

Installation Instructions For "B" Series CHAMBERS GAS RANGES

DELIVERY TO DEALER OR DISTRIBUTOR: All shipments are made F. O. B. Shelbyville and any claims for damage must be filed by the consignee. It is important that each range be carefully inspected at the time it is received by the dealer or distributor. Porcelain panels can be inspected easily through the crate openings and notation of any damage made on the freight bill. If necessary, a representative of the delivering carrier can be called in to make his own inspection and report, which can be supplemented by the usual formal claim. Damage of concealed nature (that is, not noticeable until the time of uncrating) can be called to the attention of the carrier in the same manner by notification of intent to file claim. Any papers necessary in the filing of a concealed damage claim will be furnished by Chambers Corporation upon application.

DELIVERY TO USER: To remove the crate, the up-rights should be sawed off just above the crate bottom; the entire crate, with the exception of the bottom, can then be lifted from the range. ANY OTHER METHOD OF REMOVING THE CRATE IS LIKELY TO RESULT IN DAMAGE TO THE PORCELAIN ENAMEL. The leg bolts, leg bolt nuts, base panel bolts and nuts, and base holders are found in the Thermowell wrapped in paper. The cooking top (if it is porcelain enamel) is protected with Vaseline, which can be removed by wiping thoroughly with a clean dry cloth. Acid fumes are injurious to porcelain, therefore ranges must not be stored where fumes are present.

Place the range on a pair of small trestles and remove the crate bottom by taking out the four crate bolts holding it, then throw these bolts away. Place the lock nuts on the leg bolts, then screw the bolts into the tapped holes adjacent to the square holes from which the crate bottom bolts were removed. Before attaching the base, and after the range is in position in the home, level the range by adjustment of these bolts. Be sure the lock nuts are tightened against the corner plates after the bolts are in place.

The base package located in the front of the range crate contains three enameled panels. This base should be assembled as a unit before attempting to install it on the range, bolting the two end panels to the front panel by the four bolts and nuts found in the Thermowell. Be sure the end base panels are assembled with the small clips, which are welded on the inside of the panels, to the rear of the range where they engage with the base holders. The base holder plates are bolted in place at the rear corners of the range where two tapped holes are located in the back lower body band to receive the bolts. Since these holders are not interchangeable, they must be assembled with the short flanges projecting to the side and pointing toward the front of the range, so that they will receive the clips welded on the inside of the base side panels. After the base assembly has been slipped under the range and is in position on these holders, the front base panel is bolted to the front bottom band by two bolts. On the 15-BFW model, two hex head bolts pass upward through the upper flange of the front base panel into the lower body frame, to hold the base in place.

SILVERLITE BACK: The Silverlite back when unpacked, is assembled complete, ready to be installed on the range. Attaching parts necessary will also be found in the container. The supporting brackets are bolted to the back of the range by the two upper bolts on each side which also hold the body back in place. These must first be removed, then replaced through both the Silverlite back brackets and the flue back. An extra bolt goes through each bracket into the cooking top.

Four bolts with spacers attach the upper body back and enameled Silverlite back splasher to the cast iron cooking top. These are put in place through four holes across the bottom of the false back, the spacers acting as guides to keep the bolts in position until they are tightened.

Before the 15-BFW Silverlite Back can be installed, the porcelain top rail or balustrade must be removed, also the insulated back shield which is held in place by four bolts with square washers. After the back assembly has been bolted to the range as described above for the regular Silverlite Back, replace the insulated back shield and balustrade.

STANDARD BACK: This back is bolted on by four bolts through the back brackets into four tapped holes in the body back. It is complete, ready for assembly when removed from the carton. A small set screw is provided on each bracket for adjustment so that the back is in alignment with the range.

GAS HOOK-UP: It is recommended that the hook-up be made by using flexible tubing with proper connections and fittings. (Note: On the 15-BFW model a flexible copper tube is part of the manifold inside the range; thus, standard gas pipe may be used in the hook-up outside the range to the point where it enters the back of the range. The opening in the back panel of the No. 15-BFW range is 11 3/4" from the floor and 7 1/2" from the right end of the range, which is to the right of a person facing the range in front. The above measurements are to the center line of the manifold opening.)

Before the gas has been turned into the range, be sure that both the top pilot and Thermowell pilot gas cocks in the manifold are shut off.

OVEN BURNER, PILOT, AND THERMOSTAT ADJUSTMENT: Set the thermostat at 500°, turn gas on full, and light the oven. Adjust the flow of gas by turning the orifice cap down on the mixer pin to reduce the flow of gas or vice versa. The primary air is controlled by the air shutter on the end of the burner. After the air adjustment is completed, be sure to lock the shutter in position by the screw provided. A 3/4" SOFT BLUE CONE FLAME MUST BE OBTAINED AT EACH PORT. Adjust the oven pilot flame to approximately 3/4" in height by turning the small thumb lever on the right hand side of the thermostat, just inside the cabinet door opening.

Turn the thermostat dial back to 70° and adjust the by-pass by turning the thumb lever on the left hand side of the thermostat inside the cabinet door opening, until the flame at each port is approximately 1/2" in height; or just enough that the flame will not go out when the oven door is opened and closed in a normal manner.

To calibrate the oven, place a reliable thermometer in the center of the oven and set the dial at 400°. Take a first reading at the end of twenty minutes, and additional readings at twenty-five and thirty minutes from time of lighting. If the three readings correspond, the oven is in calibration. If, however, the temperature reading is more than 25° from the dial setting, carefully loosen the set screw in the underneath side of the dial handle and pull the dial straight off the shaft. Replace it at the correct temperature setting, being careful not to move the thermostat shaft while the change is being made and tighten the screw.

BROILER BURNER ADJUSTMENT: Remove the back burner drip ring and adjust the flow of gas and air by the orifice cap and mixer shutter, respectively, as with the oven burner. A $\frac{3}{8}$ " blue flame should be obtained. After the air adjustment is completed, be sure to lock the shutter in position by the screw provided.

THERMOWELL BURNER AND PILOT ADJUSTMENT: Adjust the Thermowell pilot flame to approximately $\frac{1}{2}$ " in height by the petcock in the manifold. Adjust the burner by the orifice cap and disk air shutter in the throat of the burner until a $\frac{3}{8}$ " soft blue cone flame is obtained. The thumb nut on the primary air adjustment bolt must be locked securely after the adjustment is made.

TOP BURNER ADJUSTMENT: Adjust the top pilot flame by the petcock in the manifold until a $\frac{1}{2}$ " flame is obtained. Be sure that the flash tubes are firmly in place in the burners. Adjust each top burner by the orifice cap and primary air shutter so that a $\frac{3}{8}$ " soft blue cone flame is secured at each port, being careful that the thumb nut is locked after the proper primary air adjustment has been made. (Should difficulty be experienced with fluctuation of pilot light it might be caused by excess lubricant in pilot petcock and can be eliminated by heating (with small flame or match) the petcock so as to free the flow of gas in the valve.)

For the convenience of those having a meter at their disposal, the following BTU ratings should be secured by adjustment of each of the burners listed:

Thermowell burner	9000 BTU per hour
Top burners	9000 BTU per hour
Broiler burner	21000 BTU per hour
Oven burner	21000 BTU per hour

CHECK TUBING: When installation has been completed, all tubing should be checked for leaks at joints. Any leak found can be corrected by tightening the joint.

FLUE COLLAR: When specified for chimney connection, a flue collar is packed in the Thermowell which can be installed on the body back in the central opening at the top. The top flange of the collar hooks behind the top edge of the opening and the collar is held in place by one screw through its bottom flange. Even though a range may not be originally equipped for chimney connection, conversion in the field can be easily made by simply removing the one screw which attaches plate over flue opening in the body back and installing collar with same screw. Also a long plate (furnished with flue collars ordered from factory) must be installed over the two central vent openings in the top of the body back so as to divert the oven exhaust away from the top and through the chimney connection.

IMPORTANT: Patented flue caps carrying water cups or packed with steel wool, etc, should never be used or tolerated, as they might prove an obstruction of the ventilation necessary for the proper combustion in the oven.

REPLACEMENT OF PANELS

SERVICE POLICY: Porcelain enamel is essentially glass and is therefore breakable like any ordinary piece of glassware. Before ranges leave the factory they are thoroughly inspected and are in A-1 condition when turned over to the transportation companies.

We cannot assume responsibility for damaged enamel and accordingly suggest that dealers (for self-protection) file claim locally with the delivering carrier for any porcelain damage that may show upon delivery. By following this procedure, full recovery for the value of the parts involved may be obtained from the transportation company.

Credit cannot be allowed for chipped porcelain; therefore please do not return such parts to the factory as they will not be accepted. No parts are to be returned without approval of authorized factory representatives or written factory authority. In such case it is understood that returns will be made prepaid.

MAIN FRONT PANEL: The porcelain front is held in place by eight bolts—three at the top, three at the bottom and two located on either side of the thermostat. One is reached through the hole in the front of the broiler box on the left side; one through the left front top burner opening in the center of the range; one through the right top burner hole on the right hand side. The two by the thermostat may be reached from the cabinet compartment. The three bottom nuts are found; one in the inside cabinet front, which can be reached in the cabinet compartment, and the other two in the cast oven front under the baffle plate in the oven. By loosening the set screws of the griddle lift handle, the broiler lift handle, the thermostat dial and handle, and the six gas valve handles, these can be removed easily. The thumb plates can be removed singly by lifting and pulling outward on them at the same time. The oven door keeper is taken off by inserting a long pin in the hole in the flat side and backing it off the threaded stud on which it is mounted.

END PANELS: The two porcelain end panels are interchangeable. They can easily be taken off by loosening two hexagon nuts in the bottom edge of each panel, pulling it out at the bottom, and letting it slide down from under the cooking top.

OUTSIDE OVEN DOOR PANEL: Remove the inside oven door lining by taking out the four bolts and asbestos washers from the four corners of the lining, also the entire amount of rock wool. The oven door handle block is removed by taking out the three bolts, being careful not to lose the small sleeves which fit between the door block and the cast iron door frame on the two top bolts. Remove four nuts at the corners of the cast frame.

Important! When replacing this panel and packing the rock wool in the door, the wool must be evenly and carefully distributed for the proper retention of heat.

CABINET DOOR PANEL: First, release the two springs which are attached to the cabinet door hinge leaf, then remove the four bolts and asbestos washers from the inside cabinet door lining.

STANDARD TOP COVERS (11-B and 12-B): Release the two springs on the rear of the range and remove the two bolts from each hinge which hold them to the cooking top. The top cover as a unit can then be removed. If necessary, the balustrade can be removed by taking out one small bolt at each end. Either half of the top cover can be dismantled by removing the small screws holding the reinforcements to the top cover, while the assembly is inverted upon some clean, smooth surface.

SILVERLITE TOP COVERS (14-B, 15-B and 15-BFW): This top cover can be removed by taking out two bolts in each of the three hinges located in the back edge of the cooking top. Also, when necessary, disconnect counterbalance spring running from spring lever to top pilot shield.

SILVERLITE BACK: All assembly bolts are visible and easily accessible for dismantling this back.

CHANGEOVERS

When changing from natural gas to manufactured or mixed, or vice versa, it is only necessary to change all orifice caps.

When changing to bottled or butane gas, the top burners and drip rings must be replaced, and the position of the burners raised by adjustment of the top burner brackets. The Thermowell burner should also be changed and both Thermowell and top burner pilots disconnected and removed. All orifice caps must be changed and the needle points removed from the mixer pins. The reverse is true when changing to some other gas from bottled or butane.

When installing fixed orifice caps for bottled or butane gas a drop of shellac should be placed on the mixer pin to seal the cap in place and prevent leakage. Also, all joints, connections and gas cocks should be carefully rechecked for leaks.

DISMANTLING OF ASSEMBLIES, ETC.

BODY BACK: The body back is held in position by three bolts in each corner angle, and two in the center reinforcement brackets at the top.

COOKING TOP: Remove back assembly, also the body back. The porcelain main front panel must be removed, as described elsewhere, also the left end panel. Take out all top burners, grates and drip rings; the Thermowell burner and grate; and the broiler burner, pan, and griddle.

The cooking top is held in place by three hexagon head bolts in the front and two oval head bolts at the extreme rear corners. The left front bolt can be easily reached through the square hole in the front of the broiler box where the head is visible; the center front bolt through the left front burner opening; and the right front bolt through the right front burner opening. Disconnect all tubing (except that of the oven) from the mixer pins, including the tubing of the top and Thermowell pilots. The Thermowell damper connecting rod which runs from the valve handle to the damper in the rear must be disconnected from the damper lever. One bolt located just to the left of the broiler adjusting handle shaft at the front of the range must be withdrawn also.

The broiler burner counterbalance spring must be disconnected by backing off the nut on the end of the spring eye bolt at the eye bolt bracket. Take out one of the bolts holding the broiler burner shaft end spring retainer, releasing the spring so it can be taken out.

The complete top assembly can be moved straight back about four or five inches and lifted from the range. Be sure the broiler burner shaft is held in close to the broiler box so that it does not catch on the left body end. If necessary, the body end can be pulled out a little to allow the end of this shaft to pass.

When removing the broiler box or Thermowell assembly, the top should be inverted on some clean, smooth surface.

Care of Cooking Top: Anything spilled on the top when it is in use should be wiped off as soon as possible with a damp cloth. Do not use cold water if the top is hot.

BROILER BOX: The broiler box can be removed from the top by taking out seven bolts: three on each side and one at the front.

THERMOWELL UNIT: The Thermowell is held in place by three bolts: two at the rear and one at the front. The Thermowell inside hull can be removed from the outside hull by taking off the outside bottom and the damper.

OVEN DOOR: Remove oven door panel as described above. This exposes the ends of the split rivets which connect the stop rods to the cast oven door frame as well as those by which the door frame is attached to the inside cast oven front. Compress the split ends and withdraw the rivets, but do not let rod spring back through slot into inside of range.

OVEN DOOR SPRINGS: The springs can be withdrawn from the back of the range after the body back has been taken off. They are held in place by two nuts on the rear ends of each of the door stop rods. Remove these nuts, pull the housing out slightly until the spring can be reached, then withdraw the spring without letting the door stop rod slip back through the slot in the cast oven front.

TOP PILOT: Disconnect the aluminum gas tube from the petcock at the manifold, also remove the flash tubes. Take out the two screws which hold the top pilot bracket to the cooking top, thus freeing the pilot assembly. Of course, if the pilot is to be removed permanently, the petcock should be removed and the hole plugged.

THERMOWELL PILOT: Disconnect the aluminum gas tube from both the petcock and the lower end of the pilot head under the Thermowell. Remove lock nut from bottom end of pilot head so that head can be withdrawn from inside the well. The petcock should be taken off and the hole plugged, if the pilot is removed permanently.

NOTE—If changeover to bottled gas is being made and range has pilot filter, remove both pilots and the pilot filter, plugging the hole in the manifold where the filter was inserted.

THERMOSTAT: The thermostat is held in place by one screw which is easily accessible through the right front top burner opening. After the two gas tubes and the oven lighter tube are disconnected from the thermostat, it can be lowered and laid on the cabinet bottom while the capillary tube and bulb are withdrawn through the wall of the oven. Use extreme care during this latter operation, as the capillary tube and bulb are sensitive and damage to them makes the thermostat useless.

BROILER BURNER: To remove the broiler burner, after taking off the griddle, loosen the small set screw on the back of the broiler burner which passes through the yoke of the burner and against the broiler shaft. Pry the burner and the shaft apart until the yoke of the burner is released from behind the pin which goes through the shaft. The burner can then be pulled to the left off the mixer pin and out of the broiler box. The burner is replaced the reverse of the above, and care must be taken to see that the inner end of the broiler burner shaft passes through the support bracket and into the socket in the neck of the broiler burner.

If, after the broiler burner is replaced, the griddle strikes on the cooking top on either side so as not to let it rest in the proper recess, adjustment is provided by the broiler burner locator, which is a small metal plate on the under side of the broiler burner yoke, held in place by two screws. First loosen the small set screw on the back of the burner, then the two screws which hold the locator. Pull the burner slightly to either side at the front end, away from the side on which it strikes. Hold the burner steady until the locator screws are tightened, then tighten the set screw.

GRIDDLE: If the griddle plate does not appear to be level either before or after use, it can be easily leveled by hand by striking it diagonally across the edge of a

table or bench while it is cold. When the griddle is replaced on the broiler burner, the two small set screws on top of the broiler burner should be adjusted so that they just touch the bottom of the plate, in which position they can be locked by the lock nut provided. (See Chambers Cook Book for further instructions on care of griddle.)

RACK RUNNERS: Each runner is held in place by only one bolt through the back flange. The front flange slips in behind the edge of the cast iron inside oven front. The head of the bolt holding the left runner in place can be reached by removing the left end panel. The head of the bolt holding the right rack runner in place is accessible from the cabinet compartment.

GRIDDLE LIFT HANDLE ADJUSTMENT: First, remove the left end panel. Adjustment of the griddle lift handle can be made by loosening the lock nuts on the bolt at the broiler shaft spring casting and adjusting the link so that the griddle lift handle hangs vertically when the griddle is in the down position.

SPECIAL INSTRUCTIONS ON OVEN THERMOSTAT

It is rare to find a thermostat that is actually defective and when trouble is experienced, it is usually traceable to one of the following causes:

1. If the thermostat dial is binding on the front panel, it will not cut off at lower temperatures. The set screw which holds the handle and dial in place should be loosened and the dial pulled straight out on the shaft until it no longer binds. Tighten the set screw, being careful not to move the dial from its original setting.

2. Dirt under the valve seat will prevent the thermostat from cutting down to by-pass. This can be remedied by removing the large hexagon nut on the back of the thermostat which releases the valve spring and disk. Clean the inside of the thermostat and the face of the disk with a dry cloth and reassemble. Be sure that the spring and disk go back in place exactly as they are removed.

3. By-pass and safety pilot adjustments can not be made too carefully according to instructions given in this sheet. Poor adjustment of either one does not give the most efficient and economical operation.

4. Improper calibration is most frequently the cause of difficulty with the thermostat. While we make preliminary adjustments of the thermostat before the range leaves the factory, it should always be checked again at the time of installation according to instructions given in this sheet.

5. Any damage to the capillary tube or bulb allowing the charge to escape makes the thermostat inoperative. This can only happen if the thermostat is mishandled by someone not realizing this.

The unit should never be disassembled beyond the occasional removal of the hexagon nut for cleaning.

Any thermostat returned to the factory will be carefully tested. If, for any reason, it is found to be actually defective, credit will be given but it must reach us in good condition, without the capillary tube in any way damaged or kinked. Any mechanical damage due to carelessness in dismantling and packing will be charged according to the extent of the damage. There will be a 50c minimum charge on each thermostat returned excepting, of course, any that may be actually defective.

If the few simple instructions given herein are followed, no trouble will be had with thermostats.