



MIG C250i

Instruction manual

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For

Installation, Operation & General maintenance

SAFETY

Precautions for installation

	<p>Beware of electric shock!</p> <ul style="list-style-type: none">● Install grounding device according to application standard.● Do not touch live parts with naked skin, wet gloves or wet clothes.● Be sure you are insulated from ground and work piece.● Cover the cover plate of the machine before power on to avoid an electric shock.● Confirm the safety of your working position.
	<p>Beware of fire hazard!</p> <ul style="list-style-type: none">● Please install the machine on non-combustible materials to avoid a fire.● Make ensure there are no inflammables near the welding position to avoid a fire.
	<p>Beware of explosion!</p> <ul style="list-style-type: none">● Do not install the machine in an environment with explosive gas to avoid an explosion.

⚠ Replacing the components can be dangerous.

- Only professionals can replace the components of the machine.
- Make sure the connecting wires inside the machine are correctly connected after replacing the PCBs, and then the machine can be run. Otherwise, there is a risk of damage to property.
- Make sure there are no foreign bodies such as wire leads, screws, gaskets and metal bars falling into the machine inside when replacing the components.



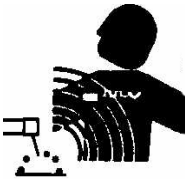



⚠ Carrying or moving the machine can be dangerous.

- Cut the input power off via the switching box before moving the welding machine.
- The handle can only be used for moving the welding machine by hand in short distance, and it cannot be used for lifting. Otherwise, personal injury or property damage may be caused by a drop.
- Make sure that the flying rings are tightened, and that the machine enclosure and cover are fixed when moving the welding machine with a crane,
- Two lifting belts should be used when lifting the welding machine, and the angle formed by the

lifting belt and the vertical should be smaller than 15°.

- Do not apply any stress on the operation panel and cover when moving the welding machine. Otherwise, personal injury or property damage may be caused by a drop.
- Do not install and run the welding machine when the machine is damaged or lacks any components. Otherwise, fire hazard or personal injury may be caused.

Precautions for operation

	<p>Smoke-may be harmful to your health!</p> <ul style="list-style-type: none"> ● Keep your head away from the smoke to avoid inhalation of waste gas in welding. ● Keep the working environment well ventilated with exhaust or ventilation equipment when welding.
	<p>Arc radiation-may hurt your eyes and burn your skin!</p> <ul style="list-style-type: none"> ● Use proper welding mask and wear protective clothing to protect your eyes and body. ● Use proper mask or curtain to protect onlooker from being injured.
	<p>Magnetic field can make cardiac pacemaker a bit wonky.</p> <ul style="list-style-type: none"> ● People with cardiac pacemaker should consult the doctor before carrying out welding. ● Stay away from the welding source to reduce the effect of magnetic field.
	<p>Improper use and operation may result in a fire or an explosion.</p> <ul style="list-style-type: none"> ● Welding spark may result in a fire, so please make ensure there are no inflammables near the welding position, and pay attention to fire safety. ● Ensure there is fire extinguisher nearby, and make sure someone has been trained to operate the fire extinguisher. ● Do not weld closed container. ● Do not use this machine for pipe thawing.
	<p>Hot work piece can cause severe scald.</p> <ul style="list-style-type: none"> ● Do not touch hot work piece with bare hands. ● Cool the welding torch for a while after continuously working.
	<p>Excessive noise does great harm to people's hearing.</p> <ul style="list-style-type: none"> ● Wear ear covers or other hearing protectors when welding. ● Give warning to onlooker that noise may be potentially hazardous to hearing.



	<p>Moving parts may injure your body.</p> <ul style="list-style-type: none">● Please keep away from moving parts (like fan).● Each door, panel, cover, baffle plate, and protective device the like should be closed and located correctly.
	<p>Seek professional support when trouble strikes.</p> <ul style="list-style-type: none">● When trouble strikes in installation and operation, please inspect according to related contents in this manual.● If you still cannot understand fully, or you still cannot solve the problem, please contact the service center to obtain professional support.

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Technical Parameters of MIG C250i

Description	Specification	
Model	MIG C250i	
Input Voltage V	1Phase 220V	3Phase 415V
Frequency Hz	50/60	
Rated input current A	45	14.8
Rated KVA	10.3	10.8
MMA welding current A	20A~200A	
MIG welding current A	30A~250A	
Welding current (10min) A	60%@250	
Efficiency η	85%	
Power factor $\text{Cos}\phi$	0.9	
Insulation class	F	
Enclosure protection IP	21S	
Cooling type	Fan cooled	
Weight Kg	53	
Dimension LxWxH mm	1000*490*730	

The MIG C250i series is a DC inverter compact MIG welding machine with MMA function. This unit uses 1~Phase 220V, 50/60Hz or 3~Phase 415V, 50/60Hz input AC power.

INSTALLATION AND CONNECTION

Installation requirements

1) Environment requirements

- a) Do not install the machine at places with excessive dusts and metal powders.
- b) Do not install the machine at places with corrosive or explosive gas.
- c) The temperature of the working environment should be between -10°C and 40°C.
- d) Do not carry out welding with the welding machine placed on a platform with a pitch greater than 15°.
- e) The machine should be installed in a well-ventilated place with humidity of 90% or less and without water condense.
- f) Pay attention to the wind at the welding site, and use wind deflector if necessary. Otherwise, the welding process will be affected.

2) Installation space requirements

The welding machine should be at least 20cm away from the walls, and there should be at least 30cm between them when two machines are installed side by side. Please refer to the table below to determine the installation position of the welding machine.

Table 2-1: Reserved space when installing the welding machine

Machine part	Front	Top	Left	Right	Rear
Reserved space	≥20cm	≥10cm	≥20cm	≥20cm	≥20cm

Electrical connection

▲ WARNING

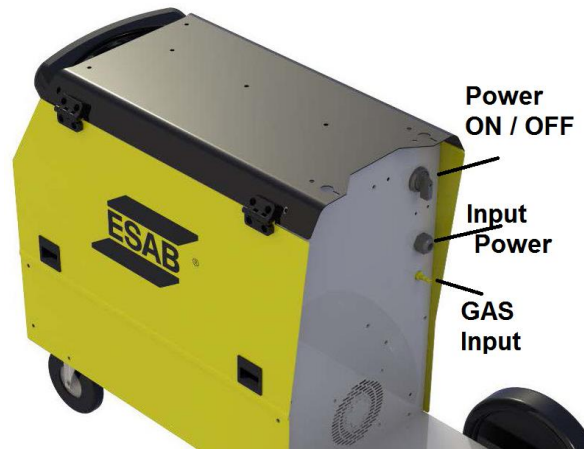
- High voltage danger from power source! Consult a qualified electrician for proper installation of receptacle. This welder must be grounded while in use to protect the operator from electrical shock.
- Do not remove grounding connection or alter the plug in any way. Do not use any adapters between the welder’s power cord and the power source receptacle. Make sure the POWER switch is OFF when connecting your welder’s power cord to a properly grounded input AC supply.

OPERATION

Panel Functions of MIG C250i



Serial No.	Part name	Function
1	Current meter display	To display the welding current value.
2	Voltage meter display	To display the welding voltage value.
3	Wire Inching switch	To feed wire without welding.
4	2 / 4 Stroke	2 or 4 stroke operation in MIG.
5	Welding Process Selection	MIG or MMA Selection.
6	Voltage Control	Voltage adjustment in MIG
7	Current Control	Wire Speed/ Current Control in MIG/ MMA.
8	Positive Output	Positive Output Terminal
9	Output Selection	MIG Polarity Change Cable
10	Negative Output	Negative Output Terminal
11	Torch Connector	Euro type MIG Torch Connection
12	LEDS	Power On / Over Heating
13	Inductance Control	Inductance Adjustment in MIG mode



Rear panel

Input Power Supply

This unit uses 1~Phase 220V, 50/60Hz or 3~Phase 415V, 50/60Hz input AC power.

3 Phase supply connection:

Connect 3 Phase 415V, 50Hz input power supply (R, Y, B and Ground) to the corresponding R, Y, B and ground wires of the power source.

1 Phase Supply connection:

Connect 1 phase 220V, 50Hz input power supply to “RED” and “BLACK” wires and ground wire of the power source.

Wire Feeding Mechanism



Wire Feeding mechanism is inbuilt inside the machine. Wire Spool mounting and feed roller assembly both are available on the right side of the machine.

Work after welding

- 1) Cut off the power of the welding machine 3~5min after the welding work is finished, so as to cool the internal of the machine.
- 2) Turn off the air switch on the welding machine first and then switch off the power in the switching box when shutting off the power.

MAINTENANCE

Daily maintenance



The power of the switching box and the welding machine should be shut down before daily checking (except appearance checking without contacting the conductive body) to avoid personal injury accidents such as electric shock and burns.

Tips:

- 1) Daily checking is very important in keeping the high performance and safe operation of this welding machine.
- 2) Do daily checking according to the table below, and clean or replace components when necessary.
- 3) In order to ensure the high performance of the machine, please choose components provided when replacing components.

Table: Daily checking of the welding machine

Items	Checking requirements	Remarks
Front panel	Whether any of the components are damaged or loosely connected; Whether the cables at the bottom are tightly connected; Whether the abnormality indicator illuminates after starting the machine.	If unqualified, check the interior of the machine, and tighten or replace the components.
Rear panel	Whether the input power cable is in good condition; Whether the air intake is unobstructed.	
Cover	Whether the bolts are loosely connected.	If unqualified, tighten or replace the components.
Chassis	Whether the rubber feet are damaged or loosely connected.	
Side plates	Whether the side plate is distorted, damaged or loosely connected.	
Fan	Whether the fan or fan guard is distorted or damaged. Whether the fan works or sounds normal when the machine is running;	If abnormal, eliminate the failures or replace the fan.

Table: Daily checking of accessories

Items	Checking requirements	Remarks
Earth cable	Whether the grounding wires (including work piece GND wire and welding machine GND wire) break off.	If not proper, tighten or replace the components.
Welding cable	Whether the insulating layer of the cable is worn, or the conductive part of the cable is exposed; Whether the cable is drawn by an external force; Whether the cable connected to the work piece is well connected.	Use appropriate methods according to the work site situation to ensure safety and normal welding.

Periodic check







WARNING

Periodic check should be carried out by qualified professionals to ensure safety. The power of the switching box and the welding machine should be shut down before periodic check to avoid personal injury accidents such as electric shock and burns. Due to the discharge of capacitors, checking should be carried out 5 minutes after the machine is powered off.

Tips

	<p>Safety</p> <p>All maintenance and checking should be carry out after the power is completely cut off. Make sure the power plug of the machine is pulled out before uncovering the welding machine.</p> <p>When the machine is powered on, keep hands, hair and tools away from the moving parts such as the fan to avoid personal injury or machine damage.</p>
	<p>Periodic check</p> <p>Check periodically whether inner circuit connection is in good condition (esp. plugs). Tighten the loose connection. If there is oxidization, remove it with sandpaper and then reconnect.</p> <p>Check periodically whether the insulating layer of all cables is in good condition. If there is any dilapidation, rewrap it or replace it.</p>

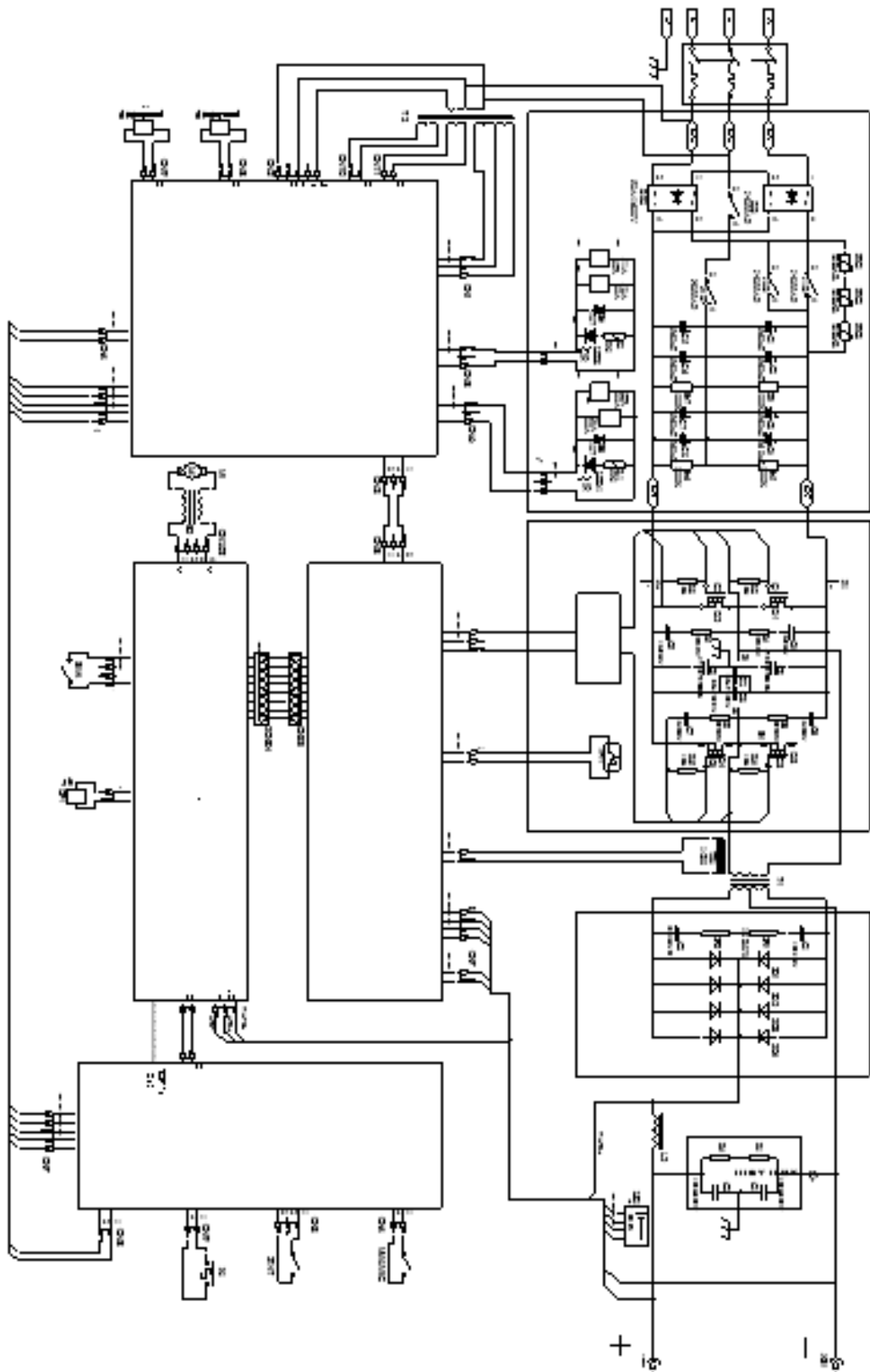
	<p>Beware of static</p> <p>In order to protect the semiconductor components and PCBs from the static damage, please wear antistatic device or touch the metal part of the enclosure to remove static in advance before contacting the conductors and PCBs of the machine internal wiring.</p>
	<p>Keep it dry</p> <p>Avoid rain, water and vapor infiltrating the machine. If there is, dry it and check the insulation of the welding machine (including that between the connections and that between the connection and the enclosure) with an ohmmeter. Only when there are no abnormal phenomena anymore, can the machine be used.</p> <p>Put the machine into the original packing in dry location if it is not to be used for a long time.</p>
	<p>Pay attention to maintenance</p> <p>Periodic check should be carried out to ensure the long-term normal use of the machine. Be careful when doing the periodic check, including the inspection and cleaning of the machine interior.</p> <p>Generally, periodic check should be carried out every 6 months, and it should be carried out every 3 months if the welding environment is dusty or with heavy oily smoke.</p>
	<p>Beware of corrosion</p> <p>Please clean the plastic parts with neutral detergent.</p>

Trouble Shooting

No	Fault	Cause	Solutions
1	Yellow LED Indicator is on.	Voltage is too high ($\geq 15\%$)	Switch off the power source; Check the main supply. Restart machine when input power recovers to normal state.
		Voltage is too low ($\leq 15\%$)	
		Poor power ventilation lead to over-heat protection	Improve the ventilation condition.
		High Environment temperature.	It will automatically recover when the temperature is low.
		Using over the rated duty-cycle.	It will automatically recover when the temperature is low.
2	Wire feeding motor is not working.	Potentiometer faulty.	Change potentiometer
		Nozzle is blocked up	Change nozzle.
		Feed roller is loose.	Adjust Feed Roller Pressure.
3	Cooling Fan is not working or rotating very slowly.	Switch faulty.	Replace the switch.
		Fan faulty.	Replace or repair the fan.
		Wire broken or falling off.	Check the connection.
4	Arc is not stable and spatter is large.	Too large contact tip makes the current unsteady.	Change the proper contact tip or roller.
		Wire feeding is not proper.	Clean or replace the liner and the torch cable had better in the line direction.
5	Arc is not establishing.	Earth cable break.	Connect earth cable.
		Work piece has much greasy dirty or rusty stain.	Clean greasy dirty or rusty stain

6	No shielded gas.	Torch is not connected properly.	Connect the torch again.
		Gas pipe is pressed or blocked up.	Check gas system.
		Gas system rubber pipe faulty.	Connect gas system and bind firmly.
7	Others		Please connect ESAB service.

Wiring Diagram.

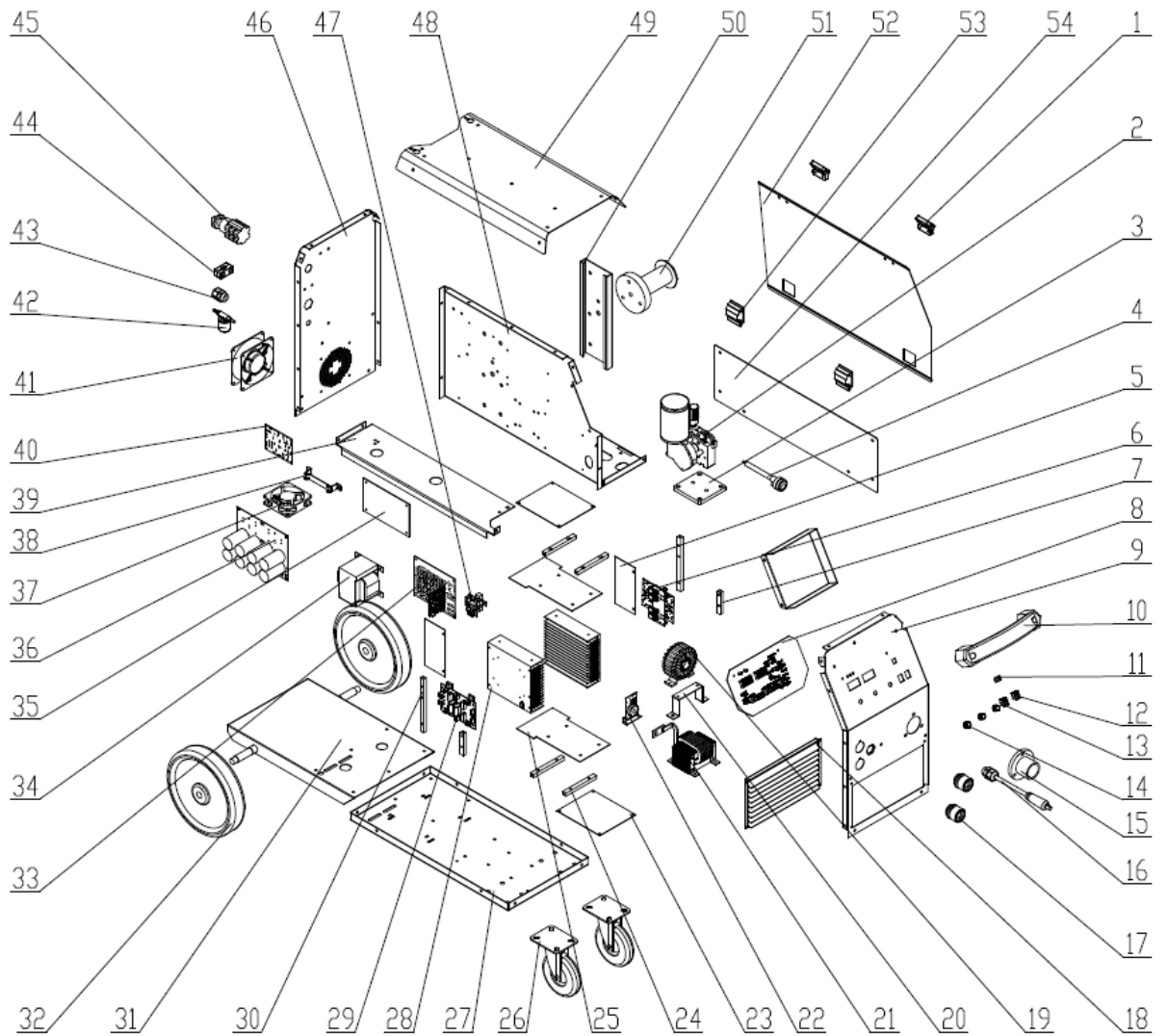


MIG C250i SPARES LIST AND EXPLODED VIEW

Sl. No.	Item Description	Part Number
1	Plastic hinge	020050170009
2	Permanent magnet motor	020070400340
3	Wire feeder insulation washer	020050050154
4	Gun switch harness	012070020035
5	Radiator left and right windshield	011020012847
6	IGBT amplifier board assembly	012010100042
7	Radiator support column 3	020050050725
8	Panel	011050070455
9	Front Panel	011010030491
10	Handle	020050080081
11	Tap the switch harness	020030304757
12	Self-locking/non-self-locking switch wire harness 2	020030300014
13	Self-locking/non-self-locking switch wire harness 1	020030300013
14	Potentiometer knob	020070110056
15	Insulation flange	020050050106
16	Polarity conversion cable	012070031160
17	Quick Connector	020070570185
18	Blind fastening	011020011127
19	Intermediate frequency transformer	020070250652
20	Medium frequency transformer fixed plate welding	011020010770

21	Reactor coil	011020015246
22	Transformer harness	012070024170
23	Radiator insulation washer	020040110104
24	Radiator support column	020050050796
25	Radiator up and down windshield	020040110079
26	Universal wheel	020050070033
27	Bottom assembly	011010040452
28	Radiator	020070430195
29	IGBT amplifier board assembly	012010100042
30	Radiator support column 1	020050050727
31	Bottom bearing assembly	011010040451
32	Rubber single wheel	020050070078
33	Main control board	011050020924
34	Control transformer	020070250718
35	Control board	011050020967
36	Silicon - coated power board	011050010027
37	Fan harness 2	011120360010
38	Fan bracket	011020010208
39	Beam	011020011107
40	sequential plate	011050110038
41	Fan harness 1	012070020095
42	Valve wiring harness	012070024440
43	External force cable fixed head	020040300008
44	Line pressing board	020070990393
45	Universal switch	020070800051
46	Back panel	011010030490
47	Load the small plate	011050110206

48	Set panel	011020011134
49	Head cover	011010011600
50	Spool mounting plate	011020012570
51	Spool	020050050516
52	Rotating panel	011020011135



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