



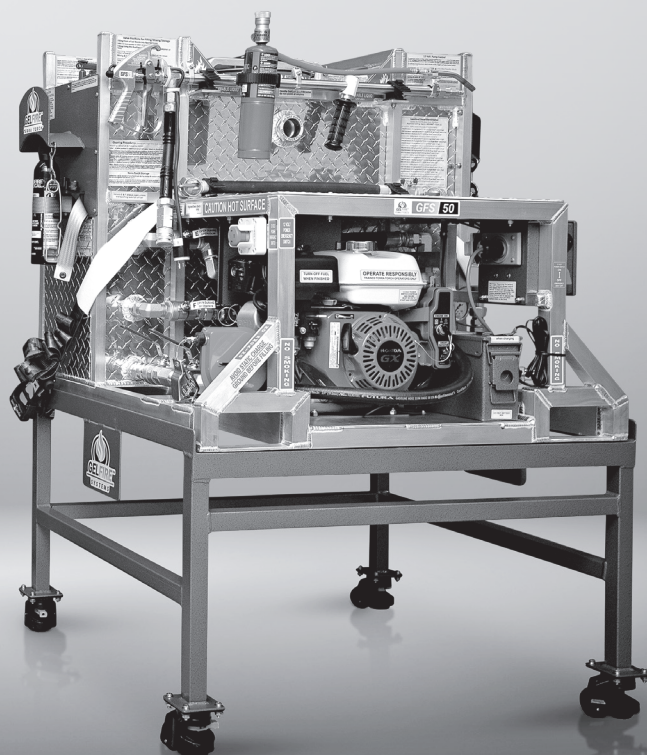
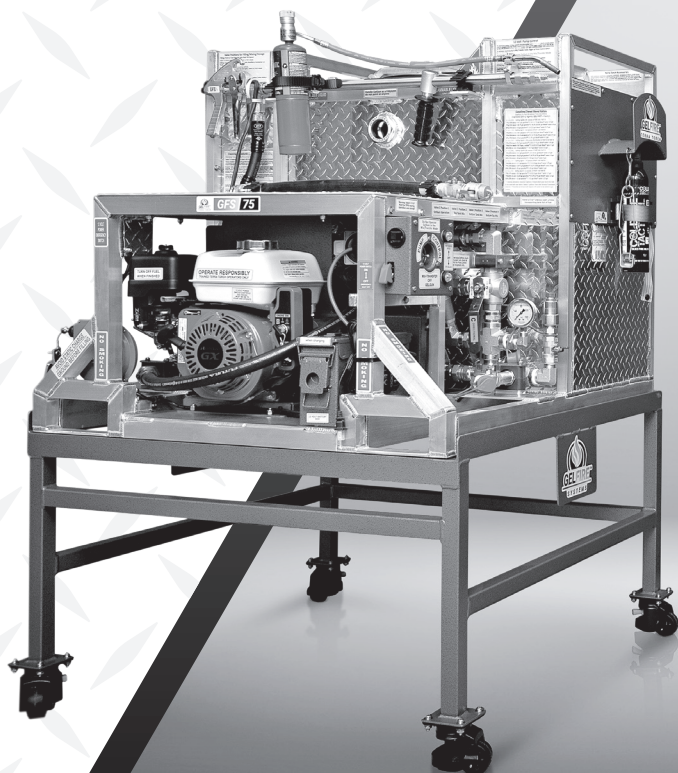
OPERATIONS MANUAL

GFS 50/75

V7



GELFIRE[®]
TERRA TORCH[®]
gelfiresystems.com



IMPORTANT SAFETY INSTRUCTIONS

READ AND UNDERSTAND ALL INSTRUCTIONS

GELFIRE SYSTEMS® DISCLAIMER

Please read this Disclaimer carefully before operating the **Terra Torch®** and/or using the **GelFire gelling agent** (the “Products”) by Gel-Fire Systems® (“GelFire”, “we”, “us”, “our”), as it provides you important information regarding proper and safe use of the Products. We cannot cover every possible use that might be encountered. If in doubt, **DO NOT USE THE PRODUCTS**. Instead, please contact us at info@gelfiresystems.com or 833-GEL-FIRE. By using our Products, you warrant that you have been trained to operate the Terra Torch, your use complies with all applicable laws, regulations, and ordinances, and that you maintain in effect all the licenses, permissions, authorizations, consents, and permits.

While we take great care to maximize the safety of our Products, there is still significant risk involved with their operation and use. Therefore, please be responsible and seriously consider your duty to handle and use the Products with care. You can cause substantial damage to the Terra Torch®, personal injury, loss of life or catastrophic property damage if you do not operate or use the Products properly. Please review GelFire’s Operating Manual and the information contained herein to familiarize yourself with proper use of the Products.

While you are obligated to make proper use of the Products, even proper use can result in calamity. Thus, GelFire disclaims all liability for any use of the Products, whether proper or improper, which could reasonably be expected to result in damage to the Terra Torch®, personal injury, loss of life or property damage. In addition, it is of the utmost importance that you observe federal, state and local laws regarding use of the Products. Please confirm whether your use fully complies with the law before using our Products to perform such use. The Products are not designed, intended, nor authorized for uses other than those approved by and in full compliance with the applicable laws, regulations, and ordinances regarding the Products’ use and fire safety. Other unauthorized and/or unlawful applications in which the use of our Products could reasonably be expected to result in damage to the Terra Torch®, personal injury, loss of life or property damage are expressly prohibited, and GelFire disclaims all liability for any such use.

YOU MUST BE TRAINED TO USE THE TERRA TORCH.

Only trained Terra Torch operators are authorized to use the GelFire Terra Torch. You must complete onsite training, read the Operators Manual, and qualify within your agency or company to operate the Terra Torch.

THE GELFIRE GELLING AGENT AND FLASH 21 GELLING AGENT ARE THE ONLY TWO GELLING AGENTS APPROVED TO BE USED IN THE TERRA TORCH®. DO NOT USE ANOTHER TYPE OF GELLING AGENT.

⚠ WARNING

Always operate the Terra Torch® in a safe manner in compliance with gelfire’s directions and procedures. Always keep the gelgun of the Terra Torch® pointed in a safe direction. Never use the Terra Torch® in-doors or in a confined space. Never discharge/fire an ignited fuel stream in the direction of people and animals. Be aware of the maximum range of the ignited fuel stream and the extreme fire the products produce. Provide adequate clearance to keep the ignited gelled fuel from reaching un-targeted surroundings to avoid unintentional wildfire and property damage. Use extreme caution when handling, filling, and mixing gasoline. Stand behind and away from someone operating the Terra Torch®. Never use the Terra Torch® while under the influence of any drugs, alcohol, and any substance that may impact mental capacity. Always keep your finger off the trigger unless you intend to discharge/fire and apply an ignited fuel stream to the desired target. Always wear appropriate ppe protective gear, including protective eyewear, when operating the Terra Torch® and/or mixing, handling, or disposing of the Gelfire Gelling Agent. Keep the products in a secure location when not in use and properly follow product storage instructions. Familiarize yourself with and obey all federal, state, and local laws regarding proper use of the products and fire safety. Do not operate the Terra Torch® with valves E and F closed. Do not operate the gelgun in the mix/transfer pump mode. Fill the terra torch’s fuel tank through the red or green protectoseal spouts, or through the auxiliary transfer hose, only. Do not fill or add gelfire gelling agent through the betts manway. Be aware of falling embers when opening the betts manway. The betts manway must be kept closed while fueling, mixing and operating the Terra Torch®. Review motor user manual for safe operating procedures. Always secure the Terra Torch® to a vehicle or trailer when transporting. Do not fill the fuel tank above the tank site glass. Unlatch the battery box while charging and review battery charger user manual. No smoking and no cell phone use close to the products when filling or mixing. Do not leave the products unattended while in use. Refer to operations manual for complete procedures. The gelfire gelling agent is harmful if swallowed and will causes severe skin burns and eye damage. The Gelfire Gelling Agent may cause damage to organs through prolonged or repeated exposure. Do not inhale the dust/fume/gas/mist/vapors/spray. Wash hands and skin thoroughly after handling. Do not eat, drink or smoke when using the gelfire gelling agent. If swallowed: rinse mouth. Do not induce vomiting. If on skin (or hair): immediately remove/take off all contaminated clothing, and rinse skin with water/shower. If inhaled: immediately remove person to fresh air. If in eyes: immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. **IMMEDIATELY CALL A POISON CENTER OR DOCTOR/PHYSICIAN IF YOU FEEL UNWELL.** Wash contaminated clothing before reuse. Dispose of the Gelfire Gelling Agent contents/container in accordance with local, regional, national and international regulations.

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Manufacturer



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gelfiresystems.com

IF YOU HAVE QUESTIONS OR COMMENTS, CONTACT US.

1-833-GEL-FIRE

1 SAFETY & WARRANTY INFORMATION

Thank you for purchasing a GelFire Terra Torch! We want to help you get the best results from your new Terra Torch and to operate it safely. This manual contains information on how to do that. **Please read carefully before operating the Terra Torch. Operators of the Terra Torch must be trained by a Certified Terra Torch Operator that has received training. If there is a problem or you have a question please contact GelFire Systems.**

Safety Information

WARNING

You can be **killed** or Seriously **injured** if you do not operate the Terra Torch properly.

Certified Trained Terra Torch Operators only.

Treat the Terra Torch GelGun as a firearm.

Do not operate the motor, pump with valves E & F closed.

Do not operate the Terra Torch GelGun in the Mix/Transfer pump mode.

Filling the Terra Torch fuel tank must be done through the red or green Protectoseal spouts or through the auxiliary transfer hose only.

Do not fill or add product through the Betts Manway.

Be aware of falling embers when opening the Betts Manway.

Betts Manway must be kept closed while Fueling, Mixing & GelGun Operation.

Terra Torch **must be** properly secured to vehicle or trailer.

Do not fill above tank site glass.

Limited Warranty

GelFire warrants the Terra Torch®, Terra Torch® accessories, and GelFire gelling agent (the “**Products**”) to be free from defective material and workmanship under normal and proper use for a period of twelve (12) months from date of invoice. GelFire’s obligation only extends to the original customer to which the Products have been sold.

The warranty shall not be subject to transfer without GelFire’s prior written consent.

In no event will GelFire be liable for:

- (i) **Failure or damage due to your misuse, negligence, or willful misconduct, abuse or improper storage, installation, application or maintenance of the products (as specified herein);**
- (ii) **products that have been altered, modified, or repaired in any way without gelfire’s prior written consent;**
- (iii) **and products that have been damaged by accident, decomposition by chemical action, erosion or corrosion, and/or wear caused by improper storage in inclement weather, improper operation and fueling, and i mproper cleaning of the pump system.**

2 TERRA TORCH SPECIFICATIONS

Terra Torch GFS 50 and the Terra Torch GFS 75 are identical except for the tank size.

GFS 50

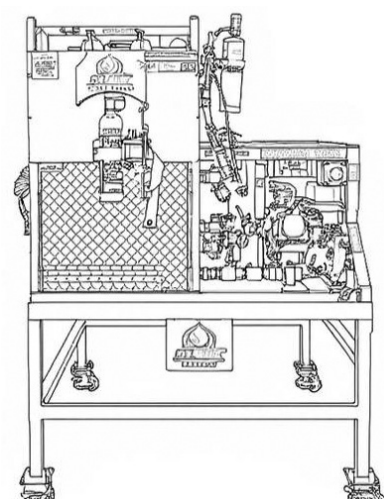
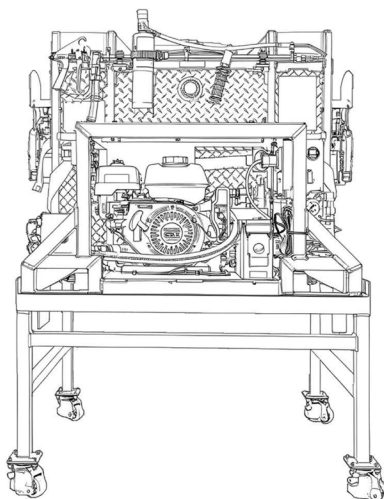
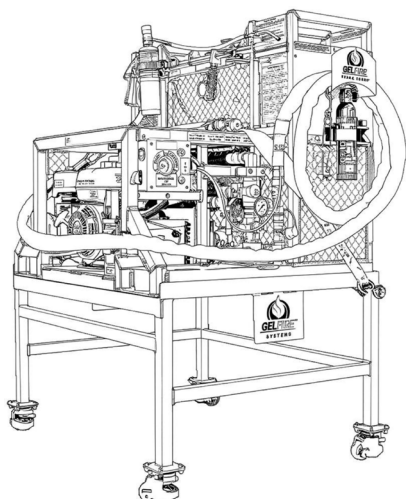
GelFire Terra Torch GFS 50-V7

Dimensions	40"W x 35"L x 36"H
Frame	3", 1.5", 1" aluminum tube.
Tank	50 gallons - ASTM Grade B209 5052 H32 aluminum - Venturi eductor mixing jets, 10" manway w/lid - spill containment 1"x1" tube aluminum tank cage w/roll over protection 2-2". fill spouts - Gel fuel capacity: 40 gallons.
Dry Weight	- With accessories: 475lbs - Gross weight: 775lbs
Gas Motor	- Honda GX160-LX2 with 2-1 gear reduction - Honda GX160-QXE2 with electric start
Pump	1" Oberdorfer brass gear pump w/12-volt electromagnetic clutch.
Transfer	3/4" x 48" auxiliary draft hose
Battery	12V 20AH AGM SLA w/M5 inserts w/12V trickle charger
GelHose Connectors	2–3/4" dry break hydraulic fittings
Grounding	Static reel, grounding vehicle clamp.

GFS 75

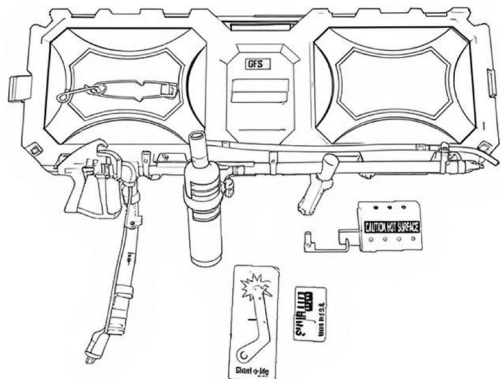
GelFire Terra Torch GFS 75-V7

Dimensions	40"W x 41"L x 36"H
Frame	3", 1.5", 1" aluminum tube.
Tank	75 gallons - ASTM Grade B209 5052 H32 aluminum - Venturi eductor mixing jets, 10" manway w/lid - spill containment 1"x1" tube aluminum tank cage w/roll over protection 2-2". fill spouts - Gel fuel capacity: 65 gallons.
Dry Weight	- With accessories: 500lbs - Gross weight: 920lbs
Gas Motor	- Honda GX160-LX2 with 2-1 gear reduction - Honda GX160-QXE2 with electric start
Pump	1" Oberdorfer brass gear pump w/12-volt electromagnetic clutch.
Transfer	3/4" x 48" auxiliary draft hose
Battery	12V 20AH AGM SLA w/M5 inserts w/12V trickle charger
GelHose Connectors	2–3/4" dry break hydraulic fittings
Grounding	Static reel, grounding vehicle clamp.



3 TERRA TORCH ACCESSORIES

GelGun



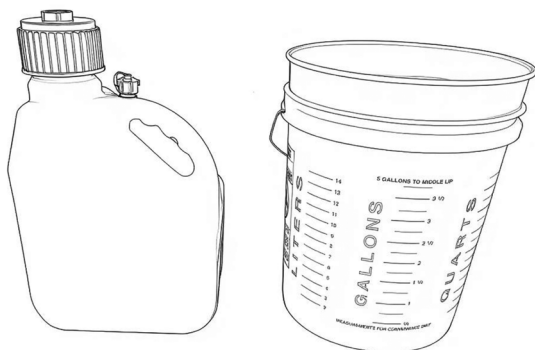
- HD propane bottle holder
- Custom propane hose & ignitor tip,
- Uses 14oz propane cylinder
- Adjustable hand grip, 3 tip sizes, striker,
- Optional: gun case, windshield, shoulder-strap

Misc. Accessories



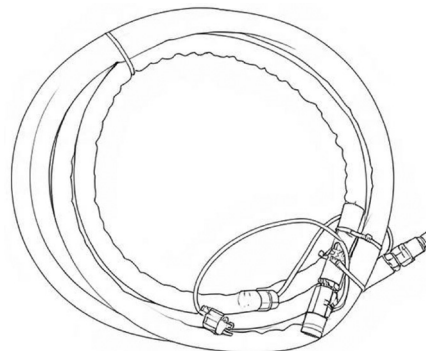
- Accessory bag
- 2-adjustable wrench's, metric hex set
- 12V battery bypass accessories, ratchet strap, funnel

Cleaning Containers



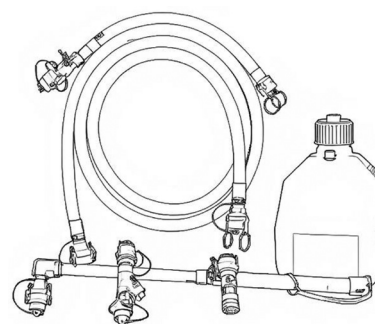
- 3 gallon utility jug or 5 gallon bucket

GelHose



- Lengths available 12', 15', 20' 25'
- Longer customs lengths also available

Auxiliary Transfer Hose Accessories



- 3/4"x 12' auxiliary extension hose
- Auxiliary transfer hose adapter
- Auxiliary transfer fitting
- Auxiliary mesh filter
- Auxiliary drum suction attachment

Cold Fire Extinguishers

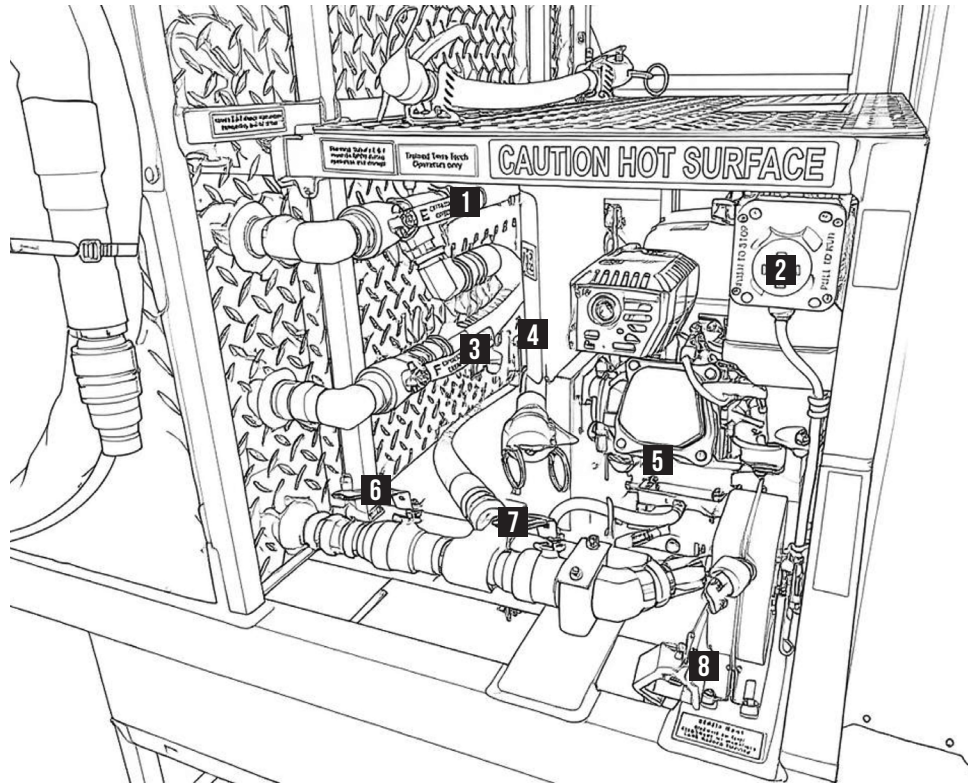


- 2-20oz Cold Fire Tactical extinguishers.
- Optional: 1-20oz w/1-carry case
1.5 gallon Cold Fire Extinguisher

4 COMPONENTS: RIGHT & LEFT SIDES

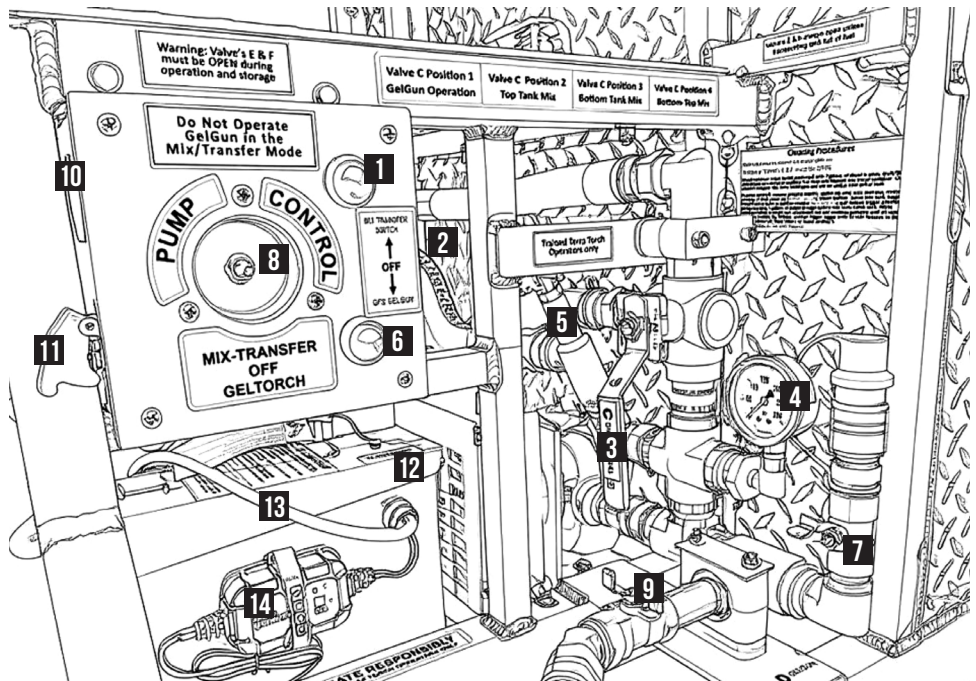
Left Side

- 1 VALVE E**
Top tank return line, must be open during operation
- 2 EMERGENCY STOP SWITCH**
Must be on (GREEN ring) to start and run engine and pump
- 3 VALVE F**
Bottom tank return line, must be open during operation & storage
- 4 AUXILIARY HOSE SUPPORT**
- 5 MOTOR OIL LEVEL STICK**
- 6 VALVE A**
Tank to pump
- 7 VALVE B**
Auxiliary transfer line to pump
- 8 STATIC REEL**
Attach static line to fuel dispenser while filling



Right Side

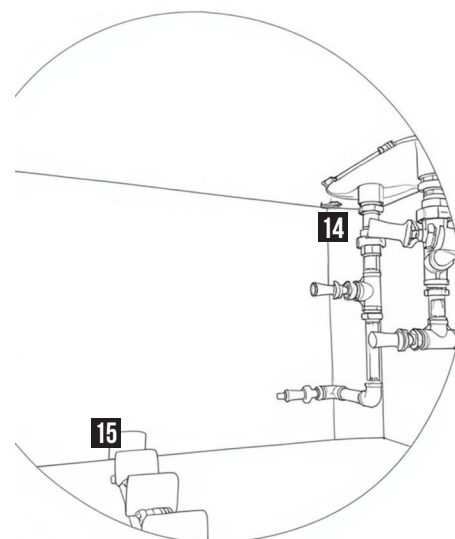
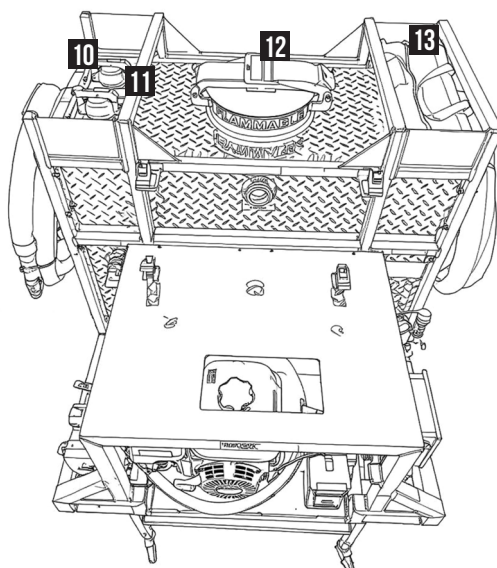
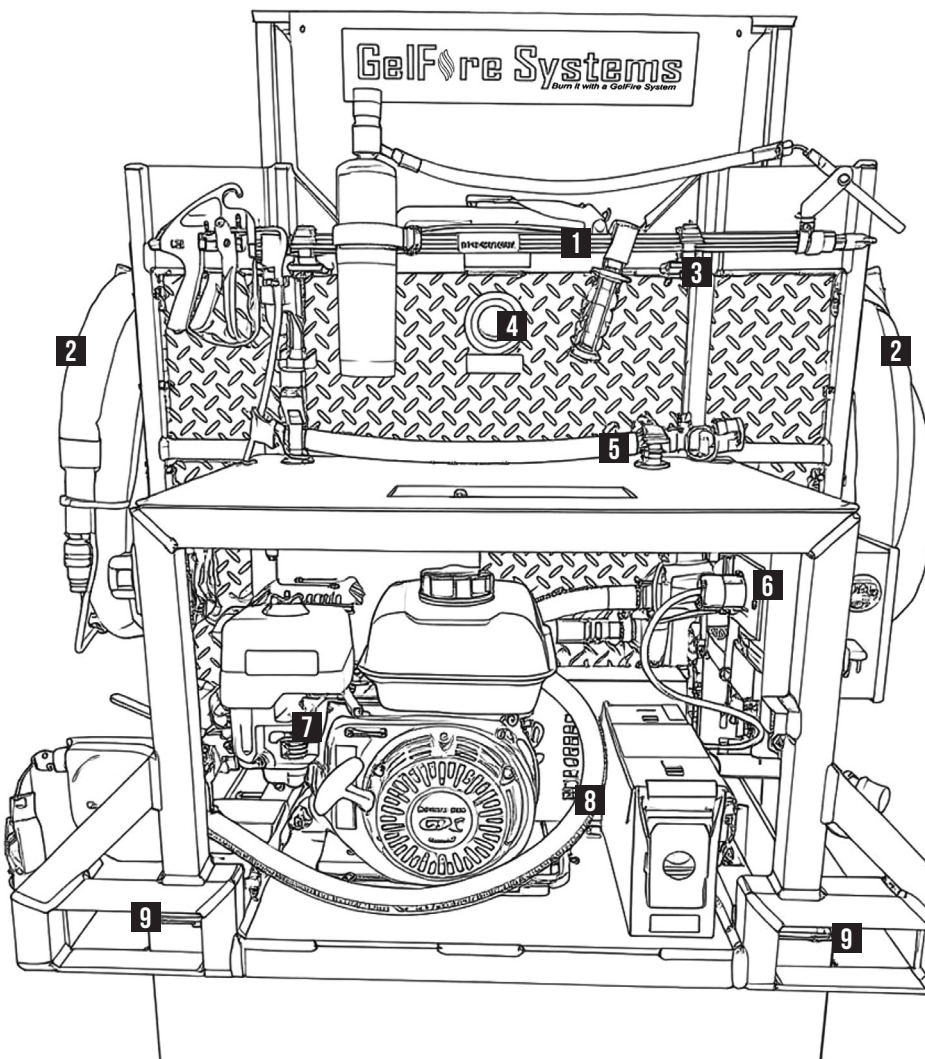
- 1 MIX/TRANSFER LED LIGHT**
Green light indicates Pump Control toggle switch is in the up position-Mix/Transfer mode
- 2 12V GELGUN RECEPTACLE PLUGIN**
- 3 VALVE C DIRECTIONAL VALVE**
- 4 PRESSURE GAUGE**
Maximum pressure 125 psi
- 5 PRESSURE REGULATOR**
- 6 GELGUN LED LIGHT**
Red light indicates Pump Control switch is in the GelGun mode
- 7 VALVE D**
Preferred GelHose attachment fitting
- 8 PUMP CONTROL SWITCH**
3-way toggle switch:
 - Up = Mix/Transfer mode
 - Center = off-no power to the pump
 - Down = GelGun mode
- 9 VALVE G**
Optional GelHose/transfer fitting



- 10 12V ON-OFF LED**
Amber light or 12V meter indicates power to the pump control box
- 11 12V PUMP CONTROL POWER SWITCH**
On/Off toggle switch for 12V power into Pump Control box
- 12 12V BATTERY BOX**
- 13 12V POWER CORD**
Plugs into Pump Control Receptacle
- 14 12V TRICKLE BATTERY CHARGER**
Battery needs to be fully charged before and after use

Front & Top

- 1 GELGUN**
It includes:
 - HD propane cylinder holder
 - Adjustable propane tip holder
 - Adjustable support grip
- 2 GELHOSE RACK**
- 3 GELGUN RACK**
- 4 FUEL SITE GLASS**
Do not fill above site glass
- 5 AUXILIARY TRANSFER HOSE ADAPTER**
- 6 12V PUMP CONTROL PLUGIN LOCATION**
- 7 MOTOR CHOKE & FUEL SHUTOFF LEVERS**
- 8 AUXILIARY TRANSFER HOSE**
- 9 FORKLIFT SLOTS**
- 10 PROTECTOSEAL FILL SPOUTS**
- 11 ADDITIONAL GELGUN TIPS**
- 12 BETTS MANWAY**
Keep closed while fueling, mixing & operating the GelGun
- 13 ACCESSORY BAG**
Removeable
- 14 TANK MIXING VENTURI EDUCTORS**
Ability to mix bottom, top or bottom & top
- 15 TANK GALLON MARKS**



Terra Torch Personnel

Fire Boss (FB)	Oversees all Terra Torch operation, burn plan, filling, mixing procedures, operates 12 Volt power switches, confirms correct pump pressure and GelGun operation.
Terra Torch Operator (TTOP)	Trained and operates GelGun, fills, mixes fuels, handles Flash 21 and operates draw hose. The TTOP must be a certified Terra Torch Operator.
Vehicle Operator (VOP)	Operates UTV/Vehicle, in charge of power supply and Terra Torch engine operation and Fire guard when filling.
TT Assistant (TTA)	Possible Trained 2nd GelGun operator, hose handler, communicator between GelGun/Vehicle Operator.

Terra Torch Accessories

- GelGun
- GelHose
- Propane canisters
- Propane strikers
- 12-Volt bypass accessories
- Leather gloves
- Auxiliary hose attachment
- GELFIRE A & B gelling agent
- PPE clothing
- Eye protection
- Eye wash solution
- Fire extinguishers
- 3 gallons utility jug or bucket
- Ratchet straps
- Funnel for gas motor
- Paper towels
- Trash bags
- Diesel for cleanup
- Operating manual & check off lists.

Pre Operation Instructions

- 1 Review pre-operation checklist:**
 - 12-Volt battery must be fully charged before use.

Terra Torch is securely strapped to the vehicle and grounded.
- 2 Connect 12-Volt power cord to Pump Control Box:**
 - Confirm emergency switch is pulled out
 - Green ring revealed.
- 3 Toggle 12-Volt power switch up to the on position:**
 - 12-Volt meter or amber LED light on
 - Motor off
- 4 Toggle pump control up to the Mix Transfer position:**
 - Identifying clutch engaging
 - Green led light on
 - Toggle pump control to the off position
- 5 Connect GelGun > GelHose, GelHose > Pump control**
 - Connecting 12-Volt cords into GelGun pump control receptacle and to the GelGun 12-Volt plug
- 6 Toggle pump control down to GFS GelGun position:**
 - Red led light on
 - Pull GelGun handle to confirm clutch engagement
 - Red led light will go out when GelGun trigger is pulled.
- 7 Turn both 12-Volt toggles to the off position:**
 - Check oil and add fuel to engine fuel tank if needed
 - Start and run engine to insure that engine performance is satisfactory.

Identify fuel type & gallons needed



90/92 Octane Non-Ethanol Gas recommended.

Using 85 Octane Gasoline will require Diesel blend, using Ethanol blended Gasoline will require water to be added to gel fuel mix properly



WARNING:

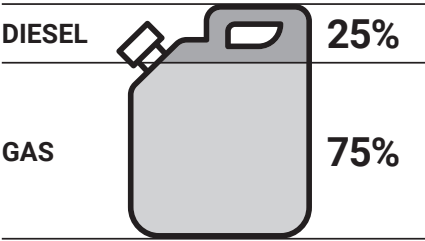
DO NOT OPERATE PUMP AT THIS TIME.

6 GASOLINE/DIESEL BLEND RATIOS

⚠ CAUTION: DO NOT FILL ABOVE TANK SITE GLASS.

Popular Fuel Blends

1



HIGH OCTANE GASOLINE

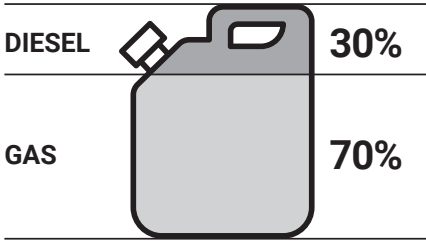
TOTAL GALLONS _____

TOTAL GALLONS x .25 = _____ Gallons of Diesel
- 2 Gallons*

TOTAL GALLONS x .75 = _____ Gallons of Gas**

TOTAL FUEL BLEND _____ x .75 oz gelling agent
= _____

2



REGULAR OCTANE GASOLINE

TOTAL GALLONS _____

TOTAL GALLONS x .30 = _____ Gallons of Diesel
- 2 Gallons*

TOTAL GALLONS x .70 = _____ Gallons of Gas**

TOTAL FUEL BLEND _____ x .75 oz gelling agent
= _____

Cleaning procedure



Cleaning procedure requires 2 gallons of diesel which goes back into tank to be used with next batch.

- * Deduct 2 gallons from gallons of diesel needed if previously cleaned.
- ** Gasoline w/ethanol will require 10% water to be added to gas volume.

GFS 50

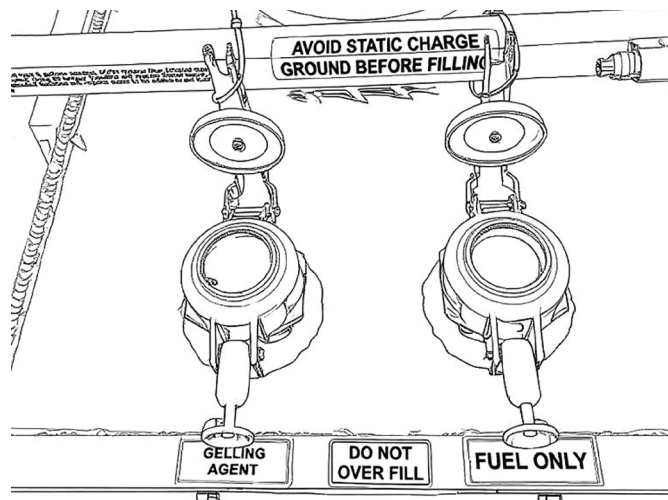
Tank Capacity

- 50 gallons
- Gel fuel: 40 gallons max.

GFS 75

Tank Capacity

- 75 gallons
- Gel fuel: 65 gallons max.

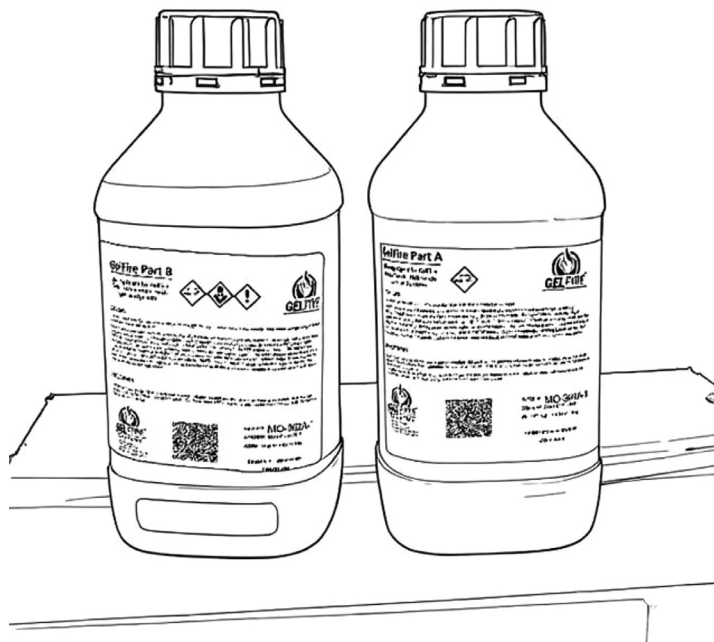


⚠ CAUTION:
Valves E & F are always open during operation and are closed only when filling and transporting a full tank of fuel.

⚠ WARNING:
Be aware of falling embers when opening manway keep closed while fueling, mixing and operating GelGun.

⚠ ATTENTION:
Do not pour gelling agent into red fuel port, use green fuel port only.

7 GELLING AGENT



Causes severe skin burns and eye damage



May cause damage to organs through prolonged or repeated exposure



Harmful if swallowed

⚠ **ATTENTION:**

- **ADD PART A FIRST TO FUEL MIX, MIX FOR 2 MINUTES.**
- **ADD PART B SECOND TO FUEL MIX, MIX FOR 2 MINUTES.**

PART A & PART B

⚠ **CAUTION:**

- Fuel type, temperature and altitude will affect gel thickness and fuel vaporization.
- Purge pump and lines when finished with diesel.
- Identify fuel type & gallons needed.

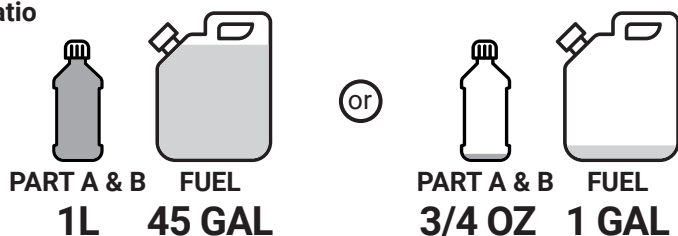
High Altitudes

Avgas, 90/92 Octane Non-Ethanol gasoline.

Low Altitudes

High Octane gasoline along with 87 Octane and lower gasolines will require diesel to be added to fuel mix ratio.

Ratio



- Pour desired amount of **PART A** first through green fuel spout only, allowing to mix for 2 minutes.
- Pour same amount of **PART B** through green fuel spout only, mix for 2 minutes.

Using Ethanol blended gasoline

⚠ **CAUTION:** Will require water to be added.

- If fuel blend does not gel, add up to 10% water to total gasoline gallons in tank. It is also recommended to add water through the Auxiliary Hose pumping from a bucket for better mixing.
- Gelling fuel just before using the Terra Torch is recommended due to gelled fuel thickening over time, restricting vaporization and gelled fuel stream ignition.
- Gelled fuel can be stored in Terra Torch tank during storage & nonoperation. Do not store gelled fuel above Valve F.
- If gelled fuel stream is too Hot (extreme flash at tip of GelGun) then fuel mix is not gelled properly. Thickening of gelled fuel mix can be obtained by adding water or more gelling agent.



⚠ DANGER:

- Harmful if swallowed.
- May cause damage to organs through prolong or repeated exposure.
- Do not breathe dust/fume/gas/mist/vapors/spray.
- May causes severe skin burns or serious eye damage.
- Wash hands and skin thoroughly after handling.
- Wear protective gloves/protective clothing/eye protection.
- Immediately call a POISON CENTER/doctor.
- Get medical advise/attention if you fell unwell.
- Wash contaminated clothing before reuse.
- Store locked up.
- Dispose of contents/container in accordance with local, regional, national and international regulations.
- Do not eat drink or smoke when using this product.

If swallowed

If on skin (or hair)

If inhaled

If in eyes

- Rinse mouth
- DO NOT induce vomiting
- Remove/Take off immediately all contaminated clothing.
- Rinse skin with water/shower.
- Remove person to fresh air and keep comfortable for breathing.
- Rinse cautiously with water for several minutes.
- Remove contact lenses, if present and easy to do.
- Continue rinsing.

24-Hour Emergency Response



CHEMTREC 1-800-123-4567

Helping customers around the world managing risk through preparation, response, and recovery.

Net Contents: 1 Liter/33.82Oz

GelFire Systems Support



833-GEL-FIRE

8 OPERATING INSTRUCTIONS FOR FILLING, MIXING & GELLING

Filling Terra Torch tank from a fuel nozzle into red fill spout

- **Valve C in home position 3**, Valve's A, B, D, E, F & G closed.
- **Attach static line** to dispenser or auxiliary tank.
- **Fill desired gallons** through RED fuel cap only.
- **Betts manway closed.**
- **Remove static line** from dispenser when finished.

Mixing & gelling fuel

- **Valve C in home position 3**, Valve's A, E, & F open, valves B, D, & G closed
- **With motor running**, pump control power on (volt meter or amber light on), toggle pump switch to the up position, green light on engages pump to operate.
- **Start mixing fuel** with Valve C in the home position 3, rotating Valve C to top tank position 2 when mixing a $\frac{3}{4}$ to full tank. Continue rotating back to position 2 & position 3 for 2 minutes.
- **When ready to gel fuel mix**, keep motor running with pump control switch in the up green light position and add desired Part A through the green fuel cap only, mix for 2 minutes and then add same amount of Part B through the green spout only and mix for 2 minutes.
- At this time you can inspect gelled fuel mix by carefully opening the Betts manway to confirm fuel has properly gelled.
- **Toggle pump control switch down** to the off position (center) when finished mixing and turn motor off.

Filling Terra Torch tank using the auxiliary transfer hose from an auxiliary container or tank

- **Valve C in home position 3**, Valve's B, E, F open, valves A, D, & G closed.



WARNING:

VALVE'S E & F MUST BE OPEN. DO NOT FILL ABOVE TANK SITE GLASS.

- **Attach Auxiliary Transfer Hose Attachment** to Auxiliary Transfer Hose and insert into auxiliary fuel container.
- **Confirm correct valve positions** and start motor with half throttle.
- **Toggle Pump Control switch up** to the Mix/Transfer position (GREEN Light on) engaging pump.
- **Fuel containers need to be clean** as pump will draft debris into system, clogging the hydraulic attachments.
- **When finished drafting** lift Auxiliary Transfer Hose Attachment into the air allowing pump to draft a little air, purging Auxiliary Transfer Hose.
- **When finished** close Valve B & remove Auxiliary Transfer Hose Attachment and cap Auxiliary Transfer Hose.
- **All valves closed** with Valve C in the home position 3 when transporting fuel to the burn sit.



WARNING:

FUEL CONTAINERS NEED TO BE CLEAN AS PUMP WILL DRAFT DEBRIS INTO SYSTEM, CLOGGING THE HYDRAULIC ATTACHMENTS.

Windy conditions



Windy conditions affects gelled fuel ignition, stream flow and distance.

The further the target the less efficient the ignited gel fuel becomes because of the gelled fuel burning up to reach the target area. Allow targeted burn area to ignite and burn limiting excess gelled fuel usage.

9 12 VOLT PUMP CONTROL

To start/run motor

- **Green Ring**
E-Stop switch must be pulled out
- **Volt Meter (Amber Light) ON**
If 12-Volt power cord is plugged into the Pump Control Box, the 12-Volt toggle switch must also be up to the ON position

Amber LED light confirms power into control box.

- **Green light ON**
To activate clutch/pump to Mix/Transfer mode, toggle up Pump Control switch

⚠ WARNING:
DO NOT OPERATE GELGUN IN THE MIX/TRANSFER MODE (GREEN LIGHT ON)

To operate GelGun

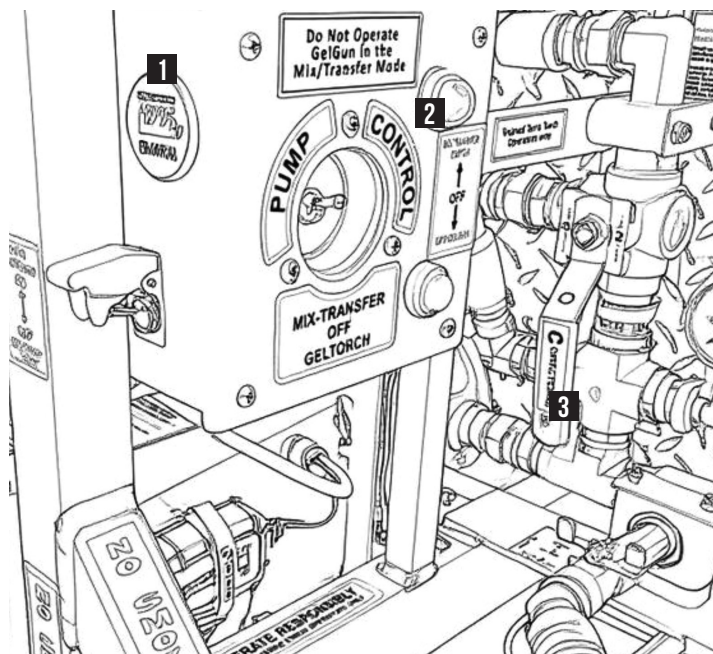
- **Red Light ON**
Toggle Mix/Transfer switch down to GelGun position
- Pump turns on when GelGun trigger is pulled

⚠ ATTENTION:
PUMP CONTROL TOGGLE SWITCH MUST BE IN THE OFF (CENTER) POSITION BEFORE TURNING OFF MOTOR OFF, EXCEPT DURING A EMERGENCY STOP.

To bypass battery

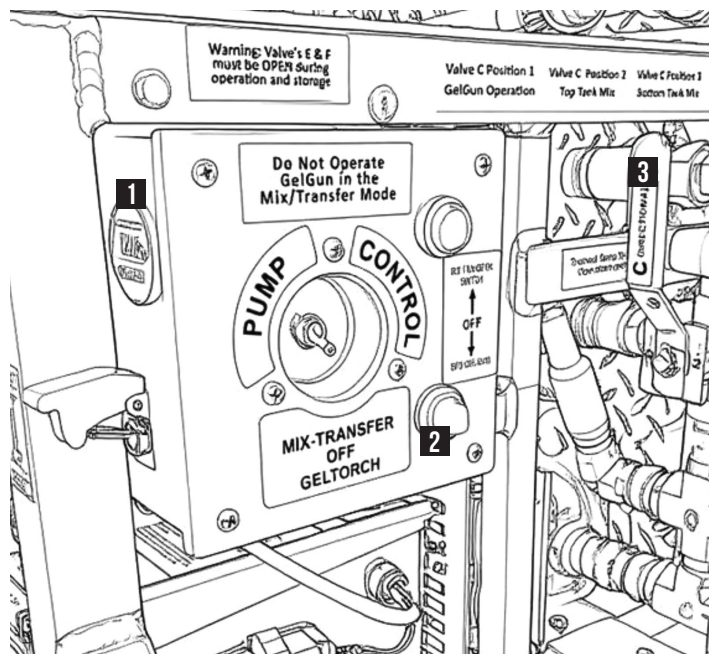
- Plug in 12-Volt extension adapter into Pump Control Box and use either the cigarette and or the trailer plug-in with 15ft extension to provide auxiliary power to the clutch/pump.

⚠ ATTENTION:
PUSHING IN E-STOP AND OR 12-VOLT POWER SWITCH OFF (DOWN) WILL STOP MOTOR/PUMP.



Mix/Transfer Mode

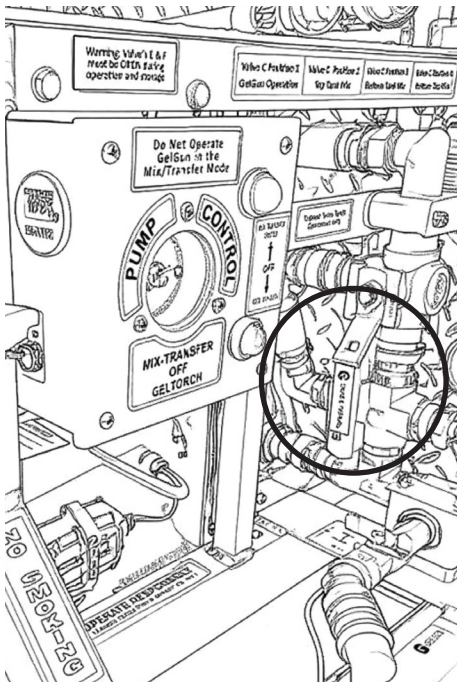
- 1 12V POWER TOGGLE SWITCH ON**
 - Amber led light ON
- 2 PUMP CONTROL TOGGLE SWITCH UP**
 - Green led light ON
- 3 VALVE C IN POSITION 3 HOME**



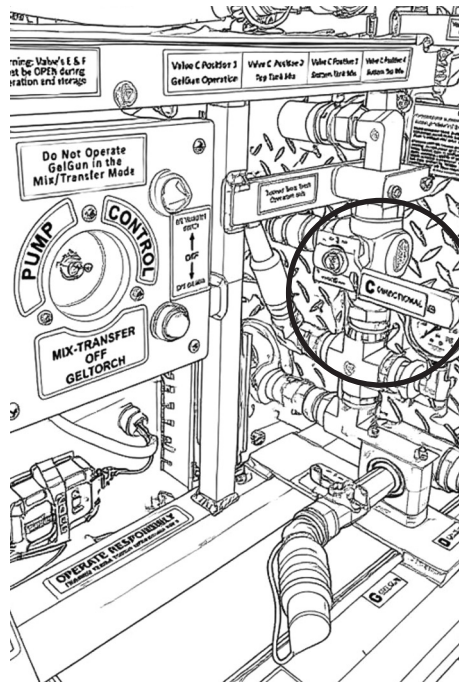
GelGun Mode

- 1 12V POWER TOGGLE SWITCH ON**
 - Amber led light ON
- 2 PUMP CONTROL TOGGLE SWITCH DOWN**
 - Red led light ON
- 3 VALVE C IN POSITION 1 GELGUN**

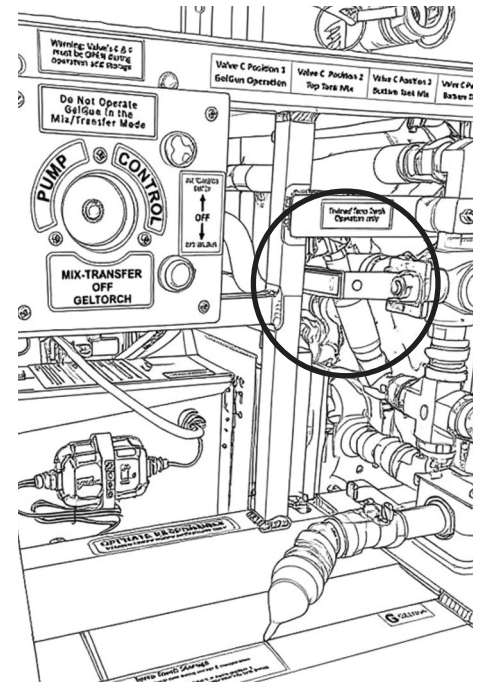
10 DIRECTIONAL VALVE C POSITIONS



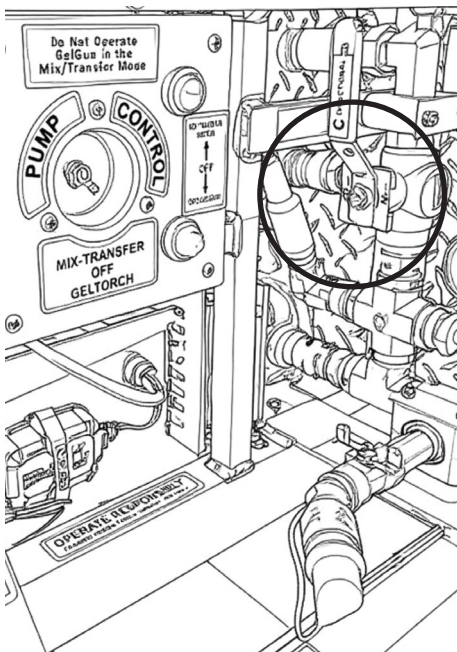
VALVE C POSITION 3 (HOME)
 ■ Bottom Tank Mix



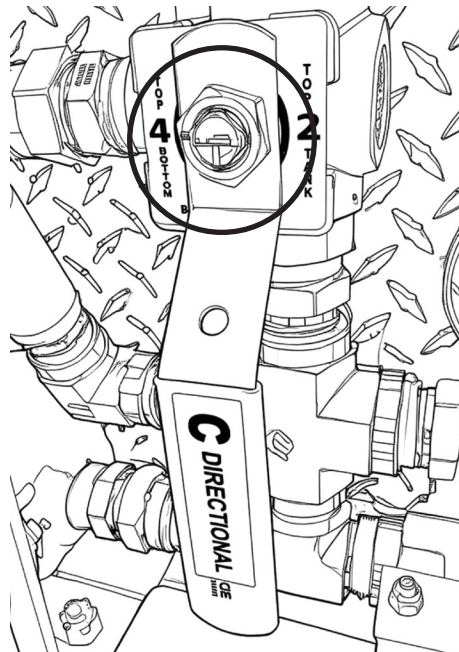
VALVE C POSITION 2
 ■ Top Tank Mix



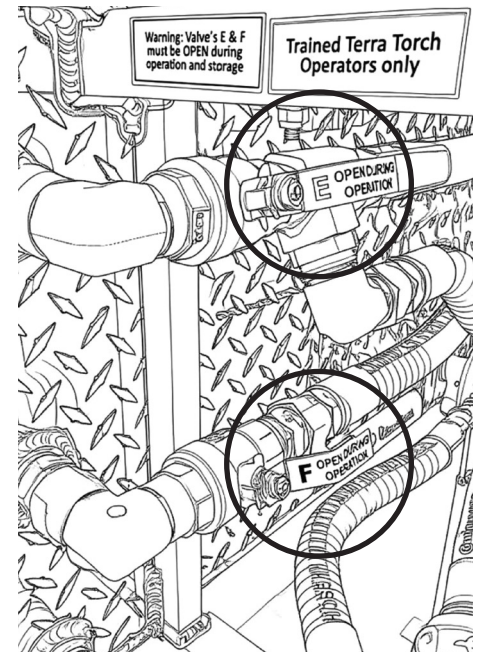
VALVE C POSITION 4
 ■ Top & Bottom Tank Mix



VALVE C POSITION 1
 ■ GelGun Operation/100% Bypass Test



VALVE STEM T STAMP (PORTS)
 ■ Valve Handle Position Always Aligns W/Post of Valve Stem



VALVE E & F
 ■ Must be open during operation and storage

TRAINED TERRA TORCH
OPERATORS ONLY

CAUTION:
 DO NOT OPERATE GELGUN IN THE
 MIX/TRANSFER PUMP MODE

11 GELGUN OPERATION

1 OPTIONAL GELGUN PROTECTIVE CASE

2 GELGUN PACKING ADJUSTMENT

- Slightly adjust if GelGun Leaks.
(Do Not Over Tighten)

3 PROPANE TIP HOLDER

4 GELGUN INCLUDES 3 TIP SIZES

- 02-03-04

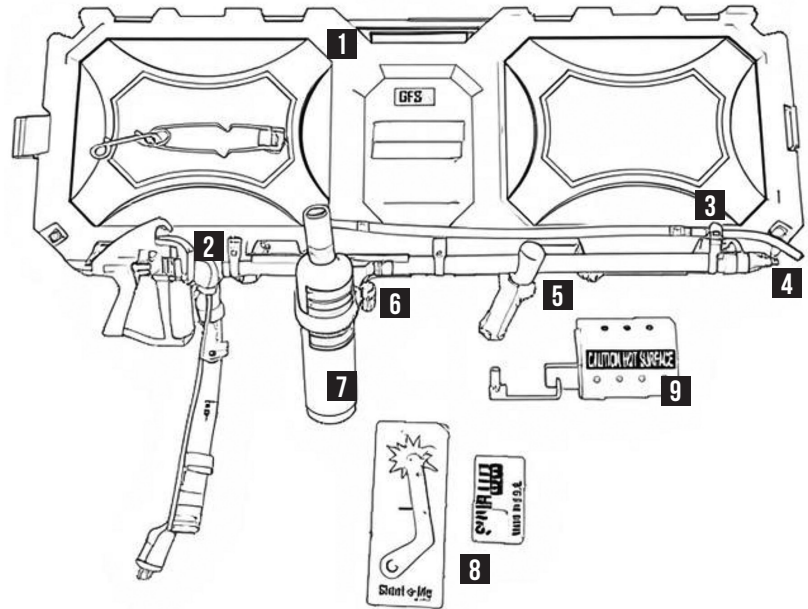
5 ADJUSTABLE HAND SUPPORT

6 HD PROPANE CYLINDER RATCHET HOLDER

7 PROPANE OR MAPP GAS CYLINDER

8 PROPANE STRIKER AND FLINTS

9 OPTIONAL: PROPANE TIP WINDSHIELD



- ☐ Connect GelHose to Valve D or Valve G male hydraulic fitting and GelGun hydraulic fitting.
- ☐ Connect GelHose 12V plugin into the GelHose receptacle on the Pump Control box.
- ☐ Plug in GelGun before starting motor.

⚠ ATTENTION:
NEVER PLUG INTO 12V POWER CORD FROM BATTERY BOX.

- ☐ Toggle 12-Volt switch up to the on position.
 - 12-Volt meter or amber light ON
- ☐ Toggle Pump Control switch down to the GelGun position.
 - Red light ON
- ☐ Pull trigger to test clutch action (clicking sound).
- ☐ Check propane hose swivel is tight at the Propane tip, light propane tip testing for proper operation.

⚠ WARNING:

DO NOT OPERATE GELGUN IN THE MIX/TRANSFER PUMP CONTROL POSITION (GREEN LIGHT ON).

⚠ ATTENTION:

GFS GELGUN IS LIVE IN GELGUN PUMP POSITION. TREAT GFS GELGUN AS A FIREARM.

⚠ CAUTION:

125PSI MAXIMUM OPERATING PRESSURE. DO NOT ALLOW 12-VOLT CORD TO WRAP AROUND GELHOSE, DISCONNECT & UNWRAP, THEN RECONNECT.

Valve Positions to Operate GelGun

- Valve C to position 1 (up), Valve's A, E & F open.
- Open valve D or G that GelHose is attached to, Valve B closed.

⚠ WARNING:

VALVE'S E & F MUST BE OPEN.

12 TERRA TORCH CLEANING & STORAGE PROCEDURES

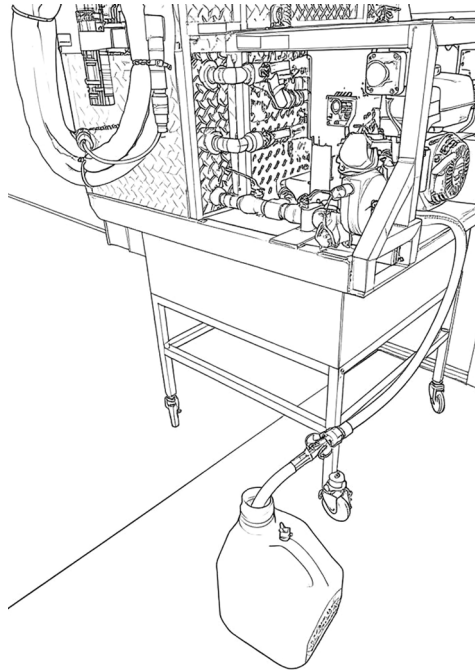
Cleaning Procedures

⚠ WARNING:
VALVE'S E & F MUST BE OPEN

- Valve C in home position 3
- Valve's B, D or G, E & F open
- Valve's A, D or G closed
- Diesel container (3 gallons utility jug or clean bucket preferred) with 2 gallons of diesel in place, auxiliary Transfer Hose attachment connected to auxiliary fuel hose and inserted into Diesel container. Clean Diesel is pumped into Terra Torch tank and will be used in next gel batch.
- Propane valve off
- Remove propane canister
- Ignitor tip cool
- Open manway
- Motor running
- 12-Volt power on (12-Volt meter or AMBER light on)
- Insert GelGun barrel into tank
- Toggle Pump Control down to GelGun position (RED light on)
- Pull GelGun trigger activating pump
- Start with Valve C in position 3 (home), move to position 2 (top) then to position 1 (GelGun) pumping 2 gallons of diesel through system into Terra Torch tank.
- When Diesel container is empty pull attachment out and continue pumping until air comes out of the GelGun tip.
- Release GelGun trigger
- Toggle both 12-Volt switches to the off position, motor off.
- Place Valve C back to position 3 (home).

⚠ ATTENTION:

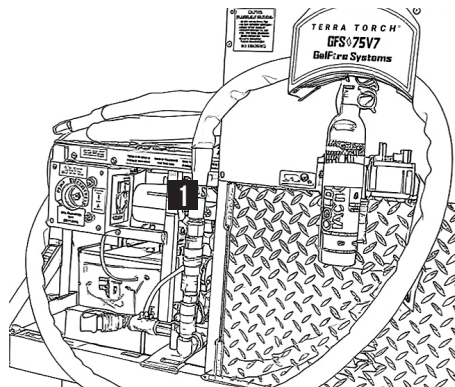
STRONGLY RECOMMENDED THAT TERRA TORCH IS CLEANED & PURGED WITH DIESEL AFTER EACH USE.



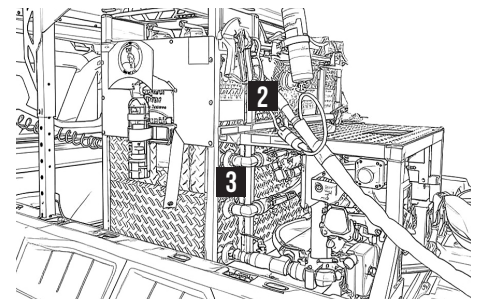
- 1 VALVES E & F ARE ALWAYS OPEN DURING OPERATION**
- 2 VALVE A CLOSED**
- 3 VALVE B OPEN**
- 4 ATTACH AUXILIARY TRANSFER HOSE ADAPTER TO AUXILIARY TRANSFER HOSE AS SHOWN**
- 5 USE CLEAN CONTAINER FOR CLEANING DIESEL**

Terra Torch Storage

- Gelled fuel can be stored in Terra Torch tank during storage & nonoperation.
- Do not store gelled fuel above Valve F.
- Valve's E, F & D OPEN
- Valve's A, B & G closed
- Valve C in position 3 (home)
- GelHose is attached to GelGun & GelHose attachment at Valve D allowing pressure to escape back into tank during nonoperation.



- 1 GELHOSE IS ATTACHED TO VALVE D DURING STORAGE**



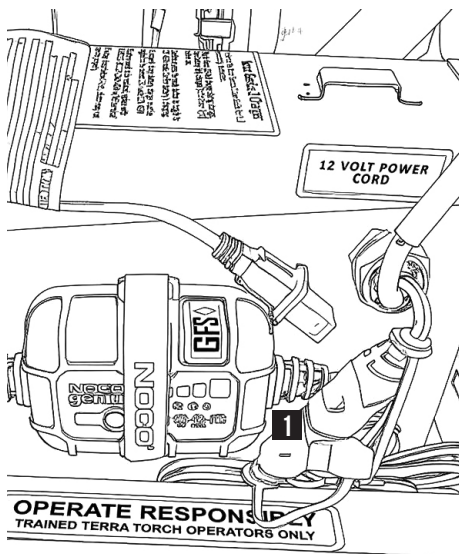
- 2 GELHOSE CONNECTED TO GELGUN DURING STORAGE**
- 3 VALVES D, E & F OPEN DURING STORAGE**

13 12 VOLT BATTERY CHARGERS

Noco Genius 2 Charger

⚠ ATTENTION:
REFER TO THE NOCO GENIUS 2 USER GUIDE FOR FULL OPERATING INSTRUCTION.

- **Plug in Noco 12-Volt charger during storage,** have battery fully charged (solid or slow pulsating GREEN light) before use.
- **Confirm or press the mode button** to toggle to 12V AGM mode. Confirm battery is charging.
- **To properly charge battery,** charger must be toggled to the correct 12V mode: 12V AGM
- **If battery needs to be replaced,** replace with DURDC12-20C 12V 20Ah AGM w/M5 terminal
- **If voltage drops below 9-Volts,** clutch may not operate properly.
- **To bypass battery,** plug in 12-Volt extension adapter into Pump Control Box and use either the cigarette and or the trailer plug-in with 15ft extension to provide auxiliary power to the clutch/pump.



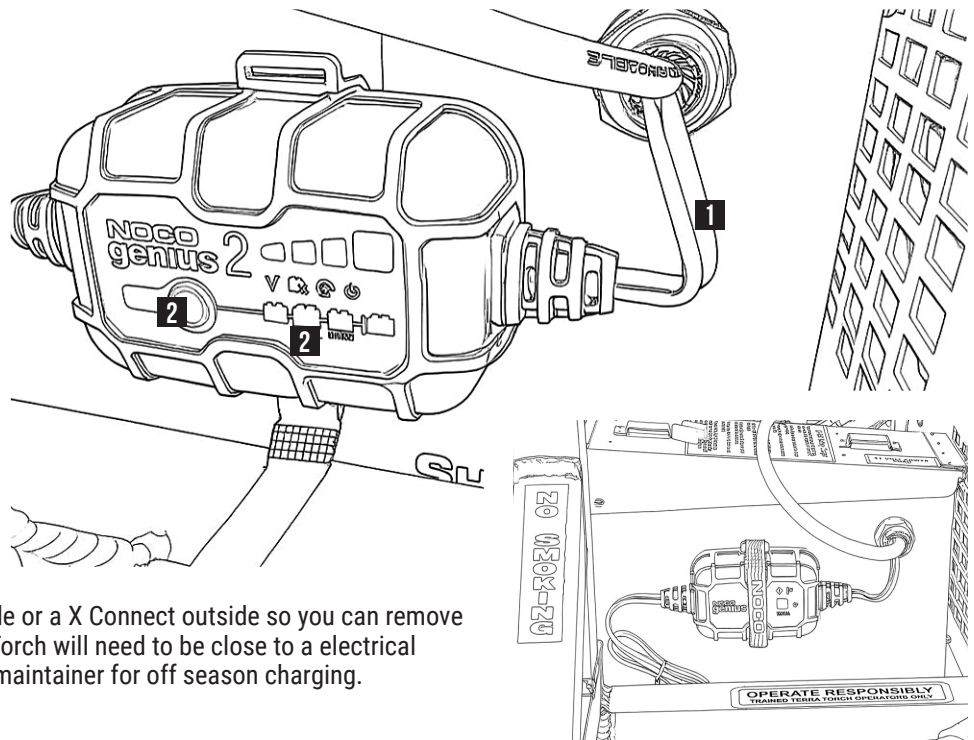
1 Charger may have disconnect bullets inside or a X Connect outside so you can remove charger for remote charging. If not Terra Torch will need to be close to a electrical outlet or remove battery and use another maintainer for off season charging.

2 MODE BUTTON TOGGLE TO 12V AGM

Noco Genius 2D Charger

⚠ ATTENTION:
REFER TO THE NOCO GENIUS 2D USER GUIDE FOR FULL OPERATING INSTRUCTION.

- **Plug in Noco 12-Volt charger during storage,** have battery fully charged (solid GREEN light) before use.
- **Solid RED light on charger** indicates the charger is not charging.
- **Pulsating RED light on charger** indicates battery is below 75%.
- **Pulsating GREEN light on charger** indicates battery is between 75% to 100% charged.
- **If voltage drops below 9-Volts,** clutch may not operate properly.
- **To bypass battery,** plug in 12-Volt extension adapter into Pump Control Box and use either the cigarette and or the trailer plug-in with 15ft extension to provide auxiliary power to the clutch/pump.



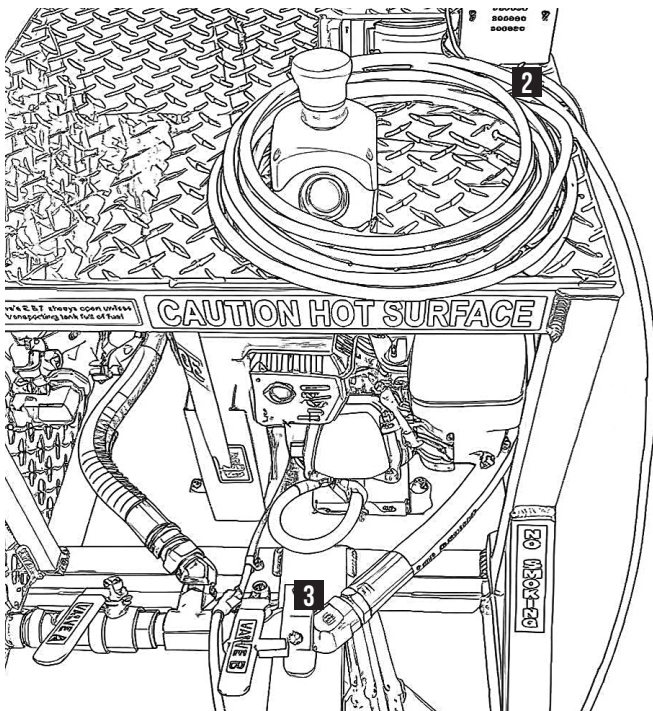
⚠ CAUTION:

- 12 VOLT BATTERY MUST BE CHARGED ON A REGULAR BASIS
- ELECTROMAGNETIC CLUTCH WILL NOT OPERATE PROPERLY BELOW 10 VOLTS OPEN BATTERY BOX WHILE CHARGING

Battery Tender Plus Charger

⚠ ATTENTION:
REFER TO THE BATTERY TENDER USER GUIDE FOR FULL
OPERATING INSTRUCTION.

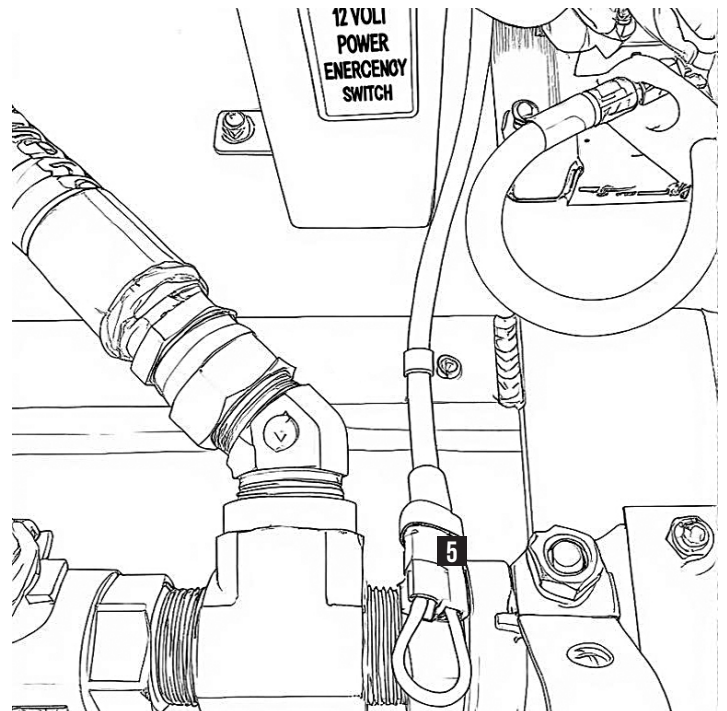
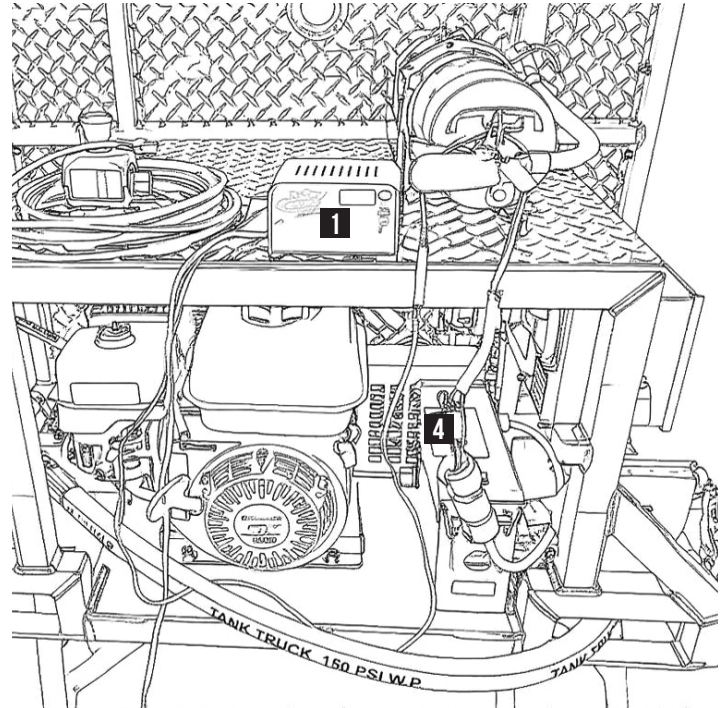
- **Plug in the Battery Tender Plus 12-Volt charger** on a monthly basis, have battery fully charged (solid GREEN light) before use.
- **Battery Tender Plus is not a battery maintainer** so only charge on a monthly basis to maintain proper battery charge and life.
- **If battery needs to be replaced**, replace with DURDC12-20C 12V 20Ah AGM w/M5 terminal
- **If voltage drops below 9-Volts**, clutch may not operate properly.
- **To bypass battery**, (optional) plug in 12-Volt extension adapter into Pump Control Box and use either the cigarette and or the trailer plug-in with 15ft extension to provide auxiliary power to the clutch/pump.



1 BATTERY TENDER PLUS

2 E-STOP EXTENSION CORD

3 E-STOP CORD MUST BE PLUGGED INTO BATTERY CONNECTOR TO OPERATE CLUTCH



4 BATTERY TENDER BATTERY ADAPTER PLUGGED INTO BATTERY TENDER & 12V POWER CORD TO CHARGE BATTERY

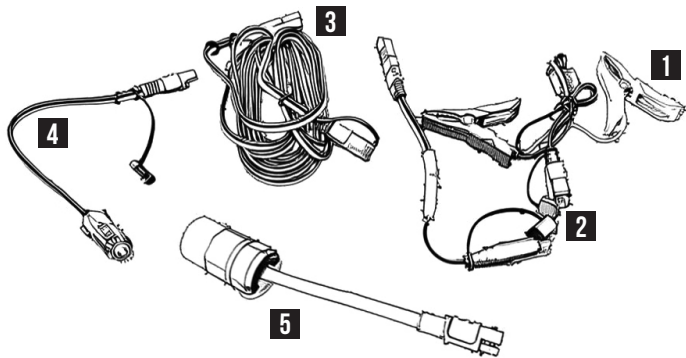
5 TO BY PASS E-STOP, JUMPER CONNECTOR MUST BE CONNECTED TO BATTERY CONNECTOR

14 12 VOLT ACCESSORIES & WIND SHIELD INSTRUCTIONS

- ⚠ WARNING:**
- BYPASSING THE BATTERY TO A 12-VOLT AUXILIARY POWER SOURCE WILL BYPASS THE EMERGENCY STOP SWITCH.
 - E-STOP WILL ONLY STOP MOTOR WHICH STOPS THE PUMP.
 - 12-VOLT BYPASS PROVIDES POWER TO THE PUMP CONTROL BOX TO OPERATE THE CLUTCH/PUMP.
 - ONLY USE WHEN BATTERY FAILS IN THE FIELD.

12 Volt Battery Bypass Accessories

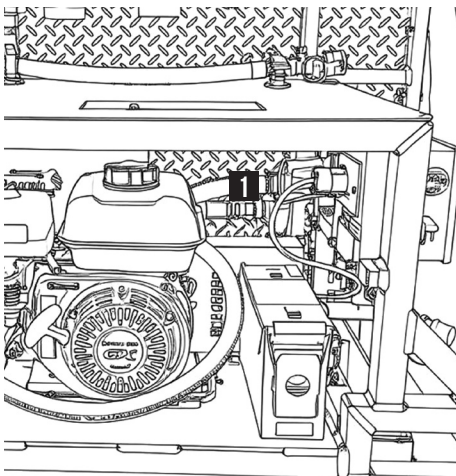
For use if 12-V battery is undercharged to properly operate the 12-V electromagnetic clutch.



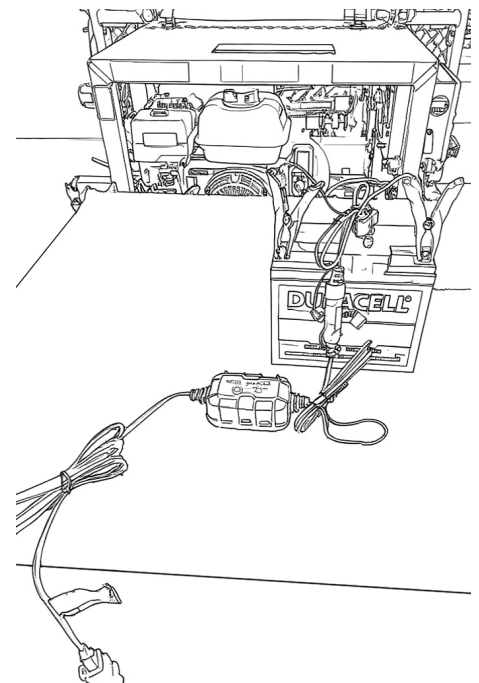
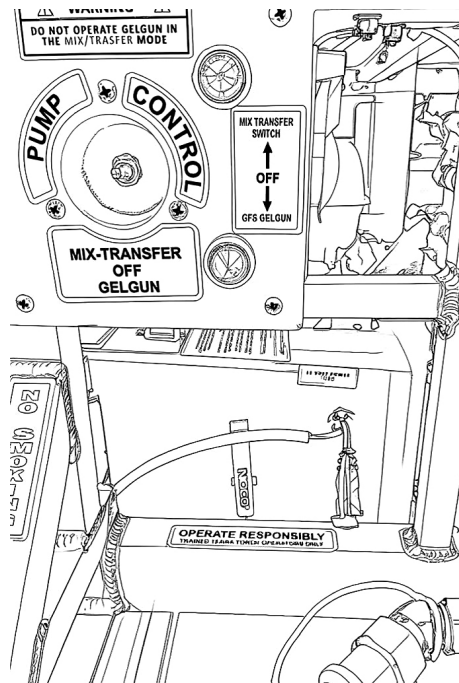
- 1 12-V ALLIGATOR BATTERY CLAMPS
- 2 12-V SAE TO X CONNECTOR
- 3 12-V SAE EXTENSION CABLE
- 4 12-V SAE TO CIG PLUG
- 5 12-V PUMP CONTROL BYPASS PLUG ADAPTOR
- 6 12-V SAE TO 7 PIN TRAILER PLUG IN (NOT SHOWN BUT AVAILABLE)

To charge battery away from Terra Torch

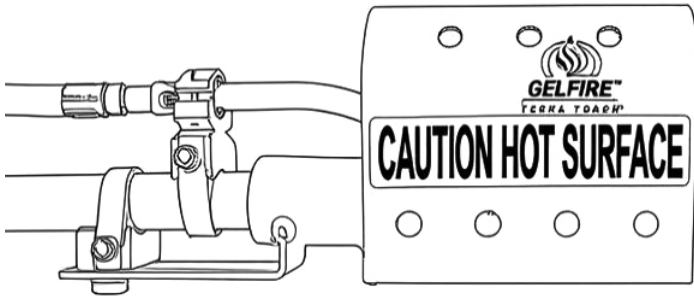
- To charge battery away from Terra Torch Remove NOCO battery charger from TT battery box (if system has bullet disconnects or X connector).
- Remove 12-V battery from TT battery box.
- Connector remote charger to battery to maintain.



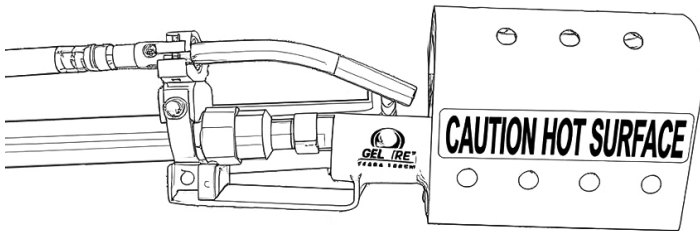
- 1 PLUG BYPASS ADAPTER INTO PUMP CONTROL
- 2 RECEPTACLE TO BYPASS LOW 12V BATTERY CHOOSE BEST AUXILIARY 12-V POWER SOURCE AVAILABLE



GFS GelGun Heatshield installation

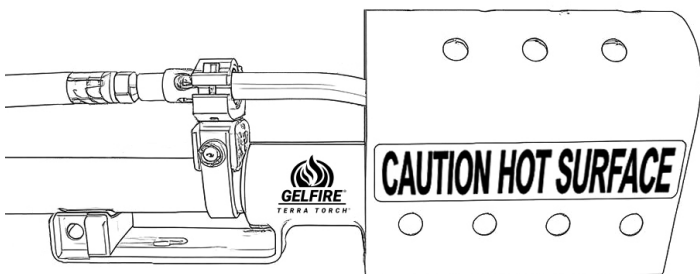


Optional GelGun Propane Heat Shield; protects propane flame, helping with gel stream ignition during windy conditions



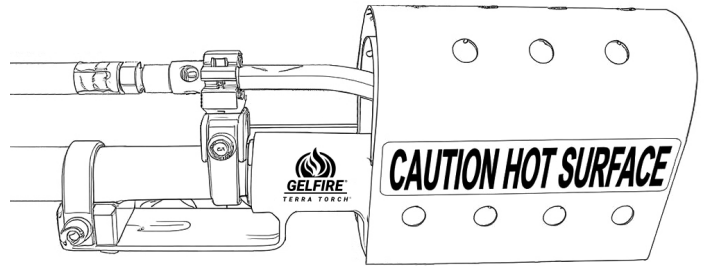
Step 1

Remove barrel clamp & carefully slide heat shield onto GelGun tip



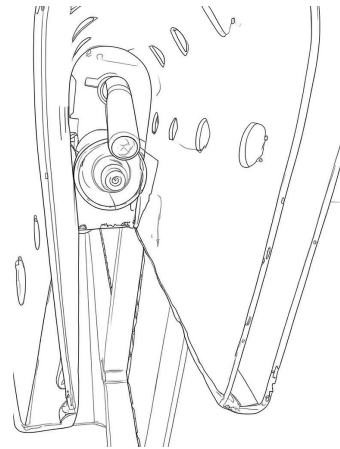
Step 2

Continue to slide heat shield onto GelGun barrel tip adapter so GelGun tip is protruding past the heat shield tube



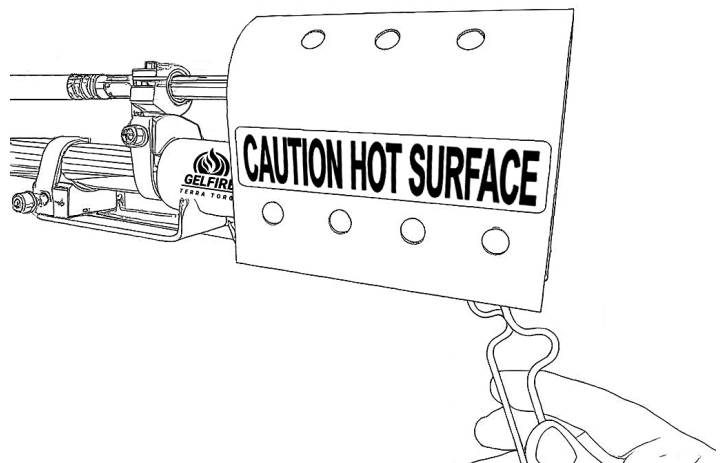
Step 3

Securely attached barrel clamp to heat shield clamp mount



Step 4

Confirm propane tip is aligned correctly over GelGun tip for proper ignition



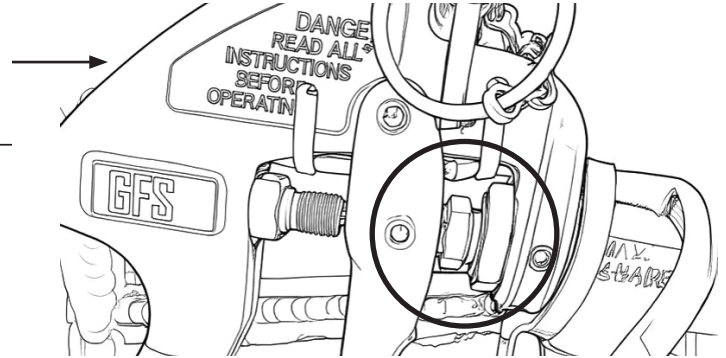
Step 5

To light propane tip you will have to insert striker inside heat shield and carefully strike. This is a 2-person operation lighting the propane tip with a heat shield. Pistol grip striker Included with the heat shield.

15 TROUBLESHOOTING

Situation/Issue Solution—Technical Support 1-833-GEL-fire (1-833-435-3473)

GelGun leaks inside of handle Slightly tighten small brass hex packing nut (do not over tighten or operate GelGun in Mix/Transfer Pump mode).



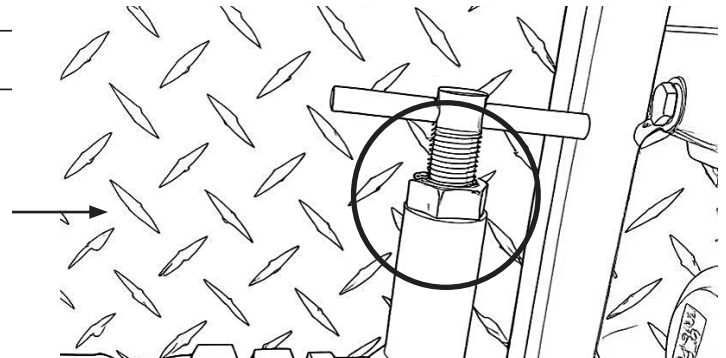
No Power (AMBER light off)

- E Stop switch must be pulled out (GREEN ring)
- Battery charged
- 12V power cord plugged into Pump Control Box
- Possible blown fuse inside battery box
- Older version

Excessive pressure 150PSI Valves E & F must be open.

Low pressure or low GelGun stream flow

- Valve C in position 3 (GelGun)
- Locate & identify brass pressure regulator & check if regulator nut is loose
- Tank may be empty
- Confirm tank has fuel above valve A bung



⚠ CAUTION:

- **PERFORM 100% BYPASS PRESSURE CHECK IDENTIFYING PSI.**
- **WITH MOTOR RUNNING**
 - VALVE C IN POSITION 3 (HOME)
 - SWITCH PUMP CONTROL SWITCH UP TO MIX MODE (GREEN LIGHT ON)
 - PUMP IS RUNNING & MIXING
 - SLOWLY MOVE VALVE C UP TO POSITION 1 (GELGUN) AND IDENTIFY PSI
 - AFTER CONFIRMING PSI RETURN VALVE C TO POSITION 3 (HOME)
- **ADJUST PRESSURE REGULATOR IF PRESSURE IS BELOW DESIRED PSI.**
- **DO NOT EXCEED 125 PSI!**

No pressure or low GelGun stream flow

- Valves D or G, E & F open
- Valve C in position 1 (GelGun)
- Confirm clutch is engaging (motor off)
- Male hydraulic tip
- GelGun tip may be plugged

Pump will not draft or mix

- Confirm 12-Volt meter or amber and green lights are ON
- Check for correct valve positions

GelGun Trigger will not activate pump

- Confirm Pump Control switch is in the down position (RED light on)
- GelHose 12V connectors plugged into GelGun and GelGun Pump Control box receptacle

Fuel mix will not gel

- Gelling agent must be added in order PART A -1st, PART B-2nd
- Fuel may contain ethanol
- Add water
- 10% of gasoline amount of mix

Gel stream will not ignite Fuel mix has too much diesel, windy conditions operate with direction of wind

Gel stream flares or is hot	▪ Fuel mix may need more diesel with 85-87 octane ▪ Mix thoroughly ▪ GelGun trigger must be pulled to the full open position during firing operation
Propane tip blows out	Do not operate propane valve fully opened, one full turn back for proper flame.
Gel thick, low fuel stream	Cold weather, high elevation enhances gelling agent, gel fuel batch just before operation.
Pump leaks	Pump seal has been compromised, must send pump/clutch back to GFS for repair.
Belts loose or procedure to loosen belts	▪ Loosen the 4 top motor mount nuts ▪ Tighten or loosen tension bolt on motor mount plate ▪ Retighten motor mount nuts

16 GFS 50/75-V7 CHECKLISTS

DATE _____

BURN PROJECT _____

- | | |
|--|-------|
| ☐ Certified Fire Boss (FB) | _____ |
| ☐ Certified Terra Torch Operator (TTOP) | _____ |
| ☐ Qualified Vehicle Operator (VOP) | _____ |
| ☐ Qualified Terra Torch Assistant (TTA) | _____ |

Pre Operations Checklist

- | | |
|--|---|
| ☐ Establish a burn plan | Personnel needed _____ |
| ☐ Required permits obtained | |
| FUEL TYPE | ☐ AvGas gallons _____ |
| | NON-ETHANOL High Octane gasoline gallons _____ |
| | ☐ Ethanol Regular gasoline gallons _____ |
| | Diesel gallons _____ Ratio% ____ / ____ |
| ☐ Water gallons | _____ (needed using ethanol blend gasoline) |
| ☐ Gelling agent bottles | A _____ B _____ |
| ☐ Fire extinguishers | _____ |
| ☐ Mapp/Propane bottles | _____ |
| ☐ Terra Torch engine oil checked | |
| ☐ Terra Torch engine filled w/fuel & fuel line closed for transport | |
| ☐ 12-volt battery charged, (E switch pulled out, GREEN ring) | |
| ☐ 12-volt electrical system check: | ☐ Clutch (Mix /Transfer Mode GREEN light) |
| ☐ GelGun /GelHose (GelGun Mode RED light) | |
| ☐ Proper PPE/Neomix clothing, gloves, eye protection | |
| ☐ Terra Torch properly secured to UTV/vehicle & grounded | |
| ☐ 2 gallons Diesel in clean fuel container | |
| ☐ All valves closed for transporting if loaded with fuel | |
| ☐ GelGun, GelHoses, auxiliary accessories & bag loaded & secured for transporting | |
| ☐ Trash bags, shop towels, rubber/nitrile gloves, hand cleaner | |
| ☐ First aid kit, eye wash solution | |
| ☐ 2 adjustable wrenches, metric Allen wrenches | |

Filling/Mixing Checklist

Fueling from a Fuel Dispenser/Auxiliary Fuel Container

- ☐ Valves A, E & F closed
- ☐ Static reel connected to fuel dispenser
- ☐ Insert Fuel dispenser nozzle into **RED** Fuel spout only and dispense desired amount of fuel.
(Do not fill above site glass)

WHEN FINISHED

- ☐ Secure **RED** Fuel cap latch
- ☐ Confirm all other latches are closed
- ☐ Latched and disconnect static line

Filling from an Auxiliary Container

- ☐ Valves **B**, **E** and **F** open, Valve **C** Position 3 (home), Valves **A**, **D** and **G** closed
- ☐ Pull out Auxiliary Transfer Hose and attach Auxiliary Transfer Hose Adapter
- ☐ 12 Volt power cord plugged into Pump Control Box, 12V Power switch to ON, **AMBER** light on
- ☐ Static line attached to auxiliary metal fuel container or tank
- ☐ **RED**, **GREEN** tank caps unlatched
- ☐ Start engine $\frac{3}{4}$ throttle
- ☐ Insert Auxiliary Transfer Hose Adapter into fuel container, open Auxiliary Transfer Hose Adapter valve
- ☐ Pump Control switch up to **Mix/Transfer** position, **GREEN** light on
- ☐ Confirm fuel is being pumped into tank by slowly moving Valve **C** to position 1 (GelGun) until pressure gauge begins move up and return Valve **C** to position 3 (home)
- ☐ If another fuel container is needed, when 1st fuel container is empty, Pump Control switch to OFF position (center), Auxiliary Transfer Hose Adapter valve closed, continue with another fuel container
- ☐ When finished lift Auxiliary Transfer Hose Adapter out of container and hold up, allowing pump to draft excess fuel from Auxiliary Transfer Hose for 10 seconds
- ☐ Pump Control switch to OFF position (center), close Auxiliary Transfer Hose Adapter valve, close valve B, Power switch OFF (down), engine off
- ☐ Remove Auxiliary Transfer Hose Adaptor, cap Auxiliary Transfer Hose and return back to storage area

Gelling Agent/Mixing Checklist

- ☐ Valves **A**, **E** and **F** open
- ☐ Valve **C** position 3 (home). Valve positions 2 and 4 can be used during mixing
- ☐ Valves **B**, **D** and **G** closed
- ☐ Start engine $\frac{3}{4}$ to full throttle
- ☐ Power switch ON, **12-Volt meter** or **AMBER** light on
- ☐ Pump Control switch up to Mix/Transfer position **GREEN** light on

WHILE FUEL IS MIXING

- ☐ Pour desired amount of **PART A** though **GREEN** tank spout, mix 2 minutes
- ☐ Pour desired amount of **PART B** though **GREEN** tank spout, mix 2 minutes
- ☐ Slowly move Valve **C** to position 1 (GelGun) to confirm desired pressure (maximum 125psi)
- ☐ Then move Valve **C** back to position 3 (home)
- ☐ Turn Pump Control switch to OFF (center)
- ☐ Turn **RED** Power switch to OFF (down)

GelGun Operations Checklist



WARNING:

TREAT GELGUN AS A FIREARM



ATTENTION:

OPTIMUM FUEL TARGET IS 20 TO 25 FEET, THE FURTHER THE FUEL TARGET THE MORE FUEL IS BURNED REDUCING IGNITION PERFORMANCE OF THE GELLED FUEL. SMALL SPURTS INTO TARGET WILL EXTEND FUEL CONSIDERABLY.

- ☐ Connect GelGun to GelHose
- ☐ Plug in GelHose 12-Volt connectors into GelGun connector and GelGun Pump Control receptacle
- ☐ Power Switch to ON position (up), **12-Volt meter** or **AMBER** light on
- ☐ Pump Control switch to GelGun Position (down) **RED** light on (GelGun trigger controls the pump, **RED** light goes out when trigger pulled)
- ☐ With engine off, pull trigger to confirm clutch activation
- ☐ Light ignitor tip with propane valve fully open and then a full turn back for proper propane flame confirming proper operation
- ☐ Turn propane valve off after test
- ☐ Valves **A**, **E** and **F** open
- ☐ Valves **C** Position 1
- ☐ Valves **B**, either Valve **D** or **G** closed, either Valve **D** or **G** open
- ☐ Power switch ON (up), **12-Volt meter** or **AMBER** light on
- ☐ Start engine, 3/4 throttle preferred
- ☐ Valve C in position 3 (home)
- ☐ Switch Pump Control switch to **Mix/Transfer** position (up) **GREEN** light on and mix for a couple minutes
- ☐ Switch Pump Control switch down to **GelGun** mode, **RED** light on, open Valve **D** or **G**, move Valve **C** up to position 1
- ☐ **GelGun is in LIVE OPERATING MODE**
- ☐ Point GelGun toward fuel target (ignitor tip off)
- ☐ Pull trigger and fill GelHose/GelGun with gel and testing gel stream and ignitor tip position
- ☐ Light ignitor tip - **Terra Torch ready for burn operation**
- ☐ When GelGun loses pressure, system should be out of fuel

WHEN FINISHED

- ☐ Turn Pump Control switch to OFF (center)
- ☐ 12 Volt Power Switch OFF (down)
- ☐ Return Valve **C** to position 3 (home)
- ☐ Close Valve **D** or **G**

Post Operations Checklist

⚠ ATTENTION:
CLEANUP SHOULD BE PERFORMED AWAY FROM BURN SITE TO ELIMINATE THE CHANCE OF FALLING EMBERS.

- ☐ 2 gallons Diesel fuel in clean bucket or fuel container set out in front of the Terra Torch
- ☐ Towels, rubber gloves available, Auxiliary Transfer Hose pulled out with Auxiliary Transfer Hose Attachment attached
- ☐ Valves **B, D, or G, E and F** open
- ☐ Valve **C** Position 3 (home)
- ☐ Valves **A, D or G** closed
- ☐ Unlatch Betts Manway
- ☐ Start engine 1/2 throttle
- ☐ Place Auxiliary Transfer Hose Attachment into Diesel bucket and hold in place
- ☐ Propane off
- ☐ Remove propane canister, and tip cool Insert GelGun through the Betts Manway into top of tank
- ☐ 12-Volt Power switch ON, **AMBER** light on, motor running
- ☐ Toggle Pump Mode Switch to GelGun position (down) **Red** light on
- ☐ Pull GelGun trigger activating pump
- ☐ Starting with **Valve C** in position 3 (home)
- ☐ Then move to position 2 (top)
- ☐ Then move to position 1 (GelGun) pumping 2 gallons of diesel through system into Terra Torch tank pumping 2 gallons from diesel bucket through system into tank. Continue to pump air through system until air begins to spray into tank. **Do not run pump dry very long.**
- ☐ Turn Pump Control switch to off (middle)
- ☐ 12 Volt Power switch off, motor off
- ☐ Close Valve D or Valve G and return Valve C to position 3 (home)
- ☐ Do not store excess fuel in Terra Torch tank for a long period of time

DURING STORAGE

- ☐ Connect GelHose to Valve D and GelGun
- ☐ Valves **C** in position 3 (home)
- ☐ Valves **D, E and F** open during storage

Troubleshooting Checklist

NO POWER, AMBER LIGHT IS OFF

- ☐ Emergency switch must be in the on position (**GREEN** ring)
- ☐ battery fully charged, 12-Volt power cord plugged into Pump Control box.

→ **Possible blown fuse in battery box**

AMBER LIGHT ON, 12 VOLT CLUTCH WILL NOT ENGAGE

→ Call for support: 1-833-GEL-fire (1-833-435-3473)

PUMP ENGAGED BUT NOT DRAWING OR MIXING

- ☐ Check for correct Valve positions

EXCESSIVE PRESSURE OVER 150PSI

- ☐ Valve **E & F** must be open

LOW STREAM PRESSURE

- ☐ Perform a 100% bypass procedure identifying PSI.

WITH MOTOR RUNNING

- ☐ Valve **C** in position 3(home)
- ☐ Switch Pump Control up to Mix/Transfer (**GREEN** light on)
- ☐ Pump is running and mixing
- ☐ Slowly move Valve **C** up to position 1 (GelGun) and identify PSI
- ☐ After confirming PSI return Valve **C** to position 3(home)

→ Call for support: 1-833-GEL-fire (1-833-435-3473)

PUMP RUNNING NO PRESSURE OR LOW GEL STREAM DURING GELGUN OPERATION

- ☐ Confirm tank has fuel
- ☐ Valve **C** in position 1(GelGun)
- ☐ Valve **D, E & F** open

→ **Male hydraulic tips or GelGun may be plugged**

→ Call for support: 1-833-GEL-fire (1-833-435-3473)

FUEL MIX WILL NOT GEL

- ☐ Add water, 10% of gasoline in tank

[SCAN ME]



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