



SPARK-IGNITED UTV TORCH

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Introduction

This manual provides information about the UTV torch components, features, and maintenance requirements specifications. The torch mounts in the bed of a UTV or four-wheeler rack. The torch's basic components consist of a fuel tank, electric fuel pump, electronic control box, igniter arm assembly, and control cable. The torches ignition source is an electric spark. The operator activates the electric ignition system and fuel pump simultaneously using a control button. In case of emergency, the operator can eject the torch by releasing or cutting the straps

The UTV/four-wheeler battery powers the torch. The fuel pump delivers drip-torch fuel from the fuel tank to the igniter arm or wand where ignition occurs. Engaging the control button starts the fuel flow and ignitor simultaneously. A spark between two electrodes at the end of the igniter arm ignites the stream of fuel as it passes. As a safety feature, the fuel supply and spark both terminate when the operator releases the control button.

Specifications

*It should be noted that dimensions and weights are approximate.

Component	Weight(lbs.)
Fuel tank (<i>empty</i>)	45
Fuel tank (<i>full</i>)	100
Component	Dimensions (inches)
Torch width	13
Torch depth	13
Torch height (<i>including rail</i>)	18
Igniter arm	35

Fuel

A drip torch mix of fuel is recommended for use. An acceptable ratio of fuel 60% gasoline and 40% diesel fuel mixed. The electric ignition system needs slightly more gas to ignite the stream than the traditional 50/50 drip torch mix.

Installation

Before installing the torch, verify that the weight of the full torch will not exceed the capacity of the UTV or cause the UTV to become unbalanced.

1. Set the empty UTV torch on the rear cargo platform of the vehicle with the igniter arm assembly to the rear of the vehicle.
2. Secure the torch with quick-release straps and ensure that the torch will not shift position or fall off the UTV. Securing Strapping the unit at the corner legs of the protective cage is advisable
3. Fill the torch with no more than 15 gallons of drip-torch fuel.
4. Connect the power cable to the control box
5. Connect the control button cable to the control box.
6. Loosen the igniter arm adjustment knob and pivot the igniter arm in the desired direction to fire. Tighten the adjustment knob.
7. Connect the power cable to the UTV 12-volt power source.

Testing

Testing the UTV torch before traveling to the field is advisable.

- Install the UTV torch on the UTV and verify all of the electrical connection.
- Use the 12-volt power supply of the UTV to test the torch.
- Always test the ignition system (spark) and fuel pump independently of each other.
- Test the torch outside and away from anything you don't want to burn.
- Never touch the electrodes while in use.
- Unplug the torch from the 12-volt power source before adjusting the electrodes
- Check for leaks at welds, hose connections and drain plug .
- If any fuel is leaking from any fittings try tightening first. Apply a fuel approved thread sealant to the fittings and reinstall.

Operation

After performing an inspection as indicated in the Installation testing section of this manual.

Install the torch on the UTV.

- Plug in the 12-volt power cord there is a master on switch on the power cord
 - If using the wand; connect the fuel hose to the quick release fuel fitting and plug in electrical connector
- Open the pump switch guard located on the control box.
- Open the boom spark or wand spark guard depending on which one you are using.
- Flip the two toggle switches to the on position. Do not turn all three toggles on at once.
 - **NOTE: Ensure the push button switch is off when the wand is in use. The arc on the boom will arc each time the trigger is pulled on the wand if the switch is on**
- Press the control button to begin firing the torch.
 - If using the wand fully squeeze the handle to activate the pump and spark

- Release the control button to stop firing the torch.
- Adjust the fuel control knob for the desired distance of drip torch fuel to be expelled
- Close the switch guards switch the master on/off switch to the off position to prevent accidental firing when finished using the torch



Operator controls

Control box

- Switch the power button to the on position, light will illuminate.
- You can now spray fuel with no arc by pressing the hand-held button or using the wand.
- Switch the arc button to the on position and fuel will ignite when either the hand-held controller or wand is used



Press the control button to activate the UTV torch.

Hand-held push button

- Press the control button to begin firing the torch.
- The button will latch down so you do not have to hold it.
- To stop spraying press the button again.



Wand

- Press the button once to begin firing the torch.
- Press the button again to stop firing the torch.



Note: Wiring the sprayer to a push button inside a UTV or truck.

- Remove the screw closest to the wire and gently pull down on the plastic cap
- Release the wires from the connector
- Now the blue and white wire can be extended and connect to any two-prong button or switch. It does not matter which wire goes to which prong

Permanently Wiring the sprayer directly to a 12volt power sources

The main power plug can be disconnected inside the control box and wired directly to a 12volt source. We recommend adding an inline fuse with a rating of 5 amps on the new power cord as a precaution.



Maintenance

The following sections describe the guidelines for operating and maintaining the UTV torch components. Inspect the UTV torch before and after each use. If problems occur, refer to the “Troubleshooting” section in appendix A of this manual.

The fuel tank has approximately a 16-gallon capacity. Fill the tank to no more than 90 percent of capacity (14.5 gallons) Internal baffles slow the sloshing action of the fuel. A vent hole in the fuel cap prevents a vacuum from forming. The fuel line has a backflow device near the tip on the igniter arm and a fuel loop to prevent flashback into the fuel tank. The protective rail helps to protect the fuel tank control box and torch components in the event of a rollover.

Drain residual fuel from the fuel tank by removing the drain plug. Drain the fuel into an approved fuel container.

Appendix A: UTV Torch Troubleshooting

Malfunction	Issue	
No or low fuel flowing	Pump switch is off	Switch pump toggle to on
	Loose electrical connection	Ensure all plugs are fully seated
	Flow control valve is not open	Open valve
	Fuel nozzle is clogged	Remove and clean
	Fuel filter is clogged	Replace
No or weak Spark	Check valve stuck closed	Tap on valve
	Spark switch is off	Switch pump toggle to on
	Fuse is blown	Replace fuse
	Coil is not functioning properly	Replace
	Spark controller is not function properly	Contact manufacturer
	Low voltage	Ensure you getting 12-volts to the torch

PARTS

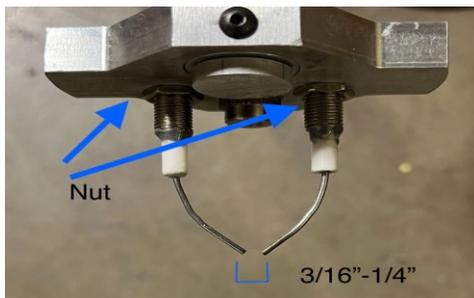
12 volt power plug



Push button



Electrodes



When adjusting the electrodes loosen nut and turn the entire electrode.

Wand

