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TELECOMMUNICATIONS REGULATION CIRCULAR

**SUPPRESSION OF INDUCTIVE INTERFERENCE
FROM OIL BURNING FURNACES**

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TELECOMMUNICATION REGULATORY SERVICE

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SUPPRESSION OF INDUCTIVE INTERFERENCE
FROM OIL-BURNING FURNACES

1. In the majority of cases, radio, and particularly, television, interference from oil burners is caused by the high tension spark which ignites the burner. The blower motor, in current model furnaces, is an induction motor which does not cause interference unless it is defective. Interference, however, is sometimes caused by intermittent contact between the sheath of the BX cable and grounded metal, the vibration from the motor causing such contact to make and break. This type of interference is readily cured by securely bonding any loose metal parts together.
2. The ignition interference, in nearly all cases, can be cured by shortening up, as much as possible, the high tension lead or leads between the spark gap and the ignition transformer and by inserting in one or both of these leads a 20,000 ohm resistance type suppressor. These suppressors are similar to those used on the spark plugs of automobiles to suppress interference but they need to be larger, as the automobile type suppressors usually will not stand up to the heavier current in oil burners. Continental Carbon Company type O.B.15 suppressors, or the equivalent, are satisfactory. These are about 9 cm long and 2 cm in diameter.
3. If interference is still experienced a check should be made to see whether any telephone or lighting wires or other non-grounded conductors pass in close proximity to the furnace. If any of these are closely coupled to the ignition wiring, they may be carrying the interference to the receiver antenna and should be moved farther away from the furnace.
4. If interference is still experienced a capacitor-suppressor unit should be connected to each of the two 115 volt conductors from the ignition transformer, with the other terminals of the capacitors (normally the metal can in which they are enclosed) solidly grounded to the furnace. The several types of filters which are sold for suppressing fluorescent lights are very suitable for this purpose. If the more expensive and more effective inductance-capacitance type of fluorescent suppressor is used, care must be taken to see that the current rating stamped on it is not less than the current rating of the ignition transformer; this does not apply to capacitor type suppressors as the line current does not pass through them. Care should also be taken to see that the suppressor is solidly grounded to the furnace and that the furnace itself is solidly grounded by virtue of a water pipe running direct to it, or other means.

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5. Some older furnaces use a vibrator type spark coil, which is more difficult to suppress than the usual transformer type. In cases of severe interference, it may be necessary to replace the spark coil with a modern type ignition transformer.
6. In extreme cases, shielding (conduit or copper braid) over the high tension lead or leads will provide some additional suppression, provided the shielding is solidly grounded at both ends. As mentioned above, the high tension leads should, in any case, be first shortened up as much as possible.



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