



500 AMP Air-Cooled **TECHNICAL GUIDE**

Robotic MIG Gun
CONSUMABLES & ACCESSORIES

TABLE OF CONTENTS

Thank You	1
General Safety	1
Amperage Ratings (Duty Cycle)	2
Part Numbering System	2
Lightning Gun Assembly Front.....	3
Lightning Gun Assembly Rear.....	4
Wiring Diagram.....	5
Troubleshooting	6
Maintenance.....	6

THANK YOU

For selecting the American Torch Tip Lightning Gun. The Lightning Gun is for welding professionals who want durability and comfort while working in harsh welding environments.

Lightning guns are available with Lightning, or Tregaskiss, consumables.

This technical guide with instructions and illustrations is designed to make it easy to maintain your Lightning Gun. Please read and follow all the safety procedures.

For technical support, please call The American Torch Tip Customer Service department 1-800-371-8477 between 8:30 AM and 5:00 PM EST daily.

American Torch Tip is committed to providing the best quality products and services. We are constantly working to improve our products and would appreciate hearing your suggestions.

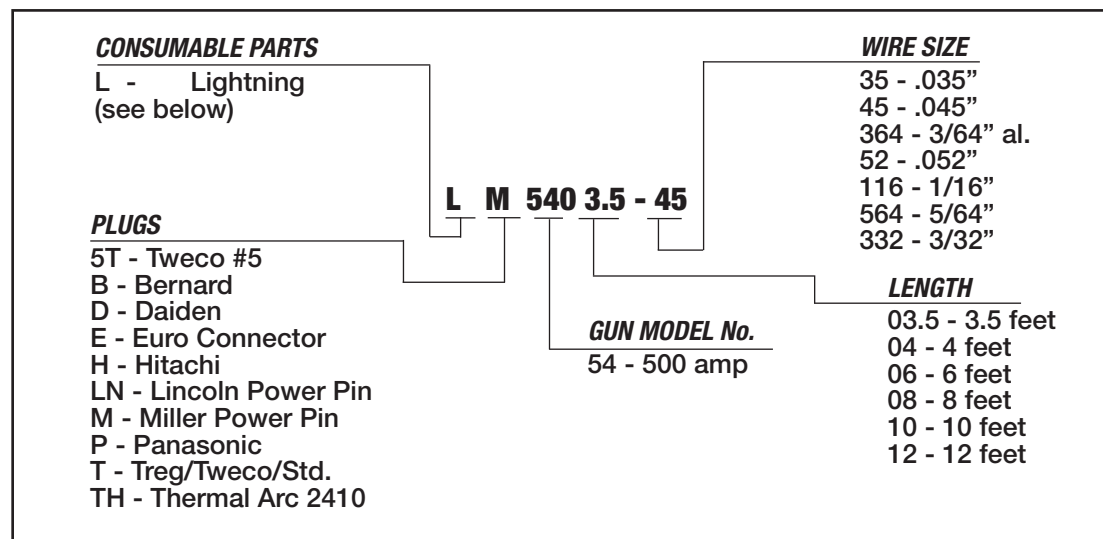
GENERAL SAFETY

1. Disconnect all power before servicing or changing Lightning welding gun components.
Failure to disconnect power can lead to dangerous electrical shock which can kill.
2. Smoke, fumes and gases can be dangerous to your health. Keep smoke, fumes and gases from the breathing area. Fumes from welding are of various types and strengths, depending on the kind of base metal being welded.
3. Arc welding produces dangerous light radiation. Adequate eye protection must be worn.
4. All exposed skin must be covered with flame resistant, protective clothing.
Do not wear clothing made from flammable synthetic fibers.
5. Protective screens or barriers should be used to protect others from spatter, flash and glare while welding.

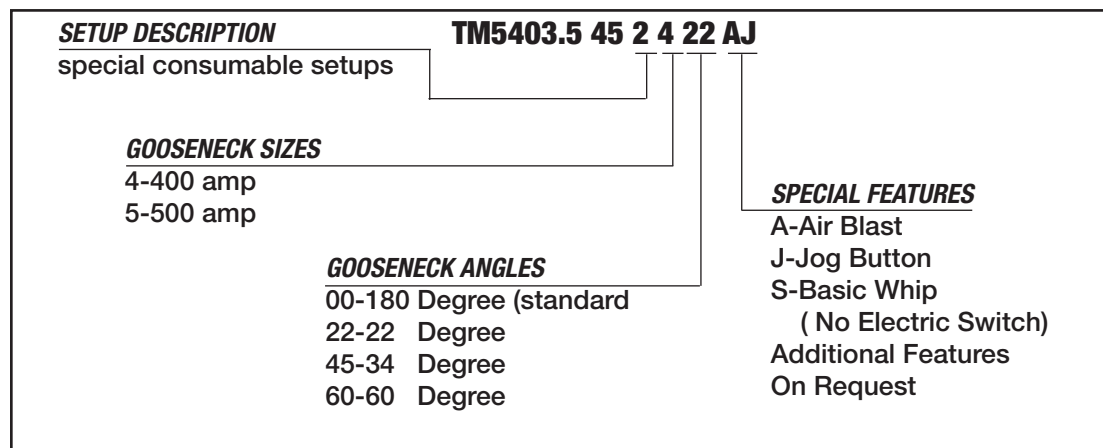
AMPERAGE RATINGS (Duty Cycle)

LIGHTNING	100% DUTY CYCLE		60% DUTY CYCLE	
	CO2	MIXED	CO2	MIXED
500 AMP	500 AMP	350 AMP	650 AMP	500 AMP

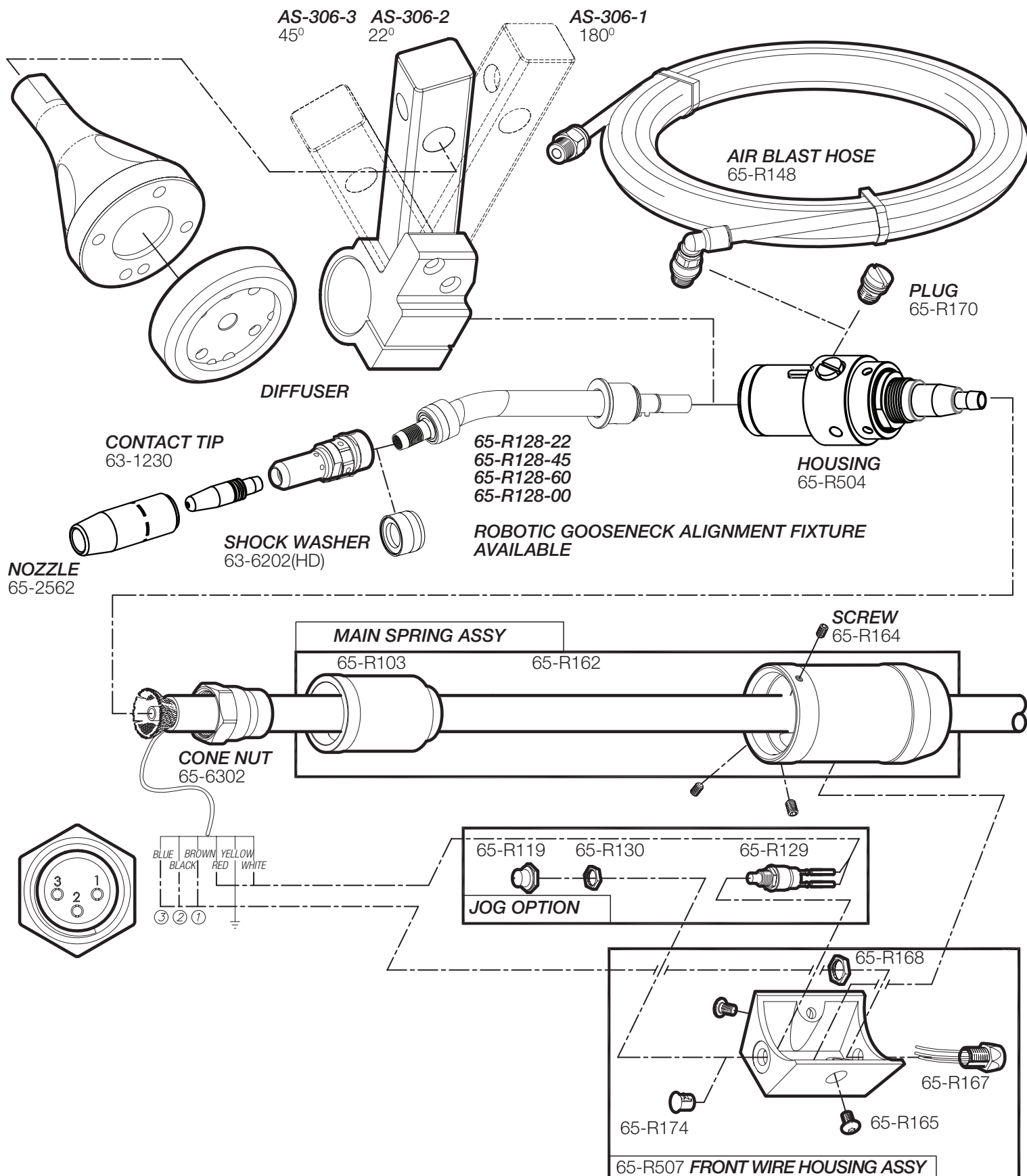
STANDARD ROBOTIC GUN PART NUMBERING SYSTEM



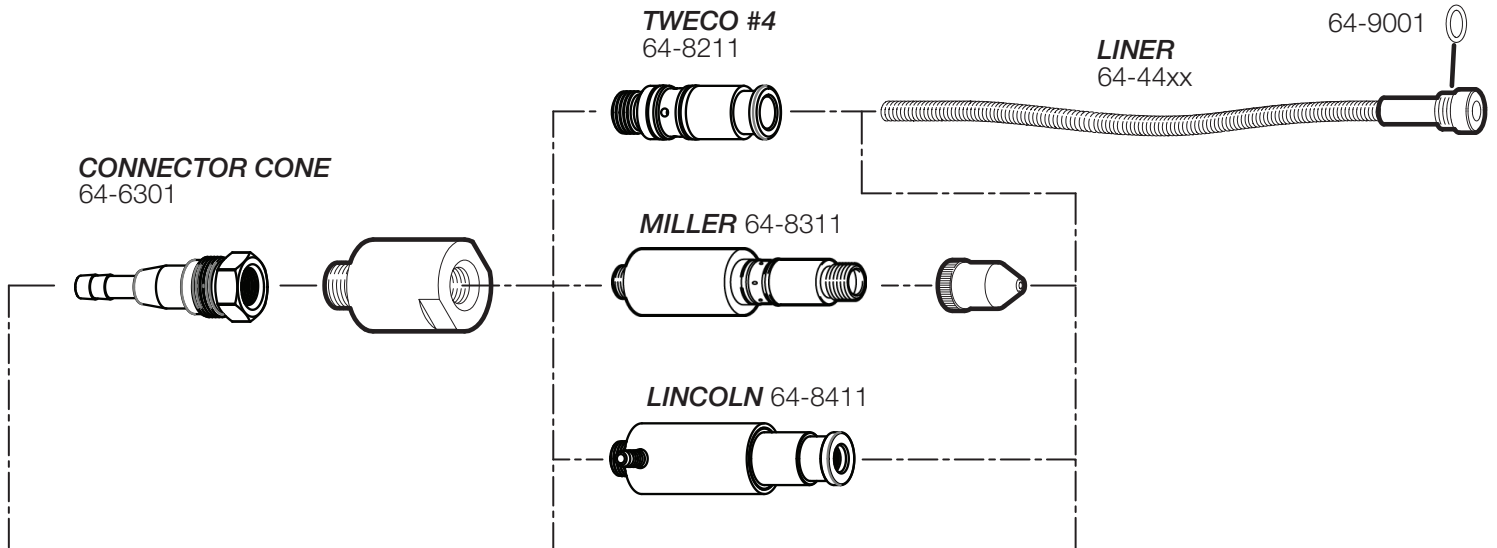
SPECIAL ROBOTIC GUN NUMBERING SYSTEM



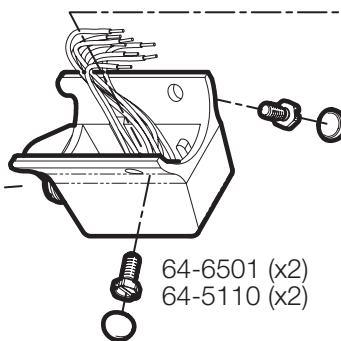
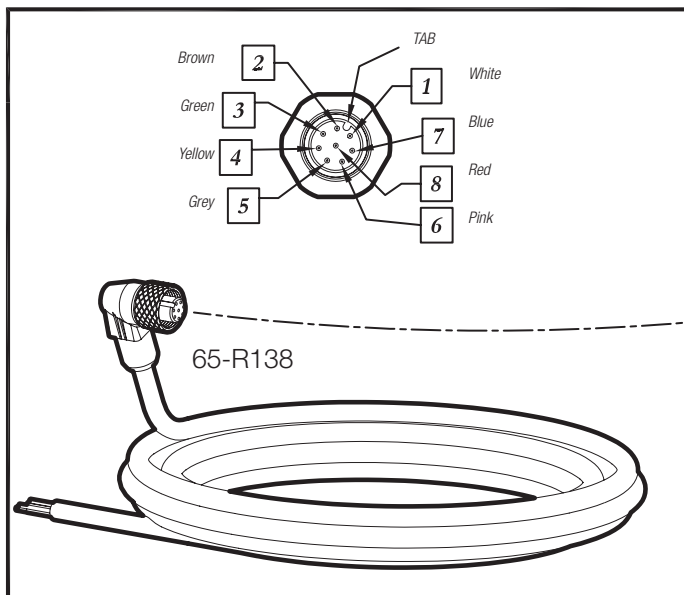
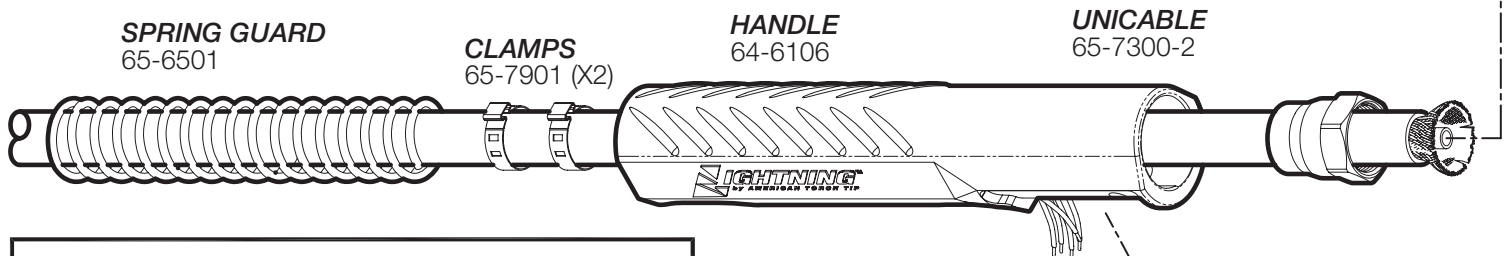
ROBOTIC 500 AMP	STANDARD SHORT ARC			HEAVY DUTY			TAPERED			SHOCK WASHER
	NOZZLE	CONTACT	DIFFUSER	NOZZLE	CONTACT	DIFFUSER	NOZZLE	CONTACT	DIFFUSER	
LIGHTNING	65-2575	63-11xx	63-3103-2	65-2562	63-11xx	63-3103-2	63-2138	63-12xx	63-3103-2	63-6202
TREGASKISS	65-2575	403-1-xx	404-3	65-2562	403-1-xx	404-3	63-2138	403-2-xx	404-3	63-6202

FRONT END - ROBOTIC MIG TORCH - 500 AMP AIR-COOLED

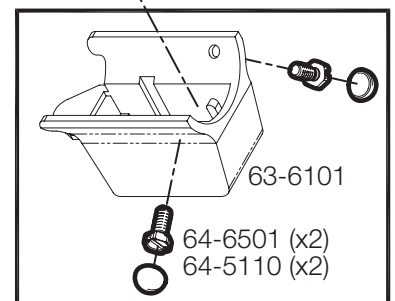
BACK END - ROBOTIC MIG TORCH - 500 AMP AIR COOLED



**ADDITIONAL POWER PIN CONNECTORS
ARE AVAILABLE - CALL ATTC FOR AVAILABILITY**

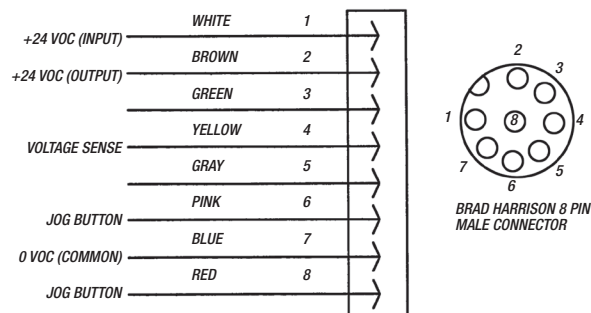
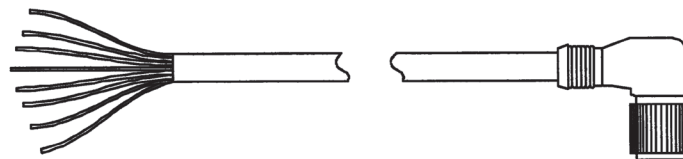
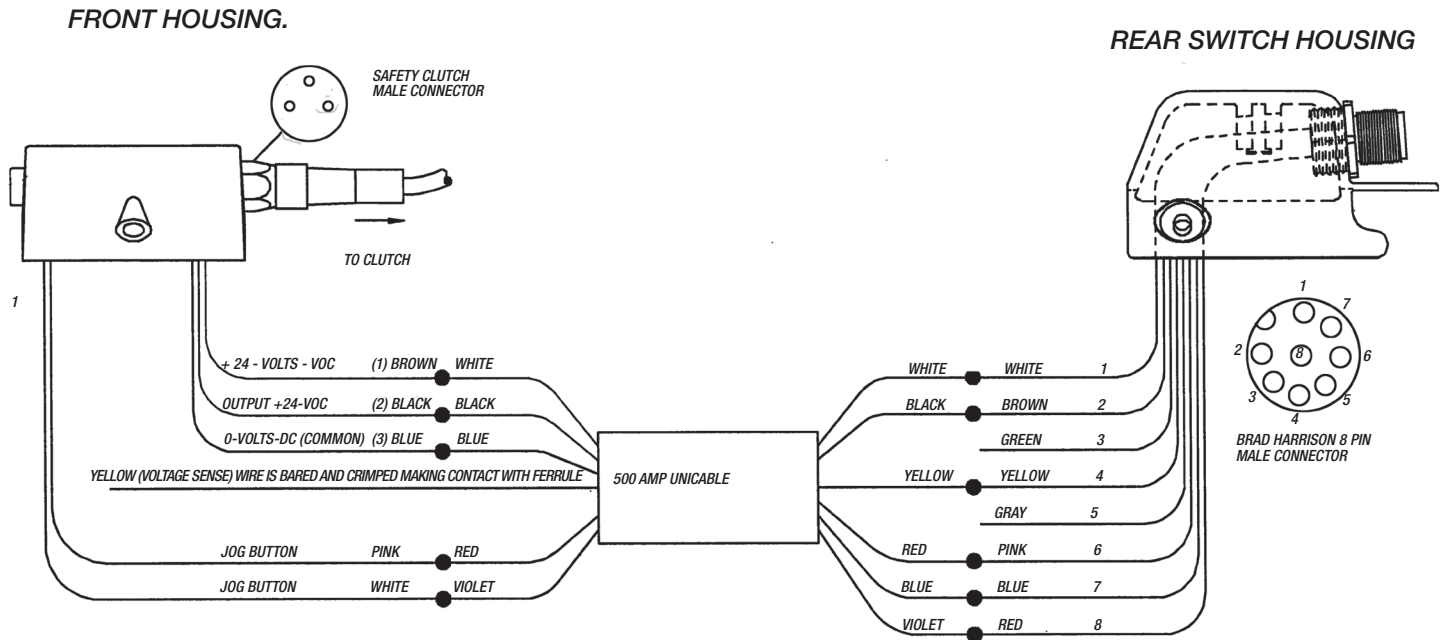


**Standard Back end with
control cable**



**Special Back end (-S) with
no electrical connectors**

WIRING DIAGRAM



MAINTENANCE

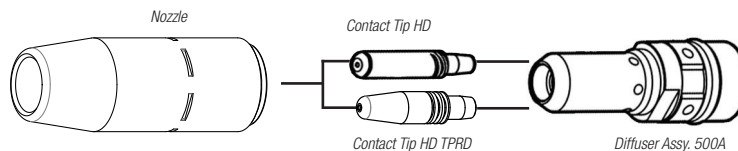
NOZZLE AND CONTACT TIP SYSTEMS

REMOVAL AND REPLACEMENT

- Pull slip-on nozzles off with a clockwise twisting motion.
- When installing nozzle, exposed insulator should nest inside shock washer to assure concentricity. Shock washers are positioned on the end of the gooseneck with the large insulated counterbore facing the nozzle.
- Replace nozzle retainer with deep counterbore toward the gooseneck. Tighten until retainer and shock washer are secure.

IMPORTANT

- Shock washer must be in place before welding to maintain insulation of gooseneck.
- Be sure all parts are tightened will before welding.
- When using the heavy duty retaining head make sure it is tightened with a 11/16" wrench to prevent overheating of contact tip.
- To prevent scoring on heavy duty retaining head do not use pliers.



THANK YOU

For selecting this American Torch Tip product. The Lightning Gun is for welding professionals who want durability and comfort while working in harsh welding environments. Lightning guns are available with Lightning, Tregaskiss, Bernard and Tweco consumables. This technical guide with instructions and illustrations is designed to make it easy to maintain your Lightning Gun. Please read and follow all the safety procedures. For technical support, please call the American Torch Tip Customer Service department at 1-800-371-8477 between 8:30 AM and 5:00 PM EST daily. American Torch Tip is committed to providing the best quality products and services. We are constantly working to improve our products and would appreciate hearing your suggestions.

ATTC manufactures a wide line of welding equipment, parts and consumables on a variety of platforms.

Plasma	Torches and Consumables
MIG	Guns and Consumables
Laser	Optics and Parts
Oxy-Fuel	Apparatus and Cutting Tips
TIG	Torches, Parts and Consumables

LIMITED WARRANTY – Subject to the terms and conditions below



American Torch Tip Co. (ATTC) warrants its products to the original end user for the periods listed below:

PLASMA	MIG
LIFETIME *PHD and PHDX Torch Bodies	LIFETIME *Lightning® Handle and Trigger Switch ONE YEAR *Lightning® Semi-Automatic MIG Guns *Lightning® Robotic MIG Guns *Lightning® Fixed Automation MIG Guns 180 DAYS *All Other Gun Models
THERMAL SPRAY	TIG
ONE YEAR *Thermal Spray Guns	ONE YEAR *TIG Torches

*Limited Warranty on Manufacturing and Material Defects. Warranty Terms Do Not Apply to Consumable Products.

Warranty Terms

This warranty shall not apply to any product that has been modified or used in a manner inconsistent with ATTC's installation instructions and operating guidelines. Within the warranty periods listed above and at ATTC's sole discretion, ATTC will repair or replace any warranted parts or components that fail due to such defects in material or workmanship. ATTC must be notified within thirty (30) days of such defect or failure, at which time ATTC will determine if a Return Goods Authorization (RGA) is justified and issue an RGA number, authorization of a RGA number shall not be unreasonably withheld. ATTC will supply a RGA form, which must be included with the returned products for inspection by ATTC. Shipping and packing costs shall be the responsibility of the party returning the goods. Once received, ATTC shall inspect and determine if a warranty claim is justified and at ATTC's sole discretion authorize a repair or replacement. Once authorization has been granted ATTC shall provide instructions on the warranty claim procedures to be followed. Where authorized, repair or replacement constitutes the sole remedy for breach of warranty and expressly excludes claims for lost revenue, down time and other consequential damages. The warranty is limited to the conditions stated above and excludes, to the fullest extent permitted by law, all conditions, warranties and representations express or implied by statute, law or otherwise in relation to the supply or delay in supplying the goods/services. There are no agreements, promises or understandings, either verbal or written that are not fully expressed in this warranty. This warranty may be amended or altered only if agreed to in writing and signed by ATTC.

ATTC Limited Warranty 0418



ZZ-MAR-TECH-MIG-003 1123