INSTRUCTIONS

D330 MIXER

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ML - 104481

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FORM 18815 Rev. A (12-99)

MODEL D330 MIXER

Installation, Operation, and Care of MODEL D330 MIXERS

SAVE THESE INSTRUCTIONS

GENERAL

The D330 Mixer is a medium duty 30 quart mixer which develops 1 1/4 horsepower and features a timer, thermal overload protection, and a #12 attachment hub as standard equipment. A variety of agitators are available for the 30 quart bowl. A special 20 quart bowl and agitators are available options.

Bowl Guard is standard equipment on all D330 models.

Programmable Timer Controller is optional on D330 models.

A variety of attachments and accessories are available for all mixers. These are described in a separate *Use and Applications Handbook* which is furnished with each mixer.

INSTALLATION

UNPACKING

Immediately after unpacking the mixer, check for possible shipping damage. If this machine 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

Place the mixer in its operating location. There should be adequate space around the mixer for the user to operate the controls and install and remove bowls. The area above the mixer should allow the top cover to be removed for routine maintenance and servicing.

Holes are provided in the base for permanent bolting to the floor, although this is not necessary in normal installations. Four plastic plugs are supplied with the mixer to plug these holes if they are not used.

ELECTRICAL CONNECTION

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

WARNING: DISCONNECT ELECTRICAL POWER SUPPLY AND PLACE A TAG AT THE DISCONNECT SWITCH INDICATING THAT YOU ARE WORKING ON THE CIRCUIT.

ELECTRICAL DATA

Models	Volts / Hz / Ph	Rated Amps	Circuit Size (Amps)	Fuse Size * (Amps)	60°C Copper Wire Size	Circuit Size (Amps)	Circuit Breaker ** (Amps)	60°C Copper Wire Size
D330	120 / 60 / 1	25.0	35	35	8	35	35	8
D330	208 / 60 / 1	14.0	20	20	12	20	20	12
D330	240 / 60 / 1	12.5	20	20	12	20	20	12
D330	208 / 60 / 3	5.0	15	6	14	15	10	14
D330	240 / 60 / 3	5.0	15	6	14	15	10	14
D330	480 / 60 / 3	2.5	15	3	14	15	6	14
				* Dual Element Time-Delay Fuse			** Inverse Time Circuit Breaker	

Circuit Size (Minimum) & Fuse / Circuit Breaker Size (Maximum) compiled in accordance with the National Electrical Code (ANSI/NFPA 70), 1993 Edition.

A hole for ¾" trade size conduit is located at the top of the pedestal (Fig. 1). Make electrical connections per the wiring diagram located on the inside of the Top Cover.

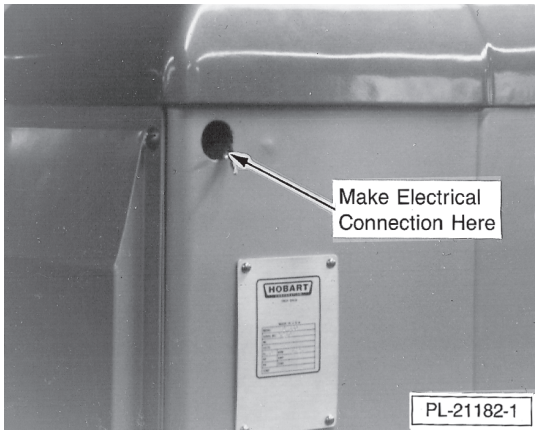


Fig. 1

Check Rotation (Three-Phase Machines Only)

Three-phase machines must be connected so the planetary rotates in the direction of the arrow on the Drip Cup. To check rotation:

Set the gear shift lever on 1.

Apply power to the mixer, set the Electro-Mechanical Timer on HOLD; or, if equipped with a Programmable Timer Controller, set it on [-- : --]. With the Bowl Support all the way up, momentarily run the machine by pushing the START and then STOP buttons.

If rotation is incorrect, DISCONNECT ELECTRICAL POWER SUPPLY and interchange any two of the incoming power supply leads.

OPERATION

WARNING: MOVING BEATER IN BOWL, KEEP HANDS, CLOTHING, AND UTENSILS OUT WHILE IN OPERATION, DO NOT USE WITHOUT INTERLOCKED GUARD.

Every D330 mixer is equipped with either an Electro-Mechanical Timer Control (described at the bottom of this page) or a Programmable Timer Controller (described on pages 6 – 8). Also, become familiar with the other operating parts (Fig. 2) and their functions, which are referenced throughout the OPERATION section (pages 5 – 11).

The Bowl Guard must be in position or the mixer will not operate. Refer to page 10.

If the Bowl Support is not all the way up, the mixer will not operate unless the START button is held in.

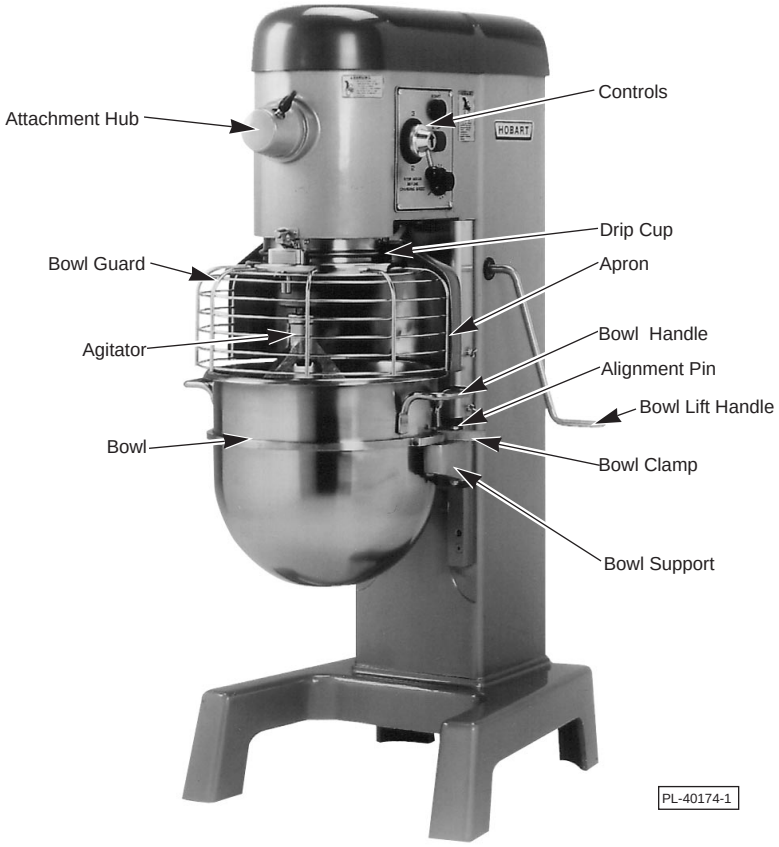


Fig. 2

ELECTRO-MECHANICAL TIMER CONTROLS (when equipped)

The START button is used to start the mixer.

The STOP button is used to stop the mixer.

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

For non-timed mixing — Set the timer on HOLD and use the STOP button to stop the mixer.

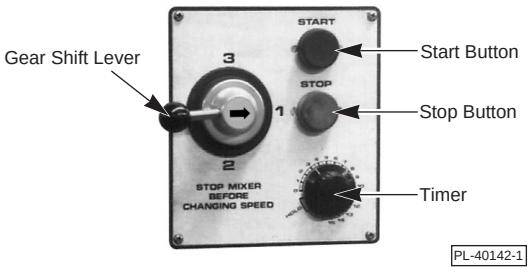


Fig. 3

PROGRAMMABLE TIMER CONTROLLER (when equipped)

At Idle, the timer display [– – : – –] shows that no time has been set (Fig. 4).

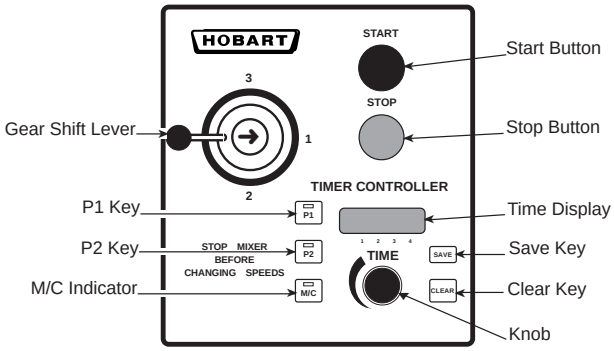


Fig. 4

Timer Keys	**Programming Function** (if the mixer is not mixing).
P1	Contains up to four preset times. Displays each preset time sequentially.
P2	Contains up to four additional preset times. Displays each preset time sequentially.
Knob	Changes the time as indicated by the display.
Save	Replaces the preset time with the indicated time.
Clear	Returns to Idle from a programming function.

For Continuous Mixing . . .

START and STOP buttons control mixing operation.

Beginning from the Idle display [– – : – –], press START to begin mixing. The M/C indicator will be lit, and the total mixing time will be indicated (minutes and seconds).

Press STOP when mixing is done; the M/C indicator light goes off; and the Idle display [– – : – –] returns.

Using the Dial Timer to set the Mixing Time . . .

Beginning from the Idle display [– – : – –], turn the KNOB to set the mixing time. The M/C indicator will be lit.

START and STOP buttons control mixing operation.

Press START to begin mixing: The timer will countdown from the set time to [00 : 00].

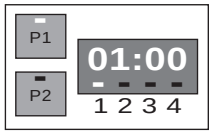
If STOP is pressed, both mixing and timer countdown will be interrupted. After pressing STOP . . . Press START to resume both mixing and timer countdown; or, press CLEAR to return to the Idle display.

When the timer reaches [00 : 00] the mixer stops; M/C indicator goes off; a beep tone sounds for two seconds; and the Idle display [– – : – –] returns.

PROGRAMMABLE TIMER CONTROLLER (when equipped) continued

Using the Preset Keys, P1 or P2, to set the Mixing Time . . .

Each preset key has four time settings. The indicator above the number 1, 2, 3, or 4 and the P1 or P2 indicator light identify which preset time is being displayed. The chart below shows the default settings; the next page shows how to revise these preset times. The Dial Timer KNOB can be used to adjust the mixing time if the knob is turned prior to pressing START.



▭ Indicators above P1 and 1 indicate the first preset time contained in P1.

Beginning from the Idle display [– – : – –], press P1 or P2 to display the #1 preset mixing time. (Pressing P1 or P2 again will display the next preset time, etc.)

☛ The Dial Timer KNOB can adjust the time.

START and STOP buttons control mixing operation.

Press START to begin mixing: The timer will countdown from the set time to [00 : 00].

If STOP is pressed, both mixing and timer countdown will be interrupted. After pressing STOP . . . Press START to resume both mixing and timer countdown; or, press CLEAR to return to the Idle display.

When the mixer is stopped, you may perform any appropriate task, such as the following: Add ingredients, change speed, reset the timer, continue mixing, or unload.

When the timer reaches [00 : 00] the mixer stops; a beep tone sounds for two seconds; and the next preset mixing time displays. When the last preset time reaches [00 : 00], the P1 or P2 indicator goes off; and the Idle display [– – : – –] returns. Repeat from ☛ to complete four preset times.

The timer reverts to the Factory Programmed Preset Times after any power interruption:

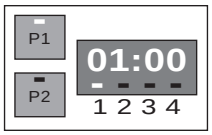
Factory Programmed Preset Times

Preset Key	Indicator			
	1	2	3	4
P1	01:00	02:00	10:00	00:00
P2	02:00	01:00	05:00	03:00

PROGRAMMABLE TIMER CONTROLLER (when equipped) continued

To Revise the Preset Mixing Times contained in P1 or P2 . . .

Each preset key has four preset time settings. The indicator above the number 1, 2, 3, or 4 and the P1 or P2 indicator light identify which preset time is being displayed.



▭ Indicators above P1 and 1 indicate the first preset time contained in P1.

Beginning from the Idle display [– – : – –], press P1 or P2 to display the #1 preset mixing time. (Pressing P1 or P2 again will display the next preset time, etc.)

☞ Turn the KNOB to change the time for the indicated preset.

- Press SAVE to retain the revised time and move to the next preset time.

Repeat from ☞ for each preset time (1, 2, 3, and 4 contained in P1 or P2).

Pressing CLEAR will retain the saved times and return to the Idle display [– – : – –].

The timer reverts to the Factory Programmed Preset Times after any power interruption:

Factory Programmed Preset Times

Preset Key	Indicator			
	1	2	3	4
P1	01:00	02:00	10:00	00:00
P2	02:00	01:00	05:00	03:00

CHANGING SPEEDS

The GEAR SHIFT LEVER is used to change speeds. Always stop the mixer before changing speeds. To change speeds, push the STOP button, move the gear shift lever to the desired speed, and restart the mixer by pushing the START button. **NOTE**: If you do not stop the mixer to change speeds, it will automatically shut itself off and you will have to restart it after changing speeds.

Mixer Speeds

Speed 1 (Low) — This speed is for heavy mixtures such as bread dough, heavy batters, and potatoes.

Speed 2 (Medium) — This speed is for light dough which must rise quickly, cake batters, mashing potatoes, and some whipping operations.

Speed 3 (High) — This is a fast speed for light work, such as whipping cream, beating eggs, and mixing thin batters.

BOWL LIFT

D330 models equipped with a Lift Lever raise the bowl by rotating the Lift Lever downward; and lower the bowl by rotating the Lift Lever upward.

MIXING

This section explains operation of the mixer and how to install bowls, agitators, and attachments. A separate *Use and Applications Handbook* is provided with the mixer which contains information on mixing procedures and outlines specific uses for agitators, attachments, and accessories.

Bowl

New mixer bowls and agitators (beaters, whips, and dough arms) 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 used. This cleaning procedure should also be followed for bowls and agitators before whipping egg whites or whole eggs.

The bowl must be installed before the agitator.

To install the bowl, fully lower the bowl support. Position the bowl so the alignment bracket on the back of the bowl is in the bowl retainer on the bowl support and the alignment pins on the front of the bowl support fit in the holes in the bowl. Lock the bowl in place by rotating the bowl clamps over the ears of the bowl.

Agitator

To install an agitator, 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.

To Raise the Bowl While Mixing

To raise the bowl while the agitator is mixing the product (when required by recipe or when using the Bowl Scraper Attachment): Load ingredients. Close Wire Cage Assembly. Select Low speed. To begin mixing, press and hold the Start button; then raise the bowl.

Bowl Guard (Fig. 5)

The Wire Cage Assembly on the Bowl Guard can be rotated out-of-the-way to add ingredients or access the bowl and agitator.

To rotate the Wire Cage Assembly to the rear . . .

Push the Latch in to release the Centering Pin from the Centering Ramp. Note how the grooves on the nylon Retainers allow the Wire Cage to ride around the circular Ridge of the planetary Drip Cup. The Wire Cage can rotate 360°; left or right. When the Wire Cage returns to the front and center position, the Centering Pin is captured and held by the Centering Ramp, restricting rotation of the Wire Cage until the Latch is pressed again.

The Wire Cage must be in the front-center position for the mixer to operate.

To remove the Wire Cage Assembly for cleaning . . .

Lower the Bowl. Rotate the Wire Cage to the rear. Remove both Agitator and Bowl. Return the Wire Cage to the front.

While holding the Wire Cage securely with both hands, use your thumb to push down on the Black Release Knob. Lower and remove the Wire Cage. Wash it in a sink or dishwasher; rinse with clear water; and dry with a clean cloth.

The stainless steel Splash Guard can be wiped-off or washed easily with a cloth or sponge and warm soapy water. Rinse with clear water. Dry with a clean cloth.

To reinstall the Wire Cage Assembly . . .

Hold the Wire Cage so its top ring is positioned around the planetary Drip Cup with the grooves in both nylon Rear Retainers straddling the Ridge on the Drip Cup. Push-in the Front-Center Retainer until it stays in and so that it's grooves also straddle the Ridge on the Drip Cup. The Wire Cage is properly assembled when all three Retainers straddle the Ridge on the Drip Cup in the three opposed locations.

Rotate the Wire Cage out-of-the-way to install or remove the Agitator and Bowl or to add ingredients.

Return the Wire Cage to its front and center position to operate the mixer.

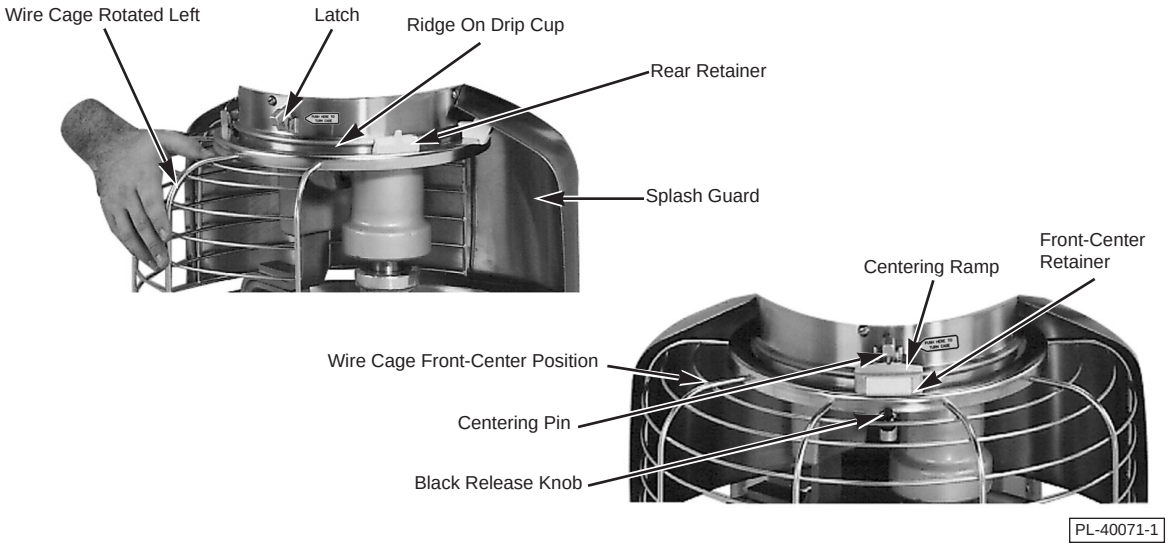


Fig. 5

Attachments

To install an attachment, loosen the attachment hub thumb screw 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.

Move the gear shift lever to the desired speed. With the bowl support all the way up and the wire cage in the front-center position, start the mixer to operate the attachment.

The meat and food chopper attachment should be operated in second or third speed. If material in the cylinder stalls the mixer, push the STOP button at once. DO NOT attempt to restart the mixer in a lower speed — remove the adjusting ring, knife, plate, and worm and clear any obstruction. THIS ATTACHMENT MUST NOT BE USED TO CHOP BREAD CRUMBS.

NOTE: Attachment hub should not be used while mixing.

Bowl Scraper Attachment

The Mixer Bowl Scraper Attachment (when ordered) is provided with a separate instruction manual covering its installation, operation, use and care.

CLEANING

WARNING: DISCONNECT ELECTRICAL POWER SUPPLY AND PLACE A TAG AT THE DISCONNECT SWITCH INDICATING THAT YOU ARE WORKING ON THE CIRCUIT BEFORE BEGINNING ANY CLEANING PROCEDURE.

A flat scraper and a brush are furnished to aid in cleaning bowls and agitators.

The mixer should be thoroughly cleaned daily. DO NOT use a hose to clean the mixer — it should be washed with a clean damp cloth. The base allows ample room for cleaning under the mixer. The apron may be removed by loosening the thumb screws. Behind this apron is an access cover which may be removed for cleaning.

The Drip Cup-Splash Guard (which is secured by three screws) should be removed periodically and wiped clean.

For cleaning the Bowl Guard (including both Wire Cage Assembly and Splash Guard), refer to page 10.

MAINTENANCE

WARNING: DISCONNECT ELECTRICAL POWER SUPPLY AND PLACE A TAG AT THE DISCONNECT SWITCH INDICATING THAT YOU ARE WORKING ON THE CIRCUIT BEFORE BEGINNING ANY MAINTENANCE PROCEDURE.

LUBRICATION

Bowl Clamps

The bowl clamp area of the bowl support should be lubricated twice a year. Lightly coat with Lubriplate 630AA (supplied).

Bowl Lift

The bowl lift mechanism should be lubricated twice a year. Remove the screw and access cover from the rear of the pedestal. Lightly coat moving parts with Lubriplate 630AA (supplied). Replace access cover and tighten screw.

Bowl Lift Slideways

The slideways (Fig. 6) should be lubricated once each month. Remove the apron (secured by four thumb screws) from the front of the pedestal. Lightly coat both slideways with Lubriplate 630AA (supplied). Replace the apron and thumbscrews.

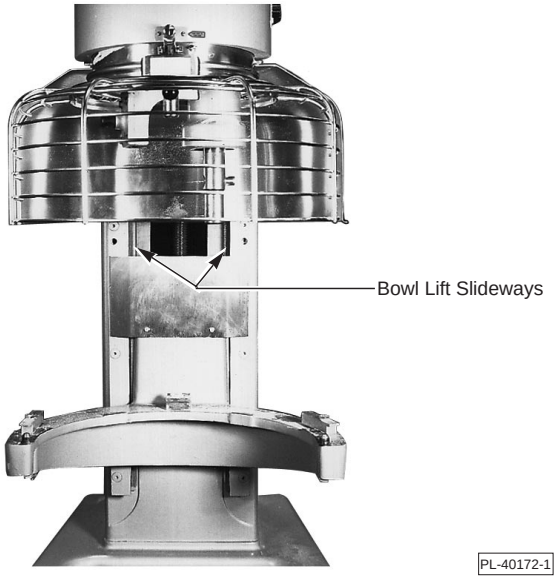


Fig. 6

TROUBLESHOOTING

SYMPTOMS	POSSIBLE CAUSES
Mixer will not start.	1. Gear shift lever between gears (not fully engaged). 2. Circuit protector in open position — check fuse or disconnect switch. 3. Mixer or attachment overloaded. 4. Bowl not all the way up. 5. Wire Cage Assembly is not in the front-center position.

SERVICE

If service is needed on this equipment, contact your local Hobart Service Office.