INVERTER DC TIG WELDER

LONGRUN®
INVERTER DC TIG ARC WELDER

300LT

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

- Non contact arc starting by **HIGH FREQUENCY CIRCUIT**
- **ELECTRIC SHOCK PROTECTOR** reduces No load voltage to 14VDC for user safety when welder is not in use.
- Easy to verify welding current during welding by **DIGITAL AMMETER**
- Portable by compact size & lightweight

ITEM	UNIT	300LT	
Rated Input Voltage	V	220, Single Phase, 50/60Hz	
Process	—	TIG	STICK
Rated Output Current	A	250	180
Input Capacity	KVA	9.1	7.8
No Load Voltage	V	82	
Output Current Range	A	10~250	20~180
Output Voltage @ rated output	V	20	27
Duty Cycle @ rated output	%	60	
Dimension (W×D×H)	mm	220*470*290	
Weight	kg	18	

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 cord for damage or bare wiring and repair or replace cord immediately if damaged.

Fumes and gases can be dangerous.

- Welding may produce fumes and gases hazardous to health. Avoid breathing these fumes and gases. When welding, 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.

Welding 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 welding, 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 weld 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 welding area as practical. Work cables connected to the building framework or other locations away from the welding area increase the possibility of the welding 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 -10℃ to 40℃
· least 30㎝ away from wall and other welding machine

● Input Connection (Rear of the machine)

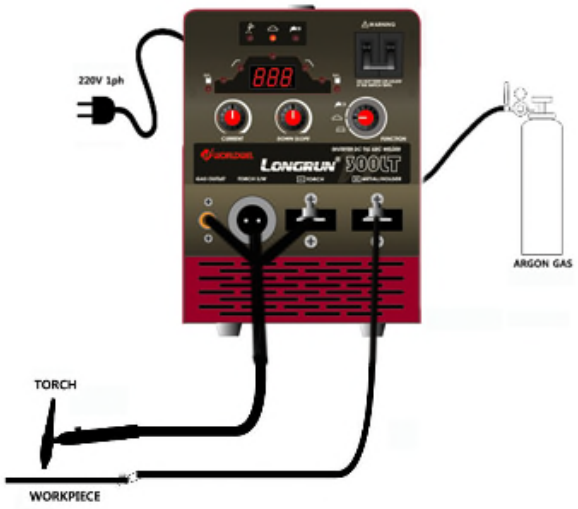
Be sure the voltage, phase and frequency of the input power is as specified on the name plate located on the rear panel of the machine.

· To connect the power cables, turn the power switch OFF
· Verify the voltage to be supplied from main power.
· Plug in a input power cord into a 220V outlet that is grounded.
· Open the cover of terminal and connect the power cable to the power input terminal on the rear of the machine and close the cover of terminal. 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 gas hose to the gas input terminal.

● Output Connection (Front of the machine)

· Connect the work cable (which is connected to the work clamp) to the ⊞ METAL terminal.

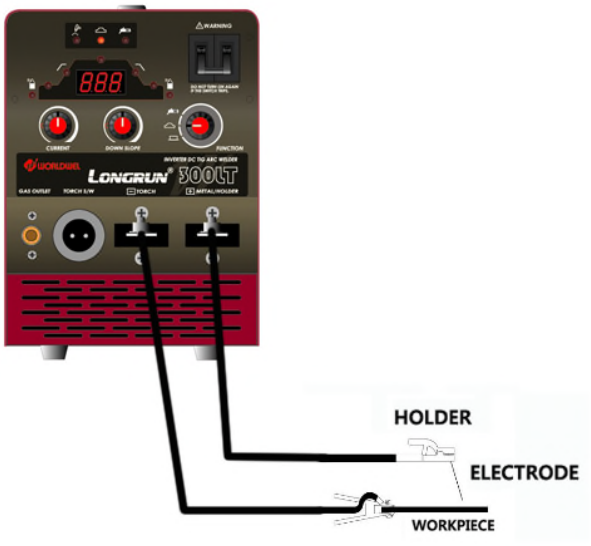
· To connect the TIG torch, connect a electrode cable to the ⊟ TORCH terminal and a torch switch connector to the torch switch receptacle and a gas connector to the output gas receptacle.



● Output connection for stick welding

· Connect the work cable (which is connected to the work clamp) to the ⊟ TORCH terminal.

· Connect the electrode cable (which is connected to the electrode holder) to the ⊞ METAL terminal.



■ 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	Ammeter	Displays the welding current
3	Welding Current Control	Adjust the welding current
4	Down Slope	Decreases the current down over a set period. This is used to eliminate the crater that forms at the end of the weld.
5	Function	Select welding mode

■ Welding Mode

Crater On	Press and hold the torch switch, the machine will open the gas valve to start the flow of the shielding gas and the arc is started at the start current. At this time release the torch switch, the output current will be increased from the start current to the welding current during the up slope time. When finish to weld, press and hold the torch switch, the output current will be decreased from the welding current to the crater current during the down slope time. At this time release the torch switch, the arc is off and flow the gas during the after-flow time.

■ Start Up

Stick Welding

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Turn On the main power supplied to welder

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Select "STICK" from the welding mode selector

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

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Start to weld with adjusting the proper welding current

TIG Welding

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Turn On the main power supplied to welder

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Select Crater Off or Crater On or Crater Repeat or Arc Spot from welding mode selector

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Adjust properly the down slope time, gas after-flow time and pulse frequency

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Open the valve of gas tank

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

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Regulate the gas flowed with pressing the torch switch

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Start to weld with adjusting the proper welding current and other parameters

■ TROUBLESHOOTING

SYMPTOMS	REASON	RECOMMENDED ACTION
Cooling fan does not work when the power switch is on.	· No input voltage · Fuse (3A) is blown · Power switch broke down · Cooling fan broke down	· Verify input voltage · Replace Fuse (3A) · Replace Power switch · Replace Cooling fan
Gas does not flow from torch when pressing the torch switch	· Torch switch connector fail · Torch switch broke down · Control PCB broke down	· Reconnect Torch switch connector · Replace Torch · Replace Control PCB
Gas flows continuously at "Off" position of torch switch	· Torch switch broke down · Torch broke down · Control PCB broke down	· Replace Torch switch · Replace Torch · Replace Control PCB
Arc does not started	· Torch cable is broke · Torch switch connector fail · Work cable fail · Torch broke down · Control PCB broke down	· Repair Torch cable · Reconnect Torch switch connector · Reconnect Work cable · Replace Torch · Replace Control PCB
Crater does not work	· Crater select switch broke down · Control PCB broke down	· Replace Selector of function · Replace Control PCB

√. If all recommended action have been checked and the problem persists, please contact our service center

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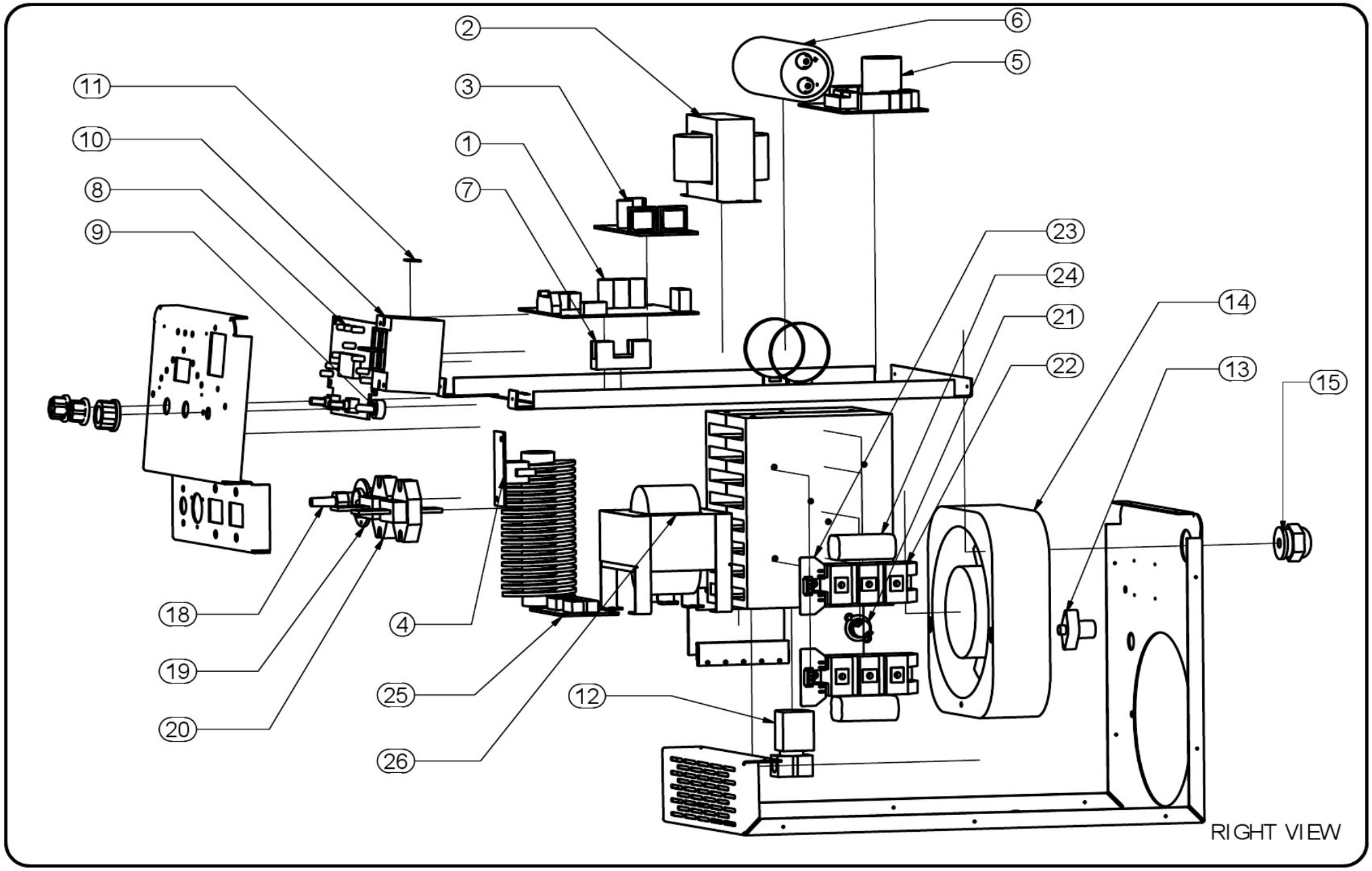

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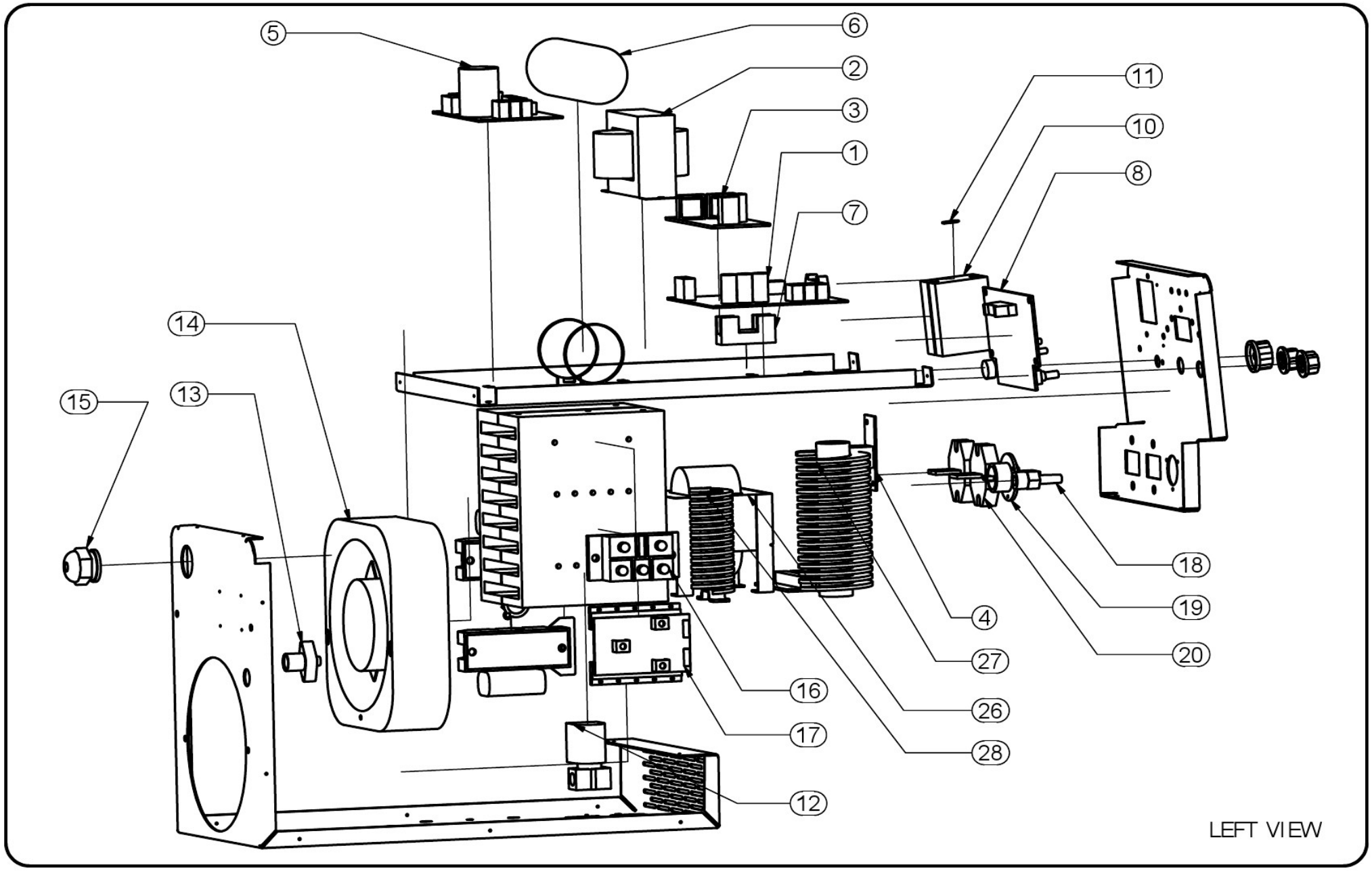

300LT PARTS LIST

***Description can be changed by LOT number**

NO.	PART NAME	DESCRIPTION	QTY.
1	Main PCB	WTM-06	1
2	Control Transformer	7630	1
3	PWD PCB	WPD-01	1
4	Noise Filter PCB	WTF-01	1
5	HF PCB	TME-10A65	1
6	Condenser	2700UF/400V	1
7	FUSE	3A	1
8	Front PCB	WTD-20	1
9	Selector, Switch	SRM143	1
10	NFB	NDB3-100J4	1
11	TNR	14D391	1
12	Solenoid Valve	DC24V-1.6Φ	1
13	Nipple	9/16* 6Φ	1
14	FAN	150T	1
15	Cable Lock	PG-21	1
16	Input Bridge Diode	SDH100-16	1
17	Output Diode PCB	WEO-10	1
18	Nipple	9/16*1/4	1
19	Connector	K25-2R	1
20	Terminal, Output	MJ-133	2
21	Temp,Switch	N85	1
22	IGBT	75A600V	2
23	IGBT Drive PCB	WGE-01	2
24	MF Condensor	10/800V	2
25	Pilot Surge PCB	WNF-01	1
26	Main Transformer	300LT TYPE	1
27	Induction coil	300LT TYPE	1
28	Choke Transformer	300LT TYPE	1

Thanks for purchasing our machine

Please fill out below form for future reference. This information can be found on the Nameplate of your machine.

Product Name	**INVERTER DC TIG WELDER**
Model Number	**LONGRUN 300LT**
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.

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