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

NORTH®

OPERATING MANUAL / INSTRUCTIONS

SELEKT SERIES MIG/MAG TORCH

PART NUMBER: OM-101A EN

ISSUE: 01-0520

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-101A EN for: SELEKT BZL, PNA, TWE, BRD Style MIG/MAG Manual Welding Torches

SELEKT	MIG/MAG Manual Welding Torch Model Number
BZL	SN15F-3E, SN15F-4E, SN15F-5E; SN15FE-3E, SN15FE-4E, SN15FE-5E; SN24F-3E, SN24F-4E, SN24F-5E; SN25F-3E, SN25F-4E, SN25F-5E; SN26F-3E, SN26F-4E, SN26F-5E; SNF36-3E, SNF36-4E, SNF36-5E; SNF38-3E, SNF38-4E, SNF38-5E; SN40F-3E, SN40F-4E, SN40F-5E; SN240F-3E, SN240F-4E, SN240F-5E; SN410F-3E, SN410F-4E, SN410F-5E; SN510F-3E, SN510F-4E, SN510F-5E
PNA	SQTB200-3K, SQTB200-4K, SQTB200-5K; SQTB350-3K, SQTB350-4K, SQTB350-5K; SQTB500-3K, SQTB500-4K, SQTB500-5K; SQTB600-3K, SQTB600-4K, SQTB600-5K
TWE	SNT1-10E, SNT1-12E, SNT1-15E; SNT1-10T, SNT1-12T, SNT1-15T; SNT1-10L, SNT1-12L, SNT1-15L; SNT1-10M, SNT1-12M, SNT1-15M; SNT2-10E, SNT2-12E, SNT2-15E; SNT2-10T, SNT2-12T, SNT2-15T; SNT2-10L, SNT2-12L, SNT2-15L; SNT2-10M, SNT2-12M, SNT2-15M; SNT4-10E, SNT4-12E, SNT4-15E; SNT4-10T, SNT4-12T, SNT4-15T; SNT4-10L, SNT4-12L, SNT4-15L; SNT4-10M, SNT4-12M, SNT4-15M; SNT5-10E, SNT5-12E, SNT5-15E; SNT5-10T, SNT5-12T, SNT5-15T; SNT5-10L, SNT5-12L, SNT5-15L; SNT5-10M, SNT5-12M, SNT5-15M
BRD	SNQ200-10M, SNQ200-12M, SNQ200-15M; SNQ200-10E, SNQ200-12E, SNQ200-15E; SNQ300-10M, SNQ300-12M, SNQ300-15M; SNQ300-10E, SNQ300-12E, SNQ300-15E; SNQ400-10M, SNQ400-12M, SNQ400-15M; SNQ400-10E, SNQ400-12E, SNQ400-15E

Published by: Jinan North Welding Tools Co Ltd
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Website: www.northweld.com

Publication Date: May 2020

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 Torch**

Product Models: **SELEKT SERIES of BZL, PNA, TWE, BRD 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:

SELEKT	MIG/MAG Manual Welding Torch Model Number
BZL	SN15F-3E, SN15F-4E, SN15F-5E; SN15FE-3E, SN15FE-4E, SN15FE-5E; SN24F-3E, SN24F-4E, SN24F-5E; SN25F-3E, SN25F-4E, SN25F-5E; SN26F-3E, SN26F-4E, SN26F-5E; SNF36-3E, SNF36-4E, SNF36-5E; SNF38-3E, SNF38-4E, SNF38-5E; SN40F-3E, SN40F-4E, SN40F-5E; SN240F-3E, SN240F-4E, SN240F-5E; SN410F-3E, SN410F-4E, SN410F-5E; SN510F-3E, SN510F-4E, SN510F-5E
PNA	SQTB200-3K, SQTB200-4K, SQTB200-5K; SQTB350-3K, SQTB350-4K, SQTB350-5K; SQTB500-3K, SQTB500-4K, SQTB500-5K; SQTB600-3K, SQTB600-4K, SQTB600-5K
TWE	SNT1-10E, SNT1-12E, SNT1-15E; SNT1-10T, SNT1-12T, SNT1-15T; SNT1-10L, SNT1-12L, SNT1-15L; SNT1-10M, SNT1-12M, SNT1-15M; SNT2-10E, SNT2-12E, SNT2-15E; SNT2-10T, SNT2-12T, SNT2-15T; SNT2-10L, SNT2-12L, SNT2-15L; SNT2-10M, SNT2-12M, SNT2-15M; SNT4-10E, SNT4-12E, SNT4-15E; SNT4-10T, SNT4-12T, SNT4-15T; SNT4-10L, SNT4-12L, SNT4-15L; SNT4-10M, SNT4-12M, SNT4-15M; SNT5-10E, SNT5-12E, SNT5-15E; SNT5-10T, SNT5-12T, SNT5-15T; SNT5-10L, SNT5-12L, SNT5-15L; SNT5-10M, SNT5-12M, SNT5-15M
BRD	SNQ200-10M, SNQ200-12M, SNQ200-15M; SNQ200-10E, SNQ200-12E, SNQ200-15E; SNQ300-10M, SNQ300-12M, SNQ300-15M; SNQ300-10E, SNQ300-12E, SNQ300-15E; SNQ400-10M, SNQ400-12M, SNQ400-15M; SNQ400-10E, SNQ400-12E, SNQ400-15E

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 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

07/05/20

Date

Zhang Jinlu

Name

Manager-Engineering

Title

CE

Table of Contents

SECTION 1 – SAFETY INSTRUCTIONS: Read Before Using this Product

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

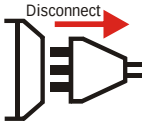
1) Read, follow and understand this User Manual before installing, operating or servicing this Product. 2) Pacemaker wearers keep away until consulting your doctor. 3) Have all installation, operation, maintenance and repair work performed only by Suitably Trained and Qualified Tradesperson. 4) Keep 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.

- Don't 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

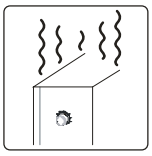
Noise from some processes can damage hearing.

- Use approved ear plugs or ear muffs 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

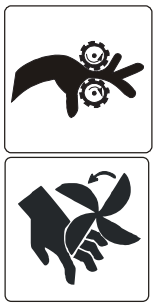
Shielding GAS used for wire welding can cause asphyxiation or death in confined places.

- 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.

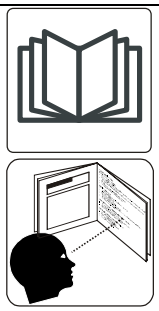
WELDING can cause fire or explosion

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

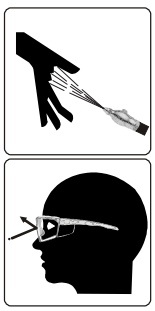
Improper equipment installation can cause fire.

- 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 SELEKT Torch Description

This air or water cooled 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. Ergonomic, lightweight Handle Design with a solid handle construction.
2. Trigger Lever extension option on trigger switch to distance your hand from the weld zone (Binzel®) style only)
3. Cable supported by ball joint and steel spring to reduce hand fatigue.
4. CNC machined tips and gas diffusers are 100% compatible with OEM MIG Torches.
5. Heavy Duty insulated metal jacketed swan neck with high conductivity inner copper tube.
6. Improved torch connection housing design with greater grip.
7. Gold plated spring-pin contacts for optimal contact of trigger switch.

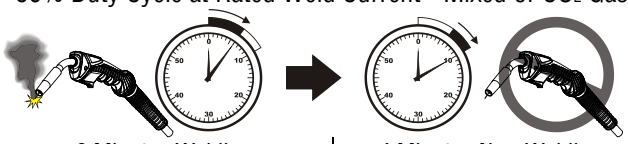
These elements create a highly reliable and long-lasting Torch system with minimal maintenance.

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

3.02 SELEKT Torch Duty Cycle

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

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 SELEKT Torch Contents

All SELEKT Torches come complete with:

- MIG/MAG Manual Welding Torch
- Contact Tip
- Nozzle
- User Manual No: OM-101A 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 below are nominal parameters. An individual Torch may differ from the below 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.*

3.04 SELEKT BZL Torch Specifications *(Refer to NOTE 1)*

Part Number	SN15F-3E SN15F-4E SN15F-5E SN15FE-3E SN15FE-4E SN15FE-5E	SN24F-3E SN24F-4E SN24F-5E	SN25F-3E SN25F-4E SN25F-5E	SN26F-3E SN26F-4E SN26F-5E	SN36F-3E SN36F-4E SN36F-5E	SN38F-3E SN38F-4E SN38F-5E	SN40F-3E SN40F-4E SN40F-5E	SN240F-3E SN240F-4E SN240F-5E	SN410F-3E SN410F-4E SN410F-5E	SN510F-3E SN510F-4E SN510F-5E
Torch Length (m)	3 = 3 m; 4 = 4 m; 5 = 5 m									
Torch Power Connector	E = Euro Fitting									
Swan Neck Angle (°)	40	45	45	45	45	45	45	45	45	45
Wire Size Range (mm)	0.6–1.0	0.8–1.2	0.8–1.2	0.8–1.2	0.8–1.6	1.0–1.6	1.0–1.6	0.8–1.2	0.8–1.2	1.0–1.6
Standardization Administration of China - Arc Welding Equipment - Part 7: Torches	GB 15579.7-2013									
IEC Standard for Safety - Arc Welding Equipment - Part 7: Torches	IEC 60974-7:2013									
Cooling Method	Air Cooled							Water Cooled		
Operating Temperature Range	-10 °C to +40 °C (+14 °F to +104 °F)									
Storage/Transportation Temperature Range	-25 °C to +50 °C (-13 °F to +122 °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	180A/60%	250A/60%	230A/60%	290A/60%	340A/60%	350A/60%	400A/60%	300A/100%	500A/100%	550A/100%
Mixed Shielding Gas	150A/60%	220A/60%	200A/60%	260A/60%	300A/60%	320A/60%	380A/60%	270A/100%	450A/100%	500A/100%
MIG/MAG Torch Maximum Voltage	141 VDC (Peak Welding Voltage)									

3.05 SELEKT PNA Torch Specifications *(Refer to NOTE 1)*

Part Number	SQTB200-3K SQTB200-4K SQTB200-5K	SQTB350-3K SQTB350-4K SQTB350-5K	SQTB500-3K SQTB500-4K SQTB500-5K	SQTB600-3K SQTB600-4K SQTB600-5K
Torch Length	3 = 3 m; 4 = 4 m; 5 = 5 m			
Torch Power Connector	K = Panasonic Style Fitting			
Swan Neck Angle (°)	45	55	55	55
Wire Size Range (mm)	0.8–1.2	1.0–1.4	1.2–1.6	1.2–1.6
Standardization Administration of China - Arc Welding Equipment - Part 7: Torches IEC Standard for Safety - Arc Welding Equipment - Part 7: Torches	GB/T15579.7-2013 IEC 60974-7:2013			
Cooling Method	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% 180A/60%	 350A/60% 300A/60%	 500A/60% 420A/60%	 600A/35% 500A/35%
MIG/MAG Torch Maximum Voltage	113 VDC (Peak Welding Voltage)			

3.06 SELEKT TWE Torch Specifications *(Refer to NOTE 1)*

Part Number	SNT1-10E, SNT1-10T, SNT1-10L, SNT1-10M, SNT1-12E, SNT1-12T, SNT1-12L, SNT1-12M, SNT1-15E, SNT1-15T, SNT1-15L, SNT1-15M	SNT2-10E, SNT2-10T, SNT2-10L, SNT2-10M, SNT2-12E, SNT2-12T, SNT2-12L, SNT2-12M, SNT2-15E, SNT2-15T, SNT2-15L, SNT2-15M	SNT4-10E, SNT4-10T, SNT4-10L, SNT4-10M, SNT4-12E, SNT4-12T, SNT4-12L, SNT4-12M, SNT4-15E, SNT4-15T, SNT4-15L, SNT4-15M	SNT5-10E, SNT5-10T, SNT5-10L, SNT5-10M, SNT5-12E, SNT5-12T, SNT5-12L, SNT5-12M, SNT5-15E, SNT5-15T, SNT5-15L, SNT5-15M
Torch Length	10 = 10 ft; 12 = 12 ft; 15 = 15 ft			
Torch Power Connector	E = Euro Style Fitting; T = Tweco Style Fitting; L = Lincoln Style Fitting; M = Miller Style Fitting			
Swan Neck Angle (°)	60	60	45	60
Wire Size Range (mm)	0.6–1.2	0.6–1.2	0.8–2.0	0.9–2.4
Standardization Administration of China - Arc Welding Equipment - Part 7: Torches IEC Standard for Safety - Arc Welding Equipment - Part 7: Torches	GB/T15579.7-2013 IEC 60974-7:2013			
Cooling Method	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	 180A/60% 125A/60%	 200A/60% 150A/60%	 400A/60% 350A/60%	 500A/60% 400A/60%
MIG/MAG Torch Maximum Voltage	113 VDC (Peak Welding Voltage)			

3.07 SELEKT BRD Torch Specifications *(Refer to NOTE 1)*

Part Number	SNQ200-10M, SNQ200-12M, SNQ200-15M, SNQ200-10E, SNQ200-12E, SNQ200-15E	SNQ300-10M, SNQ300-12M, SNQ300-15M, SNQ300-10E, SNQ300-12E, SNQ300-15E	SNQ400-10M, SNQ400-12M, SNQ400-15M, SNQ400-10E, SNQ400-12E, SNQ400-15E
Torch Length	10 = 10 ft; 12= 12 ft; 15 = 15 ft		
Torch Power Connector	M = Miller Style Fitting; E = Euro Style Fitting		
Swan Neck Angle (°)	60	45	45
Wire Size Range (mm)	0.8–1.2	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/T15579.7-2013 IEC 60974-7:2013		
Cooling Method	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% 150A/60%	 300A/60% 200A/60%	 400A/60% 320A/60%
MIG/MAG Torch Maximum Voltage	113 VDC (Peak Welding Voltage)		

SECTION 4 – INSTALLATION

4.01 Environmental Limits

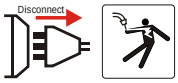
These air or water cooled MIG/MAG Manual Welding Torches are designed for use in environments where:

- 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

4.02 Torch Operation Guidelines

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

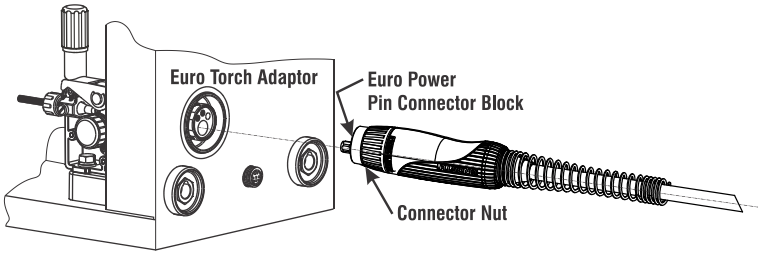
- In areas, free from moisture and dust.
- In areas, free from oil, steam and corrosive gases.
- In areas, not subjected to abnormal vibration or shock.
- In areas, not exposed to direct sunlight or rain.

							
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.

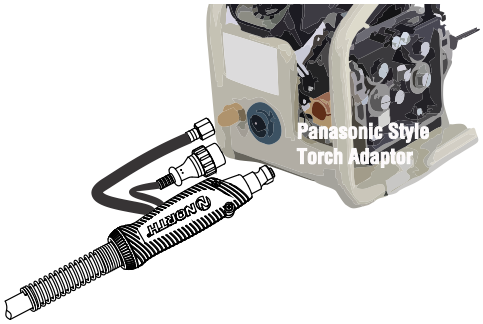
Genuine JINAN NORTH WELDING TOOLS parts must be used for safety and performance reasons or the warranty becomes invalid. Inspect all parts for transportation damage. ***Do not use damaged parts.***

4.03 Connecting Power Pin to Adaptor

BZL Euro, TWE Euro, BRD Euro Power Pin Connector Block to Euro Adaptor



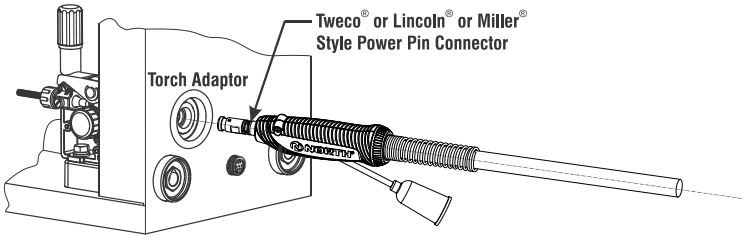
1 Disconnect power to the MIG/MAG equipment.
2 Align **Euro Power Pin Connecter Block** with **Euro Torch Adaptor** then insert it.
3 Secure tighten the **Connector Nut** into the **Euro Adaptor**.
4 Refer to the MIG/MAG equipment user manual for feeding the welding wire into the MIG/MAG Manual Welding Torch.



PNA Power Pin Connector Block to PNA Adapter

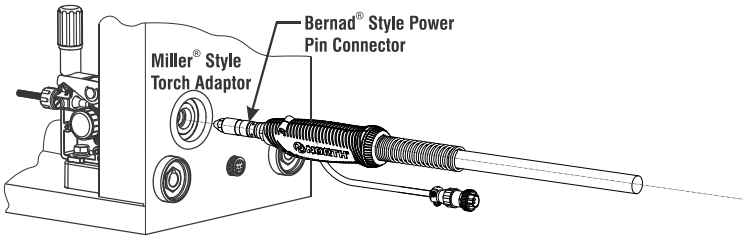
1 Disconnect power to the MIG/MAG equipment.
2 Insert the **Power Pin** into the **Torch Adaptor** to shoulder then secure using mechanical means as described in MIG/MAG equipment user manual.
3 Connect then secure the control plug and gas hose into MIG/MAG equipment.
4 Refer to the MIG/MAG equipment user manual for feeding the welding wire into the MIG/MAG Manual Welding Torch.

TWE Tweco® Power Pin Connector to Tweco® Style Adaptor or TWE Lincoln® Power Pin Connector to Lincoln® Style Adaptor or TWE Miller® Power Pin Connector to Miller® Style Adaptor



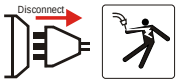
1 Disconnect power to the MIG/MAG equipment.
2 Insert the **Power Pin** into the **Torch Adaptor** to shoulder then secure using mechanical means as described in MIG/MAG equipment user manual.
3 Connect then secure the control plug into MIG/MAG equipment.
4 Refer to the MIG/MAG equipment user manual for feeding the welding wire into the MIG/MAG Manual Welding Torch.

BRD Miller® Power Pin Connector to Miller® Style Adaptor

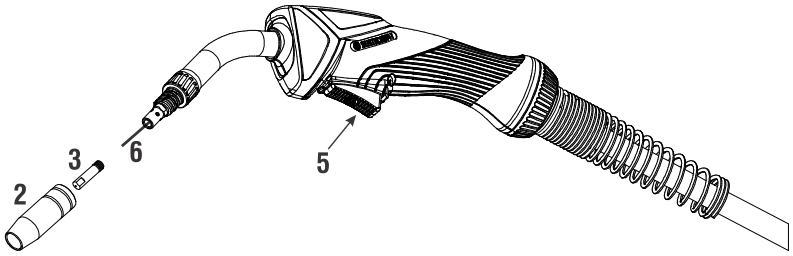


1 Disconnect power to the MIG/MAG equipment.
2 Insert the **Power Pin** into the **Torch Adaptor** to shoulder then secure using mechanical means as described in MIG/MAG equipment user manual.
3 Connect then secure the control plug into MIG/MAG equipment.
4 Refer to the MIG/MAG equipment user manual for feeding the welding wire into the MIG/MAG Manual Welding Torch.

SECTION 5 – OPERATION

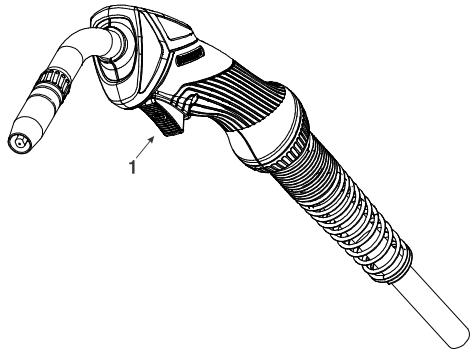
							
Torch installation must be done by a suitably Trained and Qualified Tradesperson.	Disconnect power to MIG/MAG equipment. Electric shock can kill.	Flying metal or dirt can injure eyes.	FUMES and Shielding GAS can be hazardous to your health.	Moving parts can cause injury.	Sparks, weld spatter or hot work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

5.01 Feeding Welding Wire Thru MIG/MAG Manual Torch



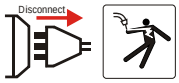
1 Connect MIG/MAG Manual Welding Torch as per Section 4.03.
2 Remove nozzle.
3 Remove Contact Tip.
4 Connect power to the MIG/MAG equipment.
5 With the Torch laying straight, depress **Torch Trigger Switch** to energize welding power to drive welding wire thru the MIG/MAG torch.
6 Release **Torch Trigger Switch** when welding wire emerges from the gas diffuser.
7 Fit Contact Tip and secure.
8 Fit Nozzle.

5.02 Depress Torch Trigger Switch



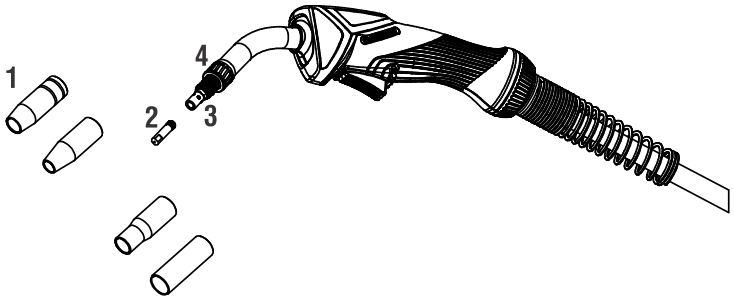
1 **Torch Trigger** – When depressed it energizes welding power, drives welding wire into MIG/MAG torch and shielding gas flows.

SECTION 6 – REPLACING WORN CONSUMABLE 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.*

6.01 Changing Torch Consumable Parts



1 **Nozzle** – Remove threaded nozzle by turning in a counter clockwise direction OR slide–on nozzle can be removed using a twisting pull action.

2 **Contact Tip** – Cut welding wire (electrode) and remove burrs before removing contact tip. **Remove** use an appropriate wrench in a counter clockwise direction. **Install** by sliding contact tip over welding wire then secure using an appropriate wrench in a clockwise direction. DO NOT over tighten.

3 **Gas Diffuser** – Remove using an appropriate wrench in a counter clockwise direction. To install fit Heat Sink (4) [BZL only] first then firmly secure Gas Diffuser using an appropriate wrench in a clockwise direction.

6.02 Changing BZL Torch Liner

1 Remove nozzle, contact tip and gas diffuser then lay Torch cable straight.

2 **Liner Nut** – Remove use an appropriate wrench in a counter clockwise direction.

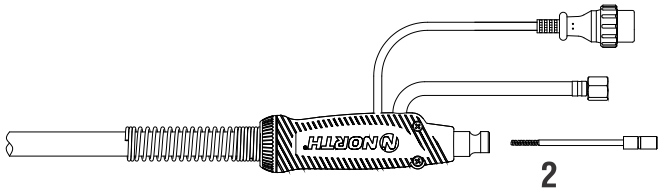
3 **Liner** – Remove by pulling the liner end out of the Euro Power Pin Connecter Block.

4 With the Torch laying straight, insert new liner into Euro Power Pin Connecter Block and feed 50mm at a time into the Torch using a twisting motion to stop the liner from kinking.

5 **Euro Style Liner** – Screw Liner Nut into Pin Connecter Block to secure the Liner.

6 **New Liner Trim Length** – Trim liner close to swan neck end. Remove all burrs from end of liner then replace gas diffuser, contact tip and nozzle.

6.03 Changing PNA Torch Liner



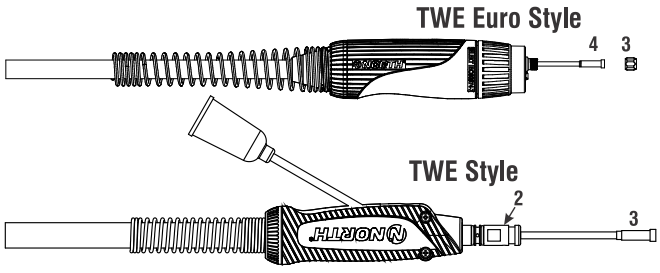
1 Remove nozzle, contact tip and gas diffuser then lay Torch cable straight.

2 **Liner** – Remove by pulling the liner end out of the PNA Power Pin Connecter Block.

3 With the Torch laying straight, insert new liner into PNA Power Pin Connecter Block and feed 50mm at a time into the Torch using a twisting motion to stop the liner from kinking.

4 **New Liner Trim Length** – Trim liner close to swan neck end. Remove all burrs from end of liner then replace gas diffuser, contact tip and nozzle.

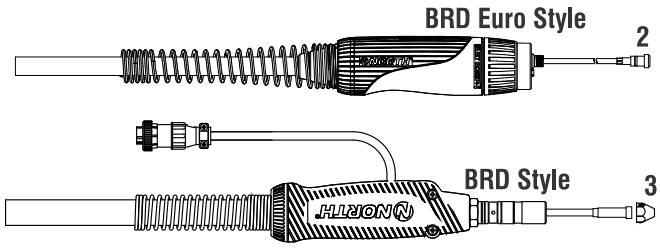
6.04 Changing TWE Torch Liner



TWE Model Number	Diffuser Part No.	New Liner Trim Length
ST1	52	29 mm
ST2	52	33.5 mm
	52FN	27 mm
ST4	54A	11.9 mm
ST5	55	11.8 mm

1 Remove nozzle, contact tip and gas diffuser then lay Torch cable straight.
2 **TWE Style: Socket Head Screw** – Remove using an appropriate Allen Key (Hex Key) in a counter clockwise direction.
3 **Euro Style: Liner Nut** – Remove use an appropriate wrench in a counter clockwise direction.
4 **Liner TWE Style Power Pin**: Remove by pulling the liner end out of the TWE Power Pin Connecter Block
Liner TWE Euro Style Power Pin: Remove by pulling the liner end out of the Euro Power Pin Connecter Block.
5 With the Torch laying straight, insert new liner into TWE Power Pin Connecter Block and feed 50mm at a time into the Torch using a twisting motion to stop the liner from kinking.
6 **TWE Euro Style Liner** – Screw Liner Nut into Pin Connecter Block to secure the Liner.
TWE Style Liner: Socket Head Screw – Screw, using an appropriate Allen Key (Hex Key), in a clockwise direction to secure Liner.
7 **New Liner Trim Length** – Trim liner stick-out past swan neck, refer to table. Remove all burrs from end of liner then replace gas diffuser, contact tip and nozzle.

6.05 Changing BRD Torch Liner



1 Remove nozzle, contact tip and gas diffuser then lay Torch cable straight.
2 **BRD Euro Style Liner** – Unscrew Liner from Pin Connecter Block then remove Liner by pulling the liner end out of the BRD Euro Power Pin Connecter Block.
3 **BRD Style Liner** – Unscrew Nipple for Miller Connection from Pin Connector Block then remove Liner by pulling the liner end out of the BRD Style Power Pin Connecter Block.
4 With the Torch laying straight, insert new liner into Power Pin Connecter Block and feed 50mm at a time into the Torch using a twisting motion to stop the liner from kinking.
5 **BRD Euro Style Liner** – Screw Liner into Pin Connecter Block to secure the Liner.
BRD Style Liner – Screw Nipple for Miller Connection into Pin Connector Block to secure the Liner.
6 **New Liner Trim Length** – Trim liner stick-out past swan neck, refer to table. Remove all burrs from end of liner then replace gas diffuser, contact tip and nozzle.

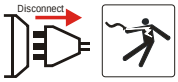
SECTION 7 – TROUBLESHOOTING

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

Description	Possible Cause	Corrective Action
1. Welding wire does not feed	A The welding wire is jammed before the contact tip due to the welding wire not being straight. B The Torch and Torch Cable Assembly are not equipped correctly for the wire diameter and/or wire material. C The Liner is not correctly inserted into the Torch Cable Assembly. D The contact tip is blocked with wire debris OR the Liner is worn / filled with dirt and debris. E Wrong size liner. F Worn or broken Torch Trigger Switch G Wrong size/type feed rolls for welding wire or worn feed rolls in MIG/MAG equipment.	A Remove welding wire from Torch, cut off end, and remove burr then straighten end. Feed welding wire into the Torch. B Check Liner (Torch Cable Assembly and Torch Neck) then contact tip size. C Make sure that the Liner is touching the contact tip. D Replace the contact tip and/or Liner, blow out Torch Neck, Liner conduit with clean, dried compressed air. E Change liner to correct size/type for welding wire F Test, if not working then replace. G Change feed rolls to correct size/type for welding wire or change worn feed rolls.
2. 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
3. Welding wire feeding problems	A Contact tip is worn. B Liner is worn / dirty. C Consumables used are not suitable for the welding wire diameter or material. D MIG/MAG equipment not set-up properly. E Welding wire is contaminated.	A Replace contact tip. B Check the Liner; blow it out with clean, dry compressed air. If needed replace it. C Use recommended consumables for the welding wire diameter/material used. D Check the feed rolls, feed roll pressure and the spool brake are adjusted as stated by the MIG/MAG equipment's manual. E Use a cleaning felt to clean welding wire in the MIG/MAG equipment.
4. Wire feed stops during welding	A Wire blockage in contact tip. B Wire burns back into contact tip C Groove worn in contact tip by welding wire.	A Check for contamination/clogging, clean or replace contact tip. B Adjust distance between contact tip and arc. C Replace contact tip.
5. Porosity in the weld metal	A Turbulent shielding gas flowing to weld zone caused by spatter build up inside nozzle or on gas diffuser. B Too low or extremely high shielding gas flow in the Torch. C Shielding gas supply contaminated or incorrect shielding gas used. D Moisture or contamination on the welding wire or on the work piece	A Clean the Torch consumables and use nozzle / gas diffuser anti-spatter spray. 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 Check for gas leakages using soapy water or check for correct shielding gas to the Welding System. D Check the wire and the work piece, use less or different anti-spatter spray.
6. Welding arc: - always varies length - is unstable - is erratic	A Contact tip is worn. B Wrong welding parameters. C Poor electrical connections in the welding circuit.	A Change contact tip. B Check the MIG/MAG equipment setup parameters then change parameters. C Check / tighten all electrical connections of the MIG/MAG equipment, Torch and ground cable to work piece.
7. Welding wire burns back to contact tip	A Incorrect arc voltage/ wire feed speed weld parameters for the welding wire wire/material/Torch position. B Erratic / unstable welding arc. C Incorrect contact tip stick-out length for required weld. D Incorrect welding wire stick-out length for required weld. E Ground cable to work piece fault.	A Adjust arc voltage and/or wire feed speed parameters. B Refer to Description No. 6 on page 16. C Adjust nozzle / tip relationship. D Adjust wire stick-out. E Replace ground cables and/or connections.
8. Short contact tip life	A Contact tip size. B Welding wire eroding contact tip due to feed rolls scoring wire. C Exceeding Torch duty cycle.	A Replace with correct contact tip size. B Change feed rolls. C Replace with higher rated Torch.
9. Extreme spatter	A Incorrect arc voltage/ wire feed speed weld parameters for the welding wire / material / Torch position. B Inadequate shielding gas coverage. C Contaminated wire or work piece.	A Adjust arc voltage and/or wire feed speed parameters. B Verify shielding gas coverage or gas mixture. C Use a cleaning felt to clean welding wire in the MIG/MAG equipment and work piece.

SECTION 8 – 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

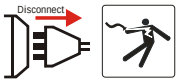
Damaged Swan Necks, Torches, or Cable Assemblies must not be used!

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

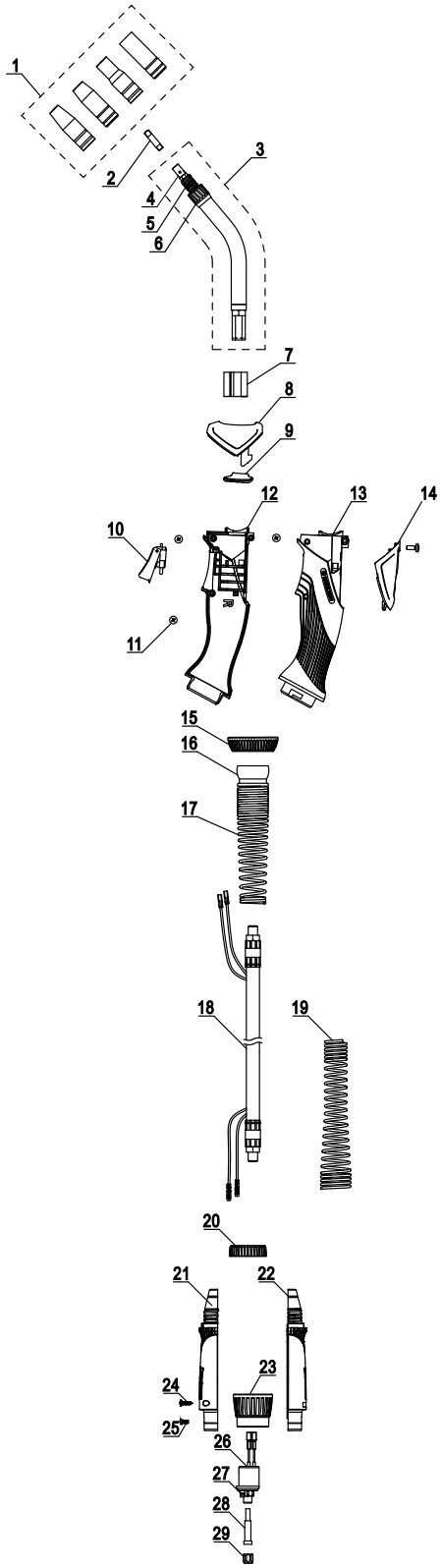
Schedule for Routine Maintenance / Inspection with Actions

Before Every Use	• Check torch, contact tip, nozzle, liner, cables, 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.

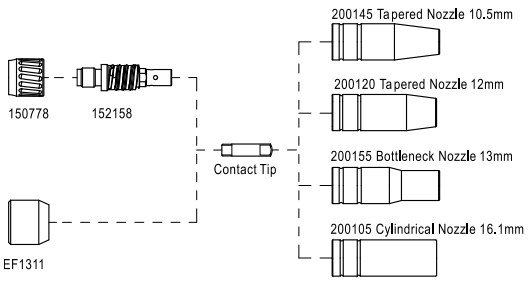
SECTION 9 – SPARE PARTS

								
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

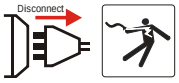
9.01 BZL SN15F / SN15FE Torch Spares



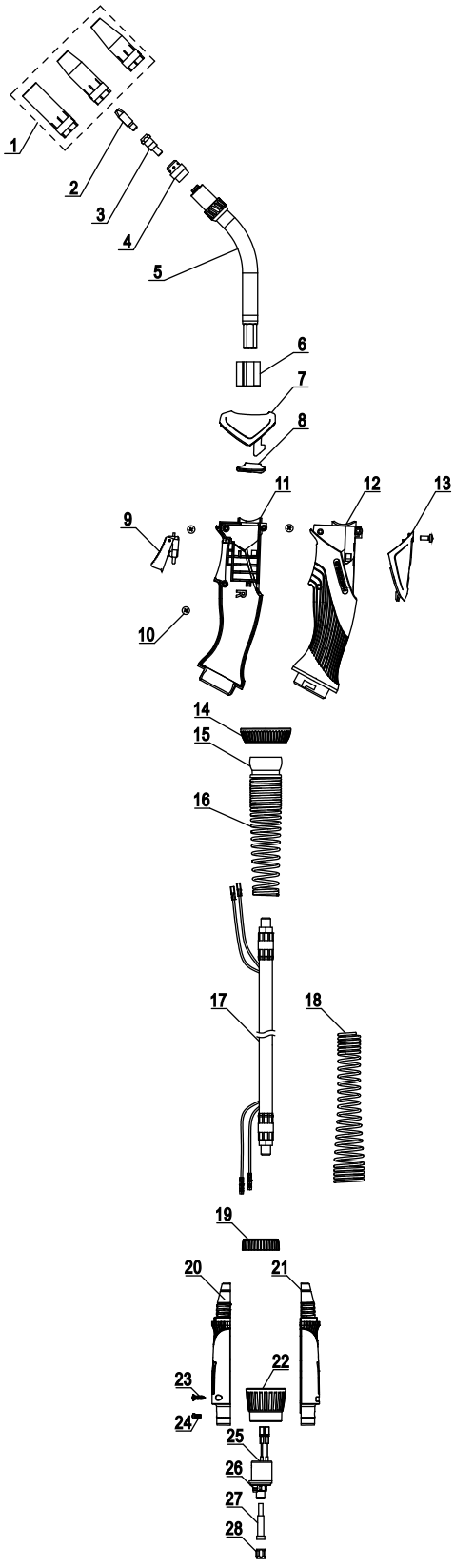
ITEM	PART NUMBER		DESCRIPTION	QTY
	SN15F	SN15FE		
1	200145		Tapered Nozzle 10.5mm	1
	200120		Conical Nozzle 12mm	
	200155		Bottleneck Nozzle 13mm	
	200105		Cylindrical Nozzle 16.1mm	
2	See chart		Contact Tip	1
3	300615	300032	Swanneck	1
4	152158	N/A	Diffuser	1
5	EF1218		Spring	1
6	150778	EF1311	Insulator	1
7	305500		Plastic Body	1
8	NH010203		Front Cover	1
9	NH010209		Adapter 14mm	1
10	EJ0005		Trigger	1
11	Q2602912B		ST Screw 2.9×12	4
12	NH010201		Torch Handle R	1
13	NH010202		Torch Handle L	1
14	NH010205		PCB HolderEmpty	1
15	NH010208		Torch Handle Ring	1
16	NH010305		Ball Joint	1
17	142SBJ02		Front Cable Support Spring	1
18	EL1030		Cable Assembly 3m	1
	EL1040		Cable Assembly 4m	
	EL1050		Cable Assembly 5m	
19	8M9500		Back Cable Support Spring	1
20	NH020204		Back Ring	1
21	NH020201		Back Handle L	1
22	NH020202		Back Handle R	1
23	NH020203		Back Handle Ring	1
24	Q260416B		ST Screw 4×16	2
25	Q210406B		Screw M4×6	1
26	EU1001A		Euro Gun Plug	1
27	Q504010		O-Ring 4×1	1
28	301535		Steel Liner 0.6-0.9mm, ID1.5/OD4.5×3.0m, Blue	1
	301545		Steel Liner 0.6-0.9mm, ID1.5/OD4.5×4.0m, Blue	
	301555		Steel Liner 0.6-0.9mm, ID1.5/OD4.5×5.0m, Blue	
29	EU1011A		Plastic Nut M10×1， Black	1



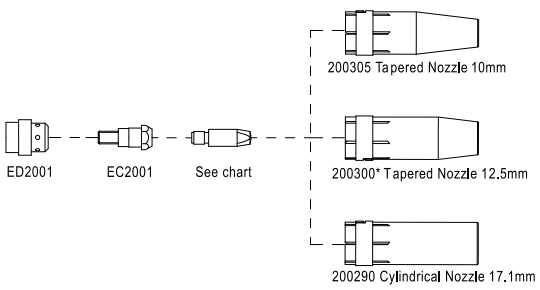
SN15F/SN15FE Contact Tips		
EB1106	0.023"(0.6mm)	ECu
EB1108	0.030"(0.8mm)	ECu
EB1109	0.035"(0.9mm)	ECu
EB1110	0.040"(1.0mm)	ECu
EB1106L	0.023"(0.6mm)	CuCrZr
EB1108L	0.030"(0.8mm)	CuCrZr
EB1109L	0.035"(0.9mm)	CuCrZr
EB1110L	0.040"(1.0mm)	CuCrZr

								
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

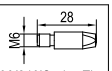
9.02 BZL SN24F Torch Spares



ITEM	PART NUMBER	DESCRIPTION	QTY
	SN24F		
1	200305	Tapered Noz zle 10mm	1
	200300	Tapered No zzle 12.5mm	
	200290	Cylindrical Nozzle 17.1mm	
2	See chart	Contact Tip	1
3	EC2001	Contact Tip Socket	1
4	ED2001	Diffuser Ceramic	1
5	300624	4CE-24 Swanneck	1
6	305500	Plastic Body	1
7	NH010203	Front Cover	1
8	NH010206	Adapter 16mm	1
9	EJ0005	Trigger	1
10	Q2602912B	ST Screw 2.9×12	4
11	NH010201	Torch Han dle R	1
12	NH010202	Torch Han dle L	1
13	NH010205	PCB HolderEmpty	1
14	NH010208	Torch Hand le Ring	1
15	NH010305	Ball Joint	1
16	142SBJ02	Front Cable Support Spring	1
17	EL2030	Cable Asse mbly 3m	1
	EL2040	Cable Asse mbly 4m	
	EL2050	Cable Asse mbly 5m	
18	8M9500	Back Cable Support Spring	1
19	NH020204	Back Ring	1
20	NH020201	Back Handle L	1
21	NH020202	Back Handle R	1
22	NH020203	Back Handle Ring	1
23	Q260416B	ST Screw 4×16	2
24	Q210406B	Screw M4×6	1
25	EU1001A	Euro Gun Plug	1
26	Q504010	O-Ring 4×1	1
27	302535	Steel Liner 0.9 - 1.2mm, ID2.0/OD4.5×3m, Red	1
	302545	Steel Liner 0.9 - 1.2mm, ID2.0/OD4.5×4m, Red	
	302555	Steel Liner 0.9 - 1.2mm, ID2.0/OD4.5×5m, Red	
28	EU1011A	Plastic Nut M10×1， Black	1

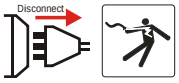


SN24F Contact Tips

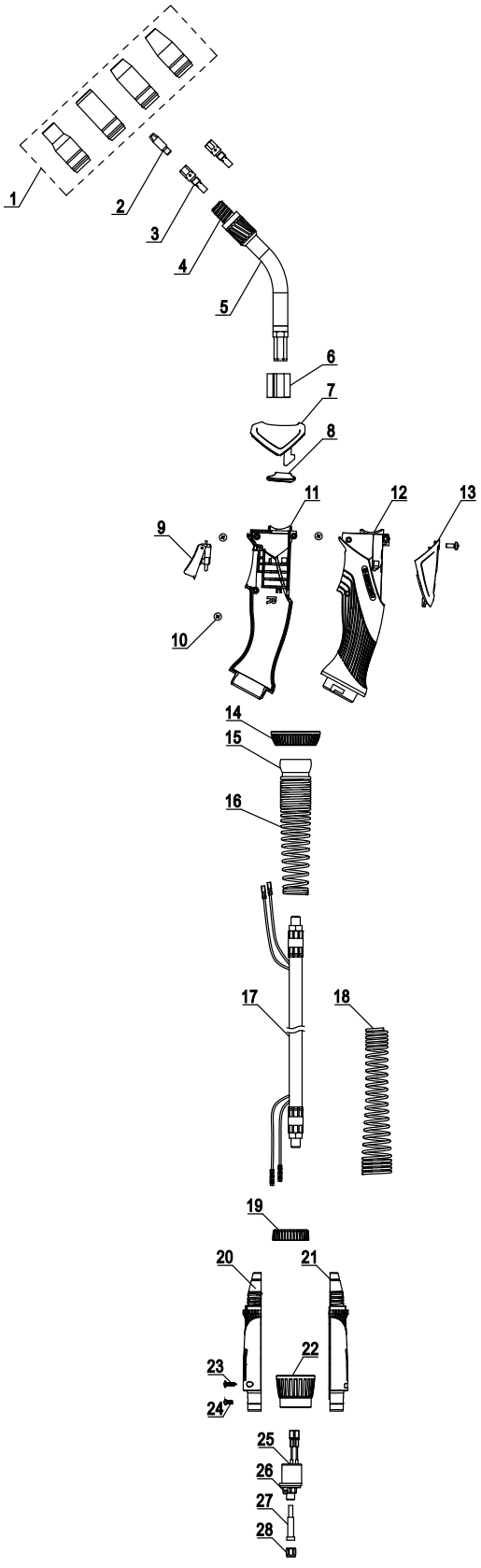


'25/26/36/240'Series Tip

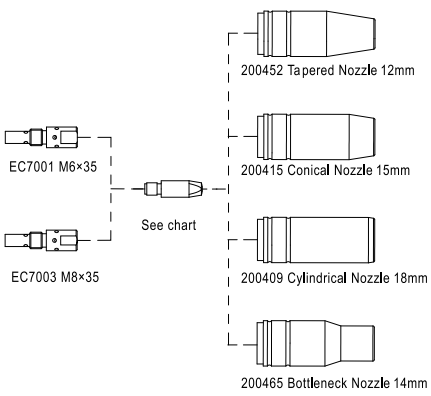
EB2208	0.030"(0.8mm)	ECu
EB2210	0.040"(1.0mm)	ECu
EB2212	0.045"(1.2mm)	ECu
EB2208L	0.030"(0.8mm)	CuCrZr
EB2210L	0.040"(1.0mm)	CuCrZr
EB2212L	0.045"(1.2mm)	CuCrZr

								
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

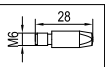
9.03 BZL SN25F Torch Spares



ITEM	PART NUMBER	DESCRIPTION	QTY
	SN25F		
1	200452	Tapered Nozzle 12mm	1
	200415	Conical Nozzle 15mm	
	200409	Cylindrical Nozzle 18mm	
	200465	Bottleneck Nozzle 14mm	
2	See chart	Contact Tip	1
3	EC7001	Contact Tip Socket M6×35	1
	EC7003	Contact Tip Socket M8×35	
4	EF7211	Nozzle Spring	1
5	300625	4CE-25 Swanneck	1
6	305500	Plastic Body	1
7	NH010203	Front Cover	1
8	NH010206	Adapter 16mm	1
9	EJ0005	Trigger	1
10	Q2602912B	ST Screw 2.9×12	4
11	NH010201	Torch Handle R	1
12	NH010202	Torch Handle L	1
13	NH010205	PCB HolderEmpty	1
14	NH010208	Torch Handle Ring	1
15	NH010305	Ball Joint	1
16	142SBJ02	Front Cable Support Spring	1
17	EL2030	Cable Assembly 3m	1
	EL2040	Cable Assembly 4m	
	EL2050	Cable Assembly 5m	
18	8M9500	Back Cable Support Spring	1
19	NH020204	Back Ring	1
20	NH020201	Back Handle L	1
21	NH020202	Back Handle R	1
22	NH020203	Back Handle Ring	1
23	Q260416B	ST Screw 4×16	2
24	Q210406B	Screw M4×6	1
25	EU1001A	Euro Gun Plug	1
26	Q504010	O-Ring 4×1	1
27	302535	Steel Liner 0.9 - 1.2mm, ID2.0/OD4.5×3m, Red	1
	302545	Steel Liner 0.9 - 1.2mm, ID2.0/OD4.5×4m, Red	
	302555	Steel Liner 0.9 - 1.2mm, ID2.0/OD4.5×5m, Red	
28	EU1011A	Plastic Nut M10×1， Black	1

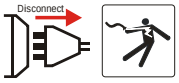


SN25F Contact Tips

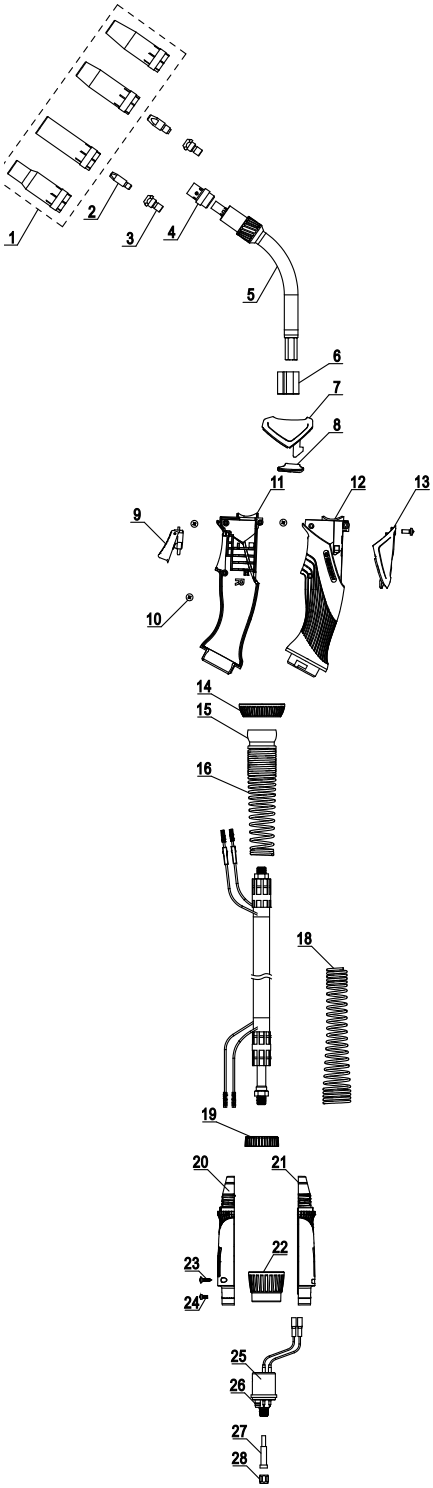


'25/26/36/240'Series Tip

EB2208	0.030"(0.8mm)	ECu
EB2210	0.040"(1.0mm)	ECu
EB2212	0.045"(1.2mm)	ECu
EB2208L	0.030"(0.8mm)	CuCrZr
EB2210L	0.040"(1.0mm)	CuCrZr
EB2212L	0.045"(1.2mm)	CuCrZr

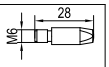
								
Service / Maintenance must be performed by a suitably Trained and Qualified Tradesperson	Disconnect Input Power Supply from Welding System before performing maintenance on the system. Electric shock can kill	Hot parts can burn. Let the Torch cool down prior to doing maintenance work	Turn off air compressor, 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

9.04 BZL SN26F / SN36F / SN38F / SN40F Torch Spares



ITEM	PART NUMBER				DESCRIPTION	QTY
	SN26F	SN36F	SN38F	SN40F		
1	See chart				Nozzle	1
2	See chart				Contact Tip	1
3	EC8001	EC3001	150320	EC4001	Contact Tip Socket	1
		EC3002				
	EC8002	EC3003				
		EC3004				
4	ED8001	ED3001	300560	ED4001	Diffuser	1
		ED3002	300570			
5	300626	300636	300638	300640	Swanneck	1
		3006362				
6	305500		N/A		Plastic Body	1
7	NH010203				Front Cover	1
8	NH010206		NH010207		Adapter	1
9	EJ0005				Trigger	1
10	Q2602912B				ST Screw 2.9×12	4
11	NH010201				Torch Handle R	1
12	NH010202				Torch Handle L	1
13	NH010205				PCB HolderEmpty	1
14	NH010208				Torch Handle Ring	1
15	NH010305				Ball Joint	1
16	142SBJ02				Front Cable Support Spring	1
17	EL8030	SEL3030	SEL4030		Cable Assembly 3m	1
	EL8040	SEL3040	SEL4040		Cable Assembly 4m	
	EL8050	SEL3050	SEL4050		Cable Assembly 5m	
18	8M9500				Back Cable Support Spring	1
19	NH020204				Back Ring	1
20	NH020201				Back Handle L	1
21	NH020202				Back Handle R	1
22	NH020203				Back Handle Ring	1
23	Q260416B				ST Screw 4×16	2
24	Q210406B				Screw M4×6	1
25	EU1001A				Euro Gun Plug	1
26	Q504010				O-Ring 4×1	1
27	302535	303535			Steel Liner 0.9 - 1.2mm, ID2.0/OD4.5×3m, Red	1
	302545	303645			Steel Liner 0.9 - 1.2mm, ID2.0/OD4.5×4m, Red	
	302555	303655			Steel Liner 0.9 - 1.2mm, ID2.0/OD4.5×5m, Red	
28	EU1011A				Plastic Nut M10×1, Black	1

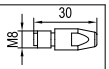
SN26F & SN36F Contact Tips



26/36 Series Tip

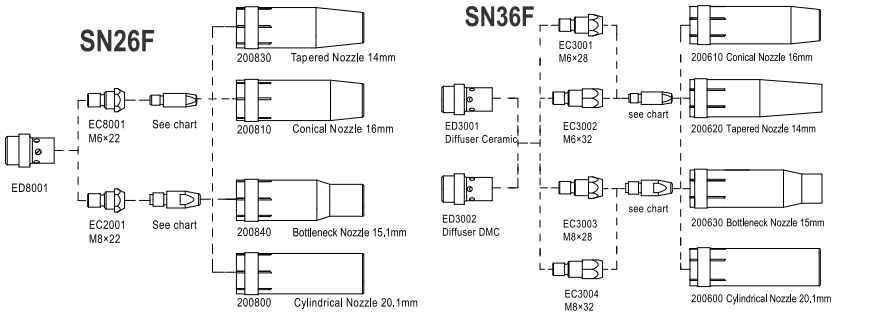
EB2208	0.030"(0.8mm)	ECu
EB2210	0.040"(1.0mm)	ECu
EB2212	0.045"(1.2mm)	ECu
EB2214	0.055"(1.4mm)	ECu
EB2216	1/16"(1.6mm)	ECu
EB2208L	0.030"(0.8mm)	CuCrZr
EB2210L	0.040"(1.0mm)	CuCrZr
EB2212L	0.045"(1.2mm)	CuCrZr
EB2214L	0.055"(1.4mm)	CuCrZr
EB2216L	1/16"(1.6mm)	CuCrZr

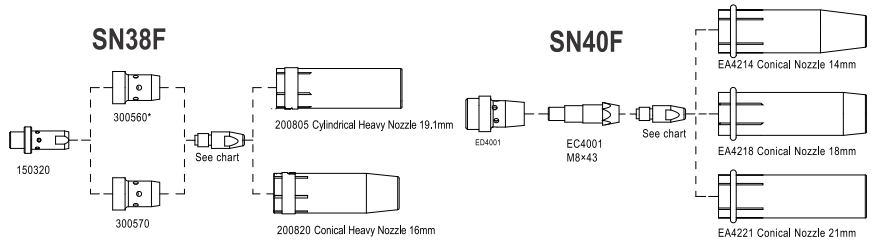
SN26F, SN36F, SN38F, SN38F Contact Tips

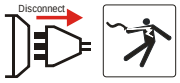


26/36/38/40 Series Tip

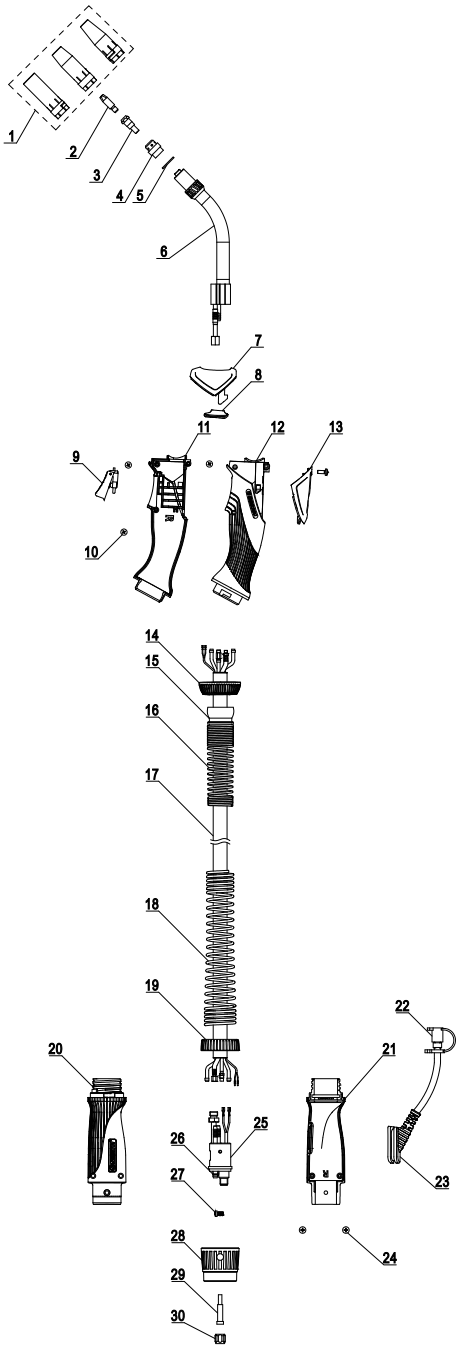
EB3210	0.040"(1.0mm)	ECu
EB3212	0.045"(1.2mm)	ECu
EB3214	0.055"(1.4mm)	ECu
EB3216	1/16"(1.6mm)	ECu
EB3220	5/64"(2.0mm)	ECu
EB3224	3/32"(2.4mm)	CuCrZr
EB3210L	0.040"(1.0mm)	CuCrZr
EB3212L	0.045"(1.2mm)	CuCrZr
EB3214L	0.055"(1.4mm)	CuCrZr
EB3216L	1/16"(1.6mm)	CuCrZr
EB3210AL	0.040"(1.0mm)	ECu
EB3212AL	0.045"(1.2mm)	ECu
EB3214AL	0.055"(1.4mm)	ECu
EB3216AL	1/16"(1.6mm)	ECu
EB3220AL	5/64"(2.0mm)	ECu





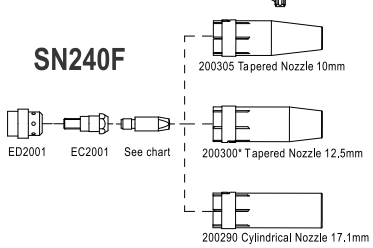
								
Service / Maintenance must be performed by a suitably Trained and Qualified Tradesperson	Disconnect Input Power Supply from Welding System before performing maintenance on the system. Electric shock can kill	Hot parts can burn. Let the Torch cool down prior to doing maintenance work	Turn off air compressor, 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

9.05 BZL SN240F / SN410F / SN510F Torch Spares



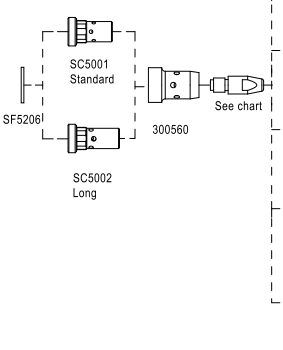
ITEM	PART NUMBER			DESCRIPTION	QTY
	SN240F	SN410F	SN510F		
1	See chart			Nozzle	1
2	See chart			Contact Tip	1
3	EC2001	SC5001		Contact Tip Socket	1
		SC5002			
4	ED2001	300560		Diffuser	1
5	N/A	SF5206		Insulating Washer	1
6	300623	300641	300651	Swanneck	1
7	NH010203			Front Cover	1
8	NH010206	NH010207		Adapter	1
9	EJ0005			Trigger	1
10	Q2602912B			ST Screw 2.9×12	4
11	NH010201			Torch Ha ndle R	1
12	NH010202			Torch Ha ndle L	1
13	NH010205			PCB HolderEmpty	1
14	NH010208			Torch Hand le Ring	1
15	NH010305			Ball Joint	1
16	YKS0001			Front Cable Support Spring	1
17	SNL5030A			Cable Asse mbly 3m	1
	SNL5040A			Cable Asse mbly 4m	
	SNL5050A			Cable Asse mbly 5m	
18	8M9501			Back Cable Support Spring	1
19	NH020204			Back Ring	1
20	NH020201			Back Handle L	1
21	NH020202			Back Handle R	1
22	258701			Waterstop Red	1
	258702			Waterstop Blue	1
23	NH020205			Water Hose Guide	1
24	Q260416B			ST Screw 4×16	2
25	TRU5001			Euro Gun Plug	1
26	Q504010			O-Ring 4×1	1
27	Q210406			Screw M4×6	1
28	NH020203			Back Handle Ring	1
29	304635			Steel Liner 0.9 - 1.2mm, ID2.0/OD4.5×3m, Red	1
	304645			Steel Liner 0.9 - 1.2mm, ID2.0/OD4.5×4m, Red	
	304655			Steel Liner 0.9 - 1.2mm, ID2.0/OD4.5×5m, Red	
30	EU1011A			Plastic Nut M10×1， Black	1

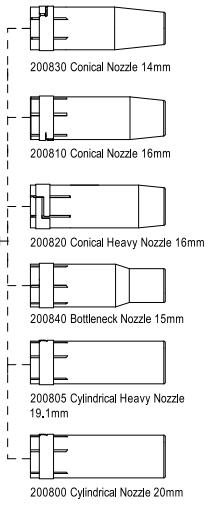
SN240F



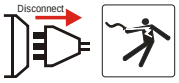
SN240F Contact Tips		'25/26/36/240'Series Tip
EB2208	0.030"(0.8mm)	ECu
EB2210	0.040"(1.0mm)	ECu
EB2212	0.045"(1.2mm)	ECu
EB2208L	0.030"(0.8mm)	CuCrZr
EB2210L	0.040"(1.0mm)	CuCrZr
EB2212L	0.045"(1.2mm)	CuCrZr

SN410F & SN510F

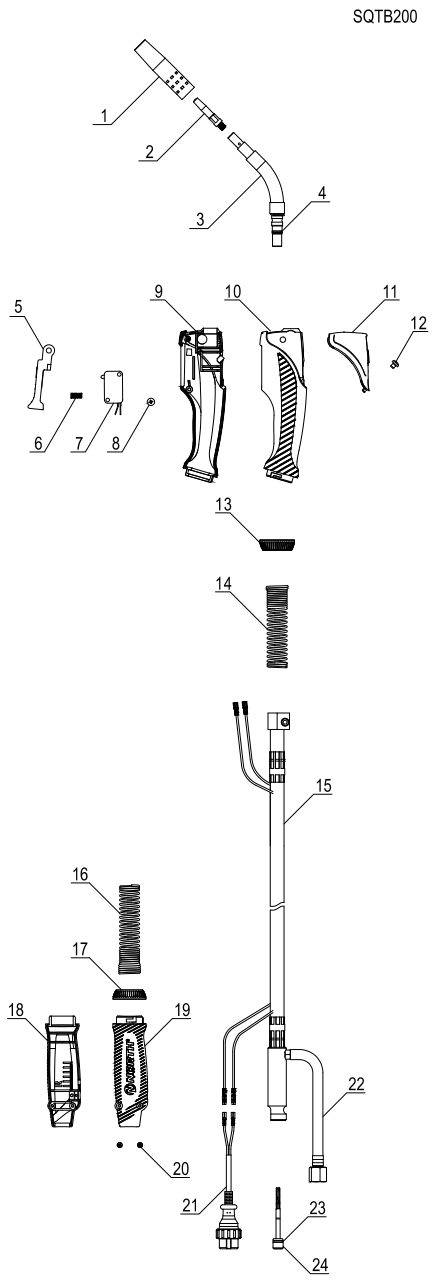




SN410F & SN510F Contact Tips		410/510 Series Tip
EB3210	0.040"(1.0mm)	ECu
EB3212	0.045"(1.2mm)	ECu
EB3214	0.055"(1.4mm)	ECu
EB3216	1/16"(1.6mm)	ECu
EB3220	5/64"(2.0mm)	ECu
EB3224	3/32"(2.4mm)	CuCrZr
EB3210L	0.040"(1.0mm)	CuCrZr
EB3212L	0.045"(1.2mm)	CuCrZr
EB3214L	0.055"(1.4mm)	CuCrZr
EB3216L	1/16"(1.6mm)	CuCrZr
EB3210AL	0.040"(1.0mm)	ECu
EB3212AL	0.045"(1.2mm)	ECu
EB3214AL	0.055"(1.4mm)	ECu
EB3216AL	1/16"(1.6mm)	ECu
EB3220AL	5/64"(2.0mm)	ECu

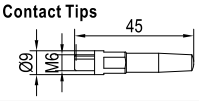
								
Service / Maintenance must be performed by a suitably Trained and Qualified Tradesperson	Disconnect Input Power Supply from Welding System before performing maintenance on the system. Electric shock can kill	Hot parts can burn. Let the Torch cool down prior to doing maintenance work	Turn off air compressor, 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

9.06 PNA SQBT200 Torch Spares



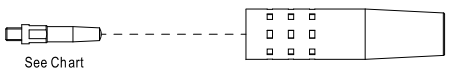
ITEM	PART NU MBER	DESCRIPTION	QTY
	SQTB200		
1	See chart	Nozzle	1
2	See chart	Contact Tip	1
3	See Neck Options	Swanneck	1
4	Q508015S	O-Ring 8×1.5	1
5	NH010304	Trigger	1
6	Q60512	Trigger Spring	1
7	Q711	Switch	1
8	Q2602912B	ST Screw 2.9×12	1
9	NH010601	Torch Handle DIY R	1
10	NH010602	Torch Handle DIY L	1
11	NH010603	PCB HolderEmpty DIY	1
12	Q2602265B	ST Screw 2.2×6.5	1
13	NH010604	Torch Handle Ring DIY	1
14	BS1101	Front Cable Support Spring	1
15	SKL2030	Cable Assembly 3m	1
	SKL2040	Cable Assembly 4m	
	SKL2050	Cable Assembly 5m	
16	KS3201	Back Cable Support Spring	1
17	NH020103	Back Ring	1
18	NH020101	Back Handle R	1
19	NH020202	Back Handle L	1
20	Q260416B	ST Screw 4×16	2
21	KV0002	Control Cable Assy c/w Plug	1
22	KW0001	Gas Hose Assembly	1
23	Q508015	O-Ring 8×1.5	1
24	KR2210-3/4/5	Steel Liner 0.8-1.0mm×3m/4m/5m	1

M6 Contact Tips



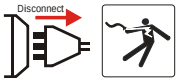
KB2208	0.8mm	ECu
KB2210	1.0mm	ECu
KB2212	1.2mm	ECu
KB2214	1.4mm	ECu
KB2216	1.6mm	ECu
KB2208L	0.8mm	CuCr1Zr
KB2210L	1.0mm	CuCr1Zr
KB2212L	1.2mm	CuCr1Zr
KB2214L	1.4mm	CuCr1Zr
KB2216L	1.6mm	CuCr1Zr

SQTB200

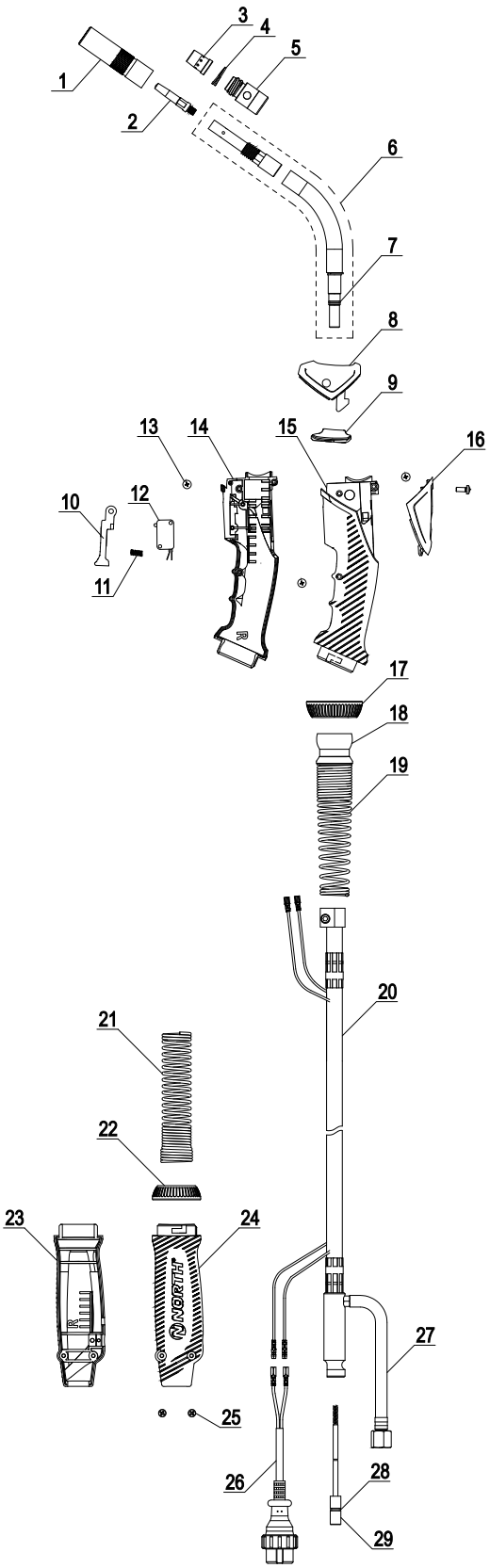


SQTB200 Swanneck Options

Torch Type	Separate Swanneck	Swanneck
SQTB200	N/A	KF2245 45° KF22180 180°

								
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

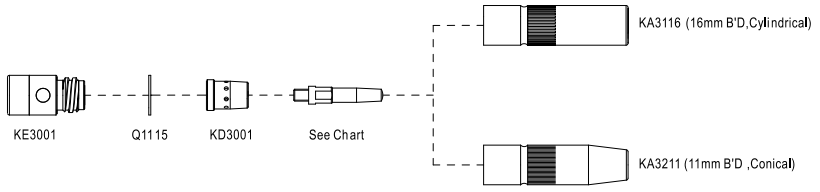
9.07 PNA SQBT350 / SQTB500 / SQTB600 Torch Spares



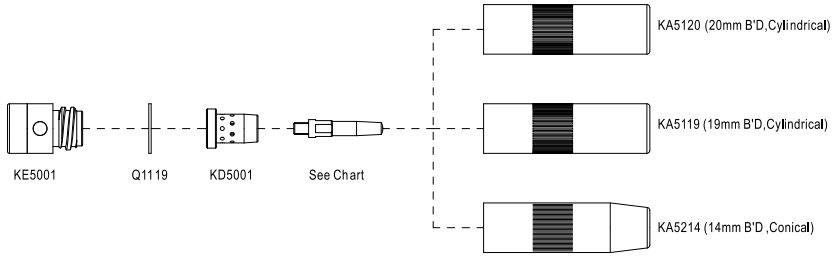
ITEM	PART NUMBERT			DESCRIPTION	QTY
	SQTB350	SQTB500	SQTB600		
1	See chart			Nozzle	1
2	See chart			Contact Tip	1
3	KD3001	KD5001	KD6001	Gas Diffuser	1
4	Q1115	Q1119	N/A	Gasket	1
5	KE3001	KE5001	KE6001	Insulator	1
6	See Neck Options			Swanneck	1
7	Q508015S			O-Ring 8×1.5	1
8	NH010303			Front Cover	1
9	NH010207			Adapter	1
10	NH010304			Trigger	1
11	Q60512			Trigger Spring	1
12	Q711			Switch	1
13	Q2602912B			ST Screw 2.9×12	4
14	NH010301			Torch Handle R	1
15	NH010302			Torch Handle L	1
16	NH010205			PCB HolderEmpty	1
17	NH010208			Torch Handle Ring	1
18	NH010305			Ball Joint	1
19	142SBJ02			Front Cable Support Spring	1
20	KL3030	KL5030	KL6030	Cable Assembly 3m	1
	KL3040	KL5040	KL6040	Cable Assembly 4m	
	KL3050	KL5050	KL6050	Cable Assembly 5m	
21	KS3201			Back Cable Support Spring	1
22	NH020103			Back Ring	1
23	NH020101			Back Handle R	1
24	NH020102			Back Handle L	1
25	Q260416B			ST Screw 4×16	2
26	KV0002			Control Cable Assy c/w Plug	1
27	KW0001			Gas Hose Assembly	1
28	Q506318			O-Ring 6.3×1.8	1
29	KR3212-3/4/5			Steel Liner 1.0-1.2mm×3m/4m/5m	1
	KR5216-3/4/5			Steel Liner 1.2-1.6mm×3m/4m/5m	
	KR6220-3/4/5			Steel Liner 1.6-2.0mm×3m/4m/5m	

9.07 PNA SQBT350 / SQTB500 / SQTB600 Torch Spares

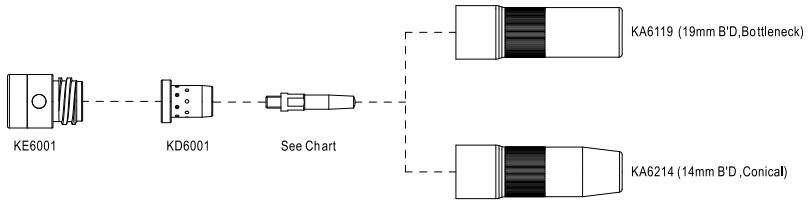
SQTB350



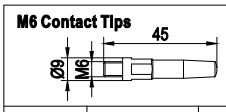
SQTB500



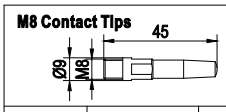
SQTB600



Contact Tips



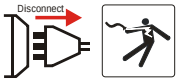
KB2208	0.8mm	ECu
KB2210	1.0mm	ECu
KB2212	1.2mm	ECu
KB2214	1.4mm	ECu
KB2216	1.6mm	ECu
KB2208L	0.8mm	CuCr1Zr
KB2210L	1.0mm	CuCr1Zr
KB2212L	1.2mm	CuCr1Zr
KB2214L	1.4mm	CuCr1Zr
KB2216L	1.6mm	CuCr1Zr



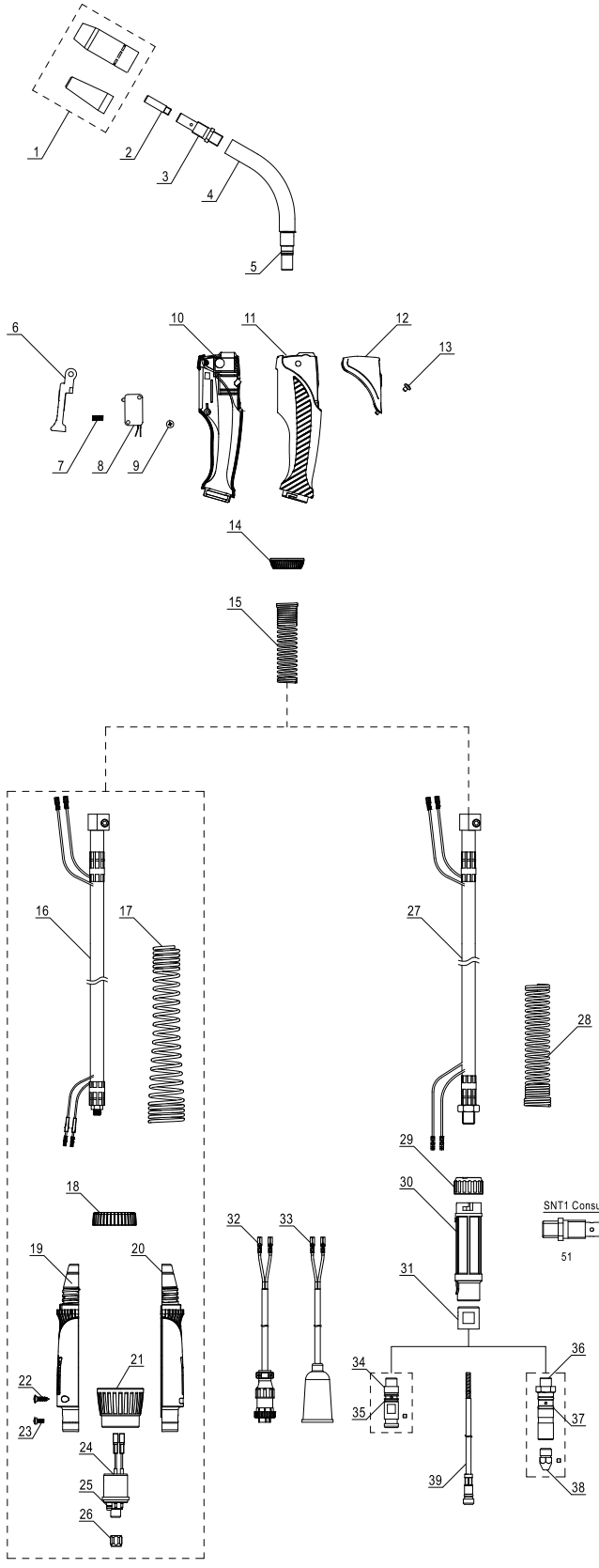
KB6212	0.8mm	ECu
KB6216	1.0mm	ECu
KB6220	1.2mm	ECu
KB6212L	1.4mm	CuCr1Zr
KB6216L	1.6mm	CuCr1Zr
KB6220L	2.0mm	CuCr1Zr

SQTB350, SQTB500, SQBT600 Swanneck Options

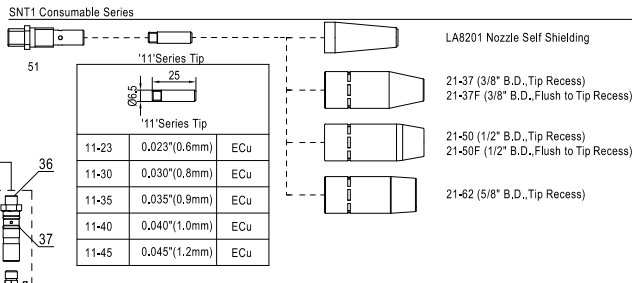
Part Number	Separate Swanneck	Swanneck
SQTB350	KF3355 KF3311 Front Gun Tube - - - - KF3312 Gunneck 55°	KF3255 55° KF31180 180°
SQTB500	KF5011 Front Gun Tube - KF5255 Gunneck 55° KF51180 Gunneck 180°	N/A
SQTB600	KF6031 Front Gun Tube M6 - KF5255 Gunneck 55° KF6032 Front Gun Tube M8 - KF51180 Gunneck 180°	N/A

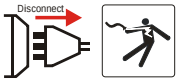
								
Service / Maintenance must be performed by a suitably Trained and Qualified Tradesperson	Disconnect Input Power Supply from Welding System before performing maintenance on the system. Electric shock can kill	Hot parts can burn. Let the Torch cool down prior to doing maintenance work	Turn off air compressor, 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

9.08 TWE SNT1 Torch Spares

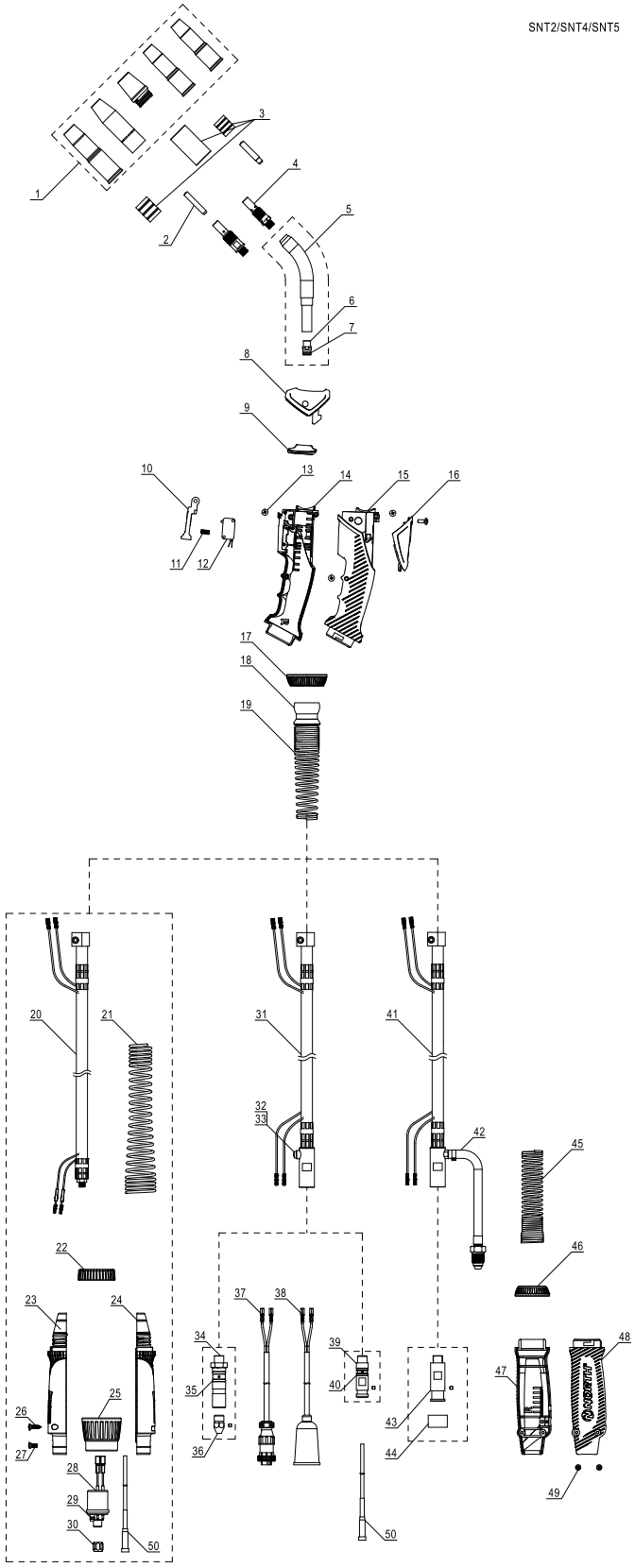


ITEM	PART NUMBER	DESCRIPTION	QTY
	SNT1		
1	See chart	Nozzle	1
2	See chart	Contact Tip	1
3	51	Gas Diffuser	1
4	STF1045	Swanneck 45	1
	STF1060	Swanneck 60	
5	Q508015S	O-Ring 8×1.5	1
6	NH010304	Trigger	1
7	Q60512	Trigger Spring	1
8	Q711	Switch	1
9	Q2602912B	ST Screw 2.9×12	1
10	NH010601	Torch Handle DIY R	1
11	NH010602	Torch Handle DIY L	1
12	NH010603	PCB HolderEmpty DIY	1
13	Q2602265B	ST Screw 2.2×6.5	1
14	NH010604	Torch Handle Ring DIY	1
15	BS1101	Front Cable Support Spring	1
16	STL1010E	Cable Assembly 10ft/3m,Euro	1
	STL1012E	Cable Assembly 12ft/3.6m,Eruo	
	STL1015E	Cable Assembly 15ft/4.5m,Eruo	
17	8M9500	Back Cable Support Spring	1
18	NH020204	Back Ring	1
19	NH020201	Back Handle L	1
20	NH020202	Back Handle R	1
21	NH020203	Back Handle Ring	1
22	Q260416B	ST Screw 4×16	2
23	Q210406B	Screw M4×6	1
24	TEU1001	Tweco Euro Gun Plug	1
25	Q504010	O-Ring 4×1	1
26	TEU1011	Nut M11×1	1
27	STL1010	Cable Assembly 10ft/3m	1
	STL1012	Cable Assembly 12ft/3.6m	
	STL1015	Cable Assembly 15ft/4.5m	
28	LYS1201	Back Cable Support Spring	1
29	LYH220202	Back Handle Ring	1
30	LYH220201	Back Handle Body	1
31	LYU0001	Locating Sleeve	1
32	MV0004-640	Miller 4 Pin Plug Assambly	1
33	LV0002-640	2 Pin Plug Assambly	1
34	R174-T	Connector Tweco	1
35	Q511818	O-Ring 11.8×1.8	2
36	R174-M	Connector Miller	1
37	Q512526	O-Ring 12.5×2.65	2
38	R174-N	Nipper for Miller connection	1
39	NT42-3035-15	Steel Liner 0.030"-0.035"×15ft	1
	NT42T-3035-15	Teflon Liner 0.030"-0.035"×15ft	



								
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

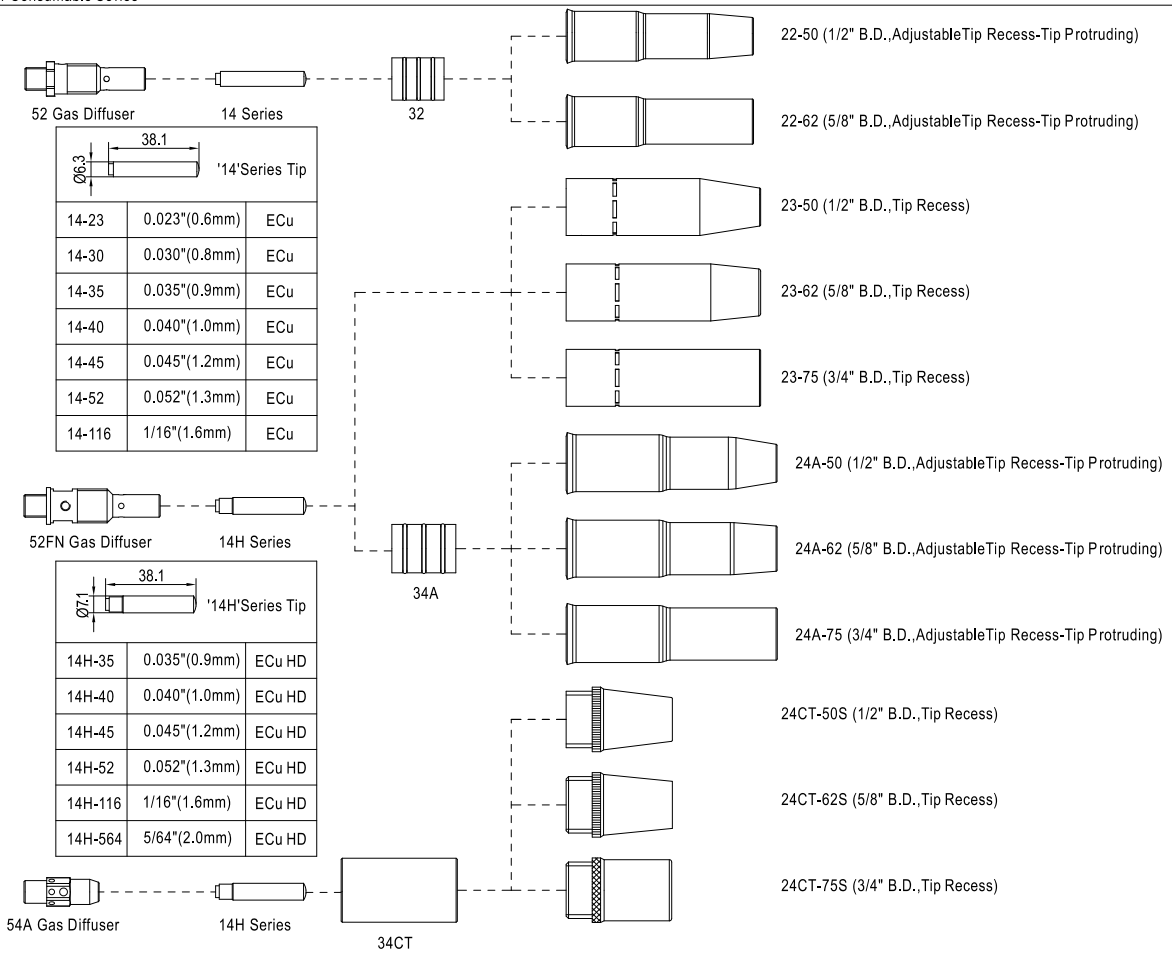
9.09 TWE SNT2 / SNT4 / SNT5 Torch Spares



ITEM	PART NUMBER			DESCRIPTION	QTY
	SNT2	SNT4	SNT5		
1	See chart			Nozzle	1
2	See chart			Contact Tip	1
3	34A			Insulator	1
		34CT	35CT		
	32				
4	52		55SW*	Gas Diffuser	1
		54A	55		
	52FN		55H		
5	N62A45J	N64A45J	N65-45J	Swanneck	1
	N62A60J	N64A60J*			
	N62A45	N64A45	N65-60J*		
	N62A60	N64A60			
6	TEF2212		TEF5212	Gas Nipple	1
7	Q508015S			O-Ring 8×1.5	1
8	NH010303			Front Cover	1
9	NH010206	NH010207		Adapter	1
10	NH010304			Trigger	1
11	Q60512			Trigger Spring	1
12	Q711			Switch	1
13	Q2602912B			ST Screw 2.9×12	4
14	NH010301			Torch Handle R	1
15	NH010302			Torch Handle L	1
16	NH010205			PCB HolderEmpty	1
17	NH010208			Torch Handle Ring	1
18	NH010305			Ball Joint	1
19	142SBJ02			Front Cable Support Spring	1
20	STL2010E	STL4010E	STL5010E	Cable Assembly 10ft/3m,Euro	1
	STL2012E	STL4012E	STL5012E	Cable Assembly 12ft /3.6m,Eruo	
	STL2015E	STL4015E	STL5015E	Cable Assembly 15ft/4.5m,Eruo	
21	8M9500			Back Cable Support Spring	1
22	NH020204			Back Ring	1
23	NH020201			Back Handle L	1
24	NH020202			Back Handle R	1
25	NH020203			Back Handle Ring	1
26	Q260416B			ST Screw 4×16	2
27	Q210406B			Screw M4×6	1
28	TEU1001	TEU4001		Tweco Euro Gun Plug	1
29	Q504010			O-Ring 4×1	1
30	TEU1011			Nut M11×1	1
31	STL2010	STL4010	STL5010	Cable Assembly 10ft/3m	1
	STL2012	STL4012	STL5012	Cable Assembly 12ft/3.6m	
	STL2015	STL4015	STL5015	Cable Assembly 15ft/4.5m	
32	Q270510			Screw M5×10	1
33	STL0201			Back Handle Fixed Button	1
34	R174-M			Connector Miller	1
35	Q512526			O-Ring 12.5×2.65	2
36	R174-N			Nipper for Miller connection	1
37	MV0004-640			Miller 4 Pin Plug Assambly	1
38	LV0002-640			2 Pin Plug Assambly	1
39	R174-T		R175-T	Connector Tweco	1
40	Q511818			O-Ring 11.8×1.8	2
41	STL2010L	STL4010L	STL5012L	Cable Assembly 10ft/3m,Lincoln	1
	STL2012L	STL4012L	STL5012L	Cable Assembly 12ft/3.6m,Lincoln	
	STL2015L	STL4015L	STL5015L	Cable Assembly 15ft/4.5m,Lincoln	
42	HDW0201			Gas Hose Assembly	1
43	R174-L			Connector Lincoln	1
44	HDN0201			Connector Insulator	1
45	KS3201			Back Cable Support Spring	1
46	NH020103			Back Ring	1
47	NH020101			Back Handle R	1
48	NH020102			Back Handle L	1
49	Q260416B			ST Screw 4×16	2
50	42-3035-15			Steel Liner 0.030"-0.035"×15ft	1
	42-4035-15			Steel Liner 0.040"-0.045"×15ft	
	44-3545-15			Steel Liner 0.035"-0.045"×15ft	
	44-116-15			Steel Liner 1/16"×15ft	
	44-564-15			Steel Liner 5/64"×15ft	
	45-3545-15			Steel Liner 0.035"-0.045"×15ft Tweco End	
	45-116-15			Steel Liner 1/16"×15ft Tweco End	
	45-564-15			Steel Liner 5/64"×15ft Tweco End	
	42T-3035-15			Teflon Liner 0.030"-0.035"×15ft	
	42T-3545-15			Teflon Liner 0.040"-0.045"×15ft	
	44T-3545-15			Teflon Liner 0.035"-0.045"×15ft	
	44T-116-15			Teflon Liner 1/16"×15ft	

9.09 TWE SNT2 / SNT4 / SNT5 Torch Spares

SNT2/SNT4 Consumable Series



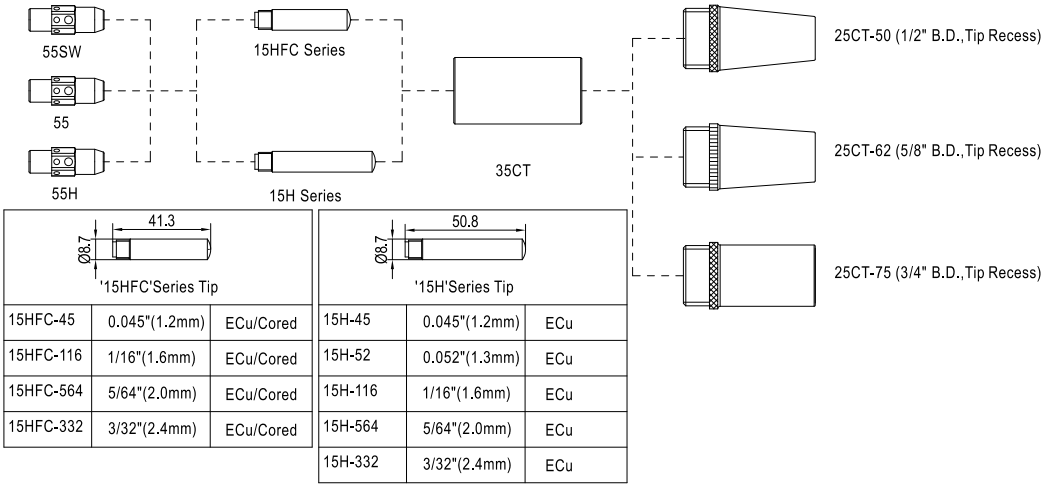
38.1, Ø6.3 — '14'Series Tip

14-23	0.023"(0.6mm)	ECu
14-30	0.030"(0.8mm)	ECu
14-35	0.035"(0.9mm)	ECu
14-40	0.040"(1.0mm)	ECu
14-45	0.045"(1.2mm)	ECu
14-52	0.052"(1.3mm)	ECu
14-116	1/16"(1.6mm)	ECu

38.1, Ø7.1 — '14H'Series Tip

14H-35	0.035"(0.9mm)	ECu HD
14H-40	0.040"(1.0mm)	ECu HD
14H-45	0.045"(1.2mm)	ECu HD
14H-52	0.052"(1.3mm)	ECu HD
14H-116	1/16"(1.6mm)	ECu HD
14H-564	5/64"(2.0mm)	ECu HD

SNT5 Consumable Series



41.3, Ø8.7 — '15HFC'Series Tip

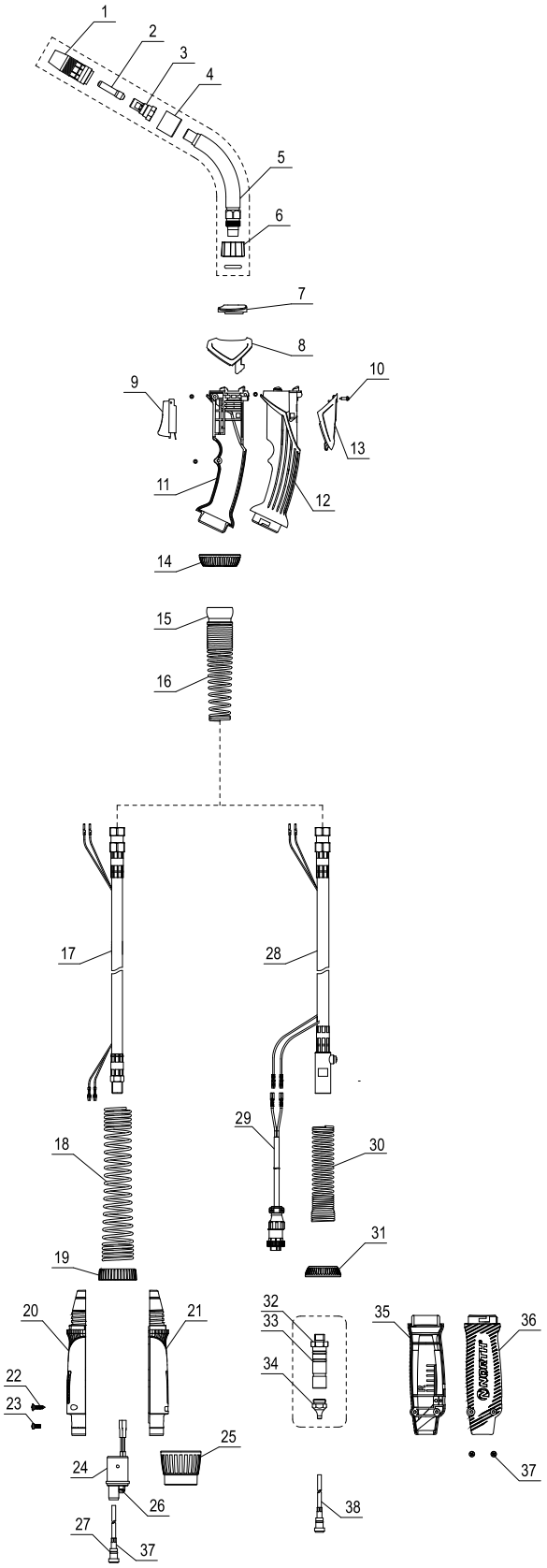
15HFC-45	0.045"(1.2mm)	ECu/Cored
15HFC-116	1/16"(1.6mm)	ECu/Cored
15HFC-564	5/64"(2.0mm)	ECu/Cored
15HFC-332	3/32"(2.4mm)	ECu/Cored

50.8, Ø8.7 — '15H'Series Tip

15H-45	0.045"(1.2mm)	ECu
15H-52	0.052"(1.3mm)	ECu
15H-116	1/16"(1.6mm)	ECu
15H-564	5/64"(2.0mm)	ECu
15H-332	3/32"(2.4mm)	ECu

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

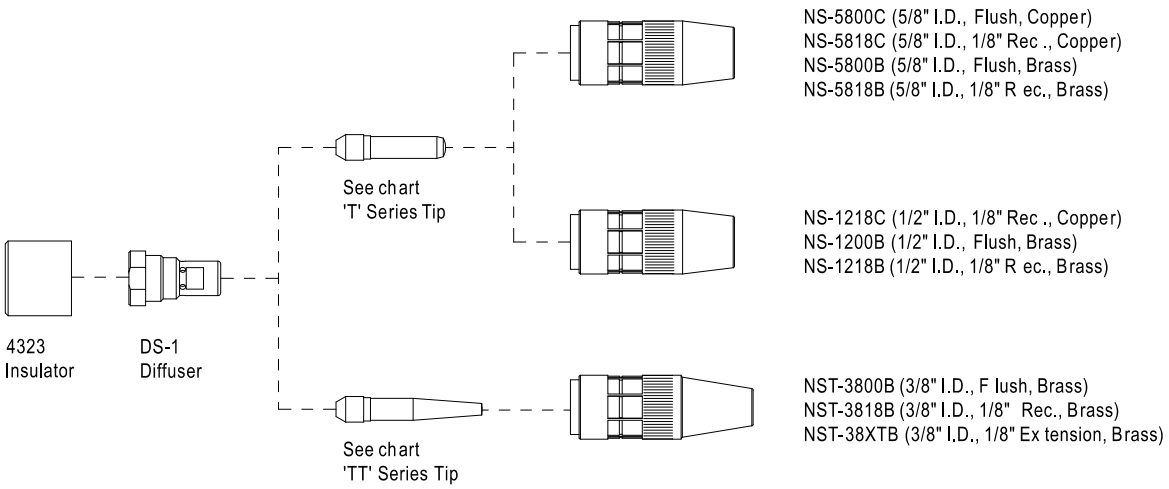
9.010 BRD SNQ200 / SNQ300 / SNQ400 Torch Spares



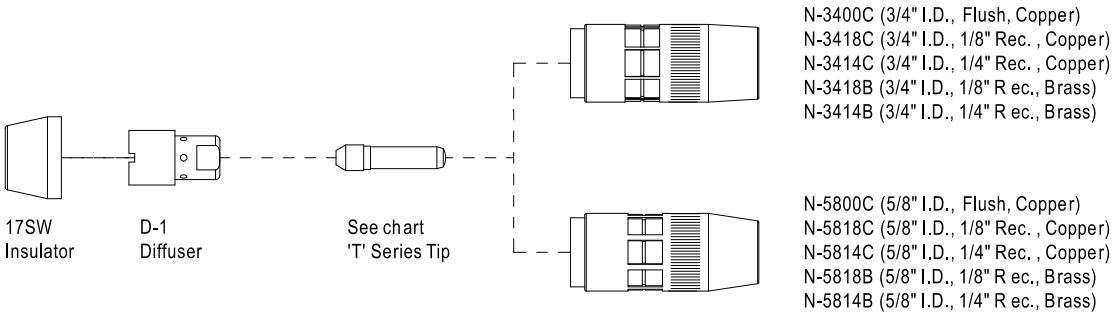
ITEM	PART NUMBERT			DESCRIPTION	QTY
	SNQ200	SNQ300	SNQ400		
1	See chart			Nozzle	1
2	See chart			Contact Tip	1
3	DS-1		D-1	Gas Diffuser	1
4	4323		17SW	Insulator	1
5	QT2-45	QT3-45		Gun Neck	1
6	1840057			Rotatable Nut Cover	1
7	NH010503			Adapter	1
8	NH010203			Front Cover	1
9	BEJ2005B			Trigger	1
10	Q2602910B			ST Screw 2.9×10	4
11	NH010502			Torch Handle R	1
12	NH010501			Torch Handle L	1
13	NH010205			PCB HolderEmpty	1
14	NH010208			Torch Handle Ring	1
15	NH010305			Ball Joint	1
16	142SBJ02			Front Cable Support Spring	1
17	BEL2010	BEL3010	BEL4010	Cable Assembly 10ft/3m	1
	BEL2012	BEL3012	BEL4012	Cable Assembly 12ft/3.6m	
	BEL2015	BEL3015	BEL4015	Cable Assembly 15ft/4.5m	
18	8M9500			Back Cable Support Spring	1
19	NH020204			Back Ring	1
20	NH020201			Back Handle L	1
21	NH020202			Back Handle R	1
22	Q260416B			ST Screw 4×16	2
23	Q210406B			Screw M4×6	1
24	BEU2001			Bernard Euro Gun Plug	1
25	NH020203			Back Handle Ring	1
26	Q505217			O-Ring 5.28×1.78	1
27	Q504010			O-Ring 4×1	1
28	SBL2010	SBL3010	SBL4010	Cable Assembly 10ft/3m	1
	SBL2012	SBL3012	SBL4012	Cable Assembly 12ft/3.6m	
	SBL2015	SBL3015	SBL4015	Cable Assembly 15ft/4.5m	
29	MV0004-640			Miller 4 Pin Plug Assambly	1
30	KS3201			Back Cable Support Spring	1
31	NH020103			Back Ring	1
32	MU0006			Connector Miller	1
33	Q512526			O-Ring 12.5×2.65	2
34	BMU0014			Nipper for Miller Connection	1
35	NH020101			Back Handle R	1
36	NH020102			Back Handle L	1
37	Q260416B			ST Screw 4×16	2
38	43015			Steel Liner 0.023"-0.030"×15ft	1
	43115			Steel Liner 0.035"-0.045"×15ft	
	43215			Steel Liner 1/16"×15ft	
	44115			Steel Liner 0.035"-0.045"×15ft	
	44215			Steel Liner 0.045"-1/16"×15ft	
	44315			Steel Liner 5/64"×15ft	
	43115T			Teflon Liner 0.035"-0.045"×15ft	
	44215T			Teflon Liner 0.045"-1/16"×15ft	

9.010 BRD SNQ200 / SNQ300 / SNQ400 Torch Spares

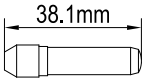
SNQ200 / SNQ300 Consumable Series



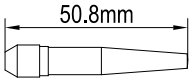
SNQ400 Consumable Series



Contact Tips



'T' Series Tip	
T-023	0.023" (0.6 mm)
T-030	0.030" (0.8 mm)
T-035	0.035" (0.9 mm)
T-039	0.039" (1.0 mm)
T-045	0.045" (1.2 mm)
T-052	0.052" (1.4 mm)
T-062	1/16" (1.6 mm)
T-072	0.072" (1.8 mm)
T-078	5/64" (2.0 mm)
T-094	3/32" (2.4 mm)



'TT' Series Tip	
TT-023	0.023" (0.6 mm)
TT-030	0.030" (0.8 mm)
TT-035	0.035" (0.9 mm)
TT-039	0.039" (1.0 mm)
TT-045	0.045" (1.2 mm)
TT-052	0.052" (1.4 mm)
TT-062	1/16" (1.6 mm)

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