

# Ranger® 305 G

## Processes

Stick, TIG, MIG, Flux-Cored, Gouging

## Product Number

K1726-5

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

2

## HP @ Speed (RPM)

23 HP @ 3600 RPM

## 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 multi-process 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

### ▶ Multi-Process Welding

- Excellent DC multi-process welding for general purpose stick, downhill pipe (stick), TIG, cored-wire, MIG (CO<sub>2</sub> 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.

### ▶ 10,500 Watts Peak Single-Phase AC Generator Power

- 10,500 watts peak for motor starting.
- 9,500 watts continuous for high capacity needs such as a back-up generator, powering a Lincoln Electric Inverter® 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.

## 300 Amp DC Gasoline Engine Driven Welder/Generator

### APPLICATIONS

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



### FEATURES CONT'D.

#### ▶ 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).

#### ▶ 23 HP Kohler® Gasoline Engine - Plenty of Engine Horsepower

- Electric fuel pump is standard. For all locations including high altitude operation.

### INPUT



### OUTPUT



Powered By:

**KOHLER®**



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




THE LINCOLN ELECTRIC COMPANY


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**LINCOLN®**  
**ELECTRIC**  
THE WELDING EXPERTS®

**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**

- 10,500 watts peak AC generator power. Use for motor starting.
- 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.

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

**FEATURES**

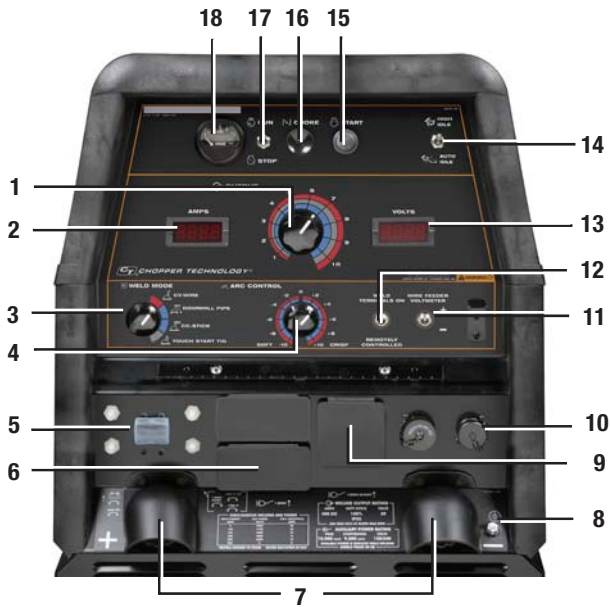
- Simple Controls – Keep training time to a minimum with the straightforward control panel of the Lincoln Electric Ranger® 305 G. The flip-down control panel door keeps less frequently used controls out of the way.
- Single, full-range output control dial. No confusion with taps and controls!
- 4 welding 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 **NEW!** 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 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® OHV 23 HP Command® engine.
- 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.
- NEW!** 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.

## 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. Pushbutton Start Switch
16. Engine Choke Control
17. Run/Stop Switch
18. 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 550 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 <sup>(2)(3)</sup>	H x W x L inches (mm)	Weight lbs/(kg)
Ranger® 305 G (Kohler®)	K1726-5 With Electric Fuel Pump	300 Amp DC Multi-Process Arc Welder with Lincoln Electric  Chopper Technology®  10,500 Watts Peak  9,500 Watts Continuous AC Power	<b>DC Constant Current</b> 305A/29V/100% 20-305A  <b>DC Pipe Current</b> 300A/29V/100% 40-300A  <b>Touch Start TIG®</b> 250A/30V/100% 20-250 A  All Models Single Dial Continuous Control 60V DC Max 0 CV @ 3700 RPM	<b>DC Constant Voltage <sup>(1)</sup></b> 300A/29V/100%  14-29 V Single-Dial Continuous Control  Wire Feeder Power 42V, 60 Hz, 15 Amps 120V, 60 Hz, 20 Amps	10,500 Watts Peak 9,500 Watts Continuous 60 Hz Single Phase  Full KVA Receptacle 40A@ 240V 40A@ 120V ea. Branch Circuit <sup>(4)</sup>  Four 120V Receptacles 20A per Duplex 40A Total <sup>(4)</sup>	29.9 x 21.5 x 42.3 (759 x 546 x 1073)  To top of exhaust tube: 36.2 (920)	510 (231)

- <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)</sup> Command® CH23S Gasoline	2 Cylinder, 4 Cycle, OHV, Air-Cooled Gasoline Engine Aluminum Alloy Block with Cast Iron Liners Electric Fuel Pump	23 HP @ 3600 RPM  41 cu in (674 cc)	Electric Start, 12V Group 58 Battery, 550 Cold Cranking Amps, Pushbutton Start Switch, Charging Indicator	FUEL: 12 Gals (45 Ltrs)  OIL: 2.0 Qts (1.9 Ltrs)	<b>FULL LOAD</b> 3,500 RPM (300A)	1.5 Gals/Hr 5.8 Ltr/Hr.
					<b>HIGH IDLE</b> 3,700 RPM	0.8 Gals/Hr 3.2 Ltr/Hr
					<b>LOW IDLE</b> 2,400 RPM	0.5 Gals/Hr 1.9 Ltr/Hr

<sup>(5)</sup> 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**



Ranger® 305 G



K704 Accessory Kit



K2614-9 LN-25 Ironworker™ Wire Feeder



K126-12 Gun and Cable



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



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 engine-driven welders.

Order **K1816-1**



**GFCI Receptacle Kit**

Includes one UL approved 120V ground fault circuit interrupter duplex type receptacle and 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 GFCI duplex is limited to 20 amps. Two kits required for all 120V receptacles on the Ranger® 305 G.

Order **K1690-1**



**Spark Arrestor 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**



**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**



**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**



**Small Two Wheel Welder Trailer**

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).

**Order:**

- K2635-1** Trailer
- K2639-1** Fender & Light Kit
- K2640-1** Cable Rack



**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 & 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 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. (30.5 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 Ampctrl™**

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 Ampctrl™**

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 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 ampctrl, gas regulator and hose. Requires the K1816-1 Full KVA adapter kit.

Order **K1478-5**

## RECOMMENDED ACCESSORIES

### TIG OPTIONS, CONT'D.



#### Inverter® 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**

### 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 .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.  
**Order K126-12**



#### 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**



#### 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 K2473-1**

### 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**



### 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 Model	Number of Cylinders	HP @ Speed (rpm)	H x W x D inches (mm)	Net Weight lbs. (kg)
Ranger® 305 G	K1726-5	305A DC CC/29V/100% 300A DC CV/29V/100%	20-305A DC 40-300A Pipe 20-250A DC TIG 14-29V CV 10,500 watts peak 9,500 watts continuous	Kohler® OHV Command® CH23S Gasoline Electric Fuel Pump	2	23 @ 3600	29.9 x 21.5 x 42.3 (759 x 546 x 1073)	510 (231)
Ranger® 305 G One-Pak®	K2353-2						-	-

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

### 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.

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**LINCOLN**  
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 THE WELDING EXPERTS®