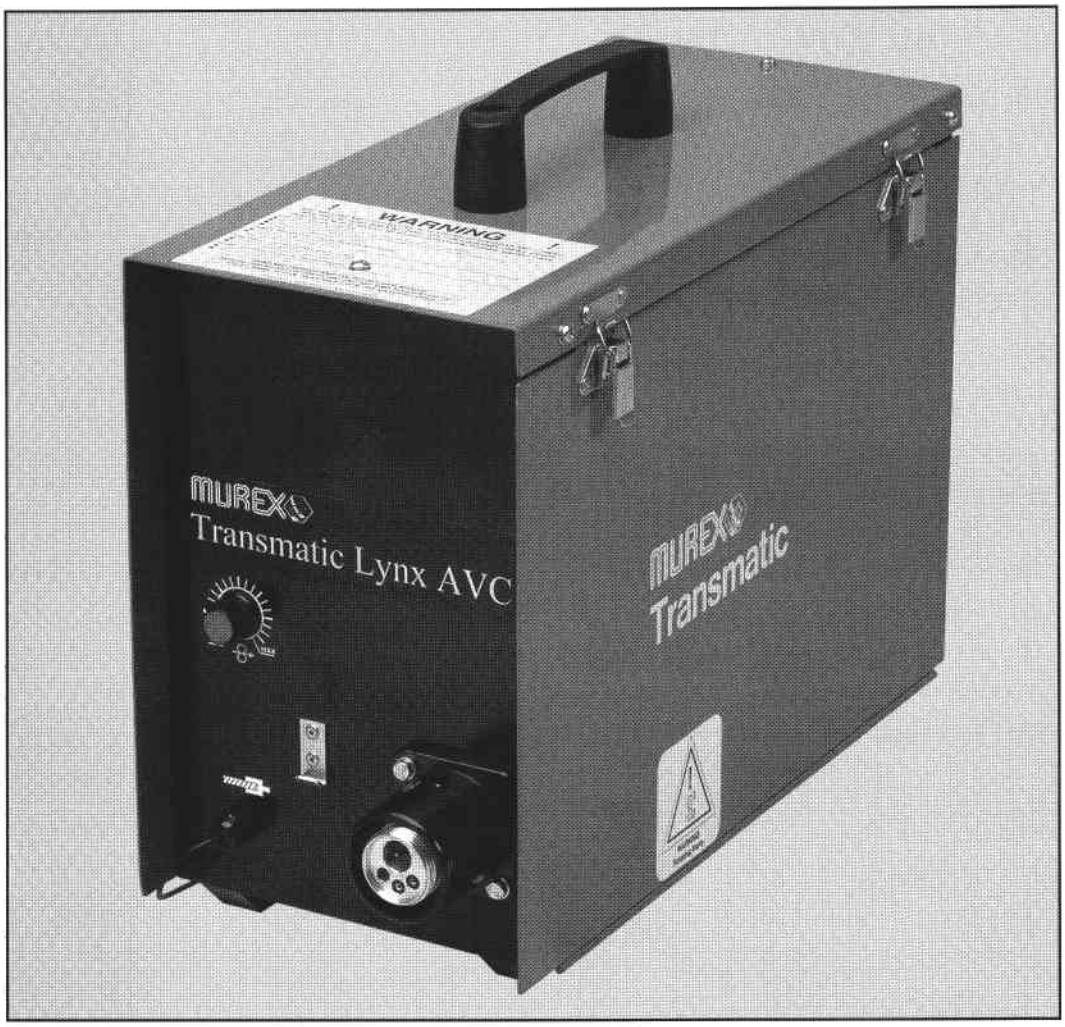
MUREX

Operating Manual

Transmatic Lynx AVC



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

DECLARATION OF CONFORMITY

Murex Welding Products Ltd.,

Declare hereby that:
Transmatic Lynx AVC
Part No. 1415787

- is manufactured in accordance with the Council Directive 73/23/EEC (1973-02-19) and 89/336/EEC (1989-05-03) amended by Council Directive 93/68/EEC relating to electrical equipment designed for use within certain voltage limits.
- conforms with the protection requirements of Council Directive 89/336/EEC, amended by Council Directives 91/236/EEC, 92/31/EEC and 93/68/EEC relating to electromagnetic compatibility.
- is manufactured in accordance with EN60974-1 Safety Requirements for Arc Welding Equipment.
- is manufactured in accordance with EN50199 Electromagnetic Compatibility for Arc Welding Equipment.

On behalf of Murex Welding Products Ltd
Hertford Road
Waltham Cross
Herts EN8 7RP
England

P G Dodd
Managing Director
Date: March 2001

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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 WMA PUBLICATION 237 'The arc welder at work' AVAILABLE FROM THE MANUFACTURER.

PROTECT YOURSELF AND OTHERS

INTRODUCTION

The Transmatic Lynx AVC wire feeder is a lightweight unit designed to be used with either drooping or flat characteristic welding power supplies, which allows for easy conversion from MMA to MIG/MAG processess.

The unit has the ability to compensate for drooping characteristic rectifier or engine-driven welder outputs allowing them to be used for self-shielded flux-cored wire welding applications for example.

Additionally, the unit can be used as a conventional MIG/MAG feeder with any flat characteristic MIG welding power source for solid wires.

Features

The wire feeder is fitted with a 5Kg wire reel holder but when fitted with a baseplate conversion kit it will handle a 15Kg wire reel.

When fitted to the base unit, the standard inlet wire guide must be replaced with a 300mm long spiral guide which extends through a grommet on the rear panel - See Optional Extras.

The Euroconnector torch socket will accept all Murex "MX" torches and carries power, control switching, gas and wire feed to the torch nozzle.

Feed roll pressure is adjustable by means of a knob on the pressure roll arm.

Wire can be 'inched' using the button provided on the internal panel.

Wire feed speed (WFS) adjustment is provided by a continuously variable control on the front panel.

An inbuilt gas soleroid provides control of sheilding gas, and a contactor opens the welding circuit when the torch switch is not operated.

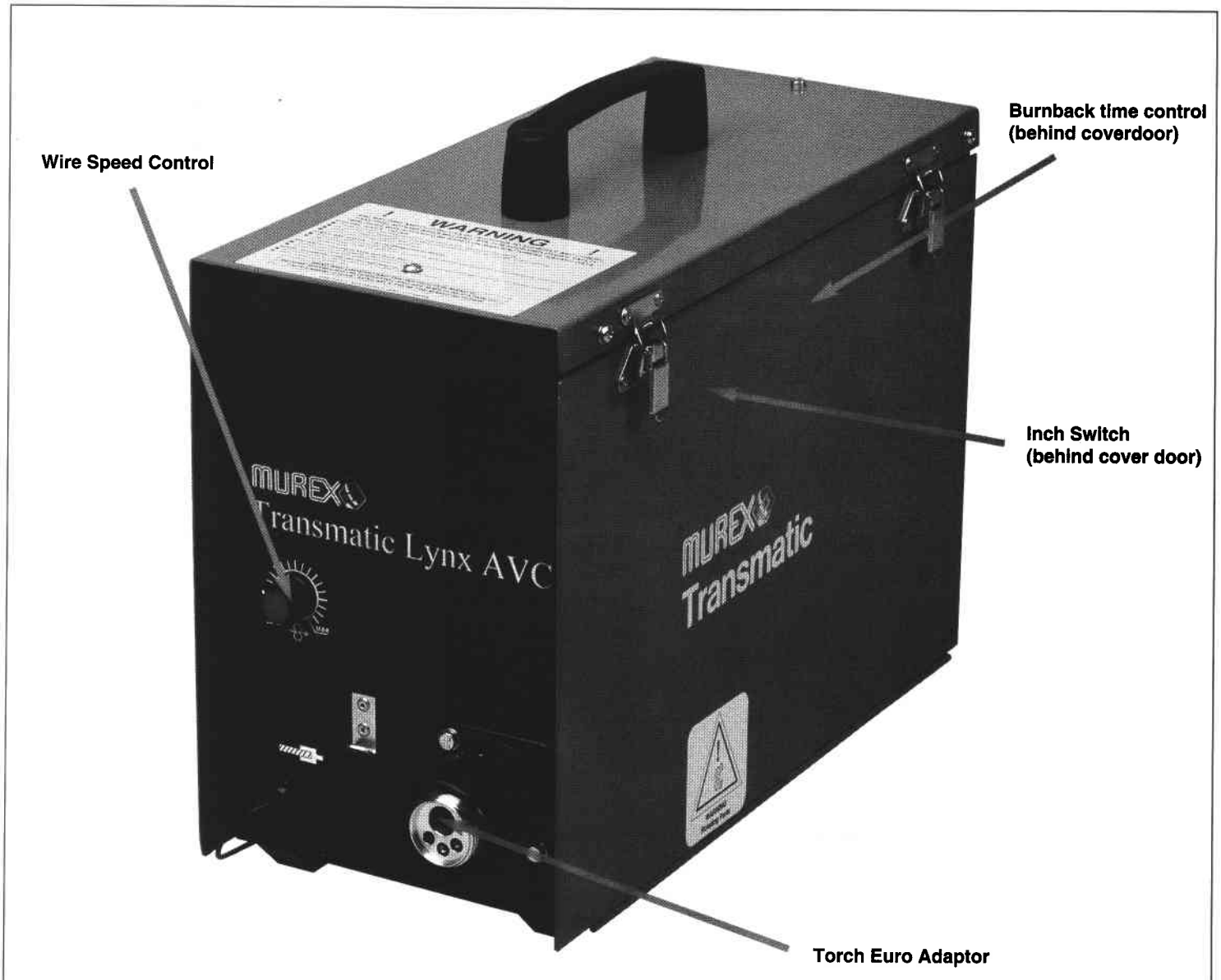


Fig 1. Operator Controls and Facilities

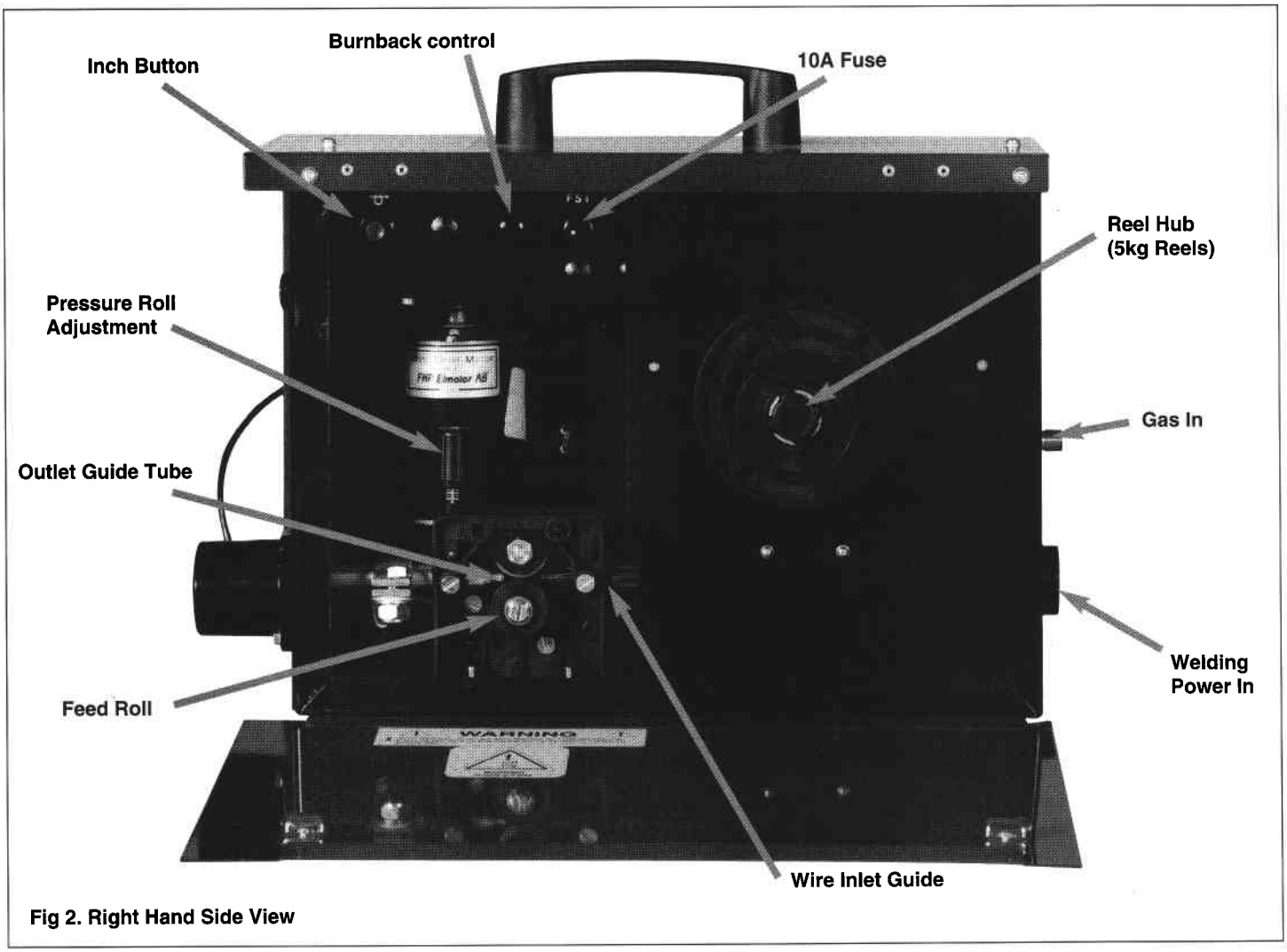


Fig 2. Right Hand Side View

TECHNICAL SPECIFICATION

Wire Diameter:	0.8 - 1.2 Hard
	1.0 - 1.6 Soft
	1.2 - 1.6 Cored
Speed Range:	2 - 20m/min
Input Open Circuit Voltage:	30 - 100V DC
Arc Voltage:	15 - 35V DC
Wire Spool:	5kg internal (Optional 15kg external)
Drive Mechanism:	2 roll, permanent magnet 24VDC motor
Facilities:	Wirefeed speed control
	Inch push button
	Optional volt and wire feed speed meters
Length:	480mm
Width:	190mm
Height:	355mm
Weight:	11kg (excluding wire)

INSTALLATION

INITIAL SETTING UP

1. Feed Roll

Before connecting the electrical gas supplies, ensure that the equipment is set up for the type and size of wire to be used.

2. Interconnection-See Fig. 3.

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

3. Shielding Gas

If shielding gas is to be used, connect a gas hose between the supply regulator and the rear panel on the AVC.

4. Power Cables

Connect the torch side power cable between the dinse fitting on the AVC rear panel and the relevant polarity output socket on the power source.

Note: *The AVC will operate on either polarity.*

5. Work Return Lead

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

6. Sensing Lead

Clip the sensing lead on to the work return lead clamp.

WELDING WIRE

Fit the reel of welding wire:

1. Remove the retainer 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. Refit retainer.
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. **15Kg base plate assembly only** - Loosen the hub reel brake nut so that the reel revolves freely. Tighten the nut just enough to prevent over-run when wire feed stops. Too much pressure will cause excessive drag.
5. Lift the pressure roll arm.
6. Thread the wire through the inlet guide over the feed roll and into the outlet guide, for approximately 50mm (2in.).

Lower the pressure roll arm so that the welding wire is clamped into position in the groove.

7. Switch on the power source, ensure that the contactor is on.
8. Push the inching button and check that the wire is driven smoothly through the outlet guide.
9. Check that wire feed is smooth and positive. If the wire slips in the feed rolls, tighten the pressure adjusting screw just enough to obtain positive wire feed drive.

Do not overtighten the adjusting screw.

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

TORCH

1. Check that the torch lead is laid out straight and connect the torch to the torch adaptor.
2. Remove the nozzle and contact tip from the torch.

Using the inching button, 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 nozzle.
4. Press the torch switch and check that wire feeds smoothly from the torch.

REPLACEMENTS AND ADJUSTMENTS

1. Guide Tube Removal

(a) Release the pressure roll, loosen the guide tube collet nut.
(b) If the guide tube will move freely, push it out of the torch adaptor using a pencil or soft wooden dowel rod, then withdraw it from the torch adaptor using a pair of long nose pliers.
If the guide tube does not move freely, it may be necessary to loosen the collet nut slightly.

2. Feed Roll Changing

Remove the feedroll retaining screw. It may be necessary to give the screwdriver a sharp twist to avoid turning the motor.
Lift the pressure arm and pull off the feedroll. when replacing the feedroll, note the wire size which is stamped on the face of the roll. The required size must face outwards when the roll if refitted. Ensure that the Woodruff Key is not lost.
Fit the feedroll and lower the pressure arm. Refit the retaining screw giving it a sharp twist with the screwdriver to tighten.

3. Feed Roll Pressure

Correct feed roll pressure will provide smooth, uninterrupted feeding of the wire. Inspection of the wire should reveal only slight marks from the feed rolls and no deformation of the wire. Use of the correct pressure is especially important when feeding aluminium wires. The pressure should be just enough to provide positive wire drive without slipping.

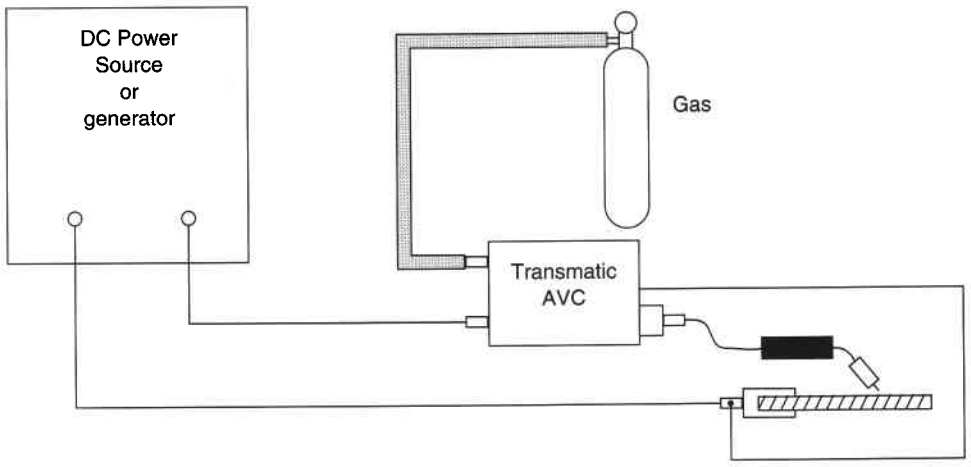


Fig. 3. - Interconnections

METER CALIBRATION (where supplied)

Meter Unit Calibration Voltmeter
Referring to the main AVC pcb - preset potentiometer VR1 sets the voltmeter scaling.

Using a calibrated standard voltmeter between the power source terminals, adjust VR1 so that the voltmeter reading is correct.

WFS Meter
Referring to the main AVC pcb - preset potentiometer VR3 adjusts the WFS meter scaling.

Note: *A jumper link is installed across R33 on the main pcb at the factory to give 10m/min range as standard.*
Remove the jumper if 20m/min range is required.

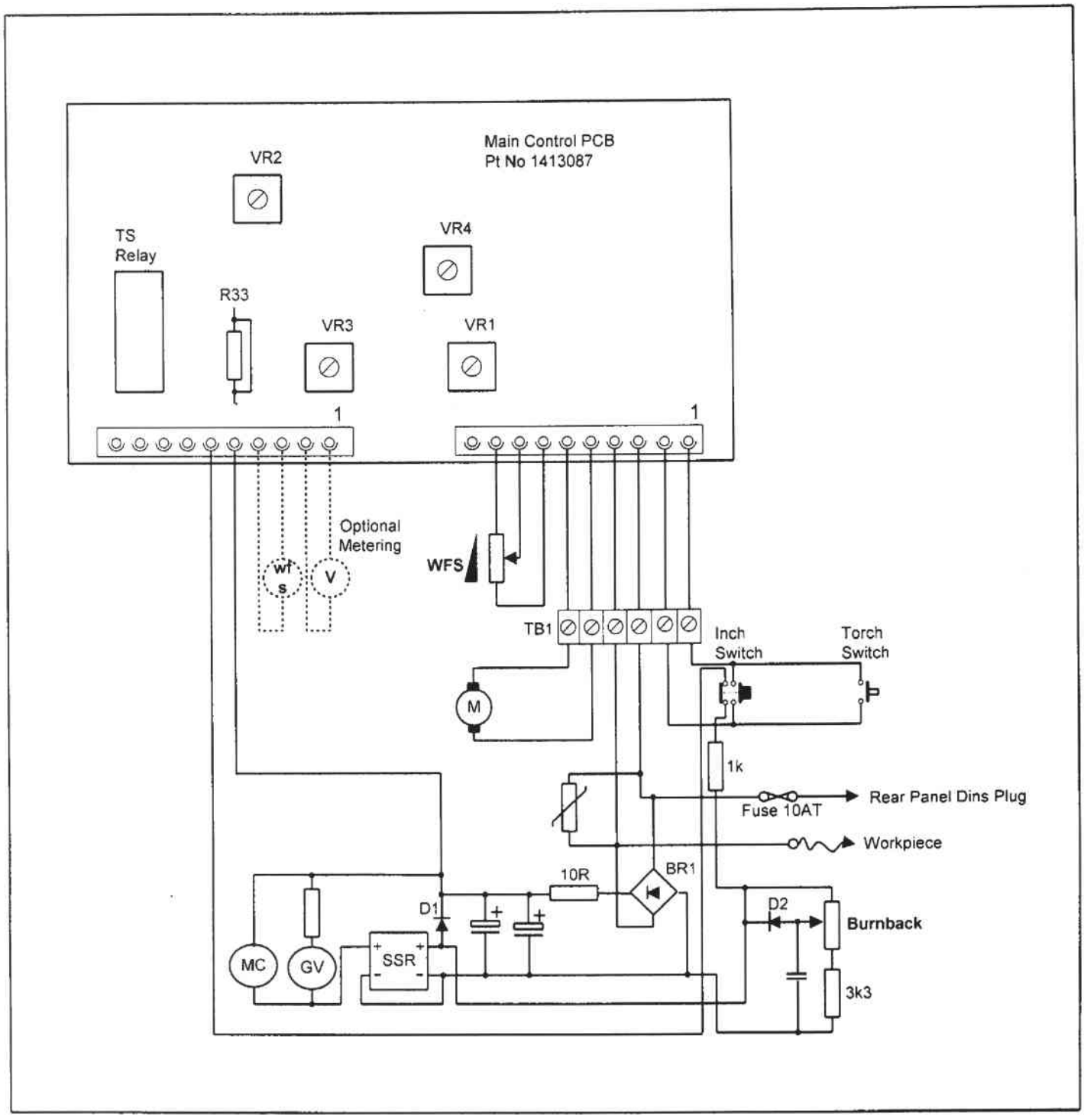
Calibrate WFS meter as follows
Set the front panel control to 50%.

Energise the welding power source and press the torch trigger. Feed the wire for 15 seconds and measure the length of wire. Multiply the measurement by 4 to determine amount of wire that will be fed in 1 minute. Press the torch trigger and adjust VR3 so that this value is indicated on WFS meter.

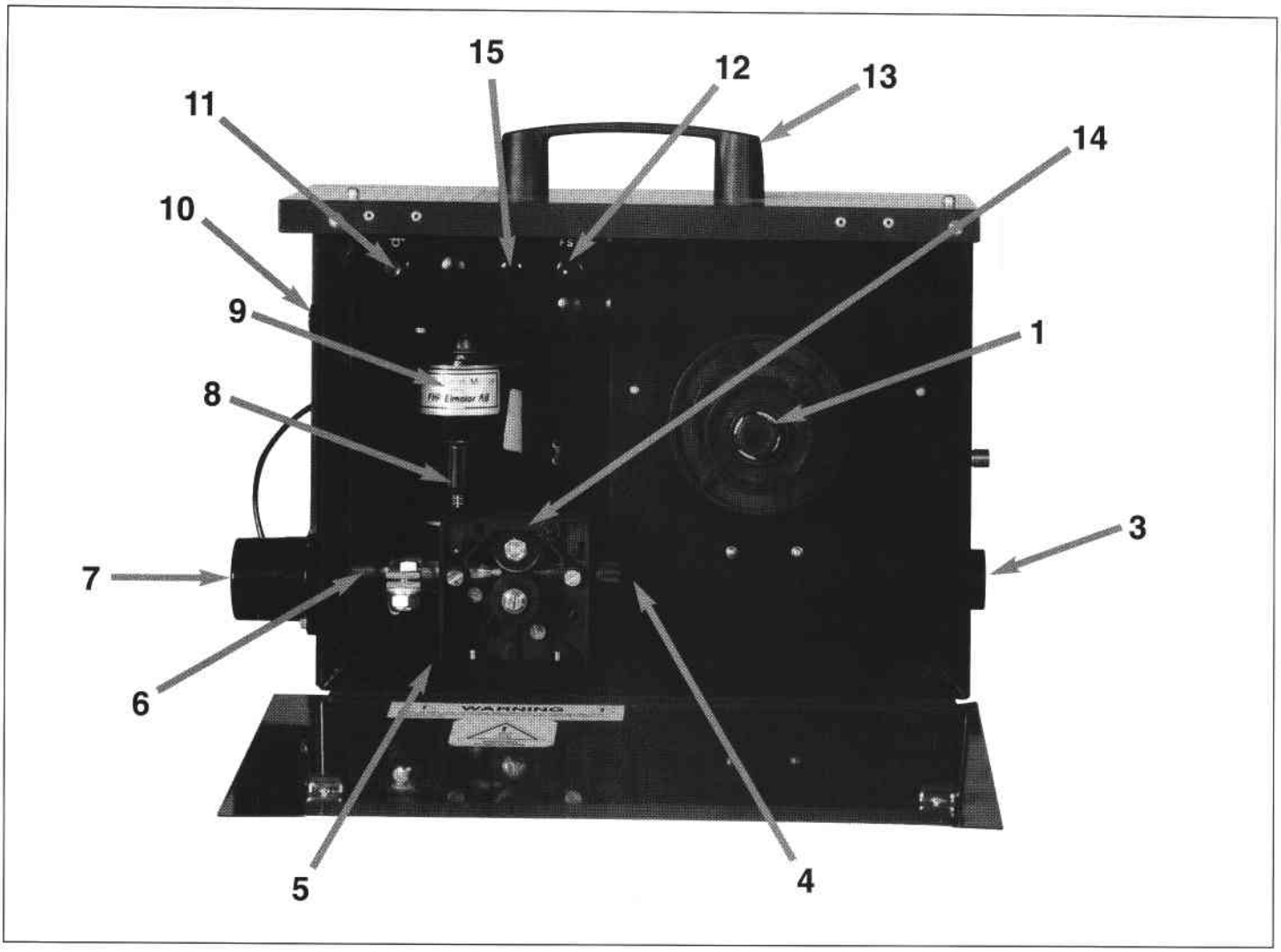
OPTIONAL EXTRAS

Item		Part No.
15kg reel holder base plate complete		1411397
Spiral inlet guide - for use with baseplate		1411502
Feed rolls	0.8 - 1.0H	1411471
	1.0 - 1.2H	1411493
	1.2 - 1.6S	1411682
	1.2 - 1.6K (standard)	1411494
Key:	H = Hard (V groove)	
	S = Soft (U groove)	
	K = Knurled for tubular wires	

CIRCUIT DIAGRAM



PARTS LIST



Item	Part No.	Description	Item	Part No.	Description
1	1414548	Reel Hub	11	1415817	Switch
3	678339	Dins Plug	12	-	Potentiometer 10k
4	1413103	Inlet Guide	13	1414550	Handle
5	1413106	Feed Block	14	1413101	Pressure Arm Assy
6	1414541	Brass Connection Tube	Behind	1413087	Control PCB
	1414542	Outlet Guide Tube Liner	15	1414552	Fuse Holder
7	1411524	Central Adaptor Block	-	-	Fuse 10AT 20mm
8	1413102	Pressure Device	Behind	1415815	Main Contactor
9	1413100	Motor	Behind	1415814	Gas Valve (110V)
10	1413089	Potentiometer 2.5k	Behind	1415816	Rectifier Bridge

NOTES

Murex Welding Products Limited
Hertford Road, Waltham Cross,
Herts. EN8 7RP. England
Telephone: Lea Valley (01992) 710000

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