

Trailblazer® 302 Air Pak™

Gas Engine-Driven Welder/
AC Generator/Air Compressor/
Battery Charger/Crank Assist



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 charge/crank assist
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
MIG/flux-cored 13–35 V, 350 A
DC TIG 10–300 A
AC TIG/stick 10–225 A

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

13,000 watts peak, 11,000 watts continuous

Air Compressor

31 cfm, 100% duty cycle, 80–160 psi

Battery Charge/Crank Assist

Battery charge: 12/24 V, 10–75 A
Battery crank assist: 12/24 V, 450 A/350 A

A powerful all-in-one designed for repair and construction with multiprocess welding, generator power, compressed air, and battery charge/crank assist.

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.



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



Welder/generator/air compressor/battery charger is warranted for three years, parts and labor.
Engine is warranted separately by the engine manufacturer.



Miller Electric Mfg. LLC
An ITW Welding Company
1635 West Spencer Street
P.O. Box 1079
Appleton, WI 54912-1079 USA

Equipment Sales US and Canada
Phone: 866-931-9730
FAX: 800-637-2315
International Phone: 920-735-4554
International FAX: 920-735-4125

MillerWelds.com
f t y i n



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 charge/crank assist

- Provides selectable 12- or 24-volt battery charging capability
- Provides up to 450 amps of battery crank assist capability
- Convenient front panel battery charge/crank assist access
- 25-foot battery charge/jump cable (**300422**) available

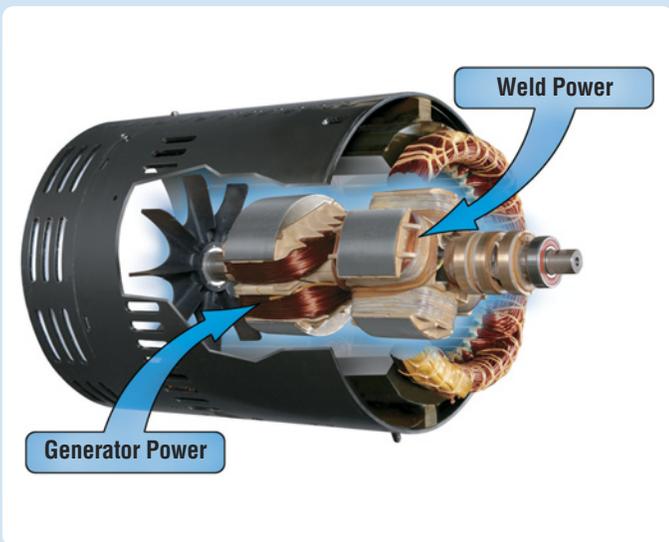


Independent weld and generator advantages

- 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 warrantied by Miller for three years



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 300420

- **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 300491

- 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)

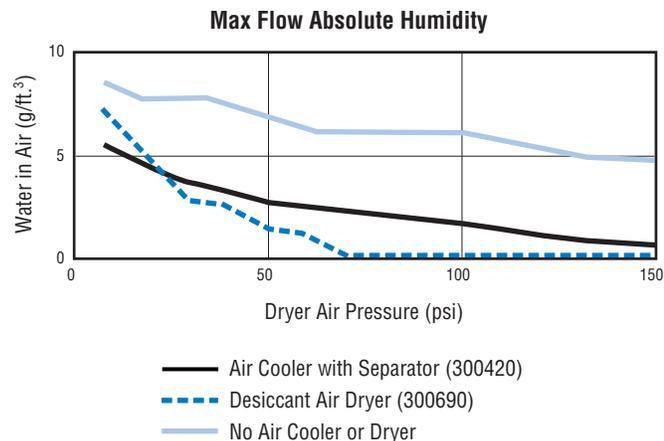


Desiccant Air Dryer 300690

- 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?

- **Average cfm** is typically based on 15-second usage intervals. Air tools are often rated as “average cfm”. Impact wrenches, button punch/deck tools, and decking crimp tools are typically used intermittently (short time durations).
- **Continuous cfm** 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:

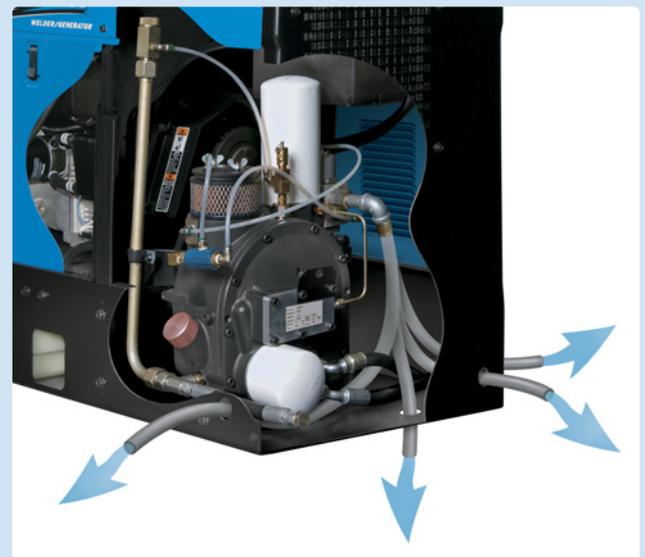
Air Tools	Average cfm*	Continuous cfm*
3/4-inch Impact Wrench (IR 2141)	10	40
3/4-inch Impact Wrench (Speedaire)	7	26
1/2-inch Impact Wrench (IR 231C)	4	22
Needle Scaler (IR 182LNA1)	3	13
4-1/2-inch Grinder (Dayton)	7	26
1/4-inch Die Grinder (IR G1H350RG4)	6	25
1/2-inch Drill (IR 7AQSTB)	4	17
Air Shears (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	Rated Weld Output at 104°F (40°C)*	Single-Phase Generator Power	Sound Levels at Rated Output 7 m (23 ft.)	Dimensions	Net Weight**
CC/DC	Stick/TIG	10–300 A	280 A at 32 V, 100% duty cycle	Peak 13,000 watts Continuous 11,000 watts 120/240 V, 100/50 A, 60 Hz	2,400 rpm (idle): 73.4 dB (98.4 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. (1,514 mm)	771 lb. (350 kg)
CV/DC	MIG/FCAW	13–35 V	300 A at 32 V, 100% duty cycle 350 A at 32 V, 60% duty cycle		3,000 rpm: 76.5 dB (101.5 Lwa)		
CC/AC	Stick/TIG	10–225 A	200 A at 25 V, 60% duty cycle		3,600 rpm: 81.2 dB (106.6 Lwa)		
Battery charge/crank assist		12/24 V	Charge: 10–75 A Crank assist: 450 A, 12 V Crank assist: 350 A, 24 V				

*Rated at sea level. **Net weight without fuel.



Certified by Canadian Standards Association to both the Canadian and U.S. Standards.

Air Compressor Specifications

Compressor Brand and Warranty	Features	Free Air Delivery	Working Pressure Constant	Duty Cycle	Oil Capacity	Automatic Compressor Shutdowns
Miller, 3-year warranty	Rotary screw with electric clutch for on/off, oil change intervals 500 hours	31 cfm (0.88 m³/min.) at 3,600 rpm 28 cfm (0.79 m³/min.) at 3,000 rpm 22 cfm (0.62 m³/min.) at 2,400 rpm (idle)	80–160 psig	100%	1.75 qt. (1.7 L)	High pressure (160 psi)

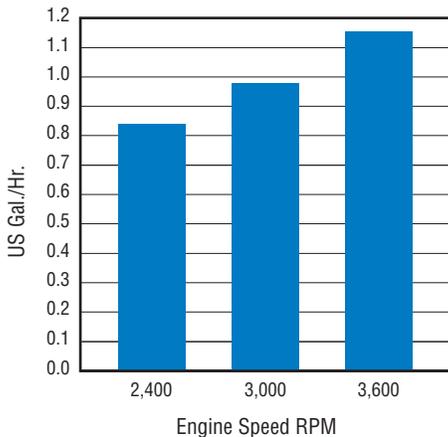
Engine Specifications (Engines warranted separately by the engine manufacturer.)

Engine Brand and Warranty	Horsepower (HP)	Type	Weld Speed	Idle Speed	Fuel Capacity	Oil Capacity	Standard Shutdowns
Kohler CH750, 3-year warranty	27 hp at 3,600 rpm	Twin-cylinder, four-cycle overhead valve, industrial air-cooled, gasoline*	3,600/3,000 rpm	2,400 rpm	12 gal. (45 L)	1.75 qt. (1.7 L)	Low oil pressure

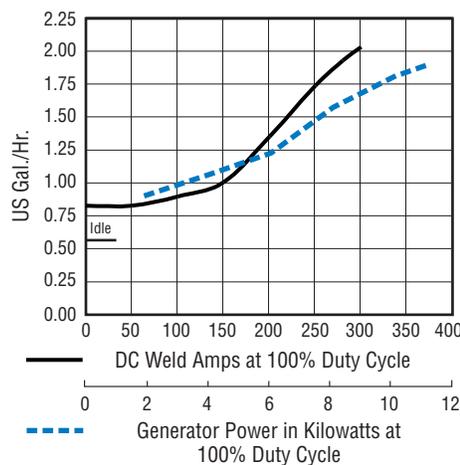
*Fuel stabilizer is recommended for gas engines that are used infrequently.

Performance Data

Air Compressor Fuel Consumption (at 100% Duty Cycle)



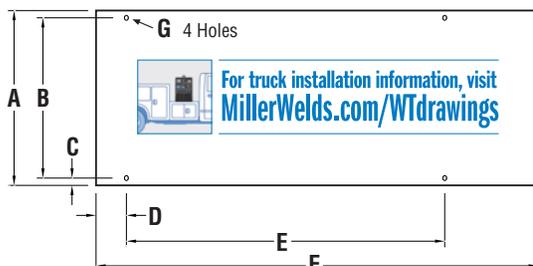
Weld/Generator Fuel Consumption



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 fuel consumption of the air compressor, see the far left chart

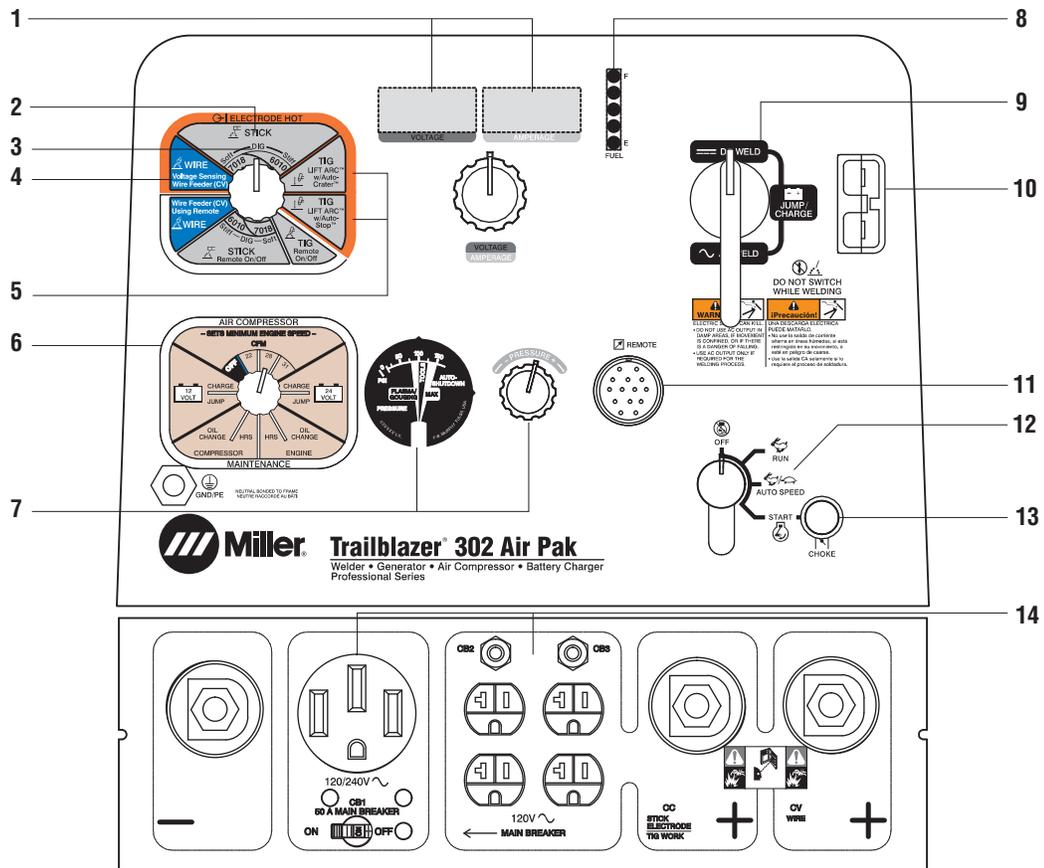
Mounting Specifications



- 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. (1,514 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. (1,514 mm)
- Lifting eye rating:**
1,000 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 arc the 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 charge/crank assist, 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 up when fuel is low.
9. **AC/DC and battery charge/crank assist switch** allows selection between AC or DC weld output and battery charge/crank assist function.
10. **Battery charge/crank assist receptacle** for connection to battery charge/jump cable (12 or 24 volt).
11. **Standard 14-pin receptacle** for simple connection of remote controls and wire feeders. Includes **Auto Remote Sense™*** which automatically switches from panel to remote amperage/voltage (A/V) control with remote connected. Eliminates confusion of a 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 3,000 and 3,600 rpm depending on weld demand or weld plus air demand. Anytime auxiliary load is needed the engine will go to 3,600 rpm.
13. **Engine choke control**
14. **120 V and 240 V receptacles with circuit breakers**
Note: For matching plug, order 119172.

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

GFCI Receptacles* 300975 Field
Kit contains two GFCI 120 V duplex receptacles.

Electric Fuel Pump* 195214 Field
Recommended for gas engine operations at altitudes above 5,000 feet. Improves engine starting and high-output performance.

Cold Weather Kit 301115 Field
Includes block heater for improved starting, and a fuel heater for optimal filtration in cold temperatures.



Air Cooler with Separator* 300420
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 3 for details.*

Micron Filter Element 203877
Replacement micron filter for the Air Cooler with Separator.



RTI Filter and Bracket 300491
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 3 for details.*



Desiccant Air Dryer System 300690
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 3 for details.*



Female Receptacle

Full KVA Adapter Cord 300517 Field
NEMA 14-50P to NEMA 6-50R. Adapts engine drive 120/240 V plug to common Millermatic® and Spectrum® 240 V plug.



Full KVA Plug Kit 119172 Field
120/240 V, 50 A plug (NEMA 14-50P) to fit full KVA receptacle.



Kohler® PRO 300 Hour Oil Change Service Kit 290695 Field
Includes two quarts of 10W-50 synthetic oil and one extended life oil filter.

Engine Tune-Up Kit 290803 Field
Includes air and fuel filters, and two spark plugs.

Air Compressor Tune-Up Kit 279120 Field
Includes oil filter, air filter and oil separator.

Genuine Miller® Accessories



Protective Cage with Cable Holders 300473
Rugged cage with cable holders protects your investment. Can be used with trailer.



25-foot Battery Charge/Jump Cable 300422



Protective Cover 300379
Heavy-duty, water-resistant and mildew-resistant covers protect and maintain the finish of the welder. For models *without* protective cage.

MIG/Flux-cored Welding



Millermatic® 141 907612
See literature DC/12.42

Millermatic® 211 907614
See literature DC/12.58

The Millermatic line of MIG welders are complete arc welding power source, wire feeder and gun packages designed for portability and ease of use. *Note: The Millermatic machines can be operated utilizing auxiliary power.*



SuitCase® 12RC Wire Feeder 951580
Lightweight and flexible enough to run wires up to .062-inch diameter. Includes remote voltage control, drive roll kit and Bernard® BTB Gun 300 A. See literature M/6.5.



ArcReach® SuitCase® 8 951726 With Bernard® BTB Gun 300 A
951727 With Bernard® S-Gun™
951728 With Bernard® Dura-Flux™ gun

ArcReach® SuitCase® 12 951729 With Bernard® BTB Gun 300 A
951730 With Bernard® S-Gun™
951731 With Bernard® Dura-Flux™ gun

ArcReach® SuitCase® 12 Heavy Duty 301604 Feeder only — for 3/32-inch cored wire
Portable feeder designed to run off of arc voltage. See literature M/6.55.



Spoolmatic® 30A Spool Gun 130831
Air-cooled, 200-amp, one-pound spool gun for aluminum MIG. See literature M/1.73.

Requires WC-24 Control **137549**.

XR™ Wire Feeders and Guns
Push-pull system designed to handle difficult-to-feed soft alloy wires such as aluminum. See literature M/1.7 through M/1.74.

Genuine Miller® Accessories (Continued)

Stick (SMAW) Welding

Weld Leads

2/0 Stick Cable Set, 50 ft. (15 m) 173851
Consists of 50-foot (15 m) 2/0 electrode cable with holder, and 50-foot (15 m) work cable with clamp. 350 A, 100% duty cycle.

2/0 Stick Cable Set, 100/50 ft. (30.5/15 m) 043952

Consists of 100-foot (30.5 m) 2/0 electrode cable with holder, and 50-foot (15 m) work cable with clamp. 300 A, 100% duty cycle.

TIG (GTAW) Welding



Dynasty® 210 Series
For portable AC/DC TIG.
See literature AD/4.81.

Multiprocess Welding

Multimatic™ 200 907518

Portable, all-in-one multiprocess package weighs only 29 pounds (13.2 kg), and features excellent arc characteristics. Exclusive multi-voltage plug (MVP™) provides flexibility to plug into 120- or 240-volt power. Take it anywhere you need to MIG, TIG or stick weld. See literature DC/12.57.

Plasma Cutting



Spectrum 375 X-TREME and 625 X-TREME shown.

Spectrum® 375 X-TREME™ 907529

See literature PC/9.2.

Spectrum® 625 X-TREME™ 907579

See literature PC/9.6.

Spectrum® 875 907583

See literature PC/9.8.

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

Remote Controls

Wireless Remote Hand Control 301582

For remote current, voltage and contactor control.

Receiver plugs directly into the 14-pin receptacle of Miller machine. Up to 300-foot (91.4 m) operating range.



RHC-14 Hand Control 242211020

Miniature hand control for remote current and contactor control. Dimensions: 4 x 4 x 3.25 inches (102 x 102 x 82 mm). Includes 20-foot (6 m) cord and 14-pin plug.



RFCS-14 HD Foot Control 194744

Heavy-duty foot current and contactor control. Includes 20-foot (6 m) cord and 14-pin plug.



RMLS-14 129337 14-pin plug
Momentary- and maintained-contact rocker switch for contactor control. Push forward for maintained contact and back for momentary contact. Includes 26.5-foot (8 m) cord.



RCC-14 Remote Contactor and Current Control 151086 14-pin plug
East/west rotary-motion fingertip control attaches to TIG torch using two hook-and-loop fasteners. Includes 26.5-foot (8 m) control cord.

Extension Cables for 14-Pin Remote Controls
242208025 25 ft. (7.6 m)
242208050 50 ft. (15.2 m)
242208080 80 ft. (24.4 m)

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



HWY-Mid Frame Trailer 301438

1,424-pound (646 kg) capacity highway trailer with welded steel tubing frame, heavy-duty axle with roller bearing hubs and leaf-spring suspension. Includes jack stand, fenders, lights, and dual hitch with 2-inch (50 mm) ball hitch and 3-inch (76 mm) lunette eye.

Cable Tree 043826

Provides an area to conveniently wrap weld cables and extension cords.



Dual Hitch 301441

2-inch (50 mm) ball hitch and 3-inch (76 mm) lunette eye in one reversible assembly.



2-In-1 Document/ Fire Extinguisher Holder 301236

Stores documents and holds a five-pound fire extinguisher.

Note: Holder shown mounted on trailer. Fire extinguisher not included.

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-Mid Frame	1,605 lb. (728 kg)	1,424 lb. (646 kg)	1,424 lb. (646 kg)	19.5 in. (495 mm)	8 in. (203 mm)	46 in. (1,168 mm)	ST175/80D-13 Load Range C	Length: 101 in. (2,565 mm) Width: 55 in. (1,397 mm)*	181 lb. (82 kg)

*Width at outside of fenders.

Ordering Information

Equipment and Options	Stock No.	Description	Qty.	Price
Trailblazer® 302 Air Pak™ with Battery Charge/Crank Assist	907549001	Kohler engine, base model		
	907549	Kohler engine with GFCI receptacles and electric fuel pump		
	907549003	Kohler engine with cooler/separator, GFCI receptacles and electric fuel pump		
Field Options <i>Options listed below can be added to the above packages. Installation is required.</i>				
GFCI Receptacles	300975			
Electric Fuel Pump	195214	Recommended for gas engine operations at altitudes above 5,000 feet		
Cold Weather Kit	301115			
Air Cooler with Separator	300420	See page 3 for more information		
Micron Filter Element	203877	For use with air cooler with separator		
RTI Filter and Bracket	300491	See page 3 for more information		
Desiccant Air Dryer System	300690	Reduces air flow up to four cfm at all speeds. See page 3 for more information		
Full KVA Adapter Cord	300517			
Full KVA Plug	119172			
Kohler® PRO 300 Hour Oil Change Service Kit	290695	Includes two quarts of 10W-50 synthetic oil and one extended life oil filter		
Engine Tune-Up Kit	290803	For Kohler CH750. Includes air and fuel filters, and two spark plugs		
Air Compressor Tune-Up Kit	279120	For screw compressor. Includes oil filter, air filter and oil separator		
Accessories				
Protective Cage with Cable Holders	300473			
25-foot Battery Charge/Jump Cable	300422			
Protective Cover	300379	Blue with logo		
MIG/Flux-cored Welding				
Millermatic® Series MIG Welders		See page 6		
SuitCase® Portable Wire Feeders		See page 6		
Spoolmatic® 30A Spool Gun	130831	Requires WC-24 Control. See literature M/1.73		
WC-24 Control	137549	See literature M/1.73		
XR™ Wire Feeder Control and Guns		See literature M/1.7 through M/1.74		
Stick Welding		See page 7		
TIG Welding		See page 7		
Multiprocess Welding		See page 7		
Plasma Cutting		See page 7		
Remote Controls and Extension Cables				
Wireless Remote Hand Control	301582			
RHC-14 Hand Control	242211020			
RFCS-14 HD	194744	Heavy-duty foot control		
RMLS-14	129337	Momentary/maintained rocker switch		
RCC-14 Remote Contactor and Current Control	151086	Fingertip control		
Extension Cables		See page 7		
Trailers and Hitches				
HWY-Mid Frame Trailer	301438	Trailer with lights, fenders and dual hitch. For highway use		
Cable Tree	043826	Trailer-mounted cable holder		
Dual Hitch	301441	Combination two-inch (50 mm) ball hitch and three-inch (76 mm) lunette eye in one reversible assembly		
2-In-1 Document/Fire Extinguisher Holder	301236	Stores documents and holds a five-pound fire extinguisher		

Date:

Total Quoted Price:

Distributed by:

