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SKUTTLE 45-SH1 Owner's Manual

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Skuttle®
Indoor Air Quality Products

OWNER'S MANUAL

for Models 45, 90 & 190

Whole-House Central Humidifiers

**Includes Safety, Operating and Maintenance
Instructions and Warranty**

**CAUTION: Read these instructions thoroughly
before servicing!**

Save this manual for future reference.

Model No. _____

Serial No. _____

Installation Date: _____

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Thank you for purchasing a Skuttle Drum Humidifier. We appreciate your business and are pleased to add your name to our list of valued customers. We sincerely hope you are satisfied with our product and its performance.

Skuttle is the oldest manufacturer of residential humidifiers, having been in business since 1917. In addition to humidifiers, we manufacture air filters, make-up air controls, zone damper replacements and IAQ accessories.

As always, quality, performance and customer satisfaction are our highest priorities. The following information will aid you with the periodic maintenance necessary to keep your humidifier operating at peak efficiency.

- When you need parts or service, first try calling the heating and air conditioning dealer who installed your humidifier. This information may be located on the back of this booklet, or the dealer may have placed a reference label on your heating system.
- If you cannot locate your original installer, check the Yellow Pages under "Heating & Air Conditioning Contractors".
- If these attempts at finding parts or service fail, call us toll-free at (800) 848-9786. We'll be glad to assist you.

For further instructions regarding the benefits, operation and maintenance of your new Skuttle humidifier, please read the applicable sections of this manual.

**IMPORTANT:
WARRANTY VALIDATION**

The completion and return of the Warranty Registration Card **(enclosed separately in your Skuttle humidifier carton)** is a condition required for warranty coverage and performance. The warranty described herein is not valid unless the Warranty Card is completed and mailed to Skuttle Mfg. Co. within fifteen (15) days of equipment installation.

How Your Humidifier Works

Your Skuttle Drum Humidifier uses the same principle of evaporation that you see in nature: a warm breeze passing over an expanse of water will evaporate the water and raise the relative humidity, just as it does after a summer shower.

Inside your humidifier, a polyurethane foam evaporator pad lifts water from the water pan into the warm air stream. The pad's multiple holes and connecting strands significantly increase the area from which the water can evaporate. This ample source of moisture, combined with the warm air in your heating system, is what makes the humidifier effective.

It's important to note that water evaporated from the humidifier leaves behind all the impurities (calcium, iron, lime, bacteria, etc.) that were originally contained in the water. As a result, these impurities are not dispersed throughout your home, which keeps your living environment cleaner and your family safer from harmful contaminants.

How to Operate Your Humidifier

Your humidifier's output is controlled by a humidistat which monitors the relative humidity in your home, and activates or deactivates the humidifier accordingly. It is installed either on the cold air return of your HVAC system or on an interior wall of your home.

As you can see by the chart below, recommended humidistat settings increase as the outdoor temperature rises. This is to guard against condensation. (See FAQs on page 8.)

<u>Outdoor Temperature</u>	<u>Recommended Setting</u>	<u>Outdoor Temperature</u>	<u>Recommended Setting</u>
-20°F	15	+10°F	30
-10°F	20	+20°F	35
0°F	25	Above 20°F	40

Your humidifier may be equipped with a humidistat that has different relative humidity settings than those shown above. If so, use the following recommended settings:

<u>Outdoor Temperature</u>	<u>Humidity Setting</u>
-20°F	Low
-10°F	Low
0°F	Med
+10°F	Med
+20°F	High
Over 20°F	High

An unusually high frequency or prolonged period of indoor activities such as showering, cooking, clothes drying, etc., may cause indoor humidity to rise to an excessive level, causing condensation to accumulate on windows. If this condition lasts for more than a few hours, turn your humidifier off until normal indoor activity resumes. If the condition persists, you should ventilate your home to remove excess moisture.

How to Check the Humidifier for Proper Operation

For preseason startup, or to check your humidifier for proper operation (for example, after it has been serviced), follow this four-step procedure:

1. Turn on the water at the humidifier's saddle valve.
2. Make sure the water level is set at 1-3/8". Turn the valve adjustment screw clockwise (↻) to lower the water level; turn it counterclockwise (↺) to raise the water level.
3. Turn the humidistat to its highest setting and observe the humidifier evaporator pad. If it does not rotate, turn your furnace on by setting the thermostat higher until the furnace blower comes on. This should cause the humidifier evaporator pad to rotate.

NOTE: Wiring the unit to operate independently of, or in conjunction with, the furnace blower is up to the discretion of the installer. On installations where the unit is closely sized (i.e., the cubic footage of your home is at or near the humidifier's peak volume capacity), independent operation allows the unit to operate throughout the full blower cycle, thereby eliminating the lag time involved in starting the humidifier.

4. **IMPORTANT:** Reset the thermostat and humidistat to their correct positions for automatic operation.

How Water Hardness Effects Scheduled Maintenance

Your humidifier will accumulate minerals, such as calcium and lime, after operating for a short period – a sure sign that the humidifier is producing humidity. The amount of accumulation depends on the hardness of the water in your area, which means that cleaning frequency will vary from region to region. You can recognize that cleaning is necessary when the pores in the evaporative pad begin to become plugged with mineral deposits.

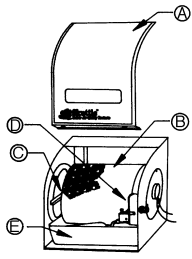
At a minimum, you humidifier will need to be cleaned at the beginning (or end) of every humidifying season (i.e., the months when you heat your home). Depending on the hardness of your water, mid-season cleaning may also be necessary. In areas with particularly hard water, installation of a Skuttle Automatic Flushing Timer (see page 6) will increase the intervals between cleanings.

WARNING: Excessive buildup of minerals is detrimental to the internal parts of your humidifier, as well as to the evaporative process.

How to Maintain Your Humidifier

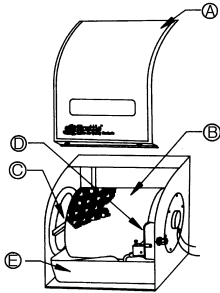
NOTE: The model number of your unit should be handwritten on the cover of this manual.

MODEL 45



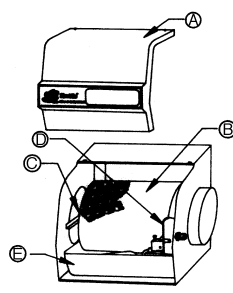
Replacement Pad
#A04-1725-033

MODEL 90



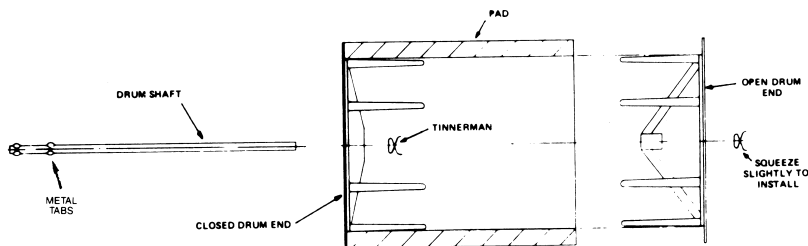
Replacement Pad
#A04-1725-034

MODEL 190



Replacement Pad
#A04-1725-034

1. Turn the water off at the saddle valve by turning the T handle clockwise (↻).
2. For models 45 and 90, remove the humidifier cover (A) by lightly prying down and out on the bottom lip of the cover. For model 190, remove the cover (A) by lifting upward on the bottom of the unit.
3. Remove the drum assembly (B) by lifting the drum shaft from the bearing (C) and pulling it out of the motor coupling. Next, remove the drum from the unit.
4. Remove the rubber valve seat (D) from the valve by grasping it between your thumb and forefinger and lifting it upward.
5. Raise the float up to remove the water pan (E) for cleaning.
6. Refer to the diagram below for disassembly (and reassembly) of the drum.



7. Clean all parts in a 50/50 solution of vinegar and water. (For stubborn deposits, it may be necessary to soak parts over night.)
8. For reassembly, reverse steps 1 through 6. To ensure proper humidifier operation, see "How to Check the Humidifier for Proper Operation" at the top of page 3.

Skuttle Limited One-Year Product Warranty

This limited one-year warranty covers the Skuttle product as designated on the return portion of the warranty registration card, excluding wiring, plumbing and installation.

Skuttle Manufacturing Company warrants that this product is free from defects in material and workmanship under normal, non-commercial use and service. Skuttle will remedy any such defects if they appear within 12 months from the date of the original installation as evidenced by receipt of the warranty registration card, subject to the terms and conditions of this limited one-year warranty stated below:

1. THIS LIMITED ONE-YEAR WARRANTY IS GUARANTEED BY SKUTTLE MANUFACTURING COMPANY, 101 MARGARET STREET, MARIETTA, OHIO 45750.
2. This warranty shall extend only to any non-commercial owner who has purchased this residential product other than for purposes of resale.
3. The completion and return of the warranty registration card is a condition **precedent** to warranty coverage and performance. Warranty is not valid unless this card is completed and mailed to the factory within fifteen (15) days of equipment installation.
4. All components are covered by this limited warranty except expendable items.
5. If within the warranty period this product or any component requires service, it must be performed by a competent heating and/or plumbing contractor (preferably the installing contractor). Skuttle will not pay shipping charges, or labor charges to remove or replace such defective parts or components. If the part or component is found by inspection to contain such defective material and/or workmanship, it will be either repaired or exchanged, free of charge, at Skuttle's option, and returned freight collect.
6. In order to obtain the benefits of this limited one-year warranty, the owner must notify the dealer or distributor in writing of any defects within thirty (30) days of the discovery. If after reasonable time you have not received an adequate response from the dealer or distributor, notify in writing, Skuttle Manufacturing, 101 Margaret Street, Marietta, Ohio 45750. SKUTTLE WILL RECEIVE, FREIGHT PREPAID, ONLY REMOVABLE PARTS OR COMPONENTS OF SUCH DEFECTIVE PRODUCTS.
7. This limited warranty does not apply to any part or component that is: damaged in transit or handling has been subject to abuse, neglect or accident; has not been installed, operated and serviced according to Skuttle's instructions, has been operated beyond the factory rated capacity; or altered in any such way that its performance is affected. There is no warranty due to neglect, alteration or ordinary wear and tear. Skuttle's liability is limited to replacement of defective parts or components and does not include the payment of the cost of labor charges to remove or replace such defective components or parts.
8. Skuttle will not be responsible for loss of use of any product: loss of time, inconvenience, or any other indirect, incidental or consequential damages with respect to person or property, whether as a result of breach of contract, neglect or otherwise. **SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE LIMITATION OF EXCLUSION IN THE PRECEDING SENTENCE MAY NOT APPLY TO YOU.**
9. THIS WARRANTY GIVES YOU SPECIFIC RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.
10. Any warranty work will be performed within a reasonable time, usually within one hundred twenty (120) days after notice of defect and delivery to the Skuttle factory, subject to delays beyond the manufacturer's control.
11. Any warranty by Skuttle of merchantability, fitness or use or any other warranty (express, implied or statutory), representation or guarantee other than what was set forth herein shall expire at the expiration date of this limited warranty. **SOME STATES TO NOT ALLOW LIMITATION ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE LIMITATION IN THE PRECEDING SENTENCE MAY NOT APPLY TO YOU.**
12. Skuttle reserves the right to make changes in the design and material of its products without incurring any obligation to incorporate such changes in the units completed on the effective date of such change.

Skuttle Manufacturing Company, 101 Margaret Street, Marietta, Ohio 45750, 740-373-9169.

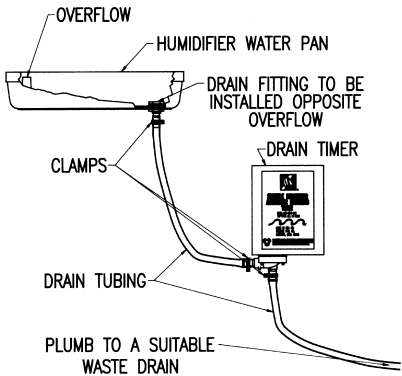
Skuttle Automatic Flushing Timer

Flushes Drum and Reservoir Type Humidifiers Every 12 Hours



The Skuttle Flushing Timer . . .

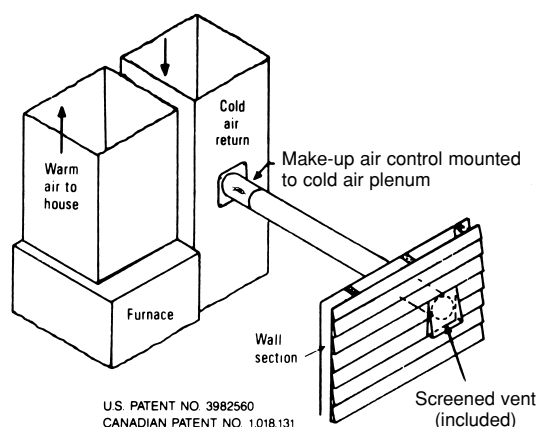
- Automatically flushes the humidifier water pan with fresh, clean water twice daily
- Reduces buildup of minerals and dissolved solids in evaporative media and reservoirs; helps maintain the efficiency of your humidifier
- Reduces or eliminates servicing during the humidification season
- Uses minimal electricity; uses 80 percent less water than conventional flow-thru humidifiers
- Is approved by Underwriters Laboratories
- Installs easily (by an HVAC contractor) – usually within 20 minutes



TYPICAL INSTALLATION

Skuttle Model 216 Make-Up Air Control

Provides Year-Round, Filtered Fresh Air



MODEL 216

The Skuttle Make-Up Air Control . . .

- Draws outside air into the furnace, where it is filtered, heated or cooled, and circulated through your home's duct system
- Combats interior air pollution created by today's tightly constructed homes
- Reduces drafts and uncontrolled air infiltration to provide year-round comfort
- Improves furnace efficiency by providing proper combustion air
- Adjusts automatically; uses no electricity
- Is made from corrosion-resistant, stainless steel to ensure long life

Skuttle High Efficiency Air Cleaners

Help Homeowners Breathe Easier

Skuttle Air Cleaners . . .

- Trap most of the in-home, airborne contaminants that are potentially harmful to your health
- Provide high-efficiency, high-capacity filtration with minimal airflow resistance
- Feature deep-pleated filter media to permit extended, high-volume service – up to 12 months
- Are housed in sturdy, 20-gauge, zinc-coated steel cabinets (protected by a 10-year warranty) to support up to 500 pounds of HVAC equipment and accessories
- Have an easy-lock door for an extra-tight seal and fast, easy filter cartridge replacement
- Are available in three sizes to fit virtually any furnace installation



FAQs about IAQ

(Frequently Asked Questions about Indoor Air Quality)

Why Do I need a humidifier?

More and more homeowners are realizing that, during the winter months, they live in a “sick house”. Family members suffer from dry, itchy skin, parched throats and annoying coughs. Furniture creaks, floors moan, the piano slips out of tune and static electricity zaps the cat. In general, everyone feels miserable because they’re living in an environment that can be drier than a desert!

Proper home humidification reduces static electricity, revitalizes dry skin and soothes scratchy throats. It adds moisture to dry, cracked furniture and wilting houseplants. It protects valuable artwork, antiques and musical instruments. It even saves money on winter heating bills. That’s because properly humidified air feels warmer, allowing you to turn your thermostat down a few degrees.

Why should I lower my humidistat setting when the outside temperature drops?

This practice may seem illogical at first. After all, you increase the temperature on your thermostat as the weather becomes colder. Why not do the same with your humidistat?

The answer is that the *relative humidity* (RH) must be reduced in extreme cold weather to prevent condensation on windows and interior surfaces. Otherwise, the excess moisture will eventually cause damage to your home. RH refers to the percentage of water vapor in the air at a specific temperature. Because air expands when heated, the relative humidity decreases unless moisture is added. Conversely, air that is cooled contracts, causing relative humidity to increase until it reaches *dew point* – the temperature at which the air becomes saturated and water condenses (just as it does on a glass of ice water on a warm, humid day). For recommended humidistat settings, see page 2.

I just installed a Skuttle humidifier in my house. Why don’t I feel any difference?

The period of adjustment can take up to three weeks – the time needed for your furniture, woodwork, carpeting, plaster and houseplants to absorb their natural levels of moisture.

Should I run my humidifier during the summer months?

Because, in most areas of the country, summer air is naturally more humid, it’s not necessary to humidify your home until colder weather sets in.

NOTE: For additional answers to your questions, visit our website at www.skuttle.com.

The Skuttle “Happy House” – Your Assurance of Enhanced IAQ



Healthful indoor air (often called “indoor air quality” or “IAQ”) is significantly cleaner than the air in many of today’s homes. It also contains appropriate levels of moisture and fresh outside air to aid the health and comfort of residents.

Humidification

In cold weather, dry indoor air often makes homes drier than a desert. Acting like a sponge, the parched air absorbs moisture wherever it can find it – furniture, plants, pets . . . even people. The result is a variety of discomforts and problems, including dry skin, stuffy noses, hacky coughs, sore throats, allergies, damage to furniture and woodwork, wilted plants and static electricity.

Too much or too little humidity in a home promotes an increase in bacteria, viruses, fungi, respiratory ailments and other unhealthy conditions. Skuttle humidifiers restore a home’s relative humidity to a balanced, healthier, more comfortable 30-to-50 percent range. And Skuttle makes humidifiers to fit more furnace systems, floor plans and water types than any other manufacture.

Filtration

Your body’s respiratory system is designed to filter out airborne particles that are three-to-five microns in diameter. Smaller particles can be inhaled, potentially causing serious health problems. The smallest contaminants (a single micron or less) are dispersed through HVAC ductwork and make up about 99 percent of the particles circulating through a typical home.

Skuttle duct-mounted air cleaners capture most of these contaminants in a deep-pleated filter which traps far more particles over a longer period than standard, flat-filter designs. The results are cleaner indoor air, longer filter life, longer furnace life and a healthier living environment.

Ventilation

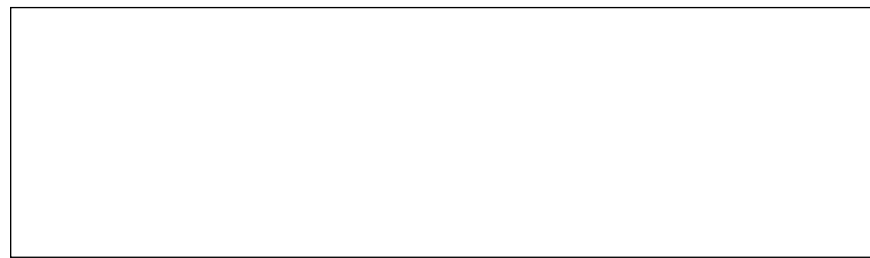
A primary cause of “sick house syndrome” is negative air pressure buildup, resulting from a lack of fresh-air exchanges throughout the home. It also contributes to mold growth.

To help eliminate these problems, Skuttle manufactures two ventilation products:

- The Make-Up Air Diffuser supplies additional combustion air to appliances that have inadequate combustible air sources.
- The Model 216 Make-Up Air Control automatically draws fresh, outside air into the furnace, where it is filtered, heated or cooled, and circulated through your home’s duct system. As a result, a slight pressure builds up in the home, keeping untreated air from seeping in around doors and windows.

No wonder we call a home protected by Skuttle Indoor Air Quality Products a “Happy House”. For more information, call us toll-free at (800) 848-9786, or visit us on the web at www.skuttle.com.

If you have questions about your Skuttle humidifier, or to learn which Skuttle IAQ products are right for your home, contact your local heating and air conditioning contractor:



Or contact:



Skuttle®

Indoor Air Quality Products

101 Margaret Street, Marietta, Ohio 45750

Phone: (800) 848-9786; Fax: (740) 373-9565

E-mail: info@skuttle.com; Web: www.skuttle.com

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★ ★ ★ ★
Quality Made
in the USA