WIRE WIZARD
WELDING PRODUCTS

POWERBALL®

HIGH PERFORMANCE MIG WELDING GUNS

PROUDLY MADE

CE

Manual Air-cooled MIG Gun

Pistola MIG Manual Enfriada por Aire

Pistolet MIG Manuel Refroidi à l'Air

OPERATION MANUAL

For 300-400 Amp and 400-500 Amp Semi-automatic MIG Guns

ELCo Enterprises, Inc. • Jackson, Michigan USA • Service & Support: 517-782-8040
www.wire-wizard.com

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1.0 INTRODUCTION

Congratulations on your purchase of the PowerBall® High Performance MIG Welding Gun! Each PowerBall® Welding Gun is proudly manufactured and inspected at our facility in Jackson, Michigan. Please check box contents upon receipt for any damage that may have occurred during transit and to ensure all torch components are accounted for.

This guide is designed to assist the user whose primary responsibility is to operate and maintain the PowerBall® MIG welding gun. This manual provides specific information on installation, safety, basic operation, and maintenance. **Please read, understand and follow all safety precautions noted in this manual.**

For customer service and support, contact ELCo Enterprises at 517-782-8040 or toll free 1-866-584-7281. A digital version of this manual and additional product information is available on our website at **www.wire-wizard.com**

1.1 WARRANTY

LIMITED ONE (1) YEAR WARRANTY

ELCo Enterprises, Inc. (hereinafter “ELCo”) shall warrant this product to be free of defects in material and/or workmanship for a period of one (1) year from the date of shipment to the buyer. The warranty shall cover 100% of all parts and labor with the exception of misuse, abuse, neglect and typical consumables as determined by ELCo. Failure to follow proper installation and/or maintenance procedures specified in the operating instructions will void this warranty. ELCo will at its option, repair, replace or issue a credit for the value of the defective product within the warranty period.

Buyer accepts all responsibility for compliance with any/all Local, State and Federal Laws or Regulations including Regulations of Foreign Governments.

No equipment shall be returned to ELCo without a Return Authorization Number. Upon evaluation and validation of warranty, replacements or repairs will be sent to the Buyer. If a replacement is needed immediately, a purchase order is required to cover the cost of the product until the warranty is determined.

ELCo’s warranty is limited to replacing any goods that are proved to be defective and ELCo in no event shall have any liability for paying incidental or consequential damages including and without limitation, damages resulting in personal or bodily injury or death, or damages to, or loss of use of any property. Notwithstanding any of these terms and conditions, the warranties set forth shall apply in connection with any sales of goods, services or design by ELCo and are in lieu of all other warranties, express or implied, including warranties of merchantability and fitness for a particular purpose.

1.2 PRODUCT REGISTRATION

Please register this product online or by phone within 14 days after purchase

Register this product online by going to www.wire-wizard.com/register or scanning the QR code on the right, or you may call 517-782-8040 to register by phone. Registering this product will allow us to provide expedited service should there be any problems potentially covered by this warranty in the future.

Online Registration

Please record the following information for this product and retain for your records:

Model #:_____ Lot #:_____ Shipment Date:_____

2.0 SAFETY PRECAUTIONS

WARNING

Improper installation, use or maintenance of welding equipment may cause serious injury or death. All operators must read and understand all safety warnings and instructions before installing or using this welding gun. All operators must be trained in proper welding safety and operation procedures prior to operating this welding gun. **Please keep these instructions for future reference.**

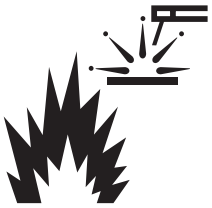
WARNING: ELECTRIC SHOCK HAZARD

Operators should always wear dry welding gloves and protective clothing when welding. Do not contact electrically live parts. Keep welding guns and other welding equipment away from moisture and water. Ensure ground connections are secure and compatible with the required electric current. When welding under wet conditions or where perspiration is a factor, the use of automatic controls for reducing the no load voltage is recommended to reduce the risk of electric shock. Accidental contact must be prevented with open circuit voltage exceeding 80 volts AC, or 100 volts DC by using insulation or other means. When welding gun is not in use, turn off power supply to prevent any accidental contact.

Welding equipment should be installed and maintained in accordance with National Electrical Code (NFPA 70) and in compliance with local codes. Equipment should only be serviced by qualified or trained personnel only. Do not disassemble torch or change welding consumables with the power supply on. See welding safety and operating references in section 2.1 for safety guidelines and additional information.

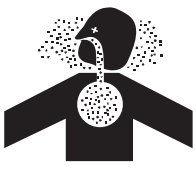
WARNING: ARC RAYS AND SPARKS CAN CAUSE EYE INJURY AND BURNS

Always wear a federally compliant welding helmet with the proper lens when welding, along with protective welding gloves and protective clothing. Protective clothing should cover all exposed skin to prevent burns and exposure to ultraviolet rays. An approved welding curtain or solid wall must be used in areas where other personnel may be exposed to arc rays. Other personnel in the work area exposed to arc rays and sparks must also wear a welding helmet and protective clothing to prevent eye injury and burns. Ear plugs should be worn to protect ears from sparks. Avoid using flammable hair preparations when welding. **Never attempt to weld without a welding helmet, protective gloves and clothing.** See welding safety and operating references in section 2.1 for safety guidelines and additional information.



WARNING: WELDING SPARKS CAN CAUSE FIRES AND EXPLOSIONS

All combustible materials should be removed from the work area (at least 35 ft / 10.7 m) to prevent fires and explosions. Do not wear clothing soaked with oils, gasoline or other flammable liquids while welding. Always keep a fire extinguisher near the work area and understand its operation. Do not weld containers that have contained flammable materials or liquids. Use only inert gases or inert gas mixes required for the welding process. Do not use oxygen with a welding torch. Arcing against compressed gas cylinders may cause damage to the cylinder or explosion. See welding safety and operating references in section 2.1 for safety guidelines and additional information.



WARNING: SMOKE AND FUMES CAN BE DANGEROUS TO YOUR HEALTH

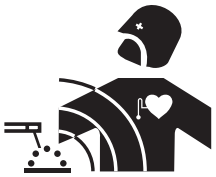
Ensure there is adequate ventilation to remove smoke and fumes from the work area to protect operators and other nearby personnel. Avoid using chlorinated solvents in the work area that can form Phosgene when exposed to UV arc radiation. An air supplied respirator must be worn where ventilation is not adequate to remove fumes and vapors. Do not use oxygen for ventilation in the work area. See welding safety and operating references in section 2.1 for safety guidelines and additional information.

2.0 SAFETY PRECAUTIONS

WARNING: NOISE FROM WELDING CAN DAMAGE HEARING

Improper installation, use or maintenance of welding equipment may cause serious injury or death. All operators must read and understand all safety warnings and instructions before installing or using this welding gun. All operators must be trained in proper welding safety and operation procedures prior to operating this welding gun. **Please keep these instructions for future reference.**

WARNING: ELECTRIC AND MAGNETIC FIELDS



The welding process generates Electric and Magnetic Fields (EMF). EMF fields may interfere with some pacemakers. Operators with a pacemaker should consult their physician prior to welding.

EMF fields may also damage some electronic devices, such as computers and mobile phones. Keep sensitive electronic devices away from work area to prevent damage.

WARNING: WELDING WIRE CAN CAUSE INJURY

Keep hand and other body parts away from end of welding gun in case of accidental activation of the trigger. Weld wire can puncture skin and cause injury. Never point the gun toward the body or or others when feeding wire.

2.1 WELDING SAFETY AND OPERATING REFERENCES

Refer to these safety standards and regulations for additional information on best practices for welding safety:

- ANSI Z49.1 “Safety in Welding and Cutting”.
- ANSI Z87.1 “Practice for Occupational and Educational Eye and Face Protection”.
- ANSI Z88.2. “Standard Practice for Respiratory Protection”. American National Standards Institute, 1430 Broadway, New York, NY 10018.
- Code of Federal Regulations (OSHA) Section 29, Part 1910.95, 132, 133, 134, 139, 251, 252, 253, 254 and 1000. U.S. Government Printing Office, Washington, DC 20402.
- AWS F4.1. “Recommended Safe Practices for Welding and Cutting Containers”.
- AWS C5.3. “Recommended Practices for Air Carbon-Arc Gouging and Cutting”. The American Welding Society, 550 NW Lejeune Rd., P.O. Box 351040, Miami, FL 33135.
- NFPA 51B. “Fire Prevention in Cutting and Welding Processes”.
- NFPA-7. “National Electrical Code”. National Fire Protection Association, Battery Park, Quincy, MA 02269.
- CSA W117.2. “Safety in Welding, Cutting and Allied Processes”. Canadian Standards Association, 178 Rexdale Blvd., Rexdale, Ontario, Canada M9W 1R3.

3.0 DUTY CYCLE SPECIFICATIONS

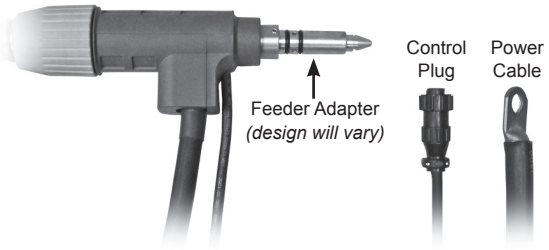
Duty cycle is defined as the percentage of 10 minutes the torch can weld at a rated load without overheating. The data below shows the duty cycle ratings for PowerBall® Air-Cooled MIG Guns with both pure CO2 and mixed gases. **PowerBall® 300-400 amp and 400-500 amp MIG Guns have been tested for reliable operation at 100% duty cycle for both pure CO2 and mixed gases.**

GUN MODEL AND MAX WIRE SIZE	DUTY CYCLE RATINGS
400-500 amp Air-Cooled MIG Gun Maximum wire size: 5/64” (2.0mm)	100% @ 400-500 amps with pure CO_2 shielding gas 100% @ 400-500 amps with 90/10 mixed Ar/CO_2 shielding gas 100% @ 400-500 amps with 75/25 mixed Ar/CO_2 shielding gas
300-400 amp Air-Cooled MIG Gun Maximum wire size: 5/64” (2.0mm)	100% @ 300-400 amps with pure CO_2 shielding gas 100% @ 300-400 amps with 90/10 mixed Ar/CO_2 shielding gas 100% @ 300-400 amps with 75/25 mixed Ar/CO_2 shielding gas

4.0 INSTALLATION

INSTALLATION TO WIRE FEEDER

1. Install torch liner through feeder adapter (see page 7).
2. Insert feeder adapter, adapter extension (if required), and control plug into wire feeder and secure tightly.
3. Attach power cable to power source and secure tightly.
4. Feed wire to the gun by hand and tighten feeder drive rolls.

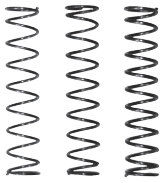


5.0 OPERATION

TRIGGER OPERATION

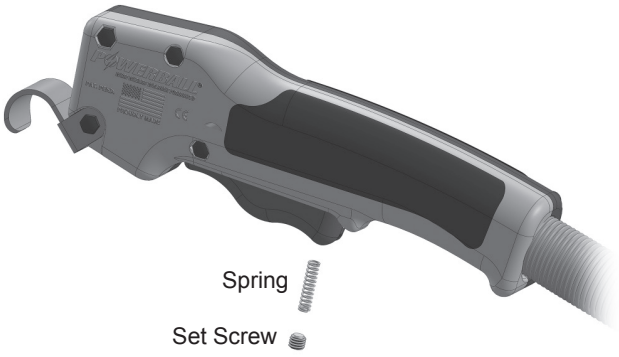
Pulling the gun trigger feeds energized wire and starts the flow of shielding gas. The trigger should only be pulled when ready to strike an arc, when initially feeding wire to the gun or when adjusting wire stick-out. Keep hands and other body parts away from the end of the gun when pulling the trigger to avoid injury from the welding wire.

5.1 TRIGGER PULL ADJUSTMENT

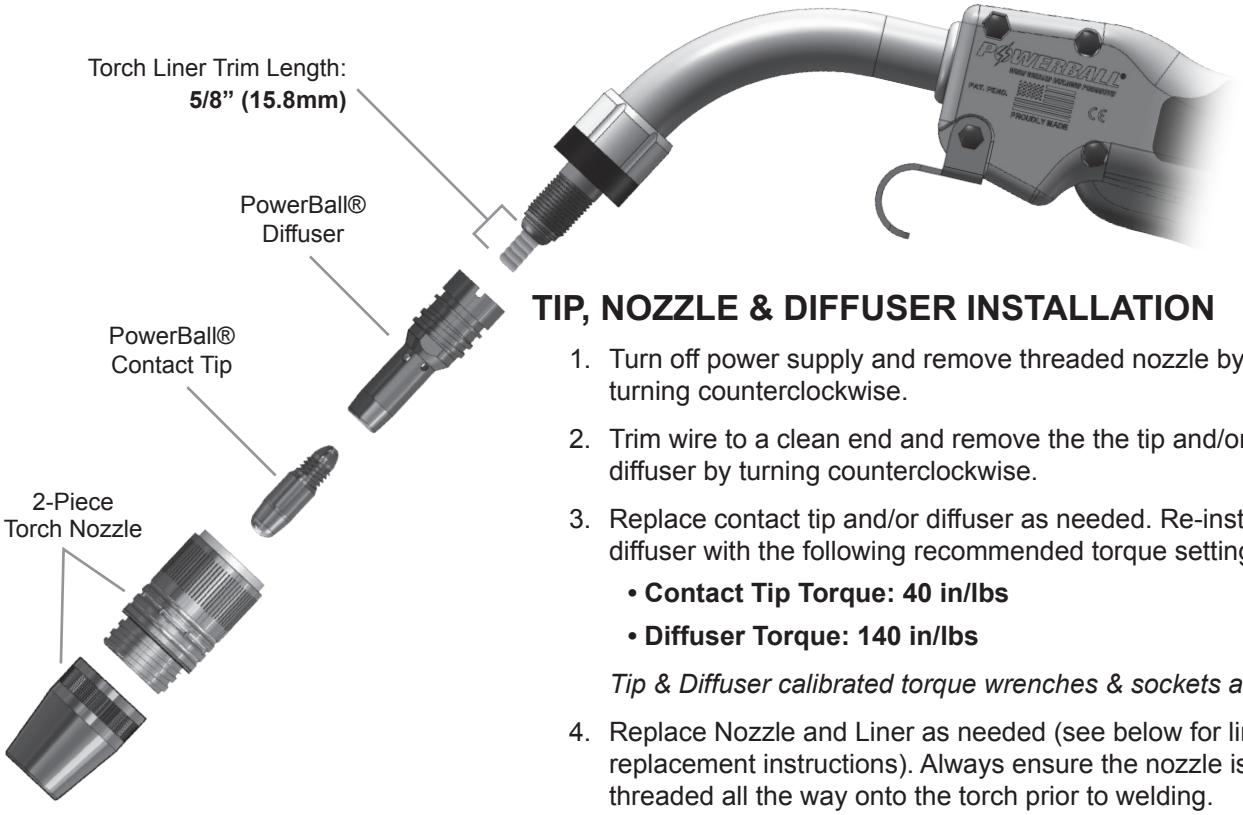


Light, Medium & Heavy Trigger Springs

PowerBall® MIG Guns feature an adjustable trigger pull with three tension springs for a light, medium or heavy trigger pull. All guns ship with the medium pull spring pre-installed. To change the trigger pull spring, use a 3mm Allen wrench to remove the set screw holding the spring in place. Replace with desired spring and secure back in place with the set screw.



6.0 CONSUMABLES INSTALLATION

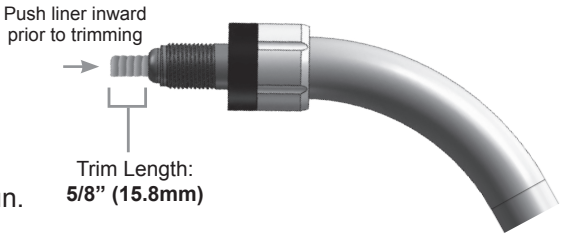


TIP, NOZZLE & DIFFUSER INSTALLATION

1. Turn off power supply and remove threaded nozzle by turning counterclockwise.
2. Trim wire to a clean end and remove the the tip and/or diffuser by turning counterclockwise.
3. Replace contact tip and/or diffuser as needed. Re-install tip and diffuser with the following recommended torque settings:
   - **Contact Tip Torque: 40 in/lbs**
   - **Diffuser Torque: 140 in/lbs**

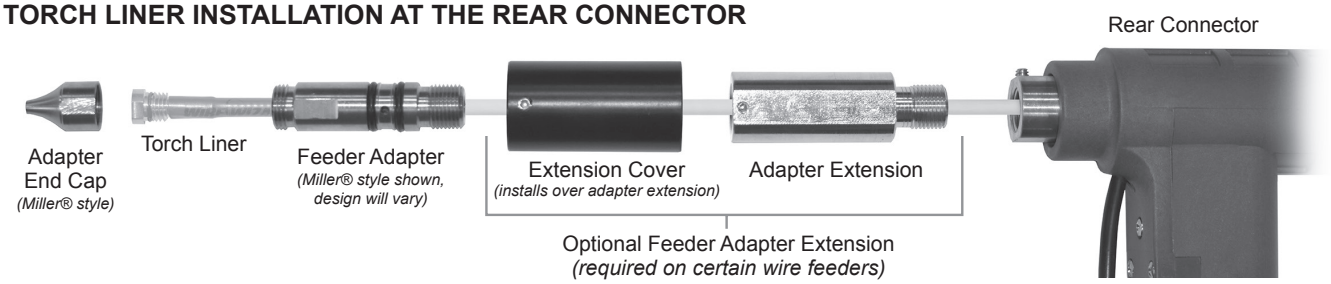
   Tip & Diffuser calibrated torque wrenches & sockets available.
4. Replace Nozzle and Liner as needed (see below for liner replacement instructions). Always ensure the nozzle is threaded all the way onto the torch prior to welding.

TORCH LINER INSTALLATION

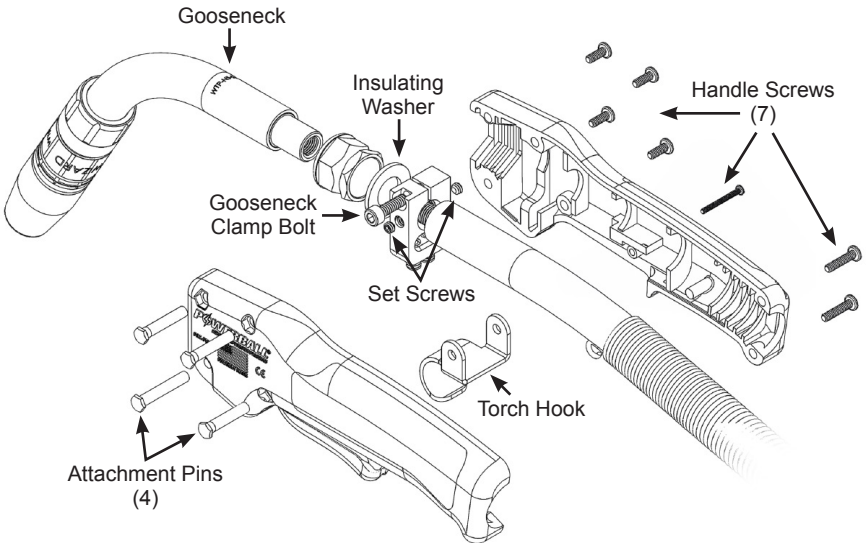


1. Turn off power supply and detach welding gun from feeder.
2. Loosen the liner collet at the back end of the gun.
3. Remove the nozzle, tip, diffuser and old torch liner.
4. Uncoil and insert the new liner up through the back of the gun. If it gets caught, rotate while pushing inward.
5. Insert the liner all the way through the gun and place the end into the liner connector. Tighten the liner collet onto the feeder adapter to secure in place.
6. Push inward on the liner and trim to a stick-out of approx. 5/8" (15.8mm). When properly trimmed, the liner should travel all the way into the diffuser. Smooth and deburr the end of the liner so there are no sharp edges. This will prevent wire hang-up and other feeding problems from occurring.
7. Re-install diffuser, contact tip and nozzle. Re-attach gun to wire feeder and feed wire back through the gun.

TORCH LINER INSTALLATION AT THE REAR CONNECTOR



6.1 GOOSENECK REPLACEMENT INSTRUCTIONS



TOOLS REQUIRED:

Phillips Screwdriver	5/32" Allen Wrench
Small Crescent Wrench	3/32" Allen Wrench

1. Ensure power supply is OFF. Remove the 7 handle screws from the right side of the handle. Pull the hook attachment pin to separate the two halves of the handle.
2. Loosen the gooseneck clamp bolt and the two set screws.
3. Remove gooseneck by turning counterclockwise. Keep the insulating washer at the base of the neck.
4. Slide the insulating washer onto the base of the new gooseneck. Install neck assembly by turning clockwise.
5. Secure the neck in place by tightening the clamp bolt and two set screws.
6. Re-assemble handle with the 7 screws and 4 attachment pins.

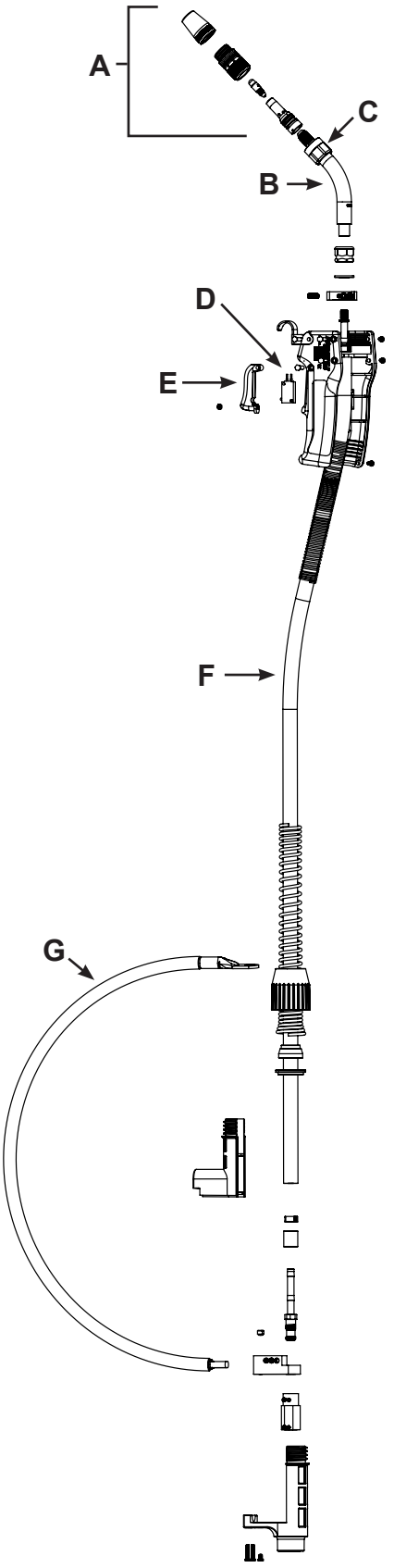
7.0 TROUBLESHOOTING

Problem	Potential Causes	Solutions
Wire will not feed or feeds erratically	• Poor connection to wire feeder • Feeder drive roll problem • Bad microswitch in trigger • Worn torch liner • Burn back in contact tip • Wrong size torch liner or tip	Inspect all cables connected to wire feeder and ensure they are secure and in good condition. Check drive rolls for proper size and tension. Inspect torch liner for wear and build-up, replace as needed. Replace contact tip if a burn back has occurred. If feeder is set up properly and wire path is clear, the microswitch on the gun trigger may need replacing.
Burn-back at contact tip	• Improper wire feed speed • Improper voltage for application • Poor wire feed • Improper wire stick-out • Bad ground	Check welding parameters and ensure feed speed and voltage are set properly for your welding application. Adjust wire stick-out if necessary. Inspect cables to ensure proper grounding. Ensure wire delivery path does not have excess friction.
Erratic arc	• Bad contact tip • Poor wire feed • Build-up in liner	Inspect contact tip for wear and replace as needed. Check liner and wire delivery path for any build-up or wear. Replace liner or conduit as needed.
Weld porosity	• Plugged or damaged diffuser • Poor gas flow • Bad nozzle/insulator	Inspect diffuser for damage or debris, replace as needed. Check gas supply and gas lines for proper gas flow. If nozzle is badly worn, replace as needed.
Excess spatter	• Improper welding/gas parameters • Tip not installed properly • Bad nozzle/insulator • Poor anti-spatter performance	Adjust welding parameters and gas mixture so it is optimized for your welding application. Check tip for proper installation and torque (see section 6.0). Replace nozzle as needed. Try a different anti-spatter - Blue Magic® Anti-Spatter from Wire Wizard® is recommended for best performance.

8.0 REPLACEMENT PARTS

Item	Description	Part Numbers
A	Consumables - tip, nozzle, liner and diffuser	*See section 9.0 on next page*
B	Gooseneck - includes insulator for nozzle and gun connection	45° Standard: WTP-NS-S45 Long: WTP-NS-L45 Extra Long: WTP-NS-XL45 60° Standard: WTP-NS-S60 Long: WTP-NS-L60 Extra Long: WTP-NS-XL60
C	Neck Insulator (also included on replacement goosenecks)	Neck Insulator: WTP-ELI-T
D	Trigger Microswitch Assembly	WTP-RSK
E	Trigger & Springs	Trigger - 300 A: WTP-ST-005 Trigger - 400 A: WTP-ST-006 Light Spring: C0180-016-0880-M Medium Spring: C0180-018-0880-M Heavy Spring: C0180-020-0880-M
F	Power Cable (replacing cable requires WTP-TRK repair kit)	300-400 A Guns: 300 TORCH CABLE 400-500 A Guns: 400 TORCH CABLE *Available in 8', 10', 12', 15', 20' & 25'. Add suffix on part number to specify length (-8 for 8', -10 for 10', etc.)
G	Power Jumper Cable	WTP-ST-CABLE
H	Field Repair Kit *(not shown)* Required for field repairs on the torch cable	WTP-TRK
I	Control Cable Parts *(not shown)*	Contact Pin: A100422CT-ND Connector Plug: A1357-ND Connector Backshell / Clamp: A32515-ND
J	Feeder Adapter *(not shown)* *Specify Feeder Model/ Series when Ordering*	Miller®: WTP-FA-M-3 Lincoln Electric®: WTP-FA-LN-7 Tweco® #4: WTP-FA-TW-4 Tweco® #5: WTP-FA-TW-5 OTC/Daihen®: WTP-FA-OT Panasonic®: WTP-FA-PA

Contact customer service if other replacement parts are required.



9.0 CONSUMABLES & TORCH ACCESSORIES

7MM POWERBALL® CONTACT TIPS			
Part #	**Wire Size**	**Wire Type**	**Qty/Pk**
WTP-035-PB-2-7MM	.035 (0.9mm)	Steel	10
WTP-035-PB-2-7MM-BULK	.035 (0.9mm)	Steel	500
WTP-040-PB-2-7MM	.040 (1.0mm)	Steel	10
WTP-040-PB-2-7MM-BULK	.040 (1.0mm)	Steel	500
WTP-045-PB-2-7MM	.045 (1.2mm)	Steel	10
WTP-045-PB-2-7MM-BULK	.045 (1.2mm)	Steel	500
WTP-052-PB-2-7MM	.052 (1.3mm)	Steel	10
WTP-052-PB-2-7MM-BULK	.052 (1.3mm)	Steel	500
WTP-062-PB-2-7MM	.062 (1.6mm)	Steel	10
WTP-062-PB-2-7MM-BULK	.062 (1.6mm)	Steel	500
WTP-3/64A-PB-2-7MM	3/64 (1.2mm)	Aluminum	10
WTP-3/64A-PB-2-7MM-BULK	3/64 (1.2mm)	Aluminum	500
9MM POWERBALL® CONTACT TIPS			
Part #	**Wire Size**	**Wire Type**	**Qty/Pk**
WTP-035-PB-2	.035 (0.9mm)	Steel	10
WTP-035-PB-2-BULK	.035 (0.9mm)	Steel	500
WTP-040-PB-2	.040 (1.0mm)	Steel	10
WTP-040-PB-2-BULK	.040 (1.0mm)	Steel	500
WTP-045-PB-2	.045 (1.2mm)	Steel	10
WTP-045-PB-2-BULK	.045 (1.2mm)	Steel	500
WTP-052-PB-2	.052 (1.3mm)	Steel	10
WTP-052-PB-2-BULK	.052 (1.3mm)	Steel	500
WTP-062-PB-2	.062 (1.6mm)	Steel	10
WTP-062-PB-2-BULK	.062 (1.6mm)	Steel	500
WTP-3/64A-PB-2	3/64 (1.2mm)	Aluminum	10
WTP-3/64A-PB-2-BULK	3/64 (1.2mm)	Aluminum	500

POWERBALL® DIFFUSERS			
Part #	**Nozzle Style**	**Tip Outer Dia.**	**Qty/Pk**
WTP-ELD-PB-1B-C-7MM	Thread-on	7mm	5
WTP-ELD-PB-1B-C	Thread-on	9mm	5
WTP-ELD-PB-2C-C	Slip-on	9mm	5

POWERBALL® TORCH LINERS		
Part #	**Wire Size Range**	**Length**
LINERS FOR STEEL WIRE		
WTP-ELL-3545-6	.035-.045 (0.9-1.2mm)	6 FT (1.8m)
WTP-ELL-3545-10	.035-.045 (0.9-1.2mm)	10 FT (3m)
WTP-ELL-3545-15	.035-.045 (0.9-1.2mm)	15 FT (4.6m)
WTP-ELL-3545-25	.035-.045 (0.9-1.2mm)	25 FT (7.6m)
WTP-ELL-45116-6	.045-1/16 (1.2-1.6mm)	6 FT (1.8m)
WTP-ELL-45116-10	.045-1/16 (1.2-1.6mm)	10 FT (3m)
WTP-ELL-45116-15	.045-1/16 (1.2-1.6mm)	15 FT (4.6m)
WTP-ELL-45116-25	.045-1/16 (1.2-1.6mm)	25 FT (7.6m)
WTP-ELL-564-6	5/64 (2mm)	6 FT (1.8m)
WTP-ELL-564-10	5/64 (2mm)	10 FT (3m)
WTP-ELL-564-15	5/64 (2mm)	15 FT (4.6m)
WTP-ELL-564-25	5/64 (2mm)	25 FT (7.6m)
WTP-ELL-332-6	3/32 (2.4mm)	6 FT (1.8m)
WTP-ELL-332-10	3/32 (2.4mm)	10 FT (3m)
WTP-ELL-332-15	3/32 (2.4mm)	15 FT (4.6m)
WTP-ELL-332-25	3/32 (2.4mm)	25 FT (7.6m)
POLYMER LINER FOR ALUMINUM/NON-FERROUS WIRE		
WTP-ELL-45116A-15	.045-1/16 (1.2-1.6mm)	15 FT (4.6m)

Tip & Diffuser Sockets and Calibrated Wrenches

The 9mm Quick-Grip Torch Tip socket (1/4") features an innovative design with grippers that easily installs and removes 9mm PowerBall® torch tips. The 15mm Diffuser Socket (3/8") is compatible with all Diffusers with 15mm wrench flats. Saves time and allows for an accurate torque setting for consistent contact. ***Consistent contact = consistent welds!***

WTP-TTW
Calibrated Tip Wrench
9mm tips only (40 in/lbs)

WTP-TS
Tip Socket

WTP-DTW
Calibrated Diffuser Wrench *(140 in/lbs)*

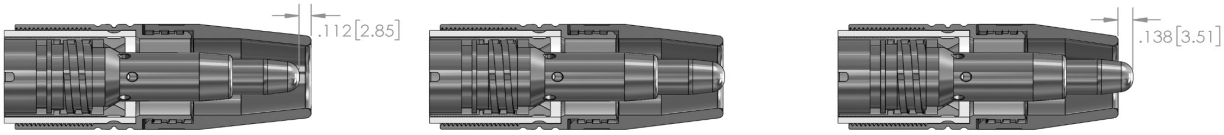
WTP-TS
Diffuser Socket

Blue Magic® Anti-spatter

Blue Magic® Anti-spatter from Wire Wizard® Welding Products is highly recommended for reduced spatter build-up and adhesion. Specially formulated for industrial use, this premium anti-spatter is trusted by top manufacturers around the globe! Available through your local welding product distributor.

9.0 CONSUMABLES & TORCH ACCESSORIES

NOZZLE TO TIP RELATIONSHIP



RECESSED TIP (TS**R**C & TH**R**C SUFFIX) | FLUSH TIP (TS**F**C & TH**F**C SUFFIX) | STICK-OUT TIP (TS**S**C & TH**S**C SUFFIX)

2-pc. Tapered Nozzle

2-pc. Bottle Nose Nozzle

Insulator for 2-piece Nozzles

Full Size Tapered Nozzle

Full Size Bottle Nose Nozzle

2-PIECE THREAD-ON NOZZLES *POWERBALL® INSULATOR REQUIRED*							
Part #	**Bore Diameter**	**Material**	**Geometry**	**Workload**	**Tip Relationship**	**Tip Compatibility**	**Qty/Pk**
WTP-ELN-2-50B-THRC	1/2" (12.7mm)	Copper	Bottle Nose	Heavy Duty	Recessed	7mm or 9mm*	10
WTP-ELN-2-50B-THFC	1/2" (12.7mm)	Copper	Bottle Nose	Heavy Duty	Flush	7mm or 9mm*	10
WTP-ELN-2-50B-THSC	1/2" (12.7mm)	Copper	Bottle Nose	Heavy Duty	Stick-out	7mm or 9mm*	10
WTP-ELN-2-15T-THRC	15mm (0.6in)	Copper	Tapered	Heavy Duty	Recessed	7mm or 9mm	10
WTP-ELN-2-15T-THSC	15mm (0.6in)	Copper	Tapered	Heavy Duty	Stick-out	7mm or 9mm	10
WTP-ELN-2-62B-THRC	5/8" (15.9mm)	Copper	Bottle Nose	Heavy Duty	Recessed	7mm or 9mm	10
WTP-ELN-2-62B-THFC	5/8" (15.9mm)	Copper	Bottle Nose	Heavy Duty	Flush	7mm or 9mm	10
WTP-ELN-2-62B-THSC	5/8" (15.9mm)	Copper	Bottle Nose	Heavy Duty	Stick-out	7mm or 9mm	10
WTP-ELN-2-62T-THRC	5/8" (15.9mm)	Copper	Tapered	Heavy Duty	Recessed	7mm or 9mm	10
WTP-ELN-2-62T-THFC	5/8" (15.9mm)	Copper	Tapered	Heavy Duty	Flush	7mm or 9mm	10
WTP-ELN-2-62T-THSC	5/8" (15.9mm)	Copper	Tapered	Heavy Duty	Stick-out	7mm or 9mm	10
WTP-ELN-2-75T-THRC	3/4" (19mm)	Copper	Tapered	Heavy Duty	Stick-out	7mm or 9mm	10

INSULATORS FOR 2-PIECE NOZZLES				
Part #	**Workload**	**Material**	**Diffuser Style**	**Qty/Pk**
WTP-ELN-4	Heavy Duty	Brass	PowerBall® Threaded Diffuser	5
WTP-ELN-4-C	Heavy Duty	Chromed	PowerBall® Threaded Diffuser	5

FULL SIZE THREAD-ON NOZZLES							
Part #	**Bore Diameter**	**Material**	**Geometry**	**Workload**	**Tip Relationship**	**Tip Compatibility**	**Qty/Pk**
WTP-ELN-50B-TSRC	1/2" (12.7mm)	Copper	Bottle Nose	Standard Duty	Recessed	7mm or 9mm*	10
WTP-ELN-50B-TSSC	1/2" (12.7mm)	Copper	Bottle Nose	Standard Duty	Stick-out	7mm or 9mm*	10
WTP-ELN-50B-TSRB	1/2" (12.7mm)	Brass	Bottle Nose	Standard Duty	Recessed	7mm or 9mm*	10
WTP-ELN-50B-TSSB	1/2" (12.7mm)	Brass	Bottle Nose	Standard Duty	Stick-out	7mm or 9mm*	10
WTP-ELN-50T-TSRC	1/2" (12.7mm)	Copper	Tapered	Standard Duty	Recessed	7mm or 9mm*	10
WTP-ELN-50T-TSRB	1/2" (12.7mm)	Brass	Tapered	Standard Duty	Recessed	7mm or 9mm*	10
WTP-ELN-62B-THFC	5/8" (15.9mm)	Copper	Bottle Nose	Heavy Duty	Flush	7mm or 9mm	10
WTP-ELN-62B-THFB	5/8" (15.9mm)	Brass	Bottle Nose	Heavy Duty	Flush	7mm or 9mm	10
WTP-ELN-62T-TSRC	5/8" (15.9mm)	Copper	Tapered	Standard Duty	Recessed	7mm or 9mm	10
WTP-ELN-62T-TSSC	5/8" (15.9mm)	Copper	Tapered	Standard Duty	Stick-out	7mm or 9mm	10
WTP-ELN-62T-THRC	5/8" (15.9mm)	Copper	Tapered	Heavy Duty	Recessed	7mm or 9mm	10
WTP-ELN-62T-THFC	5/8" (15.9mm)	Copper	Tapered	Heavy Duty	Flush	7mm or 9mm	10
WTP-ELN-62T-THSC	5/8" (15.9mm)	Copper	Tapered	Heavy Duty	Stick-out	7mm or 9mm	10
WTP-ELN-62T-TSRB	5/8" (15.9mm)	Brass	Tapered	Standard Duty	Recessed	7mm or 9mm	10
WTP-ELN-62T-THRB	5/8" (15.9mm)	Brass	Tapered	Heavy Duty	Recessed	7mm or 9mm	10
WTP-ELN-62T-THFB	5/8" (15.9mm)	Brass	Tapered	Heavy Duty	Flush	7mm or 9mm	10
WTP-ELN-75T-THRC	3/4" (19mm)	Copper	Tapered	Heavy Duty	Recessed	7mm or 9mm	10
SLIP-ON NOZZLES *SLIP-ON DIFFUSER REQUIRED*							
WTP-TRN-401-40-38	3/8" (9.5mm)	Brass	Bottle Nose	Standard Duty	1/16" Recessed	7mm	10
WTP-TRN-401-4-38	3/8" (9.5mm)	Copper	Tapered	Standard Duty	Flush	7mm	10
WTP-TRN-401-48-50	1/2" (12.7mm)	Brass	Bottle Nose	Standard Duty	Stick-out	7mm or 9mm*	10
WTP-TRN-401-42-50	1/2" (12.7mm)	Copper	Bottle Nose	Standard Duty	Recessed	7mm or 9mm*	10
WTP-TRN-401-4-50	1/2" (12.7mm)	Copper	Tapered	Standard Duty	Recessed	7mm or 9mm*	10
WTP-TRN-401-48-62	5/8" (15.9mm)	Copper	Bottle Nose	Standard Duty	Flush	7mm or 9mm	10
WTP-TRN-401-49-62	5/8" (15.9mm)	Copper	Bottle Nose	Standard Duty	Stick-out	7mm or 9mm	10
WTP-TRN-401-4-62	5/8" (15.9mm)	Copper	Tapered	Standard Duty	Recessed	7mm or 9mm	10
WTP-TRN-401-8-62	5/8" (15.9mm)	Copper	Tapered	Standard Duty	Stick-out	7mm or 9mm	10
WTP-TRN-401-71-62	5/8" (15.9mm)	Brass	Tapered	Heavy Duty	Recessed	7mm or 9mm	10
WTP-TRN-401-6-62	5/8" (15.9mm)	Copper	Tapered	Heavy Duty	Recessed	7mm or 9mm	10
WTP-TRN-401-81-62	5/8" (15.9mm)	Copper	Tapered	Heavy Duty	Stick-out	7mm or 9mm	10

** 7mm contact tips are recommended for 1/2" (12.7mm) torch nozzles, however 9mm tips are compatible for certain applications*

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