

INSTRUCTIONS

SPIRAL MIXER SERIES

Models

<i>HF180</i>	<i>ML-38690</i>
<i>HF270</i>	<i>ML-38691</i>
<i>HR270</i>	<i>ML-38692</i>
<i>HF350</i>	<i>ML-38693</i>
<i>HR350</i>	<i>ML-38694</i>



WORLD HEADQUARTERS
TROY, OHIO 45374

Installation, Operation, and Care of Models HF180, HF270, HR270, HF350 and HR350 SPIRAL MIXERS

SAVE THESE INSTRUCTIONS



Fig. 1

GENERAL

The Spiral Mixers (Fig. 1) are a series of high volume dough mixers. The Spiral Mixer's spiral arm rotates on a fixed vertical axis, and the bowl turns to provide the mixing action. The HF model designation indicates the bowl is Fixed (integral to the mixer), while HR indicates the bowl and its support are Removable.

The Spiral Mixer's spiral arm is powered with a heavy duty two-speed motor. The bowl is powered with a separate motor. The operator controls are conveniently located on the front of the machine and provide timed mixing in two speeds. Bowl size is suitable for mixing standard quantities of flour and assures efficient operation.

INSTALLATION

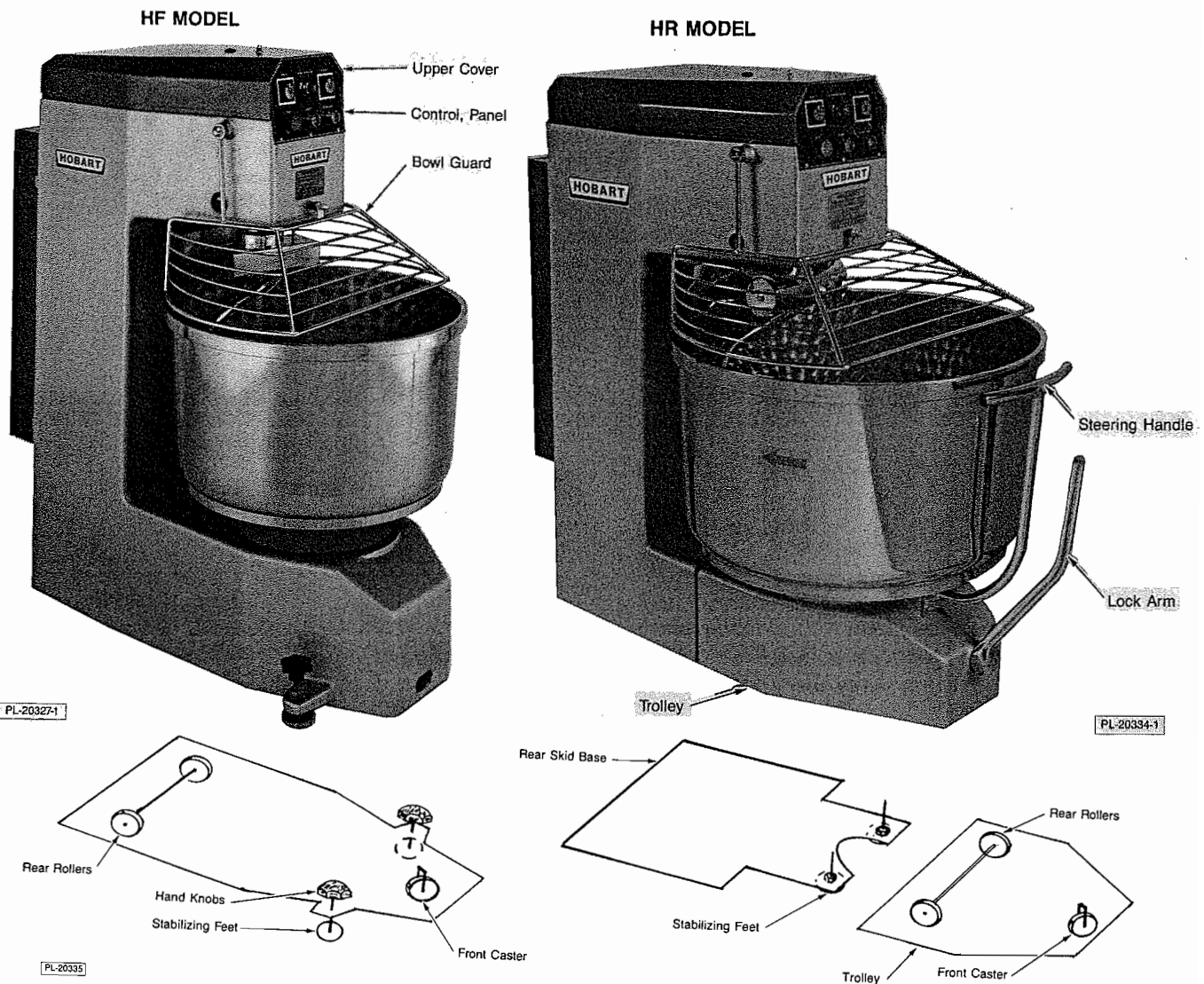
UNPACKING

Immediately after unpacking the mixer, check for possible shipping damage. If this machine is found to be damaged after unpacking, 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 located on the rear of the mixer head.

LOCATION

Place the mixer in its operating location. There should be adequate space around the mixer for operation of the controls and to add ingredients to the bowl. The area above and behind the mixer should allow for the bowl guard to be raised above the machine and the rear service door to be opened, when necessary, for infrequent servicing of the machine. For units with removable bowls, there should be adequate space to rotate the spiral arm so that the locking screw is to the front and to unlock and roll the bowl away from the machine to unload the dough.



LEVELING

HF MODELS

Fixed bowl machines should be reasonably level and may be stabilized by adjusting the stabilizing feet (Fig. 2).

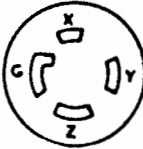
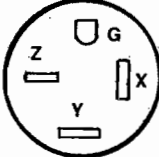
HR MODELS

For removable bowl models, do not adjust the stabilizing feet too high or the trolley will not completely engage with the mixer. After locking bowl to mixer, the stabilizing feet will be lifted slightly off the floor (Fig. 2).

ELECTRICAL CONNECTIONS

WARNING: ELECTRICAL AND GROUNDING CONNECTIONS MUST COMPLY WITH APPLICABLE PORTIONS OF THE NATIONAL ELECTRICAL CODE AND/OR OTHER LOCAL ELECTRICAL CODES.

The Spiral Mixers are shipped with a cord and plug and require only that they be connected to an appropriately sized, grounding type receptacle. Machines are rated at 220 V., 60 Hz., 3 Ph. with the following Amperage and Receptacle:

Model	Rated Load	Receptacle and Plug Size	Receptacle and Plug Type
HF180	21 Amps	30 Amps	 NEMA Reference: Receptacle: L15-30R Plug: L15-30P
HF270	27 Amps	30 Amps	
HR270	27 Amps	30 Amps	
HF350	35 Amps	50 Amps	 NEMA Reference: Receptacle: 15-50R Plug: 15-50P (Non-Locking)
HR350	35 Amps	50 Amps	

Check the rotation of the spiral arm to make sure it agrees with the direction of the arrow on the arm mounting plate. If the rotation is incorrect, unplug the electrical cord and interchange any two of the three power supply leads (non-ground wires). Then, verify that the rotation is correct.

OPERATION

WARNING: MOVING SPIRAL ARM IN MOVING BOWL. KEEP HANDS, CLOTHING AND UTENSILS OUT WHILE IN OPERATION.

CONTROLS

- START** — Push this button to start the mixer after Timer and/or Timer II have been set.
- STOP** — Push this button to Stop the mixer.
- TIMER I** — Controls slow speed mixing for incorporating ingredients. Set this timer for the amount of time you want the mixer to run at slow speed. Maximum amount of time is six minutes. If both timers are set, **TIMER I** controls the mixer first — slow speed mixing occurs before automatically changing to high speed mixing.
- TIMER II** — Controls high speed mixing for development of dough. Set this timer for the amount of time you want the mixer to run at high speed. Maximum amount of time is sixty minutes. If both timers are set, **TIMER I** controls the mixer first — slow speed mixing occurs before automatically changing to high speed mixing.
- BOWL ROTATION** — Rotate the knob so the center arrow points to the clockwise arrow for most mixing operations (Fig. 3). There is also a neutral (straight up) position and a counterclockwise rotation position.
- BOWL JOG** — Push and hold this button to rotate the bowl without turning on the spiral arm's motor; the bowl can be rotated in this manner even if the bowl guard is raised.

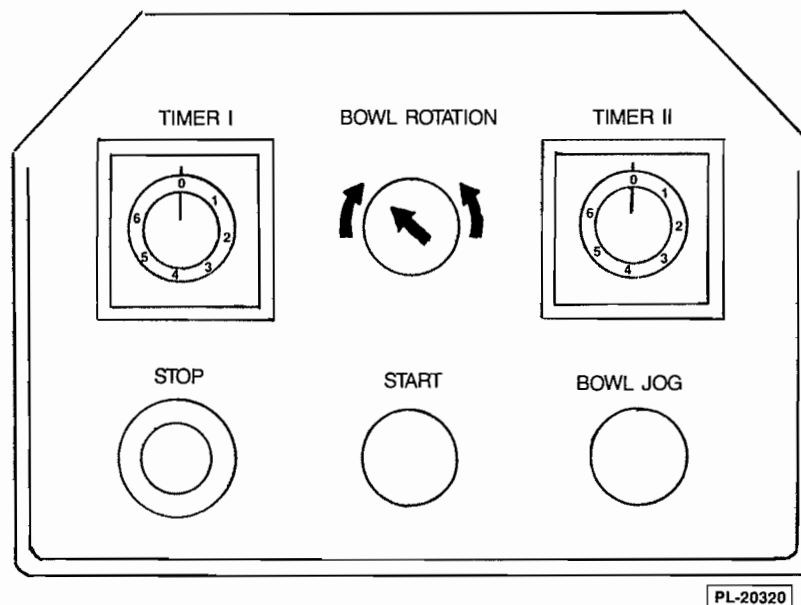


Fig. 3

NOTE: The spiral arm will not operate with the bowl guard raised.

MIXING

Set-up (Fig. 2)

HF MODELS

HF models have a pair of rear wheels and a front caster for ease of moving the unit. After positioning, screw down the Stabilizing Feet on the front corners using the Hand Knobs; then tighten the jam nuts before starting.

HR MODELS

HR models have a removable bowl Trolley and a hinged Spiral Arm. The Mixer base rests directly on the floor with two Stabilizing Feet in front (accessible with bowl Trolley removed) which are set at the proper height to join the Trolley to the Mixer base. The Trolley has a pair of rear wheels, a front caster and steering handle to provide mobility. After rolling the Trolley into close proximity with the Mixer, the Lock Arm must be rotated to approximately 30 degrees past vertical (1 o'clock) to engage the bowl gears and ensure that the Trolley is secured to the mixer. The hinged Spiral Arm must be rotated so it is extended to the bottom of the bowl. Tighten the Locking Screw (Fig. 4) with the wrench that hangs on the control box; then tighten the jam nut. **CAUTION: To avoid harm to bowl, be sure spiral arm is properly tightened.**

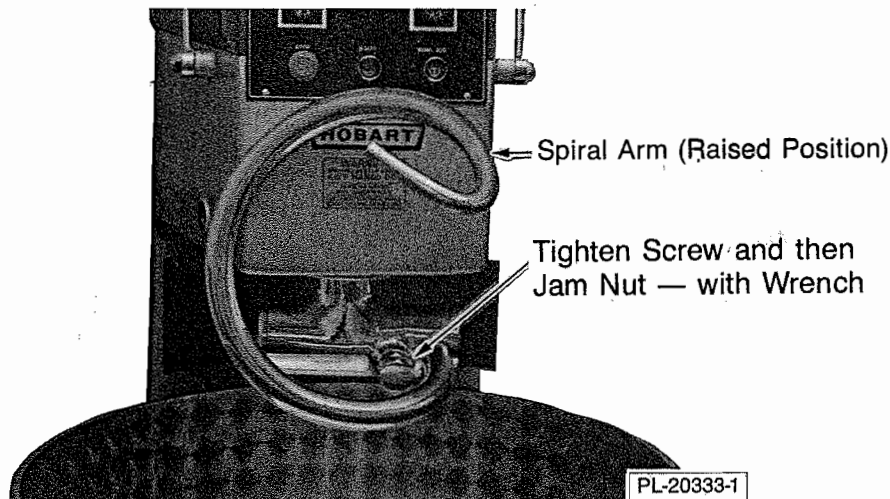


Fig. 4

Typical Batch

The chart below shows some typical quantities for a medium bread dough with a 60% Absorption Ratio (60# water to 100# flour). Mix times and quantities are suggested only. You should adjust your own formulations to best suit your operation. Note the use of whole bags of flour to make the batch process efficient. Withholding a small proportion of the dry ingredients until after mixing has progressed a short time, may reduce potential spillage on larger sized batches.

CAPACITY GUIDELINES FOR SPIRAL MIXERS

Model	Flour	Water	Mix Time		Nominal Batch Size
			Slow Spd	High Speed	
HF180	100#	60#	3 Min.	6 Min.	180#
HF/HR270	150#	90#	3 Min.	6 Min.	270#
HF/HR350	200#	120#	3 Min.	6 Min.	350#

Recipes with 50% AR (Absorption Ratio) or lower, like Pizza or Bagel doughs, can be mixed by reducing batch size. If the machine will be used principally to mix low AR doughs, a low speed pulley can be installed by Hobart service which will allow the machine to mix at full capacity.

Typically, you would load the ingredients, set Timer I for the amount of time it will take to incorporate the ingredients, and set Timer II for the amount of time it will take to develop the dough. Then press the Start button. The mixer automatically changes speed at the preset time and shuts off when complete.

If you interrupt the mixing cycle, the timers do not reset. When the mixer is restarted, it will run for the remainder of the original cycle. To be sure of starting in slow speed if the cycle is interrupted in high speed, make sure Timer II is set to zero before starting.

The Spiral Mixers are also capable of mixing very small batches:

Model	Minimum Batch Size
HF 180	5#
HF/HR 270	8#
HF/HR 350	10#

When mixing small batches, counterclockwise bowl rotation can speed-up "incorporation of ingredients" (slow speed mixing) and neutral bowl rotation can speed-up "development" (high speed mixing).

Adding a small amount of oil to the dough, near the end of the cycle, makes it easier to unload the bowl.

CLEANING

WARNING: UNPLUG MACHINE BEFORE CLEANING OR SERVICING.

The mixer bowl and spiral arm should be thoroughly washed with hot water and a mild soap solution, rinsed with either a mild soda or vinegar solution, thoroughly rinsed with clear water and dried after each day's use. Wash the mixer and guard with a clean damp cloth.

Clean under machine occasionally. To clean HF models, disconnect power cord, raise stabilizing feet and move machine.

MAINTENANCE

WARNING: UNPLUG MACHINE BEFORE CLEANING OR SERVICING.

LUBRICATION

The Spiral Mixers are shipped completely lubricated from the factory and require only periodic checking.

1. See that the transmission oil level is maintained by periodically checking the sight glass on the side of the mixer head.
2. Periodically remove and fill the grease cup on the bowl drive gear to assure that the gears which rotate the bowl are adequately lubricated. Use Texaco Marfak #8 available from Hobart.
3. Other lubrication service should be performed periodically by your Hobart Service Technician.

TROUBLESHOOTING

MIXER WILL NOT START

- Check to see that bowl guard is in lowered position.
- Check electric cord to see that it is plugged into receptacle.
- Check electrical supply at breaker (fuse) box.
- Timer may not be set. Spiral mixers will not operate manually — you must set the timer and then push the start button.

HR MODELS

- Ensure that bowl Trolley is locked in position and Lock Arm fully engaged.

BOWL DRIVE MAKING NOISE

- Lubricate bowl drive gear — see Maintenance Section.

HR MODELS

- Ensure that Lock Arm is fully engaged.
- Ensure that Spiral Arm is fully extended, Locking Screw is tightened with wrench, and then Jam Nut is tightened — use wrench that hangs on control box.