



ITEM# 320

# QUICK START GUIDE

FLEX™ 30 PLASMA ST (NOT RECOMMENDED FOR ALUMINUM)



## 1. Read user manual



Read user manual

## 2. Select DC TIG process



Select DC TIG process



\* TIG Torch Sold Separately

## 3. Connect TIG torch and ground clamp



## 4. Connect TIG torch lead to gas (100% Argon)

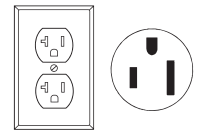


## 5. Adjust amperage per material thickness



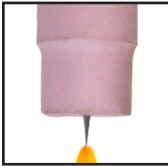
## 6. Connect to input power

Dedicated Circuit  
240VAC - 50A  
breaker recommended  
or 120VAC - 20A  
outlet, 30A breaker



- Generator OK with continuous output  $\geq 4,000$  W (120V) or 10,000 W (240V)
- Extension cord: #12 AWG (120V) or #10 AWG (240V) or larger. 25' (8m) or shorter recommended
- Always follow local electrical codes

## 7. Use lift arc technique to initiate a welding arc.



**ELECTRODE IS ALWAYS ELECTRICALLY HOT WHILE IN TIG MODE**



## TIG TROUBLESHOOTING TIPS

### Fault codes

Duty-cycle exceeded or insufficient air flow. Allow machine to cool. Ensure vents are clear of obstacles. See manual.



Incorrect input power. Verify machine is plugged into an appropriate power source. Use proper extension cords. See manual.



Electrode is shorted or stuck to workpiece. Separate the electrode or tungsten from the workpiece and fault will clear. See manual.



### Aluminum welding



- Not recommended for this machine.
- Output is DC only which is not recommended for TIG welding aluminum.

### Workpiece grounding



Connect ground clamp to clean, bare metal. No rust, paint or other coatings. Attach the ground clamp directly to the workpiece if you are experiencing issues.

### Frequently tripping circuit breaker or exceeding duty-cycle

Welder should be the only thing plugged into the circuit.

### Low weld output or poor fusion

- Usually due to low input power.
- Welder should be only thing plugged into circuit.
- Avoid using extension cords. If one must be used, it must be #12 AWG (120V) or #10 AWG (240V) or larger; 25' (8m) or shorter.
- Generators must be 10,000 W (240 V) or 4,000 W (120 V) continuous output and not have a low-idle function (or have it disabled).



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FLEX™ 30 PLASMA ST (NOT RECOMMENDED FOR ALUMINUM)



## 1. Read user manual



Read user manual

## 2. Select STICK process



Select  STICK process



## 3. Connect electrode holder and ground clamp according to desired polarity

Connect electrode holder and ground clamp according to desired polarity

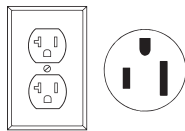


Usually DCEP - Electrode Positive

## 4. Connect to input power

➔ Connect to input power

Dedicated Circuit 240VAC - 50A breaker recommended or 120VAC - 20A outlet, 30A breaker



- Generator OK with continuous output  $\geq$  4,000 W (120V) or 10,000 W (240V)
- Extension cord: #12 AWG (120V) or #10 AWG (240V) or larger. 25' (8m) or shorter recommended
- Always follow local electrical codes

## 5. Adjust amperage per settings chart on the welder

Adjust amperage per settings chart on the welder



## 6. Recommended electrodes

Electrode	Diameter		Amperage
	Inches	MM	
E6010 & E6011	3/32	2,4	30-75
	1/8	3,2	35-125
	5/32	4,0	80-160
E6013	1/16	1,6	10-50
	3/32	2,4	40-90
	1/8	3,2	50-130
E7014	5/32	4,0	90-160
	3/32	2,4	40-90
	1/8	3,2	60-130
E7018	5/32	4,0	90-160
	3/32	2,4	50-80
	1/8	3,2	80-160

\*Performance may vary by brand

FIND STICK WELDING TIPS AT [WWW.ASKFORNEY.COM](http://WWW.ASKFORNEY.COM)



## STICK TROUBLESHOOTING TIPS

### Fault codes



Duty-cycle exceeded or insufficient air flow. Allow machine to cool. Ensure vents are clear of obstacles. See manual.



Incorrect input power. Verify machine is plugged into an appropriate power source. Use proper extension cords. See manual.



Electrode is shorted or stuck to workpiece. Separate the electrode or tungsten from the workpiece and fault will clear. See manual.

### Aluminum welding



- Not recommended for this machine.
- Output is DC only which is not recommended for TIG welding aluminum.

### Workpiece grounding



Connect ground clamp to clean, bare metal. No rust, paint or other coatings. Attach the ground clamp directly to the workpiece if you are experiencing issues.

### Frequently tripping circuit breaker or exceeding duty-cycle



Use 5/32" diameter electrodes or smaller. Some 5/32" will draw too much amperage (stick).



Trying to weld single pass on material larger than 3/8" thick is not possible with this machine. Multi-pass recommended for thicker materials.



Welding machine should be the only thing plugged into the circuit.

### Low weld output or poor fusion

- Usually due to low input power.
- Welder should be only thing plugged into circuit.
- Avoid using extension cords. If one must be used, it must be #12 AWG (120V) or #10 AWG (240V) or larger; 25' (8m) or shorter.
- Generators must be 10,000 W (240 V) or 4,000 W (120 V) continuous output and not have a low-idle function (or have it disabled).



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1.



Read user manual

2.



Select CUT process

3.

Connect to input air



- 60-100 PSI
- ≥ 4.0 CFM
- Clean air
- No oil
- No moisture

Output air pressure is pre-set at the factory



4.

Connect torch and ground clamp

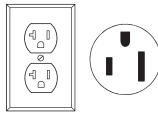
- Connect plasma torch to machine
- Connect ground clamp to PLASMA GROUND dinse socket



5.

Connect to input power

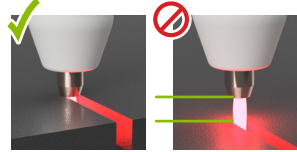
Dedicated Circuit  
240VAC - 50A  
breaker recommended  
or 120VAC - 20A  
outlet, 30A breaker



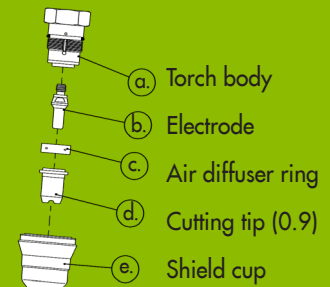
- Generator OK with continuous output ≥ 4,000 W (120V) or 10,000 W (240V)
- Extension cord: #12 AWG (120V) or #10 AWG (240V) or larger. 25' (8m) or shorter recommended
- Always follow local electrical codes

6.

Drag tip on workpiece



NOTE: Correct consumable assembly



## OPERATING TIPS

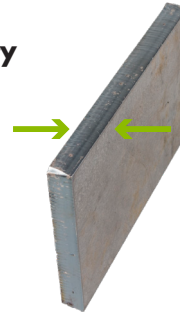
Travel speed



Too fast. Watch spark trail angle.

Cutting capability

Will cut clean up to  
3/8" (9,5 mm)



Replace worn consumables



Replacement electrodes - ITEM# 85755 (2-pack)  
Replacement cutting tips - ITEM# 85678 (2-pack)

FIND MORE PLASMA CUTTING TIPS AT [WWW.ASKFORNEY.COM](http://WWW.ASKFORNEY.COM)



## TROUBLESHOOTING GUIDE

Fault Codes



Duty-cycle exceeded or insufficient air flow. Allow machine to cool. Ensure vents are clear of obstacles. See manual.



Incorrect input power. Verify power source is 120V or 240V +/- 10%. Use proper extension cords. See manual.



Shield Cup loose or missing. Check consumable assembly. Tighten cup. See manual.



Incorrect input air pressure. Ensure air input meets pressure and flow requirements. 80 PSI and 4.0 CFM recommended. See manual.



Plasma torch is triggered when machine powered on. Release trigger. See manual.



Check that ground clamp is connected to the proper Dinse socket. See manual.



Wrong ground connection for plasma ground. Ensure the ground clamp is connected to the plasma ground Dinse socket. Cycle machine power. See manual.

**Expert-Tech Tip:** Use an electrically conductive cutting guide to cut expanded metal.



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