

Precision TIG® 225

NEW!

The Power To Perform!™

The Precision TIG® 225 gives you the “Power to Perform”, for general fabrication, automotive/motorsports, vocational schools or serious hobby work. Micro-Start™ II Technology delivers precision arc performance to improve arc starting, welding and weld cratering. Features like patented Auto-Balance™ and a built-in simple pulse control make the Precision TIG® 225 easy to use. Professional features like the most auxiliary power, the widest output range in its class and more storage space make the Precision TIG® 225 the best value.

Processes
Stick, TIG



Output



Input



Shown:
K2535-2 Ready-Pak® With Cart Pkg.

Advantage Lincoln

Precision Arc Performance:

- **5-230 amps** is the widest welding range in its class. **NEW!**
- **Patented Micro-Start™ II** Technology delivers extremely stable low amperage starting, welding and cratering for AC and DC welding. **NEW!**
- **Excellent Stick Welder** — Even with Fleetweld® 5P (E6010).

Simple Controls – Easy to Use:

- **AC Auto-Balance™** automatically sets the optimal cleaning vs. penetration levels for great looking aluminum welds.
- **FREE! Built-in TIG pulser** helps control heat input in the weld.
- **Digital Meter**, and simple, well-spaced controls.
- **FREE! GTAW (TIG) Handbook** and TIG Procedure Guide.

Professional Features:

- **Standard NEMA 6-50 plug** on 9 ft. (2.7 m) input power cord with receptacle. (208/230 volt models only).
- **115 volt auxiliary power** receptacles with 20 amp service reliably powers water coolers or other tools. **NEW!**
- **Standard torch parts storage** compartment and cable hanger keeps you organized.
- **Ready-Pak® models** include a Pro-Torch PTA-17 air-cooled 150 amp torch with new 12.5 ft. (3.8 m) Ultra-Flex™ cable.
- **Add an optional understorage cart** for extra storage and portability.

Superb Quality:

- **Fan-As-Needed™ (F.A.N.)** prevents overheating. F.A.N. reduces power consumption noise, motor wear and dust in the machine.
- **CSA C/US** certified.
- **Three-Year Lincoln Warranty** on parts and labor.

TECHNICAL SPECIFICATIONS

Product Name	Product Number	Input Power	Rated Output Current/Voltage/Duty Cycle	Input Current @ Rated Output ⁽¹⁾	Output Range	Dimensions H x W x D inches (mm)	Net Weight lbs.(kg)
Precision TIG® 225 Ready-Pak® Pkg.	K2535-1	208/230/1/60	90A/23.4V/100%	42/39A	5-230 Amps AC 5-230 Amps DC Max. OCV: 75V	20.7 x 14.5 x 25.6 (526 x 368 x 650)	212 (96)
Precision TIG® 225 Ready-Pak® w/Cart Pkg.	K2535-2					31.2 x 19.8 x 38 (794 x 503 x 966)	258 (117)
Precision TIG® 225 Base Model	K2533-1	208/230/1/60		42/39A		20.7 x 14.5 x 25.6 (526 x 368 x 650)	192 (87)
	K2533-2	460/575/1/60		18/15A			
	K2534-1	380/400-415/1/50/60	21/20A				

⁽¹⁾All inputs reported include 20 amp output on 115 volt auxiliary.



ARC PERFORMANCE

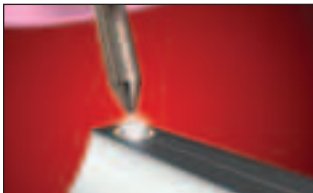
**Micro-Start™ II Technology —
More than just a starting aid.**

Better control for starting, arc stability and crater fill.

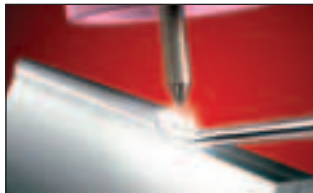


Great Starting Stable, Focused Arc Precise Crater Fill

Micro-Start™ II Technology minimizes high frequency and 'hot starts' to deliver soft arc starts without arc wandering for AC and DC welding.



Micro-Start™ II Technology aids arc stability THROUGHOUT THE WELD CYCLE – even at the lowest amperage!



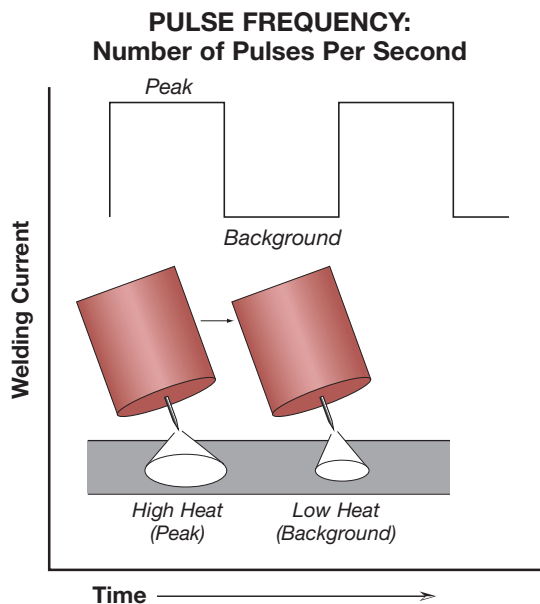
Micro-Start™ II Technology controlled ramp down helps precisely fill the weld crater for quality results.



**“Set It/See It” Pulse Control —
Make attractive and consistent welds!**

What Is It?

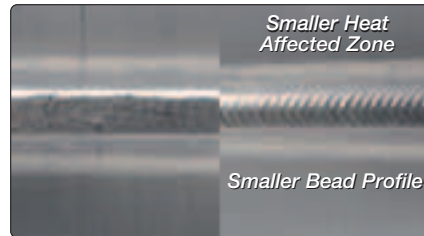
Pulse welding systems vary weld current between peak (high heat) and background current (low heat) levels. Adjusting the pulse frequency controls the level of heat input applied to the weld relative to the weld travel speed.



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.
- **Maintaining a steady welding rhythm.**

Easy Operation:

- Flashing indicator light lets you see the pulse rate before you strike an arc.



**AC Auto-Balance™ Controls —
Automatically sets the optimal cleaning vs. penetration
level for aluminum welding!**

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.

Easy Operation:

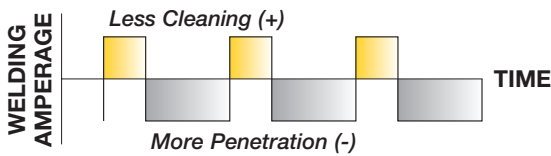
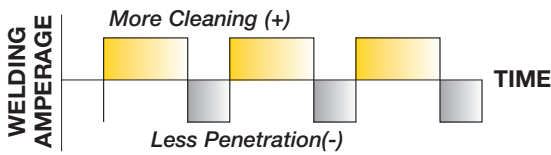
- Set it and forget it or override when you choose to customize the settings.



Maximum Cleaning Setting

Maximum Penetration Setting

Auto-Balance Setting



Check Under The Hood!



More Welding Power! 5-230 Amps!



**“In my shop, welding is everything.
I wouldn’t use anything else.”**

Shane Love, Joe Gibbs Racing
Motor Shop Fabricator and Head Welder
Home to 2005 NASCAR Nextel Cup Champion Tony Stewart

A CLOSER LOOK

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™ TIG Torch with Ultra-Flex™ Cable (Ready-Pak® models)



Input Power Cord with Integral Power Plug and Receptacle included (208/230V models)

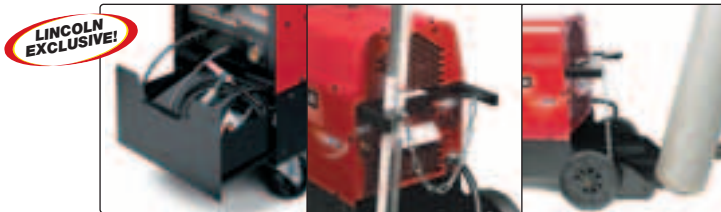


FREE!
GTAW (TIG) Procedure Guide and Handbook



Shown:
K2535-2 Ready-Pak® With Cart Package

Optional Understorage Cart adds these great features: (standard with K2535-2 Ready-Pak® With Cart Package)



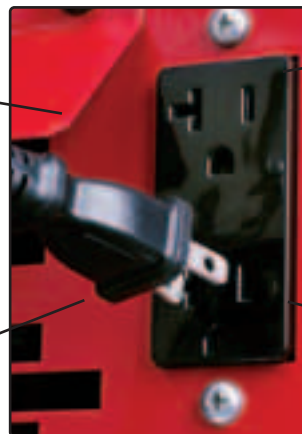
Personal Storage Drawer

Filler Rod Holders

Low Lift Shielding Gas Bottle Platform



Portable MIG Welder



Welding Fume Extraction



Water Cooler



Grinders

A CLOSER LOOK

FEATURES, CON'T.

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

Key Controls

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

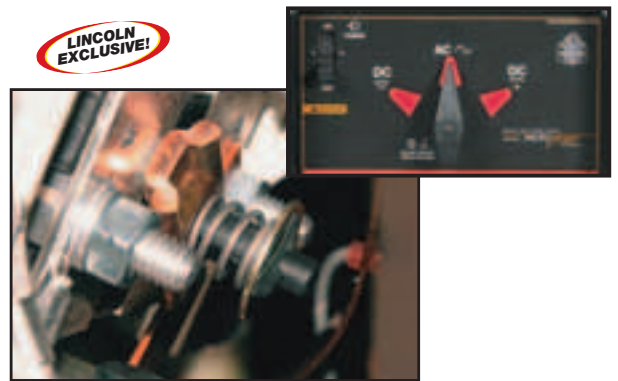


QUALITY AND RELIABILITY

- 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).
- Compare these reliability enhancing design features:
 - Crimped and soldered power connections.
 - Electrical coils are wound and double dip 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.
- Three-Year Lincoln Warranty on parts and labor.



Clean, cool air route shown.



Snap-action durable switches make positive mechanical contact to reduce chances of intermittent contact failure.

SYSTEM SELECTION

Precision TIG® 225 Base Model Includes:

- Precision TIG® 225 (208/230/1/60)
- Torch Parts Storage Compartment
- Torch Hanger
- 10 ft. (3.0 m) Work Cable & Clamp
- Removable Lift Eye
- 9 ft. (2.7 m) Input Power Cord with NEMA 6-50P Plug⁽¹⁾
- NEMA 6-50R Receptacle⁽¹⁾
- TIG Procedure Guide
- GTAW (TIG) Handbook

Order K2533-1 (208/230/1/60)

Order K2533-2 (460/575/1/60)

Order K2534-2 (380/400-415/1/50/60)

⁽¹⁾NEMA Plug and Receptacle is only on 208/230V models.



Ready-Pak® Packages

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

Precision TIG® 225 Ready-Pak® Package

Includes everything in Base Model (208/230/1/60 only), plus:

- PTA-17 One-Piece TIG Torch
 - 12 ft. (3.6 m) Ultra-Flex Cable
 - Twist-Mate™ Adapter
 - 3/32" 2% Thoriated Tungsten
 - Collet & Collet Body
 - 7/16" Alumina Nozzle
 - Long Back Cap
- Gas Regulator with Hose
- Foot Amptrol® (K870)

Order K2535-1



Precision TIG® 225 Ready-Pak® with Cart Package

Includes everything in Ready-Pak® Package, plus:

- Understorage Cart

Order K2535-2



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	2	3	4	5
Select Precision TIG® 225 Machine	Optional Understorage Cart	Select Remote Control Device	Select TIG Torch Starter Pack	Select Water Cooler
K2533-1 208/230/1/60 K2533-2 460/575/1/60 K2534-1 380/400-415/1/50/60	K2348-1	K870 Foot Amptrol K963-3 Hand Amptrol K814 Arc Start Switch	Air-Cooled Water-Cooled	N/A K1813-1 Cool Arc 40 115V 50/60Hz K2187-1 Cool Arc 40 230V 50/60Hz
			K2266-1 TIG-Mate 17 K2267-1 TIG-Mate 20	

RECOMMENDED OPTIONS



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



Medium Canvas Cover

Protect your machine when not in use. Made from attractive red canvas that is flame retardant, mildew resistant and water repellent. Fits any Power MIG (without spool gun attached) or Precision TIG 225 machine with under-carriage. **Order K2378-1**



STICK OPTIONS

Stick Electrode Holder & Cable

Includes Twist-Mate™ connector. 12.5 ft. (3.8 m) 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 Ultra-Flex™ 12.5 ft. (3.8 m) torch, parts kit, Harris flowmeter/regulator, 10 ft. (3.0 m) 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 12.5 ft. (3.8 m) torch, parts kit, Harris flowmeter/regulator, 10 ft. (3.0 m) gas hose, Twist-Mate™ adapter, work clamp and cable and 10 ft. (3.0 m) water hose. **Order K2267-1**



TIG-Mate™ 9 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-9 Ultra-Flex™ torch, gas lens parts kit, Harris flowmeter/regulator, Twist-Mate™ adapter, gas hose, work clamp and cable. **Order K2413-1**



Parts Kit for PTA-17 TIG Torch

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



Parts Kit for PTW-18 and PTA-26 Torches

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 box.

Order KP509



Ultra-Flex™ PTA-9F TIG Torch Package

Includes a PTA-9F flex head torch with a 12.5 ft. (3.8 m) 1 piece Ultra-Flex™ cable and K1622-1 Twist-Mate™ adapter. Also includes a 1/16" (1.6 mm) tungsten, gas lens collet body, collet and gas lens.

Order K1781-9



Ultra-Flex™ PTA-26 Torch Package

Includes a PTA-26 torch with a 12.5 ft. (3.8 m) 1 piece Ultra-Flex™ cable and K1622-3 Twist-Mate™ adapter. Also includes a 1/8" (3.2 mm) tungsten, collet body, collet and gas nozzle.

Order K1783-12



Gas Lens Kit for PTA-9 & PTW-20

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 box.

Order KP2414-1



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.



Foot Amptrol®

Provides 25 ft. (7.6 m) of remote output control for TIG welding. (6 pin plug connection).

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.)

RECOMMENDED OPTIONS

TIG OPTIONS, CON'T.



Arc Start Switch

Needed if an Amptrol® is not used when TIG welding. Comes with a 25 ft. (7.6 m) 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™ 225 ORDER FORM

PRODUCT DESCRIPTION	ORDER NUMBER	QUANTITY	PRICE
Ready-Pak® Packages			
Precision TIG® 225 (208/230/1/60)	K2535-1		
Precision TIG® 225 with Cart (208/230/1/60)	K2535-2		
Base Models			
Precision TIG® 225 Base Model (208/230/1/60)	K2533-1		
Precision TIG® 225 Base Model (460/575/1/60)	K2533-2		
Precision TIG® 225 Base Model (380/400-415/1/50/60)	K2534-1		
Recommended General Options			
Understorage Cart	K2348-1		
Medium Canvas Cover	K2378-1		
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		
TIG-Mate™ 9 Air-Cooled TIG Torch Starter Pack	K2413-1		
Magnum Parts Kit for PTA-17 TIG Torch	KP508		
Magnum Parts Kit for PTW-18 & PTA-26 TIG Torches	KP509		
Ultra-Flex PTA-9F TIG Torch Package	K1781-9		
Ultra-Flex PTA-26 TIG Torch Package	K1783-12		
Gas Lens Kit for PTA-9 & PTW-20	KP2414-1		
Magnum Pro-Torch TIG Torches	see publication E12.150		
Foot Amptrol®	K870		
Hand Amptrol®	K963-3		
Arc Start Switch	K814		
Cool-Arc™ 40 Water Cooler:			
for 115V	K1813-1		
for 230V	K2187-1		
TOTAL:			

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.

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THE LINCOLN ELECTRIC COMPANY®

22801 St. Clair Ave., Cleveland, OH 44117-1199 • 216.481.8100 • www.lincolnelectric.com