

Precision TIG™ 185

The Power To Perform!

You work hard. You deserve the best tools. Consider the Precision TIG 185 for general fabrication, automotive/motorsports, vocational schools or the serious hobbyist. Professional features like patented Micro-Start™ Technology ensure a soft start throughout the amperage range. Patented Auto-Balance™ takes the guesswork out of optimizing cleaning action versus penetration. Standard Pulse control makes it easy to gain even greater heat control on thin materials.

Compare the built-in torch parts storage compartment or torch cable/helmet hanger. And, get the optional cart and add a sizable storage bin for your remote and cables, twin filler rod tube stands and a low-lift gas bottle platform.



Shown:
K2347-2 Ready-Pak™ With Cart Pkg.

Processes

Stick TIG

Advantage Lincoln

The Best Weld Performance:

- 5-185 amps is the widest welding range in its class.
- Patented Micro-Start™ Technology delivers extremely stable low amperage starting and welding.
- Auto-Balance mode with manual adjustment provides the simplicity and flexibility to make great looking aluminum welds.
- FREE! Built-in TIG pulser helps you make great welds.
- Great Stick Welder — Including Fleetweld® 5P (E6010).

Simple Controls & Ease of Use:

- Digital Meters, and simple, well-spaced controls.
- FREE! GTAW (TIG) Handbook and TIG Slide Rule.
- Ready-Pak™ Models include a Pro-Torch PTA-17 air-cooled 150 amp torch with new Ultra-Flex™ cable.

More Convenience and Value Features:

- Standard torch parts storage compartment and cable hanger keeps you organized.
- Add an optional understorage cart for extra storage and portability.

Superb Quality:

- Fan-As-Needed™ (F.A.N.) prevents thermal cycling.
- CSA C/US certified.
- Lincoln Three Year Warranty on parts and labor.

Description

Output   Input   

Base Unit Includes

Torch Parts Storage Compartment, Torch Hanger, 10 ft. (3.0m) Work Cable and Clamp, Removable Lift Eye, Input Power Cord (208/230V models include plug), TIG Slide Rule, GTAW (TIG) Handbook

Recommended General Options

Understorage Cart

Recommended Stick Options

Stick Electrode Holder & Cable

Recommended TIG Options

TIG-Mate 17 Air-Cooled TIG Torch Starter Pack, TIG-Mate™ 20 Water-Cooled TIG Torch Starter Pack, Magnum Parts Kit for PTA-17 TIG Torch, Foot Amptrol, Hand Amptrol, Arc Start Switch, Cool-Arc 40 Water Cooler

Order

K2345-1 Precision TIG™ 185 208/230/1/60
 K2345-2 Precision TIG™ 185 460/575/1/60
 K2346-1 Precision TIG™ 185 380/400-415/1/50/60
 K2347-1 Ready-Pak™ Package 208/230/1/60
 K2347-2 Ready-Pak™ With Cart Package 208/230/1/60

TECHNICAL SPECIFICATIONS

| Product Name | Product Number | Input Power | Rated Output Current/Voltage/Duty Cycle | Input Current @ Rated Output | Output Range | Dimensions H x W x D inches (mm) | Net Weight lbs.(kg) |
|--------------------------|----------------|---------------------|---|------------------------------|---|---|---------------------|
| Precision TIG 185 | K2345-1 | 208/230/1/60 | 185/27/15% 90/24/100% | 70/64A | 5-185 Amps DC 7-185 Amps AC Max. OCV: 75V | 20.7 x 14.0 x 25.6 (526 x 356 x 650) | 192 (87) |
| | K2345-2 | 460/575/1/60 | | 32/26A | | | |
| | K2346-1 | 380/400-415/1/50/60 | | 39/37A | | | |
| Ready-Pak Pkg. | K2347-1 | 208/230/1/60 | | 70/64A | | 20.7 x 14.5 x 25.6 (526 x 368 x 650) | 212 (96) |
| Ready-Pak With Cart Pkg. | K2347-2 | | | | | | |

PERFORMANCE

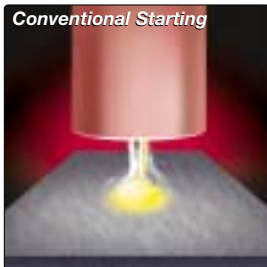
Micro-Start™ Technology 

What Is It?

Micro-Start™ Technology is a patented circuit that produces an extremely smooth, stable arc at low amperage.



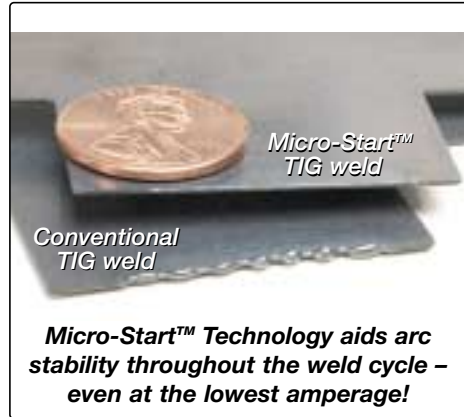
Micro-Start™ Technology delivers a focused and stable arc at low amperage.



Conventional starting relies heavily on intense high frequency and hot starting.

Results:

- Minimizes excessive hot starts normally required to establish the arc.
- Reduces intense high frequency wandering and tungsten frosting during starting.
- Allows you to weld with greater stability at low amperage.



Micro-Start™ Technology aids arc stability throughout the weld cycle – even at the lowest amperage!

Great For:

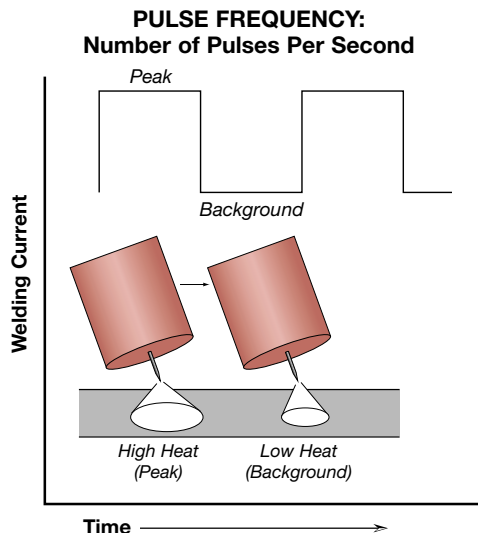
- Welding consistently and smoothly on thin materials, the Precision TIG 185 welds down to 5 amps!
- Reducing the risk of melting away material on critical welds.

More welding control makes welding easier!

FREE! Built-In Pulsar!

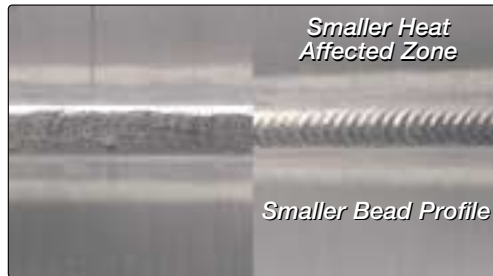
What Is It?

Pulse welding systems vary weld current between peak (high heat) and background current (low heat) levels. Pulse welding reduces the heat input, or total thermal energy, applied to the weld without sacrificing the proper level of penetration. Adjusting the pulse frequency controls the level of heat input applied to the weld relative to the weld travel speed.



Results:

- Better control of heat input in the weld, resulting in:
- Reduced warping and burnthrough on thin materials.
 - Smaller heat-affected zone.
 - Smaller bead profile without compromising proper penetration.



Standard TIG Weld (at 60 amps)

Pulsed TIG Weld (at 60 amps)

Great For:

- Thin materials – Faster pulse settings help to narrow the bead profile and minimize the heat-affected zone and resulting warping or burnthrough.
- Consistent appearance – Slower pulse settings aid in timing the application of filler metal to produce the consistent stacked bead appearance associated with high quality TIG welding.
- Helps train novice welders to maintain a steady welding rhythm.

Make attractive and consistent welds!

PERFORMANCE, CON'T.

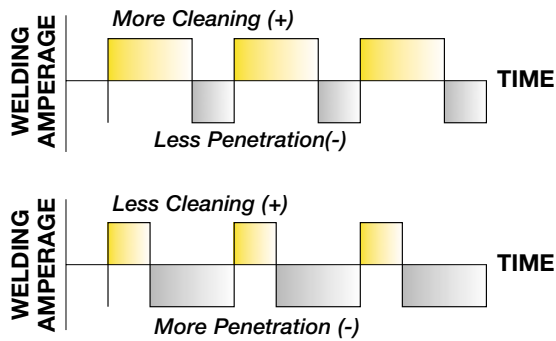
AC Auto-Balance™ Controls

What Is It?

When aluminum welding, the positive (+) portion of the AC welding amperage cleans the oxides from the aluminum surface. The negative (-) portion delivers more heat input, increasing penetration level.

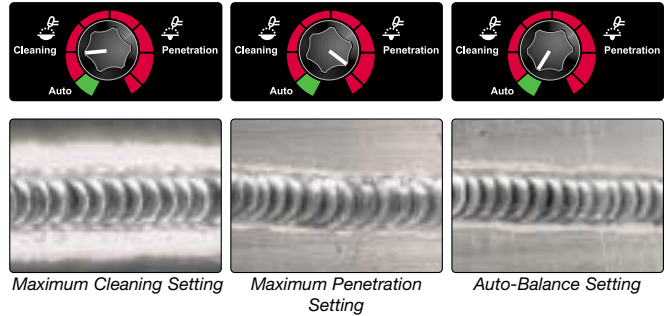
Patented AC Auto-Balance automatically sets the ratio of cleaning action (+) versus penetration (-) based on amperage.

Manual balance control provides the flexibility to customize the arc to your preference.



Results:

The AC Auto-Balance setting automatically adjusts the optimal ratio of cleaning action (+) versus penetration (-) for most AC welding applications.



Great For:

- Novice welders – set it and forget it for most AC welding applications.
- Expert welders – use either the AC Auto-Balance auto setting or manually set the cleaning and penetration levels.

Achieve great-looking aluminum welds with minimal fuss!



AC Auto-Balance is especially useful on critical aluminum applications.

FEATURES

Don't miss these great convenience features!



*Torch Parts Storage
Compartment*



*Torch / Cable / Helmet
Holder*



*Hidden Pull Handle for
Mobility on
Undercarriage*



*Pro-Torch™ with
Ultra-Flex™ Cable
(Ready-Pak™ models)*



FREE!
*GTAW (TIG) Guidebook
and Procedure Slide
Rule*



*Input Power Cord with
Integral Power Plug
(208/230V models)
Ready-Pak models
include NEMA 6-50R
receptacle*



*Shown:
K2347-2 Ready-Pak™ With Cart Package*

Optional Understorage Cart adds these great features:
(standard with K2347-2 Ready-Pak™ With Cart Package)



Personal Storage Drawer



Filler Rod Holders



*Low Lift Shielding
Gas Bottle Platform*

A CLOSER LOOK

FEATURES, CON'T.

- Large, well-spaced controls make it easy to view and set up with gloved hands.

Key Controls

- 1) AC Balance Control with Auto Setting
- 2) Mode Switch
- 3) Digital Amp Meter (Preset/Actual)
- 4) Thermal Shutdown Light (Back Lit)
- 5) Output Preset Control
- 6) Post Flow Time
- 7) Pulse Frequency Control
- 8) Power Switch
- 9) Polarity Switch
- 10) Remote Receptacle
- 11) Attached Work Cable
- 12) Twist-Mate Output Connector for TIG Torch or Electrode Cable for Stick Welding



QUALITY AND RELIABILITY

- Fan-As-Needed™ (F.A.N.) minimizes repeated heating and cooling of internal components, keeps dust and dirt build-up to a minimum and saves on electricity costs.
- Engineered cooling air routing brings clean air in from the top and exhausts at the bottom to draw and collect less dirt in the machine (see photo at right), unlike competitive systems with a vacuum cleaner-like floor intake.
- Compare these reliability enhancing design features:
 - Crimped and soldered power connections.
 - Electrical coils are wound and varnished without coil spacers to remain secure. Competitive models use wooden coil spacers which can loosen over time.
 - Locking tabs on PC board connectors eliminate loosening that can cause electrical failure.
- Tough testing cycles ensure long service – dropping, jerking, rolling, shipping, vibration, resistance to real world extreme conditions, and extended in-service life testing.
- Line Voltage Compensation holds output setting constant to maintain weld quality even when the input voltage fluctuates $\pm 10\%$.
- CSA C/US certified.
- Lincoln Three Year Warranty on parts and labor



SYSTEM SELECTION

Ready-Pak™ Packages

Take the hassle out of ordering. Order a Ready-Pak pre-assembled welding package.

Precision TIG 185 Ready-Pak™ Package Includes:

- Precision TIG 185 (208/230/1/60)
- Torch Parts Storage Compartment
- Torch Hanger
- 10 ft. (3.0m) Work Cable & Clamp
- Removable Lift Eye
- 9 ft. (2.7m) Input Power Cord with NEMA 6-50P Plug
- NEMA 6-50R Receptacle
- TIG Slide Rule
- GTAW (TIG) Handbook
- PTA-17 One-Piece TIG Torch
 - 12 ft. (3.6m) Ultra-Flex Cable
 - Twist-Mate Adapter
 - 3/32" 2% Thoriated Tungsten
 - Collet & Collet Body
 - 7/16" Aluminum Nozzle
 - Long Back Cap
- Gas Regulator with Hose
- Foot Amptrol™ (K870)

Order K2347-1



Shown:
K2347-2 Ready-Pak™ With Cart Package

Precision TIG 185 Ready-Pak™ With Cart Package Includes:

- Same features as K2347-1 above and also includes Understorage Cart.

Order K2347-2

Build Your Own Package

Do you need to customize your own package to fit your performance needs or budget? Here's everything you need to pick and choose the accessories you want.

| 1 Select Precision TIG 185 Machine | 2 Optional Understorage Cart | 3 Select Remote Control Device | 4 Select TIG Torch Starter Pack | 5 Select Water Cooler |
|---|--|---|---|--|
| K2345-1 208/230/1/60 K2345-2 460/575/1/60 K2346-1 380/400-415/1/50/60 | K2348-1 | K870 Foot Amptrol K963-1 Hand Amptrol K814 Arc Start Switch | Air-Cooled Water-Cooled | K2266-1 TIG-Mate 17 K2267-1 TIG-Mate 20 K1813-1 Cool Arc 40 115V 50/60Hz K2187-1 Cool Arc 40 230V 50/60Hz |

GENERAL OPTIONS



Understorage Cart
Adds easy shop mobility and provides shielding gas bottle platform, handy storage drawer and two filler rod holders.
Order K2348-1

STICK OPTIONS



Stick Electrode Holder & Cable
Includes Twist-Mate connector. 12.5 ft. (3.8m) cable length.
Order K2374-1

TIG OPTIONS



TIG-Mate™ 17 Air-Cooled TIG Torch Starter Pack
Get everything you need for TIG welding in one complete easy-to-order kit packaged in its own portable carrying case. Includes: PTA-17 torch, parts kit, Harris flowmeter/regulator, 10 ft. (3.0m) gas hose, Twist-mate™ adapter, and work clamp and cable.
Order K2266-1



TIG-Mate™ 20 Water-Cooled TIG Torch Starter Pack
Get everything you need for TIG welding in one complete easy-to-order kit packaged in its own portable carrying case. Includes: PTW-20 torch, parts kit, Harris flowmeter/regulator, 10 ft. (3.0m) gas hose, Twist-Mate™ adapter, work clamp and cable and 10 ft. (3.0m) water hose.
Order K2267-1



Magnum Pro-Torch™ TIG Torches
A full line of air-cooled and water-cooled torches and Twist-Mate adapters are available.
Request publication E12.150.



Magnum Parts Kit for PTA-17 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 sack.
Order KP508



Foot Amptrol™
Varies current for making critical TIG welds. 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. (7.6m) control cable.
Order K870



Hand Amptrol
May be used in place of the Foot Amptrol. Fastens to the torch for convenient thumb control. Comes with a 25 ft. (7.6m) cable. Fully extend the knob forward to achieve maximum set current. Retract the knob to reduce the current. Returning to the start position finishes the weld and starts the afterflow cycle.
Order K963-1 (for smaller handle 9, 17 or 20 series torches)
Order K963-2 (for larger handle 26 or 18 series torches)



Arc Start Switch
Needed if an Amptrol is not used when TIG welding. Comes with a 25 ft. (7.6m) cable. Attaches to the TIG torch for convenient finger control.
Order K814



Cool-Arc™ 40 Water Cooler
Energy efficient long life cooler for water-cooled welding applications.
Order K1813-1 for 115V.
Order K2187-1 for 230V.

PRECISION TIG™ 185 ORDER FORM

| PRODUCT DESCRIPTION | ORDER NUMBER | QUANTITY | PRICE |
|--|-------------------------|----------|-------|
| Precision TIG™ 185 (208/230/1/60) | K2345-1 | | |
| Precision TIG™ 185 (460/575/1/60) | K2345-2 | | |
| Precision TIG™ 185 (380/400-415/1/50/60) | K2346-1 | | |
| Ready-Pak™ Packages | | | |
| Precision TIG™ 185 (208/230/1/60) | K2347-1 | | |
| Precision TIG™ 185 With Cart (208/230/1/60) | K2347-2 | | |
| Recommended General Options | | | |
| Understorage Cart | K2348-1 | | |
| Recommended Stick Options | | | |
| Stick Electrode Holder & Cable | K2374-1 | | |
| Recommended TIG Options | | | |
| TIG-Mate™ 17 Air-Cooled TIG Torch Starter Pack | K2266-1 | | |
| TIG-Mate™ 20 Water-Cooled TIG Torch Starter Pack | K2267-1 | | |
| Magnum Pro-Torch TIG Torches | see publication E12.150 | | |
| Magnum Parts Kit for PTA-17 TIG Torch | KP508 | | |
| Foot Amptrol™ | K870 | | |
| Hand Amptrol: | | | |
| for smaller handle 9, 17, or 20 series | K963-1 | | |
| for larger handle 26 or 18 series | K963-2 | | |
| Arc Start Switch | K814 | | |
| Cool-Arc™ 40 Water Cooler: | | | |
| for 115V | K1813-1 | | |
| for 230V | K2187-1 | | |
| | | | |
| | TOTAL: | | |

www.tig185.com

Learn more about purchasing, owning and operating the Precision TIG 185 at www.tig185.com

- Virtual Product Tour
- Product Set-Up
- Welding Procedures
- Troubleshooting
- Service
- Contact Information
- Community
- Feedback

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 advice or information about their use of our products. We respond to our customers based on the best information in our possession at that time. Lincoln Electric is not in a position to warrant or guarantee such advice, and assumes no liability, with respect to such information or advice. We expressly disclaim any warranty of any kind, including any warranty of fitness for any customer's particular purpose, with respect to such information or advice. As a matter of practical consideration, we also cannot assume any responsibility for updating or correcting any such information or advice once it has been given, nor does the provision of information or advice create, expand or alter any warranty with respect to the sale of our products.

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 for any updated information.



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