Haas Technical Documentation

Lighting - How it Works and Troubleshooting Guide

How It Works
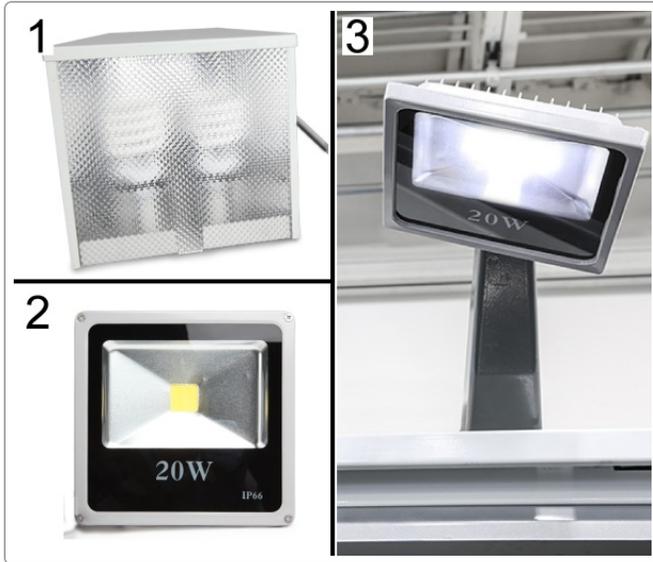
Haas machines have two different lighting systems. The standard work light, with compact fluorescent bulbs [1] or LED lamps [2], and the optional High Intensity Lighting (HIL) [3].

Both systems are powered by 120 VAC. This voltage comes through the CB6 circuit breaker on the power distribution PCB. It has a GFCI (Ground-Fault Circuit-Interrupter) and is powered by a connector on the I/O PCB.

The HIL turn on and off automatically when the doors open or close. They can also be activated manually, like the work lights, by a switch at the pendant .

Setting **238**, **High Intensity Light Timer**, controls the number of minutes that the HIL stays on. For example, with a value of 10, the lights stay on for 10 minutes.

Setting **239**, **Work Light Off Timer**, controls the number of minutes that the work light stays on. For example, with a value of 10, the lights stay on for 10 minutes.
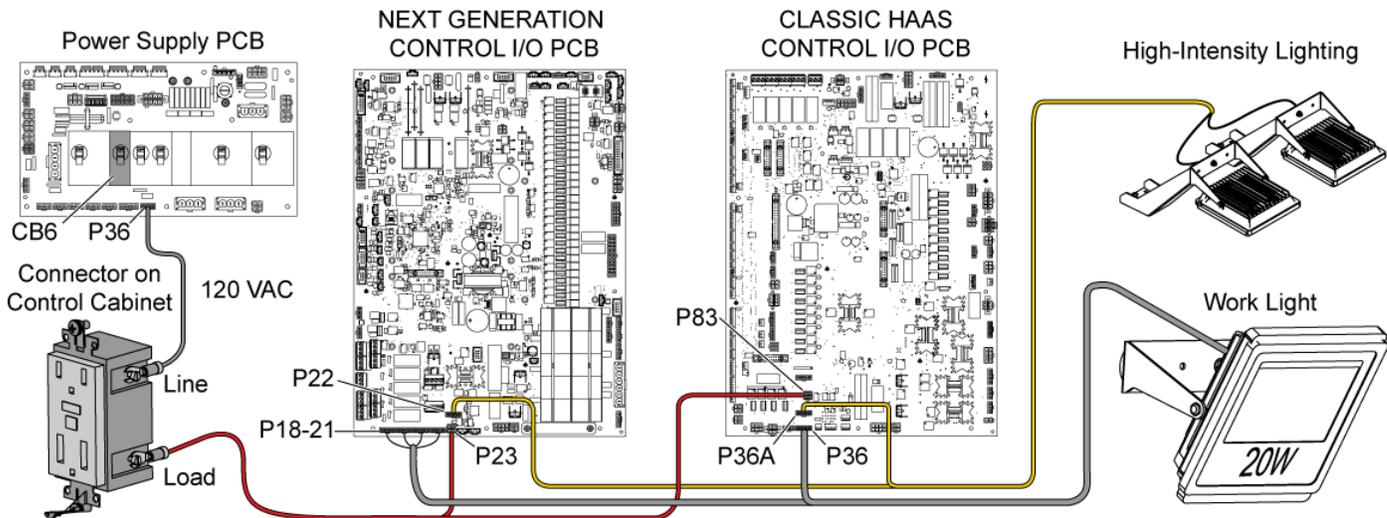
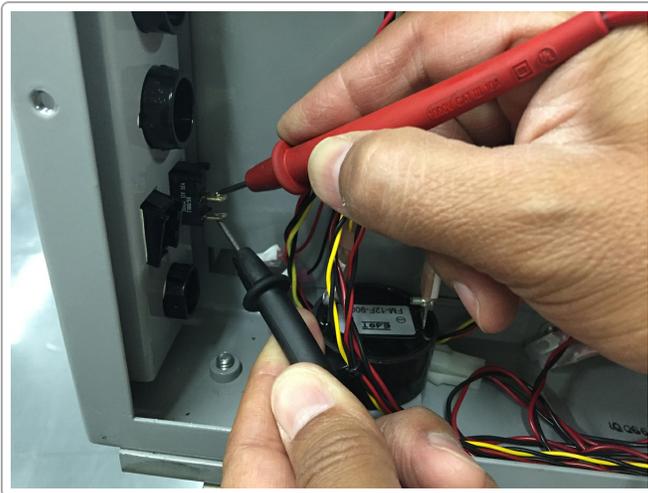| Symptom	Possible Cause	Corrective Action	Section
The light flickers.	Problem with the light bulb or the LED assembly.	Check the light for damage.	1
The light does not power on.	Problem with the light bulb or the LED assembly.	Check the light for damage.	1
	Problem with the light switch.	Measure the voltage to the switch.	2
	Problem with the GFCI circuit/receptacle.	Check if the GFCI is damaged.	3

Section 1

Symptom: The light flickers. The light does not power on.

Possible Cause: Problem with the light bulb or the LED assembly.

Corrective Action:

- **Fluorescent light:** Check for burn marks on the bulb. Check for 120 VAC at the fixture connector. If voltage is correct, test the bulb in another fixture. If the bulb works in another fixture, unplug the non-working fixture and check for contamination or damage. Replace the fixture or bulb as needed.
- **Halogen light:** Check for burn marks on the bulb. Check for 120 VAC at the lamp head connector. If the voltage is correct, test the bulb in another lamp head. If the bulb works in another lamp head, unplug the non-working unit and check for damage. Replace the lamp head or bulb as needed.
- **LED light:** Check for 120 VAC at the fixture connector. If the voltage is correct, and the LED does not work, it must be replaced. If the LED is flickering on and off, re-seat the connections. If flickering continues, replace the LED assembly.

Section 2

Symptom: The light does not power on.

Possible Cause: Problem with the light switch.

Corrective Action:

Disconnect the connectors on the switch. Check for continuity between the connector pins as you push the button. If there is no continuity, the work light switch is at fault.

Replace the switch.

Section 3

Symptom: The light does not power on.

Possible Cause: Problem with the GFCI circuit/receptacle.

Corrective Action:

- Check if CB6 [1] on the Power Card has been tripped. Reset CB6 if necessary.
- Disconnect anything that is connected to the GFCI receptacle. Push the **RESET** button on the GFCI receptacle. Measure the voltage at the plug. The voltage must measure 120 VAC when the RESET button is fully engaged.
- If the **RESET** button does not fully engage, disconnect the light cable:
  - Work light: I/O PCB P36 (CHC) or P18-21 (NGC)
  - HIL: I/O PCB P36A (CHC) or P22 (NGC)
- Push the **RESET** button on the GFCI receptacle again.
  - If the **RESET** button fully engages and you have 120 VAC, the GFI plug is working correctly. Find the cause of the short in the light circuit by checking the cable and fixtures.
  - If the **RESET** button does not fully engage, the GFCI receptacle is defective. Replace the GFCI receptacle.
- If there is still no voltage, go to diy.haascnc.com to troubleshoot the I/O PCB.