

How to Install and Operate

Coleman

**OIL BURNING
FLOOR FURNACE**

MODEL NOS. 886DW, 888DW

"Listed by Underwriters' Laboratories, Inc."

**Be Sure to Save
These Directions for
Future Reference**

SOLD BY

Dealer _____ Installation Date _____

Address _____ Telephone No. _____

MADE BY

The Coleman Company, Inc.

General Office and Factory: WICHITA 1, KANSAS, U. S. A.

Canadian Office and Factory: Toronto, Canada

Sales Offices: Chicago 11; Philadelphia 8; Los Angeles 54;

Honolulu, Hawaii

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To The Purchaser of COLEMAN OIL BURNING FURNACES

We feel certain that you will enjoy the fine heating facilities of your Coleman Furnace and it is our hope that it will be a source of comfort to you and your family for many years to come.

Your dealer has been very careful to see that your furnace has been properly installed. Follow the instructions given and it will give you splendid service. The dealer's time is valuable and a service charge usually will be made for a service call traceable to incorrect operation. Careful adherence to the instructions as given should enable you to avoid service calls.

ALWAYS USE THE RIGHT KIND OF FUEL

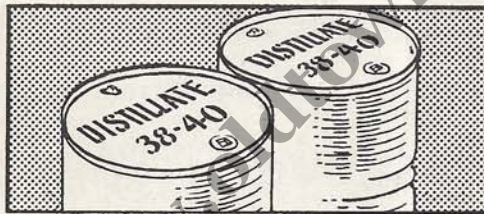


PLATE 1

Use "STRAIGHT RUN" 38-40 gravity fuel oil — known as No. 1 distillate — as recommended by the Vaporizing Oil Burner Industry.

Catalytic cracked fuels are not advisable for use in vaporizing burners. "Cracked" fuel oil will cause very frequent cleaning of the burner.

NEVER USE GASOLINE, OIL CONTAINING GASOLINE, CRANK CASE OIL, OR NAPHTHA.

Always use clean fuel. Dirty fuel will cause trouble in any furnace. Your dealer cannot be responsible for trouble you may experience from clogged fuel lines or clogged burner trouble traceable to the use of inferior fuel.

Water in the fuel causes difficulty in burning and should be avoided.

Consult your dealer for his recommendations of the most suitable fuel available in your community.

OPERATING INSTRUCTIONS

Your furnace is equipped with an approved Fuel Control Valve containing a built-in safety device which automatically shuts off and prevents the burner from overflowing in the event the burner control is left open when there is no fire in the burner. The valve is equipped with a Thermo Safety Device to shut off the valve in case the furnace becomes over-heated as a result of a rug being thrown over the register. This control is factory set and should not be tampered with. If oil fails to flow to the burner when the burner control is open be sure the Thermo Safety Rod is lifted and the Fuel Supply Valve Rod is pressed down. (See illustration on page 7.)

HOW TO LIGHT THE FURNACE

- 1** — Be sure the fuel tank is filled with the correct grade of oil.
- 2** — To start furnace turn on main valve at supply tank and any other valve which may be installed in fuel supply line between tank and furnace.
- 3** — Remove floor register on control side of the furnace and the wall grille. Push the damper out of the way to open the combustion chamber lid.
- 4** — Push down on the Fuel Supply Valve Rod which will allow fuel to flow into the Fuel Control Valve.
- 5** — If the furnace is equipped with an Automatic Room Temperature Control, PULL UP the Automatic Control reset lever, (see Plate 2) this places the furnace in manual operation, and will prevent excessive accumulation of oil in the burner.

6 — Pull up on the Thermo Safety Rod until it catches and remains up.

7 — Turn the Burner Control Rod to "Start" position on the dial, lift lid and watch for oil to flow into bottom of burner.

8 — When fuel is seen in the burner, light a piece of cloth about 1 in. wide and 6 in. long and drop on the bottom of the burner. Watch the burning piece of cloth to make sure the fuel is ignited, then close the lid.

9 — Allow the furnace to burn at least ten minutes with the Burner Control Rod at "Start" position before opening the valve for a higher burning rate.

10 — For automatic operation follow instructions on page 6. Replace register.

11 — In case the Thermo Safety trips off, the unit must be allowed to cool, permitting the safety mechanism in the valve head to catch when pulled up. As long as the trip is down, fuel will not flow to the burner.

Should the burner be lighted when flooded, shut the fuel supply off and raise slightly the combustion chamber lid, until the extra fuel is burned out, to prevent overheating.

WARNING: Do not light the burner when it is hot. Allow it to cool to a point where your hand can be safely placed on the combustion chamber before relighting the burner.

HOW TO TURN THE FURNACE OFF

Turn the Burner Control Rod to the "Off" position. Pull up on Fuel Supply Valve Rod. (See illustration on page 7.) The flame will die out in the burner within a few minutes. If heat is required intermittently the burner may be turned to a low position to act as a pilot fire. The burner may be operated at little fuel cost without turning the burner off completely.

OPERATING FURNACE ON AUTOMATIC ROOM TEMPERATURE CONTROLS

Automatic Room Temperature Controls are optional equipment. The automatic control installed on the furnace is to compensate for varying room temperatures and to increase comfort and satisfaction from a Coleman oil floor furnace. The desired room temperature may be maintained by setting the dial on the wall thermostat.

TO LIGHT FURNACE

- 1** – Follow instructions on page 4 HOW TO LIGHT FURNACE.
- 2** – Turn on electric current to transformer which supplies energy to the electric control in valve.
- 3** – Set room thermostat to desired temperature.
- 4** – Push DOWN on Automatic Control Reset which places furnace into automatic control. The room thermostat will now control the heat as desired.
- 5** – Turn burner control rod to "Hi" position for greater heating comfort; during mild weather set the burner control rod at "Medium".

CAUTION: In case of failure of electric current, the control goes to pilot position automatically, and the furnace may be operated manually as follows.

- 1** – Pull UP on Automatic Control Reset.
- 2** – The flame may be regulated by the burner control rod.
- 3** – When the electric current becomes available, PUSH DOWN on Automatic Control Reset and turn burner control rod to Medium or High position for automatic operation.

If the use of the furnace is to be discontinued for any length of time, shut off the valve on the outside tank. Turn burner control rod to off position and pull up on the fuel supply rod. (See illustration on page 7.)

Sediment should be drained from the sump below the tank at least once a year.

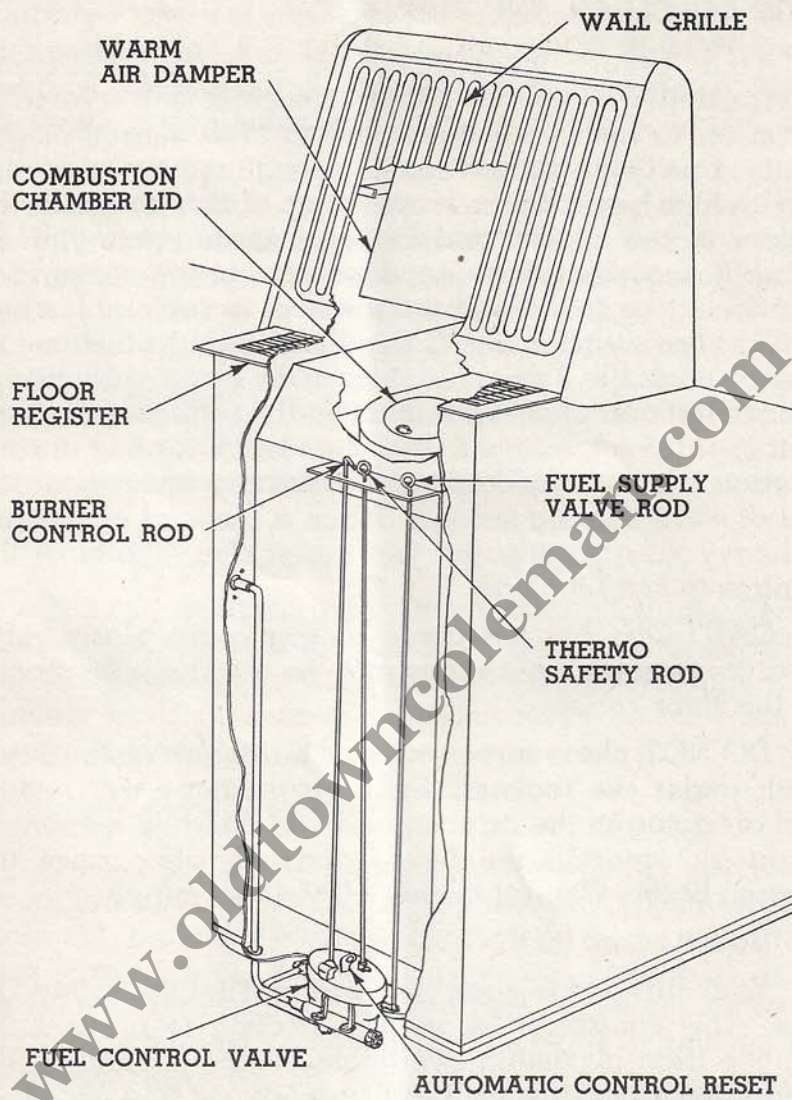


PLATE 2

CARE OF FURNACE

SEASONAL CHECK

Before each heating season we recommend that a qualified service man be called to clean thoroughly the burner, oil control valve, fuel lines, and vent pipe to chimney.

HOW TO CLEAN THE FURNACE

Your furnace is designed for years of satisfactory service and will normally circulate sufficient volume of warm air to heat your home with a high degree of efficiency. Due to the air movement through the furnace there may in time be a slight accumulation of dust or lint in the bottom of the casing and in order to maintain full air circulation capacity any accumulation in the casing bottom should be removed by the use of a vacuum cleaner with a hose attachment. If the cleaner and attachments are not available, sweep the sides of the furnace down and remove lint and dust. Then remove the sediment from the bottom of the furnace with a damp cloth wrapped around a broom. It is a good plan to clean the furnace at the end of each heating season. Place a piece of cardboard or heavy wrapping paper just under the register of the furnace to keep it clean.

CAUTION: Do not place objects, particularly rugs, near the furnace where they may be accidentally placed on the floor register.

DO NOT place screen wire or hardware cloth of fine mesh under the register. Such obstructions will restrict cool air going in the furnace and will limit the amount of warm air entering the house and will also cause the Thermo Safety Control to shut off the fuel supply.

Do not stand on the hot register.

Your furnace is equipped with a Thermo Safety Device. This control is for your protection to prevent the furnace from becoming overheated if the circulation becomes obstructed. It has been properly set and sealed at the factory and should never be tampered with. Should the control shut the furnace off, lift Thermo Safety Rod before restarting.

LOCATION OF FURNACE

The proper size and location of the furnace in your home is the first important step in satisfactory heating service. Your Coleman Dealer, no doubt, figured the heat loss or the amount of heat required to heat your house com-

fortably under normal winter conditions. He then recommended the size and type of Coleman Oil Floor Furnace, the B.T.U. or heat output of which exceeded the heat losses so as to insure sufficient heat for warmth, health and comfort.

The furnace is installed beneath the dividing wall of two rooms. The amount of heat diverted into each room is regulated by adjusting the warm air damper. The furnace should be so located that no door, drape, or similar object will be less than 12 in. in front of the wall register. Avoid locating in corners or alcoves. Do not try to heat through more than one archway and one door in any direction. In a two-story house, do not place furnace near stairway unless furnace is intended for heating upstairs.

INSTALLATION OF FURNACE

The furnace tank and piping should be installed in accordance with the Standards of the National Board of Fire Underwriters for this class of equipment. Authorities having jurisdiction should be consulted before installations are made.

CHIMNEY REQUIREMENTS

One of the most important factors in the successful operation of your furnace is the chimney. If the draft is incorrect, difficulty will be experienced in the operation, thus wasting fuel. A careful inspection should be made and the chimney placed in condition to deliver sufficient draft for complete combustion. The draft or pull up the chimney draws air for combustion through the burner. There must be the correct amount of air mixed with the proper amount of fuel for correct combustion.

Chimneys and vertical vent pipes which are constructed or installed on the outside of the house, because they are exposed to the outside temperatures, have a tendency to restrict the draft. Whenever possible, vent the floor furnace to an inside flue or chimney.

Check chimney carefully to determine if it will deliver a good draft before connecting vent pipe.

TEST THE CHIMNEY

A simple method to test the draft in a chimney is to place a sizable wad of crumpled newspaper in the vent opening and light the paper. A satisfactory flue should have a draft strong enough to carry up every bit of burning paper. If bits of paper drop down after the burning test, it may be due to other openings in the chimney. If an investigation shows such a condition to be the case, close and seal all openings. Then, if the flue still furnishes insufficient draft, the condition is probably due to an obstruction of some kind or a down draft condition.

DRAFT CONDITIONS

There are three draft conditions to cope with. Once they are understood, their correction will insure good operation and saving of fuel. The chimney should be checked for the following conditions: Insufficient Draft, Too Much Draft, Down Draft.

INSUFFICIENT DRAFT may be caused by obstructions in the chimney, such as bird's nests, bricks blown off the top and lodged crossways in the chimney or mortar loose between bricks forming cracks and allowing air to enter the chimney. (See Plate 3.)

Check the chimney carefully against the following points to insure it being in good condition.

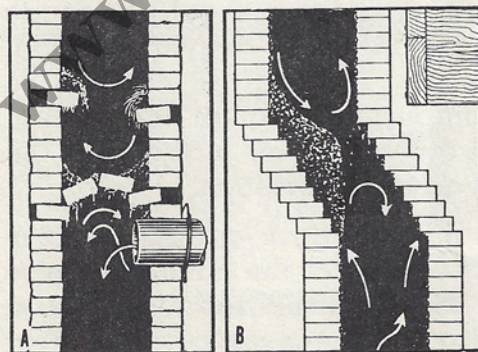


PLATE 3

1 — Remove all obstructions, clean inside walls of soot.

2 — Repair all cracks and replace broken bricks in the chimney. (See Plate 3A).

3 — If the chimney has offset, remove any pocket of soot at the

point of offset, especially if coal-burning equipment has been used previously on chimney. (See Plate 3B.)

- 4 — Make vent pipe connection into chimney air-tight. If necessary, cement around flue collar and vent pipe.
- 5 — Be sure the chimney clean-out door is closed and made air-tight.
- 6 — Do not extend the vent pipe into the chimney beyond the thickness of the chimney wall.

There will be some variation of draft due to the weather conditions. A decided improvement in draft will be noticed as the outside temperature drops with the advent of winter weather.

TOO MUCH DRAFT causes oil to be consumed faster than necessary, heat is pulled out the chimney. This results in waste of heat and fuel.

Too much draft sometimes causes the furnace to roar. It does not give off much heat, because most of the heat is pulled up the chimney and wasted. If the flame will not come out of the burner and seems to boil in burner, too much draft is indicated.

It is the purpose of the "DRAFT METER" to prevent excessive draft, but there are rare instances where the draft is so strong that one DRAFT METER cannot completely handle it. In such cases, install an extra DRAFT METER, No. 882-688, next to the one already installed.

DOWN DRAFTS also impair the efficiency of your furnace and cause unnecessary loss of heat and fuel.

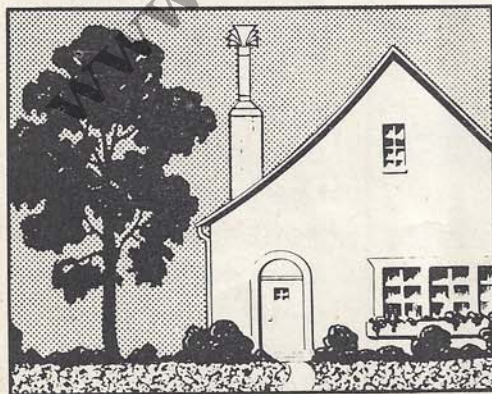


PLATE 4

Downdrafts usually occur when the chimney is lower than the gable of the house or nearby buildings, or when tall trees are close by. The wind blowing from the direction of the trees will eddy over the tops and cause a down draft.

To correct, extend the chimney 24 in. above the highest point of the house or place an Artis Vacuum Cap on top of chimney. (See Plate 4).

CONNECTING FURNACE TO CHIMNEY

Use heavy gauge steel breeching pipe for making vent connection to the chimney. All vent pipe joints should be secured by the use of metal screws especially where vent connects to flue outlet on furnace.

The furnace should be located to make the lateral vent pipe as short as possible; it should never be longer than 12 ft. Unless the run is extremely short, it should be supported by occasional metal straps extending from the joists. If the lateral pipe is longer than 5 ft. it should be insulated with air cell insulating material 1½ in. thick. The pipe should slant upward from outlet on furnace to inlet on chimney at least ½ in. per lineal foot. Caution should be exercised in inserting pipe into chimney so pipe will not pass beyond the inner wall of the chimney.

NEVER USE A DAMPER OTHER THAN DRAFT METER SUPPLIED WITH FURNACE.

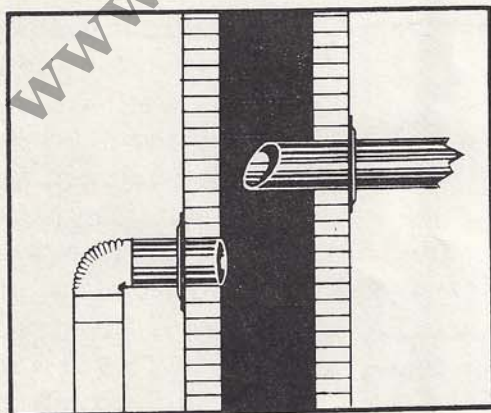


PLATE 5

When two appliances are vented to the same chimney, the longest lateral vent pipe should enter at the top with a toothpick connection as shown in Plate 5.

OPERATING DIRECTIONS FOR COLEMAN DRAFT METER PART NO. 882 - 688

1 — Assemble DRAFT METER in a horizontal position with crimped edge pointing toward the chimney. Use a one or two foot piece of stove pipe between the furnace and the DRAFT METER.

2 — When the DRAFT METER leaves the factory the Control Ring is fixed at "Hi" opposite the pointer and held firmly in place with an adjusting screw. Before installation make certain the setting is at "Hi" and that the adjusting screw is tight.

3 — **IMPORTANT:** The Coleman DRAFT METER is a sensitive device for maintaining the correct draft. For efficient operation, the face of the draft meter must be perpendicular. After installation, it may be made perpendicular by placing a carpenter's level across the face, as illustrated.

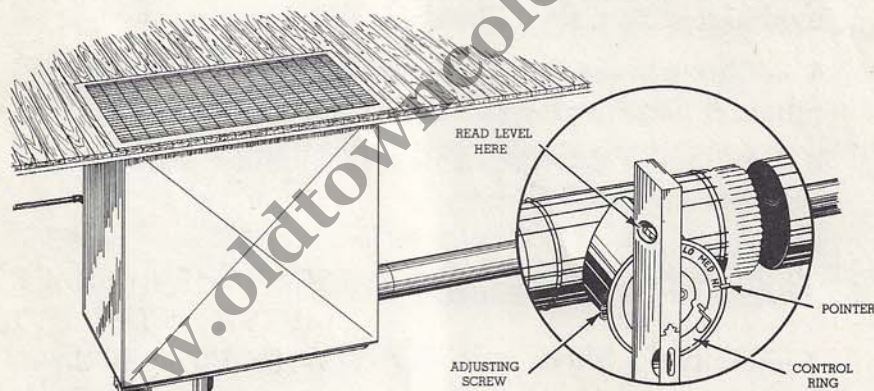


PLATE 6

If smoke issues from the chimney when the Burner Control Rod is at No. 6 position or "Hi" on the dial, it is an indication of insufficient chimney draft or Draft Meter is not installed properly.

Be sure the chimney is clean and that the installation has been correctly made — then if the smoky condition still exists, it will be necessary to provide additional chimney or stack extension.

SERVICE POINTS

IMPORTANT: Make certain the fuel storage tank or drums are clean. Do a thorough job of removing all varnish, paint, etc. and in this way only clean fuel will flow through the fuel line to the fuel control valve.

A. Lack of Heat:

- 1 – Oil being used is not proper specifications: Check with your source of supply to be sure you are using "Straight Run" No. 1 distillate 38-40 gravity.
- 2 – Metering valve stem is partially clogged: Have metering valve stem cleaned.
- 3 – Incorrect Draft: Check chimney for insufficient draft, excess draft, down drafts, loose bricks or openings in the chimney. Check Draft Meter.
- 4 – Check to see that there are no kinks in burner feed tubes: A slight hump in line will retard oil flow.
- 5 – To insure the proper flow of fuel, the Fuel Control Valve must be set level.

B. Burners Won't Light:

- 1 – No fuel: Make sure that tank contains sufficient fuel.
- 2 – Burner Control Rod is in "Off" position. See that Fuel Supply Rod is pushed down and the Thermo Safety Rod is pulled up to allow fuel to enter the burner. (See illustration on page 7.)
- 3 – Oil line clogged: Remove and clean.
- 4 – Dirt or Water in the fuel: If fuel being used contains an excess amount of water or dirt, it is necessary to drain all fuel from the tank and replace with fresh clean fuel. Also clean out fuel lines between tank and

furnace. The Fuel Control Valve should be removed by your service man and cleaned at least once every year.

C. Burner Flooded:

- 1 – Turn the Burner Control Rod to "Off" position.
- 2 – Pull up on Fuel Supply Rod.
- 3 – Remove drain plug located at burner oil inlet and drain excessive oil. In case of a slight flooded condition the oil may be removed by dropping rags into bottom of burner to absorb excess oil. Be sure to remove all rags from burner before relighting.

D. Unusual Noise In Operation

- 1 – Spitting sound. Caused by water in the fuel. To correct see page 3.
- 2 – Excessive draft. To correct see page 11.

E. Burner Go Out:

- 1 – Fuel Supply exhausted: Check to be sure you have plenty of fuel.
- 2 – Fuel Control Valve tripped: Be sure that the Fuel Supply Rod is down and the Thermo Safety Rod pulled up.

F. Odor:

- 1 – Improper fuel being used: Be sure that you are using fuel not lighter than 38-40 gravity.
- 2 – Leaks: Check all connections for leaks.
- 3 – Down Draft: See page 11 to correct.

NEVER TIGHTEN CONNECTIONS WHILE FURNACE IS IN OPERATION. SHOULD A LEAK BE FOUND, TURN FURNACE OUT AND THEN TIGHTEN THE CONNECTION.