

**Model: 02-0300C0100
Hydraulic Jack**



04/2023 – Rev. 02

**For Spare Parts, Operations & Service Manuals or Service Needs
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REVISION	DATE	TEXT AFFECTED
01	06/2016	Original release
02	04/2023	Modified Parts List

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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 PRODUCT INFORMATION

1.1 DESCRIPTION

Most aircraft jacks are completely assembled and ready to use upon receipt. For those jacks requiring assembly, carefully follow the assembly instructions supplied. On all jacks, check that the reservoir fluid level is within 1 to 1-1/2 inches from the reservoir top. Use only MIL-PRF-5606 fluid.

1.2 MODEL & SERIAL NUMBER

Reference nameplate on unit

1.3 MANUFACTURER

TRONAIR, Inc.
1 Air Cargo Pkwy East
Swanton, Ohio 43558 USA

Telephone: (419) 866-6301 or 800-426-6301
Fax: (419) 867-0634
E-mail: sales@tronair.com
Website: www.tronair.com

2.0 SAFETY INFORMATION

2.1 USAGE AND SAFETY INFORMATION

To insure safe operations please read the following statements and understand their meaning. Also refer to your equipment manufacturer's manual for other important safety information. This manual contains safety precautions which are explained below. Please read carefully.



WARNING! — Warning is used to indicate the presence of a hazard that **can cause severe personal injury, death, or substantial property damage** if the warning notice is ignored.

CAUTION! — Caution is used to indicate the presence of a hazard that **will or can cause minor personal injury or property damage** if the caution notice is ignored.

3.0 TRAINING

3.1 TRAINING REQUIREMENTS

The employer of the operator is responsible for providing a training program sufficient for the safe operation of the unit.

3.2 TRAINING PROGRAM

The employer provided operator training program should cover safety procedures concerning use of the unit in and around the intended aircraft at the intended aircraft servicing location.

3.3 OPERATOR TRAINING

The operator training should provide the required training for safe operation of the unit.

NOTE: Maintenance and Trouble Shooting are to be performed by a skilled and trained technician.

4.0 OPERATING INSTRUCTIONS

4.1 GENERAL

Observe the following safety considerations prior to using aircraft jacks. Failure to follow these recommended practices can result in injury, death or aircraft damage.

CAUTION



1. **NEVER** place hands or fingers between the aircraft and jack pad.
2. **NEVER** align jack with aircraft or remove jack by striking jack legs with hammer or other metallic objects. This action can produce dents in the jack legs, making the jack unserviceable.
3. **NEVER** attempt to exceed the capacity of the jack.
4. **ALWAYS** lower the ram locknut during jacking as the ram extends. This will prevent sudden aircraft lowering in the event of a hydraulic failure.
5. **ALWAYS** raise and lower all jacks simultaneously so that the aircraft remains level.
6. **ALWAYS** use tail, nose or wing stands for additional stability.

Due to the external ram threads used by the safety locknut, it is not possible to effectively seal the cylinder bore from the environment. The intrusion of moisture, dirt, chemicals or other contaminants can cause damage to the ram, cylinder wall or seal components. Therefore, it is good practice to cover the jack with a tent of plastic sheet material during storage or aircraft washing.

4.2 JACKING INSTRUCTIONS

To Raise Aircraft

1. Place jack on hard, level surface.
2. Raise center extension as close to aircraft as possible.
3. Using the jack handle, close the pump release valve and operate pump. Raise all jacks simultaneously in order to keep aircraft level.
4. Lower ram locknuts as aircraft is raised.

To Lower Aircraft

1. If ram locknut is tight, operate pump to release downward load. Do not strike locknut to loosen.
2. Loosen pump release valve slightly to slowly lower aircraft while raising ram locknut. Lower all jacks simultaneously keeping aircraft level.
3. After jack pad clears aircraft, lower mechanical extension before moving jack.

WARNING



Do not place fingers or hand between jack pad and aircraft since aircraft may settle suddenly due to strut seal friction. Also, moving jack without lowering mechanical extension may cause aircraft damage if the aircraft settles.

Protecting Jack During Washing Operations

If an aircraft is jacked for washing operations to facilitate cleaning of wheel wells and landing gear, it is important that the jack be covered to prevent damage to the ram, cylinder and pump surfaces. This is easily done by placing a large tent of plastic sheeting completely over the jack extending to the floor prior to jacking. After washing is complete, remove the plastic cover and wipe off any moisture from the jack.

5.0 TROUBLE SHOOTING

5.1 RAM WILL NOT RISE OR RISES ERRATICALLY

Probable Cause	Corrective Action
Air in hydraulic system	Bleed system. With rams fully retracted, open release valve. Pump rapidly and close release valve
Low reservoir fluid	Fill to correct level
Leaky inlet check valve	Pump rapidly or disassemble valve
Leaky pump or ram "O" ring	Replace defective "O" rings

5.2 JACK WILL NOT LOWER

Probable Cause	Corrective Action
Ram locknut not loosened	Operate pump first, then loosen nut
Ram extended too far and cocked	Carefully realign jack under aircraft and attempt to lower slowly

6.0. MAINTENANCE AND SERVICING**6.1 GENERAL**

1. Store the jack in a clean, dry area with the mechanical extension, ram and pump handle lowered. Keep jack covered with a plastic sheet.
2. Periodically remove the mechanical extension and raise the ram to expose the outer threaded surface. Wipe all extension and ram surfaces with a clean cloth and apply a light coating of a moisture displacing lubricant, such as WD-40 or LPS. If water or corrosion is evident when ram is raised, ram should be removed for a thorough inspection and cleaning of all surfaces. New ram seals should be installed.

6.2 REPLACING RAM SEALS**Disassembly**

1. Remove mechanical extension and ram protection ring.
2. Remove socket head cap screws holding top mounting plate. Remove top mounting plate.
3. Operate pump to raise and remove ram from cylinder. Remove and discard old guide ring.
4. Drain fluid from cylinder by removing line at cylinder bottom.
5. Operate pump to empty reservoir of old fluid.
6. Inspect cylinder bore for corrosion and scratches. Lightly hone, if necessary. Flush and clean cylinder with clean solvent. Wipe dry and apply a light coating of MIL-PRF-5606 fluid.
7. Clean and inspect ram and mechanical extension. Remove and discard old "O" ring seal and backup ring.

Reassembly

1. Fill reservoir with small amount of clean MIL-PRF-5606 fluid. Operate hand pump until clean fluid flows from disconnected cylinder line. Reattach and tighten cylinder line.
2. Operate pump until fluid flows into cylinder. Pour fluid directly cylinder until it is level with bottom of guide ring counter-bore.
3. Lubricate and install "O" ring and backup ring on ram. Spray light coat of moisture displacing lubricant (WD-40 or LPS) on entire length of internal and external ram surfaces. Also spray the mechanical extension surfaces.
4. Install ram assembly into bore, open pump release valve, and push ram into cylinder.
5. Install new guide ring, top mounting plate, socket head capscrews. Install mechanical extension.
6. With ram fully lowered, fill reservoir with MIL-PRF-5606 fluid to a level approximately 1-1/2 inches from the reservoir top.

6.3 REMOVING AND SERVICING PUMP

The pump should be inspected and disassembled whenever leakage or malfunctioning occurs. Also use new seals when reassembling the pump.

1. Review the illustrated parts breakdown of the pump.
2. Lower the jack ram completely so that most of the hydraulic fluid is in the reservoir.
3. Clamp the suction hose near the reservoir and remove hose from pump.
4. Remove pump mounting bolts and pump from jack.
5. Remove clevis pin and (4) socket head cap screws.
6. Remove flanges and tube assembly.
7. Replace remaining parts from pump and inspect.
8. Reassemble in reverse order using new seals.

6.4 HYDRAULIC JACK LOAD AND LEAK TESTING**6.4.1 LOAD TESTING**

Load testing of aircraft jacks should only be done on a fixture specifically designed for this purpose. Also, the actual testing should only be performed annually by personnel thoroughly trained on the operation of the equipment. The following cautionary statements should be noted:

**CAUTION**

1. **Always jack against a load. NEVER raise the jack ram to the end of its' stroke and continue to apply hydraulic pressure. This can cause an unsafe condition resulting in the ram becoming a dangerous projectile.**
2. **Do not exceed a test load of 110% of the rated jack capacity.**
3. **Observe all safety precautions in order to prevent personnel injury.**

6.4.2 LEAK TESTING

In order to check a jack for ram seal or pump leakage, apply a load to the jack by using the hydraulic system of the jack. This can be accomplished by positioning the jack in a test fixture (see 5.1) or under a fixed beam or member that is capable of absorbing a load. After positioning the jack, operate the pump until contact with the load member is made. Then continue to operate the pump until a pump handle force of approximately 25 lbs. is felt. Observe the area under the ram locknut and/or pump for any evidence of external leakage. Also note if the pump handle moves down while trying to hold a constant force on the handle, thereby indicating leakage at the ram seal or pump inlet check valve.

7.0 PROVISION OF SPARES**7.1 SOURCE OF SPARE PARTS**

Spare parts may be obtained from the manufacturer:

TRONAIR, Inc.

1 Air Cargo Pkwy East
Swanton, Ohio 43558 USA

Telephone: (419) 866-6301 or 800-426-6301

Fax: (419) 867-0634

E-mail: sales@tronair.com

Website: www.tronair.com

For Spare Parts, Operations & Service Manuals or Service Needs:
Scan the QR code or visit Tronair.com/aftermarket

**7.2 RECOMMENDED SPARE PARTS LISTS**

Reference the following page(s) for Replacement Parts and Kits available.

8.0 IN SERVICE SUPPORT

Contact Tronair, Inc. for technical services and information. See Section 1.2 – Manufacturer.

9.0 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 manufacturers 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.**

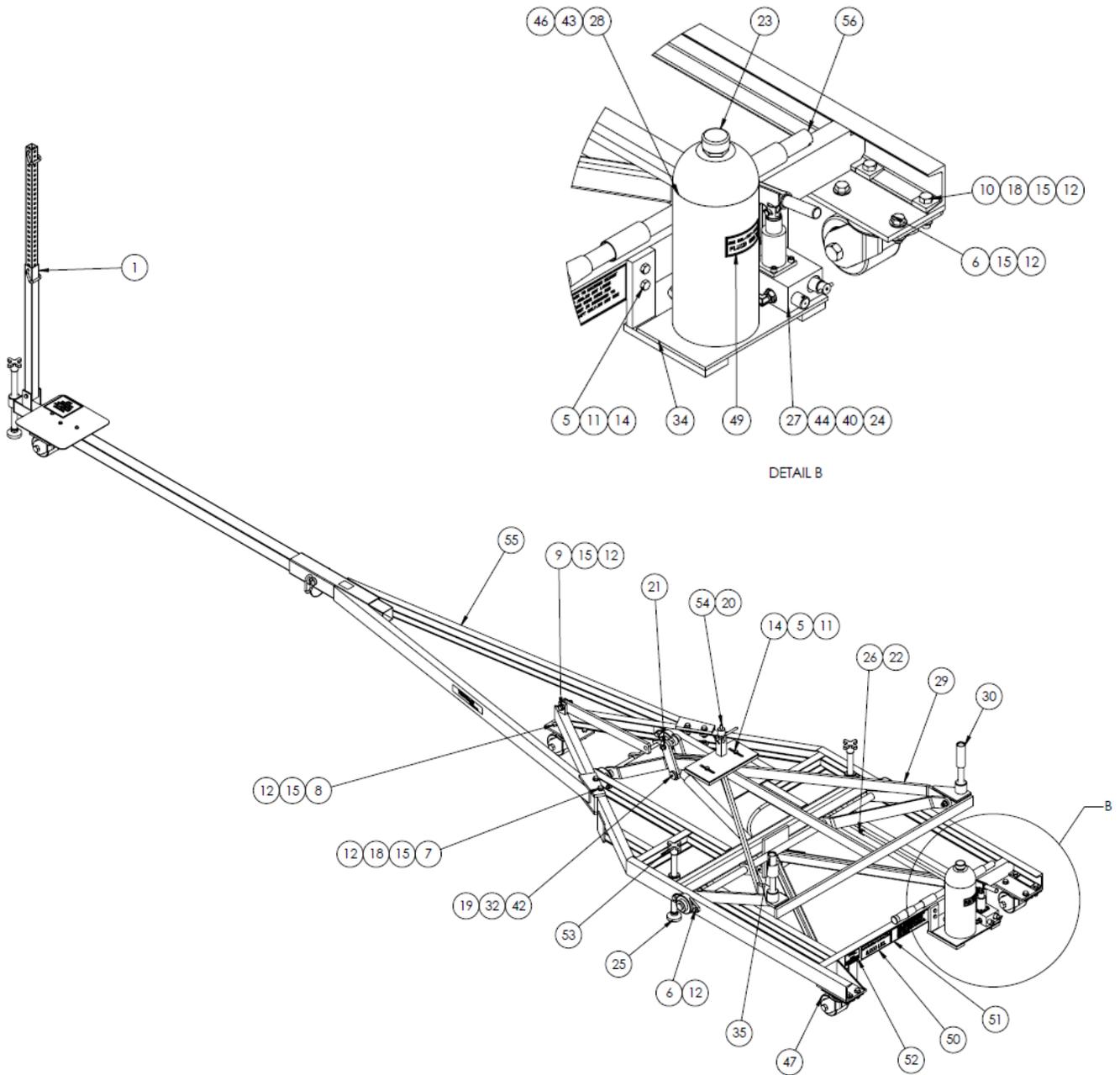
10.0 APPENDICES

APPENDIX I HC-1961 Hand Pump Parts List

APPENDIX II Declaration of Conformity

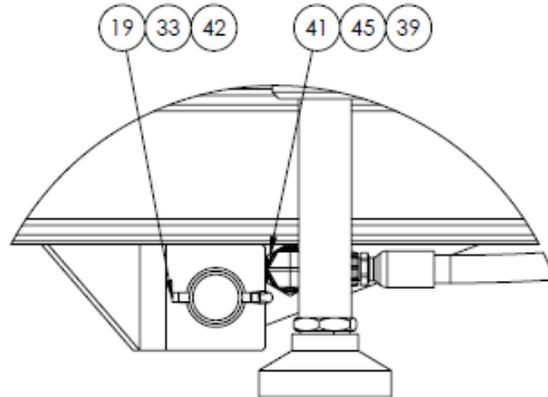
Parts List

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

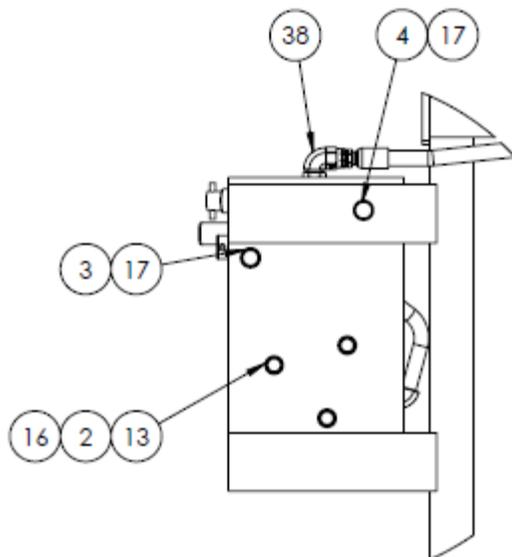
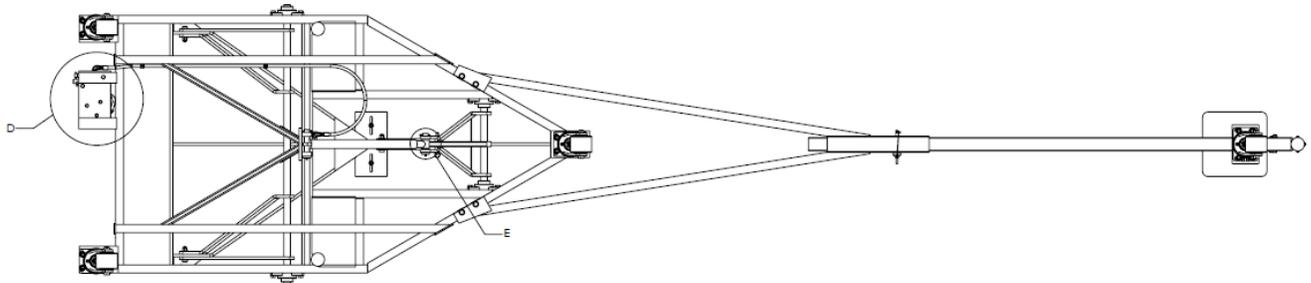
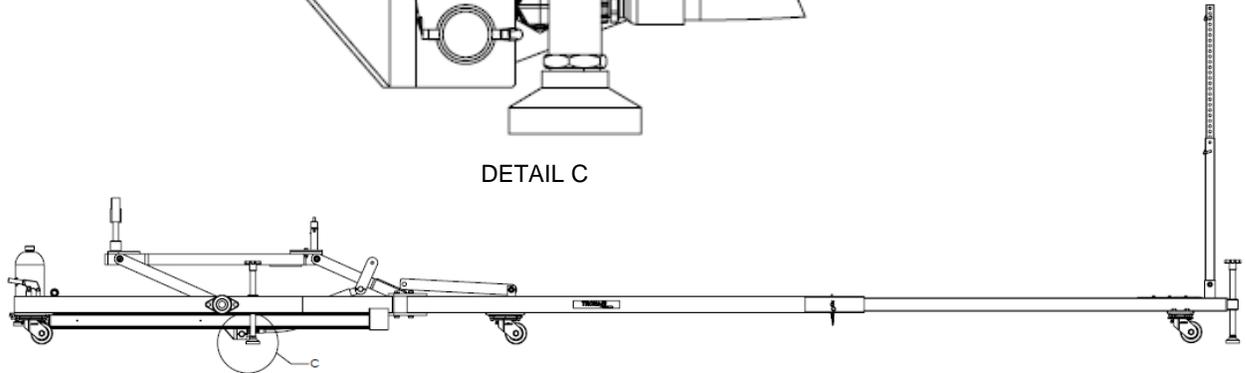


Parts List

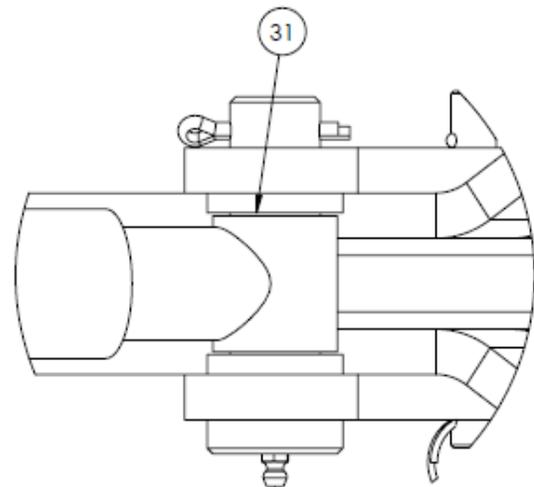
When ordering replacement parts/kits, please specify model, serial number and color of your unit.



DETAIL C



DETAIL D



DETAIL E

Parts List

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

Item	Part Number	Description	Qty
1	D-029	EXTENSION, 300 JACK	1
2	G-1100-105006	BOLT, 1/4-20 X 3/4" LG HEX HD GR 5	3
3	G-1100-107010	BOLT, HEX HD 3/8-16 X 1 LONG	1
4	G-1100-107014	BOLT, 3/8-16 X 1-1/2" HEX HD GR 5	1
5	G-1100-107514	BOLT, 3/8-24 X 1-1/2" HEX HD GR 5	6
6	G-1100-109514	BOLT, 1/2-20 X 1-1/2" HEX HD GR 5	16
7	G-1100-109516	BOLT, 1/2-20 X 1-3/4" HEX HD GR 5	8
8	G-1100-109014	BOLT, 1/2-13 X 1-1/2" HEX HD GR 5	4
9	G-1100-109524	BOLT, 1/2-20 X 2-1/2" HEX HD GR 5	1
10	G-1100-109520	BOLT, 1/2-20 X 2.0" HEX HD GR 5	4
11	G-1202-1075	STOPNUT, 3/8-24 ELASTIC	6
12	G-1202-1095	STOPNUT, 1/2-20 ELASTIC	33
13	G-1250-1050N	FLATWASHER, 1/4 NARROW	3
14	G-1250-1070N	FLATWASHER, 3/8 NARROW	8
15	G-1250-1090N	FLATWASHER, 1/2 NARROW	34
16	G-1251-1050R	LOCKWASHER, 1/4 REGULAR	3
17	G-1251-1070R	LOCKWASHER, 3/8 REGULAR	2
18	G-1277-04	WASHER, 1/2 BEVEL	12
19	G-1301-11	PIN, 3/16 X 1-1/2 LG COTTR	2
20	G-1306-0640	PIN, MODEL "D" T-HANDLE	1
21	G-1307-0830	PIN, AEROFEST MODEL C	1
22	G-1351-18	RIVET, 3/16 OPEN-END STL	2
23	H-1045	BREATHER	1
24	H-1516-08	CLAMP, 2-EAR HOSE	1
25	H-1593-03	MOUNT, SWIVEL	2
26	H-1721-02	CLAMP, ELECTRICAL	2
27	HC-1961	PUMP, HYD HAND CE (3250 PSI)	1
28	HC-2328	RESERVOIR, TRANSLUCENT	1
29	HJ-600	FRAME WELDMENT	1
30	HJ-607-01	WELDMENT , FRONT LIFT	1
31	HJ-616	SPACER	2
32	HJ-630-01	PIN, CYLINDER PIVOT	1
33	HJ-630-02	PIN, CYLINDER PIVOT	1
34	HJ-648	BRACKET, PUMP	1
35	HJ-658	ADJ. LIFTING PAD ASSEMBLY	1
36	INS-1500	TEST PROCEDURE	1
37	L-1003	FLUID, MIL-PRF-5606	1
38	N-2001-08-S-B	ELBOW, STRAIGHT THREAD	1
39	N-2005-08-S	ELBOW, MALE #6 JIC X 1/4 NPT	1
40	N-2053-05-S-B	PLUG, HEX HD W/ O-RING	1
41	N-2210-09-S	REDUCER, PIPE THREAD	1
42	N-2411-02	ZERK, GREASE	2
43	N-2653-01-S-B	ELBOW, STR THD BEADED HOSE	1

Parts List

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

Item	Part Number	Description	Qty
44	N-2788-02-S-B	ELBOW, 1/4 HOSE, -06 SAE	1
45	TF-1043-03*64.0	ASSEMBLY, HOSE, 16" LONG	1
46	TF-1047-01*06.0	HOSE, 1/4 GRAY	1
47	U-1018	CASTER, SWIVEL	4
49	V-1102	LABEL, MIL-PRF-5606	1
50	V-1183	LABEL, MAX CAPACITY 5000 #	1
51	V-1185	LABLE , CAUTION - INSTRUCTION	1
52	V-1779	LABEL, SERIAL CE NON-ELECT	1
53	Z-1389-00	WELDMENT, STABILIZER SCREW	2
54	Z-1749	REST BUTTON ASS'Y	1
55	Z-4030	ASSY, HORIZONTAL EXTENSION	1
56	H-1009-01	ASSEMBLY, HANDLE	1



APPENDIX I

HC-1961 Hand Pump Parts List



**Model: HC-1961
3250 psi Hand Pump**

**Parts List
With Illustrations**

05/2005 – Rev. OR

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.

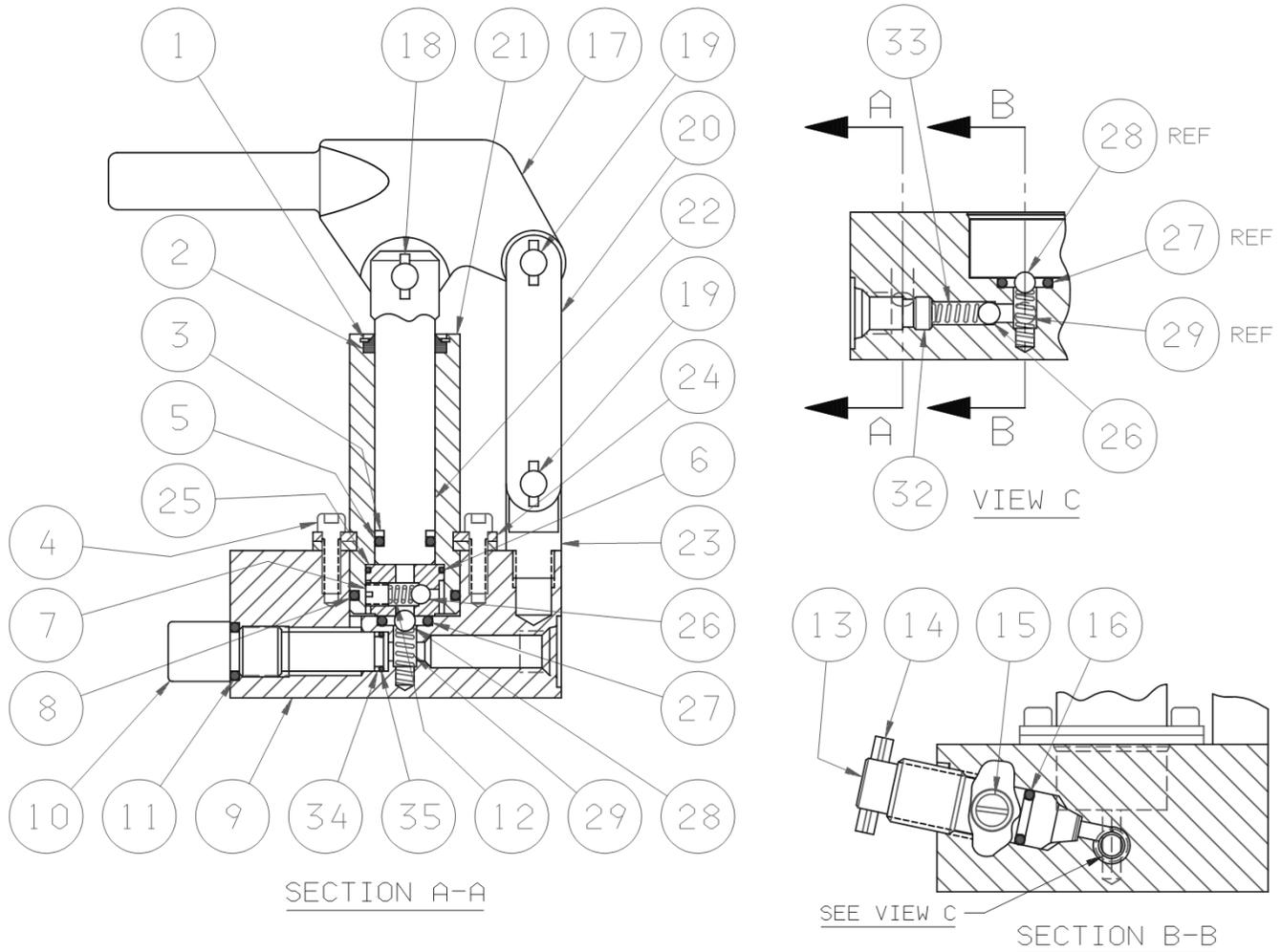
This pump is compatible with MIL-PRF-5606/MIL-H-83282 Hydraulic Fluids only.

INSTALLATION INSTRUCTIONS:

1. Inspect all parts. Replace all worn or otherwise defective parts.
2. Clean all parts prior to re-assembly.
3. Lubricate all O-rings with clean system hydraulic fluid prior to installation.
4. Torque pump screws (Item 4) to 10 ft-lbs.

Parts List

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



WARNING!



Item 10 (H-2606) is a preset relief valve. Do Not disassemble this valve. Replacement parts are available as a preset relief valve assembly

Parts List continued on following page.

Parts List

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

Item	Part Number	Description	Qty
4	518-000	Screw, Socket Head Cap	4
9	Not Sold Separately	Pump Body	1
10	H-2606	Assembly, Relief Screw	1
24	506-000	Flange Half	4
Not Shown	H-1009-01	Handle	1
	K-1068	Kit, Linkage Replacement; consists of:	
17		Bracket, Pump Handle	1
18		Assembly, Clevis Pin	1
19		Assembly, Linkage Pin	2
20		Strap	2
23		Pivot	1
	K-1778	Kit, Piston/Cylinder Replacement; consists of:	
1		Retainer, Wiper	1
21		Tube	1
22		Piston	1
25		Assembly, Valve Body (Includes Items 7, 12, 25, 26)	1
	K-1906	Kit, Piston/Seal Replacement; consists of:	
3		Ring, Backup	1
5		O-ring, Piston	1
22		Piston	1
	K-3342	Kit, Internal Parts Replacement; consists of:	
12		Spring, Inlet Check	1
26		Ball, Inlet Check	2
28		Ball, Outlet Check	1
29		Spring, Outlet Check	1
33		Spring, Inlet Check	1
	K-3343	Kit, Release Screw Replacement; consists of:	
13		Screw, Release	1
14		Pin, Roll	1
15		Retainer, Screw	1
16		O-ring	1
	K-3441	Kit, Seal Replacement; consists of:	
2		Wiper, Rod	1
3		Ring, Backup	1
5		O-ring, Piston	1
6		O-ring, Valve Body	1
8		O-ring, Tube Seal	1
11		O-ring, Relief Screw	1
16		O-ring, Release Screw	1
27		O-ring, Outlet Check	1
34		Ring, Backup Relief Screw	1
35		O-ring, Relief Screw	1



APPENDIX II

Declaration of Conformity



DECLARATION of CONFORMITY

The design, development and manufacture is in accordance with European Community guidelines

Tripod Jack
02-0300C0100

Relevant provisions complied with by the machinery:
2006/42/EC

Relevant standards complied with by the machinery:
EN ISO 12100-1

Identification of person empowered to sign on behalf of the Manufacturer:

A handwritten signature in black ink that reads "Patrick Finch". The signature is written in a cursive style and is positioned above a horizontal line.

Quality Assurance Representative



Tronair, Inc.
1 Air Cargo Pkwy East
Swanton, OH 43558

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