CIGWELD

AN ESAB BRAND

DESIGNED & TESTED IN AUSTRALIA FOR OVER 100 YEARS

TRANSMIG 395 HD

- MIG
- STICK
- DC LIFT TIG
- GOUGING

OPERATING MANUAL

TRANSMIG 395HD, P/N: W1400395, W1401395

395A @80% POWER	MIG, TIG, STICK AND GOUGING	32A PLUG FACTORY FITTED	3 PHASE (415V) INPUT SUPPLY	5 YEAR* WARRANTY

CIGWELD
AN ESAB BRAND

WE APPRECIATE YOUR BUSINESS!

Congratulations on your new CIGWELD product. We are proud to have you as our customer and will strive to provide you with the best service and reliability in the industry. This product is backed by our extensive warranty and world-wide service network.

This Operating Manual has been designed to instruct you on the correct use and operation of your CIGWELD product. Your satisfaction with this product and its safe operation is our ultimate concern. Therefore please take the time to read the entire manual, especially the Safety Precautions. They will help you to avoid potential hazards that may exist when working with this product.

We have made every effort to provide you with accurate instructions, drawings, and photographs of the product(s) while writing this manual. However errors do occur and we apologize if there are any contained in this manual.

Due to our constant effort to bring you the best products, we may make an improvement that does not get reflected in the manual. If you are ever in doubt about what you see or read in this manual with the product you received, then check for a newer version of the manual on our website or contact our customer support for assistance.

YOU ARE IN GOOD COMPANY!

The Brand of Choice for Contractors and Fabricators Worldwide.

CIGWELD is a Market Leading Brand of Arc Welding Products for ESAB. We are a mainline supplier to major welding industry sectors in the Asia Pacific and emerging global markets including; Manufacturing, Construction, Mining, Automotive, Engineering, Rural and DIY.

We distinguish ourselves from our competition through market-leading, dependable products that have stood the test of time. We pride ourselves on technical innovation, competitive prices, excellent delivery, superior customer service and technical support, together with excellence in sales and marketing expertise.

Above all, we are committed to develop technologically advanced products to achieve a safer working environment for industry operators.

DESIGNED
& TESTED
IN AUSTRALIA
FOR OVER 100 YEARS

WARNING

Read and understand this entire Manual and your employer's safety practices before installing, operating, or servicing the equipment. While the information contained in this Manual represents the Manufacturer's best judgement, the Manufacturer assumes no liability for its use. Disclaimer: The images and values depicted in this manual are for illustration purposes only and may vary to actual values.

CIGWELD TRANSMIG 395HD WELDING INVERTER OPERATING MANUAL NUMBER 741717-01-025

FOR: PART NUMBER W1400395, W1401395

Published by:

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Publication Date: 01-10-2025

Revision Date:

RECORD THE FOLLOWING INFORMATION FOR WARRANTY PURPOSES:

Where Purchased:

Purchase Date:

Equipment Serial #:

BE SURE THIS INFORMATION REACHES THE OPERATOR. YOU CAN GET EXTRA COPIES FOR FREE BY DOWNLOADING FROM THE CIGWELD WEBSITE.

CAUTION

These INSTRUCTIONS are for experienced operators. If you are not fully familiar with the principles of operation and safe practices for arc welding and cutting equipment, we urge you to read our booklet, "Precautions and Safe Practices for Arc Welding, Cutting, and Gouging," Booklet 0-5407. Do NOT permit untrained persons to install, operate, or maintain this equipment. Do NOT attempt to install or operate this equipment until you have read and fully understand these instructions. If you do not fully understand these instructions, contact your supplier for further information. Be sure to read the Safety Precautions before installing or operating this equipment.

USER RESPONSIBILITY

This equipment will perform in conformity with the description thereof contained in this manual and accompanying labels and/or inserts when installed, operated, maintained and repaired in accordance with the instructions provided. This equipment must be checked periodically. Malfunctioning or poorly maintained equipment should not be used. Parts that are broken, missing, worn, distorted or contaminated should be replaced immediately. Should such repair or replacement become necessary, the manufacturer recommends that a telephone or written request for service advice be made to the Authorized Distributor from whom it was purchased.

This equipment or any of its parts should not be altered without the prior written approval of the manufacturer. The user of this equipment shall have the sole responsibility for any malfunction which results from improper use, faulty maintenance, damage, improper repair or alteration by anyone other than the manufacturer or a service facility designated by the manufacturer.

READ AND UNDERSTAND THE OPERATING MANUAL BEFORE INSTALLING OR OPERATING. PROTECT YOURSELF AND OTHERS!

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DECLARATION OF CONFORMITY

According to AS/NZS 3820:2020, Essential Safety Requirements for Electrical Equipment Radiocommunications Labelling (Electromagnetic Compatibility) Notice 2017

TYPE OF EQUIPMENT

Arc welding power source, Wire feeders,
Liquid cooling systems

TYPE DESIGNATION

Serial number sequence for TRANSMIG 395HD

TRANSMIG 395HD Power Source: KC537YYWW####

TRANSFEED 4R HD Wire feeder: KC523YYWW####

TRANSMIG HD Water Cooler: KC524YYWW####

BRAND NAME OR TRADEMARK

CIGWELD

MANUFACTURER OR HIS AUTHORIZED REPRESENTATIVE ESTABLISHED WITHIN THE EEA NAME, ADDRESS, AND TELEPHONE NO:

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Phone: +61 3 9474 7400;
www.cigweld.com.au

THE FOLLOWING HAS BEEN USED IN THE DESIGN:

AS 1674.2:2025	Safety in welding and allied processes, Part 2: Electrical
AS 60974.1:2020	Arc Welding Equipment, Part 1: Welding Power Sources
AS/NZS 3760-2010	In-service Safety Inspection and Testing of Electrical Equipment
	EN IEC 60974-1: 2018/A1:2019 Arc Welding Equipment, Part 1: Welding Power Sources
EN IEC 60974-10:2021	Arc Welding Equipment, Part 10: EMC requirements
IEC 60974-5:2019	Arc Welding Equipment, Part 5: Wire feeders
EN 60974-2:2019	Arc Welding Equipment, Part 2: Liquid cooling systems

ADDITIONAL INFORMATION:

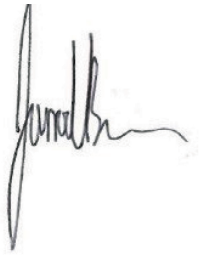
Restrictive use, Class A equipment, intended for use in location other than residential. This equipment is also in compliance with the essential requirements of EU Directives 2014/30/EU and 2014/35/EU.

BY SIGNING THIS DOCUMENT, THE UNDERSIGNED DECLARES AS MANUFACTURER, OR THE MANUFACTURER'S AUTHORIZED REPRESENTATIVE, THAT THE EQUIPMENT IN QUESTION COMPLIES WITH THE SAFETY REQUIREMENTS STATED ABOVE.

PLACE/DATE

Preston
01-10-2025

SIGNATURE



Jarrod Brennan
Managing Director

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SECTION 1:
ARC WELDING SAFETY INSTRUCTIONS AND WARNINGS

WARNING

PROTECT YOURSELF AND OTHERS FROM POSSIBLE SERIOUS INJURY OR DEATH. KEEP CHILDREN AWAY. PACEMAKER WEARERS KEEP AWAY UNTIL CONSULTING YOUR DOCTOR. DO NOT LOSE THESE INSTRUCTIONS. READ OPERATING/ INSTRUCTION MANUAL BEFORE INSTALLING, OPERATING OR SERVICING THIS EQUIPMENT.

Welding products and welding processes can cause serious injury or death, or damage to other equipment or property, if the operator does not strictly observe all safety rules and take precautionary actions.

Safe practices have developed from past experience in the use of welding and cutting machinery/equipment. These practices must be learned through study and training before using this equipment. Some of these practices apply to equipment connected to power lines; other practices apply to engine driven equipment. Anyone not having extensive training in welding and cutting practices should not attempt to weld.

Safe practices are outlined in the Australian Standard AS1674.2-2025 entitled: Safety in welding and allied processes Part 2: Electrical. This publication and other guides as to what you should learn before operating this equipment are listed at the end of these safety precautions.

HAVE ALL INSTALLATION, OPERATION, MAINTENANCE, AND REPAIR WORK PERFORMED ONLY BY QUALIFIED PEOPLE.

1.01 ARC WELDING HAZARDS

WARNING

ARC RAYS can burn eyes and skin;
NOISE can damage hearing.

Arc rays from the welding process produce intense heat and strong ultraviolet rays that can burn eyes and skin. Noise from some processes can damage hearing.

ARC RAYS AND NOISE

1. Use a Welding Helmet or Welding Face shield fitted with a proper shade of filter (see ANSI Z49.1 and AS 1674 listed in Safety Standards) to protect your face and eyes when welding or watching the welding operation.
2. Wear approved safety glasses. Side shields recommended.
3. Use protective screens or barriers to protect others from flash and glare; warn others not to watch the arc.
4. Wear protective clothing made from durable, flame-resistant material (wool and leather) and foot protection.
5. Use approved ear plugs or ear muffs if noise level is high.
6. Never wear contact lenses while welding.

WARNING

ELECTRIC SHOCK can kill.

Touching live electrical parts can cause fatal shocks or severe burns. The electrode and work circuit is electrically live whenever the output is on. The input power circuit and machine internal circuits are also live when power is on.

In semi-automatic 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 equipment is a hazard.

ELECTRIC SHOCK

1. Do not touch live electrical parts.
2. Wear dry, hole-free insulating gloves and body protection.
3. Insulate yourself from work and ground using dry insulating mats or covers.
4. Disconnect input power or stop engine before installing or servicing this equipment. Lock input power disconnect switch open, or remove line fuses so power cannot be turned on accidentally.
5. Properly install and ground this equipment according to its Operating Manual and national, state, and local codes.
6. Turn off all equipment when not in use. Disconnect power to equipment if it will be left unattended or out of service.
7. Use fully insulated electrode holders. Never dip holder in water to cool it or lay it down on the ground or the work surface. Do not touch holders connected to two welding machines at the same time or touch other people with the holder or electrode.
8. Do not use worn, damaged, undersized, or poorly spliced cables.
9. Do not wrap cables around your body.
10. Ground the workpiece to a good electrical (earth) ground.
11. Do not touch electrode while in contact with the work (ground) circuit.
12. Use only well-maintained equipment. Repair or replace damaged parts at once.
13. 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.
14. Wear a safety harness to prevent falling if working above floor level.
15. Keep all panels and covers securely in place.

RECOMMENDED PROTECTIVE FILTERS FOR ELECTRIC WELDING

Description of Process	Approximate Range of Welding Current in Amps	Minimum Shade Number of Filter(s)
Manual Metal Arc Welding - covered electrodes (MMAW)	Less than or equal to 100	8
	100 to 200	10
	200 to 300	11
	300 to 400	12
	Greater than 400	13
Gas Metal Arc Welding (GWAW) (MIG) other than Aluminium and Stainless Steel	Less than or equal to 150	10
	150 to 250	11
	250 to 300	12
	300 to 400	13
	Greater than 400	14
Gas Metal Arc Welding (GMAW) (MIG) Aluminium and Stainless Steel	Less than or equal to 250	12
	250 to 350	13
Gas Tungsten Arc Welding (GTAW) (TIG)	Less than or equal to 100	10
	100 to 200	11
	200 to 250	12
	250 to 350	13
	Greater than 350	14
Flux-cored Arc Welding (FCAW) - with or without shielding gas	Less than or equal to 300	11
	300 to 400	12
	400 to 500	13
	Greater than 500	14
Air - Arc Gouging	Less than or equal to 400	12
Plasma - Arc Cutting	50 to 100	10
	100 to 400	12
	400 to 800	14
Plasma - Arc Spraying	–	15
Plasma - Arc Welding	Less than or equal to 20	8
	20 to 100	10
	100 to 400	12
	400 to 800	14
Submerged - Arc Welding	–	2(5)
Resistance Welding	–	Safety Spectacles or eye shield

Refer to standard AS/NZS 1338.1:2012 for comprehensive information regarding the above table.

FUMES AND GASES

WARNING

FUMES & GASES CAN BE HAZARDOUS TO YOUR HEALTH.

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

1. Keep your head out of the fumes. Do not breathe the fumes.
2. If inside, ventilate the area and/or use exhaust at the arc to remove welding fumes and gases.
3. If ventilation is poor, use an approved air-supplied respirator.
4. Read the Material Safety Data Sheets (MSDSs) and the manufacturer's instruction for metals, consumables, coatings, and cleaners.
5. Work in a confined space only if it is well ventilated, or while wearing an air-supplied respirator. Shielding gases used for welding can displace air causing injury or death. Be sure the breathing air is safe.
6. 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.
7. 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.

WELDING

WARNING

WELDING CAN CAUSE FIRE OR EXPLOSION.

Sparks and spatter fly off from the welding arc. The flying sparks and hot metal, weld spatter, hot workpiece, and hot equipment can cause fires and burns. Accidental contact of electrode or welding wire to metal objects can cause sparks, overheating, or fire.

1. Protect yourself and others from flying sparks and hot metal.
2. Do not weld where flying sparks can strike flammable material.
3. Remove all flammables within 35ft (10.7m) of the welding arc. If this is not possible, tightly cover them with approved covers.
4. Be alert that welding sparks and hot materials from welding can easily go through small cracks and openings to adjacent areas.
5. Watch for fire, and keep a fire extinguisher nearby.
6. Be aware that welding on a ceiling, floor, bulkhead, or partition can cause fire on the hidden side.
7. Do not weld on closed containers such as tanks or drums.
8. Connect work cable to the work as close to the welding area as practical to prevent welding current from travelling long, possibly unknown paths and causing electric shock and fire hazards.
9. Do not use welder to thaw frozen pipes.
10. Remove stick electrode from holder or cut off welding wire at contact tip when not in use.

FLYING SPARKS AND HOT METAL

WARNING

FLYING SPARKS & HOT METAL CAN CAUSE INJURY.

Sparks and spatter fly off from the welding arc. The flying sparks and hot metal, weld spatter, hot workpiece, and hot equipment can cause fires and burns. Accidental contact of electrode or welding wire to metal objects can cause sparks, overheating, or fire.

1. Wear approved face shield or safety goggles. Side shields recommended.
2. Wear proper body protection to protect skin.

CYLINDERS

WARNING

CYLINDERS CAN EXPLODE IF DAMAGED.

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.

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

MOVING PARTS

WARNING

MOVING PARTS CAN CAUSE INJURY.

Moving parts, such as fans, rotors, and belts can cut fingers and hands and catch loose clothing.

1. Keep all doors, panels, covers, and guards closed and securely in place.
2. Stop engine before installing or connecting unit.
3. Have only qualified people remove guards or covers for maintenance and troubleshooting as necessary.
4. To prevent accidental starting during servicing, disconnect negative (-) battery cable from battery.
5. Keep hands, hair, loose clothing, and tools away from moving parts.
6. Reinstall panels or guards and close doors when servicing is finished and before starting engine.

WARNING

This product, when used for welding or cutting, produces fumes or gases which contain chemicals known to the State of California to cause birth defects and, in some cases, cancer. (California Health & Safety code Sec. 25249.5 et seq.)

NOTE

Considerations About Welding And The Effects of Low Frequency Electric and Magnetic Fields.

NOTE

This equipment does not comply with IEC 6100-3-12. If it is connected to a public low voltage system, it is the responsibility of installer or the user of the equipment to ensure, by consultation with the distribution network if necessary, that the equipment may be connected.

NOTE

Determine the maximum permissible system impedance Zmax (0.24Ω) at the interface point of the user's supply, declare Zmax (0.24Ω) in the equipment instruction manual and instruct the user to determine in consultation with the supply authority, if necessary, that the equipment is connected only to a supply of that impedance or less.

WARNING

The procedures below are among those also normally recommended for pacemaker wearers. Consult your doctor for complete information.

The following is a quotation from the General Conclusions Section of the U.S. Congress, Office of Technology Assessment, Biological Effects of Power Frequency Electric & Magnetic Fields - Background Paper, OTA-BP-E-63 (Washington, DC: U.S. Government Printing Office, May 1989): "...there is now a very large volume of scientific findings based on experiments at the cellular level and from studies with animals and people which clearly establish that low frequency magnetic fields and interact with, and produce changes in, biological systems. While most of this work is of very high quality, the results are complex. Current scientific understanding does not yet allow us to interpret the evidence in a single coherent framework. Even more frustrating, it does not yet allow us to draw definite conclusions about questions of possible risk or to offer clear science- based advice on strategies to minimize or avoid potential risks."

To reduce magnetic fields in the workplace, use the following procedures:

1. Keep all doors, panels, covers, and guards closed and securely in place.
2. Stop engine before installing or connecting unit.
3. Have only qualified people remove guards or covers for maintenance and troubleshooting as necessary.
4. To prevent accidental starting during servicing, disconnect negative (-) battery cable from battery.
5. Keep hands, hair, loose clothing, and tools away from moving parts.
6. Reinstall panels or guards and close doors when servicing is finished and before starting engine.

1.02 PRINCIPAL SAFETY STANDARDS

Safety in welding and allied processes Part 1: Fire Precautions, AS 1674.1-1997 from SAI Global Limited, www.saiglobal.com.

Safety in welding and allied processes Part 2: Electrical, AS 1674.2-2025 from SAI Global Limited, www. saiglobal.com.

Filters for eye protectors - Filters for protection against radiation generated in welding and allied operations AS/NZS 1338.1:2012 from SAI Global Limited, www.saiglobal.com.

Welding Processes, Code of Practice, JULY 2020 - Safe Work Australia. This document provides "Practical guidance on how to manage health and safety risks associated with welding". **The latest version is available free of charge at: https://www.safeworkaustralia.gov.au/doc/model-code-practice-welding-processes.**

Other International Standards and Codes of Practice

Safety in Welding and Cutting, ANSI Standard Z49.1, from American Welding Society, 550 N.W. LeJeune Rd., Miami, FL 33126.

Safety and Health Standards, OSHA 29 CFR 1910, from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Recommended Safe Practices for the Preparation for Welding and Cutting of Containers That Have Held Hazardous Substances, American Welding Society Standard AWS F4.1, from American Welding Society, 550 N.W. LeJeune Rd., Miami, FL 33126.

National Electrical Code, NFPA Standard 70, from National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

Safe Handling of Compressed Gases in Cylinders, CGA Pamphlet P-1, from Compressed Gas Association, 1235 Jefferson Davis Highway, Suite 501, Arlington, VA 22202.

Code for Safety in Welding and Cutting, CSA Standard W117.2, from Canadian Standards Association, Standards Sales, 178 Rexdale Boulevard, Rexdale, Ontario, Canada M9W 1R3.

Safe Practices for Occupation and Educational Eye and Face Protection, ANSI Standard Z87.1, from American National Standards Institute, 1430 Broadway, New York, NY 10018.

Cutting and Welding Processes, NFPA Standard 51B, from National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

SECTION 2: INTRODUCTION

2.01 HOW TO USE THIS MANUAL

This Operating Manual only applies to the Part Numbers listed on page 3. To ensure safe operation, read the entire manual, including the chapter on safety instructions and warnings.

Throughout this manual, the words WARNING, CAUTION, and NOTE may appear. Pay particular attention to the information provided under these headings. These special annotations are easily recognized as follows:

NOTE
An operation, procedure, or background information which requires additional emphasis or is helpful in efficient operation of the system.

CAUTION
A procedure which, if not properly followed, may cause damage to the equipment.

WARNING
An operation, procedure, or background information which requires additional emphasis or is helpful in efficient operation of the system.

ELECTRICAL WARNING
Gives information regarding possible electrical shock injury. Warnings will be enclosed in a box such as this.

DANGER
Means immediate hazards which, if not avoided, will result in immediate, serious personal injury or loss of life.

Additional copies of this manual may be purchased by contacting CIGWELD at the address and phone number for your location listed in the inside back cover of this manual. Include the Operating Manual number and equipment identification numbers.

Electronic copies of this manual can also be downloaded at no charge in Acrobat PDF format by going to the CIGWELD web site listed below and clicking on the Literature Library link: **www.cigweld.com.au**

2.02 EQUIPMENT IDENTIFICATION

The units identification number (specification or part number), model, and serial number are located on the Data Plate which is fixed to the top of the power source. In some cases, the Data Plate may be attached to the rear panel. Equipment which does not have a control panel such as cable assemblies are identified only by the specification or part number printed on the shipping container. Record these numbers on the bottom of page 3 for future reference.

2.03 RECEIPT OF EQUIPMENT

When you receive the equipment, check it against the invoice to confirm it is complete and inspect the equipment for possible damage due to shipping. If there is any damage, notify the carrier immediately to file a claim. Furnish complete information concerning damage claims or shipping errors to the location in your area listed in the inside back cover of this manual. Include all equipment identification numbers as described above along with a full description of the parts in error.

Move the equipment to the installation site before unboxing the unit. Use care to avoid damaging the equipment when using knives, breaker bars, hammers, etc, to unbox the machine and its accessories.

2.04 SYMBOL CHART

Note that only some of these symbols will appear on your model.

	ON
	OFF
	DANGEROUS VOLTAGE
	INCREASE/DECREASE
	CIRCUIT BREAKER
	AC AUXILIARY POWER
	FUSE
A	AMPERAGE
V	VOLTAGE
Hz	HERTZ (CYCLES/SEC)
f	FREQUENCY
—	NEGATIVE
+	POSITIVE
	DIRECT CURRENT (DC)
	PROTECTIVE EARTH (GROUND)
	LINE
	LINE CONNECTION
	AUXILIARY POWER
115V 15A 	RECEPTACLE RATING-AUXILIARY POWER
1	SINGLE PHASE
3	THREE PHASE
	THREE PHASE STATIC FREQUENCY CONVERTER-TRANSFORMER-RECTIFIER
	REMOTE
X	DUTY CYCLE
%	PERCENTAGE
	SHIELDED METAL ARC WELDING (SMAW)
	GAS METAL ARC WELDING (GMAW)
	GAS TUNGSTEN ARC WELDING (GTAW)
	AIR CARBON ARC CUTTING (CAC-A)
	CONSTANT CURRENT
	CONSTANT VOLTAGE OR CONSTANT POTENTIAL
	HIGH TEMPERATURE
	FAULT INDICATION
	ARC FORCE
	TOUCH START (GTAW)
	VARIABLE INDUCTANCE
	VOLTAGE INPUT
	WIRE FEED FUNCTION
	WIRE FEED TOWARDS WORKPIECE WITH OUTPUT VOLTAGE OFF
	WELDING GUN
	PURGING OF GAS
	CONTINUOUS WELD MODE
	SPOT WELD MODE
	SPOT TIME
	PREFLOW TIME
	POSTFLOW TIME
	QUICKSET PLATE THICKNESS PRE-SETS
200A DC	OUTPUT CURRENT
2 YEARS*	2-YEAR WARRANTY
	BURNBACK TIME
	DISTURBANCE IN GROUND SYSTEM
IPM	INCHES PER MINUTE
MPM	METRES PER MINUTE
	SPOOL GUN
QUICK SET MIG	QUICKSET FOR MIG
	SINGLE PULSE
	DOUBLE PULSE
	PULSE FREQ. (PULSE SPEED)
	PULSE BASE CURRENT
	PULSE WIDTH

2.05 DESCRIPTION

It's time to start playing with some serious welding power!

The new TransMIG 395HD is an inverter based power source has been specifically engineered to be compact in size for easy access in tight and constrained areas but also as a modular arc station!

Available as Air cooled and Water cooled packages, you will have access to Functions that allows the machine to be used for standard MIG / STICK / DC Lift TIG and Gouging processes.

The TransMIG 395HD connects to the new Transfeed 4R HD wire feeder – a plug n' play, 4 Roll geared wire drive unit that you can setup where you need it. Need it on a gantry? No problem, with the 10m interconnection cable and in-built hanging mount, you can!

The TransMIG 395HD is the perfect solution for medium to heavy fabrication, maintenance and industrial repairs in the workshop, worksite, shipyard, or marina without compromising on quality or professional performance!

With it's class leading Duty Cycle of 395Amps @ 80% and 354Amps @ 100%, you can weld all day long. Fitted from the factory with a 32A power plug, simply load your wire into the wire feeder, hook up your gas cylinder and weld away, all day.

2.06 USER RESPONSIBILITY

This equipment will perform as per the information contained herein when installed, operated, maintained and repaired in accordance with the instructions provided. This equipment must be checked periodically. Defective equipment (including welding leads) should not be used. Parts that are broken, missing, partly worn, distorted or contaminated, should be replaced immediately. Should such repairs or replacements become necessary, it is recommended that such repairs be carried out by appropriately qualified persons approved by CIGWELD. Advice in this regard can be obtained by contacting an accredited CIGWELD Distributor/service agent.

This equipment or any of its parts should not be altered from standard specification without prior written approval of CIGWELD. The user of this equipment shall have the sole responsibility for any malfunction which results from improper use or unauthorised modification from standard specification, faulty maintenance, damage or improper repair by anyone other than appropriately qualified persons approved by CIGWELD.

2.07 WHAT'S IN THE PACKAGE

Air Cooled Plant (Part No. W1400395)

- TransMIG 395HD Power Source
- Transfeed 4R HD Wire feeder with 4x Geared feed rollers
- TransMIG HD Trolley
- TransMIG 395HD Interconnection leads 10m, 50mm^2 Air cooled
- TransMIG HD Drawer
- MIG Gun TW4 3.6m Heavy Duty Tweco Trade
- Work Return Lead x 10m, 50mm^2
- BlueJet Argon 45LPM 2 Gauge
- Feed Roll 1.2/1.6mm V Groove - Fitted
- Feed Roll 0.8/0.9mm V Groove - Spare
- Feed Roll 1.2/1.6mm Knurled - Spare
- Operating Manual

Water Cooled Plant (Part No. W1401395)

- TransMIG 395HD Power Source
- Transfeed 4R HD Wire feeder with 4x Geared feed rollers
- TransMIG HD Trolley
- TransMIG 395HD Interconnection leads 10m, 50mm^2 water cooled
- TransMIG HD Water cooler
- MIG Gun TW4 flame 4m water cooled
- Work Return Lead x 10m, 50mm^2
- BlueJet Argon 45LPM 2 Gauge
- Feed Roll 1.2/1.6mm V Groove - Fitted
- Feed Roll 0.8/0.9mm V Groove - Spare
- Feed Roll 1.2/1.6mm Knurled - Spare
- Operating Manual

NOTE
Refer to the complete Warranty Schedule at the back of the manual.

2.08 TRANSPORTING METHODS

The power source plant is fitted with 2 lifting eyelets allowing for rigging and tie down points. Lifting the machine should only be done using the correct lifting methods, via the two lifting eyelets!

ELECTRICAL WARNING

ELECTRIC SHOCK can kill.
DO NOT TOUCH live electrical parts.

Disconnect input power conductors from de-energized supply line before moving the welding power source.

WARNING

FALLING EQUIPMENT can cause serious personal injury and equipment damage

2.09 DUTY CYCLE

The rated duty cycle of a Welding Power Source, is a statement of the time it may be operated at its rated welding current output without exceeding the temperature limits of the insulation of the component parts. To explain the 10 minute duty cycle period the following example is used. Suppose a Welding Power Source is designed to operate at a 15% duty cycle, 90 amperes at 23.6 volts. This means that it has been designed and built to provide the rated amperage (90A) for 1.5 minutes, i.e. arc welding time, out of every 10 minute period (15% of 10 minutes is 1.5 minutes). During the other 8.5 minutes of the 10 minute period the Welding Power Source must idle and allowed to cool.

2.10 SPECIFICATIONS

DESCRIPTION	TRANSMIG 395HD
Air Cooled Plant Part Number	W1400395
Water Cooled Plant Part Number	W1401395
Plant Dimensions	(L) 1020mm x (W) 500mm x (H) 1370mm
Plant Weight Air Cooled	147kg
Plant Weight Water Cooled	154kg
Cooling	Fan Cooled
Welder Type	Multi Process Inverter Power Source
Standards	AS 60974.1:2020 IEC 60974-5:2019 IEC 60974-2:2019 EN 60974-10:2021
Number of Phases	Three Phase
Nominal Supply Voltage	415 VAC ± 15%
Nominal Supply Frequency	50/60Hz
Welding Current Range (MIG mode)	50-395A
Welding Current Range (Stick mode)	20-395A
Welding Current Range (TIG Lift)	20-395A

DESCRIPTION	TRANSMIG 395HD
Nominal DC Open Circuit Voltage MIG Weld Mode	12.0 - 38.0V
Open Circuit Voltage (VRD On) Stick Weld Mode	<35V
Open Circuit Voltage (VRD Off) Stick Weld Mode	70V
Effective Input Current (I1eff) refer Note 2	22.6 Amps
Maximum Input Current (I1max)	25.5 Amps
Minimum Three Phase Generator Requirement for Maximum Output (refer Note 4)	25kVA@0.8PF
MIG (GMAW) Welding Output, 40°C, 10 min	395A @ 80%, 33.8V 354A @ 100%, 31.7V
Stick (MMAW) Welding Output, 40°C, 10 min	395A @ 80%,35.8V 354A @ 100%, 34.1V
TIG DC Lift (GTAW) Welding Output, 40°C, 10 min	395A @ 80%, 25.8V 354A @ 100%, 24.1V
Protection Class	IP21S

NOTE 1 Due to variations that can occur in manufactured products, claimed performance, voltages, ratings, all capacities, measurements, dimensions and weights quoted are approximate only. Achievable capacities and ratings in use and operation will depend upon correct installation, use, applications, maintenance and service.

NOTE 2 The Effective Input Current should be used for the determination of cable size & supply requirements.

NOTE 3 Motor start fuses or thermal circuit breakers are recommended for this application. Check local requirements for your situation in this regard.

NOTE 4 Minimum Generator Recommendation at the Maximum Output Duty Cycle. Due to large variations in performance and specifications of different brands and types of generators, CIGWELD cannot guarantee full welding output power or duty cycle on every brand or type of generator. Some small generators incorporate low cost circuit breakers on their outputs. These circuit breakers usually will have a small reset button, and will trip much faster than a switchboard type circuit breaker. This may result in not being able to achieve full output or duty cycle from the power source / generator combination. For this reason we recommend a generator that incorporates switchboard type circuit breakers. CIGWELD recommends that when selecting a generator, that the particular power source / generator combination be adequately trialled to ensure the combination performs to the users expectations.

NOTE 5 CIGWELD reserves the right to change product performance and specifications without notice.

2.11 OPTIONAL ACCESSORIES

We recommend genuine CIGWELD products. The biggest range and best quality with guaranteed performance.

P/N:	DESCRIPTION
W52TT4E45H	MIG Gun TW4 4.5m HD Tweco Trade (Mixed Gas - 350A @ 80%, CO2 - 400A @ 80%)
W52TL4E30	MIG Gun TW4 Flame 3m Water Cooled (Mixed Gas - 450A @ 100%, CO2 - 500A @ 100%)
W52TL4E50	MIG Gun TW4 Flame 5m Water Cooled (Mixed Gas - 450A @ 100%, CO2 - 500A @ 100%)
OTWX412/3545	Tweco No.4 Professional MIG Gun 3.6m (Mixed Gas - 320A @ 60%, CO2 - 400A @ 60%)
OTWX415/3545	Tweco No.4 Professional MIG Gun 4.5m (Mixed Gas - 320A @ 60%, CO2 - 400A @ 60%)
CTW2362	Nozzle Fixed 16mm (Pack of 5)
CTW23T37	Nozzle Fixed Tapered 10mm (Pack of 5)
CTW24A62	Nozzle Adjustable 16mm (Pack of 5)
CTW2437SS	Nozzle Adjustable Tapered 10mm (Pack of 5)
CTW24CT62S	Nozzle Fixed CT Short 16mm (Pack of 5)
CTW14H09	Contact Tip HD 0.9mm (Pack of 25)
CTW14H10	Contact Tip HD 1.0mm (Pack of 25)
CTW14H12	Contact Tip HD 1.2mm (Pack of 25)
CTW14H14	Contact Tip HD 1.4mm (Pack of 25)
CTW14H16	Contact Tip HD 1.6mm (Pack of 25)
CTW14T09	Contact Tip Tapered 0.9mm (Pack of 25)
CTW14T12	Contact Tip Tapered 1.2mm (Pack of 25)
CTW14T14	Contact Tip Tapered 1.4mm (Pack of 25)
CTW14T16	Contact Tip Tapered 1.6mm (Pack of 25)
CTW34A	Insulator Adjustable (Pack of 5)
CTW34CT	Insulator Coarse Thread (Pack of 5)
CTW54A	Gas Diffuser (Pack of 5)
CML50609	MultiLiner 0.6-0.9mm Steel 5.1m (No collet), Pack of 1
CML50912	MultiLiner 0.9-1.2mm Steel 5.1m (No collet), Pack of 1
CML51216	MultiLiner 1.2-1.6mm Steel 5.1m (No collet), Pack of 1
CML50916A	MultiLiner 0.9-1.6mm Aluminium 4.5m (No collet), Pack of 1
CML80916A	MultiLiner 0.9-1.6mm Aluminium 8.5m (No collet), Pack of 1
CMLCBZ	MultiLiner Collet suit Binzel, Pack of 1 (Water Cooled Gun)
CMLCTW	MultiLiner Collet suit Tweco, Pack of 1 (Air Cooled Gun)

P/N:	DESCRIPTION
7977729	Feed Roll 0.6/0.8mm V groove (hard)
7977703	Feed Roll 0.9/1.2mm V groove (hard) (fitted)
7977346	Feed Roll 1.2/1.6mm V groove (hard)
7977733	Feed Roll 0.8/0.9mm U groove (soft)
7977730	Feed Roll 1.0/1.2mm U groove (soft)
7977348	Feed Roll 1.2/1.6mm U groove (soft)
7977734	Feed Roll 0.8/0.9mm V groove knurled (flux cored)
7977347	Feed Roll 1.2/1.6mm V groove knurled (flux cored)
W7007487	200mm Spool Adaptor
W7007437	Spring Steel Inlet Guide (Steel and Stainless Steel Wires)
0465720002	MIG/TIG Torch Coolant 10L (1 required for 395HD)
W4016023	TransMIG 395HD Interconnection Leads 10m 50mm^2 Air Cooled
W4016024	TransMIG 395HD Interconnection Leads 10m 50mm^2 Water Cooled
CT1726K1	TIG Starter Kit 1 17/18/26 TIG Torches
210254	BlueJet Argon Regulator/Flowmeter, 55LPM, 2 Gauge
201031	BlueJet Preset Argon Regulator/Flowmeter Side Inlet
CWPLIER	MIG Pliers 8-Function, Cut Wire, Clean Nozzle, Remove Hot Nozzle, Pick up & hold hot welding jobs/pieces, Remove Contact Tip, Cut/Trim Spring Steel Liner, Long Nose Pliers, Mini Hammers to tap out spatter in the nozzle.
WS53550	WeldSkill Welding Leadset 5m, 35mm^2 cable, 50mm^2 DINSE, 400A Twistlock Electrode Holder
ATK4000	Arcair Trade K4000 Gouging Torch
22035003	Supre Gouge - Gouging Carbon 4.8mm
22045003	Supre Gouge - Gouging Carbon 6.5mm
22055003	Supre Gouge - Gouging Carbon 8mm

2.12 RELATED PRODUCTS

PART NUMBER	DESCRIPTION
646766	WeldSkill Heavy Duty Welding Gloves - Medium
646755	WeldSkill Heavy Duty Welding Gloves - Large
646767	WeldSkill Heavy Duty Welding Gloves – XL
646771	WeldSkill Welding Jacket - Medium
646772	WeldSkill Welding Jacket - Large
646773	WeldSkill Welding Jacket - XL
646774	WeldSkill Welding Jacket - XXL
WHAMXC160	Auto Darkening Welding Helmet Variable Shade 9-13 - ArcMaster XC60
WHAMXC170	Auto Darkening Welding Helmet Variable Shade 4-8 / 9-14 - Mayhem
WHAMXC180	Auto Darkening Welding Helmet Variable Shade 4-8 / 9-14 - Fallout
WHAMXC190F	Auto Darkening Flip Welding Helmet Variable Shade 4-8 / 9-14 - Predator
E700600800	ESAB Sentinel A60 Air with EPR-X1 PAPR Kit
646770	WeldSkill Welding Curtain – Dark Green, 1.74m x 1.74m
646777	WeldSkill Welding Curtain – Red, 1.74m x 1.74m
646776	Welding Curtain Frame, 1.8m x 1.8m

PART NUMBER	DESCRIPTION
646778	Welding Blanket, 1.8m x 1.8m
646782	WeldaToolz Multi-Angle Magnet 55kg force
646785	WeldaToolz Switchable Arrow Magnet 42kg force
646786	WeldaToolz Switchable Arrow Magnet 80kg force
646790	WeldaToolz Arrow Magnet 65kg force
CWGAUGE1	WeldaToolz 2-PCE stainless steel fillet welding gauge set. Measures Leg Length & Throat Thickness
CWGAUGE2	WeldaToolz 3-PCE stainless steel fillet welding gauge set. Measures Leg Length
CWGAUGE3	WeldaToolz Tri-V Stainless steel NAKA Style welding gauge
CWGAUGE4	WeldaToolz Half-Moon stainless steel Bridge-Cam Style welding gauge
0700500637	ESAB WELDOPS MIG Gloves M3050 Premium (XL)
0700500638	ESAB WELDOPS MIG Gloves M3050 Premium (2XL)
0700500768	ESAB WELDOPS HD Aluminised Welding Gloves (XL)
0700500769	ESAB WELDOPS HD Aluminised Welding Gloves (2XL)

MIG Pliers
P/N: CWPLIER

Magnetic Clamps
P/N: 646782 WeldaToolz Multi-Angle Magnet 55kg force
P/N: 646785 WeldaToolz Switchable Arrow Magnet 42kg force
P/N: 646786 WeldaToolz Switchable Arrow Magnet 80kg force
P/N: 646790 WeldaToolz Arrow Magnet 65kg force

WELDSKILL Heavy Duty Leather Welding Gloves
P/N: 646755 (Large)
P/N: 646767 (XL)

Nozzle Adjustable TW4
P/N: CTW24A62

Contact Tip TW4 1.2mm
P/N: CTW14H12

Gas Diffuser TW4
P/N: CTW54A

Arcmaster XC70 Welding Helmet (Mayhem)
P/N: WHAMXC170

WeldSkill Welding Jacket
P/N: 646772 (Large)

SECTION 3: INSTALLATION

3.01 ENVIRONMENT

These units are designed for use in environments with increased hazard of electric shock.

A. Examples of environments with increased hazard of electric shock are:

1. In locations in which freedom of movement is restricted, so that the operator is forced to perform the work in a cramped (kneeling, sitting or lying) position with physical contact with conductive parts.
2. In locations which are fully or partially limited by conductive elements, and in which there is a high risk of unavoidable or accidental contact by the operator.

B. Environments with increased hazard of electric shock do not include places where electrically conductive parts in the near vicinity of the operator, which can cause increased hazard, have been insulated.

3.02 LOCATION

Be sure to locate the welder according to the following guidelines:

A. In areas, free from moisture and dust.

B. Ambient temperature between -10°C to 40°C.

C. In areas, free from oil, steam and corrosive gases.

D. In areas, not subjected to abnormal vibration or shock.

E. In areas, not exposed to direct sunlight or rain.

F. Place at a distance of 300mm or more from walls or similar that could restrict natural air flow for cooling.

3.03 VENTILATION

Since the inhalation of welding fumes can be harmful, ensure that the welding area is effectively ventilated.

3.04 MAINS SUPPLY VOLTAGE REQUIREMENTS

The Mains Supply Voltage should be within ± 15% of the rated Mains Supply Voltage. If actual Mains Supply Voltage is outside this range Welding Current may not be available and may cause internal components to fail.

Refer to section 2.10 Specifications on page 17 for Supply Voltage information.

The Welding Power Source must be:

- Correctly installed, if necessary, by a qualified electrician.
- Correctly earthed (electrically) in accordance with local regulations.
- Connected to the correct size power point and fuse as per the Specifications on page 17.

WARNING
Any electrical work must be carried out by a qualified Electrical Trades person

3.05 GENERATORS

Refer to Note 4 on page 17 for recommendations when using with a Generator.

3.06 ELECTROMAGNETIC COMPATIBILITY

WARNING
Extra precautions for Electromagnetic Compatibility may be required when this Welding Power Source is used in a domestic situation.

A. INSTALLATION AND USE - USERS RESPONSIBILITY

The user is responsible for installing and using the welding equipment according to the manufacturer's instructions. If electromagnetic disturbances are detected then it shall be the responsibility of the user of the welding equipment to resolve the situation with the technical assistance of the manufacturer. In some cases this remedial action may be as simple as earthing the welding circuit. In other cases it could involve constructing an electromagnetic screen enclosing the Welding Power Source and the work, complete with associated input filters. In all cases, electromagnetic disturbances shall be reduced to the point where they are no longer troublesome.

B. ASSESSMENT OF AREA

Before installing welding equipment, the user shall make an assessment of potential electromagnetic problems in the surrounding area. The following shall be taken into account

1. Other supply cables, control cables, signalling and telephone cables; above, below and adjacent to the welding equipment.
2. Radio and television transmitters and receivers.
3. Computer and other control equipment.
4. Safety critical equipment, e.g. guarding of industrial equipment.
5. The health of people around, e.g. the use of pacemakers and hearing aids.
6. Equipment used for calibration and measurement.
7. The time of day that welding or other activities are to be carried out.
8. The immunity of other equipment in the environment: the user shall ensure that other equipment being used in the environment is compatible: this may require additional protection measures.

   The size of the surrounding area to be considered will depend on the structure of the building and other activities that are taking place. The surrounding area may extend beyond the boundaries of the premises.

C. METHODS OF REDUCING ELECTROMAGNETIC EMISSIONS

1. **Mains Supply**
   Welding equipment should be connected to the mains supply according to the manufacturer's recommendations. If interference occurs, it may be necessary to take additional precautions such as filtering of the mains supply. Consideration should be given to shielding the supply cable of permanently installed welding equipment in metallic conduit or equivalent. Shielding should be electrically continuous throughout it's length. The shielding should be connected to the Welding Power Source so that good electrical contact is maintained between the conduit and the Welding Power Source enclosure.

2. **Maintenance of Welding Equipment**
   The welding equipment should be routinely maintained according to the manufacturer's recommendations. All access and service doors and covers should be closed and properly fastened when the welding equipment is in operation. The welding equipment should not be modified in any way except for those changes and adjustments covered in the manufacturer's instructions. In particular, the spark gaps of arc striking and stabilising devices should be adjusted and maintained according to the manufacturer's recommendations.

3. **Welding Cables**
   The welding cables should be kept as short as possible and should be positioned close together, running at or close to the floor level.

4. **Equipotential Bonding**
   Bonding of all metallic components in the welding installation and adjacent to it should be considered. However Metallic components bonded to the work piece will increase the risk that the operator could receive a shock by touching the metallic components and the electrode at the same time. The operator should be insulated from all such bonded metallic components.

5. **Earthing of the Workpiece**
   Where the workpiece is not bonded to earth for electrical safety, nor connected to earth because of it's size and position, e.g. ship's hull or building steelwork, a connection bonding the workpiece to earth may reduce emissions in some, but not all instances. Care should be taken to prevent the earthing of the workpiece increasing the risk of injury to users, or damage to other electrical equipment. Where necessary, the connection of the workpiece to earth should be made by direct connection to the workpiece, but in some countries where direct connection is not permitted, the bonding should be achieved by suitable capacitance, selected according to national regulations.

6. **Screening and Shielding**
   Selective screening and shielding of other cables and equipment in the surrounding area may alleviate problems of interference. Screening the entire welding installation may be considered for special applications.

SECTION 4:
TRANSMIG 395HD POWER SOURCE AND 4R HD WIRE FEEDER OPERATION

Standard operating procedures apply when using these Welding machines, i.e. connect work lead directly to workpiece with the spring loaded clamp.

The welding amperage range values should be used as a guide only. Current delivered to the arc is dependent on the Wire Feed Speed and welding arc voltage, and as welding arc voltage varies between different classes of MIG wire and different mixtures of Shielding Gas/es. Welding current at given settings could vary accordingly to the type of MIG wire and Shielding Gas in use.

4.01 POWER SOURCE CONTROLS, INDICATORS AND FEATURES

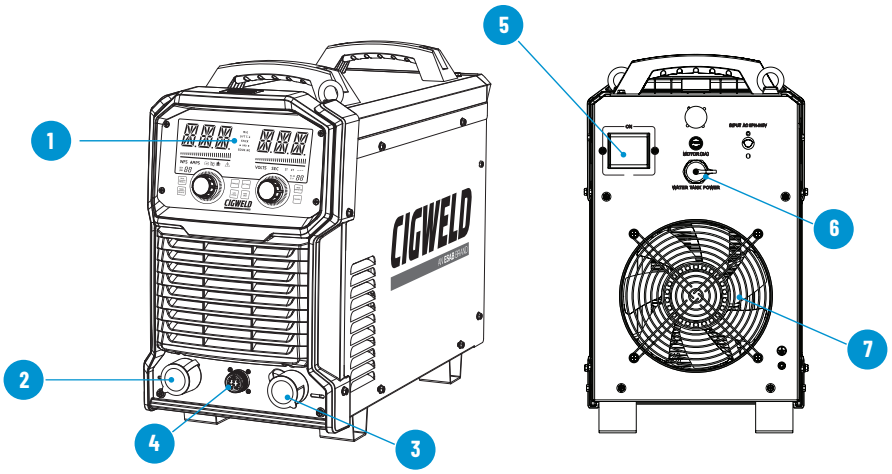


Figure 4-1: Power Source Controls, Indicators and Features

1. Control Panel.
2. Positive Output Welding Terminal.
3. Negative Output Welding Terminal.
4. Wirefeeder Control Socket 10 Pin.
5. Power On/Off Switch.
6. Water Cooler Power Supply.
7. Fan On Demand.

1 CONTROL PANEL

The TransMIG 395HD is equipped with bright blue Sharp 32mm LED displays which provide optimal clarity both indoors and outdoors. Easy press push buttons for selection of features to toggle through including: Memory Save and Recall, Process Selection, Settings, Wire Diameter, Panel And Remote, Gas Purge, Wire Inch and Trigger Modes.

2 POSITIVE OUTPUT WELDING TERMINAL

The positive welding terminal (+) is used to connect the welding output of the power source to the appropriate welding accessory such as the MIG Gun, electrode holder lead or work lead. Positive welding current flows from the power source via this twist & lock terminal, known as a DINSE Connector. It is essential, that the male plug is inserted and turned securely to achieve a sound electrical connection.

3 NEGATIVE OUTPUT WELDING TERMINAL

The negative welding terminal (-) is used to connect the welding output of the power source to the work lead. Most General Purpose electrodes are connected with work lead (with Clamp) to negative. Consult the electrode manufacturer's information for the correct polarity. Welding current flows from the workpiece via this twist & lock terminal, known as a DINSE Connector to the power source. It is essential, that the male DINSE type plug is inserted and turned securely to achieve a sound electrical connection. Do not over Tighten.

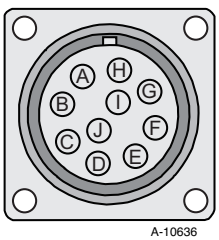
CAUTION

Loose welding terminal connections can cause overheating and result in the male plug being fused in the DINSE terminal.

4 WIREFEEDER CONTROL SOCKET 10 PIN

This 10 Pin Wirefeeder Control Socket is used to connect the Wirefeeder.

If further details are required refer to an Accredited CIGWELD Service Provider.



A-10636

Socket Pin	Description
A	Motor Positive
B	Solenoid Positive
C	Trigger Switch & Inch Switch Input
D	Voltage and WFS Control Input
E	Voltage and WFS Control Return
F	Motor and Solenoid Negative
G	Voltage Sensor Positive
H	Not used
I	Not used
J	Not used

5 POWER ON/OFF SWITCH

When this switch is turned ON the front panel will illuminate.

6 WATER COOLER POWER SUPPLY

The TransMIG 395HD is available in a water cooled package (also available as an add on option at a later date if required).

The plug is the connection port for the Water Cooled power supply.

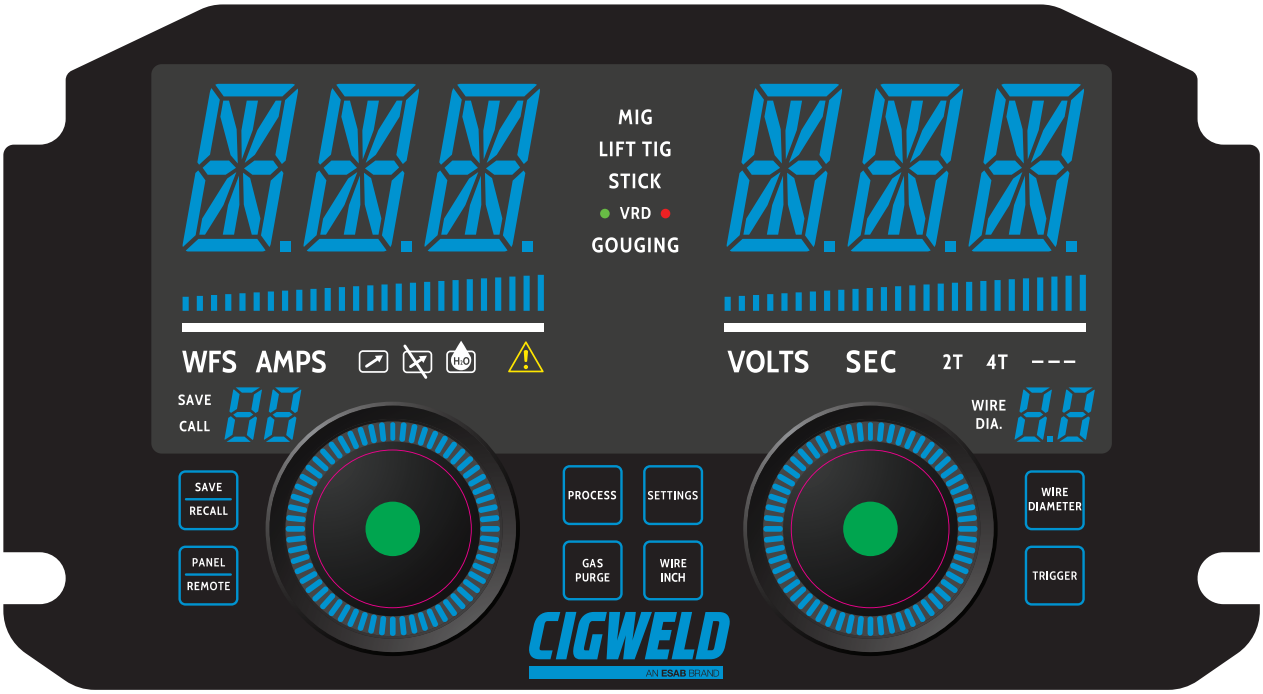
NOTE

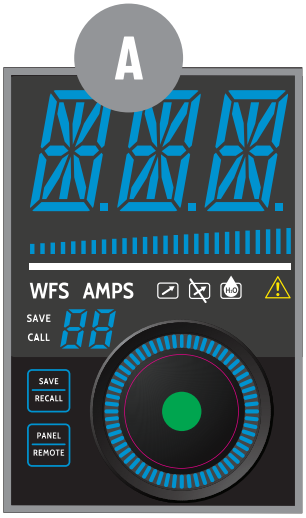
The water cooler must be turned on via the settings button under advanced features. The water cooler is only operational when the MIG Gun Trigger is depressed. When the MIG Gun trigger is pressed the green light on the front of the water cooler will illuminate to indicate the water cooler is operational.

7 FAN ON DEMAND

The TransMIG 395HD is fitted with a fan on demand feature. Fan on demand automatically switches the cooling fan off when it is not required. This has two main advantages; (1) to minimize power consumption, and (2) to minimise the amount of contaminants such as dust that are drawn into the power source. Note that the fan will only operate when required for cooling purposes and will automatically switch off when not required.

4.02 INDICATORS AND CONTROLS





LEFT DIGITAL DISPLAY

The left hand side digital display shows the current Wire Feed Speed the machine power source is set to, along with AMPS in TIG, MMA and Gouging modes.

When in the Settings mode it displays the abbreviated name of the function you are adjusting: Inductance (IND), Pre Gas (PEG), Post Gas (PTG), Burnback (BBT), Crater Fill (CRF), Crater Fill Time (CFT), Crater Fill WFS (CFW), Crater Fill Voltage (CFU), Spot time (SPT), Hot Start (HOT), Arc Force (ARC) and Water Cooler (WC).

WFS WIRE FEED SPEED INDICATOR (MIG MODE ONLY)

When illuminated the Wire Feed Speed is able to be set or adjusted. Wire Feed Speed is displayed in Metres Per Minute (MPM) on the Left Digital Display. In MIG Mode, the WFS range goes from 1.5 to 20 MPM (Metres Per Minute).

AMPS AMPS INDICATOR

The value showing on the Left Hand Display is in Amps. Displays actual Welding Amps whilst welding in all modes. In DC Lift TIG, STICK/MMA and Gouging modes the preview Amps are also able to be set and displayed on the left Digital Display prior to Welding.

REMOTE FEEDER (4R HD) INDICATOR

WIRE FEEDER CONTROL

When illuminated the Remote Feeder control panel is used to control Volts and Wire Feed Speed.

POWER SOURCE CONTROL

When illuminated the power source control panel is used to control of Volts and Wire Feed Speed.

To switch between Power Source and Wire Feeder control, press the PANEL / REMOTE button.

WATER COOLER INDICATOR

When illuminated the Water Cooler is ON. The default factory setting is OFF, so if a Water Cooler package is purchased the Water cooler must be switch ON.

NOTE

The Water Cooler has a 9 Litre coolant capacity and only approved coolant shall be used. Using unapproved coolant may void warranty.

ERROR INDICATOR

When illuminated the machine has an error and the relevant Error Code with flash on the display Screen ERR ***, Please refer to section 8.05 TRANSMIG 395HD Error Codes.

SAVE RECALL INDICATOR

Save and Recall is for the saving and recalling of saved memories. There are 16 available memory locations to save your favourite settings for jobs that are commonly used.

To access this function press the SAVE RECALL button.

To Save or Recall a memory, use the following procedure:

SAVE

To save settings to a memory location, press the Save/Recall button once for SAVE to appear. Rotate the left hand encoder knob to the number that you would like to save the parameters in, press and hold the left encoder knob to save. The memory will now be saved.

RECALL

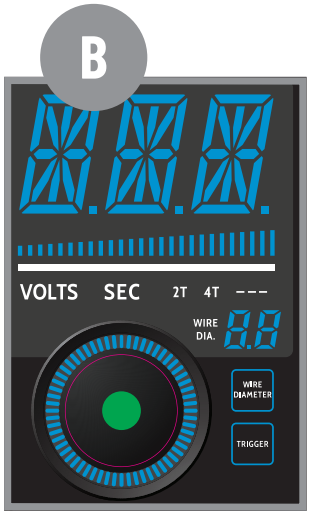
To recall a memory location, press the Save/Recall button twice for RECALL to appear. Rotate the left hand encoder knob to the number that you would like to recall the parameters for, press and hold the encoder knob to Recall parameters. Please note that once a Memory setting has been recalled, no adjustments can be made to WFS or Volts. To make any minor changes, you must exit the saved memory location and re save the new parameters.

LEFT CONTROL KNOB

The Left Control knob is used to adjust Wire Feed Speed (WFS) parameters in MIG Mode and Amps in TIG, MMA and Gouging modes.

It is also used to scroll through options in the Settings screen such as Inductance (IND), Pre Gas (PEG), Post Gas (PTG), Burnback (BBT), Crater Fill (CRF), Crater Fill Time (CFT), Crater Fill WFS (CFW), Crater Fill Voltage (CFU), Spot time (SPT), Hot Start (HOT), Arc Force (ARC) and Water Cooler (WC).

Refer to section C and /or 5.09 MIG Mode for further information



RIGHT DIGITAL DISPLAY

The Right Hand side digital display shows the preview Voltage the machine power source is set. While welding the right hand digital display will show actual voltage which can vary due to various welding conditions - wire stick out, wire diameter etc.

When in the Settings mode it displays the parameters of the function you are adjusting : Inductance (IND), Pre Gas (PEG), Post Gas (PTG), Burnback (BBT), Crater Fill (CRF), Crater Fill Time (CFT), Crater Fill WFS (CFW), Crater Fill Voltage (CFU), Spot time (SPT), Hot Start (HOT) Arc Force (ARC) and Water Cooler (WC).

VOLTS INDICATOR

When illuminated the value showing on the right hand display is in Volts. Displays actual Welding Volts whilst welding in all modes.

In TIG, MMA and Gouging modes the right hand digital display will preview - - -, but whilst welding/Gouging it will display actual voltage

SEC SECONDS INDICATOR

When illuminated the value displayed on the right hand digital display is shown as seconds. This applies to Gas Purge, Pre Gas (PEG), Post Gas (PTG), Crater Fill Time (CFT) and Spot time (SPT).

2T 2T TRIGGER INDICATOR

When illuminated 2T Trigger mode, the torch trigger must remain depressed for the welding output to be active. Press and hold the torch trigger to activate the power source (weld). Release the torch trigger switch to cease welding.

Trigger modes are changed via the TRIGGER button.

4T 4T TRIGGER INDICATOR

When illuminated 4T Trigger mode of welding is mainly used for long welding runs to reduce operator fatigue. In this mode the operator can press and release the torch trigger and the output will remain active. To deactivate the power source, the trigger switch must again be depressed and released, thus eliminating the need for the operator to hold the torch trigger.

Trigger modes are changed via the TRIGGER button.

--- SPOT WELD INDICATOR (2T ONLY)

When illuminated Spot Weld Mode is active. Spot welding mode is set via a predetermined time that is set in the setting screen. Spot weld mode is only available as 2T.

Trigger modes are changed via the TRIGGER button.

WIRE DIA. 0.8 WIRE DIAMETER INDICATOR (MIG MODE ONLY)

Multiple Wire Diameters are able to be selected for the appropriate MIG Wire Diameter being used. Welding characteristics are slightly varied depending on the wire diameter chosen, which enhances the welding experience. Wire Diameters are changed via WIRE DIAMETER button.

RIGHT CONTROL KNOB

The Right Control knob is used to adjust Voltage parameters in MIG mode.

It is also used to set the values such as Inductance (IND), Pre Gas (PEG), Post Gas (PTG), Burnback (BBT), Crater Fill (CRF), Crater Fill Time (CFT), Crater Fill WFS (CFW), Crater Fill Voltage (CFU), Spot time (SPT), Hot Start (HOT), Arc Force (ARC) and Water Cooler (WC).

Refer to section C and /or 5.09 MIG Mode for further information

MIG MIG MODE INDICATOR

When illuminated MIG Mode is selected. Wirefeed Speed and Volts are shown on the digital displays. Refer to Section 5 MIG (GMAW/FCAW) Welding.

LIFT TIG TIG DC LIFT MODE INDICATOR

When illuminated TIG DC Lift Mode is selected. Refer to Section 6 TIG (GTAW) Welding.

NOTE

VRD Indicator will illuminate when TIG function is selected. The Green light will illuminate when not welding (VRD active), and red when welding (VRD not active)

STICK MMA/STICK MODE INDICATOR

When illuminated Stick/MMA Mode is selected. Refer to Section 7 Stick (MMAW) Welding and Gouging.

NOTE

VRD Indicator will illuminate when Stick/MMA function is selected. The Green light will illuminate when not welding (VRD active), and red when welding (VRD not active)

GOUGING GOUGING MODE INDICATOR

When illuminated Gouging Mode is selected. Refer to Section 7 Stick (MMAW) Welding and Gouging.

NOTE

VRD Indicator will illuminate when Gouging function is selected. The Green light will illuminate when not welding (VRD active), and red when welding (VRD not active)

VRD ON (GREEN) INDICATOR (STICK/TIG/GOUGING MODES ONLY)

The green VRD ON light illuminates when the VRD is active. Under this condition the open circuit voltage of the unit is limited to below 35V, thus reducing the potential of serious electric shock (such as when changing electrodes).

VRD VRD OFF (RED) INDICATOR (STICK/TIG/GOUGING MODES ONLY)

The Red VRD indicator illuminates when the VRD is inactive during welding operation. Under this condition the output voltage of the unit will be at welding potential which in most cases exceeds 35V.

PROCESS PROCESS BUTTON

Process button is used to select the process to be used, i.e MIG, DC Lift TIG, STICK/MMA or GOUGING

SETTINGS SETTING BUTTON

Press the Settings button to go into the power source background settings. Settings available will depend on the Process you are using.

MIG: Inductance (IND), Pre Gas (PEG), Post Gas (PTG), Burnback (BBT), Crater Fill (CRF), Crater Fill Time (CFT), Crater Fill WFS (CFW), Crater Fill Voltage (CFU), Spot time (SPT) and Water Cooler (WC) ,

DC Lift TIG: No Background setting available

STICK: Hot Start (HOT), Arc Force (ARC).

Gouging: Hot Start (HOT) Arc Force (ARC).

GAS PURGE GAS PURGE BUTTON (MIG MODES ONLY)

This purges Shielding Gas (MIG) through the MIG Gun when pressed. When the button is pressed and released it will purge the Shielding Gas for 15 seconds. If during that time the Gas purge is required to be stopped press the button again.

WIRE INCH WIRE INCH BUTTON (MIG MODES ONLY)

Hold button depressed to Feed the MIG Wire through the MIG Gun. When Wire Inch Button depressed INC will appear on the Right Digital Display and Wire Speed will appear on the Left Hand Digital Meter in MPM (Metres Per Minute). Whilst button is held depressed wire speed will start at minimum speed and ramp up to maximum speed and maintain maximum speed whilst the button is depressed.

NOTE

The maximum Wire Inch feed speed depends on the Wire Feed Speed set on the power source. For example, if the power source display shows 2.0 mpm, then Wire Inch feed speed will go up to 2.0 mpm. If the power source display shows 15.0 mpm, then Wire Inch feed speed will go up to 15.0 mpm.

4.03 WIREFEEDER CONTROLS, INDICATORS AND FEATURES

Figure 4-1: Wirefeeder Controls, Indicators and Features

1. Control Panel.
2. Euro Connector.
3. Red Quick Connection point for coolant input from MIG Gun
4. Blue Quick Connection point for coolant output to MIG Gun
5. Lifting Point.
6. Remote Control Socket 10 PIN.
7. Sheilding Gas Connection.
8. Power Source Dinse Connector.

1 CONTROL PANEL

The Transfeed 4R HD is equipped with Control knobs to select the desired Wire Feed Speed and Voltage.

2 MIG GUN ADAPTOR (EURO STYLE)

The MIG Gun adaptor is the connection point for the MIG welding gun. Connect the gun by aligning and pushing the connector into the brass euro adaptor firmly and screwing the plastic nut clockwise to secure in position. To remove the MIG Gun simply reverse these directions. Refer to Section 5.02 Attaching the MIG Gun (EURO).

5 LIFTING POINT

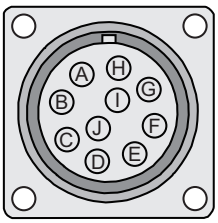
NOTE

The Transfeed 4R HD is fitted with a rated Lifting Point, which is designed to carry the unit with 1 roll of MIG Wire (20Kg Maximum Weight) installed, the MIG Gun and interconnecting cables as supplied in the original CIGWELD plant/kit for the purpose of welding.

The lifting point is not designed to carry additional products that the user adds of their own accord. The unit is to be secured in a safe manner using applicable lifting/mounting devices at the correct load limits, and is at the users responsibility to ensure safe loading and positioning of the unit.

6 REMOTE CONTROL SOCKET 10 PIN

This 10 Pin Remote Control Socket is used to connect the TransMIG Power Source. If further details are required refer to an Accredited CIGWELD Service Provider.



A-10636

Socket Pin	Description
A	Motor Positive
B	Solenoid Positive
C	Trigger Switch & Inch Switch Input
D	Voltage and WFS Control Input
E	Voltage and WFS Control Return
F	Motor and Solenoid Negative
G	Voltage Sensor Positive
H	Not used
I	Not used
J	Not used

7 SHIELDING GAS CONNECTION

This is used to connected the Wire Feeder to the Shielding Gas Cylinder.

8 POWER SOURCE DINSE CONNECTOR

This is used to connect the Wire Feeder to the Power Source.

4.04 INDICATORS AND CONTROLS

WFS WIRE FEED SPEED CONTROL

The Left Hand Encoder Knob is used to adjust Wire Feed Speed on the Wire Feeder if the Remote Indicator Light is displayed on the Power Source. In MIG mode, Wire Feed Speed Encoder Knob adjusts the speed of the wire feed motor (which in turn adjusts the output current by varying the amount of MIG wire delivered to the welding arc).

NOTE

If the Remote is not selected, Wire Feed Control is performed on the power Source Control Panel.

VOLTS MIG VOLTAGE CONTROL

The Right Hand Encoder Knob is used to adjust Voltage on the Wire Feeder, if the Remote Indicator Light is displayed on the Power Source. The welding voltage is increased by turning the knob on the 4R HD clockwise or decreased by turning the knob anti-clockwise.

NOTE

If the Remote is not selected, Voltage Control is performed on the power Source Control Panel.

SECTION 5:
MIG (GMAW/FCAW) WELDING

5.01 SHIELDING GAS REGULATOR/FLOWMETER OPERATING INSTRUCTIONS

SHIELDING GAS CONNECTION

WARNING
This equipment is designed for use with welding grade (Inert) shielding gases only.

A Argon Regulator/Flowmeter and Gas Hose Kit comes with the Power Source Plant. Connect the gas regulator onto the gas cylinder/bottle by hand, keeping the round sight gauge in the vertical position. Then tighten the nut with a spanner, but do-not over tighten. Connect the gas hose to the threaded outlet on the right-hand side of the regulator (Picture A) and tighten with a spanner. Connect the other end of the gas hose to gas inlet fitting on the rear panel of the welding machine using the supplied Quick Connect fittings. Check for any leaks with soapy water in a squeeze bottle, and look for bubbles (when the gas is on), this will highlight any gas leaks.

The gas flow (in Litres Per Minute) for shielding the molten weld metal from the atmosphere is adjustable and depends on the job and atmospheric conditions you encounter when welding. As a general rule for MIG Welding, always use a minimum of 12LPM when welding with an amperage range of under 100Amps, a min. of 15LPM when the amperage is under 180Amps and a minimum of 18LPM for welding amperages over 200Amps. A lower gas flow will affect the welding quality and cause a porous weld while high gas flow results in bigger consumption of gas.

The flow rate is measured at the middle of the float ball.

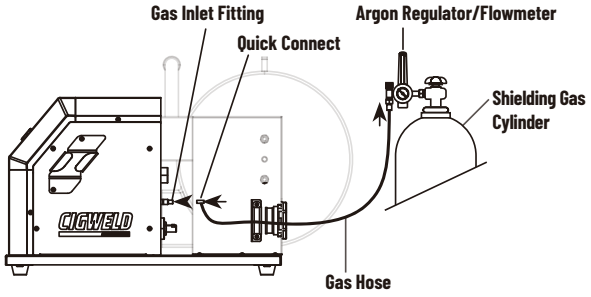


Figure 5-1: Shielding Gas Connection

SHIELDING GAS REGULATOR/ FLOWMETER SAFETY

An Argon Regulator/Flowmeter and Gas Hose comes with the machine plant.

This Regulator/Flowmeter is designed to reduce and control high pressure gas from a cylinder to the working pressure required for the equipment using it.

If the equipment is improperly used, hazardous conditions are created that may cause accidents. It is the users responsibility to prevent such conditions. Before handing or using the equipment, understand and comply at all times with the safe practices prescribed in this instruction.

SPECIFIC PROCEDURES for the use of regulators/flowmeters are listed below.

1. **NEVER** subject the Regulator/Flowmeter to an inlet pressure greater than its rated inlet pressure.
2. **NEVER** pressurize a Regulator/Flowmeter that has loose or damaged parts or is in a questionable condition. NEVER loosen a connection or attempt to remove any part of a Regulator/Flowmeter until the gas pressure has been relieved. Under pressure, gas can dangerously propel a loose part.
3. **DO NOT** remove the Regulator/Flowmeter from a cylinder without first closing the cylinder valve and releasing gas in the Regulator/Flowmeter high and low pressure chambers.
4. **TURN OFF** When equipment is not in use for extended periods of time, shut off the gas at the cylinder valve and release the gas from the equipment.
5. **OPEN** the cylinder valve SLOWLY. Close after use.

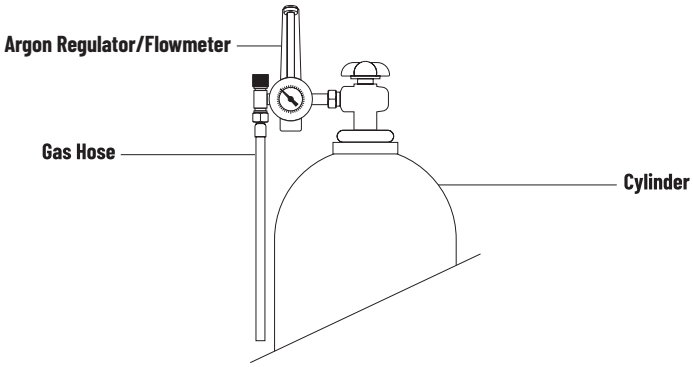


Figure 5-2: Fit Regulator/flowmeter to Cylinder

USER RESPONSIBILITIES

This equipment will perform safely and reliably only when installed, operated and maintained, and repaired in accordance with the instructions provided. Equipment must be checked periodically and repaired, replaced, or reset as necessary for continued safe and reliable performance. Defective equipment should not be used. Parts that are broken, missing, obviously worn, distorted, or contaminated should be replaced immediately.

The user of this equipment will generally have the sole responsibility for any malfunction, which results from improper use, faulty maintenance, or by repair by anyone other than an accredited repairer.

INSTALLATION

1. Remove cylinder valve plastic dust seal. Clean the cylinder valve outlet of impurities that may clog orifices and damage seats before connecting the Regulator/Flowmeter. Crack the valve (open then close) momentarily, pointing the outlet away from people and sources of ignition. Wipe with a clean lint free cloth.
2. Match Regulator/Flowmeter to cylinder. Before connecting, check that the Regulator/Flowmeter label and cylinder marking agree and that the Regulator/Flowmeter inlet and cylinder outlet match. NEVER CONNECT a Regulator/Flowmeter designed for a particular gas or gases to a cylinder containing any other gas.
3. Connect the Regulator/Flowmeter inlet connection to cylinder or pipeline and tighten it firmly but not excessively, with a suitable spanner.
4. Connect and tighten the outlet hose firmly and attach the hose to the welding machine with the Quick Connect fitting. Ensure no gas leakage. The flowmeter must be in the vertical position to read accurately.

OPERATION

With the Regulator/Flowmeter connected to cylinder or pipeline:

1. Stand to one side of Regulator/Flowmeter and slowly open the cylinder valve. If opened quickly, a sudden pressure surge may damage internal Regulator/Flowmeter parts.
2. Before opening the cylinder valve, be sure that the flow adjusting valve is in a finger-tight "OFF" position (clockwise).
3. Slowly and carefully, open the cylinder valve until the maximum pressure registers on the high pressure gauge.

CAUTION

Match Regulator/Flowmeter to cylinder. NEVER CONNECT a Regulator/Flowmeter designed for a particular gas or gases to a cylinder containing any other gas.

CAUTION

DO NOT purge oxidising or flammable gases in the presence of flame, lit cigarettes, or other sources of ignition or in a confined space.

Close equipment valve(s) after purging, and test all connections for leaks with a suitable leak detection solution or soapy water. Never use a flame when testing for leaks.

ADJUSTING FLOW RATE

With the Regulator/Flowmeter ready for operation, adjust working flow rate as follows:

1. Slowly turn adjusting valve in anti-clockwise direction to open and increase until the bobbin in the flow tube indicates the required flow rate.

NOTE

It may be necessary to re-check the shielding Gas Regulator/Flowmeter flow rate following the first weld sequence due to back pressure present within shielding gas hose assembly.

2. To reduce flow rate, allow the welding grade shielding gas to discharge from Regulator/Flowmeter by pressing the Gas Purge button on the front of the machine, or by pressing the trigger on the MIG Gun. Bleed welding grade shielding gas into a well ventilated area. Turn adjusting screw clockwise, until the required flow rate is indicated on the gauge.
3. The correct flow rate will depend on the place and conditions you are working in. For indoors work shielding gas flow rate can be from 12L/min for welding thin metals (0.6-1.0mm) when using 0.6mm MIG wire, up to 15L/min when using thicker metals and using 0.8mm MIG wire. When welding near draughty doorways then the gas flow rate can go up to 18-20L/min. The tell tale sign is to ensure your finished welds do-not have porosity holes in the surface.

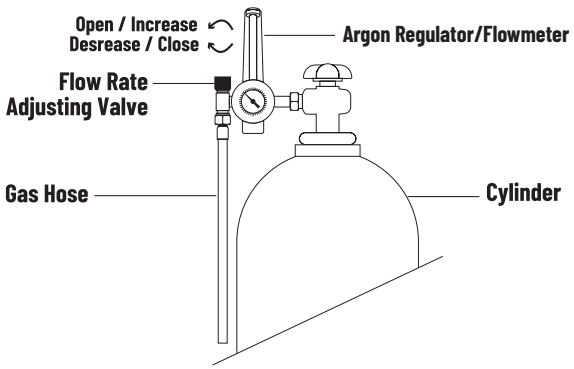


Figure 5-3: Adjust Flow Rate

SHUTDOWN

Close cylinder valve whenever the Regulator/Flowmeter is not in use. To shut down for extended periods (more than 30 minutes).

1. Close cylinder valve tightly.
2. Remove the gas from the machine and hose by pressing the Gas Purge button on the front of the machine, or by pressing the trigger on the MIG Gun. Bleed gas into a well ventilated area.
3. After gas is drained completely turn off the machine.
4. Before transporting cylinders that are not secured on a cart designed for such purposes, remove regulators/flowmeters.

WARNING

Moving Parts can cause injury!

5.02 ATTACHING THE MIG GUN (EURO)

Fit the MIG Gun to the wire feeder by pushing the MIG Gun connector into the MIG Gun adaptor and screwing the plastic nut clockwise to secure the MIG Gun to the MIG Gun adaptor.

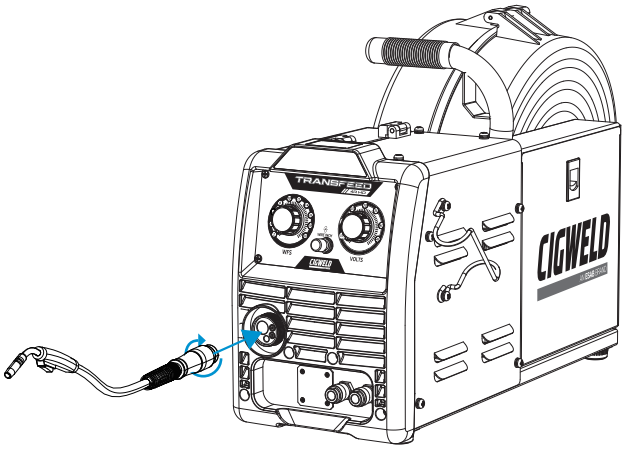


Figure 5-4: Attaching the Euro MIG Gun

5.03 INSTALLING 200mm HANDISPOOL

In order to fit a Handi Spool of 200mm diameter the supplied 200mm Spool Adaptor is to be used.

Remove the Wire Spool Retaining Nut as shown. With the 200mm Spool Adaptor in place ensure the locating hole in the 200mm Spool Adaptor aligns with the alignment pin on the Spool Hub as shown in Figure 5-5

Install the 200mm wire spool over the spool hub locating the hole in the 200mm Wire Spool with the alignment pin on the 200mm Spool Hub adaptor.

Replace the Wire Spool Retaining nut tightening firmly to secure the Wire Spool in Place.

5.04 INSTALLING 300mm SPOOL

In order to fit a 300mm wire spool the supplier adaptor for 200mm Wire Spools is NOT required to be used.

Remove the Wire Spool Retaining Nut by turning in a counter clockwise direction. Install the 300mm Wire Spool over the Spool Hub, locating the hole in the Wire Spool with the alignment pin on the Spool Hub as shown in Figure 5-6.

Replace the Wire Spool Retaining Nut by turning in a clockwise direction until firmly tightened to secure the Wire Spool in place.

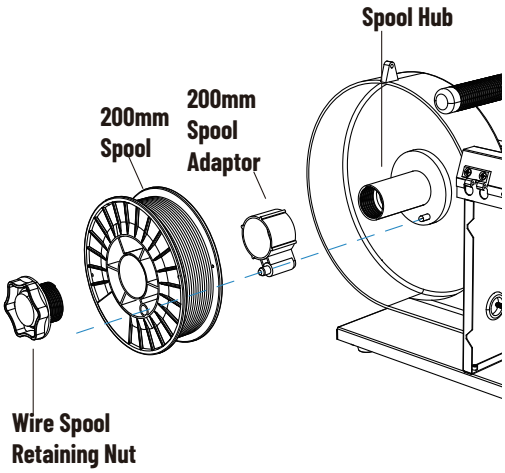


Figure 5-5: 200mm HandiSpool Installation

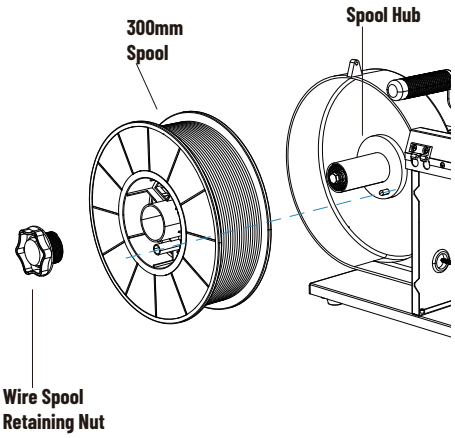


Figure 5-6: 300mm Spool Installation

5.05 SPOOL HUB BRAKE

When fitting the Wire Spool, the adjustment of the Wire Reel Brake Adjustment Nut will control the MIG Wire Spool Brake. Rotating the Wire Reel Brake Adjustment Nut clockwise increases the brake and rotating the Wire Reel Brake Adjustment Nut counter-clockwise reduces the brake. To access the Wire Reel Brake Adjustment Nut remove the Wire Spool Retaining Nut. Brake is correctly adjusted when the spool stops within 10 to 20mm (measured at the outer edge of the spool) after MIG Gun trigger is released. Wire should be slack without becoming dislodged from the spool.

WARNING
Moving Parts can cause injury!

WARNING
Overtension of brake will cause rapid wear of mechanical WIREFEED parts, overheating of electrical components and possibly an increased incidence of electrode wire Burnback into contact tip.

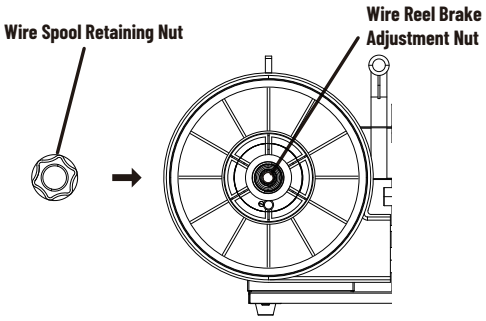


Figure 5-7: Wire Reel Brake

5.06 INSERTING WIRE INTO THE WIRE FEED MECHANISM

Release the tension from the pressure roller by turning the adjustable wire drive tension screws in an anticlockwise direction. Then to release the pressure roller arms, pull the wire drive tension screws outward to release the pressure roller arms. With the MIG welding wire feeding from the bottom of the spool pass the wire through the inlet guide, between the rollers, through the outlet guide and into the MIG Gun. Do not release the MIG wire until the Pressure Arms are secured-back into place. Adjust the wire drive tension screw accordingly. Remove the nozzle and contact tip from the MIG Gun. With the MIG Gun lead reasonably straight, feed the wire through the Gun by pressing the Wire Inch button WIRE INCH on the front Control Panel, inside the Wire Feed compartment, or by depressing the trigger switch. Fit the appropriate contact tip and replace the nozzle.

WARNING

Keep hands clear of the contact tip holder while feeding wire through to the gun. The wire can easily pierce you skin resulting in injury.

Keep MIG Gun away from eyes and face.

WARNING

Moving parts can cause injury!

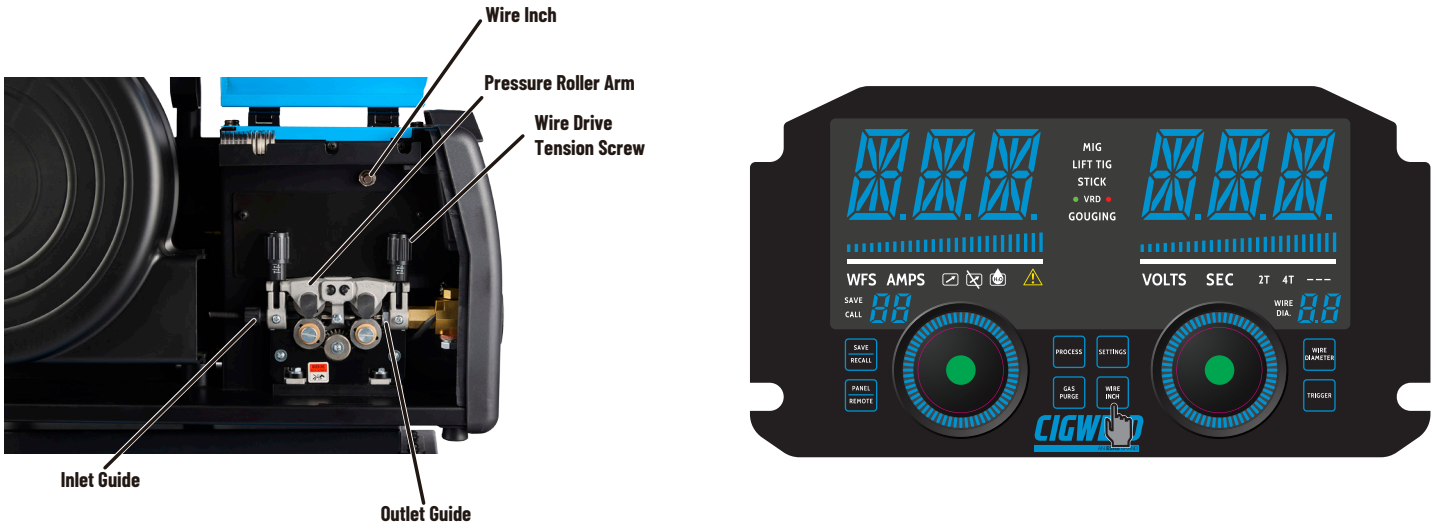


Figure 5-8: Wire Drive Assembly Components

5.07 SETUP FOR MIG (GMAW) WELDING WITH GAS SHIELDED MIG WIRE

A. Ensure that the Power Source On/Off switch located on the rear of the Power Source is in the Off position.

B. Connect the MIG gun to front of the wire feeder.

C. Connect the Interconnection Lead Welding Power Cable from the Male "Welding Power"Terminal located on the Rear Panel of the 4R HD to the positive + terminal on the front of the TransMIG Power Source.

D. Connect the Interconnection Lead Control Cable with 10 Pin Plug from the "Remote" 10 Pin socket on the rear of the 4R HD to the Wirefeeder to the 10 Pin Socket on the front of the TransMIG Power Source.

E. When using a Gas Shielded wire with the 4R HD Wirefeeder you need to have an external Shielding Gas source connected to the 4R HD via the Gas Hose included in the supplied 10m Interconnection Lead.

F. Fit the correct Feed Roll for the Gas Shielded MIG wire being used. Refer to section 2.11 Optional Accessories for Feed Roll types and Part Numbers.

G. Place the MIG wire spool onto the spool holder. Refer to sections 5.03 for 200mm diameter spools or 5.04 for 300mm diameter spools.

H. Switch the Power Source On/Off switch located on the rear of the Power Source to the On position and ensure the Front Display is illuminated.

I. Select the MIG function. Use the Wire Diameter button to select the correct wire diameter. Refer to Section 5.09 MIG Mode.

J. Feed wire through the wire drive mechanism.

K. Connect the work lead to the positive welding terminal (-). If in doubt, consult the wire manufacturer. Welding current flows from the Power Source via DINSE terminals. It is essential, that the male plug is inserted and turned securely to achieve a sound electrical connection.

L. Fit the welding grade shielding Gas Regulator/Flowmeter to the shielding gas cylinder. Ensure that the shielding gas hose connection is sufficiently tight at the regulator connection. Refer to section 5.01 for the connection and instruction of shielding Gas Regulator/Flowmeter.

NOTE

Power Source settings are adjusted using the front panel controls. Refer to section 5.09 MIG Mode.

WARNING

Before connecting the work clamp to the work piece make sure the mains power supply is switched off.

CAUTION

Loose welding terminal connections can cause overheating and result in the male plug being fused in the terminal. Remove any packaging material prior to use. Do not block the air vents at the front or rear of the Welding Power Source.

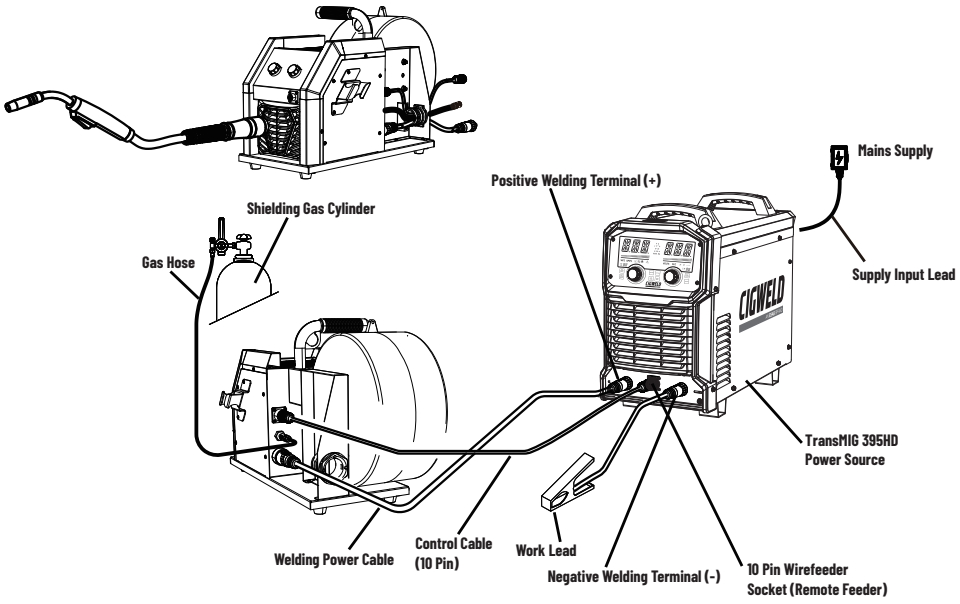


Figure 5-13: Setup for MIG Welding with Gas Shielded MIG Wire

5.08 SETUP FOR MIG (FCAW) WELDING WITH GASLESS MIG WIRE

A. Ensure that the Power Source On/Off switch located on the rear of the Power Source is in the Off position.

B. Connect the MIG gun to front of the wire feeder.

C. The 4R HD Wirefeeder is supplied with an 10 metre Interconnection Lead assembly to connect from the rear of the 4R HD Wirefeeder to the front of the TransMIG Power Source.

D. Connect the Interconnection Lead Welding Power Cable from the Male "Welding Power" Terminal located on the Rear Panel of the 4R HD to the negative (-) terminal on the front of the TransMIG Power Source.

E. Connect the Interconnection Lead Control Cable with 10 Pin Plug from the "Remote" 10 Pin socket on the rear of the 4R HD to the Wirefeeder to the 10 Pin Socket on the front of the TransMIG Power Source.

F. Fit the correct Feed Roll for the Gasless MIG wire being used. Refer to section 2.11 Optional Accessories for Feed Roll types and Part Numbers.

G. Place the MIG wire spool onto the spool holder. Refer to sections 5.03 for 200mm diameter spools or 5.04 for 300mm diameter spools.

H. Switch the Power Source On/Off switch located on the rear of the Power Source to the On position and ensure the Front Panel Display is illuminated.

I. Select the MIG function. Use the Wire Diameter button to select the correct wire diameter. Refer to Section 5.09 MIG Mode.

J. Feed wire through the wire drive mechanism.

K. Connect the work lead to the positive welding terminal (+). If in doubt, consult the wire manufacturer. Welding current flows from the Power Source via DINSE terminals. It is essential, that the male plug is inserted and turned securely to achieve a sound electrical connection.

WARNING
Moving Parts can cause injury!

WARNING
Before connecting the work clamp to the work piece make sure the mains power supply is switched off.

CAUTION
Loose welding terminal connections can cause overheating and result in the male plug being fused in the terminal. Remove any packaging material prior to use. Do not block the air vents at the front or rear of the Welding Power Source.

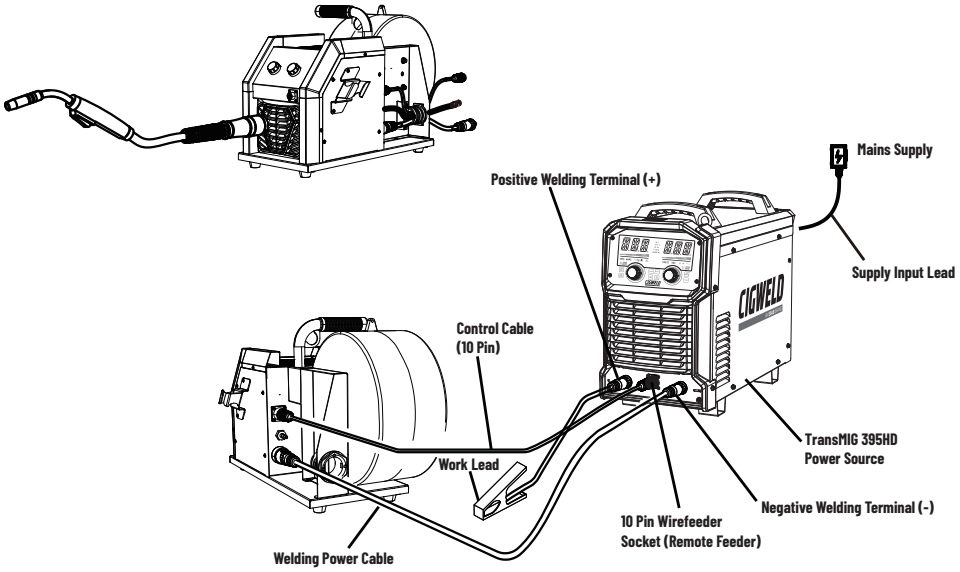
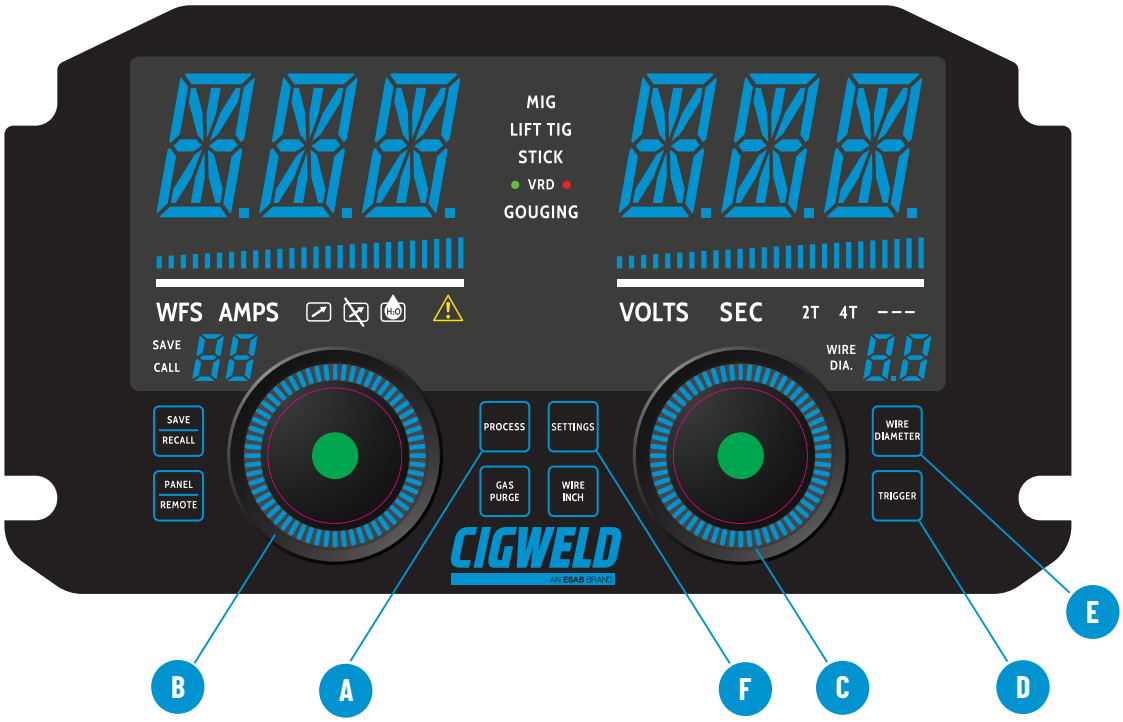


Figure 5-14: Setup for MIG Welding with Gasless MIG Wire

5.09 MIG MODE



A PROCESS SELECTION BUTTON

Select MIG MIG Mode.

B LEFT CONTROL KNOB

Turn clockwise to increase or counter-clockwise to decrease WFS Wire Feed Speed (WFS) value.

WFS WIRE FEED SPEED INDICATOR

When illuminated the Wire Feed Speed is able to be set or adjusted. Wire Feed Speed is displayed in Metres Per Minute (MPM) on the Left Digital Display. In MIG Mode, the WFS range goes from 1.5 to 20 MPM (Metres Per Minute).

C RIGHT CONTROL KNOB

Turn clockwise to increase or counter-clockwise to decrease VOLTS Volts value.

VOLTS VOLTS INDICATOR

When illuminated the Value showing on the Right Hand Digital Display is Volts.

D TRIGGER INDICATOR

SELECT TRIGGER MODE BUTTON

The trigger mode control is used to switch the functionality of the MIG Gun trigger between 2T (normal), 4T (latch mode) and Spot weld.

2T NORMAL MODE
In this mode, the MIG Gun trigger must remain depressed for the welding output to be active. Press and hold the MIG Gun trigger to activate the power source (weld). Release the MIG Gun trigger switch to cease welding.

4T LATCH MODE
This mode of welding is mainly used for long welding runs to reduce operator fatigue. In this mode the operator can press and release the MIG Gun trigger and the output will remain active. To deactivate the power source, the MIG Gun trigger switch must again be depressed and released, thus eliminating the need for the operator to hold the MIG Gun trigger.

SPOT WELDING MODE (SPT)
Spot welding is used to weld two thin plates together at a desired location by melting the top and bottom plates together to form a nugget between them.

Operates in Trigger 2T mode only.

Press the Setting Button then the Forward and Back Menu Arrow Buttons to cycle through the Advanced Settings until reaching Spot Welding Mode (SPT). Once selected use the Right Control Knob to set the desired value. This parameter has an adjustment range of 0 – 5.0 seconds.

Factory setting for Spot Time is 0 seconds.

Once set exit Advanced Settings by pressing the Setting Button and the Menu indicator will turn off.

E WIRE DIAMETER INDICATOR

Multiple Wire Diameters are able to be selected for the appropriate MIG Wire Diameter being used. Welding characteristics are slightly varied depending on the wire diameter chosen, which enhances the welding experience. Wire Diameters are changed via WIRE DIAMETER button.

F SETTINGS SETTING BUTTON

Press the Settings button to go into the power source background settings. Settings available will depend on the Process you are using.

MIG: Inductance (IND), Pre Gas (PEG), Post Gas (PTG), Burnback (BBT), Crater Fill (CRF), Crater Fill Time (CFT), Crater Fill WFS (CFW), Crater Fill Voltage (CFU), Spot time (SPT) and Water Cooler (WC)

INDUCTANCE
The Inductance (arc) control operates in MIG (GMAW) modes only and is used to adjust the intensity of the welding arc. Higher arc control settings make the arc softer with less weld spatter. Lower arc control settings give a stronger driving arc which can increase weld penetration. This parameter has an adjustment range of -9 to 9.

Factory setting for Inductance is 0.

PRE GAS (PEG)
Shielding Gas flows for the time specified before an arc is initiated.

Press the Settings Button then using the Left Hand Encoder Knob, rotate through the Advanced Settings until reaching Pre Gas (PEG). Once selected use the Right Control Knob to set the desired value. This parameter has an adjustment range of 0 - 5.0 seconds.

Factory setting for Pre Gas is 0.2 seconds.

Once set exit Advanced Settings by pressing the Settings Button and the Menu indicator will turn off.

POST GAS (PTG)
Shielding Gas flows for the time specified after an arc has extinguished.

Press the Settings Button then using the Left Hand Encoder Knob, rotate through the Advanced Settings until reaching Post Gas (PTG). Once selected use the Right Control Knob to set the desired value. This parameter has an adjustment range of 0 - 5.0 seconds.

Factory setting for Post Gas is 0.5 seconds.

Once set exit Advanced Settings by pressing the Settings Button and the Menu indicator will turn off.

BURNBACK (BBT)
The Burnback Control is used to adjust the amount of MIG wire that protrudes from the MIG Gun after the completion of MIG welding (commonly referred to as stick out).

Press the Settings Button then using the Left Hand Encoder Knob, rotate through the Advanced Settings until reaching Burnback (BBT). Once selected use the Right Control Knob to set the desired value. This parameter has an adjustment range of 0.00 – 0.50 seconds.

Factory setting for Burnback is 0.00 seconds.

Once set exit Advanced Settings by pressing the Settings Button and the Menu indicator will turn off.

CRATER FILL (CRF)
The Crater Fill Function reduces the Welding Current (Wire Feed Speed and Voltage) at the end of the weld over a user set period of time. This allows the user to fill and finish the end of the weld, eliminating craters from the weld.

Craters at weld ends can be a starting point for cracking.

CRATER FILL IN 2T TRIGGER MODE

When Crater Fill is turned On, the operator is able to use Crater Fill to complete the weld. In Trigger 2T mode Crater Fill is automatically engaged once the trigger is released at the completion of the weld. Once the trigger is released, the welding current will ramp down from peak welding current over a set time, to a set Wire Feed Speed and Voltage. Once the Crater fill time has elapsed, the arc will completely cease.

The Crater Fill function will operate according to the user settings for Crater Fill Time (CFT), Crater Fill Wire Feed Speed (CFW) and Crater Fill Voltage (CFU).

CRATER FILL IN 4T TRIGGER MODE

When Crater Fill is turned On, the operator is able to use Crater Fill to complete the weld. In Trigger 4T mode the operator can engage Crater Fill by following this procedure:

Press and release trigger to weld, and when the weld is completed press and hold the trigger to enable Crater Fill. Once the trigger is held at the completion of welding, the current will ramp down from welding current over a set time, to a set Wire Feed Speed and Voltage. If Crater Fill is not required simply finish your weld by pressing and releasing the Trigger.

The Crater Fill function will operate according to the user settings for Crater Fill Time (CFT), Crater Fill Wire Feed Speed (CFW) and Crater Fill Voltage (CFU), however, if the trigger is held longer than the Crater Fill Time, the arc will continue at the Crater Fill minimum settings until released.

CRATER FILL TIME (CFT)

Crater Fill Time is the time in seconds that the Crater Fill parameters ramp down to achieve Crater Fill finish at the end of the weld.

Crater Fill Time operates when Crater Fill (CRF) is ON (refer above).

Press the Settings Button then using the Left Hand Encoder Knob, rotate through the Advanced Settings until reaching Crater Fill Time (CFT). Once selected use the Right Control Knob to set the desired value. This parameter has an adjustment range of 0.0 – 10.0 seconds.

Factory setting for Crater Fill Time is 0.2 seconds.

Once set exit Advanced Settings by pressing the Settings Button and the Menu indicator will turn off.

CRATER FILL WIRE FEED SPEED (CFW)

Crater Fill Wire Feed Speed is used to set the finish wire feed speed for MIG.

Press the Settings Button then using the Left Hand Encoder Knob, rotate through the Advanced Settings until reaching Crater Fill Wire Feed Speed (CFW). Once selected use the Right Control Knob to set the desired value. This parameter has an adjustment range of 1.5 – 20.0 metres per minute.

Factory setting for Crater Fill Wire Feed Speed is 3.5 metres per minute.

Once set exit Advanced Settings by pressing the Settings Button and the Menu indicator will turn off.

CRATER FILL VOLTAGE (CFU)

Crater Fill Voltage is used to set the finish voltage for MIG.

Press the Settings Button then using the Left Hand Encoder Knob, rotate through the Advanced Settings until reaching Crater Fill Voltage (CFU). Once selected use the Right Control Knob to set the desired value. This parameter has an adjustment range of 12.0 - 38.0 Volts.

Factory setting for Crater Fill Voltage is 17.0 Volts.

Once set exit Advanced Settings by pressing the Settings Button and the Menu indicator will turn off.

SPOT WELDING MODE (SPT)

Spot welding is used to weld two thin plates together at a desired location by melting the top and bottom plates together to form a nugget between them.

Operates in Trigger 2T mode only.

Press the Settings Button then using the Left Hand Encoder Knob, rotate through the Advanced Settings until reaching Spot Welding Time (SPT). Once selected use the Right Control Knob to set the desired value. This parameter has an adjustment range of 0 – 10.0 seconds.

Factory setting for Spot Time is 2 seconds.

Once set exit Advanced Settings by pressing the Settings Button and the Menu indicator will turn off.

5.10 CIGWELD MIG WIRE SELECTION CHART

CLASS. AUS/ NZ STD (NEW)	CLASS. AWS STD	DESCRIPTION	DIA (mm)	PACK	P/N:	APPLICATION
		WELDSKILL SOLID WELDING WIRE	0.6	Handispool 5kg	WS5006	General purpose solid welding wire suitable for the all positional Gas Metal Arc Welding (GWAW) of mild and low alloy steels, used in general fabrication and for welding of light to medium gauge sheet and tubular steel sections. Please Note: A suitable shielding gas is required.
B G 49A 3U C1/M21/M24 S6	ER70S-6	AUTOCRAFT LW1-6	0.8	Spool 15kg	720114	Autocraft LW1-6 is a high quality copper coated welding wire suitable for the all positional Gas Metal Arc Welding (GMAW) of mild and low alloy steels, used in general fabrication and structural work. The high quality copper coating ensures problem free feeding, smooth current pick-up and minimal contact tip wear. The higher silicon content of Autocraft LW1-6 ensures excellent operator appeal, improved fillet shape / side wall wash at weld toes and very low spatter levels important for welding light to medium gauge sheet and tubular steel sections.
			0.9	Handispool 5kg	720161	
			0.9	Spool 15kg	720090	
			1.0	Spool 15kg	720094	
			1.2	Spool 15kg	720096	
			1.6	Spool 15kg	720095	
B T 49 Z T11 1 NA	E71T-11	WELDSKILL GASLESS WELDING WIRE	0.8	Handispool 5kg	WG4508	Self-shielded flux cored wire. For single pass applications only. Versatile, all positional capabilities. Excellent tolerance to joint misalignment or poor joint fit-up. Smooth rippled fillets with good edge wetting. Ideal for welding thin section mild and galvanised steels.
			0.9	Handispool 5kg	WG4509	
			1.2	Handispool 5kg	WG4512	
B T 49 2 T1 C A U H10; B T 49 2 T1 M A U H10	E71T-1M H8; E71T-1 H8	VERTI-COR XP	1.2	Spool 15kg	720915	Low cost and great quality, Verti-Cor XP is a versatile rutile type flux cored wire designed for all positional fillet and butt welding applications using Argon + 18-25% CO2 and CO2 shielding gases. Verti-Cor XP is characterised by its smooth transfer arc characteristic and all positional capabilities while offering smooth genuine mitre fillets in all positions. Vacuum packed
			1.6	Spool 15kg	720917	
B T 49 3 T12 1 C A U H10; B T 49 3 T12 1 M A U H10	E71T-1 H8	VERTI-COR 3XP H8	1.2	Spool 15kg	720919	Verti-Cor 3XP is a Grade 3 micro-alloyed Rutile type flux cored wire designed for downhand, vertical-up and overhead fillet and butt welding applications. A micro-alloyed, Rutile type fluxed cored wire. Versatile, all positional capabilities, Excellent operator appeal, Formulated to give smooth(low spatter) arc transfers, flat mitre filled welds and excellent slag lift in all positions (except vertical-down), on a wide range of mild and medium strength steels
			1.6	Spool 15kg	720921	
B T 55 5 T1 1 C A N2 U H5 B T 55 5 T1 1 M A N2 U H5	E81T1-Ni1M JH4; E81T1-Ni1 JH4	VERTI-COR 81 Ni1 H4	1.2	Spool 15kg	722550	Verti-Cor 81 Ni1 H4 is a seamless, low-hydrogen (H4) non-copper-coated flux cored wire. It features laser welded seams to combat moisture absorption in humid environments, delivering impact toughness to below -50 deg C. This wire is a high strength, rutile-type seamless flux cored wire suitable for the all positional welding of medium to high strength steels using Argon + 18-25% CO2 shielding gas.
			1.6	Spool 15kg	722551	Verti-Cor 81 Ni1 H4 produces a low alloy (nominally 1% Nickel) steel weld deposit of the 550 Mpa tensile class. Verti-Cor 81 Ni1 H4 is suitable for the fillet and butt welding of a broad range of higher strength steels in all welding positions except vertical down. Typical applications include the under matching strength welding of Bisalloy 60,70 & 80

CLASS. AUS/ NZ STD (NEW)	CLASS. AWS STD	DESCRIPTION	DIA (mm)	PACK	P/N:	APPLICATION
B SS309LSi.	ER309LSi	AUTOCRAFT 309LSI	0.9	Spool 15kg	721276	Autocraft 309LSi is a premium quality, low carbon 24% Cr/13% Ni stainless steel wire for the Gas Metal Arc Welding (GMAW) of matching 309L type stainless steel. Autocraft 309LSi is also suitable for a wide range of other welding applications including: The dissimilar joining of "300 series" and selected "400series" stainless steel grades to mild or low alloy steels, An intermediate or buttering layer in the butt welding of clad steels, A stainless steel overlay on mild or low alloy steel, A 'buttering' layer prior to hardfacing.
			1.2	Spool 15kg	721277	
B SS316LSi	ER316LSi	AUTOCRAFT 316LSI	0.8	Handispool 5kg	720288	Autocraft 316LSi is a premium quality, low carbon 19% Cr/13% Ni / 2.5Mo stainless steel wire for the Gas Metal Arc Welding (GMAW) of Molybdenum bearing stainless steels; in particular 316, 318 and 316L alloys. Autocraft 316LSi is also suitable for the general welding of other 300 and 400 series stainless steels including 301, 302, 304/304L, 321, 347, 410 and 430.
			0.9	Handispool 5kg	720283	
			0.9	Spool 15kg	721286	
			1.2	Spool 15kg	721287	
S Al 5183	ER5183	AUTOCRAFT 5183	1.0	Spool 7kg	722239	Autocraft AL5183XP is a premium quality Aluminium welding wire that is typically used in the marine and structured industries, where higher strength and good fracture toughness is required. Autocraft AL5183XP is ideally suited to the welding of Alloy 5083. Autocraft AL5183XP is not suitable for heat treatment.
			1.2	Spool 7kg	722240	
		AUTOCRAFT 5183XP	1.2	Spool 7kg	722245	
S Al 5356	ER5356	AUTOCRAFT AL5356	0.9	Spool 7kg	722226	Autocraft AL5356 is a premium quality, Aluminium - nominal 5% Magnesium alloy suitable for the Gas Metal Arc Welding (GMAW) of a wide range of cast and wrought Aluminium alloys. Autocraft AL5356 is the most popular Aluminium alloy in the CIGWELD range. It produces intermediate deposit strength and good ductility and corrosion resistance for the GMA welding of a wide range of 3XXX, 5XXX, 6XXX and 5XX Aluminium alloys.
			1.0	Handispool 2kg	723224	
			1.0	Spool 7kg	722224	
			1.2	Spool 7kg	722227	
–	ERCuSi-A	AUTOCRAFT SILICON BRONZE	0.8	Handispool 5kg	720159	Autocraft Silicon Bronze is a Copper based wire recommended for the Gas Metal Arc Welding (GMAW) of Copper-Silicon alloys used extensively in hot water systems, heat exchangers, calorifiers and marine components for their corrosion resistance. Autocraft Silicon Bronze is highly recommended for the fillet welding of galvanised steels and irons and for the lower strength 'brazing' of light gauge steel sections as used in the automotive industry. It is also suitable for the MIG welding of Copper-Zinc alloys to themselves and to steels.
			0.9	Spool 13kg	720015	
			1.2	Spool 13kg	720255	

5.11 MIG WELDING TROUBLESHOOTING

SOLVING PROBLEMS BEYOND THE WELDING TERMINALS

The general approach to fix Gas Metal Arc Welding (GMAW) problems is to start at the wire spool then work through to the MIG Gun. There are two main areas where problems occur with GMAW, Porosity and Inconsistent wire feed.

SOLVING PROBLEMS BEYOND THE WELDING TERMINALS - POROSITY

When there is a gas problem the result is usually porosity within the weld metal. Porosity always stems from some contaminant within the molten weld pool which is in the process of escaping during solidification of the molten metal. Contaminants range from no gas around the welding arc to dirt on the work piece surface. Porosity can be reduced by checking the following points.

FAULT	CAUSE
1 Shielding gas cylinder contents and flow meter.	Ensure that the shielding gas cylinder is not empty and the flow meter is correctly adjusted to 15 litres per minute.
2 Gas leaks.	Check for gas leaks between the regulator/cylinder connection and in the gas hose to the Power Source.
3 Internal gas hose in the Power Source.	Ensure the hose from the solenoid valve to the gun adaptor has not fractured and that it is connected to the gun adaptor.
4 Welding in a windy environment.	Shield the weld area from the wind or increase the gas flow.
5 Welding dirty, oily, painted, oxidised or greasy plate.	Clean contaminates off the work piece.
6 Distance between the MIG Gun nozzle and the work piece.	Keep the distance between the MIG Gun nozzle and the work piece to a minimum. Refer to cigweld.com.au for further MIG (GMAW/FCAW) Welding information
7 Maintain the MIG Gun in good working order.	**A** Ensure that the gas holes are not blocked and gas is exiting out of the gas diffuser. **B** Do not restrict gas flow by allowing spatter to build up inside the gun nozzle. **C** Check that the MIG Gun O-rings are not damaged.

WARNING

Disengage the feed roll when testing for gas flow by ear.

Refer to **cigweld.com.au** for further MIG (GMAW/FCAW) Welding information

SOLVING PROBLEMS BEYOND THE WELDING TERMINALS - INCONSISTENT WIRE FEED

Wire feeding problems can be reduced by checking the following points

FAULT	CAUSE
1 Feed roll driven by motor in the wire-feed compartment slipping.	**A** Spool Hub Brake is too tight. (Refer to Section 5.05 Spool Hub Brake). **B** Incorrect feed roll fitted for wire used, or incorrect pressure set on wire feed pressure roller. Check and change to correct feed roll if necessary. (Refer options and accessories table 2.11 for feed roll options)
2 Wire spool unwound and tangled.	Spool Hub Brake is too loose. (Refer to Section 5.05 Spool Hub Brake)
3 Worn or incorrect feed roll size.	**A** Use a feed roll matched to the size wire you are using. **B** Replace feed roll if worn.
4 Wire rubbed against the mis-aligned guides and reduced wire feedability.	Mis-alignment of inlet/outlet guides.
5 Liner blocked with swarf	**A** Increased amounts of swarf are produced by the wire passing through the feed roll when excessive pressure is applied to the pressure roller adjuster. **B** Swarf can also be produced by the wire passing through an incorrect feed roll groove shape or size. **C** Swarf is fed into the conduit liner where it accumulates thus reducing wire feedability.
6 Incorrect or worn contact tip.	**A** The contact tip transfers the weld current to the electrode wire. If the hole in the contact tip is too large then arcing may occur inside the contact tip resulting in the wire jamming in the contact tip. **B** When using soft wire such as aluminium it may become jammed in the contact tip due to expansion of the wire when heated. A contact tip designed for soft wires should be used.
7 Poor work lead contact to work piece.	If the work lead has a poor electrical contact to the work piece then the connection point will heat up and result in a reduction of power at the arc
8 Bent liner.	This will cause friction between the wire and the liner thus reducing wire feedability.

BASIC MIG (GMAW) WELDING TROUBLESHOOTING

FAULT	CAUSE	REMEDY
1 Undercut	**A** Welding arc voltage too high **B** Incorrect gun angle **C** Excessive heat input	**A** Decrease voltage or increase the Wire Feed Speed. **B** Adjust angle. **C** Increase the gun travel speed and/or decrease welding current by decreasing the voltage or decreasing the Wire Feed Speed.
2 Lack of penetration	**A** Welding current too low **B** Joint preparation too narrow or gap too tight **C** Incorrect shielding gas	**A** Increase welding current by increasing Wire Feed Speed and increasing voltage. **B** Increase joint angle or gap. **C** Change to a gas which gives higher penetration.
3 Lack of fusion	Voltage too low	Increase voltage.
4 Excessive spatter	**A** Voltage too high **B** Voltage too low	**A** Decrease voltage or increase the Wire Feed Speed control. **B** Increase the voltage or decrease Wire Feed Speed.
5 Irregular weld shape	**A** Incorrect voltage and current settings. Convex, voltage too low. Concave, voltage too high. **B** Wire is wandering. **C** Incorrect shielding gas **D** Insufficient or excessive heat input	**A** Adjust voltage and current by adjusting the voltage control and the Wire Feed Speed control. **B** Replace contact tip. **C** Check shielding gas. **D** Adjust the Wire Feed Speed control or the voltage control.
6 Weld cracking	**A** Weld beads too small **B** Weld penetration narrow and deep **C** Excessive weld stresses **D** Excessive voltage **E** Cooling rate too fast	**A** Decrease travel speed. **B** Reduce current and voltage and increase MIG Gun travel speed or select a lower penetration shielding gas. **C** Increase weld metal strength or revise design **D** Decrease voltage. **E** Slow the cooling rate by preheating part to be welded or cool slowly.
7 Cold weld puddle	**A** Loose welding cable connection. **B** Low primary voltage **C** Fault in power source	**A** Check all welding cable connections. **B** Contact supply authority. **C** Have an Accredited CIGWELD Service Provider to test then replace the faulty component.
8 Arc does not have a crisp sound that short arc exhibits when the Wire Feed Speed and voltage are adjusted correctly.	The MIG Gun has been connected to the wrong voltage polarity on the front panel.	Connect the MIG Gun to the positive (+) welding terminal for most solid wires and gas shielded flux cored wires. Connect MIG Gun to the negative (-) welding terminal for most Gasless Wires.

5.12 MIG WELDING PROBLEMS

	PROBLEM		POSSIBLE CAUSE		REMEDY
1	Mains Supply Voltage is On, the On/Off switch on the rear panel is in the On position and the Front Control Panel Digital Displays are illuminated however the power source will not MIG weld.	A	Power source is not in the correct mode of operation.	A	Set the power source to MIG mode. Refer to Section 5.09 MIG Mode.
		B	MIG Gun Polarity Lead is not connected.	B	Connect the MIG Gun Polarity Lead to the positive or negative output terminal. Refer to Section 5.07 Setup For MIG (GMAW) Welding With Gas Shielded MIG WIRE or 5.08 Setup For MIG (FCAW) Welding With Gasless Shielded MIG WIRE.
		C	Work Lead is not connected to the work piece.	C	Ensure that the Work Lead is connected to the work piece and has a good connection to the work piece. Refer to Set Up for MIG Section 5.07 Setup For MIG (GMAW) Welding With Gas Shielded MIG WIRE or 5.08 Setup For MIG (FCAW) Welding With Gasless Shielded MIG WIRE.
		D	MIG Gun is not correctly connected to the Euro Style MIG Gun Adaptor.	D	Ensure that the MIG Gun is correctly connected to the Euro Style MIG Gun Adaptor. Refer to Section 5.02 Attaching The MIG GUN (EURO).
2	When welding at maximum output (WFS and Volts) the machine stops welding.	A	When output amperage exceeds the rated maximum output of the machine the welding machine will sense this and initiates a safety circuit which stops the output current and displays an Output Over Current Error Code 701. Refer to Section 8.05 TransMIG 395HD Error Codes for further detail.	A	Reduce output amperage (WFS and Volts) according to the Rating Label.
		B	Contact Tip of the MIG gun is too close to the work piece.	B	Increase distance between the Contact Tip of the MIG gun and the work piece.
		C	The Pre-set voltage is too high.	C	Decrease the Pre-set voltage.
		D	MIG Welding Wire in use is not consistent with the selected MIG wire diameter, e.g. 0.8mm wire is selected but 0.9mm wire is used.	D	Ensure that the correct MIG Welding Wire Diameter is selected for MIG Wire being used. Refer to Section 4.02 Power Source Indicators And Controls.
3	The power source will not commence welding when the gun trigger switch is depressed and Over Temperature Error Code 102 or the Over Temperature Indicator is illuminated on the Front Panel Display. This indicates an Over Temperature condition has occurred. Refer to Section 8.05 TransMIG 395HD Error Codes for further detail.		Duty cycle of power source has been exceeded.		Leave the power source switched ON and allow it to cool. Note that Over Temperature Error Code must be cleared and Over Temperature Indicator not illuminated on the Front Panel Display prior to commencement of welding.

PROBLEM	POSSIBLE CAUSE	REMEDY
4 Unit will not feed wire in MIG mode.	**A** Incorrect Feed Roll fitted for wire type being used.	**A** Fit the correct feed roll for MIG wire type being used. Refer to section 2.11 Optional feed rolls available.
	B Pressure Roller Arm is not secured in the correct position or not correctly adjusted.	**B** Secure Pressure Roller in the correct position and ensure that it is correctly adjusted.
	C Electrode wire stuck in conduit liner or contact tip (burn-back jam).	**C** Check for clogged / kinked MIG Gun conduit liner or worn contact tip. Replace faulty components.
	D Internal fault in power source	**D** Have an Accredited CIGWELD Service Provider investigate the fault.
5 Welding wire continues to feed when MIG Gun trigger is released.	**A** MIG Gun Trigger in 4T Mode	**A** Change MIG Gun Trigger Mode to 2T.
	B MIG Gun trigger leads shorted, or faulty MIG Gun Trigger.	**B** Repair or replace MIG Gun trigger switch/lead.
6 Welding arc cannot be established in MIG mode.	**A** MIG Gun polarity lead is not connected into a welding output terminal.	**A** Connect the MIG Gun polarity lead to either the positive welding output terminal or the negative welding output terminal as required.
	B Poor or no work lead contact.	**B** Clean work clamp area and ensure good electrical contact.
	C Spot Welding Mode is Active	**C** Check that the Spot Welding Mode (SPT) value is 0.
7 Inconsistent wire feed.	**A** Worn or dirty contact tip.	**A** Replace if necessary.
	B Incorrect or worn feed roll.	**B** Replace if necessary.
	C Excessive brake tension on wire reel hub.	**C** Reduce brake tension on spool hub.
	D Worn, kinked or dirty conduit liner	**D** Clean or replace conduit liner.
	E Pressure Roller Arm is not secured in the down position or not correctly adjusted.	**E** Secure Pressure Roller in the down position and ensure that it is correctly adjusted.
8 No gas flow in MIG mode.	**A** Gas hose is damaged.	**A** Replace or repair.
	B Gas passage contains impurities.	**B** Disconnect gas hose from the rear of power source and blow out impurities.
	C Empty gas cylinder.	**C** Replace gas cylinder.
	D Cylinder Valve not turned on.	**D** Turn Cylinder valve in anticlockwise direction until gas is flowing.
9 Gas flow continues after the MIG Gun trigger switch has been released.	Gas valve has jammed open due to impurities in the gas or the gas line.	Have an accredited CIGWELD service provider repair or replace gas valve.

SECTION 6:
TIG (GTAW) WELDING

6.01 SHIELDING GAS REGULATOR/FLOWMETER OPERATING INSTRUCTIONS

WARNING
This equipment is designed for use with welding grade (Inert) shielding gases only.

SHIELDING GAS CONNECTION

Connect the BlueJet Argon Regulator/Flowmeter onto the gas cylinder/bottle by hand, then tighten the nut with a spanner, but do-not over tighten. Connect the TIG Torch gas line hose fitting to the right hand side of the regulator and tighten with a spanner. Check for any leaks with soapy water in a squeeze bottle, and look for bubbles (when the gas is on), this will highlight any gas leaks.

The gas flow (in Litres Per Minute) for shielding the molten weld metal from the atmosphere is adjustable and depends on the job and atmospheric conditions you encounter when welding.

Gas flow rate from the Regulator is based on the Gas Nozzle Inside Diameter (ID). The rule is 1/LPM flow based on ID Size of the Nozzle, e.g. ID of Nozzle = 9mm, Gas Flow = 9/LPM

Post Flow Gas should be a **minimum of 5-seconds** for every "mm" thickness of the **tungsten electrode** being used for the welding.

1.6mm Tungsten = 8/Sec | 2.4mm Tungsten = 12/Sec | 3.2mm Tungsten = 16/Sec

Finished TIG welds that have a black, dark grey or grey surface finish are not good welds – you need more gas. Welds should be shiny, silver or gold appearance.

The flow rate is measured at the middle of the float ball.

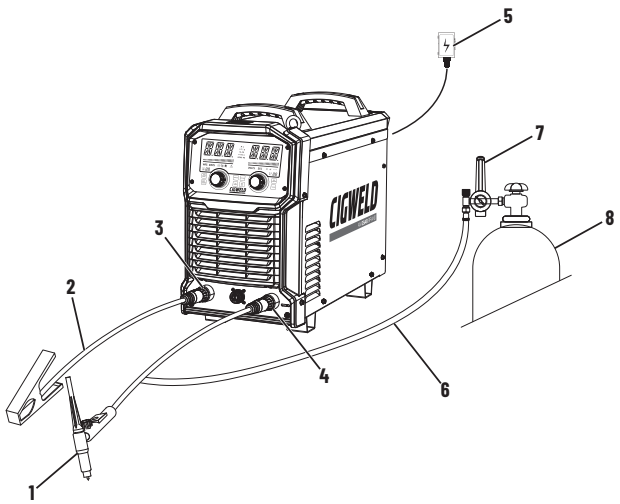


Figure 6-1: Shielding Gas Connection

1. TIG Torch
2. Work Lead
3. Positive Welding Terminal (+)
4. Negative Welding Terminal (-)
5. 3PH 415V Mains Supply
6. Gas Hose
7. Argon Regulator
8. Shielding Gas Cylinder

SHIELDING GAS REGULATOR/FLOWMETER SAFETY

This Regulator/Flowmeter is designed to reduce and control high pressure gas from a cylinder to the working pressure required for the equipment using it.

If the equipment is improperly used, hazardous conditions are created that may cause accidents. It is the users responsibility to prevent such conditions. Before handling or using the equipment, understand and comply at all times with the safe practices prescribed in this instruction.

SPECIFIC PROCEDURES for the use of regulators/flowmeters are listed below.

1. **NEVER** subject the Regulator/Flowmeter to an inlet pressure greater than its rated inlet pressure.
2. **NEVER** pressurize a Regulator/Flowmeter that has loose or damaged parts or is in a questionable condition. NEVER loosen a connection or attempt to remove any part of a Regulator/Flowmeter until the gas pressure has been safely released. Under pressure, gas can dangerously propel a loose part.
3. **DO NOT** remove the Regulator/Flowmeter from a cylinder without first closing the cylinder valve and releasing gas in the Regulator/Flowmeter high and low pressure chambers.
4. **TURN OFF** when equipment is not in use for extended periods of time, shut off the gas at the cylinder valve and release the gas from the equipment.
5. **OPEN** the cylinder valve SLOWLY. Close after use.

USER RESPONSIBILITIES

This equipment will perform safely and reliably only when installed, operated and maintained, and repaired in accordance with the instructions provided. Equipment must be checked periodically and repaired, replaced, or reset as necessary for continued safe and reliable performance. Defective equipment should not be used. Parts that are broken, missing, obviously worn, distorted, or contaminated should be replaced immediately.

The user of this equipment will generally have the sole responsibility for any malfunction, which results from improper use, faulty maintenance, or by repair by anyone other than an accredited repairer.

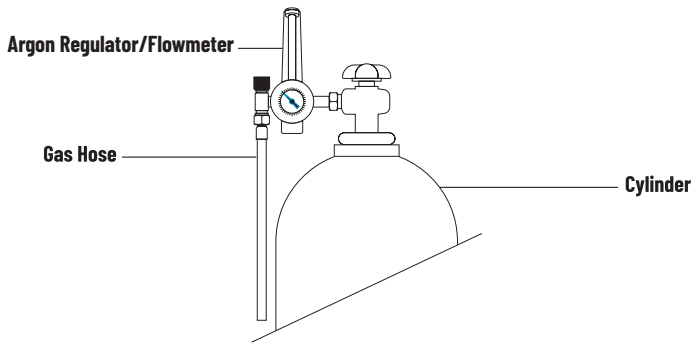


Figure 6-2: Fit Regulator/flowmeter to Cylinder

CAUTION

Match Regulator/Flowmeter to cylinder. NEVER CONNECT a Regulator/Flowmeter designed for a particular gas or gases to a cylinder containing any other gas.

INSTALLATION

1. Remove cylinder valve plastic dust seal. Clean the cylinder valve outlet of impurities that may clog orifices and damage seats before connecting the Regulator/Flowmeter. Crack the valve (open then close) momentarily, pointing the outlet away from people and sources of ignition. Wipe with a clean lint free cloth.
2. Match Regulator/Flowmeter to cylinder. Before connecting, check that the Regulator/Flowmeter label and cylinder marking agree and that the Regulator/Flowmeter inlet and cylinder outlet match. NEVER CONNECT a Regulator/Flowmeter designed for a particular gas or gases to a cylinder containing any other gas.
3. Connect the Regulator/Flowmeter inlet connection to cylinder or pipeline and tighten it firmly but not excessively, with a suitable spanner.
4. Connect and tighten the outlet hose firmly and attach the hose to the welding machine with a suitable hose clamp. Ensure no gas leakage. The flowmeter must be in the vertical position to read accurately.

OPERATION

With the Regulator/Flowmeter connected to cylinder or pipeline:

1. Stand to one side of Regulator/Flowmeter and slowly open the cylinder valve. If opened quickly, a sudden pressure surge may damage internal Regulator/Flowmeter parts.
2. Before opening the cylinder valve, be sure that the flow adjusting valve is in a finger-tight "OFF" position (clockwise).
3. Slowly and carefully, open the cylinder valve until the maximum pressure registers on the high pressure gauge.

CAUTION

DO NOT purge oxidising or flammable gases in the presence of flame, lit cigarettes, or other sources of ignition or in a confined space.

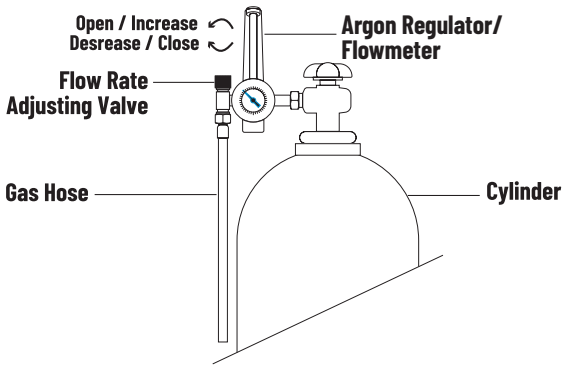


Figure 6-3: Adjust Flow Rate

ADJUSTING FLOW RATE

With the Regulator/Flowmeter ready for operation, adjust working flow rate as follows:

1. Slowly turn adjusting valve in anti-clockwise direction to open and increase until the bobbin in the flow tube indicates the required flow rate.

NOTE

It may be necessary to re-check the shielding Gas Regulator/Flowmeter flow rate following the first weld sequence due to back pressure present within shielding gas hose assembly

2. To reduce flow rate, allow the shielding gas to discharge from Regulator/Flowmeter by opening the TIG Torch Gas Valve. Bleed welding grade shielding gas into a well ventilated area. Turn the Flow Rate Adjusting Valve clockwise, until the required flow rate is indicated on the gauge.
3. **Gas flow rate** from the Regulator is based on the Gas Nozzle Inside Diameter (ID). The rule is 1/LPM flow based on ID Size of the Nozzle, e.g. ID of Nozzle = 9mm, Gas Flow = 9/LPM
4. **Post Flow Gas** should be a minimum of 5-seconds for every "mm" thickness of the tungsten electrode being used for the welding. 1.6mm Tungsten = 8/Sec | 2.4mm Tungsten = 12/Sec | 3.2mm Tungsten = 16/Sec Finished TIG welds that have a black, dark grey or grey surface finish are not good welds – you need more gas. Welds should be shiny, silver or gold appearance. The flow rate is measured at the middle of the float ball.

SHUTDOWN

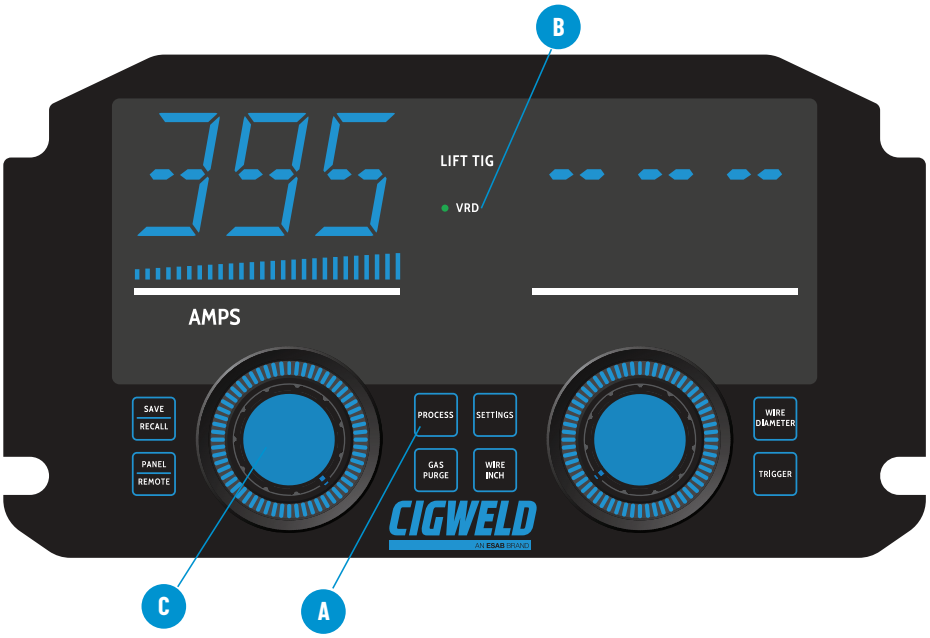
Close cylinder valve whenever the Regulator/Flowmeter is not in use. To shut down for extended periods (more than 30 minutes).

1. Close cylinder valve tightly.
2. Bleed Gas into a well ventilated area.
3. After gas is drained completely, turn off the machine.
4. Before transporting cylinders that are not secured on a cart designed for such purposes, remove regulators/flowmeters.

CAUTION

Loose welding terminal connections can cause overheating and result in the male plug being fused in the terminal. Remove any packaging material prior to use. Do not block the air vents at the front or rear of the Welding Power Source.

6.02 TIG DC LIFT MODE SETUP



A PROCESS SELECTION BUTTON

Select LIFT TIG TIG DC LIFT Mode.

B VRD ON/OFF INDICATORS (TIG DC LIFT MANUAL MODE)

VRD VRD ON

The green VRD ON indicator illuminates when the VRD is active. Under this condition the open circuit voltage of the unit is limited to below 35V, thus reducing the potential of serious electric shock (such as when changing electrodes).

VRD VRD OFF

The red VRD OFF indicator illuminates when the VRD is inactive during welding operation. Under this condition the output voltage of the unit will be at welding potential which in most cases exceeds 35V.

C LEFT CONTROL KNOB

USE THIS TO SET THE AMPS VALUE

Turn Left Control Knob clockwise to increase or counter-clockwise to decrease AMPS value.

6.03 TIG TUNGSTEN ELECTRODES AND FILLER RODS

ELECTRODE DIAMETER	DC CURRENT (AMPS)
0.040" (1.0mm)	30-60
1/16" (1.6mm)	60-115
3/32" (2.4mm)	100-165
1/8" (3.2mm)	135-200

GUIDE FOR SELECTING FILLER WIRE DIAMETER

FILLER WIRE DIAMETER	DC CURRENT RANGE (AMPS)
1/16" (1.6mm)	20-90
3/32" (2.4mm)	65-115
1/8" (3.2mm)	100-165

TUNGSTEN ELECTRODE TYPES

ELECTRODE TYPE (GROUND FINISH)	WELDING APPLICATION	FEATURES	COLOUR CODE
2% Thoriated	Suitable for DC TIG welding	• Commonly used with materials like Carbon Steel, Stainless Steel, Titanium, Nickel and Copper Alloys. • Superior DC arc starts and stability, balanced erosion rate • Excellentlowamperage stability for care on thin materials • Clean snap for a safe split.	Red
1.5% Lanthanated	Suitable for AC and DC TIG welding	• Work exceptionally well with Carbon Steel, Stainless Steel, Titanium, Nickel, Aluminium and Copper Alloys, providing smooth arc starts and excellent arc stability • Good ball forming when used for AC-TIG welding on Aluminium and Aluminium Alloys	Yellow
3% Rare Earth	Suitable for AC and DC TIG welding	• Excellent ignition characteristics and consistent welding properties • Holds sharp needle points longer between re-sharpening, compared to Thoriated Tungstens • Due to their great ignition characteristics and consistent welding properties, they are well suited for Automated welding applications • Made from Lanthanum, Zirconium and Yttrium in a specific chemical analysis to provide cooler welding temperatures at the tungsten tip • Non-Radio active to improve health and safety for operator and environment	Purple

TRANSMIG 395HD TIG WELDING FILLER RODS SELECTION CHART

DESCRIPTION	CLASS. AUS/ NZ STD (NEW)	CLASS. AWS STD	DIA (mm)	PACK	P/N:	APPLICATION
Comweld LW1-6	R6	ER70S-6	1.6	5kg Pack	321417	Comweld LW1-6 is a copper coated, low carbon steel filler rod suitable for Gas Tungsten Arc (TIG) welding of a wide range of mild and medium strength steels. Comweld LW1-6 is recommended for the TIG welding of steel pipes, plates and castings with a tensile strength in the 500 MPa class. It is tolerant to surface rust and mill scale and is ideal for root pass welding applications where tough and ductile welds are produced. Please Note: A suitable shielding gas is required
			2.4	5kg Pack	321418	
Comweld LW1	R4	ER70S-4	1.6	5kg Pack	321411	Comweld LW1-6 is a copper coated, low carbon steel filler rod suitable for Gas Tungsten Arc (TIG) welding of a wide range of mild and medium strength steels. Comweld LW1-6 is recommended for the TIG welding of steel pipes, plates and castings with a tensile strength in the 500 MPa class. It is tolerant to surface rust and mill scale and is ideal for root pass welding applications where tough and ductile welds are produced. Please Note: A suitable shielding gas is required
			2.4	5kg Pack	321412	
Comweld Super Steel	R2	ER70S-2	1.6	5kg Pack	321370	Comweld Super Steel is a copper coated 'triple deoxidised' steel welding rod recommended for the high quality Gas Tungsten Arc (TIG) welding of carbon and carbon-Manganese steels. Comweld Super Steel is deoxidised with Titanium, Aluminium and Zirconium in addition to Manganese and Silicon for improved weld deposit quality. It is the ideal choice for TIG welding rusty or mill scaled plates and pipes and the root pass welding of pipes, tanks and heavy walled root toughness and radiographic soundness are achieved under high dilution.
			2.4	5kg Pack	321373	
Comweld CrMo1	RB2	ER80S-B2	2.4	5kg Pack	321379	Comweld CrMo1 is a copper coated steel TIG welding rod alloyed with nominally 1.25% Chromium (Cr) and 0.50% Molybdenum (Mo). It is recommended for the TIG welding of 1/2Cr-1/2Mo, 1Cr1/2Mo and 1 1/4Cr-1/2Mo steel pipes, plates and castings used at elevated service temperatures (up to 550°C) in the power and petrochemical industries etc. Comweld CrMo1 is also suitable for the dissimilar TIG welding of Cr-Mo steel to carbon steel and for the welding of case hardenable steels or steels which can be subsequently heat treated.
Comweld CrMo2	RB3	ER90S-B3	2.4	5kg Pack	321383	"Comweld CrMo2 is a copper coated steel TIG welding rod alloyed with nominally 2.5% Chromium (Cr) and 1.0% Molybdenum (Mo). It is recommended for the TIG welding of 2 1/4Cr - 1 Mo and CrMo-V steel pipes, plates and castings used at elevated service temperatures (up to 600°C) in the power and petrochemical industries etc. Comweld CrMo2 is also suitable for the dissimilar TIG welding of selected Cr-Mo steels to carbon steel and for the TIG welding of heat treatable steels and case hardenable steels with up to 3% Chromium content."

TRANSMIG 395HD TIG WELDING FILLER RODS SELECTION CHART

DESCRIPTION	CLASS. AUS/ NZ STD (NEW)	CLASS. AWS STD	DIA (mm)	PACK	P/N:	APPLICATION
Comweld 308L	R308L	ER308L	1.6	5kg Pack	321406	Comweld 308L stainless steel is a high quality low carbon rod for the Gas or Gas Tungsten Arc (TIG) welding of a wide range of low carbon and stabilised 300 series stainless steels. It is recommended for the critical welding of 304 and 304L stainless steels in corrosion resistant and cryogenic applications.
			2.4	5kg Pack	321407	
Comweld 309L	R309L	ER309L	1.6	5kg Pack	321403	Comweld 309L stainless steel is a high quality low carbon rod for the Gas or Gas Tungsten Arc (TIG) welding of highly alloyed 309 or 309L type stainless steels. Comweld 309L is also suitable for the dissimilar joining of other 300 series austenitic stainless steels to ferritic steels.
			2.4	5kg Pack	321404	
Comweld 316L	R316L	ER316L	1.6	5kg Pack	321400	Comweld 316L stainless steel is a high quality low carbon rod for the Gas or Gas Tungsten Arc (TIG) welding of Molybdenum bearing stainless steels; in particular matching 316 and 316L alloys. Comweld 316L is also suitable for the general welding of other 300 series stainless steels including 302 and 304; as well as ferritic stainless steels grades such as 409, 444 and 3Cr12.
			1.6	25 Rod Handypack	322054	
			2.4	5kg Pack	321401	

TIG WELDING SETUP CHART

BASE METAL THICKNESS	DC CURRENT FOR MILD STEEL	DC CURRENT FOR STAINLESS STEEL	TUNGSTEN ELECTRODE DIAMETER	FILLER ROD DIAMETER (IF REQUIRED)	ARGON GAS FLOW RATE LITRES/MIN	JOINT TYPE
0.040″ 1.0mm	35-45 40-50	20-30 25-35	0.040″ 1.0mm	1/16″ 1.6mm	5-7	Butt/Corner Lap/Fillet
0.045″ 1.2mm	45-55 50-60	30-45 35-50	0.040″ 1.0mm	1/16″ 1.6mm	5-7	Butt/Corner Lap/Fillet
1/16″ 1.6mm	60-70 70-90	40-60 50-70	1/16″ 1.6mm	1/16″ 1.6mm	8	Butt/Corner Lap/Fillet
1/8″ 3.2mm	80-100 90-115	65-85 90-110	1/16″ 1.6mm	3/32″ 2.4mm	8	Butt/Corner Lap/Fillet
3/16″ 4.8mm	115-135 140-165	100-125 125-150	3/32″ 2.4mm	1/8″ 3.2mm	12	Butt/Corner Lap/Fillet
1/4″ 6.4mm	160-175 170-200	135-160 160-180	1/8″ 3.2mm	5/32″ 4.0mm	16	Butt/Corner Lap/Fillet

TIG Welding is generally regarded as a specialised process that requires operator competency. While many of the principles outlined in the previous section are applicable a comprehensive outline of the TIG Welding process is outside the scope of this Operating Manual. For further information please refer to www.cigweld.com.au or contact CIGWELD.

6.04 TIG (GTAW) WELDING PROBLEMS

	PROBLEM	POSSIBLE CAUSE	REMEDY
1	Mains Supply Voltage is On, the On/Off switch on the rear panel is in the On position and the Front Control Panel Digital Displays are illuminated however the power source will not weld in TIG DC-Lift.	**A** Power source is not in the correct mode of operation. **B** Work Lead is not connected to the work piece.	**A** Set the power source to TIG DC-Lift mode. Refer to Section 4.02 Power Source Indicators And Controls. **B** Ensure that the Work Lead is connected to the work piece and has a good connection to the work piece. **C** Ensure that the Work Lead is connected to the positive welding terminal (+). If in doubt, consult the electrode manufacturer. It is essential, that the male DINSE type plug is inserted and turned securely to achieve a sound electrical connection. **D** Ensure that the TIG Torch is connected to the negative welding terminal (-). If in doubt, consult the electrode manufacturer. It is essential, that the male DINSE type plug is inserted and turned securely to achieve a sound electrical connection.
2	The power source will not commence welding when the TIG Tungsten is lifted from the workpiece and Over Temperature Error Code 102 is showing on the Front Panel Displays.	This indicates an Over Temperature condition has occurred. Refer to Section 8.05 TransMIG 395HD Error Codes for further detail. Duty cycle of power source has been exceeded.	Leave the power source switched ON and allow it to cool. Note that Over Temperature Error Code must be cleared from the Front Panel Displays prior to commencement of welding.
3	Excessive bead build up or poor penetration or poor fusion at edges of weld.	Welding current is too low	Increase weld current and/or faulty joint preparation.
4	Weld bead too wide and flat or undercut at edges of weld or excessive burn through.	Welding current is too high	Decrease weld current.
5	Weld bead too small or insufficient penetration or ripples in bead are widely spaced apart.	Travel speed too fast	Reduce travel speed.
6	Weld bead too wide or excessive bead build up or excessive penetration in butt joint.	Travel speed too slow	Increase travel speed.
7	Uneven leg length in fillet joint	Wrong placement of filler rod	Re-position filler rod.

	PROBLEM	POSSIBLE CAUSE	REMEDY
8	Tungsten Electrode melts or oxidises when an arc is struck or porosity in the weld.	**A** Torch lead connected to positive welding terminal.	**A** Connect torch lead to negative welding terminal.
		B No gas flowing to welding region.	**B** Check the gas lines for kinks or breaks and gas cylinder contents.
		C Torch is clogged with dust or dirt.	**C** Clean torch.
		D Gas hose is cut.	**D** Replace gas hose.
		E Gas passage contains impurities.	**E** Blow out the impurities.
		F Gas regulator turned off.	**F** Turn on.
		G Torch valve is turned off.	**G** Turn on.
		H The Tungsten is too small for the welding current.	**H** Increase Tungsten diameter or reduce the welding current.
		I Power source is set for MIG welding.	**I** Set Power Source to TIG mode.
9	Dirty weld pool	**A** Tungsten contaminated by contact with work piece or filler rod material.	**A** Clean the Tungsten by grinding off the contaminates.
		B Work piece surface has foreign material on it.	**B** Clean surface.
		C Gas contaminated with air.	**C** Check gas lines for cuts and loose fitting or change gas cylinder.
10	Poor weld finish	Inadequate shielding gas.	Increase gas flow or check gas line for gas flow problems.
11	Arc start is not smooth.	**A** Tungsten electrode is too large for the welding current.	**A** Select the right size Tungsten. Refer to section 6.03 TIG Tungsten Electrodes and Filler Rods for TIG Tungsten Electrodes Current Ranges.
		B The wrong Tungsten is being used for the welding job.	**B** Select the right Tungsten type. Refer to Section 6.03 TIG Tungsten Electrodes and Filler Rods.
		C Gas flow rate is too high.	**C** Select the correct Gas Flow rate for the welding job.
		D Incorrect shielding gas is being used.	**D** Select the right shielding gas.
		E Poor work clamp connection to work piece.	**E** Improve connection to work piece.
12	Arc flutters during TIG welding.	Tungsten electrode is too large for the welding current.	Select the right size electrode. Refer to Section 6.03 TIG Tungsten Electrodes and Filler Rods.

Refer to **cigweld.com.au** for further TIG (GTAW) Welding information

SECTION 7:
STICK (MMAW) WELDING / CARBON ARC GOUGING

7.01 SETUP FOR STICK (MMAW) WELDING / CARBON ARC GOUGING

A. Ensure that the Power Source On/Off switch located on the rear of the Power Source is in the Off position.

B. Connect the Electrode Holder lead or gouging torch to the positive welding terminal (+). If in doubt, consult the electrode manufacturer. Welding current flows from the Power Source via DINSE type terminals. It is essential, that the male plug is inserted and turned securely to achieve a sound electrical connection.

C. Connect the work lead to the negative welding terminal (-). If in doubt, consult the electrode manufacturer. Welding current flows from the power source via DINSE type terminals. It is essential, that the male plug is inserted and turned securely to achieve a sound electrical connection.

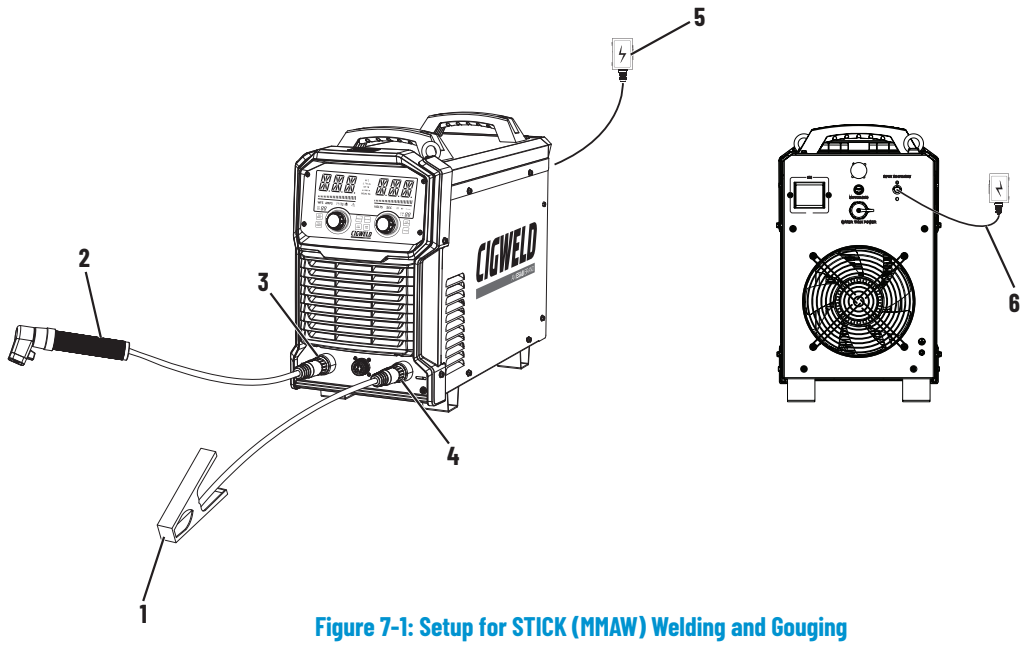
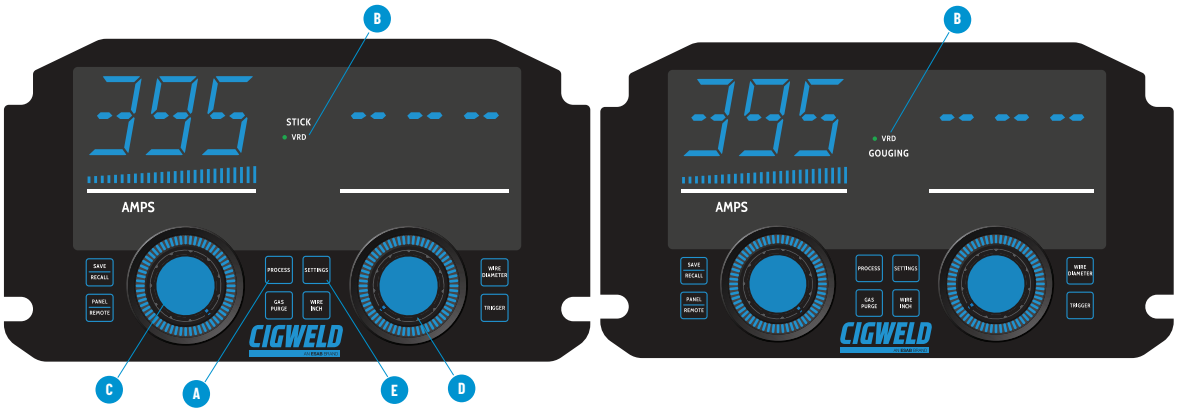


Figure 7-1: Setup for STICK (MMAW) Welding and Gouging

1. Work Return Lead
2. Electrode Holder Lead
3. Positive Welding Terminal (+)
4. Negative Welding Terminal (-)
5. 3PH 415V Mains Supply
6. Supply Input Lead



A PROCESS SELECTION BUTTON

Select STICK GOUGING MMA-Stick and Gouging Modes.

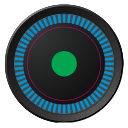
B VRD ON/OFF INDICATORS (MMA-STICK AND GOUGING MODES)

VRD VRD ON

The green VRD ON indicator illuminates when the VRD is active. Under this condition the open circuit voltage of the unit is limited to below 35V, thus reducing the potential of serious electric shock (such as when changing electrodes).

VRD VRD OFF

The red VRD OFF indicator illuminates when the VRD is inactive during welding operation. Under this condition the output voltage of the unit will be at welding potential which in most cases exceeds 35V.



C LEFT CONTROL KNOB

USE THIS TO SET THE AMPS VALUE

Turn Left Control Knob clockwise to increase or counter-clockwise to decrease AMPS value.

D RIGHT CONTROL KNOB

ADVANCED SETTINGS VALUES ARE ABLE TO BE SET.

Turn Right Control Knob clockwise to increase or counter-clockwise to decrease value.

E SETTINGS SETTING BUTTON

PRESS THE SETTING BUTTON TO ACCESS THE ADVANCED FEATURES MENU

HOT START (HOT)

This feature operates in MMA-STICK and Gouging modes.

- Press the Settings Button and rotate the Left Hand Control Knob to cycle through the Advanced Settings until reaching Hot Start (HOT). Once selected use the Right Control Knob to set the desired value.
- The Hot Start feature improves the arc start characteristics by momentarily increasing the welding current to a level above the pre-set amperage (Welding Current). This parameter has an adjustment range of 0-100. Hot start

parameters are an additional user selected AMPS above the set Welding Current, for example, if you are welding with 100 AMPS and you set HOT Start to 50 AMPS, the initial HOT start is 150 AMPS. Factory setting for Hot Start is 50 AMPS.

- Once set exit Settings by pressing the Setting Button and the Menu indicator will turn off.

ARC FORCE (ARC)

This feature operates in MMA-STICK and Gouging modes.

- Press the Settings Button and rotate the Left Hand Control Knob to cycle through the Advanced Settings until reaching Arc Force (ARC). Once selected use the Right Control Knob to set the desired value.
- The Arc Force can be particularly beneficial in providing the operator the ability to compensate for variability in poor joint fit-up in certain situations. The Arc Force allows greater penetration control to be achieved. Arc Force is automatically increased depending on the welding amperage.
- This parameter has an adjustment range of 0-200. ARC Force parameters are an additional user selected AMPS above the set Welding Current, for example, if you are welding with 100 AMPS and you set ARC Force to 50 AMPS, the ARC Force is 150 AMPS. Factory setting for ARC Force is 50 AMPS.
- Once set exit Advanced Settings by pressing the Menu Button and the Menu indicator will turn off.

ANTI STICK (PRE-SET AND NOT ADJUSTABLE)

This feature operates in MMA-STICK and Gouging modes.

The anti stick feature senses when the electrode sticks and automatically reduces the current to prevent the Stick Electrode from sticking to the work piece. This is a pre-set feature and is not adjustable.

7.02 ARC WELDING ELECTRODES

Manual Metal Arc Welding (MMAW) electrodes consist of a core wire surrounded by a flux coating. The flux coating is applied to the core wire by an extrusion process. The coating on arc welding electrodes serves a number of purposes:

A. To provide a gaseous shield for the weld metal, and preserve it from contamination by the atmosphere whilst in a molten state.

B. To give a steady arc by having 'arc stabilisers' present, which provide a bridge for current to flow across.

C. To remove oxygen from the weld metal with 'deoxidisers'.

D. To provide a cleansing action on the work piece and a protective slag cover over the weld metal to prevent the formation of oxides while the metal is solidifying. The slag also helps to produce a bead of the desired contour.

E. To introduce alloys into the weld deposits in special type electrodes.

7.03 CLASSIFICATION OF ELECTRODES

Arc Welding electrodes are classified into a number of groups depending on their applications. There are a great number of electrodes used for specialised industrial purposes which are not of particular interest for everyday general work. These include some low hydrogen types for high tensile steel, cellulose types for welding large diameter pipes, etc.

The range of electrodes dealt with in this publication will cover the vast majority of applications likely to be encountered; are all easy to use and all will work on even the most basic of welding machines

CIGWELD ELECTRODE SELECTION CHART

DESCRIPTION	CLASS. AUS/ NZ STD (NEW)	CLASS. AWS STD	DIA (mm)	PACK	P/N:	APPLICATION
Satincraft 13	B E4313 A	E6013	2.5	2.5kg Pack	612182	A high performance General Purpose (GP) welding electrode suitable for all positional welding, except vertical-down, for use on, mild and galvanised steel pipes, plates, angle iron, RHS, tubes and grid mesh.
			3.2	2.5kg Pack	612183	
			4.0	5kg Pack	611184	
WeldSkill GP General Purpose Welding	B E4313 A	E6013	2.0	25 Rod Handypack	WEG0220	A user-friendly General Purpose (GP) electrode offering a quiet, smooth arc action with a 6013 classification (min. strength rating of 60,000PSi). Ideal for welding thin section mild, galvanised and rusty steels and weld joints with poor fit-up. Great for use on vertical down fillet welding applications. Weldskill GP produces smooth professional mitre fillet welds in all positions with very low spatter levels, it features positive re-strike (hot or cold) and a self-releasing slag.
			2.0	1.0Kg Pack	WEG1020	
			2.0	2.5Kg Pack	WEG2520	
			2.5	20 Rod Handypack	WEG0225	
			2.5	1.0Kg Pack	WEG1025	
			2.5	2.5Kg Pack	WEG2525	
			2.5	5.0Kg Pack	WEG5025	
			3.2	1.0Kg Pack	WEG1032	
			3.2	2.5Kg Pack	WEG2532	
			3.2	5.0Kg Pack	WEG5032	
FERROCRAFT 61	B E4918 A U H10	E7018	2.5	5.0Kg Pack	611342	Ferrocraft 61 is the latest smooth running, user friendly hydrogen controlled electrode from CIGWELD. Ferrocraft 61 gives improved side wall wash and reduced undercut at weld toes and produces very low spatter levels for an electrode of its type. Fillet weld shape is excellent and exhibits a true mitre to slightly convex profile. Improved arc characteristics and stability on low Open Circuit Voltage welding machines (≥55 O.C.V.) ensure Ferrocraft 61 has the high operator appeal Welders demand from today's manual arc electrodes.
			3.2	5.0Kg Pack	611343	
			4.0	5.0Kg Pack	611344	
			5.0	5.0Kg Pack	611345	
OK 53.16 Spezial	B E4916 A U H10	E7016	2.5	1.8Kg Pack	53162534G1	OK 53.16 is a double-coated electrode combining the running characteristics of a rutile electrode with the mechanical properties of a basic electrode. OK 53.16 welds on both AC and DC and the spatter loss is minimal.
			3.2	1.6Kg Pack	53163234G0	
			4.0	2.2Kg Pack	53164044G0	
WeldSkill 312 Dissimilar Steel Welding	B ES312-17	E312-17	2.5	10 Rod Handypack	WEW0225	WeldSkill 312 is a highly alloyed stainless steel electrode that is extremely resistant to cracking (min. strength of 110,000PSi) it provides smooth, stable running in all positions (except vertical down) especially on low current settings. WeldSkill 312 is recommended for the repair and maintenance of all steels, particularly those of unknown composition. It is suitable for; Joining dissimilar steels, such as stainless steel to carbon steel, Repairing die or tool steels, as a protective overlay against corrosion and as an intermediate or buffer layer prior to hard surfacing. Not recommended for Welding Cast Irons.
			2.5	1.0Kg Pack	WEW1025	
			3.2	10 Rod Handypack	WEW0232	
			3.2	1.0Kg Pack	WEW1032	

CIGWELD ELECTRODE SELECTION CHART

DESCRIPTION	CLASS. AUS/ NZ STD (NEW)	CLASS. AWS STD	DIA (mm)	PACK	P/N:	APPLICATION
WeldSkill 316L Stainless Steel Welding	E316L-16	E316L-16	2.0	1.0Kg Pack	WES316120	WELDSKILL 316L stainless steel electrode has been formulated for the all positional (except vertical down) fillet and butt welding of stainless steels. 316L produces low spatter levels with a smooth running bead. Weldskill 316L is suitable for a wide range of Molybdenum bearing stainless steels, suitable for the general-purpose welding of other Austenitic stainless steels including 301, 302, 303 and 304/304L, 305, 3CR12 types. WeldSkill 316L is also suitable for the general welding of 400 series stainless steels including 410 and 430.
			2.5	1.0Kg Pack	WES316125	
			3.2	1.0Kg Pack	WES316132	
WeldSkill HARDA Hardfacing	1855-A4	–	3.2	10 Rod Handypack	WEH0232	"HARDA is designed for hard surfacing of steel components subjected to wet or dry hard particle abrasion and low to moderate impact loading. The air hardening (~55RHc), low alloy steel deposit of WELDSKILL HARDA remains crack free on most steels and is therefore recommended for hard surfacing components subject to flexing during service. Typical applications include the surfacing of agricultural points, shears and tynes, grader and dozer blades, conveyor screws and post hole augers etc"
			3.2	1.0Kg Pack	WEH1032	
WeldSkill CAST2STEEL Cast Irons & Cast to Steel	–	ENiFe-CI	2.5	10 Rod Handypack	WEC0225	"CAST2STEEL is a Nickel-Iron electrode designed for higher strength repair and maintenance welding of SG, Austenitic, Meehanites and Grey cast irons. It produces a soft stable arc with minimal penetration and spatter. The ductile Nickel-Iron weld deposit is machinable with the higher strength required for welding S.G. irons. Cast2Steel is also used to weld Cast Iron to Mild and Low Alloy Steels."
			2.5	1.0Kg Pack	WEC1025	
			3.2	10 Rod Handypack	WEC0232	
			3.2	1.0Kg Pack	WEC1032	

Refer to **cigweld.com.au** for further Stick (MMAW) Welding and Gouging information

7.04 SIZE OF ELECTRODE

The electrode size is determined by the thickness of metals being joined and can also be governed by the type of welding machine available. Small welding machines will only provide sufficient current (amperage) to run the smaller size electrodes.

For most work, a 2.5mm or 3.2mm electrode will be quite sufficient. A 2.5mm electrode will give just as strong a joint but may require a few more weld runs to be put down to fill the joint. For thin sections, it is necessary to use smaller electrodes otherwise the arc may burn holes through the job. A little practice will soon establish the most suitable electrode for a given application.

7.05 STORAGE OF ELECTRODES

Always store electrodes in a dry place and in their original containers.

7.06 STICK (MMAW) WELDING AND GOUGING PROBLEMS

	PROBLEM	POSSIBLE CAUSE	REMEDY
1	Mains Supply Voltage is On, the On/Off switch on the rear panel is in the On position and the Front Control Panel Digital Displays are illuminated however the power source will not weld in MMA-Stick Mode.	**A** Power source is not in the correct mode of operation.	**A** Set the power source to MMA-Stick mode. Refer to Section 4.02 Power Source Indicators And Controls.
		B Work Lead is not connected to the work piece.	**B** Ensure that the Work Lead is connected to the work piece and has a good connection to the work piece.
2	The power source will not commence welding and Over Temperature Error Code 102 is showing on the Front Panel Displays.	**A** This indicates an Over Temperature condition has occurred. Refer to Section 8.05 TransMIG 395HD Error Codes for further detail. Duty cycle of power source has been exceeded.	**A** Leave the power source switched ON and allow it to cool. Note that Over Temperature Error Code must be cleared from the Front Panel Displays prior to commencement of welding.
3	Gas pockets or voids in weld metal (Porosity)	**A** Electrodes are damp	**A** Dry electrodes before use
		B Welding current is too high	**B** Reduce welding current
		C Surface impurities such as oil grease, paint, etc	**C** Clean joint before welding
4	Crack occurring in weld metal soon after solidification commences	**A** Rigidity of joint	**A** Redesign to relieve weld joint of severe stresses or use crack resistance electrodes
		B Insufficient throat thickness	**B** Travel slightly slower to alloy greater build-up in throat
		C Cooling rate is too high	**C** Preheat plate and cool slowly
5	A gap is left by failure of the weld metal to fill the root of the weld	**A** Welding current is too low	**A** Increase welding current
		B Electrode too large for joint	**B** Use smaller diameter electrode
		C Insufficient gap	**C** Allow wider gap
		D Incorrect sequence	**D** Use correct build-up sequence
6	Portions of the weld run do not fuse to the surface of the metal or edge of the joint	**A** Small electrodes used on heavy cold plate	**A** Use larger electrodes and preheat the plate
		B Welding current is too low	**B** Increase welding current
		C Wrong electrode angle	**C** Adjust angle so the welding arc is directed more into the base metal
		D Travel speed of electrode is too high	**D** Reduce travel speed of electrode
		E Scale or dirt on joint surface	**E** Clean surface before welding

SECTION 8:
ROUTINE SERVICE REQUIREMENTS AND POWER SOURCE PROBLEMS

8.01 ROUTINE MAINTENANCE & INSPECTION

ELECTRICAL WARNING

There are extremely dangerous voltage and power levels present inside this product. Do not attempt to open or repair unless you are a qualified electrical tradesperson. Disconnect the Welding Power Source from the Mains Supply Voltage before disassembling.

Welding equipment should be regularly checked by a qualified electrical tradesperson to ensure that:

- The main earth wire of the electrical installation is intact.
- Power point for the Welding Power Source is effectively earthed and of adequate current rating.
- Plugs and cord extension sockets are correctly wired.
- Flexible cord is of the 3-core tough rubber or plastic sheathed type of adequate rating, correctly connected and in good condition.
- Welding terminals are shrouded to prevent inadvertent contact or short circuit.
- The frame of the Welding Power Source is effectively earthed.
- Welding leads and electrode holder are in good condition.
- The Welding Power Source is clean internally, especially from metal filing, slag, and loose material. If any parts are damaged for any reason, replacement is recommended.

8.02 CLEANING THE WELDING POWER SOURCE

To clean the Welding Power Source, open the enclosure and use a vacuum cleaner to remove any accumulated dirt, metal filings, slag and loose material. Keep surfaces clean as accumulated foreign material may reduce the welders output welding current.

CAUTION

Do not use compressed air to clean the Welding Power Source. Compressed air can force metal particles to lodge between live electrical parts and earthed metal parts within the Welding Power Source. This may result in arcing between this parts and their eventual failure.

8.03 BASIC TROUBLESHOOTING

ELECTRICAL WARNING

There are extremely dangerous voltage and power levels present inside this product. Do not attempt to open or repair unless you are a qualified electrical tradesperson and you have had training in power measurements and troubleshooting techniques.

If major complex sub-assemblies are faulty, then the Welding Power Source must be returned to an Accredited CIGWELD Service Agent for repair.

The basic level of troubleshooting is that which can be performed without special equipment or knowledge.

8.04 RESTORE FACTORY DEFAULT SETTINGS

The TransMIG 395HD can have Factory Default Settings restored.

To reset the Power source to factory settings:

Ensure the ON/OFF switch at the rear of the Power Source to the OFF position (A).

Press and hold the Save/Recall (B) and Settings (C) buttons at the same time. While holding both buttons, switch the Power Source to ON position (A). The front digital displays will show SYS RST, confirming the factory reset is complete.

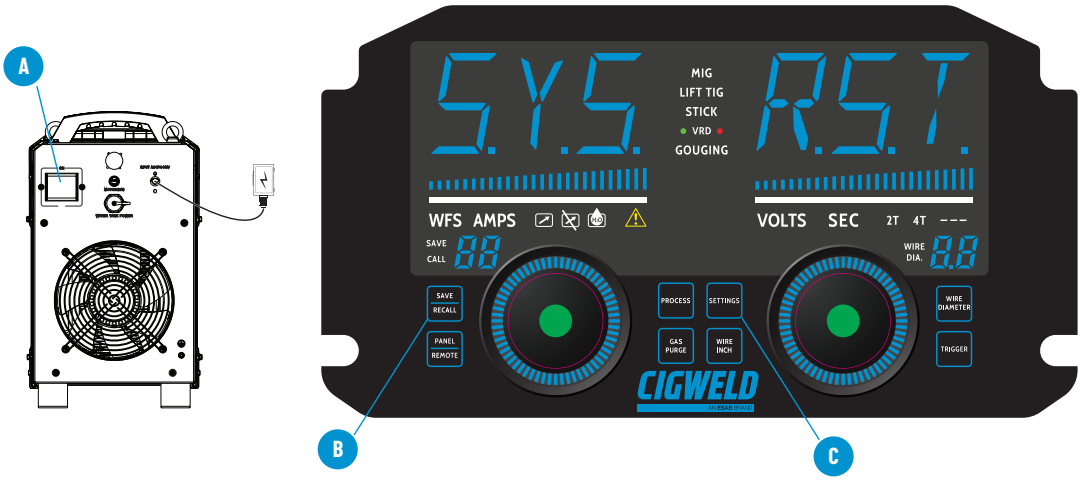


Figure 8-4: Restore to Factory Default Settings

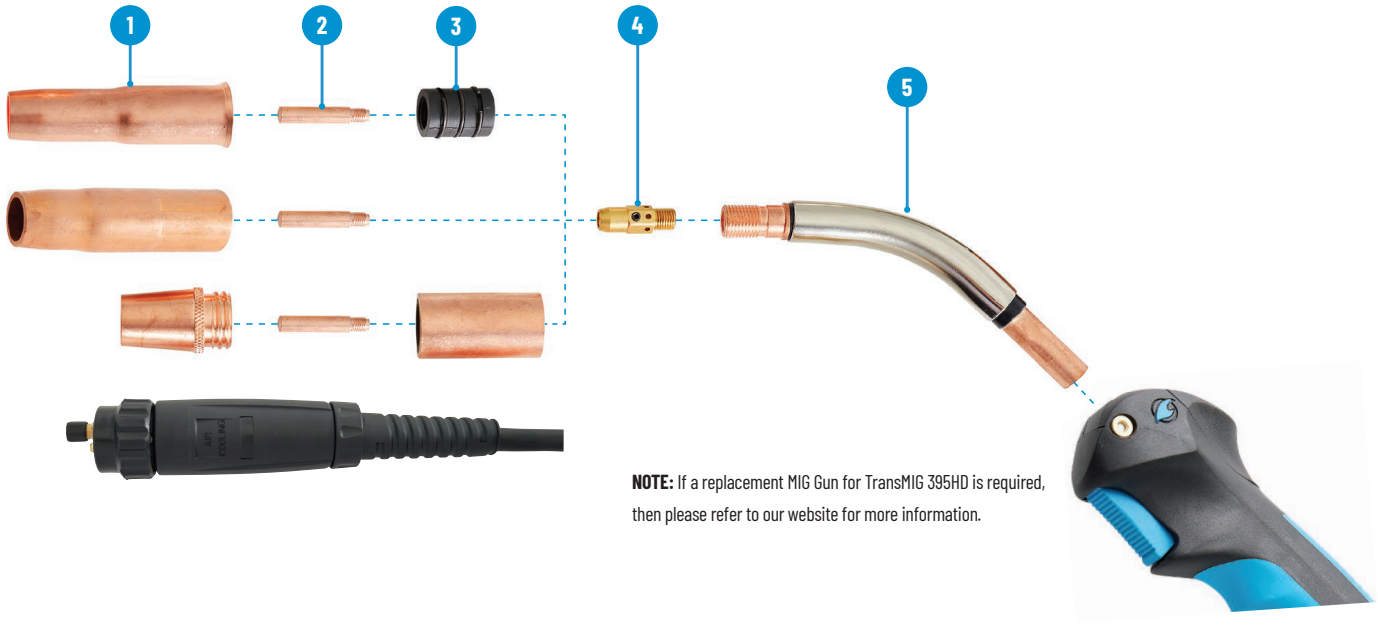
8.05 TRANSMIG 395HD ERROR CODES

ERROR CODE	CAUSE	REMEDY
001	Input over voltage	Confirm the input power supply voltage is within Power Source Voltage range.
002	Input under voltage	
005	Main control board +15V power supply abnormal	Contact CIGWELD Technical Services.
102/103	Radiator temperature abnormal	1. Ensure ambient temperature is below 40°C and operate within rated limits. 2. Check for dirt or clogging in the filter. Clean or replace if necessary.
104	The temperature of the output terminal is abnormal	1. Ensure Dinse connector is tightened correctly. Loose welding terminal connections can cause overheating and result in the male plug being fused in the Dinse terminal. 2. Ensure Fan is working correctly.
107	Primary side overcurrent	Verify that the output cable is short-circuited and grounded. Contact CIGWELD Technical Services.
108	Primary Transformer signal abnormal	Contact CIGWELD Technical Services.
109	The Hall current sensor on the secondary side is abnormal.	Contact CIGWELD Technical Services.
311/314	Welding database abnormal	Contact CIGWELD Technical Services.
501	The signal transmitted to power source at the given current & voltage from wire feeder is abnormal.	Ensure Wire feeder interconnection lead is fitted correctly and not damaged.
601	The welding torch or inching switch signal is abnormal.	Ensure Trigger/inching switch is functioning correctly.
610	ARC interruption for more than 5 seconds during welding.	Release trigger for short period and restart welding.
611	Long short circuit during arcing or welding.	During arc starting or welding, the feedback voltage of the wire short-circuiting with the workpiece is below 5V. Release trigger and restart welding.

ERROR CODE	CAUSE	REMEDY
612	No Arc detected withing 10 seconds	Release the torch trigger.
701	Output overcurrent	Contact CIGWELD Technical Services.
702	The external voltage detection line is abnormal	Ensure Wire feeder interconnection lead is fitted correctly and not damaged.
703	Welding process abnormal	1. Check for short circuit between the conductive tube and the nozzle. 2. Check Short circuit between the welding wire and the workpiece.
802	Communication failure	Contact CIGWELD Technical Services.
866	Abnormal way control board	Contact CIGWELD Technical Services.

SECTION 9:
KEY SPARE PARTS

9.01 MIG GUN TW4 3.6M HEAVY DUTY TWECO TRADE AND TW4 FLAME 4M WATER COOLED SPARE PARTS



NOTE: If a replacement MIG Gun for TransMIG 395HD is required, then please refer to our website for more information.

Figure 9-1: MIG Gun TW4 3.6m Heavy Duty Tweco Trade and TW4 Flame 4m Water Cooled Spare Parts

MIG GUN TW4 3.6M HEAVY DUTY TWECO TRADE AND TW4 FLAME 4M WATER COOLED SPARE PARTS

ITEM	P/N	DESCRIPTION
	NOZZLES	
1	CTW2350	Nozzle Fixed, 13mm, Pack of 5
	CTW2362	Nozzle Fixed 16mm, Pack of 5
	CTW2375	Nozzle Fixed, 19mm, Pack of 5
	CTW23T37	Nozzle Fixed Tapered 10mm, Pack of 5
	CTW24A62	Nozzle Adjustable 16mm, Pack of 5
	CTW24A75	Nozzle Adjustable 19mm, Pack of 5
	CTW24AH62	Nozzle Adjustable HD 16mm, Pack of 5
	CTW2437SS	Nozzle Adjustable Tapered 10mm, Pack of 5
	CTW24CT62R	Nozzle Fixed CT Long 16mm, Pack of 5
	CTW24CT62S	Nozzle Fixed CT Short 16mm, Pack of 5
	CONTACT TIPS	
2	CTW1406	Contact Tip 0.6mm, Pack of 25
	CTW1408	Contact Tip 0.8mm, Pack of 25
	CTW1409	Contact Tip 0.9mm, Pack of 25
	CTW1410	Contact Tip 1.0mm, Pack of 25
	CTW1412	Contact Tip 1.2mm, Pack of 25
	CTW1414	Contact Tip 1.4mm, Pack of 25
	CTW1416	Contact Tip 1.6mm, Pack of 25
	CTW14H09	Contact Tip HD 0.9mm, Pack of 25
	CTW14H10	Contact Tip HD 1.0mm, Pack of 25
	CTW14H12	Contact Tip HD 1.2mm, Pack of 25
	CTW14H14	Contact Tip HD 1.4mm, Pack of 25
	CTW14H16	Contact Tip HD 1.6mm, Pack of 25
	CTW14T06	Contact Tip Tapered 0.6mm, Pack of 25
	CTW14T08	Contact Tip Tapered 0.8mm, Pack of 25
	CTW14T09	Contact Tip Tapered 0.9mm, Pack of 25
	CTW14T10	Contact Tip Tapered 1.0mm, Pack of 25
	CTW14T12	Contact Tip Tapered 1.2mm, Pack of 25
	CTW14T14	Contact Tip Tapered 1.4mm, Pack of 25
	CTW14T16	Contact Tip Tapered 1.6mm, Pack of 25
	NOZZLE INSULATOR	
3	CTW34A	Insulator Adjustable, Pack of 25
	CTW34CT	Insulator Coarse Thread, Pack of 5
	DIFFUSER	
4	CTW54A	Gas Diffuser, Pack of 5
	CONDUCTOR TUBES	
5	TWC445	Conductor Tube 45^0 Tweco Trade Air Cooled
	TWC460	Conductor Tube 60^0 Tweco Trade Air Cooled
	TWC4W	Conductor Tube 60^0 Water Cooled

NOTE

If a replacement MIG Gun for TransMIG 395HD is required, then please refer to our website for more information.

NOTES:

CIGWELD
AN ESAB BRAND

LIMITED WARRANTY TERMS

LIMITED WARRANTY: CIGWELD Pty Ltd, An ESAB Brand, hereafter, "CIGWELD" warrants to customers of its authorized distributors hereafter "Purchaser" that its products will be free of defects in workmanship or material. Should any failure to conform to this warranty appear within the time period applicable to the CIGWELD products as stated below, CIGWELD shall, upon notification thereof and substantiation that the product has been stored, installed, operated, and maintained in accordance with CIGWELD's specifications, instructions, recommendations and recognized standard industry practice, and not subject to misuse, repair, neglect, alteration, or accident, correct such defects by suitable repair or replacement, at CIGWELD's sole option, of any components or parts of the product determined by CIGWELD to be defective.

CIGWELD MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED. THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHERS, INCLUDING, BUT NOT LIMITED TO ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

LIMITATION OF LIABILITY: CIGWELD SHALL NOT UNDER ANY CIRCUMSTANCES BE LIABLE FOR SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES, SUCH AS, BUT NOT LIMITED TO, LOST PROFITS AND BUSINESS INTERRUPTION.

The remedies of the Purchaser set forth herein are exclusive and the liability of CIGWELD with respect to any contract, or anything done in connection therewith such as the performance or breach thereof, or from the manufacture, sale, delivery, resale, or use of any goods covered by or furnished by CIGWELD whether arising out of contract, negligence, strict tort, or under any warranty, or otherwise, shall not, except as expressly provided herein, exceed the price of the goods upon which such liability is based. No employee, agent, or representative of CIGWELD is authorized to change this warranty in any way or grant any other warranty.

PURCHASER'S RIGHTS UNDER THIS WARRANTY ARE VOID IF REPLACEMENT PARTS OR ACCESSORIES ARE USED WHICH IN CIGWELD'S SOLE JUDGEMENT MAY IMPAIR THE SAFETY OR PERFORMANCE OF ANY CIGWELD PRODUCT. PURCHASER'S RIGHTS UNDER THIS WARRANTY ARE VOID IF THE PRODUCT IS SOLD TO PURCHASER BY NON-AUTHORIZED PERSONS.

The warranty is effective for the time stated below beginning on the date that the authorized distributor delivers the products to the Purchaser. Not with standing the foregoing, in no event shall the warranty period extend more than the time stated plus one year from the date CIGWELD delivered the product to the authorized distributor.

Any claim under this warranty must be made within the warranty period which commences on the date of purchase of the product. To make a claim under the warranty, take the product (with proof of purchase from a CIGWELD Accredited Seller) to the store where you purchased the product or contact CIGWELD Customer Care 1300 654 674 for advice on your nearest Service Provider. CIGWELD reserves the right to request documented evidence of date of purchase. CIGWELD or our Accredited Distributor must be notified in writing of its claim within seven (7) days of becoming aware of the basis thereof, and at its own expense returning the goods which are the subject of the claim to CIGWELD or nominated Accredited Distributor/Accredited Service Provider

This warranty is given.
CIGWELD Pty Ltd A.B.N. 56007226815
71 Gower Street, Preston Victoria, Australia, 3072
Phone: 1300 654 674
Email: enquiries@cigweld.com.au
Website: www.cigweld.com.au

This warranty is provided in addition to other rights and remedies you have under law: Our goods come with guarantees which cannot be excluded under the Australian Consumer Law. You are entitled to replacement or refund for a major failure and to compensation for other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Please note that the information detailed in this statement supersedes any prior published data produced by CIGWELD.

*WARRANTY SCHEDULE – TRANSMIG 395HD INVERTER

WARRANTY	WARRANTY PERIOD (PARTS AND LABOUR)
TRANSMIG 395HD Power Source	5 Years
TRANSFEED 4R HD Wire Feeder	5 Years
TRANSMIG Trolley	12 Months
TRANSCOOL Water Cooler	12 Months

ACCESSORIES	WARRANTY PERIOD
MIG Gun, electrode holder lead and work lead	3 Months
MIG Gun consumable items	NIL
Gas Regulator/Flowmeter (excluding seat assembly, pressure gauges, elastomer seals and "O" rings	1 Year
Regulator seat assemblies and pressure gauges	6 Months
Elastomer seals and "O" rings used in the equipment	3 Months

CIGWELD LIMITED WARRANTY DOES NOT APPLY TO;

- Obsolete goods sold at auction, second-hand goods and prototype goods.
- Consumable Parts for MIG, Plasma welding, Plasma cutting and Oxy fuel torches, O-rings, fuses, filters or other parts that fail due to normal wear.

Notes:

* No employee, agent, or representative of CIGWELD is authorized to change this warranty in any way or grant any other warranty, and CIGWELD shall not be bound by any such attempt. Correction of non-conformities, in the manner and time provided herein, constitutes fulfilment of CIGWELD's obligations to purchaser with respect to the product.
* This warranty is void, and seller bears no liability hereunder, if purchaser used replacement parts or accessories which, in CIGWELD's sole judgment, impaired the safety or performance of any CIGWELD product and if the unit is altered or serviced by an unauthorised CIGWELD Service Provider. Purchaser's rights under this warranty are void if the product is sold to purchaser by unauthorized persons.

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Version No: AA **Issue Date: 01-10-2025** **Manual No: 741717-01-025**

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