

# FOR SPECIALIZED ENVIRONMENTS

## Ranger® 305 LPG



Shown:  
Ranger 305 LPG, K2937-1

## KEY FEATURES

Choose the Ranger 305 LPG for those environments where gasoline and diesel emissions are not acceptable. Includes a liquid propane gas supply hose with coupler for easy connection to the liquid draw outlet of an LP-gas cylinder. The 10,000-watt peak single-phase AC generator powers motor starting, tools and inverter welders for extended range and process capability.

- Top-of-the-line Kohler® overhead valve (OHV) 25 HP Command® LPG engine
- Digital weld meters monitor actual welding output
- Built-in “hot” start for easier starts and restrikes
- Ability to weld indoors where other fuels cannot be used due to fumes and potential explosiveness of the fuel

### Processes »

Stick, TIG, MIG, Flux-Cored

### Output »



### Input »



### Product Number »

K2937-1 Base Unit  
K3430-1 One-Pak® Package

# FEATURES


## » Multi-Process Welding

- Excellent DC multi-process welding for general purpose stick, downhill pipe (stick), TIG, cored-wire and MIG (CO<sub>2</sub> and mixed gas).
- It's the only compact LPG welder in North America rated at 25V for 300 amps of stick or CV welding.
- CV wire welding up to 5/64 in. (2.0 mm) diameter electrodes.

## » Digital Weld Meters

- Digital weld meters for amps and volts make 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.

## » 10,000 Watts Peak Single-Phase AC Generator Power

- 10,000 watts peak for motor starting.
- 9,000 watts continuous for high capacity needs such as a back-up generator, powering a Lincoln Electric Invertec® inverter welder. Also can be used 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 first in the welding industry with this feature.

## » Rugged Reliability


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

## » 25 HP Kohler LPG Engine


- LPG (Liquid Propane Gas) engine has plenty of horsepower.

# PERFORMANCE

## 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 delivers easier starts and restrikes minimizing the electrode “sticking” to the work.
- Touch Start TIG® DC - lift the tungsten to start the arc. No high frequency is required which avoids tungsten contamination in the weld. Voltage sensing output stops the arc when the torch is lifted at the end of the weld, resulting in increased operator appeal.

## AC Generator Performance

- 10,000 watts peak AC generator power. Use for motor starting.
- Up to 38 amps at 240V from the 120V/240V receptacle with weather resistant cover. Includes circuit breaker protection.
- Two 120V 20 Amp GFCI (Ground Fault Circuit Interrupter) duplex receptacles with weather resistant covers. Includes 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.

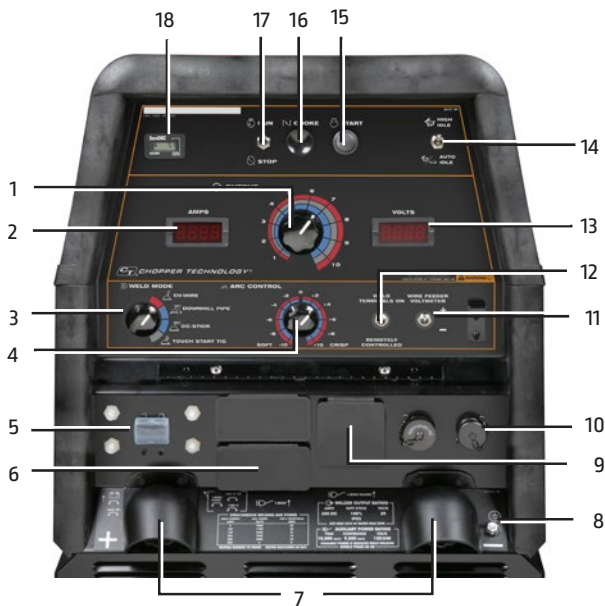
### SIMULTANEOUS WELDING AND POWER LOADS

Welding Output (Amps)	Continuous Power (Watts)
300	0
250	2,200
200	3,800
150	5,100
100	6,600
0	9,000

## FEATURES

- Simple Controls - Keep training time to a minimum with the straightforward control panel of the Lincoln Electric Ranger 305 LPG. 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 allow presetting weld amps for stick, TIG or downhill pipe modes, or voltage for CV wire mode. The meters also display actual outputs while welding. Memory feature holds output readings for 7 seconds after welding stops for viewing by the operator.
- Output at welding terminals is 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™, LN-15, LF-72, LF-74, LN-7, LN-7 GMA, LN-742, LN-8 wire feeders and Magnum® SG Gun.
- Wire feed voltmeter switch matches polarity of a wire feeder volt meter to polarity of electrode.
- Top-of-the-line Kohler OHV (Overhead Valve) 25 HP Command® LPG (Liquid Propane Gas) engine.
- Includes LPG supply hose with coupler for easy connection to the liquid draw outlet of an LP-Gas cylinder.
- 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 start.
- Oil drain valve [no tools required] with removable extension tube.

## KEY CONTROLS



1. Output Control Dial
2. Digital Weld Output Ammeter
3. Weld Mode Switch
4. Arc Force & Inductance/ Pinch Control Dial
5. Circuit Breakers
6. 120 Volt AC Receptacles (NEMA 5-20R)
7. Output Stud Covers
8. Ground Stud
9. 120/240 Volt AC Full KVA Receptacle (NEMA 14-50R)
10. 6-Pin Remote Control & 14-Pin Feeder Connectors
11. Wire Feeder Voltmeter Polarity Switch
12. Welding Terminals Control Switch
13. Digital Weld Output Voltmeter
14. Idler Control Switch
15. Push-Button Start Switch
16. Engine Choke Control
17. Run/Stop Switch
18. Engine Hour Meter

## QUALITY AND RELIABILITY


- Printed circuit boards are environmentally-shielded using Lincoln Electric 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 the top-mounted 360° rotatable exhaust muffler. The muffler is made from aluminized steel for longer life.
- Attractive red and black powder paint finish offers increased durability with added protection from rust and corrosion. The finish is 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.



- Dependability and long life aided by all-copper windings in rotor and stator with high quality insulation.
- Canadian Standards Association (CSA) certified.
- 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).

## 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 <sup>(2)(3)</sup>	H x W x L inches (mm)	Weight lbs/(kg)
Ranger 305 LPG (Kohler)	K2937-1	300 Amp DC Multi-Process Arc Welder with Lincoln Electric  Chopper Technology  10,000 Watts Peak  9,000 Watts Continuous AC Power	DC Constant Current 300A/ 25V/ 100% 20-300A  DC Pipe Current 300A/ 25V/ 100% 40-300A  Touch Start TIG 250A/ 30V/ 100% 20-250 A  Single Dial Continuous Control 60V DC Max OCV @ 3700 RPM	DC Constant Voltage <sup>(1)</sup> 300A / 25V / 100%  14-29 V Single-Dial Continuous Control  Wire Feeder Power 42V, 60Hz, 15 Amps 120V, 60Hz, 20 Amps	10,000 Watts Peak 9,000 Watts Continuous 60Hz. Single Phase  Full KVA Receptacle 38A@ 240V 38A@ 120V ea. Branch Circuit <sup>(4)</sup>  Four 120V GFCI Receptacles 20A per Duplex 40A Total <sup>(4)</sup>	29.9 x 21.5 x 42.3 (759 x 546 x 1074)  To top of exhaust tube: 36.2 (920)	480 (218)

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

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

<sup>(3)</sup> 120V will operate either 60 Hz or 50/60 Hz power tools, lights, etc.

<sup>(4)</sup> 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 <sup>(5)(6)</sup> Command <sup>®</sup> CH730 LP	2 Cylinder, 4 Cycle, OHV, Air-Cooled Gasoline Engine Aluminum Alloy Block with Cast Iron Liners Electric Fuel Pump	25 HP @ 3600 RPM	Electric Start, 12V Group 58 Battery, 435 Cold Cranking Amps, Push-Button Start Switch, Manual Choke	FUEL: LP-Gas <sup>(6)</sup>  OIL: 2.0 Qts (1.9 Ltrs)	FULL LOAD 3,500 RPM (300A)	8.8 Lbs/Hr 4.0 Kg/Hr.
		44 cu in (725 cc)			HIGH IDLE 3,700 RPM	4.6 Lbs/Hr 2.0 Kg/Hr
					LOW IDLE 2,400 RPM	2.6 Lbs/Hr 1.2 Kg/Hr

<sup>(5)</sup> Kohler engine warranty is 3 years.

<sup>(6)</sup> Liquid draw required from LP-Gas cylinder. The Ranger 305 LPG includes an LPG supply hose with coupler for easy connection to the liquid draw outlet of an LP-Gas cylinder.

### SYSTEM SELECTION

#### One-Pak<sup>®</sup> 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 LPG [K2937-1]
- Factory Undercarriage [K1770-1]
- Welding Gas Cylinder/LPG Tank Holder [K1745-1]
- LPG Tank Strap [K2361-1]

**Order: K3430-1**



*Ranger 305 LPG*



*K1770-1 Factory Undercarriage*



*K1745-1 Welding Gas Cylinder/LPG Tank Holder*



*K2361-1 LPG Tank Strap*



Ranger 305 LPG with factory undercarriage, welding gas cylinder/LPG tank holder and LPG tank strap. [LPG tank not supplied by Lincoln Electric.]

## RECOMMENDED ACCESSORIES



120V



### 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

One dual voltage plug rated at 120/240V, 50 amps. NEMA 14-50P.  
Order T12153-9



#### Full-KVA Adapter Kit

Provides convenient connection of Lincoln Electric equipment having a 240V AC 1-phase plug (NEMA 6-50P) to the full-KVA receptacle on Lincoln engine-driven welders.  
Order K1816-1



#### Spark Arrester Kit

Attaches to muffler exhaust tube. Virtually eliminates spark emissions.  
Order K1898-1



#### Canvas Cover

To protect the engine drive when not in use. Made from attractive red canvas material that is flame retardant, mildew resistant and water repellent.  
Order K886-2



#### 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



#### 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



#### LPG Tank Strap

Mounts to K1745-1 welding gas cylinder/LPG tank holder (required) to secure LPG tank. (K1770-1 also required).  
Order K2361-1



#### Polarity/Multi-Process Switch

For easy polarity switching. Example: DC-stick root pass on pipe & DC+ stick for hot, fill and cap passes. Also for an easy process change. Example: DC+ stick root pass on pipe and DC- Innershield™ self-shielded flux-cored wire for hot, fill and cap passes. 6- and 14-pin remote connections can be made to this unit. For all Lincoln Electric Chopper Technology™ engine-driven welders. Mounts on roof with K2663-1 Docking Kit.  
Order K2642-1



#### Docking Kit

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



### 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



#### 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



#### 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)



#### Remote Output Control with 120V AC Receptacles

Remote weld output control box with two 120V AC receptacles having GFCI (ground fault circuit interrupter) protection. One cord for both remote and power. 100 ft. (30 m) length. Permits remote adjustment of weld output and power for tools (such as a grinder) at the work. (20 amp capacity).  
Order K2627-2



### TIG OPTIONS

#### Pro-Torch™ PTA-26V TIG Torch

Air-cooled 200 amp torch equipped with valve for gas flow control. 25 ft. (7.6 m) length.  
Order K1783-9



#### 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. (6-pin plug connection). Velcro straps secure torch.  
Order K963-3 (one size fits all Pro-Torch™ TIG torches).



#### 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



#### Square Wave TIG 200

This 46 lb (21 kg) TIG and stick welder includes adjustable AC Frequency Control and AC Balance for great results on aluminum, pulse mode and 120V or 230V input power capability.  
Order K5126-1



## RECOMMENDED ACCESSORIES



### 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**



**Drive Roll and Guide Tube Kit**  
For .035-.045 in. (0.9-1.1 mm) solid steel wire.  
**Order KP1696-1**



**Magnum SG Spool Gun**  
Hand held semiautomatic wire feeder. Requires SG Control Module  
**Order K487-25**



**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**



**Input Cable**  
(For SG Control Module)  
For Lincoln Electric engine power sources with 14-pin MS-type connection, separate 115V NEMA receptacles and output stud connections.  
**Order K691-10**



**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 engine-driven welder with the K1816-1 Full-KVA Adapter Kit (required). Add the K2532-1 Magnum™ 100SG Spool Gun for aluminum MIG welding.  
**Order K2473-2**



**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.  
**Order K126-12**



**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 K3269-1**



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



**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**



### 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 SPECIFICATIONS

Product Name	Product Number	Rated Output Current/Voltage/ Duty Cycle	Output Range	Engine	Number of Cylinders	HP @ Speed (rpm)	H x W x D in (mm)	Net Weight lb (kg)
Ranger 305 LPG	K2937-1	300A DC CC/25V/100% 300A DC CV/25V/100%	20-300A DC 40-300A Pipe 20-250A DC TIG 14-29V CV 10,000 watts peak 9,000 watts continuous	Kohler OHV Command* CH730 LP	2	25 @ 3600	29.9 x 21.5 x 42.3 (759 x 546 x 1074)  To top of exhaust tube: 36.2 (920)	480 (218)
Ranger 305 LPG One-Pak	K3430-1						-	-

For best welding results with Lincoln Electric equipment, always use Lincoln Electric consumables. Visit [www.lincolnelectric.com](http://www.lincolnelectric.com) for more details.

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 methods and service requirements.

Subject to Change – This information is accurate to the best of our knowledge at the time of printing. Please refer to [www.lincolnelectric.com](http://www.lincolnelectric.com) for any updated information.



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