

INVERTER AIR PLASMA CUTTING MACHINE

LONGRUN[®]

100LP, 130LP, 150LP

OPERATION MANUAL



DO NOT INSTALL, OPERATE OR MAINTAIN THIS MACHINE WITHOUT READING THIS MANUAL AND PLEASE ALWAYS THINK BEFORE YOU ACT.

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■ TECHNICAL SPECIFICATIONS

- Usable at any plant by easy to change input voltage 220V, 380V, 440V
- Easy to verify cutting current by digital ammeter during cutting
- Cutting with air only, no need other gas
- Non contact arc starting by pilot circuit
- No need keeping to push torch switch during cutting by turning AUTO switch On which is on front panel of power source

ITEM	UNIT	100LP	130LP	150LP
Input Voltage	V	220, 380, 440 Single Phase or Three Phase Switchable		
Frequency	Hz	50/60		
Rated Output Current	A	100	130	150
Input Current @ rated output	KVA	12	23	27
No Load Voltage	V	280		
Output Current Range	A	25 ~ 100	35 ~ 130	50 ~ 150
Output Voltage	V	110	120	130
Duty Cycle @ rated output	%	60		
Dimension (W×D×H)	mm	330×680×530	385×780×610	385×825×610
Weight	kg	44	62	69

General Safe Practices

- Wear approved safety glasses with side shields under your welding helmet or face shield and at all times in the work area.
- When working above floor level, use a safety belt to protect yourself from a fall should you get a shock.
- Do not install or place machine on or over combustible surfaces.
- Be sure that all installation, operation, maintenance and repair procedures are performed only by qualified persons.

Electric shock can kill.

- Wear Dry, hole-free insulating gloves and body protection. Do not touch electrode with bare hand. Do not wear wet or damaged gloves.
- Do not touch live electrical parts.
- Never dip the electrode in water for cooling.
- Properly install and ground all equipment.
- Protect yourself from electric shock by insulating yourself from work and ground. Use non-flammable, dry insulating material if possible, or use dry rubber mats, dry wood or plywood, or other dry insulating material big enough to cover your full area of contact with the work or ground, and watch for fire.
- Turn off input power using the disconnect switch at the fuse box before working on the equipment.
- Frequently inspect input power cable for damage or bare wiring and repair or replace cable immediately if damaged.

Fumes and gases can be dangerous.

- Cutting may produce fumes and gases hazardous to health. Avoid breathing these fumes and gases. When cutting, keep your head out of the fume. Use enough ventilation and/or exhaust at the arc to keep fumes and gases away from the breathing zone.
- Use enough forced ventilation or local exhaust (forced suction) at the arc to remove the fumes from your breathing area.
- Use a ventilating fan to remove the fumes from the breathing zone and welding area.

Arc rays can burn eyes and skin.

- Use welding helmet with correct shade of filter to protect your eyes from sparks and the rays of the arc.
- Wear welders cap and safety glasses with side shields. Use ear protection when welding out of position or in confined spaces. Button shirt collar.
- Wear complete body protection. Wear oil-free protective clothing such as leather gloves, heavy shirt, cuffless pants and high boots.

Cutting sparks can cause fire or explosion.

- Remove fire hazards from the welding area. If this is not possible, cover them to prevent the welding sparks from starting a fire. Remember that welding sparks and hot materials from welding can easily go through small cracks and opening to adjacent areas. Avoid welding near hydraulic lines.
- When not use, make certain no part of the electrode circuit is touching the work or ground. Accidental contact can cause overheating and create a fire hazard.
- Do not cut on drums, tanks, or any closed containers unless a qualified person has tested it and declared it or prepared it to be safe.
- Connect the work cable to the work as close to the cutting area as practical. Work cables connected to the building framework or other locations away from the cutting area increase the possibility of the cutting current passing through lifting chains, crane cables or other alternate circuits. This can create fire hazards or overheat lifting chains or cables until they fail.

■ INSTALLATION

● The welding machine shall be installed at a place ;

- . free from the inflammables
- . less humidity, dirt and dust
- . protecting from influence of direct sunlight, wind and rain
- . not generated oil vapor and corrosive gas
- . operating temperature range is from -102°C to 40°C
- . least 30cm away from wall and other welding machine

● Input Connection (Rear of the machine)

Be sure the voltage, phase and frequency of the input power is as specified on the name plate located on the rear panel of the machine.

- . To connect the power cables, turn the power switch OFF
- . Verify the voltage to be supplied from main power.



- . Open the cover of terminal plate and connect the power cable to the power input terminal on the rear of the machine and close the cover of terminal plate.
- √ If the input power is single phase, connect two cables on left and right terminal without center.
- . For grounding the machine, connect a ground wire to the ground terminal marked with the symbol is located on the rear panel of the machine.
- . Connect the air hose to the air-in of air regulator.



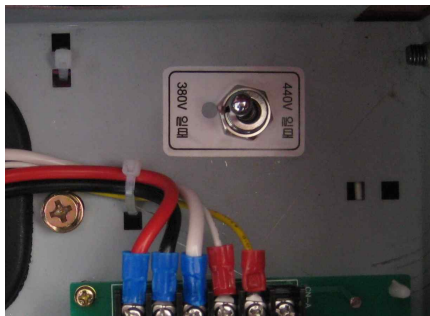

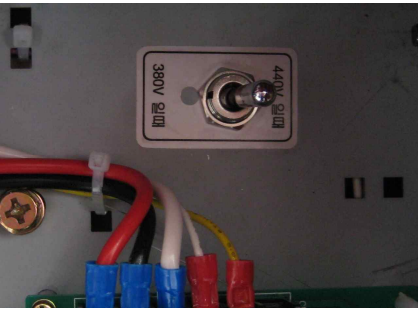
※ Input voltage selection



- . Verify the connection of voltage selection terminal.

√ If necessary to change it,

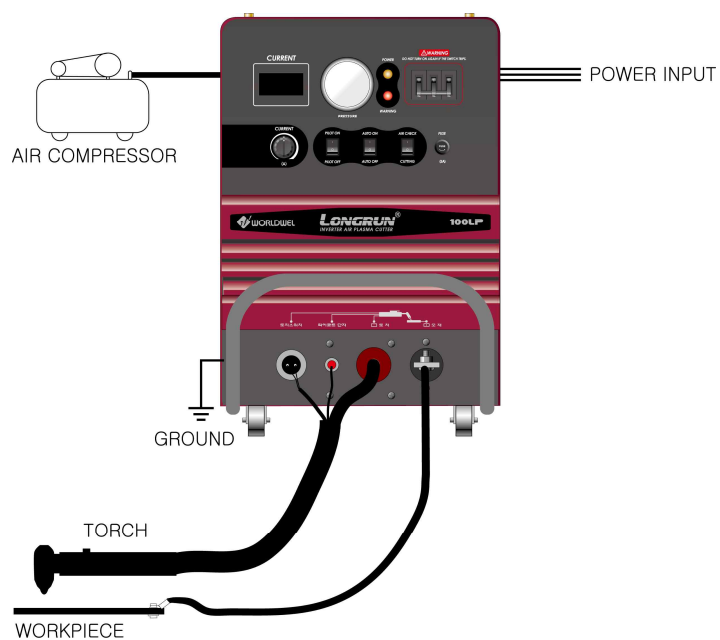
- . Remove the cover of input voltage selection plate.
- . Position the wires for the voltage to be supplied from main power.
- . For 380V and 440V input, position a switch for the voltage would be used which is inside welder after removing top cover.

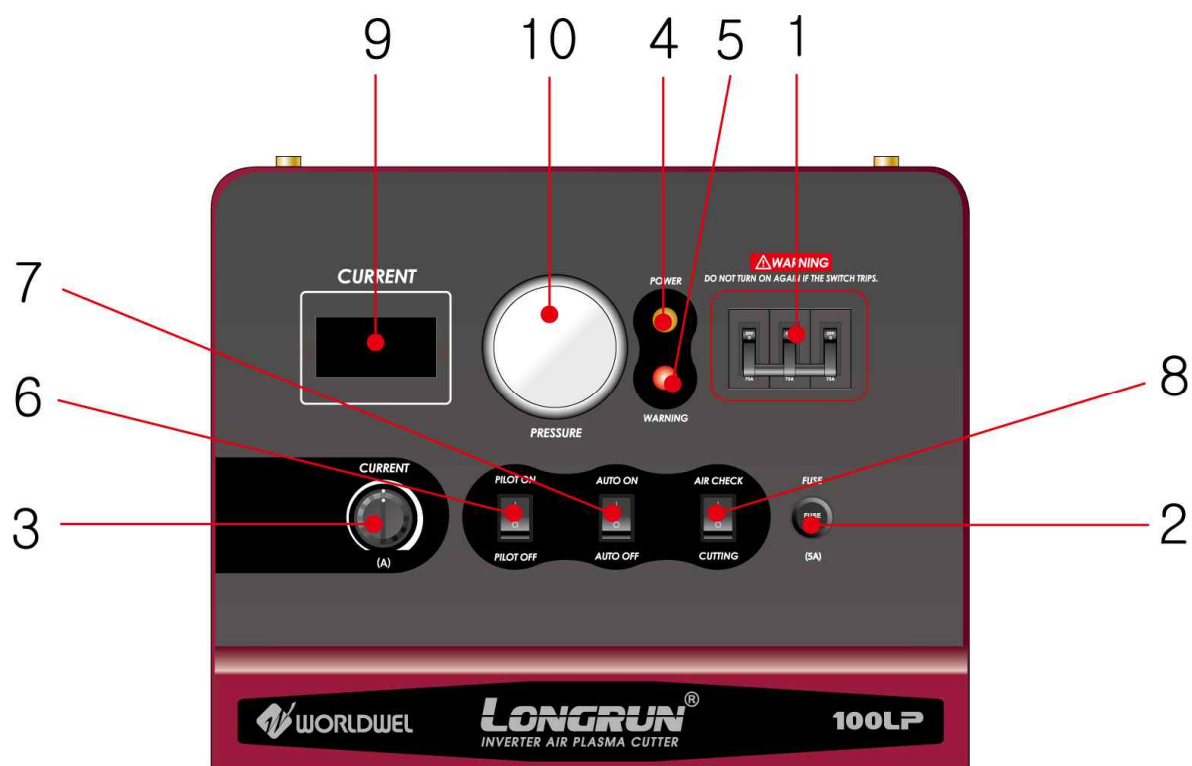
220V	380V	440V
	 	 

● Output Connection (Front of the machine)

- . Connect the work cable (which is connected to the work clamp) to the "+ METAL" terminal.
- . To connect the torch,
 - Connect a electrode cable to the "- TORCH" terminal
 - Connect a torch switch connector to the torch switch receptacle
 - Connect a pilot wire to the pilot receptacle.

■ FRONT PANEL





1	Power Switch	When it is turn on, the cooling fan and all of electrical circuit inside the machine will be operated.
2	Control Fuse (5A)	It will be broken by any electrical problems
3	Current Adjust Volume	Adjust the current
4	Power Lamp	It indicates that the machine is on and input voltage is within acceptable range.
5	Warning Lamp	It indicates the thermal over load or output disabled by any electrical problems or the failure of program. When it is on, the machine will not supply power at the output.
6	Pilot Switch	Possible the non contact cutting with workpiece by pilot circuit.
7	Auto Switch	If it is On, no need keeping to push torch switch during cutting
8	Air Check Switch	It is for checking the flow of the air. If this switch is ON, then the air is flowed by opening the solenoid valve inside the machine.
9	Ammeter	It indicates the cutting current
10	Air Pressure Indicator	It indicates the air pressure

■ START UP

Turn On the main power supplied to machine



Turn On the power switch of machine and then verify that the power lamp is On and the cooling fan is running



Regulate the air pressure to 75PSI using the lever of air regulator when air check switch is ON



Select PILOT ON or OFF of the pilot selection switch



Select AUTO ON or OFF of the auto selection switch

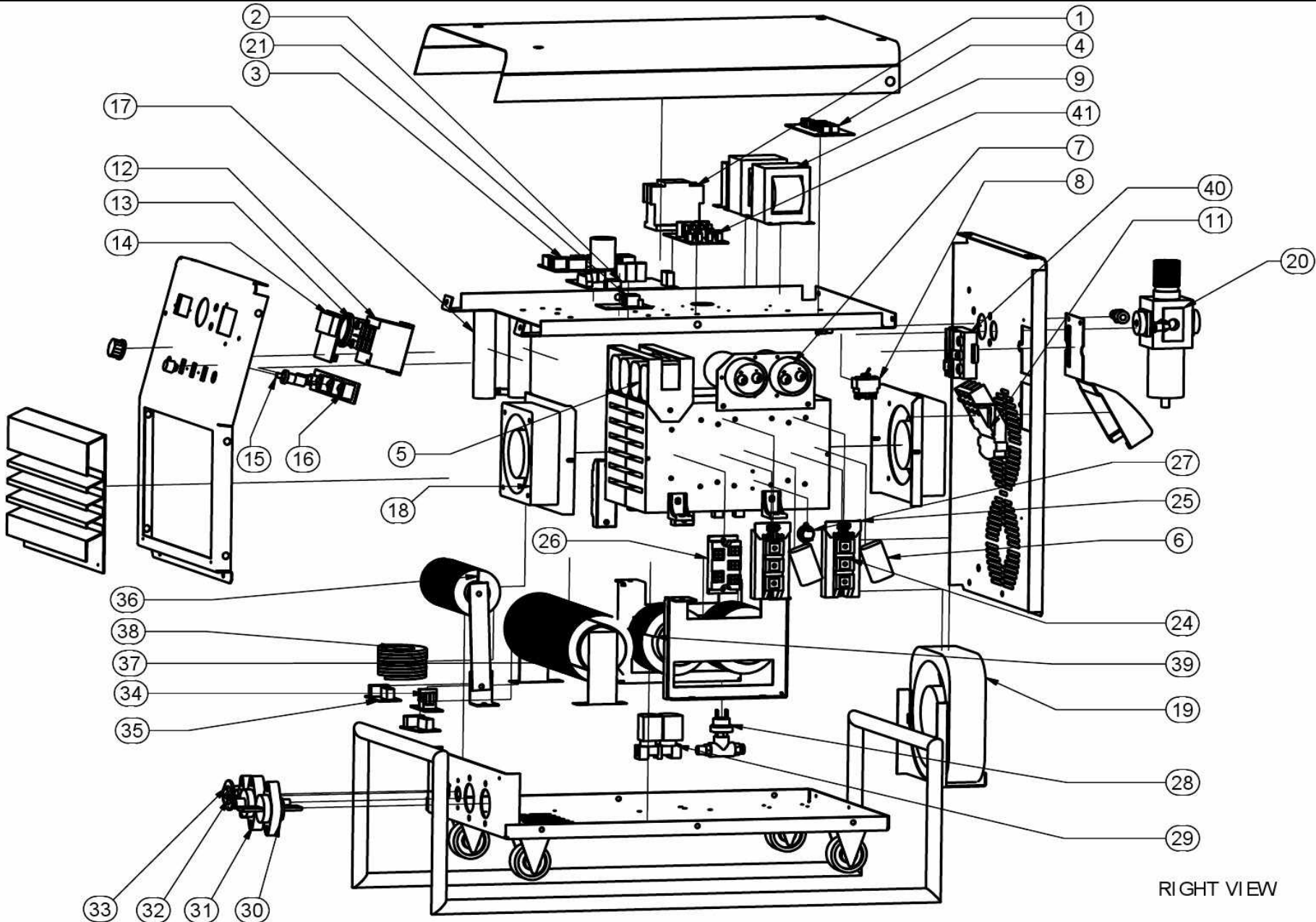


Set the proper cutting current by the output current adjusting volume



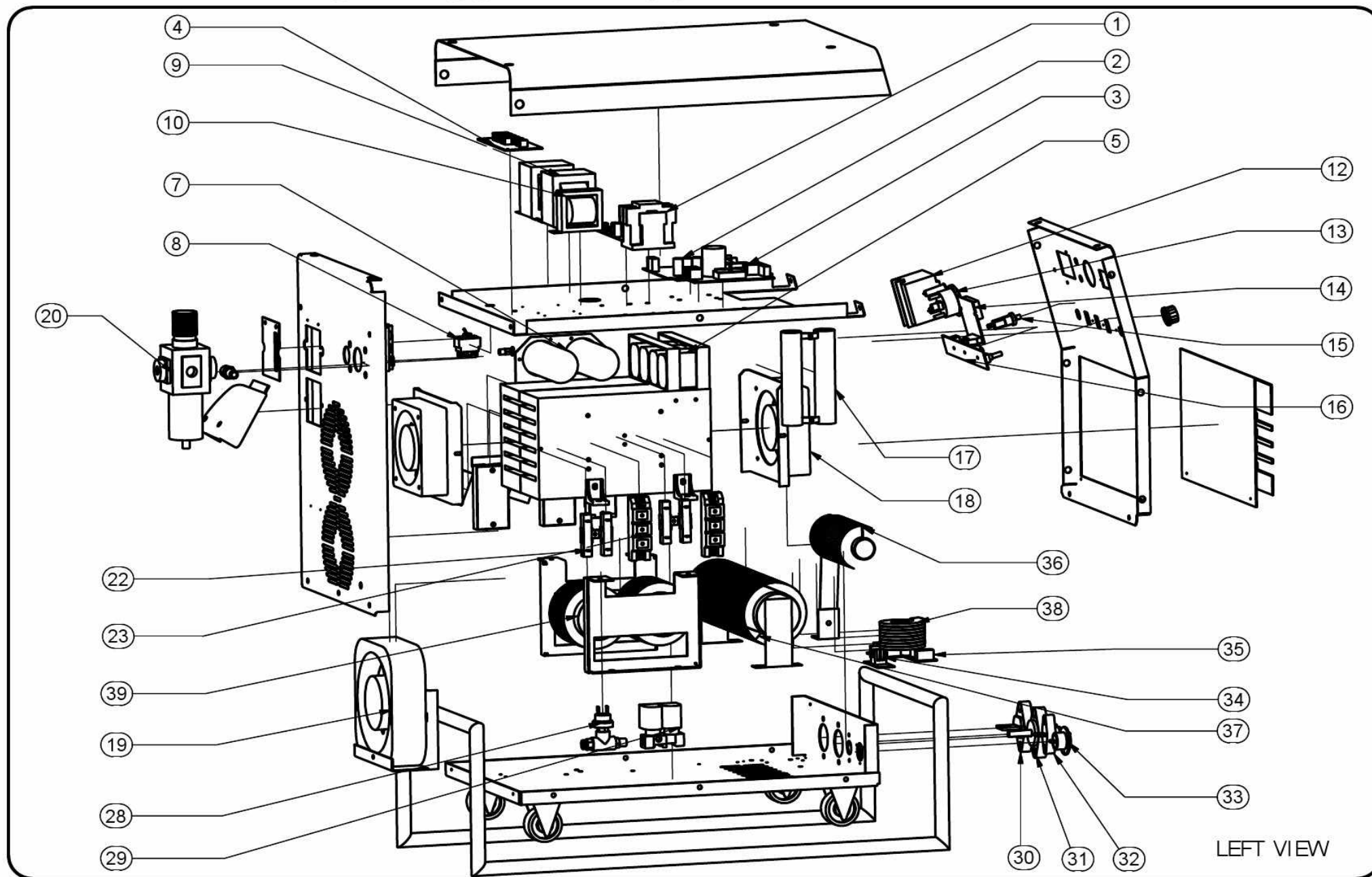
Start cutting

INVERTER PLASMA CUTTER 100LP



RIGHT VIEW

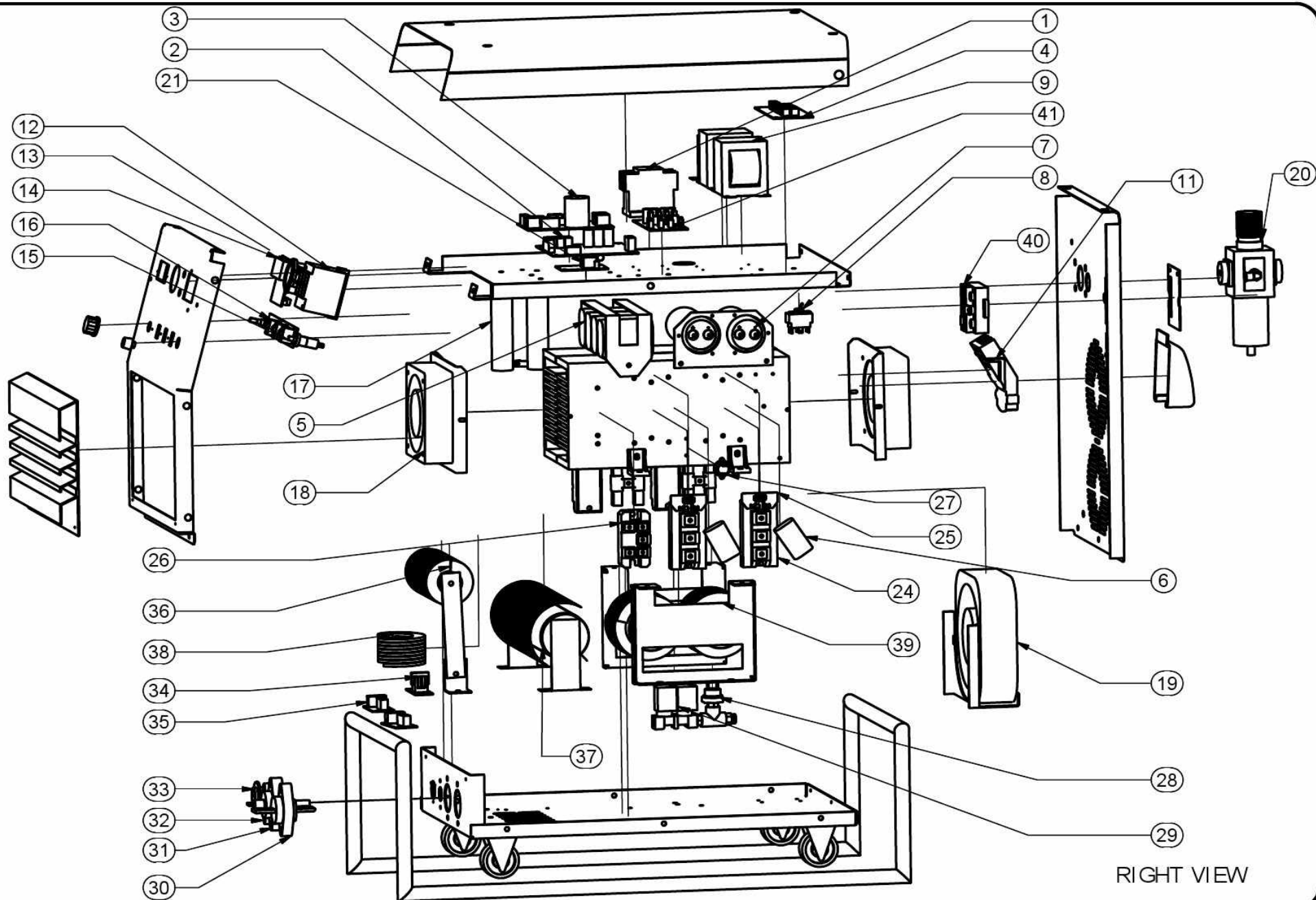
INVERTER PLASMA CUTTER 100LP



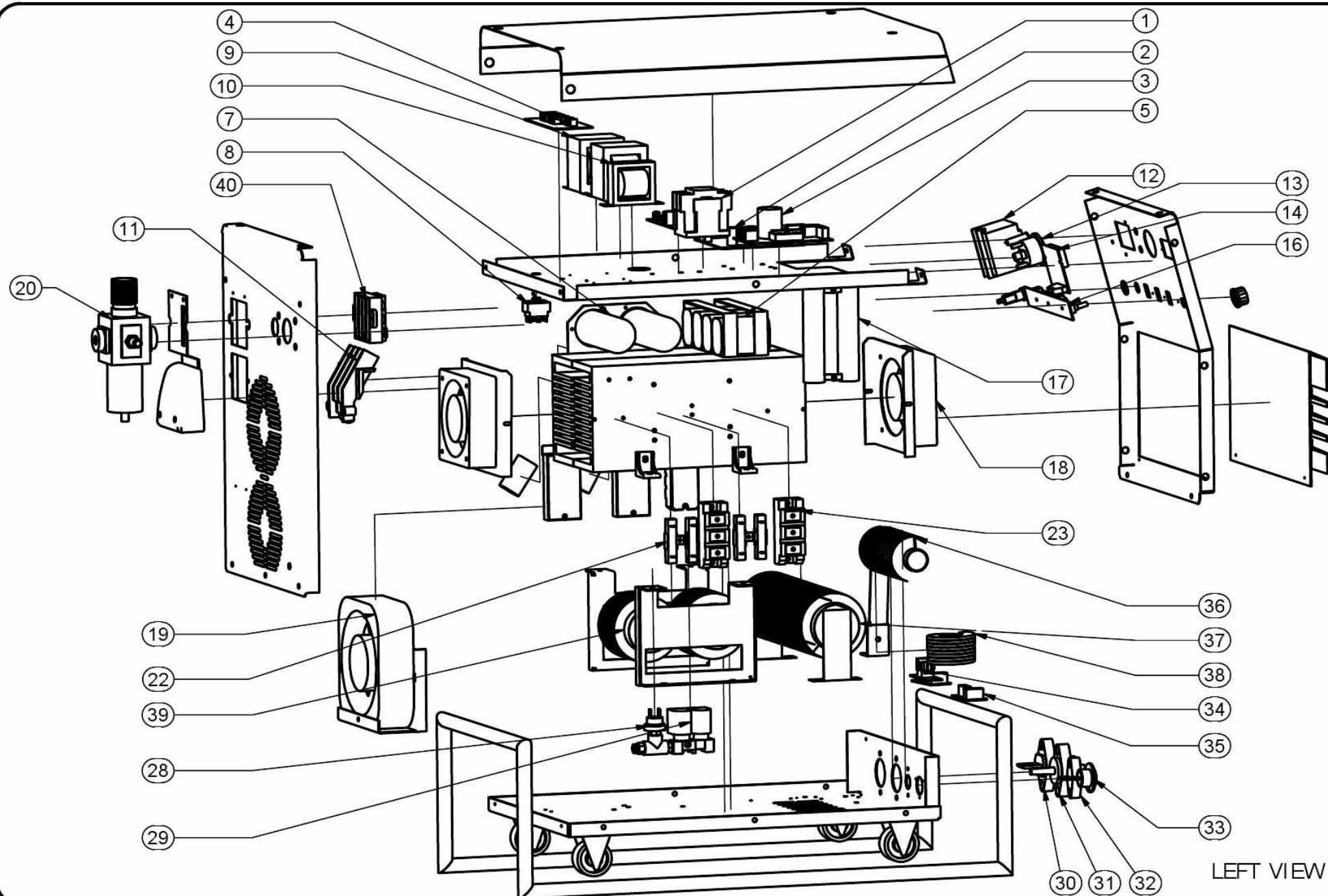
100LP PARTS LIST

NO.	PART NAME	DESCRIPTION	QTY.
1	Magnet	GMC-30P2 AC220V 50/60HZ	1
2	Main PCB	WTM06[Ver.01]	1
3	HF PCB	TMD-45A89	1
4	Control Transformer PCB	VAC-01	1
5	MF Condensor	15 μ F/800V[LARGE]	4
6	MF Condensor	10 μ F/800V[SMALL]	2
7	Condensor	2200/400V	2
8	Toggle Switch	DWT-6210	1
9	Control Transformer	7642	2
10	Control Transformer	5719	1
11	Input Terminal	6M/M	1
12	NFB	3P-80A NDB3-100J4 80/3LTS	1
13	Pressure Meta	40/10	1
14	META PCB	WPMD-01	1
15	FUSE	3A	1
16	VOLUME PCB	WPVR-01	1
17	Resistor, Stick	100W5 Ω	2
18	FAN-150T	150T [PIN TYPE]	1
19	FAN-120T	120T [PIN TYPE]	2
20	Regulator	FR UNIT-TAW3000-03B	1
21	Slave PBC	WPSB-01	1
22	Resistor, Discharge	N20W10 Ω J	4
23	Output Diode	DAC2F100N6S,P6S	2
24	IGBT	150A/600V	2
25	IGBT Drive PCB	WGE-01	2
26	InputBridgeDiode	DF75LA80	1
27	Temp. Switch	N85	1
28	Pressure Sensor	DP-07	1
29	Solenoid Valve	TWIN DC24V 1.6/3M/M[HS-TW]	1
30	Terminal,MID	MID	1
31	Terminal, Air	NIPPLE(PLASMA)	1
32	TerminalPilotOT	SMALL (BLACK)	1
33	Connector	K25-2R	1
34	Noise Filter PCB	WTF-02	1
35	Pilot Surge PCB	WNF-02	2
36	Induction coil	100LP	1
37	Choke Transformer	100LP	1
38	Coil	100LP	1
39	Main Transformer	100LP	1
40	Terminal	MJ-175	1
41	PWD PCB	WPD-02	1

INVERTER PLASMA CUTTER 130LP



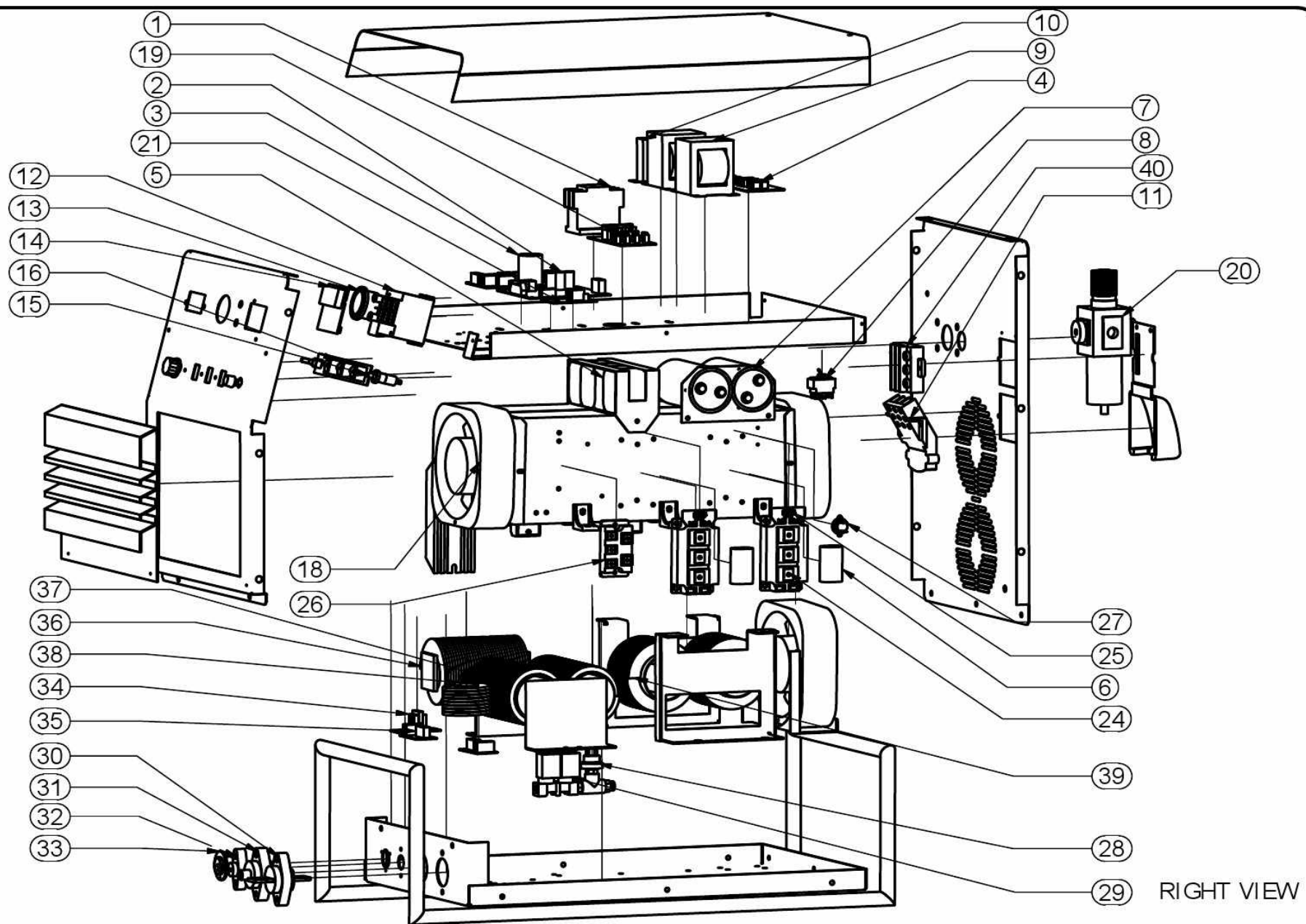
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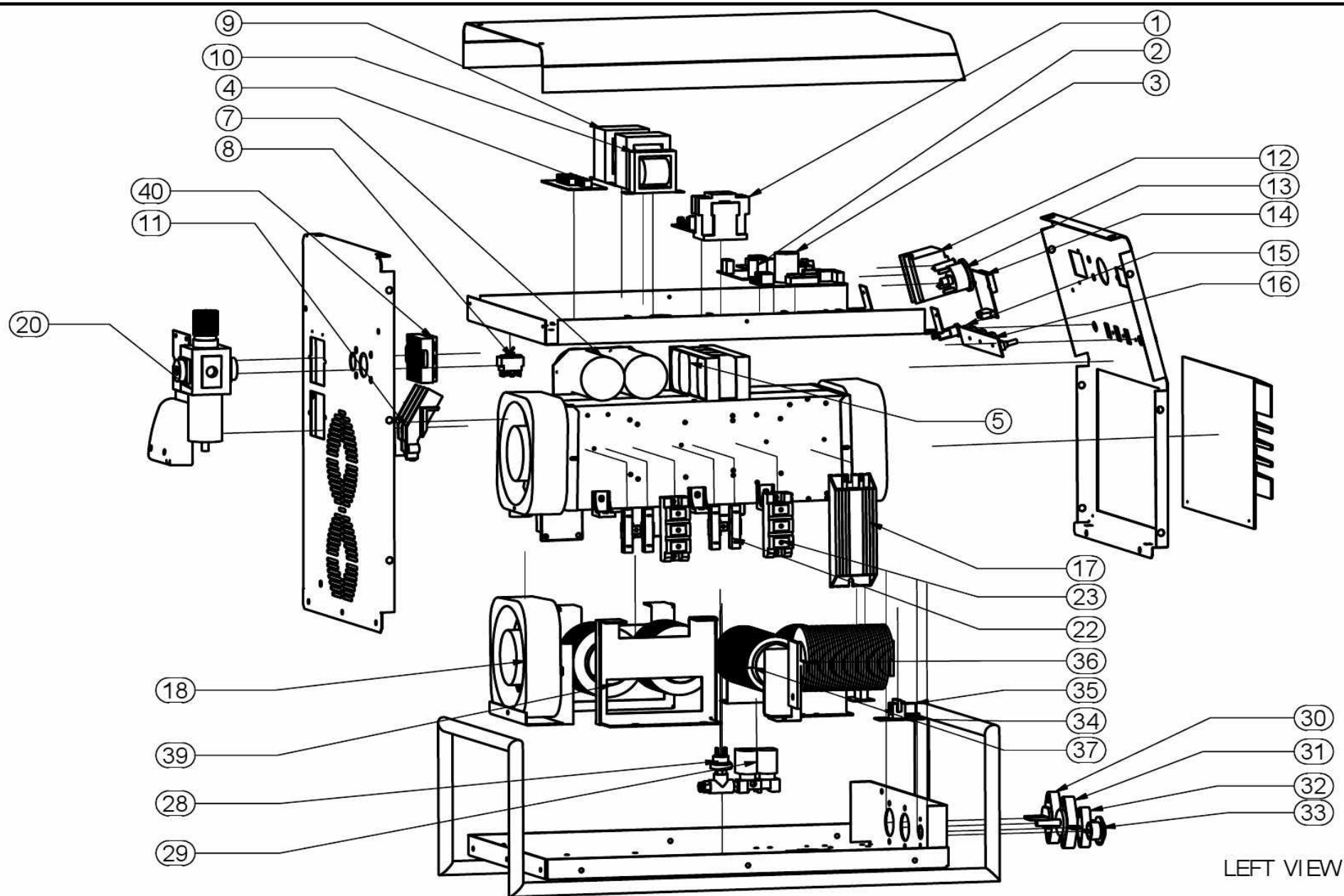
130LP PARTS LIST

NO.	PART NAME	DESCRIPTION	QTY.
1	Magnet	GMC-30P2 AC220V 50/60HZ	1
2	Main PCB	WTM06[Ver.01]	1
3	HF PCB	TMD-45A89	1
4	Control Transformer PCB	VAC-01	1
5	MF Condensor	20 μ F/1000V[LARGE]	4
6	MF Condensor	10 μ F/800V[SMALL]	2
7	Condensor	2700/400V	2
8	Toggle Switch	DWT-6210	1
9	Control Transformer	7642	2
10	Control Transformer	5719	1
11	Input Terminal	6M/M	1
12	NFB	3P-80A NDB3-100J4 80/3LTS	1
13	Pressure Meta	40/10	1
14	META PCB	WPMD-01	1
15	FUSE	3A	1
16	VOLUME PCB	WPVR-01	1
17	Resistor, Stick	100W5 Ω	2
18	FAN-150T	150T [PIN TYPE]	1
19	FAN-120T	120T [PIN TYPE]	2
20	Regulator	FR UNIT-TAW3000-03B	1
21	Slave PBC	WPSB-01	1
22	Resistor, Discharge	N20W10 Ω J	4
23	Output Diode	DB2F150N6S,P6S	2
24	IGBT	600V,200A	2
25	IGBT Drive PCB	WGE-01	2
26	InputBridgeDiode	6RI 100E-080	1
27	Temp. Switch	N85	1
28	Pressure Sensor	DP-07	1
29	Solenoid Valve	TWIN DC24V 1.6/3M/M[HS-TW]	1
30	Terminal,MID	MID	1
31	Terminal, Air	NIPPLE(PLASMA)	1
32	Terminal Pilot OT	SMALL (BLACK)	1
33	Connector	K25-2R	1
34	Noise Filter PCB	WTF-02	1
35	Pilot Surge PCB	WNF-02	2
36	Induction coil	130LP	1
37	Choke Transformer	130LP	1
38	Coil	130LP	1
39	Main Transformer	130LP	1
40	Terminal	MJ-175	1
41	PWD PCB	WPD-02	1

INVERTER PLASMA CUTTER 150LP



INVERTER PLASMA CUTTER 150LP



150LP PARTS LIST

NO.	PART NAME	DESCRIPTION	QTY.
1	Magnet	GMC-30P2 AC220V 50/60HZ	1
2	Main PCB	WTM06[Ver.01]	1
3	HF PCB	TMD-45A89	1
4	Control Transformer PCB	VAC-01	1
5	MF Condensor	30 μ F/800V[LARGE]	4
6	MF Condensor	10 μ F/800V[SMALL]	2
7	Condensor	3300/400V	2
8	Toggle Switch	DWT-6210	1
9	Control Transformer	7642	2
10	Control Transformer	5719	1
11	Input Terminal	6M/M	1
12	NFB	3P-100A NDB3-100J4 80/3LTS	1
13	Pressure Meta	40/10	1
14	META PCB	WPMD-01	1
15	FUSE	3A	1
16	VOLUME PCB	WPVR-01	1
17	Resistor, Stick	200W 2.5 Ω	1
18	FAN-150T	150T [PIN TYPE]	3
19	PWD PCB	WPD-02	1
20	Regulator	FR UNIT-TAW 3000-03B	1
21	Slave PBC	WPSB-01	1
22	Resistor, Discharge	N20W10 Ω J	4
23	Output Diode	DB2F200N6S,P6S	2
24	IGBT	300A,600V	2
25	IGBT Drive PCB	WGE-01	2
26	InputBridgeDiode	DF75LA80	1
27	Temp. Switch	N85	1
28	Pressure Sensor	DP-07	1
29	Solenoid Valve	TWIN DC24V 1.6/3M/M[HS-TW]	1
30	Terminal,MID	MID	1
31	Terminal, Air	NIPPLE(PLASMA)	1
32	TerminalPilotOT	SMALL(BLACK)	1
33	Connector	K25-2R	1
34	Noise Filter PCB	WTF-02	1
35	Pilot Surge PCB	WNF-02	2
36	Induction coil	150LP	1
37	Choke Transformer	150LP	1
38	Coil	150LP	1
39	Main Transformer	150LP	1
40	Terminal	MJ-175	1

Thank you very much for choosing our machine

Please record your machine identification information below for future reference. This information can be found on the nameplate of your machine.

Product Name	INVERTER AIR PLASMA CUTTING MACHINE
Model Number	
Date Manufactured	
Serial Number	
Date Purchased	
Where Purchased	
Where you use	

Whenever you request replacement parts or information on this machine, always supply the information you have recorded above. The date number is especially important when identifying the correct replacement parts.

Complete this form, please fax it to our selling agency in your country or us for warranty statement.

LONGRUN[®]



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