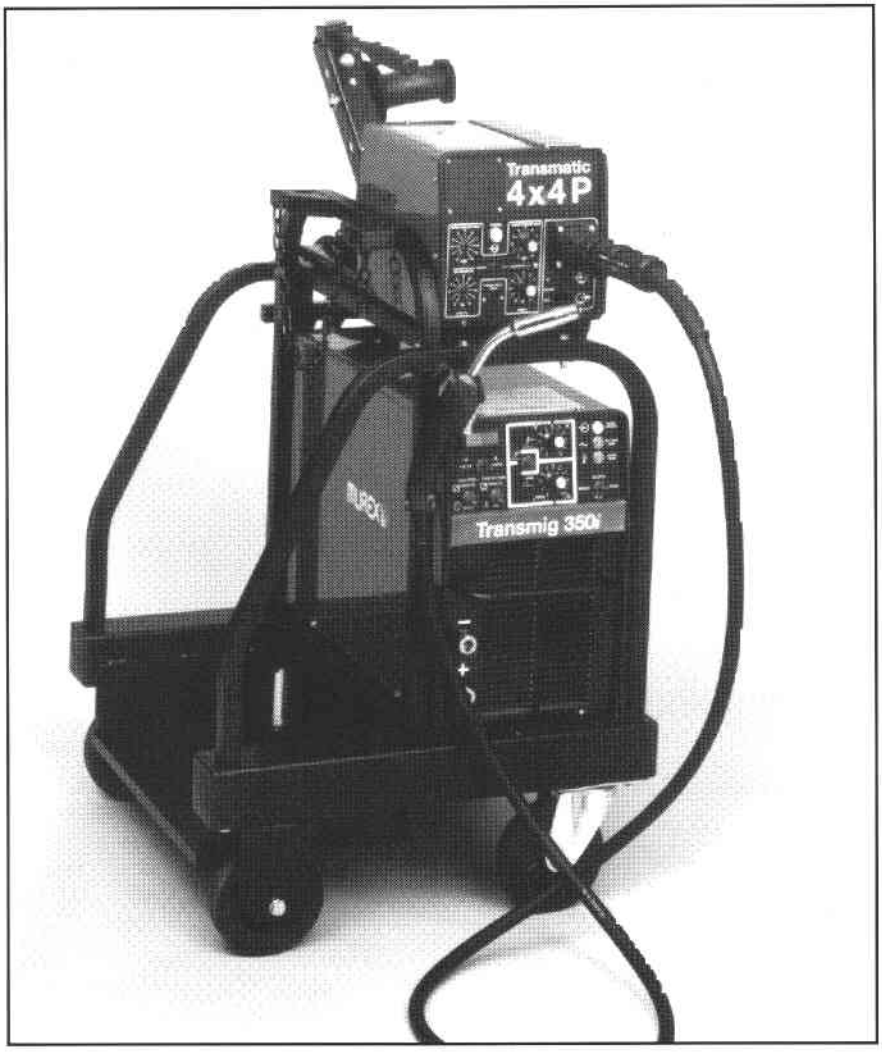
MUREX

Operating Manual

Transmig 350i and Transmatic 4x4P



Please ensure that this Instruction Manual is made available to the user of the equipment

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WARNING

This welding equipment has been designed, manufactured and tested to the highest standards to ensure long and trouble free life. However, regular maintenance is an essential part of keeping the machine operating in a reliable and safe manner and your attention is drawn to any maintenance instructions that are contained in this manual.

In general, all welding equipment should be thoroughly inspected, tested and serviced at least annually. More frequent checking will be required when the equipment is heavily used.

Wear and tear, particularly in electro-mechanical and moving components, are gradual processes. Caught in time, repair costs are small and the benefits in performance reliability and safety are significant. Left alone, they can put the equipment, and you, at risk.

Have this equipment regularly inspected and maintained by an approved service centre.

WARNING

ARC WELDING AND CUTTING CAN BE INJURIOUS TO YOURSELF AND OTHERS. TAKE PRECAUTIONS WHEN WELDING. ASK FOR YOUR EMPLOYER'S SAFETY PRACTICES WHICH SHOULD BE BASED ON MANUFACTURERS' HAZARD DATA.

ELECTRIC SHOCK - Can Kill

- Install and earth the welding unit in accordance with applicable standards.
- Do not touch live electrical parts or electrodes with bare skin, wet gloves, or wet clothing.
- Insulate yourself from earth and work.
- Ensure your working position is secure.

FUMES AND GASES – Can be Dangerous to Health

- Keep your head out of the fumes.
- Use ventilation, extraction at the arc, or both, to keep fumes and gases from your breathing zone and the general area.

ARC RAYS – Can Injure Eyes and Burn Skin

- Protect your eyes and body. Use the correct welding screen and filter lens and wear protective clothing.
- Protect bystanders with suitable screens or curtains.

NOISE– Excessive noise can damage hearing

- Protect your ears. Use ear defenders or other hearing protection.
- Warn bystanders of the risks.

READ AND UNDERSTAND THE INSTRUCTION MANUAL BEFORE INSTALLING OR OPERATING AND SEE 18 PUBLICATION 237 'The arc welder at work' AVAILABLE FROM THE MANUFACTURER.

PROTECT YOURSELF AND OTHERS

SAFETY

In any arc welding or cutting operation, it is the responsibility of the user to observe certain safety rules to ensure his personal safety and to protect those working near him.

Read all safety articles relevant to arc welding or cutting published by the WMA. Pay particular attention to any CAUTION or WARNING Notes included in this manual. CAUTION indicates possible equipment damage. WARNING indicates possible hazard to life.

> ⚠ **WARNING** ⚠
>
> *The ON/OFF switch on this equipment does not isolate the unit from the mains electrical supply.* ***AC POWER IS PRESENT ON THE ON/OFF SWITCH TERMINALS.*** *The On/Off lamp is an indication that the supply is switched on and does not imply that the unit is isolated from the supply.* ***BEFORE REMOVING THE COVERS FOR MAINTENANCE, ISOLATE THE UNIT FROM THE MAINS ELECTRICAL SUPPLY.***

1. Electrical

⚠ Treat electricity with respect. Even the open circuit voltage of this equipment can be dangerous. Adjustments to the torch or replacement of torch parts should be undertaken with the mains supply isolated from the unit.

If damaged torch cables or torch components are found, the unit must be disconnected from the mains and defective parts must be replaced using only Murex spare parts.

⚠ Do not work on live circuits or cables. Disconnect the main power supply before checking the machine or performing any maintenance operation.

⚠ Be sure the case of the welding machine is properly connected to a good electrical earth.

⚠ Have the wiring for the welding machine installed by a qualified electrician. All connections must be made according to specifications in force and to general safety standards.

⚠ Do not stand in water or on damp floors while using an arc welder or cutter. Do not use in the rain.

⚠ Do not operate with worn or poorly connected cables. Inspect all cables frequently for insulation failure, exposed wires and loose connections.

⚠ Do not overload cables or continue to operate with overheating cables. Cables which are too small for the current carried will overheat, causing rapid deterioration of the insulation.

⚠ Pay attention that live parts of the torch do not touch any metal which is connected to the earth cable. Fix an insulated hook to hang the torch on when it is not in use.

1. Ventilation

⚠ Do not weld or cut on containers which have held combustible or flammable materials, or materials which give off flammable or toxic vapours when heated, without proper cleaning.

⚠ Locate the welding/cutting operation far enough from any vapour-type degreaser using trichlorethylene or other chlorinated hydrocarbons as solvents. The ultraviolet light from the arc can decompose these vapours into toxic gases at a considerable distance from the arc, even though the concentration of the gases is low enough to be undetectable by smell.

⚠ Be sure to provide adequate ventilation for removal and dilution of fume and gases. Fume exhaust facilities near the arc, or a ventilated helmet should be used when cutting in confined spaces or on toxic material.

2. Glare

⚠ Never look at the arc without wearing eye protection.

Always use the proper protective clothing, filter glasses, and gloves. Be careful to avoid exposed skin areas. Do not use cracked or defective helmets or shields.

⚠ Never strike an arc when there is someone near who is not protected from the strong light of the arc.

⚠ Warn bystanders who are not aware of the dangers of ultra-violet light.

3. General

⚠ Take care when lifting the unit.

⚠ Ensure that cylinders are secured by chains.

⚠ Locate the unit so that there is adequate air flow to the ventilation louvres.

⚠ Always dress correctly to protect against glare, radiation and spatter.

4. Fire

⚠ Ensure that the correct type of fire extinguisher is available in the operating area.

⚠ Do not use near flammable materials or liquids, in or near explosive atmospheres, or on pipes carrying explosive gases.

5. Vehicle Electrics

⚠ When working on motor vehicles, remove the battery and any circuitry which may be damaged by the arc.

⚠ Whilst cutting be aware of the possibility of 'hidden wires' behind panels or bulkheads.

INTRODUCTION

The Murex Transmig 350i is a high performance multi-process inverter based industrial welding power source. The constant voltage (cv)/constant current (cc) output makes the Transmig 350i ideally suited for MIG/MAG, MMA and TIG welding processes. Some of the special features of the Murex Transmig 350i are as follows:-

- Continuous control of welding voltage or welding current. Precise setting and adjustment either from the front panel or a remote location eg. the wire feed unit or a remote control device.
- Electronic feedback control system which maintains consistent output against mains voltage variations, temperature drift etc.
- A three position slope selector (steep, medium and flat) combined with a variable inductance control permits precise adjustment of the welding output providing excellent arc characteristics for MIG/MAG welding applications.
- Accurate Voltmeter/Ammeter
- Variable arc force control providing excellent MMA welding characteristics.
- Full compliance with the new British and IEC Standards covering such equipment. This means longer duty cycle operations, (10 minutes cf 5) and greater safety criteria.
- Thermal overload and overcurrent sensors automatically shut off the machine output when safe operating conditions are exceeded.
- A low current 'Lift Arc' TIG striking system that provides a clean start without contaminating the electrode.
- A synergic pulsed MIG capability available via an optional pendant control unit. (see option on page 17).

Transmatic 4x4P Wire Feed Unit

The Transmatic 4x4P wire feed unit is designed for use with the Transmig 350i for MIG/MAG welding using hard, soft and tubular (cored) wires. Details of the wire sizes handled are given in the specification section.

A quick fit central adaptor (Euroconnector) allows the full range of Murex torches to the fitted quickly with the minimum preparation.

The wire is fed by four feed rolls driven by a Tacho controlled d.c. motor providing excellent, accuracy and repeatability irrespective of load or temperature variation.

Some of the standard features of the Transmatic 4x4P wire feeder are:-

- Gas Purge Switch
- Wire Inch/Jog Switch
- Torch switch latching facilitiy complete with variable pre and post gas flow time functions.
- Spot weld timer.
- "On" Indicator light
- Wire feed speed and voltage setting potentiometers.

SPECIFICATION

TRANSMIG 350		
Output:		
Duty Cycle:-	40%	360A
	60%	300A
	100%	225A
Current range:-		
	MIG/MAG	40-360A
	MMA	30-300A
	TIG	5 - 300A
OCV (max):-		68Vdc
Characteristics:-	See figures 1,2 & 3	
Inductance:-		Variable
Input:		
Mains Voltage:-		380/415V
Phase:-		3
Frequency:-		50Hz
Input Current:-		26A/24A
Fuse Rating:-		30A Slow Blow
Control Voltage:		
Wire Feed Unit:-		42Vac
Remote Control:-		0-10Vdc
Dimensions:		
Height:-		400mm
Width:-		260mm
Depth:-		670mm (inclusive of carrying handle)
Weight:-		39kg

TRANSMATIC 4X4P	
Input Voltage:	42Vac
Wire Feed Speed:	1.3-19m/min
Wire Sizes:	
Hard/Soft:-	0.8mm to 2.4mm
Cored:-	1.2mm to 2.4mm
Dimensions:	
Length:-	570mm (inclusive of Euro adaptor)
Height:-	350mm (inclusive of lifting handle)
Width	230mm

VOLT/AMP CHARACTERISTICS

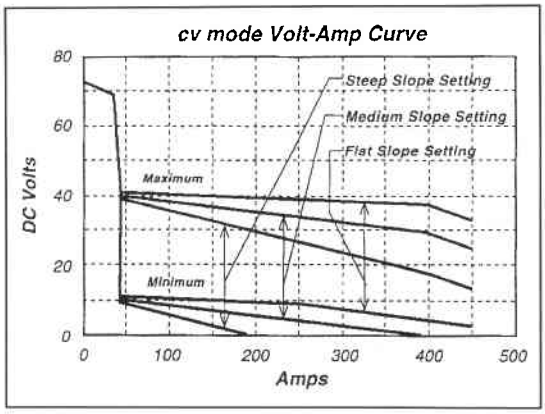


Fig 1

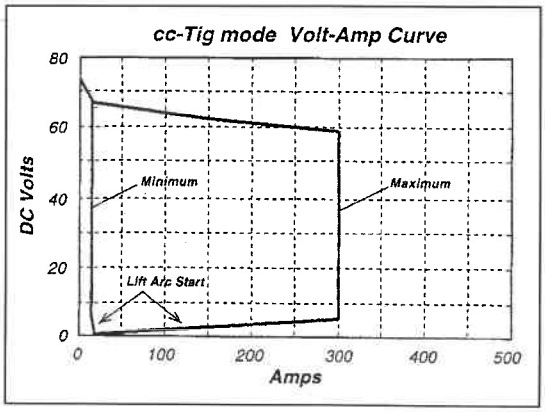


Fig 2

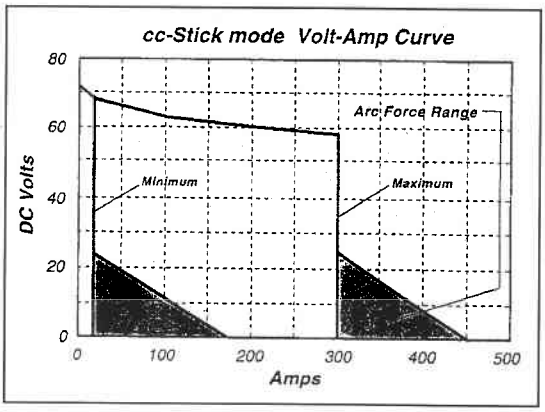


Fig 3

INSTALLATION

WARNING!

Installation must only be undertaken by a qualified electrician or suitably trained person.

Correct installation is important for the reliable and safe operation of the equipment. Before continuing carry out the following checks.

1. Having unpacked the power source, inspect for evidence of damage or missing parts. Notify the carrier or Murex immediately.

2. Check the air louvres in the front and rear panels for any packing materials that might obstruct the air flow.

3. Position the equipment in a safe area. Leave at least 0.5m clearance around the unit to allow air to circulate freely. The position should be free from dust, fumes and heat. See SAFETY at the front of this manual.

Connection to Mains Supply

WARNING

Before making electrical input connections to the unit, use 'machinery lockout procedures'. If the connection is to be made from a mains disconnect switch, the switch should be padlocked in the off position. If the connection is made from a fuse box, remove the fuses from the box and padlock the cover in the closed position. If locking facilities are not available, attach a red tag to the mains disconnect switch (or fuse) to warn others that the circuit is being worked on.

Placing the machine unit power switch in the 'off' position does not shut off all power within the equipment.

Comply with local ordinances and electrical authorities.

The Murex Transmig 350i

Requires an industrial 3 phase 380/415v supply. For the fuse rating see the specifications section on page 6.

The power source should be connected to a separately fused circuit including a switch isolator.

The Transmig 350i is supplied with the primary input cable already fitted. However if the customer wishes to connect his own primary input cable proceed as follows:-

- Remove the top cover
- Feed primary cable through the strain relief hole in the rear panel.
- Connect the three phase leads (Brown, Blue and Yellow) to the three terminals on the on/off switch designated on the circuit diagram on page 16.
- Connect the earth cable (green/yellow) to the ground stud on the base of the power source.
- Make sure all connections are tightened firmly.
- Tighten the strain relief coupling on the rear panel ensuring that the primary input cable is securely held.

WARNING!

It is of utmost importance that the chassis be connected to an approved electrical ground to prevent accidental electric shock. Take care not to connect the ground wire to any of the primary phase leads.

- Recheck all connections to ensure that they are tight, well insulated, and that the proper connection has been made.
- Replace the top cover.

Controls and Facilities

Transmig 350i

1. Power on indicator lamp indicates that the power is switched on and that the Transmig 350i is ready to weld.

WARNING

If this lamp is not illuminated the mains supply may still be connected to the unit. Before removing the covers always isolate the unit from the mains electrical supply.

2. Hi/Low Line Indicator

Illuminates when the primary supply voltage rises or falls beyond pre-determined limits (± 10%). Since this condition can often be caused by a transient voltage try re-operating the torch switch or switching the main power on/off switch off and on again to resume welding.
Should nuisance tripping caused by transients become a problem contact Murex welding products.

3. Over Temperature Indicator Lamp

The indicator will illuminate and the power source output will be inhibited if the temperature of internal components becomes excessive. Should this occur, leave the power source to idle for a few minutes to cool down, do not switch the power source off as this will remove power from the cooling fan.

CAUTION

If this indicator lamp persistently operates do not use until the power source has been checked by an approved Service Engineer.

4. Slope Switch

Three different volt ampere slope characterstics are available in the MIG/MAG welding mode.

a) Flat position provides a slope of 1V/100A and is recommended for most spray arc conditions.

b) Medium position provides a slope of 3V/100A and is recommended for 1.0mm and above Stainless Steels, Aluminium and Flux cored wires.

c) Steep position provides a slope of 6V/100A and is recommended for all small diameter solid wires 1mm and below, using dip transfer modes on thinner materials.

NB: This function only works when operating in the MIG/MAG (cv) mode. It is by-passed in the TIG and MMA (stick) modes.

5. Output Control Potentiometer

This control has a dual function dependent upon which mode of welding is selected. In the MMA and TIG welding modes this control adjusts the welding current.
In the MIG/MAG mode this control adjusts the output voltage.

6. Process Selection Switch

This 3 position switch selects the required static and dynamic characteristics for the 3 welding processes (MIG/MAG, MMA, TIG)

7. Inductance/Arc Force Potentionmeter

In the MIG/MAG welding mode this control provides variable inductance control.
Variable inductance control permits the fine tuning necessary to optimise the welding condition and minimise the weld spatter produced during dip transfer applications.

In the general in dip transfer MIG/MAG welding increasing the inductance gives a "softer" and hotter welding condition but can result in significant coarse spatter. Higher inductance values generally result in a reduced transfer frequency with greater arc on time.
Reducing the inductance provides a "harder" colder and crisper arc with increased transfer frequency and is generally suited to thinner sheet applications. Significant fine spatter may result at too low inductance values.
In the MMA (stick) welding mode this control provides a variable "arc force" control providing optimum dynamic characteristics to suit different electrode types. A lower arc force setting provides less short circuit current and a softer more stable arc. A higher setting provides a higher short circuit and a forceful and more penetrating arc.

8. Digital Voltmeter/Ammeter and Selector Switch

This instrument provides direct digital reading of open-circuit or welding voltage, or welding current dependent upon the position of the selector switch.

9. Remote Control Switch

In the remote position and by connecting an appropriate remote control unit (see options on page 17) some of the front panel functions can be operated remotely from the power source.

10. Contactor Remote

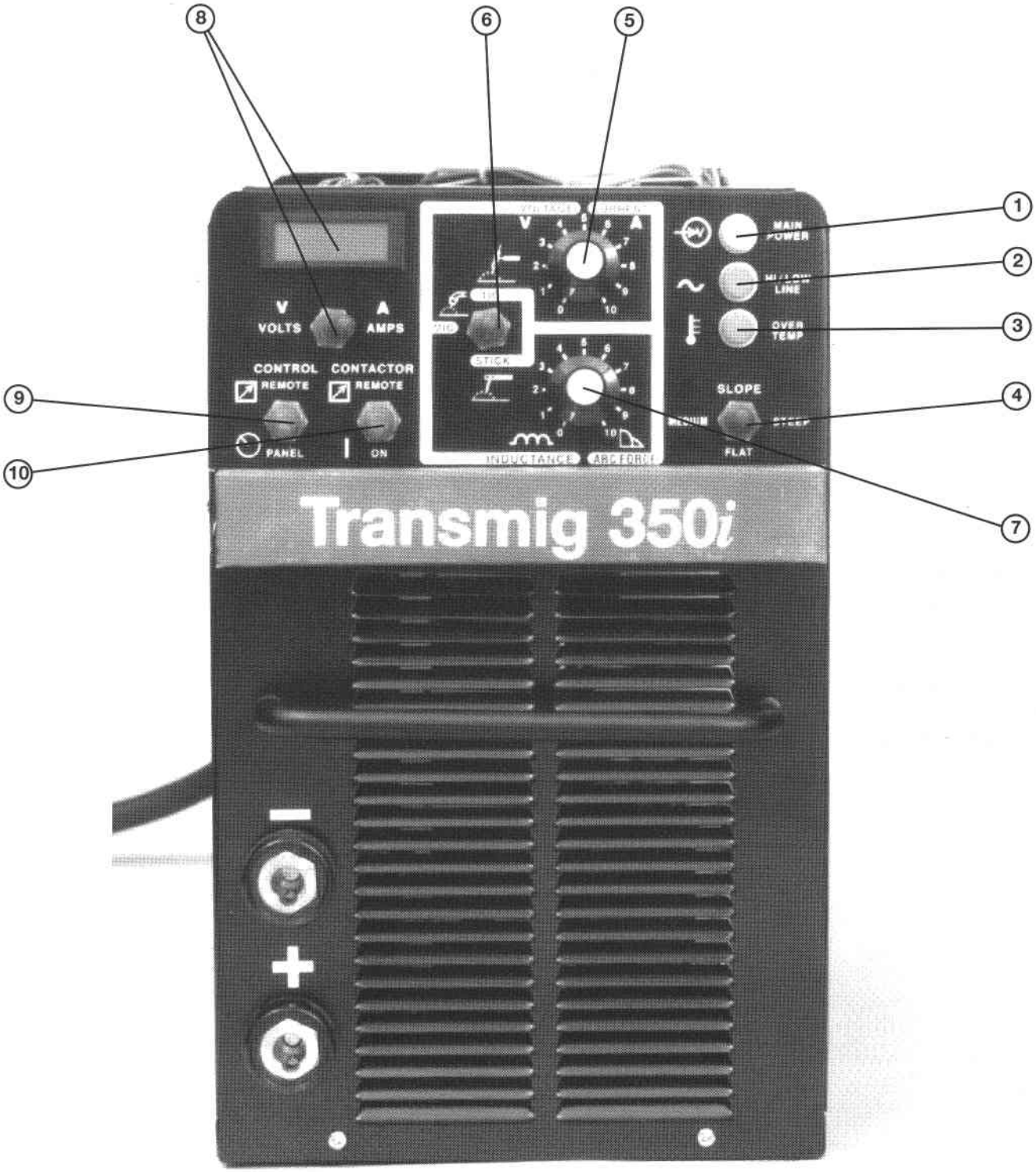
In the remote position the output of the Transmig 350i can be switched on and off remotely from the power source.
eg: foot control unit, torch switch, MIG wire feeder.

11. Wire Feeder Control Socket (rear panel)

This 19 pin socket receives a mating plug from the Transmatic 4x4P wire feed unit.

12. Remote Control Socket (rear panel)

This 14 pin socket receives a mating plug from one of the remote control options.
(see options on page 17).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VOLTS
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AMPS
CONTROL
REMOTE
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REMOTE
PANEL
ON
STICK
MAIN POWER
OVER TEMP
SLOPE
FLAT
INDUCTANCE
ARC FORCE
Transmig 350i
−
+

Transmatic 4x4P Wire Feed Unit

1. Power 'On' indicator
Indicates when 42Vac auxilliary supply is connected from the Transmig 350i.

2. Wire Feed Speed Control
Provides continuously variable wire feed speed control between 1.3 to 19m/min.

3. Voltage Control
Enables continuously variable control of the voltage output of the Transmig 350i.

4. Central Adaptor
Allows the full range of Murex welding torches to be fitted quickly with the minimum preparation.

5. Jog/Purge Switch (not shown)
In the 'purge' position the gas solenoid is energised allowing gas to flow through the welding torch. It is used when initially adjusting the gas flow and purging the gas lines of air.
In the 'jog' position the wire feed motor is operated but not the other welding services. It is used to run the wire through the equipment during setting up and adjustment procedures.

6. Spot/Continuous/Trigger latch switch.
Spot:- Switches the spot weld facility on and allows the operator to select a suitable weld time to provide sufficient penetration of the weld spot relative to the material being welded.

Continuous:- In this position depressing the torch switch energises the gas solenoid weld contactor and wire feed motor and welding commences. Releasing the torch switch ceases welding.

Note! only when the pre flow and post flow controls are set at zero.

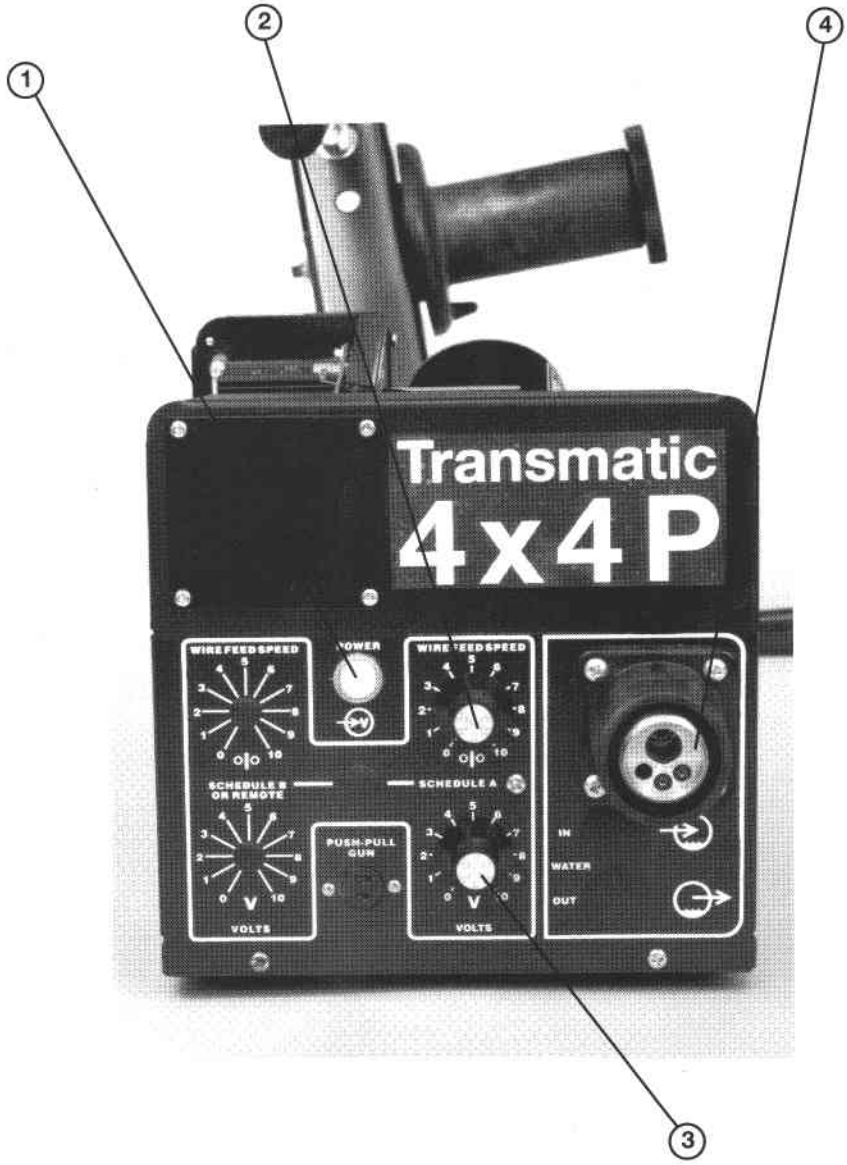
Trigger Latch:- In this position depressing the torch switch energises the gas solenoid, weld contactor and wire feed motor. Once an arc has been established the torch switch can be released and welding will continue until the torch switch is depressed and released again which will then cease welding.

7. Pre-flow/Post flow controls
Pre Flow:- This control sets the time period for gas flow before welding commences.
Post Flow:- This control sets the time period for gas flow after welding has ceased.
eg. With Pre and Post flow controls activated and the trigger switch set to continuous the following sequence of operation occurs.
Depressing the torch switch energises the gas solenoid. The contactor and wire feed motor are energised only after the interval established by the setting of the Preflow potentiometer. When the torch switched is released the wire feed motor and weld contactor are de-energised but the gas solenoid valve remains energised until the interval established by the setting of the Postflow potentiometer has elapsed.

8. Burnback control
Adjusts the burn back time between 0 to 0.6 seconds. The higher the setting, the greater the amount of time that the contactor is held in to allow the wire to burn back out of the "weld pool" after releasing the torch switch.

9. Spot Weld time control
Adjust the spot weld time between 0 to 5 seconds see item 6 (spot/continuous/trigger latch switch).

10. Circuit breaker
10 amp circuit breaker protects the 42Vac auxilliary supply from the Transmig 350i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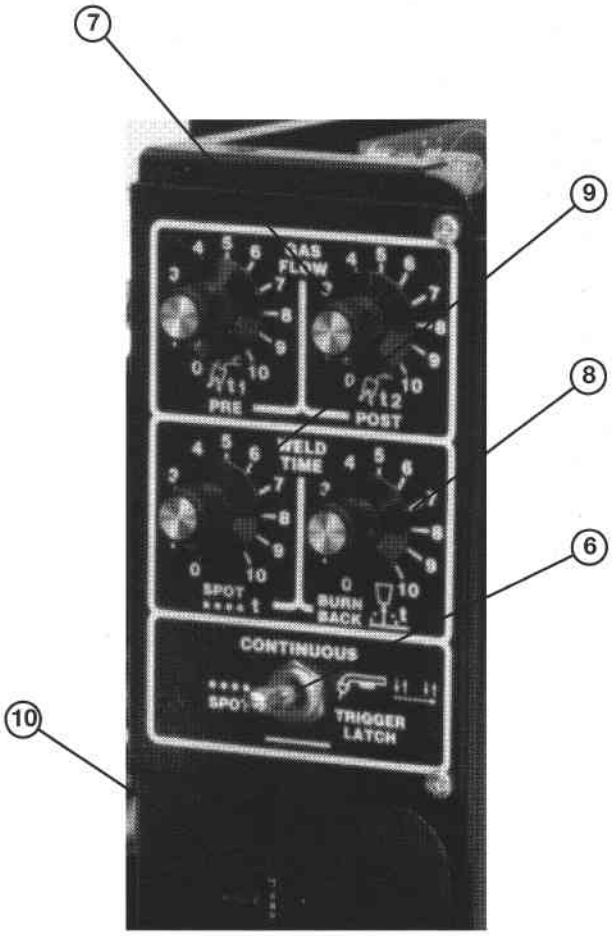
Transmatic
4x4P
WIRE FEED SPEED
POWER
WIRE FEED SPEED
SCHEDULE B OR REMOTE
SCHEDULE A
PUSH-PULL GUN
IN
WATER
OUT
VOLTS
VOLTS
3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GAS FLOW
PRE
POST
WELD TIME
SPOT
BURN BACK
CONTINUOUS
SPOT
TRIGGER LATCH

Initial Setting Up MIG/MAG Welding

1. Feed Rolls

Note: *When changing wire sizes the inlet guide, intermediate guide, outlet guide tube liner and feed rolls may need changing as given below.*

Before connecting the electrical and gas supplies, ensure that the equipment is set up for the type and size of wire to be used as follows:
(a) Power Source switched off.
(b) When changing wire sizes it may be necessary to change the feed rolls, outlet guide tube liner, inlet guide and intermediate guide.
The size of feed roll is stamped on the visible surface of the roll when fitted.

2. Interconnection

Lay out the torch leads keeping the leads as straight as possible.
Check that the power source is switched off.

CAUTION

Do not extend the inter-connections beyond 20m, if in doubt call your nearest Murex distributor for advice.

3. Gas

Connect the shielding gas hose to the regulator.

4. Connect and Power Cable

Connect the control and power cables between the Transmatic 4x4P and the power source.

5. Work Return Lead

Connect the work return lead to a clean area on the work piece.

WELDING WIRE

Fit the reel of welding wire:
1. Remove the hand nut from the hub.
2. Place the reel of wire on the hub so that the wire will be drawn off from the bottom. Ensure that the pin on the hub locates in the hole in the side of the reel.
3. Release the end of the wire from the side of the reel but do not allow the coils to loosen. Cut off the kinked portion and remove any sharp edges from the end of the wire. This must be done every time the wire is threaded through the equipment.
4. Loosen the hub reel brake screw so that the reel revolves freely. Tighten the screw just enough to prevent over-run when wire feed stocks. Too much pressure will cause excessive drag.
5. Lift the pressure roll arms.
6. Thread the wire through the inlet guide over the feed rolls and into the outlet guide for approximately 50mm (2in).
Lower the prssures roll arms so that the welding wire is clamped into position in the groove.
7. Switch on the power source to obtain the 42V supply. Check the pilot light is illuminated.
8. Depress the jog switch - see fig on page 20 and check that the wire is driven smoothly through the outlet guide.
9. Check that the wire feed is smooth and positive. If the wire slips in the feed rolls, tighten the pressure adjusters just enough to obtain positive wire feed drive.

Do not overtighten

10. Cut off the wire to protrude 10mm from the torch connector.

TORCH

1. Check that the torch leads are laid out straight and connect the torch to the torch adaptor.
2. Remove the nozzle tip from the torch.
Using the jog switch, feed the wire through the torch.
Thread a contact tip over the wire and screw it into the torch.
Tighten the contact tip with the key provided.
3. Fit the appropriate nozzle.
4. Press the torch switch and check that wire flows smoothly from the torch.

TRANSMATIC 4X4P

1. Set the trigger switch to continuous or latch (see item 6 on page 10).
2. Set the desired pre-flow and post-flow times (see item 7 on page 10).
3.Set the required wire feed speed and voltage using the controls described on page 10 items 2 and 3 respectively.

Transmig 350i

1. Set the mode selection switch to the MIG position.
2. Set the contactor switch to remote.
3. Set the remote/panel switch to remote.
4. Set the slope selector switch to provide the desired slope characteristics. (see controls and facilties section on page 8).
5. Set the variable inductance control to suit the application
(see control and facilities section on page 8).

TIG WELDING

1. Connect the TIG Torch to the negative welding output and the work return cable to the positive welding output.
2. Connect the argon gas supply to the TIG torch.
3. Connect the torch control unit (TC-2B) or foot control unit (FC5B) to the 14 pin socket on the rear of the Transmig 350i.
4. Switch the process selection switch on the front panel of the Transmig 350i to the TIG position. Switch both the remote control switch and the contactor switch to the remote positions.
5. Position the TIG torch such that the tungsten is touching the workpiece and switch the torch control unit or the foot control unit to the on position. The "lift-arc" current will now flow. By 'lifting' the tungsten away from the workpiece the main welding arc will initiate the welding current can then be set at the desired level via the torch control unit or foot control unit.

MMA/STICK WELDING

1. Connect the electrode holder and work return cable to the appropriate welding output sockets.

NOTE
Refer to the instructions supplied with the electrodes to determine correct polarity.

2. Switch the process selection switch on the front panel of the Transmig 350i to the stick position.
3. Adjust the output control potentiometer to the desired level.
4. Switch the contactor control switch to the 'on' position.

WARNING
When the contactor control switch is in the on position the electrode holder will be "electrically live" and ready to weld. Ensure that the electrode is not in contact with the workpiece when placing this switch in the 'on' position.

5. The unit is now ready to MMA (stick) weld.

MAINTENANCE

All welding equipment should be thoroughly inspected, tested and serviced at least annually. More frequent checking will be required when the equipment is heavily used. Should this equipment fail to operate correctly, stop work immediately and have the problem investigated. Maintenance work must be performed by a trained person and electrical work by a qualified electrician.

WARNING
Switch off and disconnect the unit from the mains supply before undertaking any maintenance tasks.

Daily Tasks (Operator)
1. Check all welding and electrical cables for signs of damage, cracking or general deterioratio. Have defective cables replaced.

2. Check that all electrical connections are in good condition. In particular inspect the work return and workpiece connections. Check all welding connections at the power source output and the wire feed unit are secure.

3. Inspect the wire feed unit drive mechanism ensuring the drive rolls are in good condition and correct for the wire in use. Remove any dust or debris that may have collected around the rolls or drive stand. Ensure the wire reel is correctly fitted and its retaining nut is in place.

4. Check the welding torch for signs of damage. Replace any suspect parts,

SIX MONTHLY (MAINTENANCE DEPARTMENT).

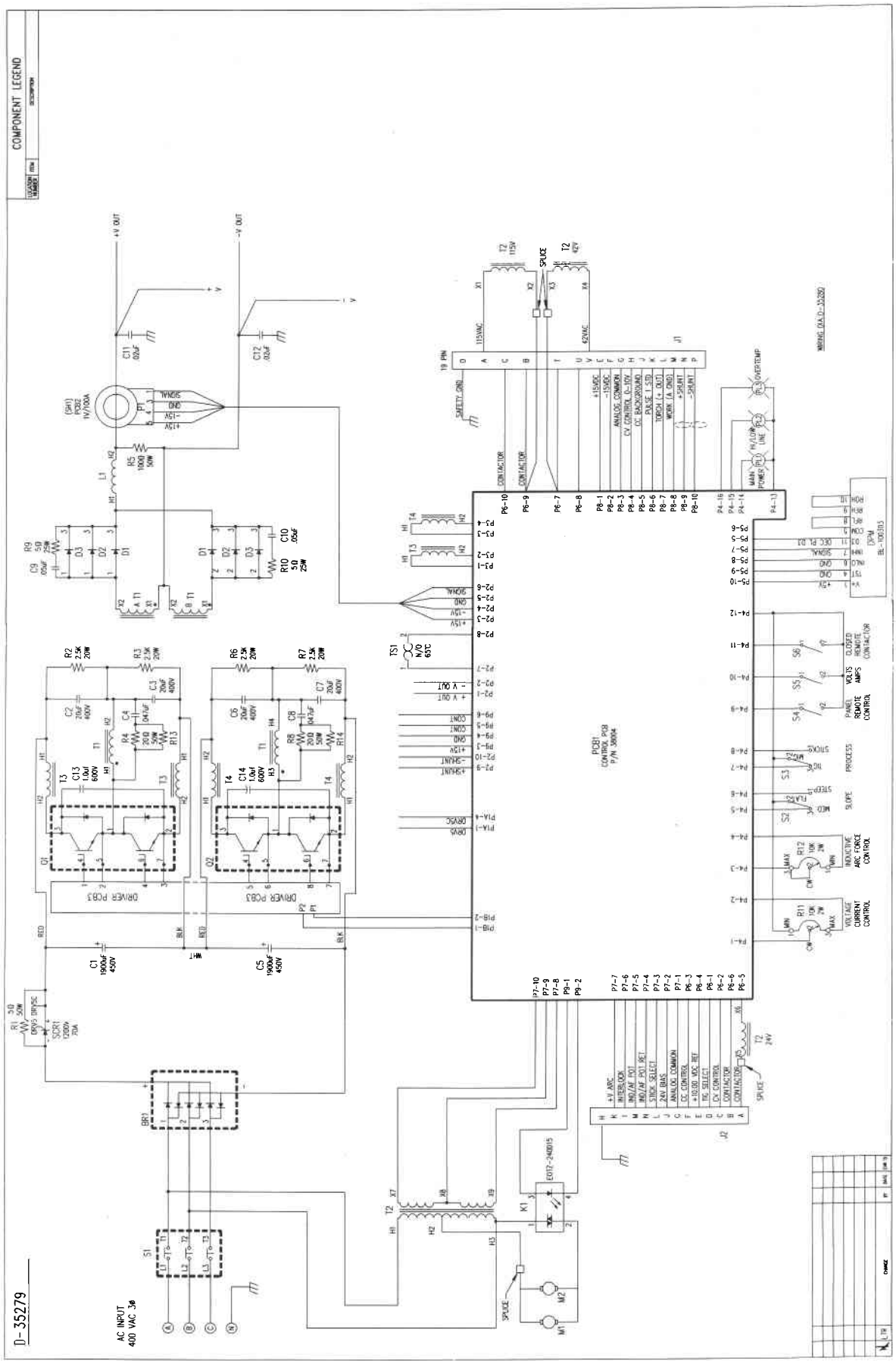
WARNING
Switch off and disconnect the unit from the mains supply before undertaking any maintenance tasks.
1. Using a soft brush and/or a supply of clean dry compressed air clean out the inside of the power source. Remember to wear suitable eye and mouth protection .

2. Inspect the incoming chassis ground connection ensure it is clean and tight.

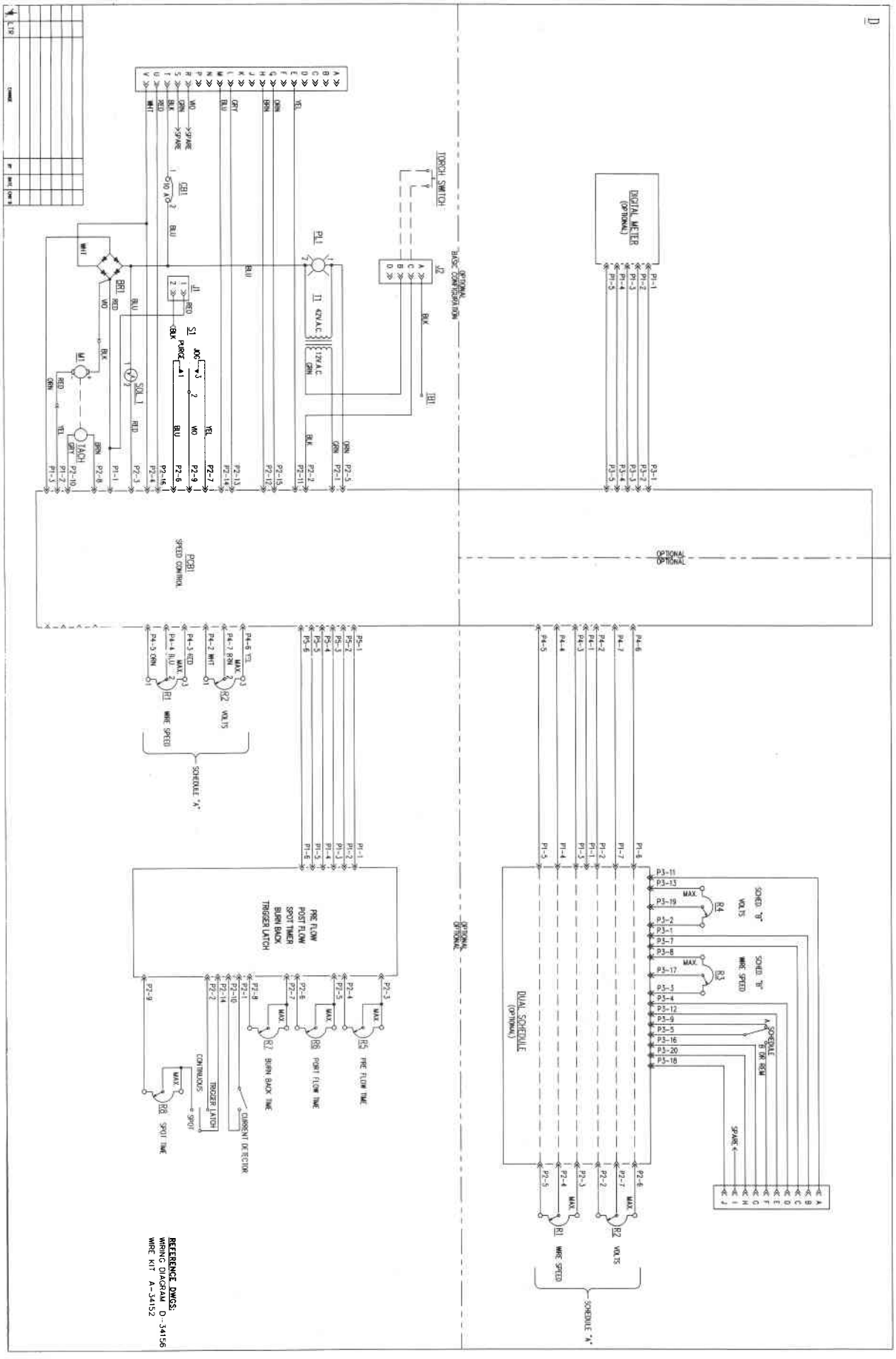
3. Inspect the welding output dinse connections for signs of overheating or cracking. Replace if necessary.

WARNING
At no time should the power source be operated without its side or top panels in place. Certain internal components are at lethal voltages above chassis ground. Fault finding must only be performed by a trained and approved service centre.

Transmatic 350*i* Schematic

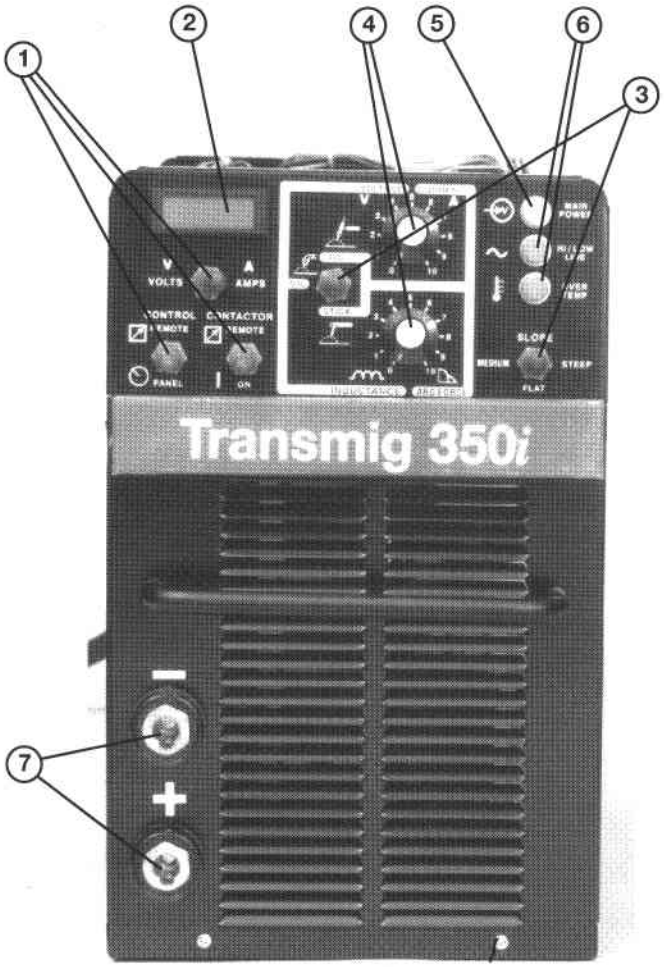


Transmatic 4x4P Schematic

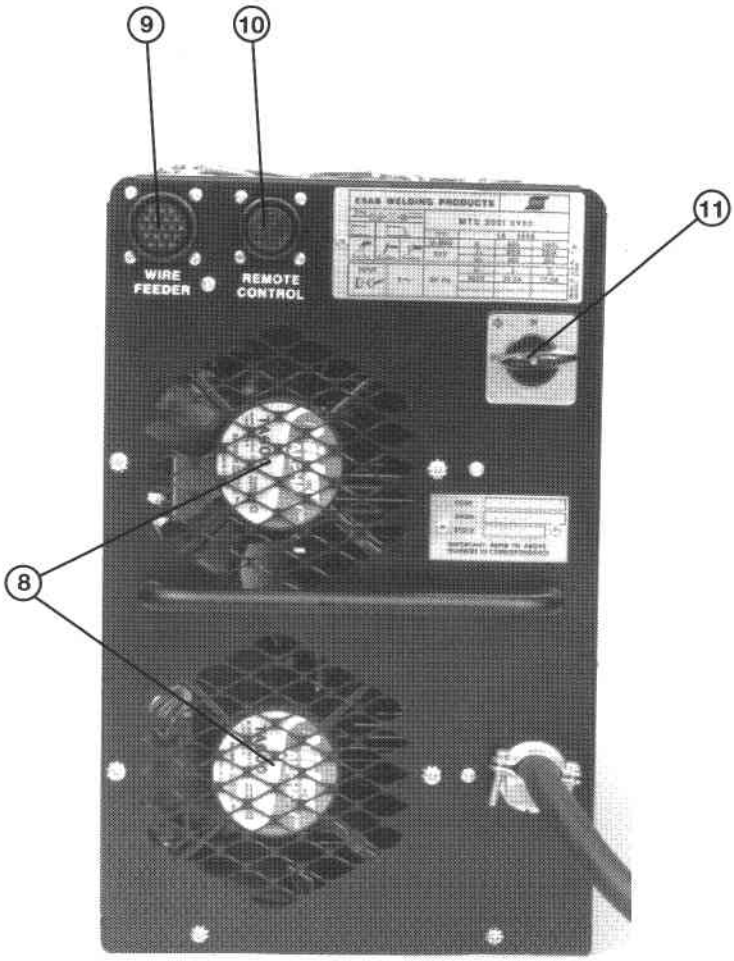


OPTIONS

	PART NO.
ULTRA PULSE REMOTE PENDANT CONTROL An easy to use Synergic pulse control unit which provides precise parameters for pulsed Mig welding. Simply select the desired wire type and diameter on the control dial, set the wire feed speed and start welding. As you change the wire feed speed the pulse parameters automatically adjust to maintain a high quality pulsed arc.	**1415227**
TIG PULSE/SLOPE PENDANT CONTROL Provides "slope up"/slope down and pulse functions for the welding current in the TIG mode.	**1415230**
HC-5 REMOTE CONTROL UNIT (10M) Provides remote control of the majority of the front panel functions. Including:- Process selection switch, contactor switch, output control and arc force.	**1415229**
FC-5B FOOT CONTROL UNIT (10M) Provides remote control and contactor on/off control.	**1415231**
DIGITAL METER/PRESET MODULE (TRANSMATIC 4x4P) Provides a digital display of the wire feed speed. The meter will read the "Preset" wire speed when not feeding wire and actual wire speed when feeding wire. If the volts mode is selected the meter reads the actual volts.	**1415228**
DUAL SCHEDULE KIT (TRANSMATIC 4x4P) Provides control for a second set of welding parameters (wire feed speed and voltage). The operator can select schedule A or schedule B on a switch located on the front of the wire feeder or select remotely via an optional torch mounted schedule selector switch.	**1415232**
REMOTE SCHEDULE SELECTOR SWITCH Torch mounted, two position switch provides remote schedule selection (A or B). (To be used in conjunction with dual schedule kit pt.no. 1415232)	**1415234**
TC-2B TIG TORCH CONTROL WITH 14 PIN PLUG Provides contact on/off and current control remotely from the TIG torch.	**1415233**

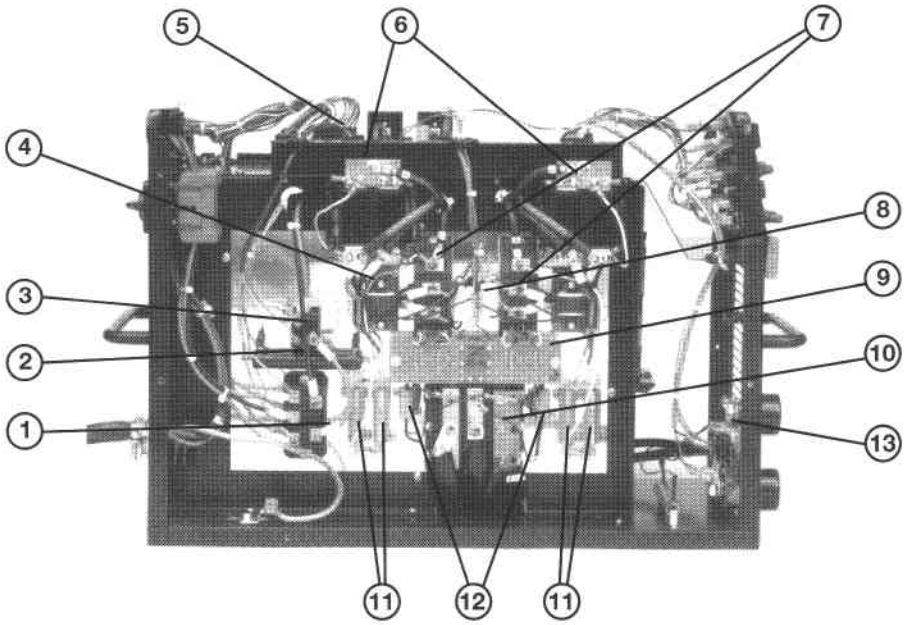


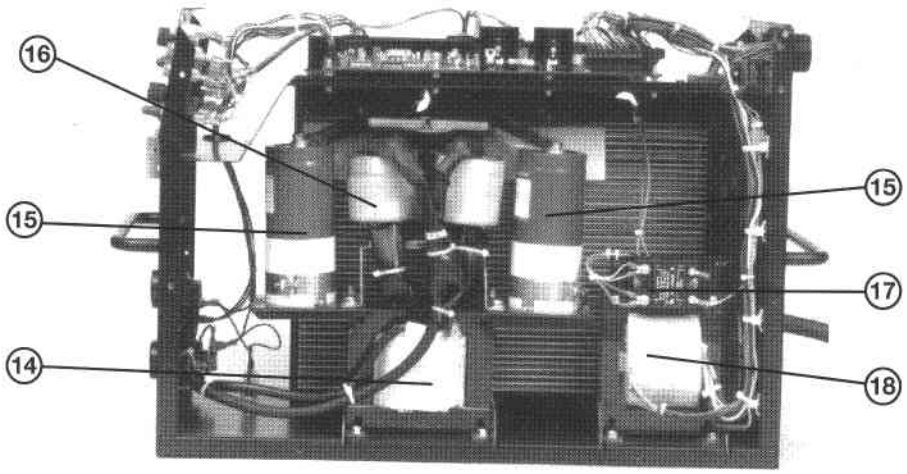
FRONT PANEL



REAR PANEL

Item No.	Part Number	Description	Circuit Ref.
1	673213	Switch SPST	S4, 5, 6
2	951826	Digital Meter	DPM
3	1414975	Switch SPDTCO	S2, 3
4	1414963	Potentiometer 10K 2W	R11,12
–	1414954	Knob for items 4	
5	951814	Lamp white	PL1
6	951815	Lamp yellow	PL2, 3
7	17242	Dinse Socket	
8	951816	Fan 230v	M1,2
9	1414965	Socket 19 pin	J1
10	1414964	Socket 14 pin	J2
11	951817	Switch Power Disc 30A 600V	S1





Item No.	Part Number	Description	Circuit Ref.
1	951207	Diode Module	BR1
2	1414989	Resistor 5ohm 50w	R1
3	1414971	Thyristor	SCR1
4	34901	Current Transformer	T4
5	838004	Main Control PCB	PCB1
6	1414355	Capacitor 20uf 400v	C2, 3, 6, 7
7	951825	IGBT Module 140A 600V	Q1
8	951835	Thermal Switch	TS1
9	838012	PCB IGBT Driver	PCB3
10	1414951	Diode Module	Di,2,3
11	17750020	Resistor 20 ohm 50w	R4,8,13,14
12	1414968	Resistor 50 ohm 25w	R9,10
13	951819	Shunt/PCB	PCB2 SHI
14	34880	Inductor Assembly	L1
15	951635	Capacitor 1900 uF 450v	C1,5
16	34881	Main Transformer	T1
17	951818	Relay	K1
18	35284	Control Transformer	T1