TECNA DIRECT.com

Industrial Resistance Welders and Tool Balancers

SPOT WELDERS

Models 5132-5132B SPOT WELDERS WITH BUILT-IN SCR TIMER, (WITHOUT CURRENT ADJUSTMENT), WITH COMPENSATION, *2 KVA*

Models 5148-5148B SPOT WELDERS WITH BUILT-IN SCR TIMER, WITH CURRENT ADJUSTMENT AND COMPENSATION, *2.5 KVA*

Models 5135-5135B SPOT WELDERS WITH BUILT-IN SCR TIMER, WITH CURRENT ADJUSTMENT AND COMPENSATION, *6 KVA - WATER-COOLED*

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INTRODUCTION

CAREFULLY READ THIS MANUAL BEFORE INSTALLING AND OPERATING WELDER.

⚠ This manual is addressed to the factory responsible in charge who must release it to the personnel in charge of the welder Installation, use and maintenance. He/she must check that the information given in this manual and in the enclosed documents have been read and understood. The manual must be stored in a well-known place; easy to reach, and must be looked up each time even little doubts should arise.

The suffix B shows that the welder belongs to the class B.

Resistance welding equipment is classified as Class A and Class B equipment:

Class A resistance welding equipment
Resistance welding equipment suitable for use in all establishments other than domestic and those directly connected a low voltage public supply network which does not supply buildings used for domestic purposes.

Class B resistance welding equipment
Resistance welding equipment suitable for use in all establishments including domestic and those establishments directly connected to a public low voltage network which supplies buildings used for domestic purposes.

These welders must be installed in industrial environments for professional use, only. Each welder can be supplied under two different versions depending on the features of the mains they must be connected to.

Class	A	B
Item	5132 - 5148 - 5135	57328 - 5148B - 5135B

WARNING: Class A resistance welding equipment is not intended to be used on a low-voltage public network which supplies domestic premises. It may cause radio frequency interference.

⚠ All modifications, even slight ones, are forbidden because they should invalidate both the welder EC certification and warranty.
The welder has been designed for resistance welding of both ferrous and not ferrous (aluminum, brass) materials. The welder must not been used for other application.

⚠ TECNA S.p.A. is not responsible for any damage to both people, animals, things and to the welder itself caused by either a wrong use or the lack or the superficial observance of the safety warnings stated on this manual, nor it is responsible for damages coming from even slight tampering or from the use of not-suitable spare parts, or of spare parts other than the original ones.

STANDARD ACCESSORIES

The welder is supplied equipped with:
N° 1 Allen key 5 mm.
N° 1 additional handle.
N° 1 electrode sharpener Ø10 (only item 5132).
N° 1 electrode sharpener Ø12 (only item 5148).
N° 1 pair of arms item 7501 (only item 5132).
N° 1 pair of arms item 7401 (only item 5148).
N° 1 instruction manual.

Item 5135 does not include the arms which must me ordered separately (see the accessories paragraph, page 16).

TABLE 1 - TECHNICAL FEATURES

Spot welder Model:		5132	5148	5135
Synchronous timer with SCR		•	•	•
Time adjustment	cycles	2 ÷ 65	2 ÷ 65	2 ÷ 65
Current adjustment 40 ÷ 100%		-	•	•
Cooling		air	air	water
Mains supply 50 Hz.*	V	400	400	400
Nominal power at 50%	kVA	2	2.5	6
Max. welding power	kVA	13	16	16
Max. short circuit current with arms L=	kA mm	7.2 125	8.2 125	8.2 125
Thermal current at 100%	A	610	700	1700
Secondary no load voltage	V	2.3	2.5	2.5
Insulation class		F	F	F
Cooling water quantity	l/h	-	-	150
Pressione massima acqua	bar	-	-	2.5
Max. force on electrodes with arms L=	daN mm	120 125	120 125	120 125
Standard arms throat depth L	mm	125	125	-
Arms gap	mm	96	94	94
Max. electrodes stroke with arms L=	mm mm	55 125	55 125	70 150
Weight with arms 125 mm	kg	10.5	11	-
Weight with arms 150 mm	kg	-	-	12
Weight with arms 500 mm	kg	13	13.5	13.6
Aerial noise	dB(A)	<70	<70	<70
Level of vibrations	m/s^2	≤2.5	≤2.5	≤2.5
Measurement conditions: welding time welding current working rating	 cycles kA welds/min	 14 5 2	 14 5 2	 20 6 6

* Different voltages and frequency available upon request.

INSTALLATION

On receipt of the welder, verify the perfect integrity of the outer package; communicate to a responsible in charge possible anomalies which should be noticed. Possible damages on the outer package should arise some doubts on the integrity of its content. Remove the package and visually verify the welder integrity. Check that the welder is equipped with all the standard components; immediately inform the manufacturer in case some components should lack. All the material forming the package must be removed according to the present environmental protection regulations.

ELECTRICAL INSTALLATION

First check that the machine is of the right class in comparison with the working environment.

WARNING: Class A resistance welding equipment is not intended to be used on a low-voltage public network which supplies domestic premises. It may cause radio frequency interference.
Installation must be carried out by specialized personnel only, aware of all safety rules. As this unit can be supplied for different power supply versions, before connecting the unit to the power line, check if the voltage shown on the features plate corresponds to the one of your power supply.

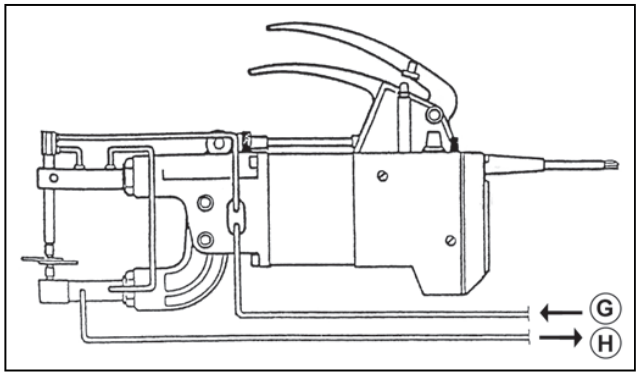
Items 5132-5132B-5148-5148B only
Consult table 5 to determine the capacity of the plug which must be installed on the supply cable; all use without plug is forbidden. The supply cables are brown and light blue, the earth cable is yellow/green.

Items 5135-5135B only
These welders are supplied with a switch built in a protective box. All use without such a device is forbidden.

It is compulsory to connect the machine to earth. The cables section to be used according to their length is stated on table 5. Examples of mains connections are shown on figure 6; the solution assuring the best safety is that with a differential magnetothermal switch. On the contrary, install fuses of the type stated on table 5.

COOLING CIRCUIT INSTALLATION (ONLY ITEM 5135-5135B)

For a correct cooling of the welder it is necessary 150l/h clean water at a maximum temperature of 30°C. When connecting the unit to the water line check for dirt or packing scraps in the hoses and connect the supply to the inlet G, and the drain to the outlet H, this to allow that still cool water immediately reaches the parts of the welder most subject to heating.



Water cooling may be carried out by the following methods: with mains water supply, with re-circulating water, with heat exchanger (air-water) or with refrigerator. When working in high humidity with mains water supply or refrigerator, avoid the use of water at a low temperature in order to prevent moisture being produced inside the machine. In presence of hard water it is necessary to install a water softener at the inlet hose, this to avoid that deposits obstruct or reduce the water channels in the welder causing damages. If the machine is operated in a re--circulating water supply, the water softener must be placed on the supply of the tank for cooling water.

USE OF THE EQUIPMENT

Before connecting the unit to the power supply, check if the welder voltage corresponds to your mains voltage, as well as that both socket and system are in a good condition, and that the mains cable section is of the correct size (see table 5).
Check that the required performance is within the values stated on table 3 and 4.

Before starting work, carry out the following adjustments:
1 - Set up the arms and electrodes.
2 - Adjust electrodes force.
3 - Set the welding parameters.

The following paragraphs better describe the above stated adjustments.

Before starting working, check that all safety warnings have been read and understood.

The push-button (L) activating the timer and supplying the welding current is activated by closing the electrode by means of control lever (N).

Release the electrodes 0.2"-0.8" after the welding current has stopped; this delay improve the weld quality.

Electrodes must not be used to force the clamping of the pieces to weld.

Always monitor the electrodes which must always be clean, without any deformation. The truncated tip electrodes must have the proper diameter according to the work to be carried out.

Before starting the welding process, check the welding parameters (time, pressure, etc.). Use two off-cuts of the sheet to be welded; the spot is correct when the pulling test causes the coming out of the welding nugget with the hole of a sheet. The twist test shows a pure area without porosity (see fig. 5).

When the work is over, disconnect the welder from the mains supply.

Never carry the welder by its cord or yank it to disconnect it from the socket. Keep the cord away from heat, oil and sharp edges.

Only Items 5135-5135B
The cooling water must circulate for some minutes after the welding cycle has been accomplished, so to enable the welder cooling. Never let the cooling circuit open if the machine is not used, so to avoid both leakage and the forming of moisture.

SAFETY RULES

⚠ For a safe welder use, the installation must be carried out by qualified personnel only; the welder maintenance must be carefully carried out by following all the safety instructions stated on the "MAINTENANCE" paragraph. In particular, notice that the electrodes maintenance must be carried out with the welder switched off. The welder must be used in a place fulfilling the following features:

- In an inner place. The welder has not been designed for being used outdoors.
- Room temperature included between 0 and 40°C (If water is removed, storage is allowed down to 20°C below 0); 1000 m. maximum altitudes.
- In a well ventilated area, free from dust, steam, and acid exhalations.
- The working place must be free from inflammable materials because the working process can produce spatters of molten metal.

If the welder is used to carry out welding processes which can cause fumes, a proper aspirator must be installed.

In case of water entering the welder, immediately stop the electrical supply.
Notice that these types of machines generate strong magnetic fields attracting metals and damaging watches, magnetic cards, and magnetic data storage media. Since these magnetic fields can affect pace-makers, the wearers must consult their doctor before approaching to the welding area. The personnel must wear both safety glasses and gloves. Avoid wearing rings, metal watches and clothes with either metal accessories or components. When operating heavy working, high thickness and pieces with a difficult coupling, wear safety shoes and aprons, and use protection screens to protect the operator from possible split of molten materials.
The safety shoes must be worn each time the pieces, because of their shape or weight, bear risks requiring them.
Never carry the spotter by its cable or yank it to disconnect it from the socket. Keep the cable away from heat, oil and sharp edges.
In case of fire do not use water but proper fire extinguishers.

In addition to the information stated on this chapter, always operate in accordance with all the relevant laws in force.

MAINTENANCE

GENERAL MAINTENANCE

The maintenance operations must be carried out by specialized personnel only, trained to accomplish them under safety conditions. When possible, the welder must be disconnected from electric supply.

GENERAL WARNINGS

- Always check that the screws of electrodes, electrode--holders, arms, and arm-holders (53) as well as the rigid (48) and flexible

Remove oxide traces on the secondary circuit with fine sand paper.
Periodically oil axes 6-8-13-18-58-62.
Keep the spot gun free from dust and metal particles attracted by the magnetic field formed by the welder when operating.
Neither washing the welding unit with jets of water which could enter it, nor use strong solvents, thinners, nor benzine that could damage either painting or the machine plastic components.

ITEM 5135-5135B ONLY:
If the welder is to be stored during the winter in a cold environment, first carefully drain the cooling circuit to prevent damage caused by frozen water.

ELECTRODES

When operating, the electrodes must be kept clean and their diameter must be kept suitable for the work to be carried out. Excessively worn electrodes must be replaced.
With water cooled arms, do not use sealing products to remove water leakage on the electrode taper. To facilitate electrode removal and to prevent from both taper seizure and leakage, use high conductivity grease similar to the standard one.

COOLING CIRCUIT (ON ITEM 5135 ONLY)

Check that cooling water circulates freely and in the required quantity and that the input temperature is included within 10 and 30° C.
Check the status of both water hoses and corresponding connections.
If the welder is to be stored during the winter in a cold environment, first carefully drain the cooling circuit to prevent damage caused by frozen water.

ELECTRICAL CIRCUIT

Periodically check ground efficiency.
Periodically check the mains cable.
On item 5135 check the proper working of the switch.

EXTRAORDINARY MAINTENANCE

If the welder overheats, check that the duty cycle is not too high (table 4), the electrode tip diameter is correct (table 2); or water cooled models check that water flow is adequate.

Item 5135 is equipped with a thermostatic protection which stops the welder in case of insufficient water. The thermostat does not protect the transformer against work overloading.

If performances are lower than expected check:

- that, when welding, line voltage drop is lower than 15%;
- that the supply cables section is adequate;
- that the electrodes diameter is appropriate for the work to be carried out;
- on item 5135 that the cooling water flows in the required quantity.
- that the set welding force is adequate for the work in process.

SPARE PARTS

Look at the exploded views and at the spare parts list at the end of this instruction manual to identify the code of the required parts. The first number of the code has the following meaning:

1.... standard components widely available from industrial suppliers (e.g. screws, washers, nuts, etc.).
2.... commercial components which, providing that the same quality parameters are adopted, can be purchased anywhere (hoses, switches etc.).
3.... components manufactured by TECNA
4.... components manufactured by TECNA
5.... electronic circuits and assemblies manufactured by TECNA.
7.... assemblies composed of parts belonging to any or all of the above codes but which for the sake of simplicity are available ready-assembled.

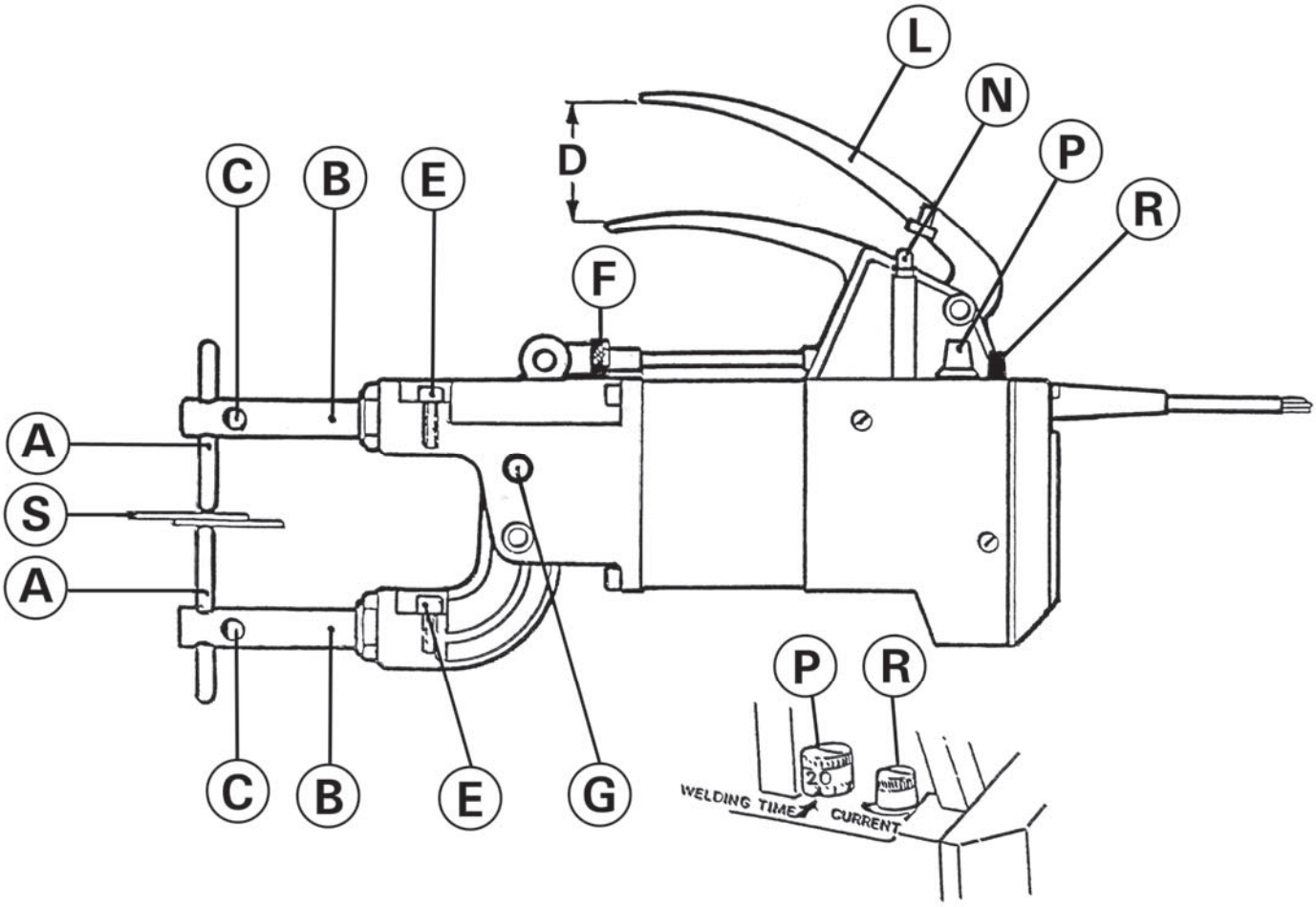
All spare parts, including standard or commercial ones, are available from TECNA. When ordering please always state code number, and quantity of the spare parts, voltage and frequency, the serial number, and year of manufacture of the welder. The code number followed by an asterisk warns that the part changes depending on the mains voltage.

REMEDIES FOR WELDS IMPERFECTIONS

This chapter has been introduced in order to facilitate the troubleshooting of the most common imperfections caused by incorrect adjustment. Notice that each one can be caused by different causes as there are many parameters affecting the welding process. The following table specifically refers to low carbon steel spot welding, but, with the due considerations, it can be useful also for other applications.

FAULT	POSSIBLE CAUSE	POSSIBLE REMEDY
Weak welding	Low welding current	Increase it.
	Low welding time.	Increase it.
	Too high electrodes force.	Reduce pressure.
	Lacking electrodes maintenance or too high electrodes diameter.	Clean and line up the electrodes, restore their dimensions.
	Faulty pieces contact.	
Spatter of melted material	Paint or dirt among pieces.	Clean the pieces.
	Inadequate electrodes cooling.	Check the cooling circuit.
	Faulty pieces contact or pieces and electrodes faulty contact.	Increase the electrodes force by increasing pressure.
	Too high welding current.	Reduce it.
	Too high welding time.	Reduce it.
	Too small electrodes diameter.	Adjust diameter to the value shown on the table.
	Inadequate welding force.	Increase pressure.
	Electrodes faulty clamping of the pieces.	Check stroke.
Burned welds or welds showing either craters or fissures.	Too high welding current.	Reduce it.
	Inadequate welding force.	Increase welding pressure.
	Oxidized pieces to weld.	Clean them by means of emery paper.
	Faulty pieces contact or pieces and electrodes faulty contact.	Increase electrodes force.
	Faulty pieces lining up.	Correct it.
	Electrodes tips deformations.	Restore them to the correct seize.
Pieces stuck weld on the electrode	Too high welding current.	Reduce it.
	Inadequate electrodes diameter.	Restore it to the correct dimensions
	Inadequate welding force.	Increase the welding pressure.
Electrodes and connections reduced life (position 46)	Under-sized electrode in comparison with the work to carry out.	Check both size and contact diameter.
Secondary connection reduced life and oxidation.	Heating caused by an inadequate clamping of the flexible connection.	Carefully tighten the clamping screws.
	Too high heating caused by a too high welding rate.	Reduce it.

Adjusting the electrode force



A - Electrodes
B - Arms
C - Electrode-locking
D - Force adjustment distance
E - Arms locking
F - Force adjustment knob
G - Removable handle
L - Lever
N - Welding command
P - Welding time adjustment
R - Current adjustment (only 5148-5135)
S - Thickness to be welded

Fig. 1

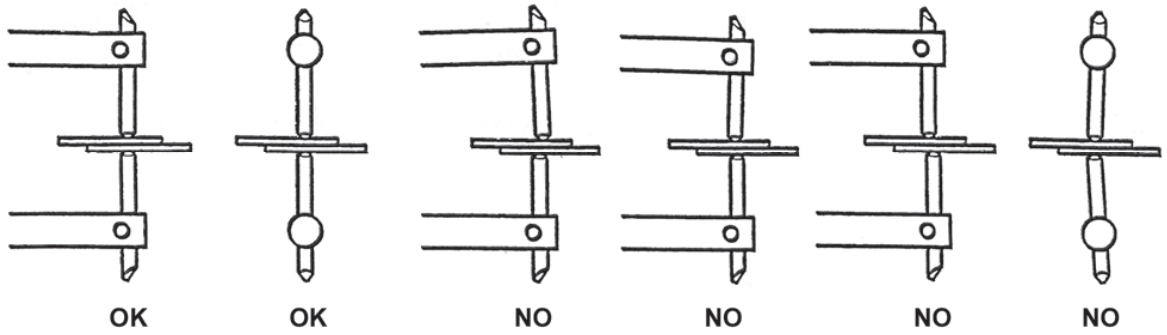


Fig. 2

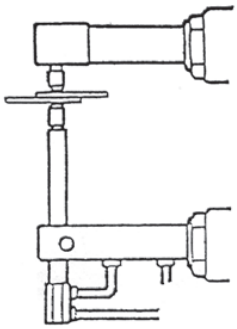


Fig. 3

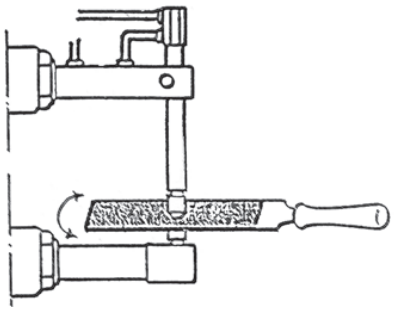


Fig. 4

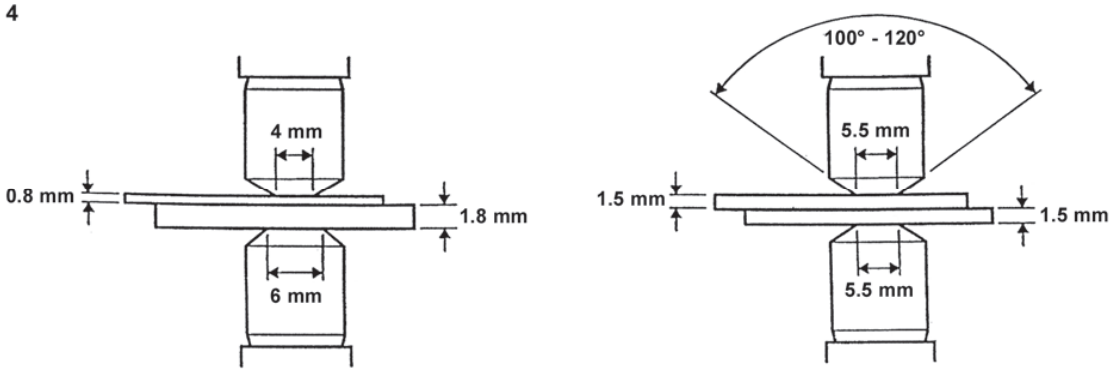
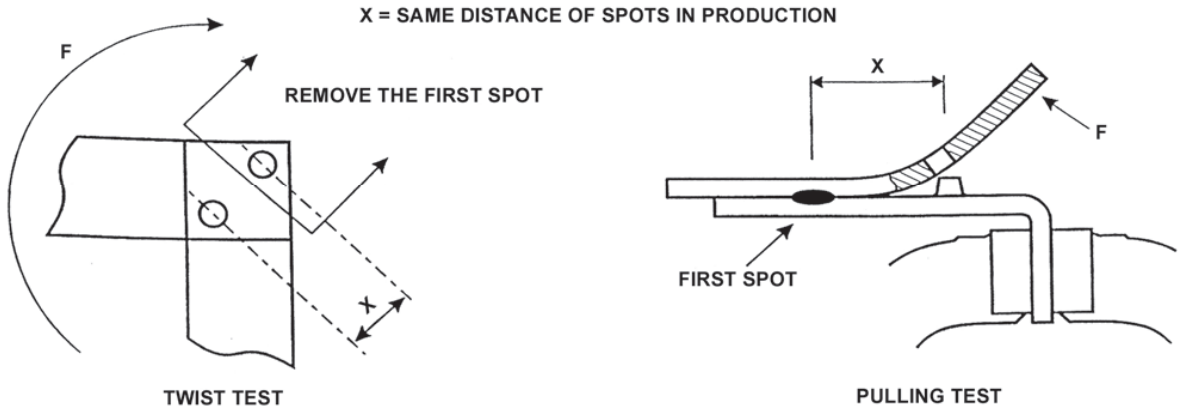


Fig. 5

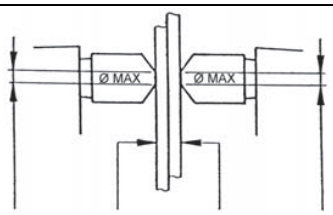


Tables useful for performances and adjustments of the spot gun

Table 1 Force on electrodes for different arms lengths

D	With Arms				
mm	125 mm	150 mm	250 mm	350 mm	500 mm
75	120 daN	102 daN	65 daN	48 daN	34 daN
72	100 daN	85 daN	54 daN	40 daN	28 daN
70	80 daN	68 daN	42 daN	30 daN	20 daN
65	70 daN	60 daN	37 daN	26 daN	-
55	60 daN	50 daN	30 daN	-	-
40	50 daN	42 daN	-	-	-
25	40 daN	34 daN	-	-	-

Table 2 Welding examples



				Force		Arms L= (mm)			Welding Time			Current Adjustment	
				D									
mm	mm	mm	mm	mm	daN	5132	5148	5135	5132	5148	5135	5148	5135
3.5	0.6	0.6	3.5	55	60	125	125	150	3 -	2 -	4 -	1/4	1/4
4	0.8	0.8	4	68	75	125	125	150	9 -	7 -	6 -	1/2	1/2
4.5	1	1	4.5	71	92	125	125	150	14 -	14 -	14 -	3/4	3/4
5.5	1.5	1.5	5.5	72	105	125	125	150	30 -	25 -	20 -	4/4	4/4
6	1.8	1.8	6	73	105	125	125	150	55 -	45 -	40 -	4/4	4/4
4	0.8	0.8	4	73	60	250	250	250	12 -	12 -	8 -	3/4	3/4
4.5	1	1	4.5	75	65	250	250	250	30 -	25 -	12 -	4/4	4/4
5.5	1.5	1.5	5.5	75	65	250	250	250	50 -	40 -	50 -	4/4	4/4
4.5	1	1	4.5	75	48	350	350	350	35 -	25 -	25 -	4/4	4/4
4.5	1	1	4.5	75	34	500	500	500	55 -	35 -	35 -	4/4	4/4
12	Ø 5	Ø 5	12	68	75	125	125	125	23 -	18 -	12 -	4/4	4/4
12	Ø 6	Ø 6	12	72	97	125	125	125	30 -	25 -	30 -	4/4	4/4

Table 3 Maximum welding capacity on mild steel

Arms length	Max. force on electrodes	Electrodes opening	Max. thickness		
			5132	5148	5135
mm	daN	mm	mm	mm	mm
125	120	45	2 + 2	2.5 + 2.5	2 + 2
150	102	55	1.8 + 1.8	2.2 + 2.2	2 + 2
250	65	80	1.8 + 1.8	2 + 2	1.8 + 1.8
350	48	100	1.5 + 1.5	1.8 + 1.8	1.5 + 1.5
500	34	140	1.2 + 1.2	1.6 + 1.6	1.2 + 1.2

Table 4 Maximum spots per minute

Thickness mm	Spots/min			Spots Ø mm
	5132	5148	5135	
0.6 + 0.6	9	10	40	3.5
0.8 + 0.8	6	6	30	4
1 + 1	5	5	25	4.5
1.2 + 1.2	4	4	16	5
1.5 + 1.5	2	2	10	5.5
1.8 + 1.8	2	2	8	6
Ø5 + 5	8	8	40	-
Ø6 + 6	3	4	15	-

Table 5 Size of mains cables and fuses required.

Distance electric meter/spot welder	Power supply	
	220-230-240 Volts	380-400-415 Volts
15 m - 45 feet 25 m - 30 yards 60 m - 66 yards	4 mm^2 6 mm^2 10 mm^2	2.5 mm^2 4 mm^2 6 mm^2
Plug	5132, 5148 - 16 A 5135 - 25 A	16 A
Fuses	25 A	16 A
Delayed fuses	5132, 5148 - 16 A 5135 - 20 A	16 A
Circuit breaker	5132, 5148 - 16 A 5135 - 20 A	16 A

Fig. 6 Example of electrical installation

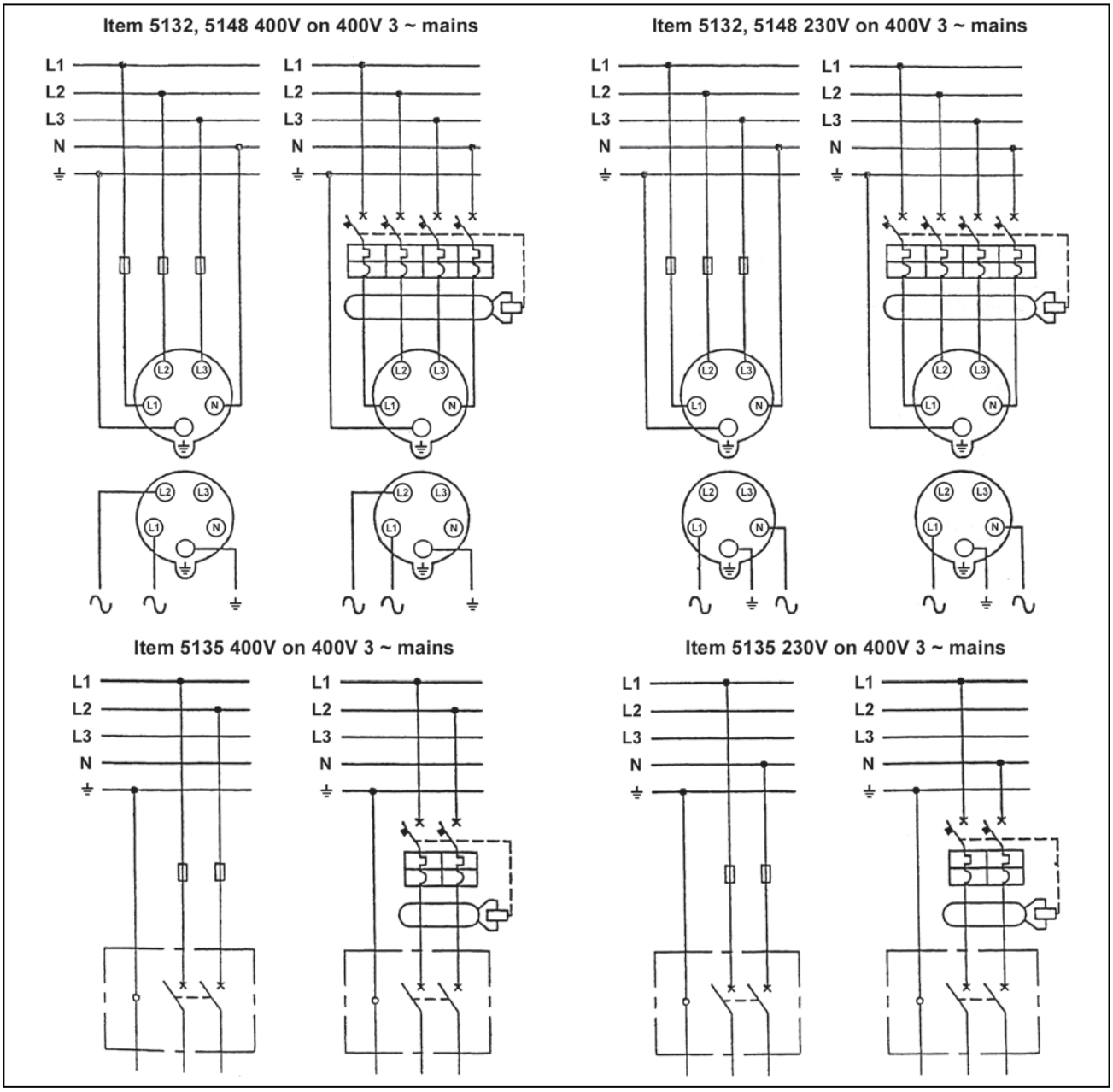


Fig. 7 Item 5132 - Wiring diagram

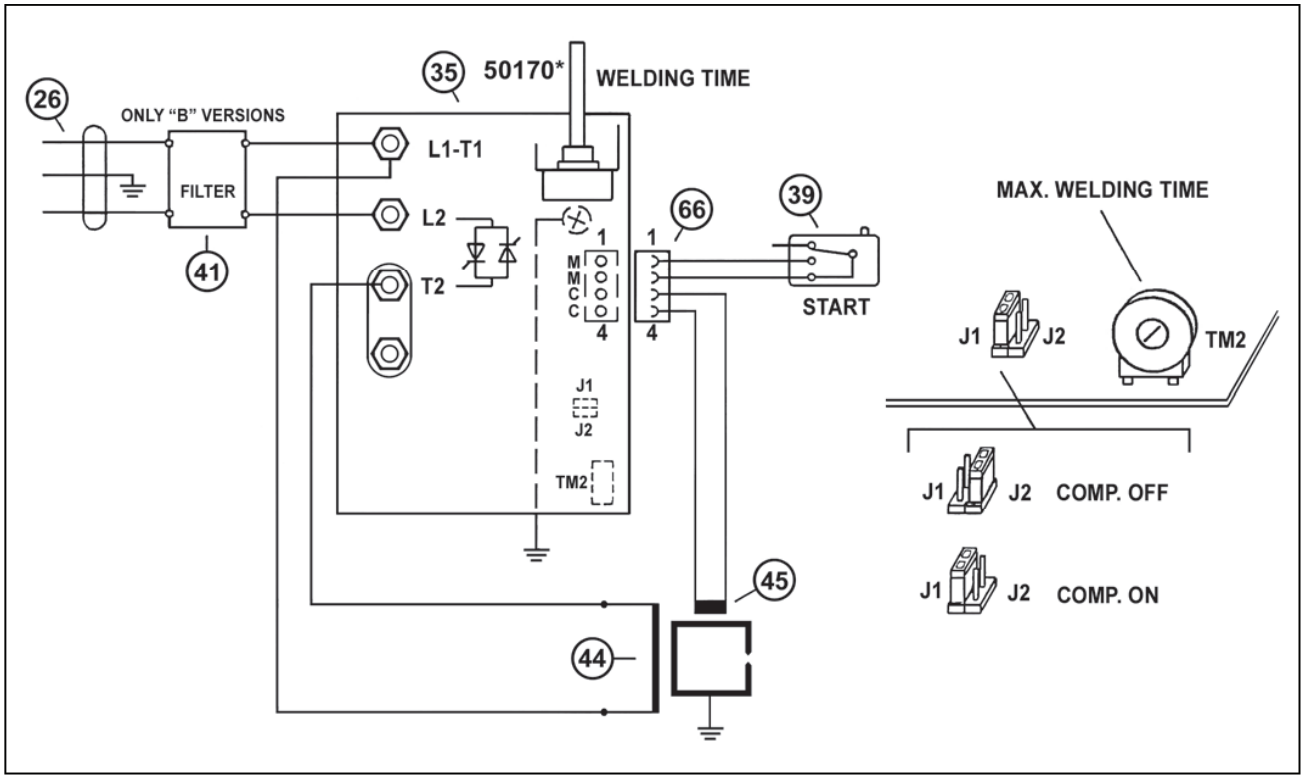


Fig. 8 Item 5148 - Wiring diagram

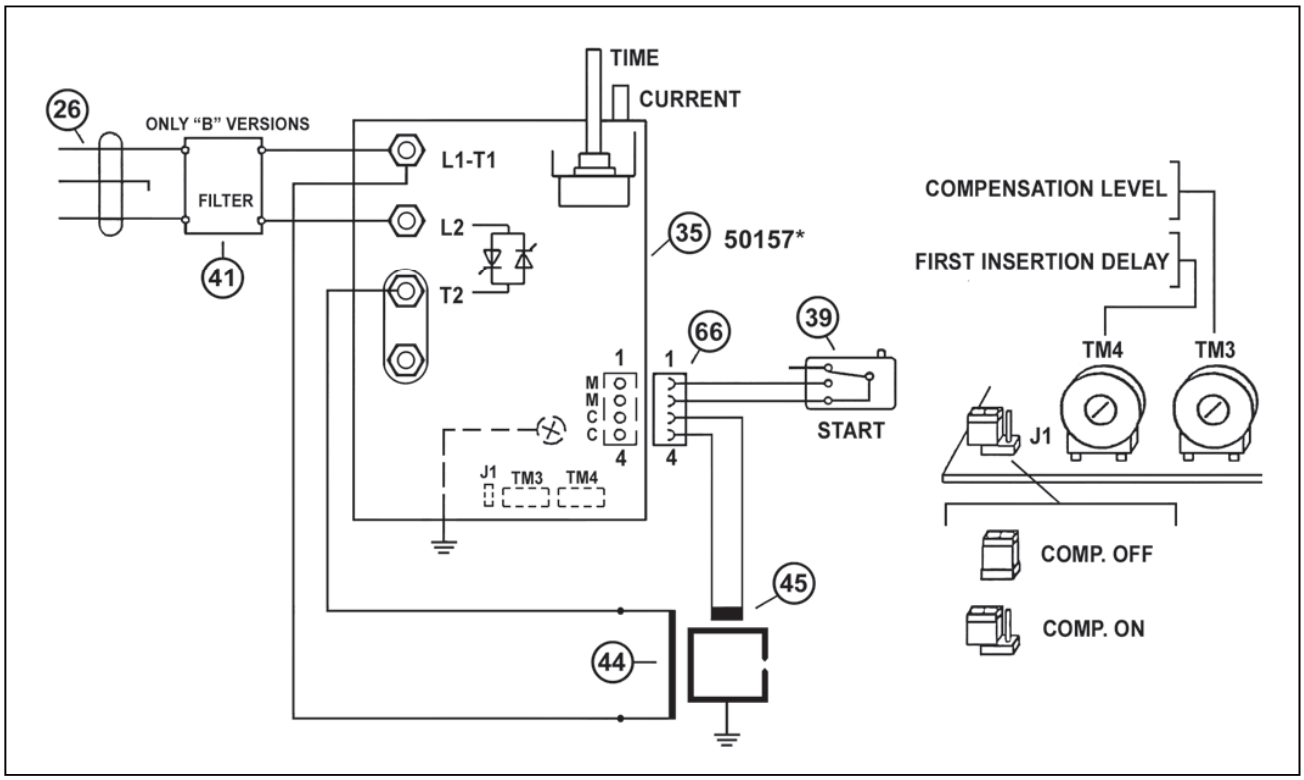


Fig. 9 ITEM 5135 - Wiring diagram

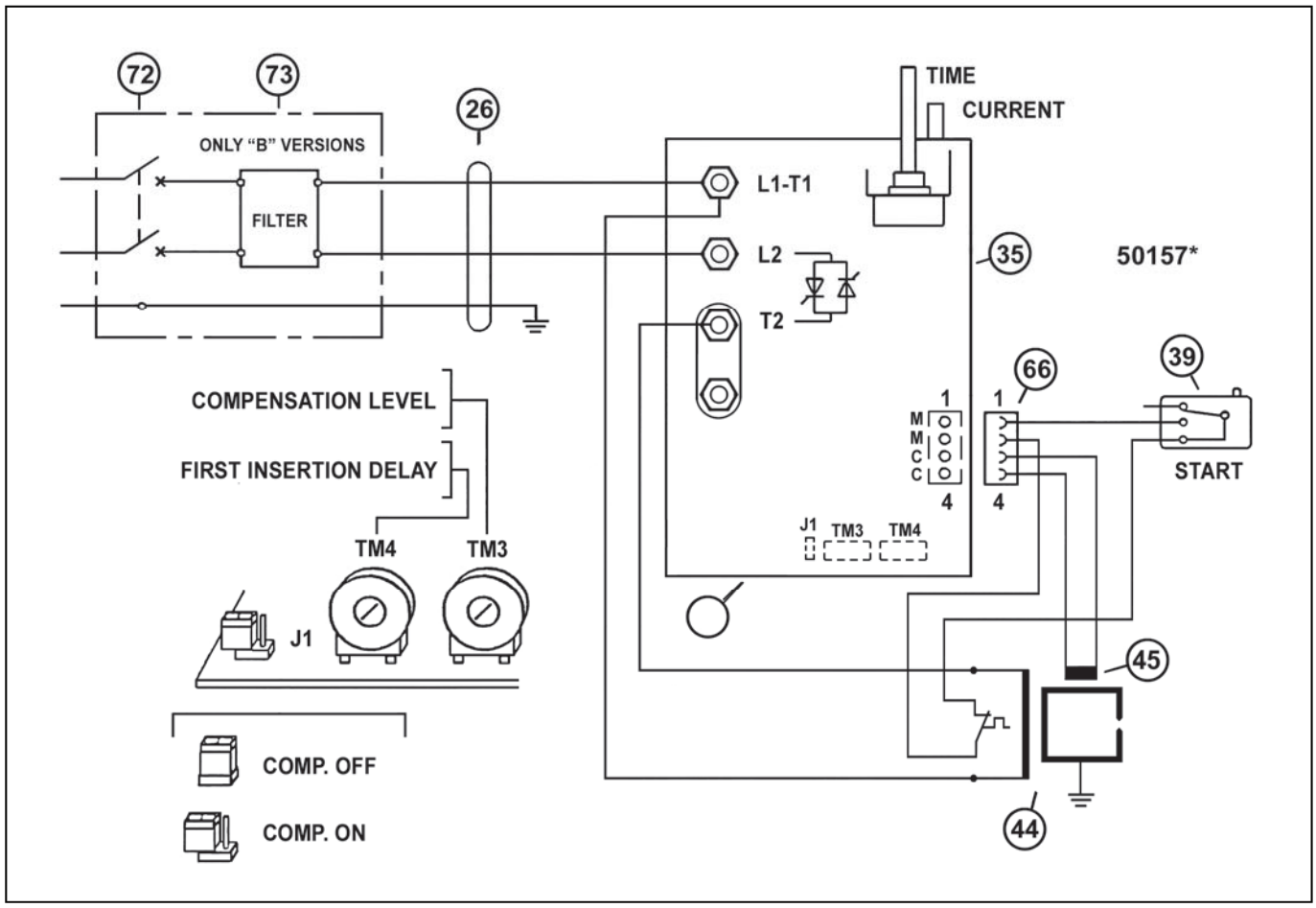


Fig. 10 5132-5148 - Exploded view

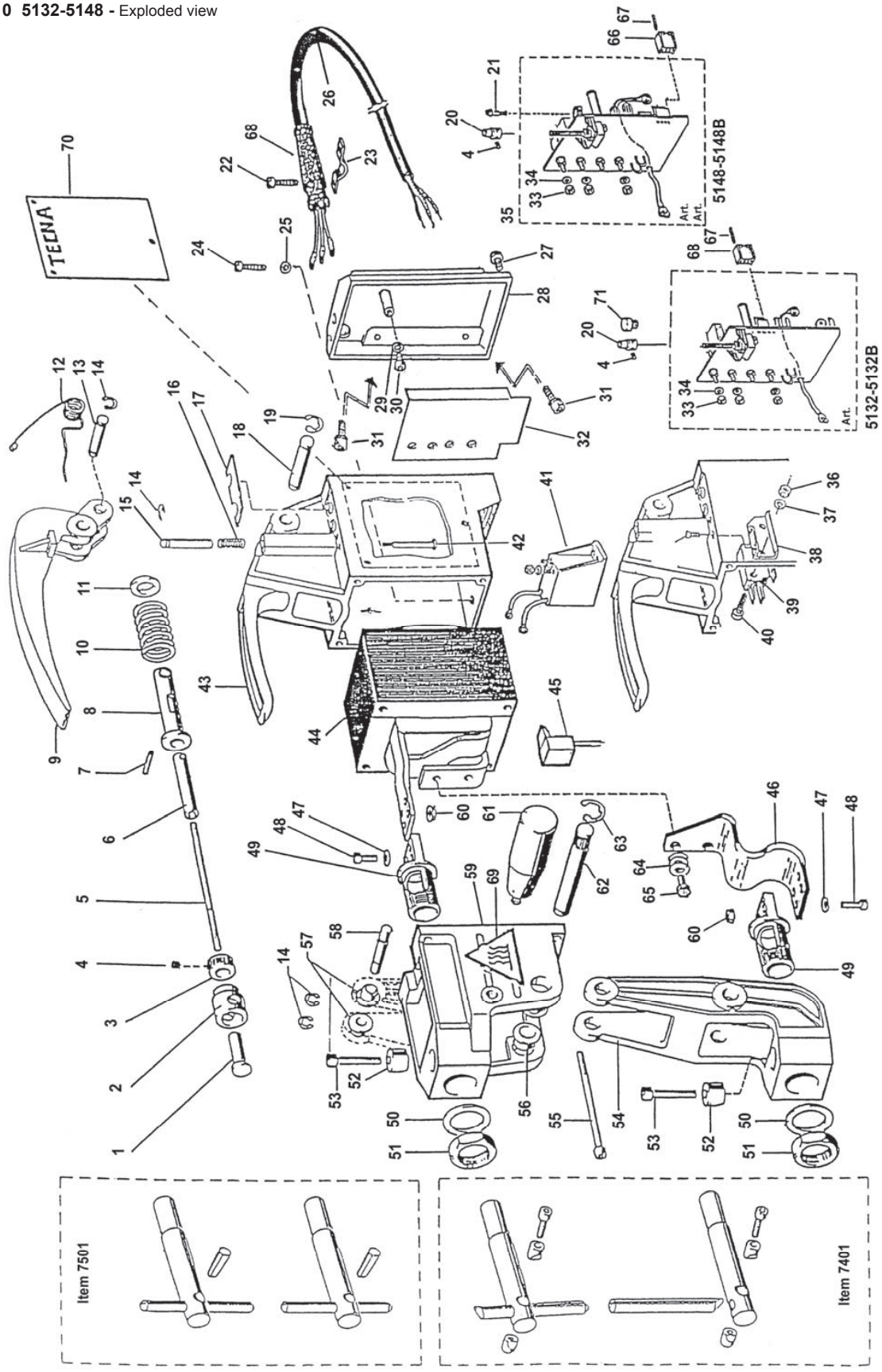
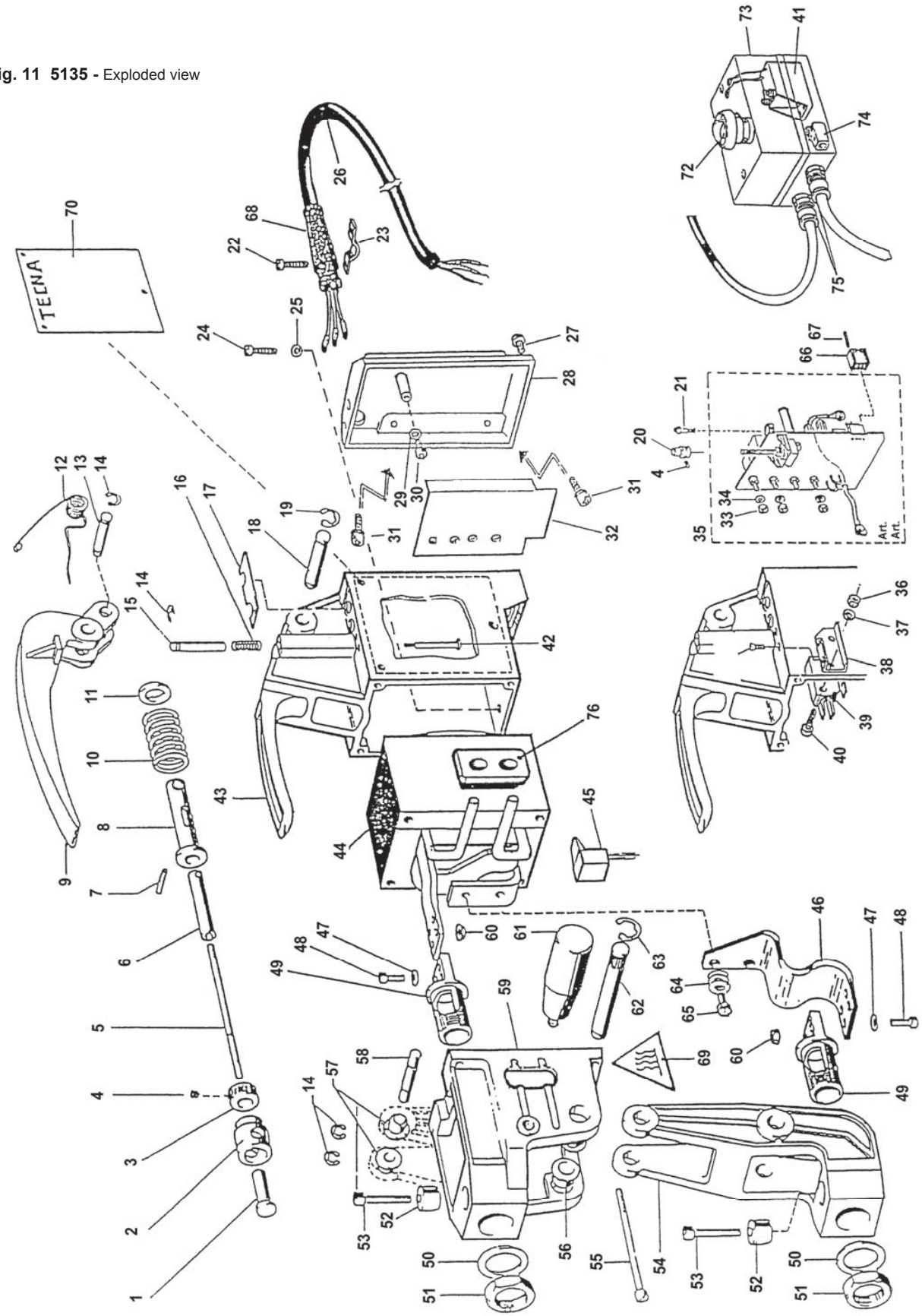


Fig. 11 5135 - Exploded view



ITEMS: 5132 - 5135 - 4148 - SPARE PARTS LIST

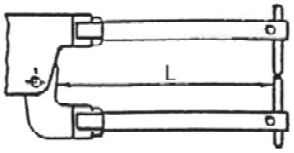
ONLY ITEM	POS.	QTY.	CODE	DENOMINATION
	1	1	30055	Screw
	2	1	30054	Fulcrum
	3	1	30053	Adjuster
	4	2	10053	Screws
	5	1	30052	Stay bolt
	6	1	30051	Screw
	7	1	10057	Pin
	8	1	30050	Screw
	9	1	38015	Lever
	10	1	30049	Spring
	11	1	30048	Washer
	12	1	30045	Spring
	13	1	30428	Axe
	14	5	10054	Circlips
	15	1	30046	Push-button
	16	1	30047	Spring
5132	17	1	32722	Plate
5148 5135	17	1	32587	Plate
	18	1	31866	Axe
	19	2	10055	Circlips
	20	1	32577	Knob
5148 5135	21	1	32578	Knob
	22	2	10978	Screws
	23	1	30086	Cableguide
	24	1	10169	Screw
	25	1	10065	Washer
	26	1	20060	Mains cable
	27	6	10528	Screws
	28	1	44872	Radiator
	29	1	10264	Washer
	30	1	10044	Screw
	31	2	10091	Screws
	32	1	32601	Insulator
	33	3	10426	Nut
	34	3	10098	Washers
5132	35	1	50170*	Timer SCR
5148 5135	35	1	50157*	Timer SCR
	36	2	10046	Nuts
	37	2	10148	Washers
	38	1	32580	Support

ONLY ITEM	POS.	QTY.	CODE	DENOMINATION
	39	1	20000	Microswitch
	40	2	10195	Screws
5132B 5148B	41	1	50152	Filter
	42	1	30043	Axe
	43	1	44871	Back cover
5132	44	1	32382*	Transformer 2kVA
5148	44	1	32732*	Transformer 2.5 kVA
5135	44	1	32731*	Transformer 6kVA
	45	1	31250	Coil
	46	1	38018	Connection
	47	8	10005	Washers
	48	8	10050	Screws
	49	2	30056	Arm-holders
	50	2	30060	Washers
	51	2	30061	Nuts
	52	2	30059	Brass lockings
	53	2	10048	Screws
	54	1	44060	Front lever
	55	4	10058	Screws
	56	2	30066	Bushings
	57	2	30058	Bushings
	58	1	30057	Axe
5132 5148	59	1	44062	Front cover
5135	59	1	44912	Front cover
	60	8	10051	Nuts
	61	1	120002	Handle
	62	1	30039	Axe
	63	2	10056	Circlips
	64	6	10008	Washers
	65	2	10660	Screws
	66	1	20451	Connector
	67	4	20452	Contacts
	68	1	30040	Cable guard
	69	1	21638	Plate
	70	1	-	Plate
5132	71	1	21701	Cover
5135B	72	1	21542	Switch
5135B	73	1	21639	Box
5135B	74	1	21640	Terminal
5135B	75	2	21538	Cable guard
5135B	76	1	30159	Insulator

*400v/50 Hz. - Different voltages and frequencies upon request.

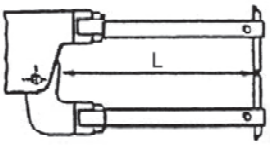
ACCESSORIES

Arms and electrodes for Item 5132-5132B - 5148-5148B



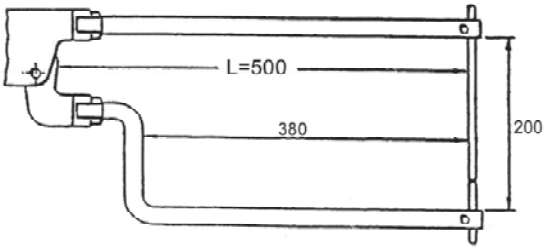
Art. 7501 L=125 mm
Art. 7502 L=250 mm
Art. 7503 L=350 mm
Art. 7504 L=500 mm
Art. 7421 Ø 10 ▲ electrodes only

Art. 7426 Ø 10 ▲

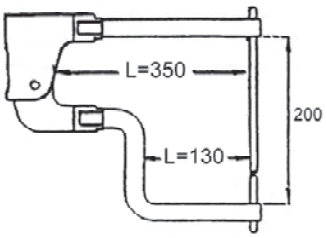


Art. 7401 L=125 mm
Art. 7402 L=250 mm
Art. 7403 L=350 mm
Art. 7404 L=500 mm
Art. 7451 Ø 12 ▲

Art. 7452 Ø 12 ▲

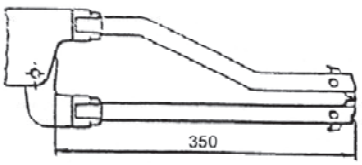


Art. 7518 L=500 mm
Art. 7523 Ø 10 ▲
electrodes only



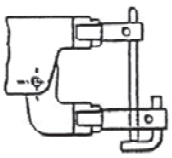
Art. 7519 L=250 mm

Art. 7523 Ø 10 ▲
electrodes only



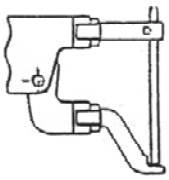
Art. 7507

Art. 7524 Ø 10 ▲
electrodes only



Art. 7510

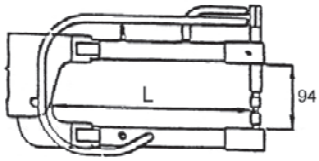
Art. 7533
electrodes only



Art. 7516

Art. 7523 Ø 10
electrodes only

Water-cooled arms and electrodes for Item 5135-5135B



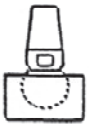
Art. 7512 L=150 mm
Art. 7513 L=250 mm
Art. 7514 L=350 mm
Art. 7515 L=500 mm
Art. 3830 ▲
electrodes only

▲ **Art. 3830**

▲ **Art. 3831**

▲ **Art. 3833**

▲ **Art. 3834**



Art. 3835

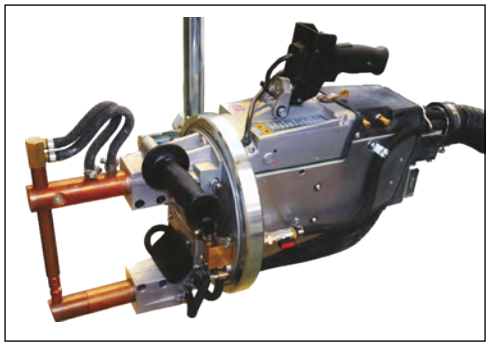
▲ Pair of electrodes

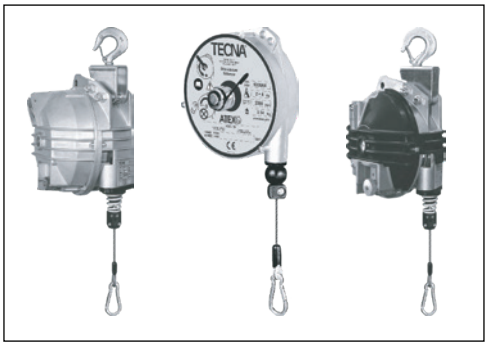
- Specifications subject to change without notice -

TECNA S.P.A. **Via Grieco 25/27** **40024 Castel S. Pietro Terme (BO)** **ITALY**	**DECLARATION OF CONFORMITY**	
We declare under our sole responsibility for supply/ manufacture of the product:	**RESISTANCE WELDER**	
Models:	**5132 - 5135 - 5148**	**5132B - 5135B - 5148B**
Serial Number:	**FROM 0001 TO 1999**	
Is in conformity with the provisions of the European standards:	**EN 50063** **EN50199** **EN55011** **EN50082-1** **EN50082-2**	
Is in conformity with the provisions of the EEC Directives:	**73/23/EEC** **89/336/EEC**	
Name and signature of authorized person: CASTEL S. PIETRO T. 03/08/1997	 Ezio Amadori	

SPOT WELDER:	ITEM	
SERIAL NUMBER:		
VOLTS / HZ:		
TEST:	DATE	

DIVERSE INVENTORY. IMMEDIATE SHIPPING. UNMATCHED CUSTOMER SERVICE.





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