

# Trailblazer® 302 Diesel

Issued September 2005 • Index No. ED/4.67

**Diesel Engine-Driven  
Welder/AC Generator**



## Quick Specs

### Industrial Applications

Fabrication  
Maintenance  
Repair  
Structural Steel Work  
Pipe  
Sheet Metal

### Processes (X-Ray Quality)

Stick (SMAW)  
MIG (GMAW)  
Flux Cored (FCAW)  
AC/DC TIG (GTAW)  
Air Carbon Arc (CAC-A) Cutting and Gouging  
(Rated: 3/16 in carbons, Capable: 1/4 in carbons)  
Air Plasma Cutting and Gouging  
with optional Spectrum models

### Output Range

**DC Stick** 30–300 A  
**DC TIG** 20–300 A  
**AC TIG/Stick** 30–225 A  
**MIG/FCAW** 13–35 V

**Generator Power Output Rated at 104° F (40° C)**  
10,000 Watts Peak — 9500 Watts Continuous

**Accu-Rated™ – Not Inflated  
Generator Power**

## The Power of Blue.®

## Toughest Welders...

**CASE CLOSED**

**The Professional Welder's Choice** — designed with the professional in mind, the Trailblazer Series has the best welding arc in its class!

**Exclusive!** Trailblazers are the only machines in the industry that utilize a 4-pole, 3-phase generator to produce the best welding arc and have a separate 10,000 watt power generator.

**Increased fuel capacity to 12 gallons** means many hours of run time before refueling.

**Accu-Rated™ 10,000 watts of usable peak power** cranks out enough power for most applications: job site, farm/ranch, or home. 9500 watts of continuous power.

### Superior arc performance

- Four preset DIG settings (Stick)
- Adaptive Hot Start™ (Stick)
- Lift-Arc™/Scratch Start TIG with Auto-Stop™
- MIG/FCAW arc starts



For truck installation information, visit [MillerWelds.com/truck](http://MillerWelds.com/truck)



**New!**

**Fully enclosed case provides** reduced sound levels, fully protected engine, and utilizes the same hole mounting pattern as past models.

**New!** Self-calibrating digital weld meters with meter maintenance displays.

- Preset and actual weld amperage/voltage
- Hour meter function
- Oil change interval
- Engine RPMs
- Low oil pressure shutdown with display
- High coolant temperature shutdown
- Low fuel shutdown — diesel engine shuts down before system runs out of fuel, making restarts easy.

**Exclusive!** Digital meters with SunVision™ technology are easy to read in direct sunlight or shade.

**Front panel fuel gauge** provides convenient fuel level indication.

**Exclusive!** Super-tough Protective Armor with covers has high-impact resistance in all temperatures and is chemical-resistant. Other applications include: automotive bumpers, tractor hoods and panels, lawn mower decks, large structural parts, etc.

**Output stud and receptacle covers** required by OSHA and CSA for job site safety.

See inside for more machine features/benefits.

**TRUE BLUE**  
3YR. WARRANTY

Welder/generator is warranted for 3 years, parts and labor.  
Engine is warranted separately by the engine manufacturer.

MADE IN **USA**  
APPLETON, WI **USA**



### Miller Electric Mfg. Co.

An Illinois Tool Works Company  
1635 West Spencer Street  
Appleton, WI 54914 USA

### International Headquarters

Phone: 920-735-4505  
USA FAX: 920-735-4134  
Canadian FAX: 920-735-4169  
International FAX: 920-735-4125

### Web Site

[www.MillerWelds.com](http://www.MillerWelds.com)



# Specifications (Subject to change without notice.)



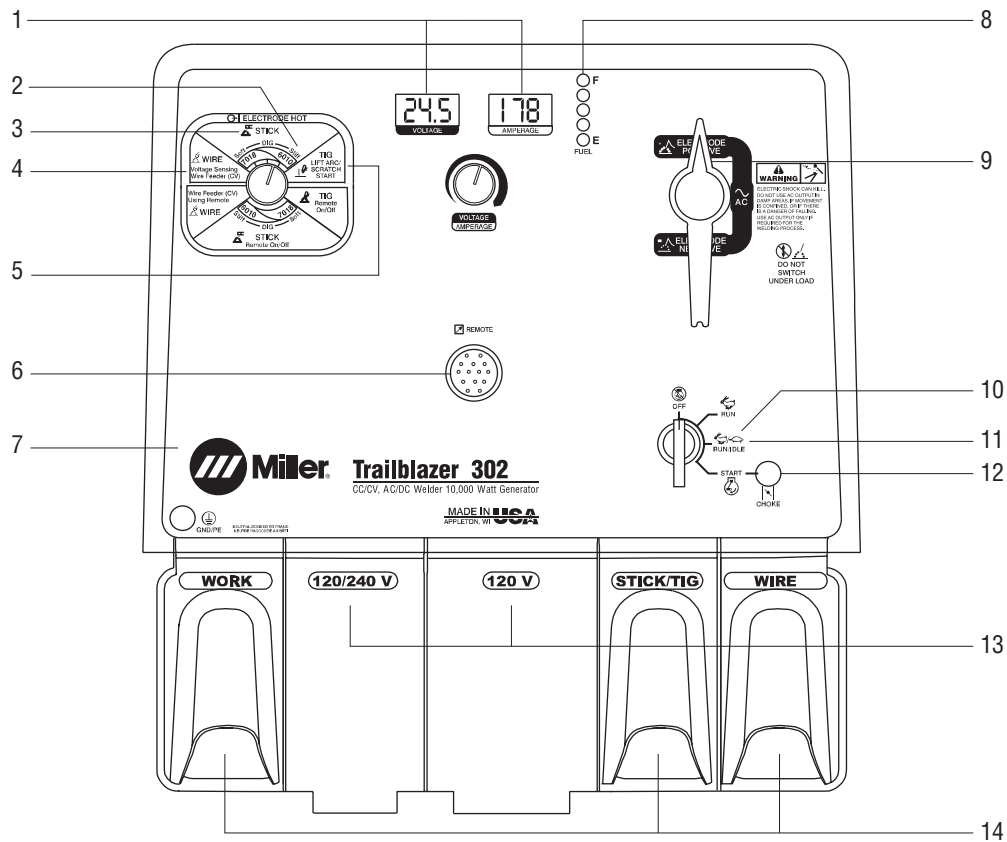
Welding Mode	Process	Amp/Volt Ranges	Weld Output Rated at 25 V (at 104°F/40°C)*	Single-Phase Generator Power	Sound Levels at Rated Output, 7 m (23 ft)	Dimensions <i>(height is to top of exhaust)</i>	Net Weight**
CV/DC	MIG/FCAW	13–35 V	300 A, 100% Duty Cycle	<b>Peak:</b> 10,000 watts <b>Continuous:</b> 9500 watts 120/240 VAC, 84/42 A, 60 Hz	80.5 dB (105.5 Lwa)	H: 34-1/4 in (870 mm) W: 20 in (508 mm) D: 52 in (1321 mm)	720 lb (327 kg)
CC/DC	Stick/TIG	20–300 A	280 A, 100% Duty Cycle				
CC/AC	TIG/Stick	30–225 A	200 A, 60% Duty Cycle				

 Certified to both Canadian and U.S. Standards for welding equipment. \*Rated at sea level. \*\*Net weight without fuel.

## Engine Specifications (Engines warranted separately by the engine manufacturer.)

Engine Brand/Warranty	Horsepower (HP)	Type	Weld Speed	Idle Speed	Fuel Capacity	Oil Capacity	Standard Shutdowns
Kubota: 2-year limited North American mfg.	19 HP at 3600 RPM	3-cylinder, industrial liquid-cooled diesel	3600 RPM	2450 RPM	12 gal (45 L)	3.4 qt (3.2 L)	Low Oil Pressure, High Coolant Temperature and Low Fuel

# Function Guide



## \*Category Exclusive

**1. Digital Meters** display preset amperage or voltage while not welding and display actual amperage and voltage while welding and for 5 seconds after welding has stopped. Meters feature **SunVision™ technology\*** so they are easy to read in direct sunlight or shade.

### Meter Maintenance Displays\*

- **Hour Meter:** With engine off, place Engine Control switch in SPEED LOCK position to view engine hours.
- **Oil Change Interval:** With engine off, place Engine Control switch in RUN/IDLE position to view hours before next oil change. Oil hours start at 100 and count down to 0 (oil change due).  
*Note: Negative hours indicated when past recommended oil change interval.*  
*To Reset: Cycle the Engine Control switch from the RUN/IDLE to SPEED LOCK position 3 times.*
- **Engine RPM:** With engine running, and Process Selector switch in any Stick HOT position, cycle Engine Control switch from RUN/IDLE to SPEED LOCK position 3 times and meters will display engine RPM. Use to check/set idle and run speed RPM. Accuracy is  $\pm 16$  RPM.  
*To Reset: Turn machine off.*
- **High Coolant Temperature Shutdown** Engine shuts off and meters display HI H2O. See owner's manual for coolant info.  
*To Reset: Turn Engine Control switch off.*
- **Low Oil Pressure Shutdown** Engine shuts off and meters display LO OIL.  
*To Reset: Turn Engine Control switch off.*

**2. Four Preset DIG Settings\*** offer the best arc characteristics for different electrodes and joint designs. The combined Process switch along with preset DIG settings make the Trailblazer easy to set without the complication of multiple switches.

### DIG Settings

- Soft arc and smooth 7018 performance.
- Medium-soft arc.
- Medium-stiff arc.
- Driving arc such as pipe welding.

**3. Adaptive Hot Start™\*** (Stick) automatically sets starting amperage for great arc starts.

**4. Great MIG/FCAW Performance and Arc Starts** make the Trailblazer's arc best in its class. Easy to run all wires from .023 in solid wires to large diameter 5/64 in flux cored wires.

**5. Lift-Arc™/Scratch Start TIG with Auto-Stop™\*** provides great DC starts with all starting techniques. Auto-Stop™ allows the arc to be stopped without the loss of shielding gas.

**6. Standard 14-Pin Receptacle** for simple connection of remote controls and wire feeders. It features **Auto Remote Sense™\*** which automatically switches from Panel to Remote Amperage/Voltage (A/V) control with remote connected. Eliminates confusion of the Panel/Remote A/V switch.

**7. Weatherproof Lexan® Nameplate** is super durable and resists cracking and fading. Color coding is for ease of operation.

**8. Front Panel Fuel Gauge\*** LEDs indicate fuel level. The "E" LED lights when fuel is low. **Low Fuel Shutdown** shuts engine off prior to running out of fuel to prevent loss of fuel in the system, and make restarts easy. Display will read noFUEL. Turn the machine off, add fuel, and restart.

**9. DC Polarity/AC Switch** allows selection between DC output polarity or "industry best" 120 Hz AC weld output.

**10. Automatic Start at Idle** extends engine life and reduces fuel use and noise.

**11. Varied Time to Idle\*** is optimized for each process.

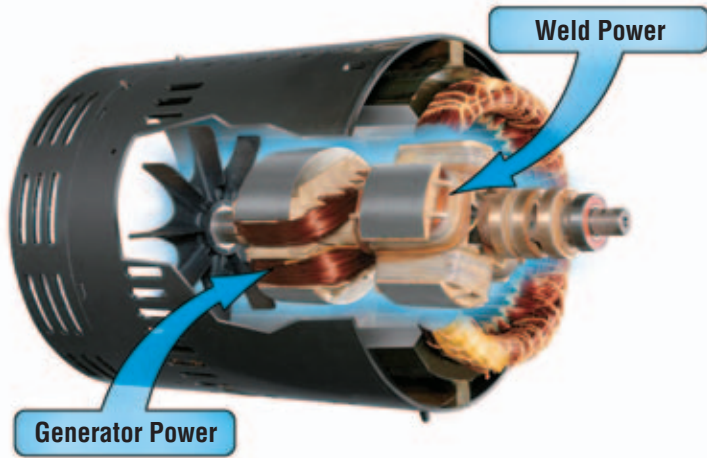
- Wire: idles engine 10 sec after welding.
- Stick/TIG: idles engine 18 sec after welding.

**12. Glow Plugs** assist in cold weather starting.

**13. 120 VAC and 240 VAC Receptacles with Circuit Breakers** (optional 120 VAC GFCI receptacles available).  
*Note: For matching plug, order #119 172.*

**14. Weld Cable Strain Relief** built into protective armor protects weld cable terminals.

# Performance Data



All Trailblazers have 2 generators — a 4-pole, 3-phase weld generator and a strong power generator.

### SIMULTANEOUS WELDING AND POWER

Weld Current In Amperes	Total Power in Watts	120 V Receptacle Amperes	240 V Receptacle Amperes
300	1000	10	5
250	3500	31	15
200	5200	46	23
150	6700	60	30
100	8000	70	35
0	10,000	84	42

See Owner's Manual for additional information.

### Accu-Rated™ — Not Inflated Generator Power

Miller's Accu-Rated™ 10,000 watts of *usable* peak power is delivered for a minimum of 30 seconds. Accu-Rated means peak power is usable for maximum generator loads such as plasma cutting, Millermetics and motor starting. Accu-Rated peak power beats the competition's very short-duration peak or surge power. Use your peak power, it's more than a number.

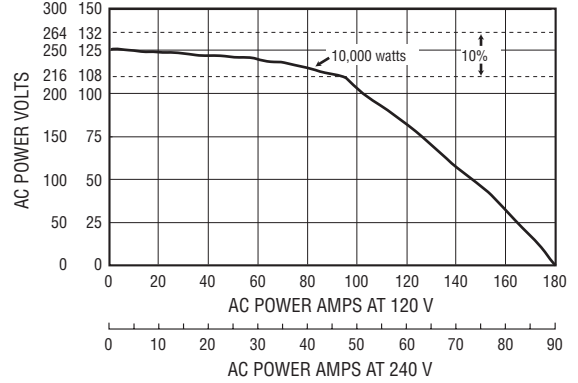
### Trailblazer® 2-Generator Advantages

- Separate weld and power generators are designed for specific functions. This is why the 4-pole, 3-phase weld generator is the **most efficient and produces the best arc quality** with a precise, yet simple and reliable weld control design.
- **No interaction** between grinders, power tools, etc. and the welding arc.
- Generator **power is independent of weld control settings.**
- Has the industry's **strongest power while welding.**
- The Trailblazer's generator weighs 200 lb! That's about 60 lb more copper and iron than most competitive models. Heavy-duty construction, rock-solid performance — **More Guts, More Glory!**

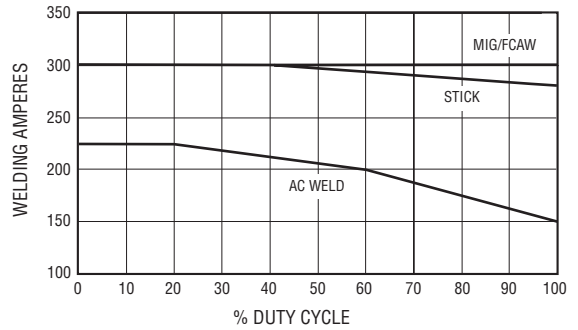
### Power is in the Numbers

- Tools and motors are designed to operate within 10% of 120/240 VAC. The Trailblazer's power generator provides strong power while keeping the voltage within 10% of 120/240 VAC. **This increases tool/motor performance and life. See Generator Power Curve.**
- **Tested and rated at higher temperatures, 104° F (40° C),** to ensure consistent operation in all climates.
- Patented generator control technology matches the generator's output to engine horsepower. This provides **more weld output and lowers fuel consumption.**

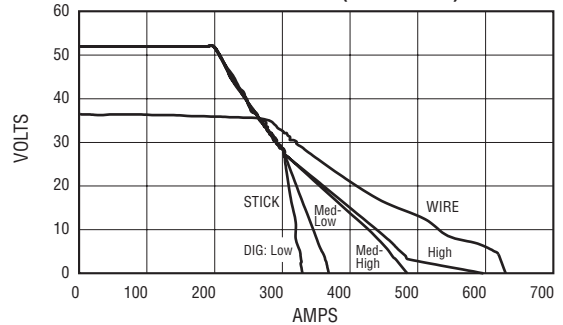
### GENERATOR POWER CURVE



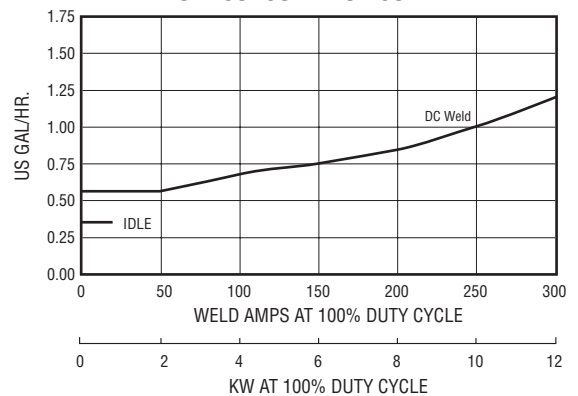
### DUTY CYCLE CHART



### VOLT/AMP CURVES (MAXIMUM)



### FUEL CONSUMPTION CURVE



### FUEL CONSUMPTION DATA

- 12-gallon fuel capacity.
- On a typical job using 1/8-in 7018 electrodes (125 A, 20% duty cycle) expect about 24 hrs of operation.
- Welding at 150 A, 40% duty cycle uses approximately 1/2 gallon per hour — about 22 hrs of operation.

## Genuine Miller Options \*Available as factory option. See ordering information on back page.

**GFCI Protection\* #195 496** Field  
Ground Fault Circuit Interruptors are required on some construction sites. Kit contains two GFCI 120 VAC duplex receptacles. (240 VAC GFCI receptacle not required).

**Spark Arrestor #043 579** Field  
Mandatory when operating on California grasslands, brush or forest-covered land, and all National Forests. For other areas, check your state and local laws.

Order the following from Miller Service Parts.



**Full KVA Plug Kit #119 172** Field  
120/240 VAC, 50 amp plug (NEMA 14-50P) to fit full KVA receptacle.

**Engine Tune-Up Kit #206 421** Field. Kubota D722  
Tune-up kit includes engine filters.

## Genuine Miller Accessories



**Protective Cover #195 334**  
Heavy-duty, water-resistant and mildew-resistant cover protects and maintains the finish of the welder. Not for use with Protective Cage or Running Gear.



**Gas Cylinder Mounting Assembly #195 330**  
Designed for use with Protective Cage or by itself. Includes base tray with bottle bracket, vertical support rack and safety chain.



**RMLS-14 #129 337** 14-pin plug  
Momentary- and maintained-contact rocker switch for contactor control. Push forward for maintained contact and back for momentary contact. Includes 20 ft (6 m) cord.



**Protective Cage with Cable Holders #300 052**  
Rugged cage with cable holders protects your investment. Can be used with Running Gear and Trailer.

### Remote Controls



**RHC-14 Hand Control #129 340**  
Miniature hand control for remote current and contactor control.  
Dimensions:  
4 x 4 x 3-1/4 in (102 x 102 x 82 mm).  
Includes 20 ft (6 m) cord and 14-pin plug.



**RCC-14 Remote Contactor and Current Control #151 086** 14-pin plug  
Rotary-motion fingertip control fastens to TIG torch using two Velcro® straps. Includes 28 ft (8.5 m) control cord.

### Extension Cords for 14-Pin Remote Controls

#122 973 25 ft (7.6 m)  
#122 974 50 ft (15.2 m)  
#122 975 75 ft (23 m)



**All-Terrain Running Gear #195 326**  
Two heavy-duty 15 in and two 10 in pneumatic tires with innertubes and a rugged handle provide maximum maneuverability. Not for use with Gas Cylinder Mounting Assembly.



**RFCS-14 HD Foot Control #194 744**  
Heavy-duty foot current and contactor control. Includes 20 ft (6 m) cord and 14-pin plug.

### Stick (SMAW) Welding

#### Weld Leads

#173 851 2/0, 350 A, 100% duty cycle, 50 ft stinger, 50 ft work cable  
#043 952 2/0, 300 A, 100% duty cycle, 100 ft stinger, 50 ft work cable



## Genuine Miller Accessories (continued)

### Plasma Cutting



- Spectrum® 375 #903 891**  
See Lit. Index No. PC/9.1.  
**Spectrum® 625 #907 058**  
See Lit. Index No. PC/9.5.  
**Spectrum 2050 #903 777-01-2**  
See Lit. Index No. PC/7.0.

### MIG/Flux Cored Welding



- Millermatic® Passport™ #907 301**  
Portable, all-in-one MIG package features ultimate arc performance, self-contained gas bottle, and flexibility to plug into 115 or 230 V power with Miller exclusive Multi-Voltage Plug. See Lit. Index No. DC/12.53.



- SuitCase™ 8VS Wire Feeder #194 890**  
**SuitCase™ X-TREME™ 12VS Wire Feeder #195 500**  
Lightweight, portable, voltage-sensing wire feeders include secondary contactor and gas valve. Require drive roll kit. See Lit. Index Nos. M/6.4 and M/6.41.



- SuitCase™ 8RC Wire Feeder #194 938**  
**SuitCase™ 12RC Wire Feeder #194 940**  
Lightweight, modular design and flexible enough to run a variety of wires up to 5/64 in diameter. Comes standard with remote voltage control. See Lit. Index No. M/6.5.



- Spoolmatic® 30A Spool Gun #130 831**  
Air-cooled, 200-amp, 1-lb spool gun for aluminum MIG. See Lit. Index No. M/1.5.

- WC-24 Control #137 549**  
Use with Spoolmatic 30A.

- XR™ Wire Feeders and Guns**  
Push-pull system designed to handle difficult-to-feed soft alloy wires such as aluminum. See Lit. Index No. M/1.7.

### TIG (GTAW) Welding



- Dynasty® 200 Series**  
For premium portable AC/DC TIG arc quality. See Lit. Index No. AD/4.8.



- HF-251 Series #042 388**  
HF-251D-1, 115 VAC High-frequency arc starter and stabilizer. See Accessory Lit. Index No. AY/5.0.

### Trailers and Hitches

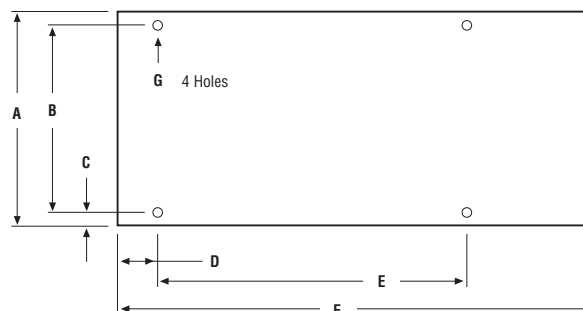


- HWY-1000 Trailer #195 013**  
A 1000 lb (454 kg) capacity highway trailer with welded steel tubing frame, heavy-duty axle with roller bearing hubs and leaf-spring suspension. The HWY-1000 comes with jack stand, 2 in (50 mm) ball hitch, fenders and lights.

- Cable Tree #195 023**  
Provides an area to conveniently wrap weld cables and extension cords on the HWY-1000 trailer.

- Lunette Eye 2-1/2 in (64 mm) #043 824**

## Mounting Specifications



- A.** 20 in (508 mm)  
**B.** 16-1/2 in (419 mm)  
**C.** 1-3/4 in (44 mm)  
**D.** 6-1/16 in (154 mm)  
**E.** 32-3/4 in (832 mm)  
**F.** 52 in (1321 mm)  
**G.** 13/32 in (10 mm) diameter

**Height:** (to top of exhaust)  
34-1/4 in (870 mm)

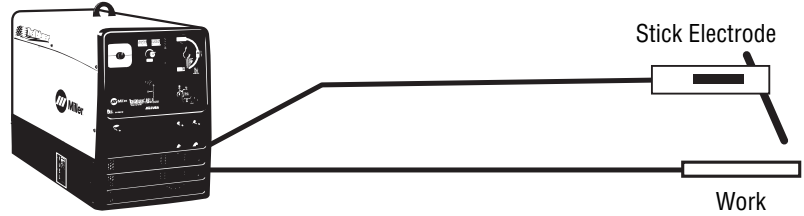
**Width:** 20 in (508 mm)

**Depth:** 52-1/2 in (1334 mm)

# Typical Installations

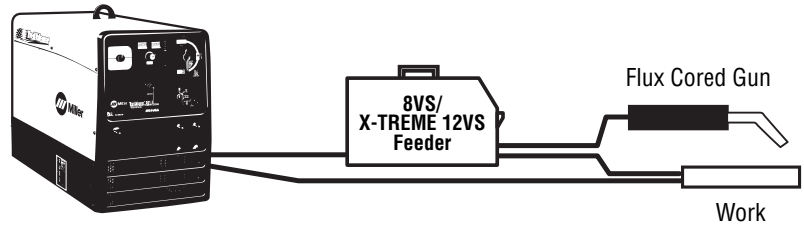


## Stick (SMAW) Basic Equipment



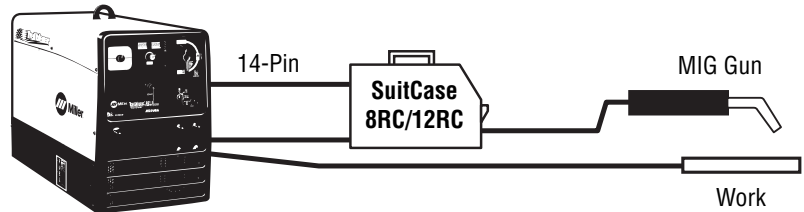
## Flux-Cored (FCAW) Basic Equipment

SuitCase™ 8VS #194 890  
 SuitCase™ X-TREME™ 12VS #195 500



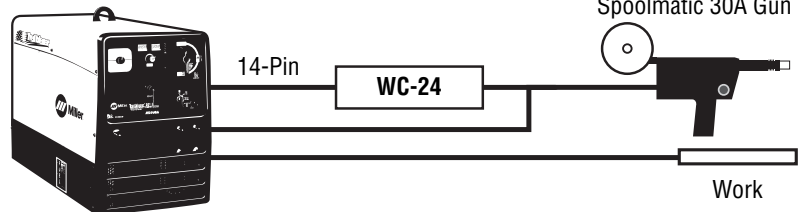
## MIG (GMAW) Basic Equipment

SuitCase™ 8RC #194 938  
 SuitCase™ 12RC #194 940



## Aluminum MIG (GMAW) Basic Equipment

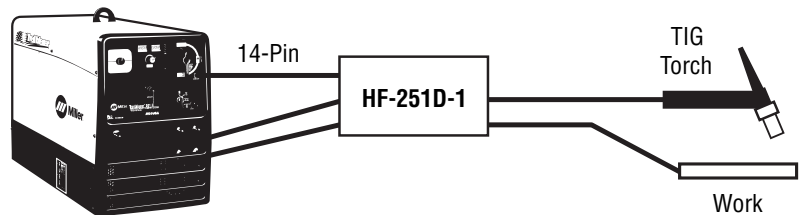
Spoolmatic® 30A #130 831  
 WC-24 #137 549



## TIG (GTAW) Basic Equipment

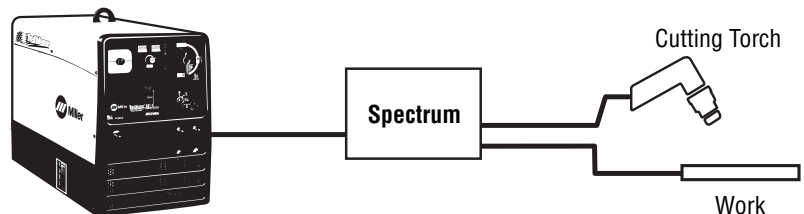
Dynasty® 200 Series  
 HF-251D-1 #042 388  
 TIG Adapter w/Extension #195 350

- Required for Lift-Arc™/Scratch Start TIG welding with the Trailblazer 275 DC



## Plasma Basic Equipment

Spectrum® 375 #903 891  
 Spectrum® 625 #907 058  
 Spectrum® 2050 #903 777-01-2



# Ordering Information

Equipment and Options	Stock No.	Description	Qty.	Price
<b>Trailblazer® 302 Diesel (19 HP Kubota)</b>	<b>#907 218</b>	Base machine, CC/CV, AC/DC 10,000 watts		
	<b>#907 218-01-1</b>	With GFCI Receptacles		
	<b>#907 218-01-2</b>	With Dry Battery (International)		
	<b>#907 218-01-4</b>	With No Battery (International)		
GFCI Protection	<b>#195 496</b>	Field		
Spark Arrestor	<b>#043 579</b>	Field		
Full KVA Plug	<b>#119 172</b>	Field. <i>(Order from Miller Service Parts)</i>		
Engine Tune-Up Kit	<b>#206 421</b>	Field. For Kubota D722. <i>(Order from Miller Service Parts)</i>		
<b>Accessories</b>				
Protective Cover	<b>#195 334</b>	Blue w/logo. Cannot be used with Protective Cage or Running Gear		
Protective Cage with Cable Holders	<b>#300 052</b>			
All-Terrain Running Gear	<b>#195 326</b>	Cannot be used with Gas Cylinder Mounting Assembly		
Gas Cylinder Mounting Assembly	<b>#195 330</b>			
RHC-14	<b>#129 340</b>	Hand control		
RFCS-14 HD	<b>#194 744</b>	Foot control		
RMLS-14	<b>#129 337</b>	Momentary/maintained switch for contactor control		
RCC-14	<b>#151 086</b>	Fingertip control		
Extension Cords		See page 5		
Stick Welding Leads		See page 5		
Spectrum® Plasma Cutters		See page 6		
Millermatic® Passport™	<b>#907 301</b>	Includes gas bottle and MVP. See Lit. Index No. DC/12.53		
SuitCase™ Portable Wire Feeders		See page 6		
Spoolmatic® 30A Spool Gun	<b>#130 831</b>	Requires WC-24 Control. See Lit. Index No. M/1.5		
WC-24 Control	<b>#137 549</b>	See Lit. Index No. M/1.5		
XR™ Wire Feeder Control and Guns		See Lit. Index No. M/1.7		
Dynasty® 200 Series		See Lit. Index No. AD/4.8		
HF-251D-1	<b>#042 388</b>	115 VAC. See Lit. Index No. AY/5.0		
HWY-1000 Trailer	<b>#195 013</b>			
Cable Tree	<b>#195 023</b>			
Lunette Eye 2-1/2 in (64 mm)	<b>#043 824</b>			

Date:

Total Quoted Price:



Distributed by: