



**TRANSTIG 180  
AC/DC-HF POWER SOURCE  
OPERATING INSTRUCTIONS**

## DESCRIPTION

The Transtig 180 is an A.C./D.C. power source designed for TIG and stick welding. It has built-in high frequency, A.C./D.C. polarity switch and current control by moving shunt in 3 ranges. Fan cooling is provided. The machine is suitable for connection to 240 volt, 415 volt and 480 volt supply. For customers intending to connect to a 240 volt supply please note current demand quoted in specification, which is in excess of that available from a 15 amp supply. Please refer to section: Installation C: A wheeling set is provided as standard equipment.

## SPECIFICATION

Plant Part Number: 700005

Output: 180 amps 20 volts 30% duty cycle  
100 amps 24 volts 100% duty cycle

Low Range: 7— 20 amps 70V averaged D/C voltage  
Medium Range: 20— 60 amps 70V " " "  
High Range: 60—180 amps 52V " " "

Input: 50 Hz Single Phase A.C.

Supply Voltage: 240V 415V 480V

Rated Current: 26 amps 15 amps 13 amps  
(Amps)

Max. Short Circuit: 54 amps 31 amps 27 amps  
Input Current

Fuse: 240 volt supply 30 amps wire or 50  
amps HRC  
415V and 480V supply 20 amps wire or  
30 amps HRC

Complies with Australian Standard No. 1966.1 light industrial class.

Maximum temperature rise 115°C.

Dimensions: Height 765mm Width 435mm Depth 850mm

Weight: 99 Kg (packed)  
97 Kg (unpacked)

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

## HIGH FREQUENCY CONSIDERATIONS

### Introduction

The importance of correct installation of high frequency welding equipment cannot be over-emphasized. Interference due to high frequency stabilised arc is almost invariably traced to improper installation.

The following information is intended as a guide for those installing high frequency welding machines.

### WARNING

#### Explosives

The high frequency section of this machine has an output similar to a radio transmitter. The machine should NOT be used in the vicinity of blasting operations due to the danger of pre-ignition firing.

### PROPAGATION OF HIGH FREQUENCY INTERFERENCE

Interference may be transmitted by a high frequency stabilised arc welding machine in the following four distinct ways

#### 1. Direct Radiation from the Machine

Radiation from the machine can occur if the case is not properly earthed. It can also occur through apertures such as access panels. See Fig. 2.

The shielding of the high frequency unit in the Transtig 180 prevents direct radiation if the equipment is properly earthed.

#### 2. Transmission via Mains

Without adequate shielding and filtering, high frequency energy may be fed to the mains by direct coupling. The energy is transmitted by both radiation and conduction.

Adequate shielding and filtering is provided in the Transtig 180.

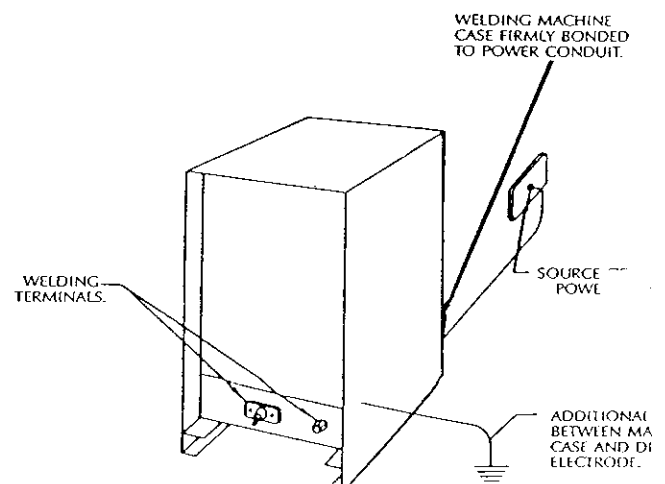
#### 3. Radiation from Welding Leads

Radiated interference from welding leads, although pronounced in the vicinity of the leads, diminishes rapidly with distance. Keeping leads as short as possible will minimise this type of interference. Looping and suspending of leads should be avoided where possible.

#### 4. Reradiation From Unearthed Metallic Objects

A major factor contributing to interference is re-radiation from unearthed metallic objects close to the welding leads. Effective earthing of such objects will prevent re-radiation in most cases.

Fig. 2. Earth Connection at Machine



## INSTALLATION RECOMMENDATIONS

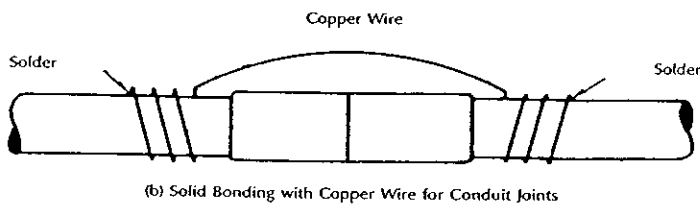
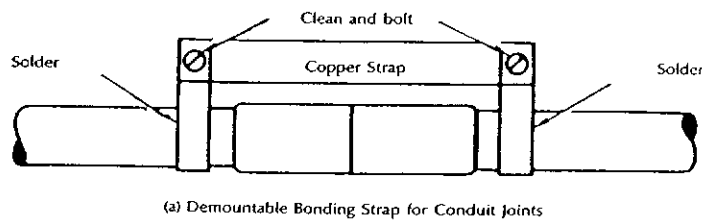
### Primary Cables

Shielding from primary leads should be solid metal conduit or copper braid sheathing. Helically wound conduit is unsuitable for electrical shielding.

The primary leads should be enclosed in continuous shielding from the equipment. The conduit (or braid) should be earthed at the point furthest from the equipment and should make good electrical contact with the machine case. See Fig. 2 and section headed "Earthing Rods". Contacting surfaces must be free from paint and corrosion.

If necessary ensure good electrical contact between individual conduit sections, conduit and outlet boxes and machine case, by soldering a copper strap or wire across the joint as shown in Fig. 3 Bonding between shielding and case must be sound.

Fig. 3 — Conduit Bonding



### Machine Case Earthing

In addition to the normal earthing via the mains earth lead, the machine case should be earthed as shown in Fig. 2. The additional earth will bypass high frequency energy induced in the machine case.

### Earthing Rods

All earth leads should be connected to 2.5 m long copper rods, driven into moist soil.

Water pipes and steel structures **MUST NOT** be used as earthing points.

## INSTALLATION

### Location

- A. Select a location which provides:
  1. Unrestricted air flow to the air inlet in the front of the machine, and from the outlet at the rear.
  2. Sufficient working space around the machine to permit removal of the cover for maintenance purposes and removal of gas bottle.
  3. Access to a 240, 415 or 480 Volt, 50 Hz single phase supply — keep supply leads as short as possible.
  4. Freedom from excessive dust and moisture.
- B. All supply connections must be carried out by a Qualified Electrical Trades Person.

### Installation (cont.)

C. Connect the Transtig 180 to the supply outlet with a 3 flexible cable of recommended size. Fit a 30 amp plug for volt supply. A 20 amps outlet is adequate for 415 and 480 machines. The cable and plug should only be connected qualified electrical trades person. Conventional supply authority procedures and regulations apply.

D. When installing the machine remove the side panel near the supply cable entry and connect the links and leads for supply voltage used as shown in Figure 4. Connection details are also given on the adhesive label inside the machine.

Fig. 4 Primary Connections

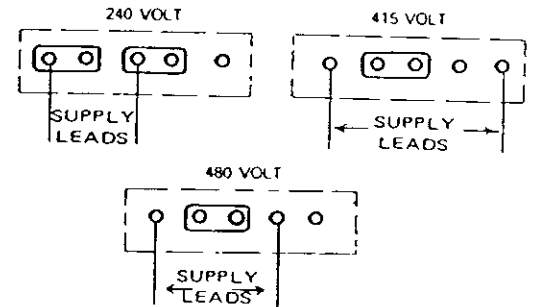
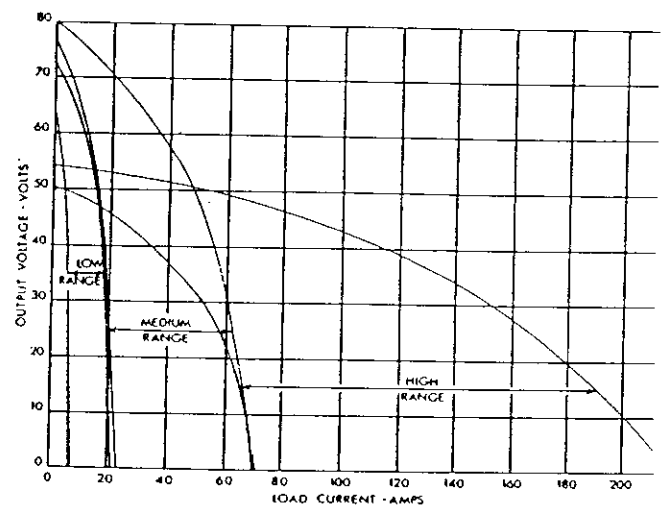


Fig5. Volt-Amp Curve



### Stick Welding:

Connect electrode lead to electrode terminal. Check electrode packet or guide book for polarity required. Set polarity switch to "-" for straight polarity, or "+" for reverse polarity.

High frequency can be switched on if desired. Use of high frequency will be found most advantageous when using small diameter electrodes.

### TIG Welding

Connect torch lead to electrode terminal. Install regulator on gas bottle. Connect flowmeter to regulator outlet. Connect flowmeter outlet to torch current block via a length of hose. Refer to process publications for recommended polarity, gas flow and tungsten electrode diameter for the application.

Wherever practical use high frequency to eliminate electrode contamination on starting, and to improve A.C. arc stability.

## MAINTENANCE

**Warning:** Disconnect the machine from the power supply before carrying out Maintenance. Opening the Mains switch is NOT sufficient.

### Preventive Maintenance

#### 1. As necessary

The sliding core may require occasional lubrication. Set the core out to the maximum current position and lightly smear the core faces with lubricant.

Recommended lubricants are Shell Alvania, Mobilux Grease No. 2, Caltex Industrial Medium Grease, or a good quality grease.

#### 2. Three Monthly

Inspect the spark gaps by (removing the side panel). The gaps are factory set at 0.15 mm (.006") and may require resetting after extended periods of operation.

#### 3. Six Monthly

Blow all dust etc., from the machine with clean dry air. Under adverse conditions where larger amounts of foreign matter may be drawn into the machine by the cooling fan, more frequent blowing out may be necessary.



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### USER RESPONSIBILITY

This equipment will perform in conformity with the description thereof contained in the 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. Defective equipment (including service leads) should not be used. Parts that are broken, missing, plainly worn, distorted or contaminated, should be replaced immediately. Should such repair or replacement 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 your nearest Cigweld distributor.

This equipment or any of its parts should not be altered or changed 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.

Distributed by:

Manufacturer and Supplier of Welding Consumables and Equipment



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