OWNER'S MANUAL

MODULAR TILTING KETTLES

MODELS: ☐ MT-25
☐ MT-40
☐ MT-60

INSTALLATION, OPERATION, MAINTENANCE, SERVICE AND PARTS

Form Number: S-2110 Rev: C 06/12

PRINTED IN U.S.A.

MARKET FORGE INDUSTRIES INC.
An Employee Owned Company
"The Premier Steam Cooking Equipment Manufacturer"

35 Garvey Street • Everett • MA • 02149
Tel: (617) 387-47100 • Toll Free: (866) 698-3188 • Fax: (617) 387-4456 • Outside MA Fax: (800) 227-2659
E-Mail: custserv@mfii.com • Website: **w w w . m f i i . c o m**

TABLE OF CONTENTS

INTRODUCTION

This service and parts manual contains general information, operation, and maintenance information for Market Forge modular kettles. A parts list is included in which each replaceable part is identified and shown in an accompanying drawing. Accessories for use with the kettles are also described.

DESCRIPTION

Market Forge tilting steam jacketed kettles of three capacities, each mounted in a modular stainless steel cabinet.

Double wall construction around the lower half of the kettle forms a surrounding chamber into which steam is introduced as a source of heat for cooking.

Steam input plumbing is equipped with a manual control valve. Condensate is removed through a steam trap connecting with the kettle drain plumbing assembly. A swivel spout, hot-cold combination faucet provides a source of water for addition to the kettle for cooking and cleaning.

An optional 12” spacer unit with faucet and sink may be used instead of the standard built-in faucet.

25-, 40-, & 60-Gallon Tilting Kettles

Large capacity kettles are fitted with heavy duty tilting mechanisms operated by removable hand crank. Each model is equipped with a pan support which maintains continuous alignment of serving pans under the pouring spout at all levels of kettle elevation.

Counterbalanced hinged lids cover the kettles in the lowered position. All are plumbed for direct connection to a remote steam source. An optional cold water circuit to the steam jacket is available for use with all models for quick cooling of foods after cooking.

Applicable model designation include:

MT-25	A 25-gallon (*94 liter*) capacity tilting kettle mounted in a 36” (*914mm*) wide cabinet base.
MT-40	A 40-gallon (*152 liter*) capacity tilting kettle mounted in a 36” (*914mm*) wide cabinet base.
MT-60	A 60-gallon (*228 liter*) capacity tilting kettle mounted in a 48” (*1219mm*) wide cabinet base.

SERVICE

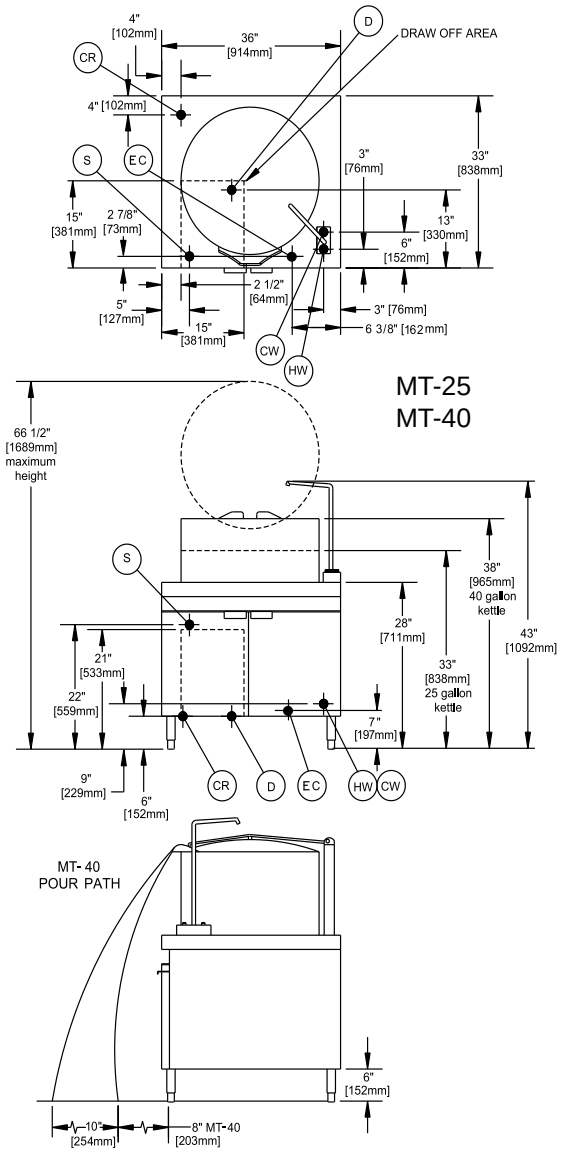
Modular kettles are exceptionally reliable and durable cooking equipment requiring a minimum of service other than routine cleaning and preventive methods explained in the maintenance section. Should repairs be required, a network of authorized service agencies is available to assist with prompt service.

A current Directory of Authorized Service Agencies may be obtained by contacting:
Customer Service Department, Market Forge
35 Garvey Street, Everett, Massachusetts 02149
Telephone: (617) 387-41 00, (866) 698-3188
custserv@mfii.com, www.mfii.com

The model and serial numbers must be referenced when corresponding with Market Forge.

The data plate containing model and serial numbers pertaining to the equipment is located inside the cabinet door on the right vertical frame member.

INTRODUCTION

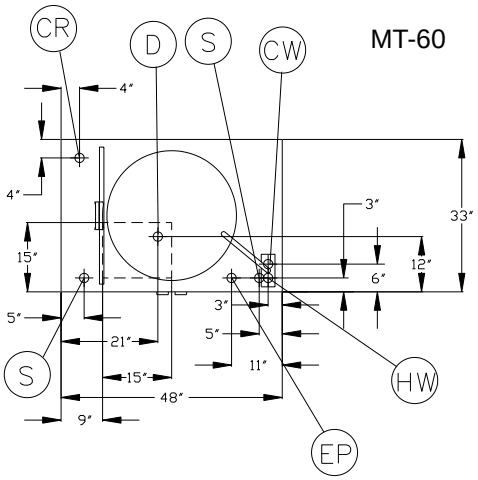


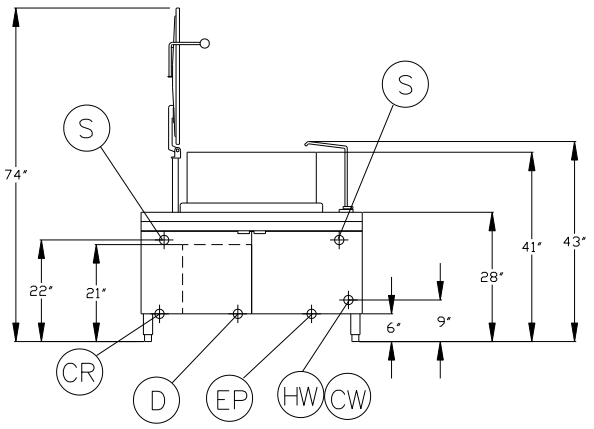
SERVICE CONNECTIONS

Direct Connected

S	Steam Supply - 3/4" (*19mm*) NPT, 15 P. S.I (*1.0 kg/cm²*) minimum; 30 P.S.I (*2.1 kg/cm²*) maximum.
HW	Hot Water - 3/8" (*10mm*) OD tubing to hot water for kettle fill faucet.
CW	Cold Water - 3/8" (*10mm*) OD tubing to cold water for kettle fill faucet.
D	Drain - Pipe full 2" NPT (*51mm*) to flush floor drain. Do not make solid connection to drain.
CR*	Condensate Return - 1/2" I.P.S. (*13mm*) connection for condensate return from kettle when specified.
EC*	Electrical Controls - 115 volts AC, 60 Hz, 40 watts, 1/2" (*13mm*) conduit connection or equivalent. Use wire suitable for at least 90°C. Draws less than 1 Amp with power lift.

* Optional





NOTES:

Pressure-reducing valve is required if incoming pressure exceeds 30 PSI (2.1 kg/cm²).

Recess area for kettle draw-off (dotted line) must be kept free of all piping and connections.

PVC and CPVC pipe are not acceptable materials for drains.

Separate height for 25-, 40-, and 60-gallon kettles.

OPERATION

OPERATING CONTROLS & INDICATORS

All of the controls required to operate the kettles are listed in table on page 4, together with an explanation of location and a short functional description.

OPERATING PROCEDURE 25- 40- & 60-GALLON KETTLES

All kettles must be supplied with steam from a generator which is remotely located. Consult steam generator information or instruction plate and complete all start-up instructions. Proceed with kettle operating procedure as follows:

1. Check pressure gauge of steam supply source to insure steam input is at 15 PSI (*1.0 kg/cm²*). For direct connected steam, turn on external steam supply valve.
2. Check that Draw-Off Valve is tightly closed.
3. Lift kettle lid and place either a Solid or Perforated Drain Disc over the drain inside kettle. Use solid disc to retain liquids; perforated to strain liquids from food.
4. Load kettle with foods to be cooked.
5. Add water for cooking by swinging spout over kettle and using Combination Faucet.
6. Turn Steam Control Valve to full counter-clockwise position to heat kettle content to an initial rapid boil.
7. Adjust subsequent cooking temperature by turning Steam Control Valve. Turn clockwise to reduce heat and counter-clockwise to increase.
8. Close Steam Control Valve (*full clockwise position*) when cooking is complete.

CAUTION: FOOD MUST EITHER BE REMOVED FROM THE KETTLE IMMEDIATELY OR COOLED BY A KETTLE JACKET COOLING SYSTEM TO PREVENT OVER COOKING.

9. For Chill Kettles use an external water source to flood kettle interior with cold water until all hot cooking water flow over kettle rim into sink.
10. For kettles equipped with optional cold water source water jacket cooling system open the Jacket Cold Water Valve (*full counter-clockwise position*) and leave open until food temperature is sufficiently lowered.
11. Remove food from stationary kettles. For liquids rotate the Swing Drain to the side and fill food containers from the Draw-Off Valve. For solids which will not pass through the valve, use a ladle. An optional stationary pan holder (*Part No. 90-3427*) can be used to support pan during filling.
12. Remove food from tilting kettles. With Pan Support mounted (*see section pan support mounting tilting kettles, on page 5*), food pan in support, and Crank installed in front of cabinet, turn crank clockwise to elevate kettle for pouring. (*Tilting mechanism is infinitely adjustable and non-coasting in kettle elevation and lowering*). Liquid foods may also be removed by use of the Draw-Off Valve as explained in step 11 for stationary kettles.
13. Complete cleaning procedures (*See section below, cleaning 25-, 40- & 60-gallon kettles*).

CLEANING PROCEDURE

As with cleaning food soil from any cookware, an important part of kettle cleaning is to prevent foods from drying on. For this reason cleaning should be completed immediately after cooked foods are removed. If time can not be allotted for immediate complete cleaning the kettle should be soaked by filling it with warm detergent water solution.

2.4.2 CLEANING 25-, 40- & 60-GALLON KETTLES

1. Wash the kettle with a long handled nylon bristle kettle brush (*Part No. 10-5308*).
2. Empty wash water by opening Draw-Off Valve over Swing Drain.
3. Remove Drain Disc (*solid or perforated*) from inside kettle and clean.
4. Rinse kettle by flushing with hot water from the Swivel Spout.
5. Loosen hex nut on Draw-Off Valve and carefully remove all parts. Clean and reassemble. (*See figure 11, on page 17*).
6. Rotate Swing Drain to left and push up off drain assembly. Clean drain and screen. Reassemble on kettle.

OPERATION

OPERATING CONTROLS

NAME	LOCATION	FUNCTION
Kettle Handle	Kettle Rim	Grasped to tilt kettle for pouring.
Steam Control Valve	Top, Left Side	Controls steam flow to kettle jacket.
Combination Faucet	Top, Right Side	Controls hot and cold water to swivel spout.
Swivel Spout	Top, Beside Kettle	Direct water into kettle. Turns away for kettle tilting.
Sink with Splash Shield	Top, Front	Accepts kettle drainage. Shield forward protects operator from splashing, reverses for storage.
Lid Handle	On Lid	Grasped to open and close kettle lid.
Perforated Drain Disc	Inside Kettle on Drain	Covers drain to strain liquids when draw-off is open.
Solid Drain Disc (*Optional*)	Inside Kettle on Drain	Covers drain to block it off.
Crank (*Tilting Kettles*)	Front, Right Side	Raises and lowers tilting kettles for pouring. Stow on back of cabinet door when not in use.
Steam Control Valve	Top, Right Side	Controls steam flow to kettle jacket.
Draw-Off Valve	Inside Cabinet, Left	Controls drainage of kettle.
Swing Drain with Strainer	Inside Cabinet, Left	Accepts drainage from draw-off valve. Swings to side to allow serving containers to be placed under draw-off valve.
Combination Faucet with Swivel Spout	Top, Right Side	Control hot and cold water to kettle interior. Turns away for kettle tilting and access.
Cold Water Valve (*Chill Kettles and Others with Optional Jacket Cooling Systems*)	Right, Front	Controls flow of water to steam jacket for rapid cooling after cooking.
Basin Waste Drain (*Chill Kettles Only*)	Left, Top	Accepts kettle overflow in chill kettle sink.
Pan Support (*Tilting Kettles Only*)	Front, Top	Holds serving pan in alignment with kettles for pouring (*see section pan support mounting tilting kettles, on page 5*)

OPERATION

PAN SUPPORT MOUNTING TILTING KETTLES

For convenience during cooking, the pan support need not be installed until needed for removing food from the kettles. To Insure correct operation and to prevent spills the support must be securely installed as shown in Figure 1 below and as explained below:

1. Hold the pan support in front of the upright as shown at A.
2. Place the stud of the left-hand support upright into the hole in the left side of the pan support. Then push the right side of the support in until it engages the spring loaded pin of the right-hand support upright, shown at B.
3. Rotate the pan support upward (C) and engage the slotted ends of the support links in the studs at the base of each support upright as in D.

The removal procedure is the reverse of installation with the exception that in step 2 support upright springs must be pushed out to release the support from studs.

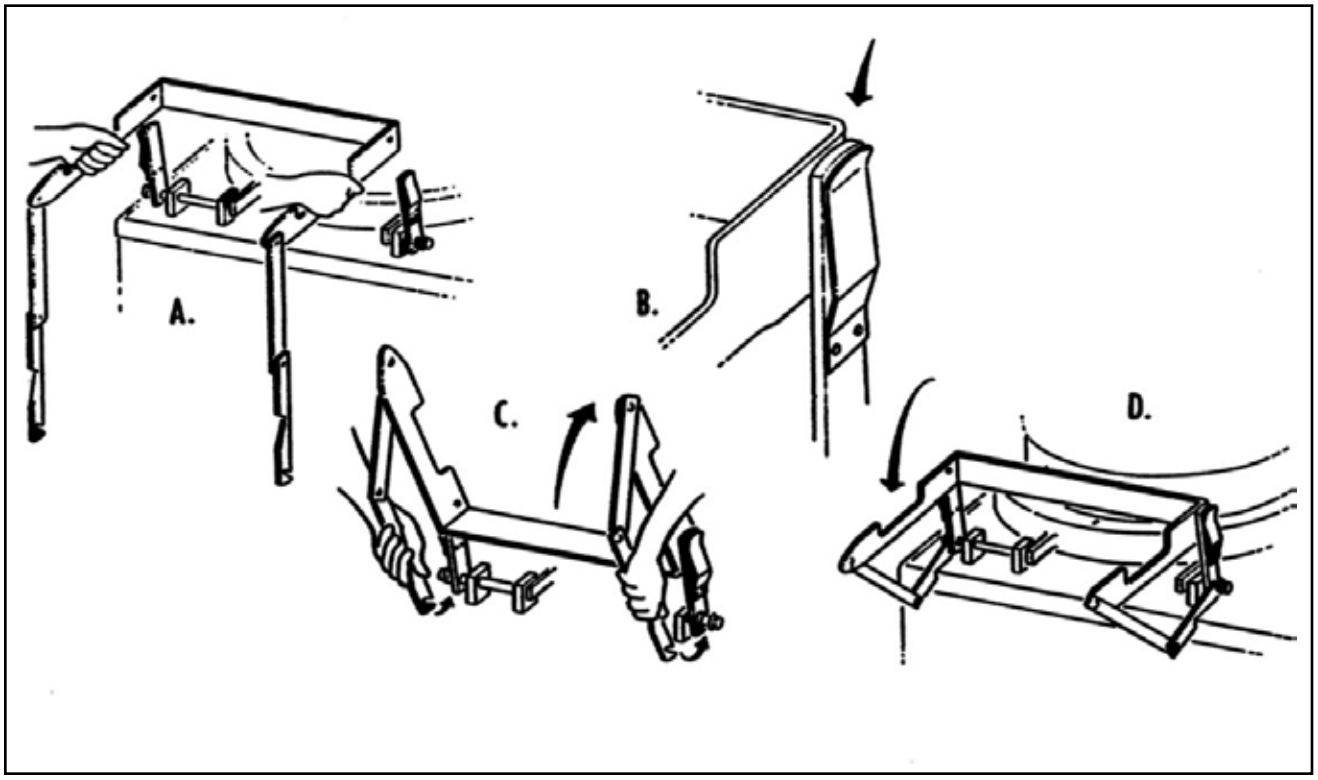


Figure 1 Mounting Pan Support

MAINTENANCE

WARNING:
DO NOT HOSE DOWN UNIT AS IT CONTAINS ELECTRICAL COMPONENTS.

GENERAL
This section contains both preventive and corrective maintenance information. Preventive maintenance may be performed by maintenance personnel at the establishment in which the kettle is installed.

It is recommended that user personnel never attempt to make repairs or replacements to the equipment without the assistance of authorized service. Assistance in service methods or, a current Directory of Authorized Service Agencies may be obtained from Market Forge. (*See service section on page 1*).

PREVENTIVE MAINTENANCE
The most important preventive maintenance operation on the steam jacketed kettle is the cleaning procedure after each use described on page 3. Additional preventive maintenance operations are presented in this section.

CLEANING
A policy should be faithfully observed of completing, by the end of each day's operation, all kettle cleaning procedures explained in cleaning procedure section on page 3.

In addition, cabinet doors, top, fixtures, kettle lid, etc., should be washed and rinsed to remove all food spills. For Chill Kettles, extra care must be given to cleaning the sink surrounding the kettle. Pan support should be removed as described in pan support mounting tilting kettles on page 5.

TILTING MECHANISM LUBRICATION
Lubrication of the tilting mechanism of 25-, 40- and 60-gallon tilting kettles is the only required preventive maintenance other than daily cleaning. Inspect the screw of the tilting mechanism annually for adequate lubrication.

Should screw appear "dry" apply a good grade of ball bearing grease directly on the threads so that the threads appear to be barely damp. If mechanism fails to run smoothly (*see tilting mechanism repair on page 7*).

REPAIR & REPLACEMENT
In the event that the kettle fails to operate correctly, the difficulty should first be isolated to either the kettle itself or the steam supply which heats the kettle. While mechanical problems are obvious faults of the kettle, any deficiencies in volume and pressure of steam should be traced to the steam generator and the cause determined.

Steam input requirements are listed in Appendix A, Modular Kettle Steam Requirements. Additional information may be found in separate service publications for steam generators.

LID COUNTERBALANCE ADJUSTMENT
The kettle lid is equipped with a torsion spring counterbalance device to assist in lid lifting and to prevent slamming. The device is shown assembled in the Figure 2 below and exploded in Figure 8, on page 15. If lid slams closed when handle is released, spring tension should be increased. If lid lifts up or refuses to remain down on kettle, tension should be reduced. To adjust spring tension proceed as follows:

1. Loosen 1/4" jam nut.
2. Adjust spring tension by turning 1/4" hex head cap screw. Tighten to increase tension; loosen to reduce tension.
3. Operate lid several times, repeating, step 2 until desired operation is obtained.
4. Hold hex head screw firmly in position and tighten jam nut to lock adjustment.

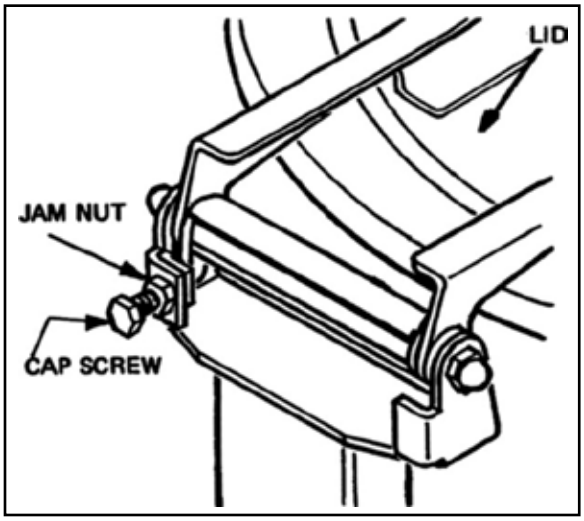


Figure 2 Lid Counterbalance Adjustment

CABINET EXTERIOR REMOVAL
Side and rear panels of all cabinets in which kettles are mounted are easily removed without the use of tools. Each panel is grasped at the bottom edge and pulled out sharply to release it from the panel mounting brackets Shown in Figure 8, on page 15.

MAINTENANCE

Replacement is completed by pushing panel up under cabinet top and pressing in at the bottom until panel mounting brackets are engaged. Doors may be removed to improve access to cabinet interior for repairs as shown In Figure 16 on page 21.

The two flat head screws (10) and nuts (12) holding cabinet hinge (11) are removed and the door lifted out. When doors are remounted the final tightened position of hinge (11) determines the alignment of the door and must be set with care.

DRAW-OFF VALVE REPAIR

An exploded view of the draw-off valve is shown in Figure 11 on page 17. All parts are replaceable.

COMMON LEAK REPAIRS

To repair a valve leak, the source must first be determined. Leaks from around the valve stem are corrected by replacing the rubber “0” ring (5) .Dripping from the valve outlet which occurs with the valve tightly closed indicates faulty seating of the valve disc (part of 6) against the valve seat. Dripping is often corrected by cleaning residue from disc and seat using very fine emery.

VALVE SEAT LAPPING

Should either the disc (part of 6), or seat be found damaged it is necessary to either replace the entire valve or perform the lapping procedure as follows:

1. Disassemble the valve and clean both the disc and the valve seat.
2. Attach the handle (2) to the stem with the valve bonnet (4) removed.
3. Apply a good grade of fine lapping compound to the disc and insert it into the valve to make light contact against the seat.
4. Rotate the stem disc against the seat by turning the handle, allowing the stem to wobble in the space the bonnet would normally occupy. Continue with light pressure until compound dries.
5. Reassemble and test for leaks with valve closed. If dripping occurs repeat the lapping procedure as many times as required to obtain a watertight seal.

TILTING MECHANISM REPAIR

Tilting kettles are equipped with tilting mechanisms shown in Figure 5 on page 12 for 25- and 40- gallon kettles and Figure 7 on page 14 for 60-gallon kettles. Though both .utilize the same screw assembly (2) , only Figure 5 on page 12 includes brake disassembly detail and serves as the reference view for tilting mechanism repairs which follow.

SAGINAW SCREW ASSEMBLY REMOVAL

The assembly is removed with the kettle in the lowered position. Proceed as follows:

1. Remove the two bolts (8) which hold the ball nut assembly in the screw lever (7).
2. Remove the two 5/16” hex head cap screws (13) which fasten the screw housing (14) to the cabinet frame (not shown).
3. Lift screw assembly from the cabinet. Proceed in reverse order to replace the assembly.

GENERAL INSPECTION AND CLEANING

The screw assembly should run smoothly throughout the entire stroke. If operation is not uniform remove the screw assembly (*refer to saginaw screw assembly removal above*) and proceed as follows:

1. Inspect screw shaft for signs of accumulation of foreign matter in the ball grooves.
2. Using cleaning fluid or solvent remove dirt from ball grooves. Be sure to flush the ball nut assembly thoroughly.
3. Cycle the ball nut along the screw shaft several times. Wipe with a dry lint less cloth and lubricate immediately. (*refer to tilting mechanism lubrication on page 6*).
4. If assembly continues to operate erratically after cleaning disassemble and inspect the ball nut assembly.

BALL NUT DISASSEMBLY

The Saginaw Screw is a ball bearing screw power transmission device which converts the turning motion applied by the hand crank (1) into bi-directional force against the screw lever (7). The frictionless “easy” transfer results from the use of bearing balls circulated be- tween the screw and nut in concave helical grooves. As the screw rotates inside the nut, the bearing balls are directed from one end and carried by a ball guide to the opposite end of the ball nut. Figure 3 on page 8 shows a cut-away view of the ball nut.

Nut disassembly requires extreme care in handling to avoid loss of bearing balls and other small parts. The Saginaw Screw must be removed from the kettle (*refer to saginaw screw assembly removal above*) and the procedure completed over a clean work surface. A small clean container and clean cloth are required.

1. Place a clean cloth on the work surface with edges gathered to form a pocket to retain the bearing

balls.

2. Place the Ball Nut Assembly over the pocket and remove the two Clamp Screws and the Guide Clamp.
3. Remove both halves of the guide simultaneously to prevent distortion of either half.
4. Catch all the Balls on the cloth by slowly rotating the Ball Nut on the screw. Place all balls in a small container. Take an accurate ball count and record.

CAUTION EVERY BEARING BALL IS REQUIRED FOR REASSEMBLY. EXERCISE CARE IN HANDLING TO AVOID LOSS.

5. Remove the stop collar (5) held by set screw (3) at the free end of the screw shown in Figure 4-8.
6. Slide the Ball Nut off the free end of the screw.

BALL NUT INSPECTION

Disassembly of the ball nut must be completed to permit inspection (*Refer to ball nut disassembly on page 7*). A Ball Bearing Replacement Kit containing bearing balls and ball guide is available from Market Forge parts distributors. Should the ball nut show excessive wear I the entire Saginaw Screw assembly must be replaced. Inspect components for wear points:

a. Balls. Check a random sample of 20 balls for signs of scuffing or fish scaling. Diameter variation between balls and true roundness of each one must be within .0001 inch. Balls which fail to meet these requirements should be replaced using the Ball Bearing Replacement Kit.

b. Guide. Inspect the pick-up fingers which consist of short extensions at the end of each half guide. Minor burrs can be removed and the guide reused. If a ball impression appears on the finger tips or the halves were distorted during removal, the guide must be replaced.

c. Ball Nut. Inspect the internal threads of the ball nut for signs of excessive wear, pitting, gouges, corrosion or spotting in the ball groove area. If these flaws are detected, the entire Saginaw Screw assembly should be replaced.

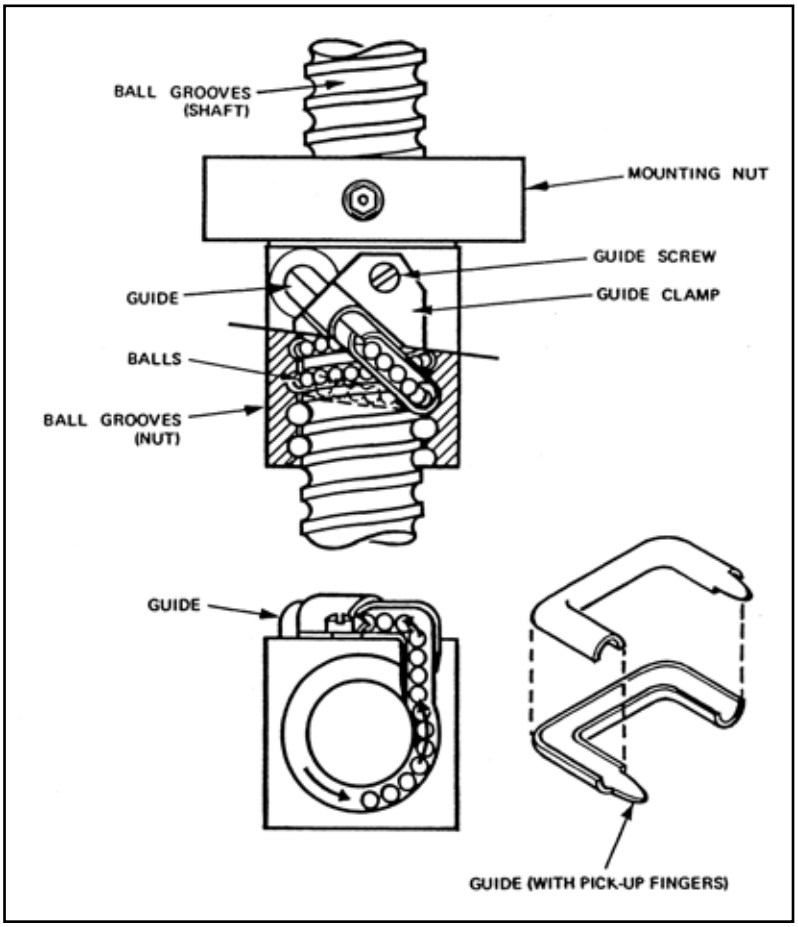


Figure 3 Ball Nut Assembly

MAINTENANCE

BALL NUT INSPECTION

Disassembly of the ball nut must be completed to permit inspection (*refer to ball nut disassembly on page 7*). A Ball Bearing Replacement Kit containing bearing balls and ball guide is available from Market Forge parts distributors. Should the ball nut show excessive wear I the entire Saginaw Screw assembly must be replaced. Inspect components for wear points:

a. Balls. Check a random sample of 20 balls for signs of scuffing or fish scaling. Diameter variation between balls and true roundness of each one must be within .0001 inch. Balls which fail to meet these requirements should be replaced using the Ball Bearing Replacement Kit.

b. Guide. Inspect the pick-up fingers which consist of short extensions at the end of each half guide. Minor burrs can be removed and the guide reused. If a ball impression appears on the finger tips or the halves were distorted during removal, the guide must be replaced.

c. Ball Nut. Inspect the internal threads of the ball nut for signs of excessive wear, pitting, gouges, corrosion or spalling in the ball groove area. If these flaws are detected, the entire saginaw screw assembly should be replaced.

BALL NUT REASSEMBLY AND BEARING REPLACEMENT

With the ball nut disassembled (*refer to ball nut disassembly on page 7*) complete the following reassembly, using either existing bearing balls or substituting a Ball Bearing Replacement Kit (*part number 91-1490*).

1. Clean all ball nut components with a commercial solvent and dry thoroughly before reassembly.
2. Slide the ball nut onto the free end of the screw, round nut end first, as shown in Figure 5 on page 12.
3. Replace the stop collar (5) , Figure 5 on page 12.

CAUTION:
BEARING BALLS ARE RETAINED IN THE BALL NUT ONLY WHEN IT IS MOUNTED ON THE SCREW. TO PREVENT THE NUT FROM ACCIDENTALLY SPINNING OFF THE SCREW THE STOP COLLAR (OR OTHER OBSTRUCTION) MUST BE PLACED ON THE FREE END.

4. Center the ball nut grooves on the shaft grooves by inserting a cylindrical object (a drill bit shank, or other object of same diameter as bearing balls), into the ball nut return circuit hole. Carefully withdraw, taking care not to disturb nut-to-screw alignment.
5. Insert bearing balls into the guide opening using slight rotation of the screw to help feed them into the grooves. Place remaining balls into one half of the return guide.

NOTE: If a Ball Replacement Kit is to be installed, first count out the same number of new bearing balls as the number of worn balls being replaced. DO NOT try to add extra balls. There must be some free space in the circuit so that balls will roll and not skid.

6. Place a dab of bearing grease at each end of the half return guide to hold balls in place. Place the mating half return guide over the half filled with balls and insert the two ends of the ball guide into the holes in the ball nut. Seat by tapping gently with a rawhide or plastic mallet.
7. Inspect for free movement of the ball nut along the entire stroke. There should be no binding, squeal, or roughness at any point.
8. Place guide clamp in position and secure with clamp screws.

CRANK SLEEVE REPLACEMENT

The driving end of the Saginaw Screw (2) is formed into a slotted sleeve which receives the engagement pins of the removable hand crank (1). A worn or chipped sleeve which causes the hand crank to slip out of engagement during kettle tilting can be repaired with a Crank Sleeve Replacement Kit (*part number 91-2155*).

The Saginaw Screw assembly must be removed from the kettle to complete kit installation, (*see saginaw screw assembly removal on page 7*). The collar (*next to the ratchet wheel, Fig. 5 on page 12*) is removed by driving out the roll pin which secures it to the screw shaft. The replacement sleeve is slid over the faulty shaft end and fastened with a roll pin. The repair is completed by re-mounting the Saginaw Screw assembly.

BRAKE MECHANISM DISASSEMBLY & REPAIR

The brake mechanism, shown exploded in Figure 4-8, functions as an anti-coast device for the Saginaw Screw. When the hand crank (1) is turned clockwise (*kettle raising*) , a ratchet wheel turns freely inside the ratchet stop. Any “free wheeling” counter clockwise screw motion is prevented by engagement of ratchet wheel teeth in the stop and the drag of friction between the shaft collar, and the ratchet wheel face. Additional torque applied by the hand crank, as in kettle

MAINTENANCE

lowering, over-powers the drag and allows the screw to turn with only mild resistance.

Failure of the brake mechanism to function as described requires removal of the Saginaw Screw assembly (*see saginaw screw assembly removal on page 7*) and disassembly of the brake for cleaning.

1. Remove the shaft collar at the crank sleeve end by driving out the roll pin and sliding the collar off.
2. Slide the ratchet wheel off and inspect for cleanliness. Use fine energy to remove an, build-up of soil or glaze on facings.
3. Thoroughly clean all brake mechanism parts of dirt and lubricant.
4. Reassemble the mechanism taking care the ratchet wheel is facing correctly. Replace, the Saginaw Screw assembly in the kettle cabinet.

ILLUSTRATED PARTS

GENERAL

This section contains a complete listing off all replaceable parts of the modular kettles, and of a number of accessories. For the purpose of parts identification, a cut-away drawing is shown for each group of similar kettle models.

Exploded views of sub-assemblies are also provided where greater detail is needed. Tables lists commonly used parts and accessories with a brief description and part number .

Each parts list contains the figure index number, the Market Forge part number and an abbreviated description. Care must be exercised in selecting the correct illustrated parts list. Check that kettle size and style coincide with that of equipment to be serviced.

ORDERING INFORMATION

Orders for repair parts should be directed to the nearest authorized parts distributor.

For a current Market Forge Authorized Parts Distributor List contact:
Customer Service Department, Market Forge
35 Garvey Street, Everett, MA 02149
Telephone: (617) 387-4100, (866) 698-3188
custserv@mfii.com, www.mfii.com

All orders ‘should contain the Market Forge part number(s) , the part description(s) , and the model and serial numbers of the kettle for which the part(s) is ordered.

ILLUSTRATED PARTS

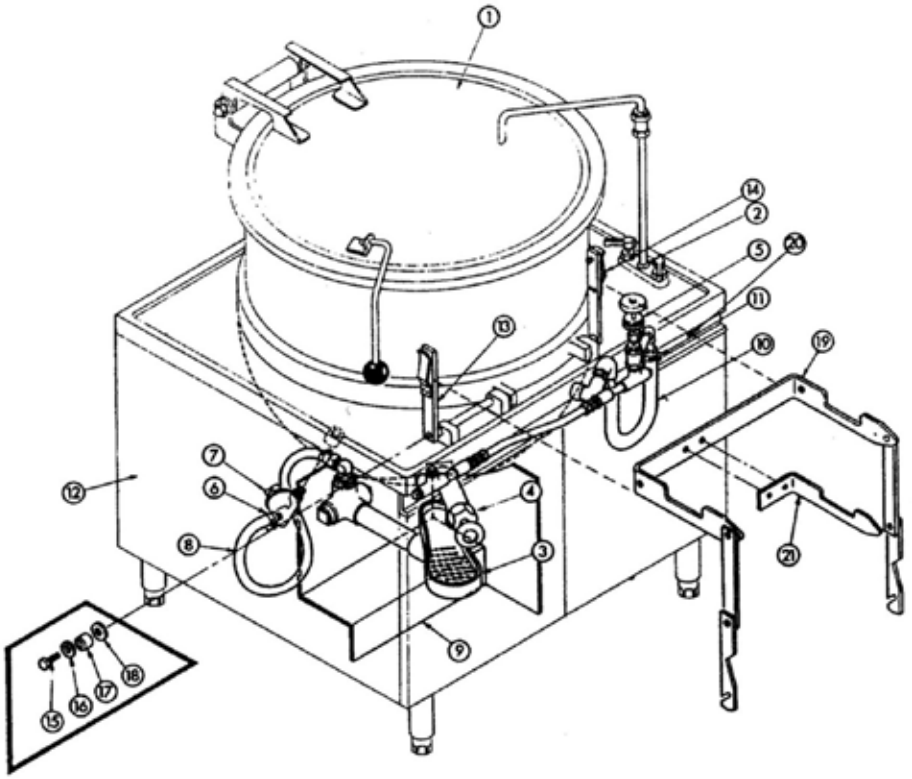


Figure 4 25- and 40-Gallon Tilting Kettles

ITEM	PART NO.	DESCRIPTION
1	--	HINGE AND LID ASSEMBLY, (SEE FIGURE 4-12)
2	--	FAUCET AND SPOUT ASSEMBLY, (SEE FIGURE 4-17 or 4-18)
3	91-1834	SWING DRAIN, (SEE FIGURE 4-14)
4	10-4928	1-1/2” DRAW OFF VALVE, (SEE FIGURE 4-15)
5	10-5242	1/2” ANGLE STEAM VALVE, (SEE FIGURE 4-13)
6	10-3945	CLAMP, CONDENSATE HOSE
7	10-5319	STEAM TRAP WITH HOSE FITTING, (SEE FIGURE 4-16)
8	90-7493	CONDENSATE HOSE, 3/8” ID 36” LG.
9	90-8725	SPLASH GUARD ASSEMBLY
10	90-7495	STEAM HOSE, 3/4” ID
11	10-3916	CLAMP, STEAM HOSE
12	--	36” CABINET, (SS FIGURE 4-19 or 4-22)
13	90-3788	PAN SUPPORT UPRIGHT, LEFT
14	90-3783	PAN SUPPORT UPRIGHT, RIGHT
15	10-1791	MACHINE SCREW, 1/4” x 7/8” LG.
16	10-2403	WASHER, 1/4”
17	10-6784	SPACER, SMALL
18	90-3476	SPACER, LARGE
19	90-0326	PAN SUPPORT, REMOVABLE
20	--	TILT MECHANISM, (SEE FIGURE 4-8)
21	90-3796	PAN SUPPORT ADAPTER (OPTIONAL)

ILLUSTRATED PARTS

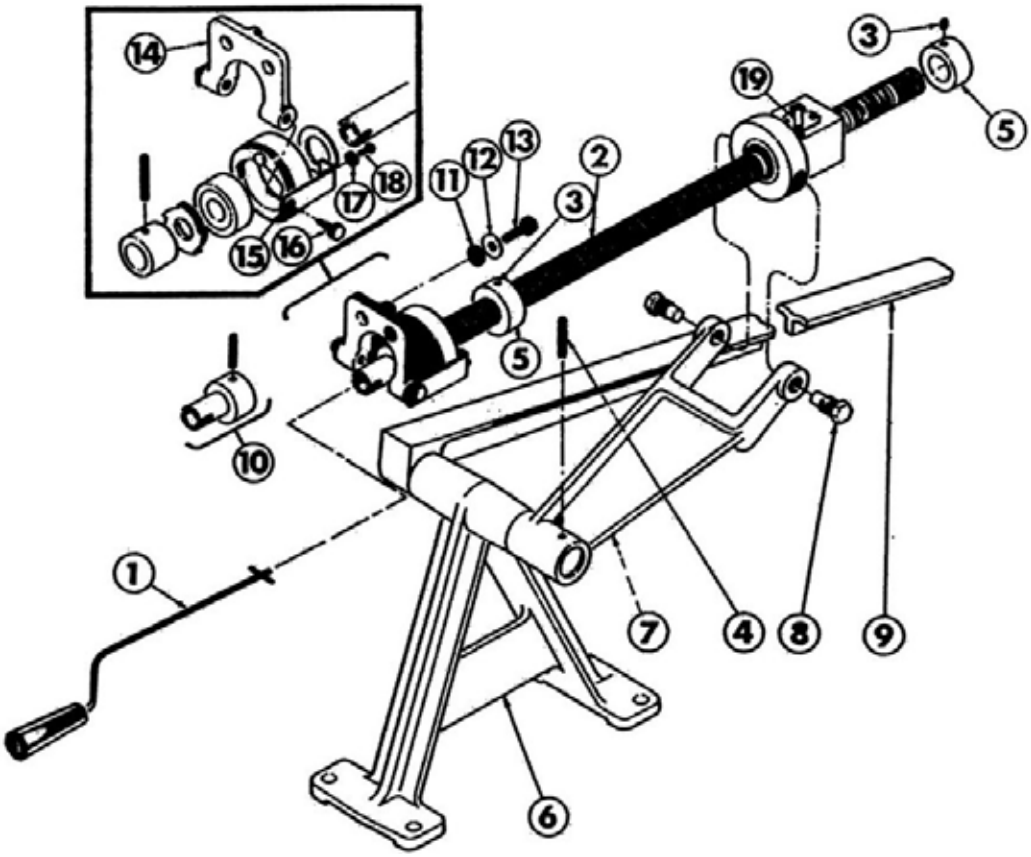


Figure 5 Tilting Mechanism for 25- and 40-Gallon Kettles

ITEM	PART NO.	DESCRIPTION
1	90-4037	HAND CRANK
2	90-8728	SAGINAW SCREW ASSEMBLY, COMPLETE
3	10-3026	SET SCREW, ALLEN HEAD, 5/16 - 18 x 5/16”
4	10-2610	ROLL PIN, 3/8” x 2” LG.
5	10-3591	STOP COLLAR
6	90-8754	‘A’ FRAME
7	90-8755	SCREW LEVER
8	90-8710	BOLT 1/2 - 13, SPECIAL
9	90-9449	LEVER ARM ASSEMBLY
10	91-2155	CRANK SLEEVE REPLACEMENT KIT
11	10-2511	LOCK WASHER, 5/16”
12	10-2405	WASHER, 5/16”
13	10-2042	HEX HEAD CAP SCREW, 5/16 - 18 x 1”
14	90-8757	SCREW HOUSING
15	90-8732	BRAKE MOUNTING BRACKET
16	90-8731	SHOULDER SCREW
17	10-2508	LOCK WASHER, 1/4”
18	10-1907	HEX HEAD CAP SCREW, 1/4 - 20 x 5/8”
19	91-1490	BALL BEARING REPLACEMENT KIT

ILLUSTRATED PARTS

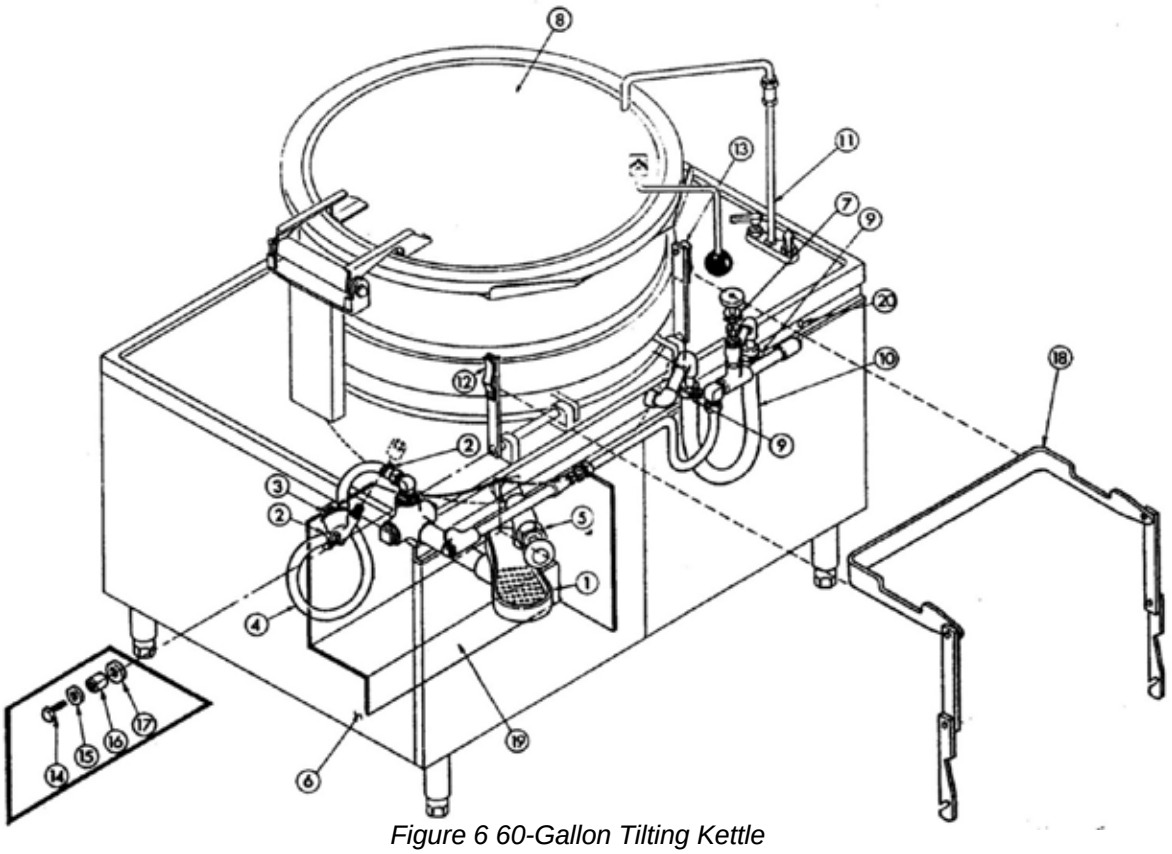


Figure 6 60-Gallon Tilting Kettle

ITEM	PART NO.	DESCRIPTION
1	91-1834	SWING DRAIN
2	10-3945	CLAMP, CONDENSATE HOSE
3	10-5319	STEAM TRAP WITH HOSE FITTING, SEE FIGURE 4-16)
4	90-7493	CONDENSATE HOSE, 3/8” ID
5	10-4928	1-1/2” DRAW OFF VALVE, (SEE FIGURE 4-15)
6	--	48” CABINET, (SEE FIGURE 4-19 or 4-23)
7	10-5242	1/2” ANGLE STEAM VALVE, (SEE FIGURE 4-13)
8	10-6796	HINGE AND LID ASSEMBLY, (SEE FIGURE 4-12)
9	10-3916	CLAMP, STEAM HOSE
10	91-1977	STEAM HOSE, 3/4” ID
11	--	FAUCET AND SPOUT ASSEMBLY, (SEE FIGURE 4-17 or 4-18)
12	91-1839	PAN SUPPORT UPRIGHT, LEFT
13	91-1838	PAN SUPPORT UPRIGHT, RIGHT
14	10-1791	MACHINE SCREW, 1/4” x 7/8” LG.
15	10-2403	WASHER, 1/4”
16	10-6784	SPACER, SMALL
17	90-3476	SPACER, LARGE
18	91-1983	PAN SUPPORT, REMOVABLE
19	90-8725	SPLASH GUARD ASSEMBLY
20	--	TILTING MECHANISM, (SEE FIGURE 4-10)

ILLUSTRATED PARTS

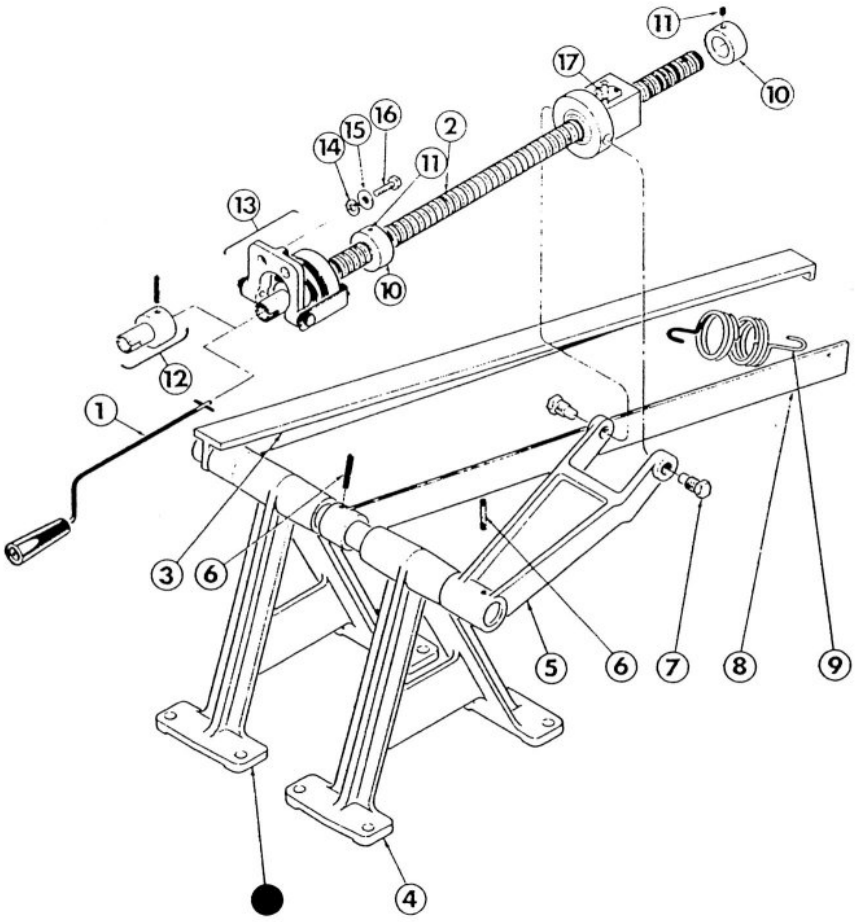


Figure 7 Tilting Mechanism for 60-Gallon Kettles

ITEM	PART NO.	DESCRIPTION
1	90-4037	HAND CRANK
2	90-8728	SAGINAW SCREW ASSEMBLY, COMPLETE
3	91-1959	LEVER ARM ASSEMBLY
4	90-8754	'A' FRAME
5	90-8755	SCREW LEVER
6	10-2310	ROLL PIN, 3/8" x 2" LG.
7	90-8710	BOLT 1/2 - 13, SPECIAL
8	91-1992	SPRING SUPPORT ASSEMBLY
9	10-2746	TENSION SPRING
10	10-3591	STOP COLLAR
11	10-3026	SET SCREW, ALLEN HEAD, 5/16 - 18 x 5/16"
12	91-2155	CRANK SLEEVE REPLACEMENT KIT
13	--	BRAKE AND MOUNTING ASSEMBLY, (SEE FIGURE 4-8)
14	10-2511	LOCK WASHER, 5/16"
15	10-2405	WASHER, 5/16"
16	10-2042	HEX HEAD CAP SCREW, 5/16 - 18 x 1"
17	91-1490	BALL BEARING REPLACEMENT KIT

ILLUSTRATED PARTS

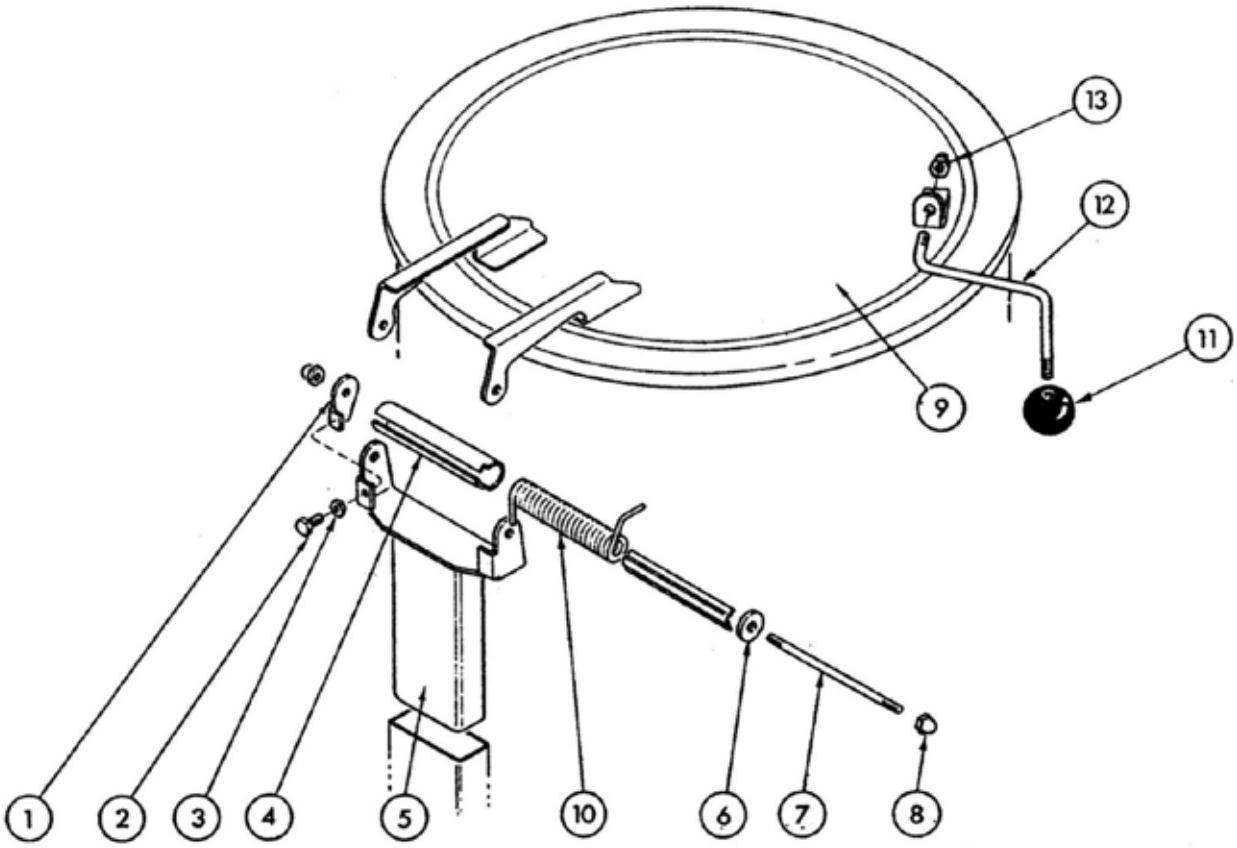


Figure 8 Hinge and Lid Assembly

ITEM	PART NO.	DESCRIPTION
1	91-1565	ADJUSTMENT PLATE
2	10-1814	HEAD CAP SCREW, 1/4 - 20 x 3/4”
3	10-2336	HEX NUT, 1/4 - 20
4	91-1232	TORSION SPRING COVER
5A	91-1685	TOP BRACKET AND HINGE SUPPORT ASSEMBLY, (25 AND 40 GALLON)
5B	91-1938	TOP BRACKET AND HINGE SUPPORT ASSEMBLY, (60 GALLON)
6	10-2448	NYLON WASHER
7	90-3042	TORSION SPRING RETAINING ROD
8	10-2359	ACORN NUT, 1/4 - 20
9A	91-2012	KETTLE COVER ASSEMBLY, (25 GALLON STATIONARY)
9B	90-7701	KETTLE COVER ASSEMBLY, (25 GALLON TILTING)
9C	90-3949	KETTLE COVER ASSEMBLY, (40 GALLON STATIONARY / TILTING)
9D	91-1963	KETTLE COVER ASSEMBLY, (60 GALLON TILTING)
10	10-2747	TORSION SPRING
11	10-0060	KNOB, PLASTIC
12A	91-1523	ARM, LID, (25, 40 AND 60 GALLON TILTING / 40 AND 60 STATIONARY)
12B	91-2011	ARM, LID, (25 GALLON STATIONARY)
12C	90-0171	ARM, LID, (10 GALLON STATIONARY)
13	10-2355	ACORN NUT

ILLUSTRATED PARTS

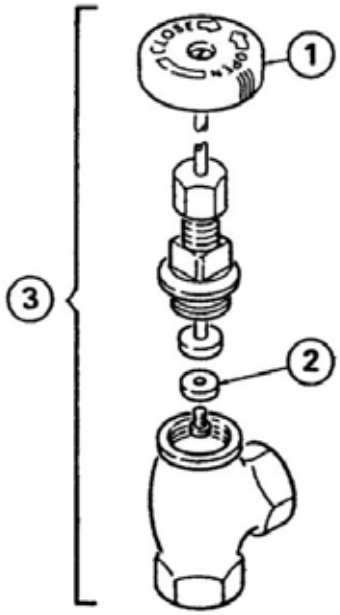


Figure 9 Steam Supply Valve

ITEM	PART NO.	DESCRIPTION
1	10-0105	STEAM VALVE HANDLE
2	10-5247	VALVE DISC
3	10-5242	1/2” ANGLE STEAM CONTROL VALVE

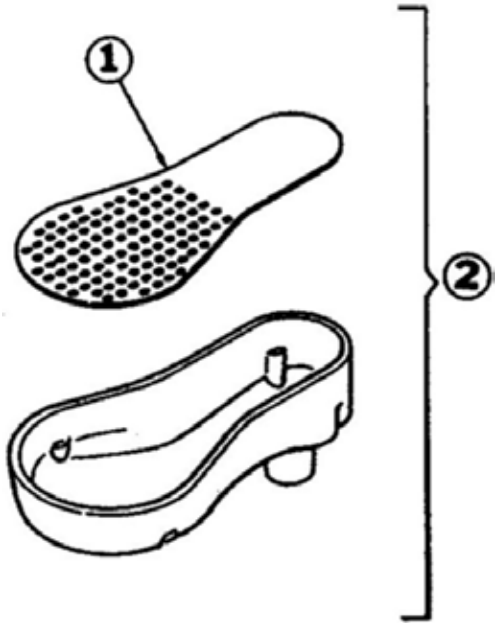


Figure 10 Swing Drain

ITEM	PART NO.	DESCRIPTION
1	91-1835	STRAINER, SWING DRAIN
2	91-1834	SWING DRAIN, COMPLETE

ILLUSTRATED PARTS

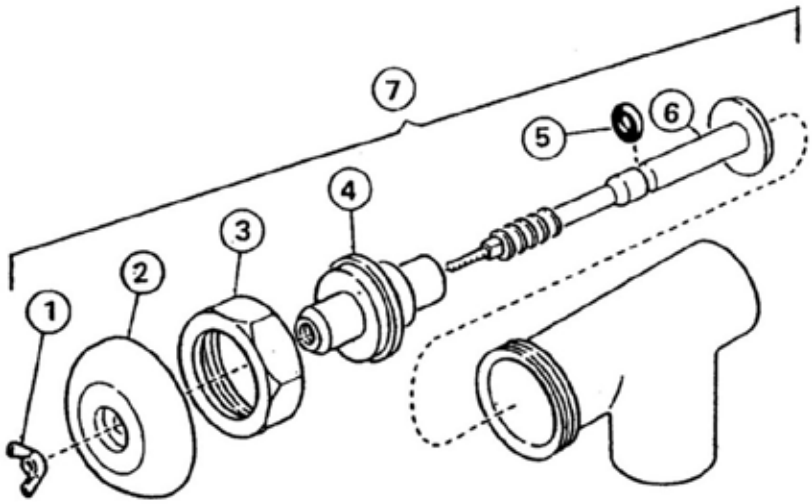


Figure 11 Draw-Off Valve

ITEM	PART NO.	DESCRIPTION
1	10-4972	WING NUT
2	10-4971	HANDLE
3	10-4970	HEX NUT
4	10-4968	BONNET
5	10-4969	'O' RING, RUBBER
6	10-4967	STEM
7	10-4928	1-1/2" DRAW OFF VALVE, COMPLETE

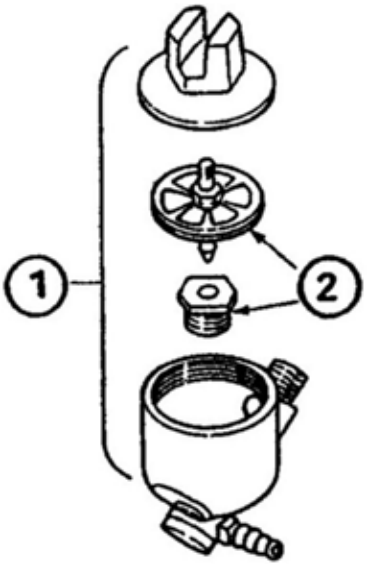


Figure 12 Steam Trap

ITEM	PART NO.	DESCRIPTION
1A	10-5319	1/2" STEAM TRAP WITH HOSE FITTING, (10, 24, 40 AND 60 GALLON KETTLES)
1B	10-4755	1/2" STEAM TRAP WITH HOSE FITTING, (5 GALLON KETTLES)
2	10-4937	THERMOSTAT, STEAM TRAP

ILLUSTRATED PARTS

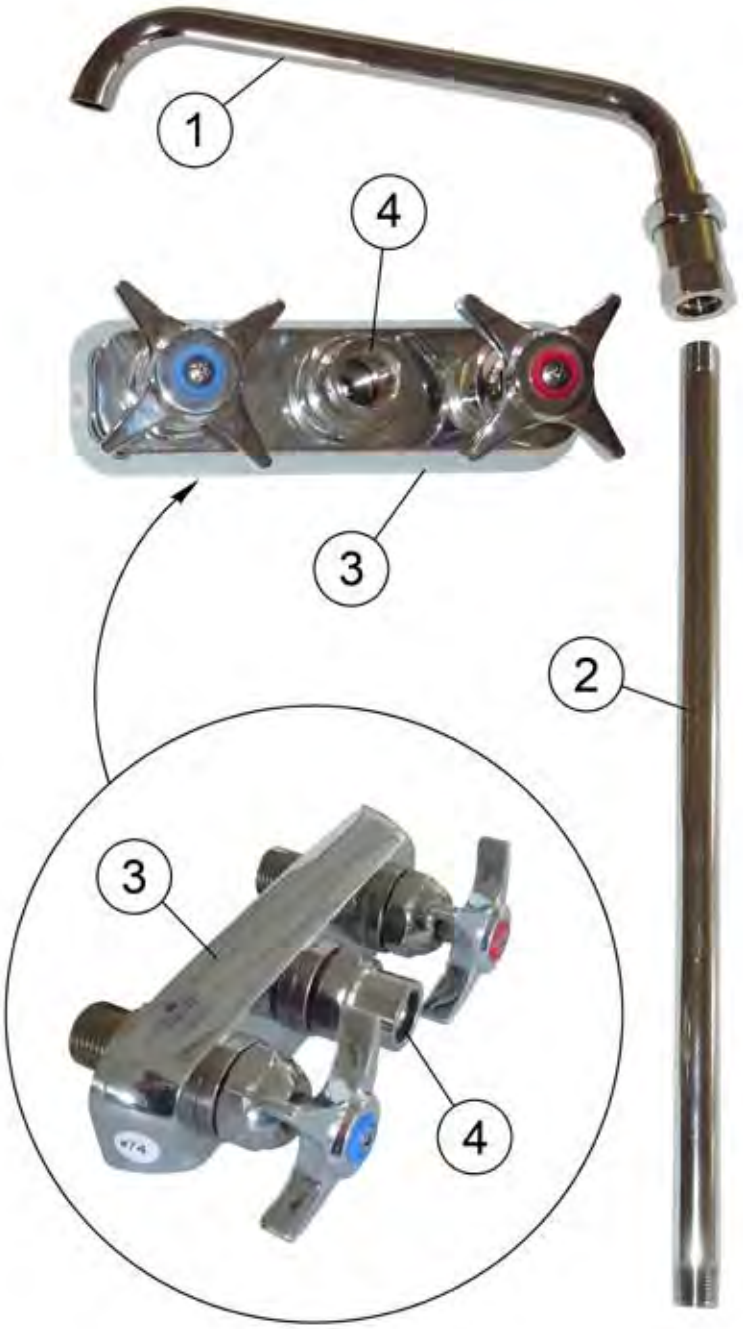


Figure 13 Faucet, and Spout Assembly, 25-, 40-, and 60-Gallon (Newer Version)

ITEM	PART NO.	DESCRIPTION
1	10-5753	SWIVEL SPOUT
2	91-0887	RISER, 15” LG. (25, 40 AND 60 GALLON KETTLES)
3	10-7680	FAUCET
4	08-5467	ADAPTER

ILLUSTRATED PARTS

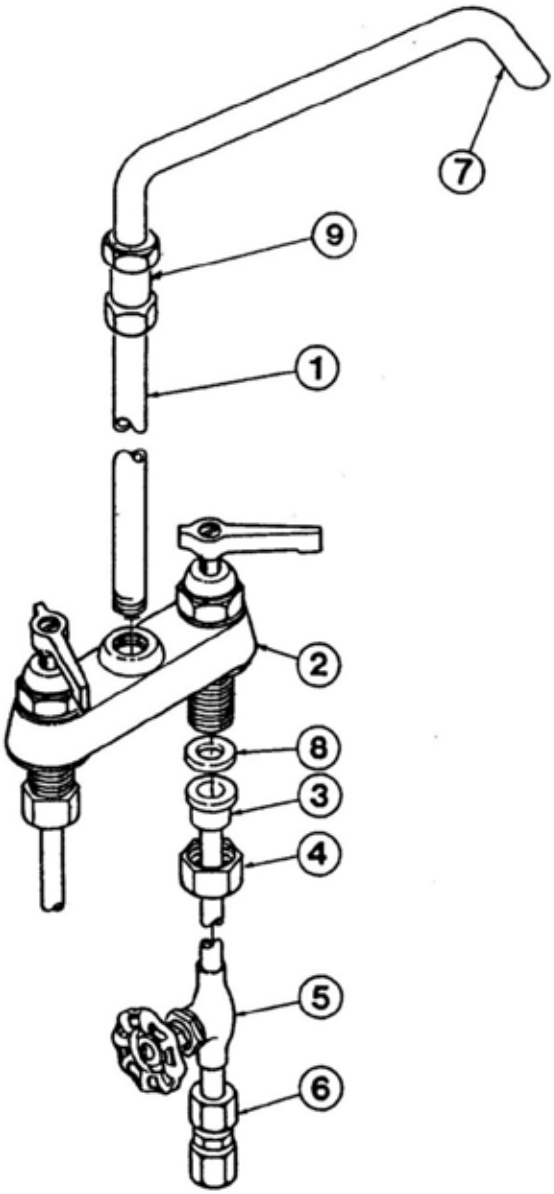


Figure 14 Faucet, and Spout Assembly, 25-, 40- and 60-Gallon Kettles (Older Version)

ITEM	PART NO.	DESCRIPTION
1A	10-3766	RISER, (25, 40 AND 60 GALLON KETTLES)
1B	10-3768	RISER, (10 GALLON KETTLES)
2	10-5921	FAUCET
3	10-0990	TAILPIECE, 1/2” OD TUBE
4	10-0991	COUPLING NUT
5	10-0996	STOP VALVE, 3/8”
6	10-1324	UNION, COMPRESSION, 1/2” OD
7	10-5753	SWIVEL SPOUT
8	10-0989	FIBER WASHER
9	10-1100	SWIVEL BODY

ILLUSTRATED PARTS

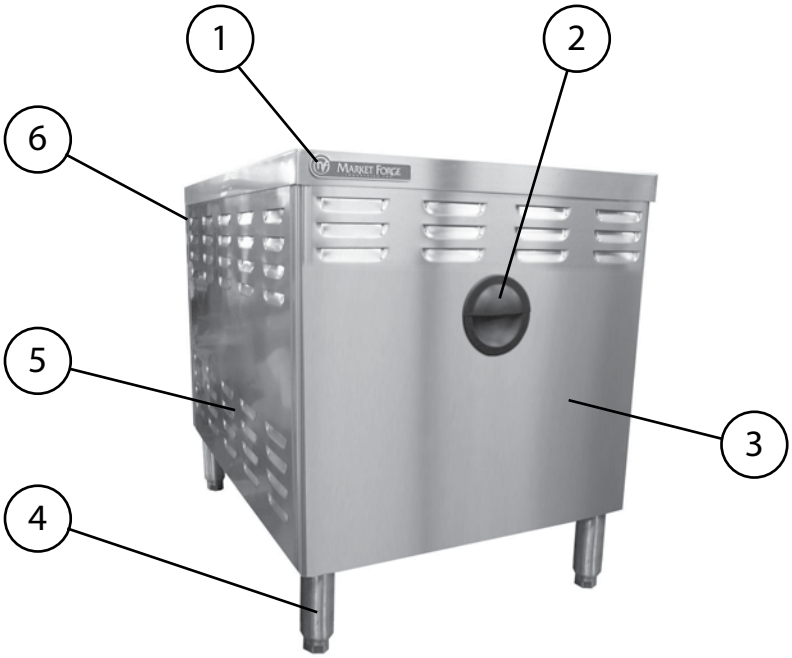


Figure 15 Cabinet Base (Newer Version)

ITEM	PART NO.	DESCRIPTION
1	08-5894	MARKET FORGE NAMEPLATE LOGO
2	91-5795	HANDLE, FRONT
3		PANEL, FRONT ASSEMBLY, 18”
3	98-3992	PANEL, FRONT ASSEMBLY, 24”
3	98-3993	PANEL, FRONT ASSEMBLY, 36”
3		PANEL, FRONT ASSEMBLY, 48”
4	10-0631	LEG, 6”
4	08-5211	LEG, 10”
4	08-5208	LEG, FLANGED 6”
4	08-5206	LEG, 8”
4	10-0326	CASTER, 5”
5	98-3994	PANEL, SIDE ASSEMBLY
6		PANEL, REAR ASSEMBLY, 18”
6	98-3995	PANEL, REAR ASSEMBLY, 24”
6	98-3996	PANEL, REAR ASSEMBLY, 36”
6		PANEL, REAR ASSEMBLY, 48”

ILLUSTRATED PARTS

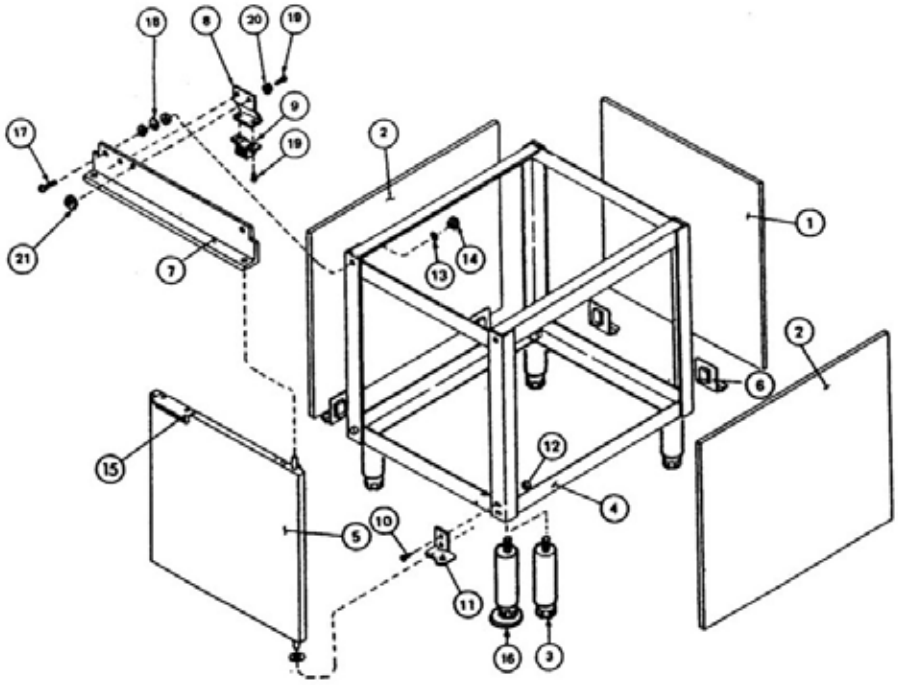


Figure 16 24” Cabinet (Older Version)

ITEM	PART NO.	DESCRIPTION
1	90-2657	REAR PANEL, STAINLESS STEEL
2	90-2661	SIDE PANEL, STAINLESS STEEL
3	10-0631	LEG, ADJUSTABLE
4	90-8974	FRAME ASSEMBLY, 24” x 33”
5A	90-2993	DOOR ASSEMBLY, LEFT HAND, STAINLESS STEEL (NOT SHOWN)
5B	90-3154	DOOR ASSEMBLY, RIGHT HAND, STAINLESS STEEL
6	90-2663	PANEL MOUNTING BRACKET
7	10-0493	FEATURE STRIP, 24”
8	90-3210	BRACKET, MAGNETIC CATCH
9	10-5561	MAGNETIC CATCH
10	10-1869	SCREW, 10/32 x 1/2” FLAT HEAD
11A	10-0454	CABINET HINGE, RIGHT BOTTOM
11B	10-0453	CABINET HINGE, LEFT BOTTOM (NOT SHOWN)
12	10-2545	HEX NUT AND LOCK WASHER, 10/32”
13	10-2511	LOCK WASHER, 5/16”
14	10-2307	NUT, 5/16 - 18
15	90-9057	DOOR HANDLE
16	10-0636	LEG, ADJUSTABLE WITH FLANGE (IF REQUIRED)
17	10-2143	HEX HEAD CAP SCREW, 5/16 - 18 x 1-1/4”
18	10-2405	WASHER, 5/16”
19	10-1722	MACHINE SCREW, 6/32 x 3/8”, ROUND HEAD
20	10-2515	LOCK WASHER #6
21	10-2337	NUT, 6/32”

ILLUSTRATED PARTS

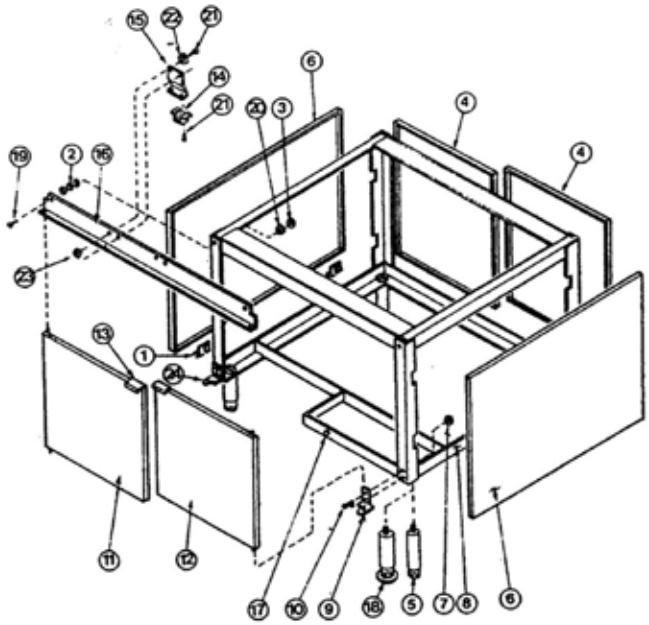


Figure 17 36” Cabinet (Older Version)

ITEM	PART NO.	DESCRIPTION
1	90-2663	PANEL MOUNTING BRACKET
2	10-2405	WASHER, 5/16”
3	10-2307	NUT, 5/16 - 18
4	90-2656	REAR PANEL, STAINLESS STEEL
5	10-0631	LEG, ADJUSTABLE
6	90-2661	SIDE PANEL, STAINLESS STEEL
7	10-2545	HEX NUT AND LOCK WASHER, 10/32”
8	90-9023	FRAME ASSEMBLY, 36” x 33”
9	10-0454	DOOR HINGE, RIGHT BOTTOM
10	10-1869	SCREW, 10/32 x 1/2”, FLAT HEAD
11	90-9062	DOOR ASSEMBLY, LEFT HAND, STAINLESS STEEL
12	90-9061	DOOR ASSEMBLY, RIGHT HAND, STAINLESS STEEL
13	90-9057	DOOR HANDLE
14	10-5561	MAGNETIC CATCH
15	90-3210	BRACKET, MAGNETIC CATCH
16A	10-0494	FEATURE STRIP, 36”, STATIONARY KETTLE
16B	10-0495	FEATURE STRIP, 36”, TILTING KETTLE
17	10-0257	STEM BUMPER
18	10-0636	LEG, ADJUSTABLE WITH FLANGE (IF REQUIRED)
19	10-2143	HEX HEAD CAP SCREW, 6/32 x 3/8”, ROUND HEAD
20	10-2511	LOCK WASHER, 5/16”
21	10-1722	MACHINE SCREW, 6/32 x 3/8”, ROUND HEAD
22	10-2515	LOCK WASHER #6
23	10-2337	NUT, 6/32”
24	10-0453	DOOR HINGE, LEFT BOTTOM

ILLUSTRATED PARTS

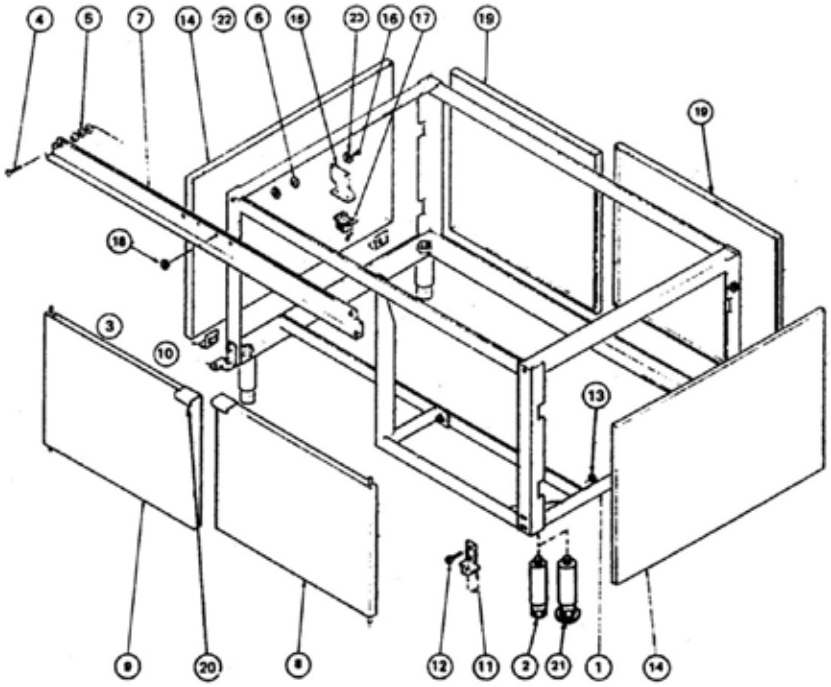
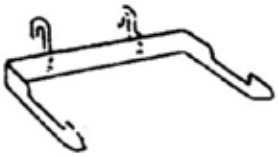


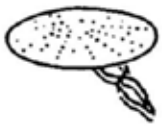
Figure 18 48” Cabinet (Older Version)

ITEM	PART NO.	DESCRIPTION
1	91-1784	FRAME ASSEMBLY, 48” x 33”
2	10-0631	LEG, ADJUSTABLE
3	90-2663	PANEL MOUNTING CLIP
4	10-2143	HEX HEAD CAP SCREW, 5/16 - 18 x 1-1/4“
5	10-2405	WASHER, 5/16”
6	10-2307	NUT, 5/16 - 18
7	91-1958	FEATURE STRIP, 48”, TILTING KETTLE
8	90-3154	DOOR ASSEMBLY, RIGHT HAND, STAINLESS STEEL
9	90-2993	DOOR ASSEMBLY, LEFT HAND, STAINLESS STEEL
10	10-0453	DOOR HINGE, LEFT BOTTOM
11	10-0454	DOOR HINGE, RIGHT BOTTOM
12	10-1869	SCREW, 10/32 x 1/2”, FLAT HEAD
13	10-2545	HEX NUT AND LOCK WASHER, 10/32”
14	90-2661	SIDE PANEL, STAINLESS STEEL
15	90-3210	BRACKET, MAGNETIC CATCH
16	10-1722	MACHINE SCREW, 6/32 x 3/8”, ROUND HEAD
17	10-5561	MAGNETIC CATCH
18	10-2337	NUT, 6/32”
19	90-2657	REAR PANEL, STAINLESS STEEL
20	90-9057	DOOR HANDLE
21	10-0636	LEG, ADJUSTABLE WITH FLANGE (IF REQUIRED)
22	10-2511	LOCK WASHER, 5/16”
23	10-2515	LOCK WASHER #6

ILLUSTRATED PARTS



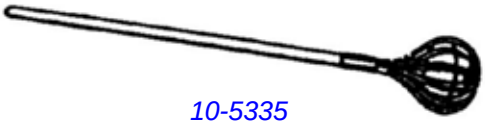
90-3427



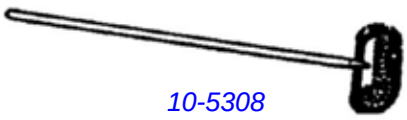
90-2305

90-2306

10-5322

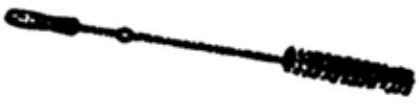


10-5335



10-5308

10-5309



10-4995

Figure 19
Accessories for Steam Jacketed Kettles

PART NO.	DESCRIPTION
90-4300	**STATIONARY KETTLE KIT** A convenience accessory package for use with Market Forge stationary steam jacketed kettles containing a stationary pan holder, solid disc, kettle paddle, 48” whip, 36” brush, clean-up brush, and 26” draw-off valve brush. (*See item detail below*)
90-4350	**TILTING KETTLE KIT** A convenience accessory package for use with Market Forge tilting steam jacketed kettles (*except 5-gallon capacity*) containing a solid disc, kettle paddle, 48” whip, 36” brush, clean-up brush and 26” draw-off valve brush. (*See item detail below.*)
90-3427	**STATIONARY PAN HOLDER** Holds standard cafeteria size pans (*12” x 20”*) at the kettle edge for easy filling. Quickly attached ... easily removed. Fits most 25 and 40 gallon (*95 and 150 liter*) kettles.
90-2305	**PERFORATED STRAINER** Prevents larger food particles from entering draw-off channel at the bottom of the kettle. Fits most 25 and 40 gallon (*95 and 150 liter*) kettles. Standard with kettle.
90-2306	**SOLID DISC** Prevents most solids or liquids from entering the draw-off at the bottom of most 25 and 40 gallon (*95 and 150 liter*) kettles.
10-5322	**KETTLE PADDLE** A long-handled aluminum paddle allowing convenient access to the entire contents of the kettle when folding and mixing such food items as stews or bulky sauces.
10-5335	**KETTLE WHIP** 48” (*1220mm*) A long-handled, lightweight, stainless steel kettle whip for use in mixing and blending puddings, sauces, soups, etc.
10-5308	KETTLE BRUSH 36” (*910mm*) A long handled, tough, firm, nylon bristle brush for use in kettle cleaning.
10-5309	**CLEAN-UP BRUSH** A sturdily constructed all-nylon bristle ‘Bong’ brush with water-resistant, crack-proof block
10-4995	**KETTLE DRAW-OFF VALVE BRUSH** 26” (*660mm*) A handy, nylon bristle brush for use in cleaning the draw-off valve.