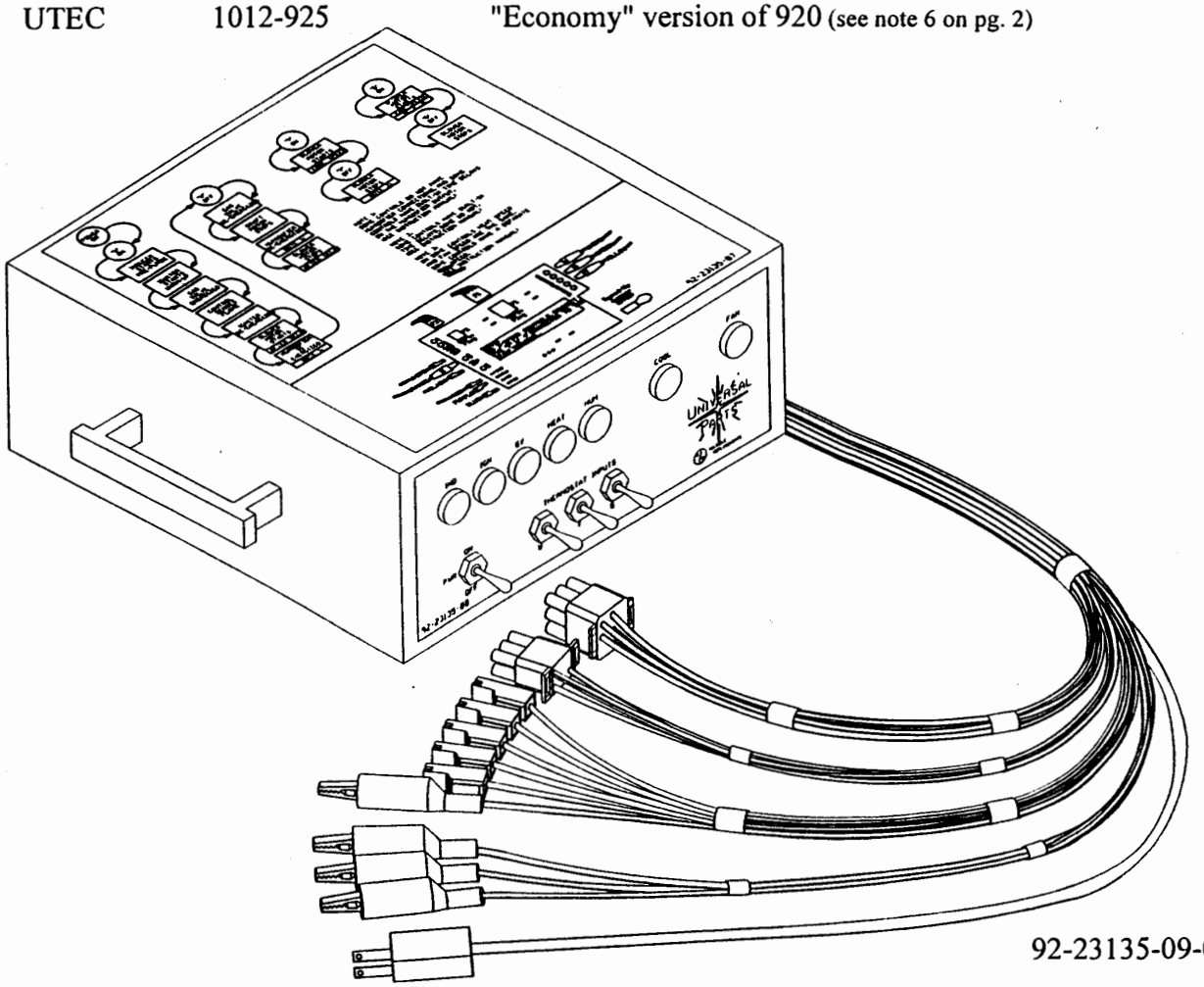
RXGW-ABB02 Integrated Furnace Control (IFC) Tester

⚠ Recognize this symbol as an indication of Important Safety Information!

This tester is designed to check the operation of all current and previous Hot-Surface Ignition (HSI) UTEC IFCs (United Technologies Electronic Controls - formerly Hamilton Standard Controls) and Honeywell IFCs. It can be used anywhere with a 115VAC power source. Following is a list of IFC part numbers which may be analyzed with this tester:

Part Number	Manufacturer	Model Number	Description
62-22737-02	Honeywell	S9201A1002	First Generation IFC for Drum Furnace
62-22737-06	Honeywell	S9201A1010	First Generation IFC for 34" 78% Furnace
62-22737-07	Honeywell	S9201A1028	"Feature Enhanced" version
62-22737-08	Honeywell	S9201A1028 Rev. 2	Added LVD "anti-lockout" circuit
62-22737-09	Honeywell	S9201A1002 Rev. 2	Added LVD circuit for Drum Furnace
62-22737-10	Honeywell	S9201A1036	Alternate microprocessor for 1028
62-22694-01	UTEC	1012-820	First Generation IFC for 34" 78% Furnace
62-22694-02	UTEC	1012-822 & -823	"Feature Enhanced" version
62-22694-03	UTEC	1012-830	Hardware & Software Upgrade
62-22694-11	UTEC	1012-831	Alternate microprocessor for 830
62-24044-01	Honeywell	S9201E2001	New Generation Deluxe IFC - Remote Sense
62-24084-01	UTEC	1012-920	New Generation Deluxe IFC - Remote Sense
62-24268-01	UTEC	1012-925	"Economy" version of 920 (see note 6 on pg. 2)



92-23135-09-00

GENERAL INFORMATION

1. For safety, this tester uses 24 VAC on all test points.

2. Some connections may have a tight fit. The IFC terminals are designed to withstand the required insertion force; however, only enough contact to ensure a secure fit on the IFC is necessary.

3. The tester's flame simulator circuit provides a low flame-sense level. This will thoroughly test the IFC's flame-sense circuit. This will cause the yellow "Flame" LED on the new generation IFCs to flash. The tester actually has two flame simulator circuits, so that it will test both direct and remote flame-sense version IFCs.

4. The relays inside the tester provide a low-current low-voltage inductive load for the IFC output relays. This will thoroughly test the relays on the IFC.

5. **The tester cannot detect every possible IFC problem. IFCs may have damaged components which are not integral to the function of the IFC; such as, protective devices and power filtering devices. The IFC should be tested for lockouts *before* being removed from the furnace. The IFC should be visually inspected for damaged components. Monitor the IFC for proper operation during the test.**

6. Note: Tester RXGW-AAB01 will not test the UTEC 1012-925 IFC.

MAINTENANCE

⚠ WARNING

Disconnect the main electrical supply to the tester, before attempting any maintenance! Failure to do so can cause electrical shock resulting in severe personal injury or death.

1. Use the wiring diagram in this manual for guidance in repairing or replacing any serviceable components.

2. This tester has a standard replaceable MDL-type 2-Amp "slow-blow" fuse. The fuse may be accessed from the back panel on the tester. Important: Do not use a fuse rated more than 2 Amps.

3. This tester has standard replaceable T2-type light bulbs, sockets and colored lenses.

4. Some replaceable parts are available through Universal Parts:

Wire Harness Assembly	P/N AS-61761-03
SPST NO 24 Volt Relays	P/N 42-25104-01
24 Volt Transformer	P/N 46-25107-02

CONNECTING THE IFC TO THE TESTER

Blower Control Relay Output Terminals

1. Connect the white "N" wire with the ¼" thumb-lock to any Neutral terminal on the IFC.

2. Connect the black "L" wire with the ¼" thumb-lock to an "L1" terminal on the IFC.

3. Connect the red "H" wire with the ¼" thumb-lock to the "Heat" terminal on the IFC

4. Connect the purple "C" wire with the ¼" thumb-lock to the "Cool" terminal on the IFC.

5. If the IFC has a separate terminal for constant fan speed, connect the blue "F" wire with the ¼" thumb-lock to the "Fan" terminal on the IFC. If not, connect this wire to an M1 or M2 terminal on the IFC.

6. Connect the orange "H" wire Alligator Clip to the Humidifier (HUM) terminal on the IFC. *Note: The "Economy" IFC version does not have a Humidifier terminal. In this case, leave this wire disconnected.*

Inducer and Igniter Relay Output Plug

7. Connect the 6-Pin plug (P2) to the 6-Pin connector on the IFC.

Low-Voltage Input and Output Plug

8. Connect the 9-Pin plug (P1) to the 9-Pin connector on the IFC.

Thermostat Input Terminals

9. Connect the yellow "Y" wire Alligator Clip to the "Y" thermostat terminal on the IFC.

10. Connect the green "G" wire Alligator Clip to the "G" thermostat terminal on the IFC.

11. Connect the white "W" wire Alligator Clip to the "W" thermostat terminal on the IFC.

TESTER OPERATION

Set-Up

1. Connect the power cord to a 115 VAC outlet. Ensure all switches are "Off".

2. Connect the IFC to the Tester per the instructions and wiring diagram.

3. Place the IFC on a clean, non-conductive surface.

4. Turn the "POWER" switch (S1) "On". The "Power" and/or the "OK" LED(s) on the IFC should come on.

Continuous Fan Output Test

5. Turn the "G" switch (S4) "On". The IFC should energize the "Fan" blower speed output on 3-Speed "deluxe" version IFCs , or the "Heat" blower speed output on 2-Speed IFCs.

6. Turn the "G" switch "Off". The IFC should de-energized the blower output.

Cooling Blower Output Test

7 Turn the "Y" switch (S3) "On". The IFC should energize the "Cool" blower speed output. There may be a slight delay (1 or 2 seconds).

8. Turn the "Y" switch "Off". The IFC should de-energized the "Cool" blower speed output. Newer generations of IFCs will have a 45-second Cooling Fan Off Delay.

Heat Cycle Test

9. Turn the "W" switch (S1) "On". The IFC should energize the "Inducer" output (IND). The tester will automatically close the pressure switch circuit.

10. After the "Pre-Purge" timing is complete, the IFC should energize the "Igniter" output (IGN). Pre-Purge on most IFCs is 30 seconds. Some newer IFCs have a 5 second Pre-Purge.

11. After the Igniter "Warm-Up" timing is complete, the IFC should energize the Gas Valve output (GV). Igniter Warm-Up is 34 seconds on most IFCs. Some older IFCs had a 45 second warm-up. Some newer IFCs have a 30 second warm-up.

TESTER OPERATION - (CONTINUED)

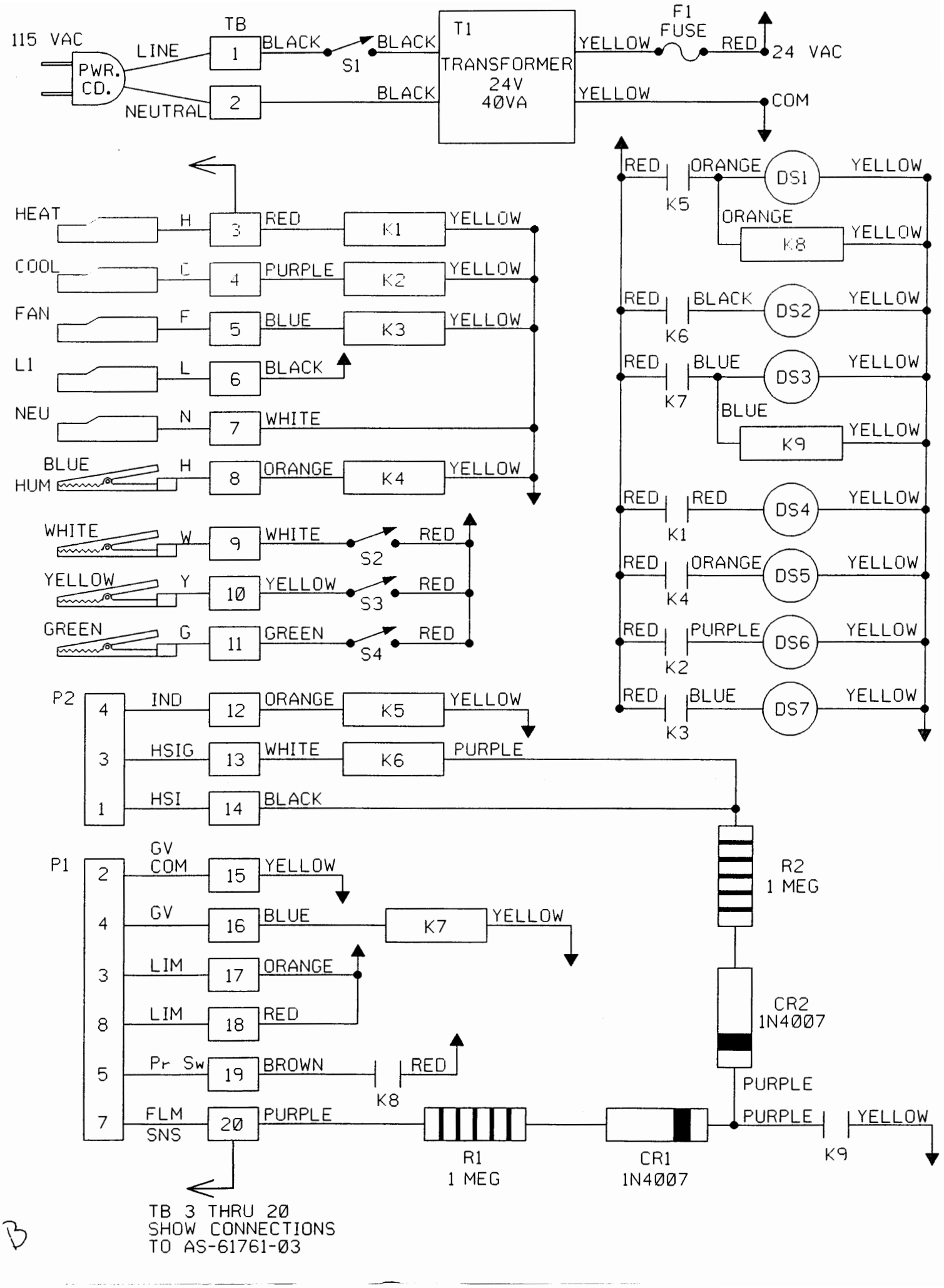
12. Both the Igniter and Gas Valve outputs will remain energized for the "Ignition Activation Period" (IAP). The IAP for most IFCs is 7 or 8 seconds. Some older IFCs have a 6-second IAP.

13. The IFC should then de-energize the Igniter. At this point, the IFC will "look" for a flame-sense input. On newer generation IFCs, the "Flame" LED should come on at this time. The "Flame" LED should flash, because the flame-simulator circuit in the tester represents a low flame-sense level. *Note: If the IFC does not sense flame, the gas valve will shut off approximately 1 to 2 seconds after the Igniter de-energizes.*

14. After the Heat Blower-On Delay, the IFC should energized the "Heat" blower speed output. *Note: The Gas Valve and Inducer outputs should remain on.* The Blower On Delay will be from 12 to 15 seconds (after the IAP) on most IFCs. Some IFCs will have up to a 30 second delay.

15. Turn the "W" switch "Off". The IFC should de-energize the Gas Valve output. The IFC should then de-energized the Inducer output, after the "Post-Purge" timing. Newer generation IFCs have a 5-second post-purge. Most older versions have no post-purge.

16. The IFC should then de-energize the "Humidifier" output and then the "Heat" blower speed output, after the Humidifier-Off Delay and the Heat Blower-Off Delay. This timing is selected by switches on the IFC. Refer to the Instruction Manual or the Training Manual for the applicable furnace, if these timings are needed.


115 VAC
PWR. CD.
LINE
NEUTRAL
TB
1
2
BLACK
S1
BLACK
BLACK
T1
TRANSFORMER
24V
40VA
YELLOW
YELLOW
F1
FUSE
RED
24 VAC
COM
HEAT
H
3
RED
K1
YELLOW
COOL
C
4
PURPLE
K2
YELLOW
FAN
F
5
BLUE
K3
YELLOW
L1
L
6
BLACK
NEU
N
7
WHITE
BLUE
HUM
H
8
ORANGE
K4
YELLOW
WHITE
W
9
WHITE
S2
RED
YELLOW
Y
10
YELLOW
S3
RED
GREEN
G
11
GREEN
S4
RED
RED
ORANGE
DS1
YELLOW
K5
ORANGE
K8
YELLOW
RED
BLACK
DS2
YELLOW
K6
RED
BLUE
DS3
YELLOW
K7
BLUE
K9
YELLOW
RED
RED
DS4
YELLOW
K1
RED
ORANGE
DS5
YELLOW
K4
RED
PURPLE
DS6
YELLOW
K2
RED
BLUE
DS7
YELLOW
K3
P2
4
IND
12
ORANGE
K5
YELLOW
3
HSIG
13
WHITE
K6
PURPLE
1
HSI
14
BLACK
P1
2
GV COM
15
YELLOW
4
GV
16
BLUE
K7
YELLOW
3
LIM
17
ORANGE
8
LIM
18
RED
5
Pr Sw
19
BROWN
K8
RED
7
FLM SNS
20
PURPLE
R1
1 MEG
CR1
1N4007
R2
1 MEG
CR2
1N4007
PURPLE
PURPLE
K9
YELLOW
TB 3 THRU 20
SHOW CONNECTIONS
TO AS-61761-03
B