INSTRUCTIONS

MODELS M802 & V1401 MIXERS

ML-33482 - 33485 M802
ML-33490 - 33494 V1401

HOBART
CORPORATION
WORLD HEADQUARTERS
TROY, OHIO 45374

FORM 15982 (Rev. C, 6-88)

Installation, Operation, and Care of MODELS M802 and V1401 MIXERS

SAVE THESE INSTRUCTIONS

GENERAL

The M802 mixer is a heavy duty 80 quart mixer with a 3 horsepower motor and a timer as standard equipment. Other standard features include a clutch, power bowl lift, and mixing light. With the use of bowl adapters and special agitators, 30, 40, or 60 quart bowls may be used on the M802. This mixer is also available with a 14″ higher than standard pedestal.

The V1401 mixer is a heavy duty 140 quart mixer with a 5 horsepower motor and a timer as standard equipment. Other standard features include a clutch, power bowl lift, and mixing light. With the use of bowl adapters and special agitators, 30, 40, 60, 80, or 100 quart bowls may be used on the V1401. This mixer is also available with a 17″ higher than standard pedestal.

These mixers can be ordered with deluxe finish, which includes a burnished aluminum transmission case and nickel-chrome plated top cover, planetary, and drip cup.

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

INSTALLATION

UNPACKING

Immediately after unpacking the mixer, check it for possible shipping damage. If this machine is found to be damaged after unpacking, save the packing 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.

Once located, the mixer must be leveled.

Remove the top cover screws and the top cover.

Place a level on the machined surface of the transmission case (Fig. 1) and slide shims under the legs (base) of the mixer as required to level it front-to-back and side-to-side.

Do not replace the top cover until installation is completed.

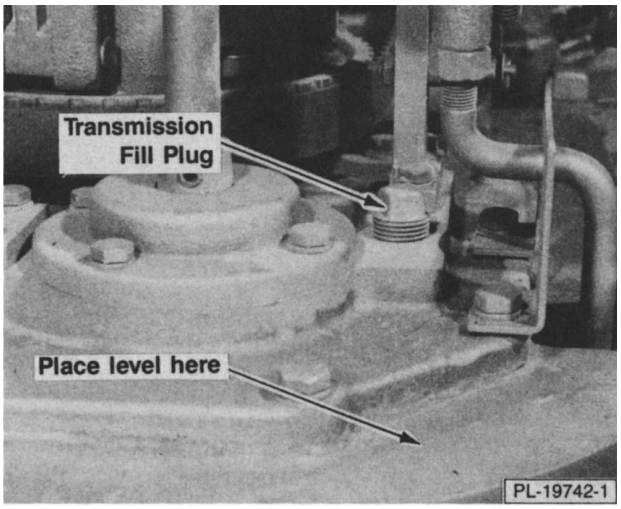


Fig. 1

LUBRICATION

This mixer is shipped with oil in the transmission and planetary. The transmission contains 1 gallon of Gearep #140; the planetary contains 6 ounces of Gearep #85. Check oil levels before starting mixer. Refer to Maintenance Section for oil level and filling procedure.

ELECTRICAL CONNECTIONS

WARNING: ELECTRICAL AND GROUNDING CONNECTIONS MUST COMPLY WITH THE APPLICABLE PORTIONS 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.

BRANCH CIRCUIT SIZE AND PROTECTION

MODEL M802
DUAL ELEMENT TIME-DELAY FUSE

VOLTS	PHASE	MINIMUM CIRCUIT AMPACITY	MAXIMUM FUSE SIZE	60°C COPPER WIRE SIZE
200	1	35	35	8
230	1	30	30	10
200	3	20	20	12
*230	3	20	20	12
*460	3	15	10	14

MODEL V1401
DUAL ELEMENT TIME-DELAY FUSE

VOLTS	PHASE	MINIMUM CIRCUIT AMPACITY	MAXIMUM FUSE SIZE	60°C COPPER WIRE SIZE
200	1	50	50	6
230	1	40	40	8
200	3	25	25	10
*230	3	25	25	10
*460	3	15	15	14

*Can be field rewired for alternate voltage (i.e., 230 volt mixers can be rewired for 460 volts and vice versa). Contact your local Hobart Service Office if this is required.

NOTE: The above information compiled in accordance with the National Electrical Code, 1984 Edition.

A junction box with ¾" pipe tap is located at the top of the pedestal. Make electrical connections per the wiring diagram supplied with the unit.

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.

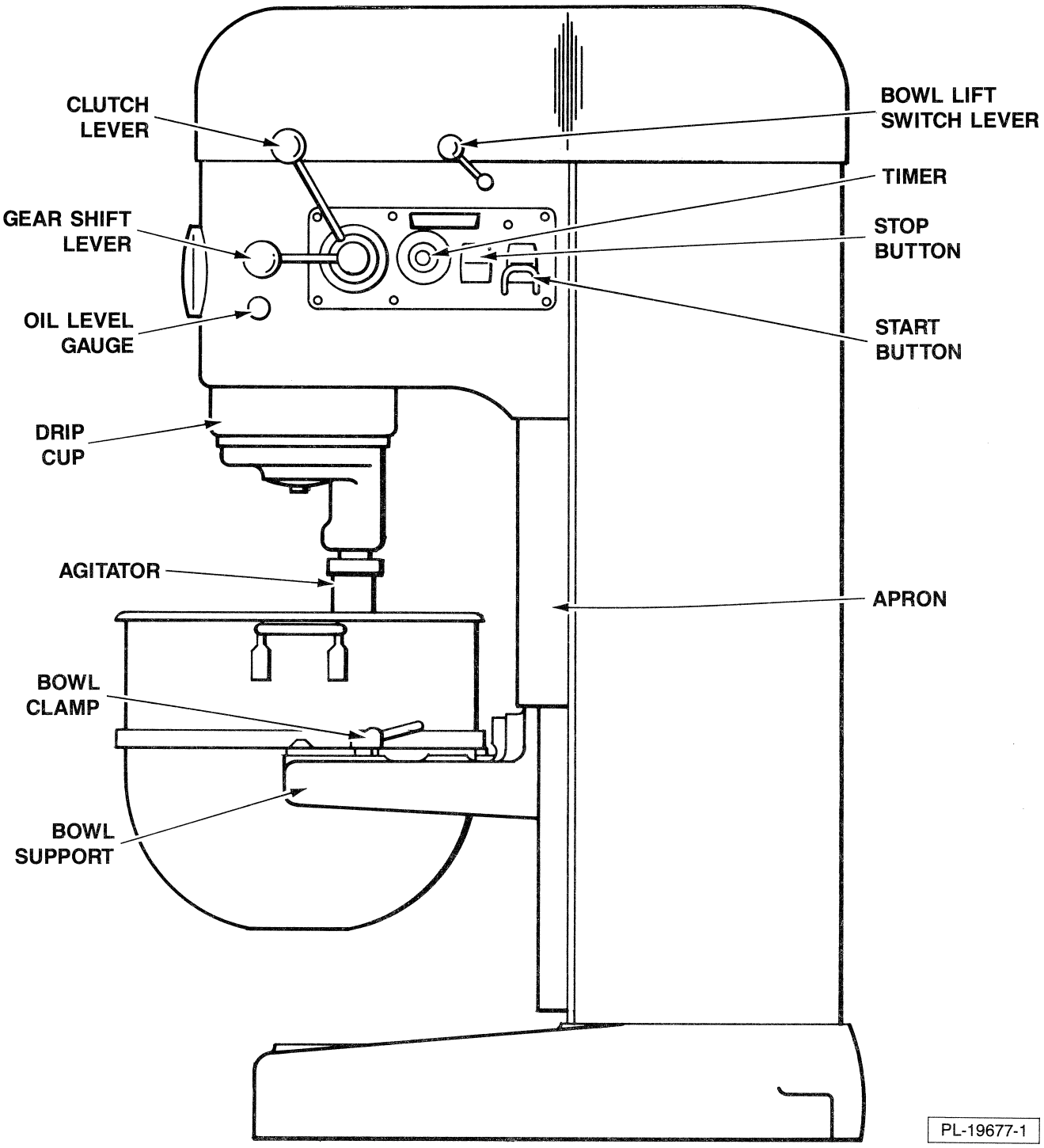
Apply power to the mixer, set the timer on *HOLD*, and momentarily run the machine by pushing the *START* and then *STOP* buttons.

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.

In order to fully understand the operation of your mixer, you must be familiar with the items identified on this page. These items, which are referenced throughout the OPERATION section, are printed in *italic type* the first time they appear.



CONTROLS

The *START BUTTON* is used to start the mixer.

The *STOP BUTTON* is used to stop the mixer.

The *CLUTCH LEVER* is used when changing speeds. Moving the clutch lever to *STOP* disengages the clutch and activates a brake which stops the planetary. The motor will continue to run with the clutch lever on *STOP* unless the *STOP* button is pressed.

The *GEAR SHIFT LEVER* is used to change speeds. To change speeds, disengage the clutch by moving the clutch lever to *STOP*. The brake is automatically actuated. When the agitator shaft has stopped, move the gear shift lever to the desired speed. Make sure the gear shift lever lines up with the number on the shifter plate — **never position the handle between numbers.** Place the clutch handle on *RUN* to continue operation.

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 timed mixing — Place the clutch lever on *STOP* and set the gear shift lever at the desired speed. Set the timer at the desired time and press the *START* button to start the motor. Move the clutch lever to *RUN* to start mixing.

If you need to stop the mixer before the time has elapsed, move the clutch lever to *STOP* and press the *STOP* button. To resume mixing, press the *START* button and move the clutch lever to *RUN* .

For non-timed mixing — Place the clutch on *STOP* and set the gear shift lever at the desired speed. Set the timer on *HOLD* and press the *START* button to start the motor and move the clutch lever to *RUN* to start mixing. To stop the mixer, move the clutch lever to *STOP* and press the *STOP* button.

The power bowl lift, which is controlled by a *SWITCH LEVER*, is used to raise or lower the bowl with the motor running. **CAUTION: Before lowering the bowl onto a bowl truck, always unlock both bowl clamps.**

To use the power bowl lift, move the clutch lever to *STOP*. Place the timer on *HOLD*, press the *START* button, and move the switch lever clockwise to raise the bowl or counterclockwise to lower it. An overload slip clutch will ratchet at the top and bottom stop positions to signal end of travel and protect the operating mechanism. **NOTE:** On new machines, the power bowl lift switch lever may need to be manually returned to the center neutral position until parts are broken in.

In case of a power failure, the bowl may be raised or lowered manually. Remove the *apron* (secured by thumb screws) and use a 1″ open end wrench to turn the lift screw hex in the desired direction.

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, as well as outlining 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 under the 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.

If a bowl adapter is required, install it on the bowl support as you would the bowl and then install the bowl on the adapter.

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.

Attachments (Mixers With Attachment Hub)

ALWAYS place the clutch handle on *STOP* and press the *STOP* button before installing or removing 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, move the clutch handle to *RUN*, and 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.

Mixer Speeds

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

Speed 2 (Medium-low) — This speed is for mixing cake batters, mashing potatoes, and developing bread dough.

Speed 3 (Medium-high) — This speed is for incorporating air into light batches, as well as finishing whipped items.

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

CLEANING

A bowl scraper and 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.

The *drip cup* (which is secured by two thumb screws) should be removed periodically and wiped clean.

Mixing Heavy Dough

The moisture content of heavy dough is a critical factor when selecting proper mixing speed. You should never use 2nd speed when mixing heavy dough with an Absorption Ratio (AR) or 50% or less.

To determine the Absorption Ratio (AR) of a product, divide the water weight by the flour weight.

Example: Calculate the Absorption Ratio of a mixture containing 12 lbs. of flour and 6 lbs. of water.

$$12\overline{)6.00}\ \begin{matrix}.50\end{matrix} = 50\% = AR$$

Mixer Capacity Chart — Models M802 & V1401

Recommended Maximum Capacities

PRODUCT	AGITATORS SUITABLE FOR OPERATION	M802	V1401
CAPACITY OF BOWL (QTS. LIQUID)		80	140
		CAPACITIES — SINGLE BATCHES	CAPACITIES — SINGLE BATCHES
Egg Whites	D	2 qts.	4 qts.
Mashed Potatoes	B & C	60 lbs.	100 lbs.
Mayonnaise (Qts. of Oil)	B or C or D	30 qts.	50 qts.
Meringue (Qty. of Water)	D	3 qts.	5 qts.
Waffle or Hot Cake Batter	B	32 qts.	—
Whipped Cream	D or C	16 qts.	30 qts.
Cake, Angel Food (8-10 oz. cake)	C or I	60	120
Cake, Box or Slab	B or C	100 lbs.	185 lbs.
Cake, Cup	B or C	125 dz.	235 dz.
Cake, Layer	B or C	90 lbs.	165 lbs.
Cake, Pound	B	100 lbs.	185 lbs.
Cake, Short (Sponge)	C or I	80 lbs.	150 lbs.
Cake, Sponge	C or I	65 lbs.	140 lbs.
Cookies, Sugar	B	125 dz.	225 dz.
Dough, Bread or Roll (Lt.-Med.) 60% AR §	ED	170 lbs.**	210 lbs.**
Dough, Heavy Bread 55% AR §	ED	140 lbs.**	175 lbs.**
Dough, Pie	B & P	75 lbs.	125 lbs.
Dough, Thin Pizza 40% AR (max. mix time 5 min.) § ‡	ED	85 lbs.*	135 lbs.*
Dough, Med. Pizza 50% AR § ‡	ED	155 lbs.*	190 lbs.*
Dough, Thick Pizza 60% AR § ‡	ED	155 lbs.**	190 lbs.**
Dough, Raised Donut 65% AR	ED	60 lbs.***	100 lbs.***
Dough, Whole Wheat 70% AR	ED	150 lbs.**	185 lbs.**
Eggs & Sugar for Sponge Cake	B & C or I	40 lbs.	75 lbs.
Icing, Fondant	B	65 lbs.	100 lbs.
Icing, Marshmallow	C or J or I	10 lbs.	20 lbs.
Shortening & Sugar, Creamed	B	65 lbs.	120 lbs.
Pasta, Basic Egg Noodle (max. mix time 5 min.)	ED	65 lbs.*****	100 lbs.**

*1st SPEED

**2nd SPEED

***3rd SPEED

§ If high gluten flour is used, reduce above dough batch size by 10%.

‡ 2nd speed should never be used on 50% AR or lower products.

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

ABBREVIATIONS — AGITATORS SUITABLE FOR OPERATION

B — Flat Beater
C — Wing Whip (4-Wing)
D — Wire Whip
ED — Dough Arm
I — Heavy Duty Wire Whip
J — Wing Beater
P — Pastry Knife
S — Sweet Dough Arm

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

Planetary

The planetary oil should be checked periodically. To check, DISCONNECT ELECTRICAL POWER SUPPLY and remove the drip cup, which is secured by two thumb screws. Remove the fill plug (Fig. 2). Oil should be even with the bottom of the fill plug hole. If it is not, slowly add *Gearep #85* until it is. Replace the fill plug and drip cup.

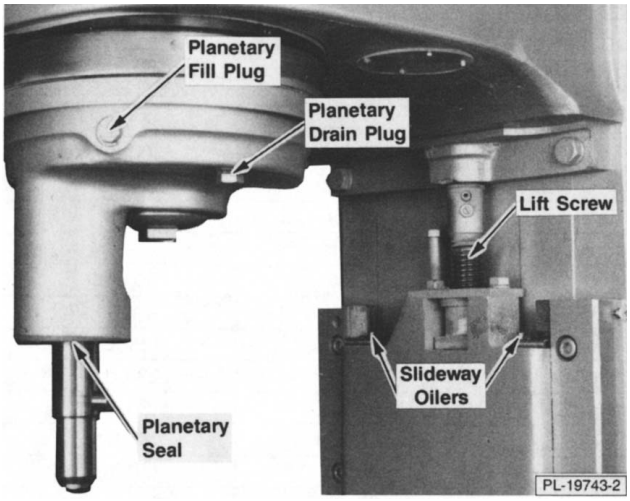


Fig. 2

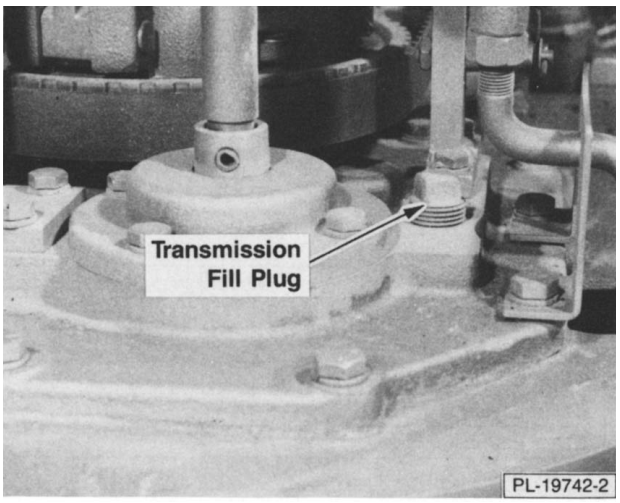


Fig. 3

A drain plug (Fig. 2) is located on the bottom of the planetary. Should draining become necessary, remove the drip cup and place a suitable catch pan under the drain plug. Remove the drain plug, allow the oil to completely drain, and replace the drain plug. Remove the fill plug and pour in 6 ounces of *Gearep #85*. Replace the fill plug and drip cup.

Planetary Seal

Occasionally, the planetary seal (Fig. 2) may become dry and begin to squeak. To correct this, work a little lubrication under the lip of the seal.

Transmission

The transmission oil should be even with the line on the *oil level gauge* when the motor is **NOT** running. If the oil falls below this line, DISCONNECT ELECTRICAL POWER SUPPLY and remove the top cover, which is secured by two screws. Remove the transmission fill plug (Fig. 3) and add a small amount of *Gearep #140* until the oil returns to the proper level. DO NOT overfill the transmission as leakage may result.

Bowl Lift

The bowl clamp area of the bowl support, the slideways, and lift screw should be lubricated two or three times per year, depending on use. To reach these areas, loosen the thumb screws securing the apron and remove the apron. Remove the inner apron by removing its screws.

Oilers (Fig. 2) are provided for lubricating the bowl lift slideways, using *Havoline #10* oil.

The lift screw (Fig. 2) is lubricated with the bowl lift fully lowered by applying a thin coat of *Lubriplate 630AA* (supplied).

Replace both aprons.

ADJUSTMENTS

Agitator Clearance

The agitator clearance should be checked with each bowl change. The agitator must not touch the bowl but there should be no more than 1/8" clearance between the bowl and agitator. To check and, if necesary, adjust the clearance:

Install a bowl and the B beater.

If the bowl and beater come into contact before the bowl lift reaches its stop, slightly lower the bowl, loosen the locking nut (Fig. 4), and turn the stop screw (Fig. 4) counterclockwise enough to prevent the bowl and beater from touching before proceeding with the adjustment.

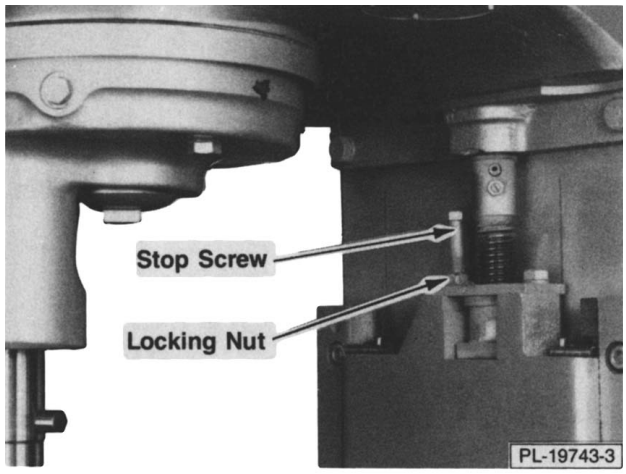


Fig. 4

Pour enough flour in the bowl to cover the bottom of the bowl where the beater travels. With the bowl fully raised, briefly run the mixer in speed 1.

Move the clutch lever to *STOP* and turn off the mixer. DISCONNECT ELECTRICAL POWER SUPPLY and measure the depth of flour where the beater has traced a path. This measurement should be taken at several points around the bowl to assure accuracy.

If an adjustment is necessary, remove the apron (which is secured by thumb screws), loosen the locking nut (Fig. 4), and turn the stop screw (Fig. 4) counterclockwise to increase the clearance or clockwise to decrease the clearance. Tighten the locking nut while holding the stop screw, and replace the apron.

Reconnect electrical power supply and operate the bowl lift several times to check the adjustment.

Bowl Clamps

The height of the bowl clamp is controlled by a spring washer and lock nut, which are located on the bottom of the bowl support. Turning the lock nut clockwise will loosen the clamp, counterclockwise will tighten it. If repeated adjustments are necessary, additional service is indicated. Contact your local Hobart Service Office.

TROUBLESHOOTING

This section contains some simple operator-oriented troubleshooting tips. If any of these symptoms appear, check the possible causes — this might eliminate the need for a service call. If the symptoms persist after possible causes have been checked, contact your local Hobart Service Office.

SYMPTOM — Mixer will not start

POSSIBLE CAUSES:

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.

SYMPTOM — Agitator touches bowl

POSSIBLE CAUSES:

1. Bowl clamp(s) not closed.
2. Improper agitator clearance — see MAINTENANCE for adjustment procedure.
3. Bowl clamp(s) improperly adjusted — see MAINTENANCE for adjustment procedure.

SYMPTOM — Planetary seal squeaks

POSSIBLE CAUSE:

1. Seal requires occasional lubrication — see MAINTENANCE.