. D)
5. Secure tool upright with yoke assembly facing upward.
6. Unscrew piston cap. (Fig. E)
7. Remove spring. (Fig. G)
8. With OPEN/CLOSE (Fig. H) valve closed, remove piston shaft. (Fig. I)
9. Remove top and bottom o-rings from piston shaft. (Fig. J & K)

REASSEMBLY

1. Install new o-rings on piston shaft. (Fig. I) With shaft pointing upward (small diameter facing upward), first install backup seal (square seal Fig. J) with bevel facing down. Second, install round o-ring (Fig. K). The round o-ring should be facing the bottom of the piston shaft.
2. Open OPEN/CLOSE valve. (Fig. H)
3. Carefully push in piston shaft. (Fig. I)
4. Reinstall spring. (Fig. G)
5. Reinstall piston cap (Fig. E) – screw in until tight.
6. Reinstall allen set screw. (Fig. D)
7. Reinstall yolk assembly. (Fig. C)
8. Reinstall adapter holder. (Fig. B)
9. Reinstall snap ring "c-clip." (compress w/ pliers if needed) (Fig. A)
10. Remove tool from vice, and hold with the yolk portion facing downward.
11. Close OPEN/CLOSE (Fig. H) valve and pump handle to build hydraulic pressure.
12. Open OPEN/CLOSE (Fig. H) valve and release pressure.
13. REPEAT 11 and 12 two times (This will bleed excess air from hydraulics.)

CHECK OIL LEVEL

1. Secure tool upright with the handle facing upward.
2. Unscrew reservoir cover portion of tool. (Fig. L)
3. Remove cap on oil reservoir.
4. Add oil if oil level is low. Oil level should be even with the top of the oil reservoir.
5. Reinstall cap.
6. Reinstall reservoir cover.
7. Check for proper operation.

OPEN/CLOSE VALVE REPLACEMENT (71500-40K-NEW)

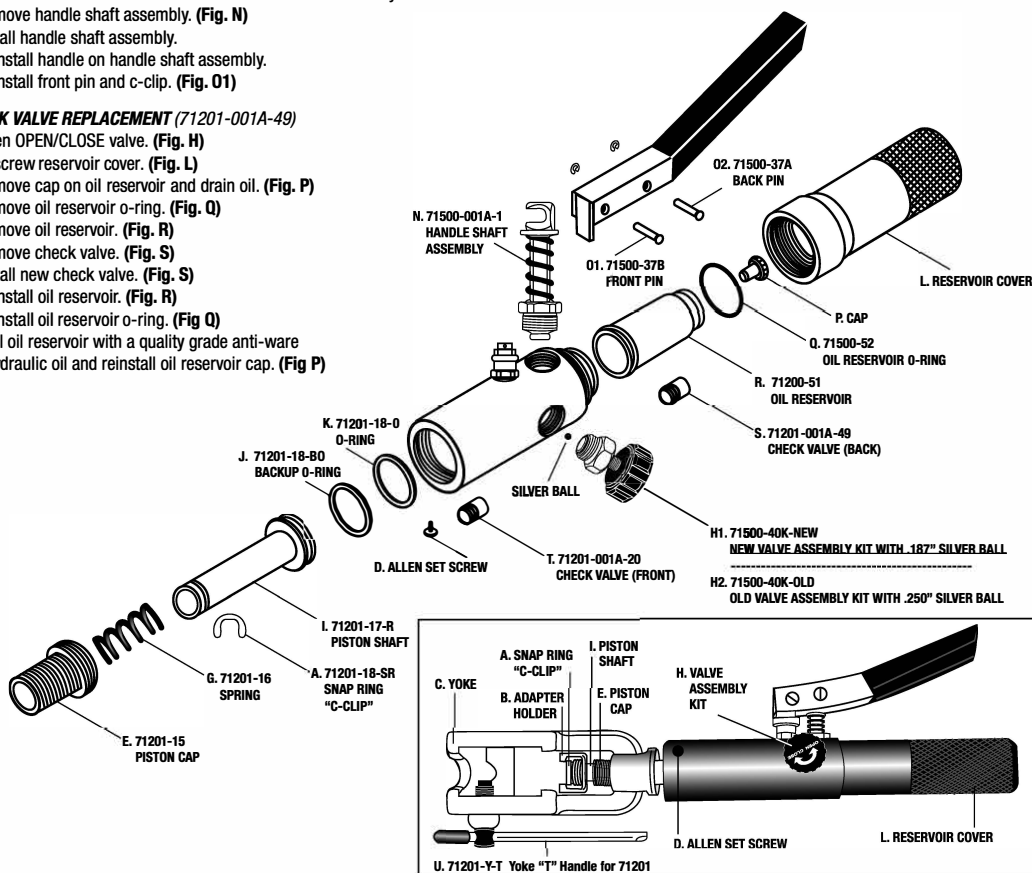
1. Remove open/close valve and silver ball. (Fig. H1)
2. Install silver ball.
3. Install open/close valve.

SHAFT HANDLE ASSEMBLY (71500-001A-1)

1. Remove front pin c-clip and front pin. (Fig. O1)
2. Slide handle forward and remove from handle shaft assembly.
3. Remove handle shaft assembly. (Fig. N)
4. Install handle shaft assembly.
5. Reinstall handle on handle shaft assembly.
6. Reinstall front pin and c-clip. (Fig. O1)

CHECK VALVE REPLACEMENT (71201-001A-49)

1. Open OPEN/CLOSE valve. (Fig. H)
2. Unscrew reservoir cover. (Fig. L)
3. Remove cap on oil reservoir and drain oil. (Fig. P)
4. Remove oil reservoir o-ring. (Fig. Q)
5. Remove oil reservoir. (Fig. R)
6. Remove check valve. (Fig. S)
7. Install new check valve. (Fig. S)
8. Reinstall oil reservoir. (Fig. R)
9. Reinstall oil reservoir o-ring. (Fig. Q)
10. Fill oil reservoir with a quality grade anti-ware hydraulic oil and reinstall oil reservoir cap. (Fig. P)



71201-001A-REPK_040312



Mastercool[®]
"World Class Quality"
Inc.

HYDRA-KRIMP

**SELF REPAIRING FOR HYDRA-KRIMP ASSEMBLY
(71500)**

Please reference 71500-PARTS

LEAKING ON TWO COMMON PLACES ON SECTION 'A'

1. Around shaft assembly under handle.
2. Around piston shaft under yoke.

FOR REPLACING HAND SHAFT ASSEMBLY UNDER HANDLE

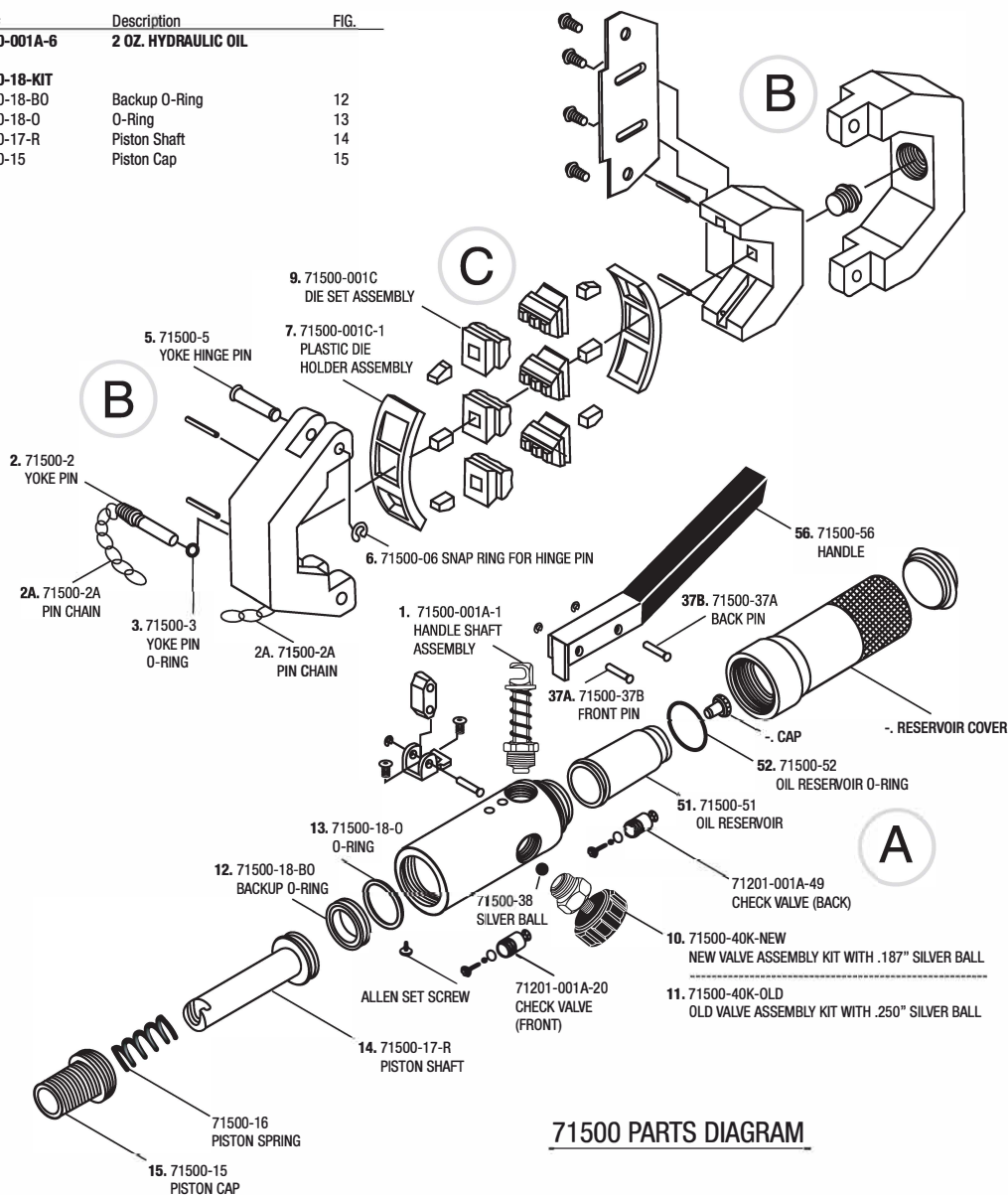
1. Remove snap-ring on the pin No. 37A.
2. Remove the handle No. 56.
3. Unscrew nut No. 35.
4. Remove the complete shaft.
5. Replace it with the new shaft assembly.

FOR REPLACING THE DOUBLE LAYER O-RING AROUND THE PISTON SHAFT UNDER YOKE

1. Remove screw No. 20.
2. Unscrew piston cap No. 15.
3. Remove piston cap, piston shaft, piston spring, No : 15, 16, 17.
4. Replace double layer o-ring No. 18.

Part #	Description	FIG.
71500	HYDRA-KRIMP HOSE KRIMPER	
71500-001A	Complete Hydraulic Assembly	A
71500-001B	Yoke Assembly	B
71500-001C	Die Set Assembly	C
71500-PB	Plastic Molded Box for 71500	
71500-INST	Operating Instructions	
71500-001	HYDRA-KRIMP ASSEMBLY	
71500-001A	Complete Hydraulic Assembly	A
71500-001B	Yoke Assembly	B
71500-001A-1	HANDLE SHAFT ASSEMBLY FOR 71500	1
71500-001A-2	HANDLE	
71500-56	Handle only for 71500	56
71500-37A	Back Pin & Ring for Handle	37A
71500-37B	Front Pin & Ring for Handle	37B
71500-001A-3	OIL RESERVOIR ASSEMBLY	
71500-51	Rubber Oil Reservoir	51
71500-52	Oil Reservoir O-ring	52
71500-40K-NEW	NEW VALVE ASSEMBLY KIT	10
71500-38	.187" Silver Ball	
71500-40K-OLD	OLD VALVE ASSEMBLY KIT	11
71500-38	.250" Silver Ball	
71500-001B-1	YOKE PIN & CHAIN ASSEMBLY	
71500-2A	Pin Chain for 71500	2A
71500-2	Yoke Pin for 71500	2
71500-3	Yoke Pin O-ring for 71500	3
71500-001B-2	YOKE & HINGE PIN ASSEMBLY	
71500-5	Yoke Hinge Pin	5
71500-2A	Pin Chain for 71500	2A
71500-2	Yoke Pin for 71500	2
71500-3	Yoke Pin O-ring for 71500	3
71500-06	Snap Ring for Hinge Pin 71500-5	6
71500-001C	DIE SET ASSEMBLY	
71500-6	Die Set #6 (5/16")	
	Purple (#8 Reduced Barrier)	9
71500-8	Die Set #8 (13/32") Red	9
71500-10	Die Set #10 (1/2") Yellow	9
71500-12	Die Set #12 (5/8") Green	9
71500-6SRB	Die Set #6 Black (5/16" Reduced Barrier)	9
71500-10SRB	Die Set #10 Orange (1/2" Reduced Barrier)	9
71500-12SRB	Die Set #12 Blue (5/8" Reduced Barrier)	9
71500-001C-1	PLASTIC DIE HOLDER ASSEMBLY	
71500-6-PURPLE	Plastic Die Holder #6 (5/16")	
	(13/32" #8 Reduced Barrier) Purple	7
71500-8-RED	Plastic Die Holder #8 (13/32") Red	7
71500-10-YELLOW	Plastic Die Holder #10 (1/2") Yellow	7
71500-12-GREEN	Plastic Die Holder #12 (5/8") Green	7
71500-6RB-BLACK	Plastic Die Holder #6 (5/16" Reduced Barrier) Black	7
71500-10RB-ORANGE	Plastic Die Holder #10 (1/2" Reduced Barrier) Orange	7
71500-12RB-BLUE	Plastic Die Holder #12 (5/8" Reduced Barrier) Blue	7

Part #	Description	FIG.
71500-001A-6	2 OZ. HYDRAULIC OIL	
71500-18-KIT		
71500-18-B0	Backup O-Ring	12
71500-18-O	O-Ring	13
71500-17-R	Piston Shaft	14
71500-15	Piston Cap	15



71500 PARTS DIAGRAM

71500-PARTS-042012

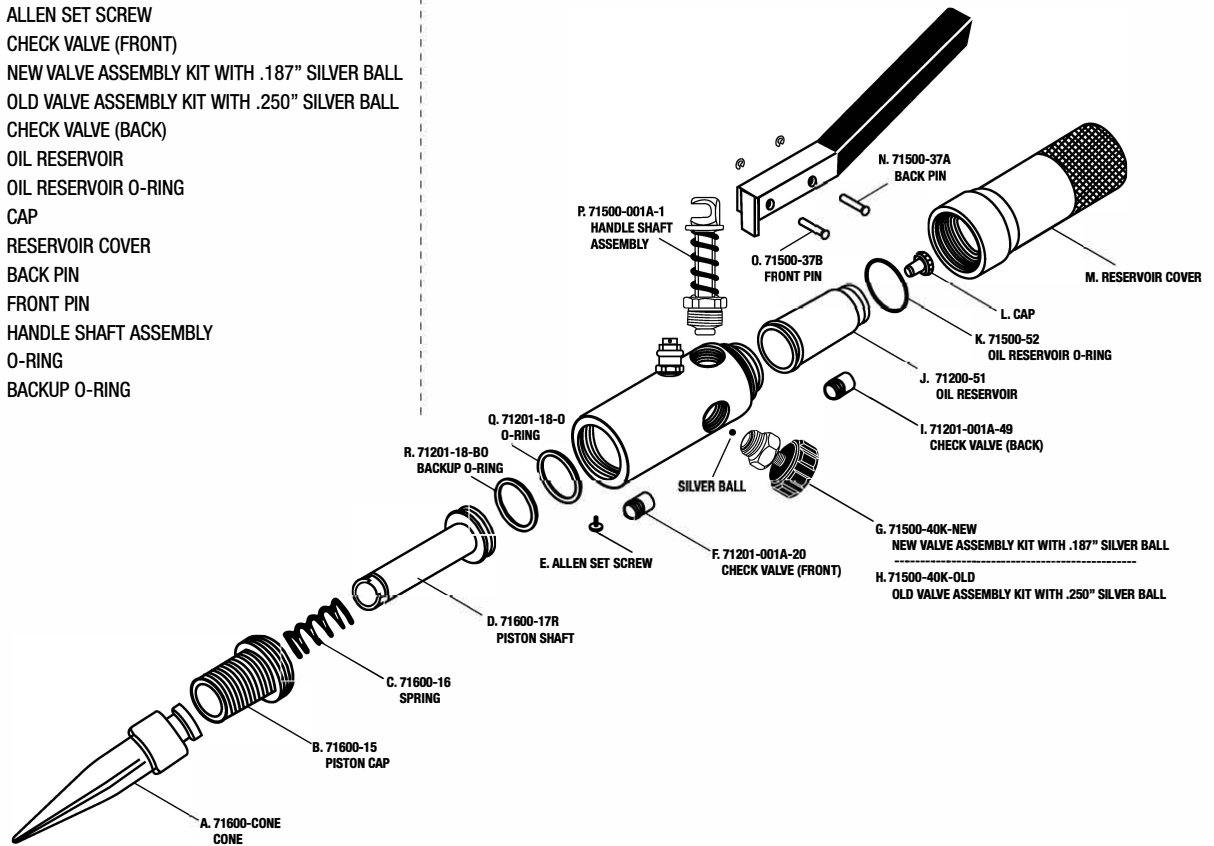


Mastercool[®]
"World Class Quality"

71601 PUMP ASSEMBLY REPAIR PARTS

REPAIR PARTS FOR 71600, 71650

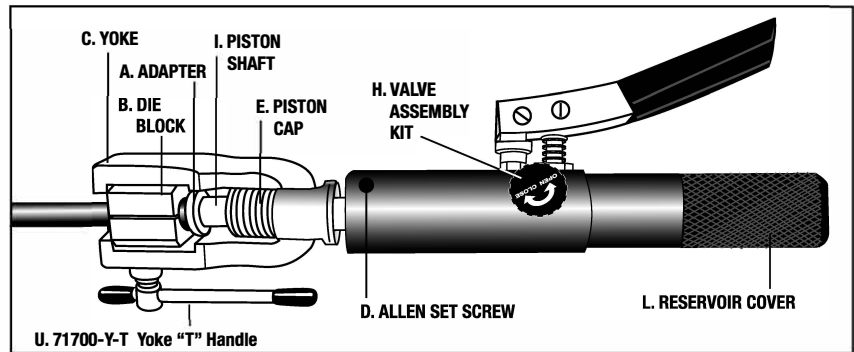
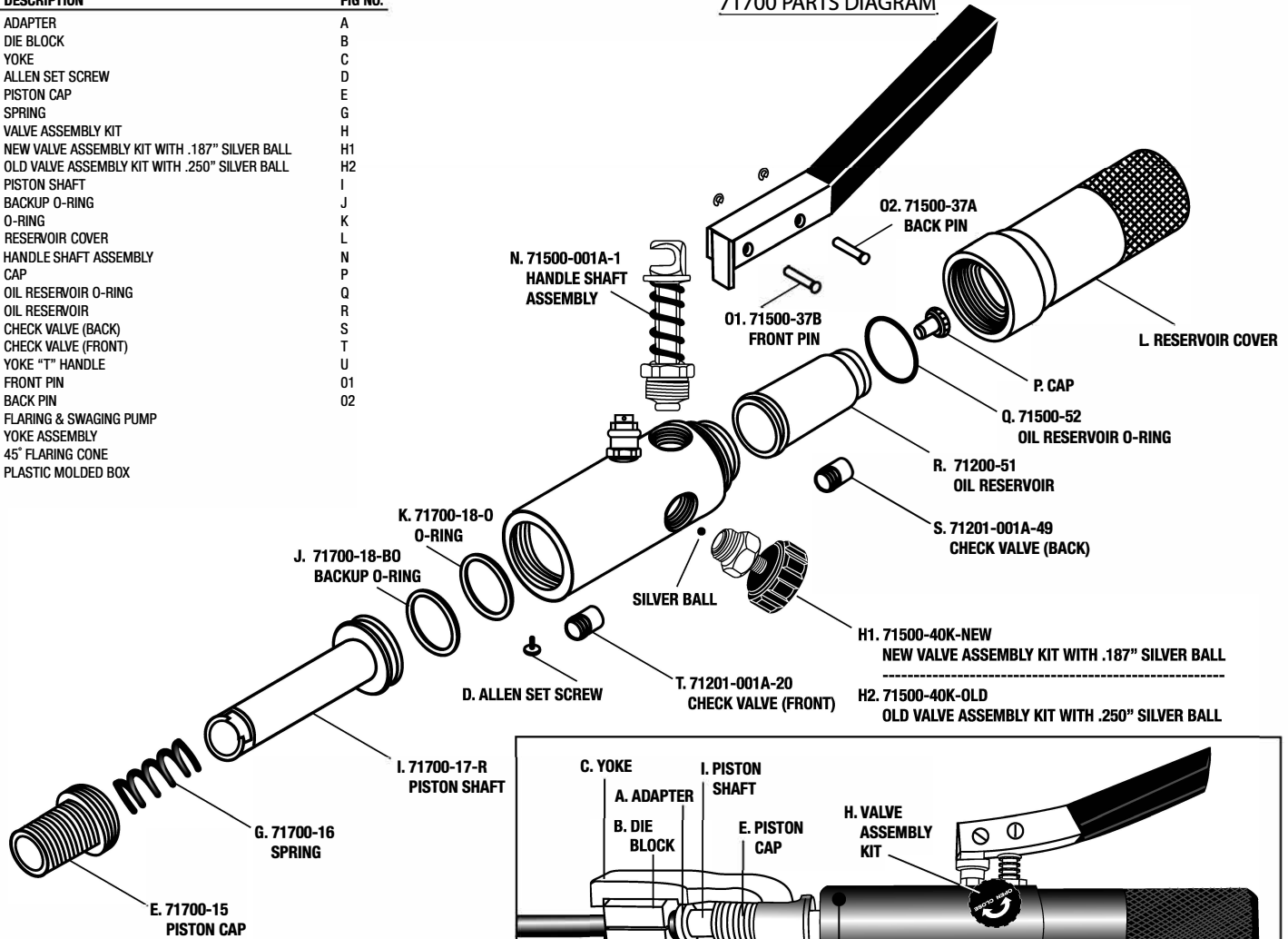
A.	71600-CONE	CONE
B.	71600-15	PISTON CAP
C.	71600-16	SPRING
D.	71600-17R	PISTON SHAFT
E.		ALLEN SET SCREW
F.	71201-001A-20	CHECK VALVE (FRONT)
G.	71500-40K-NEW	NEW VALVE ASSEMBLY KIT WITH .187" SILVER BALL
H.	71500-40K-OLD	OLD VALVE ASSEMBLY KIT WITH .250" SILVER BALL
I.	71201-001A-49	CHECK VALVE (BACK)
J.	71200-51	OIL RESERVOIR
K.	71500-52	OIL RESERVOIR O-RING
L.		CAP
M.		RESERVOIR COVER
N.	71500-37A	BACK PIN
O.	71500-37B	FRONT PIN
P.	71500-001A-1	HANDLE SHAFT ASSEMBLY
Q.	71201-18-0	O-RING
R.	71201-18-B0	BACKUP O-RING



71601-PARTS_03142012

PART NO.	DESCRIPTION	FIG NO.
	ADAPTER	A
	DIE BLOCK	B
	YOKE	C
	ALLEN SET SCREW	D
71700-15	PISTON CAP	E
71700-16	SPRING	G
	VALVE ASSEMBLY KIT	H
71500-40K-NEW	NEW VALVE ASSEMBLY KIT WITH .187" SILVER BALL	H1
71500-40K-OLD	OLD VALVE ASSEMBLY KIT WITH .250" SILVER BALL	H2
71700-17-R	PISTON SHAFT	I
71700-18-B0	BACKUP O-RING	J
71700-18-0	O-RING	K
	RESERVOIR COVER	L
71500-001A-1	HANDLE SHAFT ASSEMBLY	N
	CAP	P
71500-52	OIL RESERVOIR O-RING	Q
71200-51	OIL RESERVOIR	R
71201-001A-49	CHECK VALVE (BACK)	S
71201-001A-20	CHECK VALVE (FRONT)	T
71700-Y-T	YOKE "T" HANDLE	U
71500-37B	FRONT PIN	O1
71500-37A	BACK PIN	O2
71700-A	FLARING & SWAGING PUMP	
71700-B	YOKE ASSEMBLY	
71700-01	45° FLARING CONE	
71700-PB	PLASTIC MOLDED BOX	

71700 PARTS DIAGRAM



Mastercool®
"World Class Quality"

71700-PARTS