



Synetek DS1-C and DS2-C INSTALLATION INSTRUCTIONS

PARTS LIST:

1. Control:
DS1-C – DS2140A Rev C
DS2-C – DS3470A Rev A
2. Harness – HA140A1AB
3. Igniter – BP202E
4. High Voltage Lead – HV01
5. Valve Plate
6. Valve Gasket
7. 4 Long Mounting Screws
8. 1 Short Sheet Metal Screw

PRE-INSTALLATION PROCEDURES

Perform a complete operational check of the dryer before attempting any modification to the dryer.

1. Check for smooth burning of the pilot and main burner.
2. Check the main door switch. Opening should cause complete interruption of the dryer.
3. Check the airflow of the air damper switch. The flame should burn smoothly and not dance. If not, call your local distributor for correction. Electronic module will not correct this condition.
4. Turn the thermostat control high-to-low, main burner should turn off.

ARE YOUR DRYERS 110V OR 220V? USE DS1-C FOR 110V to 120V DRYERS. USE DS2-C FOR 208V to 240V DRYERS.

CHECK THE OPERATOR ON THE GAS VALVE FOR THE CORRECT VOLTAGE.

DRYER MODIFICATION PREPARATION INSTRUCTIONS

1. TURN OFF GAS AND POWER TO THE DRYER
2. Remove the following parts.
 - A. Remove Thermocouple.
 - B. Remove gas line from pilot and pilot assembly.
 - C. Remove gas pilot magnetic operator. Refer to Figure #1
 - D. Remove all the old gaskets.
3. Install Plate and Gasket Assembly where gas pilot operator was removed, with the gasket between the gas valve and the plate. Use the original screws that held the pilot magnetic operator to the gas valve.
4. Igniter Probe – BP202E

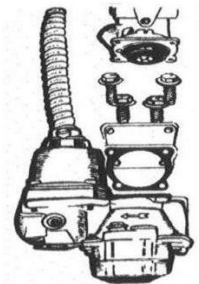


Figure 1 – Valve Assembly

- A. On the burner support bar (holding the burners) drill a 1/8" diameter hole over the left burner side. Position the hole just to the right of the center of that burner.
- B. Using the #8 sheet metal screw, mount the BP-202E igniter as shown in Figure 2.
- C. Once in place, bend the metal bracket so that the igniter tip is about 1/4" to 1/2" off the burner.

DO NOT use any tool on the Ceramic body of the BP202E Igniter Probe.

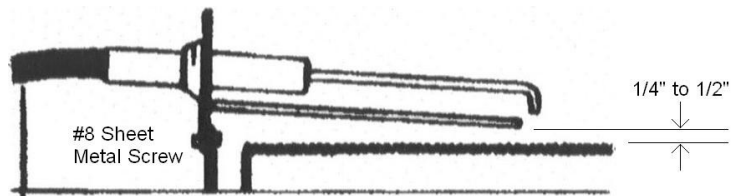


Figure 2 – Igniter Probe

DRYER MODIFICATION (continued)

5. Module Mounting

Mechanical-

Locate and set the module in the control area as shown in Figure #4 (or similar). Always mount in the coolest area possible. Be careful Module is Not Touching Timer When Service Door is Closed!

Electrical-

- A. In the Control Area, locate and remove valve head wires and connect them to the module Valve leads; Pin 1 (White) and Pin 7 (Blue)
- B. Connect module leads; Pin 4 (black) and Pin 2 (white) to the place where the gas valve leads were removed.
- C. Connect module Burner Ground lead Pin 6 (green) to dryer chassis.
- D. Connect high voltage lead to module, Connect opposite end to spark igniter. Tuck the high voltage lead under the notch of the base of the metal dividing wall.

-MAKE CERTAIN THE HIGH VOLTAGE LEAD IS ROUTED AWAY FROM ANY OPEN FLAME OR HOT SURFACE AREA
-MAKE CERTAIN ALL BURNER BAY COVER PLATES ARE RE-INSTALLED BEFORE CHECK-OUT

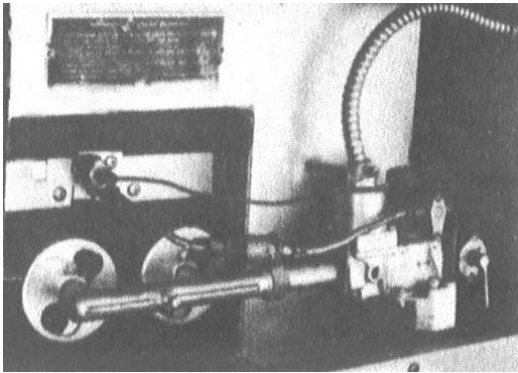


Figure 3 – Before

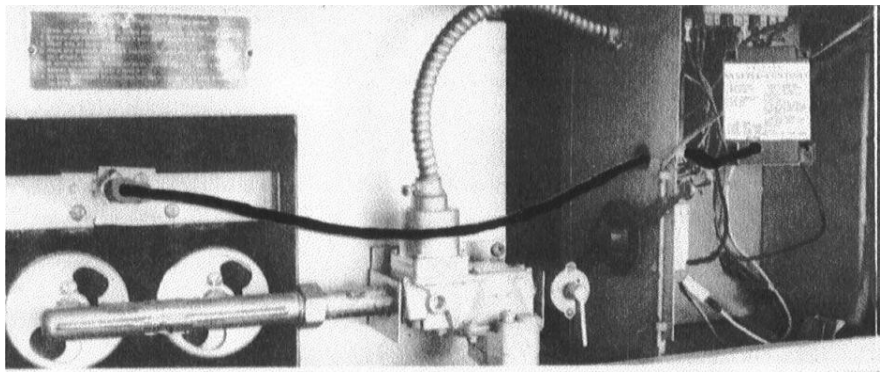


Figure 4 – After

CHECK OUT SEQUENCE

1. TURN ON GAS
USE A SOAP AND WATER SOLUTION AND CHECK THE PLATE AND GASKET CONNECTIONS ON THE VALVE FOR LEAKS. THEN CHECK ALL GAS CONNECTIONS ON THE DRYER FOR LEAKS. If a leak is found turn off gas and repair BEFORE proceeding.
2. TURN OFF GAS
3. Turn on electrical power....run dryer through an operating cycle. Using a small inspection mirror, check spark on igniter probe assembly. Make absolutely sure spark is jumping across the gap and not shorting to surrounding metal surface. (Gap width 1/8" to 1/4").
 - A. 5 sec. prepurge
 - B. Igniter runs ten (10) seconds then turns OFF.
 - C. 5 sec. Interpurge
 - D. Igniter 10 sec.
 - E. 5 sec. Interpurge
 - F. 10 sec. Igniter on.
 - G. Igniter Off.
4. TURN ON GAS.
5. Run dryer through an operating cycle. Air in the gas line may cause 5-6 seconds delay in ignition during the first cycle. After that the burner should light within 2 seconds.
 - A. Main burner lights and remains on.
To insure proper flame sensing, leave the burner on for at least thirty seconds with all service doors closed. (Observe from rear of dryer)
 - B. TURN OFF using thermostat, then turn back on to check for proper re-cycle.

TROUBLESHOOTING

Troubleshooting of a DS1-C or DS2-C control should be performed by a qualified serviceman familiar with the dryer and Synetek Controls.

PROBLEM	CAUSES	SOLUTION
Burned H.V. lead	Poor Air Flow	Check lint screen, vent and fan, clean or repair.
	or Poor H.V. Lead Routing	Replace and re vent away from flame
	or Leaking Gas Valve	Check that gas valve is immediately shutting off when the thermostat switches off. If Not; replace gas valve.
No ignition spark, No valve and diagnostic LED is off	No Power to ignition module	Check door switch and thermostat, High Limit and Air Flow Switches. Check for Voltage between "Power and Return" on the control with all switches closed. If Detected, Replace Control.
Igniter Sparks but there is No Gas flow	No Gas supply.	Check out the gas supply to the valve, make certain the gas valve operator is actuating. If the voltage is present and the valve is not pulling in, (during the first 15 seconds of operation only), replace the electric operator. If there is no voltage to the valve, replace the control.
	or Bad Valve Operator.	
	or Incorrect or broken Valve Wiring	
Erratic spark, or intermittent gas ignition or operation	Control not detecting or losing flame signal.	Using the inspection mirror, check for proper probe placement over the burner assembly. Make certain the ceramic probe is not broken or shorting out to the chassis. Replace probe if necessary. Check gap placement to burner as in Figure 2.
	Ignition Spark not Igniting Gas consistently	
Not Detecting Flame Main burner ignites but keeps sparking and then turns off after 10 seconds. Then turns back on after 5 seconds. After 3 cycles like this, the control's diagnostic LED flashes a "2 Flash" Error code.	Broken or damaged High Voltage Lead	Check the continuity of the high voltage lead. It should be less than (30K) ohm. If an opening is indicated replace the lead.
	Broken, Damaged or Oxidized Ignition Probe	If the high voltage lead checks OK, check the probe. Check for cracks in ceramic or oxidation on the probe. Clean or Replace.
	Incorrect Probe placemen or Burner adjustment	Check that the probe is in contact with the flame and the flame sits flat on the burner. Adjust air mixture to seat the flame and/or reposition probe in flame.
	Poor Burner Ground Connection	Check that the green module wire (ground) is connected to the chassis with contact to bare metal and that it is a good electrical connection to the burner.

WARRANTY

Synetek Guarantees to the first retail purchaser, that should the control module be defective, and it is our fault: (during the first twelve months from date of installation) Synetek will repair or provide (at our option) a replacement to the first retail purchaser. DS1-C & DS2-C are not field repairable. Attempted repair or tampering will VOID all warranties

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