

# Trailblazer® 302 Air Pak™

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Gas Engine-Driven Welder/  
AC Generator/Air Compressor



## Quick Specs

### Industrial Applications

Fabrication  
Maintenance  
Repair  
Structural Steel Work  
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  
(Rated: 5/8 in mild steel)

### Output Range

DC Stick	25–300 A
DC TIG	10–300 A
AC TIG/Stick	10–225 A
MIG/FCAW	13–35 V, 350 A

### Generator Power Output Rated at 104° F (40° C)

Peak: 13,000 W — Continuous: 11,000 W

### Air Compressor

26 CFM, 100% Duty Cycle, 70–160 PSI

## The Power of Blue.®

The all-in-one tool that delivers multiprocess output for welding, plasma cutting, gouging, and air tools.



*Rotary-Screw Air Compressor*

*Two Generators*

*13,000 Watt Generator*

*Plasma Cutting Capability*

*Superior Arc Performance*

*Small Size and Lightweight*

*Easy to Service*

*3-Year True Blue® Compressor Warranty*

*Carbon Arc Gouging*



Welder/generator/air compressor 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

### Equipment Sales US and Canada

Phone: 866-931-9730  
FAX: 800-637-2315  
International Phone: 920-735-4554  
International FAX: 920-735-4125

### Web Site

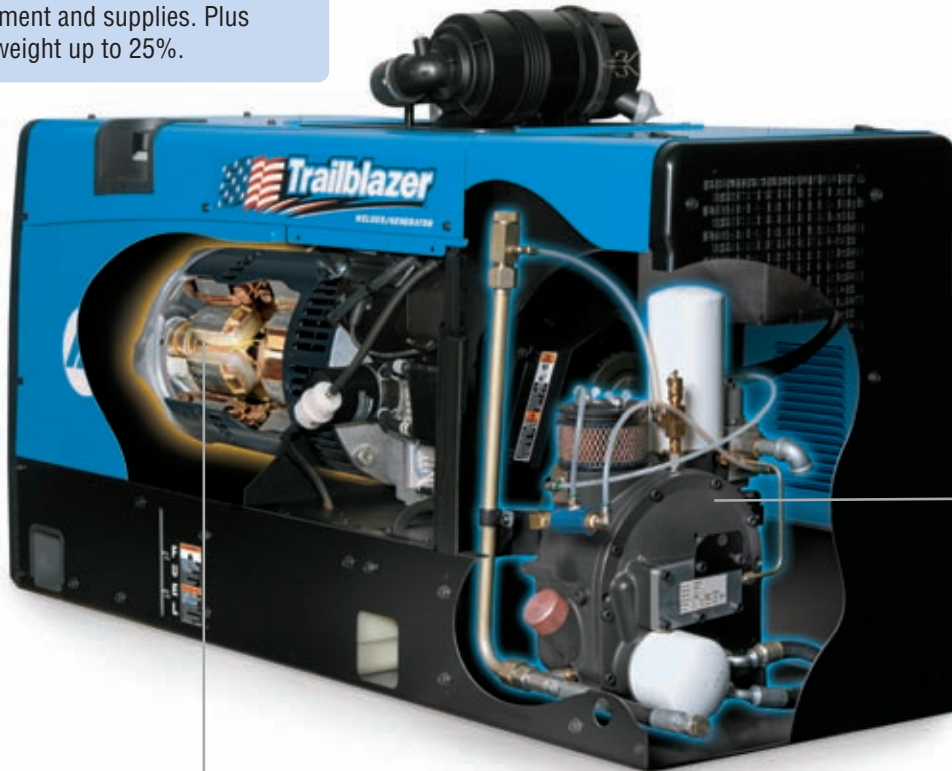
[www.MillerWelds.com](http://www.MillerWelds.com)



# Trailblazer® 302 Air Pak™ Features

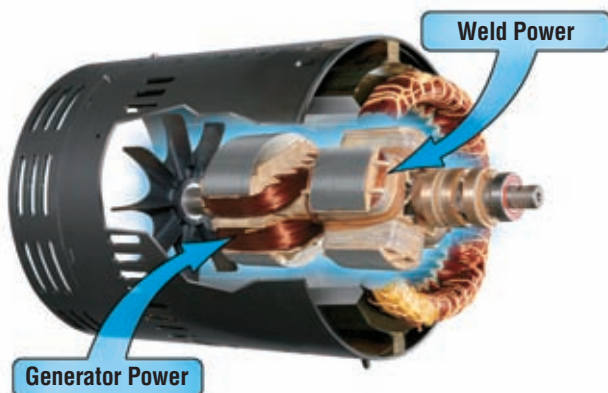
## Size and Weight

Takes only half the bed space of a separate engine-driven air compressor and welder, freeing up to 50% more room on your truck for equipment and supplies. Plus decrease axle weight up to 25%.



## Trailblazer® 2-Generator Advantages

- 13,000 watts of voltage regulated power
- No interaction between grinders, power tools, etc. and the welding arc
- Generator power is independent of weld
- 4-pole weld generator produces the best arc quality



## Industrial Rotary Screw Air Compressor

- Runs most air impact wrenches at idle
- Produces 26 CFM of air at 100% duty cycle
- Delivers 70–160 PSI of air with no storage tank
- Gives 100% deliverable air
- Compressor is warranted by Miller for 3 years



# Trailblazer® 302 Air Pak™ Features

## Easy to Service

### Toolless Top Access to:

- Engine air cleaner
- Engine oil check/fill dipstick
- Battery
- Compressor oil check/fill dipstick
- Compressor oil separator
- Air compressor air filter

### Toolless Side Access to:

- Engine oil filter
- Engine oil drain
- Engine fuel filter

### Rear Access to:

- Compressor oil filter
- Compressor oil drain



## Front Panel Air Pressure Adjustment

- Simple to dial in the correct air pressure for specific applications (70–160 PSI)
- Increases engine power for more gouging and plasma cutting output capabilities



## Easy Operation

- Reduce fuel consumption and noise by using the front panel air flow control which matches engine speeds to air flow requirements for tools, plasma cutting and gouging.



# Answers to Frequently Asked Trailblazer® 302 Air Pak™ Questions

## Air facts

- Moisture going into a compressor also comes out.
- Air compressors heat air, turning moisture droplets into vapor.

## How can I reduce moisture in the air?

### RTI Filter (#300 491):

- Recommended for plasma cutting. Separators remove droplets of water, not vapor, but this is good enough for most plasma cutting applications.
- Because compressors heat air, this filter option is less effective at removing moisture (heat turns droplets into vapor and vapor is not filtered).



### Air Cooler with Separator (#300 420):

- **Most popular.**
- The cooler cools air which turns vapor moisture into droplets and the separator removes the droplets.
- Removes 70% of the moisture from the air.
- Use for most applications including tools, blasters, plasma cutters and gouging.
- Effective when temperatures are above freezing (this is also when the most moisture is in the air). Below 32 degrees the separator can freeze. If this happens, bypass the cooler/separator system and continue air operations without drying it.
- Fully integrated inside of the Air Pak.



### Desiccant Air Dryer (#195 117):

- Cools air and removes 99% of the moisture from the air.
- Primary use is when temperature ranges below freezing and moisture still must be removed from the air.
- Has a built in heater.
- Mounted externally from the machine with some wiring that needs to take place inside of the machine.



## What does Average vs Continuous CFM mean?

- Air tools are often rated as “Average CFM.” “Average CFM” is typically based on 15 second usage intervals. Impact wrenches, button punch/deck tools, and decking crimp tools are typically used intermittently (short time durations).
- Continuous CFM: This rating is based on continuous usage. Air grinders and sand blasters are examples of air tools that are used continuously.

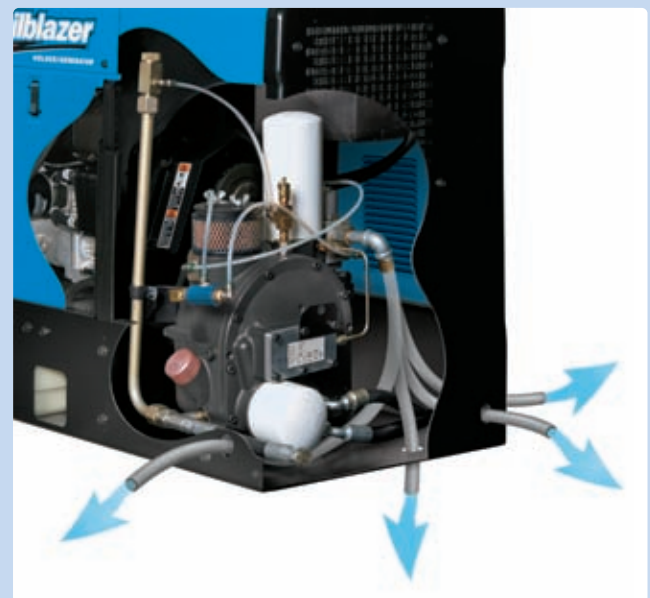
## The Air Pak will easily run the following:

Air Tools	Average CFM*	Continuous CFM*
3/4 in Impact Wrench (IR 2141)	10	40
3/4 in Impact Wrench (Speedaire)	7	26
1/2 in Impact Wrench (IR 231C)	4	22
Needle Scaler (IR 182LNA1)	3	13
4-1/2 in Grinder (Dayton)	7	26
1/4 in Die Grinder (IR G1H350RG4)	6	25
1/2 in Drill (IR 7AQSTB)	4	17
Air Shears (IR 7802SA)	4	21
Sand Blaster	—	6
Soda Blaster	—	18
Button Punch/Deck Tool	—	4
Decking Crimp Tool	4	15

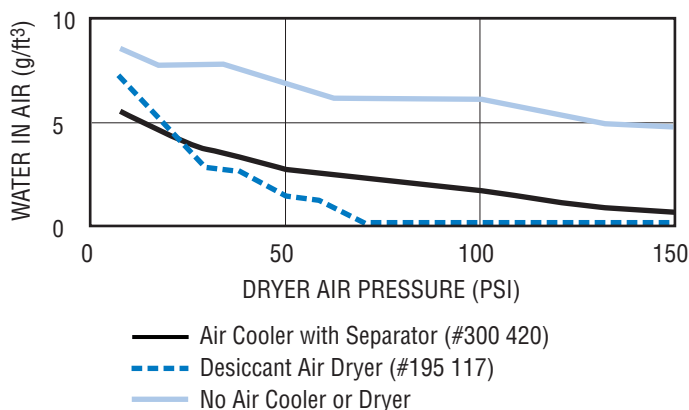
*\*1/2 in air hose is recommended for better tool efficiency.*

## How do I access the air?

The Trailblazer Air Pak provides 4 convenient air compressor access points. The air outlet connection requires a 1/2 in NPT swivel fitting (50 ft air hose assembly #300 571 includes the 1/2 in NPT swivel fitting).



**DRYER COMPARISON AT MAX FLOW ABSOLUTE HUMIDITY**



# Specifications (Subject to change without notice.)



Welding Mode	Process	Amp/Volt Ranges	Weld Output Rated at 104°F/40°C*	Single-Phase Generator Power	Sound Levels at Rated Output 7 m (23 ft)	Dimensions	Weight
CV/DC	MIG/FCAW	13–35 V	300 A, 32 V at 100% Duty Cycle 350 A, 32 V at 60% Duty Cycle	<b>Peak:</b> 13,000 watts  <b>Continuous:</b> 11,000 watts 120/240 VAC, 100/50 A, 60 Hz	2400 RPM (Idle) 73.4 dB (98.4 Lwa)  3000 RPM 76.5 dB (101.5 Lwa)  3600 RPM 81.2 dB (106.6 Lwa)	H: 28 in (838 mm) 34-1/4 in (870 mm) <i>(to top of exhaust)</i> W: 20 in (508 mm) D: 59-5/8 in (1514 mm)	<b>Without Fuel:</b> 771 lb (350 kg)
CC/DC	Stick/TIG	10–300 A	280 A, 32 V at 100% Duty Cycle				
CC/AC	Stick/TIG	10–225 A	200 A, 25 V at 60% Duty Cycle				
	Air Compressor	26 CFM @ 3600 RPM 21 CFM @ 3000 RPM 17 CFM @ 2400 RPM	26 CFM at 100% Duty Cycle				

\*Rated at sea level. Certified to both Canadian and U.S. Standards for welding equipment (Pending).

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

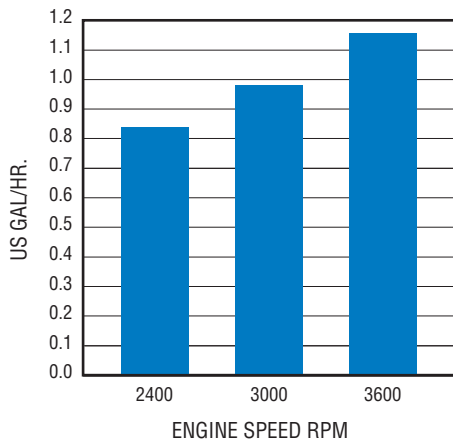
Engine Brand/Warranty	Horsepower (HP)	Type	Weld Speed	Idle Speed	Fuel Capacity	Oil Capacity	Standard Shutdowns
Kohler: 3-year mfg	30 HP (Gas)	Twin-cylinder, 4-cycle overhead valve	3600/3000 RPM	2400 RPM	12 gal (45 L)	1.75 qt (1.7 L)	Low Oil Pressure

## Air Compressor Specifications

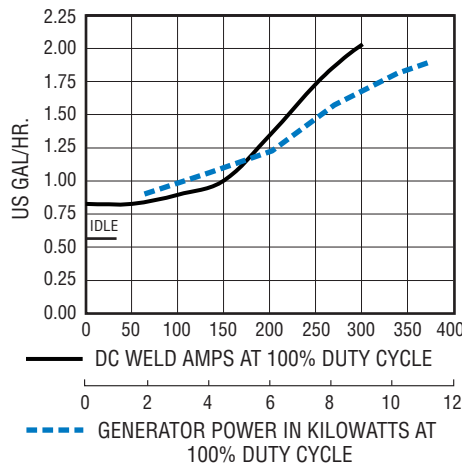
Compressor Warranty	Features	Free Air Delivery at 2400 RPM	Free Air Delivery at 3000 RPM	Free Air Delivery at 3600 RPM	Working Pressure Constant	Duty Cycle	Oil Capacity	Automatic Compressor Shutdowns
3-year True Blue® Warranty by Miller	Rotary screw with electric clutch for on/off. Oil change intervals 500 hrs	17 cfm	21 cfm	26 cfm	100 psig	100%	1.75 qt (1.7 L)	High Pressure (160 PSI)

## Performance Data

**AIR COMPRESSOR FUEL CONSUMPTION**  
**(at 100% Duty Cycle)**



**WELD/GENERATOR FUEL CONSUMPTION**



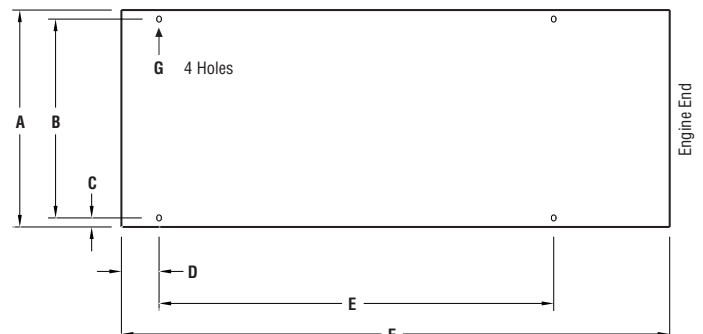
**FUEL CONSUMPTION DATA**

- 12-gallon fuel capacity.
- On a typical job using 1/8-in 7018 electrodes (125 A, 20% duty cycle) expect over 16 hours of operation.
- Welding at 150 A, 40% duty cycle uses approximately: 3/4 gallon per hour — over 13 hours of operation.
- Many air tools can be used when running at idle. Running at idle with a compressor load will provide 14 hours of run time.
- Running the air compressor at 26 CFM will provide 11 hours of run time.
- Reduce fuel consumption by turning the air compressor off when the Air Pak is not in use. For weld/generator fuel consumption chart see chart at left.

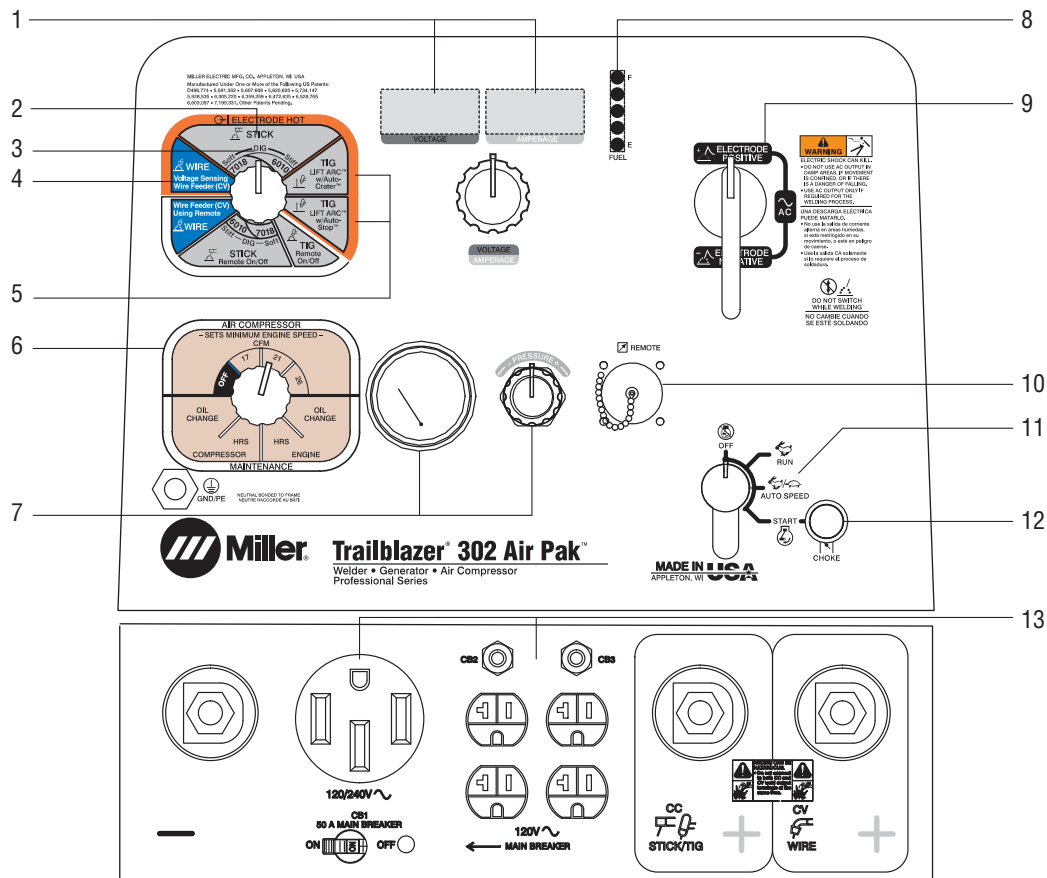
## Mounting Specifications

- 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. 59-5/8 in (1514 mm)
- G. 13/32 in (10 mm) diameter

- Height:** 28 in (838 mm)  
34-1/4 in (870 mm)  
*(to top of exhaust)*
- Width:** 20 in (508 mm)
- Depth:** 59-5/8 in (1514 mm)
- Lifting eye rating:**  
1000 lb (453 kg)



# Function Guide



## \*Category Exclusive

1. **Self-calibrating digital weld meters with meter maintenance displays** capable of displaying engine and air compressor oil change intervals.
2. **Four preset DIG settings\*** offer the best arc characteristics for different electrodes and joint designs. The amount of DIG determines how much amperage (heat) varies with Stick arc length. The combined Process switch along with preset DIG settings make the Trailblazer easy to set without the complication of multiple switches.
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™ TIG with Auto-Crater™\*** and **Auto-Stop™\*** (patents pending)
6. **Multi-range air compressor flow selector** can be used to select air flow depending on the tool/plasma/gouging requirements.
7. **Air pressure gauge/regulator** gives the approximate air pressure settings needed for common air tools/plasma/carbon arc gouging. The pressure gauge also reads the actual air pressure being used. The regulator allows user control of the pressure settings up to 160 psi.
8. **Front panel fuel gauge\*** LEDs indicate fuel level. The "E" LED lights when fuel is low.
9. **DC Polarity/AC Switch**  
Allows selection between DC output polarity or "industry best" 120 Hz AC weld output.
10. **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.
11. **Speed control switch** allows for control of engine speed based on the switch position. In the auto speed mode, the speed will be auto selected depending on total power needed. The speed will auto select between 3000 and 3600 RPM depending on weld demand or weld + air demand. Anytime auxiliary load is needed the engine will go to 3600 RPM.
12. **Engine choke control**
13. **120 VAC and 240 VAC receptacles with circuit breakers** (optional 120 VAC GFCI receptacles available).  
*Note: For matching plug, order #119 172.*

## Genuine Miller Options

\*Available as factory option. See ordering information on back page.



**Protective Cover**  
#300 379  
Heavy-duty, water-resistant and mildew-resistant covers protect and maintain the finish of the welder.

For models *without* Protective Cage.



**Protective Cage with Cable Holders**  
#300 473  
Rugged cage with cable holders protects your investment. Can be used with trailer.



**50 ft Air Hose**  
#300 571  
Includes 1/2 in NPT swivel fitting.



**Air Cooler with Separator** #300 420  
Cools and removes moisture from the air supply. *Designed for use above 32° F. Bypass in colder temperatures. See air dryer choices on page 4 for details.*

**Micron Filter Element** #203 877  
Replacement micron filter for the Air Cooler with Separator.



**Desiccant Air Dryer System** #195 117  
A regenerating inline air dryer system that eliminates moisture in the air stream to prevent air tool freeze-ups in cold climates.

See air dryer choices on page 4 for details.



**RTI Filter and Bracket**  
#300 491  
Dryer will remove water, dirt and oil as small as one micron with 99.9% efficiency. Can be mounted on plasma cutter or on wall. Install as close as possible to point of air consumption. *Designed for use*

*above 32° F. Bypass in colder temperatures. See air dryer choices on page 4 for details.*

**Engine Tune-Up Kit**  
#238 743 Field. Kohler CH750  
Tune-up kit includes spark plugs and engine filters.

**Air Compressor Tune-Up Kit**  
#235 202 Field. Air Compressor  
Tune-up kit includes oil filter, air filter and oil separator.

**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).



Female Receptacle



**Adapter Cord, Full KVA** #300 158 Field  
NEMA 14-50P to NEMA 6-50R. Adapts engine drive 120/240 V plug to common Millermatic® and Spectrum® 240 V plug.

### MIG/Flux Cored Welding



**SuitCase® X-TREME™ 8VS Wire Feeder** #300 093  
**SuitCase® X-TREME™ 12VS Wire Feeder** #195 500

Use VS feeders when longer distances between the power source and feeder are required. See Lit. Index No. M/6.41.



**SuitCase® 8RC Wire Feeder** #194 938  
**SuitCase® 12RC Wire Feeder** #194 940  
RC feeders add convenience — No need to return to the power source to adjust voltage parameters. 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/1.73.

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

**Millermatic® 180 Auto-Set™** #907 312  
See Lit. Index No. DC/12.44

**Millermatic® 212 Auto-Set™** #907 405  
See Lit. Index No. DC/12.46

### Plasma Cutting



**Spectrum® 375 X-TREME™** #907 303  
**Spectrum® 375 X-TREME™ with X-CASE™**  
#907 339 (not shown)  
See Lit. Index No. PC/9.2.

**Spectrum® 625 X-TREME™** #907 404  
See Lit. Index No. PC/9.6.

**Spectrum® 875** #907 390-01-1  
See Lit. Index No. PC/9.8.

### 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.

### 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.

## Trailers and Hitches (Note: Trailers are shipped unassembled.)



**HWY-224 Trailer #043 805** For highway use. A 2650 lb (1202 kg) capacity trailer. Welded steel tubing frame, heavy-duty axle with roller bearing hubs and leaf-spring suspension. Includes jack stand, 2 in (50 mm) ball hitch. *HWY-224 also includes fenders and lights.*  
*Note: Trailer is shipped unassembled.*

**Cable Tree #043 826**  
 Provides an area to conveniently wrap weld cables and extension cords.

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

### Trailer Specifications (Subject to change without notice.)

Model	Gross Axle Weight Rating	Gross Vehicle Weight Rating	Net Payload	Height of Bed	Road Clearance	Track (Center to center of tires)	Standard Tires (Standard rating or P-size rating)	Dimensions	Net Weight
HWY-224	3500 lb (1588 kg)	2960 lb (1343 kg)	2650 lb (1202 kg)	18-1/2 in (470 mm)	7-1/2 in (191 mm)	52 in (1321 mm)	B78-13B	Length: 122-1/2 in (3112 mm) Width: 61 in (1549 mm)*	355 lb (161 kg)

\*Width at outside of fenders.

## Ordering Information

Equipment and Options	Stock No.	Description	Qty.	Price
<b>Trailblazer® 302 Air Pak™ (30 HP Kohler)</b>	<b>#907 376</b>	Base machine, CC/CV, AC/DC 13,000 watts		
	<b>#907 376-001</b>	With GFCI Receptacles		
	<b>#907 376-002</b>	With Electric Fuel Pump and GFCI Receptacles		
	<b>#907 376-003</b>	With No Battery (International)		
	<b>#907 376-004</b>	With Air Cooler/Separator		
	<b>#907 376-005</b>	With Air Cooler/Separator and GFCI Receptacles		
	<b>#907 376-006</b>	With Air Cooler/Separator, Electric Fuel Pump and GFCI Receptacles		
GFCI Protection	<b>#195 496</b>	Field		
Adapter Cord, Full KVA	<b>#300 158</b>	Field		
Full KVA Plug	<b>#119 172</b>	Field		
Engine Tune-Up Kit	<b>#238 743</b>	Field. For Kohler CH750 (Gas). <i>Order from Miller Service Parts</i>		
Air Compressor Tune-Up Kit	<b>#235 202</b>	Field. For screw compressor. <i>Order from Miller Service Parts</i>		
<b>Accessories</b>				
Protective Covers	<b>#300 379</b>	Blue with logo		
Protective Cage	<b>#300 473</b>			
Air Hose	<b>#300 571</b>	50 ft		
Air Cooler with Separator	<b>#300 420</b>	See page 4 for more information		
Micron Filter Element	<b>#203 877</b>	For use with Air Cooler with Separator		
Desiccant Air Dryer System	<b>#195 117</b>	See page 4 for more information		
RTI Filter and Bracket	<b>#300 491</b>	See page 4 for more information		
SuitCase™ Portable Wire Feeders		See page 7		
Spoolmatic® 30A Spool Gun	<b>#130 831</b>	Requires WC-24 Control. See Lit. Index No. M/1.73		
WC-24 Control	<b>#137 549</b>	See Lit. Index No. M/1.5		
Millermatic® All-In-One MIG Welders		See page 7		
Spectrum® Plasma Cutters		See page 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		
RHC-14	<b>#129 340</b>	Hand control		
HWY-224 Trailer	<b>#043 805</b>			
Cable Tree	<b>#043 826</b>			
Lunette Eye 2-1/2 in (64 mm)	<b>#043 824</b>			

Date:

Total Quoted Price:

Distributed by:

