Gmp100 3 manual

Are you looking for information on using the Goodman GMP furnace? This user manual contains important warranty, safety, and product feature information. View the user manual below for more details. Want a copy for yourself? Download or print a free copy of the user manual below. Furnace burner roll-out limit switch Part B Add to cart. Furnace wire harness Part S. Furnace auxiliary limit control Part B Furnace flue collector box Part S. Furnace air pressure switch Part B J-box cover Part Furnace heat exchanger Part S. Furnace door switch Part B Control moun Part Bushing Part B Show More Parts. Air Conditioner. Cd Player. Marantz CD cd player parts. Central Air Conditioner. Electric Chainsaw. Shop Remington EL-1 electric chainsaw parts. Elliptical Machine. Horizon Elliptical machine Parts. Front-Engine Lawn Tractor. Shop Craftsman front-engine lawn tractor parts. Power Screwdriver. Makita DBV power screwdriver parts. Pressure Canner. Pressure canner Parts Presto. Refrigerator Parts GE profile. Log Splitter Hydraulic cylinder leaks. Table Saw. Craftsman table saw parts. Upright Vacuum. Panasonic MC-V upright vacuum parts. Wall Oven. Maytag Wall Oven Replacement Parts. Need help? Close Start Chat. Quick Links. Compatible, multi-position, modulating variable-speed gas furnace 12 pages. Multi-position, modulating variable-speed gas furnace 12 pages. Goodman Manufacturing Company, L. Page 6: Venting A gas furnace must not be installed directly on carpeting, tile, or other combustible materials other than wood flooring. Page 7 GMPN 2" A maximum of 6 elbows is acceptable. DO NOT install the vent pipe within six 6 inches of another fuel burning appliance. Page 9 drain to the terminal. This will allow the condensate to flow backwards into the drain system and not out the terminal. When penetrating the structure to the outdoors install a sleeve to allow for expansion and contraction. Vertical runs must be supported a minimum of every six 6 feet. Page 10 Both the supply and manifold pressure must be measured with the furnace running using the field supplied pressure tap near the manual shut-off valve and the pressure adjusted if necessary. Page 11 The circulating air supply may be taken from; 1 Outside the building, 2 return ducts from several rooms, 3 central return, 4 any combination of the above. When a cooling coil is not installed it is recommended that the supply duct have an access panel so the heat exchanger can be viewed. Page Rating. The Furnace Interconnecting wiring must be secured and protected from damage or disconnection. The use of solderless connectors or equivalent is recommended. The low voltage control wiring exiting the furnace is labeled "thermostat wiring". To calculate the input of the furnace for installations in altitudes over 2, feet, use the following formula; The manifold pressure must be between 3. This switch is not adjustable. The limit switch should function and shut the burner gas off within a few minutes. An electronic device ignites the burners upon a call for heat. It also controls the venter blower and the various speed selections of the circulating air blower. It may be necessary to measure the outlet air at several places to obtain an accurate average. If the pressure switch fails to close the status light will flash three 3 times. The sequence cannot continue until the pressure switch closes. Page 20 building. Turn on clothes dryers and any other appliance not connected to the venting system. Turn on any exhaust fans such as range hoods and bathroom exhausts, so they shall operate at their maximum speed. DO NOT operate a summer exhaust fan whole house fan. Note: No additional screws or wires are supplied with this product. All components must be reassembled to avoid an unsafe condition. If a flexible gas line is used examine it for cracks or weakness. This terminal is powered in both the heating and air conditioning modes when the circulating blower is operating. This manual is also suitable for: Gmpn Gmpn Gmpn Gmpn Print page 1 Print document 25 pages. Cancel Delete. Sign In OR. Don't have an account? Sign up! Restore password. Upload from disk. Upload from URL. ANSI Z This manual is to be used by qualified, professionally trained HVAC technicians only. Goodman does not assume any responsibility for property damage or personal injury due to improper service procedures or services performed by an unqualified person. Copyright Goodman Manufacturing Company, L. It is possible, however, that during its lifetime a product may require service. Products should be serviced only by a qualified service technician who is familiar with the safety procedures required in the repair and who is equipped with the proper tools, parts, testing instruments and the appropriate service manual. Carbon monoxide producing devices such as an automobile, space heater, gas water heater, etc. If a furnace or air handler is installed in an enclosed area such as a garage, utility room or parking area and a carbon monoxide producing device is operated therein, there must be adequate, direct outside ventilation. This ventilation is necessary to avoid the danger of CO poisoning which can occur if a carbon monoxide producing device continues to operate in the enclosed area. Carbon monoxide emissions can be re circulated throughout the structure if the furnace or air handler is operating in any mode. To locate an authorized servicer, please consult your telephone book or the dealer from whom you purchased this product. Outside the U. Not a technical assistance line for dealers. Your telephone company will bill you for the call. KBTUH 45, 70, 75, 90, , , , , Downflow application, single stage, induced draft motor, psc

multi-speed motor, integrated control module with diagnostics, hot surface ignition system, multiple roll out switches, pressure switches, aluminized tubular steel heat exchanger, aluminized inshot burners. Multi-position Upflow, Horizontal Left or Right , single stage, induced draft motor, psc multi-speed motor, integrated control module with diagnostics, hot surface ignition system, roll out switches, pressure switches, aluminized tubular steel heat exchanger and inshot burners. Multi-position Upflow, Horizontal Left or Right , single stage, multi-position induced draft motor, psc multi-speed motor, integrated control module with diagnostics, hot surface ignition system, multiple roll out switches, pressure switches, a rotating combustion blower motor that allows venting the furnace through the top panel, right hand side panel and left hand side panel, aluminized steel heat exchanger and inshot burners. Multi-position Upflow, Downflow, Horizontal Left or Right , single stage, induced draft motor, psc multi-speed motor, integrated control module with diagnostics, hot surface ignition system, multiple roll out switches, pressure switches, aluminized steel heat exchanger, aluminized inshot burners, LoNox. Multi-position Upflow, Downflow, Horizontal Left or Right , two-stage gas valve, multi-position induced draft motor, variable-speed ECM motor, integrated control module with diagnostics, hot surface ignition system, multiple roll out switches, outlet air limit switch and LoNox approved. Multi-position Upflow, Downflow, Horizontal Left or Right , single stage, induced draft motor, psc multi-speed motor, integrated control module with diagnostics, hot surface ignition system, multiple roll out switches, pressure switches, aluminized steel heat exchanger and inshot burners. Multi-position Upflow, Downflow, Horizontal Left or Right , single stage, induced draft motor, variable speed ECM motor, integrated control module with diagnostics, hot surface ignition system, multiple roll out switches, pressure switches, aluminized steel heat exchanger, aluminized inshot burners. Downflow application. Single stage, induced draft motor, psc multi-speed motor, integrated control module with diagnostics, hot surface ignition system, multiple roll out switches, pressure switches, aluminized steel heat exchanger, aluminized inshot burners, LoNox, gas and electric connections can be made on the left or right side. Multi-position Upflow or Horizontal , single stage, induced draft motor, variable speed motor, hot surface ignition system, roll out switch, pressure switch, aluminized steel heat exchanger and aluminized inshot burners. Multi-position Upflow, Horizontal Left or Right , induced draft, psc multi-speed motor, integrated control module with diagnostics, hot surface ignition system, multiple roll out switches, pressure switches, multi-position induced draft motor, tubular heat exchanger primary and aluminized inshot burners. Multi-position Upflow, Horizontal Left or Right , twostage gas valve, two-stage induced draft motor, variable speed blower motor, integrated control module with diagnostics, hot surface ignition system, roll out switches, pressure switches, tubular heat exchanger primary and aluminized inshot burners, LoNOx. Multi-position Upflow, Downflow, Horizontal , single stage, induced draft motor, psc multi-speed motor, integrated control module with diagnostics, hot surface ignition system, multiple roll out switches, pressure switches, aluminized steel heat exchanger and aluminized inshot burners. Multi-position Upflow, Horizontal , two-stage gas valve, two-stage induced draft motor, psc multi-speed motor, integrated control module with diagnostics, hot surface ignition system, multiple roll out switches, pressure switches, aluminized Multi-position Upflow, Horizontal Left or Right , singlestage application, induced draft, psc multi-speed motor, integrated control module with diagnostics, hot surface ignition system, multiple roll out switches, pressure switches, aluminized steel heat exchanger and inshot burners. Upflow Only , two0stage gas valve, induced draft motor, psc multi-speed motor, integrated control module with diagnostics, hot surface ignition system, flame roll-out switch, pressure switches, aluminized stell heat exchanger, stainless steel secondary heat exchanger and aluminized inshot burners. Orifices 6 ea. For assB. This furnace must be ce with the manufacturers instructions control switch or knob. Never use tools. If the gas control switch or knob vice agency or the gas supplier. Move the gas control switch or knob 9. Replace control access panel. Remove control access panel. Move the gas control switch or knob to "OFF". Do not force. Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance. If you cannot reach your gas supplier, call the fire department. Use only your hand to move the gas control switch or knob. If the gas control switch or knob will not operate, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water. Refer to the user's information manual provided with this furnace. For assistance or additional information consult a qualified installer, service agency or the gas supplier. This appliance does not have a pilot. It is equipped with an ignition device which automatically lights the burners. Do not try to light the burners by hand. Be sure to smell next to the floor because some gas is heavier than air and

will settle on the floor. Do not touch any electric switch; do not use any telephone in your building. Immediately call your supplier from a neighbor's phone. Follow the gas suppliers instructions. Read the safety information above on this label. Set the thermostat to lowest setting. Turn off all electric power to the appliance. This appliance is equipped with an automatic ignition system which automatically lights the burners. This furnace must be installed in accordance with the manufacturers instructions and local codes. Wait five 5 minutes to clear out any gas. If you then smell gas, STOP! Follow "B" in the safety information above on this label. If you don't smell gas, go to the next step. Move the gas control switch or knob to "ON". Turn on all electric power to the appliance. Set the thermostat to the desired setting. If the appliance will not operate, follow the instructions "To Turn Off Gas To Appliance" and call your service technician or gas supplier. Set the thermostat to its lowest setting. Turn off all electric power to the appliance if service is to be performed. WARNING: If not installed, operated and maintained in accordance with the manufacturer's instructions, this product could expose you to substances in fuel combustion which can cause death or serious illness and which are known to the State of California to cause cancer, birth defects or other reproductive harm. This product contains fiberglass insulation. Fiberglass insulation contains a chemical known by the State of California to cause cancer. For indoor installation. Rated External Static " w. Vent and combustion air diameters may vary depending upon vent length. Refer to furnace installation instructions. NOTES: 1. All furnaces are manufactured for use on VAC, 60 Hz, single phase electrical supply. Vent and com bustion air diam eters m vary depending upon vent length. All furnaces are m anufactured for use on VAC, 60 Hz, single phase electrical supply. Filter Size in2. All models require 18" x 25" filter s for side air installations. Permanent air filters recommended. Both sides or bottom inlet s must be used for applications over cfm. Minimum Maximum Overcurrent Ship. Circuit 2 lbs Ampacity Protection3 Amps Amps 5. Approved for line contact in the horizontal position. Refer to the venting tables outlined in the Installation Manual for additional venting requirements. Remove the vent from the furnace venter blower. Remove the venter blower and collector box. With a stiff wire brush on a flexible handle and remove any loose scale from the heat exchanger at both the flue and burner openings. With a vacuum remove any loose scale dislodged and any additional debris found in the heat exchanger. The main burners should not need adjustment in most instances. However, burner air shutters on some models are provided should adjustment be necessary. After the furnace has been in operation for at least five 5 minutes loosen the air shutter locking screws and close the shutter until yellow tipped flames appear. Slowly open the shutter until the yellow disappears. Retighten the locking screw. Visually inspect the heat exchanger cells for any failures using a bright light. If any failures are discovered it is important to disable the furnace and notify the end user that it remains inoperable until repairs are implemented. Reassemble the furnace in the reverse order. Note: No additional screws or wires are supplied. All components must be reassembled to avoid an unsafe condition. Reconnect gas supply and check for leaks using a soap solution. If a flexible gas line is used examine it for cracks or weakness. Replace if necessary. Restore electrical power. The circulating air blower is equipped with bearings that are permanently lubricated by the motor manufacturer and require no lubrication. At the time of the monthly filter inspection clean the exterior of the circulating motor, especially around the perimeter air holes to prevent the possibility of overheating due to an accumulation of dust or dirt on the windings and motor casing. Dirty filters will restrict the air flow over the motor windings and possibly cause an overheating condition. The induced draft vent motors are prelubricated by the motor manufacturer and require no attention. To clean the heat exchanger perform the following: 1. Adjust the room thermostat to its lowest setting. Turn off the gas and electric supply to the furnace. Prior to inspecting air filters, turn off the electric supply to the appliance. Instructions for replacing filters can be found in the Installation and Operating Instructions. Do not operate the furnace without air filters in place. Inspect filters monthly. Failure to change air filters regularly can result in permanent damage to the circulating blower motor and adversely effect the furnace performance. Disconnect the gas supply line attached to the gas valve. Remove the wire connected to the gas valve. Remove the burner box assembly. Care must be exercised to avoid damage to any components. Inshot burners should not require cleaning. However, if they exhibit signs of corrosion they can be cleaned by brushing with a stiff wire brush. Inspect the drain system during the normal monthly filter change. Any blockages should be corrected to insure proper operation of the furnace. Integrated control boards are not field servicable. Check for tight wire connections on the integrated control board. Turn off electrical power to furnace before tightening any electrical connections. The preceding sections cover specific areas of maintenance; however, on a regular basis the following should be inspected: 1. Return air connection s must be sealed to the furnace and terminate outside the furnace room. The return air plenum s must be free of holes or other openings and show no signs of distortion. The seal

between the furnace and the base or flooring to which the furnace is mounted should show no signs of deterioration, sags, cracks or gaps and must provide a definite seal between the base or flooring and the furnace. Check that the vent and vent connector are securely attached to the furnace and show no signs of deterioration or sagging. Check for leaks around the fittings or joints. Check for proper vent pipe clearance from combustible materials. Check vent pipe for proper venting to the outside of the structure. Follow all local code requirements for proper vent piping, termination and required clearances. Seconds for One Revolution 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 Using an ohmmeter to check continuity of any suspected open wires. If any wires must be replaced, replace with AWM, C. Remove cover from Junction Box and gain access to incoming power lines. With Power ON: 1. Remove the blower compartment door to gain access to the thermostat low voltage wires located at the furnace integrated control module terminals. Remove the thermostat low voltage wires at the furnace control panel terminal board. Jumper terminals R to W W1 and W2 on the integrated ignition control. Using a voltmeter, measure the voltage across the hot and neutral connections. No reading - indicates open wiring, open fuse, no power, or etc. Repair as needed. With ample voltage at line voltage connectors, energize the furnace blower motor by jumpering terminals R to G on the integrated ignition control. With the blower motor in operation, the voltage should be volts 10 percent. If the reading falls below the minimum voltage, check the line wire size. Long runs of undersized wire can cause low voltage. If wire size is adequate, notify the local power company of the condition. Turn on electrical power and verify proper unit operation. Induced Draft Motor must run and pull in pressure switch. If the hot surface ignitor heats and at the end of the this ignitor warm-up period the gas valve opens and the burners ignite, the trouble is in the thermostat or wiring. With power off, check the continuity of the thermostat and wiring. Repair or replace as necessary. If checking the furnace in the air conditioning mode, proceed as follows. With power off, Jumper terminals R to Y to G. Turn on the power. If the furnace blower motor starts and the condensing unit runs, then the trouble is in the thermostat or wiring. S-3B Heating Anticipator The heating anticipator is a wire wound adjustable heater which is energized during the "ON" cycle to help prevent overheating of the conditioned space. Check wiring visually for signs of overheating, damaged insulations and loose connections. The anticipator is a part of the thermostat and if it should fail for any reason, the thermostat must be replaced. If the anticipator current draw is unknown, then an amp draw should be taken to determine the anticipator setting. Use an amprobe as shown in the following drawing. Check transformer primary voltage at incoming line voltage connections, fuse, splices, and blower door interlock switch. If line voltage is available to the primary side of transformer and not at secondary side, the transformer is inoperative. The illustration below shows how to test limit controls. Low air flow. Check for dirty evaporator coil, dirty blower wheel, blower motor not running or turning too slow, high duct static pressure duct system undersized , high static air filters, return air duct or return grilles undersized. S-3C Cooling Anticipator The cooling anticipator is a small heater resistor in the thermostat. During the "OFF" cycle it heats the bimetal element helping the thermostat call for the next cooling cycle. This prevents the room temperature from rising too high before the system is restarted. The anticipator is fixed in the subbase and is not to be replaced. If the anticipator should fail for any reason, the subbase must be changed. Remove burner compartment door to gain access to the primary limit. Remove low voltage wires at limit control terminals. With an ohmmeter, test between these two terminals as shown in the following drawing. Should read continuous unless heat exchanger temperature is above limit control setting. If not as above, replace the control. Remove blower compartment door to gain access to the thermostat low voltage wires located at the furnace integrated control module. Remove the thermostat low voltage wires at the furnace integrated control module terminals. As shown in the following drawing, limit control should read continuous unless the heat exchanger temperature is above limit control setting. To aid in identifying these controls, refer to the following Primary Limit Charts for temperature setting and length specifications. This control is preset to open at F and close at 90F. It is not adjustable and automatically resets. The control is located in the blower compartment of the furnace on the blower housing. Auxiliary limits may be on the side or front of the blower housing. Auxiliary Limit Control Location Side location shown GMP furnace with the edge card control board is connected in series with the primary limit which connects to the integrated ignition control. Interruption of the circuit will cause a 4 flash code on the control board. These symptoms are identical to a trip of the primary limit control. The air circulation blower will run continuously. Interruption of the circuit will cause a 1 flash code of ignition failure. If its temperature should be exceeded, it will open, interrupting the voltage to the gas valve causing it to close. The auxiliary limit control is designed to prevent furnace operation in case of main blower failure. It may also open if the power supply is interrupted while the furnace is firing,

Remove blower compartment door to gain access to the auxiliary limit control which is located on the blower housing or on the blower deck. Remove the wires from the auxiliary limit control terminals. Use an ohmmeter, test for continuity across the two terminals refer to the following auxiliary limit control figure. No reading indicates the control is open. Verify proper operation of blower motor and static pressure of duct system. Problem could be caused by a dirty evaporator coil. The control is designed to open should a flame roll out occur. An over firing condition or flame impingement on the heat shield may also cause the control to open. On some models the ignition control diagnostic light will flash 1 one time indicating a trip of the rollout switch. These symptoms are identical to a trip of the auxiliary limit control. On other models the ignition controls diagnostic light will flash 4 four times indicating an open primary limit, rollout switch, auxiliary switch or stack overtemp switch open. Check the flash codes for the model you are working on. The circuit between the ignition control and gas valve will be interrupted when the rollout switch opens up. Refer to the Rollout Limit Charts on the next page for temperature settings and part numbers. Remove the burner compartment door to gain access to the rollout switch es mounted to burner bracket. The servicer should reset the ignition control by opening and closing the thermostat circuit. Then look for the ignitor glowing which indicates there is power to the ignition control. Measure the voltage between each side of the rollout control and ground while the ignition control tries to power the gas valve. Measure the voltage between each side of the rollout control and ground during the ignition attempt. Refer to the following figure. Locations of the rollout switch may vary. If no voltage is measured on either side of control it indicates ignition control or wiring to control problem. If voltage is measured on one side of the control and not the other it indicates the control is open. If voltage is measured on both sides of the control the wiring to gas valve or valve is a fault. Energize furnace for heating cycle. The induced draft blower motor will begin to run. The inclined manometer should read a negative pressure. If not as above, replace control. Reconnect wires to the control and place in a heating cycle. NOTE: See the following pages for the pressure switch trip points and usage charts. Remove burner compartment door to gain access to pressure switch es. Remove wires from the pressure switch es electrical terminals. If switch reads as above proceed to Step 4, otherwise replace control. Remove the pressure control hose from the control and interconnect with an inclined manometer as shown in the following figures. High Fire Negative Pressure MODEL 0 to 8, ft. Negative Pressure Part. Relay contacts on control functions must reliably switch low currents less than 5 MA. Some thermostats with triac switches and Solid State Relays may allow enough "leakage" current to turn on "G". Thermostats that "steal" power thru "Y" or other functions are not compatible. The ECM control interface can be as simple as a direct connection to the thermostat. In typical applications C1 and C2 will be tied together. The control is powered continuously to insure reliable start-up. The connector plug is polarized, verify and reverify correct connector orientation before applying power. DO NOT force plug into motor and make sure power is off before inserting power connector. DO NOT apply voltage to terminals 1 or 2. Remove blower compartment door to gain access to the circulator blower motor and induced draft blower motor wire leads connected at integrated ignition control. Disconnect the motor wire leads from its connection point at integrated ignition control module and capacitor if applicable. Using and ohmmeter, test for continuity between each of the motor leads. Touch one probe of the ohmmeter to the motor frame ground and the other probe in turn to each lead. If the windings do not test continuous or a reading is obtained to ground, replace the motor. These motors use an electronic control module attached to the motors end bell to control motor operation. Some unique features of these motors are: 1. Constant Airflow. These motors will maintain constant airflow in excess of. Because this motor does not load up and reduce airflow like a PSC motor, in some undersized duct installations this may cause noise or high airflow complaints. These motors ramp up and down at the beginning or end of a cycle to reduce air rush noise. High voltage is present at these motors all the time. Motor operation is controlled through the low voltage motor interface board. Check for line voltage on terminals 4 and 5. Verify terminal 3 is ground. Terminals 1 and 2 are jumpered in the harness for VAC operation. Make sure connector is fully seated. Make sure pins are fully seated in connector housing. Verify C1 and C2 are connected to transformer common. Verify "R" is connected to transformer hot. After verifying above connections, motor can be tested by applying 24 volts to control pins. If motor does not respond as noted, ICM control unit is bad and should be replaced. Wait 5 minutes after disconnecting power before opening motor. Is condensate drain plugged? Check for low airflow too much latent capacity. Check and plug leaks in return ducts, cabinet. You must use the correct replacement control motor module since they are factory programmed for specific operating modes. Even though they look alike, different modules may have completely different functionality. Check for undercharged condition. You must have the correct replacement module. The controls are

factory programmed for specific operating modes. Using the wrong control module voids all product warranties and may produce unexpected results. Remove all power from the unit being serviced. Install the new control module back on the motor being careful to engage the locating pin into the appropriate mating motor hole. Tighten the bolts snugly. It is not necessary to overtighten. Is there any evidence of water damage to the failed control? Corrosion on the inside or outside of the casting. If yes, do moisture check. Plug the pin control plug into the motor. The plug is keyed. Make sure the connector is properly seated and latched. Plug the 5 pin power connector into the motor even though the plug is keyed, observe the proper orientation. Do not force the connector. It plugs in very easily when properly oriented. Reversing this plug will cause immediate failure of the control module. Final installation check. Make sure the motor is installed as follows: a. As far into the blower housing as possible. Belly bands not covering vent holes or on the control module. Motor connectors should oriented as to prevent the accumulation of moisture in the control. Use wire ties to create a drip loop in the motor cables. The installation is now complete. Reapply power to the furnace and verify that the new motor control module is working properly. Do NOT work on the motor with power applied. Wait at least 5 minutes after disconnecting power from the equipment before opening the motor. It is usually not necessary to remove the motor from the blower assembly. However it is recommended that the whole blower assembly, with the motor, be removed. Unplug the two cable connectors to the motor. There are latches on each connector. Do not pull on the wires. The plugs remove easily when properly released. Observe the flat end of the motor control module casting and located the two standard " hex head bolts. Remove these bolts from the motor while holding the control module. Do not remove the two torx head screws. The control module is now free of the motor but still attacked by a plug and cable. Carefully rotate the control so as to gain access to the plug on the end of the cable. Squeeze the release latch and gently pull the plug out of the control module. Grip the plug only. The control module is now completely detached from the motor. Verify with a standard ohmmeter that the resistance from each motor lead in the motor plug just removed to the motor shell is greater than k ohms. Measure resistance to unpainted motor end plate. If any motor lead fails this test do not proceed to install the control module. The motor is defective and must be replaced. Installing the new control module will cause it to fail also. Verify that the replacement control module is correct for your application. If so, orient the new module next to the motor and carefully insert the plug removed in step 5. Be sure the plug latches. It will click when properly inserted. A run capacitor is wired across the auxiliary and a portion of the main windings. The capacitors primary function is to reduce the line current while greatly improving the torque characteristics of a motor. This is accomplished by using the 90 phase relationship between the capacitor current and voltage in conjunction with the motor windings so that the motor will give two phase operation when connected to a single phase circuit. The capacitor also reduces the line current to the motor by improving the power factor to the load. Two quick ways to test a capacitor are a resistance and a capacitance check. Refer to the next two figures for proper meter connections for the resistance and capacitance testing of the capacitor. Remove blower compartment door to gain access to capacitor. Discharge capacitor and remove wire leads. Set an ohmmeter on its highest ohm scale and connect the leads to the capacitor. A digital meter with built-in capacitance can be used or an analog meter shown above. Good Condition - indicator swings to zero and slowly returns toward infinity. Shorted - indicator swings to zero and stops there - replace. Open - no reading - replace. Reverse leads. Check again no reading - replace. Reverse leads and recheck. Gas valves provide control of main burner gas flow, pressure regulation, and percent safety shut-off. Gas valve should have 24 volts with a call for heat. If you have 24 volts at the gas valve and it will not open, replace. No voltage at the gas valve indicates a problem somewhere else in the system. Gas pressure on the inlet and outlet side of the gas valve should be checked and adjusted when needed. NOTE: Failure to earth ground the furnace, reversing the neutral and hot wire connection to the line polarity , or a high resistance connection in the neutral line may cause the control to lockout due to failure to sense flame. Remove burner compartment door to gain access to the ignitor. Disconnect the ignitor from the Ignition Control. Using an ohmmeter measure the resistance of the ignitor. Ignitor cool should read between 40 to 75 ohms. Reconnect ignitor. The ground wire must run from the furnace all the way back to the electrical panel. Proper grounding can be confirmed by disconnecting the electrical power and measuring resistance between the neutral white connection and the burner closest to the flame sensor. Resistance should be less than 10 ohms. The ignition control is a combination electronic and electromechanical device and is not field repairable. Complete unit must be replaced. Place unit in heating cycle, measure current draw of ignitor during preheat cycle. Should read approximately 4 to 4. If ignitor is receiving Volts and will not light, replace. These tests must be completed within a given time frame due to the operation of the ignition control.

Refer to Sequence of Operation section of this manual. The ignition control is capable of diagnosing many furnace failures to speed troubleshooting. A flashing red diagnostic indicator light on the control flashes a code for any discovered failures. When the control is powered up normally, the light will be solid red for normal operation. This can be used to test for volts and 24 volts to the control since both must be present for the light to flash. If this step fails, check for volts to the control, check the fuse and check the transformer and its associated wiring. See the flash codes shown on the following pages of this manual. This device ignites the burners upon a call for heat. It also controls the venter blower and the various speed selections and timings of the circulating air blower. This control is located in the circulating air blower compartment. Upon a demand for heat the venter motor is energized. After a short purge, the electronic ignition device is energized. The burners are ignited and after a short delay, the burner flame is proven. The circulating air blower is energized approximately 30 seconds after the burners are ignited. A field selectable fan off timer will turn the circulating air blower off. If proof of flame is not present the control will de-energize the gas valve and "retry" for ignition or lockout. The following drawing illustrated from a bottom view, the approximate distances for the ignitor and flame sensor to the gas inshot burner. This may vary on different models. You will note they are in the main burner stream. Be sure the negative side of the meter is connected to the wire and the positive side of the meter is to sensor terminal. Digital Meter. Place the unit into a heating cycle. As soon as flame is established a micro-amp reading should be evident once proof of flame micro-amp reading is established, the hot surface ignitor will be deenergized. The integrated ignition controls will have 1 to 4 microamps. If the micro-amp reading is less. Check for high resistance wiring connections, sensor to burner gap, dirty flame sensor, or poor grounding. Clean flame sensor with steel wool or emery cloth before replacing any components. DO NOT use sandpaper. See note below. Disconnect the flame sensor wire from the sensor terminal. Connect a micro-amp meter in series with this wire and the sensor terminal. See next illustration. NOTE: Contaminated fuel or combustion air can create a nearly invisible coating on the flame sensor. This coating works as an insulator causing a loss in the flame sense signal. If this situation occurs the flame sensor must be cleaned with steel wool or emery cloth. Proper ignition, combustion, and extinction are primarily due to burner design, orifice sizing, gas pressure, primary and secondary air, vent and proper seating of burners. We have used several in shot burner designs over the years and illustrated in the following illustrations. In checking main burners, look for signs of rust, oversized and undersized carry over ports restricted with foreign material, etc, refer to previous drawing. Other older main burners shown below should not need adjustment in most instances. However, burner air shutters are provided should adjustment be necessary. Now slowly open the shutter until the yellow disappears. NOTES 1. Wiring is subject to change. Always refer to the wiring diagram on the unit for the most up-to-date wiring. Open navigation menu. Close suggestions Search Search. User Settings. Skip carousel. Carousel Previous. Carousel Next. What is Scribd? Furnace GMP Series. Uploaded by Eduardo Ornelas. Document Information click to expand document information Date uploaded Mar 25, Did you find this document useful? Is this content inappropriate? Report this Document. Flag for inappropriate content. Download now. Related titles. Carousel Previous Carousel Next. Process Engg Practices to be used in the refinery industry. Principles of Heating Ventilating and Air Conditioning. Energy-saving house utilizing photovoltaic systems. Jump to Page. Search inside document. CO can cause serious illness including permanent brain damage or death. B To locate an authorized servicer, please consult your telephone book or the dealer from whom you purchased this product. Speeds 4 4 3 3 4 4 4 4 Filter Size in2. Permanent x x x Minimum Maximum Overcurrent Ship. F

2010 ezgo rxv wiring diagram
2000 cadillac escalade brake light switch
2005 jeep grand cherokee drive belt diagram

ollow the lighting instructions to place the furnace into operation. NOTE: Connectors are oriented "down" or as recommended by equipment manufacturer. Arrange harnesses with "drip loop" under motor. Digital Meter 2, B Wiring is subject to change. PS GV 2. NOTE: Wiring is subject to change. Ted Ollikkala. Pratik Thakore. Laxmikant Sawleshwarkar. Deepak Sreekumar. Fran Smith. Mohamed Youssef. Pravin Kumar. Ramchandra Thapa. Romel ZR. Marco Antonio Miranda Rodriguez. Robinson Sanchez. Vladimir Zaljevski. Nzar Hama. Exo Dous. Popular in Building Engineering. Babu Aravind. Rashid Kayum. Vivekanandan Mahendran. Anonymous 6NyZVml7Te. Raakze Movi. Lantika Arinamurti Rivayanti. Vivek Saraswat. Pawan Babel. Federico De Martini. Mohmmad Shaikh. Jorge Gustavo. Dewy Cos. Amy Griffin. Taufik Gunawan. Hugo F. Barrera Alvarado. Ayingaran Thevathasan. Vu Thanh Thuong. Hugo Pinargote. Bogie Prastowo Mahardhika. Quick navigation Home. Collapse section Share Share