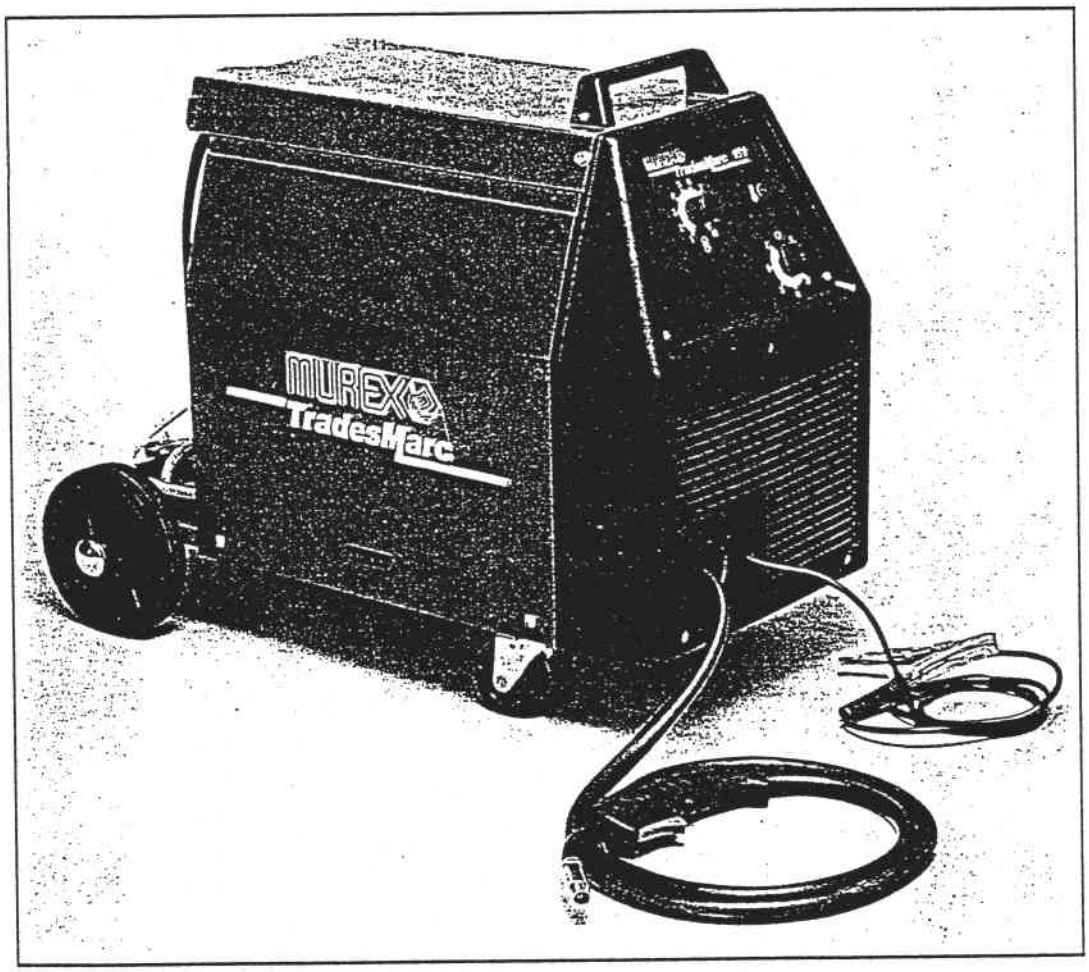
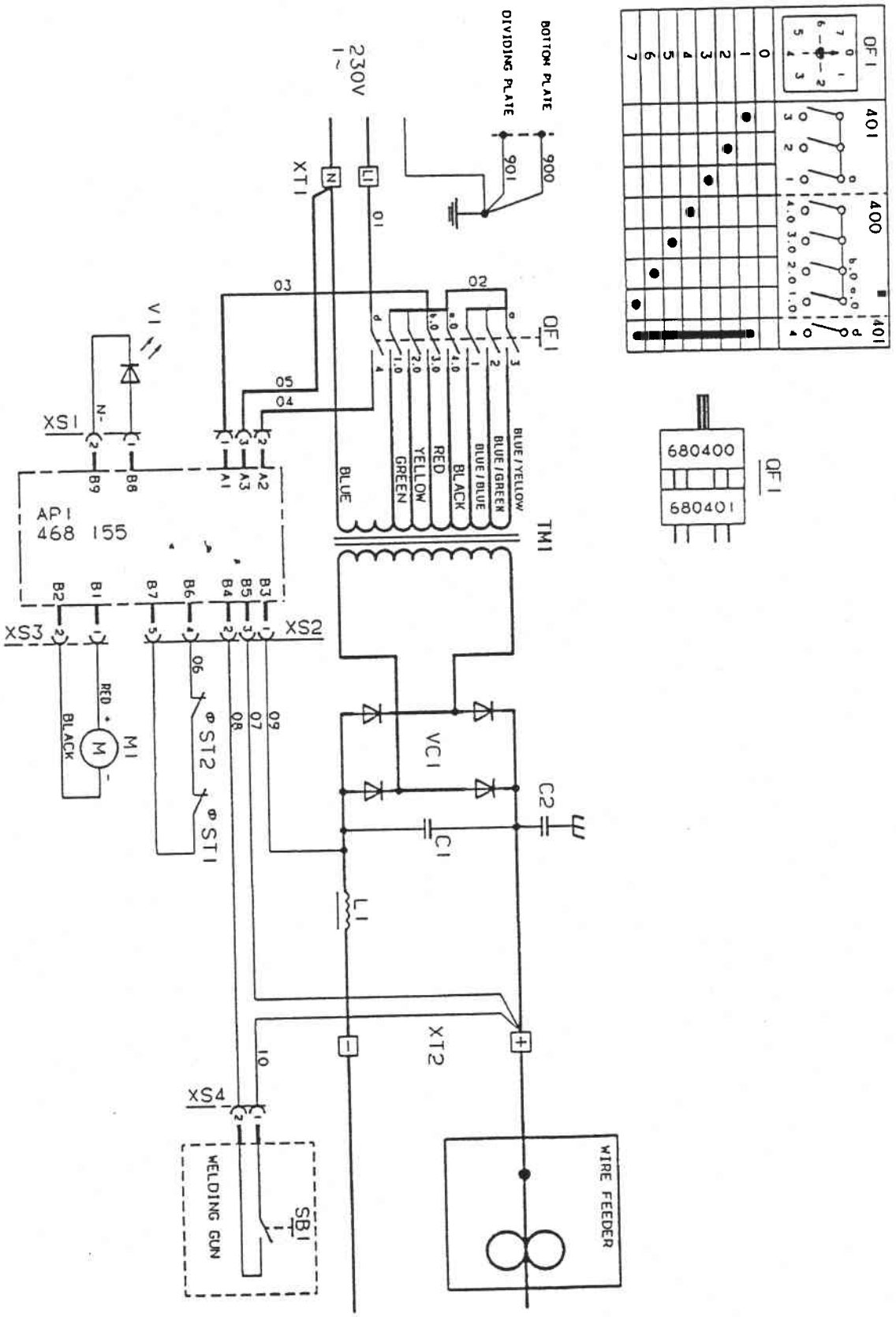
Tradesmarc 151



SERVICE INFORMATION

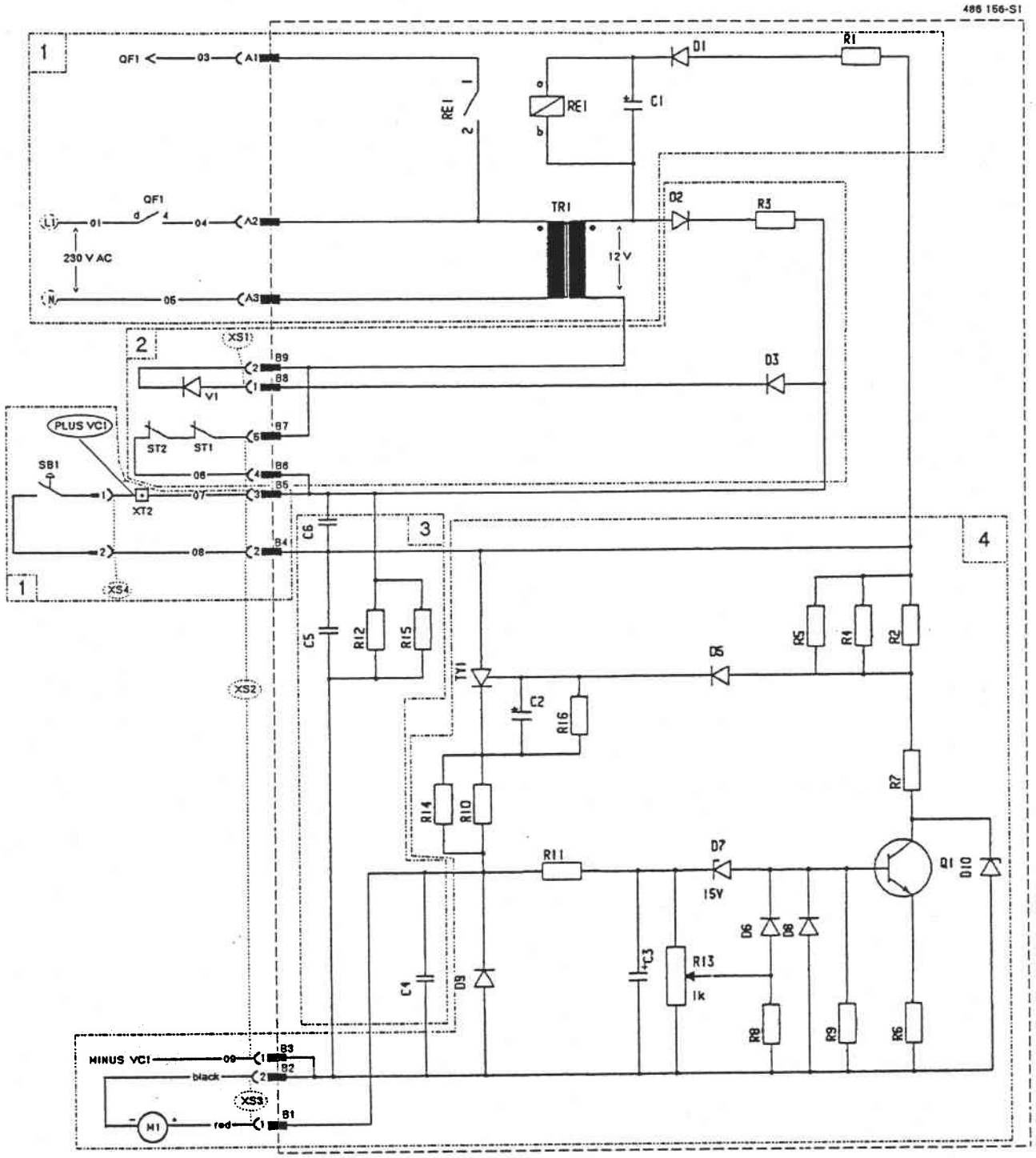
CONNECTION DIAGRAM,



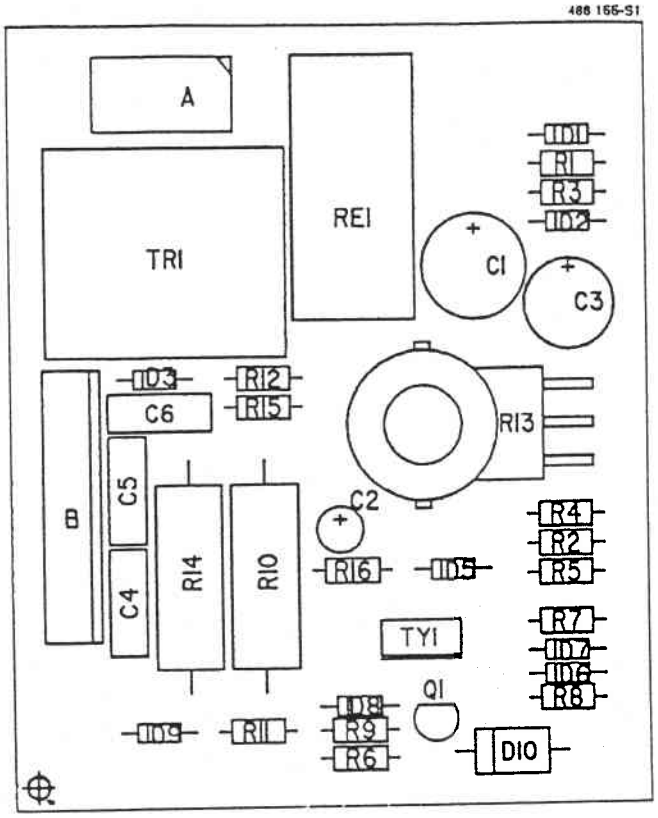
COMPONENT DESCRIPTION

AP1	Circuit board with control electronics:
C2	Capacitor 0.1µF, 400 VDC, transient protection.
L1	Inductor.
M1	Wire feeder motor.
QF1	Switch, 8-way, for 7-step and Off (main On/Off switch) adjustment of the welding current. For the Australian market the main On/Off part of the switch is 2-pole.
SB1	Welding torch trigger switch.
ST1	Thermal overload cutout, for protection against overload, fitted in the winding of main transformer TM1. The switch operates (opens) at a temperature of 130 °C.
ST2	Thermal overload cutout, for protection against overload, fitted on the diode bridge cooling fins (VC1). It operates (breaks) at 110 °C.
TM1	Main transformer
V1	LED, yellow. Lights if thermal overload cutouts ST1 or ST2 operate as a result of high temperature.
VC1	Diode bridge.
XS1	2-pole connector.
XS2	5-pole connector.
XS3	2-pole connector.
XS4	Connector, 2-pole.
XT1	Mains terminal block, 2-pole.
XT2	Terminals, welding current, positive and negative

CIRCUIT DIAGRAM, CIRCUIT BOARD AP1



COMPONENT POSITIONS, CIRCUIT BOARD AP1



DESCRIPTION OF OPERATION, CIRCUIT BOARD AP1

This description relates to the circuit diagram and the component positions diagram. If the circuit board is faulty, it must be replaced.

1 CONTROL CIRCUIT

Pressing trigger switch SB1 on the welding torch energises relay RE1 from control power transformer TR1. The contacts on the relay connect main transformer TM1 to the mains power supply.

The power supply to RE1 is half-wave rectified by D1. Resistor R1 is connected in series with the relay and drops the voltage to it. Capacitor C1 (220µF) smoothes the voltage. It also delays the drop-off of relay RE1 by about 25 ms, to provide a back-burn time.

2 THERMAL OVERLOAD CUTOUT

In the event of a thermal overload, thermal overload cutouts ST1 or ST2 interrupt the secondary circuit from TR1, causing relay RE1 to drop off and de-energising the welding circuit.

When not operated (i.e. with closed contacts), the cutouts short-circuit inputs B6 and B7.

Operation of either of the cutouts is indicated by LED V1. Interruption of the cutout circuit energises the LED via D2, R3 and D3. D2 is a half-wave rectifier, R3 limits the current through the LED and D3 protects it against reverse voltage.