Ranger® 305 G and Ranger® 305 G EFI

Processes

Stick, TIG, MIG, Flux-Cored, Gouging

Product Number

K1726-5 Ranger® 305 G K3928-1 Ranger® 305 G EFI

See back for complete specs

Output Range See Back Page

Rated Output Current/Voltage/Duty Cycle 305A DC CC/29V/100% 300A DC CV/29V/100%

Number of Cylinders

HP @ Speed (RPM) 23 HP @ 3600 RPM 25 HP @ 3600 RPM EFI

Weight/Dimensions (H x W x D) 510 lbs. (231 kg)

29.9 x 21.5 x 42.3 in. (759 x 546 x 1073 mm) 36.2 in. (920 mm) To Top of Exhaust Tube

Ready for a Workout!™

The Ranger® 305 G is a powerful multiprocess stick, TIG, wire and pipe welding engine-driven welder that is ready for all day, everyday performance. It includes Lincoln Electric Chopper Technology® for superior arc performance.

FEATURES

► Kohler® Gasoline Engine Choices

- 23 HP carburetor.
- 25 HP EFI (Electronic Fuel Injection) for easier starts in cold weather and lower fuel use!
 Table
- Both engines have electric fuel pump to avoid vapor lock at high altitude operation.

Multi-Process Welding

- Excellent DC multi-process welding for general purpose stick, downhill pipe (stick), TIG, cored-wire, MIG (CO₂ and mixed gas) and arc gouging.
- Only compact gasoline welder in North America rated at 29V for 300 amps of stick or CV welding.
- CV wire welding with up to 5/64 in. (2.0 mm) diameter electrodes.

Digital Weld Meters

 Digital weld meters for amps and volts makes it easy to precisely pre-set your procedures and monitor actual welding output.

Superior Arc Performance

Lincoln Electric Chopper
 Technology® – provides easy starts, a
 smooth arc, low spatter and excellent
 bead appearance.

300 Amp DC Gasoline Engine Driven Welder/Generator

APPLICATIONS

- Construction
- Maintenance and Repair
- Pipe
- ▶ Ranch/Farm



FEATURES CONT'D.

Peak Single-Phase AC Generator Power for Motor Starting

- 10,500 watts peak; 12,000 for EFI.
- 9,500 watts continuous for high capacity needs such as a back-up generator, powering a Lincoln Electric Invertec® inverter welder. Also use for lights, a grinder or other power tools.
- AC generator voltage is constant at 120V or 240V at any weld dial setting.

Skewed Rotor Design

 Skewed rotor design provides AC power suitable for operating Lincoln Electric inverter power sources.
 Lincoln Electric was the first in the welding industry with this feature.

Rugged Reliability

 Welding and AC Generator Outputs rated at 104°F (40°C).

INPUT





OUTPUT







Powered By:





Two Year Extended Warranty Available in the U.S.A. and Canada



Welding Performance

- Lincoln Electric Chopper Technology®.
 - Easy Starts.
 - Smooth Arc.
 - Low Spatter.
 - Excellent Bead Appearance.
- · CC-stick mode is optimized for general purpose stick using E7018 low hydrogen electrodes.
- Downhill pipe welding mode is excellent for cellulosic electrodes, such as Lincoln Electric Fleetweld® 5P+. This mode delivers fast travel speeds, especially on fill passes.
- · Arc force control provides a soft or more forceful digging arc in CC-stick or downhill pipe mode and inductance/pinch control in CV wire mode.
- . Built-in "hot" start for easier starts and restrikes minimizing the electrode "sticking" to the work.
- Touch Start TIG® (DC) lift tungsten to start the arc. No high frequency required. Avoids tungsten contamination in the weld. Voltage sensing output stops the arc when the torch is lifted at the end of the weld - increased operator appeal.
- Arc gouging with up to 3/16 in. (4.8 mm) carbons.

AC Generator Performance

- Up to 40 amps at 240V from the 120V/240V receptacle with weather resistant cover. Circuit breaker protection.
- Two 120V 20 Amp duplex receptacles with weather resistant covers. Circuit breaker protection. Will operate up to 9 in. grinder.
- Nominal 120V and 240V AC generator voltage is independent of any weld dial setting. This is done with one generator system (rotor/ stator) using Lincoln Electric Chopper Technology®, avoiding the complexity of two generator (rotor/stator) systems.

SIMULTANEOUS WELDING AND POWER LOADS					
Welding Output (Amps)	Continuous Power (Watts)				
300	0				
250	2,300				
200	4,200				
150	5,600				
100	7,100				
0	9,500				

FEATURES

- Simple Controls Keep training time to a minimum with the straightforward control panel of the Lincoln Electric Ranger® 305 G. The flip-down control panel door keeps less frequently used controls out of the way.
- Single, full-range output control dial. No confusion with taps and controls!
- · 4 welding modes: CC-Stick, Downhill Pipe, CV-Wire, and Touch Start TIG®.
- · Dual digital output meters for presetting weld amps for stick, TIG or downhill pipe modes, or voltage for CV wire mode. Also displays actual outputs while welding. Memory feature holds output readings for 7 seconds after welding stops for viewing by the operator.
- Output at welding terminals controlled by electronic contactor. Can be switched to "On", or to "Remotely Controlled."
- Remote output control is auto-activated when plugged into a 6-pin connector. For the CC-stick, downhill pipe and Touch Start TIG® modes, the machine output dial becomes a maximum current limit for more fine tuning with the remote control dial or Amptrol™.
- . Compatible with many Lincoln Electric wire feeders including the LN-25 Ironworker[™], Activ8[™], LF-72[™], LF-74, LN-7 GMA, LN-742, LN-8, wire feeders and Magnum® SG Gun.
- Wire feed voltmeter switch matches polarity of wire feeder volt meter to polarity of electrode.
- Top-of-the-line Kohler® engine choices:
 - 23 HP CH730 OHV Command® with carburetor.
 - 25 HP ECH740 OHV Command® with EFI (Electronic Fuel Injection). Choke starting not needed.
- 12 gallon fuel capacity allows you to run an extended day.

- Fully enclosed case for equipment protection and low noise. Noise at rated load:
 - 101.3 dB sound power (Lwa)
 - 76.7 dBA sound level at 23 ft. (7 m)
- · Electric fuel pump avoids vapor lock. Assures consistent fuel delivery in locations having a combination of high altitude, warm ambient temperatures, and high anti-pollution additives in gasoline.
- Combination electric fuel gauge and engine hour meter located on control panel. Easily check both fuel level and hours of operation. Fuel gauge helps you virtually eliminate running low on fuel during critical jobs. Hour meter helps plan for scheduled engine maintenance.



- Large top fuel filler neck is easily accessed for refueling.
- Electric start.
- Oil drain valve (no tools required) with removable extension tube.
- Convenient truck or trailer mounting with front and rear holes in base.





- **Output Control Dial** 1.
- 2. **Digital Weld Output Ammeter**
- 3. **Weld Mode Switch**
- **Arc Force & Inductance/Pinch Control Dial** 4.
- **Circuit Breakers** 5.
- 120 Volt AC Receptacles (NEMA 5-20R) 6.
- **Output Stud Covers** 7.
- 8. **Ground Stud**
- 120/240 Volt AC Full KVA Receptacle (NEMA 14-50R) 9.
- 6-Pin Remote Control & 14-Pin Feeder Connectors
- **Wire Feeder Voltmeter Polarity Switch**
- **Welding Terminals Control Switch** 12.
- 13. **Digital Weld Output Voltmeter**
- 14. **Idler Control Switch**
- **Pushbutton Start Switch** 15.
- **Engine Choke Control (not needed with EFI)**
- 17. **Run/Stop Switch**
- **Electric Fuel Gauge and Engine Hour Meter**

QUALITY AND RELIABILITY

- Printed circuit boards are environmentally-shielded using Lincoln Electric's engineered potting and protective frame trays.
- Oil dip stick, filters, spark plugs, etc. are easily accessed with left, right and top engine doors. Left and right doors are removable for service.
- Adjust exhaust direction with top-mounted 360° rotatable exhaust muffler. Muffler made from aluminized steel for longer life.
- Attractive red and black powder paint finish offers increased durability with added protection from rust and corrosion. Also ultraviolet resistant to better retain color and gloss.
- · Longer engine life, reduced noise emissions and greater fuel economy with automatic engine idler.
- Conveniently located engine maintenance label under top engine door.
- Automatic engine shutdown protection for low oil pressure.
- Reliable start-up with Group 58 battery with 435 cold cranking amps.

· Easy access battery cover.



- Optional K1690-1 GFCI (Ground Fault Circuit Interrupter) Kit available for additional protection from electrical shock.
- Dependability and long life aided by all-copper windings in rotor and stator with high quality insulation.
- Approved by Canadian Standards Association (CSA).
- Manufactured under a quality system certified to ISO 9001 requirements and ISO 14001 environmental standards.
- Three year Lincoln Electric warranty (parts and labor) on welder (engine is warranted separately by the manufacturer).



Make the Ranger® 305 G your portable welding station – general stick and downhill pipe, Touch Start TIG®, MIG, flux-cored and AC generator to power lights, grinders or other power tools.



	MACHINE SPECIFICATIONS								
Product Name	Ordering Information	Description	CC/Pipe Rated Output Current/Voltage/ Duty Cycle	CV-Rated Output Current/Voltage/ Duty Cycle	Generator AC Power ⁽²⁾⁽³⁾	H x W x L inches (mm)	Weight lbs/(kg)		
Ranger® 305 G	K1726-5 With Electric Fuel Pump	300 Amp DC Multi-Process Arc Welder with Lincoln Electric (En) Chopper Technology®	DC Constant Current 305A/29V/100% 20-305A	DC Constant Voltage (1) 300A/29V/100% 14-29 V	10,500 Watts Peak 12,000 Watts Peak EFI 9,500 Watts Continuous 60 Hz	29.9 x 21.5 x 42.3 (759 x 546 x 1073) To top of exhaust tube:	510 (231)		
Ranger® 305 G EFI	K3928-1 With Electric Fuel Pump	10,500 Watts Peak 9,500 Watts Continuous AC Power	DC Pipe Current 300A/29V/100% 40-300A Touch Start TIG® 250A/30V/100% 20-250 A All Models Single Dial Continuous Control 60V DC Max OCV @ 3700 RPM	Single-Dial Continuous Control Wire Feeder Power 42V, 60 Hz, 15 Amps 120V, 60 Hz, 20 Amps	Full KVA Receptacle 40A@ 240V 40A@ 120V ea. Branch Circuit (4) Four 120V Receptacles 20A per Duplex 40A Total (4)	36.2 (920)			

⁽¹⁾ DC constant voltage capability provides convenience and added safety when welding in electrically hazardous conditions.

⁽⁴⁾ Circuits cannot be wired in parallel to operate the same device.

ENGINE SPECIFICATIONS							
Engine Model	Description	Horsepower & Displacement	Ignition	Capacities	Operating Speeds	Fuel Consumption	
Kohler® OHV (5) Command®	2 Cylinder, 4 Cycle, OHV, Air-Cooled	23 HP @ 3600 RPM	Electric Start, 12V Group 58 Battery,	FUEL: 12 Gals (45 liters)	FULL LOAD 3,500 RPM (300A)	1.7 Gals/Hr 6.5 liters/Hr	
CH730 Gasoline	Gasoline Engine Aluminum Alloy Block with Cast Iron Liners	44 cu in (725 cc)	435 Cold Cranking Amps, Pushbutton Start Switch, Charging Indicator	OIL: 2.0 Qts (1.9 liters)	HIGH IDLE 3,700 RPM	1.0 Gals/Hr 3.7 liters/Hr	
	Electric Fuel Pump				LOW IDLE 2,400 RPM	0.4 Gals/Hr 1.5 liters/Hr	
Kohler® OHV ⁽⁵⁾ Command® ECH740 Gasoline	2 Cylinder, 4 Cycle, OHV, Air-Cooled Gasoline Engine	25 HP @ 3600 RPM	Electric Start, 12V Group 58 Battery, 435 Cold Cranking Amps,	FUEL: 12 Gals (45 liters)	FULL LOAD 3,500 RPM (300A)	1.5 Gals/Hr 5.8 liters/Hr	
ECH740 Gasoline	Aluminum Alloy Block with Cast Iron Liners Electric Fuel Pump	46 cu in (747 cc)	Pushbutton Start Switch, Charging Indicator	OIL: 2.0 Qts (1.9 liters)	HIGH IDLE 3,700 RPM	0.7 Gals/Hr 2.6 liters/Hr	
	Electronic Fuel Injection				LOW IDLE 2,400 RPM	0.4 Gals/Hr 1.5 liters/Hr	

⁽⁵⁾ Kohler engine warranty is 3 years.

SYSTEM SELECTION

One-Pak® Welding Package

Order a Lincoln Electric One-Pak® and get everything you need to complete a welding package - all with one order number.

(Package is not assembled.)

Each UNASSEMBLED Package Contains:

- Ranger® 305 G (K1726-5 with electric fuel pump)
- Accessory Kit (K704)
- LN-25 Ironworker™ Wire Feeder (K2614-9)
- Gun and Cable (K126-12)
- 5/64 in. (2.0 mm) NR-233 25 lb. (11.3 kg) Spool (ED033039)

Order: K2353-2







K704 Accessory Kit



K2614-9 LN-25 Ironworker™ Wire Feeder



K126-12 Gun and Cable



5/64 in. (2.0 kg) NR-233 25 lb. (11.3 kg) Spool



⁽²⁾ When welding, available auxiliary power will be reduced. Output voltage is within +\- 10% at all loads up to rated capacity.

 $^{^{\}mbox{\tiny (3)}}$ 120V will operate either 60 Hz or 50/60 Hz power tools, lights, etc.



GENERAL OPTIONS

Power Plug Kit

Provides four 120V plugs rated at 20 amps each, and one dual voltage, full KVA plug rated at 120/240V, 50 amps. 120V plug may not be compatible with common household receptacles.

Order K802N

Full-KVA Power Plug

Full - KVA Adapter Kit

240V AC 1-phase plug

Order K1816-1

GFCI Receptacle Kit

(NEMA 6-50P) to the full-KVA

Includes one UL approved 120V

installation instructions. Replaces

the factory-installed 120V duplex

receptacle. Each receptacle of the

GFCI duplex is rated at 20 amps.

Maximum total current from the

Two kits required for all 120V

and Ranger® 305 G EFI.

Order K1690-1

Order K1898-1

Canvas Cover

water repellent. Order K886-2

Spark Arrestor Kit

GFCI duplex is limited to 20 amps.

receptacles on the Ranger® 305 G

Attaches to muffler exhaust tube.

To protect the engine drive when

not in use. Made from attractive

red canvas material that is flame

retardant, mildew resistant and

Virtually eliminates spark emissions.

ground fault circuit interrupter

duplex type receptacle and

Order T12153-9

One dual voltage plug rated at

120/240V, 50 amps. NEMA 14-50P.

Provides convenient connection of

Lincoln Electric equipment having a

receptacle on engine-driven welders.



K2639-1 Fender & Light Kit



For heavy-duty road, off-road, plant and yard use. Includes pivoting jack stand, safety chains, and 13 in. (330 mm) wheels. Stiff .120 in. (3.0 mm) welded rectangular steel tube frame construction is phosphate etched and powder coat painted for superior rust and corrosion resistance. Low sway suspension gives outstanding stability with manageable tongue weight. Wheel bearings are packed with high viscosity, high pressure, low washout Lubriplate® grease. Includes a Duo-Hitch®, a 2 in. (51 mm) ball/lunette eye combination hitch. Overall width 60 in. (1524 mm). Overall length 110 in. (2794 mm).

Small Two Wheel Welder Trailer

Order:

K2635-1 Trailer K2639-1 Fender & Light Kit

Polarity/Multi-Process Switch

& DC+ stick for hot, fill and cap

passes. Also for an easy process

change. Example: DC+ stick root

pass on pipe & DC- Innershield®

self-shielded flux-cored wire for

hot, fill and cap passes. 6 & 14-pin

remote connections can be made

to this unit. For all Lincoln Electric

welders Mounts on roof with

K2663-1 Docking Kit.

Chopper Technology® engine-driven

Example: DC-stick root pass on pipe

For easy polarity switching.

K2640-1 Cable Rack



capacity. Order K2627-2 TIG OPTIONS

AC Receptacles

Pro-Torch™ PTA-26V TIG Torch Air-cooled 200 amp torch equipped with valve for gas flow control. 25 ft. (7.6 m) length.

Remote Output Control with 120V

Remote weld output control box with

GFCI (ground fault circuit interrupter)

protection. One cord for both remote

and power. 100 ft. (30.5 m) length.

Permits remote adjustment of weld

output and power for tools (such

as a grinder) at the work. 20 amp

two 120V AC receptacles having





Foot Amptrol™

Varies current while welding for making critical TIG welds and crater filling. Depress pedal to increase current. Depressing pedal fully achieves maximum set current. Fully raising the pedal finishes the weld and starts the afterflow cycle. Includes 25 ft. (7.6 m) control cable. Order K870



Hand Amptrol™

Provides 25 ft. (7.6 m) of remote current control for TIG welding.

Order K963-3 (one size fits all



(6 pin plug connection). Velcro straps secure torch.

Pro-Torch™ TIG torches).



Docking Kit

Order K2642-1

Secures the K2642-1 Polarity/Multi-Process Switch to the engine-driven welder roof. Release latch permits removal of K2642-1 Polarity/Multi-Process Switch. Made from stainless steel for rust-free operation. For all Lincoln Electric Chopper Technology® engine-driven welders. Order K2663-1



Magnum® Parts Kit for PTA-26V TIG Torch

Provides all the torch accessories you need to start welding. Parts kit provides collets, collet bodies, a back cap, alumina nozzles and tungstens in a variety of sizes, all packaged in an easy to carry reclosable pack.

Order KP509



All-Terrain Undercarriage

For moving by hand at construction sites. Maneuvers over obstacles. Heavy-duty puncture-resistant (inner tube and sealant) tires.

Order K1737-1



STICK OPTIONS

Accessory Kit

For stick welding. Includes 35 ft. (10.7 m) #2/0 electrode cable, 30 ft. (9.1 m) #2/0 work cable, headshield, work clamp and electrode holder. 400 amp capacity.

Order K704



Square Wave™ TIG 175

For AC TIG welding with square wave performance, use the AC generator of the engine-driven welder to supply the power. Full rated output may not be available. Easy setup. Includes torch, foot amptrol, gas regulator and hose. Requires the K1816-1 Full KVA adapter kit

Order K1478-5



Factory Undercarriage For moving by hand on smooth

surface floors. Heavy-duty, puncture-resistant (inner tube and . sealant) tires and front caster. Convenient steering handle. Order K1770-1



Accessory Kit

For stick welding. Includes 20 ft. (6.1 m) #6 electrode cable with lug. 15 ft. (4.6 m) #6 work cable with lugs, headshield, filter plate, work clamp, electrode holder and sample pack of mild steel electrode. 150 amp capacity.

Order K875



Welding Gas Cylinder/ **LPG Tank Holder**

Holds welding gas cylinder or LPG tank (for products with LPG engine). For LPG: Use one holder for LPG tank and a second holder for welding gas cylinder. Both holders will attach to the K1770-1 undercarriage

Order K1745-1



Remote Control Kit

Consists of a control box with choice of two cable lengths. Permits remote adjustment of output. Order K857 for 25 ft. (7.6 m)

K857-1 for 100 ft. (30.5 m)



RECOMMENDED ACCESSORIES



TIG OPTIONS, CONT'D.

Invertec® V205-T AC/DC One-Pak® Package For AC TIG welding with square wave performance use the AC generator of the engine-driven welder to supply the power. Full rated output may not be available. Easy setup. Includes torch, parts kit, regulator and hose kit, Twist Mate™ torch adapter, work cable with Twist Mate™ end, and foot Amptrol™. Requires the K1816-1 Full-KVA Adapter Kit. Order K2350-2



Magnum® PRO 350 Ready-Pak® 15 ft.. .035-5/64 in.

Magnum® PRO MIG/flux-cored welding guns are rated 100% duty cycle. The guns are designed for high amperage, high duty cycle applications in extreme environments where heat-resistance and fast serviceability are key. Order K2652-2-10-45



POWER MIG® 180C

Premium compact wire welder with continuous voltage control for MIG and flux-cored welding. 30 to 180 amp output range. Get input power from the AC generator of the enginedriven welder with the K1816-1 Full-KVA Adapter Kit (required). Add the K2532-1 Magnum® 100SG Spool Gun for aluminum MIG welding.

Order K2473-1



Drive Roll and Guide Tube Kit For .035-.045 in. (0.9-1.1 mm) solid steel wire.



Magnum® 100SG Spool Gun

Designed to easily feed 4 in. (102 mm) diameter 1 lb. (0.45 kg) spools of .030 in (0.8 mm) or .035 in. (0.9 mm) diameter SuperGlaze® aluminum MIG wire. Includes gun, adapter kit, .035 in. (0.9 mm) contact tips (qty. 3), gas nozzle, and a 1 lb. (0.45 kg) spool of SuperGlaze® 4043 .035 in. (0.9 mm) MIG wire. Packaged in a convenient carrying case.

Order K2532-1



WIRE FEEDERS

LN-25 Ironworker™ Wire Feeder Portable CV unit for flux-cored and MIG welding with MAXTRAC® wire drive system. Includes digital meters for wire feed speed/amperage and voltage, gas solenoid, internal contactor and 5/64 in. (2.0 mm) drive roll kit for cored wire. Has 83% reduced wire feed speed capability for 6 o'clock pipe welding with Innershield® wire.

Order K2614-9



SG Control Module

The interface between the power source and the spool gun. Provides control of wire speed and gas flow. For use with a spool gun. Order K488



PLASMA CUTTING

Tomahawk® 1000

Cuts metal using the AC generator power from the engine-driven welder. Requires the T12153-9 Full-KVA Power Plug (1-Phase). Order K2808-1



Product

Name

Ranger® 305 G

Ranger® 305 G

One-Pak®

Ranger® 305 G EFI

PRODUCT SPECIFICATIONS

Drive Roll and Guide Tube Kit For .068-.072 in. (1.7-1.8 mm) cored or solid steel wire Order KP1697-068

K126™ PRO Innershield® Gun For self-shielded wire with 15 ft. (4.5 m) cable. For .062-5/64 in. (1.6-2.0 mm) wire. Includes K466-10 Connector Kit.

Rated Output

Current/Voltage/

Duty Cycle

305A DC CC/29V/100%

300A DC CV/29V/100%



Order K126-12

Product

Number

K1726-5

K2353-2

K3928-1



Output Range	Engine	Number of Cylinders	HP @ Speed (RPM)	H x W x D inches (mm)	Net Weight Ibs. (kg)
20-305A DC 40-300A Pipe 20-250A DC TIG 14-29V CV	Kohler® OHV Command® CH730 Gasoline Electric Fuel Pump	2	23 @ 3600	29.9 x 21.5 x 42.3 (759 x 546 x 1073) To top of exhaust tube: 36.2 (920)	510 (231)
10,500 watts peak 12,000 watts peak EFI 9,500 watts continuous				-	-
	Kohler® OHV Command® ECH740 Gasoline Electric Fuel Pump Electronic Fuel		25 @ 3600	29.9 x 21.5 x 42.3 (759 x 546 x 1073) To top of exhaust tube: 36.2 (920)	510 (231)

For best welding results with Lincoln Electric equipment, always use Lincoln Electric consumables. Visit www.lincolnelectric.com for more details.

Injection

Manufactured at a facility with certified ISO Quality and Environmental Management Systems.

CUSTOMER ASSISTANCE POLICY

The business of The Lincoln Electric Company is manufacturing and selling high quality welding equipment, consumables, and cutting equipment. Our challenge is to meet the needs of our customers and to exceed their expectations. On occasion, purchasers may ask Lincoln Electric for information or advice about their use of our products. Our employees respond to inquiries to the best of their ability based on information provided to them by the customers and the knowledge they may have concerning the application. Our employees, however, are not in a position to verify the information provided or to evaluate the engineering requirements for the particular weldment. Accordingly, Lincoln Electric does not warrant or guarantee or assume any liability with respect to such information or advice. Moreover, the provision of such information or advice does not create, expand, or alter any warranty on our products. Any express or implied warranty that might arise from the information or advice, including any implied warranty of merchantability or any warranty of fitness for any customers' particular purpose is specifically disclaimed.

Lincoln Electric is a responsive manufacturer, but the selection and use of specific products sold by Lincoln Electric is solely within the control of, and remains the sole responsibility of the customer. Many variables beyond the control of Lincoln Electric affect the results obtained in applying these types of fabrication

