



Models: 06-5004-Series
(06-5004-0500, 06-5004-0800, 06-5004-3600)
Fluid Service Unit

10/2019 – Rev. 20

REVISION	DATE	TEXT AFFECTED
18	01/2004	Cover: "Hydraulic" replaced with "Fluid", Added 06-5004-080" Table of Contents HC-1034 removed from Appendix Throughout - The word "Hydraulic" replaced with "Fluid"; "HSU" removed or replaced with "Fluid Service Unit" Modified part numbers Modified part numbers Modified part numbers Modified part numbers
19	06/2005	Major Revision
20	10/2019	No change in revision

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This product can not be modified without the written approval of Tronair, Inc. Any modifications done without written approval voids all warranties and releases Tronair, Inc., its suppliers, distributors, employees, or financial institutions from any liability from consequences that may occur. Only Tronair OEM replacement parts shall be used.

1.0 GENERAL DESCRIPTION

The Tronair Fluid Service Unit is a compact unit designed to provide a source of clean, pressurized fluid for filling reservoirs, bleeding brakes and other maintenance functions.

2.0 SPECIFICATIONS

Tank Capacity	8 gallon
Maximum Pressure	500/4000 psig
Fluids	MIL-PRF-5606/MIL-PRF-83282 (06-5004-0500) MIL-L 23699/MIL-PRF-87257 (06-5004-0800) Phosphate Ester (06-5004-3600)
Filtration	2 Micron
Weight	65 lbs

3.0 FEATURES

- 15 foot hoses
- Pressure gauge
- Shut-off valve for component testing
- 3,000 psi high/low pump provides high flow and high pressure capability
- 5,000 psi pressure gauge
- 4 way valve for testing double acting cylinder

4.0 PREPARATION FOR USE

The Fluid Service Unit is shipped fully assembled, and only the following steps are required to make the unit operational:

1. Apply appropriate fluid label on reservoir near fill opening (see Illustrated Parts List)
2. Service reservoir – fill reservoir with appropriate clean fluid.
3. Adjust handle height to suit.

Remove Air from System By:

1. Close manual pump release screw. (lower right corner of pump base block).
2. Open shut-off valve (adjacent to pressure gauge).
3. Move pump handle to top of stroke.
4. Remove pipe plug located near top side of piston cylinder.
5. Lower handle until there is fluid filling (spilling out) the top cavity.
6. Re-install pipe plug.
7. Flow fluid by actuating manual pump.

5.0 OPERATION

5.1 FLUID SERVICE UNIT OPERATION

1. Securely attach hose(s) to the aircraft.
2. Close pump release screw.
3. Open shut-off valve.
4. Select output hose #1 or #2 by rotating handle pointer to selected hose.
5. Transfer hydraulic fluid by actuating the manual hydraulic pump.

When Service Has Been Completed:

1. Open pump release screw to relieve hydraulic pressure.
2. Disconnect hose(s) from aircraft.
3. Install hose end dust plug.

5.2 COMPONENT TESTING

A shut-off valve has been provided to assure no back flow of fluid and therefore is to be closed after the required pressure has built up in the system.

Pressure is relieved by opening this shut-off valve and pump release screw.

6.0 MAINTENANCE

6.1 REMOVING AND SERVICING PUMP

NOTE: If pump is found faulty, call the factory for replacement or replace seals as follows:

1. Review Appendix I: Hand Pump Parts List during the following procedure.
2. Clamp suction (push on) hose and remove hose from pump.
3. Uncouple fitting of hydraulic hose from pump.
4. Remove pump from unit.
5. Remove cotter pins from clevis pins.
6. Remove four (4) socket head cap screws.
7. Remove flanges.
8. Remove tube assembly (Item 39).
9. Replace O-rings and backup ring. (See Appendix I: for available kits.)
10. Re-assemble in reverse order.

6.2 FILTER MAINTENANCE

The main pressure has a replaceable element that is **not** cleanable. It is recommended that this filter be changed **annually**, or whenever a **reduced maximum flow** is noticed. Refer to the parts list for the correct filter element number.

7.0 TROUBLE SHOOTING

Probable Cause	Corrective Action
High pressure leaks (at joint, plugs or tubing)	Re-tighten or repair
Leaky discharge check valve	Pump rapidly to dislodge; Or repair pump
Leaky release valve	Tighten release valve
Leaky pump O-ring packing	Repair pump
Lack of oil	Refill reservoir check system for leaks
Sticking inlet check valve	Pump rapidly to dislodge; Or repair pump
Closed air vent	Open air vent

8.0 GUARANTEES/LIMITATION OF LIABILITY

Tronair products are warranted to be free of manufacturing or material defects for a period of one year after shipment to the original customer. This is solely limited to the repair or replacement of defective components. This warranty does not cover the following items:

- a) Parts required for normal maintenance
- b) Parts covered by a component manufacturer's warranty
- c) Replacement parts have a 90-day warranty from date of shipment

If you have a problem that may require service, contact Tronair immediately. Do not attempt to repair or disassemble a product without first contacting Tronair, any action may affect warranty coverage. When you contact Tronair be prepared to provide the following information:

- a) Product Model Number
- b) Product Serial Number
- c) Description of the problem

If warranty coverage is approved, either replacement parts will be sent or the product will have to be returned to Tronair for repairs. If the product is to be returned, a Return Material Authorization (RMA) number will be issued for reference purposes on any shipping documents. Failure to obtain a RMA in advance of returning an item will result in a service fee. A decision on the extent of warranty coverage on returned products is reserved pending inspection at Tronair. Any shipments to Tronair must be shipped freight prepaid. Freight costs on shipments to customers will be paid by Tronair on any warranty claims only. Any unauthorized modification of the Tronair products or use of the Tronair products in violation of cautions and warnings in any manual (including updates) or safety bulletins published or delivered by Tronair will immediately void any warranty, express or implied.

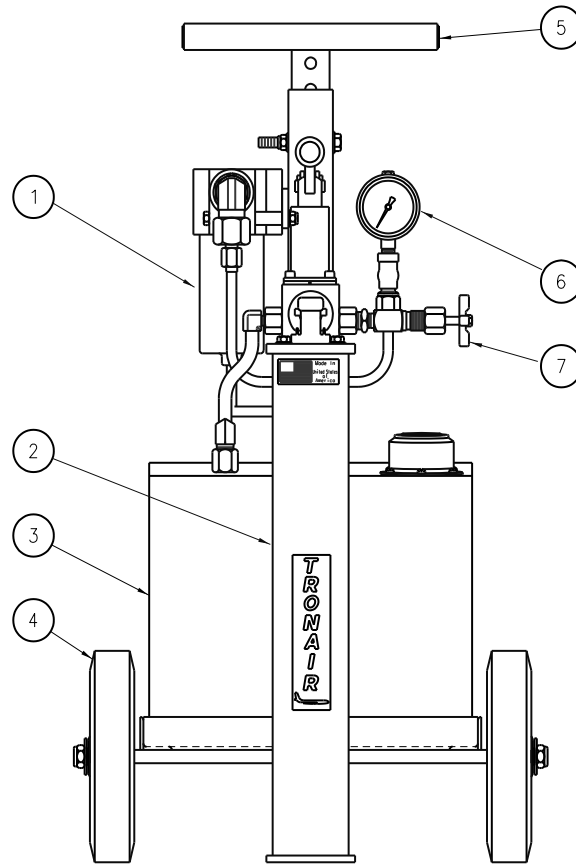
The obligations of Tronair expressly stated herein are in lieu of all other warranties or conditions expressed or implied. **Any unauthorized modification of the Tronair products or use of the Tronair products in violations of cautions and warnings in any manual (including updates) or safety bulletins published or delivered by Tronair will immediately void any warranty, express or implied and Tronair disclaims any and all liability for injury (WITHOUT LIMITATION and including DEATH), loss or damage arising from or relating to such misuse.**

9.0 APPENDICES

- APPENDIX I Hydraulic Hand Pump (Mineral Base Fluids) Parts List
- APPENDIX II Hydraulic Hand Pump (Phosphate Ester) Parts List
- APPENDIX III Instrument Certification Notice

Parts List Hydraulic Service Unit

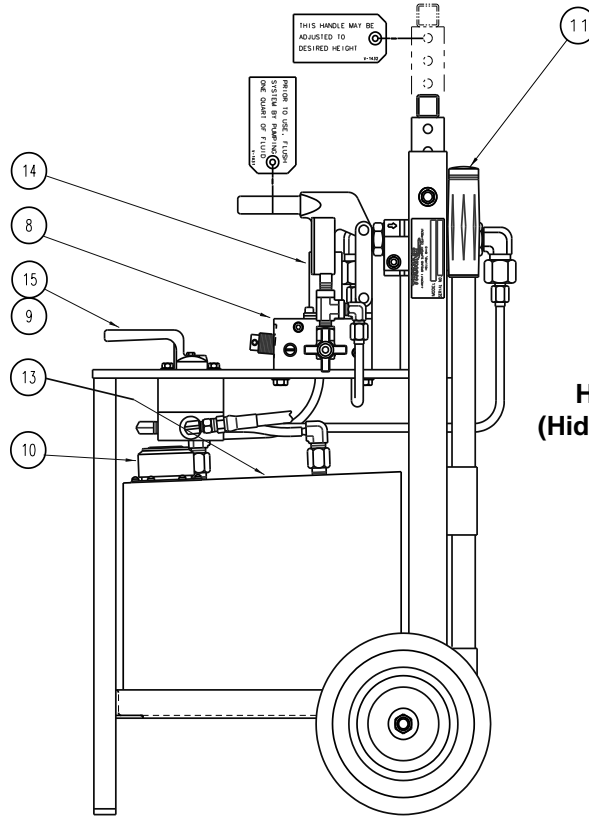
When ordering replacement parts/kits, please specify model, serial number and color of your unit.



Item	Fluid	Part Number	Description	Qty
1	MIL-PRF-5606	HC-1083	Assembly, Pressure Filter	1
	MIL-PRF-83282	HC-1083	Assembly, Pressure Filter	1
	MIL-L-23699	Z-5885	Assembly, Filter	1
	MIL-PRF-87257	Z-5885	Assembly, Filter	1
	Phosphate Ester	HC-1084	Assembly, Filter	1
2	N/A	Z-1201-01	Frame	1
3	N/A	H-1802	Tank	1
4	N/A	U-1001-01	Wheel	2
5	N/A	Z-1083-01	Handle, Unit	1
6	N/A	HC-1042	Gauge, Pressure	1
7	MIL-PRF-5606	HC-1101-01 (See Page 7)	Valve, Shut-Off	1
	MIL-PRF-83282	HC-1101-01 (See Page 7)	Valve, Shut-Off	1
	MIL-L-23699	HC-1101-03	Valve, Shut-Off	1
	MIL-PRF-87257	HC-1101-03	Valve, Shut-Off	1
	Phosphate Ester	HC-1101-02	Valve, Shut-Off	1

Parts List Hydraulic Service Unit

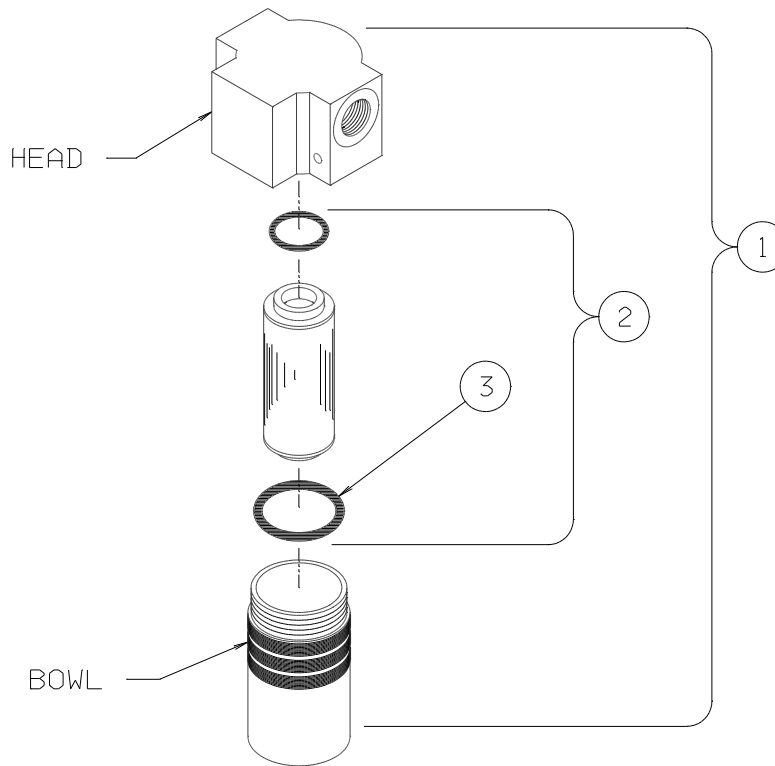
When ordering replacement parts/kits, please specify model, serial number and color of your unit.



Item	Fluid	Part Number	Description	Qty
8	MIL-PRF-5606/MIL-PRF-83282	HC-1034	Pump, Hand	1
	MIL-L-23699/MIL-PRF-87257	HC-2254	Pump, Hand	1
	Phosphate Ester	HC-1035	Pump, Hand	1
9	MIL-PRF-5606/MIL-PRF-83282	HC-1044-01	Valve, Selector	1
	MIL-L-23699/MIL-PRF-87257	HC-2257	Valve, Selector	1
	Phosphate Ester	HC-1046-01	Valve, Selector	1
10	N/A	HC-1030	Breather	1
11	N/A	H-1009-01	Handle, Pump	1
13	MIL-PRF-5606/MIL-PRF-83282	V-2051-01 or V-1035	Label - Fluid Type	1
	MIL-L-23699/MIL-PRF-87257	V-1101-01, V-1102-01	Label - Fluid Type	1
	Phosphate Ester	V-1100	Label - Fluid Type	1
	MIL-PRF-5606/MIL-PRF-83282	TF-1047-01*10.0	Hose, Pump Suction	1
14	MIL-L-23699/MIL-PRF-87257	TF-1105-04*10.0	Hose, Pump Suction	1
	Phosphate Ester	TF-1030-01*10.0	Hose, Pump Suction	1
	MIL-PRF-5606/MIL-PRF-83282	TF-1047-01*03.5	Hose, Pump Suction	1
15	MIL-L-23699/MIL-PRF-87257	TF-1105-04*03.5	Hose, Pump Suction	1
	Phosphate Ester	TF-1030-01*03.5	Hose, Pump Suction	1
	MIL-PRF-5606/MIL-PRF-83282	TF-1043-01*180	Assembly, Hose	1
NS	MIL-L-23699/MIL-PRF-87257	TF-1038-14*180	Assembly, Hose	1
NS	Phosphate Ester	TF-1041-05*180	Assembly, Hose	1

Parts List
Pressure Filter (4 inch) Assembly

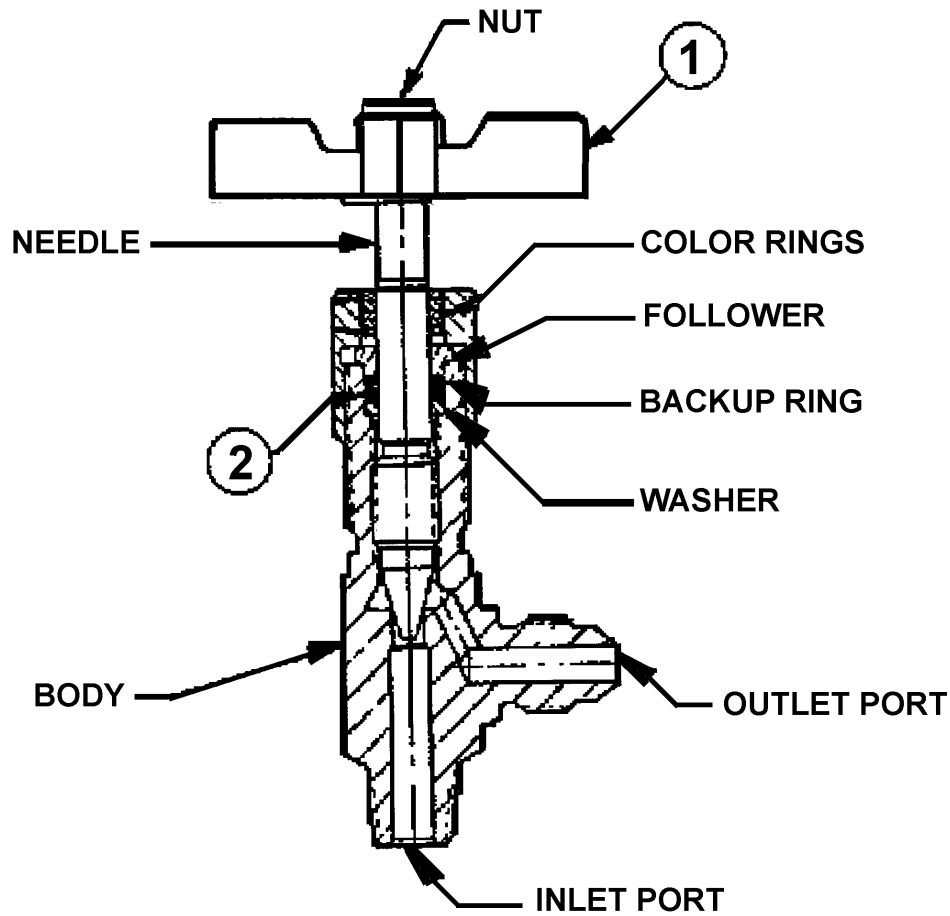
When ordering Replacement Parts/Kits, please specify Model and Serial Number of your Unit.



Item	Fluid	Part Number	Description	Qty
1	MIL-PRF-5606/MIL-PRF-83282	HC-1083	Assembly, Filter (Mineral Base)	1
	MIL-L-23699/MIL-PRF-87257	Z-5885	Assembly, Filter	1
	Phosphate Ester	HC-1804	Assembly, Filter	1
2	Mineral Base	K-1414	Element, Filter (Mineral Base)	1
	MIL-L-23699/MIL-PRF-87257	K-4273	Element, Filter	1
	Phosphate Ester	K-1415	Element, Filter	1
	MIL-PRF-5606/MIL-PRF-83282	HC-2000-136	O-Ring, Series 2	1
	MIL-L-23699/MIL-PRF-87257	HC-2007-136	O-Ring	1
	Phosphate Ester	HC-2006-136	O-Ring	1
	MIL-PRF-5606/MIL-PRF-83282	HC-2000-138	O-Ring, Bowl (Mineral Base)	1
	MIL-L-23699/MIL-PRF-87257	HC-2007-138	O-Ring	1
	Phosphate Ester	HC-2006-138	O-Ring	1

**Parts List
 Shut-Off Valve**

When ordering Replacement Parts/Kits, please specify Model and Serial Number of your Unit.



(Complete Component)

Item	Fluid	Part Number	Description	Qty
	MIL-PRF-5606/MIL-PRF-83282	HC-1101-01	Assembly, Valve	1
	MIL-L-23699/MIL-PRF-87257	HC-1101-03	Assembly, Valve	1
	Phosphate Ester	HC-1101-02	Assembly, Valve	1
	MIL-PRF-5606/MIL-PRF-83282	HC-1082	Handle, Valve	1
	MIL-L-23699/MIL-PRF-87257	HC-1082	Handle, Valve	1
	MIL-PRF-5606/MIL-PRF-83282	HC-2000-011	O-Ring	1
	MIL-L-23699/MIL-PRF-87257	HC-2007-011	O-Ring	1
	Phosphate Ester	HC-2006-011	O-Ring	1



APPENDIX I

HC-1034 Hydraulic Hand Pump Parts List



HC-1034 Hydraulic Hand Pump

Parts List With Illustrations

10/2004 – Rev. 03

When ordering Replacement Parts/Kits, please specify Model, Color and Serial Number of your Uni

Parts List

This pump is compatible with MIL-PRF-5606/MIL-PRF-83282 Hydraulic Fluids.

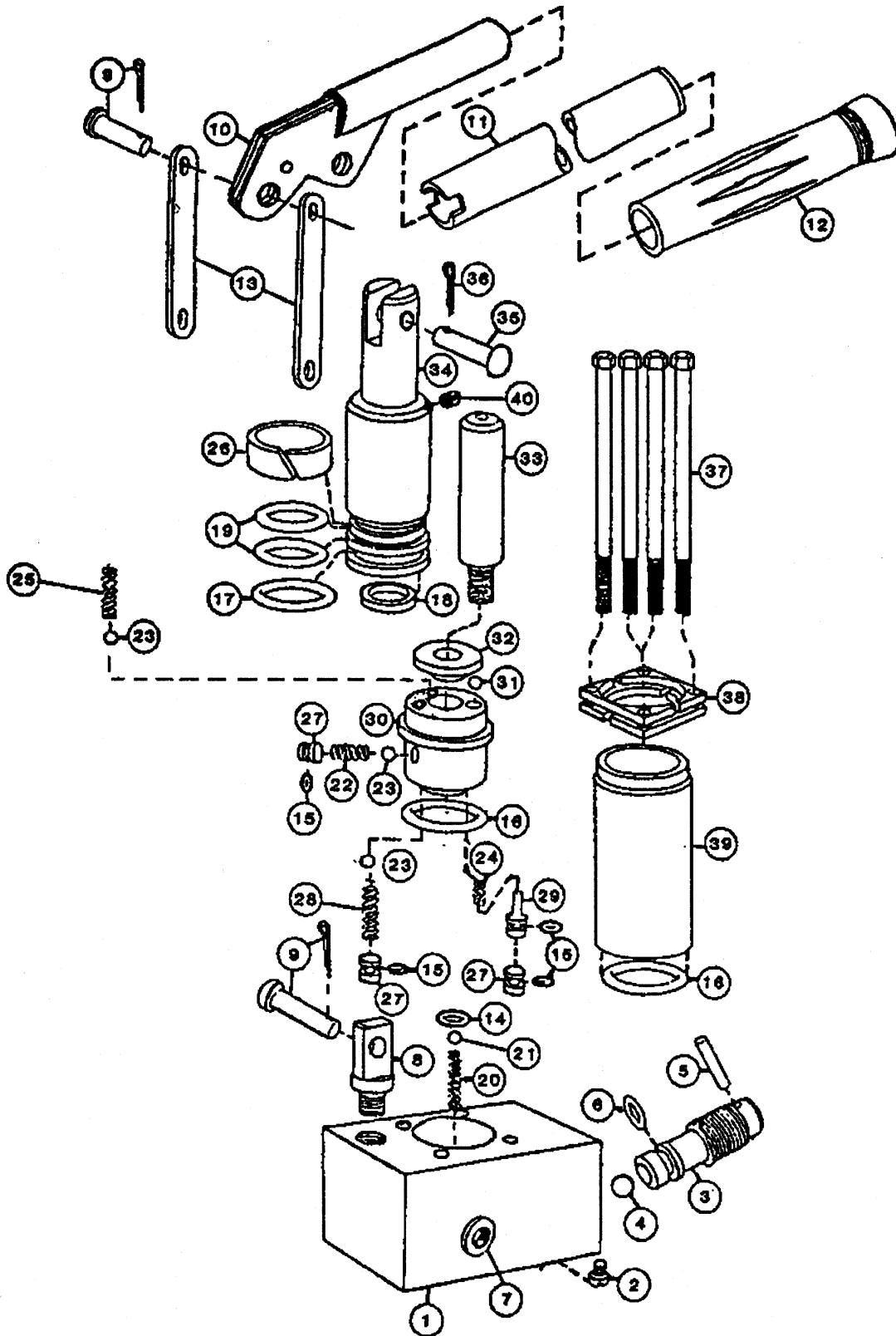
Reference Parts List Illustration on following page

Item	Part Number	Description	Qty
1	501-000	Pump Body	1
7	555-000	Bushing – 3/8 x 1/8 NPT	1
8	508-000	Pivot	1
9	510-001	Pin Assembly	2
10	509-000	Bracket - Pump Handle	1
11	H-1009-01	Handle	1
12	529-000	Handle Grip	1
13	512-000	Strap	2
27	505-000	Plug	3
28	577-120	Spring - Outlet Plug (L.P.)	1
29	571-120	Piston - Bypass	1
30	560-120	Valve Body	1
31	569-120	Ball - Bypass	1
32	564-120	Retainer Plate	1
33	562-125	Piston - High Pressure	1
34	561-125	Piston - Low Pressure	1
35	531-000	Clevis Pin	1
36	532-000	Cotter Pin	1
37	568-120	Tie Rod	4
38	582-120	Flange	4
39	563-120	Tube - Low Pressure	1
40	583-120	Plug – 5/16 NPT	1
	K-1029	Pump Valve Rebuilt Kit; consists of:	1
6		O-ring - Release Screw	
14		O-ring - Output Check	
15		O-ring - Inlet Check	
16		O-ring - Valve Body	
17		O-ring - Piston Seal	
18		Packing - Piston	
19		O-ring - Guide Shoe	
26		Piston Guide Shoe	
	K-1095	Pump Check Valve Hard Part Kit; consists of:	1
◆ 4		Release Ball	◆ 4
20		Spring - Output Check	20
21		Ball - Output Check	21
22		Spring - Inlet Check	22
23		Ball - Inlet Check	23
24		Spring - Bypass	24
25		Spring - Intake (L.P.)	25
	K-1984	Relief Valve Rebuilt Kit; consists of:	1
2		Screw Retainer	
3		Release Screw	
◆ 4		Release Ball	
5		Drive Pin	

NOTE: 1) Items designated as kits contain all hardware necessary for installation.
2) Unless otherwise listed, all replacement bolts should be Grade 5 or better.

◆ Items that are in more than one kit

Parts List Illustration





APPENDIX II

HC-1035 Hydraulic Hand Pump Parts List



HC-1035 Hydraulic Hand Pump

Parts List With Illustrations

08/1998 – Rev. 04

When ordering Replacement Parts/Kits, please specify Model, Color and Serial Number of your Unit.

Parts List

This pump is compatible with Phosphate Ester Hydraulic Fluids.

Reference Parts List Illustration on following page

Item	Part Number	Description	Qty
1	501-000	Pump Body	1
7	555-000	Bushing – 3/8 x 1/8 NPT	1
8	508-000	Pivot	1
9	510-001	Pin Assembly	2
10	509-000	Bracket - Pump Handle	1
11	511-240	Handle	1
12	529-000	Handle Grip	1
13	512-000	Strap	2
27	505-000	Plug	3
28	577-120	Spring - Outlet Plug (L.P.)	1
29	571-120	Piston - Bypass	1
30	560-120	Valve Body	1
31	569-120	Ball - Bypass	1
32	564-120	Retainer Plate	1
33	562-125	Piston - High Pressure	1
34	566-125	Piston - Low Pressure	1
35	531-000	Clevis Pin	1
36	532-000	Cotter Pin	1
37	568-121	Tie Rod	4
38	582-125	Flange	4
39	563-120	Tube - Low Pressure	1
40	583-121	Plug – 5/16 NPT	1
	K-1030	Pump Valve Rebuilt Kit; consists of:	1
6		O-ring - Release Screw	
14		O-ring - Output Check	
15		O-ring - Inlet Check	
16		O-ring - Valve Body	
17		O-ring - Piston Seal	
18		Packing - Piston	
19		O-ring - Guide Shoe	
26		Piston Guide Shoe	
	K-1095	Pump Check Valve Hard Part Kit; consists of:	1
◆ 4		Release Ball	◆ 4
20		Spring - Output Check	20
21		Ball - Output Check	21
22		Spring - Inlet Check	22
23		Ball - Inlet Check	23
24		Spring - Bypass	24
25		Spring - Intake (L.P.)	25
	K-1985	Relief Valve Rebuilt Kit; consists of:	1
2		Screw Retainer	
3		Release Screw	
◆ 4		Release Ball	
5		Drive Pin	
◆ 6		O-ring - Release Screw	

- NOTES:** 1) Items designated as kits contain all hardware necessary for installation.
2) Unless otherwise listed, all replacement bolts should be Grade 5 or better.

◆ Items that are in more than one kit



APPENDIX III

Instrument Certification Notice



Instrument Certification Notice

The gauge Certificates of Calibration supplied for the gauge(s) on this unit contain the calibration data for the actual instrument calibrated, along with the calibration date of the **STANDARD** used to perform the calibration check.

The due date for re-calibration of the instrument should be based upon the date the instrument was placed in service in your facility. Re-calibration should be done on a periodic basis as dictated by the end user's quality system or other overriding requirements.

Note that Tronair, Inc. does not supply certificates of calibration on flow meters or pyrometers unless requested at the time of placed order. These instruments are considered reference indicators only and are not critical to the test(s) being performed on the aircraft.

Calibration can be performed at a local metrology lab following national regulations and suitable calibration methods, or alternatively returned to the manufacturer.