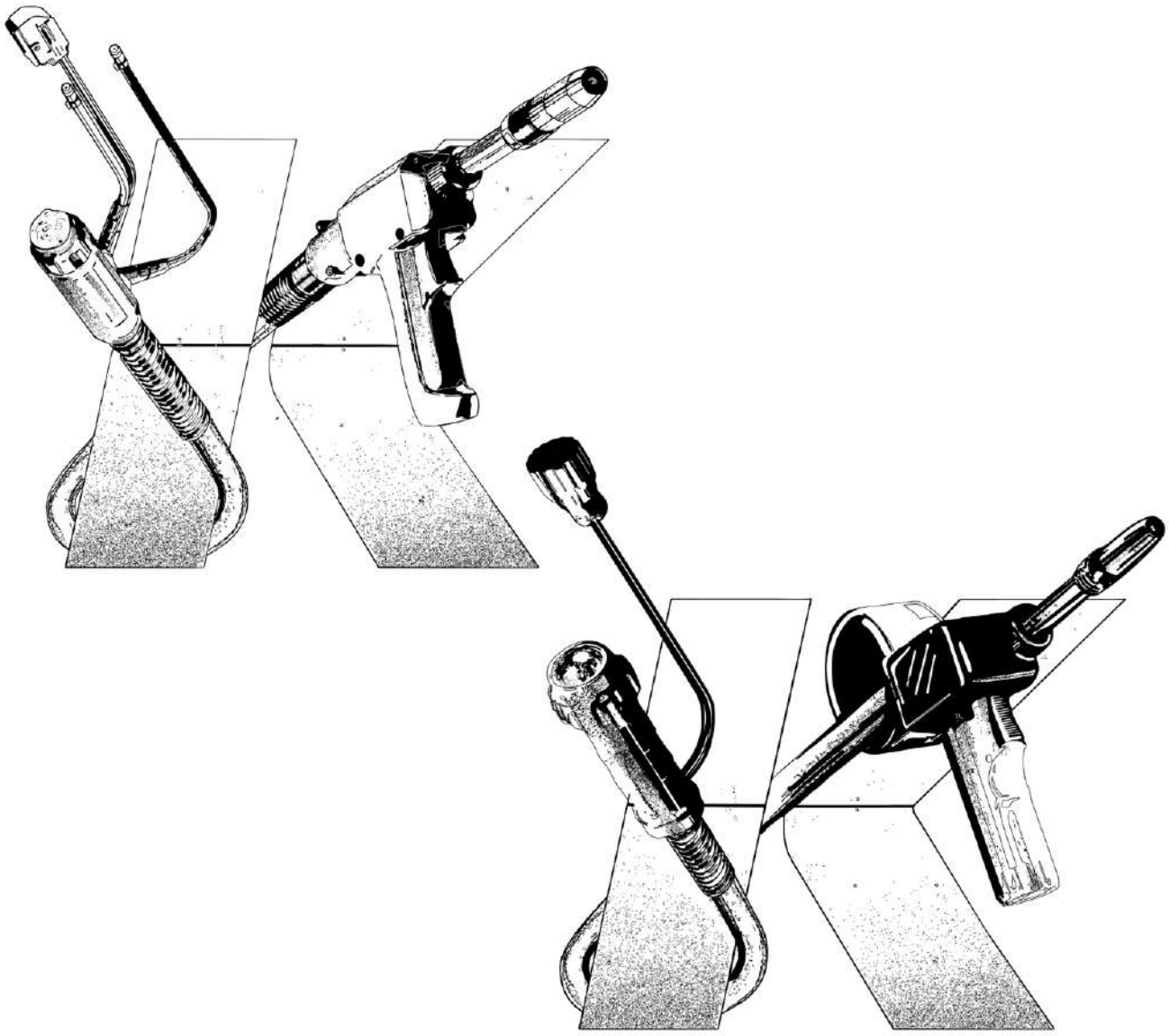
Jinan North welding Tools Co Ltd The North of 308 National Highway, Daqiao Town, Tianqiao Zone, Jinan 250121, Shandong, China

NORTH®

OPERATING MANUAL / INSTRUCTIONS



KLASIK SERIES
PUSH PULL & SPOOL

PART NUMBER: OM-104A EN

ISSUE: 01-0522

Read and understand this entire Manual and your employer's safety practices before installing, operating, or servicing this Product. While the information contained in this Manual represents the Manufacturer's best judgment, the Manufacturer assumes no liability for its use

User Manual No: OM-104A EN for: KLASIK Spool and Push-Pull MIG/MAG Manual Welding Torches

KLASIK	Spool and Push-Pull MIG/MAG Manual Welding Torch Model Number
Spool Torch	QLBF-200 III-6E, QLBF-200 III-8E, QLBF-200 III-6T, QLBF-200 III-8T; QLBF-185-6, QLBF-185-8. QTLB-24D-SP-6E, QTLB-24D-SP-8E, QTLB-24D-SP-6T, QTLB-24D-SP-8T. QTLB-36D-SP-6E, QTLB-36D-SP-8E, QTLB-36D-SP-6T, QTLB-36D-SP-8T.
Push-Pull Torch	PG4000-6, PG4045-6, PG4000-8, PG4045-8; PW5000-6, PW5045-6, PW5000-8, PW5045-8. QTLB-24D-6, QTLB-24D-6, QTLB-24D-8, QTLB-24D-8; QTLB-36D-6, QTLB-36D-6, QTLB-36D-8, QTLB-36D-8.

Published by: Jinan North Welding Tools Co Ltd
The North of 308 National Highway, Daqiao Town,
Tianqiao Zone, Jinan 250121, Shandong, China.
Website: www.northweld.com

Publication Date: May 2022

Record the following information for Warranty purposes

Place of Purchase:

_____

_____

_____

Purchase Date:

_____

Declaration of Conformity

Jinan North Welding Tools Co. Ltd. declares that the product(s) identified in this declaration conform to the essential requirements and provisions of the stated Council Directives and Standards.

Product Description: **Arc Welding Equipment MIG/MAG Manual Welding Spool Torch & Push-Pull Torches**

Product Models: **KLASIK SERIES of Spool Torch & Push-Pull MIG/MAG Manual Welding Torches**

Manufacturer: **Jinan North Welding Tools Co. Ltd.**

Address: **The North of 308 National Highway, Daqiao Town, Tianqiao Zone, Jinan 250121, Shandong, China.**

Product Identification:

KLASIK	Spool and Push-Pull MIG/MAG Manual Welding Torch Model Numbers
Spool Torch	QLBF-200 III-6E, QLBF-200 III-8E, QLBF-200 III-6T, QLBF-200 III-8T; QLBF-185-6, QLBF-185-8. QTLB-24D-SP-6E, QTLB-24D-SP-8E, QTLB-24D-SP-6T, QTLB-24D-SP-8T. QTLB-36D-SP-6E, QTLB-36D-SP-8E, QTLB-36D-SP-6T, QTLB-36D-SP-8T.
Push-Pull Torch	PG4000-6, PG4045-6, PG 000-8, PG4045-8; PW5000-6, PW5045-6, PW5000-8, PW5045-8. QTLB-24D-6, QTLB-24D-6, QTLB-24D-8, QTLB-24D-8; QTLB-36D-6, QTLB-36D-6, QTLB-36D-8, QTLB-36D-8.

Council Directives:
- 2006/95/EC Low Voltage Directive
- 2011/65/EU Restriction of the use of certain hazardous substances in electrical and electronic equipment

Standards:
- GB/T 15579.7-2013 Standardization Administration of China - Arc Welding Equipment - Part 7: Torches
- IEC 60974-7:2013 Arc welding equipment – Part 7: Torches

Signature of Manufacturer's responsible representative:

Zhang Jinlu

Signature

May 25, 2022

Date

Zhang Jinlu

Name

Manager-Engineering

Title

CE

Table of Contents

SECTION 1 – SAFETY INSTRUCTIONS: Read Before Using this Product 5

1.01 Arc Welding Hazard Symbols 5
1.02 Additional Installation, Operation and Maintenance Hazard Symbols 7
1.03 Read Principal Safety Standards 8
1.04 California Proposition 65 Warnings 8
1.05 ELECTRIC and MAGNETIC FIELDS (EMF) Recommendations 8

SECTION 2 – WARRANTY 9

2.01 Conditions of Intended Use 9

SECTION 3 – INTRODUCTION 10

3.01 KLASIK Torch Description 10
3.02 KLASIK Spool Torches Duty Cycle 10
3.03 KLASIK Push-Pull Torches Duty Cycle 10
3.04 KLASIK Torch Contents 10
3.05 KLASIK Spool Torch Specifications 11
3.06 KLASIK Push-Pull Torch Specifications: QTLB-24D, QTLB-36D 11
3.07 KLASIK Push-Pull Torch Specifications: PG4000 / PG4045, PW5000 / PG5045 11

SECTION 4 – SPOOL TORCH: Installation and Operation 12

4.01 SPOOL TORCH: Environmental Limits 12
4.02 SPOOL TORCH: Operation Guidelines 12
4.03 SPOOL TORCH: Connecting Torch Power Pin to MIG Equipment Adaptor 12
4.04 SPOOL TORCH: Install Welding Wire Spool Then Threading the Welding Wire 13
4.05 SPOOL TORCH: How to Feed Welding Wire 14
4.06 SPOOL TORCH: Depress Torch Trigger Switch 15

SECTION 5 – SPOOL TORCH: Wear Parts & Torch Parts 16

5.01 SPOOL TORCH: Change Wear Parts 16
5.02 SPOOL TORCH: Nozzles, Contact Tips, Contact Tip Holders, Gas Diffusers, and Liners Parts 16
5.03 SPOOL TORCH QLBF-200 III: Change Pressure Roll / Drive Roll 19
5.04 SPOOL TORCH QLBF-185: Change Pressure Roll / Drive Roll 20
5.05 SPOOL TORCH QTLB-24D / QTLB-36D: Change Pressure Roll / Drive Roll 20
5.06 SPOOL TORCH QLBF-200 III: Torch Parts 21
5.07 SPOOL TORCH QLBF-185: Torch Parts 22
5.08 SPOOL TORCH QTLB-24D: Torch Parts 23
5.09 SPOOL TORCH QTLB-36D: Torch Parts 24

SECTION 6 – PUSH-PULL TORCH: Installation and Operation 25

6.01 PUSH-PULL: Environmental Limits 25
6.02 PUSH-PULL: Operation Guidelines 25
6.03 PUSH-PULL TORCH: Connecting Torches Euro Power Pin to MIG Equipment Adaptor 25
6.04 PUSH-PULL TORCH QTLB-24D, QTLB-36D: How to Feed Welding Wire 26
6.05 PUSH-PULL TORCH PG4000 / PG4045, PW5000 / PW5045: How to Feed Welding Wire 27
6.06 PUSH-PULL TORCH: Depress Torch Trigger Switch 27

SECTION 7 – PUSH-PULL TORCH: Wear Parts & Torch Parts 28

7.01 PUSH-PULL: Change Wear Parts for QTLB-24D, QTLB-36D, PG4000 / PG4045, PW5000 / PW5045 28
7.02 PUSH-PULL: Nozzles, Contact Tips, Contact Tip Holders, Gas Diffusers, and Liners Parts 29
7.03 PUSH-PULL TORCH QTLB-24D / QTLB-36D: Change Pressure Roll / Drive Roll 31
7.04 PUSH-PULL TORCH PG4000 / PG4045, PW5000 / PW5045: Change Pressure Roll / Pressure Arm Assy 31
7.05 PUSH-PULL: Changing Torch Cable Liner 32
7.06 PUSH-PULL TORCH QTLB-24D: Torch Parts 33
7.07 PUSH-PULL TORCH QTLB-36D: Torch Parts 34
7.08 PUSH-PULL TORCH PG4000 / PG4045: Torch Parts 35
7.09 PUSH-PULL TORCH PW5000 / PW5045: Torch Parts 36

SECTION 8 – TROUBLESHOOTING 37

SECTION 9 – ROUTINE SERVICE and MAINTENANCE 39

SECTION 10 – CIRCUIT DIAGRAMS FOR SPOOL & PUSH-PULL TORCHES 39

SECTION 1 – SAFETY INSTRUCTIONS: Read Before Using this Product

DANGER! – Protect yourself and others around you from possible serious injury or death.

1) Read, follow, and understand this User Manual before installing, operating, or servicing this Product. 2) Pacemaker wearers keep away until consulting your doctor. 3) Have all installation, operation, maintenance, and repair work performed only by Suitably Trained and Qualified Tradesperson. 4) Keep children away. 5) Do not lose these instructions.

6) When shipped, ownership is passes to the purchaser upon receipt from the transportation company. Accordingly, claims for component damaged in shipment must be made by the purchaser against the transportation company at the time the shipment is received.

" NOTE:" Provides information regarding operating recommendations for this Product.

Product and processes can cause serious injury or death, or damage to other equipment or property, if the operator does not strictly observe all safety instructions and take precautionary actions.
Anyone not extensively trained in welding and cutting practices should not attempt to weld or cut metal.
Safe practices are outlined in American National Standard Z49.1 entitled: SAFETY IN WELDING AND CUTTING. This publication and other guides to what you should learn before using this product are listed at the end of these safety instructions.

1.01 Arc Welding Hazard Symbols

ELECTRIC SHOCK can kill

Touching live electrical parts can cause fatal shocks or severe burns. The electrode and work circuit are electrically live whenever the output is on. DO NOT WORK ALONE! The input power circuit and Power Source internal circuits are also electrically live when power is on. In semiautomatic or automatic wire welding, the wire, wire reel, drive roll housing, and all metal parts touching the welding wire are electrically live. Incorrectly installed or improperly grounded welding equipment is a hazard.

- Do not touch live electrical parts.
- Beware of electric shock from wiring.
- Keep all panels and covers securely in place.
- Wear dry, hole-free insulating gloves, and body protection.
- Insulate yourself from work and ground using dry insulating mats or covers big enough to prevent any physical contact with the work or ground.
- Additional safety precautions are required when any of the following electrically hazardous conditions are present:
  - In damp locations or while wearing wet clothing.
  - On metal structures such as floors, gratings, or scaffolds.
  - When in cramped positions such as sitting, kneeling, or lying.
  - When there is a high risk of unavoidable or accidental contact with the workpiece or ground.

  For these conditions, use the following equipment:
  1) A semiautomatic DC constant voltage (wire) welder, or
  2) A DC manual (stick) welder. In most situations a DC welder is recommended.
- Disconnect input power or stop engine before installing or servicing this Product. Lockout/Tagout input power according to OSHA 29 CFR 1910.147.
- Properly install and ground this Power Source according to its User Manual and national, state, and local codes.
- Use only well-maintained equipment. Repair or replace damaged parts at once.
- Do not wrap cables around your body.
- Always verify the Input Power Cord ground – check and be sure that Input Power Cord ground wire is properly connected to ground terminal in disconnect box or that Input Power Cord plug is connected to a properly grounded receptacle outlet.
- When making input connections, attach proper grounding conductor first. DOUBLE - CHECK ALL CONNECTIONS.
- Keep all electrical Power Cords dry, free of oil and grease, and protected from hot metal, sparks, and sharp metal edges.
- Frequently inspect Input Power Cord and ground conductor for damage or bare wiring. Replace immediately if damage, bare wiring can kill.
- Turn off all equipment when not in use. Disconnect power to equipment if it will be left unattended or out of service.
- Use fully insulated Torch. Never dip Torch in water to cool it or lay it down on the ground or the work surface. Do not touch Torches connected to two Power Sources at the same time or touch other people with the Torch or electrode.
- Do not use worn, damaged, undersized, repaired or poorly spliced cables.
- Ground the work piece to a good electrical (earth) ground.
- Do not touch electrode while in contact with the work (ground) circuit.
- In confined spaces or damp locations, do not use a welder with AC output unless it is equipped with a voltage reducer. Use equipment with DC output.
- Wear a safety harness to prevent falling if working above floor level.
- Do not touch electrode holders connected to two Power Sources at the same time as double open-circuit voltage will be present.
- Insulate work clamp when not connected to workpiece to prevent contact with any metal object.
- Do not connect more than one electrode or work cable to any single weld output terminal. Disconnect cable for process not in use.
- Use ground-fault circuit interrupter (GFCI) protection when operating auxiliary equipment in damp or wet locations.

FLYING METAL or DIRT can injure eyes

Welding, chipping, wire brushing, and grinding cause sparks and flying metal.

- Welding slag can be thrown off welds as they cool down.
- Wear approved safety glasses with side shields even under your welding helmet.

HOT PARTS can burn

Nozzles, contact tips, gas diffuser welded parts, cut metal, or ground clamp can cause burn bare skin when hot.

- Do not touch hot parts with bare skin.
- To handle hot parts, use proper tools and/or wear heavy, insulated welding gloves and clothing to prevent burns.

ARC RAYS can injure eyes and burn skin

Arc rays from the welding process produce intense heat and strong ultraviolet rays that can burn eyes and skin.

- Wear approved safety glasses. Side shields recommended.
- Wear a welding helmet fitted with a proper shade of filter (see ANSI Z49.1 listed in Safety Standards) to protect your face and eyes when welding or watching.
- Use protective screens or barriers to protect others from flash and glare; warn others not to watch the arc.
- Wear protective clothing made from durable, flame-resistant material (wool and leather) and foot protection.

NOISE can damage hearing

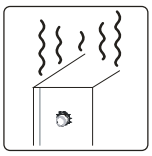
Noise from some processes can damage hearing.

- Use approved ear plugs or earmuffs for high noise levels environments.

FLYING SPARKS can injure

Flying sparks and hot metal can cause injury. Chipping and grinding cause flying metal.

- Wear proper body protection to protect skin.
- Wear approved face shield or safety goggles. Side shields are recommended.
- Sparks can cause fire, remove all flammable materials within 35 ft (10.7 m) of the working zone.



EQUIPMENT OVERHEATING

Power Source casing, terminals, cables, ground clamp, electrode stub or torch parts can cause inquiry when overheated.

- Allow cooling period before touching MIG Torch.
- Allow cooling period; follow rated duty cycle of MIG Torch.
- Reduce amperage and/or arc on time before starting to weld again.
- Do not block or filter air vent to Power Source.

BUILDUP OF GAS can injure or kill

Shielding GAS used for wire welding can cause asphyxiation or death in confined places.

- Shut off compressed shielding gas supply when not in use.
- Always ventilate confined spaces or use approved air supplied respirator.

FUMES and GASES can be hazardous

FUMES and GASES can be hazardous to your health. Welding produces fumes and gases. Breathing these fumes and gases can be hazardous to your health.

- Keep your head out of the fumes. Do not breathe the fumes.
- If inside, ventilate the area and/or use local exhaust at the arc to remove welding fumes and gases.
- If ventilation is poor, use an approved air-supplied respirator.
- Read the Material Safety Data Sheets (MSDSs) and the manufacturer's instruction for consumables, coatings, cleaners, consumables, coolants, degreasers, fluxes, and metals.
- Work in a confined space only if it is well ventilated, or while wearing an air-supplied respirator. Always have an observer trained in rescue and emergency procedures to monitor the person in a confined space. Shielding gases used for welding can displace air causing injury or death. Be sure the breathing air is safe.
- Do not weld in locations near degreasing, cleaning, or spraying operations. The heat and rays of the arc can react with vapours to form highly toxic and irritating gases.
- Do not weld on coated metals, such as galvanized, lead, or cadmium plated steel, unless the coating is removed from the weld area, the area is well ventilated, and if necessary, while wearing an air supplied respirator. The coatings and any metals containing these elements can give off toxic fumes if welded.

MOVING PARTS can cause injury

Moving parts, such as fans, drive gears, rotating wire spools, rotors, and belts can cut fingers and hands and catch loose clothing.

- Keep all doors, panels, covers, and guards closed and securely in place.
- Switch OFF Power Source before installing or connecting it.
- Keep hands, hair, loose clothing, and tools away from moving parts.
- Have only suitably Trained and Qualified Tradesperson remove guards or covers for maintenance and troubleshooting, as necessary.
- To prevent accidental starting during servicing, disconnect Power Source from power receptacle or disconnect negative battery cable from battery.
- Reinstall panels or guards and close doors when servicing is finished and before starting engine.

ELECTRIC and MAGNETIC FIELDS (EMF) can affect Implanted Medical Devices

Consult your doctor and the Implanted Medical Device manufacturer before going near arc welding, spot welding, gouging or plasma arc cutting.

- Wearers of Pacemakers and other Implanted Medical Devices should keep away.

SHIELDING GAS CYLINDERS can explode

Shielding gas cylinders contain gas under high pressure. If damaged, a cylinder can explode. Since gas cylinders are normally part of the welding process; be sure to treat them carefully.

- Protect compressed gas cylinders from excessive heat, mechanical shocks, and arcs.
- Install and secure cylinder(s) in an upright position by chaining cylinder(s) to a stationary support or equipment cylinder rack to prevent falling or tipping.
- Keep cylinders away from any welding or other electrical circuits.
- Never allow a welding electrode to touch any cylinder.
- Use only correct shielding gas cylinders, regulators, hoses, and fittings designed for the specific application; maintain them and associated parts in good condition.
- Turn face away from valve outlet when opening cylinder valve.
- Keep protective cap in place over valve except when cylinder is in use or connected for use.
- Read and follow instructions on compressed gas cylinders, associated equipment, and CGA publication P-1 listed in Safety Standards.

WELDING WIRE can cause injury

Welding wire can cause injuries to hands, ears, eyes, etc.

- Do not depress Torch Trigger or commence welding process until it is safe to do so.
- Do not point the end of the MIG Torch near any part of your body, other people, or any metal when threading the welding wire thru the MIG Torch.

Eye protection filter shade selector numbers for welding (goggles or helmet)			
Welding operation	**Arc Amperage (Amps)**	**Minimum Filter Shade Number**	**Suggested ^ Filter Shade Number**
Gas Metal Arc Welding (GMAW) and Flux Cored Arc Welding (FCAW)	Less than 60	7	7
	60 – 160	10	11
	160 – 250	10	12
	250 – 550	10	14

^ As a rule of thumb, start with a shade that is too dark to see the weld zone. Then go to a lighter shade which gives sufficient view of the weld zone without going below the minimum. This Lens Shade Selector Guide was adapted from ANSI Z49.1, 2012.

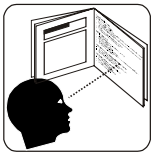
WELDING can cause fire or explosion

Sparks and spatter fly off from the welding arc. The flying sparks and hot molten metal, weld spatter, hot work piece and hot equipment can cause fires and burns.

Welding on closed containers, such as tanks, drums, or pipes, can cause them to blow up. Accidental contact of electrode or welding wire to metal objects can cause sparks, overheating, fire, or explosion. Check that the area is safe before doing any welding.

- Protect yourself and others from flying sparks and hot metal.
- Do not weld where flying sparks can strike flammable material.
- Remove all flammables within 35 ft (10.7 m) of the welding arc. If this is not possible, tightly cover them with approved covers.
- Be alert that welding sparks and hot materials from welding can easily go through small cracks and openings to adjacent areas.
- Watch for fire and keep a fire extinguisher nearby.
- Be aware that welding on a ceiling, floor, bulkhead, or partition can cause fire on the hidden side.
- Do not weld on containers that have held combustibles or on closed containers such as tanks, drums, or pipes unless they are properly prepared according to AWS F4.1 and AWS A6.0.
- Do not weld where the atmosphere contains flammable dust, gas, or liquid vapours (gasoline for example).
- Connect work cable to the work as close to the welding area as practical to prevent welding amperage from travelling long, possibly unknown paths and causing electric shock and fire hazards.
- Use only correct fuses or circuit breakers. Do not oversize or bypass them.
- Cut off welding wire at contact tip when not in use.
- Wear body protection made from durable, flame–resistant material (leather, heavy cotton, wool). Body protection includes oil-free clothing such as leather gloves, heavy shirt, cuff less trousers, high shoes, and a cap.
- Remove any combustibles, such as butane lighter or matches, from your person before doing any welding.
- After completion of work, inspect area to ensure it is free of sparks, glowing embers, and flames.
- Follow requirements in OSHA 1910.252 (a) (2) (iv) and NFPA 51B for hot work and have a fire watcher and extinguisher nearby.
- Read and understand the Safety Data Sheets (SDSs) and the manufacturer's instructions for adhesives, coatings, cleaners, consumables, coolants, degreasers, fluxes, and metals.

1.02 Additional Installation, Operation and Maintenance Hazard Symbols



READ USER MANUAL

Read and follow all Power Source labels and User Manual carefully before installing, operating, or servicing the Power Source.

- Read the safety information at the beginning of the manual and in each section.
- Perform installation, maintenance, and service according to the User Manual, industry standards, and national, state, and local codes.

IMPROPER INSTALLATION can cause fire

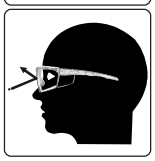
Improper equipment installation can cause fire.

- Do not install or place Power Source on, over, or near combustible surfaces.
- Do not install Power Source near flammables.
- Do not overload building wiring; be sure Input Power Supply system is properly sized, rated, and protected for weld system.

ARC WELDING can cause interference

Arc welding produces electromagnetic energy that can interfere with sensitive electronic equipment.

- Electronic equipment that can be affected are computers, telecommunication equipment, and computer-driven equipment such as robots.
- Be sure all equipment in the welding area is electromagnetically compatible.
- To reduce possible interference, keep weld cables as short as possible, close together, and down low, such as on the floor.
- Locate welding operation 100 meters from any sensitive electronic equipment.
- Be sure this Power Source is installed and grounded according to this manual.
- If interference still occurs, the user must take extra measures such as moving the Power Source, using shielded cables, using line filters, or shielding the work area.



COMPRESSED AIR can injure or kill. Whipping air hoses can injure.

A concentrated stream of air at high pressure and high speed that can cause serious injury you or people around you.

- Do not direct air stream toward self or others.
- Wear protective equipment such as safety glasses, hearing protection, leather gloves, heavy shirt / trousers, steel toe boots, and a cap when working on compressed air system.
- Release air pressure from air system / air tools before servicing, adding, or changing attachments.
- Turn off and lockout / Tagout air compressor, release air pressure from system and be sure air pressure cannot be accidentally reapplied before working on compressed air system.
- Relieve air pressure before disconnecting or connecting air lines.
- Check compressed air system components and all connections and hoses for damage, leaks, and wear before operating unit.
- Use soapy water to search for leaks; never use bare hands. Do not use equipment if leaks are found.

FALLING EQUIPMENT can injure

Use designated lifting device on power source to lift the power source only, NOT cart/running gear, gas cylinders, or any other accessories

- Use lifting equipment of adequate capacity to lift and support power source.
- If using lift forks to move power source, be sure forks are long enough to extend beyond opposite side of power source.
- Keep cables and Power Cords away from moving vehicles when working from an aerial location.
- Follow the guidelines in the *Applications Manual for the Revised NIOSH Lifting Equation* [DHHS (NOISH) Publication No. 94–110] when manually lifting heavy parts or Power Source.

1.03 Read Principal Safety Standards

Safety in Welding, Cutting, and Allied Processes, ANSI Standard Z49.1, is available as a free download from the American Welding Society at (Website: www.aws.org).

Safe Practices for the Preparation of Containers and Piping for Welding and Cutting, American Welding Society Standard AWS F4.1, from Global Engineering Documents (Website: www.global.ihs.com).

Safe Practices for Welding and Cutting Containers that have Held Combustibles, American Welding Society Standard AWS A6.0, from Global Engineering Documents (Website: www.global.ihs.com).

National Electrical Code, NFPA Standard 70, from National Fire Protection Association, Quincy, MA 02269 (Website: www.nfpa.org).

Safe Handling of Compressed Gases in Cylinders, CGA Pamphlet P-1, from Compressed Gas Association, 14501 George Carter Way, Suite 103, Chantilly, VA 20151 (website: www.cganet. com).

Safety in Welding, Cutting, and Allied Processes, CSA Standard W117.2, from Canadian Standards Association, Standards Sales, 5060 Spectrum Way, Suite 100, Mississauga, Ontario, Canada L4W 5NS (Website: www.csagroup.org).

Safe Practice for Occupational and Educational Eye and Face Protection, ANSI Standard Z87.1, from American National Standards Institute, 25 West 43rd Street, New York, NY 10036 (Website: www.ansi.org). Standard for Fire Prevention During Welding, Cutting, and Other Hot Work, NFPA Standard 51B, from National Fire Protection Association, Quincy, MA 02269 (Website: www.nfpa.org).

OSHA, Occupational Safety and Health Standards for General Industry,

Title 29, Code of Federal Regulations (CFR), Part 1910, Subpart Q, and Part 1926, Subpart J, from U.S. Government Printing Office, Superintendent of Documents, (Website: www.osha.gov).

Applications Manual for the Revised NIOSH Lifting Equation, The National Institute for Occupational Safety and Health (NIOSH), 1600 Clifton Rd, Atlanta, GA 30329-4027 (Website: www.cdc.gov/NIOSH).

1.04 California Proposition 65 Warnings

This product contains chemicals, including lead, or otherwise produces chemicals known to the State of California to cause cancer, birth defects and other reproductive harm. Wash hands after handling. (California Health & Safety Code 25249.5 et seq.)

Welding and cutting equipment produce fumes or gases which contain chemicals known to the State of California to cause birth defects and, in some cases, cancer. Wear an approved air-supplied respirator for welding and cutting. (California Health & Safety Code Section 25249.5 et seq.)

1.05 ELECTRIC and MAGNETIC FIELDS (EMF) Recommendations

Consult your doctor and the Implanted Medical Device manufacturer before going near arc welding, spot welding, gouging, or plasma arc cutting.

EMF is produced around welding cables / accessories during the welding operation and can interfere with some medical implants such as pacemakers. All Welding Operators should use the following procedures in order to minimize exposure to EMF when welding.

- Keep electrode / ground cables together by twisting or taping them together.
- Keep electrode / ground cables away from your body.
- Do not place your body in between the electrode and ground cables.
- Do not coil or drape cable around the body.
- Keep Power source and accessories as far away from your body as possible.
- Do not weld whilst carrying the Power source or accessories.
- Connect the ground clamp to the workpiece as close as possible to the weld zone.

SECTION 2 – WARRANTY

The MIG/MAG Manual Welding Torch is safe and reliable in operation when handled, installed, and maintained by suitably Trained and Qualified Tradesperson.

JINAN NORTH WELDING TOOLS products are meticulously checked during and at completion of manufacture. JINAN NORTH WELDING TOOLS guarantees that each product is free from material defects and workmanship at the time of dispatch and functions according to its intended use.

JINAN NORTH WELDING TOOLS provides warranty on material defects and workmanship according to national or state legal requirements.

Contact Tips, Nozzles, and Liners (consumables) are exempt from this warranty.

The warranty does not cover any damages or functional defects resulting from:

- Overloading, abusing, or diverting from intended use of the product.
- Collisions or accidents.
- Non-compliance with instructions stated in this document.
- Improper installation or assembly.
- Insufficient maintenance.
- Modifying the product from its original state.
- Chemical influences.
- Normal wear and tear.

JINAN NORTH WELDING TOOLS assumes no liability other than for replacement or repair of faulty parts.

JINAN NORTH WELDING TOOLS makes no other warranty of any kind, expressed or implied, including, but not limited to the warranties of merchantability, or fitness for any purpose. JINAN NORTH WELDING TOOLS shall not be liable under any circumstances to Buyer, or to any person who shall purchase from Buyer, for damages of any kind, including, but not limited to any direct, indirect incidental or consequential damages or loss of production or loss of profits resulting from any cause whatsoever, including, but not limited to any delay, act, error, or omission of JINAN NORTH WELDING TOOLS.

Genuine JINAN NORTH WELDING TOOLS parts must be used for safety and performance reasons, or the warranty becomes invalid. Warranty shall not apply if accident, abuse, or misuse damages of a product, or if a product is modified in any way except by authorized JINAN NORTH WELDING TOOLS personnel.

2.01 Conditions of Intended Use

- This product is intended for industrial and commercial use and must only be utilized by suitably trained personnel. JINAN NORTH WELDING TOOLS is not liable for any damage or accidents resulting from improper usage.
- The instructions for installation, operation and maintenance described in this document must be followed.
- The MIG/MAG Manual Welding Torch must only be installed, operated, and serviced by suitably Trained and Qualified Tradesperson. The installation, operation, and maintenance regulations detailed in this manual are to be followed.
- The MIG/MAG Manual Welding Torch must solely be used for the intended purpose by the user within the Torches technical specifications and with an automated welding system. The type of Torch must be selected to suit the welding task.
- The MIG/MAG Manual Welding Torch was designed for use as a complete system. The incorporation of components from other manufacturers into the system is not permissible.
- The product must be kept dry and protected from humidity when transported, stored, or used.
- The system is designed for environmental temperature range from 5 °C to 40 °C (41 °F to 104 °F). In case these limits are exceeded, specific action is needed.

SECTION 3 – INTRODUCTION

3.01 KLASIK Torch Description

These air-cooled or water-cooled Spool / Push-Pull MIG/MAG Manual Welding Torches are designed for hand Metal Inert Gas welding (MIG) and Metal Active Gas welding (MAG) welding using MIG/MAG welding Power Source.

The Torches consist of a variety design elements:

1. CNC machined tips and gas diffusers are 100% compatible with OEM MIG Torches.
2. Ergonomic, solid handle design.
3. Positive grip Trigger Button with long life contacts.
4. Heavy Duty insulated metal jacketed swan neck with high conductivity inner copper tube.
5. Cable supported by steel spring to reduce hand fatigue.

These elements create a very reliable and long-lasting Torch system with minimal maintenance.

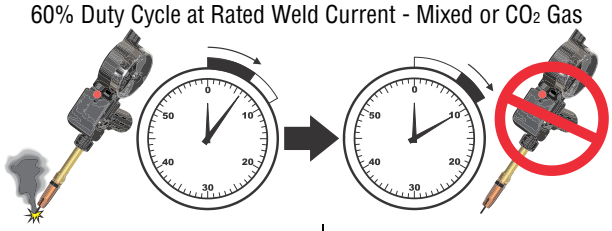
The JINAN NORTH WELDING TOOLS ordering numbers, available accessories, spare parts, and wear parts are found within this User Manual.

3.02 KLASIK Spool Torches Duty Cycle

The MIG/MAG Manual Welding Spool Torches rated duty cycles is a statement of the time it may be operated at its rated welding amperage without exceeding the temperature limits of the component parts.

Spool Torches QLBF-200 III / QLBF-185 / QTLB-24D-SP / QTLB-36D-SP @ 60%

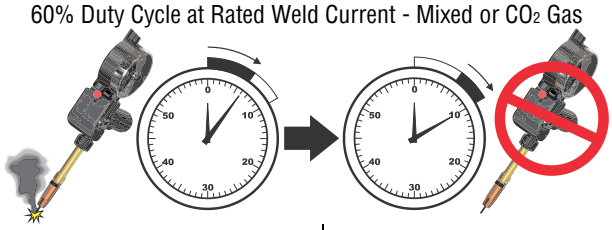
60% Duty Cycle at Rated Weld Current - Mixed or CO_2 Gas



6 Minutes Welding in any 10 Minute Period	4 Minutes Non-Welding in any 10 Minute Period

Push-Pull Torches QTLB-24D / QTLB-36D @ 60%

60% Duty Cycle at Rated Weld Current - Mixed or CO_2 Gas



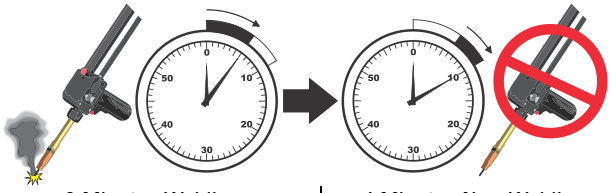
6 Minutes Welding in any 10 Minute Period	4 Minutes Non-Welding in any 10 Minute Period

3.03 KLASIK Push-Pull Torches Duty Cycle

The MIG/MAG Manual Welding Push-Pull Torches rated duty cycles is a statement of the time it may be operated at its rated welding amperage without exceeding the temperature limits of the component parts.

Push-Pull Torches QTLB-24D / QTLB-36D @ 60%

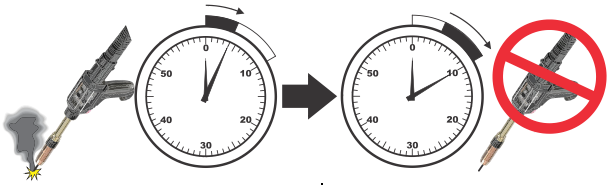
60% Duty Cycle at Rated Weld Current - Mixed or CO2 Gas



6 Minutes Welding in any 10 Minute Period	4 Minutes Non-Welding in any 10 Minute Period

Push-Pull Torches PG4000 / PG4045 @ 40%

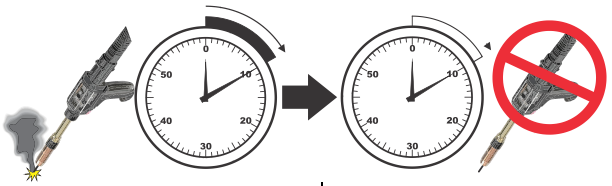
40% Duty Cycle at Rated Weld Current - Mixed or CO_2 Gas



4 Minutes Welding in any 10 Minute Period	6 Minutes Non-Welding in any 10 Minute Period

Push-Pull Torches PW5000 / PW5045 @ 100%

100% Duty Cycle at Rated Weld Current - Mixed or CO_2 Gas



10 Minutes Welding in any 10 Minute Period	0 Minutes Non-Welding in any 10 Minute Period

3.04 KLASIK Torch Contents

All KLASIK Torches come complete with:

- MIG/MAG Manual Welding Torch
- Contact Tip
- Nozzle
- User Manual No: OM-104A EN

***NOTE 1**: JINAN NORTH WELDING TOOLS reserves the right to change, improve or revise the specifications or design of this product without prior notice. Such updates or changes do not entitle the buyer of this Product previously sold or shipped to the corresponding changes, updates, improvements, or replacement. The values specified in the table above are nominal parameters. An individual Torch may differ from the above specifications due to in part, but not exclusively, to any one or more of the following variations or changes in manufactured components, installation location/conditions.*

3.05 KLASIK Spool Torch Specifications

Refer to NOTE 1 on Page 10

Part Numbers	QLBF-200 III-6E, QLBF-200 III-8E, QLBF-200 III-6T, QLBF-200 III-8T	QLBF-185-6, QLBF-185-8	QTLB-24D-SP-6E, QTLB-24D-SP-8E, QTLB-24D-SP-6T, QTLB-24D-SP-8T	QTLB-36D-SP-6E, QTLB-36D-SP-8E, QTLB-36D-SP-6T, QTLB-36D-SP-8T
Torch Length (m)	6 = 6 m, 8 = 8 m	6 = 6 m, 8 = 8 m	6 = 6 m, 8 = 8 m	6 = 6 m, 8 = 8 m
Torch Power Connector	E = Euro Fitting, T = Tweco Fitting	13mm Diameter Hole Lug, 5mm ID Hose & 4 Pin Plug	E = Euro Fitting, T = Tweco Fitting	E = Euro Fitting, T = Tweco Fitting
Swan Neck Angle (°)	180	180	180 or 45	180 or 45
Wire Size Range (mm)	0.6–1.0	0.8–0.9	0.6–1.2	0.8–1.2
Standardization Administration of China – Arc Welding Equipment – Part 7: Torches IEC Standard for Safety – Arc Welding Equipment – Part 7: Torches	GB/T 15579.7-2013 IEC 60974-7:2019			
Cooling Method	Air-Cooled			Air-Cooled
Operating Temperature Range	-10 °C to +40 °C (+14 °F to +104 °F)			
Storage/Transportation Temperature Range	-25 °C to +55 °C (-13 °F to +131 °F)			
Relative Air Humidity During Operating	0% to 90% (at +20 °C ambient air temperature)			
Welding Power Rating for MIG/MAG Manual Welding Torch [+40 °C Air Temperature]				
Rated Amps / Duty Cycle using: CO_2 Shielding Gas Mixed Shielding Gas	 200A/60% 160A/60%	 180A/60% 160A/60%	 200A/60% 160A/60%	 350A/60% 300A/60%
MIG/MAG Torch Maximum Voltage	113 VDC (Peak Welding Voltage)			

3.06 KLASIK Push-Pull Torch Specifications: QTLB-24D, QTLB-36D

Refer to NOTE 1 on Page 10

Part Number	QTLB-24D-6	QTLB-24D-8	QTLB-36D-6	QTLB-36D-8
Torch Length	6 = 6 m	8 = 8 m	6 = 6 m	8 = 8 m
Torch Power Connector	Euro Fitting		Euro Fitting	
Swan Neck Angle (°)	180 or 45		180 or 45	
Wire Size Range (mm)	0.8–1.2		0.8–1.2	
Standardization Administration of China – Arc Welding Equipment – Part 7: Torches IEC Standard for Safety – Arc Welding Equipment – Part 7: Torches	GB/T 15579.7-2013 IEC 60974-7:2019			
Cooling Method	Air-Cooled	Air-Cooled	Air-Cooled	Air-Cooled
Operating Temperature Range	-10 °C to +40 °C (+14 °F to +104 °F)			
Storage/Transportation Temperature Range	-25 °C to +55 °C (-13 °F to +131 °F)			
Relative Air Humidity During Operating	0% to 90% (at +20 °C ambient air temperature)			
Welding Power Rating for MIG/MAG Manual Welding Torch [+40 °C Air Temperature]				
Rated Amps / Duty Cycle using: CO_2 Shielding Gas Mixed Shielding Gas	 200A/60% 160A/60%		 350A/60% 300A/60%	
MIG/MAG Torch Maximum Voltage	113 VDC (Peak Welding Voltage)			

3.07 KLASIK Push-Pull Torch Specifications: PG4000 / PG4045, PW5000 / PG5045

Refer to NOTE 1 on Page 10

Part Number	PG4000-6 PG4000-8	PG4045-6 PG4045-8	PW5000-6 PW5000-8	PW5045-6 PW5045-8
Torch Length	6 = 6 m 8 = 8 m	6 = 6 m 8 = 8 m	6 = 6 m 8 = 8 m	6 = 6 m 8 = 8 m
Torch Power Connector	Euro Fitting		Euro Fitting	
Swan Neck Angle (°)	180	45	180	45
Wire Size Range (mm)	0.8–1.2		0.8–1.6	
Standardization Administration of China – Arc Welding Equipment – Part 7: Torches IEC Standard for Safety – Arc Welding Equipment – Part 7: Torches	GB/T 15579.7-2013 IEC 60974-7:2019			
Cooling Method	Air-Cooled	Air-Cooled	Water-Cooled	Water-Cooled
Operating Temperature Range	-10 °C to +40 °C (+14 °F to +104 °F)			
Storage/Transportation Temperature Range	-25 °C to +55 °C (-13 °F to +131 °F)			
Relative Air Humidity During Operating	0% to 90% (at +20 °C ambient air temperature)			
Welding Power Rating for MIG/MAG Manual Welding Torch [+40 °C Air Temperature]				
Rated Amps / Duty Cycle using: CO_2 Shielding Gas Mixed Shielding Gas	 400A/40% 350A/40%		 500A/100% 400A/100%	
MIG/MAG Torch Maximum Voltage	113 VDC (Peak Welding Voltage)			

SECTION 4 – SPOOL TORCH: Installation and Operation

4.01 SPOOL TORCH: Environmental Limits

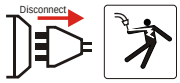
These air-cooled MIG/MAG Manual Welding Torches are designed for use in environments where:

- Operating temperature range is -10 °C to +40 °C (+14 °F to +104 °F)
- Relative air humidity during operating is 0% to 90% @ + 20 °C ambient air temperature

4.02 SPOOL TORCH: Operation Guidelines

Be sure to locate the MIG/MAG equipment according to the following guidelines:

- In areas, free from moisture and dust.
- In areas, free from oil, steam, and corrosive gases.
- In areas, not subjected to abnormal vibration or shock.
- In areas, not exposed to direct sunlight or rain.

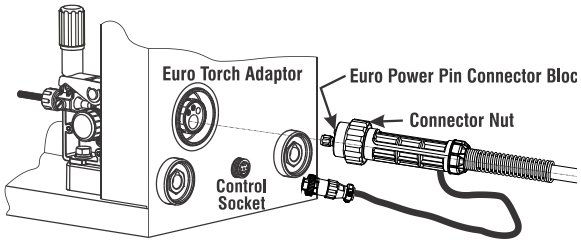
							
Torch installation must be done by a suitably Trained and Qualified Tradesperson.	Disconnect Power to MIG/MAG equipment. Electric shock can kill.	Flying metal or dirt can injure eyes.	FUMES and Shielding GAS can be hazardous to your health.	Moving parts can cause injury.	Sparks, weld spatter or hot work piece can cause fires and burns.	Improper installation can cause fire.	Read User Manual.

Genuine JINAN NORTH WELDING TOOLS parts must be used for safety and performance reasons, or the warranty becomes invalid. Inspect all parts for transportation damage. ***Do not use damaged parts.***

4.03 SPOOL TORCH: Connecting Torch Power Pin to MIG Equipment Adaptor

For Spool Torches QLBF-200 III-6E, QLBF-200 III-8E, QTLB-24D-SP-6E, QTLB-24D-SP-8E, QTLB-36D-SP-6E, QTLB-36D-SP-8E.

Euro Power Pin Connector Block to Euro Style Adaptor



a) Disconnect Power to the MIG/MAG equipment.

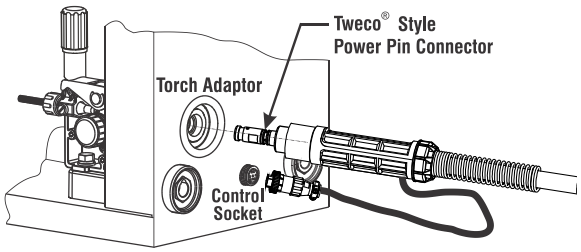
b) Align **Euro Power Pin Connector Block** with **Euro Torch Adaptor** then insert it.

c) Secure tighten the **Connector Nut** into the **Euro Adaptor**.

d) Connect the Multi-Pin Plug to the MIG/MAG equipment Control Socket.

For Spool Torches QLBF-200 III-6T, QLBF-200 III-8T, QTLB-24D-SP-6T, QTLB-24D-SP-8T, QTLB-36D-SP-6T, QTLB-36D-SP-8T.

Tweco® Power Pin Connector Block to Tweco Style Adaptor



a) Disconnect Power to the MIG/MAG equipment.

b) Insert the **Tweco Power Pin** into the **Tweco Torch Adaptor** to shoulder then secure using mechanical means as described in MIG/MAG equipment user manual.

c) Connect the Multi-Pin Plug to the MIG/MAG equipment Control Socket.

For Spool Torches QLBF-185-6, QLBF-185-8.

Spool Torch is Hard Wired to MIG/MAG equipment

a) Disconnect Power to the MIG/MAG equipment.

b) Refer to the MIG/MAG equipment Operating Manual to identify the connection points for the 4-pin plug, power cable with 13mm lug, and 5mm (inside diameter) gas hose.

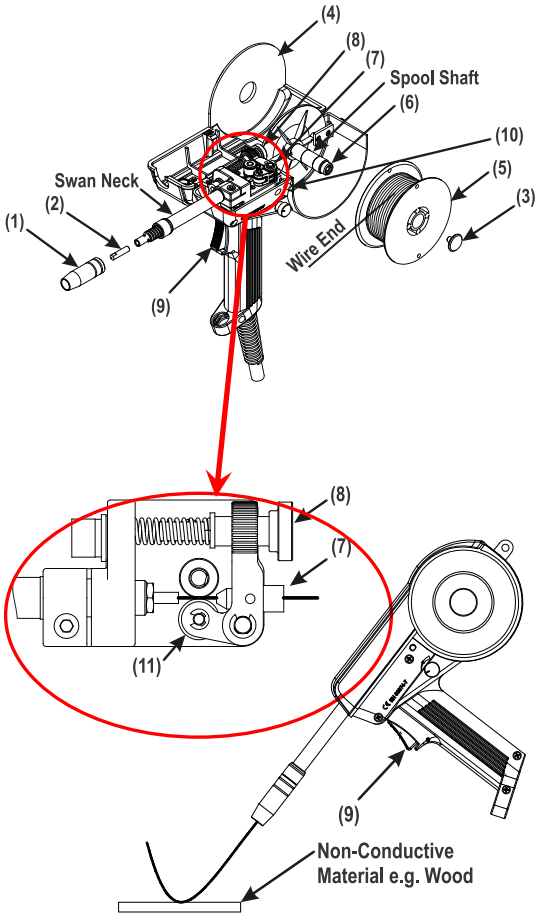
c) Connect power cable with 13mm lug to the MIG/MAG equipment Positive Weld Terminal as described in the MIG/MAG equipment Operating Manual.

d) Connect 5mm (inside diameter) gas hose to the MIG/MAG equipment gas hose as described in the MIG/MAG equipment Operating Manual.

e) Connect the Multi-Pin Plug to the MIG/MAG equipment Control Socket.

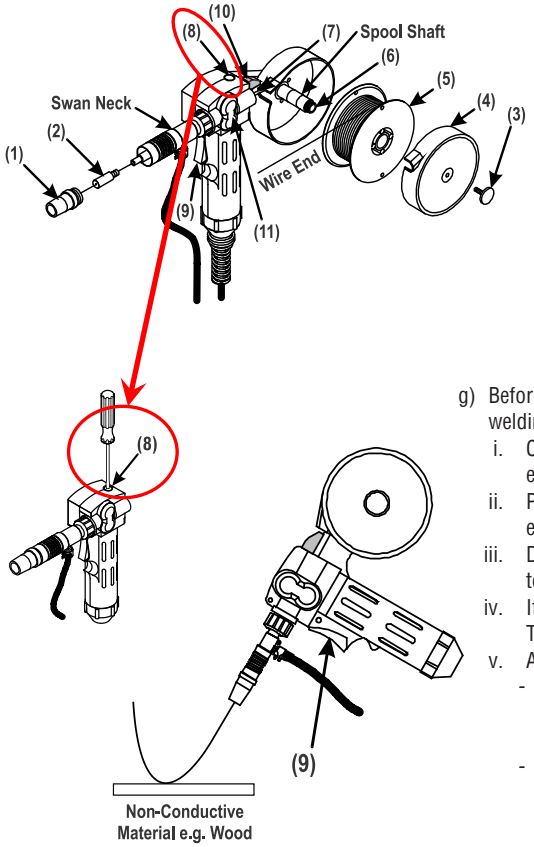
4.04 SPOOL TORCH: Install Welding Wire Spool Then Threading the Welding Wire

MODEL: QLBF-200 III



a) Disconnect Power to the MIG/MAG equipment.
b) Ensure the Drive Roll is marked with the same size as the **Welding Wire** you are about to fit in the Spool Torch.
c) Lift the **Spool Cover (4)** by pressing **Press Button (10).**
d) Unscrew **Nozzle (1), Contact Tip (2)**, and **Locking Screw (3)**.
e) Put the **Welding Wire Spool (5)** on the **Spool Shaft** to check the **Welding Wire Spool (5)** has some friction with the **Spool Shaft**. If no friction, then adjust the **Hub Tension Nut (6)** so some friction is felt between the **Welding Wire Spool (5)** and the **Spool Shaft**. Remove the **Welding Wire Spool (5)** from the **Spool Shaft**.
f) Rotate the **Pressure Arm Bolt (8)** clockwise to release the tension on the **Pressure Roll Bearing (11)**.
g) Take the Wire End from the top of the **Welding Wire Spool (5).**
CAUTION: *Hold the **Wire End** tightly to stop it from unravelling.*
h) Feed the **Wire End** into the **Inlet Guide (7)** then push the **Welding Wire** 75 mm (3 in.) out past the **Swan Neck**.
i) Secure the **Welding Wire Spool (5)** using **Locking Screw (3)** then screw the **Pressure Arm Bolt (8)** counter clockwise to put some tension on the **Wire End**.
j) Flip the **Spool Cover (4)** over to cover the **Welding Wire Spool (5)**, then fit the **Contact Tip (2)**, and **Nozzle (1)** on the Spool Torch.
k) Before you start welding, test the Pressure Arm force to the Drive Roll is sufficient to feed the welding wire.
   i. Connect MIG/MAG Spool Torch as per Section 4.03 then connect Power to the MIG/MAG equipment.
   ii. Point the Spool Torch at 60 degree and 100mm (4 in.) from a flat non-conductive material, e.g. wood, on the floor.
   iii. Depress **Torch Trigger Switch (9)** to feed **Welding Wire** on to a flat non-conductive material, e.g. wood.
   iv. If **Welding Wire** slips on the Drive Roll (welding wire does not feed constantly from Torch) then adjust **Pressure Arm Bolt (8)**.
   v. Rotate **Pressure Arm Bolt (8)** by:
   - Rotating in a counter-clockwise direction reduces Pressure Arm force to the Drive Roll. Reduced Pressure Arm force on the Drive Roll causes the **Welding Wire** to slip on the Drive Roll and can produce an inconsistent welding.
   - Clockwise direction increases the Pressure Arm force to the Drive Roll. Increased Pressure Arm force on the Drive Roll can cause the **Welding Wire** to deform producing metal fragments which clogs the Liner in the **Swan Neck** and can produce poor wire feedability.

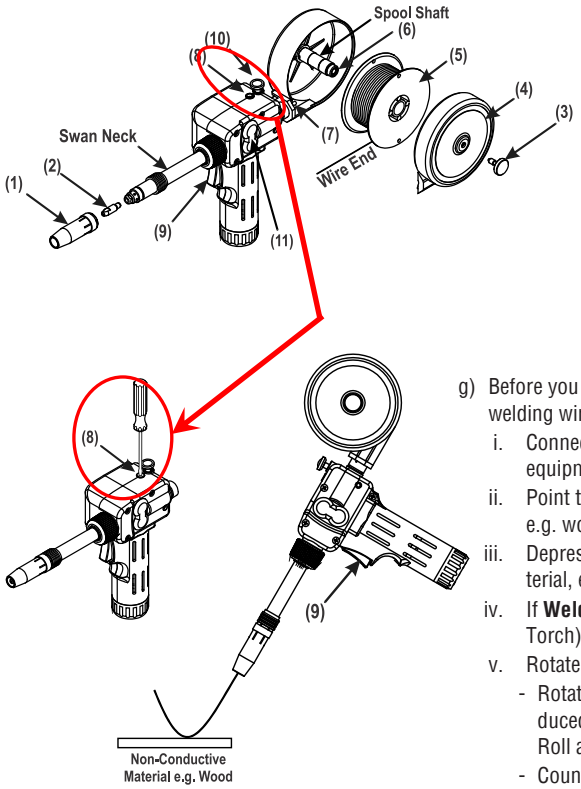
MODEL: QLBF-185



a) Disconnect Power to the MIG/MAG equipment.
b) Ensure the Drive Roll is marked with the same size as the **Welding Wire** you are about to fit in the Spool Torch.
c) Unscrew **Nozzle (1)**, **Contact Tip (2)**, and **Locking Screw (3)** then remove **Spool Cover (4)**.
d) Put the **Welding Wire Spool (5)** on the **Spool Shaft** to check the **Welding Wire Spool (5)** has some friction with the **Spool Shaft**. If no friction, then adjust the **Hub Tension Nut (6)** so some friction is felt between the **Welding Wire Spool (5)** and the **Spool Shaft**. Remove the **Welding Wire Spool (5)** from the **Spool Shaft**.
e) Take the Wire End from the top of the **Welding Wire Spool (5),**
CAUTION: *Hold the **Wire End** tightly to stop it from unravelling,* then feed it into the **Inlet Guide (7)** while pushing down on the red **Pressure Roll Release Lever (10)** then push the **Welding Wire** 75 mm (3 in.) out past the **Swan Neck**.
f) Fit the **Spool Cover (4)**, **Locking Screw (3)**, **Contact Tip (2)**, and **Nozzle (1)** on the Spool Torch.
g) Before you start welding, test the Pressure Arm force to the Drive Roll is sufficient to feed the welding wire.
   i. Connect MIG/MAG Spool Torch as per Section 4.03 then connect Power to the MIG/MAG equipment.
   ii. Point the Spool Torch at 60 degree and 100mm (4 in.) from a flat non-conductive material, e.g. wood, on the floor.
   iii. Depress **Torch Trigger Switch (9)** to feed **Welding Wire** on to the flat non-conductive material, e.g. wood.
   iv. If **Welding Wire** slips on the Drive Roll (**Welding Wire** does not feed constantly from Torch) then adjust **Pressure Arm Screw (8)**.
   v. Adjust the **Pressure Arm Screw (8)** using a screwdriver:
   - Rotating in a clockwise direction reduces Pressure Arm force to the Drive Roll. Reduced Pressure Arm force on the Drive Roll causes the **Welding Wire** to slip on the Drive Roll and can produce an inconsistent welding.
   - Counter-clockwise direction increases Pressure Arm force to the Drive Roll. Increased Pressure Arm force on the Drive Roll can cause the **Welding Wire** to deform producing metal fragments which clogs the Liner in the **Swan Neck** and can produce poor wire feedability.

4.04 SPOOL TORCH: Install Welding Wire Spool Then Threading the Welding Wire

MODEL: QLBF-24D and QLBF-36D



a) Disconnect Power to the MIG/MAG equipment.

b) Ensure the Drive Roll is marked with the same size as the **Welding Wire** you are about to fit in the Spool Torch.

c) Remove **Nozzle (1)** using a twisting pull action, unscrew the **Contact Tip (2)**, and **Locking Screw (3)** then remove **Spool Cover (4)**.

d) Put the **Welding Wire Spool (5)** on the **Spool Shaft** to check the **Welding Wire Spool (5)** has some friction with the **Spool Shaft**. If no friction, then adjust the **Hub Tension Nut (6)** so some friction is felt between the **Welding Wire Spool (5)** and the **Spool Shaft**. Remove the **Welding Wire Spool (5)** from the **Spool Shaft**.

e) Take the Wire End from the top of the **Welding Wire Spool (5),**
CAUTION: *Hold the* ***Wire End*** *tightly to stop it from unravelling,* then feed it into the **Inlet Guide (7)** while pushing down on the red **Pressure Roll Release Button (10)** then push the **Welding Wire** 75 mm (3 in.) out past the **Swan Neck.**

f) Fit the **Spool Cover (5)**, **Locking Screw (3)**, **Contact Tip (2)**, and **Nozzle (1)** on the Spool Torch.

g) Before you start welding, test the Pressure Arm force to the Drive Roll is sufficient to feed the welding wire.

i. Connect MIG/MAG Spool Torch as per Section 4.03 then connect Power to the MIG/MAG equipment.

ii. Point the Spool Torch at 60 degree and 100mm (4 in.) from a flat non-conductive material, e.g. wood, on the floor.

iii. Depress **Torch Trigger Switch (9)** to feed **Welding Wire** on to the flat non-conductive material, e.g. wood.

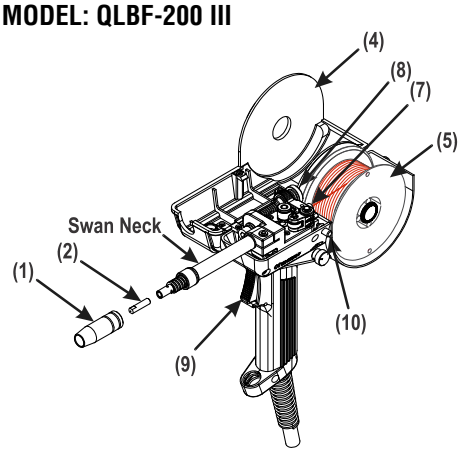
iv. If **Welding Wire** slips on the Drive Roll (**Welding Wire** does not feed constantly from Torch) then adjust **Pressure Arm Screw (8)**.

v. Rotate **Pressure Arm Screw (8)** using a screwdriver:

- Rotating in a clockwise direction reduces the Pressure Arm force to the Drive Roll. Reduced Pressure Arm force on the Drive Roll causes the **Welding Wire** to slip on the Drive Roll and can produce an inconsistent welding.
- Counter-clockwise direction increases the Pressure Arm force to the Drive Roll. Increased Pressure Arm force on the Drive Roll can cause the **Welding Wire** to deform producing metal fragments which clogs the Liner in the **Swan Neck** and can produce poor wire feedability.

4.05 SPOOL TORCH: How to Feed Welding Wire

MODEL: QLBF-200 III



a) Connect MIG/MAG Spool Torch as per Section 4.03 then fit the **Welding Wire Spool** as per Section 4.04 for QLBF-200 III.

b) Remove **Nozzle (1)**.

c) Remove **Contact Tip (2)**.

d) Connect power to the MIG/MAG equipment.

e) Depress **Torch Trigger Switch (9)** to energizes welding power to drive **Welding Wire** thru the **Swan Neck**.

f) Release **Torch Trigger Switch (9)** when **Welding Wire** emerges from the **Swan Neck**.

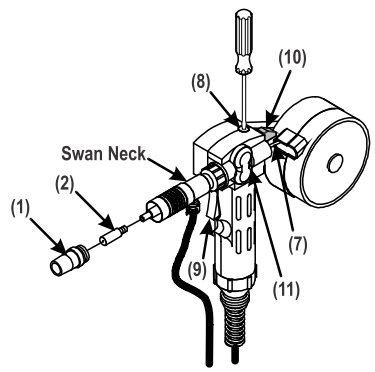
g) If **Welding Wire** slips on the Drive Roll (**Welding Wire** does not feed constantly from Torch) then:
- Lift the **Spool Cover (4)** by pressing **Press Button (10).**
- Adjust the **Pressure Arm Bolt (8)**, refer to **Section 4.04 QLBF-200 III**, clockwise to a point where the **Welding Wire** is not slipping. DO NOT over tighten the **Pressure Arm Bolt (8).**

h) Close the **Spool Cover (4)**.

i) Fit **Contact Tip (2)** and secure.

j) Fit **Nozzle (1)**.

MODEL: QLBF-185



a) Connect MIG/MAG Spool Torch as per Section 4.03 then fit the **Welding Wire Spool** as per Section 4.04 for QLBF-185.

b) Remove **Nozzle (1)**.

c) Remove **Contact Tip (2)**.

d) Connect power to the MIG/MAG equipment.

e) Depress **Torch Trigger Switch (9)** to energizes welding power to drive **Welding Wire** thru the **Swan Neck**.

f) Release **Torch Trigger Switch (9)** when **Welding Wire** emerges from the **Swan Neck**.

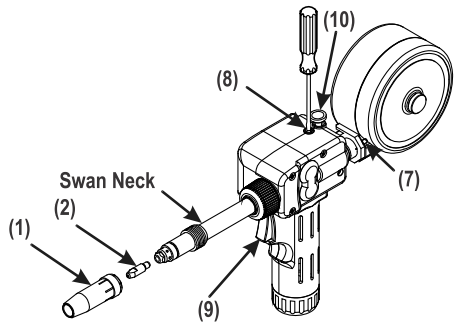
g) If **Welding Wire** slips on the Drive Roll (**Welding Wire** does not feed constantly from Torch) then adjust **Pressure Arm Screw (8)** in a counter-clockwise direction where the **Welding Wire** is not slipping. DO NOT over tighten the **Pressure Arm Screw (8).**

h) Fit **Contact Tip (2)** and secure.

i) Fit **Nozzle (1)**.

4.05 SPOOL TORCH: How to Feed Welding Wire

MODEL: QLBF-24D and QLBF-36D



a) Connect MIG/MAG Spool Torch as per Section 4.03 then fit the **Welding Wire Spool** as per Section 4.04 for QLBF-24D or QLBF-36D.

b) Remove **Nozzle (1)**.

c) Remove **Contact Tip (2)**.

d) Connect power to the MIG/MAG equipment.

e) Depress **Torch Trigger Switch (9)** to energizes welding power to drive **Welding Wire** thru the **Swan Neck**.

f) Release **Torch Trigger Switch (9)** when **Welding Wire** emerges from the **Swan Neck**.

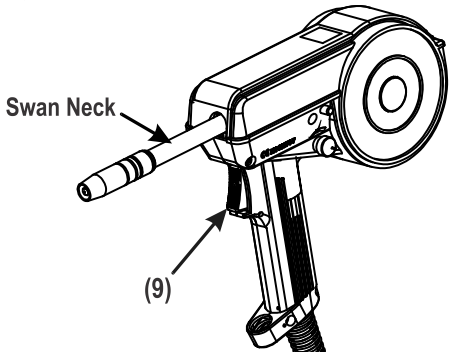
g) If **Welding Wire** slips on the Drive Roll (**Welding Wire** does not feed constantly from Torch) then adjust **Pressure Arm Screw (8)** in a counter-clockwise direction where the **Welding Wire** is not slipping. DO NOT over tighten the **Pressure Arm Screw (8).**

h) Fit **Contact Tip (2)** and secure.

i) Fit **Nozzle (1)**.

4.06 SPOOL TORCH: Depress Torch Trigger Switch

MODEL: QLBF-200 III



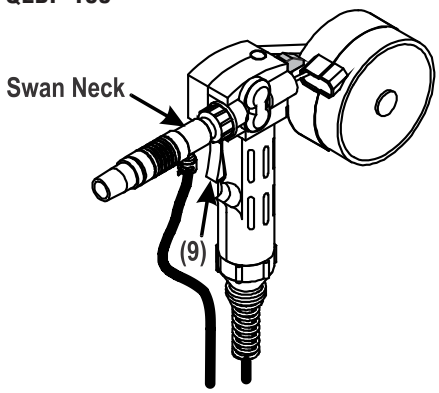
Torch Trigger Switch (9) – When depressed, the welding power is energized, **Welding Wire** (if fitted) is driven thru the Spool **Swan Neck** and shielding gas flows (if gas is connected MIG/MAG equipment and turned on) out of the **Swan Neck**.

*DO NOT put Spool Torch near your ears or eyes when the **Torch Trigger (9)** is depressed as **Welding Wire** will rapidly exit the Contact Tip then the Nozzle and will cause serious to your ears, eyes, or skin.*

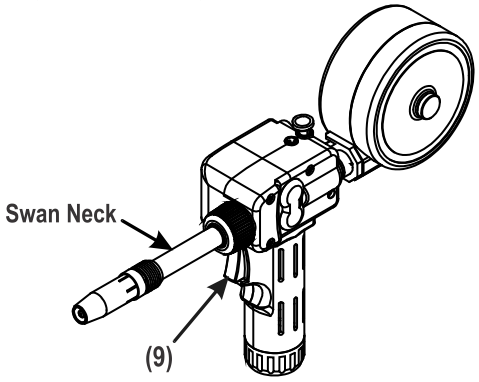
*Touching **Welding Wire** when electrically alive may cause fatal shocks or severe burns.*

Always wear Safety glass when operating or near MIG/MAG equipment.

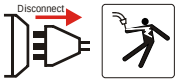
MODEL: QLBF-185



MODEL: QLBF-24D and QLBF-36D

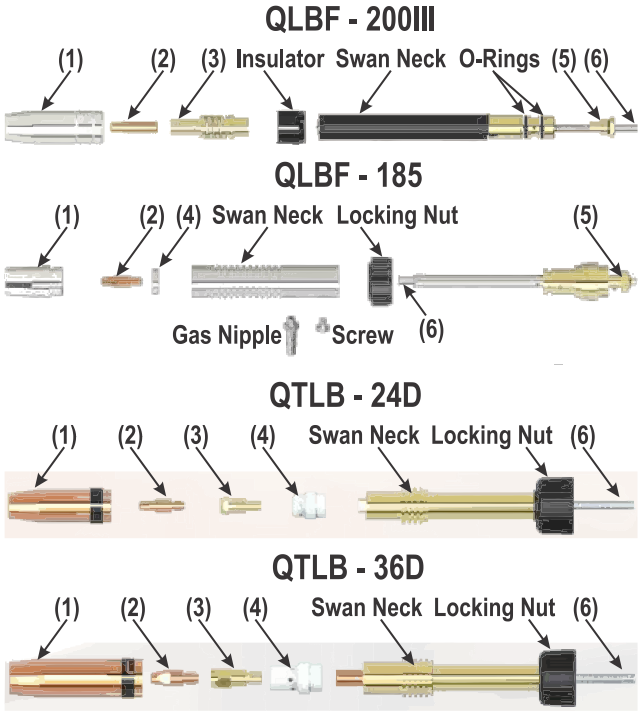


SECTION 5 – SPOOL TORCH: Wear Parts & Torch Parts

							
Torch installation must be done by a suitably Trained and Qualified Tradesperson.	Disconnect power to MIG/MAG equipment. Electric shock can kill.	Flying metal or dirt can injure eyes.	FUMES and Shielding GAS can be hazardous to your health.	Moving parts can cause injury.	Welding wire can cause injury	Improper installation can cause fire.	Read User Manual.

Genuine JINAN NORTH WELDING TOOLS parts must be used for safety and performance reasons, or the warranty becomes invalid. Inspect all parts for transportation damage. ***Do not use damaged or worn parts.*** *Before starting the MIG/MAG equipment, check the whole installation according to the manufacturer's instructions, this Manual and applicable national / state / local safety regulations.*

5.01 SPOOL TORCH: Change Wear Parts



a) Disconnect power to MIG/MAG equipment.

b) **Remove**

- **Nozzle (1):** Remove threaded nozzle by turning in a counter clockwise direction OR slide–on nozzle can be removed using a twisting pull action.
- **Contact Tip (2):** Cut **Welding Wire** (electrode) close to the **Contact Tip (2)** and remove burrs before turning the **Contact Tip (2)** in a counter clockwise direction.
- **Tip Holder (3):** Remove using an appropriate tool.
- **Gas Diffuser (4):** Remove using an appropriate tool.
- **Liner (6):** Remove the **Liner Nut (5)**, if fitted, by using an appropriate wrench in a counter clockwise direction then pull the **Liner (6)** out of the **Swan Neck**.

c) **Replace**

- **Liner (6):** Fit the Liner in to the **Swan Neck** then secure the **Liner Nut (5)**, if fitted, by using an appropriate wrench in a clockwise direction.
- **Gas Diffuser (4):** Fit using an appropriate tool.
- **Tip Holder (3):** Fit using an appropriate tool.
- **Contact Tip (2):** Fit the contact tip turning the **Contact Tip (2)** in a clockwise direction.
- **Nozzle (1):** Fit the threaded nozzle by turning in a clockwise direction OR slide–on nozzle can be fitted using a twisting push action.

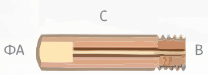
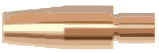
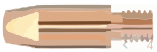
5.02 SPOOL TORCH: Nozzles, Contact Tips, Contact Tip Holders, Gas Diffusers, and Liners Parts

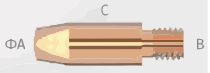
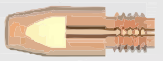
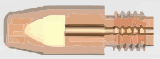
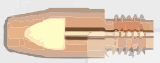
NOZZLES

Part Number	Shape	Materia	ΦA mm	ΦB mm	C mm	QLBF-200 QLBF-185 QTLB-24D-SP QTLB-36D-SP	Product picture
EA1212	Con˙cal	Copper	12		53	●	
186405		Copper			–	●	
EA22125	Con˙cal	Copper	12.5		63	●	
EA3216	Conical	Copper	16		84	●	

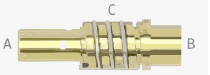
5.02 SPOOL TORCH: Nozzles, Contact Tips, Contact Tip Holders, Gas Diffusers, and Liners Parts

CONTACT TIPS

Part Number	Shape	Material	ΦA mm	B mm	C mm	QLBF-200	QLBF-185	QTLB-24D-SP	QTLB-36D-SP	Product picture
EB1108		Copper	0.8	M6	25	●				
EB1109	–	Copper	0.9	M6	25	●				
EB1110		Copper	1.0	M6	25	●				
186406	–	Copper	0.035"	M5	25		●			
186419		Copper	0.030"	M5	25		●			
EB2208	–	Copper	0.8	M6	28			●		

Part Number	Shape	Material	ΦA mm	B mm	C mm	QLBF-200	QLBF-185	QTLB-24D-SP	QTLB-36D-SP	Product picture
EB2210		Copper	1.0	M6	28			●		
EB2212	–	Copper	1.2	M6	28			●		
EB3210	–	Copper	1.0	M8	30				●	
EB3212		Copper	1.2	M8	30				●	
EB3210L	–	CuCrZr	1.0	M8	30				●	
EB3212L		CuCrZr	1.2	M8	30				●	

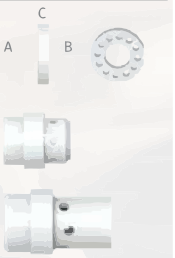
CONTACT TIPS HOLDERS

Part Number	Shape	Material	A mm	B mm	C mm	QLBF-200	QLBF-185	QTLB-24D-SP	QTLB-36D-SP	Product picture
ED1001	–	Brass	M6	M8X1-LH	28	●				
EC2001	–	Brass	M6	M6	25.5			●		
EC3002	–	Brass	M8	M8	32				●	

5.02 SPOOL TORCH: Nozzles, Contact Tips, Contact Tip Holders, Gas Diffusers, and Liners Parts

GAS DIFFUSERS

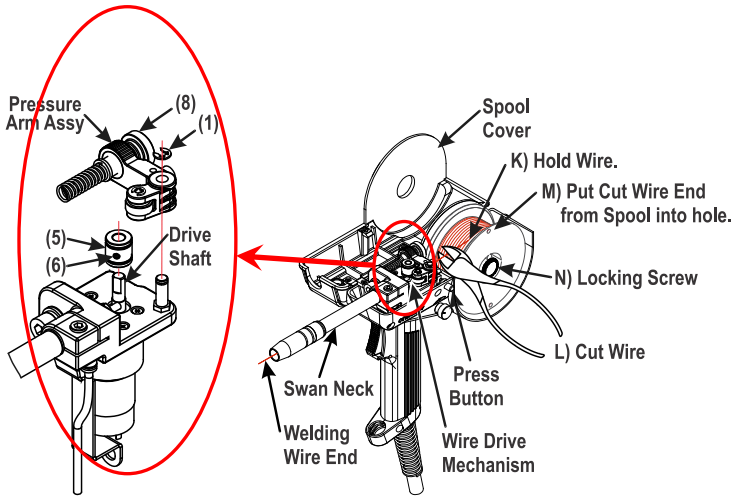
Part Number	Shape	Material	A mm	B mm	C mm	QLBF-200	QLBF-18S	QTLB-24D-SP	QTLB-36D-SP	Product picture
186409		ceramic	–	–	–	●				
ED2001	–	ceramic	–	–	20		●			
ED3002	–	DMC	–	–	32.5			●		



LINERS

Part Number	Material	Wire Size ΦA in/mm	Length B ft meters	QLBF-200	QLBF-18S	QTLB-24D-SP	QTLB-36D-SP	Product picture
LWR11170				●				
206363					●			
LTR21134						●		
LTR21142						●		
LTR31160							●	
LTR31168							●	

5.03 SPOOL TORCH QLBF-200 III: Change Pressure Roll / Drive Roll



CHANGE Drive Roll (5)

a) Disconnect Power to the MIG/MAG equipment.

b) **Press Button** to lift the **Spool Cover** up to expose the Wire Drive Mechanism.

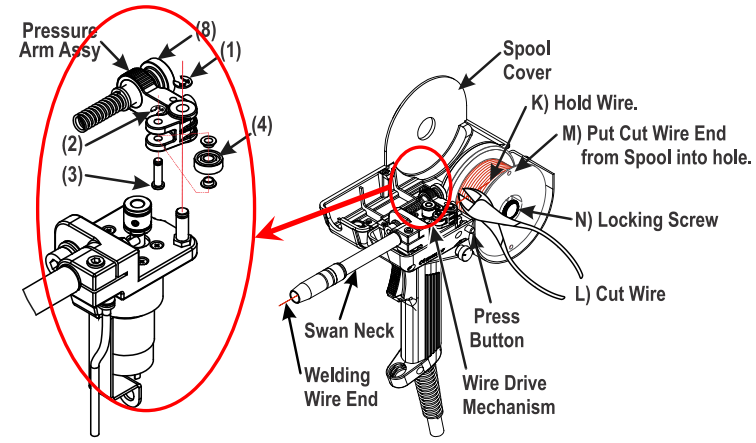
c) Remove the **Welding Wire Spool** by:
K) **Hold Wire** against the **Spool**.
L) **Cut Wire** between the **Spool** & **Inlet Guide.**
M) Put **Cut Wire End** from **Spool** into hole.
N) Unscrew the **Locking Screw.**
O) Pull the **Welding Wire End** out of the **Swan Neck**.

d) Rotate the **Pressure Arm Bolt (8)** counter-clockwise to release the tension on the **Pressure Arm Assy.**

e) Remove the **Pressure Arm Assy** by removing **Circlip (1)** using a suitable tool.

f) Unscrew **Allen Key Grub Screw (6)** then slide **Drive Roll (5)** off the **Drive Shaft**.

g) Fit a new **Drive Roll (5)** then re-assemble the Spool Torch.



CHANGE Pressure Roll (4)

a) Disconnect Power to the MIG/MAG equipment.

b) **Press Button** to lift the **Spool Cover** up to expose the Wire Drive Mechanism.

c) Remove the **Welding Wire Spool** by:
K) **Hold Wire** against the **Spool**.
L) **Cut Wire** between the **Spool** & **Inlet Guide**.
M) Put **Cut Wire End** from **Spool** into hole.
N) Unscrew the **Locking Screw.**
O) Pull the **Welding Wire End** out of the **Swan Neck.**

d) Rotate the **Pressure Arm Bolt (8)** counter-clockwise to release the tension on the **Pressure Roll Bearing (4).**

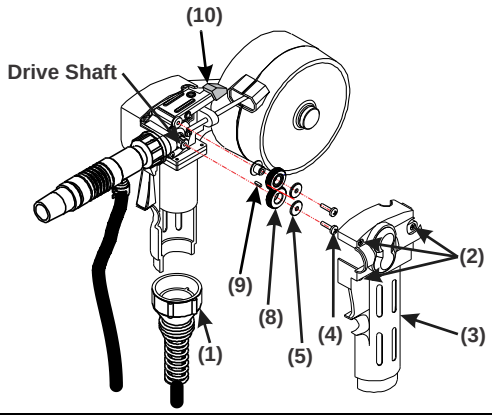
e) Remove the **Pressure Arm Assy** by removing **Circlip (1)** using a suitable tool.

f) Remove the **Circlip (2)** using a suitable tool.

g) Remove the **Roll Shaft (3)** then slide out the **Pressure Roll (4)**.

h) Fit a new **Pressure Roll (4)** then re-assemble the Spool Torch.

5.04 SPOOL TORCH QLBF-185: Change Pressure Roll / Drive Roll



CHANGE Drive Roll (8)

a) Disconnect Power to the MIG/MAG equipment.

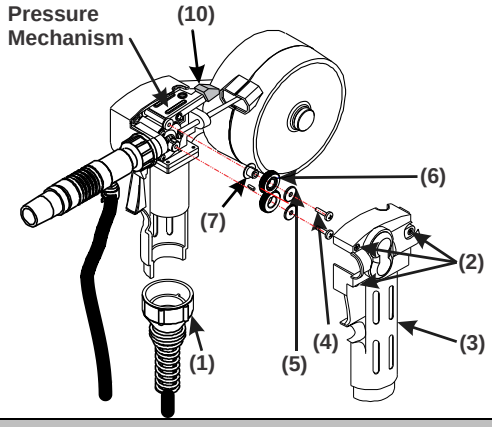
b) Unscrew **Handle Nut (1)**, and 3 x **Handle Screws (2)**.

c) Wiggle the **Handle Half (3)** away from the Spool Torch.

d) Unscrew and remove **Screw (4)** and **Washer (5)** from the **Drive Shaft.**

e) Push down on the red **Pressure Roll Release Button (10)** then slide the **Drive Roll (8)** off the **Drive Shaft. Do NOT** lose the **Drive Key (9)**.

f) Fit a new **Drive Roll (8)** and then re-assemble the Spool Torch.
Note: Ensure the **Drive Key (9)** is fitted into the slot of the **Drive Shaft** then line up the slot in the **Drive Roll (8)** with the **Drive Key (9)**.



CHANGE Pressure Roll (6)

a) Disconnect Power to the MIG/MAG equipment.

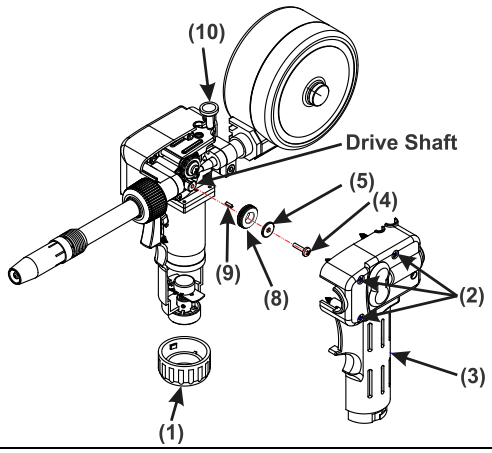
b) Unscrew **Handle Nut (1)**, and 3 x **Handle Screws (2)**.

c) Wiggle the **Handle Half (3)** away from the Spool Torch.

d) Push down on the red **Pressure Roll Release Button (10)** then unscrew the **Screw (4)** to remove the **Washer (5), Pressure Roll (6),** and **Bearing (7)** from the **Pressure Mechanism. Do NOT** lose the **Bearing (7)**.

e) Fit a new **Pressure Roll (6)** and then re-assemble the Spool Torch.

5.05 SPOOL TORCH QTLB-24D / QTLB-36D: Change Pressure Roll / Drive Roll



CHANGE Drive Roll (8)

a) Disconnect Power to the MIG/MAG equipment.

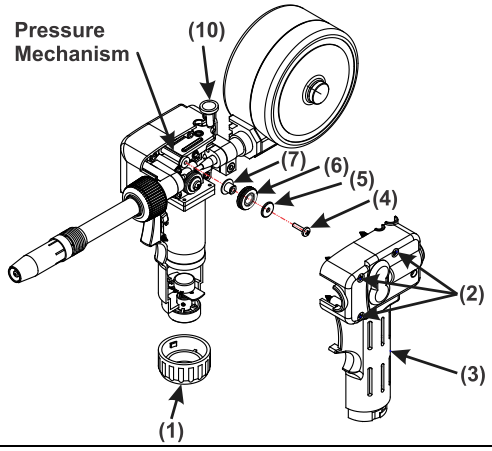
b) Unscrew **Handle Nut (1)**, and 3 x **Handle Screws (2)**.

c) Wiggle the **Handle Half (3)** away from the Spool Torch.

d) Unscrew and remove **Screw (4)** and **Washer (5)** from the **Drive Shaft.**

e) Push down on the red **Pressure Roll Release Button (10)** then slide the **Drive Roll (8)** off the **Drive Shaft. Do NOT** lose the **Drive Key (9)**.

f) Fit a new **Drive Roll (8)** and then re-assemble the Spool Torch.
Note: Ensure the **Drive Key (9)** is fitted into the slot of the **Drive Shaft** then line up the slot in the **Drive Roll (8)** with the **Drive Key (9)**.



CHANGE Pressure Roll (6)

a) Disconnect Power to the MIG/MAG equipment.

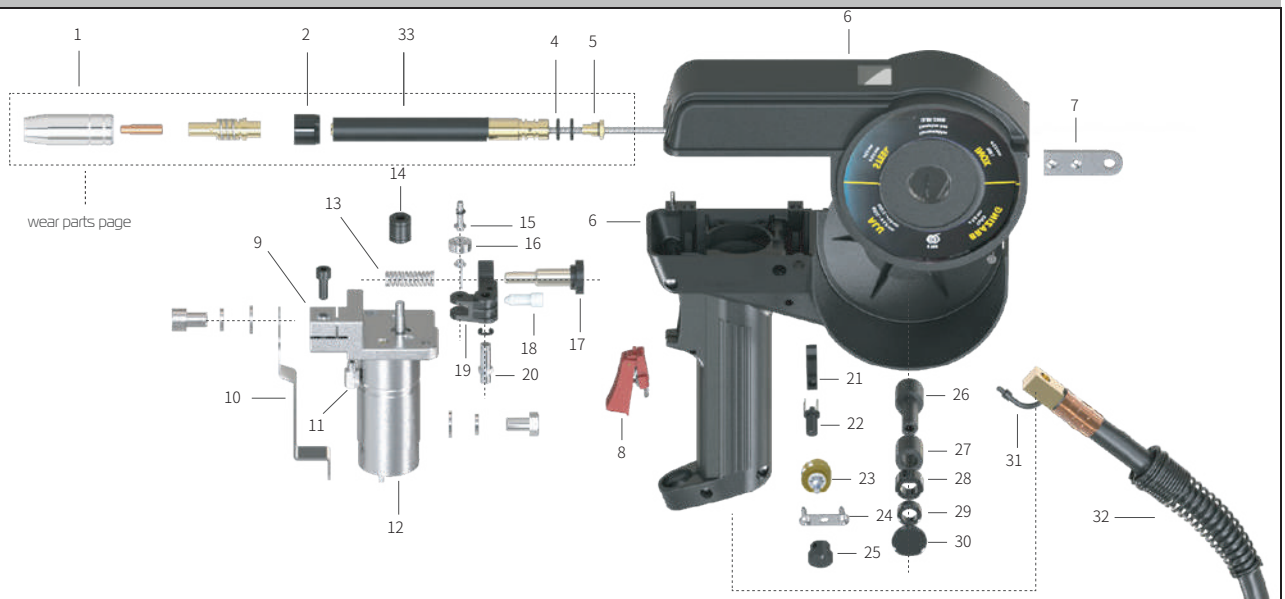
b) Unscrew **Handle Nut (1)**, and 3 x **Handle Screws (2)**.

c) Wiggle the **Handle Half (3)** away from the Spool Torch.

d) Push down on the red **Pressure Roll Release Button (10)** then unscrew the **Screw (4)** to remove the **Washer (5), Pressure Roll (6),** and **Bearing (7)** from the **Pressure Mechanism. Do NOT** lose the **Bearing (7)**.

e) Fit a new **Pressure Roll (6)** and then re-assemble the Spool Torch.

5.06 SPOOL TORCH QLBF-200 III: Torch Parts



Model 型号

Description 描述	Length 长度	Part Number 编号
QLBF-200 III 欧式接头 Welding Gun c/w Euro Fitting	6M	QLBF-200 III -6E
	8M	QLBF-200 III -8E
QLBF-200 III Tweco 接头 Welding Gun c/w Tweco Fitting	6M	QLBF-200 III -6T
	8M	QLBF-200 III -8T

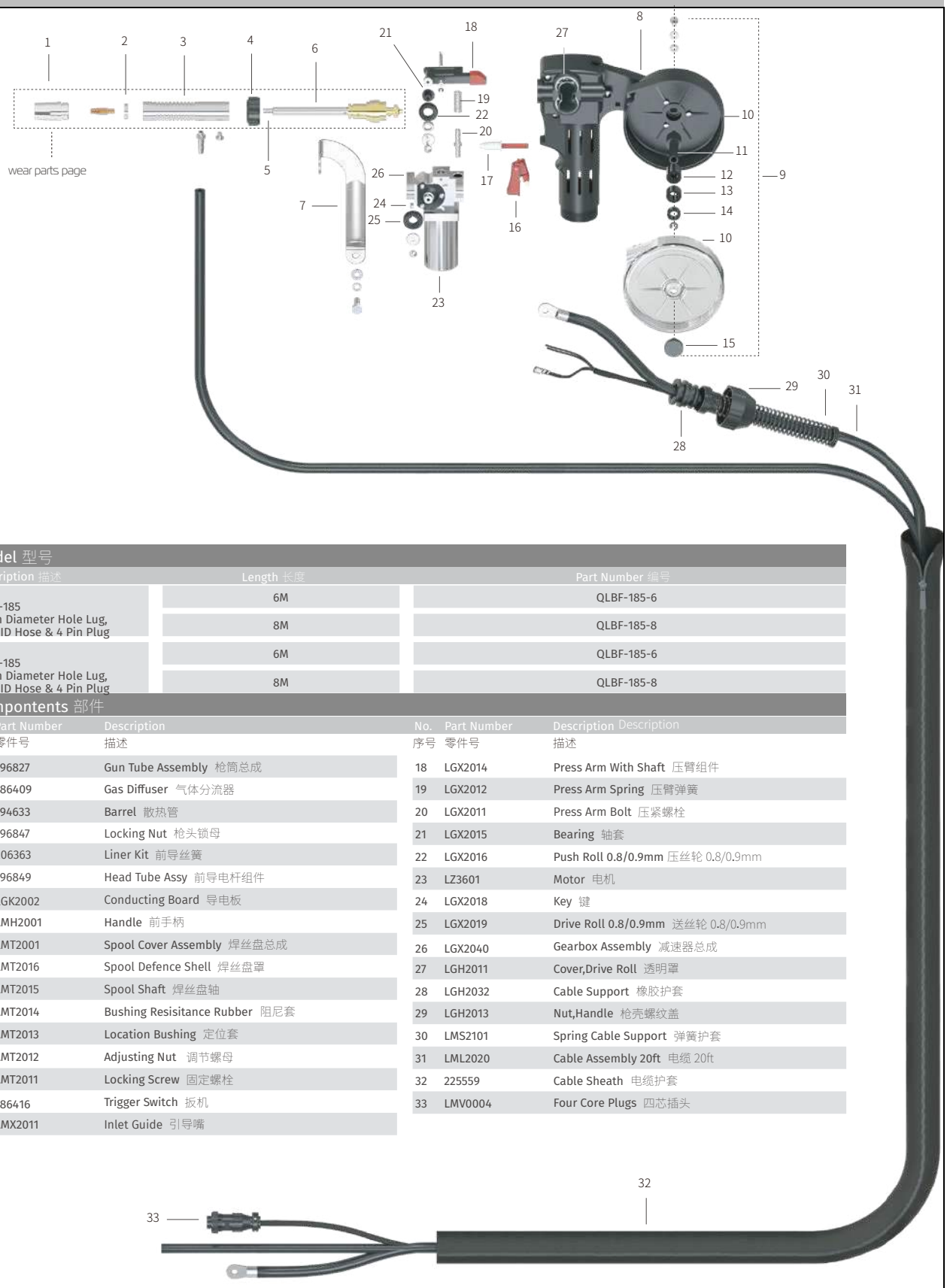
Compontents 部件

No. 序号	Part Number 零件号	Description 描述
1	LWF11180	Swan Neck 0° 直枪头 0°
2	EF1011	Insulator 绝缘套
3	LWF1111	Straight 直枪颈
4	Q507618S	O-Ring 7.65X1.78 O 形圈 7.65X1.78
5	LWR11170	Liner Assembly 导丝簧总成
6	LWH2101	Handle 前手柄
7	LWH2116	Hanger Hook 挂板
8	EJ0003	Trigger Switch 扳机
9	LWZ2000	Wire Feeder Assembly 机芯总成
10	LWK2001	Conducting Bar 导电板
11	Q9104	Gas Connector 接头气嘴
12	LZ2830*	Motor and Gear Box (30：1) 电机带减速器 (30:1)
	LZ2820	Motor and Gear Box (20：1) 电机带减速器 (20:1)
13	LWZ2018	Press Arm Spring 压臂弹簧
14	LWZ2011	Drive Roll 0.8/0.9mm 送丝轮 0.8/0.9mm
	LWZ2020	Drive Roll 1.0/1.2mm 送丝轮 1.0/1.2mm
15	LWZ2016	Bushing 轴套内衬
16	LWZ2017	Bearing 轴套
17	LWZ2015	Press Arm Bolt 压紧调节螺杆
18	LWZ2014	Inlet Guide 引导嘴
19	LWZ2013A	Press Arm 压丝轮座

No. 序号	Part Number 零件号	Description 描述
20	LWZ2012	Press Arm Shaft 轴
21	LWH2113	Hook 挂钩
22	LWH2114	Press Button 按纽
23	Q8110*	Potentiometer 10KΩ 电位器 10KΩ
	Q8105	Potentiometer 5KΩ 电位器 5KΩ
	Q8101	Potentiometer 1KΩ 电位器 1KΩ
24	LWI2011	Potentiometer Housing 电位器固定板
25	LWH2115	WSF Control Knob 电位器旋钮
26	LWT2015	Spool Shaft 焊丝盘轴
27	LMT2014	Bushing Resisitance Rubber 阻尼套
28	LWT2013	Location Bushing 定位套
29	LMT2012	Adjusting Nut 调节螺母
30	LWT2011	Locking Screw 固定螺栓
31	LWW2101	Internal Gas Hose 进气管
32	LWS2101	Front Spring Cable Support 前弹簧护
33	LWL2160	套Cable Assembly 6m 电缆总成 6m
34	ES2201	Backing Spring Cable Support 后弹簧护套
35	EH2201- φ 8	Back Handle 后枪壳
36	EP3001	Gun Plug Nut 插件锁母
37	LWU2001*	Euro Gun Plug Without Control 欧式插头 无控制线
38	MV0010	10 Pin Connector 10 芯插头

* Denotes Standard Bulid 表示标准配置，选配件须注明编号

5.07 SPOOL TORCH QLBF-185: Torch Parts



Model 型号

Description 描述	Length 长度	Part Number 编号
QLBF-185 13mm Diameter Hole Lug, 5mm ID Hose & 4 Pin Plug	6M	QLBF-185-6
	8M	QLBF-185-8
QLBF-185 13mm Diameter Hole Lug, 5mm ID Hose & 4 Pin Plug	6M	QLBF-185-6
	8M	QLBF-185-8

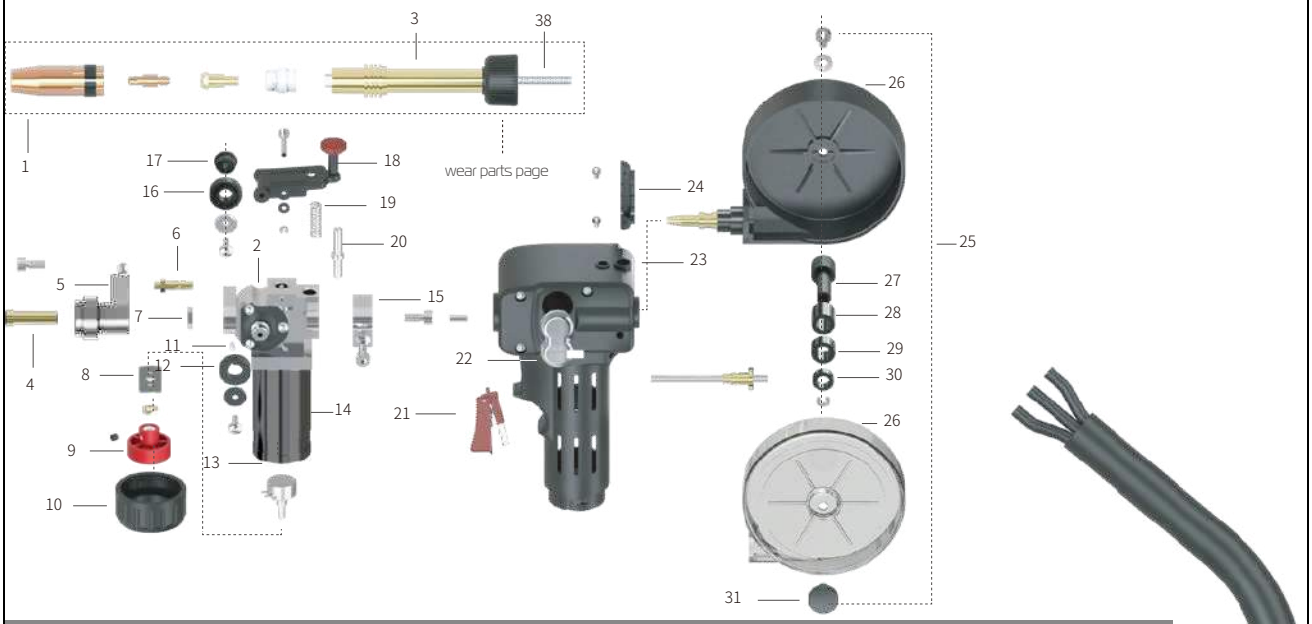
Compontents 部件

No. 序号	Part Number 零件号	Description 描述
1	196827	Gun Tube Assembly 枪筒总成
2	186409	Gas Diffuser 气体分流器
3	194633	Barrel 散热管
4	196847	Locking Nut 枪头锁母
5	206363	Liner Kit 前导丝簧
6	196849	Head Tube Assy 前导电杆组件
7	LGK2002	Conducting Board 导电板
8	LMH2001	Handle 前手柄
9	LMT2001	Spool Cover Assembly 焊丝盘总成
10	LMT2016	Spool Defence Shell 焊丝盘罩
11	LMT2015	Spool Shaft 焊丝盘轴
12	LMT2014	Bushing Resisitance Rubber 阻尼套
13	LMT2013	Location Bushing 定位套
14	LMT2012	Adjusting Nut 调节螺母
15	LMT2011	Locking Screw 固定螺栓
16	186416	Trigger Switch 扳机
17	LMX2011	Inlet Guide 引导嘴

No. 序号	Part Number 零件号	Description 描述
18	LGX2014	Press Arm With Shaft 压臂组件
19	LGX2012	Press Arm Spring 压臂弹簧
20	LGX2011	Press Arm Bolt 压紧螺栓
21	LGX2015	Bearing 轴套
22	LGX2016	Push Roll 0.8/0.9mm 压丝轮 0.8/0.9mm
23	LZ3601	Motor 电机
24	LGX2018	Key 键
25	LGX2019	Drive Roll 0.8/0.9mm 送丝轮 0.8/0.9mm
26	LGX2040	Gearbox Assembly 减速器总成
27	LGH2011	Cover,Drive Roll 透明罩
28	LGH2032	Cable Support 橡胶护套
29	LGH2013	Nut,Handle 枪壳螺纹盖
30	LMS2101	Spring Cable Support 弹簧护套
31	LML2020	Cable Assembly 20ft 电缆 20ft
32	225559	Cable Sheath 电缆护套
33	LMV0004	Four Core Plugs 四芯插头

* Denotes Standard Bulid 表示标准配置，选配件须注明编号

5.08 SPOOL TORCH QTLB-24D: Torch Parts



Model 型号

Description 描述	Length 长度	Part Number 编号
QTLB-24D-SP 欧式接头 Welding Gun c/w Euro Fitting	6M	QTLB-24D-SP-6E
	8M	QTLB-24D-SP-8E
QTLB-24D-SPTweco 接头 Welding Gun c/w Tweco Fitting	6M	QTLB-24D-SP-6T
	8M	QTLB-24D-SP-8T

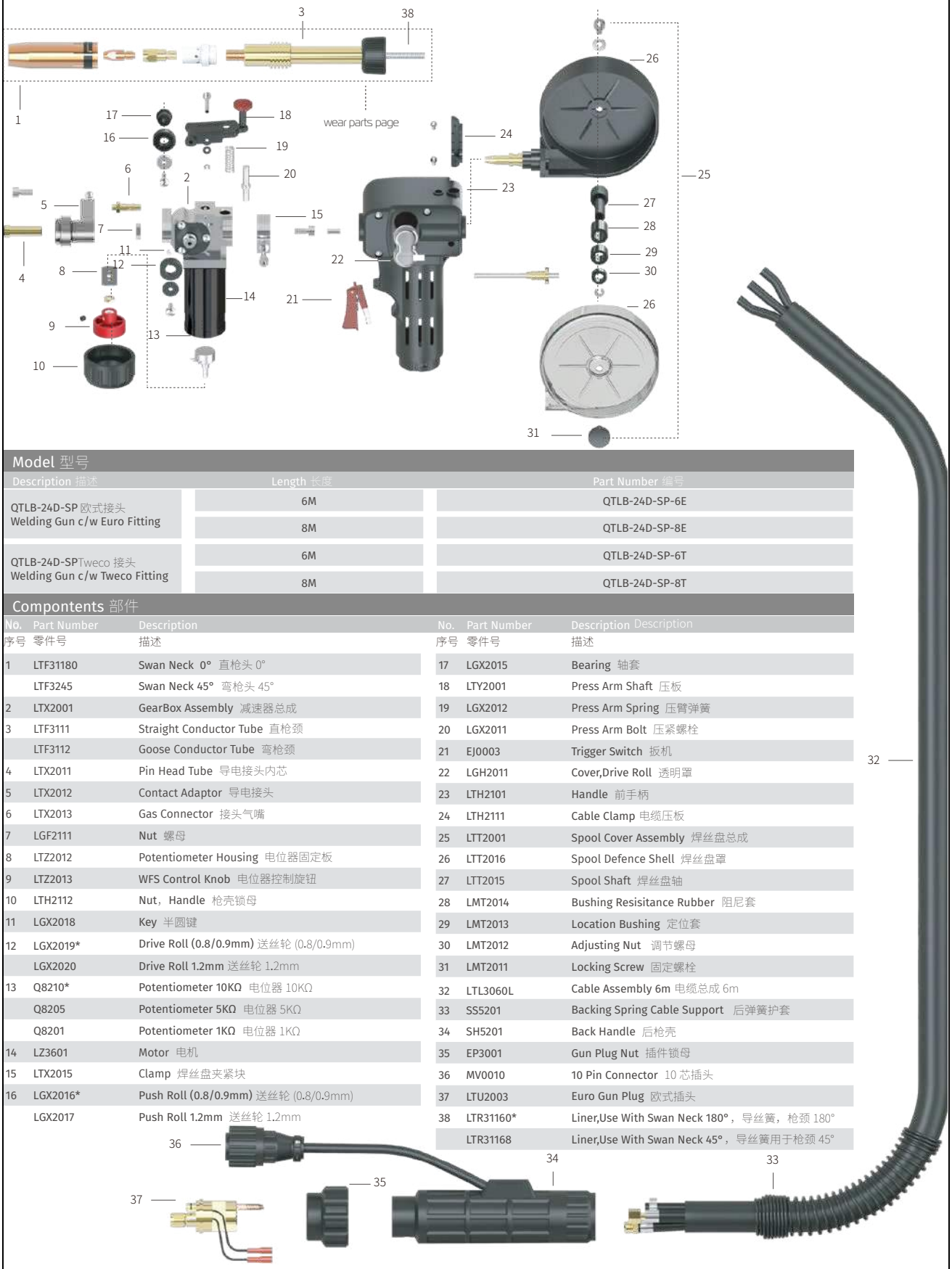
Compontents 部件

No. 序号	Part Number 零件号	Description 描述
1	LTF21180	Swan Neck 0° 直枪头 0°
	LTF2245	Swan Neck 45° 弯枪头 45°
2	LTX2001	GearBox Assembly 减速器总成
3	LTF2111	Straight Conductor Tube 直枪颈
	LTF2112	Goose Conductor Tube 弯枪颈
4	LTX2011	Pin Head Tube 导电接头内芯
5	LTX2012	Contact Adaptor 导电接头
6	LTX2013	Gas Connector 接头气嘴
7	LGF2111	Nut 螺母
8	LTZ2012	Potentiometer Housing 电位器固定板
9	LTZ2013	WFS Control Knob 电位器控制旋钮
10	LTH2112	Nut，Handle 枪壳锁母
11	LGX2018	Key 半圆键
12	LGX2019*	Drive Roll (0.8/0.9mm) 送丝轮 (0.8/0.9mm)
	LGX2020	Drive Roll 1.2mm 送丝轮 1.2mm
13	Q8210*	Potentiometer 10KΩ 电位器 10KΩ
	Q8205	Potentiometer 5KΩ 电位器 5KΩ
	Q8201	Potentiometer 1KΩ 电位器 1KΩ
14	LZ3601	Motor 电机
15	LTX2015	Clamp 焊丝盘夹紧块
16	LGX2016*	Push Roll (0.8/0.9mm) 送丝轮 (0.8/0.9mm)
	LGX2017	Push Roll 1.2mm 送丝轮 1.2mm

No. 序号	Part Number 零件号	Description Description 描述
17	LGX2015	Bearing 轴套
18	LTY2001	Press Arm Shaft 压板
19	LGX2012	Press Arm Spring 压臂弹簧
20	LGX2011	Press Arm Bolt 压紧螺栓
21	EJ0003	Trigger Switch 扳机
22	LGH2011	Cover,Drive Roll 透明罩
23	LTH2101	Handle 前手柄
24	LTH2111	Cable Clamp 电缆压板
25	LTT2001	Spool Cover Assembly 焊丝盘总成
26	LTT2016	Spool Defence Shell 焊丝盘罩
27	LTT2015	Spool Shaft 焊丝盘轴
28	LMT2014	Bushing Resisitance Rubber 阻尼套
29	LMT2013	Location Bushing 定位套
30	LMT2012	Adjusting Nut 调节螺母
31	LMT2011	Locking Screw 固定螺栓
32	LTL2060L	Cable Assembly 6m 电缆总成 6m
33	SS5201	Backing Spring Cable Support 后弹簧护套
34	SH5201	Back Handle 后枪壳
35	EP3001	Gun Plug Nut 插件锁母
36	MV0010	10 Pin Connector 10 芯插头
37	LTU2003	Euro Gun Plug 欧式插头
38	LTR21134*	Liner,Use With Swan Neck 180°，导丝簧，枪颈 180°
	LTR21142	Liner,Use With Swan Neck 45°，导丝簧用于枪颈 45°

* Denotes Standard Bulid 表示标准配置，选配件须注明编号

5.09 SPOOL TORCH QTLB-36D: Torch Parts



Model 型号

Description 描述	Length 长度	Part Number 编号
QTLB-24D-SP 欧式接头 Welding Gun c/w Euro Fitting	6M	QTLB-24D-SP-6E
	8M	QTLB-24D-SP-8E
QTLB-24D-SPTweco 接头 Welding Gun c/w Tweco Fitting	6M	QTLB-24D-SP-6T
	8M	QTLB-24D-SP-8T

Compontents 部件

No. 序号	Part Number 零件号	Description 描述
1	LTF31180	Swan Neck 0° 直枪头 0°
	LTF3245	Swan Neck 45° 弯枪头 45°
2	LTX2001	GearBox Assembly 减速器总成
3	LTF3111	Straight Conductor Tube 直枪颈
	LTF3112	Goose Conductor Tube 弯枪颈
4	LTX2011	Pin Head Tube 导电接头内芯
5	LTX2012	Contact Adaptor 导电接头
6	LTX2013	Gas Connector 接头气嘴
7	LGF2111	Nut 螺母
8	LTZ2012	Potentiometer Housing 电位器固定板
9	LTZ2013	WFS Control Knob 电位器控制旋钮
10	LTH2112	Nut，Handle 枪壳锁母
11	LGX2018	Key 半圆键
12	LGX2019*	Drive Roll (0.8/0.9mm) 送丝轮 (0.8/0.9mm)
	LGX2020	Drive Roll 1.2mm 送丝轮 1.2mm
13	Q8210*	Potentiometer 10KΩ 电位器 10KΩ
	Q8205	Potentiometer 5KΩ 电位器 5KΩ
	Q8201	Potentiometer 1KΩ 电位器 1KΩ
14	LZ3601	Motor 电机
15	LTX2015	Clamp 焊丝盘夹紧块
16	LGX2016*	Push Roll (0.8/0.9mm) 送丝轮 (0.8/0.9mm)
	LGX2017	Push Roll 1.2mm 送丝轮 1.2mm

No. 序号	Part Number 零件号	Description Description 描述
17	LGX2015	Bearing 轴套
18	LTY2001	Press Arm Shaft 压板
19	LGX2012	Press Arm Spring 压臂弹簧
20	LGX2011	Press Arm Bolt 压紧螺栓
21	EJ0003	Trigger Switch 扳机
22	LGH2011	Cover,Drive Roll 透明罩
23	LTH2101	Handle 前手柄
24	LTH2111	Cable Clamp 电缆压板
25	LTT2001	Spool Cover Assembly 焊丝盘总成
26	LTT2016	Spool Defence Shell 焊丝盘罩
27	LTT2015	Spool Shaft 焊丝盘轴
28	LMT2014	Bushing Resisitance Rubber 阻尼套
29	LMT2013	Location Bushing 定位套
30	LMT2012	Adjusting Nut 调节螺母
31	LMT2011	Locking Screw 固定螺栓
32	LTL3060L	Cable Assembly 6m 电缆总成 6m
33	SS5201	Backing Spring Cable Support 后弹簧护套
34	SH5201	Back Handle 后枪壳
35	EP3001	Gun Plug Nut 插件锁母
36	MV0010	10 Pin Connector 10 芯插头
37	LTU2003	Euro Gun Plug 欧式插头
38	LTR31160*	Liner,Use With Swan Neck 180°，导丝簧，枪颈 180°
	LTR31168	Liner,Use With Swan Neck 45°，导丝簧用于枪颈 45°

* Denotes Standard Bulid 表示标准配置，选配件须注明编号

SECTION 6 – PUSH-PULL TORCH: Installation and Operation

6.01 PUSH-PULL: Environmental Limits

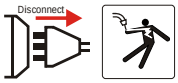
Air-Cooled, and Water-Cooled MIG/MAG Manual Welding Torches are designed for use in environments where:

- Operating temperature range is -10 °C to +40 °C (+14 °F to +104 °F)
- Relative air humidity during operating is 0% to 90% @ + 20 °C ambient air temperature

6.02 PUSH-PULL: Operation Guidelines

Be sure to locate the MIG/MAG equipment according to the following guidelines:

- In areas, free from moisture and dust.
- In areas, free from oil, steam, and corrosive gases.
- In areas, not subjected to abnormal vibration or shock.
- In areas, not exposed to direct sunlight or rain.

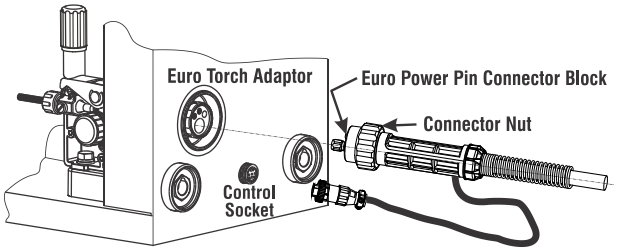
							
Torch installation must be done by a suitably Trained and Qualified Tradesperson.	Disconnect Power to MIG/MAG equipment. Electric shock can kill.	Flying metal or dirt can injure eyes.	FUMES and Shielding GAS can be hazardous to your health.	Moving parts can cause injury.	Sparks, weld spatter or hot work piece can cause fires and burns.	Improper installation can cause fire.	Read User Manual.

Genuine JINAN NORTH WELDING TOOLS parts must be used for safety and performance reasons, or the warranty becomes invalid. Inspect all parts for transportation damage. ***Do not use damaged parts.***

6.03 PUSH-PULL TORCH: Connecting Torches Euro Power Pin to MIG Equipment Adaptor

For Push-Pull Torches QTLB-24D-6, QTLB-24D-8, QTLB-36D-8, QTLB-36D-6, PG4000-6, PG4045-6, PG4000-8, PG4045-8, PW5000-6, PW5045-6, PW5000-8, and PW5045-8.

Euro Power Pin Connector Block to Euro Style Adaptor



a) Disconnect Power to the MIG/MAG equipment.

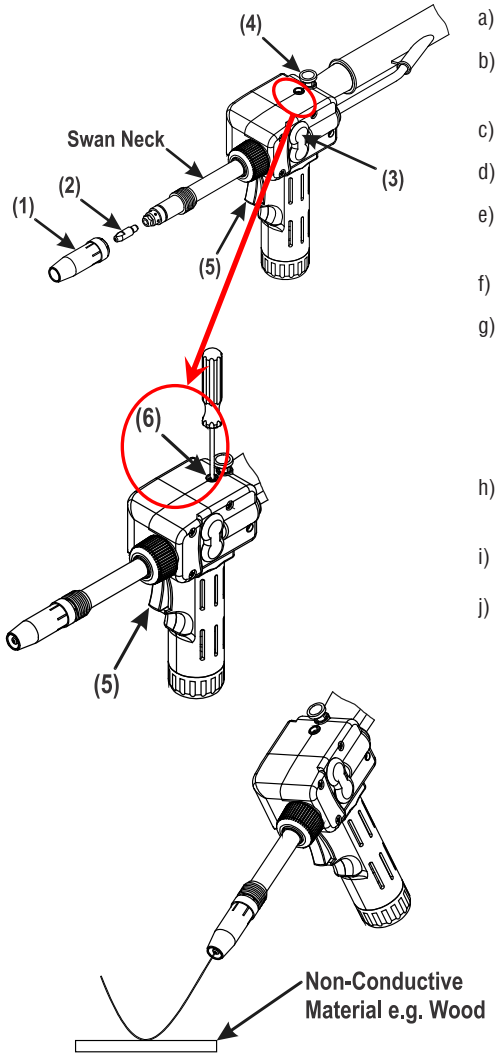
b) Align **Euro Power Pin Connector Block** with **Euro Torch Adaptor** then insert it.

c) Secure tighten the **Connector Nut** into the **Euro Adaptor**.

d) Connect the Multi-Pin Plug to the MIG/MAG equipment Control Socket.

e) With PW5000, and PW5045 Water-Cooled torches (Not Shown) connect the:
   - Red Connection hose fitting to the Red Connector on the MIG/MAG equipment.
   - Blue Connection hose fitting to the Blue Connector on the MIG/MAG equipment.

6.04 PUSH-PULL TORCH QTLB-24D, QTLB-36D: How to Feed Welding Wire



a) Disconnect Power to the MIG/MAG equipment.

b) Ensure the Drive Roll in the MIG/MAG equipment, and PUSH-PULL Torch are marked with the same diameter size as the **Welding Wire** you are about to feed thru the PUSH-PULL Torch.

c) Remove the **Nozzle (1)** using a twisting pull action and unscrew the **Contact Tip (2)**.

d) Fit the **Welding Wire** Spool as described in the MIG/MAG equipment operating manual.

e) Connect the PUSH-PULL Torch per in Section 6.03 then connect Power to the MIG/MAG equipment.

f) With the PUSH-PULL Torch laying straight on the floor.

g) Depress the **Torch Trigger Switch (5)** to slowly feed the **Welding Wire** while pushing down on the **Pressure Roll Release Button (4)** to let the **Welding Wire** pass over the **Drive Roll (3)** then release the **Torch Trigger Switch (5)** and the **Pressure Roll Release Button (4)**.

NOTE 2: *Refer to SECTION 8 – TROUBLESHOOTING on Page 37 if the* ***Welding Wire*** *tangles (Birds Nest) at the MIG/MAG equipment Drive Roll OR the PUSH-PULL Torch Drive Roll.*

h) Depress the **Torch Trigger Switch (5)** again to slowly feed the **Welding Wire** 75 mm (3 in.) past the **Swan Neck** then release the **Torch Trigger Switch (5).**

i) Fit the **Contact Tip (2)**, and **Nozzle (1)** to the PUSH-PULL Torch.

j) Before you start welding, test the PUSH-PULL Drive Roll Pressure is sufficient to feed the welding wire:

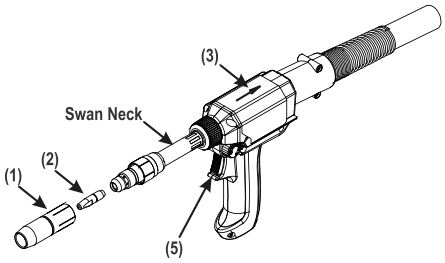
i. Point the PUSH-PULL Torch at 60 degree and 100mm (4 in.) from a flat non-conductive material, e.g. wood, on the floor.

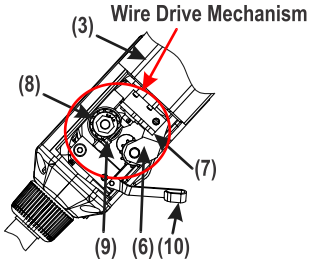
ii. Depress **Torch Trigger Switch (5)** to feed **Welding Wire** on to the flat non-conductive material, e.g. wood.

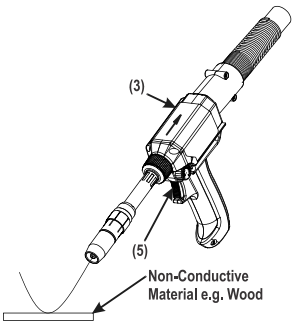
iii. If the **Welding Wire** slips on the PUSH-PULL Drive Roll (**Welding Wire** does not feed constantly from Torch), then adjust **Pressure Arm Screw (6)** by rotating the **Pressure Arm Screw (6)** using a screwdriver**:**
- Counter-clockwise direction increases The Pressure Arm force to the Drive Roll. Increased Pressure Arm force on the Drive Roll can cause the **Welding Wire** to deform producing metal fragments which clogs the Liner in the **Swan Neck** and can produce poor wire feedability.
- Rotating in a clockwise direction reduces the Pressure Arm force to the Drive Roll. Reduced causes the **Welding Wire** to slip on the Drive Roll and can produce an inconsistent welding.

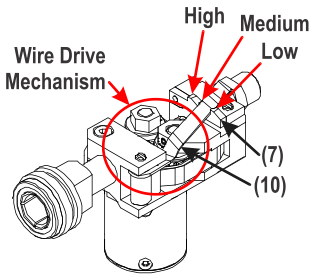
iv. If the **Welding Wire** slips on the MIG/MAG equipment Drive Roll (**Welding Wire** does not feed constantly from Torch) then adjust the Pressure Arm force on the Drive Roll as described in the MIG/MAG equipment operating manual.

6.05 PUSH-PULL TORCH PG4000 / PG4045, PW5000 / PW5045: How to Feed Welding Wire









a) Disconnect Power to the MIG/MAG equipment.

b) Ensure the Drive Roll in the MIG/MAG equipment, and PUSH-PULL Torch are marked with the same diameter size as the **Welding Wire** you are about to feed thru the PUSH-PULL Torch.

c) Remove the **Nozzle (1)** using a twisting pull action and unscrew the **Contact Tip (2)**.

d) Fit the **Welding Wire** spool as described in the MIG/MAG equipment operating manual.

e) Connect the PUSH-PULL Torch per in Section 6.03 then connect Power to the MIG/MAG equipment.

f) Slide the **Wire Drive Mechanism Cover (3)** towards the back of the PUSH-PULL Torch.

g) Release the **Tension Arm (10)** off the **Hook (7)** then move the **Tension Arm (10)** away from the **Wire Drive Mechanism** to let the **Welding Wire** to pass over the **Drive Roll (8)**.

h) With the PUSH-PULL Torch laying straight, depress the **Torch Trigger Switch (5)** to slowly feed the **Welding Wire** until it reaches the PUSH-PULL **Drive Roll (8)** then release the **Torch Trigger Switch (5).**

NOTE 3: *Refer to SECTION 8 – TROUBLESHOOTING on Page 37 if the **Welding Wire** tangles (Birds Nest) at the MIG/MAG equipment Drive Roll OR the PUSH-PULL Torch Drive Roll.*

i) Depress the **Torch Trigger Switch (5)** again to guide the **Welding Wire** into the **Outlet Guide (9)** then release the **Torch Trigger Switch (5).**

j) Push the **Tension Arm (10)** over the **Hook (7)** to move the **Pressure Arm Assy (6)** against the **Welding Wire** then depress the **Torch Trigger Switch (5)** again until the **Welding Wir**e is 75 mm (3 in.) out past the **Swan Neck** then release the **Torch Trigger Switch (5)**.

k) Slide the **Wire Drive Mechanism Cover (3)** towards the front of the PUSH-PULL Torch to cover the **Wire Drive Mechanism**.

l) Fit the **Contact Tip (2)**, and **Nozzle (1)** to the PUSH-PULL Torch.

m) Before you start welding, test the **Wire Drive Mechanism** can feed the **Welding Wire**:

i. Point the PUSH-PULL Torch at 60 degree and 100mm (4 in.) from a flat non-conductive material, e.g. wood, on the floor.

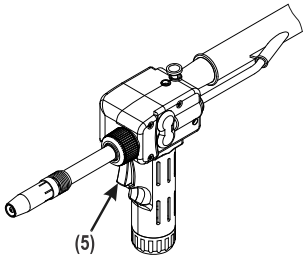
ii. Depress **Torch Trigger Switch (5)** to feed **Welding Wire** on to the flat non-conductive material, e.g. wood.

iii. If the **Welding Wire** slips on the PUSH-PULL Drive Roll (**Welding Wire** does not feed constantly from Torch), then move the **Tension Arm (10)** over the **Hook (7)** to **Medium** or **High** positions.

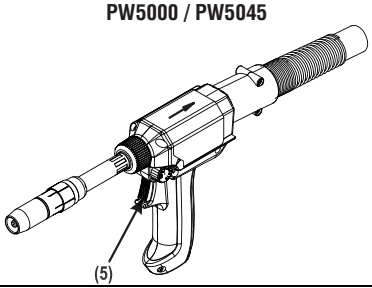
iv. If the **Welding Wire** slips on the MIG/MAG equipment Drive Roll (**Welding Wire** does not feed constantly from Torch) then adjust the Drive Roll Pressure in the MIG/MAG equipment. Refer to the MIG/MAG equipment operating manual for information on how to adjust the Drive Roll Pressure.

6.06 PUSH-PULL TORCH: Depress Torch Trigger Switch

PUSH-PULL TORCH
QTLB-24D / QTLB-36D



PUSH-PULL TORCH PG4000 / PG4045,
PW5000 / PW5045



a) Connected the PUSH-PULL Torch to the MIG/MAG equipment as described in Section 6.03 / Section 6.04, or Section 6.03 / Section 6.05.

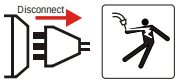
b) Depressed **Torch Trigger (5)** to energized welding power, **Welding Wire** (if fitted) is driven into PUSH-PULL torch and shielding gas flows (if gas is connected MIG/MAG equipment and turned on) out of the gas nozzle.

*DO NOT put MIG Torch near your ears or eyes when the **Torch Trigger (5)** is depressed as **Welding Wire** will rapidly exit the Contact Tip then the Nozzle and will cause serious to your ears, eyes, or skin.*

*Touching **Welding Wire** when electrically alive may cause fatal shocks or severe burns.*

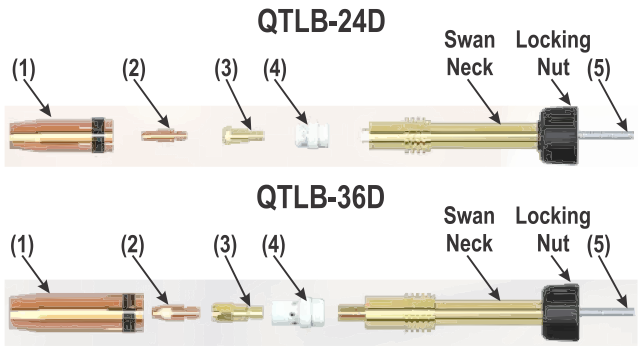
Always wear Safety glass when operating or near MIG/MAG equipment.

SECTION 7 – PUSH-PULL TORCH: Wear Parts & Torch Parts

							
Torch installation must be done by a suitably Trained and Qualified Tradesperson.	Disconnect power to MIG/MAG equipment. Electric shock can kill.	Flying metal or dirt can injure eyes.	FUMES and Shielding GAS can be hazardous to your health.	Moving parts can cause injury.	Welding wire can cause injury	Improper installation can cause fire.	Read User Manual.

Genuine JINAN NORTH WELDING TOOLS parts must be used for safety and performance reasons, or the warranty becomes invalid. Inspect all parts for transportation damage. ***Do not use damaged or worn parts.*** *Before starting the MIG/MAG equipment, check the whole installation according to the manufacturer's instructions, this Manual and applicable national / state / local safety regulations.*

7.01 PUSH-PULL: Change Wear Parts for QTLB-24D, QTLB-36D, PG4000 / PG4045, PW5000 / PW5045



a) Disconnect power to MIG/MAG equipment.

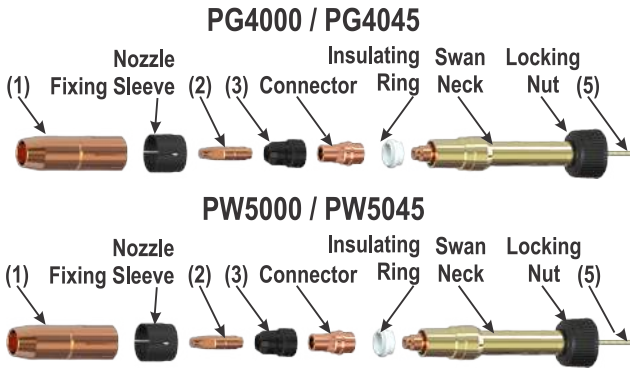
b) **Remove**

- **Nozzle (1):** Remove the slide–on nozzle by using a twisting pull action.
- **Contact Tip (2):** Cut **Welding Wire** (electrode) close to the **Contact Tip (2)** and remove burrs before turning the **Contact Tip (2)** in a counter clockwise direction.
- **Tip Holder (3):** Remove using an appropriate tool.
- **Gas Diffuser (4):** Remove using an appropriate tool.
- **Swan Neck Liner (5):** Pull the **Swan Neck Liner (5)** by using an appropriate tool using a twisting out of the **Swan Neck**.

c) **Replace**

- **Swan Neck Liner (5):** Fit the **Swan Neck Liner (5)** in to the **Swan Neck**.
- **Gas Diffuser (4):** Fit using an appropriate tool.
- **Tip Holder (3):** Fit using an appropriate tool.
- **Contact Tip (2):** Fit the contact tip turning the **Contact Tip (2)** in a clockwise direction.

d) **Nozzle (1):** Fit the nozzle by using a twisting push action.



a) Disconnect power to MIG/MAG equipment.

b) **Remove**

- **Nozzle (1):** Remove the slide–on nozzle by using a twisting pull action.
- **Contact Tip (2):** Cut **Welding Wire** (electrode) close to the **Contact Tip (2)** and remove burrs before turning the **Contact Tip (2)** in a counter clockwise direction.
- **Tip Holder (3):** Remove using an appropriate tool.
- **Swan Neck Liner (5):** Pull the **Swan Neck Liner (5)** by using an appropriate tool using a twisting out of the **Swan Neck**.

c) **Replace**

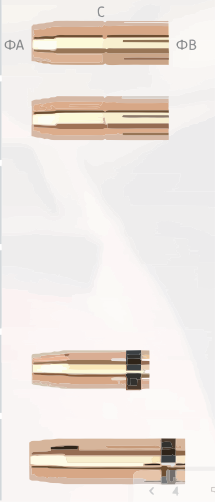
- **Swan Neck Liner (5):** Fit the **Swan Neck Liner (5)** in to the **Swan Neck**.
- **Tip Holder (3):** Fit using an appropriate tool.
- **Contact Tip (2):** Fit the contact tip turning the **Contact Tip (2)** in a clockwise direction.

d) **Nozzle (1):** Fit the nozzle by using a twisting push action.

7.02 PUSH-PULL: Nozzles, Contact Tips, Contact Tip Holders, Gas Diffusers, and Liners Parts

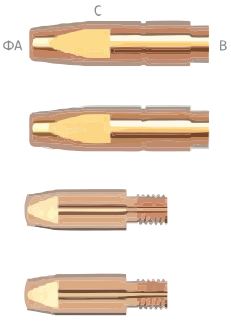
A. NOZZLES

Part Number	Shape	Material	ΦA mm	ΦB mm	C mm	PG 4000	PW 5000	QTLB-24D	QTLB-36D	Product picture
FSA5217		Copper	17		79	●	●			
FSA5120	–	Copper	20	–	79	●	●			
FSA5217H	–	Copper	17	–	79	●	●			
EA22125	Conical	Copper	12.5	–	63			●		
EA3216	Conical	Copper	16	–	84				●	

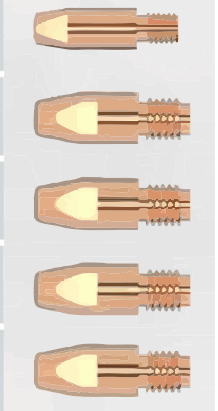


B. CONTACT TIPS

Part Number	Shape	Material	ΦA mm	B mm	C mm	PG 4000	PW 5000	QTLB-24D	QTLB-36D	Product picture
FSB5210AL	–	Copper	1.0	M10X1.25	40	●	●			
FSB5212AL	–	Copper	1.2	M10X1.25	40	●	●			
EB2208	–	Copper	0.8	M6	28			●		
EB2210	–	Copper	1.0	M6	28			●		



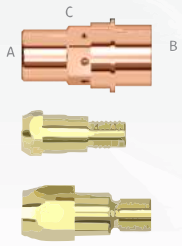
Part Number	Shape	Material	ΦA mm	B mm	C mm	PG 4000	PW 5000	QTLB-24D	QTLB-36D	Product picture
EB2212		Copper	1.2	M6	28			●		
EB3210	–	Copper	1.0	M8	30				●	
EB3212	–	Copper	1.0	M8	30				●	
EB3210L	–	Copper	1.0	M8	30				●	
EB3212L		Copper	1.0	M8	30				●	



7.02 PUSH-PULL: Nozzles, Contact Tips, Contact Tip Holders, Gas Diffusers, and Liners Parts

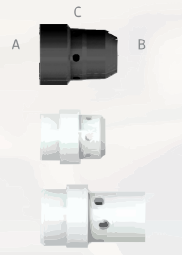
C. CONTACT TIPS HOLDERS

Part Number	Shape	Material	A mm	B mm	C mm	PG 4000	PW 5000	QTLB-24D	QTLB-36D	Product picture
FSC5001		CuCrZr	M10x1.25	M12x1	32	●	●			
EC2001		Brass	M6	M6	25.5			●		
EC3002	–	Brass	M8	M8	32				●	



D. GAS DIFFUSERS

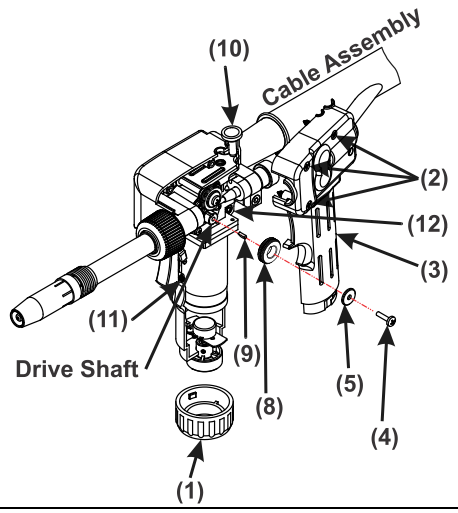
Part Number	Shape	Mater˙al	A mm	B mm	C mm	PG 4000	PW 5000	QTLB-24D	QTLB-36D	Product picture
FSD5001	–	phenolic	M16x1	–	28.5	●	●			
ED2001	–	ceramic	–	–	20			●		
ED3002	–	DMC	–	–	32.5				●	



E. LINERS

Part Number	Mater˙al	W˙re S˙ze ΦA in/mm	Length B ft meters	PG 4000	PW 5000	QTLB-24D	QTLB-36D	Product picture
LTR3412-6	Graphite	0.8-1.2	8	●	●			
LTR2210 6	Steel	0.8 1.0	6			●		
LTR2310-6	Teflon	0.8-1.0	6			●		
LTR3212-6	Steel	1.0-1.2	6				●	
LTR3312-6	Teflon	1.0-1.2	6				●	

7.03 PUSH-PULL TORCH QTLB-24D / QTLB-36D: Change Pressure Roll / Drive Roll



CHANGE Drive Roll (8)

a) Disconnect Power to the MIG/MAG equipment.

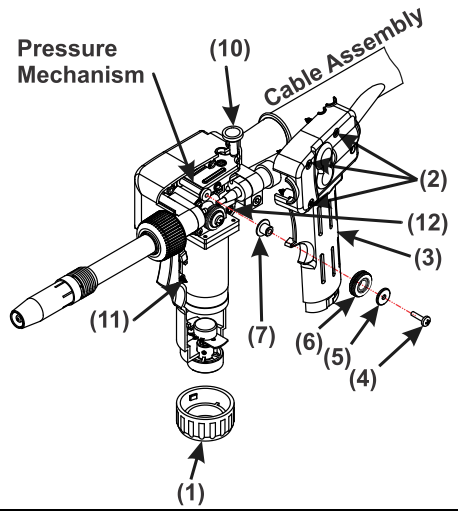
b) Unscrew **Handle Nut (1)**, **Trigger Screw (11), Rear Handle Screw (12)**, and 3 x **Handle Screws (2)**.

c) Wiggle the **Handle Half (3)** away from the Torch Handle then towards the **Cable Assembly**.

d) Unscrew and remove **Screw (4)** and **Washer (5)** from the **Drive Shaft.**

e) Push down on the red **Pressure Roll Release Button (10)** then slide the **Drive Roll (8)** off the **Drive Shaft. Do NOT** lose the **Drive Key (9)**.

f) Fit a new **Drive Roll (8)** and then re-assemble the Push-Pull Torch. **Note**: Ensure the **Drive Key (9)** is fitted into the slot of the **Drive Shaft** then line up the slot in the **Drive Roll (8)** with the **Drive Key (9)**.



CHANGE Pressure Roll (6)

a) Disconnect Power to the MIG/MAG equipment.

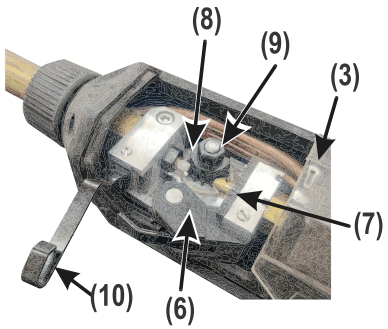
b) Unscrew **Handle Nut (1)**, **Trigger Screw (11), Rear Handle Screw (12)**, and 3 x **Handle Screws (2)**.

c) Wiggle the **Handle Half (3)** away from the Torch Handle then towards the **Cable Assembly**.

d) Push down on the red **Pressure Roll Release Button (10)** then unscrew the **Screw (4)** to remove the **Washer (5), Pressure Roll (6),** and **Bearing (7)** from the **Pressure Mechanism. Do NOT** lose the **Bearing (7)**.

e) Fit a new **Pressure Roll (6)** and then re-assemble the Push-Pull Torch.

7.04 PUSH-PULL TORCH PG4000 / PG4045, PW5000 / PW5045: Change Pressure Roll / Pressure Arm Assy



CHANGE Drive Roll (8)

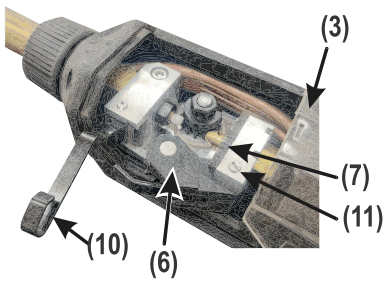
a) Disconnect Power to the MIG/MAG equipment.

b) Slide the **Wire Drive Mechanism Cover (3)** towards the back of the PUSH-PULL Torch.

c) Release the **Tension Arm (10)** off the **Hook (7)** then move the Tension Arm away from the **Pressure Arm Assy (6)**.

d) Unscrew and remove **Nut (9)** then remove the **Drive Roll (8)**. **Do NOT** lose the **Drive Key.**

e) Fit a new **Drive Roll (8)** and then re-assemble the Push-Pull Torch. **Note**: Ensure the **Drive Key** is fitted into the slot of the **Drive Shaft** then line up the slot in the **Drive Roll (8)** with the **Drive Key**.



CHANGE Pressure Arm Assy (6)

a) Disconnect Power to the MIG/MAG equipment.

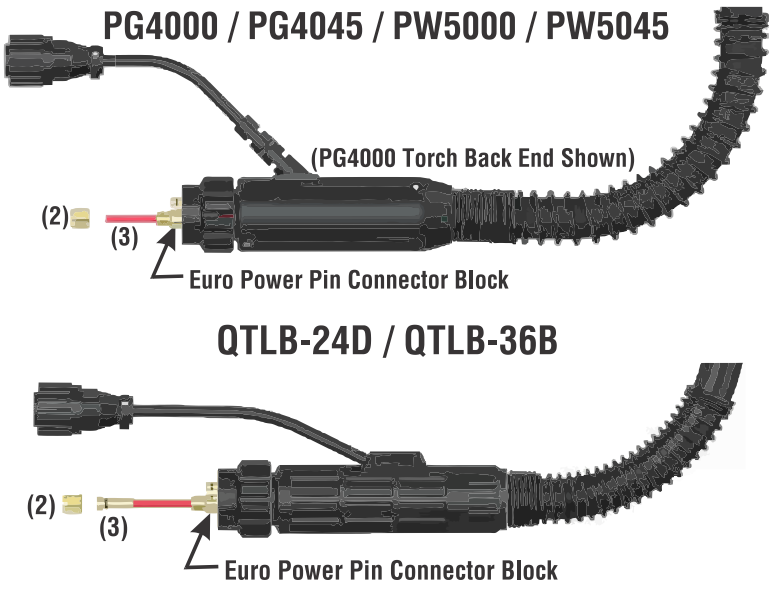
b) Slide the **Wire Drive Mechanism Cover (3)** towards the back of the PUSH-PULL Torch.

c) Release the **Tension Arm (6)** off the **Hook (7)** then move the **Tension Arm (6)** away from the **Pressure Arm Assy (6)**.

d) Unscrew and remove **Screw (11)** then remove the **Pressure Arm Assy (6)**.

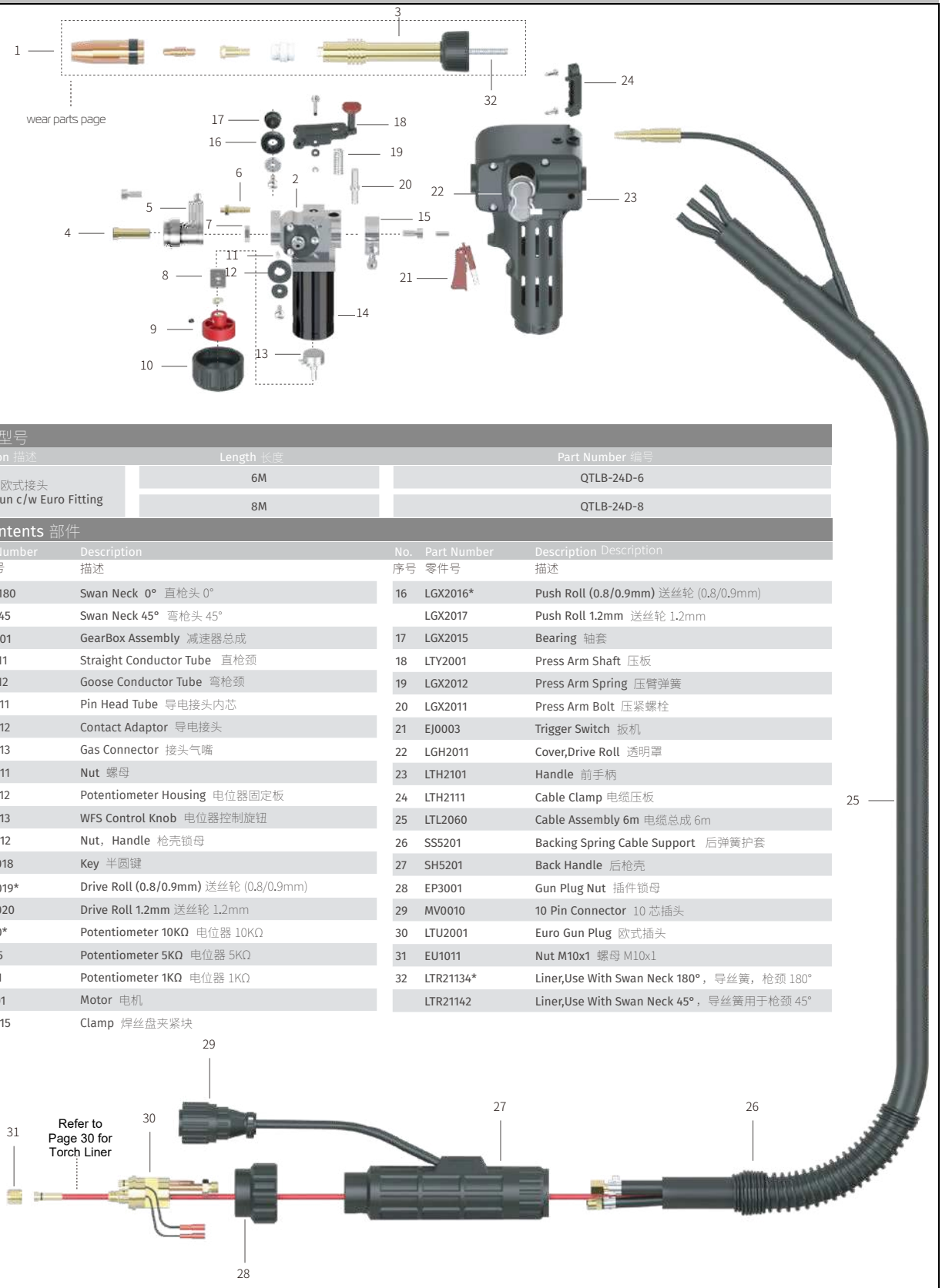
e) Fit a new **Pressure Arm Assy (6)** and then re-assemble the Push-Pull Torch.

7.05 PUSH-PULL: Changing Torch Cable Liner



a) Disconnect power to MIG/MAG equipment.
b) Lay the Torch cable out straight.
c) **Liner Nut (2)** – Remove use an appropriate wrench in a counter clockwise direction.
d) **Liner (3)** – Remove by pulling the liner end out of the **Euro Power Pin Connector Block**.
e) With the Torch laying straight, insert new liner into Euro Power Pin Connector Block and feed 50mm at a time into the Torch using a twisting motion to stop the liner from kinking.
f) **Secure Liner (3)** – Screw **Liner Nut (2)** into Pin Connector Block to secure the Liner.
g) **New Liner Trim Length** – Trim liner close to Back Inlet Guide of the PUSH-PULL Torch if needed. Remove all burrs from end of liner.

7.06 PUSH-PULL TORCH QTLB-24D: Torch Parts



Model 型号

Description 描述	Length 长度	Part Number 编号
QTLB-24D 欧式接头 Welding Gun c/w Euro Fitting	6M	QTLB-24D-6
	8M	QTLB-24D-8

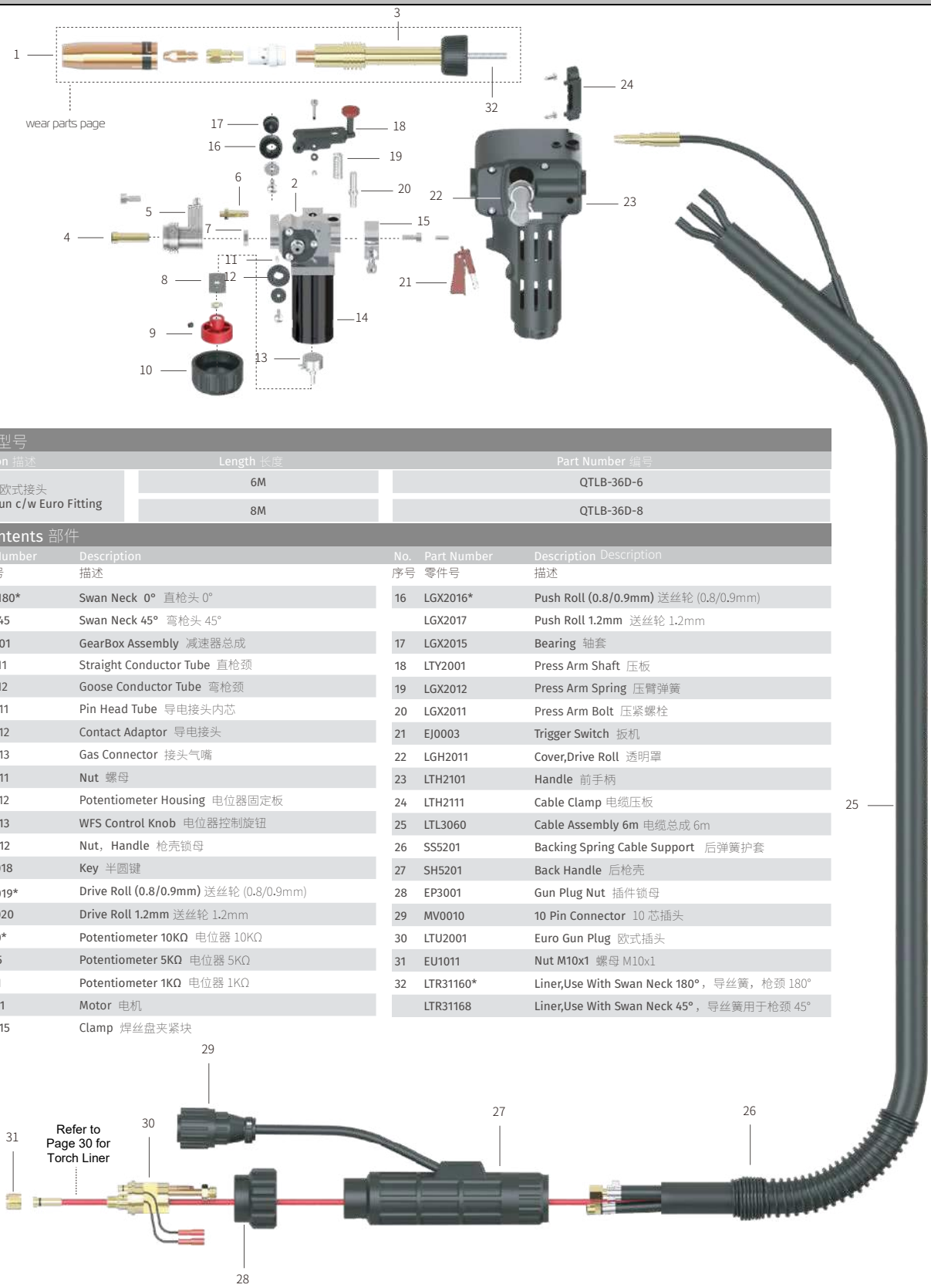
Compontents 部件

No. 序号	Part Number 零件号	Description 描述
1	LTF21180	Swan Neck 0° 直枪头 0°
	LTF2245	Swan Neck 45° 弯枪头 45°
2	LTX2001	GearBox Assembly 减速器总成
3	LTF2111	Straight Conductor Tube 直枪颈
	LTF2112	Goose Conductor Tube 弯枪颈
4	LTX2011	Pin Head Tube 导电接头内芯
5	LTX2012	Contact Adaptor 导电接头
6	LTX2013	Gas Connector 接头气嘴
7	LGF2111	Nut 螺母
8	LTZ2012	Potentiometer Housing 电位器固定板
9	LTZ2013	WFS Control Knob 电位器控制旋钮
10	LTH2112	Nut，Handle 枪壳锁母
11	LGX2018	Key 半圆键
12	LGX2019*	Drive Roll (0.8/0.9mm) 送丝轮 (0.8/0.9mm)
	LGX2020	Drive Roll 1.2mm 送丝轮 1.2mm
13	Q8210*	Potentiometer 10KΩ 电位器 10KΩ
	Q8205	Potentiometer 5KΩ 电位器 5KΩ
	Q8201	Potentiometer 1KΩ 电位器 1KΩ
14	LZ3601	Motor 电机
15	LTX2015	Clamp 焊丝盘夹紧块

No. 序号	Part Number 零件号	Description 描述
16	LGX2016*	Push Roll (0.8/0.9mm) 送丝轮 (0.8/0.9mm)
	LGX2017	Push Roll 1.2mm 送丝轮 1.2mm
17	LGX2015	Bearing 轴套
18	LTY2001	Press Arm Shaft 压板
19	LGX2012	Press Arm Spring 压臂弹簧
20	LGX2011	Press Arm Bolt 压紧螺栓
21	EJ0003	Trigger Switch 扳机
22	LGH2011	Cover,Drive Roll 透明罩
23	LTH2101	Handle 前手柄
24	LTH2111	Cable Clamp 电缆压板
25	LTL2060	Cable Assembly 6m 电缆总成 6m
26	SS5201	Backing Spring Cable Support 后弹簧护套
27	SH5201	Back Handle 后枪壳
28	EP3001	Gun Plug Nut 插件锁母
29	MV0010	10 Pin Connector 10 芯插头
30	LTU2001	Euro Gun Plug 欧式插头
31	EU1011	Nut M10x1 螺母 M10x1
32	LTR21134*	Liner,Use With Swan Neck 180°，导丝簧，枪颈 180°
	LTR21142	Liner,Use With Swan Neck 45°，导丝簧用于枪颈 45°

* Denotes Standard Bulid 表示标准配置，选配件须注明编号

7.07 PUSH-PULL TORCH QTLB-36D: Torch Parts



Model 型号

Description 描述	Length 长度	Part Number 编号
QTLB-36D 欧式接头 Welding Gun c/w Euro Fitting	6M	QTLB-36D-6
	8M	QTLB-36D-8

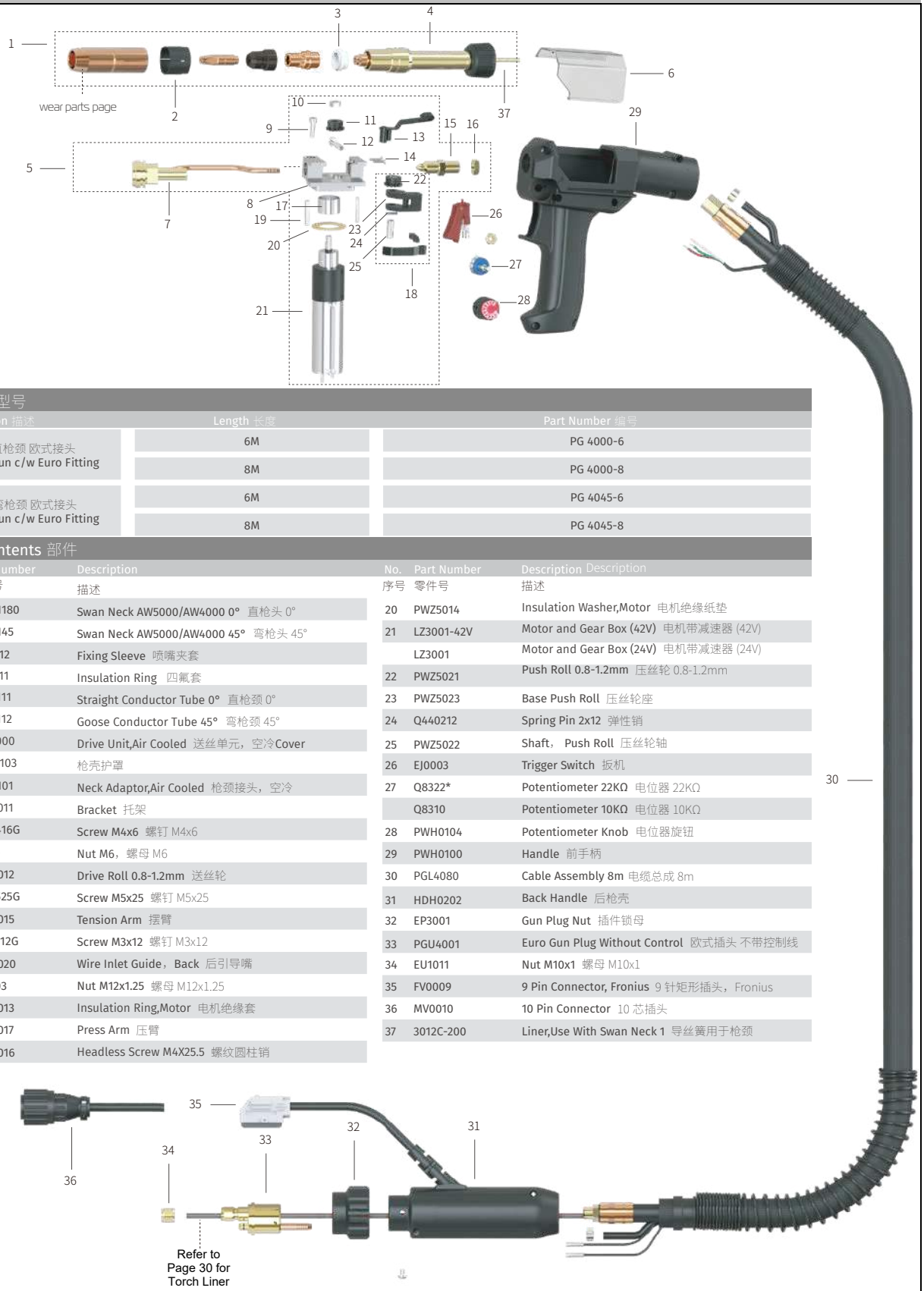
Compontents 部件

No. 序号	Part Number 零件号	Description 描述
1	LTF31180*	Swan Neck 0° 直枪头 0°
	LTF3245	Swan Neck 45° 弯枪头 45°
2	LTX2001	GearBox Assembly 减速器总成
3	LTF3111	Straight Conductor Tube 直枪颈
	LTF3112	Goose Conductor Tube 弯枪颈
4	LTX2011	Pin Head Tube 导电接头内芯
5	LTX2012	Contact Adaptor 导电接头
6	LTX2013	Gas Connector 接头气嘴
7	LGF2111	Nut 螺母
8	LTZ2012	Potentiometer Housing 电位器固定板
9	LTZ2013	WFS Control Knob 电位器控制旋钮
10	LTH2112	Nut，Handle 枪壳锁母
11	LGX2018	Key 半圆键
12	LGX2019*	Drive Roll (0.8/0.9mm) 送丝轮 (0.8/0.9mm)
	LGX2020	Drive Roll 1.2mm 送丝轮 1.2mm
13	Q8210*	Potentiometer 10KΩ 电位器 10KΩ
	Q8205	Potentiometer 5KΩ 电位器 5KΩ
	Q8201	Potentiometer 1KΩ 电位器 1KΩ
14	LZ3601	Motor 电机
15	LTX2015	Clamp 焊丝盘夹紧块

No. 序号	Part Number 零件号	Description Description 描述
16	LGX2016*	Push Roll (0.8/0.9mm) 送丝轮 (0.8/0.9mm)
	LGX2017	Push Roll 1.2mm 送丝轮 1.2mm
17	LGX2015	Bearing 轴套
18	LTY2001	Press Arm Shaft 压板
19	LGX2012	Press Arm Spring 压臂弹簧
20	LGX2011	Press Arm Bolt 压紧螺栓
21	EJ0003	Trigger Switch 扳机
22	LGH2011	Cover,Drive Roll 透明罩
23	LTH2101	Handle 前手柄
24	LTH2111	Cable Clamp 电缆压板
25	LTL3060	Cable Assembly 6m 电缆总成 6m
26	SS5201	Backing Spring Cable Support 后弹簧护套
27	SH5201	Back Handle 后枪壳
28	EP3001	Gun Plug Nut 插件锁母
29	MV0010	10 Pin Connector 10 芯插头
30	LTU2001	Euro Gun Plug 欧式插头
31	EU1011	Nut M10x1 螺母 M10x1
32	LTR31160*	Liner,Use With Swan Neck 180°，导丝簧，枪颈 180°
	LTR31168	Liner,Use With Swan Neck 45°，导丝簧用于枪颈 45°

* Denotes Standard Bulid 表示标准配置，选配件须注明编号

7.08 PUSH-PULL TORCH PG4000 / PG4045: Torch Parts



Model 型号

Description 描述	Length 长度	Part Number 编号
PG 4000 直枪颈 欧式接头 Welding Gun c/w Euro Fitting	6M	PG 4000-6
	8M	PG 4000-8
PW 4045 弯枪颈 欧式接头 Welding Gun c/w Euro Fitting	6M	PG 4045-6
	8M	PG 4045-8

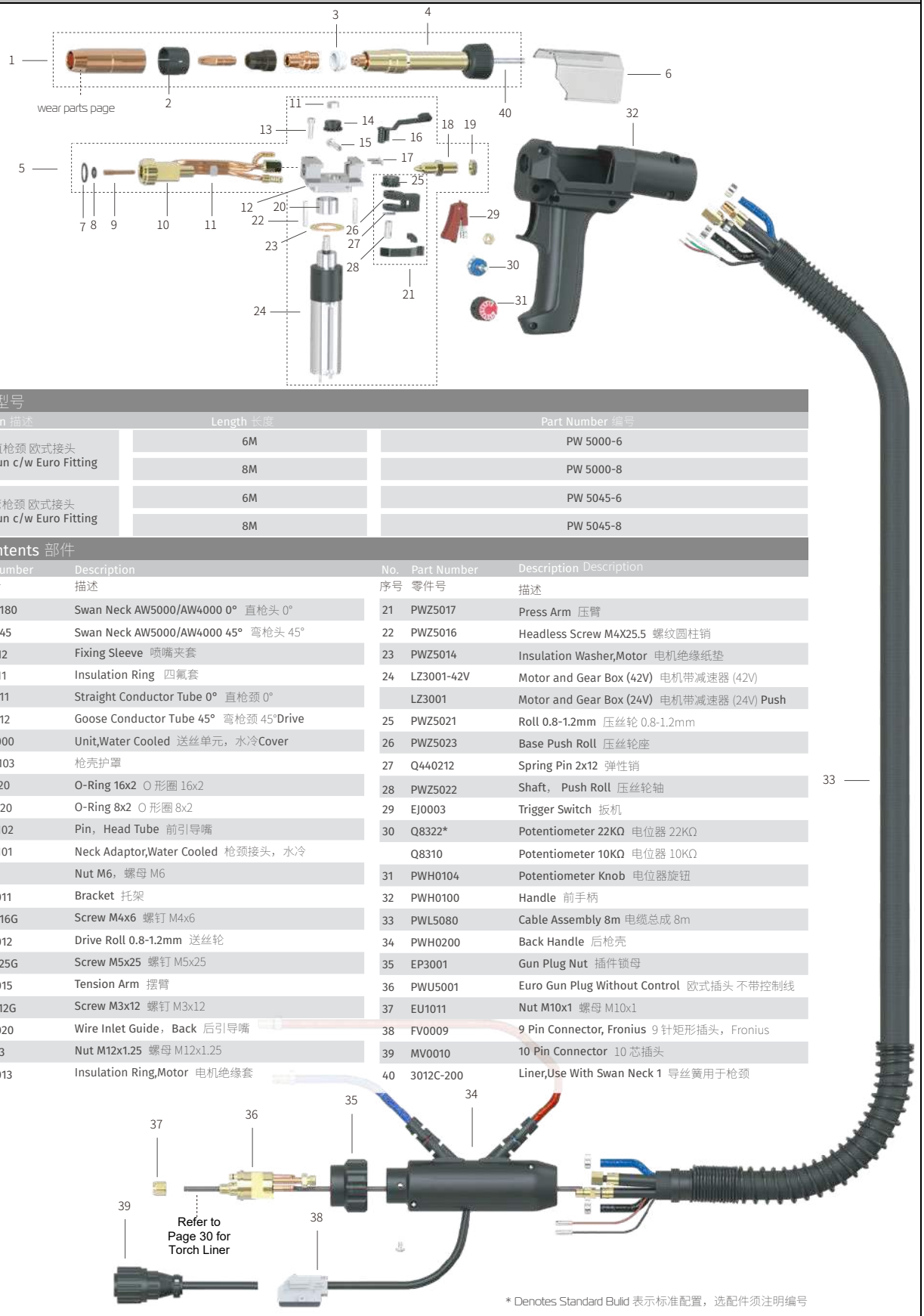
Compontents 部件

No. 序号	Part Number 零件号	Description 描述
1	PWF51180	Swan Neck AW5000/AW4000 0° 直枪头 0°
	PWF5145	Swan Neck AW5000/AW4000 45° 弯枪头 45°
2	FSX5212	Fixing Sleeve 喷嘴夹套
3	FSX5211	Insulation Ring 四氟套
4	PWF5111	Straight Conductor Tube 0° 直枪颈 0°
	PWF5112	Goose Conductor Tube 45° 弯枪颈 45°
5	PGZ4000	Drive Unit,Air Cooled 送丝单元，空冷Cover
6	PWH0103	枪壳护罩
7	PGU4101	Neck Adaptor,Air Cooled 枪颈接头，空冷
8	PWZ5011	Bracket 托架
9	Q230416G	Screw M4x6 螺钉 M4x6
10	Q3106	Nut M6，螺母 M6
11	PWZ5012	Drive Roll 0.8-1.2mm 送丝轮
12	Q230525G	Screw M5x25 螺钉 M5x25
13	PWZ5015	Tension Arm 摆臂
14	Q270312G	Screw M3x12 螺钉 M3x12
15	PWZ5020	Wire Inlet Guide，Back 后引导嘴
16	DL3003	Nut M12x1.25 螺母 M12x1.25
17	PWZ5013	Insulation Ring,Motor 电机绝缘套
18	PWZ5017	Press Arm 压臂
19	PWZ5016	Headless Screw M4X25.5 螺纹圆柱销

No. 序号	Part Number 零件号	Description Description 描述
20	PWZ5014	Insulation Washer,Motor 电机绝缘纸垫
21	LZ3001-42V	Motor and Gear Box (42V) 电机带减速器 (42V)
	LZ3001	Motor and Gear Box (24V) 电机带减速器 (24V)
22	PWZ5021	Push Roll 0.8-1.2mm 压丝轮 0.8-1.2mm
23	PWZ5023	Base Push Roll 压丝轮座
24	Q440212	Spring Pin 2x12 弹性销
25	PWZ5022	Shaft， Push Roll 压丝轮轴
26	EJ0003	Trigger Switch 扳机
27	Q8322*	Potentiometer 22KΩ 电位器 22KΩ
	Q8310	Potentiometer 10KΩ 电位器 10KΩ
28	PWH0104	Potentiometer Knob 电位器旋钮
29	PWH0100	Handle 前手柄
30	PGL4080	Cable Assembly 8m 电缆总成 8m
31	HDH0202	Back Handle 后枪壳
32	EP3001	Gun Plug Nut 插件锁母
33	PGU4001	Euro Gun Plug Without Control 欧式插头 不带控制线
34	EU1011	Nut M10x1 螺母 M10x1
35	FV0009	9 Pin Connector, Fronius 9 针矩形插头，Fronius
36	MV0010	10 Pin Connector 10 芯插头
37	3012C-200	Liner,Use With Swan Neck 1 导丝簧用于枪颈

* Denotes Standard Bulid 表示标准配置，选配件须注明编号

7.09 PUSH-PULL TORCH PW5000 / PW5045: Torch Parts



Model 型号

Description 描述	Length 长度	Part Number 编号
PW 5000 直枪颈 欧式接头 Welding Gun c/w Euro Fitting	6M	PW 5000-6
	8M	PW 5000-8
PW 5045 弯枪颈 欧式接头 Welding Gun c/w Euro Fitting	6M	PW 5045-6
	8M	PW 5045-8

Compontents 部件

No. 序号	Part Number 零件号	Description 描述
1	PWF51180	Swan Neck AW5000/AW4000 0° 直枪头 0°
	PWF5145	Swan Neck AW5000/AW4000 45° 弯枪头 45°
2	FSX5212	Fixing Sleeve 喷嘴夹套
3	FSX5211	Insulation Ring 四氟套
4	PWF5111	Straight Conductor Tube 0° 直枪颈 0°
	PWF5112	Goose Conductor Tube 45° 弯枪颈 45°Drive
5	PWZ5000	Unit,Water Cooled 送丝单元，水冷Cover
6	PWH0103	枪壳护罩
7	Q516020	O-Ring 16x2 O 形圈 16x2
8	Q508020	O-Ring 8x2 O 形圈 8x2
9	PWU5102	Pin，Head Tube 前引导嘴
10	PWU5101	Neck Adaptor,Water Cooled 枪颈接头，水冷
11	Q3106	Nut M6，螺母 M6
12	PWZ5011	Bracket 托架
13	Q230416G	Screw M4x6 螺钉 M4x6
14	PWZ5012	Drive Roll 0.8-1.2mm 送丝轮
15	Q230525G	Screw M5x25 螺钉 M5x25
16	PWZ5015	Tension Arm 摆臂
17	Q270312G	Screw M3x12 螺钉 M3x12
18	PWZ5020	Wire Inlet Guide，Back 后引导嘴
19	DL3003	Nut M12x1.25 螺母 M12x1.25
20	PWZ5013	Insulation Ring,Motor 电机绝缘套

No. 序号	Part Number 零件号	Description Description 描述
21	PWZ5017	Press Arm 压臂
22	PWZ5016	Headless Screw M4X25.5 螺纹圆柱销
23	PWZ5014	Insulation Washer,Motor 电机绝缘纸垫
24	LZ3001-42V	Motor and Gear Box (42V) 电机带减速器 (42V)
	LZ3001	Motor and Gear Box (24V) 电机带减速器 (24V) Push
25	PWZ5021	Roll 0.8-1.2mm 压丝轮 0.8-1.2mm
26	PWZ5023	Base Push Roll 压丝轮座
27	Q440212	Spring Pin 2x12 弹性销
28	PWZ5022	Shaft， Push Roll 压丝轮轴
29	EJ0003	Trigger Switch 扳机
30	Q8322*	Potentiometer 22KΩ 电位器 22KΩ
	Q8310	Potentiometer 10KΩ 电位器 10KΩ
31	PWH0104	Potentiometer Knob 电位器旋钮
32	PWH0100	Handle 前手柄
33	PWL5080	Cable Assembly 8m 电缆总成 8m
34	PWH0200	Back Handle 后枪壳
35	EP3001	Gun Plug Nut 插件锁母
36	PWU5001	Euro Gun Plug Without Control 欧式插头 不带控制线
37	EU1011	Nut M10x1 螺母 M10x1
38	FV0009	9 Pin Connector, Fronius 9 针矩形插头，Fronius
39	MV0010	10 Pin Connector 10 芯插头
40	3012C-200	Liner,Use With Swan Neck 1 导丝簧用于枪颈

* Denotes Standard Bulid 表示标准配置，选配件须注明编号

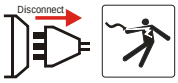
SECTION 8 – TROUBLESHOOTING

NOTE: *Weld quality is dependent on the correct consumables, proper Torch position/angles, and Product maintenance.*

Description	Possible Cause	Corrective Action
1. **Spool Torch:** Welding wire does not feed into the **Spool Torch** Drive Rolls.	A The welding wire is jammed against the Swan Neck Liner due to the welding wire not being straight. B The Spool Torch is not fitted with the correct contact tip, Swan Neck Liner, and Drive Rolls for the wire diameter & wire material. C The contact tip is blocked with welding wire debris OR the Liner is worn / filled with dirt and debris. D Wrong size Swan Neck Liner. E Worn or broken Spool Torch Trigger Switch. F Wrong size/type feed rolls for welding wire or worn feed rolls in the Spool Torch.	A Remove welding wire from Spool Torch, remove any burrs on the welding wire then straighten end and feed welding wire into the Spool Torch. B Check then replace any incorrect size parts in the Spool Torch such as contact tip, Swan Neck Liner, and Drive Rolls. C Blow out Swan Neck and Swan Neck Liner with clean, dried compressed air OR replace the contact tip and the Swan Neck Liner. D Change Swan Neck Liner to correct size/type for welding wire. E Test, if not working then replace. F Change feed rolls to correct size/type for welding wire or change worn feed rolls in the Spool Torch.
2. **Push-Pull Torch:** Welding wire does not feed into the **Push-Pull Torch** Drive Rolls and a **Birds Nest** may develop at the MIG/MAG equipment Drive Rolls. **NOTE**: A **Birds Nest** is a tangle of welding wire at the Drive Rolls when the welding wire stops due an obstruction in a Torch Liner while the Drive Rolls are spinning.	A The Push-Pull Torch is not fitted with the correct contact tip, Swan Neck Liner, Torch Cable Liner, and Drive Rolls for the wire diameter & wire material. B The contact tip is blocked with wire debris OR the Liner is worn / filled with dirt and debris. C Wrong size Push-Pull Torch Cable Liner and Swan Neck Liner. D Worn or broken Torch Trigger Switch E Wrong size/type feed rolls for welding wire or worn feed rolls in Push-Pull Torch and/or the MIG/MAG equipment.	A Check then replace any incorrect size parts in the Push-Pull Torch such as contact tip, Swan Neck Liner, Torch Cable Liner, and Drive Rolls. B Replace the contact tip and/or Liner, blow out Torch Neck, Liner conduit with clean, dried compressed air. C Change Push-Pull Torch Cable Liner and/or Swan Neck Liner to correct size/type for the welding wire. D Test, if not working then replace. E Change feed rolls to correct size/type for welding wire or change worn feed rolls in Push-Pull Torch and/or the MIG/MAG equipment.
3. Welding wire creates a **Birds Nest** at the MIG/MAG equipment Drive Rolls. Refer to 2. above for additional information on **Birds Nest**.	A The Push-Pull Torch is not fitted with the correct Torch Cable Liner and Swan Neck Liner for the wire diameter & wire material. B The welding wire is not entering the Push-Pull Torch due to the mis-alignment between the Torch Cable Liner and the Wire Inlet Guide. C Inadequate Pressure Arm force to the Drive Roll which causes the Welding Wire to slip on the Drive Roll.	A Check then replace any incorrect size parts in the Push-Pull Torch such as Swan Neck Liner, and Torch Cable Liner. B Make sure that the Push-Pull Torch is fixed into the Push-Pull Torch Welding wire inlet guide. C Increase the Pressure Arm force to the Drive Roll by the **Pressure Arm Screw**.
4. Torch is getting extremely hot.	A Contact tip or tip holder are not tightened properly. B Cooling system is not cooling effectively. C Cooling system is not correctly connected. D Torch Cable connections loose or defective.	A Make tighter using a suitable tool. B Check then correct coolant flow, fluid level, or cleanliness. C Check connections (coolant inlet and return). D Make Torch Cable / Swan Neck connections tighter.

Description	Possible Cause	Corrective Action
5. Welding wire feeding problems.	A The MIG/MAG equipment is not compatible with the SPOOL Torch / PUSH-PULL Torch.	A Ask an Authorized Distributor if a SPOOL Torch / PUSH-PULL Torch Interface Kit is available for your MIG/MAG equipment
	B Contact tip is worn.	B Replace contact tip.
	C Torch Liner and/or Swan Neck Liner is worn / dirty.	C Check the Liner; blow it out with clean, dry compressed air. If needed replace it.
	D Consumables used are not suitable for the welding wire diameter or material.	D Use recommended consumables for the welding wire diameter/material used.
	E MIG/MAG equipment not set-up properly.	E Check the feed rolls, feed roll pressure and the spool brake are adjusted as stated by the MIG/MAG equipment's manual.
	F Welding wire is contaminated.	F Use a cleaning felt to clean welding wire in the MIG/MAG equipment.
	G SPOOL Torch / PUSH-PULL Torch Drive Roll groove size is a different size to the Welding Wire diameter.	G Change the SPOOL Torch / PUSH-PULL Torch Drive Roll groove size to suit the Welding Wire diameter or change the Welding Wire diameter to suit the SPOOL Torch / PUSH-PULL Torch Drive Roll groove size.
	H SPOOL Torch / PUSH-PULL Torch control Multi-Pin Connector is not connected to the MIG/MAG equipment.	H Connect the Multi-Pin to the MIG/MAG equipment.
6. Wire feed stops during welding.	A Welding Wire blockage in contact tip.	A Check for contamination/clogging, clean or replace contact tip.
	B Wire burns back into contact tip.	B Move the contact tip further away from the arc.
	C Groove worn in contact tip by welding wire.	C Replace contact tip.
7. Porosity in the weld metal.	A Turbulent shielding gas flowing to weld zone caused by spatter build up inside nozzle or on gas diffuser.	A Clean the Torch consumables and use nozzle / gas diffuser anti-spatter spray.
	B Too low or extremely high shielding gas flow in the Torch.	B Check flow using a gas flow meter then adjust gas flow rate from 10 LPM (indoors, no drafts) up to 20 LPM (welding in drafts or outdoors).
	C Shielding gas supply contaminated or incorrect shielding gas used.	C Check for gas leakages using soapy water or check for correct shielding gas to the Welding System.
	D Moisture or contamination on the welding wire or on the work piece	D Check the wire and the work piece, use less or different anti-spatter spray.
8. Welding arc: - always varies length - is unstable - is erratic	A Contact tip is worn.	A Change contact tip.
	B Wrong welding parameters.	B Check the MIG/MAG equipment setup parameters then change parameters.
	C Poor electrical connections in the welding circuit.	C Check / tighten all electrical connections of the MIG/MAG equipment, Torch, and ground cable to work piece.
9. Welding wire burns back to contact tip	A Incorrect arc voltage/ wire feed speed weld parameters for the welding wire wire/material/Torch position.	A Adjust arc voltage and/or wire feed speed parameters.
	B Erratic / unstable welding arc.	B Refer to *" 6. Wire feed stops during welding."* on page 38.
	C Incorrect contact tip stick-out length for required weld.	C Adjust nozzle / tip relationship.
	D Incorrect welding wire stick-out length for required weld.	D Adjust wire stick-out.
	E Ground cable to work piece fault.	E Replace ground cables and/or connections.
10. Short contact tip life	A Contact tip size.	A Replace with correct contact tip size.
	B Welding wire eroding contact tip due to feed rolls scoring wire.	B Change feed rolls.
	C Exceeding Torch duty cycle.	C Replace with higher rated Torch.
11. Extreme spatter	A Incorrect arc voltage/ wire feed speed weld parameters for the welding wire / material / Torch position.	A Adjust arc voltage and/or wire feed speed parameters.
	B Inadequate shielding gas coverage.	B Verify shielding gas coverage or gas mixture.
	C Contaminated wire or work piece.	C Use a cleaning felt to clean welding wire in the MIG/MAG equipment and work piece.

SECTION 9 – ROUTINE SERVICE and MAINTENANCE

								
Service / Maintenance must be performed by a suitably Trained and Qualified Tradesperson	Disconnect Input Power Supply from Welding System before performing maintenance on the system. Electric shock can kill	Hot parts can burn. Let the Torch cool down prior to doing maintenance work	Turn off air compressor, and release air pressure from system. Compressed air can injure or kill.	Welding wire can cause injury	Moving parts can cause injury	Flying metal or dirt can injure eyes	Improper installation can cause fire	Read User Manual

Damaged Swan Necks, Torches, or Cable Assemblies must not be used!

Known defects must be repaired by suitably Trained and Qualified Tradesperson prior using Torch.

Schedule for Routine Maintenance / Inspection with Actions

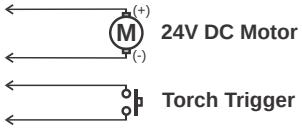
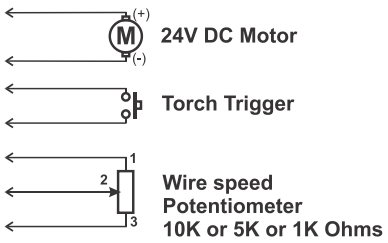
Before Every Use	• Check torch, contact tip, nozzle, liner, cables, Wire Drive System, Worn Drive Roll, and overall equipment for damage. Replace any damaged components.
Every 8 Hours of Use	• Change Contact Tip.
Once per Day	• Visual inspect for damages on the Swan Neck, and Torch Cable Assembly.
Every 16 Hours of Use	• Use dry, clean compressed air to blow out the Liner but first remove contact tip.
Every 40 Hours of Use	• Remove the Liner and check for wear. Replace Liner if worn. • Remove the Liner and check for dirt deposits. Use dry, clean compressed air to blow out the Liner but first remove contact tip. Replace Liner if dirt cannot be removed from Liner.
Once per Month (1 x 8 Hour Shift per Day) OR Twice per Month (2 x 8 Hour Shifts per Day) OR Three Times per Month (3 x 8 Hour Shifts per Day)	• Make sure that all screws are tightened. • Inspect all connections and hoses for damages.

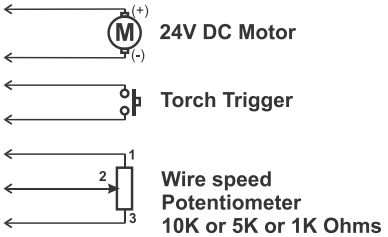
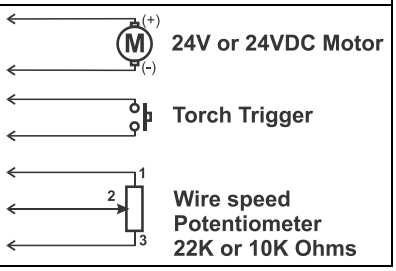
SECTION 10 – CIRCUIT DIAGRAMS FOR SPOOL & PUSH-PULL TORCHES

NOTE 4: *The **Multi-Pin Plugs** and **Pin Outs** for all SPOOL TORCHES & PUSH-PULL TORCHES must be compatible with the MIG/MAG equipment they will be connected too.*

NOTE 5: *The MIG/MAG equipment must have the control circuitry to drive the **DC MOTORS** in the SPOOL TORCHES & PUSH-PULL TORCHES.*

NOTE 6: *The **Wire Speed Potentiometers** in the SPOOL TORCHES & PUSH-PULL TORCHES must be compatible with the MIG/MAG equipment control circuitry.*

SPOOL TORCH QLBF-200 III & QLBF-185	
SPOOL TORCH QTLB-24D & QTLB-36D	

PUSH-PULL TORCH QTLB-24D & QTLB-36D	
PUSH-PULL TORCH PG4000 / PG4045 & PW5000 / PW5045	

Jinan North Welding Tools Co Ltd
The North of 308 National Highway, Daqiao Town,
Tianqiao Zone, Jinan 250121, Shandong, China
China Sales: 0531 8896 2089
International Sales: +86 531 8861 0336
sale@north-weld.com
northweld.com

Australia (Asia Pacific Enquiries)
North Welding Pty Ltd
143 Bradman Street, Acacia Ridge QLD 4110 Australia
Tel: +617 3344 6555
Fax: +617 3344 4222

Stay Connected

Jinan North Welding Tools Co Ltd

Jinan North Welding Tools Co Ltd

OM-104A EN 01-0522