

## CONDENSED OPERATING DIRECTIONS

### TO LIGHT

1. Tip chimney back. Turn wick slightly above top of wick tube.
2. Light in several places. Replace chimney gently.
3. After flame has encircled wick, adjust to desired height but do not adjust to highest fire until burner has been operating for some time. (Page 3)

### TO EXTINGUISH

Turn wick all the way down.

### CAUTION

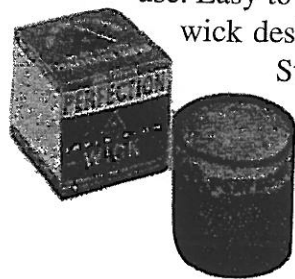
1. Never allow wick to touch flame-spreader above it.
2. Clean wick and inside of burner daily.
3. Read the complete directions in this booklet.
4. Always extinguish before leaving home.

### KIND OF FUEL TO USE

Use a good grade of kerosene. Never use gasoline or kerosene mixed with gasoline. Do not add chemicals or "dope" of any sort to the kerosene. Keep the fuel supply in a clean container.

### USE ONLY GENUINE PERFECTION WICKS

For best results Perfection "Inner-Flow" Wick is the wick to use. Easy to insert, adjust and remove, it is the only wick designed to fit all Perfection and Ivanhoe Stoves and Ranges. Look for the red triangle, "The Mark of Quality".



### To Assemble Collar and Chimney

Make sure that the collar ring is pushed down on the brass burner so that the ring rests evenly on its supporting ledge. Place the loose black collar with the larger end down on the collar ring. Set chimney in place on black collar with wire knob and mica window to the front, tipping chimney slightly forward until it drops down into place and rests evenly on collar. This locks the black collar to the chimney and allows it to be tilted backwards with the chimney.

### How to Light and Extinguish

See that all parts of the burner are in place as shown in Fig. Four, then grasp the "air cooled" handle and tilt chimney backwards until it rests in opening in stove back. Turn wick up until it shows a little above the top of brass wick tube. Never allow top of wick to touch the flamespreader.

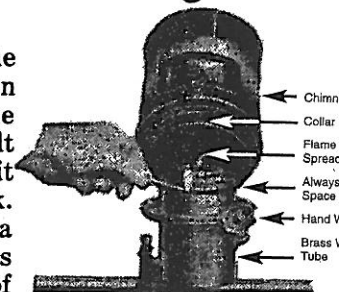


Fig. Four

Apply lighted match to wick in two or three places. Replace chimney carefully to its upright position, shaking gently to make sure that the collar is resting evenly in the chimney ring. Turning the wick either higher or lower may cause the flame to encircle wick faster. Continue to turn wick at low flame until flame becomes even all around. Do not turn wick to highest flame until the burner has been operating for some time at a medium flame with a utensil over it (see page 4).

Each day remove flame spreader, clean wick, and wipe inside of the burner. Wipe the ring inside the burner. Be sure to keep the holes in the ring open. See wick cleaning directions, page 4.

### To Extinguish

Simply turn wick down until flame goes out.  
Never turn wick up against flame-spreader.  
Never attempt to blow flame out.

**CAUTION** — Because of the great amount of heat High Power burners produce, *do not lean over too close to the top of the burners when they are lighted.*

### How to Clean Wicks

Cleaning the wicks of Perfection Stoves is greatly simplified by the use of the Perfection Wick Cleaner. These cleaners are furnished with most Perfection Ranges



Fig. Five

and Stoves. If it is not supplied with the stove, the cleaner can be purchased from the dealer.

In addition to simplifying the cleaning, this handy device also produces the correct bevel or chisel edge on the wick for perfect operation.

The wicks should be cleaned daily. The best results and most satisfactory flame can be secured only if this rule is carefully observed. Cleaning a wick with the wick-cleaner takes only a moment. Turn wick level with wick tubes so that charred top of wick extends slightly above tubes. Place wick cleaner on top of wick as shown in Fig. Five. Rotating wick cleaner will remove char, scraping it into the cup of the wick cleaner.

It is not necessary to remove chimney — simply tilt chimney backward, and remove flame-spreader.

In the absence of a wick-cleaner the wicks can be cleaned as follows:

Turn Wick level with the top of the brass wick tubes, and wipe it from the center outward with a smooth cloth, leaving no ragged points or loose threads. Then pat down with finger tips. (See Fig. Six). Note that the top of a Perfection Wick is made with a bevel or chisel edge, so that it is even with the tops of the inner and outer wick tubes. The inner tube is lower than the outer, as shown in Fig. Six. This bevel should always be maintained. Any loose threads should be removed carefully with scissors, otherwise never use scissors on wick.

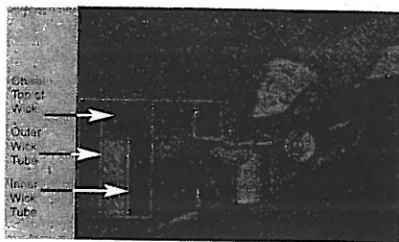


Fig. Six

#### If Burner Burns Dry

If at any time a burner burns dry when the wick is set at high fire, it will leave the wick with a ragged edge which will produce a very uneven yellow flame. Before trying to use the burner, the wick should be evened up as directed in the answer to Question No. 8.

If burner burns dry on low fire the wick will be even but must be wiped off with a cloth after the reservoir is filled and wick is allowed to become saturated with oil.

## How and When to Rewick

**WHEN NEEDED** — If, with oil in the reservoir, the flame dies down after burning a short time, it is an indication that the wick needs replacing, having become too short to reach down to the oil. See Question No. 6.

#### To Rewick

When it becomes necessary to rewick, be sure that you are supplied with the genuine No. 331-X Perfection Wick with a red triangle trade mark stamped upon it. Other wicks cause trouble. These wicks come attached to metal carrier ready for inserting. They are burned off at the factory to the proper chisel edge, ready for use, and should not be mistaken for used wicks.

To remove old wick, first remove chimney, flame-spreader and collar from burner, then turn handwheel to right to raise wick as high as possible. Then lift out old wick with carrier, throwing both away.

To insert wick, simply place it between the wick tubes and turn it to bottom by means of handwheel. (See Fig. Seven.) The new wick should be adjusted to come level with the top of the outside brass burner tube, but in case it does not come perfectly level all around, the wick can be removed and turned partly around in order to find the best position for perfect burning. If it is still not level with wick tubes, it should be burned off as explained under Question No. 8.

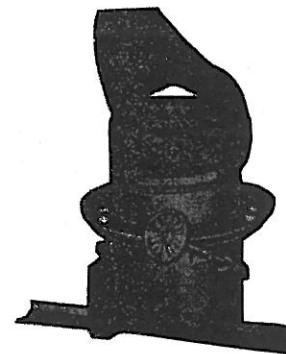


Fig. Seven

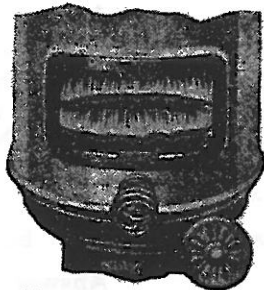
# Yellow Tipped Flames in High-Power Burners Assure Best Results

**FIRST** — Be sure the wick has a smooth bevel or chisel edge.

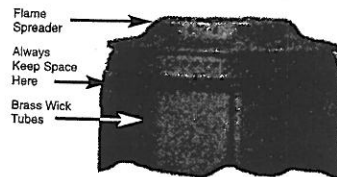
Second — Be sure all holes in chimney and flame spreader are kept open.

Third — Light the burner and, after replacing the chimney in position, adjust the wick so that the flame begins to show yellow tips not more than  $\frac{1}{2}$ " long above the blue.

These yellow tips may continue to increase in length somewhat as the burner continues in operation, but the flame will not creep unduly, if the burner parts are allowed to become properly heated before the flame is adjusted to show yellow tips.

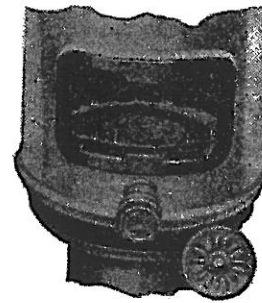


*Fig. Eight (High Flame)* Fourth — After the burner has been in operation for some time, and if maximum heat results are desired, the flame can be adjusted to show yellow tips one and one-quarter ( $1\frac{1}{4}$ ) inches long above the top of the blue portion of the flame. (See Fig. Eight.) These yellow tips should extend all around the top of the flame. However, do not turn flame so high as to lose the blue line between the solid blue body of the flame and yellow tips. Be sure that the wick is never turned so high that it touches the flame spreader.

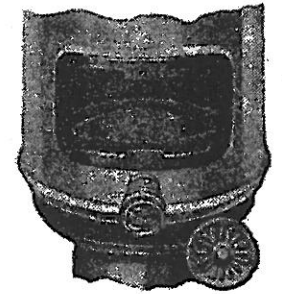


*Fig. Nine*

If you are using a flame with only one or two yellow tips, the wick should be wiped clean, as smoke and loss of heat may result. For biscuit baking, steak frying, bringing water to a boil, and any purpose requiring the most intense heat — use the yellow-tipped hot flame.



*Fig. Ten (Medium Flame)*



*Fig. Eleven (Low Flame)*

**Medium Flame** (Fig. Ten) — This flame represents only one of the many flame heights which may be secured between the highest and lowest. It is an economical flame for any ordinary cooking when great speed is not necessary. It will maintain any cooking food at the boiling point.

**Low Flame** (Fig. Eleven) — This flame will keep food slowly cooking or simmering, and is very necessary and useful in the various cooking processes. With the High-Power Perfection Burner a wide range of dependable cooking heats can be secured instantly by a slight turn of the handwheel.

**Caution:** — At low flame always keep the fire blue; never turn the burner down so low that the flame turns from blue to yellow, as this will result in incomplete combustion and may cause the burner to overheat and the fire to grow.

BY following closely the directions given on the preceding pages you will be able to obtain excellent results from your Perfection stove. There are, however, four points of special importance on which it seems advisable to place extra emphasis, as failure to observe any one of them may result in unsatisfactory operation. They are as follows:

1. Keep ventilating holes in chimney and flamespreader open.
2. Keep wicks trimmed with the correct chisel edge.
3. Be sure the burner is properly heated before using high flame.
4. Use good, clean oil and keep the oil line clean.

**IMPORTANT:** Never turn the wick so high that it touches the flame-spreader. See Fig. Nine.

### Keep Ventilating Holes Open

It is important to always keep the holes in the chimney and flame spreader open because the efficiency of the new High-Power Perfection Burner depends to a great extent upon the air flow through these ventilating holes (see Fig. Twelve).

Then, too, should these holes become clogged the flame would become hard to control and is liable to crack the porcelain enamel on the chimneys. Keep the holes open in the metal ring inside the wick tubes.

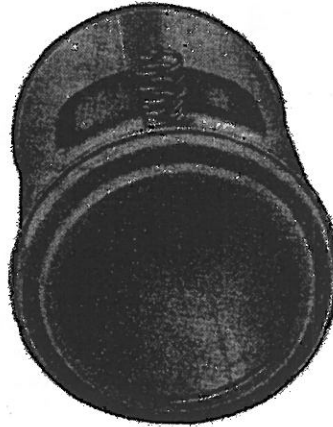


Fig. Twelve

### Keep Chisel Edge on Wicks

A smooth, beveled wick top (chisel edge) is essential to best results with the Perfection burners. The edge and the way it is obtained are illustrated and described on page 4 or see Question No. 8.

### Proper Burner Operation

Before the flame is turned up to the highest flame, with the yellow tips, for the most intense heat (illustrated and described on page 6) the burner should be operated at medium flame for some time with a utensil over it. It then becomes thoroughly heated and a full draft of air is drawn into the burner. See Question No. 4.

### Keeping Oil Line Clean

Water and dirt are heavier than kerosene. If they get into your stove they will collect in the basin under the oil reservoir and in the feed pipe leading to the burners. As water and dirt continue to accumulate, the flow of oil to the burners will be reduced and cooking retarded. The feed pipe should be drained two or three times a year. To drain feed pipe remove cap from end and flush out with fresh kerosene. See Question No. 12.

### Care of Finish

Do not use scouring powder containing abrasives, except on chimneys when necessary. It is preferable to clean with soap and water in order that the life of the finish be prolonged — particularly on japanned stove tops, lacquered burner trays, and lacquered legs.

## Questions and Answers on Proper Care and Operation

BY carefully observing the directions given on the preceding pages you will obtain excellent results with your Perfection stove. Neglect will cause trouble. The questions and answers given here are intended to help you to locate and correct any difficulty that may arise.

### Question No. 1

What kind of kerosene should be used?

#### Answer

Any good grade of kerosene should work satisfactorily. Occasionally, however, a brand of oil will cause oil seepage or drops of oil to collect on wick tubes. Before changing, read Question No. 9.

### Question No. 2

Should gasoline be mixed with the kerosene?

#### Answer

Never, under any circumstances, use gasoline, or mixture of gasoline and kerosene. A slight amount of gasoline mixed with kerosene makes an EXPLOSIVE MIXTURE that is extremely DANGEROUS.

### Question No. 3

Should Chemicals or "Dope" be added to the kerosene?

#### Answer

No, do not use any chemical or "dope" to increase the efficiency of the kerosene. It will ruin the metal parts that come in contact with the kerosene.

### Question No. 4

What causes a gap or break in flame?

#### Answer

- This may be caused by any one of several things:
- Wick turned to highest flame before the burner is warmed.
  - Wick turned up so high it touches the bottom of flame spreader. Always leave a space between wick and flame-spreaders. (See Fig. Nine.)
  - Wick needs cleaning. Form the habit of cleaning the wicks every morning.
  - Water in the oil. Stove should then be drained as explained under Question No. 12.
  - Airholes around bottom of chimney clogged up.

**Question No. 5**

**What causes the flame to smoke?**

**Answer**

This may be due to any one of the following:

- (a) Wick turned so high it touches flame-spreader. It is very important to keep a space between wick and flame-spreader. (See Fig. Nine.)
- (b) Wick is dirty.
- (c) Turned to highest flame before burner had a chance to get well warmed up.
- (d) Wick may be uneven. Should be level with wick tubes as explained in Question No. 8.
- (e) Airholes around bottom of chimney may be stopped up by boiled over food, lint, dust, etc., thus preventing the proper circulation of air. Inspect the chimneys occasionally and keep these holes open.
- (f) Mica may be broken in window. Broken mica should be replaced with new.
- (g) Holes in flame-spreader may be clogged up. Always keep these open or you will not secure perfect circulation of air. An old toothbrush will clean the flame-spreader very nicely.
- (h) Drum may not be seated snugly on collar.
- (i) Collar ring is not pushed down on brass burner tube as far as it will go.

**Question No. 6**

**What causes flame to die down?**

**Answer**

- (a) This is usually an indication that the wick needs replacing, having burned too short to reach the oil.
- (b) Clogged feed line or burner elbow. See Questions No. 10 and 12.
- (c) Water in the oil. See Questions No. 12.
- (d) Keeping oil in a can formerly containing heavy oil, varnish, etc., which clogs wicks.

**Question No. 7**

**What causes insufficient heat?**

**Answer**

This may be caused by any one of several things:

- (a) Not using proper flame heights. See pages 6 and 7.
- (b) Dirty or uneven wick.
- (c) Wick turned up against the flame-spreader.

**Question No. 8**

**How can an uneven wick be corrected?**

**Answer**

If you find it impossible to make top of wick come level with top of wick tubes by cleaning or turning wick around in tubes, it should be leveled as follows:

Insert reservoir. Light burner, adjust to lowest flame and allow to burn dry. By removing cap at end of feed pipe, and draining stove of all surplus oil, the burning dry can be hastened. Wait until the fire and red char are dead out. This smoothes up the wick perfectly, leaving a fine dust char on top. Tip metal reservoir back into operating position and allow wicks to saturate with oil for five minutes. Now remove chimney, flame-spreader collar, and without changing position of wick, wipe it smooth with a cloth (see Fig. Six). After replacing burner parts, relight burner. A perfect flame will result.

**Question No. 9**

**What causes oil to collect on wick tubes and drip into base?**

**Answer**

This may be caused by any one of several things:

- (a) Dirty wick or wick tubes. Dirt interferes with proper air drafts. Wipe all dirt and oil from wicks and wick tubes each day.
- (b) Holes in flame-spreader clogged up.
- (c) Holes in bottom of chimney stopped up with dust, food, etc.
- (d) You may have turned wick to highest flame before burner was well heated.
- (e) Operating burner in an unusually cold room.
- (f) The use of inferior grades of oil. Try another brand.

**Question No. 10**

**How can brass wick tubes be cleaned?**

**Answer**

Ordinarily these can be cleaned by wiping with a cloth or steel wool, but occasionally it is well to remove the burners and boil them in a strong solution of washing soda and water. (Do not use lye and do not boil in aluminum vessel as soda dissolves aluminum.) Before boiling, remove wicks and clean out dirt or sediment from inside of wick tubes and elbow opening. To remove burner loosen setscrew as shown in Fig. Thirteen. Before replacing burners, see that oil will flow freely through the burner elbows. If it is desired to use the stove with one or more burners removed, the openings in the feed pipe may be temporarily plugged by placing a common cork over the opening and tightening it with the setscrew in the burner clamp.

**Question No. 11**

How may boiled-over-food, etc., be cleaned from the outside of burner chimneys?

**Answer**

Scour with any good scouring powder or soap. In exceptional conditions, steel wool may be used.

**Question No. 12**

How often should feed pipe be drained of oil?

**Answer**

The feed pipe of stove should be drained every three months, so as to wash out any sediment that may gather in feed pipe or oil basin. To drain, remove glass reservoir and unscrew cap from end of the feed pipe, tip up reservoir end of stove, and allow all the oil to run out into some convenient receptacle. This oil should be thrown away. Next, thrust a long flexible wire through the feed pipe to loosen the sediment. Rinse with clean oil.

**Question No. 13**

How can a leak at burner joint be stopped?

**Answer**

To guard against leaks, every stove is tested and filled with oil and operated before leaving factory. However, sometimes excessive jarring or vibration in transit loosens the burner joints or pipe cap, and causes a slight leak at these points.

To correct a leak at burner joint, simply tighten the setscrews in the clamp which holds the burner to the feed pipe.

**Question No. 14**

How can burners that are off center be straightened?

**Answer**

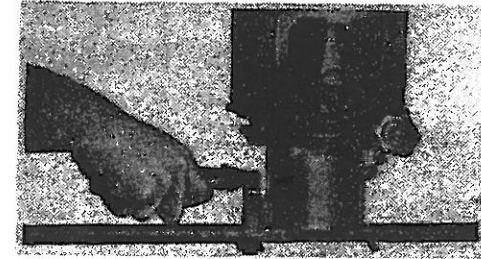
Occasionally these stoves receive a great amount of abuse in shipping. In case this abuse causes the burner chimneys to be off center with the grate hole, the burner can be easily straightened by slightly loosening the burner clamp setscrew, as shown in Fig. Thirteen, and forcing the burner forward or backward as needed, after which, while holding the burner in place, tighten the burner securely.

**Question No. 15**

What should be done when the stove is to be idle for several months or more?

**Answer**

Drain the oil from the feed pipe and burners. See Question No. 12. Clean all burner parts. Grease or oil the flame-spreader, collar, and all of the frame parts liable to rust. Keep the stove in a dry place.



*Fig. Thirteen*

**Question No. 16**

What should be done if a burner makes a humming noise?

**Answer**

A humming noise from a burner is not an indication of trouble, and may occur when the burner is operating perfectly. However, if you care to remedy it, try one of the following things.

If it hums at low flame turn the flame either up or down a little. If it hums at high flame turn the flame down a little. Or you can turn the burner out and after waiting until it is cool enough to touch, lift the flame-spreader and replace it in another position. Or, lastly you can shake the chimney gently.

**Question No. 17**

How can a hard crust on the wick be removed?

**Answer**

Proceed as instructed in the answer to Question No. 8.

**Question No. 18**

What should be done if the burner cannot be turned out?

**Answer**

Occasionally when a new wick is put into an old burner the wick cannot be turned down into the burner far enough for the fire to go out. The cause of this is an accumulation of carbon and dirt in the wick tubes. Clean as instructed in answer to Question 10.