

E32 Electric Excavator Quick Start Guide

Green Machine System – Operator Controls & Maintenance

OFF



ON

Power Key Switch

OFF – position for stopping the motor and inserting or removing the key.

ON – position in which the motor is running. All electrical equipment is functional.

A START-UP DELAY OCCURS FOR 30 SECONDS WHEN E32 IS FIRST TURNED ON BEFORE OPERATION CAN BEGIN

When motor turns on after the **30s start-up delay**, lock down control lever to activate main machine controls. **All main controls work exactly the same as a diesel machine.**

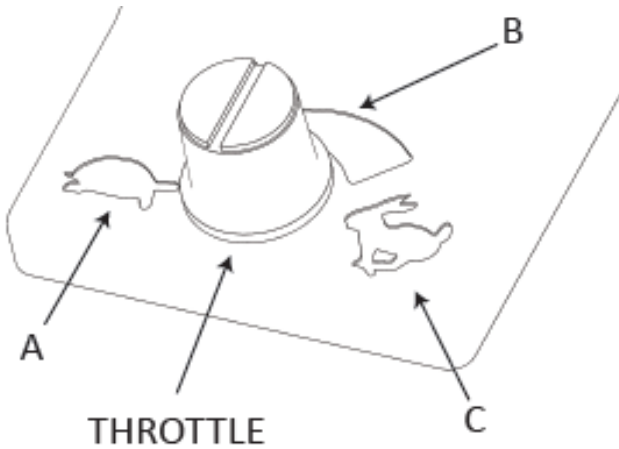
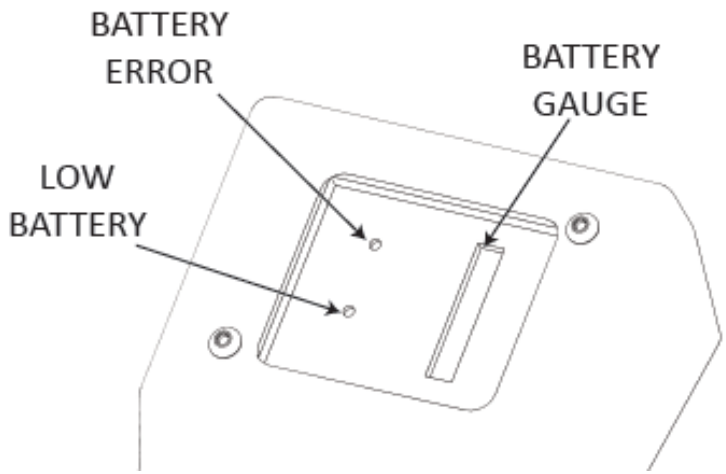


Display

Battery Gauge – shows the amount of battery remaining, like a fuel gauge.

Low Battery – orange light turns on when the battery level reaches 10%.

Battery Error – red light turns on if there is an error in the battery system.



Throttle

This controls the motor speed.

A – Motor is stopped.

B – Motor is at medium speed.

C – Motor is at maximum speed.

Emergency Stop (E-Stop) Button

Press Button to engage Emergency Stop. This shuts off the motor immediately.

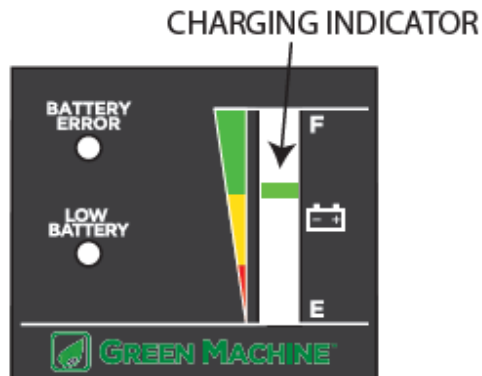
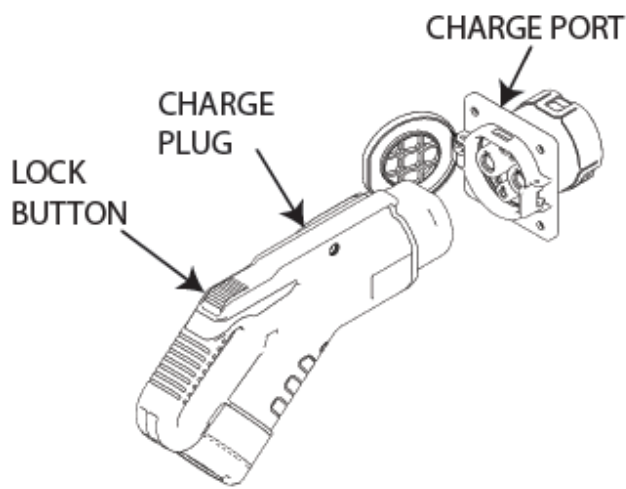
To restore motor functionality, turn machine off, **rotate Button clockwise** to disengage the Button, and turn machine back on.



12V Disconnect Switch

This acts as the main disconnect for the machine's 12V electrical system. When switched off, all 12V power is disconnected from the machine, and the machine will not run or charge.

On the E32 machine, this is located underneath the right hood mounted towards the front of the machine.



Charging Guide

Follow the instructions below to properly charge the E32 machine.

The E32 machine can only be charged with the GME-stock charge cable sent with the machine.

1. Turn off key switch.
2. Plug charge cable into 50A, 250VAC outlet and insert charge gun into charge port located on the machine's back end.
3. **Be sure the gun is fully seated in the port.**
4. Indicator on charger display will blink when charging begins. **If indicator does not blink, check that gun is fully seated.**
5. **To stop charging**, press the lock button on the charge gun and remove the charge gun from the charge port.

Any time the E32 is not in use for >24 hours, leave the machine on-charge until next use. This includes long-term storage for weeks or months. Charging will automatically stop when the battery is full.

The E32 will not run while charging. The drive system is deactivated while charging to prevent operation while connected to the charger.

Recharge the E32 as often as possible. When work is complete, plug in the E32 and recharge regardless of the battery level.

Towing

E32 weight:

7450 lb (3379 kg)

Load securement:

3/8" grade 70 transport chain with 3/8" ratchet binders 1x15' chain, 4x10' chains.

TROUBLESHOOTING

1. Machine won't charge
 - a. Ensure there is no damage to the charging cable or charge port and ensure both are clean.
 - b. Ensure that you're getting AC power from the wall.
 - c. Remove the charging cable from the machine and check that the machine turns on when the key turns on. If the machine doesn't power on, then refer to Step 2.
 - d. Ensure there isn't an active battery error - the battery error light battery display will be **solid red**. If there is an active battery error, refer to Step 5.
 - e. The machine will not charge if the battery temperature is either too cold ($<-4^{\circ}\text{F}/-20^{\circ}\text{C}$) or too hot ($>110^{\circ}\text{F}/45^{\circ}\text{C}$). If too cold, move the machine into a warmer space. If too hot, wait for the battery to cool down before charging. Leave the charger plugged into the machine – when the battery warms up/cool down, the machine will automatically begin charging.
2. Machine won't turn on when the key is turned to ON
 - a. If the machine doesn't power on when the key is turned on (i.e. no displays light up), then check the 12V battery to ensure it is supplying proper 12V to the system. If the 12V battery is dead, then swap out the 12V battery or use a 12V charger to recharge the battery.
 - b. The machine will not turn on if the battery temperature is either too cold ($<-4^{\circ}\text{F}/-20^{\circ}\text{C}$) or too hot ($>110^{\circ}\text{F}/45^{\circ}\text{C}$). If too cold, move the machine into a warmer space. If too hot, wait for the battery to cool down before turning on.
 - c. If the machine receives power when turning on the key but the motor controls aren't functioning, then refer to Step 3.
 - d. Ensure there isn't an active battery error - the battery error light battery display will be **solid red**. If there is an active battery error, refer to Step 5.
3. Motor won't turn on when machine is on
 - a. Ensure the safety lever switch is locked all the way in the down position.
 - b. Ensure the throttle is turned high enough to turn on the motor.
 - c. Ensure the E-stop button is not engaged. The green line around the base of the button should be visible.
 - d. Ensure there is no external or internal damage to the throttle or its supporting connections.
 - e. Ensure there is no external or internal damage to the E-stop button or its supporting connections.
 - f. Ensure there isn't an active battery error - the battery error light battery display will be **solid red**. If there is an active battery error, refer to Step 5.
4. Error light turns on (**solid red**) but machine still functions (non-critical error)
 - a. If main machine functions are unaffected, then try turning the machine off then on again. If that does not solve the issue, then turn the battery disconnect switch off then on again. If the error persists, contact GME Customer Support. The machine may still be used as long as it is operating normally and as long as there is no damage to the machine, battery, or any electrical connections.
5. Error light turns on but machine **will not** function (critical error)
 - a. If there is an active battery error, try turning the machine off then on again. If that does not solve the issue, then turn the battery disconnect switch off then on again. If the error persists, contact GME Support.

If none of these troubleshooting steps resolve the issue, **please contact Green Machine Customer Support at 716-968-8658 ext. 303**. Be ready to provide your company information, GME Serial Number of the machine/affected unit(s), the battery level, and hours on machine in addition to all details regarding the experienced issue(s).

Frequently Asked Questions

1. Does the Green Machine work the same as a diesel excavator?

Yes. All the controls work exactly the same, including the variable speed throttle. The hydraulic system is exactly the same as a diesel machine.

2. Can I operate the Green Machine in the rain?

Yes. You can operate the Green Machine in rain, dust, or any other condition that you would use a diesel machine.

3. Can I operate and charge the Green Machine in the cold?

Yes. The Green Machine can run or charge in temperatures down to -4°F (-20°C).

4. Does the Green Machine create any sparks?

No. The motor in the Green Machine is brushless, so it does not create any sparks. The battery and power electronics are sealed from the environment.

5. Is the Green Machine's battery safe from fires?

Yes. There are many types of Li-ion cells. Some are more volatile than others. The cells used in the Green Machine battery have been safety tested not to catch fire or explode from being shorted, crushed, dropped, overcharged, or overheated.

6. Do I need a special charge outlet?

No. The E32 charger will plug into a standard 250V/50A AC outlet.

7. Can I charge the E32 while it is operating?

No. Charging while operating is not currently supported.

8. Should I run the battery all the way down each time I use the machine?

No. the Li-ion batteries used in the Green Machine do not have "memory" like some other batteries. Use as little of the battery as you need, and then plug the machine back in to charge.

9. Do I need to unplug the Green Machine when it is done charging?

No. The Green Machine will automatically stop charging when it is done, even if it is still plugged in.

10. Will I hurt the battery if I run it down to zero?

No. The battery can be run to zero without being harmed.

11. How should I store the Green Machine?

Any time the Green Machine is not in use for more than 24 hours, connect the charger and leave the charger plugged in to the wall outlet. This includes long term storage for weeks or months.

12. Is there any maintenance I need to perform on the Green Machine?

The only maintenance on the electric drive system is ensuring the glycol coolant remains within the sight glass of the reservoir. The brushless electric motor does not need maintenance. The battery is automatically maintained by a sophisticated battery management system. Refer to the operator and service manual for scheduled hydraulic/machine maintenance.