

SERVICE/PARTS MANUAL

ELECTRIC FOOD MIXERS

MODELS

DD-60

DD-80



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PARTS SECTION - Follows page 15.	

IMPORTANT -- Please list your Model and Serial Number below:

Model _____

Serial Number _____

This information is required when ordering parts or requesting service information.

GENERAL INFORMATION

Your Blakeslee Mixer is just one piece of equipment that provides extra profit in your operation. Consistency of performance will reduce waste and maintain better control over yield.

Your Blakeslee-built mixer has been designed and engineered to assist you in the quick and easy preparation of fine tasting, quality foods. It is a valuable machine deserving the same maintenance and attention your other kitchen equipment now receives. By following the suggestions in this booklet, your mixer will operate for many trouble-free years.

This booklet has been prepared to give you the necessary knowledge for correct operation, load, and lubrication of your mixer.

The food service operator will also be able to save you labor during the cleaning process due to the smooth surfaces and the design of the Blakeslee mixer. Each beater, whip and attachment is engineered to perform specific jobs for you. The planetary action of Blakeslee Mixers (beater travels around the circumference of the bowl as it rotates) assures you of a perfectly blended mix every time.

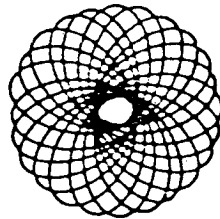
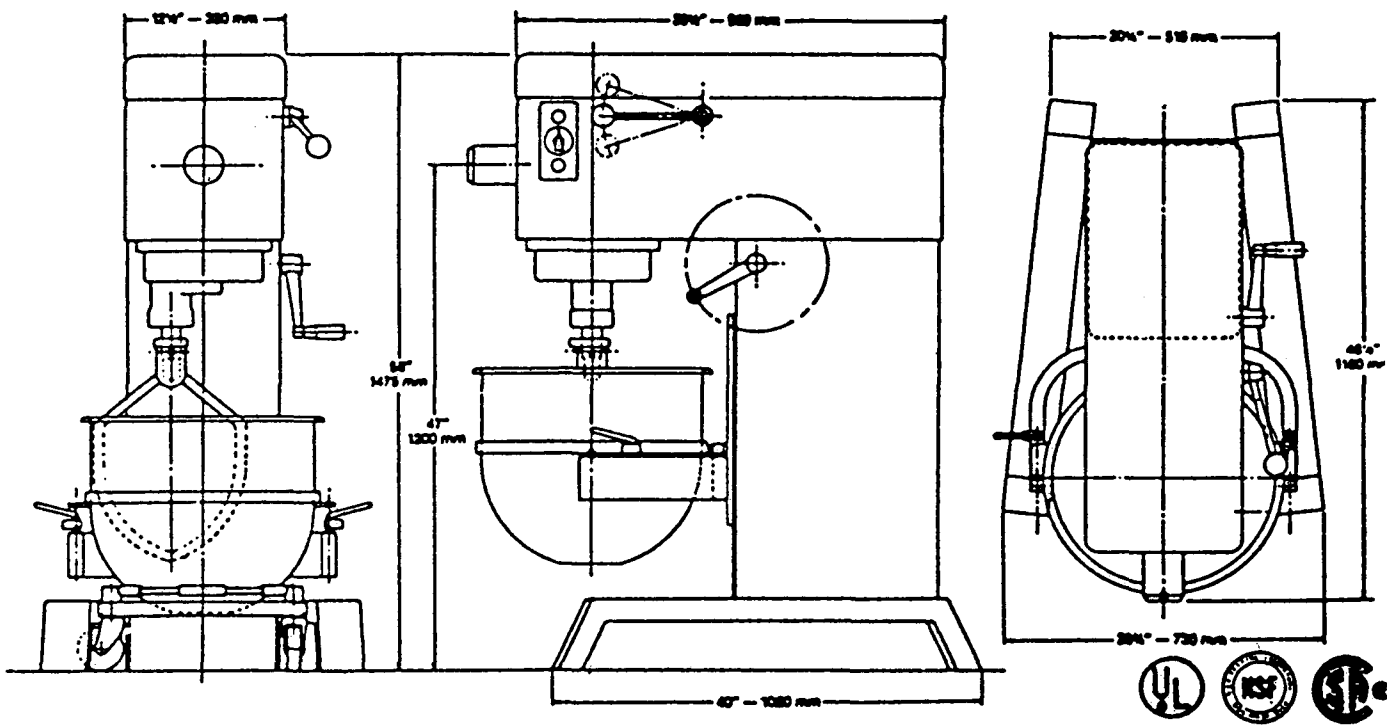


Diagram shows complete coverage of bowl by planetary action of beaters

IMPORTANT - The mixers must be in gear for the mixer to start.

1. Place Mixer in correct location with proper clearance between wall and/or adjacent equipment.
2. Level machine with shims.
3. No bolting is required to the floor.
4. Connect electrical conduit to left side of machine. Check rotation of motor by arrow on planetary cover. Planetary shaft should rotate as shown.
5. Checking the oil level is not required due to the permanent lubrication used.



DESIGN AND USE OF BEATERS, WHIPS & OTHER ACCESSORIES

Each beater and whip has been designed to do a particular type of work. Use only that beater or whip for the work for which it was designed. For example: Never use a batter beater for mixing heavy doughs. Always use an "H" or a "SPIRAL" dough hook for dough work.

Following are illustrations of the different types of beaters and whips with an explanation of the work and the use for which they were designed.

BOWL EXTENSIONS



Extension Rims are merely vertical sided Splash Covers. They are not covers in form but do provide higher side walls to prevent throw-out of ingredients. Usually they are not recommended because they are often invitations to overloading a machine beyond its point of maximum efficiency. Extension rims permit more air to enter the bowl and prevents splash of light ingredients.

The true capacity of a Mixer is not the amount of material that can be put in the bowl of the amount of total batch which can be mixed within the power of the motor. The true capacities and the most efficient (therefore the best money makers) are the ideal loads which permit a Mixer to operate at peak efficiency, so far as development, yield or aeration have their effect on the mixing operation.

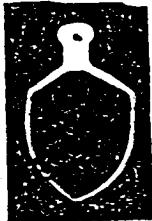
"SPIRAL" DOUGH HOOKS

(Available for 60 and 80 qt. bowls only)



Used for mixing bread .of roll dough of standard consistency, biscuits, meat loaf. etc. The "SPIRAL" dough hook is a special dough hook for mixing heavy doughs such as white, graham or rye bread, noodles, pretzels, Italian bread and pizza. Dough hooks should always be operated at stow speed only. Do not use other types of beaters for dough work; doing so will result in damage to either the beaters or to the mixer proper. Never exceed capacities as listed.

"PK" PASTRY KNIFE



Used for cutting flour and shortening together in pie dough, pastry shells and for cutting lard or shortening into flour. The "PK" pastry knife should always be used for such work so that pie crusts, etc. are mixed with as little rubbing as possible and so that the shortening will be in small pieces to produce a flaky product.

SPLASH COVERS



These items provide means for reducing splash of throw-out on certain mixers when, for reasons of speed, the operator prefers to start in a higher speed or progress quickly to a high speed in order to complete a batch. These are valuable accessories but would not be used to increase the mixing capacity of any particular machine, beyond its recommended maximum. They are convenience items, not capacity increasers. The best functioning of Blakeslee Mixers depends on leaving room for proper material aeration or manipulation. Use splash Covers or Extenders only for containing ingredients. They are efficient for their intended use, but if a Mixer is overloaded and a Splash Cover is used, aeration is reduced due to restriction in the area where air enters the mix. The capacity chart located on the column of the Mixer is a good guide for maximum efficient use for the Mixer. Experience will have to dictate exact top capacity and Splash Cover use under your own needs.

"B" BATTER BEATER



Furnished as part of standard equipment. Used for mixing batters such as cake and muffin batters, creaming butter, mashing potatoes and vegetables, light cakes. Icings and the average run of light work. Never use this beater for heavy dough work. When mashing potatoes, etc., it is advisable to start with the bowl at its lowest position and then as the potatoes or other ingredient break up, the bowl should be gradually raised to its working position. This procedure eliminates severe strain to the beater and to the mixer proper and consequently adds to their life and efficiency.

"W" WIRE WHIP



Furnished as part of standard equipment. Used for whipping, creaming, beating eggs, meringues, small amounts of mayonnaise, icings and for whipping milk or cream into mashed potatoes after they have been broken up with "b" batter beater.

MIXING INSTRUCTIONS

Operators have their own pet ways of operating their mixing machines, so no attempt will be made to set up iron clad instructions, but there are certain general principles that should be followed in the various operations. These general principles as listed below should be helpful to old and new operators.

GENERAL POINTS FOR PROPER OPERATION

NOTE: Refer to Mixing Chart before filling bowl.

1. Always start with the bowl in its lowest position.

NOTE: When mashing potatoes, kneading dough, or any operation of a similar nature, it is advisable to start the beating with the bowl at its lowest position and as the potatoes or other ingredients break up, the bowl should be gradually raised to its working position. This procedure eliminates severe strain to the mixer and consequently adds to its life and efficiency.

2. In general, start all mixing at slow speed.
3. Gradually raise bowl and its contents to working position.
4. Always return to the neture position when finishing a mix. ±
5. Bowl should be filled to at least half capacity for best results.
6. Make sure that bowl-to-beater clearance is about 1/8". Place a 1/8" layer of paper on bottom of bowl to check bowl-to-beater clearance. See instructions on how to raise or lower the beater lock should adjustment be necessary for proper bowl-to beater clearance.

WHIPPING CREAM

The "W" wire whip (refer to Beaters 6 Whip chart) should be used for whipping cream. Cream to be whipped should be 24 hours old, should contain 30% butter fat and should be well chilled, in fact near freezing temperature is desirable, since the cooler the cream, the better the whipping. Warm cream may turn into butter instead of whipped cream.

To prevent splashing out of the bowl. start whipping the cream at slow speed and increase the speed as the cream thickens or use a "bowl splash cover" attachment on the bowl.

EGG WHITES

Use the "W" wire whip and be sure that the eggs are at room temperature and that both the mixing bowl and "W" wire whip are free from all traces of fact or oil, or egg whites won't whip. In some installations one bowl will be kept and used exclusively for the oily type mixes. Start beating the eggs at low speed and gradually increase the speed.

MERINGUES

Use the "W" wire whip. Meringues can be made perfect by the gradual addition of sugar to eggs which have not been too stiffly beaten.

MASHING POTATOES

Use the "B" batter beater and pre-heat the bowl and beater. Lower the mixing bowl before putting in the potatoes to be mashed so that the breaking up starts with the bowl at its lowest position; then as the potatoes break up, gradually raise the bowl to its working position. This procedure eliminates severe strain to the mixer and the batter beater. Start the operation on low speed. When the potatoes have been broken up, stop the mixer and add the milk or cream, butter and seasoning. Many operators like to change to the "W" wire whip or the "M" four wing whip for whipping in the milk or cream since more of a whipping action is obtained to produce a fluffier mashed potato.

CAKE BATTERS AND COOKIE POUCH

Use "B" batter beater. Butter or shortening can be thoroughly creamed in about 10 minutes.. The butter or shortening should be at room temperature. Always lower the bowl and start on slow speed and then gradually raise the bowl to its working position. Sugar should be added to recipes at a medium speed. When all of the sugar has been added, stop the mixer and scrape down the sides of the mixing bowl with a spatula to insure a smooth mix. Be careful not to add sugar until the butter or shortening has been thoroughly creamed. Some recipes call for yolks and whites to be beaten separately. This is not necessary with your Blakes-lee Mixer as the mechanical mixing is efficient enough to allow the addition of whole eggs. When adding dry ingredients, stop the mixer occasionally and scrape the upper part of the bowl with a spatula to make sure that every portion will be efficiently mixed into the recipe. Always operate the mixer on slow speed while adding dry ingredients. Many operators use the Blakeslee-Built bowl extension ring to help confine ingredients to the mixing bowl. Add dry ingredients alternately with liquid, starting and ending with dry ingredients. .Do most of the beating before the flour and milk are added. Over beating after addition of these two ingredients causes a sub-standard mixture.

MIXING DOUGH

Always use the spiral dough hook for mixing heavy doughs. Do not overload the mixer with too large batches. (See the capacity chart of this booklet for capacities of the various size bowls.) When using the spiral dough hook, the mixing should be started at low speed only with the bowl in the lowest position; then as the mixing continues, the bowl should be gradually raised to its working position. Remember - an increased mixing time means a decreased fermentation time. Weighing materials each mixing time will insure a standard product. Stop the mixer occasionally to lower the dough mass from the hook and to scrape the bowl.

IMPORTANT In mixing heavy dough, be sure to use the dough hook, be sure not to overload the mixer (see the capacity chart), and be sure to start the mixer on low speed with the bowl in its lowest position.

BISCUIT MIX

Use "W" wire whip and bowl extension ring (to confine ingredients to bowl). Mix shortening and dry ingredients until shortening is blended and mixture is granular in appearance. Turn off mixer. Scrape bowl down with bowl knife. Store in covered can until ready for use. (Use beater or dough hook when adding liquid; start mixing on slow speed and bowl in lowest position, then gradually raise to working position. Do not over mix.)

PASTRIES

Use the "PK" pastry knife, as pastries should be mixed with as little "rubbing" as possible. The "PK" pastry knife leaves the shortening in small pieces to produce a flaky product. Remember, over-worked dough makes tough pastry, and working in too much flour tends to toughen pastry.

SWEET DOUGH

For best results use the "SD" sweet dough beater.

ELECTRICAL

"Start-Stop" Push buttons are used to operate the mixer which are protected by rubber caps. There is a thermal overload device with automatic resetting for protection, internally mounted. On all machines over 250 volts primary, a transformer is supplied to reduce, voltage to the pilot circuit.

A timer is available as an option which would shut off the machine in any speed after pre-set time has expired. Normal operation is obtained by setting timer to "HOLD" position. When timer is set at "O", the start button, becomes a jog button, permitting intermittent operation at the push of a button.

LUBRICATION

The planetary and spiral-beveled gears are self-lubricated for life. The lubrication used is micromly grease and must be re-applied if gears are ever replaced. While the transmission uses Mobil "delvic 1" synthetic oil which should last the normal life of the mixer. No lubrication is required for the auxiliary drive hub.

If lubrication is applied to the auxiliary hub a grease-like substance will possibly leak out causing damage to the product.

Application of any lubrication Voids Warranty.

Mixing Bowl Capacity Chart

	CAPACITY OF BOWL (Finished Materials)			
	Smaller bowls used on 60 of 80 qt. machine		DD-60	DD -80
	30 qt.	40 qt.	60 qt.	80 qt.
KITCHEN MATERIALS				
Egg whites	1 1/2 qts.	1 1/2 qts.	2 qts.	2 1/2 qts.
Mashed potatoes	23 lbs	26 lbs.	42 lbs.	55 lbs.
Mayonnaise (qts. of oil)	12 qts.	13 qts.	18 qts.	24 qts.
Meringue (pts. of water)	2 pts.	2 1/4 pts.	3 pts.	6 pts.
Waffle or hot cake batter	12 qts.	13 qts.	24 qts.	32 qts.
Whipped cream	6 qts.	6 1/2 qts.	12 qts.	16 qts.
BAKE SHOP MATERIALS				
Angel food (8-10 oz. cake)	22 lbs.	24 lbs.	45 lbs.	60 lbs.
Box or slab cake	30 lbs.	33 lbs.	52 lbs.	80 lbs.
Cup cakes	33 doz.	34 doz.	65 doz.	90 doz.
Layer cakes	30 lbs.	34 lbs.	60 lbs.	82 lbs.
Pound cake	30 lbs.	34 lbs.	52 lbs.	80 lbs.
Short sponge cake	23 lbs.	25 lbs.	45 lbs.	70 lbs.
Sponge cake batter	18 lbs.	20 lbs.	36 lbs.	54 lbs.
Sugar cookies	50 doz.	55 doz.	100 doz.	115 doz.
Bread or roll dough (60% AR)	45 lbs. 1	50 lbs. 1	70 lbs. 2	105 lbs. 2
Heavy bread dough (55% AR)	30 lbs. 1	40 lbs. 1	60 lbs. 2	80 lbs. 2
Noodle dough	10 lbs.	11 lbs.	15 lbs.	35 lbs.
Pie dough	27 lbs.	30 lbs.	50 lbs.	62 lbs.
Pizza dough (50% AR)	15 lbs. 1	18 lbs. 1	40 lbs. 1	55 lbs. 1
Raised doughnut dough (65% AR)	15 lbs. 2	17 lbs. 2	30 lbs. 3	40 lbs. 3
Eggs & sugar (for sponge cake)	12 lbs.	13 lbs.	24 lbs.	36 lbs.
Fondant icing	18 lbs.	20 lbs.	36 lbs.	45 lbs.
Marshmallow icing	3 lbs.	3 lbs.	5 lbs.	7 lbs.
Shortening & sugar creamed	24 lbs.	26 lbs.	48 lbs.	55 lbs.

RECOMMENDED SPEEDS

- 1- First speed
- 2- Second speed
- 3- Third Speed

MIXER CAPACITY

A mixer capacity chart is provided as a guide for controlling the batch sizes. The capacities listed take into account the amount of product which can be contained in a particular size bowl and the type of dough or product to be mixed and it's own unique properties which affect mixer performance.

Also considered and noted on the chart is the batch absorption rate-the ratio of the weight of water to the weight of flour expressed as a percentage. The absorption rate (AR) measures how heavy a batch is or the density of the batch. In fact, the capacities listed on the capacity chart for the products listed below are based on the following absorption rates:

<u>PRODUCT</u>	<u>ABSORPTION RATE</u>
Heavy bread dough	55%
Medium bread dough	60%
Light bread dough	65%
Pizza dough	50%
Raised donut dough	65%

When mixing any of the above products with an absorption rate lower than listed, the batch size should be decreased proportionately to insure efficient mixing of the product and eliminate the possibility of over-loading your mixer. For example: An DD-60 mixer has a pizza dough capacity of 40 pounds at first speed based on AR of 50% according to the capacity chart. If the batch to be mixed has an AR of 45%, the batch size must be reduced to compensate for the difference. The size of the reduction is computed as follows:

1. Divide the AR of the batch to be mixed by the AR listed on the capacity chart.
2. Multiply the rated batch size by the percentage obtained in step 1. The result is the maximum batch size of the DD—60 mixer for pizza dough with a 40% AR.

$$\frac{45\% \text{ Actual AR}}{50\% \text{ Rated AR}} = 90\%$$







$$\begin{array}{r} 40 \text{ lbs Rated Batch Size} \\ \times 90\% \\ \hline 36 \text{ lbs. Max. Cap @45\% AR} \end{array}$$








Another factor often overlooked is the ability of your mixer to operate at a higher speed. For example, the DD-60 has a 60 pound capacity of heavy bread dough with an AR of 50% in second speed. The batch could be mixed in third speed but the batch must be reduced by half to 30 pounds. Conversely, a batch may be increased by half to 90 pounds if first speed were used provided the bowl is large enough to hold another 30 pounds of dough. However, while the mixer is capable of handling a larger batch, a change in speed will affect development of the products and may result in quality being sacrificed for quantity.

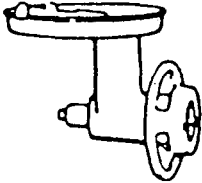



Your Blakeslee mixer is designed and intended to mix your products in the most efficient way possible. There is no need for you to sacrifice individual characteristics when using your Blakeslee mixer. Care should be taken during your batch mixing. When results are exactly to your liking note carefully the time of operation and the speed setting. Under the same conditions your Blakeslee mixer will perform exactly the same, day after day, providing uniformity of your product.

A WORD OF CAUTION; DO NOT OVERMIX. Overmixing can adversely affect the texture of the product you are mixing. You will also discover there is often a saving in the time required for each mixing operation, and that even delicate products usually mixed by hand can be adapted to your mixer.

Available Beaters, Whips and Accessories

CAP.	PART NO.	DESCRIPTION	CAP.	PART NO.	Description
BOWLS— Smaller bowls can be used on 50 or 80 Qt. Mixers with Adaptor shown below.			"W" WIRE WHIPS-Part No. includes spindle.		
					
30 QT.	M-O-98523	Steel Tinned	30 QT.		Steel Tinned
30 QT.	M-O-98513	Stainless Steel	30 QT.	M-O-98501	Stainless Steel
40 QT.	M-3-98525	Steel Tinned	40 QT.		Steel Tinned
40 QT.	M-O-98508	Stainless Steel	40 QT.	M-O-98506	Stainless Steel
60 QT.	M-O-98107	Steel Tinned	60 QT.	M-O-98270	Steel Tinned
60 QT.	M-O-98108	Stainless Steel	60 QT.	M-O-98271	Stainless Steel
60 QT.			80 QT.	M-O-98272	Steel Tinned
Used on	M-3-99058	Steel Tinned	80 QT.	M-O-98021	Stainless Steel
80 QT.			"H" DOUGH HOOKS-Part No. Include spindle.		
60 QT.					
Used on	M-3-99059	Stainless Steel	30 QT.		Steel Tinned
80 QT.			30 QT.	M-O-98517	Aluminum
80 QT.	M-3-98022	Bowl Tinned	40 QT.		Steel Tinned
80 QT.	M-3-98023	Stainless Steel	40 QT.	M-O-98522	Aluminum
*Requires bowl adaptor			"SPIRAL" DOUGH HOOKS-Part No. includes spindle.		
BOWL ADAPTORS					
			60 QT.	M-O-98269	Aluminum
30 QT.			80 QT.	M-O-98020	Aluminum
&	M-O-99040	Used on 60 QT Mixer			
40 QT.					
30 QT.					
&	M-O-99100	Used on 80 QT Mixer			
40 QT.					
"B" BATTER BEATERS- Part No. Include spindle					
					
30 QT.	M-O-98521	Aluminum			
40 QT.	M-O-98515	Aluminum			
60 QT.	M-O-98268	Aluminum			
60 QT.		Chrome plated			
		U.S.D.A. approved			
80 QT.	M-O-98019	Aluminum			
80 QT.		Chrome plated			
60 Qt		U.S.D.A. approved			
used on M-O-98268		Aluminum			
80 Qt					

CAP.	PART NO.	DESCRIPTION	CAP.	PART NO.	DESCRIPTION
"SD" SWEET DOUGH BEATERS-			SPLASH COVERS		
Part Nos. includes spindle.					
	30 QT. M-0-98520	Steel Tinned			
	30 QT.	Stainless			
	40 QT. M-0-98516	Stainless			
	60 QT. M-0-98504	Steel Tinned	30 QT.	M-0- 99491	Stainless Steel
	60 QT.	Stainless Steel	40 QT.	M-0- 99477	Stainless Steel
	80 QT. M-0-97681	Steel Tinned	60 QT.	M-0- 99119	Stainless Steel
	80 QT.	Stainless Steel	80 QT.	M-0- 99120	Stainless Steel
"PK" PASTRY KNIFE-Part No. Includes spindle.			BOWL EXTENSIONS		
	30 QT. M-0-98518	Steel Tinned			
	30 QT.	Stainless Steel			
	40 QT. M-0-98519	Steel Tinned			
	40 QT.	Stainless Steel			
	60 QT. M-0-98509	Steel Tinned	30 QT.	M-2-99493	Ring Stainless Steel
	60 QT. N/A	Stainless Steel	40 QT.	M-2-99474	Ring Stainless Steel
	80 QT. M-0-97677	Steel Tinned	60 QT.	M-0-98524	Ring Stainless Steel
	60 QT.	Stainless Steel	80 QT.	M-0-98514	Ring Stainless Steel
"M" FOUR WING WHIPS - Part. No. includes spindle.			BOWL TRUCKS— Allows bowl to be transported without carrying.		
	30 QT. M-0-98500	Steel Tinned			
	30 QT.	Stainless Steel			
	40 QT. M-0-98505	Steel Tinned			
	40 QT.	Stainless Steel			
	60 QT. M-0-98502	Steel Tinned			
	60 QT.	Stainless Steel			
	80 QT. M-0-97674	Steel Tinned			
	80 QT.	Stainless Steel			
			30 QT.	3-7125	Painted Steel
			40 QT.	3-7125	Painted Steel
			60 QT.		Painted Aluminum
			80 QT.	M-1-15094	Painted Aluminum
			RECEIVING PAN BRACKET- Accommodates 10" x 16" pan. Used instead of plastic bag.		
					
			60 QT.		(Pan Not Included)
			80 QT.		(Pan Not Included)

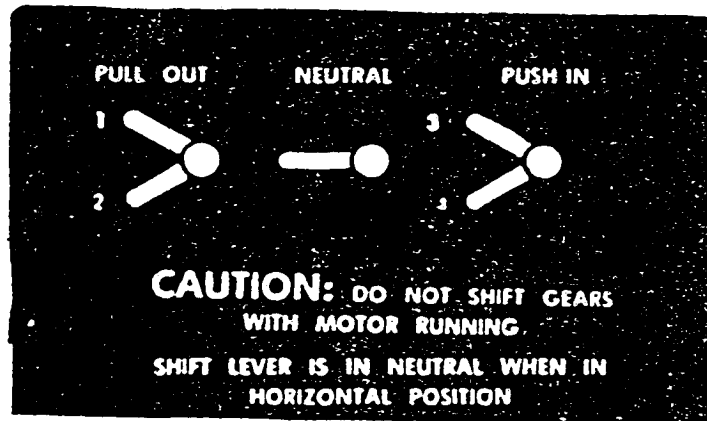
CAP.	PART NO.	DESCRIPTION	CAP.	PART NO	DESCRIPTION
MEATCHOPPER (UNIVERSAL TYPE HUB)			9"VEGETABLE SLICER (UNIVERSAL HUB)		
					
60 & 80 QT.	M-0-20447	Meat Chopper Assy (Doubled Tinned) Above Includes Knife & 1/8" Plate and Pusher		M-0-20581	9" Vegetable Slicer Complete with Slicer Plate & Hopper Front
				M-0- 99731	9" Cheese Shredder Complete with Hub & Shaft 5/16" Shredder Plate and Hopper Front.
				M-0-20578	Pusher (Used w/tubular front only)
ACCESSORIES FOR 60 & 80 QT. MEAT CHOPPER (FOR BOTH BLAKESLEE & UNIVERSAL HUBS)				M-0-20595	Adjustable Slicer Plate 9" furnished w/Universal Hub vegetable slicer
M-1-1904		End Plate, 1/4" Perforations			
M-1-1905		End Plate. 3/8" Perforation			
M-1-1906		End Plate. 1/2" Perforations			
M-1-1901		Knife			
M-1-1902		End Plate. 1/8" Perforations			
M-1-1903		End Plate, 3/16" Perforations			
			OPTIONAL-EQUIPMENT FOR M-0-20581 SLICER		
				M-0-20599	Hub & Shaft Assy
					Plates to fit above:
				M-3-15071	Grater Disc
				M-2-15088	3/32" Shredder Disc.
				M-2-15021	3/16" Shredder Disc.
				M-2-15019	5/16" Shredder Disc.
				M-2-15072	1/2" Shredder Disc.

OPERATION

In order for your mixer to perform at top efficiency at all times, it is necessary that you follow the recommendations as laid down by the designing engineers. Give your mixer the same attention you would give your automobile and your BLAKESLEE-BUILT Mixer will give you many years of satisfactory service.

SPEED SELECTION

Speed for the beater and auxiliary attachments are varied by the use of a four speed transmission. When changing speeds one must first push the "stop" button and allow mixer to come to a complete stop before changing. NOTE: The mixer must be in gear in order for the mixer to start.

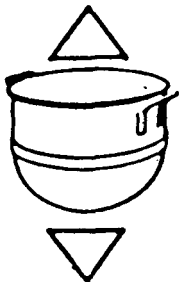


There is an exclusive locking gear feature to prevent damage to the transmission and planetary gears if inadvertently changed while operation.

The available speeds are as such:

SPEEDS	AGITATOR (RPM)	AUX. DRIVE SPEED (RPM)
FIRST	55	105
SECOND	100	190
THIRD	175	300
FOURTH	310	575

BOWL LIFT



The bowl is raised to working position by means of a power switch or crank handle located on the right side of the machine. The bowl lift is adjusted to stop at the proper working position before the Mixer is shipped from the factory and therefore no further adjustment should be necessary.

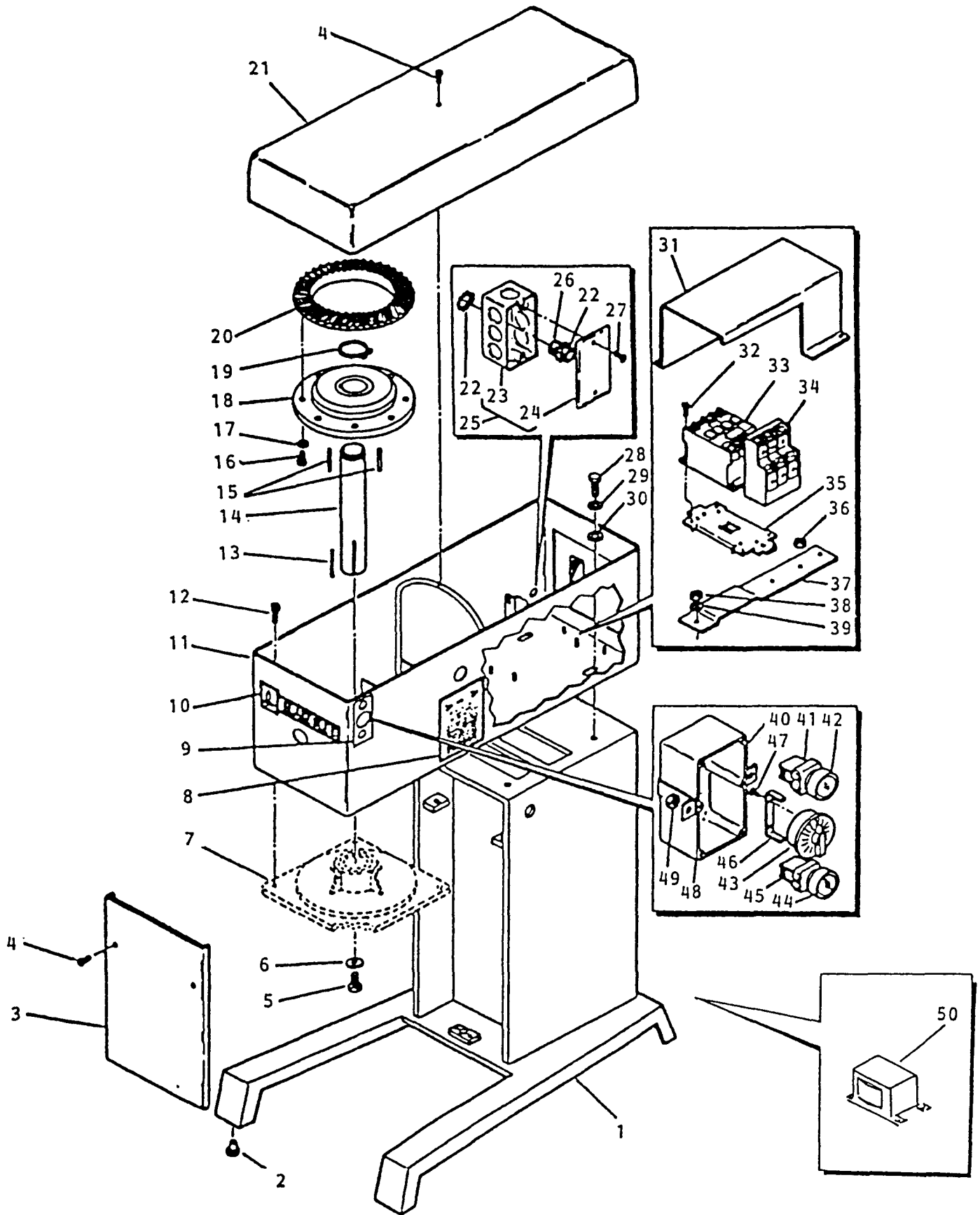


FIGURE 1. COLUMN WELDMENT, UPPER HOUSING, MAIN SHAFT AND ELECTRICAL COMPONENTS

FIGURE 1. COLUMN WELDMENT, UPPER HOUSING, MAIN SHAFT AND ELECTRICAL COMPONENTS

Item No.	Part No.	Description	No. Reqd.	Item No.	Part No.	Description	No. Reqd.
1	97763	Column Weldment	1	31	98076	Cover for Controller	1
2	97793	Mixer Foot	4	32	*	Screw	4
3	97803	Column Panel Front	1	33	97579	Contactactor-25 Amp with 120 v oil coil	1
4	7580	1/4-20 S.S. R.H.	3				
5	97849	Lg. Hex HD Cap Screw-5/8-18 N.F.x 1-1/4	1	33A	97289	Contactactor-22 Amp with 240 v oil coil	1
6	97807	Flat Washer 5/8"	1	33 B	97299	Contactactor-22 Amp with 480 v oil coil	1
7	97700	Housing-Bearing Weldment	1				
8	97843	Label Instructions	1	34	97300	Overload Thermal Relay-Range 2.5 to 3.9	1
9	97278	Label-on/off w/timer	1				
9A	97315	Label on/off without timer	1	34A	97290	Overload Thermal Relay-Range 7.0 to 10	1
10	96858	Label, Blakeslee Logo	1				
11	97779	Housing-Transmission Weldment	1	34B	97292	Overload Thermal Relay-Range 10 to 13	1
12	97846	LG.H.SHCS 5/8-11 nc x 1-1/2"lg	4				
13	98399	Key 1/4 x 1/4x4"	1	34 C	97293	Overload Thermal Relay-Range 18 to 25	1
14	97816	Shaft Main Drive	1				
15	98402	Key	2	35	97709	Bracket for Controller	1
16	7858	LG. Hex Hd. Machine Screw 3/8-24 x 1"	1	36	08132	10-32 NUT	2
17	07524	Lockwasher 3/8"	1	37	97709	Bracket for Controller	1
18	97702	Bevel Gear Support	1	38	8132	Nut Hex 10-32	1
19	97838	Ring Retaining	1	39	7285	Lockwasher-Split 10	1
20	97733	Spiral Bevel Gear	1	40	98082	Cover	1
21	97833	Transmission Cover	1	41	97276	Contact Block-Normally Open	1
22	7564	Locknut 1/2"	1	42	97275	"Start" Push Button-operator	1
23	97307	Handy Electrical Box & Cover complete (includes items 23 & 24)	1	43	97933	Timer-5 minutues w/hold circuit	1
24		Handy Electrical Box	1		98083	Timer-15 minutes w/hold circuit	1
25		Handy Electrical Box Cover	1		15258	Timer-30 minutes w/hold circuit	1
26	13965	Nipple-close 1/2" NPT-1-1/2 lg	1	44	97274	"Stop" Push Button	1
27		Screw 18-32 x 3/8" lg	1	45	97277	Contact Block-Normally Closed	1
28	97847	Cap Screw Lg. Hex HD-3/4 x 10 NC x 2"	4	46	97663	Bracket for Timer	1
29	03584	3/4 Lock Washer	4	47	97669	Screw 6-40 x 1/2" Lg. R.H. for timer	2
30	03184	3/4 Flat Washer	4	48	98081	Hold Down Bracket	1
				49	08132	10-32 NUT	2
				50	07957	TRANSFORMER	

*NOT AVAILABLE SEPARATELY INCLUDED W/
P/N 98075. COVER FOR CONTROLLER

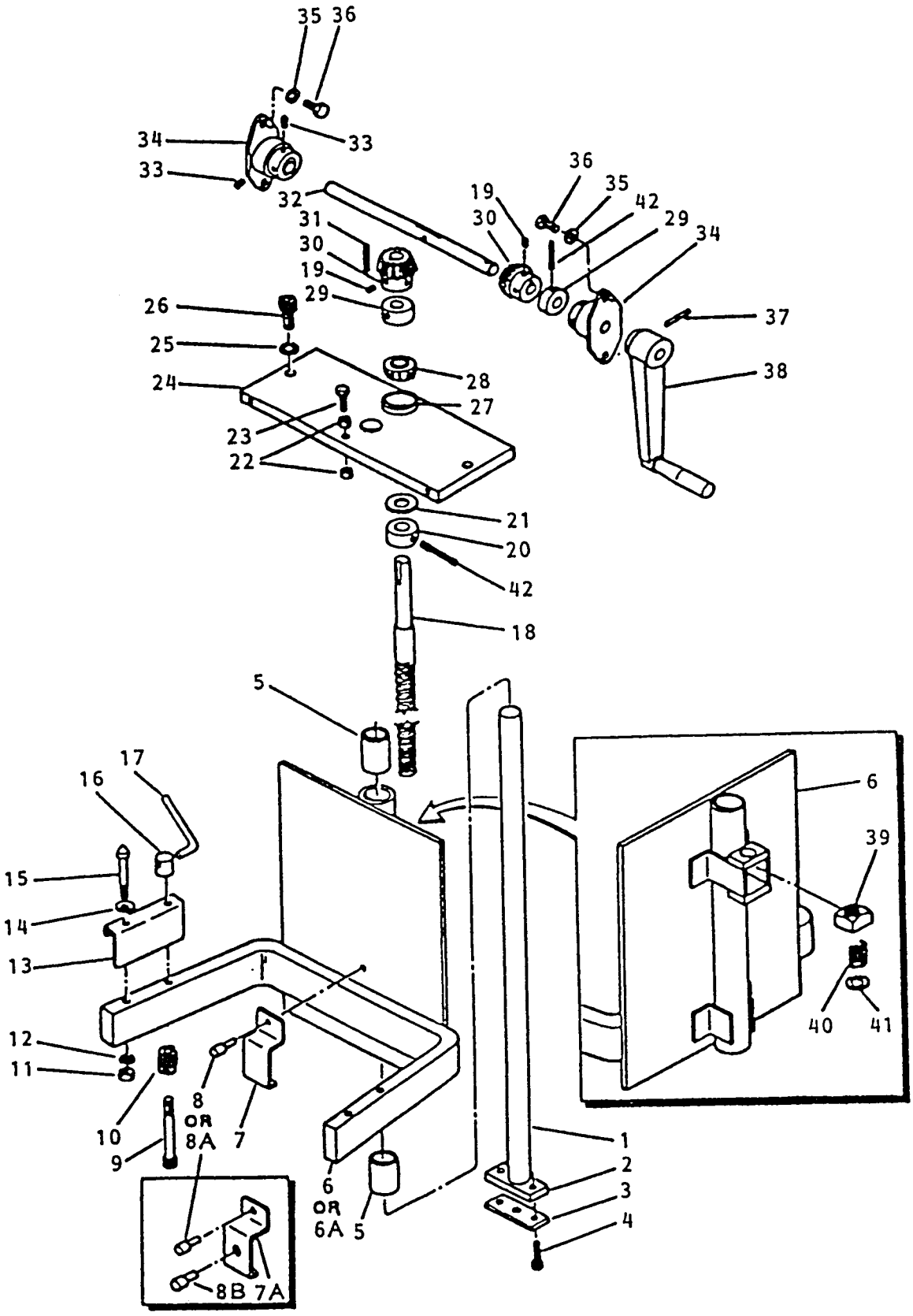
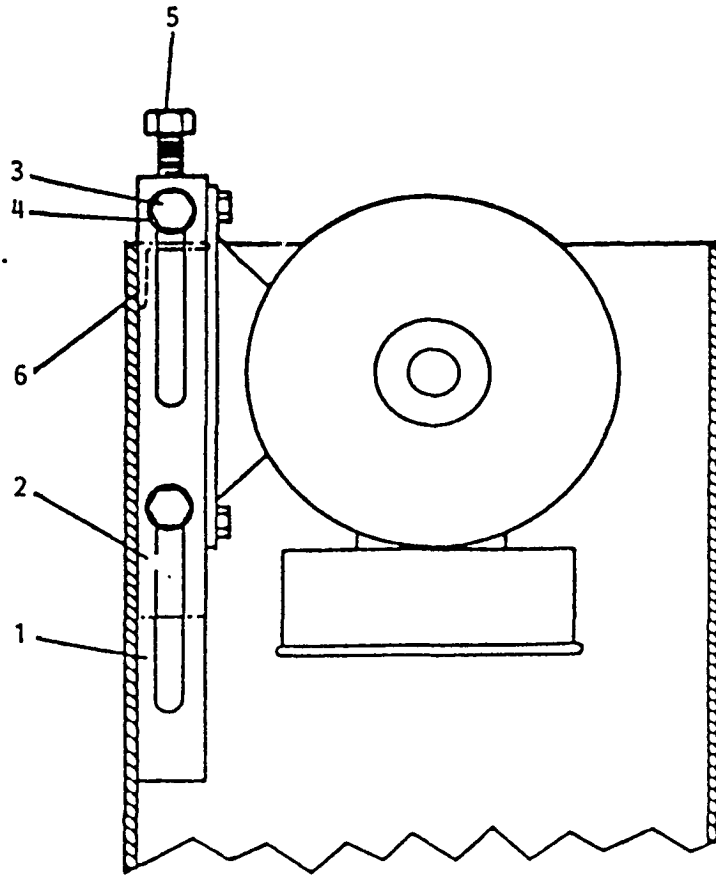


FIGURE 2. BOWL SUPPORT. BOWL SUPPORT CRANK AND BOWL LOCKDOWN ASSY

FIGURE 2. BOWL SUPPORT, BOWL SUPPORT CRANK AND BOWL LOCKDOWN ASSY

Item No.	Part No.	Description	No. Reqd.	Item No.	Part No.	Description	No. Reqd.
1	97799	POST	1	17	97811	BOWL, Clamp Handle	1
2	97798	RETAINER, Post	1	18	97795	SCREW, Elevator	1
3	97819	PLATE, Back-up	1	19	*	SCREW, Allen 5/16-18 x	4
4	97846	CAPSCREW.Soc.Hd. 5/18-11 NC x 1-1/2" lg.	1	20	3181	COLLAR, 3/4"	1
5	97837	BEARING, "Rulon"	2	21	98639	THRUST BRG	1
6	97769	BOWL, Support Elevator Weldment (for 80 01)	1	22	16323	NUT, 3/8"	2
6A	98152	BOWL, Support Elevator Weldment (for 60 Qt)	1	23	16095	BOLT	1
7	98154	BOWL, Support Rear Shield (for 80 Qt)	1	24	97797	PLATE, Post Support	1
7A	98156	BOWL, Support Rear Shield (or 60 Qt)	1	25	98170	LOCKWASHER, 5/8"	4
8	97800	BOWL, Rear Retainer (for 80 Qt)	1	26	97846	CAPSCREW.Soc.Hd. 6/8-11 NC x 1-1/2" lg.	1
8A	98159	BOWL, Rear Upper Retainer (for 60 Qt)	1	27	17224	TIMKEN CUP	1
8B	98159	BOWL, Rear Lower Retainer (for 60 Qt)	1	28	17225	BEARING	1
9	97761	BOWL, Clamp Stud 3/8".24 x 4" lg.	1	29	97802	COLLAR	2
10	97822	SPRING, Pressure Die	1	30	97827	GEAR	2
11	7115	NUT, Hex 3/8.18	1	31	98400	KEY	1
12	07521	LOCKWASHER	1	32	97796	BOWL, Rising Shah	1
13	98157	BOWL, Support Side Shield (for 60 Qt)	1	33	*	SETSCREW, 1/4-27 x 1/4" lg.	4
13A	98155	BOWL, Support Side Shield (for 80 Qt)	1	34	97825	FLANGE, BEARING	2
14	98963	PIN	1	35	05996	LOCKWASHER, 5/16"	4
15	95290	WASHER	1	36	10660	BOLT	4
16	97818	BOWL HUB	1	37	97845	PIN, Grooved	1
				38	97760	CRANKHANDLE, Complete	1
				39	97794	NUT, for Elevator Screw	1
				40	07840	SPRING, Compression	1
				41	97817	WASHER	1
				42	97836	ROLL PIN	1

* NOT AVAILABLE SEPARATELY
INCLUDED W/ P/N 97825 FLANGE BRG. P/N 03181 COLLAR
AND P/N 97827 GEAR



Item No.	Part No.	Description	No. Reqd.
1	97777	MOTOR BASE WELD'MT	1
2	98006	SUPPORT BRACKET WELD'MT	2
3	98011	SCREW, Hex. Hd. 1/2-13 x 1" lg.,	3
4	12838	WASHER, Flat 9/16 I.D. x 1-1/4" O.D. x 1/18" thk.	3
6	98012	SCREW, Hex. Kd. 1/2-13 x 3" lg.	1
6	98004	STOP BRACKET	1

FIGURE 3. MOTOR MOUNTING BRACKET ASSY

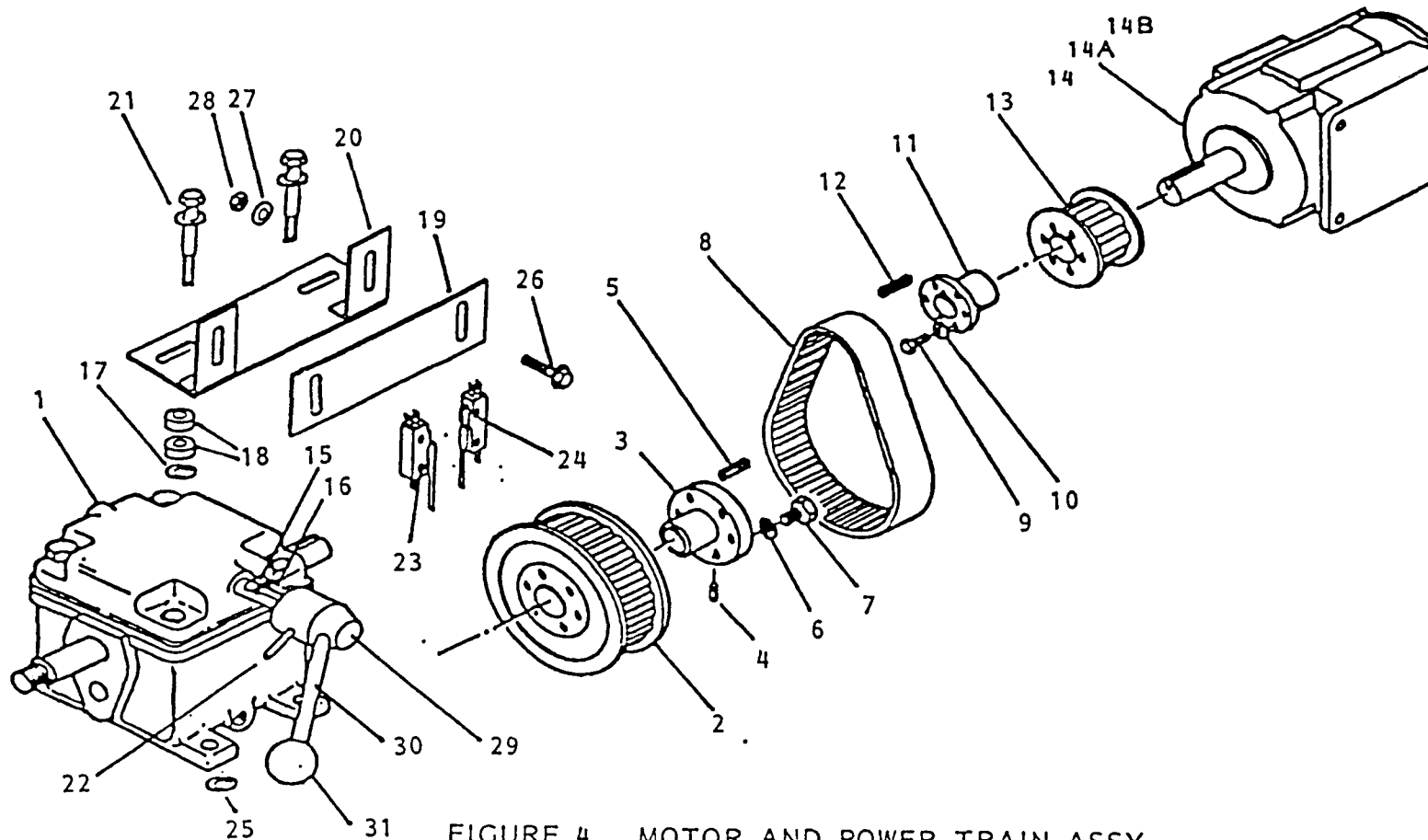


FIGURE 4. MOTOR AND POWER TRAIN ASSY

Item No.	Part No.	Description	No. Reqd.	Item No.	Part No.	Description	No. Reqd.
1	97714	TRANSMISSION	1	17	08523	SEALING WASHER	2
2	97281	GEAR WHEEL	1	18	14082	ROLLER	4
3	97284	HUB	1	19	70409	SWITCH MOUNTING PLATE	1
4	*	SCREW. SET	1	20	70411	SWITCH MOUNTING PLATE	1
5	98398	KEY	1	21	70403	FLAT WASHER	1
6	*	WASHER. LOCK 5/16"	3	22	97836	ROLL PIN	1
7	*	BOLT. 5/16"-18 X 2" LG.	3	23	12122	6-32 ROUND HEAD MACHINE SCREW	4
8	97282	FLEX GEAR	1	24	70152	LIMIT SWITCH	2
9	+	BOLT. 3/16-24 X 1" LG.	3	25	05587	FLAT WASHER 11/32" X 3/8"	4
10	+	WASHER. LOCK 3/16"	3	26	14784	BOLT 5/16" X 3/4" LC	2
11	97283	HUB. 7/8" DIA. WITH 1/4" KEYWAY	1	27	05996	LOCKWASHER 5/16"	2
12	98400	KEY	1	28	14786	HEX NUT 5/16"-18	2
13	97289	GEAR WHEEL	1	29	97813	HUB	1
14	97298	2 H.P. MOTOR. 115/230V. 1 PH		30	97810	SHAFT	1
14A	97660	2 H.P. MOTOR. 230/460V..3PH		31	97826	KNOB	1
14B	15126	2 H.P. MOTOR, 208/230/460V. 3PH					
15	99730	SHOULDER SCREW	2			* INCLUDED IN P/N 97284 ASSEMBLY	
	70404	ROLLER	2			* INCLUDED IN P/N 97283 ASSEMBLY	

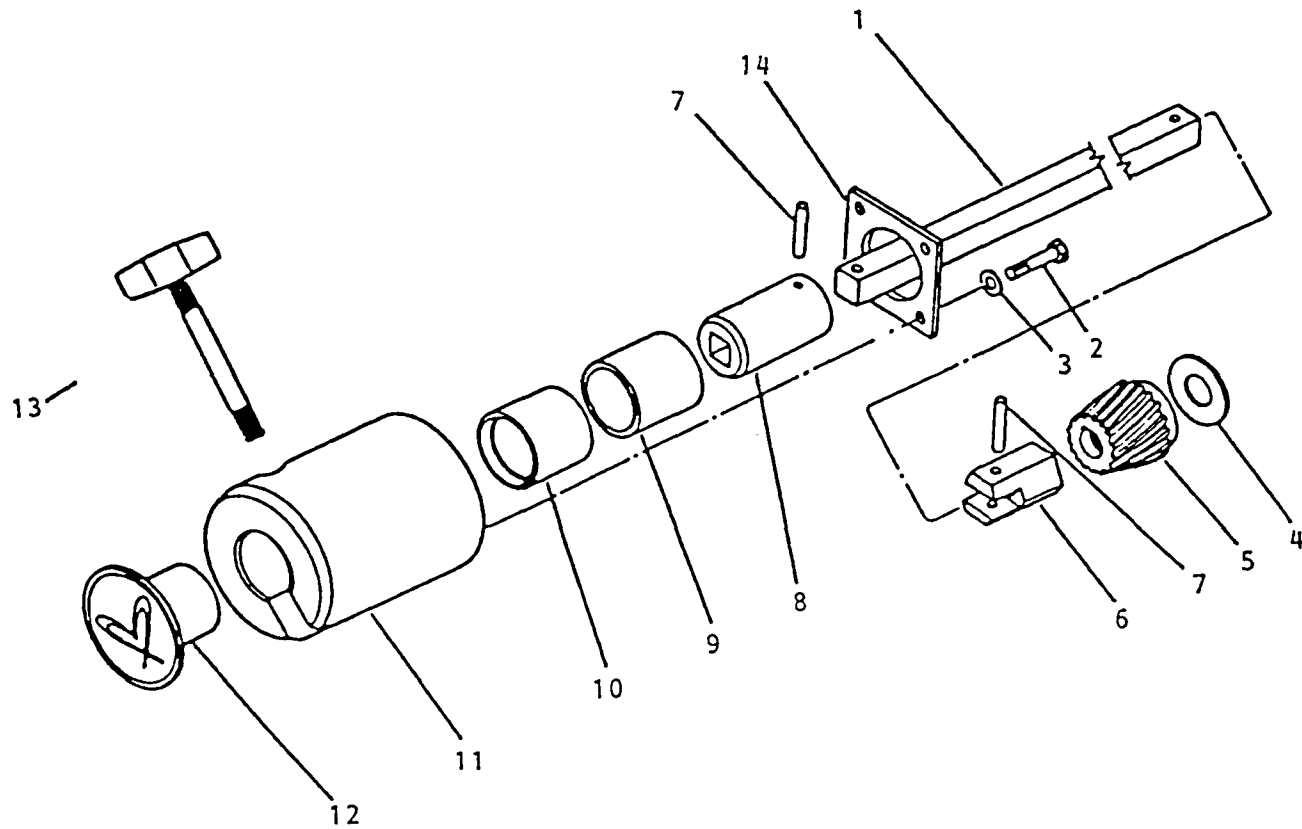


FIGURE 5. AUXILIARY HUB ASSY

Item No.	Part No.	Description	No. Reqd.	Item No.	Part No.	Description	No. Reqd.
1	98483	ADAPTOR, for Attachment	1	10	88379	ADAPTOR, Bearing Attachment	1
2	14784	BOLT. 5/16-18 x 3/4" lg.	1	11	98377	HUB ATTACHMENT	1
3	05996	LOCKWASHER. 5/16 "	1	12	18761	DRIVE CAP, Auxillary	1
4	97817	WASHER	1	13	98015	SCREW ASSY. Wing Hd.	1
5	97734	GEAR PINION, Spril Bevel	1				
6	97804	CONNECTOR, for Attachment Drive	1	14	97815	RETAINING PLATE, Attachment Hub	1
7	97738	PIN, Spring	2				
8	98484	ADAPTOR, for Attachment	1				
9	98378	SLEEVE. Bearing "Rulon"	1				

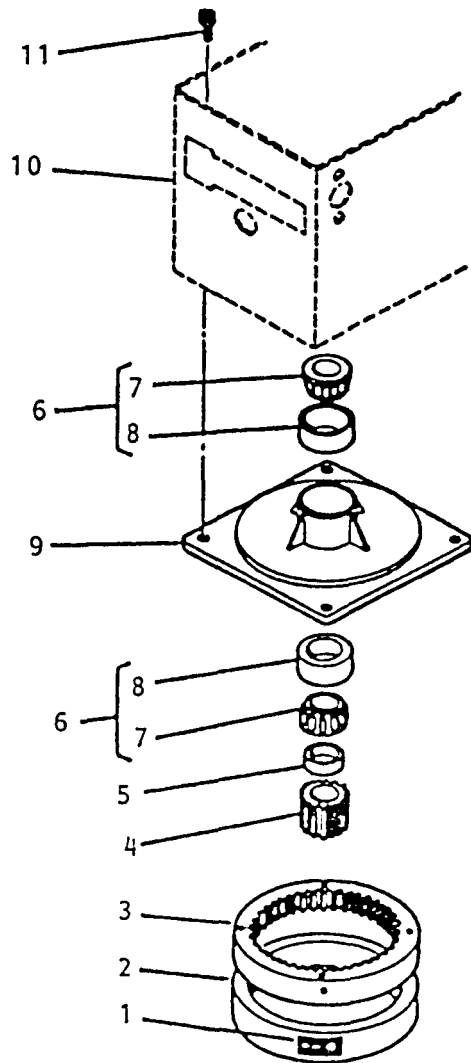


FIGURE 6. LOWER PLANETARY AND BEARING HOUSING ASSY

Item No.	Part No.	Description	No. Reqd.	Item No.	Part No.	Description	No. Reqd.
1	98349	LABEL DIRECTION ARROW	1	9	97700	BEARING HOUSING WELDMENT	1
2	97832	COVER	1	10	97779	TRANSMISSION HOUSING WELDMENT	1
3	97831	GEAR PLANETARY	1	11	97848	CAP SC REW.Soc.Hd. 5/8-11 NCx 1-1/2" lg.	4
4	97842	PINION	1				
5	97809	SPACER	1				
6	97824	BEARING ROLLER (Includes Item 7 and 8)	2*				
7	99191	CONE	*				
8	99190	CUP	*				

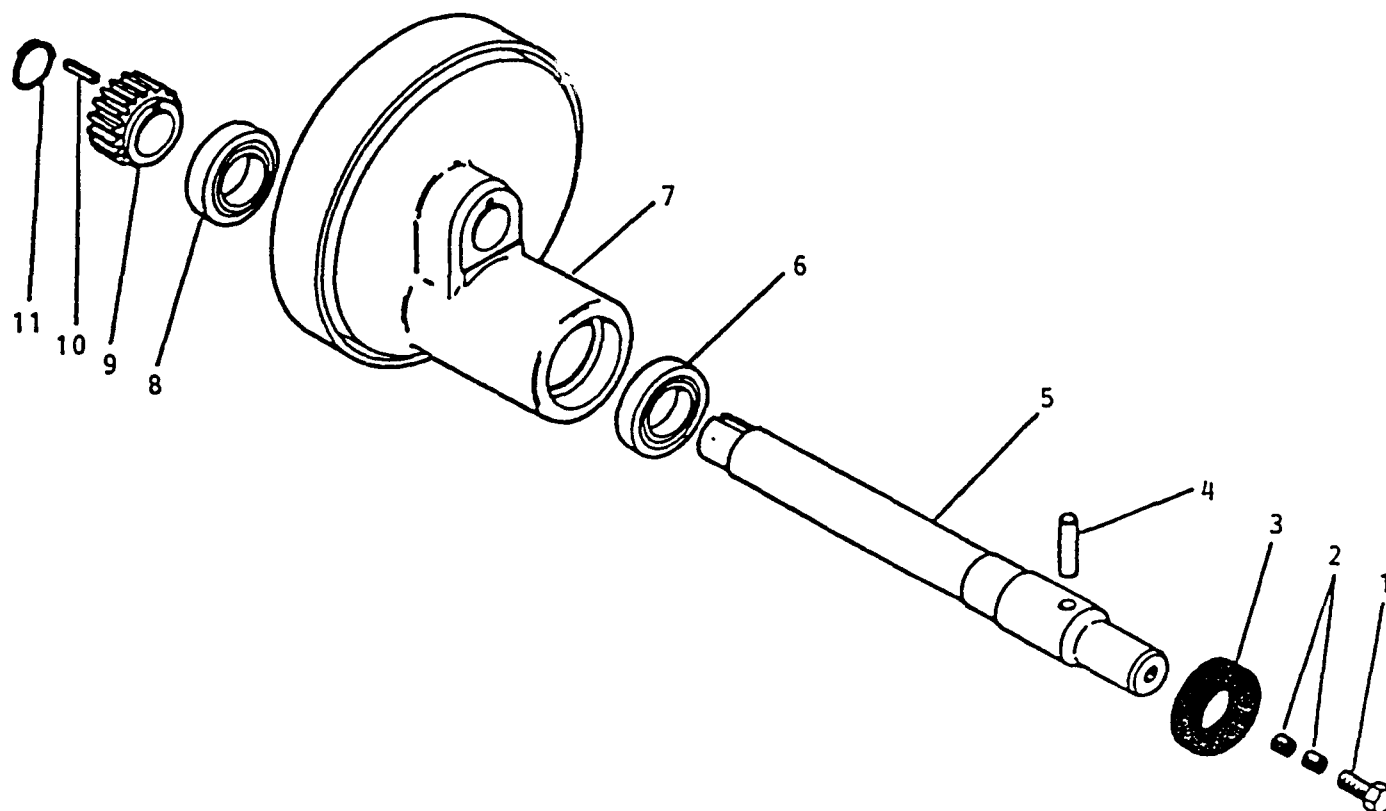
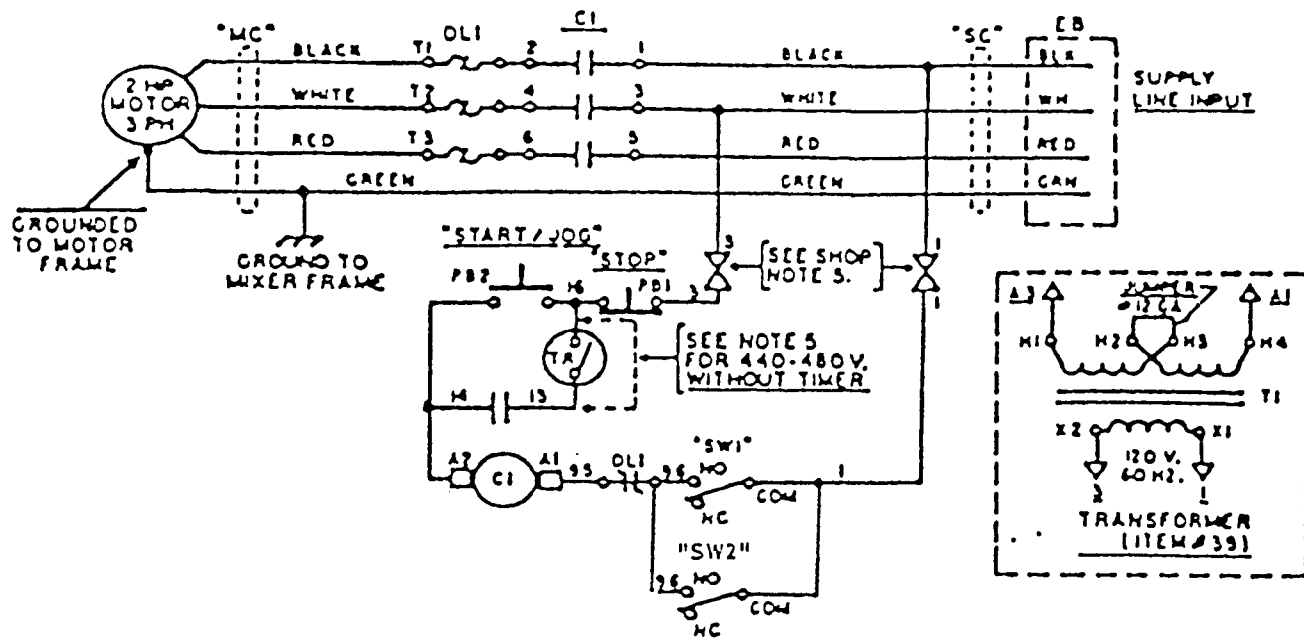


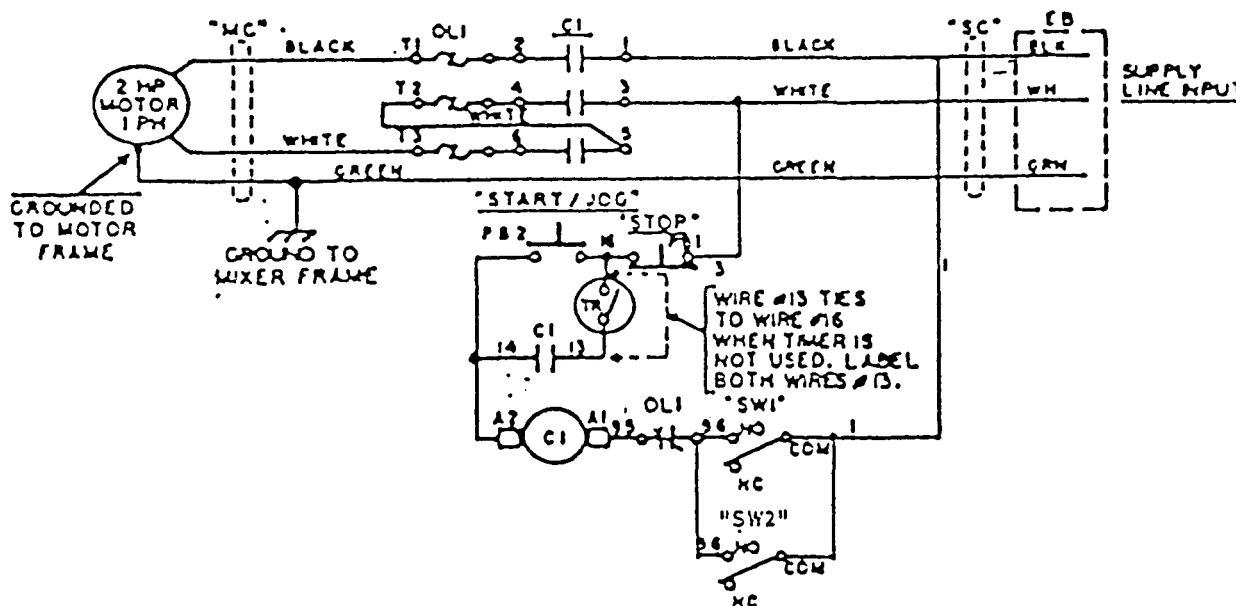
FIGURE 7. PLANETARY AND BEATER SHAFT ASSY

Item No.	Part No.	Description	No. Reqd.	Item No.	Part No.	Description	No. Reqd.
1	97849	CAP SCREW.Hex.Hd. 5/8-18 N.D.X 1-1/4" lg.	1	6	97850	BEARING. Ball	1
2	98094	SETSCREW	2	7	97698	PLANETARY	1
3	97852	SEAL	1	8	97851	BEARING, Ball	1
4	97857	PIN	1	9	97842	PINION	1
5	97830	SHAFT AGITATOR	1	10	98402	KEY. 1/4 x 1/4 x 1-1/4	1
				11	97835	RING. Retaining	1



WIRING DIAGRAM FOR 208-240/440-480 VOLT THREE PHASE 60 HZ.

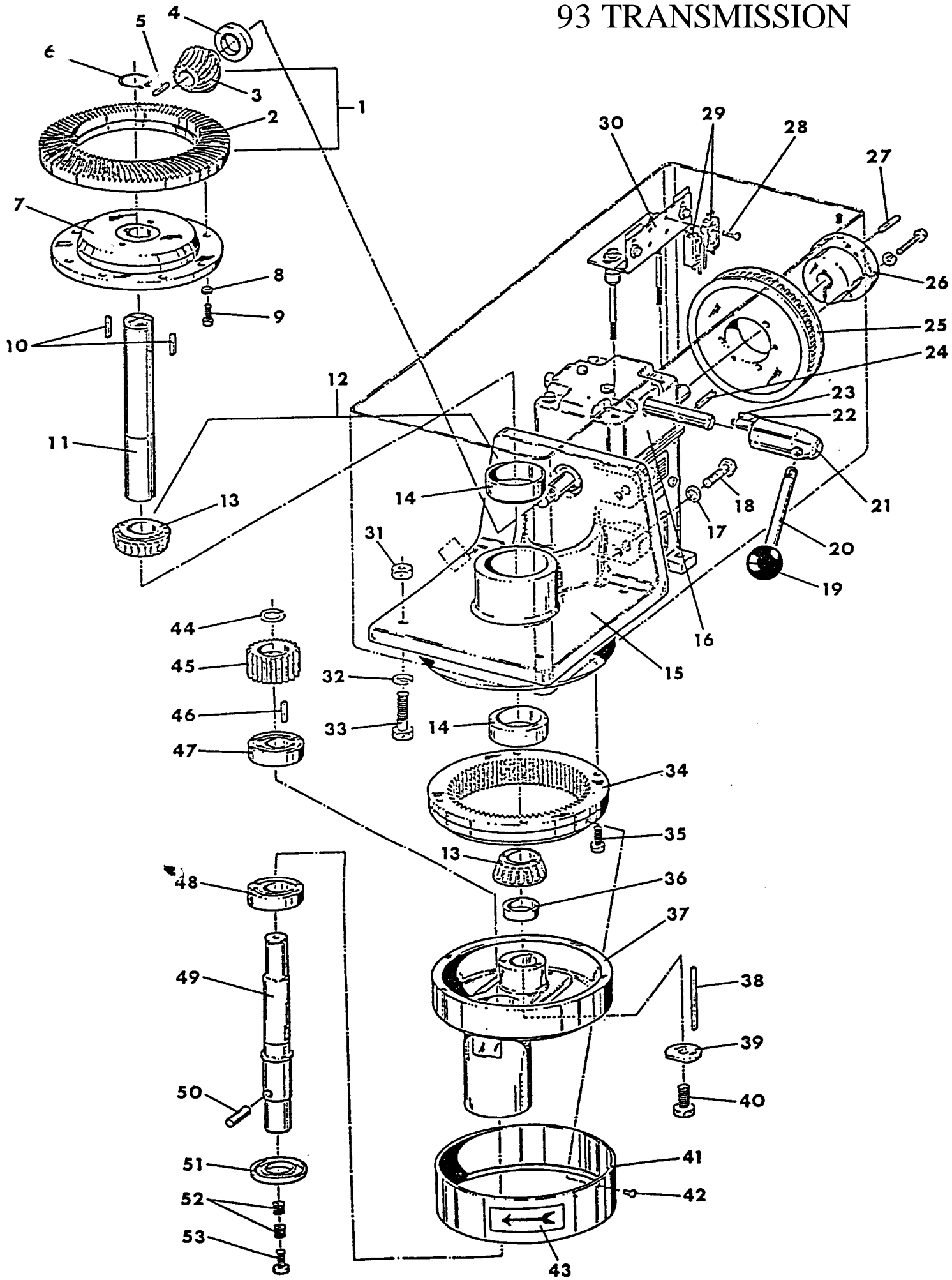
- NOTES: 1. ALL CONTROL CIRCUIT WIRING IS #16 AWG. "RED" TYPE "A.W.M." OR "M.T.W." WIRE 600 VOLT. 105°C. RATED. U/L & C.S.A. LISTED.
2. REFER TO SHOP NOTES #4 AND #5 ALSO.



WIRING DIAGRAM FOR 115/230 VOLT SINGLE PHASE 60 HZ.

- NOTE: ALL CONTROL CIRCUIT WIRING IS, #16 AWG. "RED" TYPE: "M.T.W." OR "AWM" WIRE, 600 VOLT, 105°C. RATED. U/L & C.S.A. LISTED.

93 TRANSMISSION



TRANSMISSION HOUSING ASSEMBLY

Item Number	Part Number	DESCRIPTION
1	-	Set - Spiral Bevel Gear & Pinion, includes items 2 & 3
2	97733	Gear - Spiral Bevel
3	97734	Pinion - Spiral Bevel Gear
4	73230	Seal
5	98402	Key
6	97838	Ring - Retaining
7	97702	Support - Bevel Gear
8	7524	Lockwasher, 3/8 In. (8 Req.)
9	97858	Screw - Hex Hd. Mach., 3/8-24 X 1 In. (8 Req.)
10	98402	Key (2 Req.)
11	97816	Shaft - Main Drive
12	97824	Set - Bearing, Includes Items 13 & 14
13	99191	Cone - Timken
14	99190	Cup - Timken
15	73863	Support - Transmission
16	74170	Transmission - 93
17	15317	Lockwasher, 1/2 In. (4 Req.)
18	74216	Screw - Hex Hd. Cap, 1/2-13 X 2 In.
19	97826	Knob - Gear Shift
20	97810	Handle - Gear Shift
21	97813	Hub - Gear Shift
22	70404	Roller (2 Req.)
23	99730	Screw - Shoulder (2 Req.)
24	97836	Pin - Spring
25	97281	Wheel - Gear
26	97284	Hub
	-	Lockwasher, 5/16 In. (3 Req.)
	-	Screw - Long Hex Hd. Cap, 5/16-18 X 2 In. (3 Req.)
	-	Setscrew, 1/4-20
27	98398	Key
28	12122	Screw - Rd. Hd. Mach., 6/32 X 3/4 In. (4 Req.)
29	70152	Switch - Limited (2 Req.)
30	-	Switch Mounting Assembly
	70409	Plate - Switch Mtg.
	70411	Weldment - Switch Mtg. Bracket
	14784	Screw - Hex Hd. Cap, 5/16 X 3/4 In. (2 Req.)
	10019	Flatwasher, 5/16 In. (2 Req.)
	5996	Lockwasher, 5/16 In. (2 Req.)
	14786	Nut - Hex, 5/16 In. (2 Req.)
	70403	Flatwasher (4 Req.)
	14082	Roller (4 Req.)
	8523	Washer - Seal (2 Req.)
31	74215	Nut, 5/8 In. (4 Req.)
32	74214	Lockwasher, 5/8 In. (4 Req.)
33	74213	Screw - Hex Hd. Cap, 5/8-11 X 2-1/4 In. (4 Req.)
34	97831	Gear - Planetary
35	3574	Screw - Socket Hd. Cap, 3/8-16 X 1-1/4 In. (4 Req.)
36	97809	Spacer
37	97898	Planetary
38	98399	Key, 1/4 X 1/4 X 4 In.
39	97807	Plug - Retainer
40	97849	Screw - Stainless Stl. Hex Hd. Cap, 5/8-18 X 1-1/4 In.
41	97832	Cover - Planetary
42	15310	Screw - Pan Hd., 8/32 X 3/8 In.
43	98349	Arrow - Direction
44	97835	Ring - Retaining
45	97842	Pinion
46	98402	Key
47	97851	Bearing - Ball
48	97850	Bearing - Ball
49	97830	Shaft - Beater
50	97857	Pin
51	97852	Seal
52	98094	Setscrew, 1/2-20 X 1/2 In. (2 Req.)
53	98095	Screw - Stainless Stl. Hex Hd. Cap 1/2-20 X 1 In.