

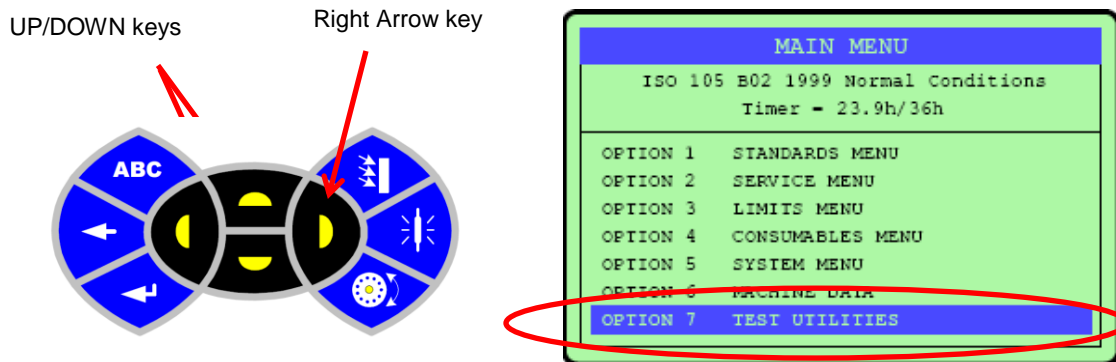
The lamp is not igniting on my Apollo 700 – How to reignite the lamp

WARNING: Any maintenance work undertaken on a James Heal instrument must be done so by a trained and competent person. Where electrical work is detailed, this should only be completed by a qualified engineer. James Heal is not responsible for damage or injury arising from work carried out by any person not qualified to do so. If in doubt, please contact James Heal or your local James Heal Agent.

1. Press and hold the **PRINT** or **BACKSPACE** key while switching on the power to the Apollo.

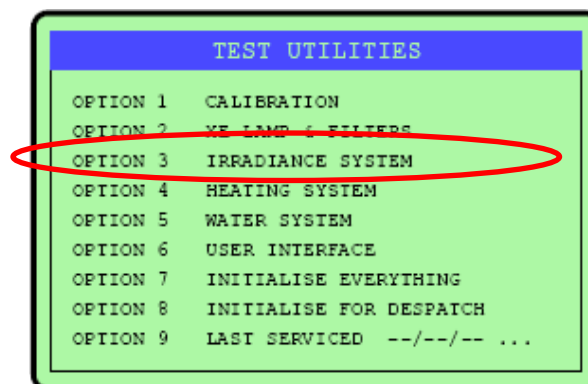
The Apollo should beep and show a message saying that **Test utilities are unlocked** for a short time, and then show the **MAIN MENU** screen.

2. Use the **Up/Down** keys to select **OPTION 7 TEST UTILITIES**, then press the **Right Arrow** key.



3. Use the **Up/Down** keys to select **OPTION 3 IRRADIANCE SYSTEM**

Then press the **Right Arrow** key to enter the calibration menu.



4. You should now be in the irradiance system menu.

IRRADIANCE SYSTEM	
OUTPUTS	INPUTS
Blower : ON	Blower : 100%
Contactator : OFF	Contactator: OFF
Xe Power : OFF	Xe Power : 1400W
Watchdog : ON	T Cover : ON
Turntable : 5.0rpm	Ch Door : ON
FlipFlop : UP	F Cover : ON
	340nm : 0.00W/m2
	420nm : 0.00W/m2
	300-400nm: 0.00W/m2

Use the **Up/Down arrow** keys so that **BLOWER** in the outputs section is highlighted. Use the **Left/Right arrow** keys to change this to ON.

The blower should start and be running around 100%.

4.1

Close the chamber door, the main front door and the top cover.

Check that on the right hand side of the screen shows;

T Cover	: ON	(Top cover is closed)
Ch Door	: ON	(Chamber door is closed)
F Cover	: ON	(Main door/front cover is closed)

4.2

Use the Up/Down arrow keys so that **Contactator** in the left side of the screen is highlighted. Use the Left/Right arrow keys to change this to **ON**.

Check;

You should a “clunk” noise from inside the Apollo.

The right side of the screen shows;

Contactator : ON

After 2 ~3 seconds there should be a short “Buzz” noise of the ignitor trying to start the lamp.

Note: To re-strike the lamp you will have to turn the contactor off then back on again.

5 Checking the supply voltage.

5.1 Remove the side cover retaining screw [A].

Push the side cover towards the rear of the Apollo so it disengages from its clamps.

Disconnect the earth wire to the side cover

The cover can then be removed.

A



5.2 Measure the voltage supply across the Brown and Blue wires of the input terminal [B] while the contactor is switched on.

This should be 220V ac (same as the supply)

5.3 Measure the voltage supply across the Brown and Blue wires of the output terminal [C] immediately after switching the contactor ON

This should start at 0V, then after 2 seconds be about 300V ac, then after 1 second go back to 0V.

Note: The front door must be closed for the contactor to operate.

C

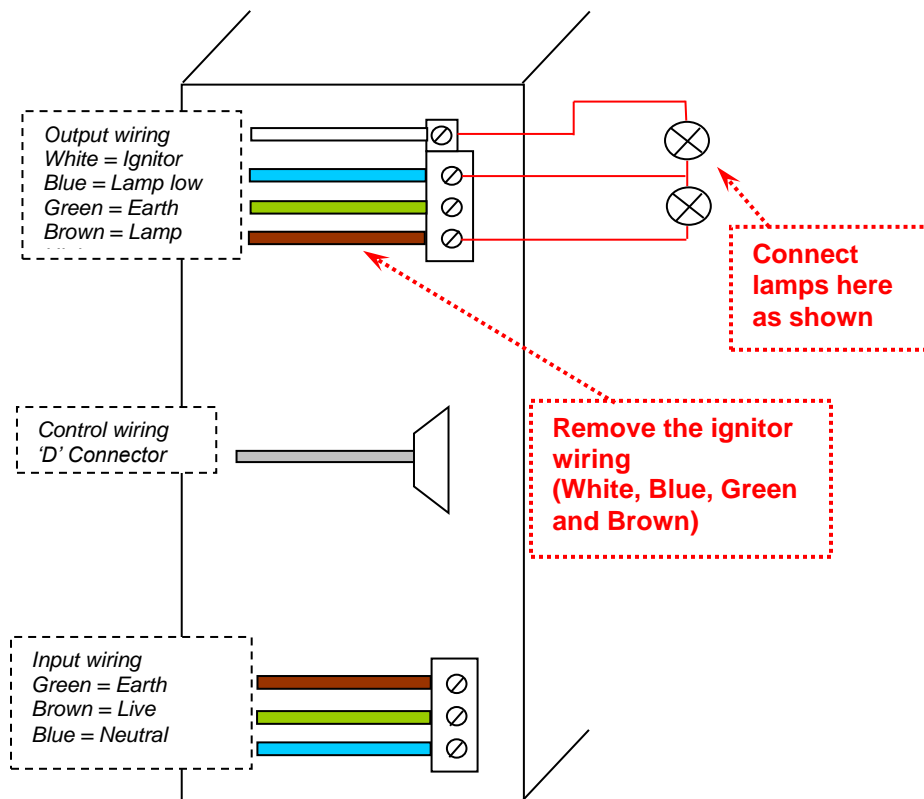
B



Note: If the voltmeter used is “auto-ranging” the voltage may change too fast to be measured.

In this case turn the “auto-range” feature of the meter off and select a range of around 500V ac.

- 5.4 Repeat the test in 5.3 however this time measure across the White and blue wires. The duration of the voltage should be less however the results should be the same.
- 6 The output of the PSU can be tested by replacing the ignitor at the PSU output [C] with 2 standard 60W filament lamps. Remove the Brown, Blue and white wires from the output terminal. Connect one lamp between the “Ignitor” terminal and the common. Connect the other lamp between the “Lamp high” and common.



- 6.1 Close the front cover, switch on the contactor [4.2] and check the following sequence occurs.
- The Apollo contactor operates immediately (first “clunk” noise)
 - After 2 seconds delay the contactor inside the PSU will operate (second clunk noise).
 - The test lamp connected to “**Lamp high**” should switch on.
 - After 0.5 seconds after this the test lamp connected to “**Ignitor**” should light.
 - After 0.5 seconds both lamps should then switch off.

- 6.2 Observe the “**Xe Power**” reading on the display during the above. This should report a low (60W) value briefly while the first lamp is on.
- 6.3 Remove the lamps and reconnect the ignitor wiring.
- 7 Additional checks.
 - 7.1 Try striking the lamp with the side cover removed. If there is any sign of electricity arcing from the high voltage (white) wires from the ignitor then re-route these away from the Apollo metal panels.
 - 7.2 Check the rubber grommets in place where the high voltage (white) wires pass through metal panels? (These are just above the lamp fan and also above the chamber)
 - 7.3 Check the lamp for any signs of cracks or damage. If possible try the unit with different lamps (old or new) to see if they work.
 - 7.4 Check to see if when the Apollo tries to start is there any flickering at all in the lamp.