Technical Service Bulletin
Real Fyre G31-2VT Burner System Shut Downs

Some G31 gas log systems using the 2VT electronic control valve have recently been reported to abruptly cease burning after 10 or more minutes of operation. While most cases can be attributed to installation errors which lead to overheating the controls, in other instances the following factors have been identified:

- Wiring harness placement in the burner
- Inadequate shielding of controls
- An unstable pilot flame

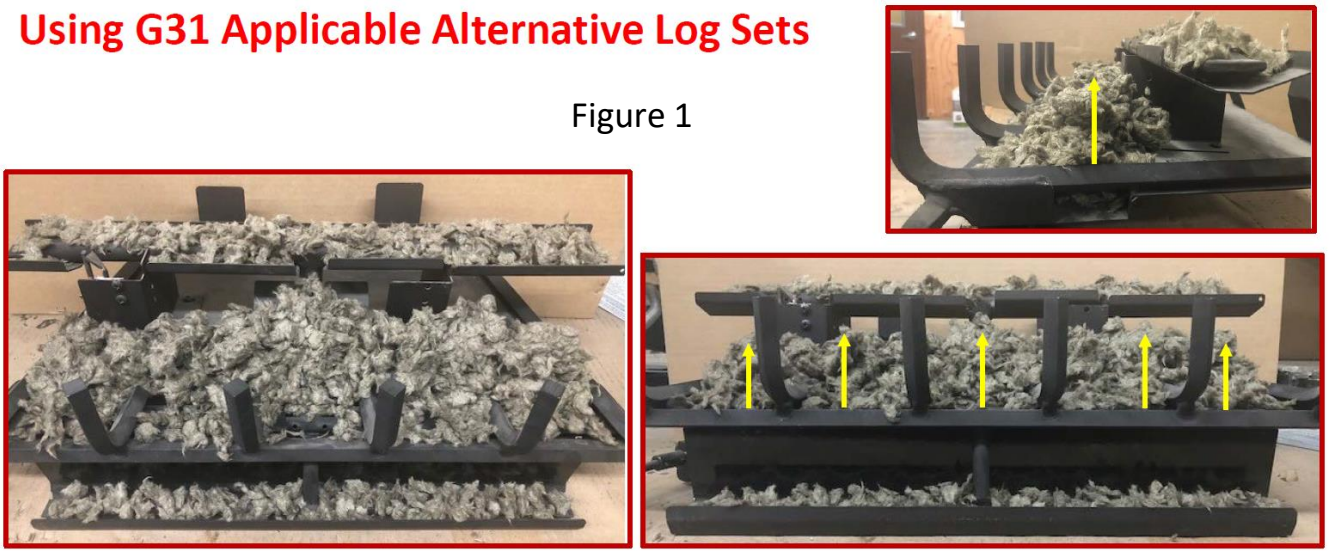
This bulletin will review each of these conditions.

Installation Errors

As with all gas log installations with control systems, all instructions must be followed including placement of battery boxes, control modules, lava granules, etc. With G31's, it is extremely important to place embers as detailed…failure to do so will allow excess heat to transfer to the controls. Many field issues that have been reported involved the Charred style gas logs (model prefixes CHB, CHD, CHAO, CHS, CHNA, CHHNS and CHMJ). Please see Figures 1 and 2 and the attached excerpts from the installation manual showing proper ember placement for all log styles.

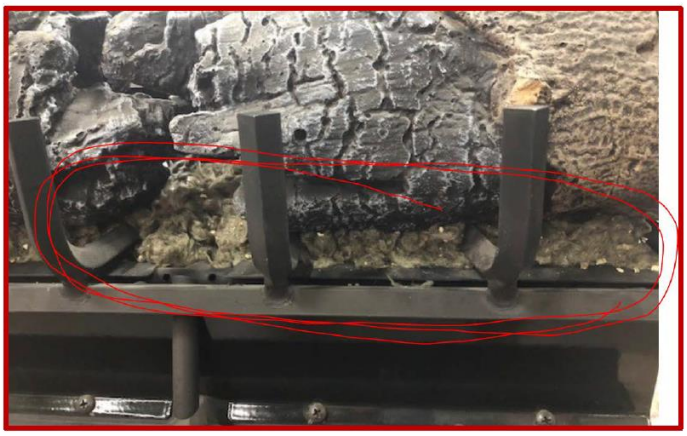
Using G31 Applicable Alternative Log Sets

Figure 1



The above & right pictures show heavy embers placed primarily where the alternative front logs will sit. As you can see the embers need to be stacked high above the grate fingers so they are a few inches above the grate fingers. Next set front log in place. See Figure 2.

Figure 2



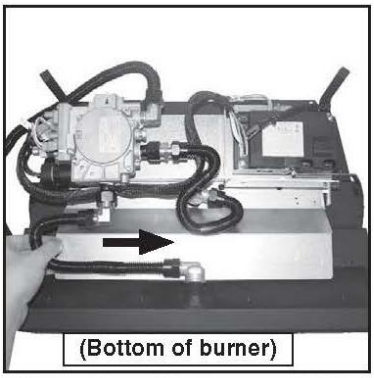
Once front log is in place you can see the effect & function of the heavy embers creating a seal. This will prevent heat rolling under the front logs and affecting the controls with possible shut downs.

Wire Harness Placement

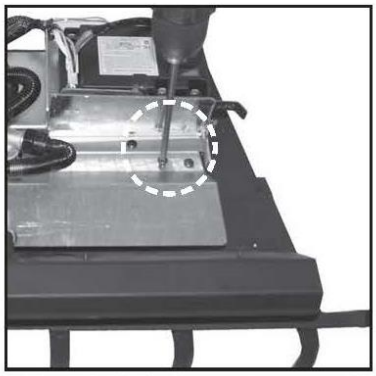
Some 2VT burner assemblies left the factory with the wiring harness incorrectly positioned exposing it to high temperatures that can damage the wiring leading to premature burner shut down (this condition has been addressed at the factory). Repositioning the harness to its correct locations will prevent overheating and can be easily done prior to or during installation (see attachment showing how this is accomplished). If any field shut-downs occur, checking this condition should be part of the diagnosis. If possible, units in inventory should be inspected and corrected prior to shipment. Unfortunately, damage to the wiring could be concealed within the woven sleeve.

Heat Shield

In order to better protect the controls and wiring, all G31-2VT systems are now equipped with a larger heat shield. If needed, this shield may be installed in the field (see below) and is available at no charge (for 18/20, use part no. 412395; for 24/30 and 33/39, use part no.412396).



Flip unit upside down and slide in the heatshield extension.

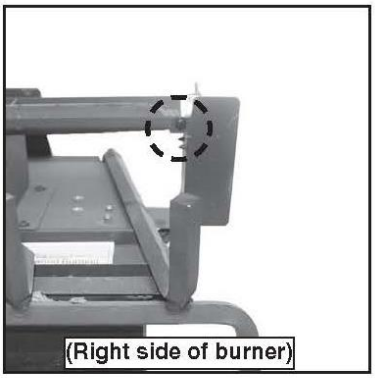


Align shield into place and secure with two Phillps-head screws (supplied).

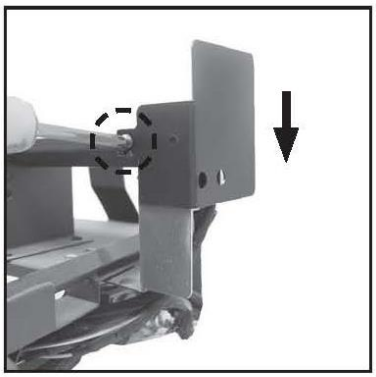
Install ¼" hex screw on designated pilot hole on shield.

Unstable Pilot Flame (G31-18/20-2VT and G31-24/30-2VT)

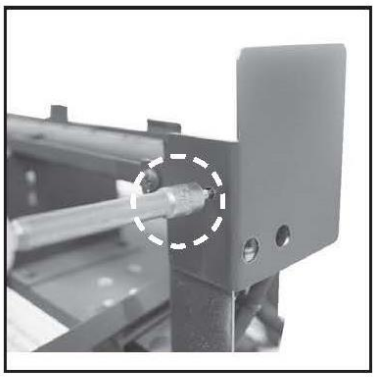
In order to stabilize the pilot operation on G31-18/20-2VT and G31-24/30-2VT gas log systems, all G31-2VT systems are now equipped with a pilot shield (the 33/39 size always had such a shield). If needed, this shield may be installed in the field (see below) and is available at no charge (Part No. 412394).



Loosen the Phillips-head screw.



Align and drop pilot shield into place (hook onto the loosened screw). Tighten screw to secure.



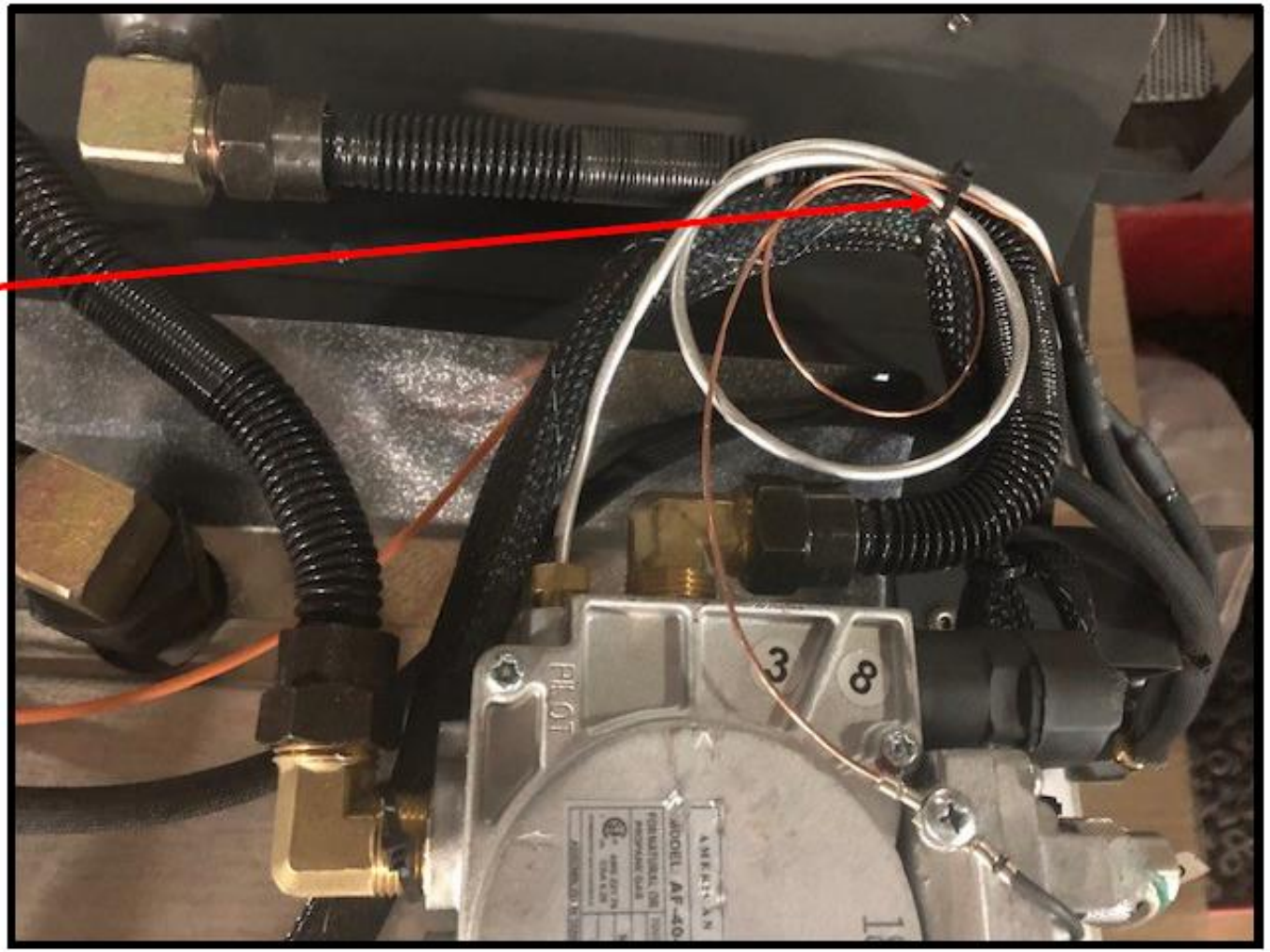
Using a driver install ¼" hex self-tapping screw on designated pilot hole on shield.

If any field shut downs occur, all of these conditions should be addressed or the burner replaced. Please contact Technical Service to determine if you want to do the modifications in your warehouse, in the field or return the burners to us and to coordinate compensation and RMA's.

R H Peterson regrets the inconvenience to you. Thank you for your cooperation.

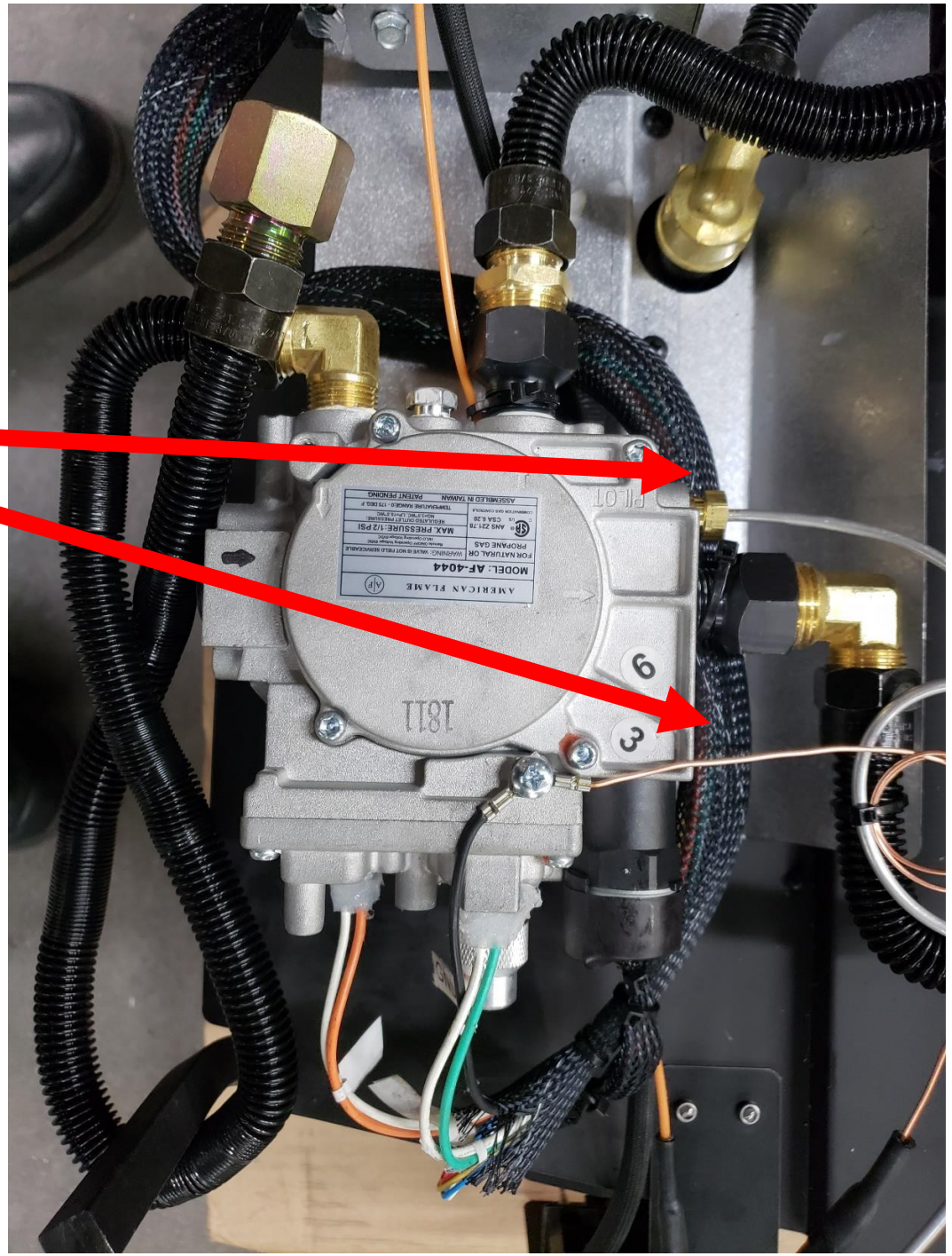
G31 Incorrect Overheated Wiring

If you notice this wire zip tied here, please snip the tie and relocate it to the flex closest to the heat shield and control valve. See Next Slide reference



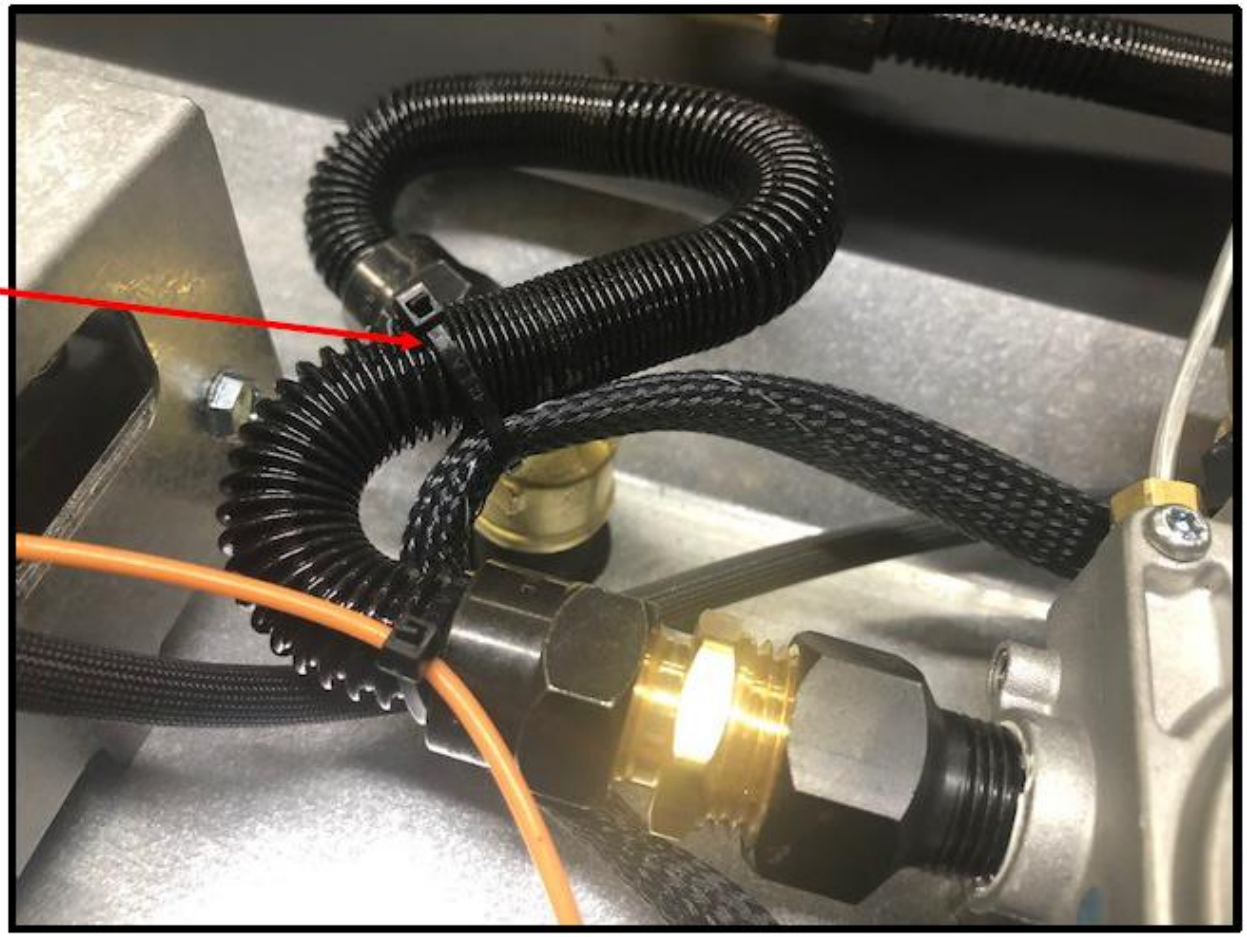
G31 Correct Way to Route Harness

Route the harness next to the valve



G31 Correct Wiring

Relocate the wire harness here at this flex line and re-secure with zip tie within the galvanized heat shield to prevent harness damage.



INSTALLATION

LOG SET, GLOWING EMBERS, AND BRYTE COALS PLACEMENT

- **Read all safety warnings and important information in this manual and the instructions supplied with the log set - or supplemental instructions supplied with burner system - to ensure proper placement.**
- **DO NOT add any additional embers to this setup. Any additional embers will cause unsafe operation. ONLY use the embers supplied with your burner system. If any embers are included with your log set, DISCARD them as they are not applicable.**
- **Your log set design may slightly vary from the images shown here, but initial placement is the same.**
- **Refer to the section appropriate for you log set chosen (below or page 19).**

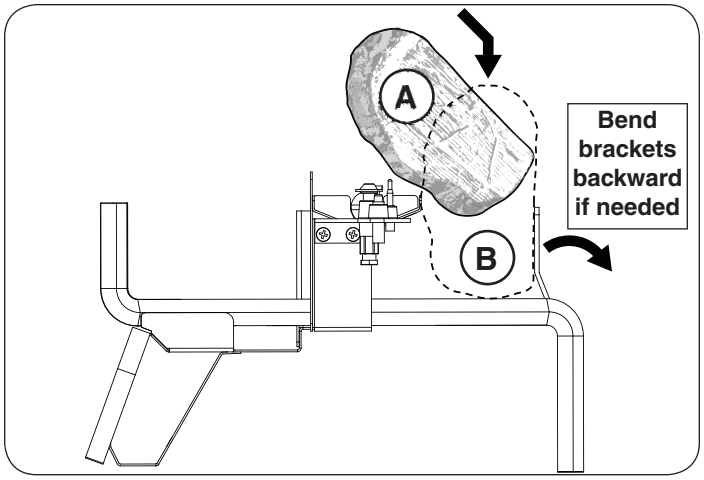
IMPORTANT

THIS SECTION BELOW ADDRESSES SPECIFIC PLACEMENT FOR CHB, CHD, CHAO, CHS, CHNA, CHNS, AND CHMJ LOG SETS ONLY.

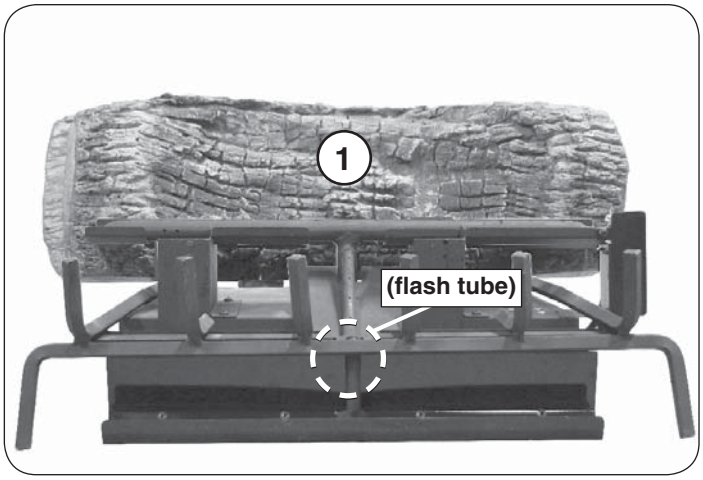
Generic Placement Steps - CHB, CHD, CHAO, CHS, CHNA, CHNS, CHMJ

Important: DO NOT place any embers on top of the flash tube to ensure proper operation.

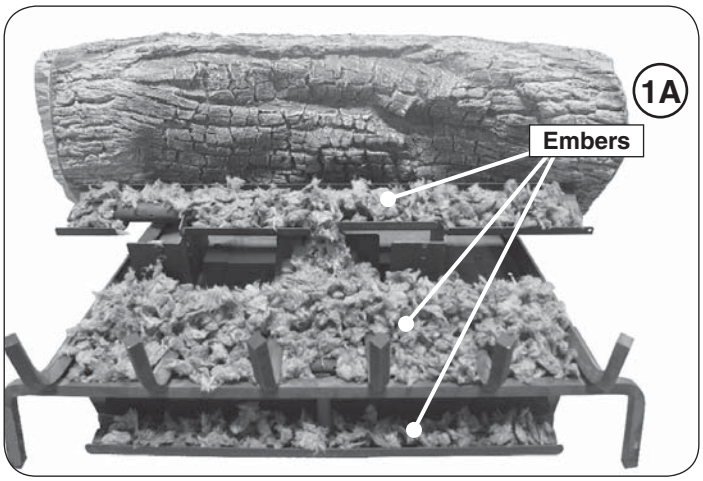
All models listed above begin with the bottom log and ember placement shown below. To complete log placement continue to the supplemental instruction supplied with your burner system, and locate your specific log set.



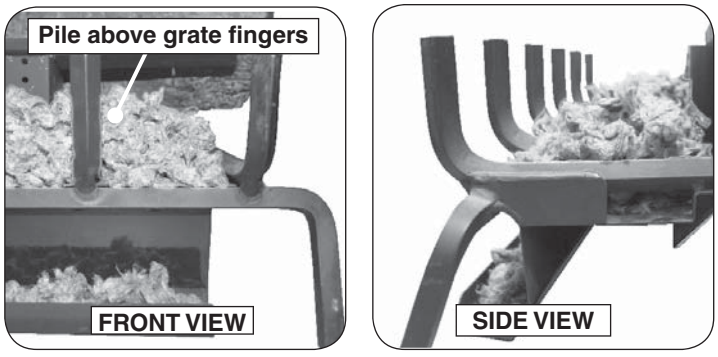
Rear log placement detail: First place the log, at an angle, against the rear burner brackets (see A). Then slide the log down into position – flat on the burner (see B).



Once placed, the rear log (log #1) should appear as shown. The log should rest flat between the rear brackets and top burner.

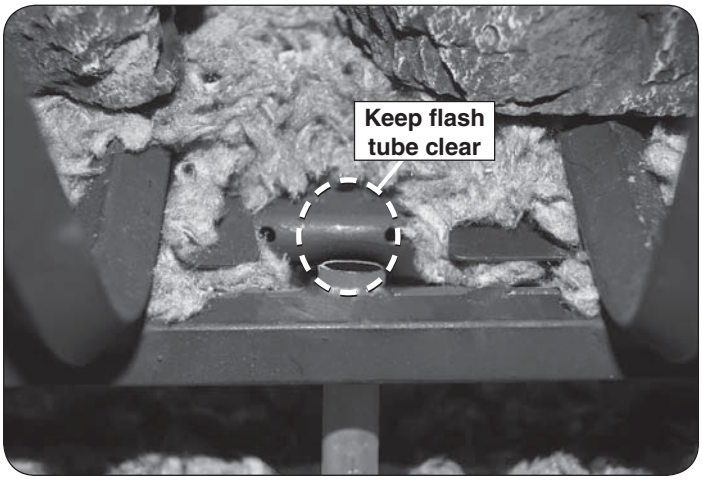


Place the glowing embers (supplied with burner) heavily and evenly in the areas shown. **Break up any clumps that may have developed during shipment.**
Store any excess embers if applicable.

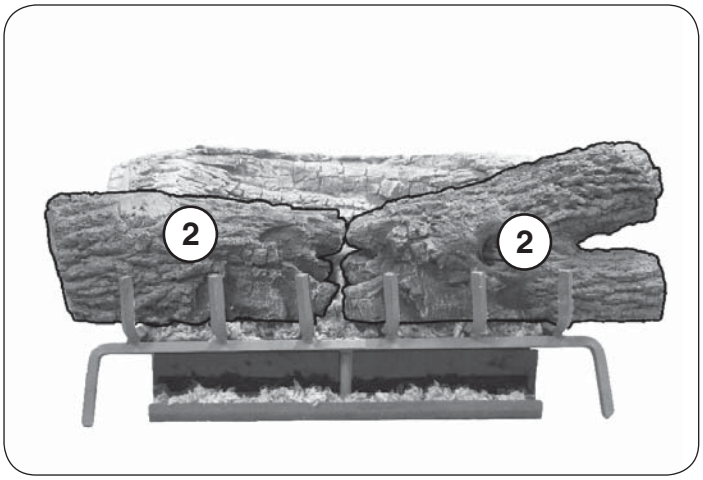


Ember placement detail - place heavily as shown.

INSTALLATION



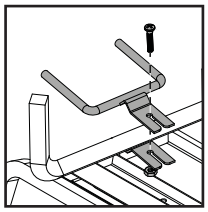
DO NOT place any embers on top of the flash tube to ensure proper operation. **Keep the area shown above clear at all times.**

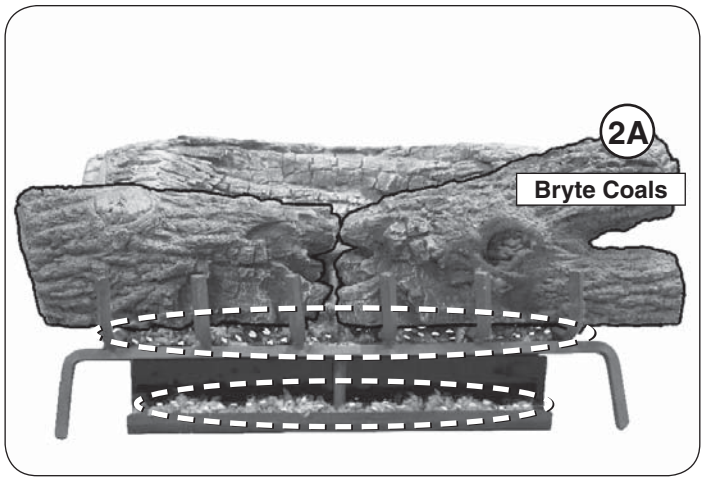


Place the left and right front log pieces (log #2) as shown. Rest the logs with their backs against the burner assembly behind them. **DO NOT place the logs forward or on top of the grate fingers.**

The logs should compress the embers below and create a seal.

Note: For 36" log sets, log locators (included with burner) must be installed. Refer to the appropriate section in the supplemental instructions specific to your 36" log set.





Separate half of the supplied bryte coals into small pieces, and evenly place them over the glowing embers in the middle ember bed as shown. Repeat this process for the remaining (second half) of bryte coals over the bottom ember bed.

FOLLOW THE SUPPLEMENTAL INSTRUCTIONS SUPPLIED WITH YOUR BURNER SYSTEM TO COMPLETE LOG PLACEMENT (LOCATE YOUR SPECIFIC SET).

Important: **Adequate ventilation is absolutely necessary! Adequate spacing between the logs is NECESSARY and MUST be maintained.** Provided significant, noticeable sooting **does not** occur, some flexibility is possible in top log placement to suit your individual preference. If you experience a continued accumulation of black carbon (soot) on your logs it is an indication of incomplete combustion and you should move the effected log(s) so as to minimize the flame contact on the effected log(s). If significant sooting continues, stop using this gas log set. Read the supplemental instructions supplied with your burner system completely and carefully.

CAUTION: **BURN HAZARD! Logs will remain hot for some time after use. If you need to reposition any log to maintain the proper layout, use heat-resistant gloves or allow logs adequate time to cool before handling.**

INSTALLATION

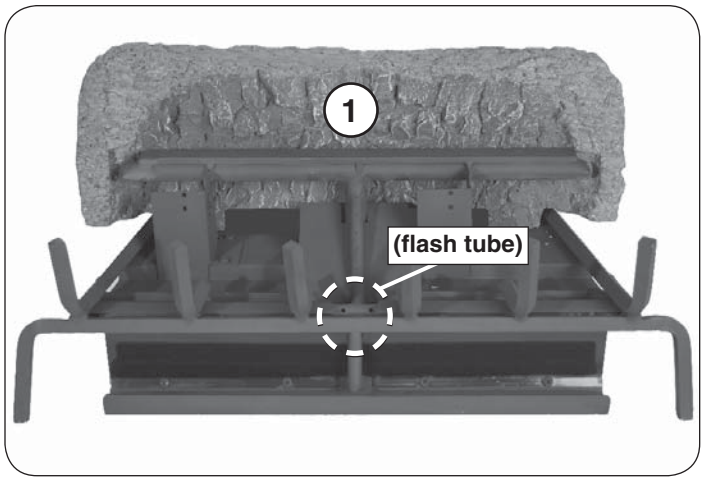
IMPORTANT

THIS SECTION BELOW ADDRESSES SPECIFIC PLACEMENT FOR MCO AND MCS LOG SETS ONLY.

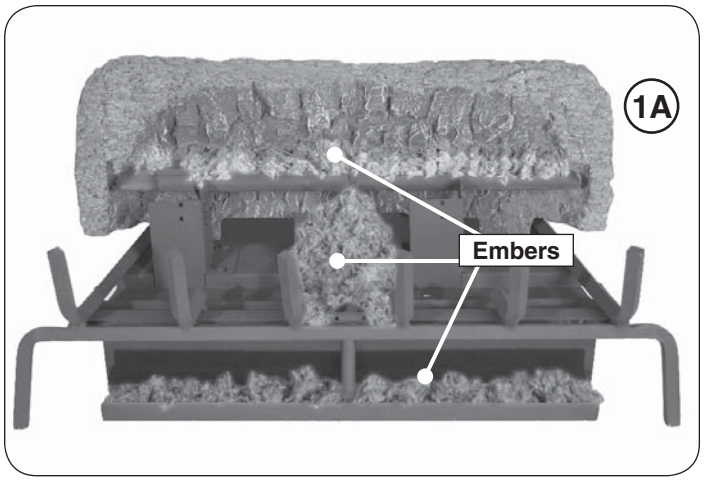
Generic Placement Steps - MCO, MCS

Important: DO NOT place any embers on top of the flash tube to ensure proper operation.

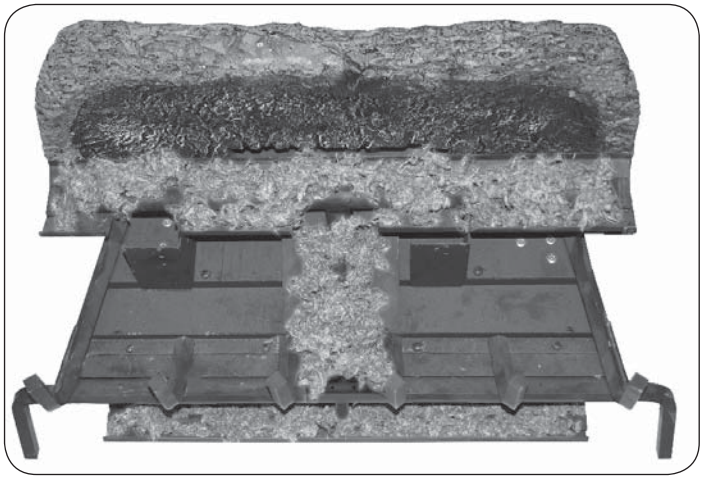
All models listed above begin with the bottom log and ember placement shown below. To complete log placement continue to the instruction supplied with your log set.



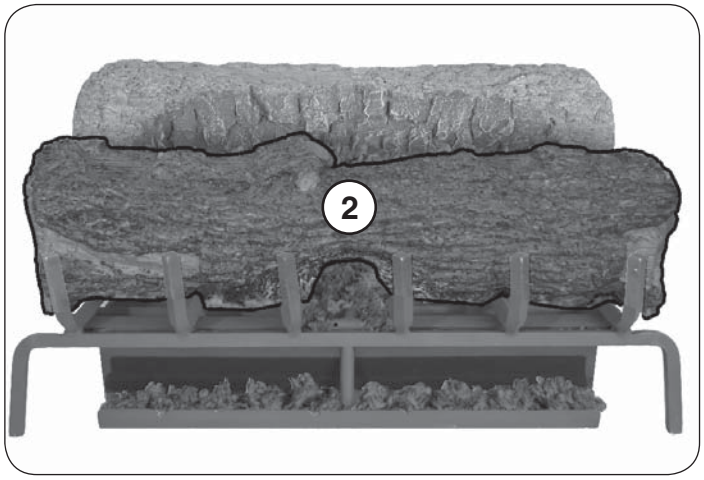
Place the rear log (log #1) as shown. The log should rest flat between the rear brackets and top burner.



Place the glowing embers (supplied with burner) evenly in the areas shown. **Break up any clumps that may have developed during shipment. Keep some embers for future placement along the front log.**

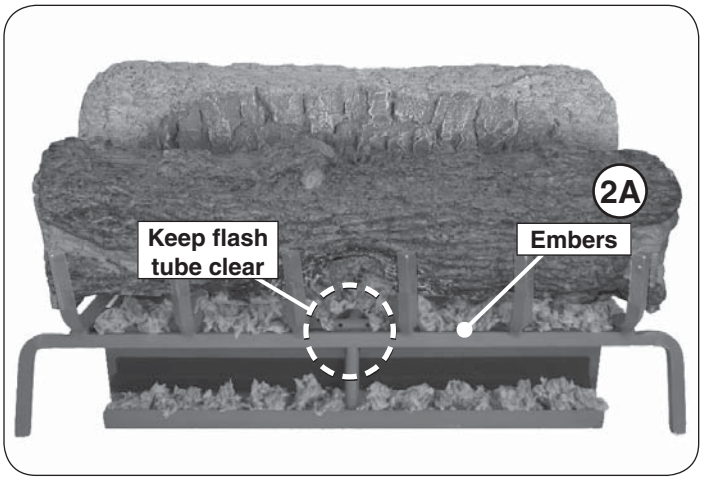


Ember placement detail.



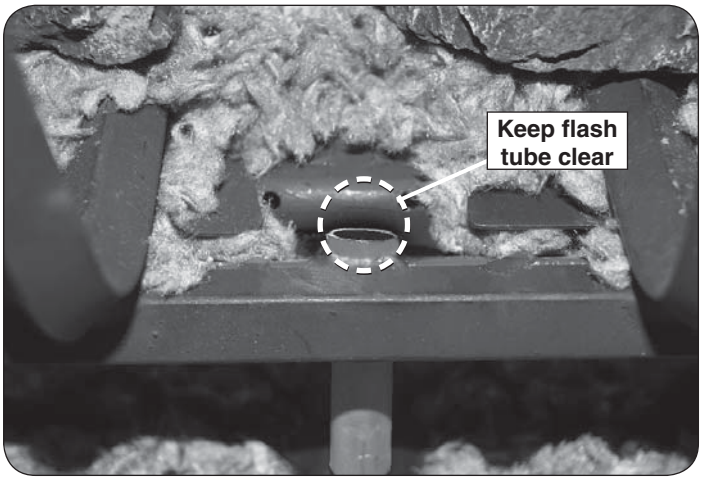
Place the front log (log #2) as shown. Rest the log with its back against the burner assembly behind it. **DO NOT place it forward or on top of the grate fingers.**

INSTALLATION

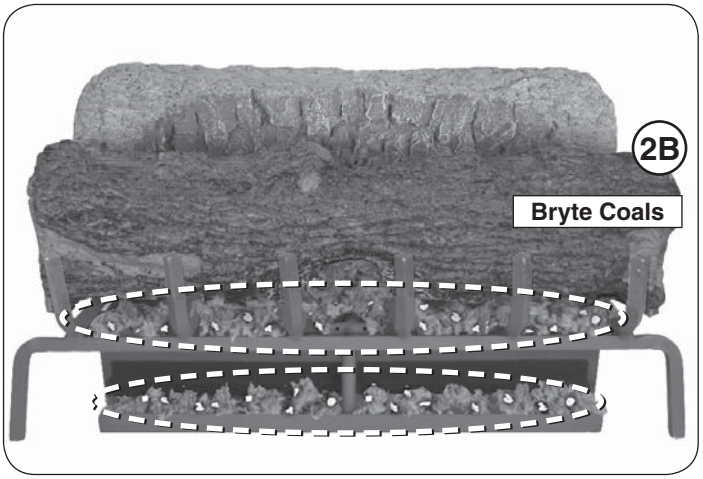


Place the remaining glowing embers evenly in the area along the front log as shown.

Store any excess embers.



DO NOT place any embers on top of the flash tube to ensure proper operation. **Keep the area shown above clear at all times.**



Separate half of the supplied bryte coals into small pieces, and evenly place them over the glowing embers in the middle ember bed as shown. Repeat this process for the remaining (second half) of bryte coals over the bottom ember bed.

FOLLOW THE INSTRUCTIONS INCLUDED WITH YOUR SPECIFIC LOG SET TO COMPLETE LOG PLACEMENT.

Important: **Adequate ventilation is absolutely necessary! Adequate spacing between the logs is NECESSARY and MUST be maintained.** If you experience a continued accumulation of black carbon (soot) on your logs it is an indication of incomplete combustion and you must correct the log placement. If significant sooting continues, stop using this gas log set. Read the instructions supplied with the log set completely and carefully.

CAUTION: **BURN HAZARD! Logs will remain hot for some time after use. If you need to reposition any log to maintain the proper layout, use heat-resistant gloves or allow logs adequate time to cool before handling.**