

ASL T2 FLOOR GRINDING MACHINE



MANUAL

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Preface

Thank you for purchasing the ASL-T2 floor grinding machine.

The ASL-T2 floor grinding machine is the newest generation of equipment independently developed by ASL. This machine is multi-function integrating grinding, renovating, polishing, and cleaning into one. The machine greatly improves surface preparation and maintenance efficiency of concrete, stone and epoxy floor so as to meet the high-standard requirements of floor surface treatment and maintenance as well as saving the contractor time and money.

This manual is a detailed description for the application, maintenance, precaution, fault diagnosis and countermeasures of the ASL-T2 machine. This is the instructive document used to ensure the machines excellent performance and safe operation, please read it carefully and keep it in a readily available place.

If there are any problems or special requirements in application, please contact us.

Our company always commits to the constant innovation and improvement of the equipment. If there are any changes for the relevant information of this equipment of this type, we will update it as soon as possible.

Chapter I Safety and Precautions

For your safety, and the protection of the equipment, before using this machine, please make sure to read this manual carefully, and strictly follow it for the process of transporting, commissioning, operating and troubleshooting.

1.1 Safety Guide

[1]: The operator must wear water-proof and insulating work shoes and gloves, and barefooted operation is prohibited to prevent personal casualty from electric shock.

[2]: The external connecting wire must be more than 4m² and must be grounded to prevent electric shock.

[3]: Before using the equipment, you must check whether the power wire is damaged or aging. If so, immediately replace the power wire to prevent the equipment from short circuit and electric leakage.

[4]: The operator on the machine is prohibited from preventing equipment shut-down for over-load or personal casualty for electric leakage. Don't put the equipment, the power and the socket into water or over-humid environment for preventing the equipment damage from the short circuit.

[5]: When conducting wet grinding, waterproof protection should be conducted for the water tank, inverter and control panel for preventing the equipment non-operation or personal casualty from equipment short circuit or electric leakage.

[6]: When using the equipment, don't roll on the electric wire to prevent potential safety risk from electric wire damage.

[7]: When using the equipment, don't insert the plug with wet hands for preventing injuries and deaths from electric shock.

1.2 Precautions

[1]: After dry grinding and wet grinding treatment, completely clean the bottom part of the equipment to increase the service life.

[2]: When conducting dry grinding with the equipment, please connect the vacuum cleaner, to ensure there is dust-free operation, decrease the inverter load and guarantee the equipment is running normal.

[3]: In the process of replacing tooling and transporting, please be sure to put down the equipment gently for preventing the strike and oil leakage of the gear box from the improper operation (If one person can't carry the equipment easily in the operation process, please look for other people to assist).

[4]: In a certain range of output frequency, the frequency inverter may produce the resonance which will cause the equipment to stop working, under such a circumstance, please avoid the resonant frequency operation.

[5]: When conducting operation on the floor with a large difference of level, please be sure to grind from the higher to the lower to prevent damage to the grinding plate and gear box from oversize difference of floor level.

[6]: Regularly check the grinding plate, if you find any loose screws on the grinding plate, tighten and maintain.

Chapter II

Purchase Check, Technical Parameter and Product Description

2.1 Purchase Check

[1]: Please check whether the product package is damaged for improper transportation before opening the case.

[2]: Check whether the specification and the model of the product conform to those of the purchased

machine.

[3]: All ASL-T2 floor grinding machines have passed strict quality inspections. Please check for certificate of quality, product user manual and warranty card.

[4]: Check whether there are any damages inside of the machine. If there is obvious damages, please don't operate and use the machine, and timely contact our company or the dealer to avoid accidents.

[5]: Check whether the items are complete, including the machine and standard fittings (the standard fittings are as follows).



2.2 Nameplate and Model Description

ASL

MODEL
T 3

MOTOR 5 HP

VOL 380 V

SERIAL NO.

DATE

FLOOR POLISHING MACHINE

THREE PHASE AC MOTOR							CE

TYPE	MS112M-4	INS. CL	8	IP	55	S1	
V. Δ/Y	HZ	KW	rpm	A. Δ/Y	COS Ø		
220	50	4	1440	15.2	0.82		
380	50	4	1440	8.8	0.82		

-Model	ASL T2
Voltage	220-240 V
Current	13.2 A
Motor	5HP
Inverter	5HP
Frequency	50/60HZ
Rotating Speed	0-2000 RPM
Working Area	500MM
Grinding Disc	250MM X 2

Water Tank	20L
Weight	306 LBS
Dimension	950MM X 500MM X 700MM

2.3 Product Description

2.3.1 Product Structure Description



2.3.2 Main Product Feature

- [1]: U-handle, which can rotate around 360°, and is safe and reliable with convenient operation conforming to operator ergonomics.
- [2]: Special big multi-functional magnet chassis, which enables the grinding material installation and replacement to be more convenient and quicker, and high-speed running to be safer.
- [3]: The central integrated design of the control panel, which can choose the speed and improve the equipment stability as well as achieve a low-noise working environment.
- [4]: The built-in vacuum cleaner connection device, which can achieve a dust-free working environment, thus good for staff's health and equipment's maintenance.
- [5]: Easy operation, which enables the operator to easily complete the whole construction process by strictly following the manual.

2.3.4 Product Design Concept

In order to satisfy the high-quality floor pursuit of concrete and stone industry in recent years, ASL Machines USA has independently developed a professional dry and wet amphibious floor grinding machine integrating multi-functions for

grinding, polishing and refurbishing into one so as to meet the grinding, polishing and refurbishing requirements of various kinds of floors.

Chapter III

Operation Instruction

3.1 Equipment Operation Method

3.1.1 Equipment Operation Preparation

[1]: Prior to starting, check whether the power switch is in the off state to ensure the safety.

[2]: First adjust the handle in the line-style, and then hold the handle and with one foot stepping on the step bar and press downwardly; after the equipment is fixed on the ground, check whether the external parts are complete, whether there is any wrong installation of tools, neglected installation and loose parts. Immediately solve the problem if finding these issues.

[3]: After checking, press the equipment down until the chassis touch the ground, and lay it flat.

[4]: Apply grinding tooling onto the equipment, and the basic steps on the following page:

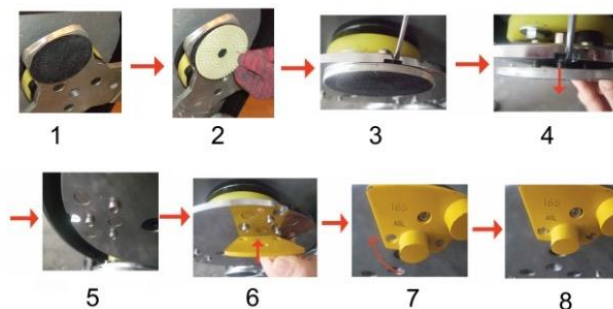
(1) As shown in Figure 2-1, the equipment chassis is loaded with a polishing plate

(2) Place desired tooling on machine utilizing the magnetic plates.

(3) After loading, check whether the parts are complete once again.

(4) Install or tighten the handle, clockwise rotate the black rotary handle to the tightest state. Rotate in the reverse direction when dismantling the handle as shown in Figure 3.

(5): Pull the handle of the swing arm, adjust the handle to the height best suitable using the chuck as shown in Figure 4.





3.2 Equipment Storage after Use

- [1]: Place the handle into the vertical position, disconnect and place the power wire in dry place.
- [2]: Dismount the small grinding head from the machine, clean and dry them.
- [3]: Use a half-dry clean rag to clean the machine. Pay attention to cleaning the machine surface after being used in wet environment.
- [4]: Use dry rag to clean the dust on air vent of the inverter and the motor to prevent fault from dust blocking in the next application.
- [5]: Check whether the machine and the accessories are in good condition, and make necessary repair and maintenance before storage.
- [6]: Keep the machine in the clean and dry place, and when storing, place the handset in the vertical position and fasten tightly.

3.3 Instructions for using Floor Grinding Machine

- [1]: In flattening the base plane, mount the diamond tooling on the machine and grind.
- [2]: ensure to clean ground dust.

3.4 Equipment Dismounting Steps and Precaution

3.4.1 Carrying Steps

- [1]: First, ensure machine is disconnected from power
- [2]: Ensure vacuum cleaner is disconnected.
- [3]: Insert and lock the lifting bar into the socket.
- [4]: One person lifts the lifting bar at ①, and one person lifts the handle at ②. Two people together lift the machine at the same time.

3.4.2 Notes for Carrying

- [1]: Before carrying the machine, make sure the power switch is in off state, and there is no redundant water in the water tank.
- [2]: When carrying, please act lightly and carefully so as to avoid collision with small parts and the wall; if one person can't complete this operation independently, please deploy other persons to assist.
- [3]: When break-down shipping, be sure to store all dismantled parts or screws to prevent loss.
- [4]: After using the lifting rob, return it to the original place for next use.

Chapter IV

Equipment Wiring and Inverter Reset

Wiring the equipment, please be sure to operate strictly as per the following instruction, so as to prevent unnecessary loss.

4.1 Notices for Wiring

[1]: If necessary self-wiring, wiring must be operated under the instruction of professional electricians or the technicians of the manufacturer.

[2]: The electrical system of this equipment must strictly follow the parameters (voltage and frequency) designated on the nameplate, and before being connected with the input power, please check to ensure the voltage and the frequency of the external power supply are coincident.

[3]: This equipment must be connected to the power system equipped with grounded electrically to prevent electric shock of the operator.

Note: The power wire (380V) of this equipment is equipped with 3 main traverse wire, 1 ground wire and 1 null wire. Connect the plug into appropriate power socket. The green-and-yellow core wire in the power wire is the ground wire, and don't connect the ground wire to non-power socket.

4.2 The general wiring diagram of switch box, inverter and motor

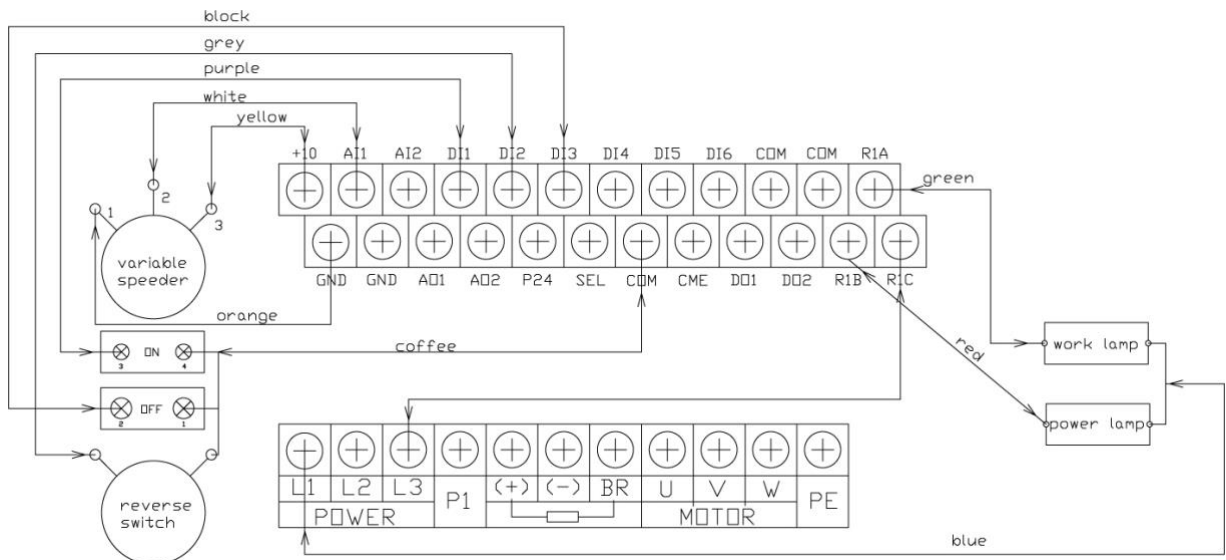


Figure 18

4.3 Object of motor wiring box & indicating lights



For motor wiring detail, please refer to Part B in Figure 18. The indicating lights wiring details are as shown in Part D of Figure 18.

4.4 Inverter Reset

When the equipment is shut down because of over-low voltage or overload, please turn off the power supply. Turn on the power supply again after three minutes, and the equipment will recover to normal. If not, use the control panel to reset (reset setting is as shown in Figure 19). The control panel of inverter is as shown in Figure 20.

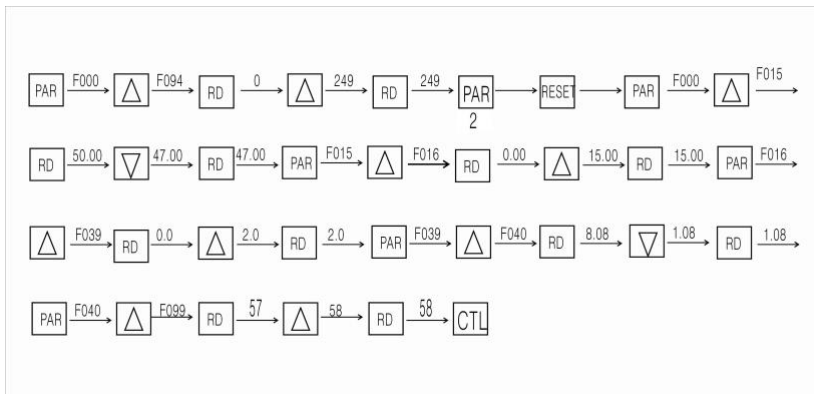


Figure19

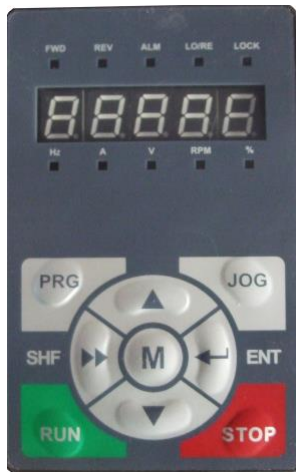


Figure 20

Chapter V

Equipment Maintenance and Overhauling

5.1 Maintenance and Overhauling

[1]: Ensure the operator checks the grinding plate before using, if any loose bolts are located on the grinding plate or the bolt, timely fasten the bolt and the nut for preventing uneven abrasion.

[2]: Using this equipment to grind, the operator shall ensure the surface is flat end even.

[3]: When using this machine, you must not block the vent hole. Ensure to clean the vent hole to ensure the normal ventilation of the motor.

[4]: After 20 days in using, please clean the dust in the inverter and the vent hole, this operation can be done after trouble shooting.

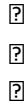
[5]: When dry grinding with this equipment, it must be equipped with a vacuum cleaner.

[6]: Please replace the gear oil (150#) regularly. The new machine needs to replace the gear oil after grinding

for about 1000m², and once every 5 months after the run-in period.

[7]: Clean the external housing of this equipment after every use in the premise of outage, and put it in dry and cool place for next use, thus extending the service life.

[8]: Please operate this equipment strictly following the instructions, so as to avoid unnecessary loss.



Machine Warranty Information

The quality of this product is warranted to be free from defects in both materials and workmanship. The machine warranty is as follows.

Part	
Engine	<u>2 Year Warranty</u>
Fuel System	<u>2 Year Warranty</u>
LP Tank (On select models)	<u>1 Year Warranty</u>
Machine Body Parts	<u>2 Year Warranty</u>
Battery	<u>1 Year Warranty</u>

Note: this warranty does not cover certain wearable parts such as belts and engine tune up parts.

LP Engines are warranted by the engine manufacturer for the term specified by the engine manufacturer.

ASL Machines USA promises, at their discretion, to repair or replace any product or part(s) which examination proves to be defective in either workmanship or materials used. ASL Machines USA must be notified directly within the warranty period.

This warranty does not cover damage, or failure caused by abuse, misuse, neglect, disassembly, alteration, unauthorized modification, lack of proper maintenance, theft, or any damage by freight carriers. This warranty applies to parts and labor only, and does not cover any incidental or consequential damages.

This warranty is non-transferable.
ASL Machines USA

Chapter VII Fault Diagnosis

7.1 If the machine stops working suddenly during the operation, please follow the below instruction.

[1]: Check to ensure the main power switch on the control panel is in the on position and is not damaged in any way.

- [2]: Check the internal wiring of the power socket of the machine to ensure it is not loose and the wire has a good connection.
 [3]: Check the motor wire connection box to ensure it is not moist and whether there are burned wires.
 [4]: To ensure there is sufficient current to operate this machine, we suggest customers to use 3*6square cable to operate 220V 11KW motor and 4*4square meter cable to operate 380V 11KW motor.

ERROR CODES

Fault Code	Fault Name	Possible reasons of fault	Counter-measures
-Lu-	DC Bus under voltage	<ul style="list-style-type: none"> At the beginning of powering on and at the end of powering off Input Voltage is too low Improper wiring leads to under voltage of hardware 	<ul style="list-style-type: none"> It is normal status of powering on and powering off Please Check input power voltage Please Check wiring and wire the inverter properly
E0001	Inverter output overcurrent (In acceleration process)	<ul style="list-style-type: none"> Improper connection between inverter and motor Improper motor parameters The rating of the used inverter is too small Acceleration/deceleration time is too short Instant stop occurs, the running motor is restarted 	<ul style="list-style-type: none"> Connect the inverter motor properly Please set correct motor parameters (F08.00-F08.04, F13.01-F13.05) Select inverter with higher rating Please set proper acceleration time and deceleration time (F03.01-F03.08) Please set start mode to be speed tracking (F02.00 = 2)
E0002	Inverter output overcurrent (in deceleration process)		
E0003	Inverter output overcurrent (in constant speed process)		
E0004	DC Bus Over Voltage (In acceleration process)	<ul style="list-style-type: none"> Input voltage is too high Deceleration time is too short Improper wiring leads to overvoltage of hardware Instant stop occurs, the running motor is restarted Improper selection of the braking devices 	<ul style="list-style-type: none"> Please check power input Please set a proper value for deceleration time (F03.02, F03.04, F03.06, F03.08) Please check wiring and wire the inverter properly Please set start mode to be speed tracking (F02.00 = 2)
E0005	DC Bus Over Voltage (in deceleration process)		
E0006	DC Bus Over Voltage (in constant speed process)		
E007	Stall overvoltage	<ul style="list-style-type: none"> Bus voltage is too high The setting of stall overvoltage is too low 	<ul style="list-style-type: none"> Please check power input of the function of brake Set the value of stall overvoltage (F19.19) Properly
E0008	Fault of power module	<ul style="list-style-type: none"> Short circuit between phases output Short circuit to the ground Output current is too high Power module is damaged 	<ul style="list-style-type: none"> Please check the connection and connect the wire properly Please check the

			<p>connection and mechanism</p> <ul style="list-style-type: none"> Please contact the supplier for repairing
E0009	Heatsink overheat	<ul style="list-style-type: none"> Ambient temperature is too high Inverter external ventilation is not good Fan fault Fault occurs to temperature detection circuit 	<ul style="list-style-type: none"> Please use inverter with higher power capacity Improve the ventilation around the inverter Replace the cooling fan Please seek technical support
E0010	Fault of braking unit	<ul style="list-style-type: none"> Circuit fault of braking unit 	<ul style="list-style-type: none"> Please seek technical support
E0011	CPU fault	<ul style="list-style-type: none"> CPU abnormal 	<ul style="list-style-type: none"> Please detect at power on after completely power outage Please seek technical support
E0012	Parameters auto-tuning fault	<ul style="list-style-type: none"> Parameter auto-tuning is time out 	<ul style="list-style-type: none"> Please check the motor's connection Input the correct motor parameters (F08.00-F08.04,F13.01-F13.05) Please seek technical support
E0013	Contactors is not actuated	<ul style="list-style-type: none"> Contactors fault Fault of control circuit 	<ul style="list-style-type: none"> Replace the contactors Please seek technical support
E0014	Fault of current detection circuit	<ul style="list-style-type: none"> Current detection circuit is damaged 	<ul style="list-style-type: none"> Please contact the supplier for repairing
E0015	Fault of input phase	<ul style="list-style-type: none"> For three-phase input inverter input phase loss fault occurs to power input 	<ul style="list-style-type: none"> Please check the three-phase power input Please seek technical support
E0016	Fault of output phase	<ul style="list-style-type: none"> Output phase disconnection or loss Heavy imbalance of inverter's three-phase load 	<ul style="list-style-type: none"> Please check the connection between inverter and motor Please check the quality of motor
E0017	Inverter overload	<ul style="list-style-type: none"> Acceleration time is too short Improper setting of V/f curve or torque boost leads to over current Instant power-off occurs, the running motor is restarted Mains supply voltage is too low Motor load is too high 	<ul style="list-style-type: none"> Adjust acceleration time (F03.01,F03.03, F03.05, F03.07) Adjust V/f curve (F09.00 – F09.06) or torque boost (F09.07,F09.08) Please set start mode to be speed tracking (F02.00=2) Please check mains supply voltage

			<ul style="list-style-type: none"> • Please use inverter with proper power rating
E0018	Inverter output is unloaded	<ul style="list-style-type: none"> • Load disappeared or comes down suddenly • Parameters are not set properly 	<ul style="list-style-type: none"> • Please check load and mechanical transmission devices • Please set the parameters properly (F20.03-F20.05)
E0019	Motor Overload	<ul style="list-style-type: none"> • Improper setting of V/f curve • Mains supply voltage is too low • Normal motor runs for a long time with heavy load at low speed • Motor runs with blocked torque or load is too heavy 	<ul style="list-style-type: none"> • Adjust the setting of V/f curve (F09.00-F09.06) • Check the power input • Please use special motor if the motor needs to operate for a long time with heavy load • Please check the load and mechanical transmission devices
E0020	Reserved		
E0021	Access fault of Control Board EEPROM	<ul style="list-style-type: none"> • Memory circuit fault of control board EEPROM 	<ul style="list-style-type: none"> • Please contact the supplier for repairing
E0022	Access fault of display panel EEPROM	<ul style="list-style-type: none"> • Memory circuit fault of display panel EEPROM 	<ul style="list-style-type: none"> • Replace the display panel • Please contact the supplier for repairing
E0023	Fault setting of parameters	<ul style="list-style-type: none"> • The power rating between motor and inverter is too different • Improper setting of motor parameters 	<ul style="list-style-type: none"> • Select an inverter with suitable power rating • Please set correct value of motor parameters (F08.00-F08.04,F13.01-F13.05)
E0024	Fault of external equipment	<ul style="list-style-type: none"> • Fault terminal of external equipment operated 	<ul style="list-style-type: none"> • Please Check external equipment
E0025	PID reference loss	<ul style="list-style-type: none"> • Analogue reference signal is smaller than F20.12 • Analogue input circuit fault 	<ul style="list-style-type: none"> • Please check the connection • Please seek technical support
E0026	PID feedback loss	<ul style="list-style-type: none"> • Analogue setting signal is smaller than F20.14 • Analogue input circuit fault 	<ul style="list-style-type: none"> • Please check the connection • Please seek technical support
E0027	PID feedback out of limiting	<ul style="list-style-type: none"> • Analogue setting signal is bigger than F20.16 • Analogue input circuit fault 	<ul style="list-style-type: none"> • Please check the connection • Please seek technical support
E0028	SCI communication time-out	<ul style="list-style-type: none"> • Connection fault of communication cable • Disconnected or not well connected 	<ul style="list-style-type: none"> • Please check the connection

E0029	SCI communication error	<ul style="list-style-type: none">• Connection fault of communication cable• Disconnected or not well connected• Communication setting error• Communication data error	<ul style="list-style-type: none">• Please check the connection• Please correctly set the communication format (F17.00) and the baud rate (F17.01)• Send the data according to MODBUS protocol
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