

Big 40[®] Diesel

Issued February 2003 • Index No. ED/8.5

Engine Driven
Welding Generators 

Quick Specs

Heavy Industrial Applications

Petro Chemical Piping
Structural Steel Work
Maintenance and Repair

Processes

CC and CC/CV Models

Stick (SMAW)
TIG (GTAW)
Air Carbon Arc (CAC-A)
Cutting and Gouging
thru 5/16 (7.9 mm) carbons
Stud Welding

CC/CV Model Only

MIG (GMAW)
Flux Cored (FCAW)
AC TIG (Deluxe Model)

Output Range For DC Stick 45–500 A For AC TIG 15–350 A
For DC TIG 15–500 A For MIG/FCAW 14–40 V

Weld Output Rated at 104° F (40° C)

400 A at 40 VDC, 16 kW, 60% Duty Cycle
500 A at 30 VDC, 15 kW, 40% Duty Cycle
For AC TIG 300 A at 32 VAC, 9.6 kW, 60% Duty Cycle

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

5,500 Watts Peak—4,000 Watts Continuous
15,000 Watts 3-phase/12,000 Watts 1-phase
Continuous (Deluxe Model)

Weight 1545 lb (701 kg)

The Power of Blue.[®]

AC TIG weld aluminum with deluxe model. The most AC weld output on any engine drive. (High-frequency unit required.)

Silenced — only 65 dB (90 Lwa) at idle. 73 dB (97.8 Lwa) at maximum output. Improves work site communications.

Automatic idle saves fuel and prolongs engine life along with reducing the sound level.

Enclosed base and case protects internal components from corrosive environments and reduces sound levels.

Quick and easy maintenance with single-side access to oil level check, oil fill, oil filter, fuel filter and air cleaner.

Remote toolless oil drain that allows oil to be drained without getting under the engine and reduces the chance of oil spillage.



CATERPILLAR industrial engine designed to operate over 10,000 hours before the first basic overhaul. Backed by worldwide CAT support and service.

Arc-Drive makes welding easy. Automatically enhances Stick welding, especially on pipe, by focusing the arc and preventing the electrode from going out.

Simplified control panel provides easy set-up with fewer controls — less training is required.

Standard GFCI receptacle required on most job sites to protect operators from electrical hazards.

CSA, CE, IEC, and NEMA compliant for welders. Degree of protection provided by enclosure IP23.

Hot Start™ provides positive Stick electrode starts to make it easy to start all types of electrodes, and works great for bead tie-ins.



Welder/generator is warranted for 3 years, parts and labor.
The CATERPILLAR engine is warranted for 2 years by CATERPILLAR.

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



Big 40® Diesel CC Specifications (Subject to change without notice.)



Welding Mode	Weld Output Range	Weld Output Rated at 104° F (40° C)	Max. Open-Circuit Voltage	Generator Output Rated at 104° F (40° C)	Dimensions*	Net Weight (without fuel)**
CC/DC	45–500 A	400 A, 40 VDC, 16 kW, 60% Duty Cycle 500 A, 30 VDC, 15 kW, 40% Duty Cycle	95	Peak: 5.5 kW, Continuous: 4.0 kW, 34/17 A, 120/ 240 VAC, 60 Hz while welding	H: 43 in (1092 mm) W: 28-1/2 in (724 mm) D: 64-7/16 in (1637 mm)	1540 lb (697 kg)

*Additional 7 in (178 mm) to top of exhaust. **Additional 190 lb (86 kg) when fuel tank is full.

Engine Specifications (Subject to change without notice.)

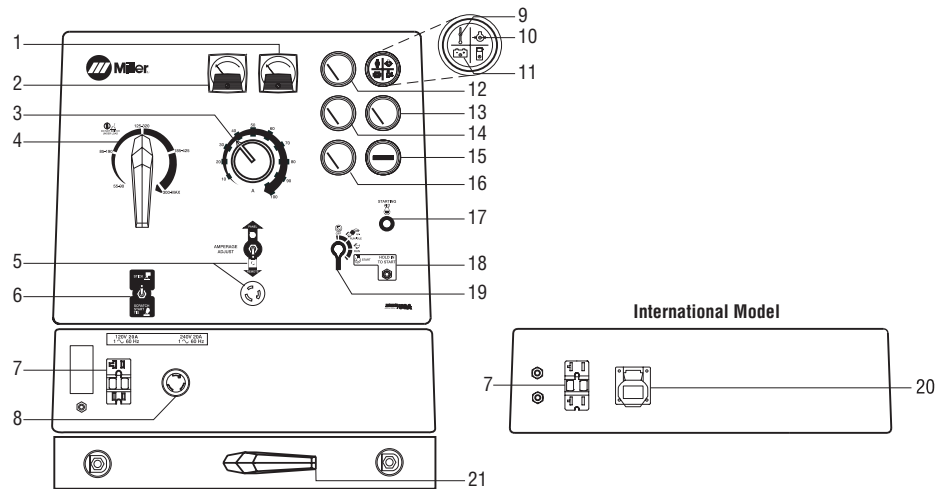
Engine Brand	Features	HP	Type	Engine Speeds	Fuel Capacity	Oil Capacity	Coolant Capacity	Automatic Engine Shutdown
CATERPILLAR 3024 Diesel	EPA-certified, indirect-injected, liquid-cooled diesel engine. Right-side service access with service intervals of 250 hours for oil and filters.	33	Four-cylinder, industrial, liquid-cooled diesel	Run: 1850 RPM Idle: 1250 RPM	25 gal (95 L)	9 qt (8.5 L)	9 qt (8.5 L)	Oil Pressure Coolant Temperature

Big 40® Diesel CC Control Panel

Additional Features

Proven, rugged rheostat control technology that has been in Miller engine drives for over 60 years. Contains no printed control boards.

Provisions are provided to plug a RHC3GD34A remote control that will allow precise adjustment of amperage without walking back to the machine.



1. DC Ammeter*
2. DC Voltmeter*
3. Amperage Adjust Control
4. Ampere Range Switch
5. Amperage Adjust Switch and Remote Amperage Adjust Receptacle
6. Stick/TIG Selection Switch

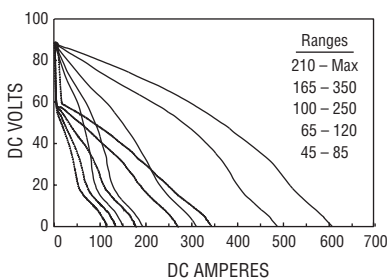
7. 120 VAC, 20 A GFCI Duplex Receptacle
8. 240 VAC, 30A TwistLock Receptacle
9. Engine Temperature Light
10. Engine Oil Pressure Light
11. Battery Charging Light
12. Engine Oil Pressure Gauge*
13. Fuel Gauge

14. Engine Coolant Temperature Gauge*
15. Engine Hour Meter
16. Battery Voltmeter*
17. Starting Aid Switch
18. Magnetic Shutdown Switch
19. Engine Control Switch
20. DC Polarity Switch*
21. International Model 240 VAC, 16 A Pin and Sleeve Receptacle

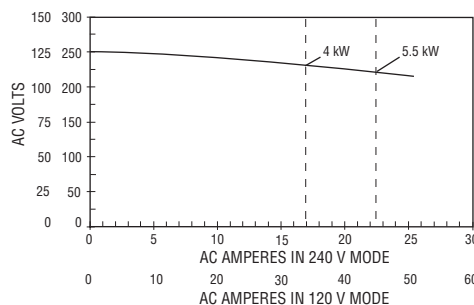
*Optional

Big 40® Diesel CC Performance Data

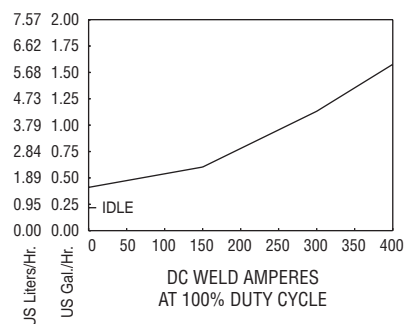
CC/DC VOLT/AMP CURVES



GENERATOR POWER CURVE



FUEL CONSUMPTION CURVE



Big 40[®] Diesel CC/CV Specifications (Subject to change without notice.)



Welding Mode	Weld Output Range	Weld Output Rated at 104° F (40° C)	Max. Open-Circuit Voltage	Generator Power Output Rated	Dimensions*	Net Weight (without fuel)**
CC/DC	15–560 A	400 A, 40 VDC, 16 kW, 60% Duty Cycle	95	Peak: 5.5 kW, Continuous: 4.0 kW, 34/17 A, 120/240 VAC, 60 Hz while welding	H: 43 in (1092 mm) W: 28-1/2 in (724 mm) D: 64-7/16 in (1637 mm)	1545 lb (701 kg)
CV/DC	14–40 V	500 A, 30 VDC, 15 kW, 40% Duty Cycle	56			
CC/AC (Deluxe Model))	15–350 A	300 A, 32 VAC, 9.6 kW, 60% Duty Cycle	65	Optional power plant, 60 Hz — 1-phase, 12 kW, 50 A, 120/240 VAC; 3-phase, 15 kW, 36 A, 240 VAC while not welding		

*Additional 7 in (178 mm) to top of exhaust. **Additional 190 lb (86 kg) when fuel tank is full.

Big 40[®] Diesel CC/CV Control Panel

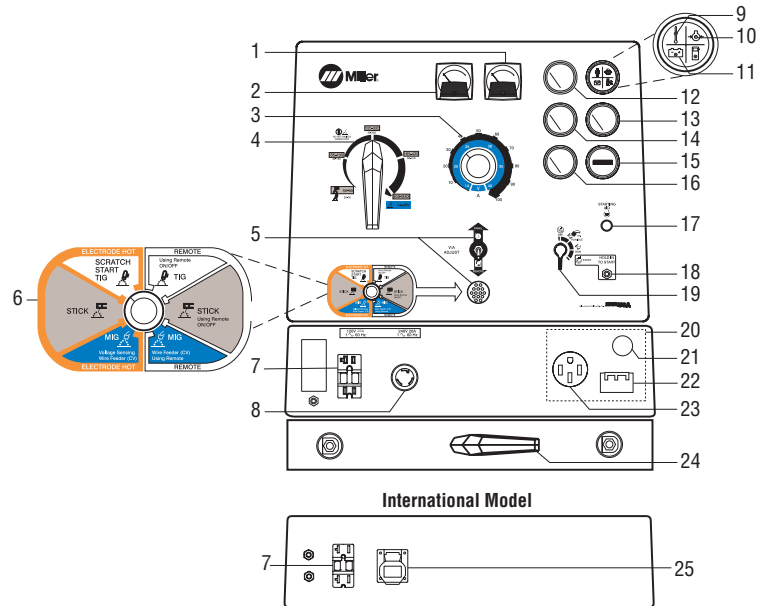
Additional Features

A multi-colored **process selector control** allows quick and easy process changes without having to use multiple switches.

Solid-state control provides enhanced arc characteristics that include more dig in the Stick mode with smoother and lower amperage in the TIG mode. Extreme conditions will not cause the output to change, eliminating the need to periodically turn the heat up.

The rugged solid-state control board is housed in a **sealed vault**. The vault's sealed connections are made through watertight plugs that make this component impenetrable to dust and moisture.

15,000 watt generator option for stand-by power generation adds 15 kW, three-phase, 240 volt power to CC/CV units. 12 kW, 120/240 volt, single-phase power from a 50 amp receptacle while not welding.

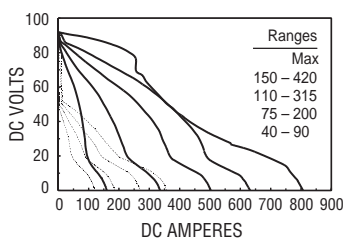


- DC Ammeter*
- DC Voltmeter*
- Amperage/Voltage Adjust Control
- Ampere Range Switch
- Amperage/Voltage Adjust Switch and Remote Amperage/Voltage Adjust Receptacle
- Process/Contactor Selector Switch
- 120 VAC, 20 A GFCI Duplex Receptacle
- 240 VAC, 30A TwistLock Receptacle
- Engine Temperature Light
- Engine Oil Pressure Light
- Battery Charging Light
- Engine Oil Pressure Gauge*
- Fuel Gauge
- Engine Coolant Temperature Gauge*
- Engine Hour Meter
- Battery Voltmeter*
- Starting Aid Switch
- Magnetic Shutdown Switch
- Engine Control Switch
- Power Plant Option*
- Strain Relief*
- 50 A, 3-Phase Circuit Breaker*
- 50 A, 120/240 V Receptacle*
- AC/DC Polarity Switch*
- International Model
240 VAC, 16 A Pin and Sleeve Receptacle

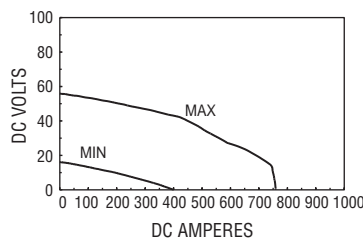
*Standard on Deluxe Model

Big 40[®] Diesel CC/CV Performance Data

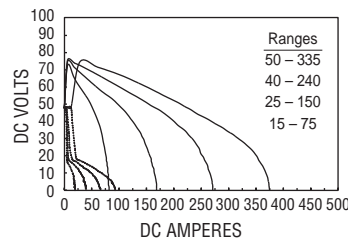
CC/CV VOLT/AMP CURVES
STICK MODE



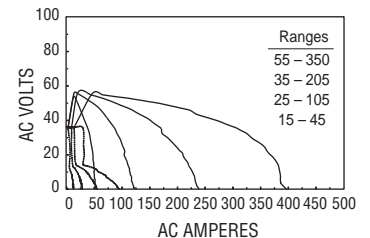
CC/CV VOLT/AMP CURVES
MIG MODE



CC/CV VOLT/AMP CURVES
TIG MODE



CC/CV VOLT/AMP CURVES
AC TIG MODE



Big 40® Diesel CC Options

Weld Ammeter and Voltmeter Kit

#043 941 Field

Panel-mounted analog meters monitor welding output.

Installation time: 35 minutes

Cold Weather Starting Aid Kit

#195 056 Field

Includes 120 V block heater.

Note: All models come standard with glow plugs.

Engine Gauge Kit

#194 741 Field
CATERPILLAR 3024

Monitors critical engine operating parameters. Consists of individual battery voltmeter, coolant temperature and oil pressure gauges.

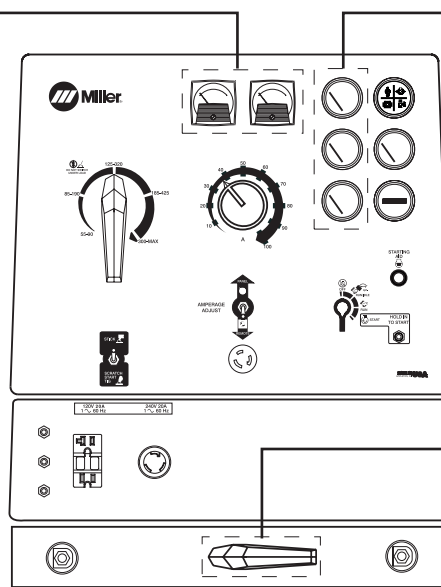
Installation time: 35 minutes

DC Polarity Reversing Switch Kit

#043 942 Field

Changes DC polarity without the use of tools.

Installation time: 35 minutes



Big 40® Diesel CC Genuine Miller Accessories

Remote Control



RHC-3GD34A Remote Hand Control

#041 122

Allows for precise adjustment of amperage.

Includes 20 ft (6 m) cord.

Big 40® Diesel CC/CV Options

Weld Ammeter and Voltmeter Kit

#043 941 Field

Panel-mounted analog meters monitor welding output. *Deluxe model comes standard with weld meters.*

Installation time: 35 minutes

15,000 watts Generator Plant

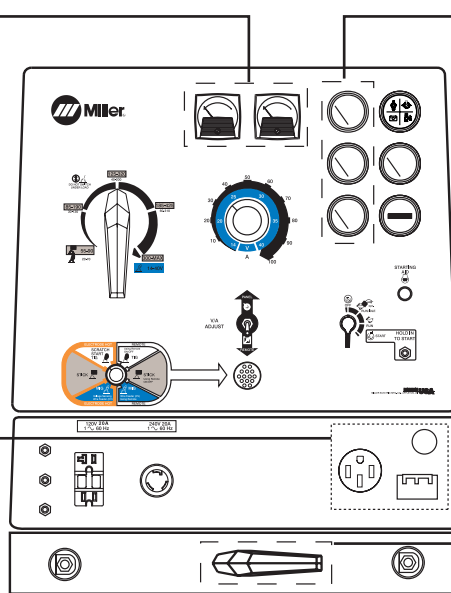
12 kW, 1-phase, 120/240 V

15 kW, 3-phase, 240 V

The panel is protected by a 50 amp on/off circuit breaker. It includes a 50 A, 1-phase receptacle and strain relief for direct hard-wiring. This power is only available while **NOT** welding. *Comes standard with deluxe model.*

Note: Available as factory option.

See Ordering Information on back page.



Engine Gauge Kit

#194 741 Field CATERPILLAR 3024

Monitors critical engine operating parameters. Consists of individual battery voltmeter, coolant temperature and oil pressure gauges. *Deluxe model comes standard with engine gauges.*

Installation time: 35 minutes

AC/DC Polarity Reversing Switch Kit

#195 000 Field

Changes DC+/AC/DC- without the use of tools. *Deluxe model comes standard with AC/DC polarity switch.*

Installation time: 35 minutes

Cold Weather Starting Aid Kit

#195 056 Field

Includes 120 V block heater.

Note: All models come standard with glow plugs.

Big 40® Diesel CC/CV Genuine Miller Accessories

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.



RCCS-14 Remote Contactor and Current Control #043 688

Up-and-down rotary-motion fingertip control fastens to TIG torch using two Velcro® straps. Includes 28 ft (8.5 m) control cord.



RFCS-14 HD Foot Control #194 744

Foot pedal provides remote current and contactor control. Includes 20 ft (6 m) cord and 14-pin plug.



RMLS-14 #129 337 14-pin plug

Fingertip 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.

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 (22.9 m)

TIG (GTAW) Welding



HF-251 Series

#042 388

HF-251D-1, 115 VAC

#042 387

HF-251D-2, 230 VAC

High-frequency arc starter and stabilizer.

See Accessory Lit. Index No. AY/5.0.

MIG (GMAW)/Flux Cored (FCAW) Welding



Suitcase 8VS™ Wire Feeder #194 890

SuitCase™ 12VS Wire Feeder #194 941

Lightweight, portable, voltage-sensing wire feeder for .045/.052 flux core and .035/.045 hard wire. Includes secondary contactor and gas valve. Requires drive roll kit. See Lit. Index No. M/6.4.

Genuine Miller Accessories



Lockable Fuel Cap Flame Arrestor Kit Green #043 947 Field

Fuel cap can be padlocked to prevent vandalism. A built-in flame arrestor prevents flames or sparks from entering the fuel tank.



Vandalism Lockout Kit #195 118 Field

Lockable hinged steel panels cover and protect name plate gauges and ignition switch (padlock included). Also includes engine compartment door lock and key.



Canvas Cover #194 683 Field

Attractive, blue waterproof canvas cover resists stains and mildew, and protects the finish of your welder. Cannot be used with cable holder.



Spark Arrestor Muffler Kit #041 928 Field

Prevents particles from leaving the muffler that could potentially start a fire. Mandatory when operating on California grasslands, brush, or forest-covered land, and in all National Forests. For other areas, check your state and local laws. Meets US Forest Service standard 5100-1B.



Cable Holder #043 946

Saddle-bag-style cable holder. Convenient wrap-around storage of coiled cable for transportation. Stores 100 ft of 2/0 cable on each side.

*Note: For best results do not weld when cable is coiled!
Canvas cover cannot be used with cable holder.*



Roll Cage/Drip Pan #194 918 Field

Heavy-duty galvanized steel structure designed to protect the machine. The roll cage meets offshore oil platform requirements with a drip pan and drain plug along with a heavy-duty lift eye.

Stick Accessory Kits



#173 851

50 ft (15 m) No. 2/0 electrode cable with electrode holder and 50 ft (15 m) No. 2/0 work cable with work clamp. 350 A at 100% duty cycle.

#043 952

100 ft (30.5 m) No. 2/0 electrode cable with electrode holder and 50 ft (15 m) No. 2/0 work cable with work clamp. 300 A at 100% duty cycle.

Trailers and Hitches (For both models.)



RCT-224 Trailer #194 875

A highway trailer specifically designed for the rental/construction site. A heavy-duty torsion axle with a low center of gravity provides a rugged yet smooth ride. The RCT-224 comes with jack stand, 2-1/2 in lunette eye, fenders, lights and safety chains.



4 West Four-Wheel Steerable Off-Road Trailer #042 801

A heavy-duty 2570 lb (1166 kg) capacity trailer designed for use in mines, quarries, and other rough terrain. Has narrow 22 ft (6.7 m) turning radius. Includes 3 in lunette eye, universal hitch and safety chains.

Note: Trailers are shipped unassembled.



HWY-224 Trailer #043 805

A 2650 lb (1202 kg) capacity highway trailer. Welded steel tubing frame, heavy-duty axle with roller bearing hubs and leaf-spring suspension. The HWY-224 comes with jack stand, 2 in (50 mm) ball hitch, fenders and lights.

OFR-224 Trailer #043 802

A 2650 lb (1202 kg) capacity off road trailer. Welded steel tubing frame, heavy-duty axle with roller bearing hubs and leaf spring suspension. The OFR-224 comes with jack stand and 2 in (50 mm) ball hitch.

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

For use with both 224 trailers.

Cable Tree #043 826

Provides an area to conveniently wrap weld cables and extension cords. Works on all 224 and 430 trailers.



HWY-430 Tandem Axle Trailer #043 806

Smooth riding with 3750 lb (1701 kg) capacity. Includes: adjustable hitch for level operation, a hand operated parking brake, a self-actuating hydraulic brake system and a break-away device to lock brakes if the trailer comes loose. It also includes jack stand, fenders and lights. (Hitch must be ordered separately.)

Ball Hitch 2 in (50 mm) #043 864

For use with the 430 trailer.

Lunette Eye 3 in (76 mm) #043 863

For use with the 430 trailer.

Cable Tree #043 826

Provides an area to conveniently wrap weld cables and extension cords. Works on all 224 and 430 trailers.

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
RCT-224	2700 lb (1225 kg)	2500 lb (1134 kg)	2250 lb (1021 kg)	10-1/2 in (267 mm)	6-1/2 in (165 mm)	49-1/2 in (1257 mm)	B78-13C	Length: 98 in (2489 mm) Width: 59 in (1499 mm)	285 lb (129 kg)
4 West	2000 lb/axle (907 kg/axle)	3000 lb (1361 kg)	2570 lb (1166 kg)	21-1/4 in (540 mm)	8 in (203 mm)	55-1/4 in (1403 mm)	B78-13	Length: 91 in (2311 mm)** Width: 61-1/4 in (1556 mm)	430 lb (1950 kg)
HWY-224 OFR-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: HWY- 61 in (1549 mm)* OFR-58-1/2 in (1486 mm)	355 lb (161 kg)
HWY-430	2200 lb/axle (998 kg/axle)	4280 lb (1941 kg)	3750 lb (1701 kg)	19-1/4 in (489 mm)	8-1/2 in (216 mm)	52 in (1321 mm)	B78-13B	Length: 156-1/2 in (3975 mm) Width: 61 in (1549 mm)*	530 lb (240 kg)

* Width at outside of fenders. ** Does not include tongue.

Ordering Information

Power Source and Options	Stock No.	Description	Qty.	Price
Big 40 Diesel CC	#903 897 #903 897-01-1	CSA model with automatic idle CE model with automatic idle and dry battery		
Big 40 Diesel CC/CV	#903 898 #903 898-01-1 #903 898-04-1	CSA model with automatic idle CE model with automatic idle and dry battery CSA Deluxe model with automatic idle, engine gauges, welding meters, AC/DC polarity switch and high kW option		
Field Kit Accessories				
Weld Ammeter and Voltmeter Kit	#043 941	Standard on deluxe model		
DC Polarity Switch Kit	#043 942	Changes DC polarity positive to negative		
AC/DC Polarity Switch Kit	#195 000	For CC/CV models. Standard on deluxe model		
Cold Weather Starting Aid Kit	#195 056	120 V block heater		
Engine Gauge Kit	#194 741	For CATERPILLAR 3024 Diesel. Standard on deluxe model		
Lockable Fuel Cap Flame Arrestor Kit	#043 947	Padlock not included		
Spark Arrestor Muffler Kit	#041 928	All models		
Vandalism Lockout Kit	#195 118	Lockable front control panel and engine compartment		
Cable Holder	#043 946	Saddle-bag-style. Fastens to machine		
Canvas Cover	#194 683	Field. Cannot be used with cable holder		
Roll Cage/Drip Pan	#194 918			
Remote Controls				
RHC-3GD34A	#041 122	Hand control for CC models only		
RHC-14	#129 340	Hand control for CC/CV models only		
RCCS-14	#043 688	Fingertip control for CC/CV models only		
RFCS-14 HD	#194 744	Foot control for CC/CV models only		
RMLS-14	#129 337	Fingertip momentary- and maintained-contact switch. For CC/CV models only		
Extension Cords	#043 725 #043 726 #043 727	25 ft, 14-pin remote controls/24 VAC wire feeders 50 ft, 14-pin remote controls/24 VAC wire feeders 75 ft, 14-pin remote controls/24 VAC wire feeders		
Trailers and Hitches				
RCT-224 Trailer	#194 875	Trailer with lights, fenders and 2-1/2 in lunette eye		
Ball Hitch, 2 in	#189 585	Replaces the 2-1/2 in lunette eye on the RCT-224		
HWY-224 Trailer	#043 805	Trailer with lights, fenders and 2 in ball hitch		
OFR-224 Trailer	#043 802	Trailer with 2 in ball hitch		
Lunette Eye, 2-1/2 in	#043 824	Replaces the 2 in ball hitch on the HWY-224 or OFR-224		
Cable Tree	#043 826	Trailer mounted cable holder for HWY-224, OFR-224 or HWY-430		
HWY-430 Trailer	#043 806	Hitch required		
Ball Hitch, 2 in	#043 864	For HWY-430 only		
Lunette Eye, 3 in	#043 863	For HWY-430 only		
4-West Trailer	#042 801	4 wheel steerable implement trailer		
Suggested TIG Accessories				
HF-251D-1	#042 388	115 VAC. For CC/CV models only		
HF-251-2	#042 387	230 VAC. For CC/CV models only		
Wire Feeders				
Suitcase 8VS	#194 890	Includes contactor and gas valve. See Lit. Index No. M/6.4		
Suitcase 12VS	#194 941	Includes contactor and gas valve. See Lit. Index No. M/6.4		
MIG Guns		See Lit. Index Nos. M/10.0 and M/13.4		
Suggested Stick Accessories				
No. 2/O Stick Welding Accessory Kit	#173 851 #043 952	2/O, 350 A, 100% Duty Cycle, 50 ft stinger, 50 ft work clamp 2/O, 300 A, 100% Duty Cycle, 100 ft stinger, 50 ft work clamp		

Date:

Total Quoted Price:



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