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Model FMS30  
Model FMS40

ML-134462  
ML-134463  
ML-134476  
ML-134477  
ML-141002

**OWNER/OPERATOR  
MANUAL**



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# **Installation, Operation, and Care of BERKEL FMS30 & FMS40 Quart MIXER**

## **SAVE THESE INSTRUCTIONS**

### **GENERAL**

The 30 quart mixer has an AC Induction electric motor and motor control. A 30 quart bowl, B-Flat beater, spiral dough hook, D wire whip and ingredient chute are shipped as standard equipment. A 0 - 15 minute timer and four plastic foot pads are standard. A #12 attachment hub is standard. A variety of attachments are available. A 20 quart bowl and it's associated accessories are optional.

The 40 quart mixer has an AC induction electric motor and motor control. A 40 quart bowl, bowl guard, B-flat beater, spiral dough hook, D wire whip and ingredient chute are shipped as standard equipment. A 0 - 15 minute timer and four plastic foot pads are standard. A #12 attachment hub is standard. A variety of attachments are available. A 20 quart bowl and its associated accessories are optional.

### **INSTALLATION**

#### **UNPACKING**

Immediately after unpacking the mixer, check for possible shipping damage. If the mixer is found to be damaged, save the packaging material and contact the carrier within 15 days of delivery.

Prior to installation, test the electrical service to assure that it agrees with the specifications on the machine data plate.

#### **LOCATION**

Remove hex head shipping bolts with an open end wrench (or crescent wrench), that attaches the four legs to the base-frame of the carton.

Place the mixer on a suitable sturdy level surface. There should be adequate space around the mixer for the user to operate the controls and install and remove bowls.

# ELECTRICAL CONNECTIONS

## ELECTRICAL CONNECTIONS (CORD CONNECTED MIXERS)

### Single-Phase Mixer

**⚠ WARNING** The electrical cord on this machine is equipped with a three-pronged grounding plug which must be connected to a properly grounded receptacle. If the receptacle is not the proper grounding type, contact an electrician. Do not remove the grounding prong from the plug.

## ELECTRICAL CONNECTIONS (NON-CORD CONNECTED MIXERS)

**⚠ WARNING** Electrical and grounding connections must comply with the applicable portion of the National Electrical Code and/or other Local Electrical Codes.

**⚠ WARNING** Disconnect the electrical power to the machine and follow lockout / tagout procedures.

### Three-Phase Mixer

A hole for the 3/4 "-trade-size conduit is located in the rear of the pedestal. Make electrical connections per the wiring diagram located on the inside of the top cover.

- Remove side cover.
- Connect field supply lead wires L1, L2, and L3 to supply harness wires labeled "SERVL1", "SERVL2", and "SERVL3" respectively.
- Connect ground wire to supply harness green wire.
- Reinstall side cover.

# OPERATION

**⚠ WARNING** Moving beater in bowl. Keep hands, clothing, and utensils out while in operation. Do not use without interlocked guard.

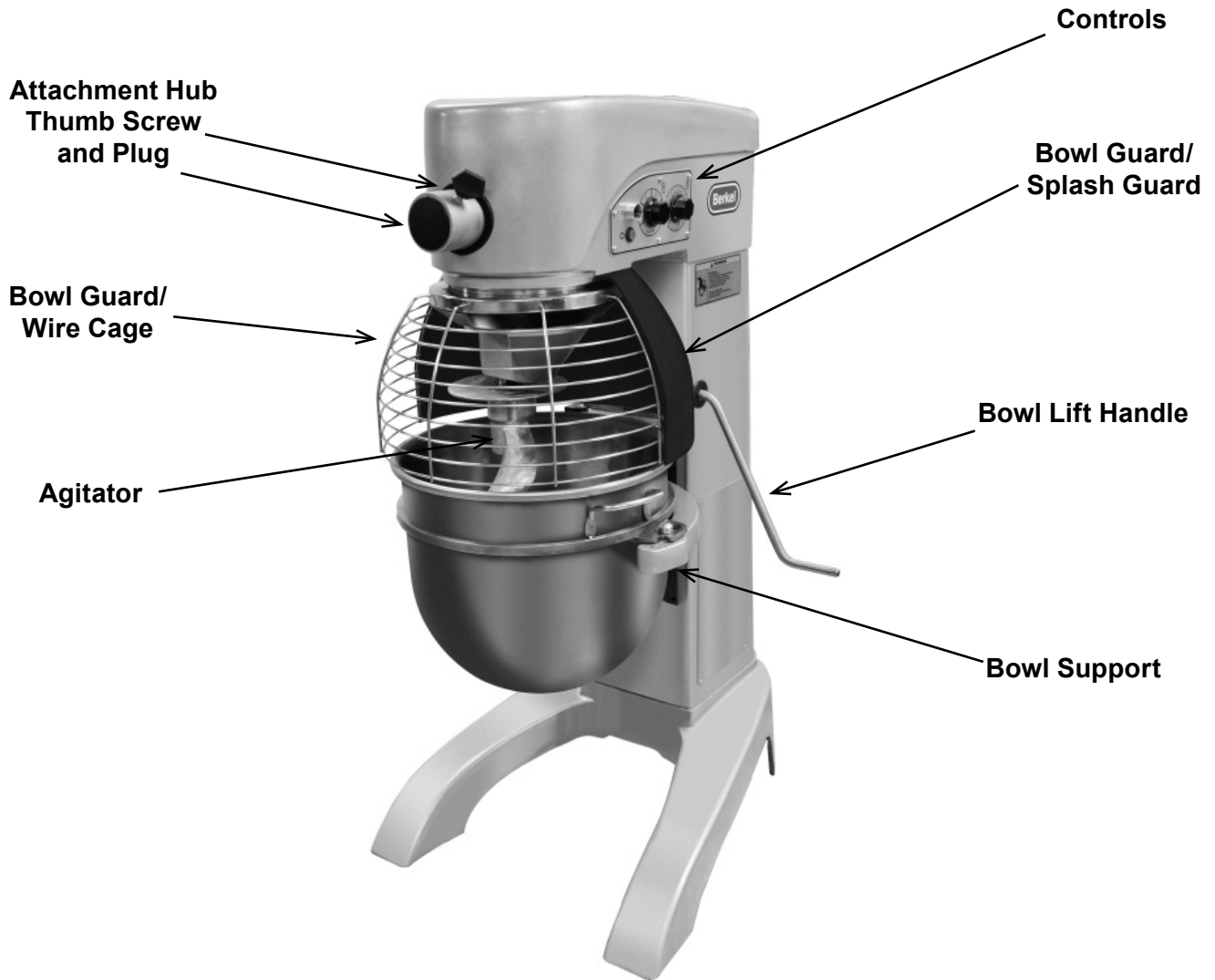


Fig. 1

## CONTROLS (FIG. 2)

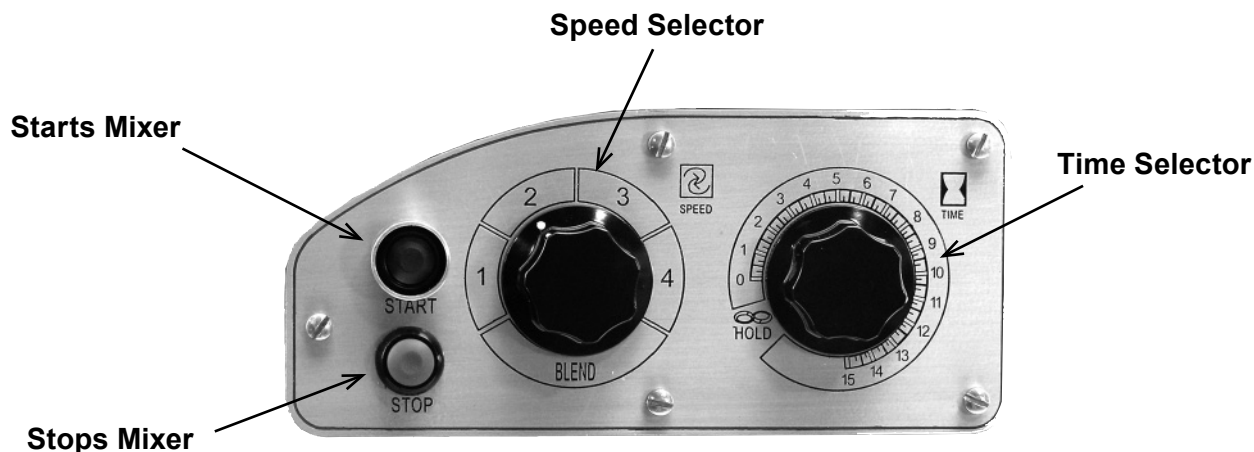


Fig. 2

Push-button Start and Stop buttons control power to the mixer.

The Bowl Guard /wire cage must be in place and closed or the mixer will not operate.

If the Bowl Support is not all the way up, the mixer will not operate.

The TIMER is used in conjunction with the Start button for timed mixing operations and will stop the mixer when the desired time has elapsed.

**NON-TIMED MIXING** -- Set the timer on Hold and use the Stop button to turn the mixer off.

The Speed Selector (Fig. 2) is used to change speeds. To change speeds, turn the Speed Selector to the desired speed. Speed can be set when mixer is on or off.

Blend -- The slowest speed to incorporate ingredients.

Speed 1 (Low) -- For dough, heavy batters, or potatoes.

Speed 2 (Medium) -- For cake batters or some whipping operations.

Speed 3 (Medium-High) -- For light work, such as whipping cream, beating eggs, or mixing thin batters.

Speed 4 (High) -- This speed is for maximum and accelerated air incorporation into light batches.

The Bowl Lift Handle (Fig. 1) is used to raise and lower the bowl. To raise the bowl, rotate the handle downward; rotating the handle upward lowers the bowl.

# MIXING

This section explains operation of the mixer and how to install bowls and agitators.

## BOWL

New mixer bowls and agitators (beaters, whips, spiral dough hook, ingredient chute and splash cover) should be thoroughly washed with hot water and a mild soap solution, rinsed with either a mild soda or vinegar solution, and thoroughly rinsed with clear water before being put into service. This cleaning procedure should also be followed for bowls and agitators before whipping egg whites or whole eggs.



**Fig. 3**

The bowl must be installed before the agitator. To install the bowl, fully lower the bowl support (Fig. 3).

**30 QT/40 QT Mixer - Auto Lock Feature** - Position the bowl so two large holes on bowl tabs are above the bowl pins on the bowl support. Lower the bowl onto the bowl pins. Then lift the bowl arm to raise the bowl. Bowl will be locked when it is raised to mix position.

**30 QT Mixer - Twist Lock Feature** - Lower the bowl onto the bowl pins, then turn counter-clockwise until stopped in locked position.

## AGITATOR

To install an agitator (Fig. 4), the bowl must be installed and fully lowered. Place the agitator in the bowl, push it up on the agitator shaft, and turn it clockwise to seat the shaft pin in the slot of the agitator shank.



**Fig. 4**

Close bowl guard/wire cage and raise bowl support to mix position, move the speed select knob to the desired speed and start the mixer to operate the attachment. If bowl support is lowered off the mix position, mixer will stop.

## ATTACHMENTS

To install an attachment, loosen the thumb screw on the attachment hub (Fig.1, page 5) and remove the plug. Insert the attachment into the attachment hub making certain that the square shank of the attachment is in the square driver of the mixer. Secure the attachment by tightening the thumb screw.

The meat and food chopper attachment must be operated in Speed 1. If material in the cylinder stalls the mixer, stop the mixer at once. Do not attempt to restart the mixer in a lower speed. Unplug power cord and then remove the adjusting ring, knife, plate, and worm and clear the obstruction. This attachment must not be used to chop bread crumbs.

**NOTICE** Attachment hub must not be used while mixing product.

## **BOWL GUARD / WIRE CAGE**

Wire cage must be in position and closed in order to mix. If wire cage is opened during the mixing, mixer will stop.

## **REMOVE BOWL GUARD / WIRE CAGE**

Lower the bowl support and remove agitator before removing bowl guard/wire cage. Hold wire cage with both hands and pull downward gently to release from retainer (Fig. 5).

## **INSTALL BOWL GUARD / WIRE CAGE**

Hold wire cage with both hands and gently push upward until bowl guard/wire cage is latched on the retainer and can be rotated freely (Fig. 5).



**Fig. 5**

# **CLEANING**

**⚠ WARNING** Disconnect electrical power before beginning any cleaning procedures.

The mixer should be thoroughly cleaned daily.

Bowls and agitators should be removed from the mixer and cleaned in a sink.

**DO NOT** use a hose to clean the mixer — it should be washed with a clean damp cloth.

Clean the bowl guard/wire cage by wiping with a cloth or sponge and warm soapy water.



# MIXING BOWL CAPACITY CHART

Capacity of Bowl (Qts. Liquid)	Agitators Suitable for Operation	30 Quart	40 Quart
Model		FMS30	FMS40
Motor (HP)		2.0	2.5
Overall Space Required (Bench Space)		21 ½" W X 26¼" D X 45"H	21 ½" W X 26 ¼"D X 48" H

<b>Kitchen Materials Capacity Chart (Finished Materials)</b>			
Egg Whites (pt.)	D	3 pts.	3 ½ pts.
Mashed Potatoes (lbs.)	B	23 lbs.	30 lbs.
Mayonnaise (Qts. of Oil)	B or D	12 qts.	13 qts.
Meringue (Qty. of Water)	D	2 pts.	3 pts.
Waffle or Hot Cake Batter (qt.)	B	12 qts.	16 qts.
Whipped Cream (qt.)	D	6 qts.	9 qts.

<b>Bake Shop Materials</b>			
Cake, Angel Food (8-10 oz. cake) (lb.)	B	22 lbs.	30 lbs.
Cake, Box or Slab or Layer (lb.)	B	30 lbs.	40 lbs.
Cake, Cup (doz.)	B	30	45
Cake, Pound (lb.)	B	30 lbs.	40 lbs.
Cake, Sponge (lb.)	B	23 lbs.	25 lbs.
Cookies, Sugar (lbs.)	B	23 lbs.	30 lbs.
Dough, Bread or Roll (Lt-Med) 60% AR § (lb.)	ED	45 lbs. **	50 lbs. **
Dough, Heavy Bread 55% AR § (lb.)	ED	30 lbs. **	35 lbs. **
Dough, Pie (lb.)	B	27 lbs.	35 lbs.
Dough, Thin Pizza 40% AR (max mix time 5 min.) §	ED	14 lbs. **	25 lbs. **
Dough, Medium Pizza 50% AR §	ED	20 lbs. **	32 lbs. **
Dough, Thick Pizza 60% AR §	ED	32 lbs. **	40 lbs. **
Dough, Raised Donut 65% AR (lb.)	ED	15 lbs. +	25 lbs. +
Dough, Whole Wheat 70% AR	ED	40 lbs. **	45 lbs. **
Eggs & Sugar for Sponge Cake (lb.)	B	12 lbs.	18 lbs.
Icing, Fondant (lb.)	B	18 lbs.	25 lbs.
Icing, Marshmallow (lb.)	B	3 lbs.	4 ½ lbs.
Shortening & Sugar, Creamed (lb.)	B	24 lbs.	35 lbs.
Pasta, Basic Egg Noodle (max mix time 5 min.) (lb.)	ED	8 lbs.	15 lbs.

\*\*1st Speed + 2nd Speed § If high gluten flour is used, reduce above dough batch size by 10%.

NOTE: % AR (% Absorption Ratio) = Water weight divided by flour weight X 100%. Capacity depends on moisture content of dough. Above capacity based on 12% flour moisture and 70°F water temperature.

ABBREVIATIONS - AGITATORS SUITABLE FOR OPERATION

B - Flat Beater

D - Wire Whip

ED - Spiral Dough Hook

## AGITATORS AND ACCESSORIES



**B Flat Beater**



**D Wire Whip**



**Spiral Dough Hook**



**Ingredient Chute**



**Splash Cover**

## MAINTENANCE

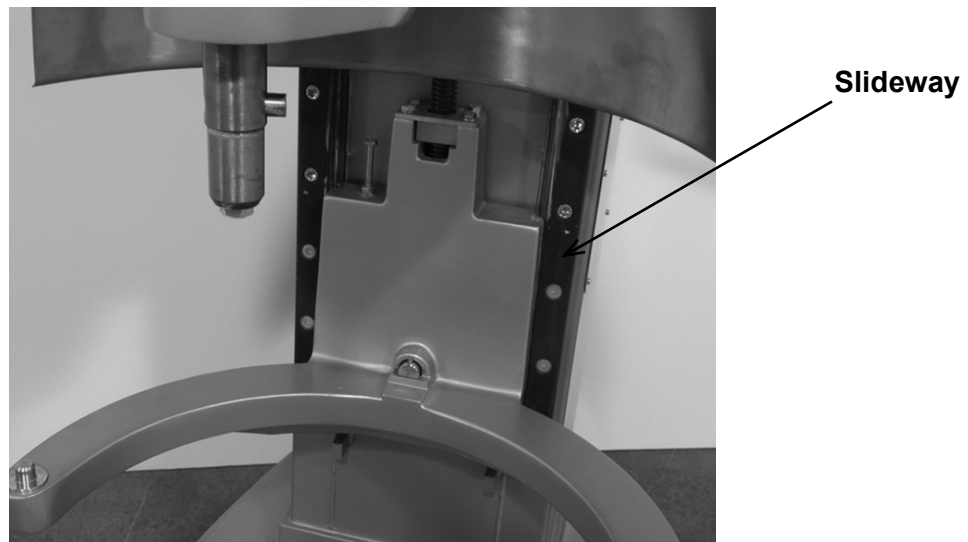
**⚠ WARNING** Disconnect electrical power before beginning any maintenance procedure.

### MOTOR

The motor has sealed ball bearings which require no lubrication maintenance.

### BOWL LIFT SLIDEWAYS

The bowl lift slideways (Fig. 6) should be lubricated once each month. Apply a light coat of a "Food Grade" grease to both sides of the slideways.



**Fig. 6**

# SERVICE AND PARTS INFORMATION

To obtain service and parts information concerning the FMS30 & FMS40, you have two options:

1. You can contact the local Designated Berkel Service Location (DBSL). To locate the nearest DBSL, please visit [www.berkel.com](http://www.berkel.com). Additional information may be obtained by dialing (800-348-0251).
2. You can contact the local Hobart office in your area, or call 1-888-4HOBART. You can also find the nearest Hobart office by visiting [www.hobartservice.com](http://www.hobartservice.com).

Berkel Company  
PO Box 696  
2006 Northwestern Parkway  
Louisville, Kentucky 40201  
(800) 348-0251  
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## **Warranty**

Effective: February 14, 2002

Berkel Company ("Berkel") warrants to the Buyer of new equipment that said equipment, when installed in accordance with our instructions and subjected to normal use, is free from defects in material or workmanship for a period of one (1) year from the date of sale.<sup>1</sup>

**BERKEL SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTY OF MERCHANTABILITY OR EXPRESS OR IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.**

Berkel's obligation and liability under this warranty is expressly limited to repairing or replacing equipment that proves to be defective in material or workmanship within the applicable warranty period. Berkel or a Designated Berkel Service Location will perform all repairs pursuant to this warranty. Berkel expressly excludes responsibility for incidental or consequential damages to buyer or any third party, including, without limitation, damages arising from personal injuries, lost profits, loss of business opportunity, loss of property, economic losses, or statutory or exemplary damages, whether in negligence, warranty, strict liability or otherwise.

This warranty does not apply to: periodic maintenance of equipment including but not limited to lubrication, replacement of worn blades, knives, stones, knobs, accessories, and miscellaneous expendable supply items, and other adjustments required due to installation set-up or normal wear.

These warranties are given only to the first purchaser from a Berkel Authorized Channel of Distribution. No warranty is given to subsequent transferees.

The foregoing warranty provisions are a complete and exclusive statement of the warranty between the buyer and seller. Berkel neither assumes nor authorizes any persons to assume any other obligation or liability connection with said equipment. This warranty supersedes any and all prior warranties to the subject hereof.

<sup>1</sup> Model 180 slicers carry a 90-day warranty.