

# OPERATOR MANUAL

IMPORTANT INFORMATION, KEEP FOR OPERATOR

This manual provides information for:

## **MODELS BPM-15/30/40GS ECLIPSE™ ERGONOMIC TILTING BRAISING PAN**

- Stainless Steel
- Manual Tilt
- Gas Heated



THIS MANUAL MUST BE RETAINED FOR FUTURE REFERENCE. READ, UNDERSTAND AND FOLLOW THE INSTRUCTIONS AND WARNINGS CONTAINED IN THIS MANUAL.

### FOR YOUR SAFETY

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

### POST IN A PROMINENT LOCATION

Instructions to be followed in the event user smells gas. This information shall be obtained by consulting your local gas supplier. As a minimum, turn off the gas and call your gas company and your authorized service agent. Evacuate all personnel from the area.

### WARNING

Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment.

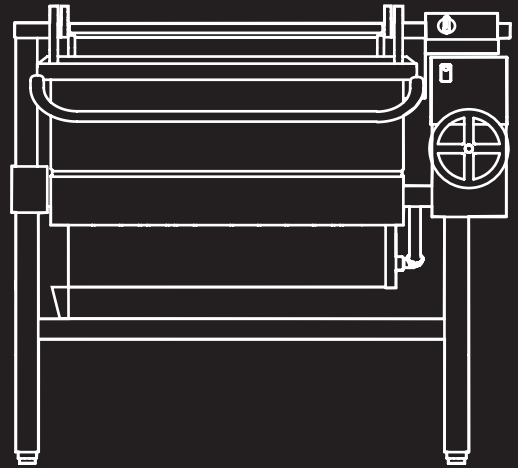
### NOTIFY CARRIER OF DAMAGE AT ONCE

It is the responsibility of the consignee to inspect the container upon receipt of same and to determine the possibility of any damage, including concealed damage. Unified Brands suggests that if you are suspicious of damage to make a notation on the delivery receipt. It will be the responsibility of the consignee to file a claim with the carrier. We recommend that you do so at once.

Manufacture Service/Questions 888-994-7636.

Information contained in this document is known to be current and accurate at the time of printing/creation. Unified Brands recommends referencing our product line websites, [unifiedbrands.net](http://unifiedbrands.net), for the most updated product information and specifications.

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A DOVER COMPANY

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# IMPORTANT - READ FIRST - IMPORTANT

- WARNING:** DISCONNECT POWER BEFORE SERVICING. FAILURE TO DISCONNECT COULD RESULT IN ELECTROCUTION AND DEATH.
- CAUTION:** UNIT WEIGHS 470 TO 560 LB. (191 TO 255 KG). FOR SAFE HANDLING, INSTALLER SHOULD OBTAIN HELP AS NEEDED, OR EMPLOY APPROPRIATE MATERIALS HANDLING EQUIPMENT (SUCH AS A FORKLIFT, DOLLY, OR PALLET JACK) TO REMOVE THE UNIT FROM THE SKID AND MOVE IT TO THE PLACE OF INSTALLATION.
- WARNING:** INSTALLATION OF THE BRAISING PAN MUST BE DONE BY PERSONNEL QUALIFIED TO WORK WITH GAS AND ELECTRICITY. IMPROPER INSTALLATION CAN RESULT IN INJURY TO PERSONNEL AND/OR DAMAGE TO EQUIPMENT.
- WARNING:** THIS UNIT IS DESIGNED FOR COMMERCIAL USE. NEVER USE HOME OR RESIDENTIAL GRADE GAS CONNECTIONS. THEY DO NOT MEET COMMERCIAL GAS CODES AND COULD BE HAZARDOUS.
- DANGER:** ELECTRICALLY GROUND THE UNIT AT THE TERMINAL PROVIDED. FAILURE TO GROUND UNIT COULD RESULT IN ELECTROCUTION AND DEATH.
- WARNING:** KEEP THE APPLIANCE AREA FREE AND CLEAR OF COMBUSTIBLE MATERIALS. FAILURE TO DO SO COULD RESULT IN FIRE OR PROPERTY DAMAGE.
- CAUTION:** BE SURE ALL OPERATORS READ, UNDERSTAND AND FOLLOW THE OPERATING INSTRUCTIONS, CAUTIONS AND SAFETY INSTRUCTIONS CONTAINED IN THIS MANUAL.
- CAUTION:** KEEP FLOORS IN BRAISING PAN WORK AREA CLEAN AND DRY. IF SPILLS OCCUR, CLEAN IMMEDIATELY TO AVOID THE DANGER OF SLIPS OR FALLS.
- WARNING:** WHEN TILTING BRAISING PAN FOR PRODUCT TRANSFER:  
1) USE CONTAINER DEEP ENOUGH TO CONTAIN AND MINIMIZE PRODUCT SPLASHING.  
2) PLACE CONTAINER ON STABLE, FLAT SURFACE, AS CLOSE TO PAN AS POSSIBLE.  
3) STAND TO SIDE OF PAN WHILE POURING – NOT DIRECTLY IN POUR PATH OF HOT CONTENTS.  
4) RETURN PAN BODY TO LEVEL POSITION AFTER CONTAINER IS FILLED OR TRANSFER IS COMPLETE.  
5) DO NOT OVERFILL CONTAINER, AVOIDING DIRECT SKIN CONTACT WITH HOT CONTAINER AND ITS CONTENTS.
- WARNING:** DO NOT HEAT EMPTY PAN FOR MORE THAN 5 MINUTES AT A SETTING HIGHER THAN 300°F.
- WARNING:** IF THE PAN CONTAINS ITEMS IN HOT LIQUIDS SUCH AS SAUCE OR MELTED FAT, THEY CAN SLIDE FORWARD SUDDENLY DURING TILTING AND CAUSE THE HOT LIQUID TO SPLASH OUT.
- WARNING:** AVOID ALL DIRECT CONTACT WITH HOT FOOD PRODUCT OR WATER IN THE PAN. DIRECT CONTACT COULD RESULT IN SEVERE BURNS.
- WARNING:** IT IS RECOMMENDED THAT WATER AND SOLUTIONS BE KEPT OUT OF CONTROLS AND BURNERS. DO NOT USE HIGH PRESSURE SPRAY DIRECTLY ON THE CONTROL CONSOLE, ELECTRICAL CONNECTIONS AND BURNERS. USE A GARDEN HOSE SPRAY CONNECTED TO CITY WATER SUPPLY.
- CAUTION:** MOST CLEANERS ARE HARMFUL TO THE SKIN, EYES, MUCOUS MEMBRANES AND CLOTHING. PRECAUTIONS SHOULD BE TAKEN TO WEAR RUBBER GLOVES, GOGGLES OR FACE SHIELD AND PROTECTIVE CLOTHING. CAREFULLY READ THE WARNINGS AND FOLLOW THE DIRECTIONS ON THE LABEL OF THE CLEANER TO BE USED.
- WARNING:** BEFORE REPLACING ANY PARTS, DISCONNECT THE UNIT FROM THE ELECTRIC POWER SUPPLY AND CLOSE THE MAIN GAS COCK. ALLOW FIVE MINUTES FOR UNBURNED GAS TO VENT.
- CAUTION:** USE OF ANY REPLACEMENT PARTS OTHER THAN THOSE SUPPLIED BY AUTHORIZED DISTRIBUTORS CAN CAUSE INJURY TO THE OPERATOR AND DAMAGE TO THE EQUIPMENT AND WILL VOID ALL WARRANTIES.
- IMPORTANT:** SERVICE PERFORMED BY OTHER THAN GROEN AUTHORIZED SERVICE AGENT WILL VOID ALL WARRANTIES.

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## References

CANADIAN STANDARDS ASSOCIATION  
8501 East Pleasant Valley Road  
Cleveland, Ohio 44131

Z83-11 - Gas Foodservice Equipment  
Z223.1 - National Fuel Gas Code

AMERICAN NATIONAL STANDARDS INSTITUTE  
1403 Broadway  
New York, New York 10018

CANADIAN GAS ASSOCIATION  
55 Scarsdale Road  
Don Mills, Ontario M3B 2 R3

NATIONAL FIRE PROTECTION ASSOCIATION  
60 Battery March Park  
Quincy, Massachusetts 02269

NFPA/54 - Installation of Gas Appliances & Gas Piping  
NFPA/70 - The National Electrical Code  
NFPA/96 - Ventilating Hoods

NSF INTERNATIONAL  
789 N. Dixboro Road  
P.O. Box 130140  
Ann Arbor, Michigan 48113-0140

UNDERWRITERS LABORATORIES, INC.  
333 Pfingsten Road  
Northbrook, Illinois 60062

# Equipment Description

Groen gas-heated Eclipse Ergonomic Tilting Braising Pans provide a stainless steel pan equipped with patented heat transfer fins, burner/combustion chamber, hand-operated or electric powered tilting mechanism, thermostatic controls, and hinged cover. The appliance serves as braising pan, griddle, fry pan, oven, kettle, bainmarie and food warmer/server, can be adapted for use as a non-pressure steamer and can be used to stir-fry, reheat and saute foods.

The pan body is made from heavy-duty stainless steel welded into one solid piece, with a polished interior and exterior. A pouring lip is welded to the front wall. The cooking surface is a stainless steel clad plate fitted with welded heat transfer fins which assure uniform heat transfer over the entire surface. The gas burner/combustion chamber supplies the heat.

An easily operated worm and gear mechanism tilts the pan and provides precise control for pouring or dumping the contents of the pan. This hand-wheel controlled mechanism is located in a stainless steel console to the right of the pan body. For models with electric power tilt, a switch operates an electric motor that starts and stops the pan tilt smoothly. To assist cleaning, the pan body can be tilted past the vertical position. When the pan is tilted, the burners shut off automatically.

The thermostat provides automatic control of cooking temperature. Operating the thermostat dial on the front of the control console turns the heat on or off and sets the pan temperature.

A vented, heavy gauge, one-piece, stainless steel cover with a condensate drip shield on the rear edge is standard on the Braising Pan. A fully enclosed, torsion bar type counterbalance provides easy operation to open the cover and to maintain it open at any position. The cover opens to the back and is hinged to the frame, so it moves independently of the pan body.

The braising pan is mounted on an open-leg frame fabricated from tubular stainless steel.

Standard models have an ignition system that uses electronic spark ignition. Optional models have a standing flame pilot light that ignites the main burner.

Model	PAN DIMENSIONS			Ignition	Tilt
	Left to Right	Front to Rear	Depth		
BPM-15GS	17-7/8" (454 mm)	28-1/4" (718 mm)	8" (23 mm)	Standing Pilot	Manual
BPM-30GS	26-1/4" (667 mm)	28-1/4" (718 mm)	10" (25 mm)	Standing Pilot	Manual
BPM-40GS	35-3/4" (908 mm)	28-1/4" (718 mm)	10" (25 mm)	Standing Pilot	Manual

# Equipment Description

Optional equipment available with these models are:

1. Fill faucet with swing spout. (Left or right mounted) - specify single or double pantry
2. Fill faucet with 48" or 60" spray hose assembly (left or right mounted) - specify single or double pantry
3. Caster mounting kit
4. Flanged Feet
5. Steamer Insert set
6. Steamer Pan Carrier
7. Quick gas disconnect with restraining cable
8. Pouring Lip Strainer

## PERFORMANCE DATA

Model	Firing Rate
BPM-15GS	65,000 BTU/hr
BPM-30GS	104,000 BTU/hr
BPM-40GS	144,000 BTU/hr

# Inspection & Unpacking

**CAUTION**  
SHIPPING STRAPS ARE UNDER TENSION  
AND CAN SNAP BACK WHEN CUT.

**CAUTION**  
UNIT WEIGHS 420 TO 560 LB (190 TO 255  
KG). FOR SAFE HANDLING, INSTALLER  
SHOULD OBTAIN HELP AS NEEDED, OR  
EMPLOY APPROPRIATE MATERIALS  
HANDLING EQUIPMENT (SUCH AS A  
FORKLIFT, DOLLY, OR PALLET JACK) TO  
REMOVE THE UNIT FROM THE SKID AND  
MOVE IT TO THE PLACE OF INSTALLATION.

The unit is strapped to a skid, and shipped in a heavy cardboard carton. (Shown is a model BPM-40GS with optional right side mounted, double pantry faucet assembly.)

The unit will arrive completely assembled, wrapped in protective plastic on a heavy skid, in a heavy cardboard carton. Immediately upon receipt, inspect the carton for damage. Report any apparent shipping damage or an incorrect shipment to the delivery agent.

When installation is to begin, get someone to assist in removing the carton. Lift it straight up and away from the unit. Do not simply raise it and push backwards - it will break the cover assembly vent handle. Write down the model number, serial number, and installation date of your unit, and keep this information for future reference. Space for these entries is provided at the top of the Service Log in this manual.

Cut the straps holding the unit on the skid, and lift the unit straight up off the skid.



# Installation

**CAUTION**  
INSTALLER MUST VERIFY THAT THE INSTALLATION COMPLIES WITH THE APPLICABLE LOCAL CODES AND REGULATIONS. THE UNIT MUST BE INSTALLED BY A LICENSED PLUMBER OR GAS FITTER WHEN INSTALLED WITHIN THE COMMONWEALTH OF MASSACHUSETTS.

**WARNING**  
INSTALLATION OF THE BRAISING PAN MUST BE DONE BY PERSONNEL QUALIFIED TO WORK WITH GAS AND ELECTRICITY. IMPROPER INSTALLATION CAN RESULT IN INJURY TO PERSONNEL AND/OR DAMAGE TO EQUIPMENT.

**WARNING**  
THIS UNIT IS FOR COMMERCIAL USE. NEVER USE HOME OR RESIDENTIAL GRADE GAS CONNECTIONS. THEY DO NOT MEET GAS CODES AND COULD BE HAZARDOUS.

**WARNING**  
ELECTRICALLY GROUND THE UNIT AT THE TERMINAL PROVIDED. FAILURE TO GROUND UNIT COULD RESULT IN ELECTROCUTION AND DEATH.

Install the braising pan in a well ventilated room for efficient performance. Remove any items which might obstruct or restrict the flow of air for combustion and ventilation. Clear all combustible material from the area directly around the unit.

1. Installation on combustible floors is allowed. Ensure minimum clearance to combustible and noncombustible construction.

	Minimum Clearance	Recommended Clearance
Left Side	0"	2" for service 6" when faucet is installed on left side
Right Side	0"	12-16" for service 6" when faucet is installed on right side
Rear	3"	12" for service

2. Install the unit under a vent hood.
3. Level the unit by adjusting the bullet feet or floor flanges on the legs. Be sure the tilting mechanism has been turned all the way to the horizontal position. Check levelness with a spirit level set on the bottom of the pan body. Anchor the rear legs securely to the floor if floor flanges are ordered or required.
4. Complete piping to the gas service with 3/4" inch IPS pipe or approved equivalent.
5. For unit on casters, the installation shall be made with a connector that complies with the standard for Connectors for Movable Gas Appliances, ANSI Z21.69 - CSA 6.16. Restrain movement of the unit by attaching a cable or chain to the eyelet provided at the back of the frame and anchor the cable or chain to the wall or floor. Make the length and location of the cable such that the unit cannot pull on the gas connection while the cable is connected or quick-disconnect.
6. The gas connection for a unit on casters must be made with a quick-disconnect device that complies with ANSI Z21.41 - CSA 6.9.
7. For electronic spark ignition, provide 120VAC, 60 HZ, 1 phase, 5 AMP electrical service (or 230VAC, 50HZ, 1 phase, 2-1/2 AMP service) as appropriate to the field wiring control box at the rear of the electrical console. AN ELECTRICAL GROUND IS REQUIRED. The unit must be electrically ground in accordance with local codes, or in the absence of local codes, with the National Electrical Code, ANSI/NFPA 70, or the Canadian Electrical Code, CSA C22.2, or specific country codes as applicable.
8. Installation must conform with local codes or with the American National Standard Z223, latest edition, National Fuel Gas Code. The pan should be installed in an adequately ventilated room with a provision for adequate air supply to the unit. The best ventilation will use a vent hood and exhaust fan. DO NOT obstruct the flue or vent duct after installation. In Canada, installation must conform to CAN/CGA B149 Installation Codes for Gas Appliances and Equipment and/or local codes.

# Installation

9. Adequate space for proper service and operation is required. DO NOT block any air intake spacings to the combustion chamber or obstruct air flow.
10. After the pan has been connected to the gas supply, check all gas joints for leaks. A soap solution or other suitable leak detector should be used. Do not use flame to check for leaks.
11. **PRESSURE TEST WARNING**
  - a. **Test pressure exceeding 0.5 PSIG (3.45kPa).** During pressure testing of the gas supply piping system at pressures exceeding 0.5 PSIG , the braising pan and its individual shutoff valve must be disconnected from the gas supply piping system.
  - b. **Test pressure equal to or less than 0.5 PSIG (3.45kPa).** During pressure testing of the gas supply piping system at pressures equal to or less than 0.5 PSIG , the braising pan must be isolated from the gas supply piping system by closing its individual manual shutoff valve.

# Initial Start-Up

**WARNING**  
WATER IS EXTREMELY HOT AND CAN CAUSE SEVERE BURNS. AVOID CONTACT WITH HOT WATER WHEN EMPTYING UNIT.

**CAUTION**  
ALWAYS RAISE PAN COVER BEFORE TILTING TO AVOID DAMAGING THE HINGE AND COUNTERBALANCE.

Now that your braising pan has been installed, you should test it to ensure that the unit is operating correctly.

1. Remove literature and packing materials from the interior and exterior of the unit.
2. Put enough water into the pan to cover the bottom to a depth of 1/4 to 1/2 inch (6 to 13 mm).. With the pan body in the horizontal position, note how the water lies in the pan, to confirm that the pan was leveled properly during installation.
3. Following “To Start Pan” instructions for your pan model, begin heating the water at a thermostat setting of 235°F. At this setting, heating should continue until the water boils.
4. To shut down the unit, turn the thermostat dial to “OFF”.
5. Turn the tilting handwheel clockwise to pour out the water and to confirm that the pan body can be tilted smoothly from horizontal to vertical. For power tilt models, push the UP/DOWN switch to confirm operation of tilting system.

If the unit functions as described above, it is ready for use. If it does not, contact your local Authorized Service Agency.



# Operation

**WARNING**  
KEEP THE AREA AROUND BRAISING PAN  
FREE AND CLEAR OF COMBUSTIBLE  
MATERIALS.

**CAUTION**  
KEEP FLOORS IN BRAISING PAN WORK  
AREA CLEAN AND DRY. IF SPILLS OCCUR,  
CLEAN IMMEDIATELY TO AVOID THE  
DANGER OF SLIPS OR FALLS.

**CAUTION**  
REPLACE THE HOLE PLUG BEFORE  
CLEANING OTHERWISE WATER COULD  
ENTER THE ELECTRICAL CONTROL BOX  
AND DAMAGE THE PARTS.

**CAUTION**  
DO NOT HEAT AN EMPTY PAN FOR  
MORE THAN FIVE MINUTES AT A  
SETTING HIGHER THAN 300°F.  
DAMAGE TO THE PAN COULD RESULT.



Gas valve "On"



Gas valve "Off"

## A. Controls

Operator controls for the braising pans are:

1. The thermostat dial is located on a control module to the right rear of the pan body. This dial is used to turn the thermostat ON or OFF and to set the pan temperatures between 175° and 425°F (79° to 218°C).
2. The manual gas shut-off valve supplies inlet gas to the unit.
3. For standing pilot flame, the gas control valve is on the Combination Gas Control, which is located under the pan on the gas line to the burner manifold. This valve has settings of OFF, PILOT and ON.

## B. Operating Procedure

1. To Tilt Pan Body -  
Turn the tilting handwheel clockwise to tilt the pan body, or counterclockwise to return the pan body to horizontal. 23 complete turns of the handwheel will tilt the body 90 degrees to vertical.
2. Standing-Flame Pilot -  
NOTE: These models can be operated without an external power supply. In case of a power failure, the unit can continue to operate.
  - a. To Start Pan -
    1. Set thermostat to "OFF".
    2. Light gas pilot.
      - (a) Set knob on Combination Gas Control Valve to "OFF" by depressing the knob slightly and turning it clockwise.
      - (b) Turn the main supply gas valve ON (parallel to the gas pipe).
      - (c) Tilt the pan, so the pilot burner is easier to reach.
      - (d) Hold a lighted match at the pilot burner, while you depress the knob on the Combination Control and turn it counterclockwise to the "PILOT" position. Continue to hold the knob down for 60 seconds.
      - (e) Release the knob. The pilot flame should stay lighted.
      - (f) Turn the knob counterclockwise to "ON".
    3. Lower the pan tilt to horizontal or cooking position.
    4. Turn the thermostat dial to the desired temperature.
  - b. To Turn Off Pan -
    1. Set the thermostat dial to "OFF".
    2. To turn off the gas pilot, depress the knob on the Combination Control and turn it clockwise to "OFF".
  - c. To Relight Pilot -
    1. Close the main supply gas valve.
    2. Set the thermostat to "OFF".
    3. Depress the knob on the Combination Control and turn it clockwise to "OFF".
    4. Wait 5 minutes, then proceed as instructed at "To Start Pan" above.

# Operation

**WARNING**  
**WHEN TILTING BRAISING PAN**  
**FOR PRODUCT TRANSFER:**

- 1) USE CONTAINERS DEEP ENOUGH TO CONTAIN AND MINIMIZE PRODUCT SPLASHING.
- 2) PLACE CONTAINER ON A STABLE, FLAT SURFACE, AS CLOSE TO THE BRAISING PAN AS POSSIBLE.
- 3) STAND TO THE SIDE OF THE PAN WHILE POURING — NOT DIRECTLY IN THE POUR PATH OF HOT CONTENTS.
- 4) RETURN PAN BODY TO UPRIGHT POSITION AFTER CONTAINER IS FILLED OR TRANSFER IS COMPLETE.
- 5) DO NOT OVERFILL CONTAINER. AVOID DIRECT SKIN CONTACT WITH HOT CONTAINER AND CONTENTS.

**CAUTION**  
DO NOT HEAT AN EMPTY PAN FOR MORE THAN FIVE MINUTES AT A SETTING HIGHER THAN 300°F. DAMAGE TO THE PAN COULD RESULT.

**WARNING**  
STEAM CAN CAUSE BURNS. AVOID ESCAPING STEAM WHEN RAISING COVER.

**WARNING**  
ITEMS IN SAUCE OR MELTED FAT CAN SLIDE FORWARD SUDDENLY DURING TILTING AND SPLASH THE HOT LIQUID.



3. To Move a Unit on Casters -  
The unit must be anchored with a cable or chain to avoid accidentally breaking or pulling loose the gas connection. When the unit is to be moved, first turn off and disconnect the gas connection.

Disconnect the cable from its anchor point on the floor or wall. Anchor the unit again as soon as it is in its new operating location or returned to the previous location. Turn on the gas supply and check for leaks with a soap solution. If leaks are found, do not operate the equipment. Call for service.

4. To Preheat the Pan -  
The unit must be anchored with a cable or chain to avoid accidentally breaking or pulling loose the gas connection. When the unit is to be moved, first turn off and disconnect the gas connection.
  - a. For best braising pan or frying results, preheat pan before you put in any food.
  - b. To get an even temperature across the pan, preheat at a setting of 300°F or less for 15 minutes or through several on-off cycles of the burner.

## B. Cooking

1. To simmer or slowly heat an item, set the dial at 210°F (99°C) or lower. Put the cover down to minimize moisture loss, or leave it up to help dry or reduce the product. Set the thermostat higher to cook or drive off moisture faster. You may adjust the thermostat to any setting to cook the item exactly as required.
2. Leave the cover vent open to let excess steam escape. For long simmering operations, you may wish to close the vent to retain moisture.
3. To check progress when the cover is closed, lift the handle of the vent cover slightly, and move it quickly to either side.
4. Standing to one side of the pan (to avoid the steam that will be released) grasp the nearer corner of the cover handle and raise the cover. The cover will stay in the open position until you push it down.
5. To pour product, remove grease, or assist in cleaning, first raise the cover, then tilt the pan forward by turning the tilting handwheel. When you stop turning the wheel, the pan body will hold its position.

# Sequence of Operation

The following “action-reaction” outline is provided to help understand how the braising pan works.

## Standing Pilot Ignition

1. When the operator presses down the knob on the Combination Gas Control Valve and turns it to “Pilot”, gas is admitted to the pilot burner. Depressing the knob in this position overrides the automatic control, which otherwise shuts off all gas supply when the thermopile is cold. Lighting and maintaining the pilot flame for sixty seconds heats the thermopile to operating temperature, so the thermopile begins to provide electric current at 750 millivolts. Electricity from the thermopile powers the control circuit and the Combination Gas Control Valve. When the thermopile begins operating at full capacity, the knob may be released.
2. When the knob is turned to “ON”, the automatic valve for the main burner is able to open. Setting the thermostat to call for heat causes the thermostat to send a signal to the valve, which opens and admits gas to the main burner. Gas from the main burner is ignited by the pilot flame. When the pan reaches the set temperature, the thermostat switch opens, stopping the signal to the main burner valve and causing the valve to close. When the pan cools below the set temperature, the thermostat switch closes and starts another heating cycle. On-off cycling continues and maintains the pan at the desired temperature.

## All Units

1. The thermostat controls heating by alternately calling for flames at the full capacity of the main burners and then signaling the control to shut the burner off completely. Because the control works in this “all or nothing” way, the pan heats as fast as it can until it reaches the set temperature. Turning the thermostat dial to a higher temperature will cause heating to continue longer, until the pan reaches the higher temperature, but it cannot make the pan heat any faster.
2. The pans are protected from overheating by a secondary thermostat. If the pan temperature rises above 425° F (218°C), the thermostat causes the automatic gas control valve to close. When the pan cools, the thermostat automatically resets and permits normal operation to continue.
3. The tilt switch will shut off all burners whenever the braising pan is tilted 10 degrees or more from the horizontal.
4. A gas pressure regulator, which controls gas pressure at the burner manifold is built into the gas control valve.
5. Turning the tilting handwheel turns a worm gear, which turns a gear wheel on one of the trunnions which support the pan body. Turning the gear wheel produces the tilting action.

NOTE: Neither model will heat (operate) when the braising pan has been tilted 10 degrees or more from the horizontal.

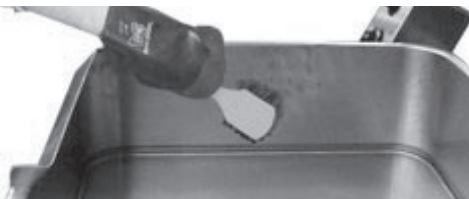
# Cleaning

**WARNING**  
KEEP WATER AND SOLUTIONS OUT OF CONTROLS AND ELECTRICAL EQUIPMENT. DO NOT USE A HIGH PRESSURE HOSE TO CLEAN THE CONTROL CONSOLE, ELECTRICAL CONNECTIONS, ETC.

**CAUTION**  
MOST CLEANERS ARE HARMFUL TO THE SKIN, EYES, MUCOUS MEMBRANES AND CLOTHING. PRECAUTIONS SHOULD BE TAKEN TO WEAR RUBBER GLOVES, GOGGLES OR FACE SHIELD AND PROTECTIVE CLOTHING. CAREFULLY READ THE WARNINGS AND FOLLOW THE DIRECTIONS ON THE LABEL OF THE CLEANER TO BE USED.

**WARNING**  
DO NOT SPRAY WATER DIRECTLY ON BURNERS AND GAS COMBUSTION CHAMBERS.

**NOTICE**  
NEVER LEAVE A CHLORINE SANITIZER IN CONTACT WITH STAINLESS STEEL SURFACES LONGER THAN 30 MINUTES. LONGER CONTACT CAN CAUSE CORROSION.



Use a brush, sponge, cloth, plastic or rubber scraper, or plastic wool to clean.



Don't use metal implements or steel wool.



Do not spray water directly on burners and gas combustion chambers.



1. Before any cleaning operation, shut off the burner by turning the thermostat dial to "OFF". If water or cleaning solution will be sprayed, unplug the unit from the electric power source, or shut off the power at the circuit breaker or fuse panel.
2. Clean all food-contact surfaces soon after use, before the pan has cooled completely. If the unit is in continuous use, thoroughly clean and sanitize both interior and exterior at least once every 12 hours.
3. Scrape or rinse out large amounts of food residues, then wash the inside of the pan body with a mixture of hot water and soap or an appropriate detergent, such as Mikro-Quat from ECOLAB. Follow the detergent supplier's recommendations on strength of the solution to use. Rinse the pan thoroughly with hot water and drain completely.
4. To remove materials stuck to the equipment, use a brush, sponge, cloth, plastic or rubber scraper, or plastic wool along with the detergent or soap solution. To minimize the effort required in washing, let the detergent solution sit in the pan and soak into the residue, or heat the detergent solution briefly in the pan. Do NOT use any abrasive materials or metal implement that might scratch the surface, because scratches make the pan hard to clean and provide places for bacteria to grow. Do NOT use steel wool, which may leave particles imbedded in the pan surface and cause eventual corrosion and pitting.
5. As part of the daily cleaning program, clean all external and internal surfaces that may have been soiled. Remember to check such parts as the underside of the cover, control console, etc.
6. Controls and the control console may be cleaned with a damp cloth or sprayed with a garden hose spray connected to city water supply. Do not use a pressure sprayer directly on the unit or electrical parts.
7. The exterior surface of the unit may be polished with a recognized stainless steel cleaner.
8. If the equipment needs to be sanitized, use a sanitizing solution equivalent to one that supplies 100 parts per million available chlorine. Obtain advice on the best sanitizing agent from your supplier of sanitizing products. Following the supplier's instructions, apply the sanitizing agent after the unit has been cleaned and drained. Rinse off the sanitizer thoroughly.
9. If there is difficulty removing mineral deposits or a film left by hard water or food residues, clean the pan thoroughly and then use a deliming agent, such as Groen De-limer/De-scaler (PN 140513), in accordance with the manufacturer's directions. Rinse and drain the unit before further use.
10. If especially difficult cleaning problems persist, contact your cleaning product representative for assistance.

# Maintenance

**WARNING**  
ELECTRIC POWER ALWAYS SHOULD BE  
SHUT OFF BEFORE WORK IS DONE ON  
INTERNAL COMPONENTS.

**WARNING**  
DISCONNECT ELECTRICAL POWER FROM  
THE UNIT BEFORE ATTEMPTING TO GREASE  
THE TRUNNION BEARINGS.



Your braising pan is designed to require minimum maintenance, but certain parts may need replacement after prolonged use. After installation, no user adjustment should be necessary. If a service need arises, only authorized personnel should perform the work.

Service personnel should check the unit at least once a year. This periodic maintenance should include inspecting electrical wires and connections, cleaning the inside of the control console, and possible adjustment of the pilot light. (Units with standing pilot ignition only) At least twice a year, grease the two trunnion bearings and worm gear.

We recommend the use of number two grade LGI lithium grease. Add grease through the zerk fittings on the gear hosing until grease flows out of the bearings around trunnion shaft. Also, add grease in the gear to cover arc that is in contact with the worm gear. Clean up excess grease.

A Service Log is provided with the warranty information at the back of this manual. Each time service is performed on your equipment, enter the date on which the work was done, what was done, and who did it. Keep the manual with the equipment for quick and easy reference.

# Troubleshooting

Your Groen braising pan will operate smoothly and efficiently if properly maintained. However, the following is a list of checks to make in the event of a problem. If the actions suggested do not solve the problem, call your qualified Groen Service Representative. For the phone number of the nearest agency, call your area Groen representative or the Groen Parts and Service Department. If an item on the list is followed by X, the work should only be performed by a qualified service representative.

## WARNING

**BEFORE REPLACING ANY PARTS, DISCONNECT THE UNIT FROM THE ELECTRICAL POWER SUPPLY AND CLOSE THE MAIN GAS VALVE. ALLOW FIVE MINUTES FOR GAS TO VENT. USE OF ANY REPLACEMENT PARTS OTHER THAN THOSE SUPPLIED BY THE MANUFACTURER OR THEIR AUTHORIZED DISTRIBUTORS CAN CAUSE INJURY TO THE OPERATOR AND DAMAGE TO THE EQUIPMENT AND WILL VOID ALL WARRANTIES.**

**SERVICE PERFORMED BY OTHER THAN FACTORY AUTHORIZED PERSONNEL WILL VOID ALL WARRANTIES.**

### A. ALL MODELS

SYMPTOM	WHO	WHAT TO CHECK (X indicates work that should only be performed by a qualified service representative)
Pan is hard to tilt.	Authorized Service Rep Only	a. Gears or foreign materials, lubrication, and alignment. X b. Broken tilt or worm gears. X
Burners will not light.	User	a. That the main gas supply valve is open (handle is in line with the gas pipe) b. Gas supply to the braising pan is at specified pressure. c. That the pan body is horizontal.
	Authorized Service Rep Only	d. Thermostat operation. The thermostat should click when the dial is rotated to settings above and below the temperature of the pan. X
Pan continues to heat after it reaches desired temperature.	User	a. Thermostat dial setting.
	Authorized Service Rep Only	b. Thermostat calibration. X c. Thermostat operation. The thermostat should click when the dial is rotated to settings above and below the temperature of the pan. X
Pan stops heating before reaching desired temperature.	User	a. Thermostat dial setting.
	Authorized Service Rep Only	b. Thermostat calibration. X c. Thermostat operation. The thermostat should click when the dial is rotated to settings above and below the temperature of the pan. X
Pan heats unevenly.	User	a. That the pan body is horizontal. b. That the pan is preheated properly in accordance with the instructions in the Operation section of this manual.

# Troubleshooting

## B. STANDARD MODELS WITH ELECTRONIC IGNITION SYSTEM (REFER TO SCHEMATIC)

SYMPTOM	WHO	WHAT TO CHECK (X indicates work that should only be performed by a qualified service representative)
Main burner comes on but will not stay on.	Authorized Service Rep Only	a. Check burner ground for bad wire or connection. Replace if necessary with high temperature wire. X b. Check for low gas supply pressure. If necessary, replace ignition control module. X

## C. MODELS WITH STANDING PILOT IGNITION SYSTEM

SYMPTOM	WHO	WHAT TO CHECK (X indicates work that should only be performed by a qualified service representative)
Pilot will not light.	User	a. Lighting procedure, to ensure that the instructions in the Operation section of this manual are followed.
	Authorized Service Rep Only	b. That the pilot gas supply line is purged of air. X c. Pilot gas adjustment screw, to ensure that it is open. X d. Pilot tubing and orifice for clogging. X
Pilot flame goes out when Combination Control knob is released.	Authorized Service Rep Only	a. Pilot gas adjustment. X b. Are connections from Powerpile generator to Pilotstat power unit and Powerpile operator clean and secure? X c. Are open and closed circuit output voltages of the generator in the acceptable range shown by the charts in the manual for the W720 Systems Tester? X d. Resistance of the Pilotstat power unit. X e. If an appropriate meter is not available, replace the generator first, then the power unit. X
Pan will not heat, and pilot light is out.	User	a. Is the Combination Gas Control Valve knob turned ON? b. Check the pilot tubing and orifice for clogging.
	Authorized Service Rep Only	c. Are connections from Powerpile generator to Pilotstat power unit and Powerpile operator clean and secure? X d. Are Open and closed circuit output voltages of the generator in the acceptable range shown by the charts in the manual for the W720 Systems Tester? X e. If an appropriate meter is not available, replace the generator. X
Pan will not heat, but pilot light is burning.	Authorized Service Rep Only	a. That secondary thermostat switch is closed.

# Parts List

## Stand & Foot Assembly

Key	Description	Part #
1	CASTER KIT (SET OF 2 WITH BRAKE AND 2 W/O BRAKE)	146354
1	CASTER WITH BRAKE (W/O FOOT ADAPTER)	146513
1	CASTER WITHOUT BRAKE (W/O FOOT ADAPTER) NOT SHOWN	146515
2	FOOT ADAPTER	146516
3	FLANGED FOOT (W/O FOOT ADAPTER)	146521
4	BULLET FOOT (W/O FOOT ADAPTER)	146628
5	FRICTION RING	146520

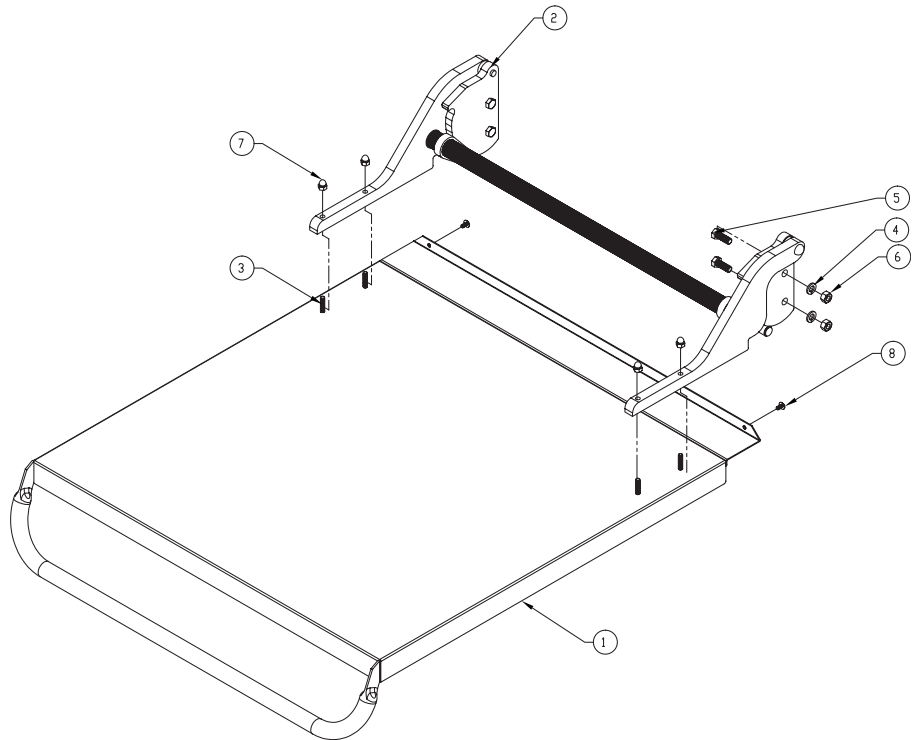




# Parts List

## Cover & Counterbalance Assemblies

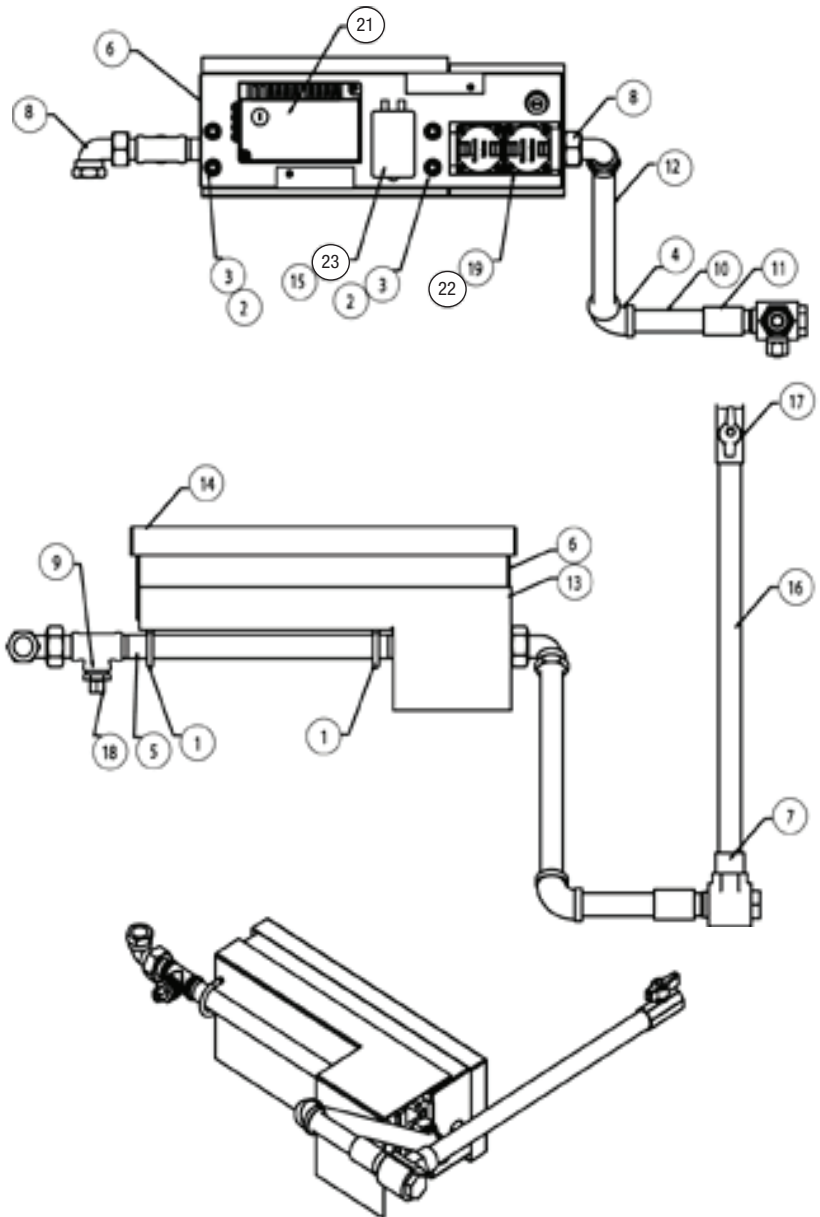
Key	Qty	Description	Part #
1	1	COVER ASSEMBLY, 15 GALLON	162232
1	1	COVER ASSEMBLY, 30 GALLON	144812
1	1	COVER ASSEMBLY, 40 GALLON	144453
2	1	COUNTERBALANCE ASSEMBLY, 15 GALLON	162235
2	1	COUNTERBALANCE ASSEMBLY, 30 GALLON	145480
2	1	COUNTERBALANCE ASSEMBLY, 40 GALLON	144790
3	4	STUD WELD, 1/4"-20 X 1-1/4"	Z012589
4	4	WASHER, LOCK 3/8"	Z005618
5	4	SCREW, HEX HEAD CAP, 3/8"-16 x 1"	Z005612
6	4	NUT, HEX 3/8"-16	Z005619
7	4	DOME NUT, 1/4"-20	Z090567
8	2	SCREW, TRUSS HEAD, #10-32 X 3/8"	Z004173



# Parts List

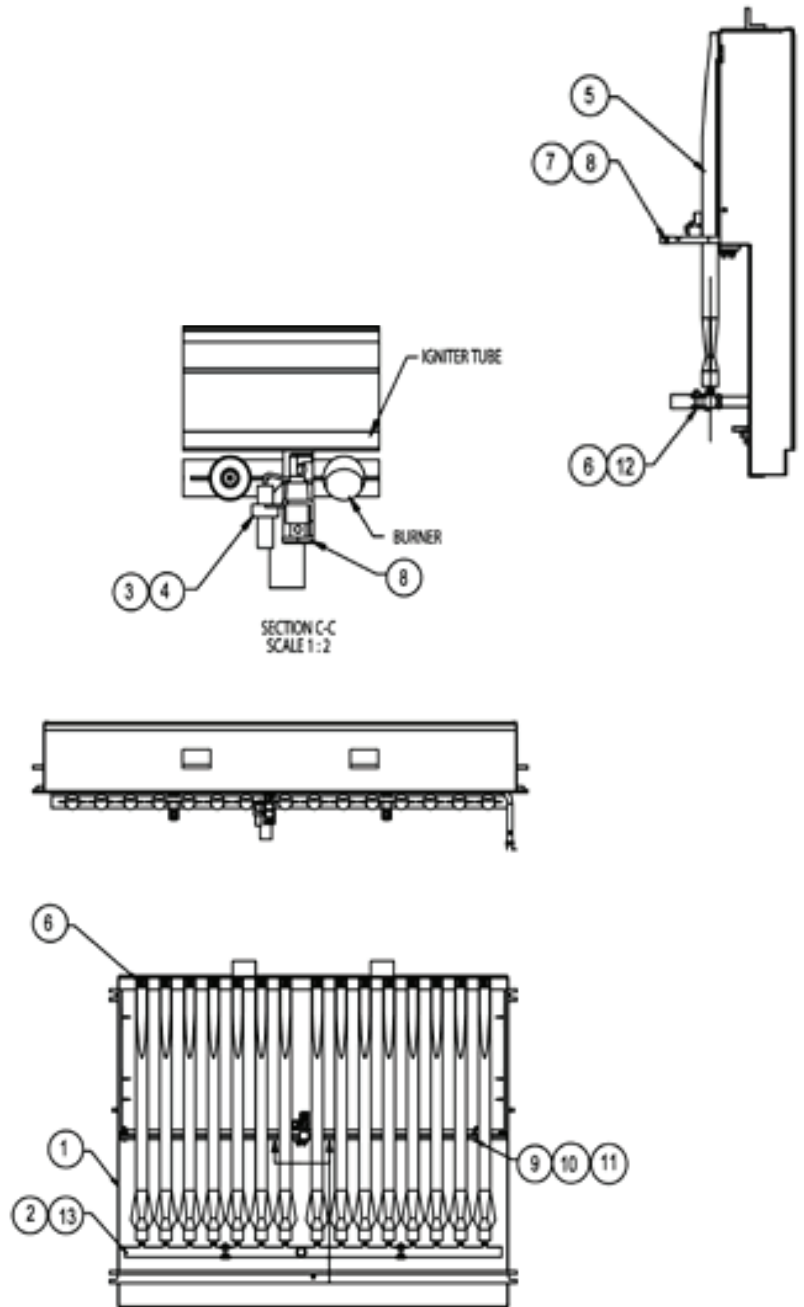
## Gas Piping Assemblies

Key	Qty	Description	Part #
1	2	U BOLT 1/2" PIPE	N70636
2	12	WASHER PLAIN 1/4	005472
3	12	NUT HEXAGON KEPS 1/4-20 WITH	NT1101
4	1	ELBOW 90 DEG 1/2 NPT	008747
5	1	NIPPLE 1/2 NPT X 10-1/2" (15 GAL)	003229
5	1	NIPPLE 1/2 NPT X 11" (30/40 GAL)	005673
6	1	IGNITION MODULE PLATE ASSY STANDING PILOT	146510
7	1	SWIVEL JOINT 1/2 NPT (GAS)	076680
8	2	UNION ELBOW	141354
9	1	TEE 1/2 NPT	008772
10	1	NIPPLE 1/2 NPT X 4	005554
11	1	COUPLING FULL 1/2 NPT	005722
12	1	NIPPLE 1/2 NPT X 10	005558
13	1	REAR RADIATION HEAT SHIELD	146145
14	1	IGNITION MODULE COVER	146146
15	2	SCREW ROUND HEAD MACHINE	018384
16	1	NIPPLE 1/2 NPT X 15"	048570
17	1	VALVE GAS MANUAL SHUTOFF 1/2	098458
18	1	CONNECTOR MALE 1/2	049429
19	1	FITTING COMPRESSION 90	004584
20	1	GROMMET 7/8" (NOT SHOWN)	007400
22	1	GAS CONTROL VALVE-STANDING PILOT-PROPANE	002649
23	1	HIGH LIMIT THERMOSTAT (GAS)	013481
-	1	ELBOW FEMALE 90 DEG, 1/8 NPT TO 1/4 TUBE (NOT SHOWN)	050500
-	1	TUBE, IGNITION SUPPLY TUBE, 1/4 (NOT SHOWN)	146119
-	1	1 PILOT SUPPLY TUBE, 1/4" (STANDING PILOT) (NOT SHOWN)	149054
-	1	PILOT SUPPLY TUBE, 1/4 (NOT SHOWN)	146118



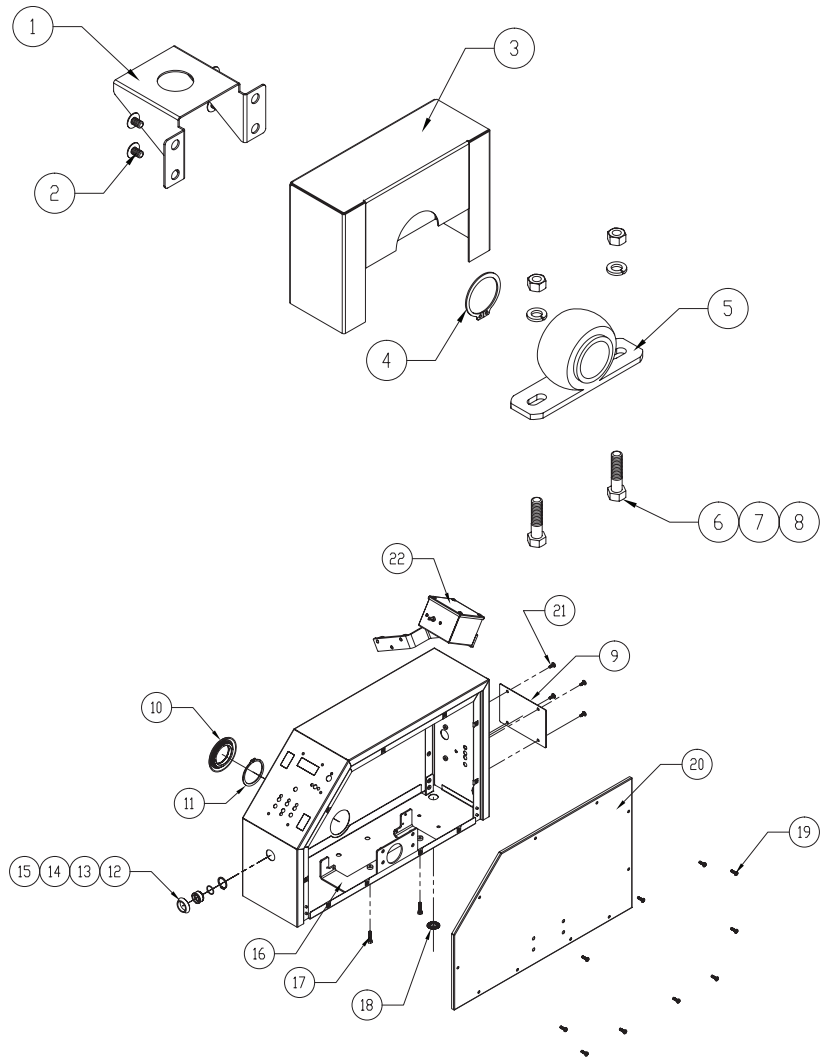
# Parts List Combustion Chamber & Gas Manifold Assemblies

Key	Qty	Description	Part #
1	1	COMBUSTION CHAMBER ASSY, 15 GAL.	155707
1	1	COMBUSTION CHAMBER ASSY, 30 GAL.	145941
1	1	COMBUSTION CHAMBER ASSY, 40 GAL.	144843
2	1	MANIFOLD, 15 GAL.	155717
2	1	MANIFOLD, 30 GAL.	145944
2	1	MANIFOLD, 40 GAL.	144845
3	1	PILOT BURNER, STAND- ING PILOT-PROPANE	123684
4	1	MOUNTING BRACKET FOR PILOT	119418
5	7	BURNER TUBE, 15 GAL.	144847
5	11	BURNER TUBE, 30 GAL.	144847
5	15	BURNER TUBE, 40 GAL.	144847
6	21	NUT, KEPS 1/4-20	012940
7	1	IGNITION TUBE, 15 GAL.	155722
7	1	IGNITION TUBE, 30 GAL.	145957
7	1	IGNITION TUBE, 40 GAL.	145912
8	1	IGNITION TUBE ORIFICE, -15 GAL.-PROPANE	101625
8	1	IGNITION TUBE ORIFICE, -30 GAL.-PROPANE	101625
8	1	IGNITION TUBE ORIFICE, -40 GAL.-PROPANE	101623
9	2	SCREW, #10-32 X 1"	093478
10	2	IGNITION TUBE CLAMP	085107
11	2	NUT, KEPS 10-32	071256
12	3	SCREW, ROUND HEAD 1/4"-20 X 1"	012847
13	7	BURNER ORIFICE, 15 GAL. -PROPANE	146148
13	11	BURNER ORIFICE, 30 GAL. -PROPANE	146148
13	15	BURNER ORIFICE, 40 GAL. -PROPANE	146148
-	1	RADIATION SHIELD WELDMENT, 15 GALLON (NOT SHOWN)	155723
-	1	RADIATION SHIELD WELDMENT, 30 GALLON (NOT SHOWN)	146116
-	1	RADIATION SHIELD WELDMENT, 40 GALLON (NOT SHOWN)	144833



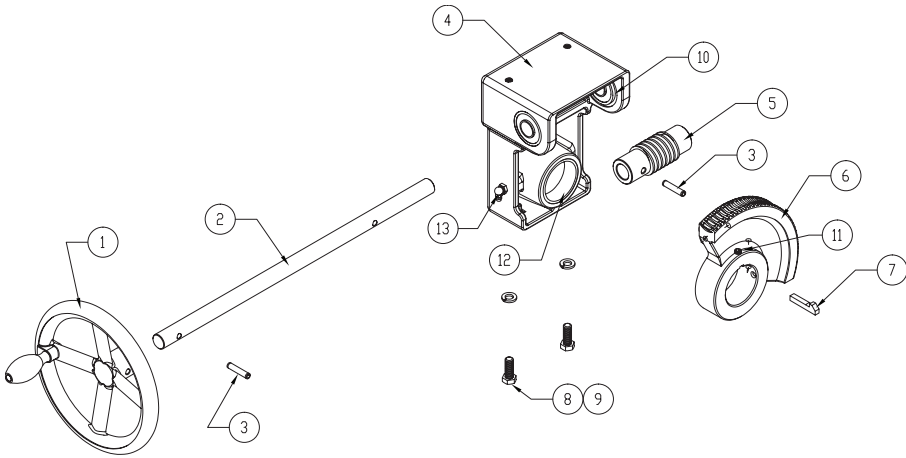
# Parts List Trunnion Cover

Key	Qty	Description	Part #
1	1	FAUCET BRACKET	137738
2	4	SCREW, TRUSS HEAD, 1/4"-20 X 3/8"	125609
3	1	PILLOW BLOCK BOX	144314
4	1	RETAINING RING	124764
5	1	PILLOW BLOCK	Z002989
6	2	NUT, HEX 3/8"-16	Z005619
7	2	WASHER, LOCK 3/8"	Z005618
8	2	SCREW, HEX HEAD CAP, 3/8"-16 X 1-1/2"	Z005615
9	1	PLATE, REAR CONTROL BOX	176345
10	1	SEAL, TRUNNION, BRAISING PAN	175017
11	1	EXT. RETAINING RING, 2.36" DIA, BRAISING PAN	175164
12	1	SEAL, SHAFT 1.0" DIA.	136088
13	1	COLLAR, SHAFT SEAL, .750" DIA.	138354
14	1	EXTERNAL RETAINING RING 1.00" DIA.	138356
15	1	O-RING NO. 018" DIA.	138359
16	1	TILT SWITCH BRACKET WELD ASSY.	145689
17	2	SCREW, HEX HEAD CAP,	Z005610
18	1	PLUG, 7/8" HOLE BRAISING PAN	147309
19	10	SCREW, #10-32 X 5/8" SS	137766
20	1	PANEL, ACCESS, BRAISING PAN	175146
21	4	SCREW, TRUSS HEAD,	Z072189
22	1	THERMOSTAT BOX ASSEMBLY	146131
22A	4	WASHER, LOCK 1/4"	Z005655
22B	1	THERMOSTAT BOX SHELL	146132
22C	1	COVER, CONTROL CONSOLE SHELL	146147
22D	1	BRACKET, THERMOSTAT BOX	146130
22E	5	NUT DOME, HIGH PROFILE, 1/4"-20	Z090567
22F	14"	CONDUIT SEALTITE 3/8"	Z054306
22G	2	CONNECTOR, 3/8" NPT 45°	Z001696
22H	1	BOOT, RUBBER CAP FOR 3/8"	132044
22I	24"	CONDUIT SEALTITE 3/8"	Z054306
22J	1	CONNECTOR, 3/8" NPT 90°	Z001695

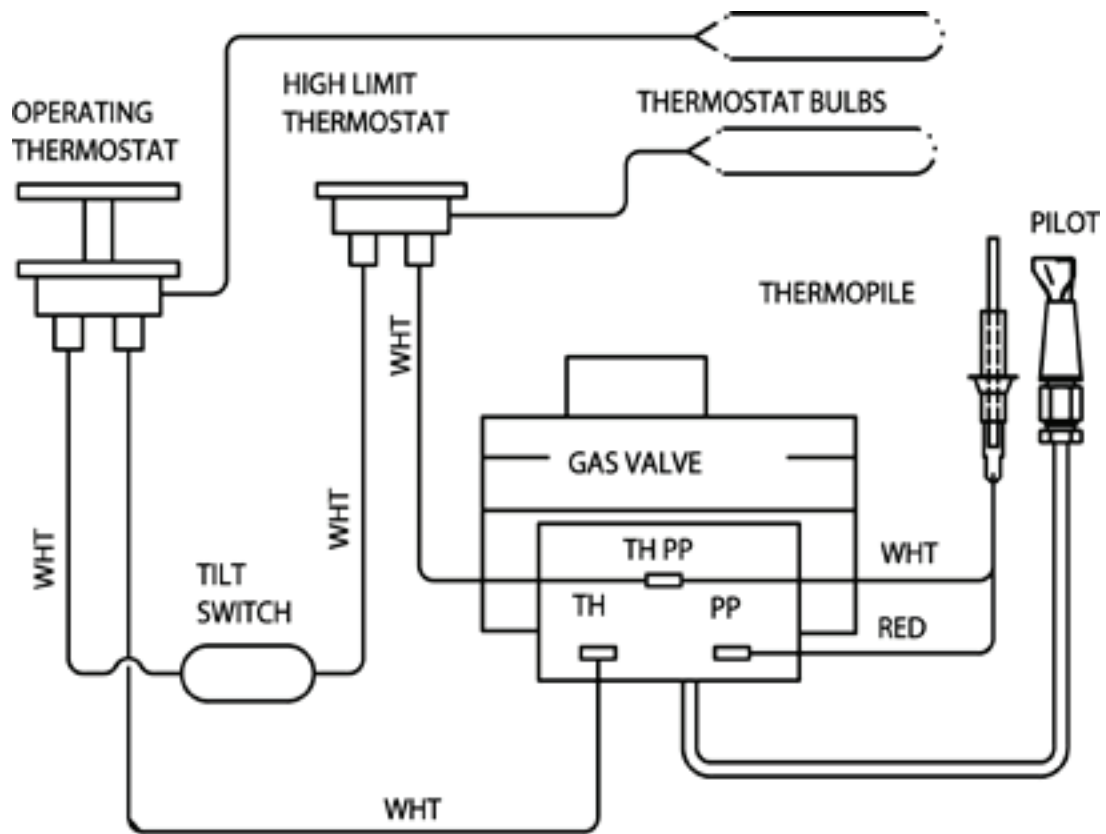


# Parts List Manual Tilt Assembly

Key	Qty	Description	Part #
1	1	HANDWHEEL	Z012061
2	1	SHAFT, HANDWHEEL	144834
3	2	ROLL PIN	Z012614
4	1	GEAR, CARRIER	Z002624
5	1	GEAR, WORM	128001
6	1	GEAR, SECTOR	Z009829
7	1	GIB KEY	Z012031
8	2	SCREW, HEX HEAD CAP	Z005612
9	2	WASHER, LOCK	Z005618
10	2	BEARING ROLLER	Z002790
11	1	SCREW, SET SOCKET	Z012060
12	2	BEARING SLEEVE	137239
13	1	FITTING, GREASE 90°	Z012195



# Diagrams & Schematics Standing Pilot Ignition System



# Service Log

Model No:	Purchased From:
Serial No:	Location:
Date Purchased:	Date Installed:
Purchase Order No:	For Service Call:

Date	Maintenance Performed	Performed By



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