

RHINO-E

BATTERY OPERATED INVERTER
BASED WELDING POWER SOURCE





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RHINO-E

Battery Operated Inverter Based Welding Power Source



KEY ATTRIBUTES



- Dual Input Supply - Battery & 3 Phase 415 VAC.
- Automatic change over by detection to 3 Phase main supply.
- Fast charging battery charger unit. (Full charge in 1 hour 30 mins).
- Varied battery life based on welding current, eg, 40 mins @ 120 A and 60 mins @ 80 A.
- Control Amps/Voltage and Battery Status via Mobile app. (IOS or Android).
- Easy to assemble and portable.
- Low noise emission and reduced carbon footprint.





MOBILE APP

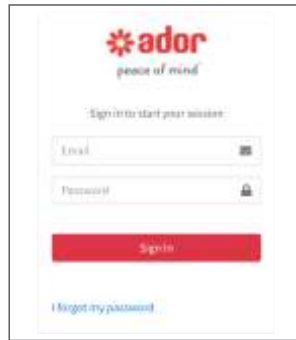


MOBILE APP

- The Rhino-E mobile Application: Enhances Rhino-E welding machine control using mobile devices. Its interface connects to the machine, enabling remote monitoring and management of welding processes.
- App Purpose: Empowers welders and operators to conveniently supervise the Rhino-E welding machine. Through Bluetooth, users adjust settings, control welding, and access vital data, boosting productivity, safety, and efficiency.
- Equipment Link: Smoothly connects to the welding machine via Bluetooth. Pairing with compatible Rhino-E enabled machines is effortless. A secure Bluetooth link guarantees real-time communication.



DOWNLOAD APP



AUTHENTICATION & LOG IN



INSTANT BLUETOOTH PAIRING



CONTROL & MONITOR
MAINS SUPPLY



BATTERY LOW
INDICATION



COMMUNICATION FAILURE
BETWEEN BATTERY AND
POWER SOURCE



CONTROL & MONITOR
BATTERY SUPPLY



LOG OUT

APP ATTRIBUTES

- Bluetooth Connectivity: Securely connect via Bluetooth within 100 meters line of sight, enabling real-time control.
- Remote Monitoring: Monitor welding process from mobile devices, whether on mains or battery.
- Parameter Control: Adjust welding settings for various tasks using the app.
- Real-Time Data: Access live welding parameters and status remotely.
- Battery Insights: View battery percentage, voltage, time, and electrode status for seamless planning.
- User Security: Only authorized user access and control app features with secure authentication.



TECHNICAL SPECIFICATIONS



TECHNICAL SPECIFICATIONS

TECHNICAL SPECIFICATIONS WITH 3 PHASE AC INPUT SUPPLY

PARAMETER	VALUE	UNIT
INPUT SUPPLY	415 +15% -10%, 3, 50/60	V AC, NOS., HZ
RATED INPUT POWER @ 415VAC	13.0 @ 100%, 19.0 @ 60%, 0.2 @ NO LOAD	KVA
INPUT SUPPLY CURRENT @ 415VAC	18.0 @ 100%, 26.0 @ 60%, 0.24 @ NO LOAD	A
EFFICIENCY	≥85	%
POWER FACTOR	0.93 MAX	COS Ø
OPEN CIRCUIT VOLTAGE	81 V (+/-5V)	V DC
WELDING CURRENT RANGE	10 - 400	A DC
WELDING CURRENT DUTY CYCLE	310 @ 100%, 400 @ 60%	-
PROTECTIONS (AUTO RESETTABLE)	- OVER VOLTAGE, UNDER VOLTAGE, SINGLE-PHASE PROTECTION - OVER TEMPERATURE PROTECTION - OUTPUT SHORT CIRCUIT PROTECTION	-

TECHNICAL SPECIFICATIONS WITH BATTERY INPUT SUPPLY

PARAMETER	VALUE	UNIT
INPUT SUPPLY	84	V DC
WELDING CURRENT RANGE	10-200	A DC
OPEN CIRCUIT VOLTAGE	75V(+/-5V) FOR LFP TYPE BATTERY 81V(+/-5V) FOR NMC TYPE BATTERY	V DC
WELDING CURRENT @100%DUTY CYCLE	200	A DC
PROTECTIONS (AUTO RESET TABLE) (WITH BATTERY OPERATED INPUT SUPPLY)	OVER TEMPERATURE, OUTPUT SHORT CIRCUIT	-



TECHNICAL SPECIFICATIONS

FUNCTIONAL TECHNICAL SPECIFICATIONS

PARAMETER	VALUE	UNIT
ARC FORCE CONTROL (MMA MODE)	0 – 100 (80A MORE CURRENT THAN SET CURRENT WHEN SET AT 100%)	-
HOT START (MMA MODE)	0 – 100 (100A MORE CURRENT THAN SET CURRENT FOR 1.5SEC INITIALLY WHEN SET AT 100%)	-
WELDING ELECTRODE SIZES (DIAMETER) E-7018 E 6013	2.5-6 2.5-6	MM MM
REMOTE CONTROLLER (OPTIONAL)	PROVIDED AS OPTIONAL FOR CURRENT SETTING.	-
BUILT IN VRD (VOLTAGE REDUCING DEVICE) UNIT	OCV REDUCES TO 8-10V IN MMA MODE WHEN MACHINE IS IN NO LOAD CONDITION IN VRD MODE	-
COOLING	FORCED AIR	TYPE
CLASS OF INSULATION	H	-
DEGREE OF PROTECTION	IP23 (S)	-
DIMENSIONS (LENGTH X WIDTH X HEIGHT) WITH TROLLEY INCLUDING TWO BATTERIES	862 X 760 X 980	MM
WEIGHT (APPROX.) (WITH TROLLEY INCLUDING TWO BATTERIES)	110	KG



TECHNICAL SPECIFICATIONS - CHARGER

PARAMETER	VALUE	UNIT
NORMAL INPUT VOLTAGE	230V, 1PH	V AC
INPUT VOLTAGE RANGE	100-260	V AC
PHASE	1	NO.
FREQUENCY	45-65	HZ
INPUT CURRENT	≥ 8	A
POWER FACTOR	> 0.99	-
OUTPUT VOLTAGE	-	-
MAX	84	V DC
NOMINAL	74	V DC
MIN	65	V DC
CHARGER CURRENT	30	A
EFFICIENCY	≥ 89	%
BATTERY TYPE	LITHIUM ION	-
POWER	2220 MAX	W
DIMENSIONS (WITHOUT BATTERY) LENGTH X WIDTH X HEIGHT	480 X 381 X 321	MM
WEIGHT (WITHOUT BATTERY)	15	KG

BATTERY TECHNICAL SPECIFICATIONS

PARAMETER	VALUE	UNIT
OUTPUT VOLTAGE	-	-
MAX	84	V DC
NOMINAL	74	V DC
MIN	65	V DC
BATTERY TYPE	LITHIUM ION	-
POWER	3.33 (LFP) / 2.96 (MNC)	KW/HR
DIMENSIONS (LENGTH X WIDTH X HEIGHT)	410 X 233 X 175	MM
WEIGHT	23.5	KG

LITHIUM ION BATTERY CONSUMPTION REPORT, RHINO-E

ELECTRODE SIZE DIAMETER /LENGTH(mm)	WELDING CURRENT (A)/VOLTAGE (V)	45 AH (LFP), Weight: 27.5Kg		40 AH (NMC), Weight: 21Kg	
		ARC ON TIME (HRS: MIN)	NUMBER OF ELECTRODES CONSUMED(NO)	ARC ON TIME (HRS: MIN)	NUMBER OF ELECTRODES CONSUMED(NO)
2.5/ 350	80A/ 20-23V	01:22	72	01:08	58
3.2/ 450	105A/ 22-26V	01:01	36	00:52	31
3.2/450	125A/ 22-26V	00:48	33	00:39	27
4/ 450	180A/ 22-27V	00:28	19	00:24	16



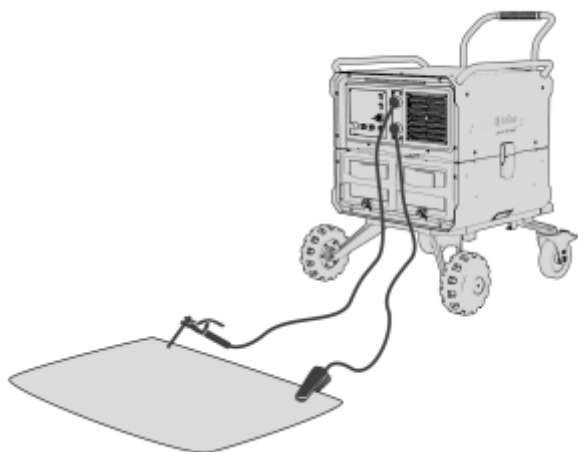
SETUP INSTRUCTIONS

SETUP INSTRUCTIONS

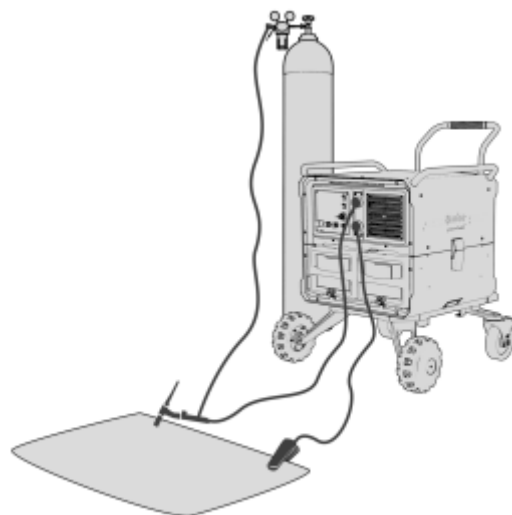


WELDING SETUP DETAIL

A) MMA WELDING

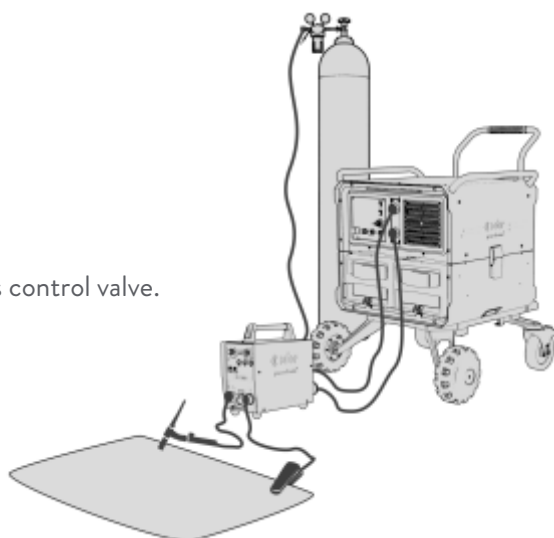


B) TIG WELDING WITHOUT HF UNIT



C) TIG WELDING HF UNIT

Note: Use a torch with a handle-mounted gas control valve.

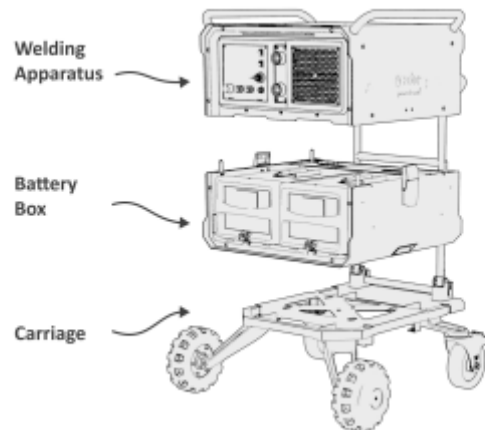




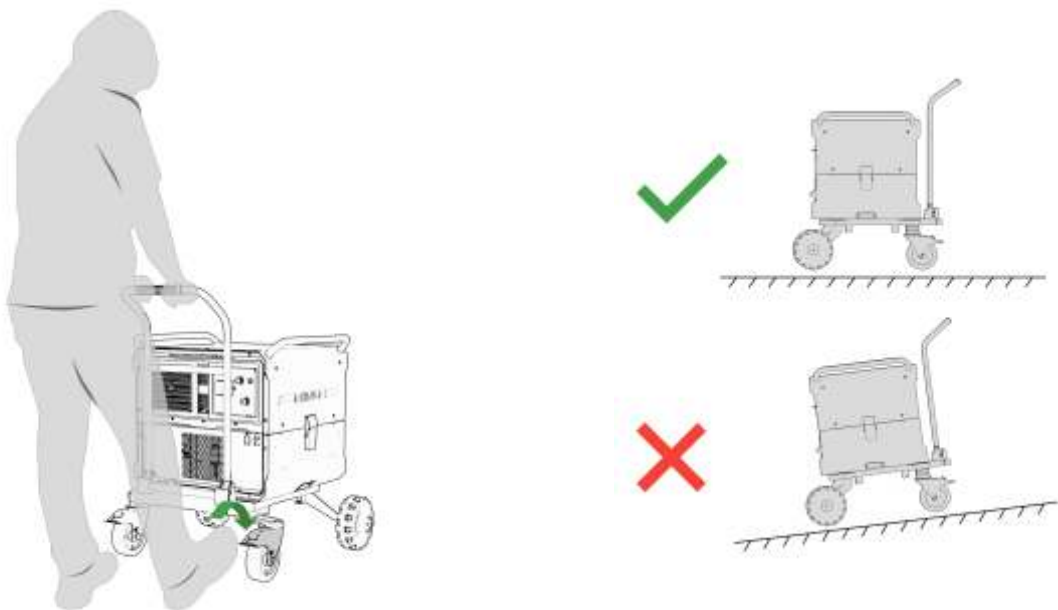
SETUP INSTRUCTIONS

DISASSEMBLING THE MACHINE AND BATTERY BOX

For easy transportation, the machine can be disassembled into the welding apparatus, battery box, and carriage, as shown below.



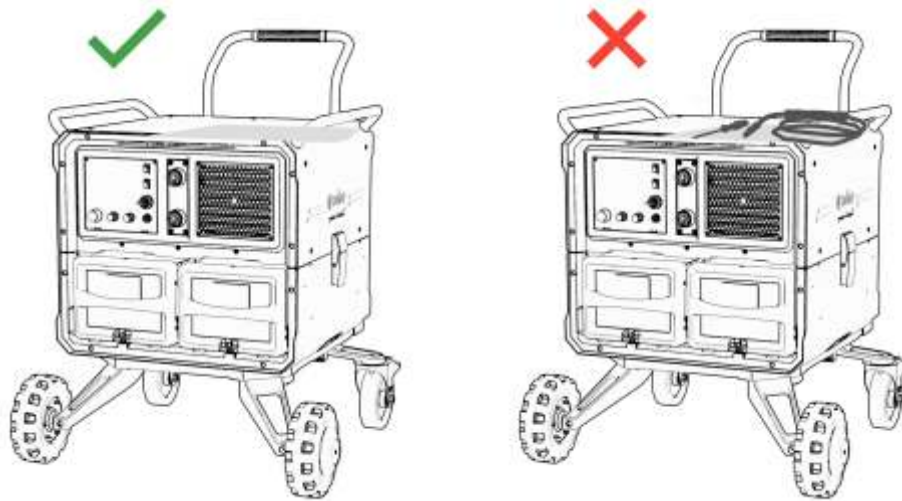
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- 1) Lock the rear caster wheels while securing the machine as shown. Ensure the machine is placed on a flat surface.



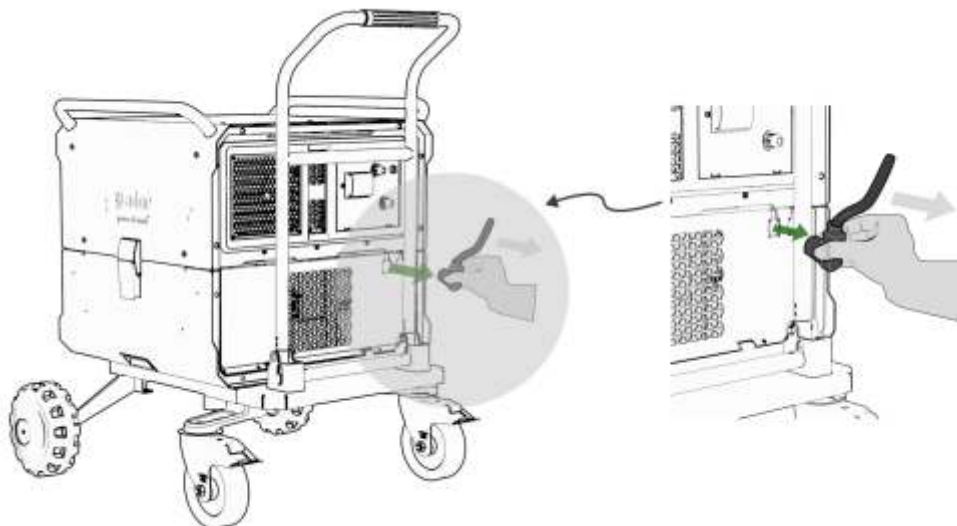


SETUP INSTRUCTIONS

- 2) Ensure the machine's top surface is clear before disassembly.



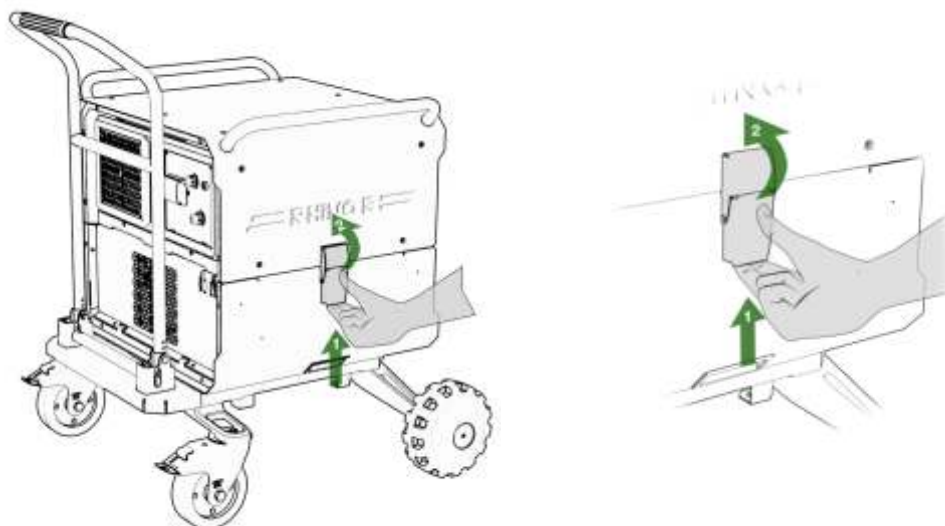
- 3) Unplug both battery cables from the rear panel as shown.



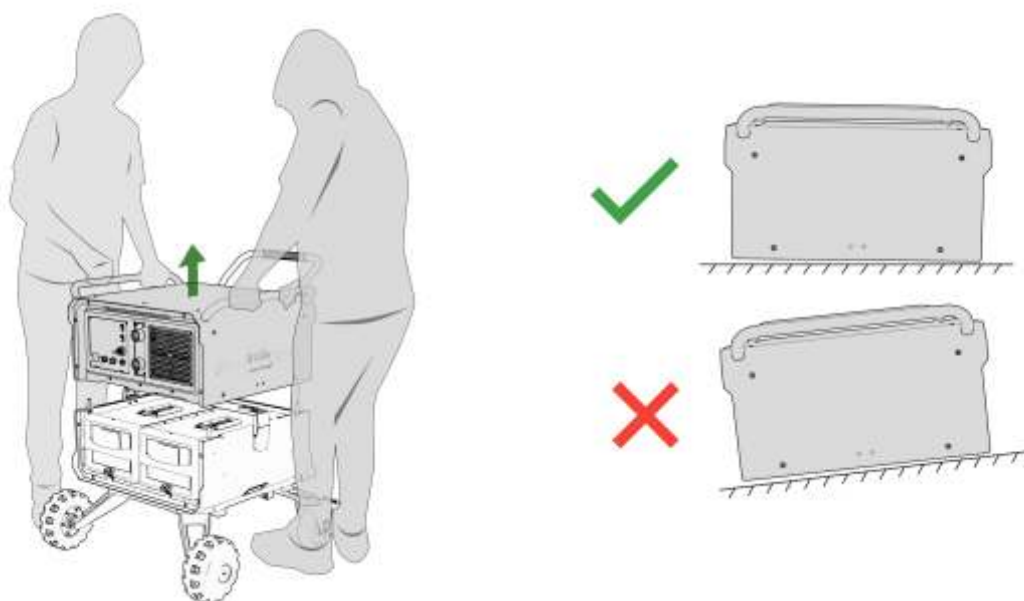
SETUP INSTRUCTIONS



- 4) Unlock the side latches on both sides of the machine by pressing and pulling as shown.



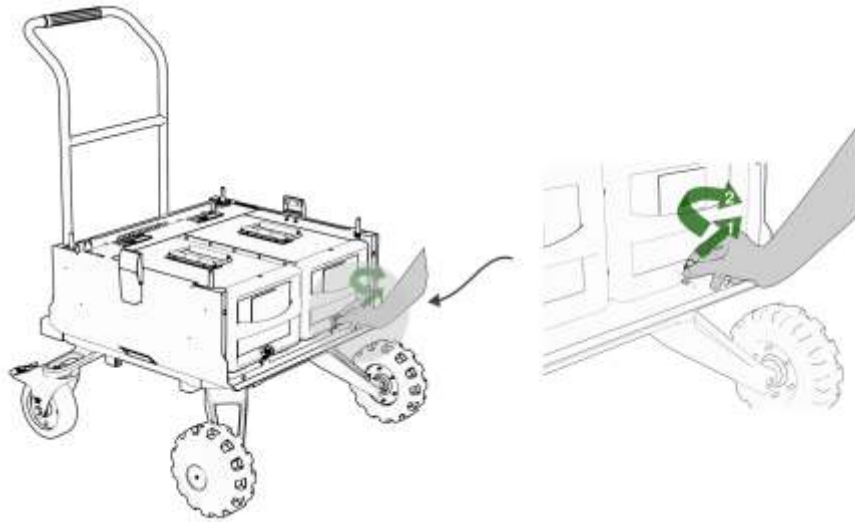
- 5) With the assistance of two people, lift the welding apparatus, ensuring it remains level.



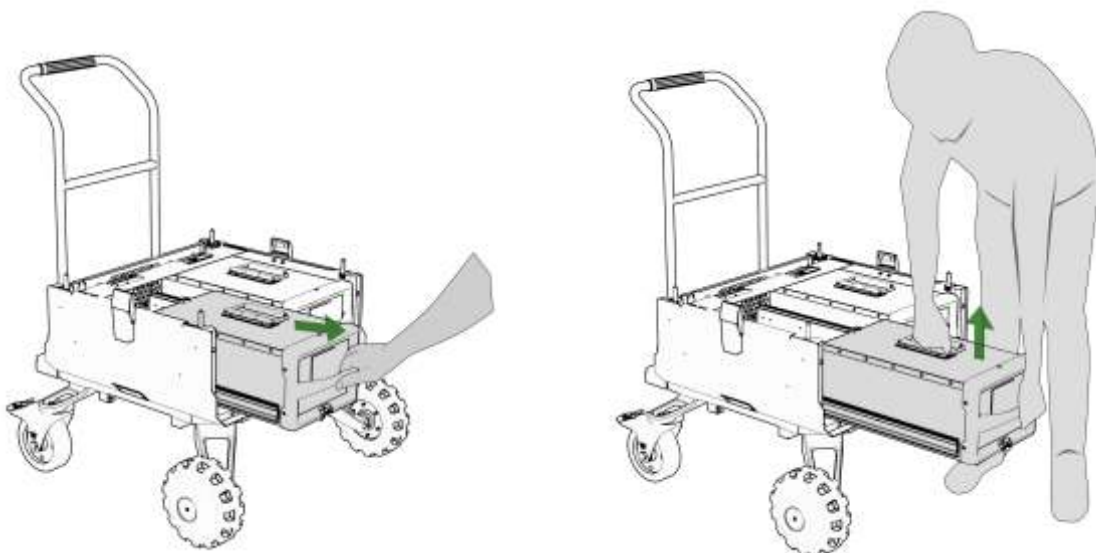
SETUP INSTRUCTIONS



- 6) Unlock the batteries from the battery box by pulling and rotating each plunger 90 degrees, one at a time, as shown.



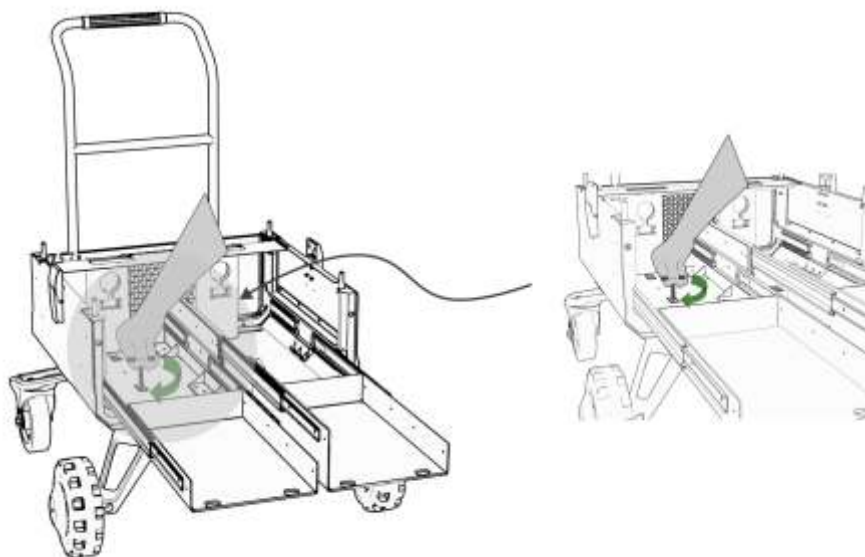
- 7) After unlocking, pull the batteries out fully and lift them using both hands as shown. Place them on a flat surface without stacking.



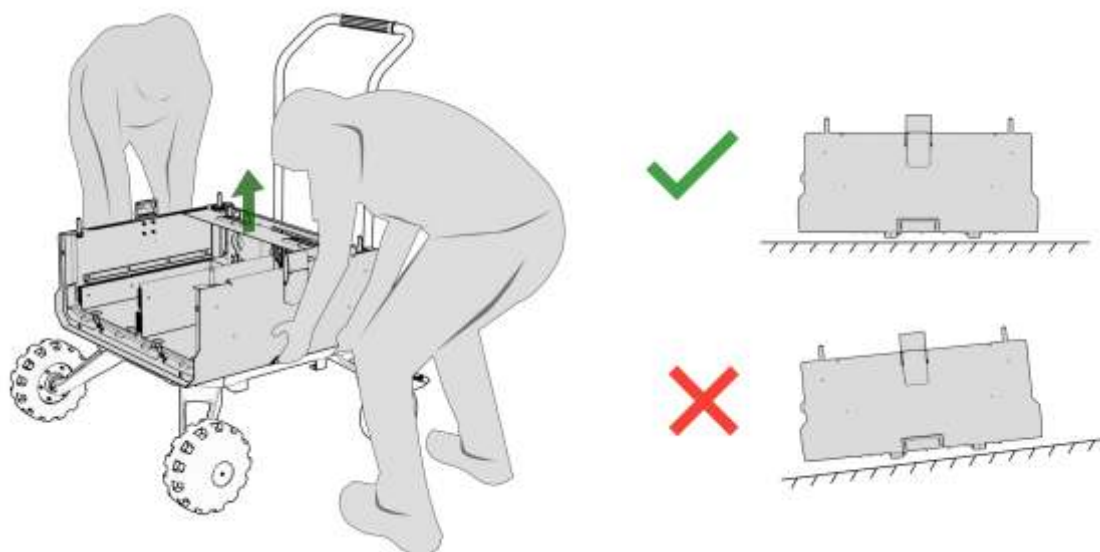
SETUP INSTRUCTIONS



- 8) Unlock the battery box by rotating the snap lock 90 degrees using the key, as shown.



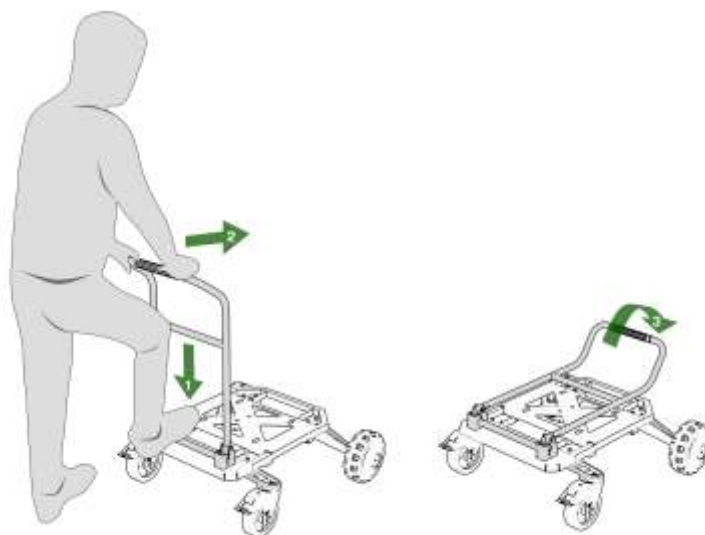
- 9) With two people assisting, lift the welding box, keeping it level.



SETUP INSTRUCTIONS



10) Fold the carriage by pressing, pushing, and folding as shown.



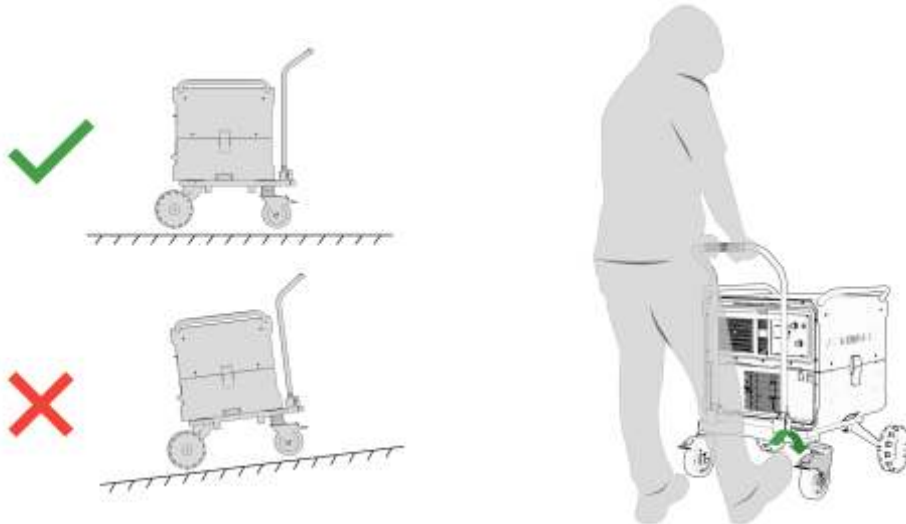


BATTERY INSTALLATION

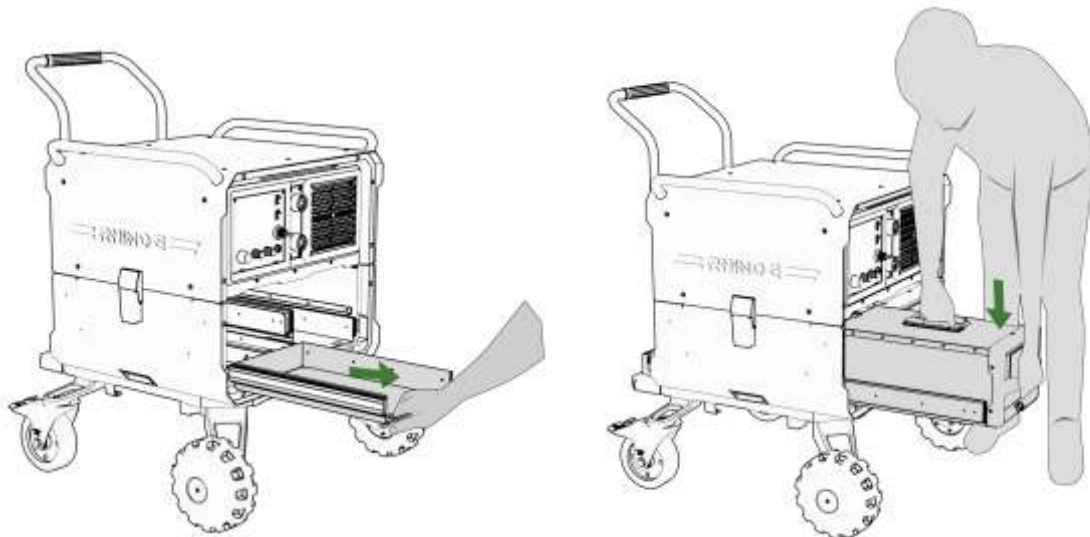


BATTERY INSTALLATION

- 1) Ensure the machine is on a flat surface and lock the rear caster wheels while holding the machine.



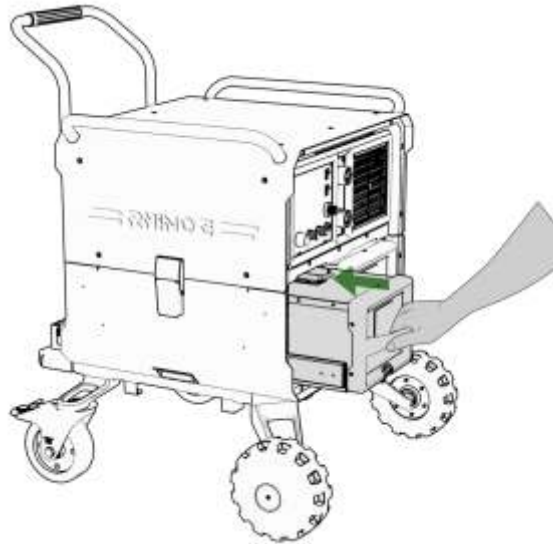
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- 2) Pull the battery tray out fully and place the batteries in with both hands, as shown. Ensure to install one battery at a time.



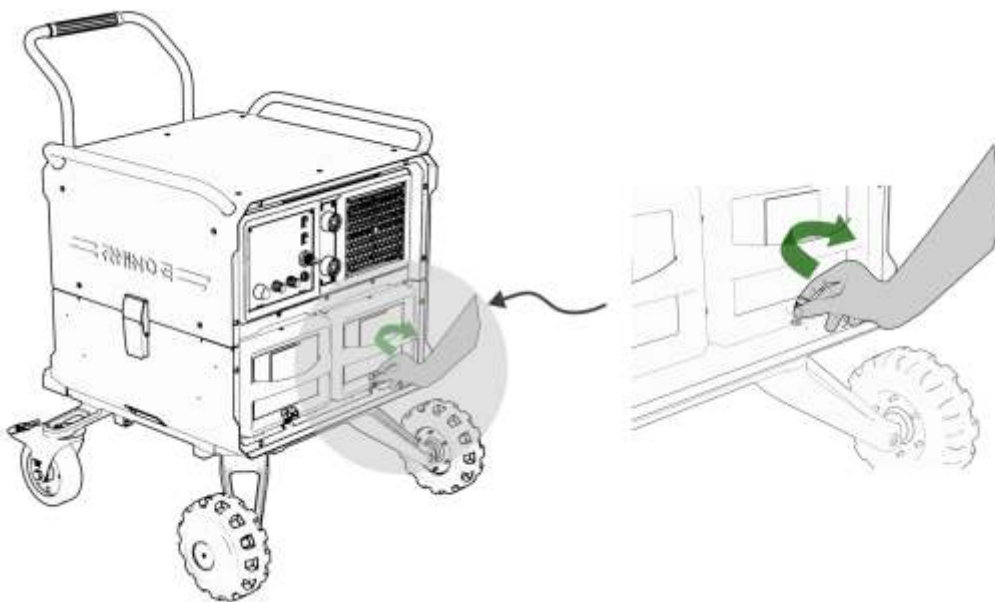


BATTERY INSTALLATION

- 3) Push the batteries into the battery box until the plunger aligns with the front frame (red). Install one battery at a time.



- 4) To lock the batteries in the battery box, rotate each plunger 90 degrees, one at a time, as shown.



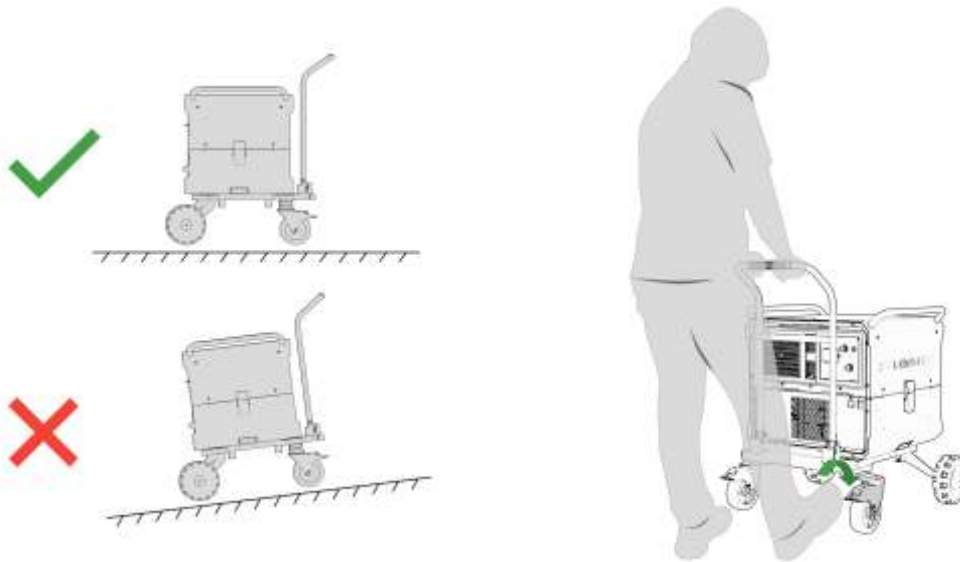


BATTERY UNINSTALLATION

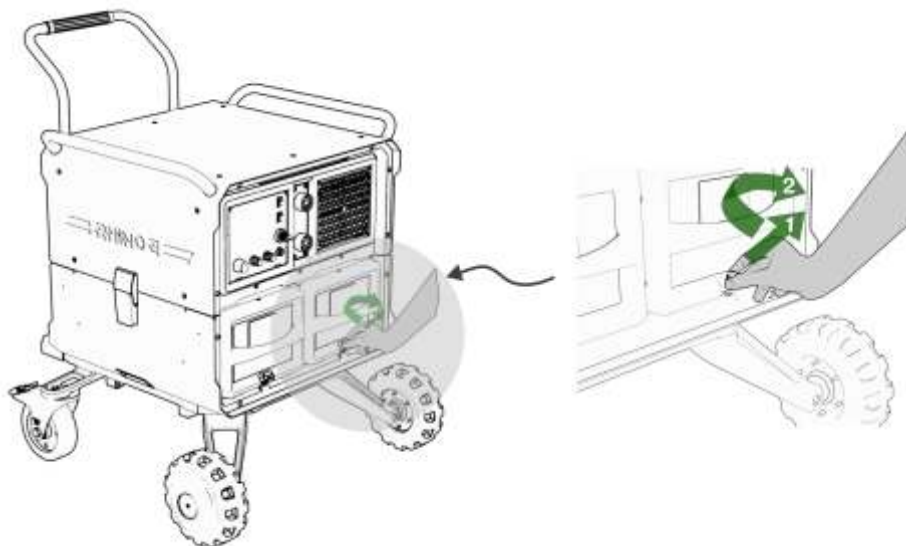


BATTERY UNINSTALLATION

- 1) Ensure the machine is on a flat surface and lock the rear caster wheels while holding the machine.



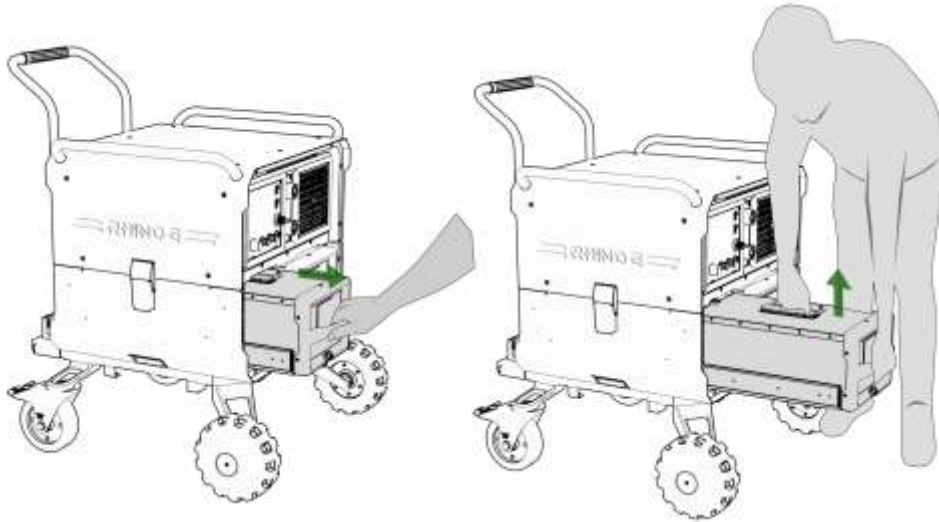
-
- 2) Unlock the batteries from the battery box by pulling and rotating each plunger 90 degrees, one at a time, as shown.





BATTERY UNINSTALLATION

- 3) After unlocking the batteries, pull them out fully and lift with both hands as shown. Place them on a flat surface without stacking.





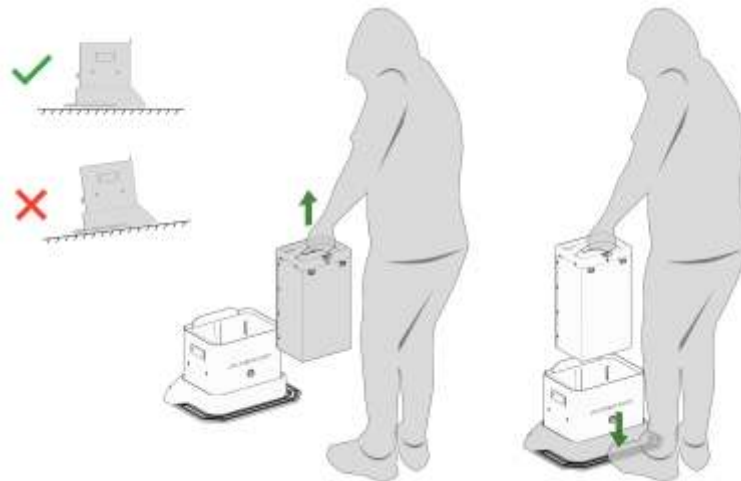
BATTERY CHARGING



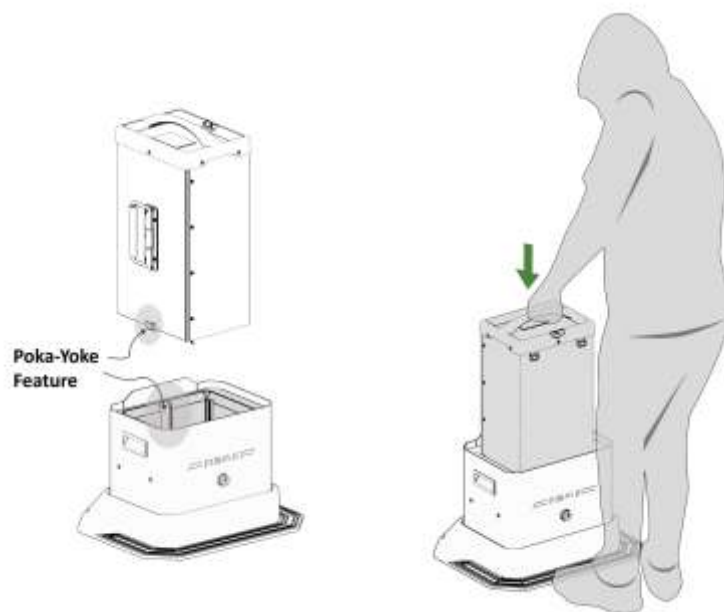
BATTERY CHARGING

INSERTING BATTERY INTO CHARGER

- 1) Hold the battery vertically by the front handle, ensuring the display faces away from the user. Use your feet to stabilize the charger, keeping it on a flat surface as shown.



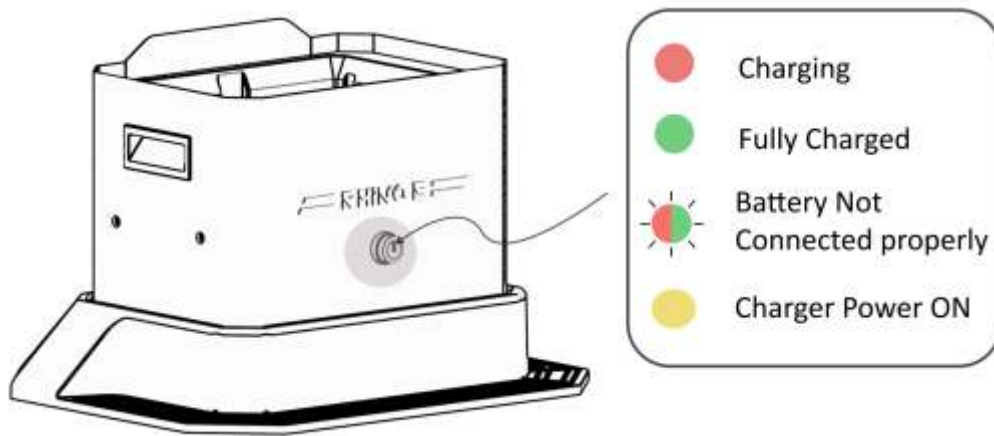
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- 2) Align the battery in the charger slot using the Poka-Yoke feature. Ensure the indicator turns red, signaling that the battery is charging.





BATTERY CHARGING

- 3) Observe the different indications on the battery indicator.



REMOVING THE BATTERY FROM THE CHARGER

- 1) When the indicator turns green, signalling the battery is fully charged, turn off the main supply switch.
- 2) Place both feet on the charger's footrest and lift the battery using the front handle, as shown earlier.

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