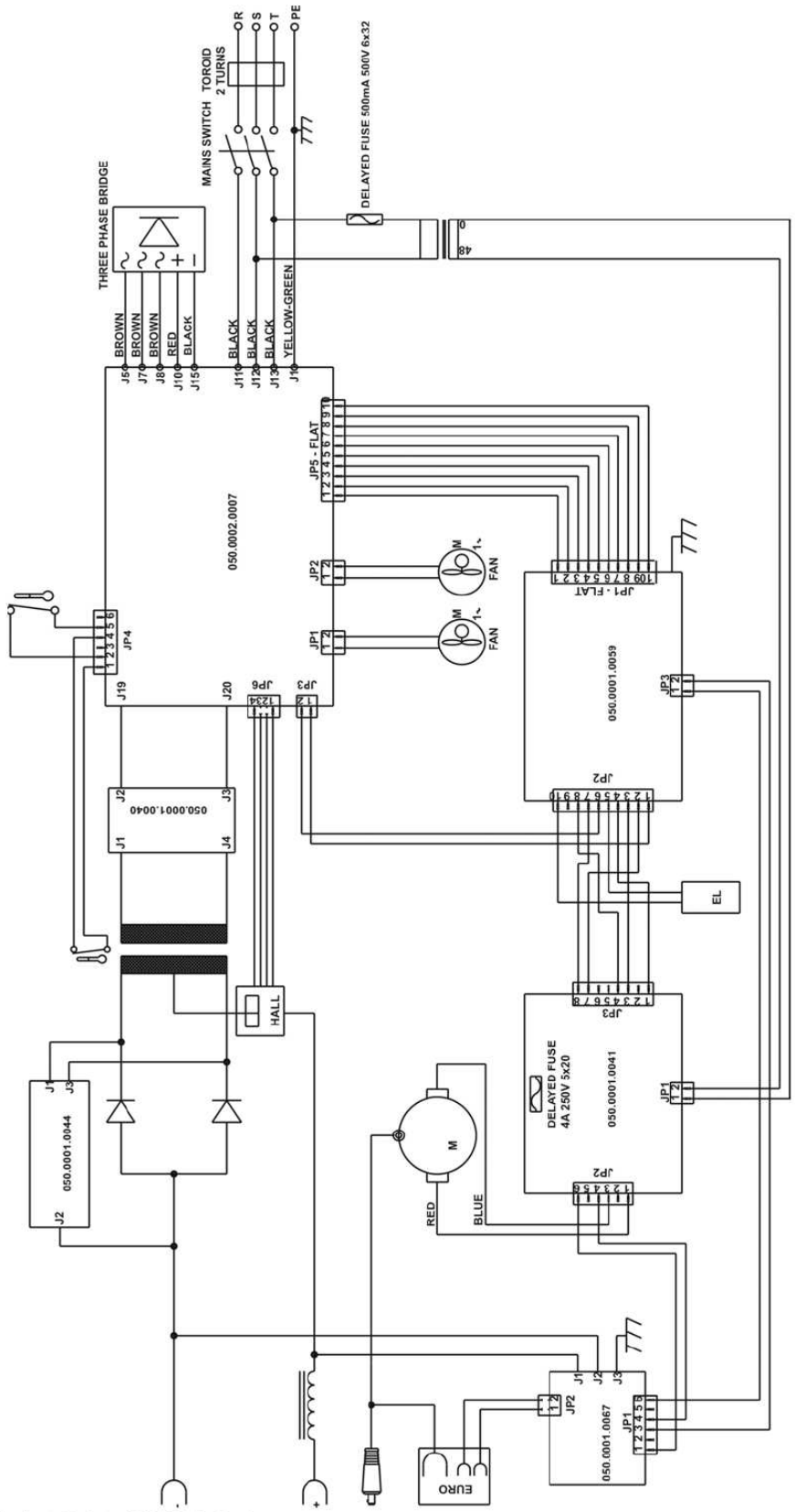
SERVISNÍ MANUÁL ALFIN 250 MPK	SERVICE MANUAL ALFIN 250 MPK

1. VAROVÁNÍ	WARNING
UPOZORNĚNÍ – Pouze osoba splňující kvalifikaci danou zákonem je oprávněna opravovat stroj.	**NOTE Only trained personnel are permitted to work inside the machine.**
PŘED OTEVŘENÍM KRYTU STROJE JEJ ODPOJTE VYTAŽENÍM SÍŤOVÉ VIDLICE ZE SÍTĚ.	**BEFORE OPENING THE MACHINE, CUT OFF ITS ELECTRICAL POWER BY REMOVING THE PLUG FROM THE MAINS SUPPLY SOCKET.**
Každé 4 měsíce otevřete stroj a jemně ho vyfoukejte stlačeným suchým vzduchem POZOR, NEPOUŽÍVEJTE STLAČENÝ VZDUCH O PŘÍLIŠ VYSOKÉM TLAKU, ABY NEDOŠLO K MECHANICKÉMU POŠKOZENÍ ELEKTROSOUČÁSTEK.	**Every six months, open the machine and clean it inside, using compressed dehumidified air. CAUTION. DO NOT USE COMPRESSED AIR AT TOO HIGH A PRESSURE. YOU COULD DAMAGE THE ELECTRONIC COMPONENTS.**
Každé 4 měsíce zkontrolujte řádný stav svařovacích kabelů a síťových kabelů.	**With the same frequency, check the welding cables and the supply cables.**

Není povolena žádná modifikace svařovacího stroje. **Pro Vaši bezpečnost je nutné posečkat se sundáním krytu ze stroje po odpojení ze sítě po dobu minimálně 5 minut, kdy klesne napětí na kondenzátorech na hodnotu pod 36 V.**	**No modification, of any type, may be made to the welding machine.** **For safety while maintaining the machine, please shut off the supply power and wait for 5 minutes, until capacity voltage already drops to safe voltage 36V.**
2. BLOKOVÉ SCHÉMA	**ELECTRICAL PRINCIPLE DRAWING**

250 MFK - 250MTM



Ultima modifica/Last Update: 18/03/2008 Rev0

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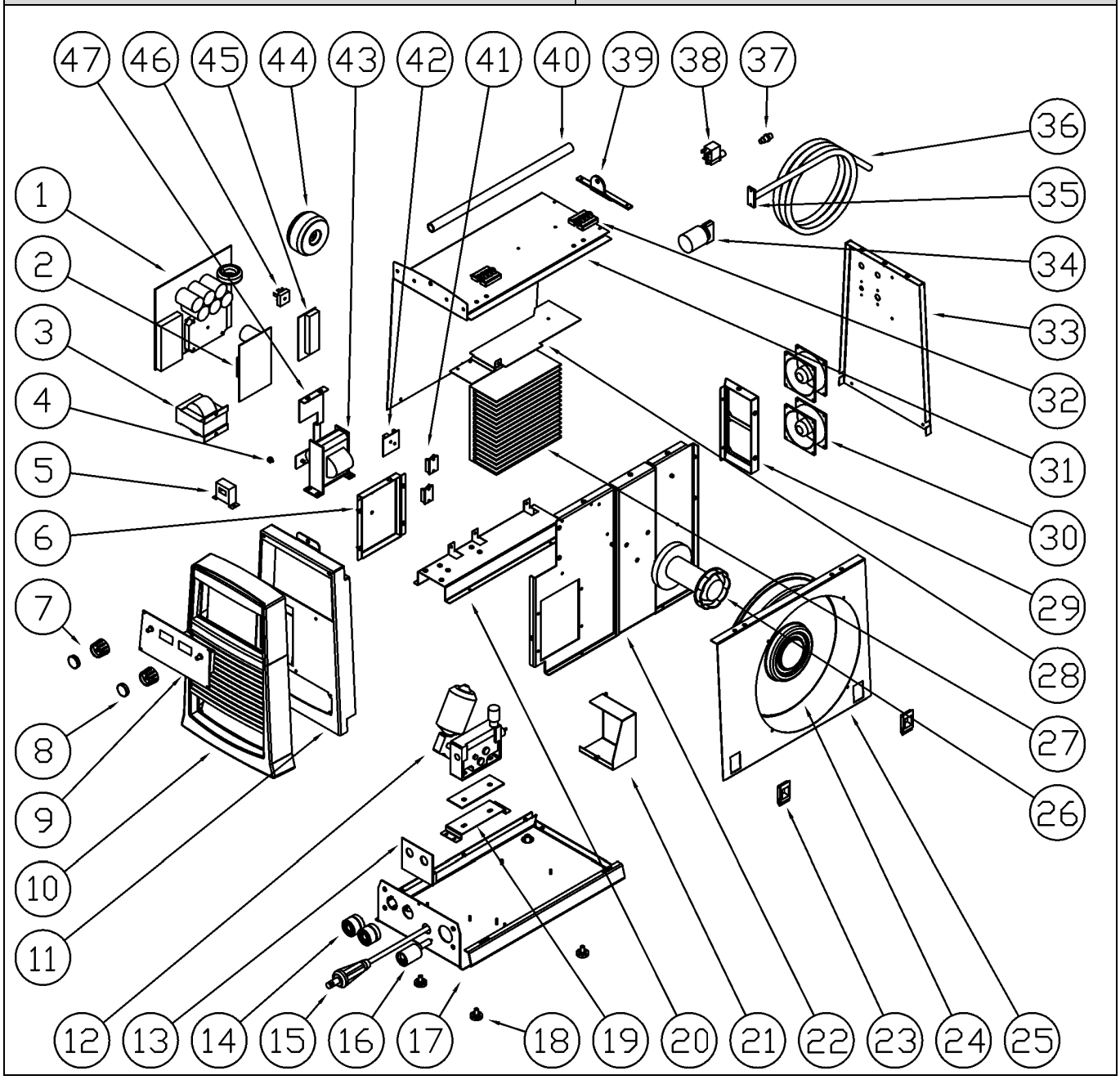
3. NÁHRADNÍ DÍLY	SPARE PARTS



N⁰po ř.	CODE	NAZEV	DESCRIPTION	Ks
1	050.252.0007	PCB silová A250MF	POWER BOARD	1
2	050.001.0041	PCB motor	MOTOR BOARD	1
3	044.004.0003	Tlumivka	INDUCTOR	1
4	040.003.1075	Termostat	THERMAL CUT-OUT	1
5	041.004.0300	Hallova sonda	HALL SENSOR	1
6	011.009.0038	Kryt motoru	MOTOR CASE	1
7+8	014.002.0004	Knoflík AFIN RX1981/M	COVER & HANDLE WITH POINTER	1
9	050.555.9900	PCB řídící ALFIN 250MPK s pan	FRONT PANEL	1
10	012.007.0000	Přední čelo	FRONT	1
11	011.009.0039	Rám přední	FRONT CASE	1
12	002.0000.0007	Podavač	WIRE DRAWING MOTOR	1
	002.0000.0119	Kladka Ø=30 0.6/0.8mm profil V	ROLLER Ø=30 0.6/0.8mm GROOVE V	2
	002.0000.0120	Kladka Ø=30 0.8/1.0mm profil V	ROLLER Ø=30 0.8/1.0mm GROOVE V	2
	002.0000.0121	Kladka Ø=30 1.0/1.2mm profil V	ROLLER Ø=30 1.0/1.2mm GROOVE V	2
	002.0000.0122	Kladka Ø=30 0.8/1.0mm profil U	ROLLER Ø=30 0.8/1.0mm GROOVE U	2
	002.0000.0123	Kladka Ø=30 1.0/1.2mm profil U	ROLLER Ø=30 1.0/1.2mm GROOVE U	2
	002.0000.0124	Kladka Ø=30 1.0/1.2mm profil drážka	ROLLER Ø=30 1.0/1.2mm GROOVE K	2
13	050.001.0031	PCB filtr 180AC/DC	OUTPUT FILTER BOARD	1
14	711P001204	Rychlospojka samice	FIXED SOCKET 400A	2
15	711P001105	Rychlospojka samec	MOVABLE PLUG 400A	1
16	BG-90625	Konektor EURO	EURO SOCKET	1
17	011.009.0040	Dno skříně	BASE	1
18	016.009.0001	Nožka gumová	RUBBER FOOT	4
19	011.009.0051	Držák podavače	MOTOR SUPPORT	1
20	011.009.0041	Držák interní	INTERNAL SUPPORT	1

21	011.009.0042	Kryt ovládacího panelu	FRONT PANEL CASE	1
22	011.009.0043	Mezistěna	COIL BEARING PLATE	1
23	011.006.0001	Zámek	SLIDE CLOSURE	2
24	012.000.0002	Kryt cívky	K300 SPOOL COVERS	1
25	011.000.0552	Boční kryt levý	DOOR	1
26	011.006.0051	Držák cívky	SPOOL SUPPORT	1
27	015.001.0010	Chladič	DISSIPATER	1
28	011.009.0046	Držák horní	UPPER SUPPORT	1
29	011.009.0044	Držák ventilátoru	FAN SUPPORT	1
30	003.002.0002	Ventilátor	FAN	2
31	011.000.0532	Boční kryt pravý	CASE	1
32	011.006.0006	Pant	PLASTIC HINGE	2
33	011.009.0045	Zadní čelo	REAR PLATE	1
34	040.001.0015	Hlavní vypínač	THREE-POLE SWITCH	1
35	045.000.0004	Průchodka	CABLE GRIP	1
36	VM0048	Síťový kabel	NEOPRENE CABLE	1
37	040.006.1880	Držák pojistky	FUSE CARRIER	1
38	2557	Plynový ventil	SOLENOID VALVE	1
39	011.009.0047	Držák madla	PIPE SUPPORT	1
40	011.009.0048	Madlo	PIPE	1
41	032.002.2003	Dioda izotop	ISOTOP DIODE	2
42	050.001.0044	PCB RC člen	SNUBBER BOARD	1
43	042.003.0032	Transformátor	TRANSFORMER	1
44	041.006.0005	Trafo toroid ALFIN 250MF	AUXILIARY TRANSFORMER	1
45	050.001.0040	PCB kondenzátory vstupní	PRIMARY CAPACITOR BOARD	1
46	032.001.3612	Usměr.vstupní Alfin200	THREE-PHASE BRIDGE	1
47	011.009.0037	Kryt transformátoru	TRANSFORMER CASE	1

4. ZÁVADY - ŘEŠENÍ

Poř.	Závada	Příčina	Řešení
1	Stroj je zapnutý, ventilátor funguje, LED zapnutí nesvítí	LED nebo její připojení je vadné.	Opravte připojení nebo vyměňte LED poř.č9
		Silová PCB je vadná.	Opravte nebo vyměňte PCB poř.č1

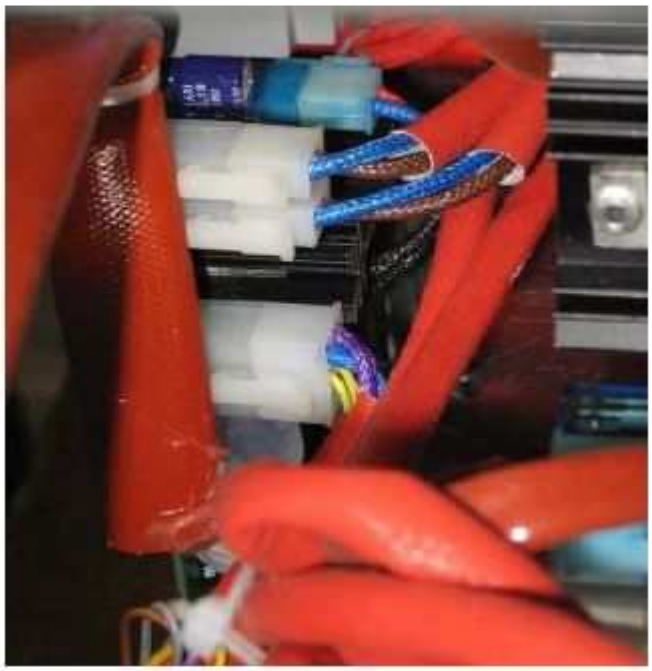
2	Stroj je zapnutý, LED zapnutí svítí, ventilátor neběží.	Překážka rotace ventilátor.		Odstraňte
		Motor ventilátor poškozen.		Vyměňte ventilátor
3	Stroj je zapnutý, LED zapnutí nesvítí, ventilátor neběží.	Není napětí v síti		Zkontrolujte, jestli je v síti napětí.
		Přepětí nebo podpětí v síti.		Zkontrolujte síťové napětí.
4	Žádné napětí na prázdno	Závada generátor.		Zkontrolujte hlavní vypínač
5	Žádný svařovací proud na svorkách	Svařovací kabely nejsou připojeny do konektorů.		Připojte svařovací kabely do rychlospojek na stroji.
		Poškozený svařovací kabel.		Vyměňte nebo opravte svařovací kabel.
		Zemnící kabel není připojen nebo je špatně připojen.		Zkontrolujte zemnící kabel
6	Obtížně se zapaluje oblouk nebo dochází k lepení elektrody.	Špatně utažené svařovací kabely.		Zkontrolujte utažení svařovacích kabelů.
		Svařenec je znečištěn olejem nebo prachem.		Očistěte svařenec.
		MMA/TIG výběr je špatný.		Vyberte MMA svařování.
7	Svařovací proud nelze nastavit.	Poškozený potenciometr předního panelu.		Opravte nebo vyměňte potenciometr.
8	Penetrace tavné lázně nedostačující.	Svařovací proud je nastaven příliš nízko.		Zvyšte svařovací proud
9	Nestabilní oblouk	Nepříznivý vliv průvanu		Použijte zástěnu.
		Excentrická elektroda		Změňte úhle uchycení elektroda
				Vyměňte elektrodu
		Vliv magnetismu		Nahněte elektrodu proti směru magnetického vlivu.
				Změňte pozici zemnícího kabelu nebo přidejte zemnící kabel na opačnou stranu svařence.
10	LED ALARM svítí	Přehřátí	Stroj příliš zatížen	Počkejte, až se stroj vychladí
		Ochrana přepětí	Nestandardní proud na hlavním obvodu.	Otestujte a opravte hlavní obvod PCB poř.č1

TROUBLESHOOTING

S/N	Troubles	Reasons	Solutions
1	Turn on the power source, and fan works, but the power light is not on.	The power light damaged or connection is not good	Test and repair the inside circuit of power light s/n 9
		Power PCB failures	Repair or change power PCB s/n 1
2	Turn on the power source, and the power light is on, but fan doesn't work	There is something in the fan	Clear out
		The fan motor damaged	Change fan motor

3	Turn on the power source, and the power light is not on, and fan doesn't work	No input voltage		Check whether there is input voltage
		Overvoltage (Input voltage is too much or not)		Check input voltage
4	No no-load voltage output	There is trouble inside the machine		Check the power switch
5	No current output in the welding	Welding cable is not connected with the two output of the welder.		Connect the welding cable to the welder's output
		Welding cable is broken		Wrap, repair or change the welding cable
		Earth cable is not connected or loosen		Check the earth clamp
6	Not easy to start arc in the welding, or easy to cause sticking	The plug loosen or connect not well		Check and tighten the plug
		Oil or dust covered the workpiece		Check and clear out
		MMA/TIG welding selection is wrong		Selecting the MMA welding
7	The welding current can not be adjusted	The welding current potentiometer in the front panel connection not so good or damaged		Repair or change the potentiometer
8	The penetration of molten pool is not enough(MMA)	The welding current adjusted too low		Increase the welding current
9	Arc blow	Airflow disturbance		Use the shelter from airflow
		The electrode eccentricity		Adjust the electrode angle
				Change the electrode
		Magnetic effect		Incline the electrode to the opposite way of the magnetic blow
				Change the position of earth clamp or add earth cable in the two side of workpiece
				Use the short arc operation
10	The alarm light is on	Over heat protection	Over welding current	Induce the welding current output
			Working time too long	Induce the duty cycle (interval work)
		Over current protection	Unusual current in the main circuit	Test and repair the main circuit and drive PCB s/n 1

5. KONTROLA SILOVÉ PCB — CHECKING THE POWER PCB



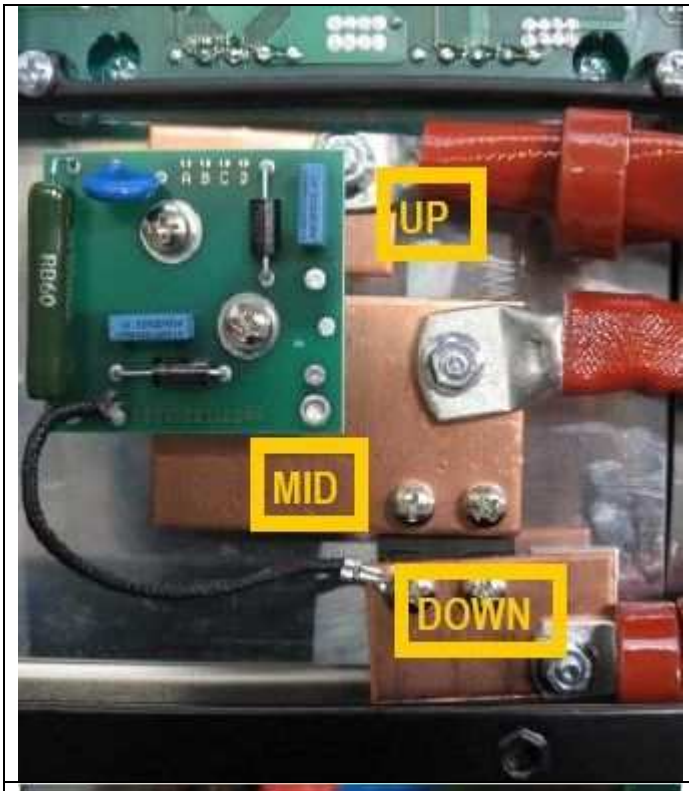
Thermal protection of power trasformer

Heat Sink thermal protection

Pozice kontaktů v konektoru

- teplotní čidlo (žluté dráty): pozice 3,6

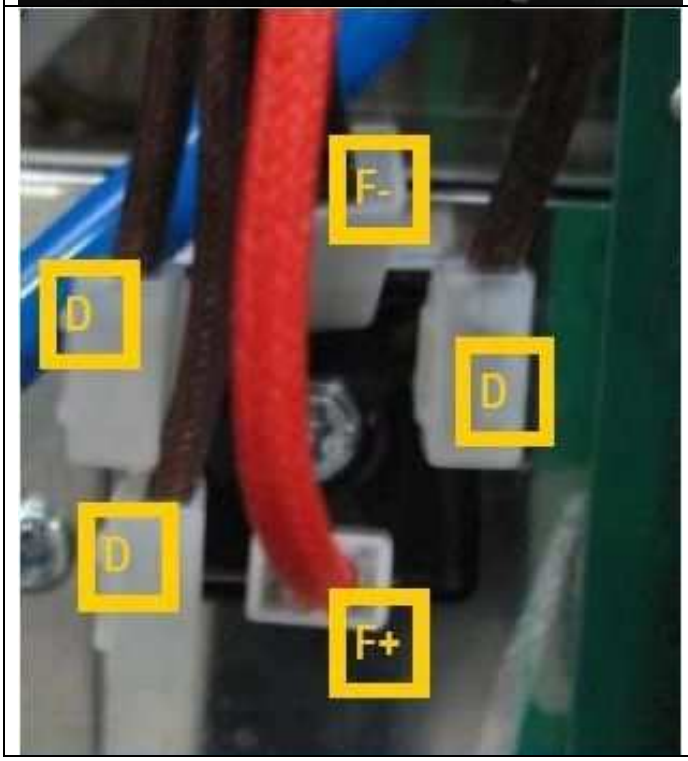
Zkontrolujte spojení kontaktů tepelné ochrany pomocí testeru diod, teplota chladiče nesmí být vyšší než 40°C.



Před kontrolou výstupních usměrňovačů odpojte PCB RC filtr

červený	černý	hodnota
UP	MID	OL
MID	UP	>.150
MID	DOWN	>.150
DOWN	MID	OL

Nakonec zkontrolujeme dva transily na PCB RC filtr. V obou směrech musí vykázat přerušený obvod



Vstupní usměrňovač na silové desce
Pro kontrolu můstku změřte tento podle následující tabulky testerem diod

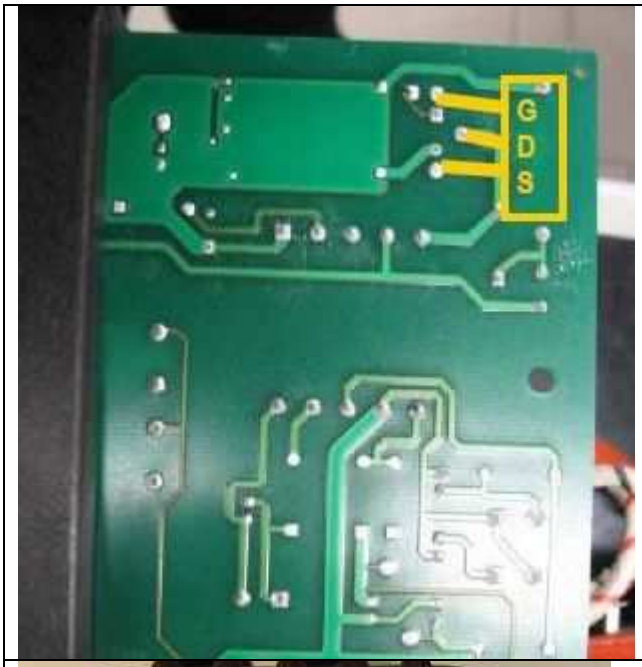
Červený vodič	Černý vodič	Naměřená hodnota
F+	D	OL
D	F+	>0.450
D	F-	OL
F-	D	>0.450

Pro kontrolu tranzistorů změřte tyto podle následující tabulky testerem diod

červený	černý	hodnota
D	S	OL
S	D	>.350
G	S	>1.5
S	G	>1.5
G	D	OL
D	G	OL

Hodnoty jsou orientační. Naměříte-li zkrat, nebo rozpojený obvod (OL), je nutné PCB vyměnit

Varistory jsou blízko vstupu napájecího napětí na silovou PCB. Toto zařízení slouží k ochraně PCB před vstupním
přepětím. Při přepětí "exploduje" a zkratuje vstup. Je-li rozsah zkratu velmi
vysoký, obvod se přeruší

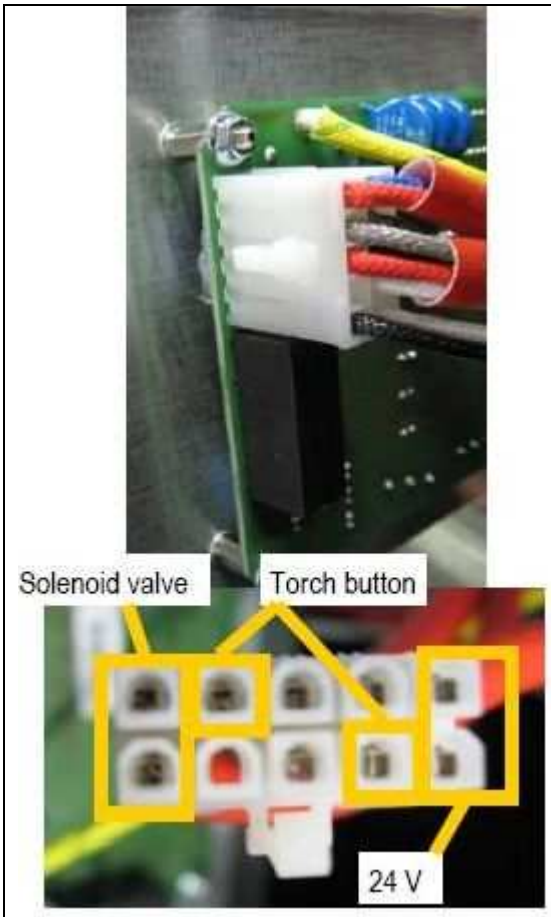


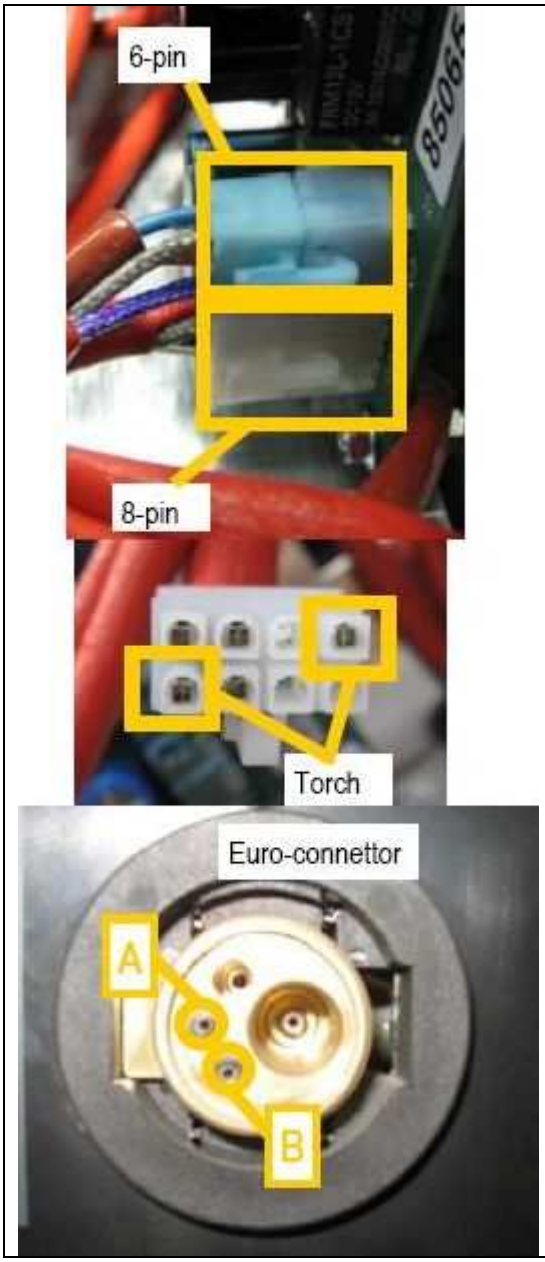
Pro kontrolu tranzistor změřte podle následující tabulky testerem diod

červený	černý	hodnota
D	S	OL
S	D	>.350
G	S	OL
S	G	>0.5
G	D	OL
D	G	OL

Hodnoty jsou orientační. Naměříte-li zkrat, nebo rozpojený obvod (OL), je nutné PCB vyměnit

Digitální multimetr. "OL" označuje přerušený obvod

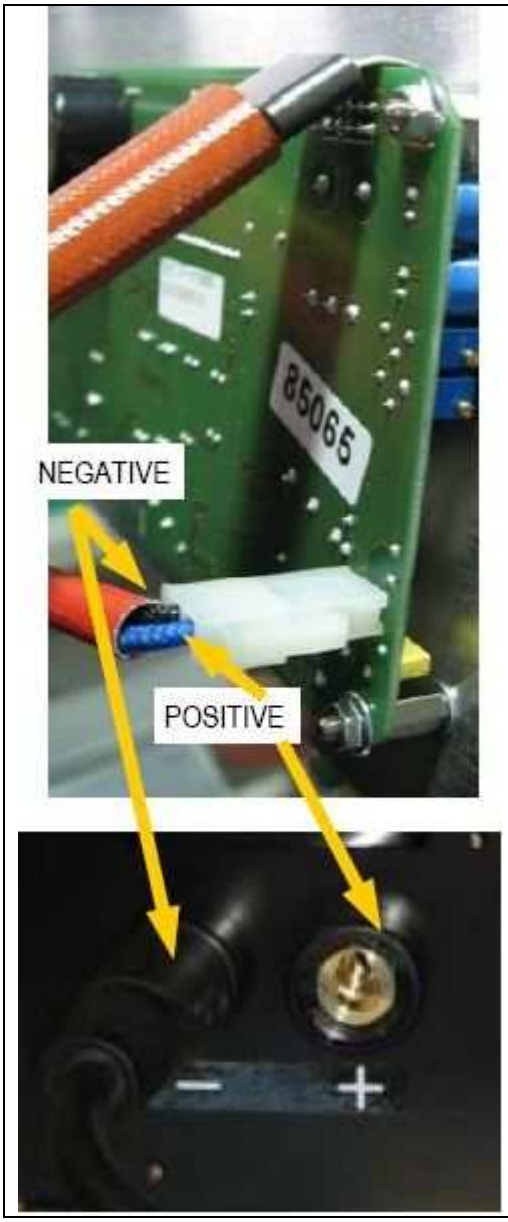
	Ujistěte se, že kabel JP2 na předním panelu je správně zasunut v 10-pinovém konektoru. Význam jednotlivých pinů: − pin 5/10 plynový ventil − pin 7/4 tlačítko hořáku − pin 1/6 24 V

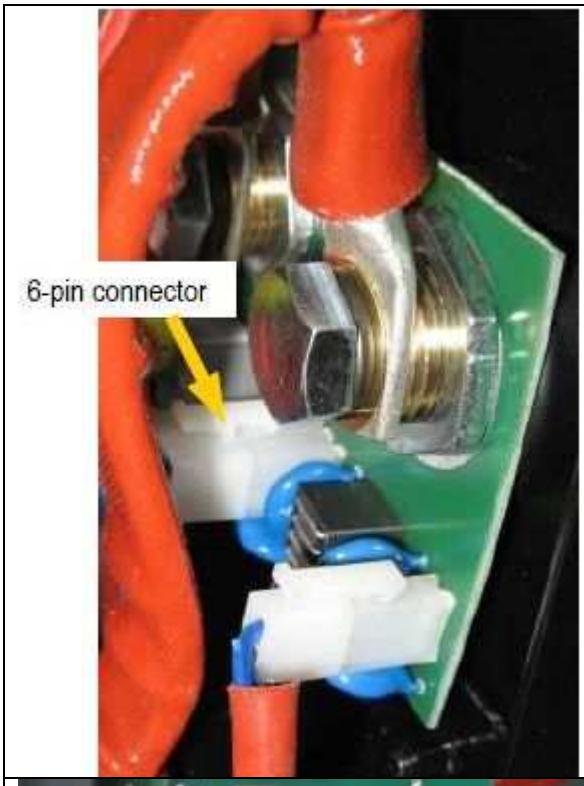
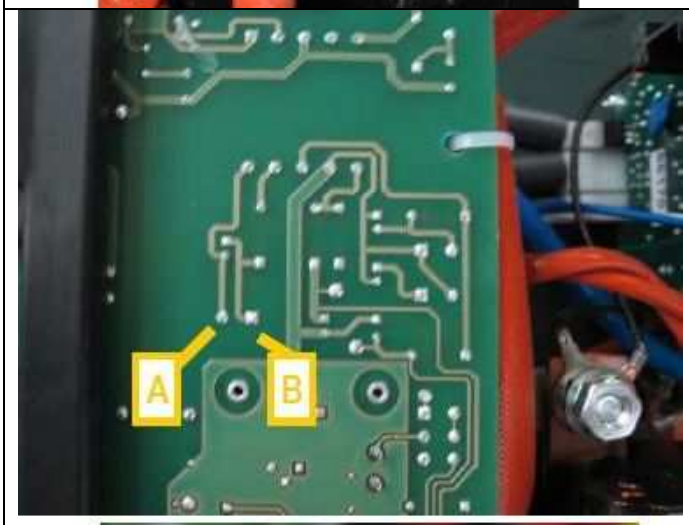
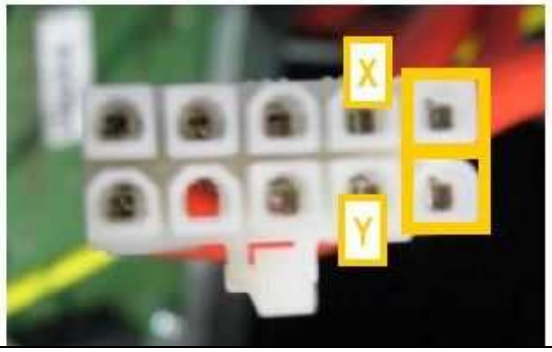


Ujistěte se zda konektory JP2 a JP3 jsou správně připojeny na PCB motoru a spojení vodičů mezi PCB řídící (8-pinový konektor) a PCB motor:

050.001.0059 PCB řídící	050.001.0041 PCB motor
2	7
3	3
8	4
4	1
7	8

Také zkontrolujte spojení mezi piny AB na EURO konektoru a modrým 6-pinovým konektorem na PCB řídící

	Zkontrolujte spojení mezi PCB řídící a výstupními rychlospojkami - černý drát jde k záporné - červený drát jde ke kladné

	Zkontrolujte připojení 6-pinového konektoru na PCB 050.001.0067
 	Zkontrolujte testerem diod průchodnost mezi body A/B na silové PCB a pinů X/Y na propojce k PCB řídící.

	Pojistka- 500mA: na zadním panelu Pojistka- 4A: na PCB motor

CAUTION!

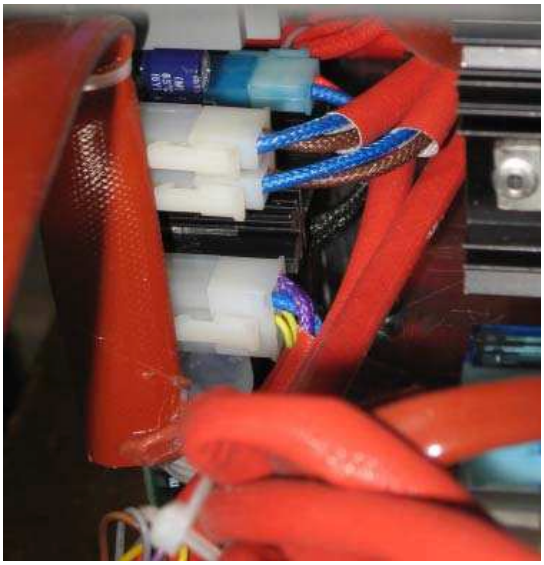
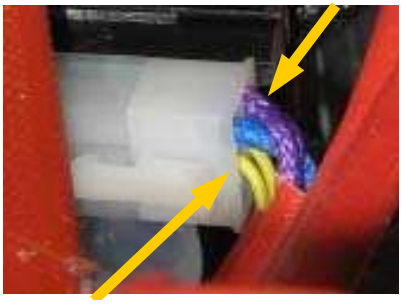
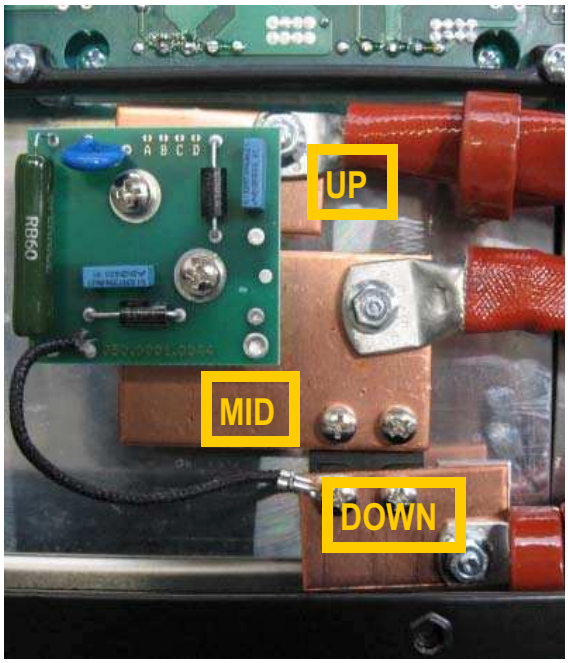
Before carrying out any work on the machine make sure it is off and the plug has been disconnected.

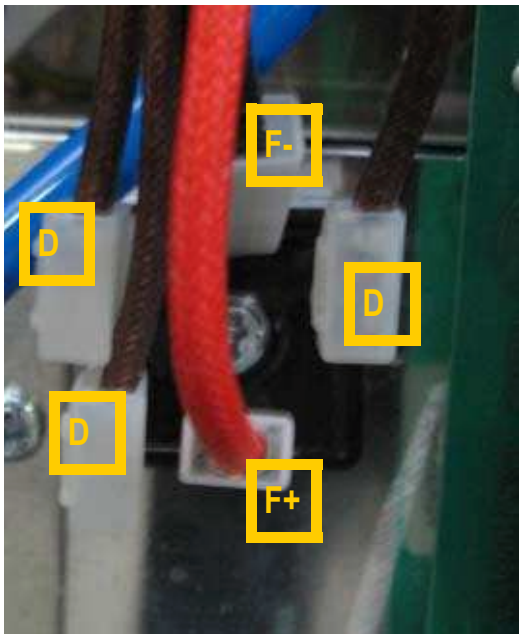
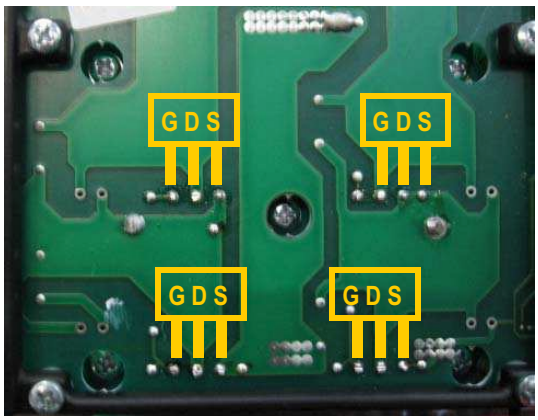
PROBLEM	CASE	SOLUTION
The machine does not switch on.	– Electrical power does not reach the machine. – Voltage reaches the machine switch but there is no voltage after the contacts. – There is voltage after the disconnecting switch but the machine does not go on.	• Make sure the line switches are closed, the protection devices (fuses) have not been enabled and that the power supply cable is intact. • Switch the machine off and disconnect the plug. Make sure that when the switch is closed, there is continuity between the contact input and output and the varistors are not broken. (picture 5). • Switch the machine off and disconnect the plug. Check the mosfet of the switching power supply unit on the power board (picture 6).
The protection devices of the line set off when the switch is activated and the machine does not go on.	– Damaged power supply cable with short-circuited wires. – Inverter is damaged.	• Switch off the machine and disconnect the plug. Make sure that there are no short circuits between the poles of the plug caused by a damaged power supply cable. • Switch off the machine, disconnect the plug and check: - varistors (picture 5); - inverter (picture 4); – Input bridge rectifier (picture 3); – switching power supply unit (picture 6).
The front panel does not switch on.	– The fan works but the front panel does not go on. – Both the fan and the front panel do not work.	• Switch off the machine and disconnect the plug. Make sure the flat cable that connects the front panel to the power board is inserted correctly. If correctly inserted, replace the front panel. If the front panel does not go on, one of the switching power supply unit outputs is broken. Therefore the power board must be replaced. • Switch off the machine, disconnect the plug and check the mosfet of the switching power supply unit (picture 6).

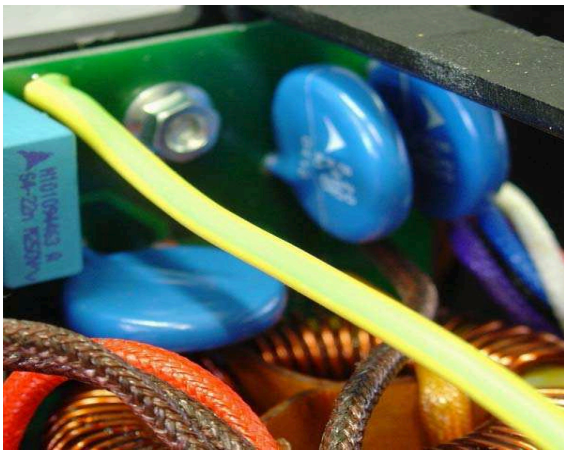
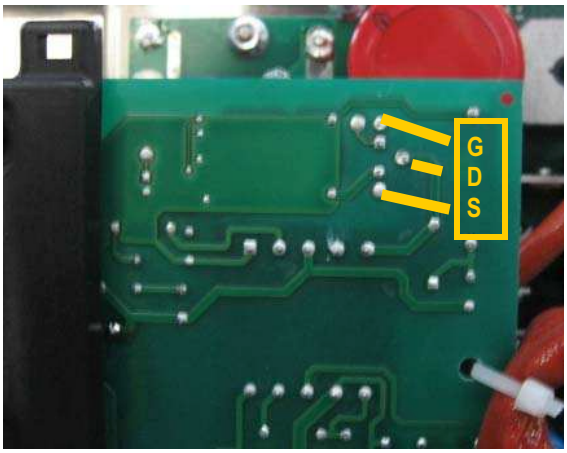
PROBLEM	CASE	SOLUTION
The output voltage in each procedure is about 10V and enabling of the thermal protection device.	Wait a few minutes keeping the machine on to favour cooling of the inverter. If the machine continues running with the protection devices on, switch the machine off and disconnect the plug. Remove the hood and make sure: – the temperature of the heat sink tool is less than 40°C; – If it is less than 40°C, check whether the thermal protective device contacts are normally closed.	- If one of the protection devices is always opened it is defective, it must be accordingly replaced. - If it is closed, make sure the two terminals are well inserted in the connector. - Power board feed problems, it must be accordingly replaced.
The wire feeding unit motor does not work.	– Primary fuse of the auxiliary transformer is damaged. – The auxiliary transformer is damaged. – Motor board fuse is damaged.. – Motor– Motor board connection is damaged. – Controls from the front panel do not reach the motor board. – The motor board is damaged.	• Switch off the machine and disconnect the plug. The delayed fuse 6x32 500 mA on the back of the machine must be replaced. • Check for a 48 Vac output to the auxiliary transformer on the motor board connector keeping the machine on. • The delayed fuse 5x20 4A on the motor board must be replaced. • Check feed wire connections of the motor on the 6-pin connector (picture 9). • Check connections between the front panel and the white 8-pin connector; if connections are not interrupted, replace the front panel. • The motor board must be replaced.
The MMA/MIG/TIG output voltage is about 10 V and the machine does not weld.	– The output voltage wiring of the front panel is interrupted. – The primary current alarm on the power board is activated.	• Switch off the machine and disconnect the plug: – Make sure that the wiring contacts are correctly inserted in the connectors. – Check for continuity between the +/- output outlets and that the 2-path connector is connected to the front panel (picture 10); • The power board must be replaced.
The output voltage is zero.	Switch the machine off and disconnect the plug. Check for a short circuit at the DINSE plug with a diode tester. A short circuit may be caused by : – damaged diodes; – damaged transil on the snubber board; – damaged power board. – damaged inverter.	Switch off the machine and disconnect the plug. Remove the snubber board 0044: • check with a diode tester the status of the diodes (picture 2); • check with a diode tester the status of the transil on the snubber board (picture 2); • check the status of the power board (picture 4); • if the inverter is damaged, check the Input bridge rectifier (picture 3).

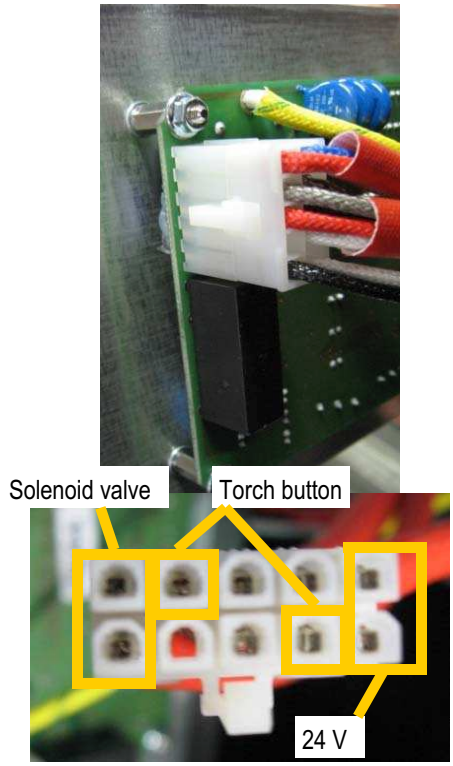
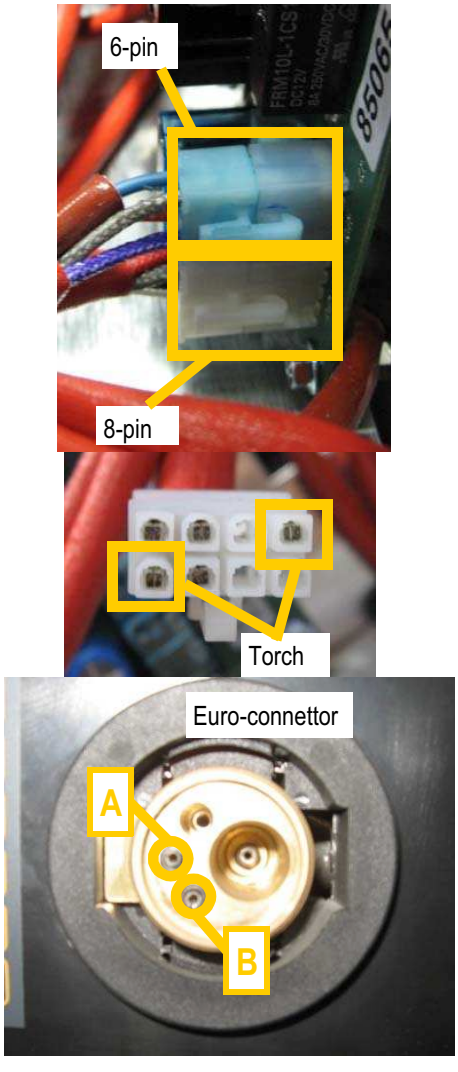
PROBLEM	CASE	SOLUTION
The welding is non optimal.	– Spattering occurs during welding.	• Check for correct welding polarity and then: – if the manual program is being used, decrease wire speed or increase welding voltage. – if the synergic program is being used, make sure the type and the diameter of the welding wire and the welding gas are correct. – increase welding voltage.
	– Porosity in the deposit.	• Decrease the set voltage value and check the gas emission from the torch.
	– Too narrow welding seam (“dry arc”).	• Increase the electronic inductance parameter and/or voltage.
	– Too wide welding seam (“too hot weld pool”).	• Decrease the electronic inductance parameter and/or voltage. Otherwise, reset the parameters and reset the machine (picture 12).
The machine stops welding and emits an acoustic signal.	The maximum current that can be supplied by the machine has been exceeded.	• If the synergic program is being used, decrease the value of the welding parameters. • If the manual program has being used, decrease welding wire speed and welding voltage.
Non optimal MIG welding start.	Spattering occurs on starting and crackling.	• Check the value of the motor slope parameter. • Check the burn-back duration and whether the stick-out is too long. • Increase post-gas to decrease the oxidation status of the welding wire.
When welding the protection devices of the line set off.	Make sure the welding current does not require greater power than the one supplied by the line.	Decrease the welding current.
The welding wire does not come out from the torch in a linear manner or does not come out at all.	– Roller pressure on the wire feeding unit is too high.	• Decrease roller pressure (suggested value 3).
	– Roller pressure on the wire feeding unit is to low.	• Increase roller pressure (suggested value 3).
	– Roller diameter/shape is not correct.	• Check the welding wire diameter and check the width and shape of the groove of the wire feeding unit roller.
	– The torch sheath is clogged with copper.	• Blow with compressed air.
	– The torch nozzle is non correct.	• Check the diameter of the wire and the diameter of the nozzle hole.

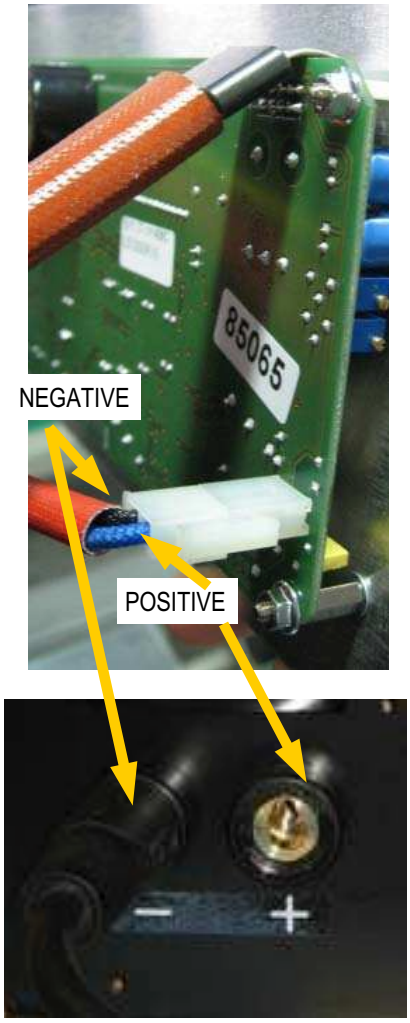
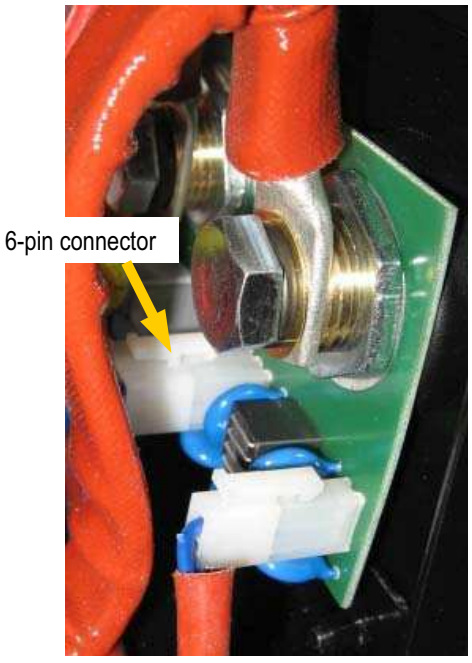
PROBLEM	CASE	SOLUTION
Gas does not come out from solenoid valve.	– Excessive gas pressure.	• Remove the gas connection. Carry out a gas test on the front panel in the MIG/TIG procedure and check opening of the solenoid valve. Reduce gas pressure. Restore connections and carry out a gas test.
	– Damage solenoid valve wiring.	• Switch off the machine and disconnect the plug: – Should there be no continuity, single out the disconnection and repair it; – Make sure that the wiring contacts are correctly inserted in the connectors.
	– No 24 V.	• Check continuity between points A/B of the power board and x/y poles of the connector that goes to the front panel (picture 12). After that the solenoid valve or the front panel must be replaced.
	– The solenoid valve control relay on the front panel is damaged.	• The front panel must be replaced.
	– Solenoid valve is damaged.	• Should the operations carried out not have a positive outcome, replace the solenoid valve.
The torch button doesn't work.	– The torch is damaged.	Switch off the machine and disconnect the plug: • The torch must be replaced.
	– There is no continuity between the euro connector and the 10-pin connector on front panel.	• Check the wires are correctly inserted in the connectors as shown in the pictures (pictures 8 and 9). Check the continuity between the euro connector and the pins 7/4 on the 10-pin connector on the front panel. If the test has a positive response, check the continuity between the pins 1/8 of the 8-pins connector on the motor board and the pins 7/4 on the 10-pins connector of the front panel (pictures 8 and 9). Check furthermore the continuity between the motor board 6-pins blue-connector the motor board and the pins on the euro connector. Otherwise the cable must be replaced.
Gas comes out but the machine doesn't weld.	Pre-gas settings are not correct.	Regulate pre-gas settings.
The machine can't stop welding or the welding current is not the one set.	The slope up and slope down are not correctly set.	• Regulate in the correct way the slopes. • Otherwise, reset the parameters and reset the machine (picture 13).

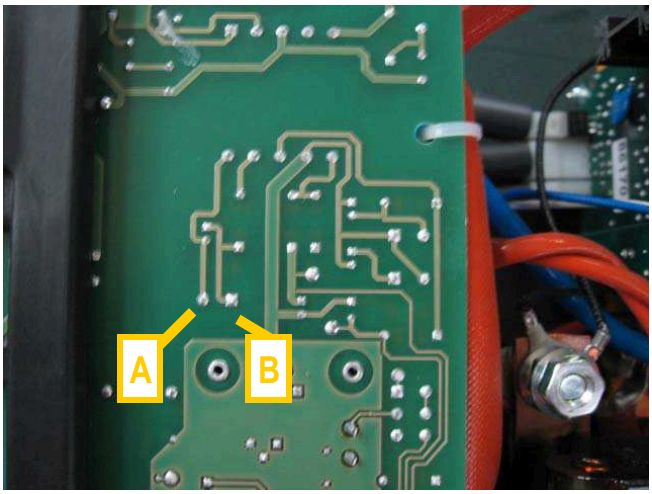
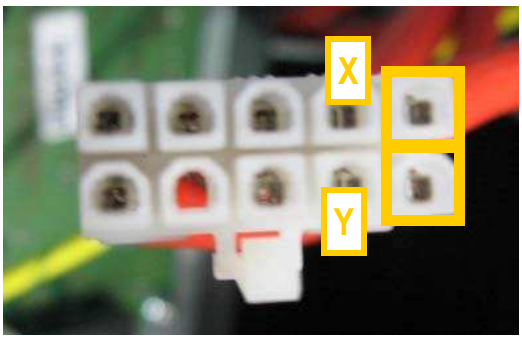
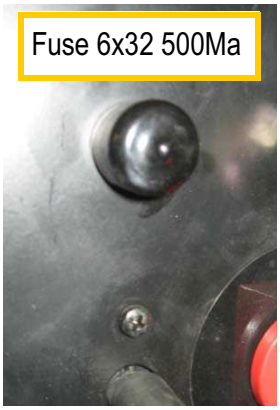
		EXPANATION
PICTURE 1	 Thermal protection of power trasformer  Heat Sink thermal protection	Position of the connector in which they are inserted: • thermal protection device (yellow wires) • thermal protection on power transformer (purple and blue). Check the continuity of contact of the thermal protection device with the diode tester, with the heat sink tool temperature less than 40° C.
PICTURE 2		To check diodes remove the snubber board and carry out the following measures with a diode tester: **Copper bar / Probe / Copper bar / Probe / Measure** UP / Red / MID / Black / "OL" UP / Black / MID / Red / >.150 MID / Red / DOWN / Black / >.150 MID / Black / DOWN / Red / "OL" At the ends of the two transils (see below) positioned on the snubber board, "OL" must always be measured. 

		EXPLANATION
PICTURE 3		Input bridge rectifier . To check the Input bridge rectifier , carry out the following measurements with a diode tester: **Faston / Probe / Faston / Probe / Measure** F+ Red D Black "OL" F− Red D Black >.450 F+ Black D Red >.450 F− Black D Red "OL" Should there be a short circuit on one of these measurements, the input bridge rectifier must be replaced.
PICTURE 4	 	To check the inverter, carry out the following measurements with a diode tester: **Red Probe / Black Probe / Measure** D S "OL" S D >.350 G S >1.5 S G >1.5 G D "OL" D G "OL" Should there be a short-circuit on one of these measurements or an "OL" instead of a numeric value, the power board must be replaced.

<table>
<tr><th></th><th></th><th>EXPLANATION</th></tr>
<tr><td>PICTURE 5</td><td>  </td><td>The varistors are three blue discs near the ground wire of the power board. These devices are for protecting the board from input overvoltage. When there is overvoltage they “explode” causing a short circuit most of the times. If the extent of the short circuit is very high they become an open circuit.</td></tr>
<tr><td>PICTURE 6</td><td> 
</td><td>To check the mosfet of the switching power supply unit, carry the following measurements with a diode tester:
<table>
<tr><th>Red Probe</th><th>Black Probe</th><th>Measure</th></tr>
<tr><td>D</td><td>S</td><td>“OL”</td></tr>
<tr><td>S</td><td>D</td><td>>.350</td></tr>
<tr><td>G</td><td>S</td><td>“OL”</td></tr>
<tr><td>S</td><td>G</td><td>>0.5</td></tr>
<tr><td>G</td><td>D</td><td>“OL”</td></tr>
<tr><td>D</td><td>G</td><td>“OL”</td></tr>
</table>
Should there be a short-circuit on one of these measurements or an “OL” instead of a numeric value, the power board must be replaced.</td></tr>
<tr><td>PICTURE 7</td><td> 
</td><td>Tester or digital millimetre. “OL” means Open Loop.</td></tr>
</table>

		EXPLANATION
PICTURE 8		Make sure that the JP2 cable of the front panel is inserted correctly in the 10-pin connector: – pin 5/10 solenoid valve wire; – pin 7/4 torch button; – pin 1/6 24 V.
PICTURE 9		Make sure that the JP2 and JP3 cable are inserted correctly in the motor board connectors: • 6-pin blue connector: – pin 4/6 torch; • 8-pin white connector: – pin 1/8 torch; Connection between JP2 logic board (front panel) connector and JP3 motor board connector: **050.0001.0059 Logic Board** / **050.0001.0041 Motor Board** 2 – 7 3 – 3 8 – 4 4 – 1 7 – 8 Check the continuity between points A/B of the euro-connector and pin 4/6 of the 6-pin blue connector with a diode tester.

		EXPLANATION
PICTURE 10		Make sure that the front panel wires are correctly inserted in the 2-pin connector: – black wire that goes to the negative plug; – blue wire that goes to the positive plug. **JP3 050.0001.0059** / **JP1 050.0001.0067** 1 / 6 2 / 3
PICTURE 11		Make sure that the JP1 cable is correctly inserted in the 6-pin connector on the 050.0001.0067 board (pin 1/6).

		EXPLANATION
FIGURA 12	 	Check with a voltage tester the continuity (24V) between points A/B of power board x/y poles of the 10-pin connector that goes to the front panel.
FIGURA 13		In order to reset the parameters, switch the machine on while the S3 and S5 buttons are being pressed.
FIGURA 14	 	Fuses: - Fuse 6x32 500Ma: on the back of the car. - Fuse 5x20 4a: on the motor board.