

# Trailblazer® 302 Air Pak™

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Gas Engine-Driven Welder/  
AC Generator/Air Compressor/  
12/24 V Battery Charger/Jump Starter



## 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)  
Battery Charger/Jump Starter  
Air Carbon Arc (CAC-A) Cutting and Gouging  
Rated: 3/16-inch carbons,  
Capable: 1/4-inch carbons  
Air Plasma Cutting and Gouging with  
optional Spectrum® models  
Rated: 5/8-inch 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

31 CFM, 100% Duty Cycle, 80–160 PSI

### Battery Charger/Jump Starter

Battery Charger: 12/24 V, 10–75 A  
Battery Jump Starter: 12/24 V, 450 A/350 A

## The Power of Blue.®

The all-in-one tool that delivers multiprocess output for welding, plasma cutting, gouging, air tools, and 12/24-volt battery charger/jump starter.



Trailblazer 302 Air Pak with Battery  
Charger/Jump Starter (Welder, Generator,  
Air Compressor, Battery Charger)



**Rotary-Screw Air Compressor**

**Independent  
Weld and Generator**

**13,000 Watt Generator**

**12/24 Volt Battery Charger/  
Jump Starter**

**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/battery charger is warranted for 3 years, parts and labor. Engine is warranted separately by the engine manufacturer.



**Miller Electric Mfg. Co.**  
An Illinois Tool Works Company  
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Appleton, WI 54914 USA

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International Phone: 920-735-4554  
International FAX: 920-735-4125

**Website**  
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 percent more room on your truck for equipment and supplies. Plus decreases axle weight up to 25 percent.

## Battery Charger/Jump Starter

- Provides selectable 12- or 24-volt battery charging capability
- Provides up to 450 amps of battery jump-starting capability
- Convenient front panel battery charger/jump starter access
- 25-foot battery jumper cables available (#300 422)

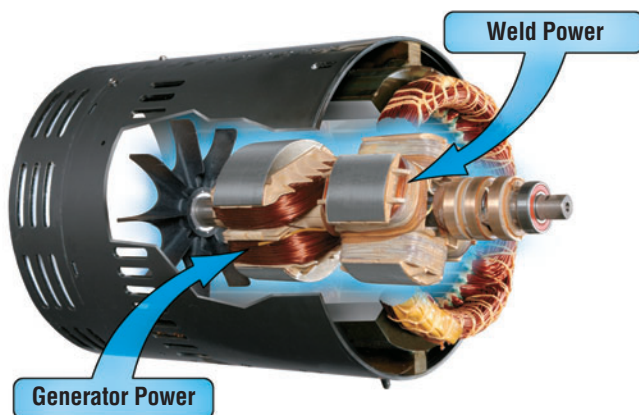


## Independent Weld and Generator Advantages

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

## Industrial Rotary-Screw Air Compressor

- Runs most air impact wrenches at idle
- Produces 31 CFM of air at 100 percent duty cycle
- Delivers 80–160 PSI of air with no storage tank
- Gives 100 percent deliverable air
- Compressor is warranted by Miller for three 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



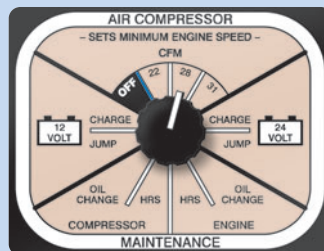
## Front Panel Air Pressure Adjustment

- Simple to adjust the correct air pressure for specific applications (80–160 PSI)
- Lower pressure will increase 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?

### 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 percent 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 Fahrenheit (0° C) 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.



### 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).

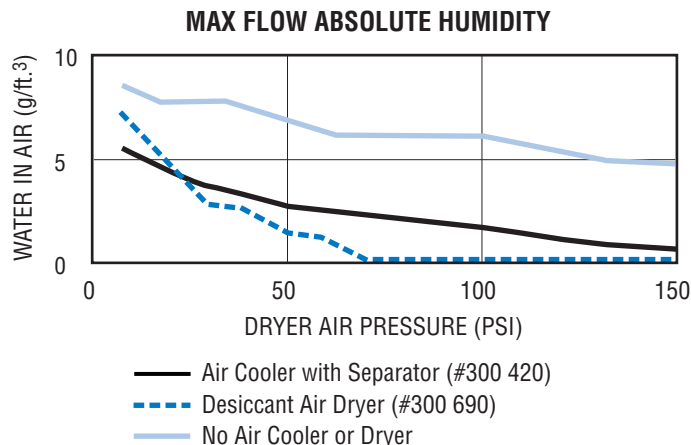


### Desiccant Air Dryer #300 690

- Cools air and removes 99 percent 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.



*Note: Reduces air flow up to four CFM at all speeds.*



## 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:

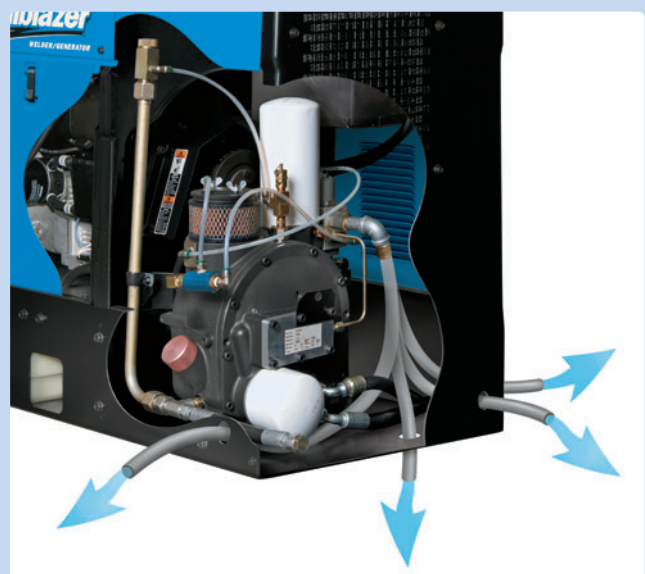
Air Tools	Average CFM*	Continuous CFM*
3/4-inch Impact Wrench (IR 2141)	10	40
3/4-inch Impact Wrench (Speedaire)	7	26
1/2-inch Impact Wrench (IR 231C)	4	22
Needle Scaler (IR 182LNA1)	3	13
4-1/2-inch Grinder (Dayton)	7	26
1/4-inch Die Grinder (IR G1H350RG4)	6	25
1/2-inch Drill (IR 7AQSTB)	4	17
Air Shears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

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

*Note: Impact wrenches use Continuous CFM when “free” spinning. In actual use, CFM requirements are less. Thus, the Trailblazer Air Pak is rated to run a 40 CFM impact wrench.*

## How do I access the air?

The Trailblazer Air Pak provides four convenient air compressor access points. The air outlet connection requires a 1/2-inch NPT swivel fitting.



# 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) H: 34.5 in. (876 mm) (to top of exhaust) W: 20 in. (508 mm) D: 59.625 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	31 CFM at 3600 RPM 28 CFM at 3000 RPM 22 CFM at 2400 RPM	31 CFM at 100% Duty Cycle				
	Battery Charger/Jump Starter	12 V 24 V	450 A, 12 V, Jump Start 350 A, 24 V, Jump Start 10–75 A, Charge				

\*Rated at sea level. Certified by Canadian Standards Association to both the Canadian and U.S. Standards.

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

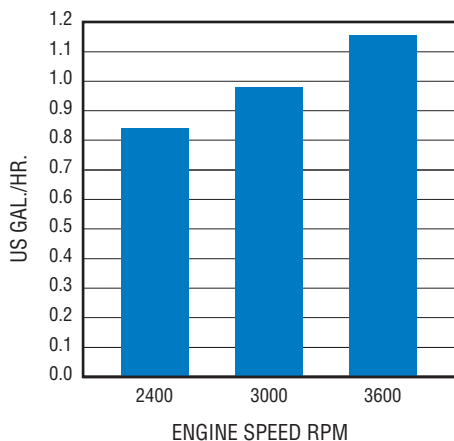
Engine Brand/Warranty	Horsepower (HP)	Type	Weld Speed	Idle Speed	Fuel Capacity	Oil Capacity	Standard Shutdowns
Kohler: 3-year mfg	30 HP at 3600 RPM	Twin-cylinder, four-cycle overhead valve	3600/3000 RPM	2400 RPM	12 gal. (45 L)	1.75 qt. (1.7 L)	Low Oil Pressure

## Air Compressor Specifications

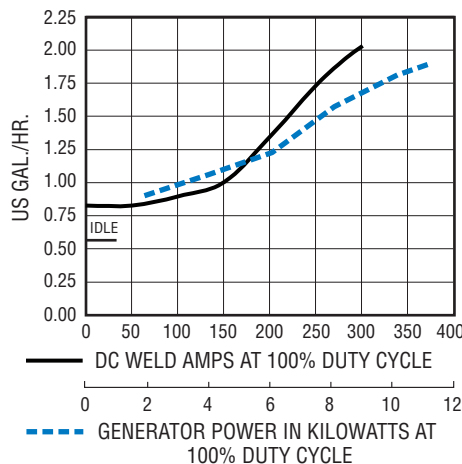
Compressor Warranty	Features	Free Air Delivery at 2400 RPM (Idle)	Free Air Delivery at 3000 RPM	Free Air Delivery at 3600 RPM	Working Pressure Constant	Duty Cycle	Oil Capacity	Automatic Compressor Shutdowns
3-year True Blue® Warranty by Miller	Rotary screw with electric clutch for on/off. Oil change intervals 500 hours.	22 CFM (0.62 m³/min.)	28 CFM (0.79 m³/min.)	31 CFM (0.88 m³/min.)	80–160 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**

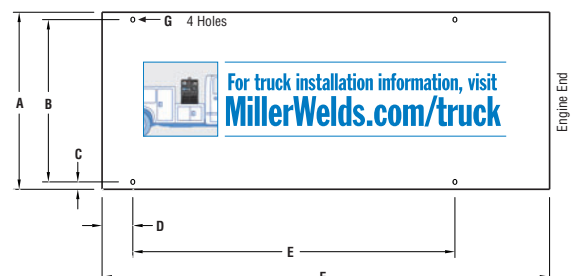


**FUEL CONSUMPTION DATA**

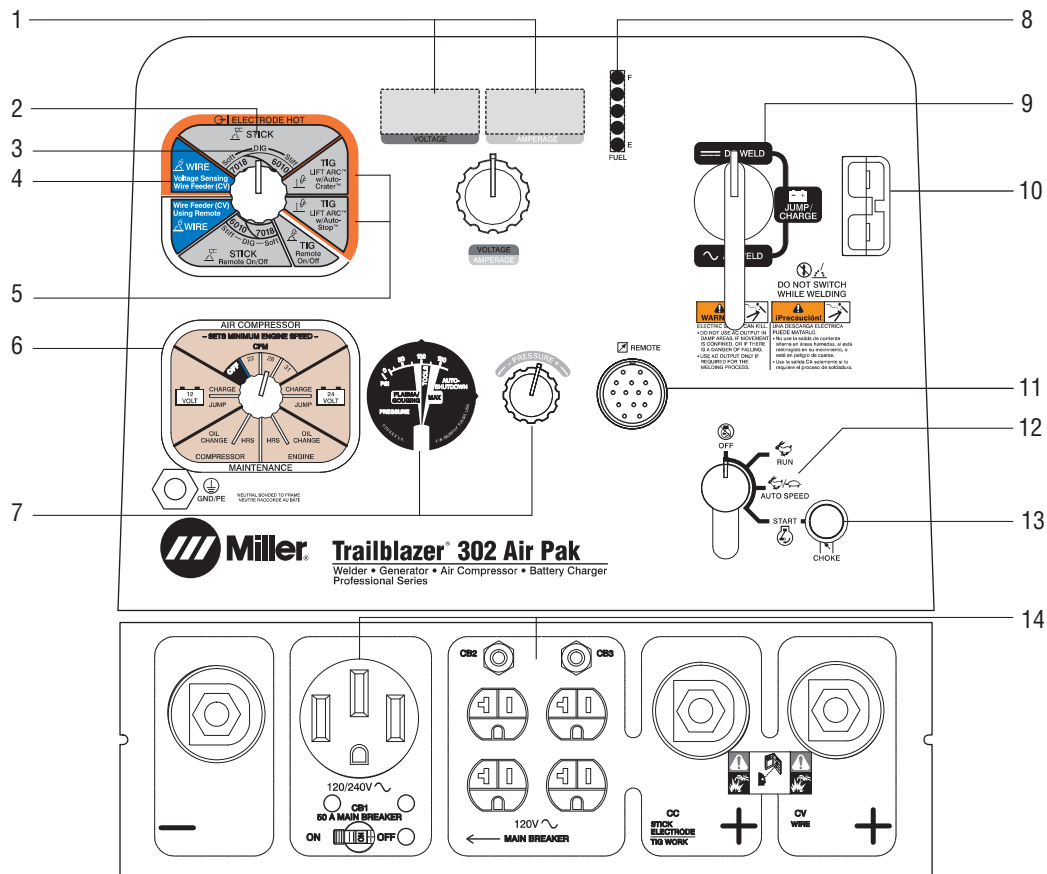
- 12-gallon fuel capacity.
- On a typical job using 1/8-inch 7018 electrodes (125 A, 20% duty cycle) expect over 16 hours of operation.
- Welding at 150 A, 40% duty cycle uses approximately: 3/4-gallon per hour — over 13 hours of operation.
- Many air tools can be used when running at idle. Running at idle with a compressor load will provide 14 hours of run time.
- Running the air compressor at 31 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. 16.5 in. (419 mm)
  - C. 1.75 in. (44 mm)
  - D. 6.062 in. (154 mm)
  - E. 32.75 in. (832 mm)
  - F. 59.625 in. (1514 mm)
  - G. .406 in. (10 mm) diameter
- Height:** 28 in. (838 mm)  
34.5 in. (876 mm)  
(to top of exhaust)
- Width:** 20 in. (508 mm)
- Depth:** 59.625 in. (1514 mm)
- Lifting eye rating:**  
1000 lb. (453 kg)



# Function and Benefit 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-inch solid wires to large diameter 5/64-inch flux-cored wires.
5. **Lift-Arc™ TIG with Auto-Crater™\* and Auto-Stop™\***
6. **Air compressor, battery charger/jump starter, and maintenance selector**
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. **AC/DC and battery charger/jump starter switch** allows selection between AC or DC weld output and battery charger/jump function.
10. **Battery charger/jump starter receptacle** for connection to battery charger/jump cable (12 or 24 volt).
11. **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.
12. **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 plus air demand. Anytime auxiliary load is needed the engine will go to 3600 RPM.
13. **Engine choke control**
14. **120 VAC and 240 VAC receptacles with circuit breakers**  
*Note: For matching plug, order #119 172.*



**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.



**25-foot Battery Charger/Jump Cable #300 422**



**Air Cooler with Separator\* #300 420**  
Cools and removes moisture from the air supply. *Designed for use above 32 degrees Fahrenheit (0°C).*

*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.



**RTI Filter and Bracket #300 491**  
Dryer will remove water, dirt and oil as small as one micron with 99.9 percent 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 degrees Fahrenheit (0°C). Bypass in colder temperatures. See air dryer choices on page 4 for details.*



**Desiccant Air Dryer System #300 690**

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.*

**GFCI Protection\* #195 496** Field Kit contains two GFCI 120 VAC duplex receptacles. (240 VAC GFCI receptacle not required).

**Electric Fuel Pump\* #195 214** Field Improves engine starting and high-output performance at high altitude.

**Remote Oil Drain and Filter Kit — Front/Chassis Truck Mounted #300 236** Field. For Kohler.

**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 Tune-up kit includes oil filter, air filter and oil separator.



**Adapter Cord, Full KVA #300 517** 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 #951 182**

**SuitCase® X-TREME™ 12VS Wire Feeder #951 543**

Lightweight, voltage-sensing wire feeders include secondary contactor, gas valve and drive roll kit. See Lit. Index No. M/6.41 and M/6.42.



**SuitCase® 8RC Wire Feeder #951 186**

**SuitCase® 12RC Wire Feeder #951 188**

Lightweight and flexible enough to run a variety of wires up to .062-inch diameter. Includes remote voltage control and drive roll kit. See Lit. Index No. M/6.5.



**Spoolmatic® 30A Spool Gun #130 831**

Air-cooled, 200-amp, 1-pound 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 and 625 X-TREME shown.*

**Spectrum® 375 X-TREME™ #907 529**  
See Lit. Index No. PC/9.2.

**Spectrum® 625 X-TREME™ #907 531**  
See Lit. Index No. PC/9.6.

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

The Spectrum 375 X-TREME and 625 X-TREME come complete with protective X-CASE™ (not shown).

### 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 #242 211 020**  
20-foot (6 m) cord  
**#242 211 100**  
100-foot (30.5 m) cord

Miniature hand control for remote current and contactor control. Dimensions: 4 x 4 x 3.25 inches (102 x 102 x 82 mm). Includes cord and 14-pin plug.

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



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

*Note: Trailer is shipped unassembled.*

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



**Dual Hitch #300 831**  
2-inch (50 mm) ball hitch and 3-inch (76 mm) lunette eye in one reversible assembly.

### 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)	18.5 in. (470 mm)	7.5 in. (191 mm)	52 in. (1321 mm)	B78-13	Length: 105 in. (2667 mm) Width: 59.5 in. (1511 mm)*	320 lb. (145 kg)

\*Width at outside of fenders.

## Ordering Information

Equipment and Options	Stock No.	Description	Qty.	Price
<b>Traiblazer® 302 Air Pak™ with Battery Charger/Jump Starter</b>	<b>#907 549</b>	Kohler, with GFCI Receptacles and Electric Fuel Pump		
	<b>#907 549-001</b>	Kohler		
	<b>#907 549-003</b>	Kohler, with Cooler/Separator, GFCI Receptacles and Electric Fuel Pump		
GFCI Protection	<b>#195 496</b>	Field		
Electric Fuel Pump	<b>#195 214</b>	Field. Improves starting and performance at high altitude		
Remote Oil Drain and Filter Kit	<b>#300 236</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>		
Adapter Cord, Full KVA	<b>#300 517</b>	Field		
Full KVA Plug	<b>#119 172</b>	Field		
<b>Accessories</b>				
Protective Cover	<b>#300 379</b>	Blue with logo		
Protective Cage with Cable Holders	<b>#300 473</b>			
25-foot Battery Charger/Jump Cable	<b>#300 422</b>			
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		
RTI Filter and Bracket	<b>#300 491</b>	See page 4 for more information		
Desiccant Air Dryer System	<b>#300 690</b>	Reduces air flow up to four CFM at all speeds. 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® Series 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 Hand Control	<b>#242 211 020</b>	20-ft. (6 m) cord		
	<b>#242 211 100</b>	100-ft. (30.5 m) cord		
HWY-224 Trailer	<b>#043 805</b>			
Cable Tree	<b>#043 826</b>			
Dual Hitch	<b>#300 831</b>	Combination 2-in. (50 mm) ball hitch and 3-in. (76 mm) lunette eye		

Date:

Total Quoted Price:

Distributed by:

