

HARTZELL ENGINE TECHNOLOGIES CABIN HEATER FAQ & TROUBLESHOOTING

Source: <http://hartzellenginetech.com/aircraft-parts/faq-service-questions.html#cabinheater-troubleshooting>

Q: How do I obtain overhaul and maintenance manuals for combustion heaters?

I-Series and B-Series Combustion Heater Overhaul & Maintenance manuals may be ordered direct from HET. Contact HET customer service at tel. +1.334.386.5400 or Fax +1.334.386.5450.

Q: Heater fails to light:

The MASTER switch or circuit breaker is OFF. Turn ON master switch or close circuit breaker. (See aircraft AFM or POH for operation.)

The voltage supply is low. Apply external power supply. Attempt to start heater. (See aircraft service manual.)

Fuel is cut off from tank. Turn ON manual shutoff valve (if used) or master solenoid. (See AFM or POH for operation.)

There is a suction leak ahead of pump. Secure all fittings.

There is insufficient fuel pressure. Low or no current is being supplied to fuel pump. Check for operation of pump and remove for repairs if not operating.

The regulator is not operating properly. Check for low pressure or replace regulator. When making a fuel pressure check, be sure fuel is flowing through nozzle. Turn the adjusting screw clockwise to increase fuel pressure and counterclockwise to decrease fuel pressure. (See applicable Overhaul & Maintenance manual)

The Fuel pump is operating but not building up sufficient fuel pressure. Remove and repair or replace fuel pump,

There is a restriction in fuel nozzle orifice. Remove the nozzle and clean or replace it. (See applicable Overhaul & Maintenance manual Testing chapter.)

The heater fuel solenoid is not working. Remove and check solenoid. Replace if faulty.

Fuel lines are clogged or broken. Inspect all lines and connections. It may be necessary to disconnect lines at various points to determine where the restriction is located.

The fuel filter is clogged. Clean fuel filter element. Check for biologicals, corrosion, and ice in fuel system.

The ignition vibrator is inoperative. Replace vibrator; check for defective radio noise filter.

Manual reset limit switch open (overheat). Press reset button firmly and recheck to determine the reason for switch opening.

The combustion air pressure switch is open. (Defective switch or low combustion air blower output.) Check for a low blower output due to low voltage and correct it. If switch is defective, it must be replaced (See applicable Overhaul & Maintenance manual)

The cycling switch is open. Replace if defective.

A duct switch is open. Operate control to see if switch will come on. Replace switch if defective. als may be ordered direct from HET. Contact HET customer service at tel. +1.334.386.5400 or Fax +1.334.386.5450.

Q: Ventilating air blower fails to run:

The MASTER switch is OFF or there is broken or loose wiring to motor. Energize the MASTER switch (turn ON) and if required check & repair wiring. (See aircraft AFM or POH for operation.)

Vent air circuit breaker is open. Close circuit breaker.

The motor brushes are worn or damaged. Replace motor brushes.

The blower wheel is jammed. Remove & check the ventilating air blower wheel and realign if necessary.

The motor has burned out. Remove blower assembly and replace motor.

The radio-noise filter is defective. Replace the filter assembly.

Q: Combustion air blower fails to run:

The wiring to motor is faulty. Inspect and replace faulty wiring. Poor ground connection. Tighten ground screw. Be sure any metal preservation has been removed for good ground connection.

The motor brushes are worn or damaged. Replace motor brushes.

The blower wheel is jammed (may notice hot motor housing). Overhaul the combustion air blower.

The radio-noise filter is defective. Replace the filter assembly. The motor is faulty or burned-out. Remove combustion air motor for overhaul or replacement of motor.

Q: Heater fires but burns unsteadily:

There is an insufficient fuel supply. Ice or water may be contained in the system fuel lines. Inspect fuel supply to heater including shutoff valve, solenoid valve, fuel filter, fuel pump and fuel lines. Clean all fuel system lines or make necessary repairs.

The spark plug is partially fouled. Replace spark plug. CAUTION: Never create a spark gap by holding the lead to heater jacket. This can result in damage to lead and ignition unit and/or operator may receive a serious electrical shock.

The ignition assembly has a loose primary connection. Tighten the connection.

The vibrator is faulty. Replace the vibrator.

The combustion air blower speed fluctuates. (This can be caused by low voltage, loose blower wheel on shaft, worn brushes or defective motor.) Remove and overhaul the combustion air blower assembly as required or correct other conditions.

There is a high voltage leak in lead between ignition assembly and spark plug. Replace ignition assembly.

The ignition assembly is inoperative. If vibrator is in good condition, replace ignition assembly only.

There is a restriction in the fuel nozzle orifice. Remove nozzle for cleaning or replacement. (See applicable Overhaul & Maintenance manual Testing chapter.)

The nozzle is loose in the retainer or has an improper spray angle. Tighten or replace nozzle as required. blower wheel and realign if necessary.

Q: Heater starts then goes out:

There is a lack of fuel at the heater. Check fuel is being supplied to and through all components from the aircraft tank to the heater. Make the necessary corrections. (See AFM or POH for operation or aircraft service manual.)

The combustion air pressure switch is inoperative or chattering. Check, adjust, or replace switch.

The overheat switch is inoperative. Check or replace switch.

The cycling switch is inoperative. Adjust or replace the switch.

Aircraft voltage is low. Attach external power, restart and monitor heater. (See aircraft service manual.)

Q: Heater fails to shut off:

The fuel solenoid valve in heater is stuck open. Remove and replace solenoid assembly. (See applicable Overhaul & Maintenance manual)

The duct and/or cycling switch is inoperative. Check and repair or replace defective switch.

The MASTER switch is defective. Replace the master switch. (See aircraft service manual.)

Q: Heater backfires, has pulsating burn, or has black smoky exhaust:

There is excessive fuel being supplied to the heater. Make necessary check or repairs for: Spray Nozzle loose, oversize spray nozzle installed, damaged spray nozzle, or faulty fuel pump. (See applicable Overhaul & Maintenance manual.)

The spark plug is fouled or worn. Replace spark plug.

The combustion air being supplied is insufficient. Make necessary repairs to air system on aircraft and/or heater. (See applicable Overhaul & Maintenance and aircraft service manual as required.)

Exhaust outlet has restriction. Make necessary repairs to exhaust.

The ignition assembly is inoperative. If vibrator is in good condition, replace ignition assembly only.

Aircraft voltage is low. Attach external power, restart and monitor heater. (See aircraft service manual.)