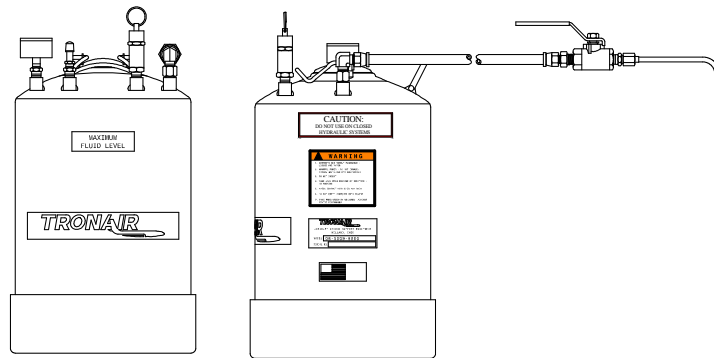




Operation & Service Manual



Model: 06-5077-6700 Fluid Service Unit Toluene



01/2013 – Rev. 01

Includes Illustrated Parts List

REVISION
01

DATE
01/2013

TEXT AFFECTED
Original Release



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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 DESCRIPTION

Tronair Fluid Service Unit is a mobile unit designed to provide a source of clean, pressurized fluid for maintenance functions. This unit will retain enough air pressure for proper operation for an eight hour period. Thereafter, recharging may be required.

2.0 SPECIFICATIONS

Fluid: Toluene
Maximum Pressure: 125 psi (8.6 bar)
Dimensions: 9-1/2" diameter (24 cm)
16-7/8" high (42.8 cm)
Weight: 44 lbs (19.8 kg)
Capacity: 2.5 gallons (9.5 liters)

3.0 FEATURES

- 15 ft (4.6 m) hose

4.0 PREPARATIONS FOR USE

The unit is shipped fully assembled, and only the following steps are required to make it operational



CAUTION!

Only use the type of fluid for which the unit is designed. Using other fluids will cause contamination and seal deterioration.

Avoid static build up, ground tank.

1. Remove the fill cap and fill reservoir



CAUTION!

Do not fill above the maximum fluid level as shown on the outside of the unit.

5.0 OPERATING INSTRUCTIONS



CAUTION!

Do not use this unit on closed hydraulic systems.

Avoid static build up, ground tank.

To use your Fluid Service Unit, follow the steps below:

1. Open ball valve on hose end to deflate pressure from vessel.
2. Close ball valve on hose end.
3. Fill vessel with proper fluid. Do not exceed the maximum fluid level.
4. Attach air supply hose to air valve.
5. Pressurize vessel to 85 psig (6 bar) maximum and remove air supply hose from air valve.
6. Transfer fluid by opening needle valve on hose end.

6.0 SAFETY



WARNING!

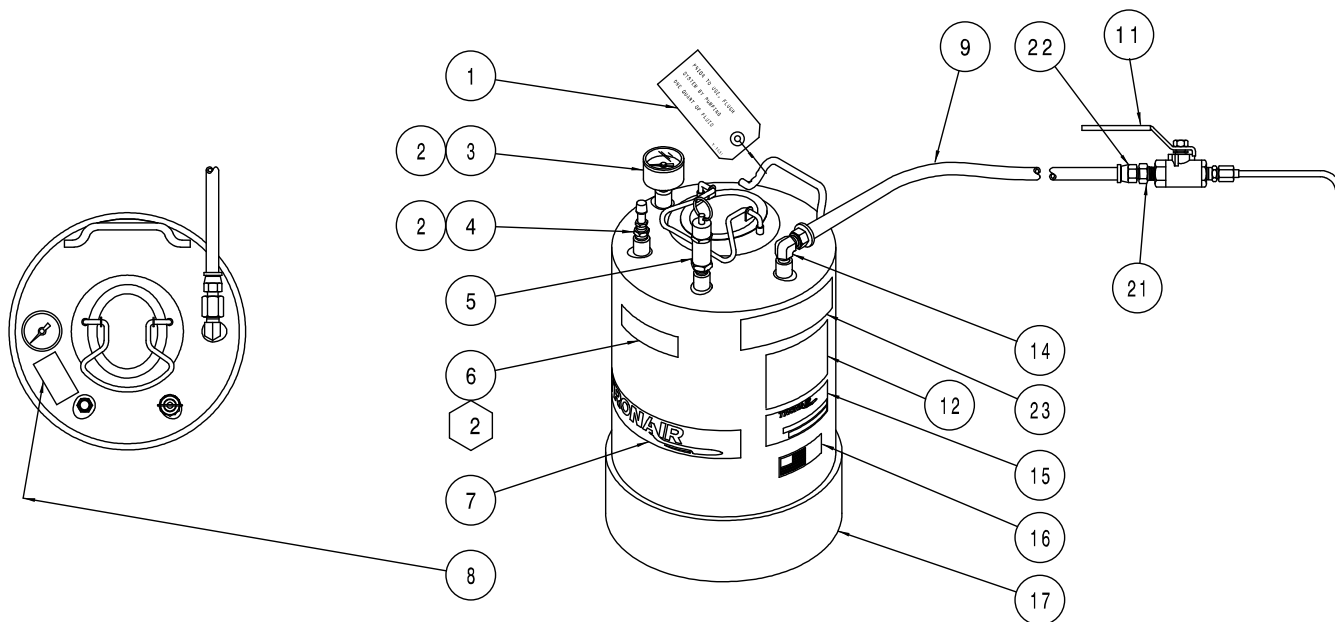
1. Contents are highly flammable liquid and vapor.
2. Harmful fumes, do not inhale. Vapors may cause eye irritation.
3. Do not ingest.
4. Keep away from sources of ignition. No smoking.
5. Avoid contact with eyes and skin.
6. Do not empty contents into drains.
7. Take precautionary measures against static discharges.

7.0 PARTS LIST

Reference following page for ordering information of Replacement Parts and Kits.

Parts List

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



ITEM	PART NUMBER	DESCRIPTION	QTY
1	V-1431	Tag, Flush System	1
2	N-2210-02-S	Reducer, Pipe Thread (1/4 x 1/8 NPT)	2
3	HC-1831	Gauge, Pressure (0-160 psi)	1
4	H-1221	Valve, Air	1
5	PC-1017-02-125	Valve, Safety (125 psi)	1
6	V-1163	Label, Max Fluid Level	1
7	V-1002	Label, Tronair, Inc.	1
8	V-1164	Label, 85 PSI Max	1
9	TF-1043-09*180	Hose, Push-On (MB) 1/4 ID x 180 LG	1
11	Z-2152	Assembly, Fill Valve	1
12	V-2454	Label, Warning	1
14	N-2005-04-S	Elbow, Male (-04 x 1/4 NPT)	1
15	V-1779	Label, Serial Number CE Non Elect	1
16	V-1001	Label, Made In USA	1
17	H-1216	Vessel, Pressure	1
	HC-1400	Oring Closure	1
21	N-2009-04-S	Connector, Male (-04 x 1/4 NPT)	1
22	N-2026-01-S	Swivel, 37° JIC (-04 x 1/4 Tube)	2
23	V-2033	Label, Closed Hydraulic System Caution	1
Not Shown	V-2449	Label, Toluene	1



APPENDIX I

**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.



APPENDIX II

**Material Safety
Data Sheet
(MSDS)
Toluene**

Material Safety Data Sheet
Toluene

MSDS Number: M1003
Effective Date: 9/07/2004

Section 1 - Chemical Product and Company Identification

MSDS Name: Toluene
Synonyms: Methacide; Methylbenzene; Methylbenzol; Phenylmethane; Toluol
Company Identification:
VEE GEE Scientific, Inc.
13600 NE 126th Pl Ste A
Kirkland, WA 98034
For information in North America, call: 425-823-4518

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
108-88-3	Toluene	>99	203-625-9

Hazard Symbols: XN F
Risk Phrases: 11 20

Section 3 - Hazards Identification

Emergency Overview

Appearance: Colorless. Flash Point: 40°F. **Warning!** Flammable liquid and vapor. May cause central nervous system depression. May cause liver and kidney damage. This substance has caused adverse reproductive and fetal effects in animals. Causes digestive and respiratory tract irritation. May cause skin irritation. Aspiration hazard if swallowed. Can enter lungs and cause damage. **Danger!** Harmful or fatal if swallowed. Causes eye irritation and possible transient injury. **Poison!** May be absorbed through intact skin. Vapor harmful. Call physician immediately.

Target Organs: Kidneys, central nervous system, liver.

Potential Health Effects

Eye Contact: Causes eye irritation. May result in corneal injury. Vapors may cause eye irritation.

Skin Contact: Causes moderate skin irritation. May cause cyanosis of the extremities.

Ingestion: Aspiration hazard. May cause irritation of the digestive tract. May cause effects similar to those for inhalation exposure. Aspiration of material into the lungs may cause chemical pneumonitis, which may be fatal.

Inhalation: Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. Inhalation of vapor may cause respiratory tract irritation. May cause liver and kidney damage. Vapors may cause dizziness or suffocation. Overexposure may cause dizziness, tremors, restlessness, rapid heart beat, increased blood pressure, hallucinations, acidosis, kidney failure.

Chronic Exposure: Prolonged or repeated skin contact may cause dermatitis. May cause cardiac sensitization and severe heart abnormalities. May cause liver and kidney damage.

Section 4 - First Aid Measures

Eye Contact: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin Contact: Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.

Ingestion: Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Possible aspiration hazard. Get medical aid immediately.

Inhalation: Get medical aid immediately. Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Notes to Physician: Causes cardiac sensitization to endogenous catecholamines which may lead to cardiac arrhythmias. Do NOT use adrenergic agents such as epinephrine or pseudoepinephrine.

Section 5 - Fire Fighting Measures

General Information: Containers can build up pressure if exposed to heat and/or fire. As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Water runoff can cause environmental damage. Dike and collect water used to fight fire. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. Flammable Liquid. Can release vapors that form explosive mixtures at temperatures above the flashpoint. Use water spray to keep fire-exposed containers cool. Water may be ineffective. Material is lighter than water and a fire may be spread by the use of water. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Containers may explode when heated.

Fire Extinguishing Media: Use water spray to cool fire-exposed containers. Water may be ineffective. Do NOT use straight streams of water. For small fires, use dry chemical, carbon dioxide, water spray or regular foam. Cool containers with flooding quantities of water until well after fire is out. For large fires, use water spray, fog or regular foam.

Section 5 - Fire Fighting Measures

Autoignition Temperature: 422°C (792°F)
Flash Point: 7°C (45°F)
Explosion Limits, lower: 1.2 vol%
Explosion Limits, upper: 7.1 vol%
NFPA Rating: (estimated) Health: 2; Flammability: 3; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Avoid runoff into storm sewers and ditches which lead to waterways. Remove all sources of ignition. Absorb spill using an absorbent, non-combustible material such as earth, sand, or vermiculite. Do not use combustible materials such as saw dust. A vapor suppressing foam may be used to reduce vapors. Water spray may reduce vapor but may not prevent ignition in closed spaces.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Use with adequate ventilation. Ground and bond containers when transferring material. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Avoid contact with heat, sparks and flame. Avoid ingestion and inhalation. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

Storage: Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs	OSHA - Vacated Pels
Toluene	50 ppm TWA	100 ppm TWA 375 mg/m ³ TWA 500 ppm IDLH	200 ppm TWA C 300 ppm	100 ppm TWA 375 mg/m ³ TWA 150 ppm STEL 560 mg/m ³ STEL

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Clear liquid
Appearance: Colorless
Odor: Sweet, pleasant
pH: Not available
Vapor Pressure: 36.7 mm Hg @ 30° C
Vapor Density: 3.1
Evaporation Rate: 2.4
Viscosity: 0.59 cP @ 20° C

Boiling Point: 232° F
Freezing/Melting Point: -139° F
Decomposition Temperature: Not available
Solubility: Insoluble
Specific Gravity/Density: 0.9
Molecular Formula: C₆H₅CH₃
Molecular Weight: 92.056

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Incompatible materials, ignition sources, excess heat.

Incompatibilities with Other Materials: Nitrogen tetroxide, nitric acid plus sulfuric acid, silver perchlorate, strong oxidizers, sodium difluoride.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

Carcinogenicity:
CAS# 108-88-3:
ACGIH: A4 - Not Classifiable as a Human Carcinogen
IARC: Group 3 carcinogen

Section 11 -**Toxicological Information (continued)**

Epidemiology: No information available.

Teratogenicity: Specific developmental abnormalities included craniofacial effects involving the nose and tongue, musculoskeletal effects, urogenital and metabolic effects in studies on mice and rats by the inhalation and oral routes of exposure. Some evidence of fetotoxicity with reduced fetal weight and retarded skeletal development has been reported in mice and rats.

Reproductive Effects: Effects on fertility such as abortion were reported in rabbits by inhalation. Paternal effects were noted in rats by inhalation. These effects involved the testes, sperm duct and epididymis.

Neurotoxicity: No information available.

Mutagenicity: No information available.

Section 12 -**Ecological Information**

Ecotoxicity: No data available. Bluegill LC50=17 mg/L/24H Shrimp LC50=4.3 ppm/96H Fathead minnow LC50=36.2 mg/L/96H Sunfish (fresh water) TLM=1180 mg/L/96H

Environmental: From soil, substance evaporates and is microbially biodegraded. In water, substance volatilizes and biodegrades.

Physical: Photochemically produced hydroxyl radicals degrade substance.

Other: None.

Section 13 -**Disposal Considerations**

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: CAS# 108-88-3: waste number U220.

Section 14 -**Transport Information**

	US DOT	Canada TDG
Shipping Name	Toluene	Toluene
Hazard Class	3	3 (9.2)
UN Number	UN1294	UN1294
Packing Group	II	II
Other		FP 4C

Section 15 -**Regulatory Information****US Federal**

TSCA: CAS# 108-88-3 is listed on the TSCA inventory.

Health & Safety Reporting List: None of the chemicals are on the Health & Safety Reporting List.

CAS# 108-88-3: Effective Date: October 4, 1982; Sunset Date: October 4, 1992

Chemical Test Rules: None of the chemicals in this product are under a Chemical Test Rule.

Section 12b: None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule: None of the chemicals in this material have a SNUR under TSCA.

SARA:

Section 302 (RQ): CAS# 108-88-3: final RQ = 1000 pounds (454 kg)

Section 302 (TPQ): None of the chemicals in this product have a TPQ.

SARA Codes: CAS # 108-88-3: acute, flammable.

Section 313: This material contains Toluene (CAS# 108-88-3, 99%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act: CAS# 108-88-3 is listed as a hazardous air pollutant (HAP). This material does not contain any Class 1 Ozone depleters. This material does not contain any Class 2 Ozone depleters.

Clean Water Act: CAS# 108-88-3 is listed as a Hazardous Substance under the CWA. CAS# 108-88-3 is listed as a Priority Pollutant under the Clean Water Act. CAS# 108-88-3 is listed as a Toxic Pollutant under the Clean Water Act.

OSHA: None of the chemicals in this product are considered highly hazardous by OSHA.

STATE: CAS# 108-88-3 can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

WARNING: This product contains Toluene, a chemical known to the state of California to cause birth defects or other reproductive harm. California No Significant Risk Level: CAS# 108-88-3: NOEL = 7000 ug/day

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XN F

Risk Phrases:

R 11 Highly flammable.

R 20 Harmful by inhalation

Section 15 -**Regulatory Information (continued)****Safety Phrases:**

S 16 Keep away from sources of ignition - No smoking.
S 25 Avoid contact with eyes.
S 29 Do not empty into drains.
S 33 Take precautionary measures against static discharges.

WGK (Water Danger/Protection): CAS# 108-88-3: 2

Canada - DSL/NDSL: CAS# 108-88-3 is listed on Canada's DSL List.

Canada - WHMIS: This product has a WHMIS classification of B2, D2B.

Canadian Ingredient Disclosure List: CAS# 108-88-3 is listed on Canada's Ingredient Disclosure List.

Exposure Limits: CAS# 108-88-3: OEL-AUSTRALIA:TWA 100 ppm (375 mg/m³);STEL 150 ppm (560 mg/m³) OEL-BELGIUM:TWA 100 ppm (377 g/m³);STEL 150 ppm (565 mg/m³) OEL-CZECHOSLOVAKIA:TWA 200 mg/m³;STEL 1000 mg/m³ OEL-DENMARK:TWA 50 ppm (190 mg/m³);Skin OEL-FINLAND:TWA 100 ppm (375 mg/m³);STEL 150 ppm;Skin OEL-FRANCE:TWA 100 ppm (375 mg/m³);STEL 150 ppm (560 mg/m³) OEL-GERMANY:TWA 100 ppm (380 mg/m³) OEL-HUNGARY:TWA 100 mg/m³;STEL 300 mg/m³;Skin OEL-JAPAN:TWA 100 ppm (380 mg/m³) OEL-THE NETHERLANDS:TWA 100 ppm (375 mg/m³);Skin OEL-THE PHILIPPINES:TWA 100 ppm (375 mg/m³) OEL-POLAND:TWA 100 mg/m³ OEL-USSIA:TWA 100 ppm;STEL 50 mg/m³ OEL-SWEDEN:TWA 50 ppm (200 mg/m³);STEL 100 ppm (400 mg/m³);Skin OEL-SWITZERLAND:TWA 100 ppm (380 mg/m³);STEL 500 ppm OEL-THAILAND:TWA 200 ppm;STEL 300 ppm OEL-TURKEY:TWA 200 ppm (750 mg/m³) OEL-UNITED KINGDOM :TWA 100 ppm (375 mg/m³);STEL 150 ppm;Skin OEL IN BULGARIA, COLOMBIA,JORDAN, KOREA check ACGIH TLV OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

Section 16 -**Additional Information**

MSDS Creation Date: 09/07/2004

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall VEE GEE Scientific be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if VEE GEE Scientific has been advised of the possibility of such damages.



APPENDIX III

**Declaration
Of
Conformity**



DECLARATION of CONFORMITY

Fluid Servicing Unit
06-5077-6700

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

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

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

Quality Assurance Representative