



from WELDFUZION



TIG Torch Owner's Manual

For all torch models

Table of Contents

Welcome to the WeldFuzion Crew!	2
FuzionGrip™ Guarantee	2
Safety	3
CALIFORNIA PROPOSITION 65 WARNINGS	3
Common Safety Hazards	4
Safety Checklist	5
Specifications.....	6
Remote Switch Options	6
Installation	7
Switch Function	7
Torch Assembly	8
Air-cooled models:.....	8
Water-cooled models:.....	9
Maintenance and Service	10
Routine Maintenance	10
Troubleshooting	10
Need Parts?.....	10

Welcome to the WeldFuzion Crew!

Thanks for choosing a FuzionGrip™ TIG torch setup! Whether you're stacking dimes, walking the cup or dialing it in at home, you're part of the CREW!!!

Your new gear isn't just engineered for performance—it's built with you in mind. Every detail, from the grip to the connections, reflects a commitment to quality, safety, and the kind of reliability that lets you focus on the work, and get it done.

Welding isn't just a job—it's a craft. And we're here to support you with the resources, community, and innovation that help you get it done right.

—The WeldFuzion Team

FuzionGrip™ Guarantee

We back our gear – and the welders who use it! We're here to provide tools that work—tools you can trust in the shop, on the job, and in the classroom. That's why WeldFuzion guarantees that all FuzionGrip™ TIG Torch products are free from manufacturer defects for a period of **90 days from the date of delivery**.

This warranty is **limited to the cost of replacement parts** and applies only to defects in materials or workmanship. It does **not cover damage resulting from use, misuse, modification, or normal wear and tear**. Welding environments are dynamic and demanding, and while our gear is built to perform, WeldFuzion cannot be held responsible for damage incurred during use.

If you believe your product has a defect, we want to make it right. Please contact us at **customerservice@weldfuzion.com** with your **order details and clear photos of the issue**. Our team will review your claim and work with you to resolve it quickly and fairly.

Safety



This warning symbol is used to identify hazards that, if not avoided, could cause death or serious injury. Look for use on signs, labels and in equipment owner's manuals.

At WeldFuzion, we believe safety isn't a buzzword—it's a mindset. Before you make sparks with your torch, take a moment to dial in your safety. Welding is a powerful tool – and you have to take necessary precautions to avoid potential incident or injury. Whether you're in the booth, the shop, or out in the field, your awareness and preparation are just as important as your technique.

Welding and cutting processes and equipment can be hazardous to the operator, others nearby and to surrounding property. With proper precautions, welding and cutting can be safely done without incident or injury. Processes and equipment should be installed, operated and maintained by qualified individuals in approved areas following all local and regional codes.



Read and follow the owner's manual for your welding machine, this product and refer to ANSI Z49.1 prior to installing, operating or servicing equipment.

For more information on welding and cutting safety, visit www.weldfuzion.com or follow us on social media for insight, examples, tips and helpful resources. We want you to have a safe, rewarding experience, so remember these tips:

1. *Read, understand and follow precautions in your owner's manual(s) and ANSI Z49.1*
2. *Use good judgement and common sense when welding or cutting*
3. *Consider your surroundings and safeguard the workspace*
4. *Wear appropriate personal protective equipment*
5. *Ensure adequate ventilation and follow all safety precautions*

CALIFORNIA PROPOSITION 65 WARNINGS



WARNING: This product, when used for welding or cutting, contains or produces a chemical known to the State of California to cause cancer and birth defects or other reproductive harm. (California Health and Safety Code Section 25249.5 et seq.) For more information, go to www.P65Warnings.ca.gov or oehha.ca.gov/proposition-65.

WARNING: This product, when used for welding or cutting, produces fumes or gases that may contain chemicals known to the State of California to cause birth defects or other reproductive harm and in some cases, cancer. For more information, go to www.P65Warnings.ca.gov. (California Health and Safety Code Section 25249.5 et seq.) For more information, go to www.P65Warnings.ca.gov or oehha.ca.gov/proposition-65.

WARNING: Cancer and reproductive harm

Common Safety Hazards



The following contains hazard warning symbols, descriptions and recommended precautions that must be taken in order to avoid incident and injury. These are the most common hazards, refer to your welding system manual(s), manufacturer's website and ANSI Z49.1 for more information.

Hazard	Description	Precautions
	<p>Electric shock can kill and touching live electrical parts can cause fatal shocks or severe burns.</p>	<ul style="list-style-type: none"> • Install equipment to local codes • Do not touch live electrical parts • Ensure a good work connection • Isolate yourself from the workpiece • Wear dry, insulating gloves and clothing • Do not wrap or drape cables on your body • Inspect and replace damaged cables • Keep guards and covers in place • Disconnect power before installing or servicing
	<p>Arc welding and cutting produce bright visible light and invisible ultra-violet and infra-red radiation that can burn your eyes and skin.</p>	<ul style="list-style-type: none"> • Always wear safety glasses with side shields • Use a face shield to stop flying objects • When welding, use a helmet with a proper shade • Cover all exposed skin with fire resistant material • Wear a cap to deflect sparks and spatter • Use ear protection to keep sparks out
	<p>Welding and cutting involve high temperatures and intense heat that can cause severe burns.</p>	<ul style="list-style-type: none"> • Do not touch hot parts • Treat everything in the weld area as HOT • Allow parts to cool before handling • Use gloves or tools to handle hot metal
	<p>Hot sparks and flames can cause fire and explosions.</p>	<ul style="list-style-type: none"> • Weld only in designated areas • Clear the weld zone of all flammables • Enclose the welding area to contain hazards • Block light, sparks and spatter • Use curtains or screens to protect open areas
	<p>Welding may produce gases or fumes that can be hazardous.</p>	<ul style="list-style-type: none"> • Read and follow the SDS for all consumables • Always have adequate ventilation • Avoid breathing fumes or gases directly • Use a respiratory filter if ventilation is inadequate • Do not weld in confined spaces
	<p>Processes often use pressurized gas cylinders that could ignite, explode or become a projectile.</p>	<ul style="list-style-type: none"> • Only use cylinders that are labeled with contents • Store cylinders upright, with caps in place • Secure cylinders with a chain or strap during use • Inspect and service gas valve and regulator • Only use gas equipment on intended gas types • Never weld or arc mark on a cylinder
	<p>Electrical cables used for welding generate electro-magnetic fields that can cause health issues and interfere with medical devices.</p>	<ul style="list-style-type: none"> • People with medical devices should keep away • Electrode and work cables should be together • Cables should be away from operators • Position your body outside the welding loop • Avoid high currents and pulsing to reduce EMF • Use EMF-shielding when necessary

Welding and cutting often involve sharp objects, flying sparks, and loud noise that may require additional precautions along with other site-specific requirements. Do your own research and investigate the unique requirements that may be in your setup. And work safe!

Safety Checklist

Here are some of the most common safety checks to run through before you weld. It might be a helpful reminder as you setup and prepare for welding and cutting. These basics apply to most setups, but they're not one-size-fits-all. **Your gear, your environment, and your process may have unique safety needs—so always read the full owner's manual for your welding machine and system components.** They're packed with specifics that go beyond this list and help you stay safe, efficient, and in control. Then you can create your own safety checklist that fits your situation.

WeldFuzion Safety Checklist

Before you start welding, run through these essential safety checks.

Your awareness and preparation are just as important as your technique.

Personal Protective Equipment (PPE)

- Welding helmet with properly shaded filter and safety glasses that meet ANSI Z87.1
- Flame-resistant boots, pants, and jacket or sleeves – cover all exposed skin
- Welding gloves that insulate properly with no rips or holes

Fire Safety

- Remove flammable materials from the area
- Keep a fire extinguisher nearby & know how to use it
- Do a fire watch during and after welding

Ventilation

- Ensure proper airflow or fume extraction
- Avoid welding in enclosed or poorly ventilated spaces

Electrical Safety

- Inspect cables, connectors, and work clamp
- Isolate yourself from the workpiece
- Avoid wet or damp conditions
- Disconnect power before installing or servicing all equipment

Emergency Readiness

- Know where first aid kits and fire extinguishers are located
- Identify emergency exits and procedures

Workspace Hazards

- Remove trip hazards, fire hazards, and clutter
- Secure your workpiece and work connection
- Keep your area organized and well-lit

Manual Awareness

- Read and follow the manuals for your welding machine and accessories
- Manufacturer instructions include gear-specific safety info and special precautions

Need help or more info?

Visit our Support Page or the Spark Zone for pics, videos, tips, and troubleshooting.

Specifications

Model(s):	FG150A / FG150AFX	Rating:	DC	150A
Process:	TIG (GTAW)		AC	105A
Torch Type:	Air-cooled (gas-cooled)	Duty Cycle:	35%	
Application:	Hand-held	Electrode(s):	0.040"-1/8" (1.0-3.2mm)	
Models:	Ridged Flex-head			

Model(s):	FG225WFX	Rating:	DC	225A
Process:	TIG (GTAW)		AC	160A
Torch Type:	Water-cooled (liquid-cooled)	Duty Cycle:	100%	
Application:	Hand-held	Electrode(s):	0.040"-1/8" (1.0-3.2mm)	
Models:	Flex-head			

Configurations:

- Miller: 14-pin remote connector, 50mm machine adapter & auxiliary gas hose
- Lincoln: 6-pin remote connector, 50 mm flow through dinse-style
- Switches with remote amperage control potentiometers are manufacturer dependent (see below)

Remote Switch Options

Select your handle remote inserts based on individual preference and application:

- Universal inserts work with all models and manufacturers
 - UERBS – Blank insert / dust cover, insert when handle remote is not being used
 - UER1MS – Momentary ON/OFF (Bump Switch), basic switch uses weld sequencer
- Remote amperage control inserts are specific to the machine type
- UER1MT-1/1H remote amperage control inserts feature 1k ohm resistor to match OEM
- UER1MT-10/10H remote amperage control inserts feature 10k ohm resistor to match OEM



#UERBS

#UER1MS

Miller: #UER1MT-1

#UER1MT-1H

Universal – for all torches

Lincoln: #UER1MT-10

#UER1MT-10H

*UER1MS included with torch package

Installation



Read and follow the owner's manual for your welding machine, this product and refer to ANSI Z49.1 prior to installing, operating or servicing equipment.



Follow the instructions in your equipment owner's manual for installing and connecting a TIG (GTAW) torch.



Turn OFF unit and unplug, or disconnect input power before making connections or when changing a remote switch.

Step 1: Connect 50mm dinse plug to the "TIG torch" or DCEN machine output receptacle.

Step 2: Connect remote control plug to the machine remote control receptacle.

Step 3: Connect shielding gas hose (if applicable) to machine gas outlet to torch.

Step 4: Connect coolant lines for water-cooled models (see *page 9*).

Step 5: Select and install your remote switch (see *Switch Installation*).

Step 6: Connect work cable from machine "work" or DCEP receptacle to the workpiece.

Step 7: Assemble torch front end parts and insert tungsten electrode (see *Torch Assembly*)

Step 8: Perform final inspection and safety checks, ensure all connections are tight.

Step 9: Follow your equipment manufacturer's setup, remote selection and parameter settings.

Switch Function



UER1MS



UER1MT-1
UER1MT-10



UER1MT-1H
UER1MT-10H

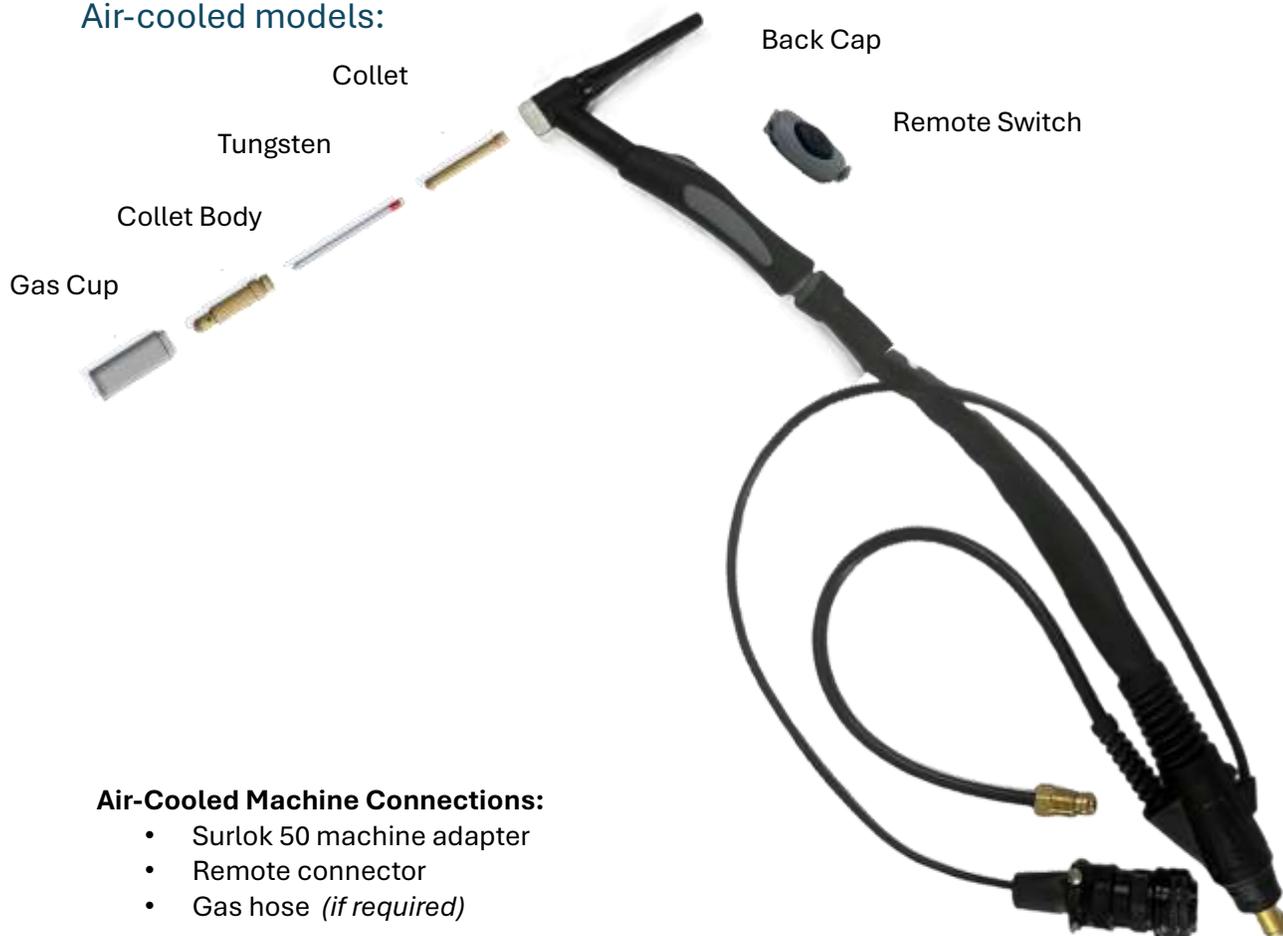
- UER1MS: This is a momentary switch that is ON when pressed, and OFF when released. Works with 2T, 4T or trigger-hold machine functions to activate and toggle through the weld sequence setup in the welding machine.
- UER1MT-1: This is a maintained switch with remote current control to simulate function and operation of a remote foot control. Works in standard remote by pressing and releasing the button to start the arc, dialing in the desired initial, weld and final amperage, then press the button to end the arc. This control may engage your machine weld sequencer function, which engages final slope when the button is pressed and released at the weld end. (1k ohm resistance for Miller configurations)
- UER1MT-10: Same operation as above – maintained switch with remote current control to simulate function and operation of a remote foot control. (10k ohm resistance for Lincoln configurations)
- UER1MT-1H: This is a maintained switch with remote current control to simulate function and operation of a remote foot control. Works in standard remote by pressing and releasing the button to start the arc, dialing in the desired initial, weld and final amperage, then press the button to end the arc. This control may engage your machine weld sequencer function, which engages final slope when the button is pressed and released at the weld end. (1k ohm resistance for Miller configurations)
- UER1MT-10H: Same operation as above – maintained switch with remote current control to simulate function and operation of a remote foot control. (10k ohm resistance for Lincoln configurations)

Torch Assembly

FuzionGrip™ torches arrive ready-to-connect! Each torch is shipped assembled with a power-cable adapter (dinse plug) & remote connector for quick setup!

1. *Read and follow installation instructions!*
2. *Plug directly into your machine torch or DCEN receptacle*
3. *Plug remote into machine remote receptacle*
4. *Install front-end parts (Compatible with OEM parts)*
5. *Choose your remote and snap into the handle (use blank insert when switch(es) are not inserted).*

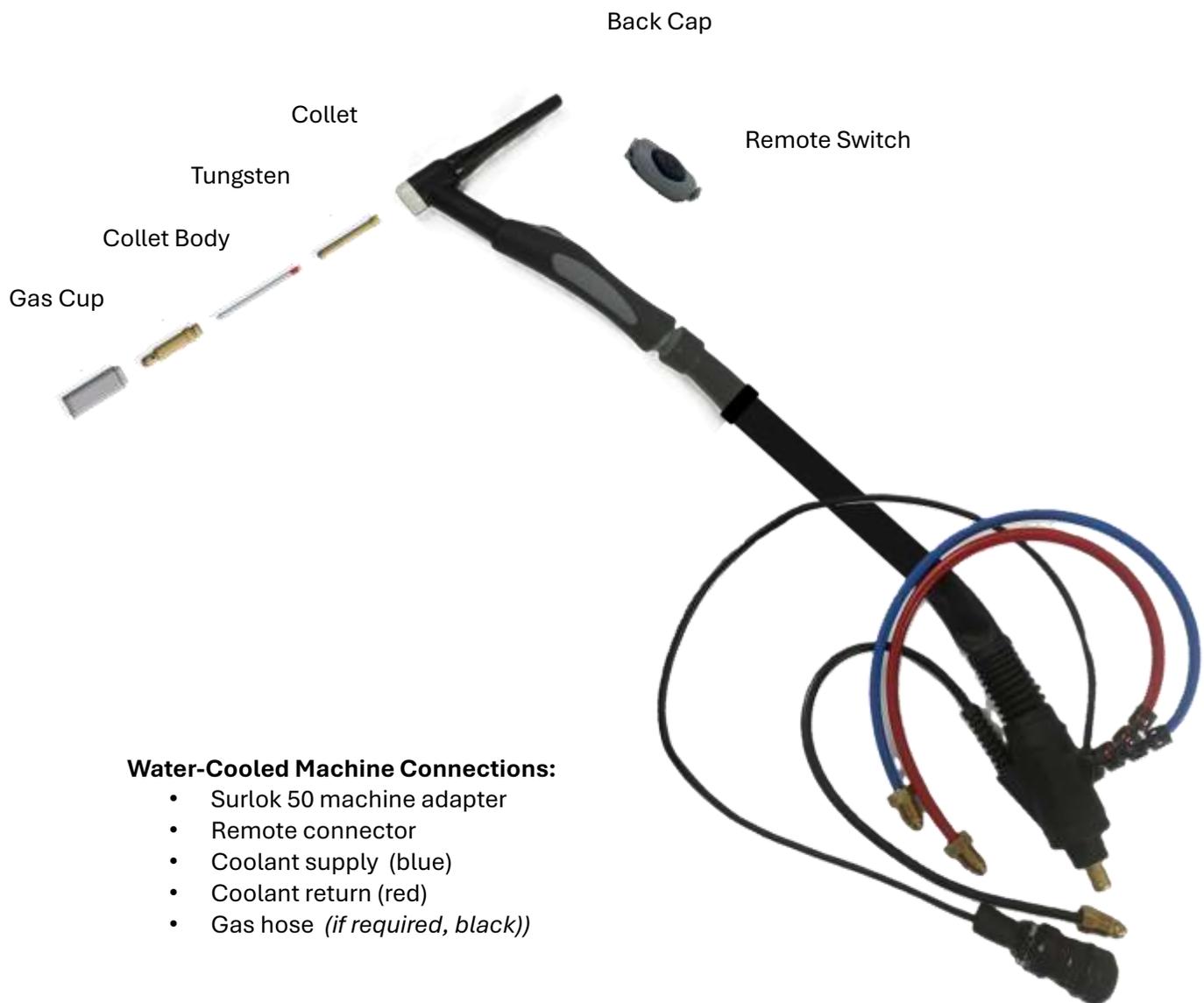
Air-cooled models:



Air-Cooled Machine Connections:

- Surlok 50 machine adapter
- Remote connector
- Gas hose *(if required)*

Water-cooled models:



Water-Cooled Machine Connections:

- Surlok 50 machine adapter
- Remote connector
- Coolant supply (blue)
- Coolant return (red)
- Gas hose (*if required, black*)

Water cooled torches require the use of circulated liquid coolant to achieve specified ratings, avoid overheating and failure.

- Use distilled, de-ionized or low mineral content water
- In case of freezing temperatures, use low conductivity anti-freeze

Maintenance and Service

Routine Maintenance

Inspect welding equipment, cables, leads and consumables daily for obvious issues.

- Repair or replace damaged components or cables
- Clean and tighten weld terminals and connections
- Water or liquid coolant should be monitored with the level maintained to avoid torch failure
 - Use distilled, de-ionized or low mineral content water
 - In case of freezing temperatures, use low conductivity anti-freeze

Troubleshooting

Here are some common issues you might experience with possible remedies. Follow your equipment manufacturer's recommendations for setup, operation, maintenance, consumables and troubleshooting.

Problem	Solutions
No remote control of ON/OFF or amperage with FuzionGrip™ torch remote	<ul style="list-style-type: none"> • Install remote and retainer • Ensure button is not restrained • Connect remote plug to machine • Select proper machine remote settings • Replace remote if not functional
No arc start, high frequency visible at torch	<ul style="list-style-type: none"> • Connect your torch and work clamp • Verify good work connection to bare metal • Inspect cables for damage • Ensure shielding gas is flowing
Poor arc starts, weak or reduced high frequency intensity	<ul style="list-style-type: none"> • Check cables and machine connections • Select proper tungsten size and preparation • Verify good work connection to bare metal • Tighten torch consumables • Inspect torch and cables for HF leaks
Excessive electrode consumption	<ul style="list-style-type: none"> • Select proper tungsten type, size and prep • Verify welding current and polarity • Adjust AC balance for less cleaning/balling
Discolored tungsten electrode tip (blue, gray, black) Discolored weld metal (dark gray, black, rough appearance)	<ul style="list-style-type: none"> • Increase shielding gas flow rate • Increase postflow time • Block adjacent wind or drafts • Allow postflow to end before moving torch • Preclean material using appropriate tools • Refinish tungsten tip to bright silver
Weld porosity	<ul style="list-style-type: none"> • Ensure proper shielding gas type • Increase shielding gas flow rate • Increase postflow time • Block adjacent wind or drafts • Preclean material using appropriate tools • Remove surface contaminants • Tighten all connections – inspect hoses • Inspect filler metal for contamination

Need Parts?

All products need maintenance and repair at some point. If you need parts to get welding, contact customerservice@weldfuzion.com for a list of spares and replacements.