

SIMPSON'S
Sears

TECHNICAL FLASH

Department 731A Toronto

T.F.#26-26
July 18, 1985

DIVISION 26

SOURCE C110

DIRECT DRIVE WASHING MACHINE

Due to the number of calls I have received from the field in regards to the Direct Drive Washing Machines that customers are bringing in from the United States, I feel that it is appropriate at this time to issue the following information to the Service Departments.

division 26

direct drive washing machine

DEPARTMENT 731A -LARRY SIDES

DEPARTMENT 731A - ERIC BRUGIER

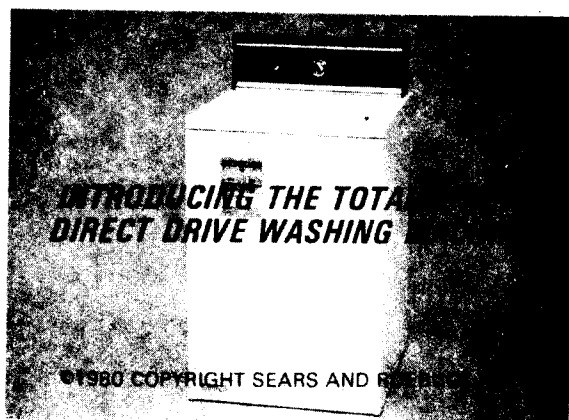
T.F.#26-26

CONTENTS

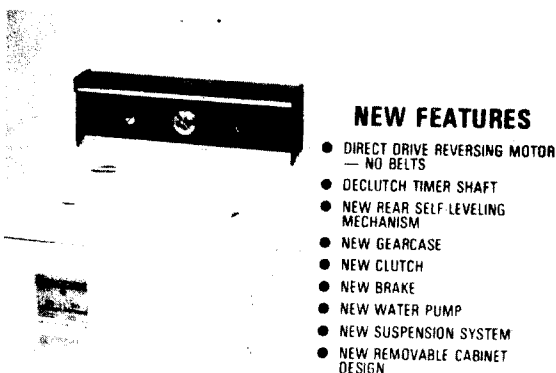
PAGE

1	INSTALLATION
4	CABINET REMOVAL
6	BASKET REMOVAL
7	TUB REMOVAL
8	SUSPENSION
9	DRIVE TUBE AND BRAKE ASS'Y
11	MOTOR
12	GEARCASE
18	PUMP
19	MOTOR CIRCUIT
23	PUMP
24	GEARCASE REMOVAL
27	BEARINGS AND SEALS
31	SCHEMATIC

INTRODUCING THE TOTALLY NEW DIRECT DRIVE WASHING MACHINE

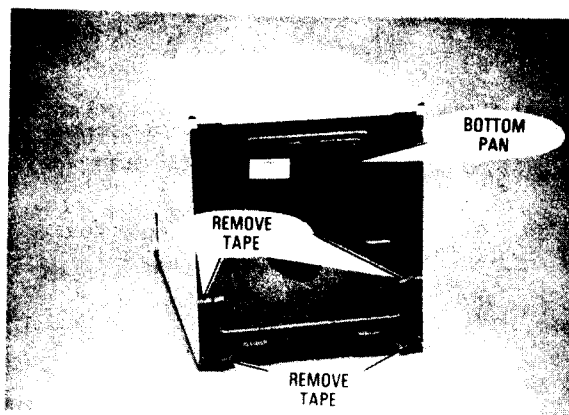


- 1 This new 24-inch clothes washer has a new SUSPENSION SYSTEM, CABINET CONSTRUCTION, GEARCASE and DRIVE SYSTEM.



- 2 New features of the machine are ...

INSTALLATION

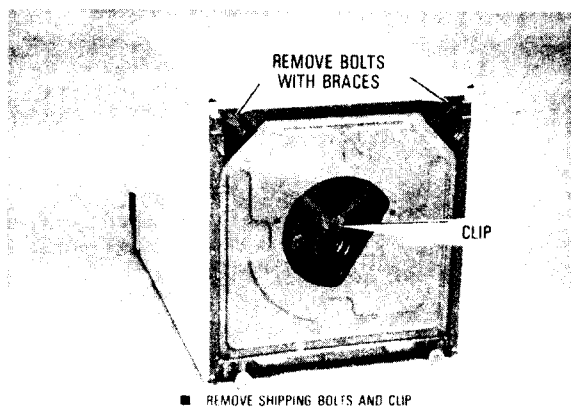


- 3 Remove the shipping carton, lay the machine on its back and remove the tape from the cabinet sides and rear leveling legs.

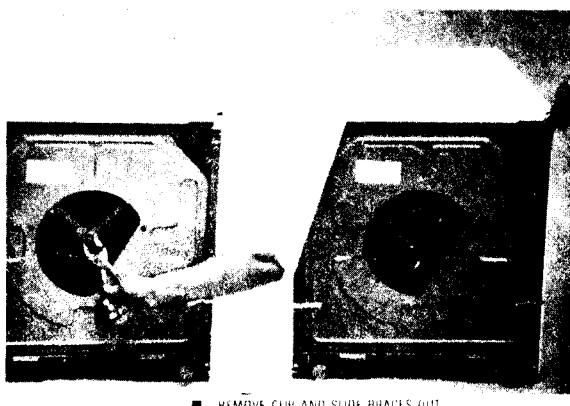
CAUTION: The bottom pan does not have to be removed for installation. If the panel is removed for service, it must be reinstalled.



- 4 The rear self-leveling feet are new in design and factory installed. When the tape is removed the feet move out to their activated position.

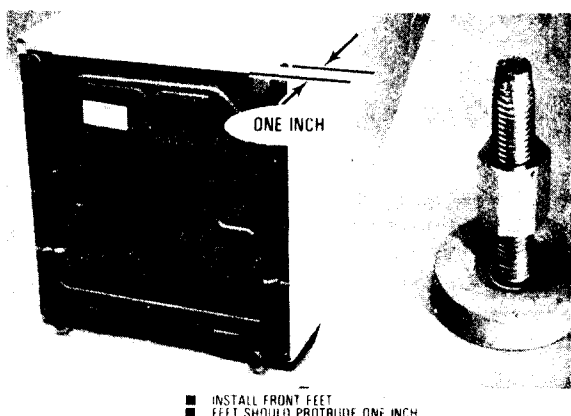


- 5 Next, remove the two bolts that secure the shipping braces to the cabinet at the front corners and the clip that secures both of the braces to the gearcase bottom.

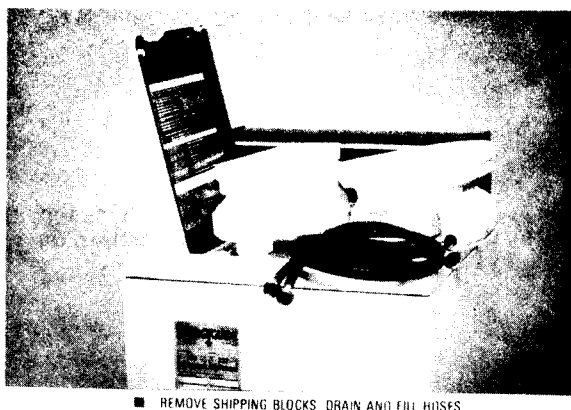


- 6 To remove the clip use pliers or a screwdriver to bend or pry it off. With the clip and bolts removed, the braces can be slid out of the machine without removing the bottom panel.

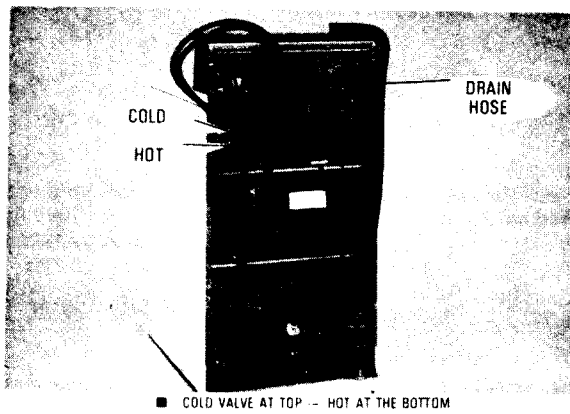
NOTE: The braces and gearcase clip should be saved in case the machine ever has to be moved to a different home.



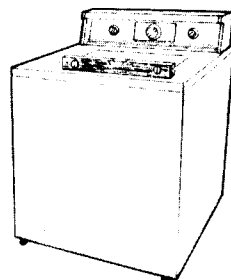
- 7 Install the front feet in the holes where the shipping braces were attached. The feet have lock nuts assembled and should be installed with the foot pad protruding down below the base about one inch. Steel legs are used on this product because of the increased spin speeds.



- 8 Stand the machine upright, and remove the shipping blocks. The styrofoam blocks are designed to fit around the agitator and help support it. After the shipping blocks are removed, remove the drain and fill hoses.



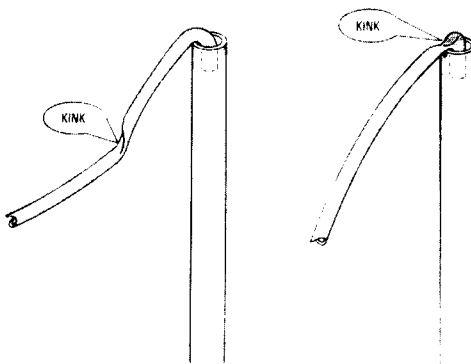
- 9** Install the water inlet hoses and the drain hose. The cold water port is at the top and the hot water port is at the bottom, and are identified with the letters C and H punched in the cabinet. The machine is now ready to be moved to its permanent location, where the water inlet and drain hoses can be hooked up.



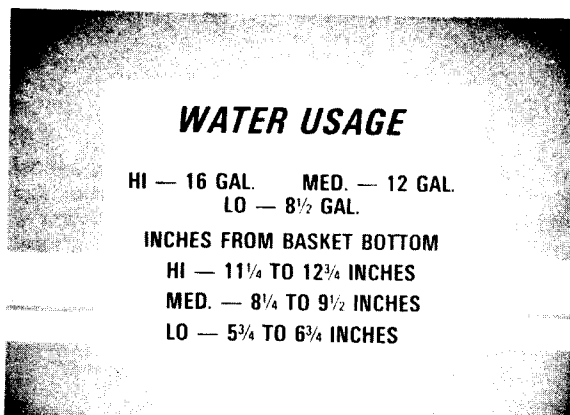
LEVELING MACHINE

■ INCH SPIRIT LEVEL
■ TURN TO LEVEL OPERATING POSITION AND LEVEL

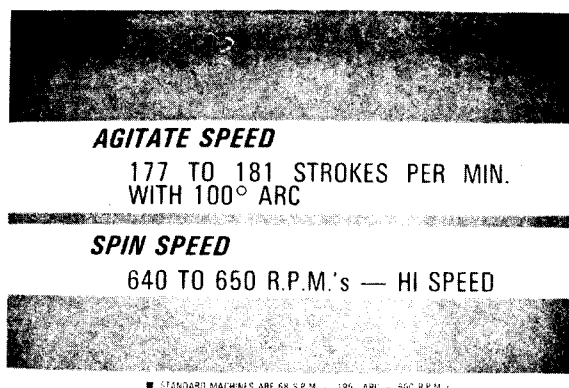
- 10** After the inlet hoses and drain are hooked up, move the machine to its final operating position, and check the level of the machine. Because of changes in the suspension system, it is not recommended to use water in the basket to level the machine. A spirit level should be used. The washer can be leveled from side to side and front to rear by adjusting the two front feet.



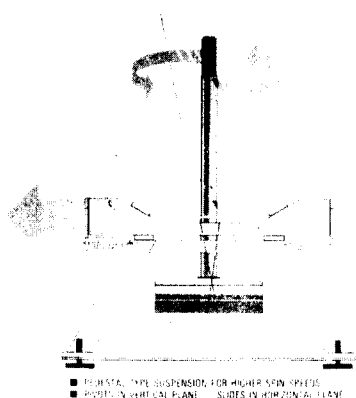
- 11 CAUTION:** When installing the drain hose make sure the hose is not too long or too short. Either condition can cause a restriction resulting in low spin speed and too much water left in the clothes.



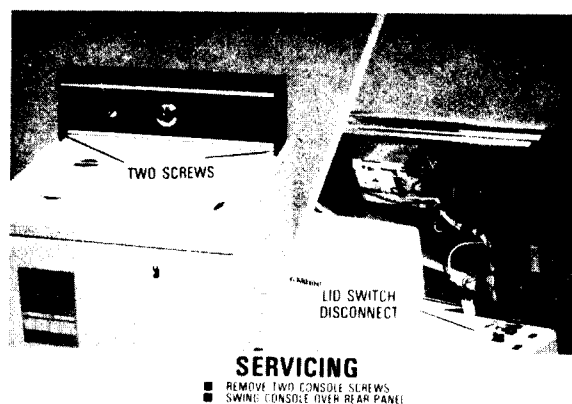
- 12** This chart shows water usage per fill.



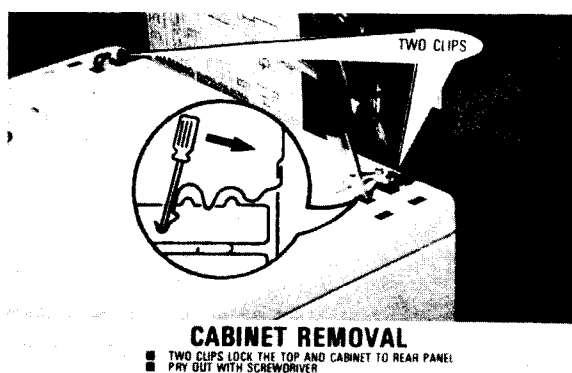
- 13 This chart shows the agitate and spin speeds. *NOTE: When the two-speed machines are produced, the low speed will be 118 to 122 strokes per minute for agitation and 425 to 429 RPMs low spin speed.*



- 14 To allow the high spin speed, the suspension system has been changed to a pedestal type. The suspension allows the unit to pivot in the vertical plane and slide in the horizontal plane. Springs limit its movement in all directions.



- 15 To remove the cabinet for service, remove the two console screws, disconnect the lid switch harness, and swing the console over the top of the rear panel. It is designed with hinges that will support it in this position.

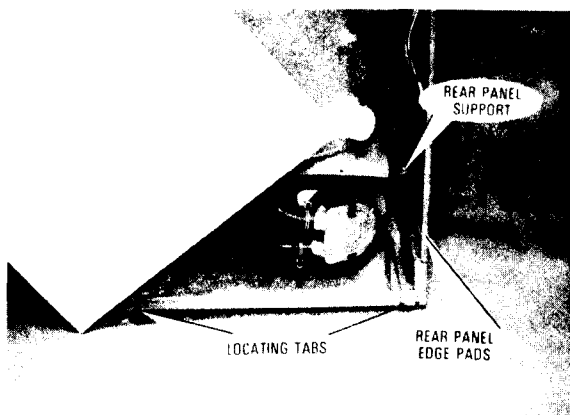


- 16 Next, remove two clips that lock the top and cabinet assembly to the rear panel. To remove the clips, insert a screwdriver into the clips as shown and pry them out in the direction indicated by the arrow.

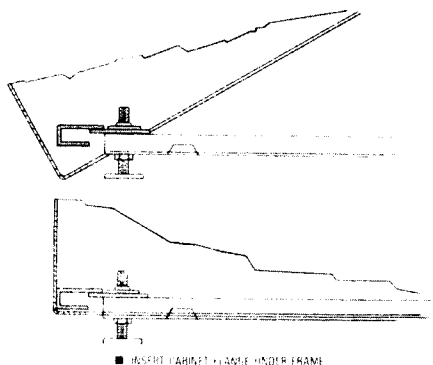


CABINET REMOVAL

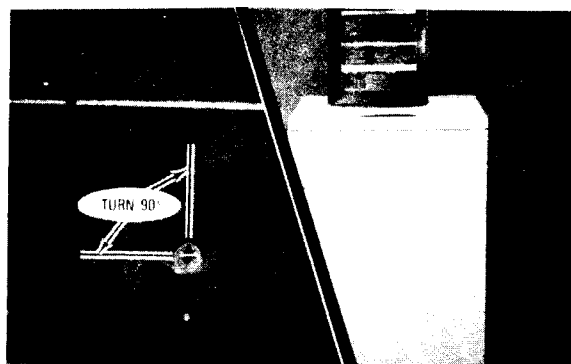
- 17** The complete cabinet assembly can then be tipped forward and removed from the base.



- 18** The base has locating tabs to align the cabinet in place. There are two rear panel pads that help locate the cabinet sides to the rear panel. A support holds the rear panel upright when the cabinet is removed.

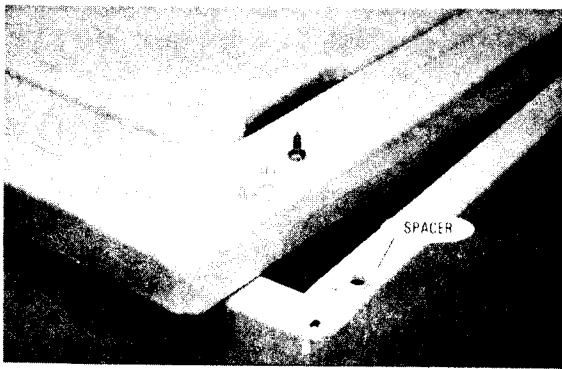


- 19** When reinstalling the cabinet, it's important to tip it forward far enough to slide the cabinet flange under the machine frame. Then position the cabinet in its upright position.



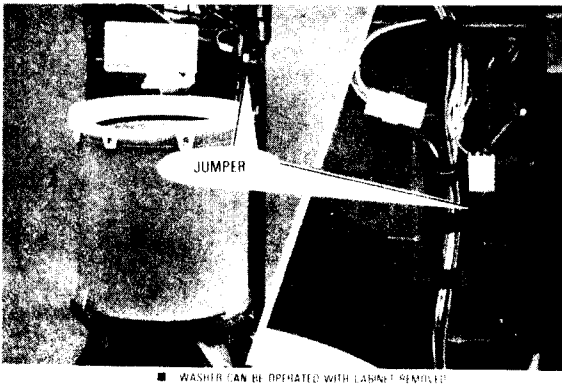
■ RELEASE REAR PANEL FOR MORE ROOM

- 20** If more room is needed when repairs are being made, the plastic support can be released by turning it 90°. The rear panel will then tilt back as shown.

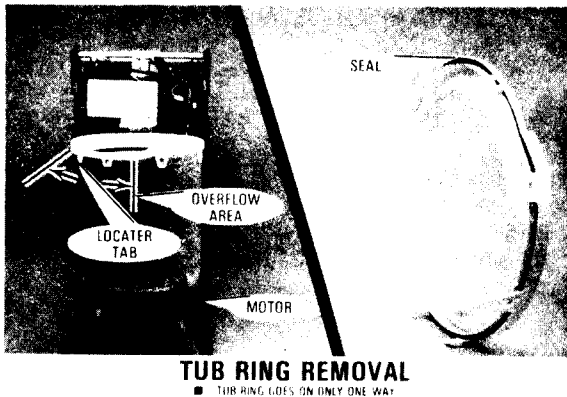


- 21** Four plastic pads are used as spacers between the top and the cabinet. Four screws fasten the top to the cabinet.

CAUTION: On this machine you cannot raise the top without removing the screws.



- 22** The machine can be operated with the cabinet removed. Disconnect the plug from the wall outlet. Insert a jumper wire in the lid switch disconnect plug, between the gray and violet wires. The green wire is for grounding the top.



- 23** The tub ring is designed with a recessed rubber gasket. There are tabs which lock over hooks protruding from the tub.

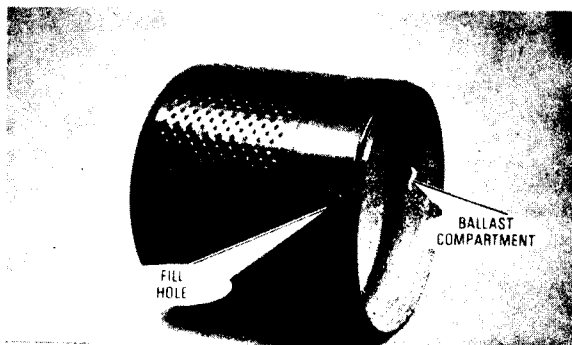


- 24** The basket is held in place with a spanner nut and drive block. The nut has right-hand threads.



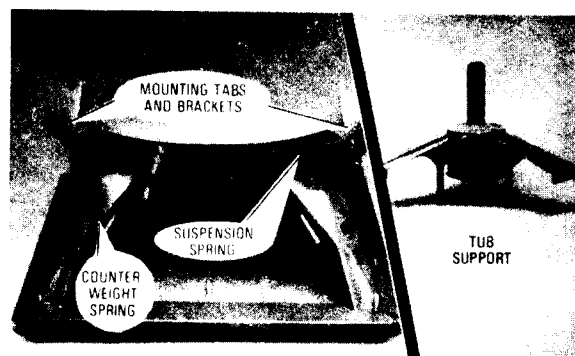
■ USE SPANNER EXTENSION TOOL TO REMOVE NUT

- 25 To reduce the possibility of chipping porcelain in the basket, it's suggested that the spanner extension tool be used when removing the nut.



BASKET

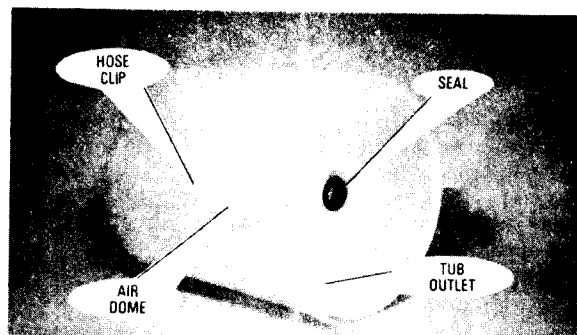
- 26 The basket is designed with a ballast compartment which is nonserviceable. The extra weight of the ballast reduces vibration associated with off-balance loads. If the fill plug becomes loose, the entire basket assembly must be replaced.



TUB REMOVAL

■ REMOVE THREE SPRINGS, THREE MOUNTING BRACKETS AND DRAIN HOSE

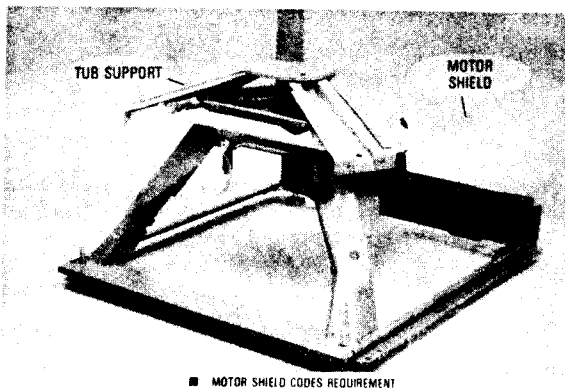
- 27 The tub has three tabs for fastening it to the tub support. To remove the tub, disconnect the springs. Next, remove the three spring brackets. *NOTE: The spring bracket that the counterweight spring attaches to is different and must be reinstalled at the left front.* Remove the tub outlet hose. Apply liquid detergent to the centerpost. The tub can be removed by pulling straight up.



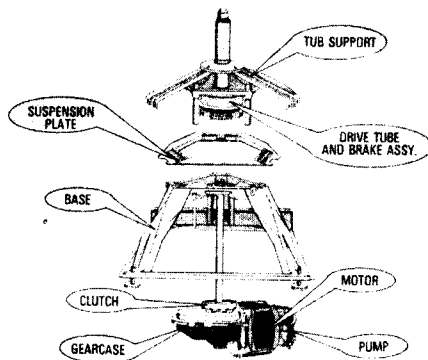
PLASTIC TUB

■ AIR DOME AND HOSE CLIP HEAT SEALED IN PLACE
■ CENTERPOST SEAL IS NEW

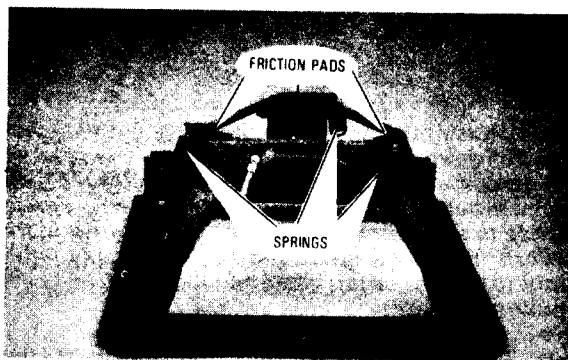
- 28 The plastic tub has the air dome and hose clip heat-sealed in position. The centerpost seal is not interchangeable with previous production.



- 29 A motor shield is held in place between the tub and tub support. The shield protects the motor in case of a water overflow. If this shield is removed for service, it must be replaced.

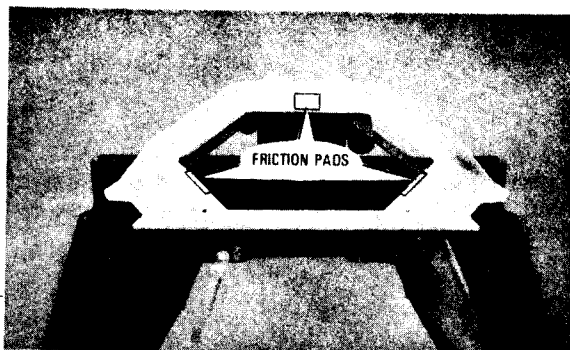


- 30 This view shows the relationship of component parts below the tub.



BASE

- 31 Three pads snap into the top of the base. These pads allow horizontal movement of the suspension plate (not shown). The springs limit the movement of the complete suspension assembly.

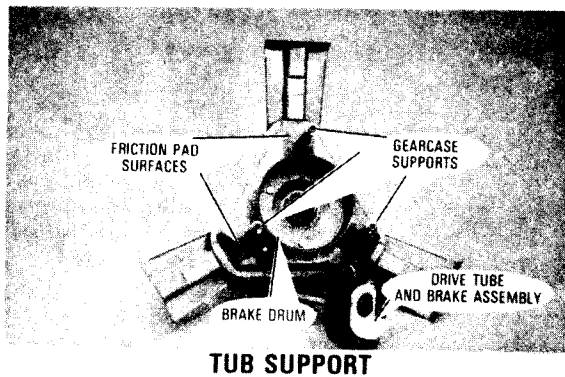


SUSPENSION PLATE

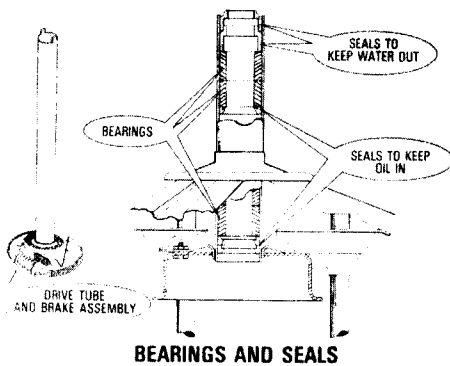
- THREE FRICTION PADS TO SUPPORT TUB SUPPORTS
■ PLATE IS SYMMETRICAL BUT PADS MUST BE FACING UP

- 32 This is a view of the suspension plate in position. It also has three friction pads. The tub support has a mating surface that rests on these pads, allowing it to swivel. The suspension plate is symmetrical and can be located on the base with any one of the three sides forward.

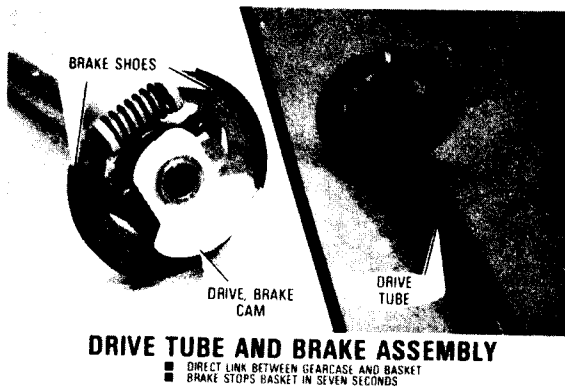
CAUTION: The suspension plate must be reinstalled with the pads facing up.



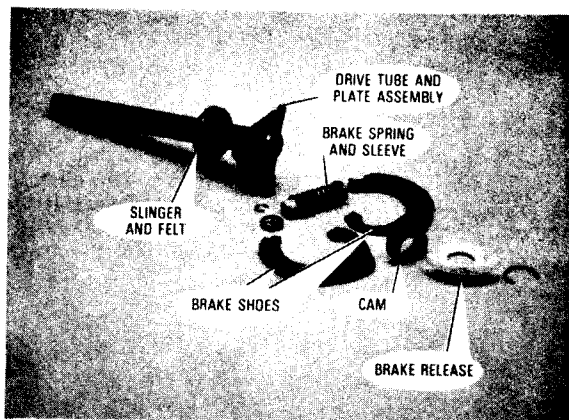
- 33** This bottom view of the tub support shows the three surfaces that contact the friction pads.



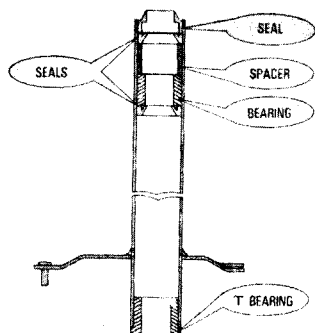
- 34** The drive tube and brake assembly is supported in the centerpost by three bearings, two at the top and one at the bottom.



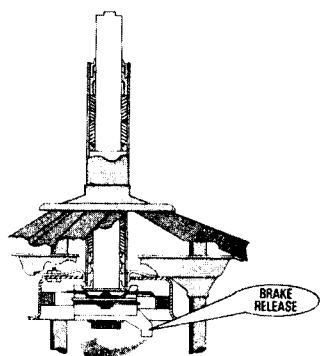
- 35** The drive tube and brake assembly serves as a link between the gearcase and the basket. The assembly consists of the drive tube that supports the basket, two brake shoes for stopping the basket with a full load of clothes within seven seconds, and a brake release cam. Contact is made on the brake release cam to rotate or drive the assembly. When pressure is applied to the cam, it releases the brake and causes the basket to spin.



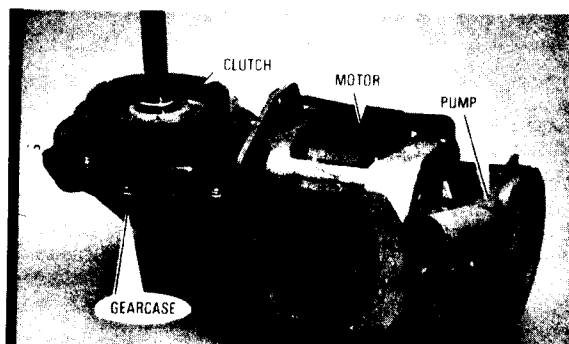
- 36** Shown on the tube is the slinger and felt for catching any oil that might get past the seals in the centerpost of the tub support. Note that the brake spring has a sleeve that fits inside the coil and two end caps. The sleeve limits the movement of the spring while it is being compressed.



- 37** This is a cross section of the drive tube and plate assembly showing the bearings that will support the agitator shaft and the seals that will protect them. The seals and spacer can be obtained individually, but the bearings and drive tube come as a complete assembly.



- 38** When removing or installing the brake assembly, turn the brake release counterclockwise. This will release the brake and make it easier to get in and out of the drum.



GEARCASE, CLUTCH, MOTOR AND PUMP

■ DIRECT DRIVE SYSTEM
■ VIEWED FROM PUMP END 1 - 1/2" W. AGITATION 1 - 1/2" W. SPIN AND PUMP OUT

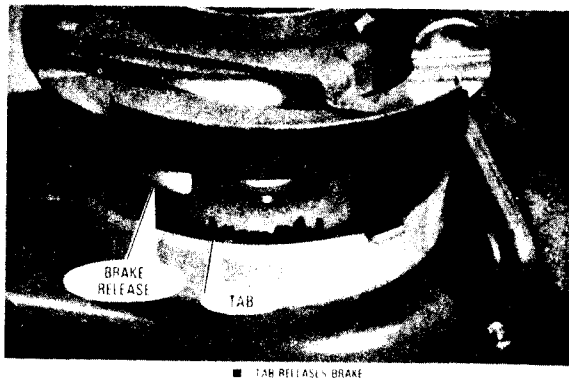
- 39** This is a direct-drive system. When the motor shaft rotates counterclockwise (viewed from the pump end), the gearcase goes into agitation. When the rotation is clockwise, it goes into spin. The pump will drain the water from the tub.



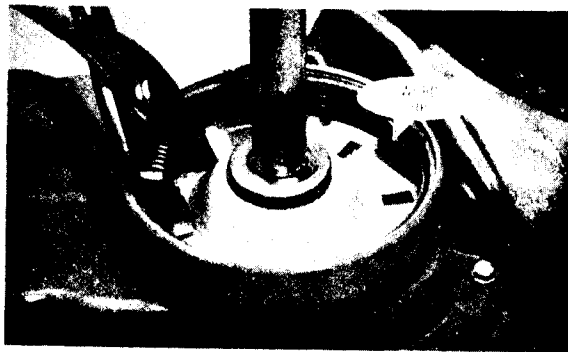
CLUTCH

■ DRIVE DRUM IS DRIVEN FROM INSIDE GEARCASE
■ SPRING LOADED AGAINST DRIVE DRUM

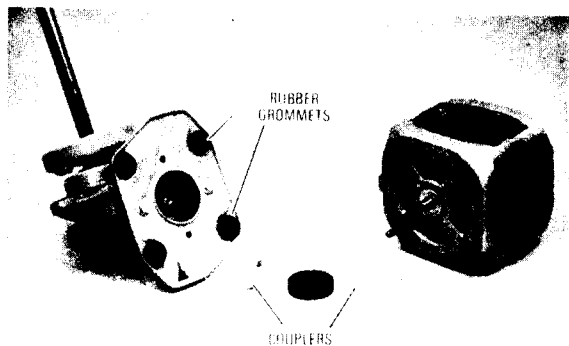
- 40** The clutch is positioned inside a drive drum. The drum is driven from inside the gearcase. The clutch has a lining which is riveted to a steel band. It is spring loaded to force the lining against the drive drum.



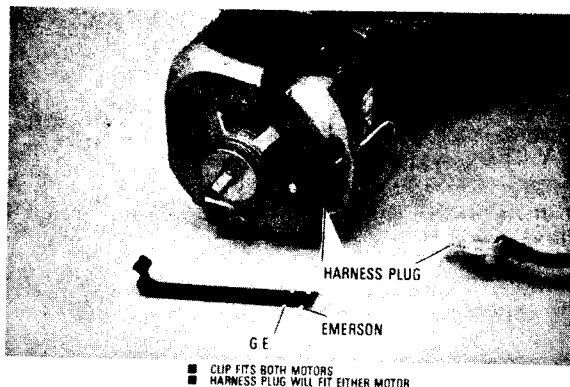
- 41 When the gearcase is in the spin mode, the tab that holds the clutch spring moves around until it contacts the brake release, allowing the basket to spin. Since this basket spins with a full tub of water, there will be some clutch slippage until the pump removes almost all of the water.



- 42 To remove or install the clutch, use pliers to compress the spring. To aid in reassembly, the word "UP" and an arrow are die stamped on the clutch tab.

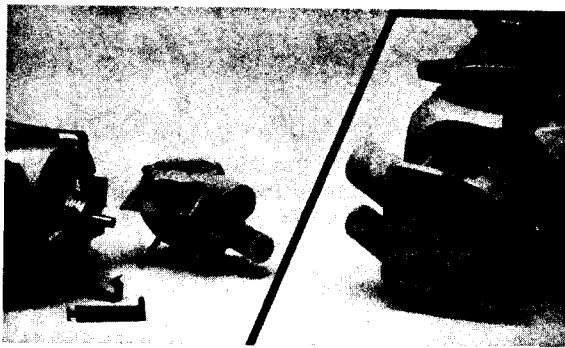


- 43 The motor has four studs that locate in four rubber grommets in the motor mounting plate. The gearcase and motor shafts are coupled together with a rubber grommet. The couplers are designed to be the weak link in the drive system. If the gearcase should ever lock up, the couplers should break before the motor is damaged.



- 44 Two retainer clips are used to hold the motor on the gearcase. The clips are designed to be used with either the Emerson or the shorter G.E. motor. Both motors use the same wiring harness quick-disconnect plug.

CAUTION: There is a release tab on the harness quick-disconnect.

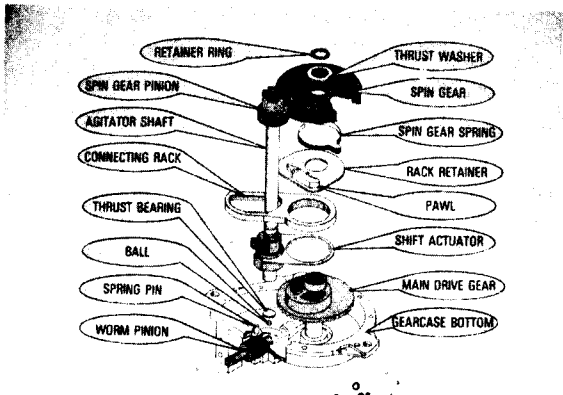


PUMP MOUNTING

■ MOUNTS TO MOTOR WITH CLIPS

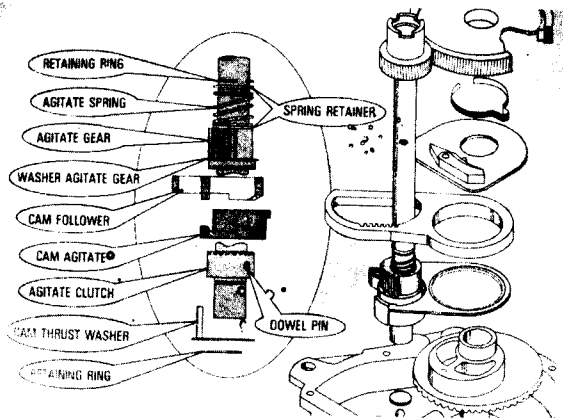
- 45 The pump fits onto the back side of the motor and is also attached with retainer clips. Both the motor and the pump will be discussed in more detail later in the program.

Now, let's turn our attention to the gearcase.

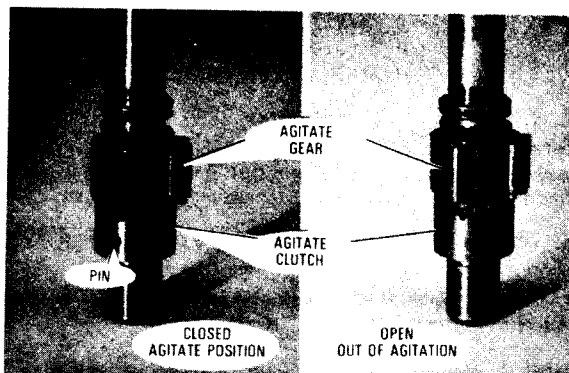


46 GEARCASE—

This is an exploded view of the parts inside the gearcase.

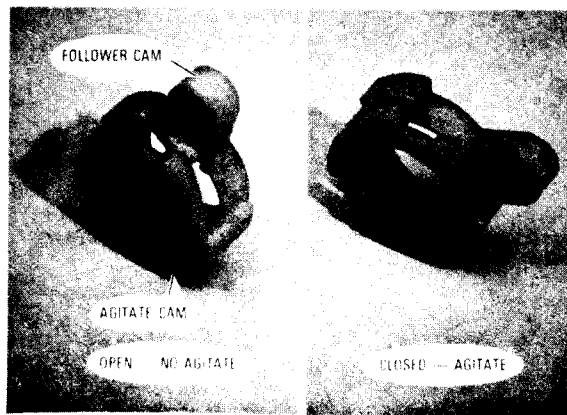


- 47 Assembled to the agitator shaft and shown at the left are those parts that help shift the gearcase in and out of agitation.

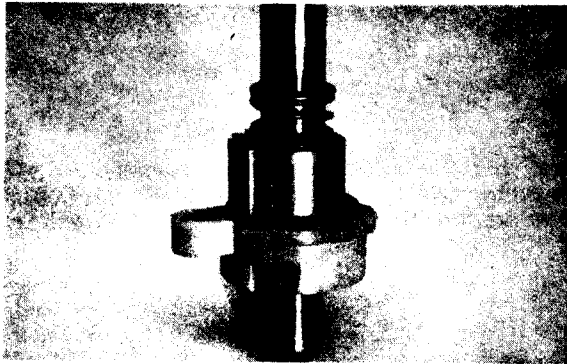


■ CLUTCH PINNED TO SHAFT

- 48 Assembled to the bottom of the agitator shaft are two parts called the agitate gear and the agitate clutch. The agitate clutch or bottom part is pinned to the agitator shaft. The upper part or agitate gear is free to turn on the shaft. Both parts have matching teeth and are spring loaded to force them together. The left view shows the teeth meshed together or in the "agitate" position. The right view shows the teeth separated or in the "no agitate" position.

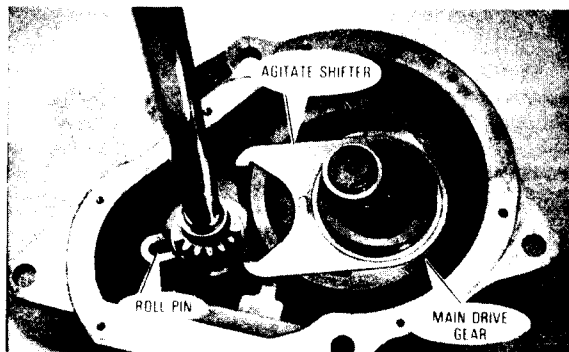


- 49 A follower cam and agitate cam are used to force the gear teeth apart. The view on the left shows the cams in the open or "no agitate" position, and the view on the right shows them in the closed or "agitate" position.



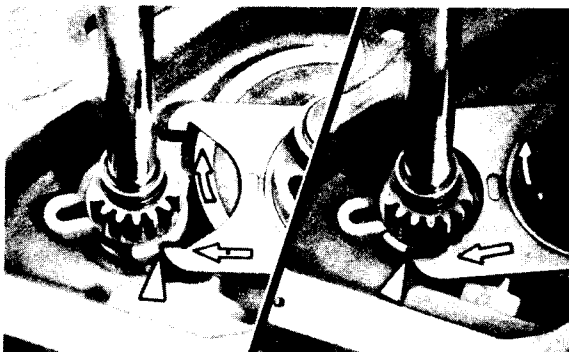
■ ONE CAM MUST BE HELD STATIONARY AND THE OTHER ROTATED

- 50 When assembled to the agitator shaft, the assembly looks like this, with the cams fitting over the lower agitate clutch, which is pinned to the agitator shaft. In order for the cams to work properly, one must be held stationary and the other rotated.



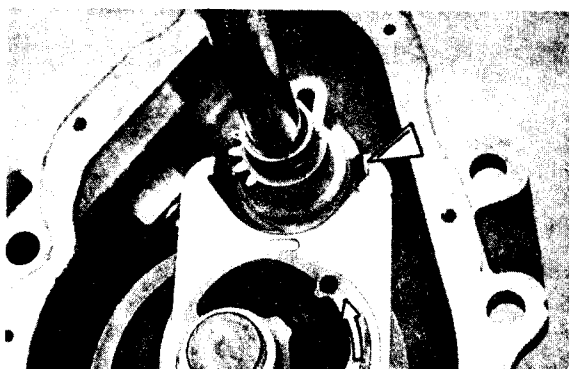
■ ROLL PIN LOCATES THE FOLLOWER CAM
■ AGITATE SHIFTER MOVES THE CAM

- 51 To accomplish this, a roll pin located in the bottom of the gearcase and a part called the agitator shifter are used. The follower cam has a loop that is placed over the roll pin. The agitate shifter, which moves in and out as it rotates around on the cam on the main drive gear, provides the force to shift it in and out of agitation.



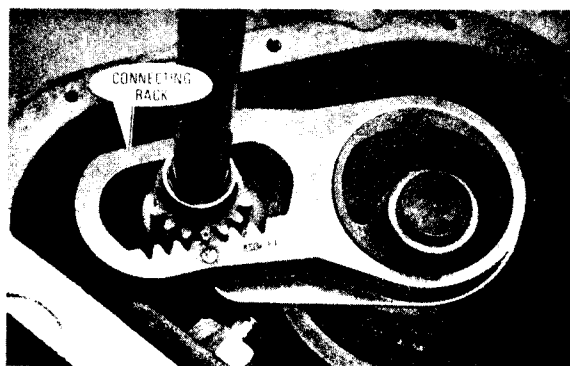
■ MAIN DRIVE GEAR MOVES THE SHIFTER
■ SHIFTER MOVES THE CAM

- 52 As the main drive gear turns in the direction indicated by the arrow, the surface friction between the shifter and the main drive gear pulls the shifter in the same direction until it contacts the cam. When it's stopped from rotation, it moves forward, pushing on the protruding tab on the agitate cam, rotating it into the agitate position.



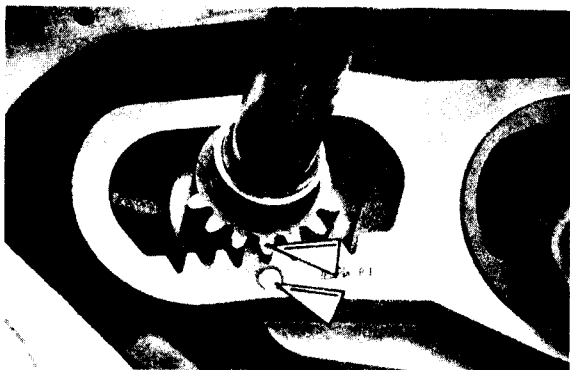
■ OPPOSITE ROTATION TAKES MACHINE OUT OF AGITATION

- 53** When the main drive gear is rotated in the opposite direction, the shifter is again rotated with it, and engages the agitate cam on the other side, pushing it forward and taking the machine out of agitation.



■ CONNECTING RACK

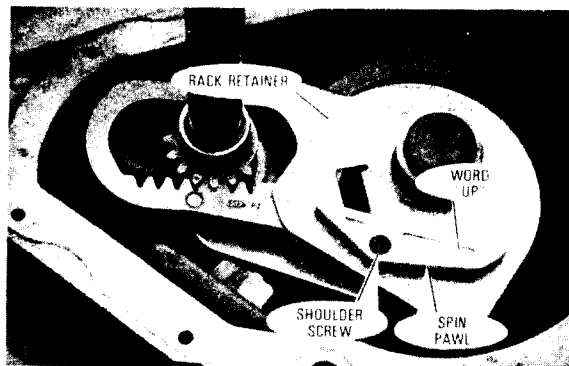
- 54** Power for the agitate gear is supplied by the connecting rack, which moves back and forth as it rotates around the cam on the main drive gear.



■ RACK RETAINER

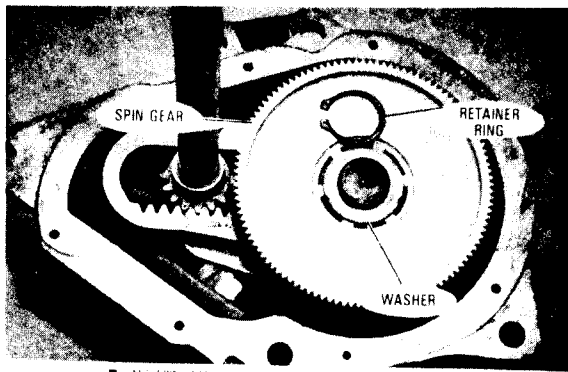
- 55** Whenever a connecting rack is installed, the "Dot" on the agitate gear and the "Dot" on the connecting rack must be lined up with each other in order for the gearcase to work properly.

NOTE: Whenever the motor is running in either direction, the connecting rack will be moving back and forth. But, depending on which direction the motor is turning, the shifter will put the machine into or out of agitation.



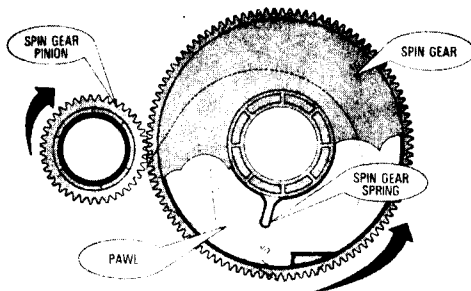
■ CONNECTING RACK HELD IN PLACE WITH RACK RETAINER AND SCREW
■ WORD "UP" MOLDED INTO PAWL

- 56** To hold the connecting rack and the shifter in position, a part called a rack retainer is fastened down with a shoulder screw that also locates and holds a part called the spin pawl. The pawl has the word "UP" molded into the part to aid in assembly.



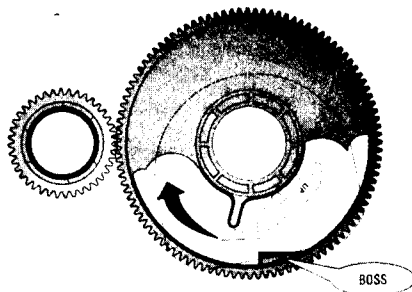
■ ADD SPIN GEAR. HOLD IN PLACE WITH WASHER AND RETAINER RING.

- 57** Next, the spin gear is assembled and held in place with a washer and retainer ring.
Now, let's turn our attention to how the basket spins.



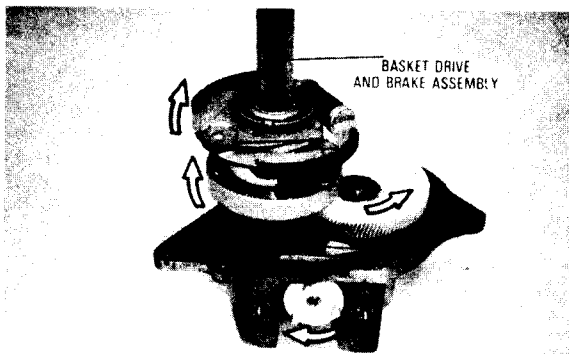
PAWL DRIVES SPIN GEAR

- 58** This is a cutaway view looking down at the top of the spin gear. When the machine goes into spin, the pawl comes around, contacts the pawl spring which forces it outward so that it contacts a molded boss on the spin gear and drives it in the direction shown. The spin gear drives the smaller spin gear pinion located on the agitator shaft. The pinion has the clutch attached to it, and as it starts to spin it releases the brake, and the basket spins.



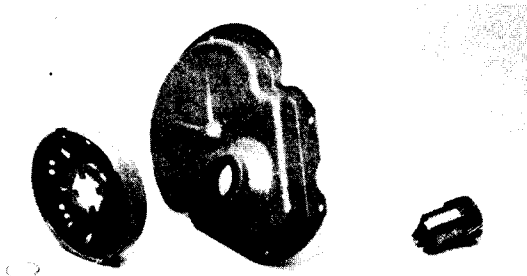
PAWL UNLOCKED FROM SPIN GEAR

- 59** When the motor rotation is in the opposite direction, the spin gear does not turn and the pawl is repositioned by the spin gear spring so that it clears the boss and avoids any clicking sound.



GEARCASE IN SPIN

- 60** This view of the gearcase with the cover removed, shows everything mounted in place. As the wormgear is turned clockwise, it turns the other components in the direction indicated by the arrows. As the clutch turns, it releases the brake, turning the drive tube.

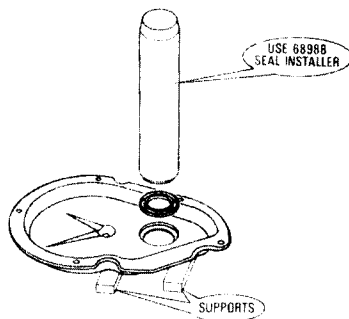


■ CLUTCH COVER AND PINION INSTALLED INDIVIDUALLY OR AS COMPLETE ASSEMBLY

- 61** The clutch assembly, cover and spin gear pinion can be installed, either as a complete assembly or as individual parts. Use care when sliding the spin pinion gear over the agitator shaft. The spin pinion gear contains a seal on the inside which may be damaged by sharp edges.

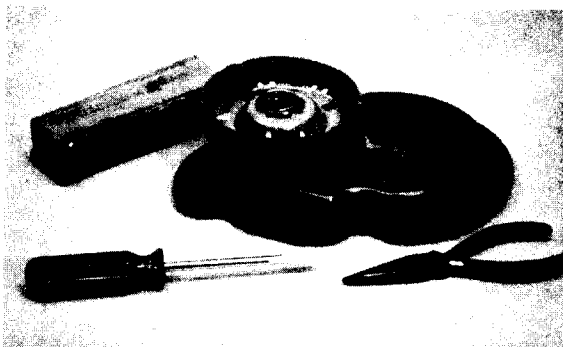


- 62** The slinger is pressed on the pinion, and then the pinion is inserted through the seal in the cover. Care should be taken not to damage the seal when inserting the spin gear pinion into the cover.



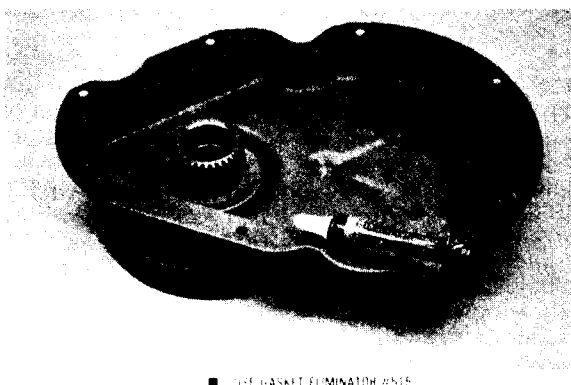
TO REPLACE GEARCASE COVER SEAL

- 63** If the cover seal must be replaced, use the 68988 seal installer. Because the seal lip extends past the top of the cover, lay the cover on two supports.



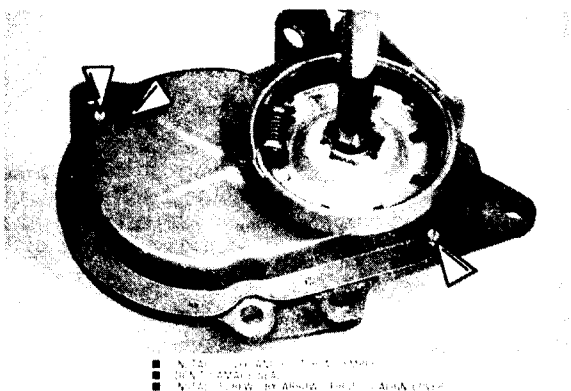
■ USE WOOD BLOCK TO SUPPORT THE PINION FROM BOTTOM
■ USE SCREWDRIVER OR PLIERS TO INSTALL SPRING CLIP

- 64** Next, locate the clutch assembly on the matching splines on the spin gear pinion, and install the spring clip to lock the assembly together. A screwdriver with a notch on one end of the blade or pliers with notches in the tip of the jaws, makes a good tool for installing the spring clip. Placing the pinion gear on a wooden block also helps support it when installing the spring clip.



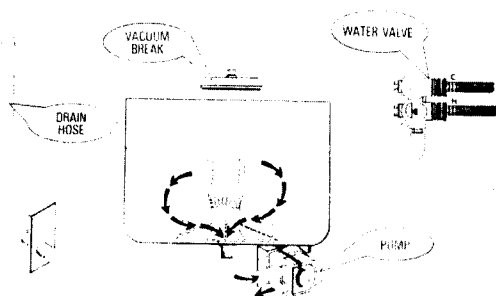
■ GASKET ELIMINATOR #515

- 65** Before the cover is installed, a coating of Loctite gasket eliminator number 515 sealant should be applied to the flange of the cover.



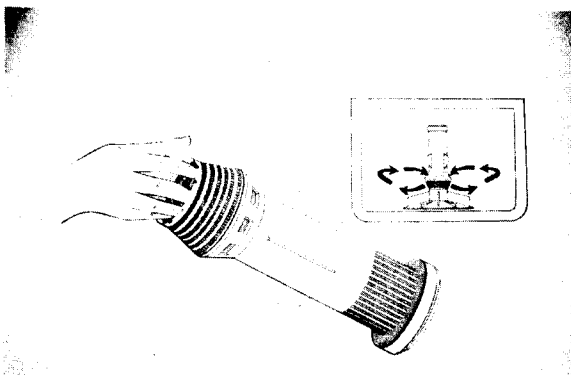
■ X TO TIGHTEN SCREWS TO COVER
O OIL SEAL
X TO TIGHTEN BY ARROW POINT TO ALIGN COVER

- 66** The entire assembly can now be slid over the agitate shaft and positioned on the gearcase. Again, caution should be taken not to damage the seals in the spin gear pinion when installing it over the agitator shaft. The two arrows near two of the gearcase cover holes are there to identify pilot holes. When installing the screws in the cover, drive these two screws first to align the cover. This completes the assembly of the gearcase.



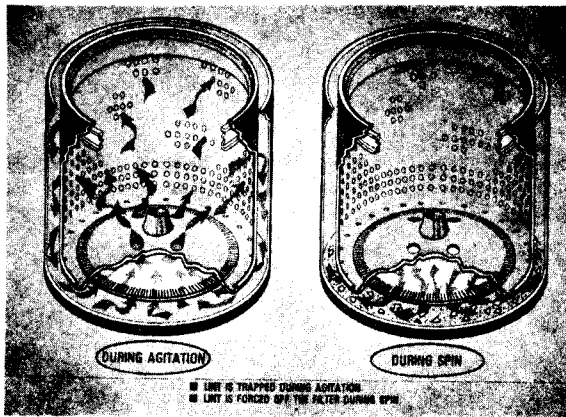
WATER SYSTEM

- 67** This is a diagram of the water system. Water enters the machine through the water inlet valve shown at the upper right. It then flows into the tub area through a vacuum break. During agitation the pump is turning in the direction to force water back into the tub. During spin the pump turns in the opposite direction and pumps the water to drain. *NOTE: To remove the vacuum break, squeeze the bottom of the mounting tabs and pull toward the front of the machine.*

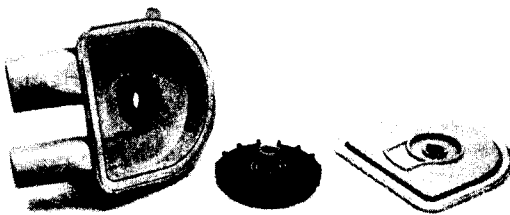


AGITATOR AND LINT FILTER

- 68** The agitator on early production was designed in two parts that snapped together to form the agitator and a lint filter. During agitation the wash water is circulated through the filter which collects the lint. To remove for cleaning, pull straight up on the top portion of the agitator. The lint can then be wiped from the filter by hand.



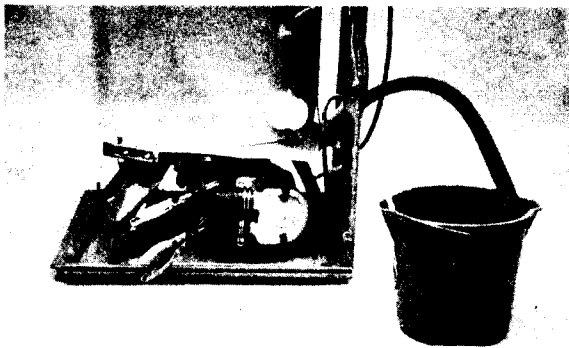
- 68A** Current production has a self-cleaning filter attached to the bottom of the basket. The action of the agitator pumps water up through four holes in the bottom of the basket. As the water passes through the filter, the lint is collected and held. During spin the centrifugal force of the spinning filter forces the lint off the filter and down the drain. The filter attaches to the basket with bosses that lock into holes in the center post of the basket. There is a wire spring clip located inside the filter that helps force the bosses outward. To remove the filter, first remove the clip and then push the four bosses out of the holes in the center post.



PUMP

■ NON REPAIRABLE

- 69** The pump is a non-repairable type. It is designed with a ceramic seal for long life and a self-cleaning, straight-vaned, flexible rubber impeller. Pump capacity is 16 gallons per minute and will pump up to a 6-foot head.

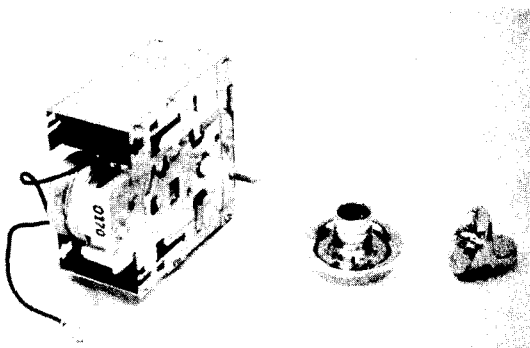


SERVICING PUMP

■ TO REMOVE PUMP, OR DRAIN, WITH DRAIN HOSE

- 70** To drain the machine for pump change, it is recommended that the hoses be pinched off with hose pliers, or the machine be drained using the drain hose as shown.

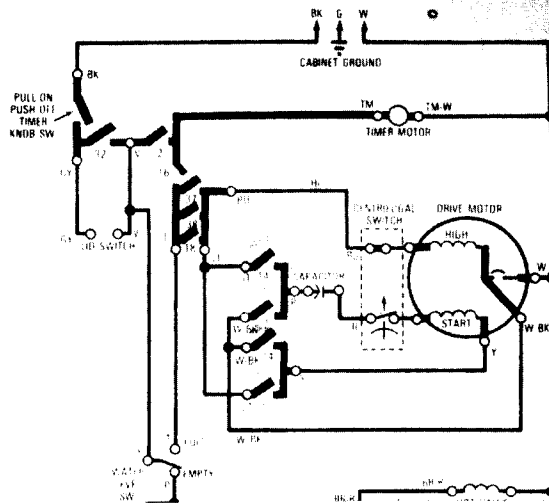
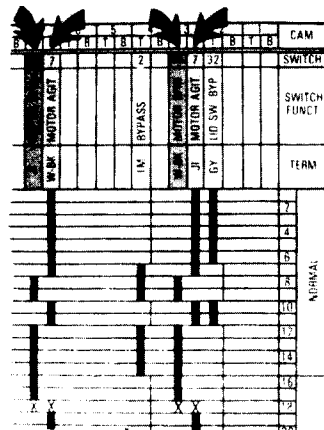
Since there are no check valves or traps in the system, most of the water can be removed through the drain hose.



TIMER

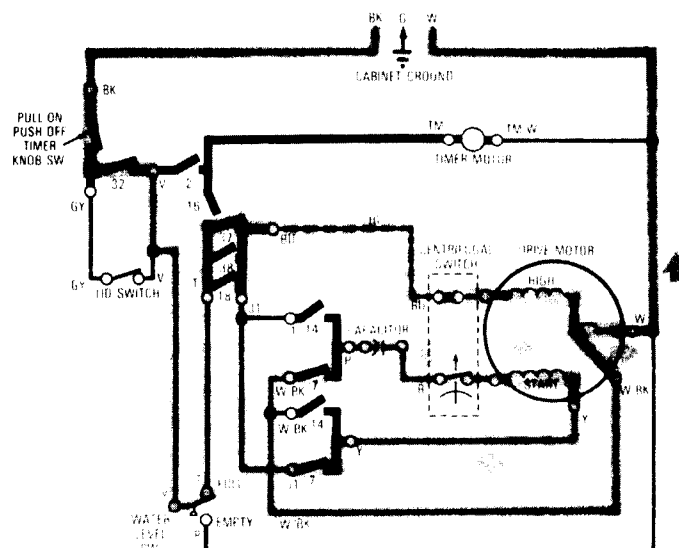
■ KNOB MUST BE PUSHED IN (OFF) TO TURN THE TIMER

- 71** The timer cannot be advanced with the knob in the ON position. The knob must be pushed in to turn the timer.



**CAMS 7 AND 14 CONTROL
CURRENT TO MOTOR**

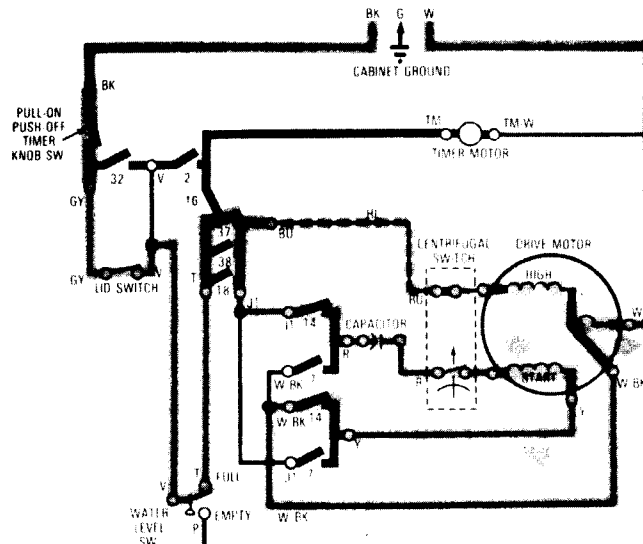
- 72** The timer has two sets of number 7 contacts and two sets of number 14 contacts that control the current to the motor start winding. Looking at the esterline chart, it shows that both number 7 switches close at the same time and control agitate. It also shows that the two number 14 switches, when closed, control spin.



THE INSTANT OF START FOR AGITATION

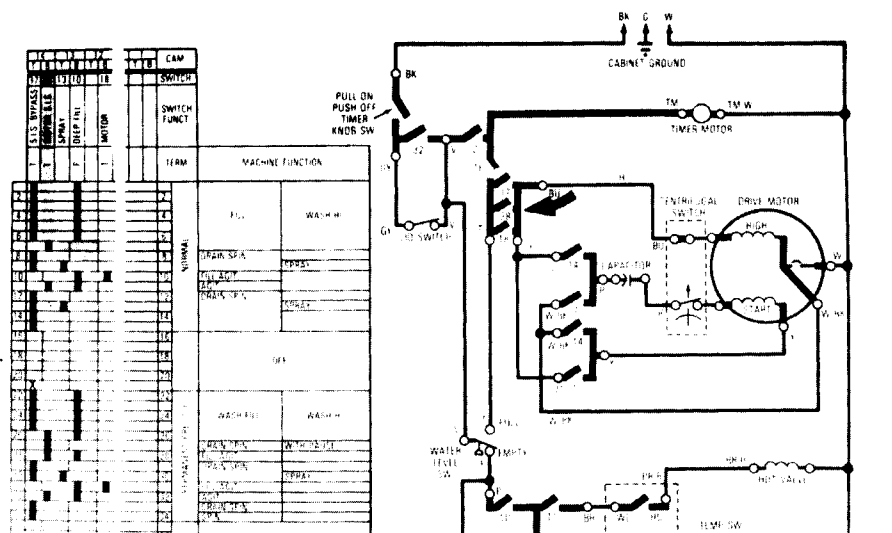
- 73** This diagram shows the circuit through the start winding at the instant of start for agitation. Please note the direction of current flow through the start winding. This direction of current flow, controlled by

the timer, will start the motor in the direction to put the machine into agitation. As the motor comes up to speed, the centrifugal switch will open, breaking the circuit to the start winding.



THE INSTANT OF START FOR SPIN

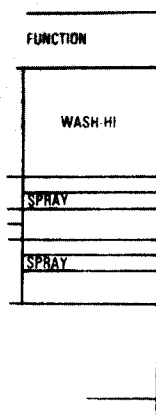
- 74** This diagram shows the circuit through the start winding at the instant of start for spin. The circuit is now through the two number 14 timer switches, with the current flowing to the start winding in the opposite direction.









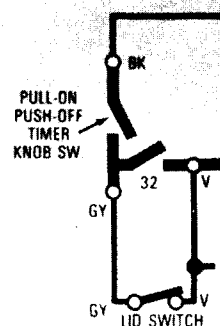
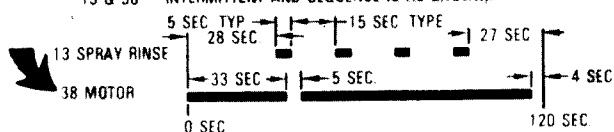
SWITCH 38 IS IN CONTROL

- 75** Switch 38 is closed and in control the last increment before the motor stops to change direction.

AUTOMATIC WASHER WIRING DIAGRAM

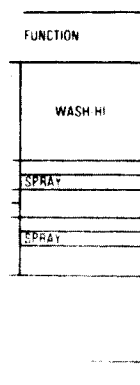








-  TIMER SWITCH
-  INTEGRAL COMPONENT CONNECTION
-  HARNESS WIRING
-  TERMINAL CONNECTION
-  X TIMER SWITCH MAY BE OPEN OR CLOSED
-  SUB-INTERVAL SWITCH (OPERATION IS INTERMITTENT AND SEQUENCE IS AS SHOWN)

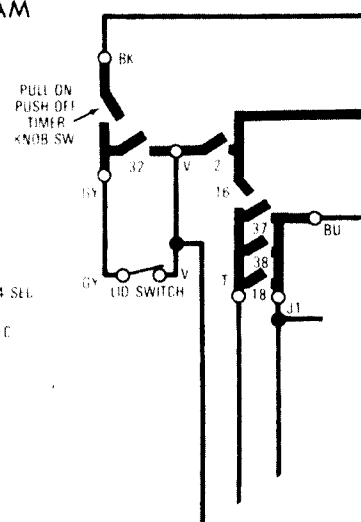
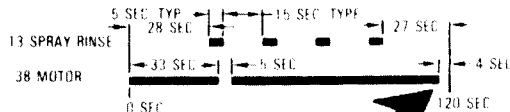


- 76** Located in the middle of the diagram is a bar chart that explains the opening and closing of switch 38. The chart represents one increment, which is 2 minutes or 120 seconds long. As the chart shows, switch 38 is closed for 33 seconds, then opens for 5 seconds and then is closed all but the last 4 seconds.

AUTOMATIC WASHER WIRING DIAGRAM

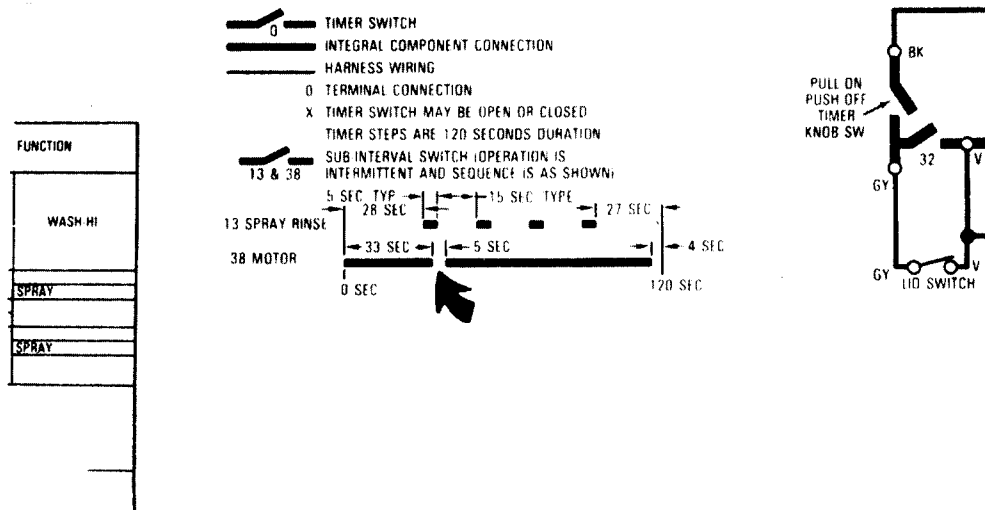


-  TIMER SWITCH
-  INTEGRAL COMPONENT CONNECTION
-  HARNESS WIRING
-  TERMINAL CONNECTION
-  X TIMER SWITCH MAY BE OPEN OR CLOSED
-  SUB-INTERVAL SWITCH (OPERATION IS INTERMITTENT AND SEQUENCE IS AS SHOWN)

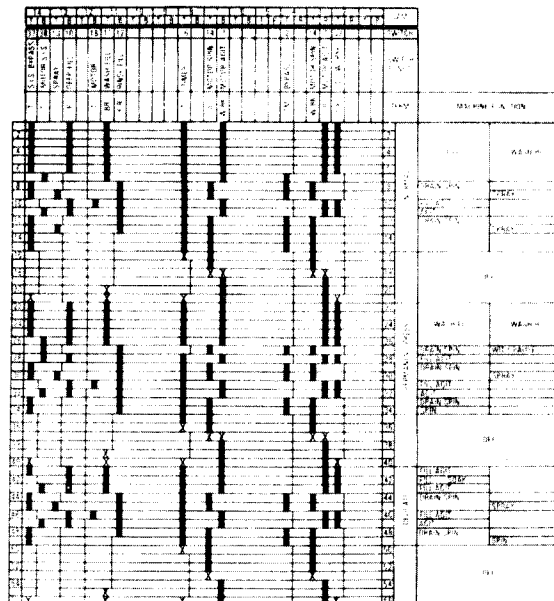


- 77** At the end of the increment, the switch opens for four seconds to stop the motor, so that it can start in the other direction.

AUTOMATIC WASHER WIRING DIAGRAM

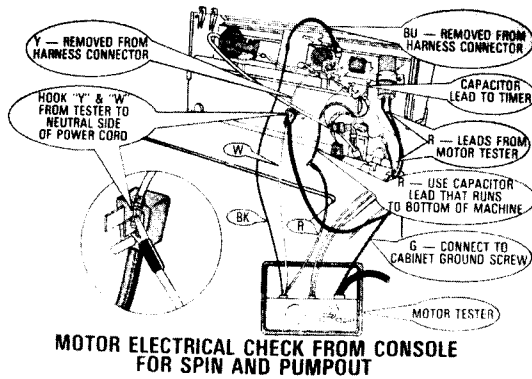


- 78** The five-second off period is there only for the cool-down portion of the permanent press cycle. When the machine goes into spin and pump out, it shuts off after 33 seconds. This allows the remaining water in the tub to stop spinning so that the pressure switch can reset and allow the machine to refill with cold water.



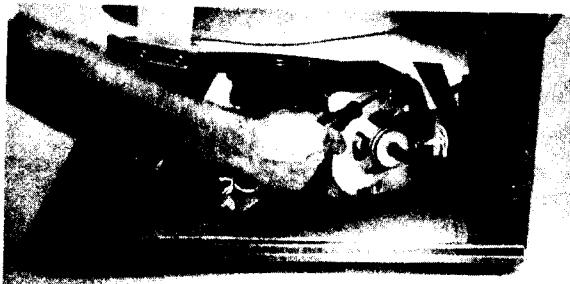
- 79 IMPORTANT:** Since Cam 38 is used in all of the cycles, the machine will shut off for that same five seconds, then run for the remaining 78 seconds before the motor stops to change direction. This stopping and starting is a normal condition.

SERVICING



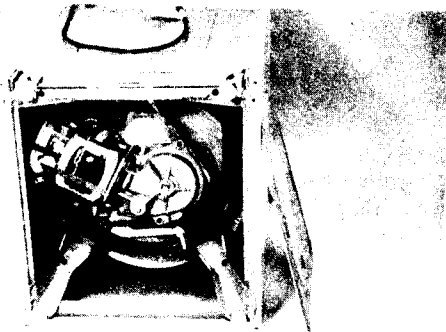
80 MOTOR—

The motor can be checked and run using the 69101 motor tester at the console. This view shows the tester hooked up for spin and pump out. Remove the blue and yellow wires from the timer harness connectors. Connect the black lead from the tester to the blue wire. Connect the white lead from the tester to the yellow wire and the neutral side of the power cord. The neutral side of the power cord is the side that has the ribs molded into the surface of the cord. Next, remove wires from capacitor and attach the red wires from the tester to the capacitor lead that goes to the bottom of the machine. Connect the last two remaining red wires from the tester to the capacitor.



MOTOR REPLACEMENT FROM THE SIDE

81 The motor can be removed with the machine in the upright position and the cabinet removed as shown. First, remove the pump clips and move the pump aside. Next, remove the motor harness quick-disconnect plug. Then remove the motor mounting clips with a screwdriver and remove the motor.



MOTOR REPLACEMENT FROM THE BOTTOM

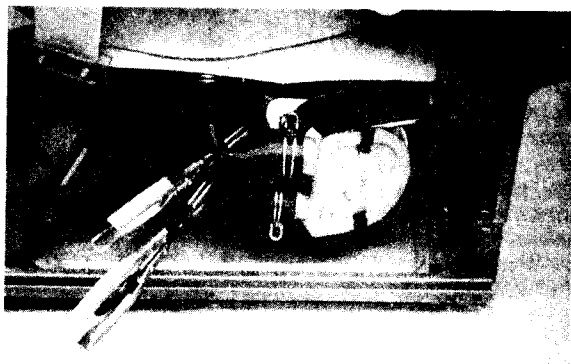
82 There is another way to replace the motor. If space permits, lay the machine on its front and remove the bottom panel. In this position the weight of the motor will be easier to handle.



PUMP REPLACEMENT

83 PUMP—

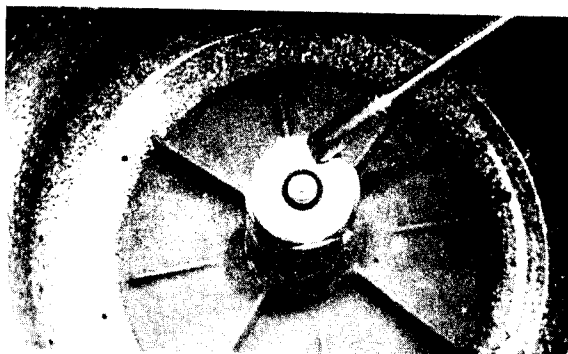
To replace the pump, remove the cabinet. Next, drain the machine or use hose clamp pliers to pinch off the hoses.



- 84** Remove the pump mounting clips using a screwdriver, and slide the pump off of the motor shaft.

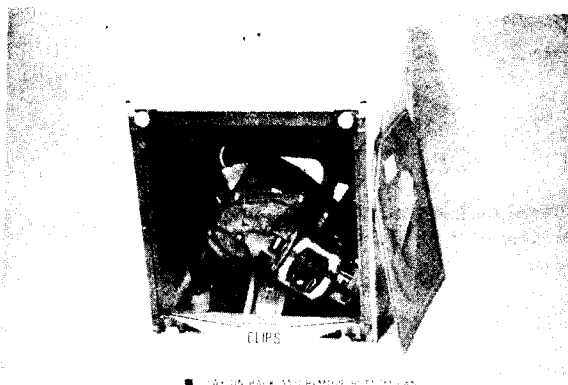


- 85** The hose clamps can now be moved and the pump removed.

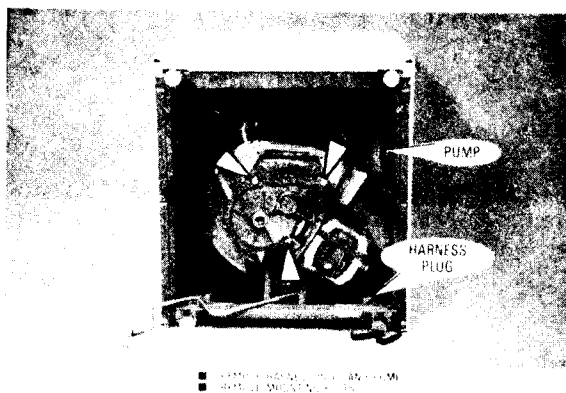


GEARCASE REMOVAL

- 86 GEARCASE—**
To remove the gearcase, first remove the agitator. The agitator is held in place with a cap screw. Use a 1/2-inch socket or wrench.



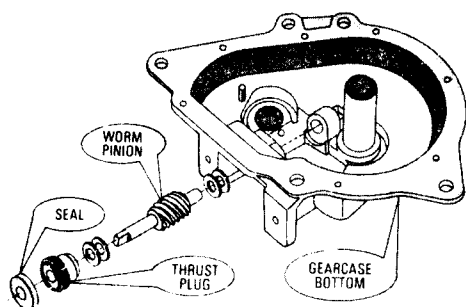
- 87** Next, lay the machine on its back and remove the bottom pan. The bottom pan is held in place with two clips and two screws.



- 88** Remove the harness plug from the motor and unclip the pump. Remove the three gearcase mounting bolts using a 1/2-inch socket, and the gearcase with the motor attached can be slid out of the unit.

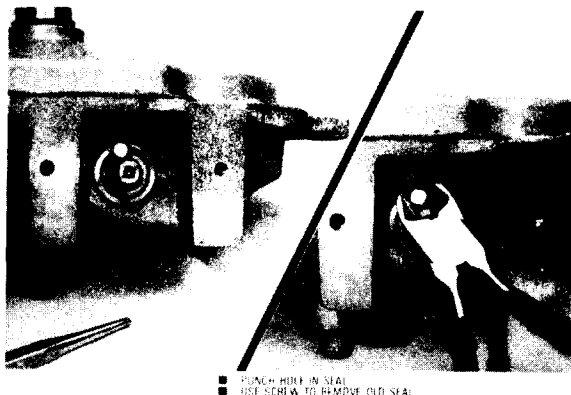


- 89** Caution should be taken not to damage the seals when removing the splined end of the agitator shaft.

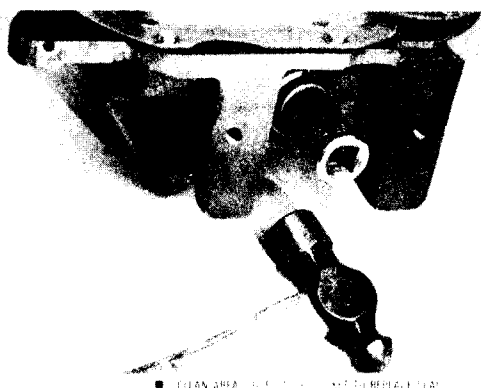


- 90** The gearcase bottom, worm pinion and thrust plug can only be obtained as a complete assembly. The seal is available as a replacement part.

SEAL REPLACEMENT FOR WORM PINION



- 91** To remove the old seal, punch a hole in the metal portion and drive a screw in the hole. The screw can then be used to pry the seal out as shown.

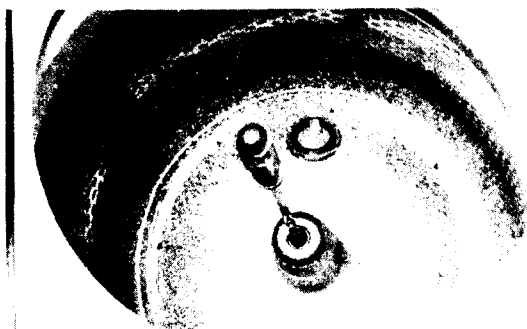


- 92 Wipe the area clean, and then using a 11/16 socket, drive the new seal into the hole until it bottoms out.



BASKET DRIVE AND BRAKE REMOVAL

- 93 **BASKET DRIVE—**
Before the assembly can be removed, the basket and drive block can be removed while the machine is in its upright position.

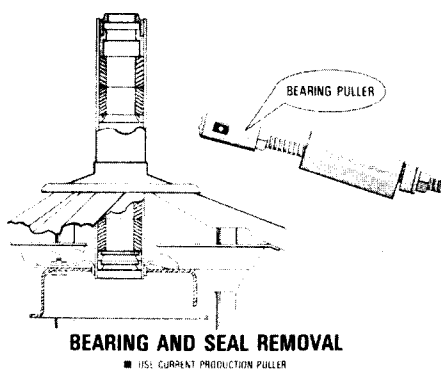


ALTERNATE BASKET DRIVE AND BRAKE REMOVAL

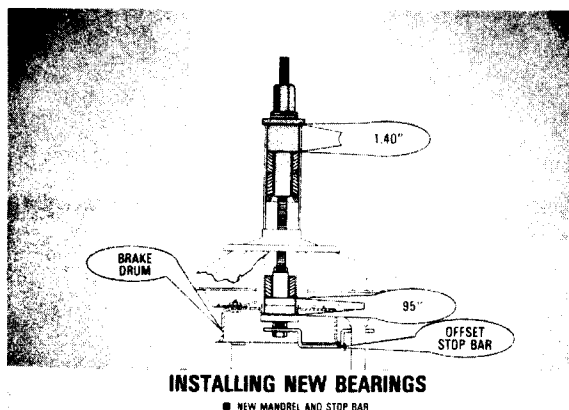
- 94 Or, it can be removed with the tub ring and basket left in place. First, remove just the spanner lock nut and then, using the right size screwdriver, spread the drive block to release it from the drive tube.



- 95 The assembly can then be removed from the bottom of the machine. Turning the brake release cam counterclockwise will release the brakes and make it easier to remove.



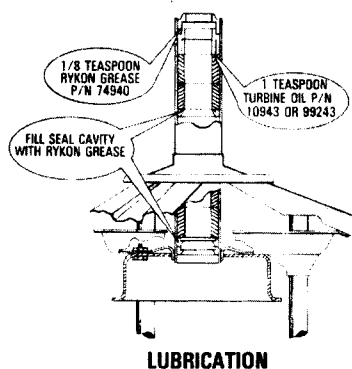
- 96** To remove the bearings and seals, use the same puller that is used on current production machines.



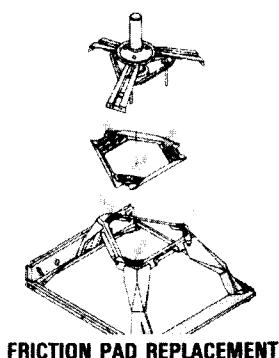
- 97** Because two 1-1/8 inch bearings are being used at the top, a new mandrel is available. The new mandrel extends down through both bearings to maintain the proper I.D. and alignment when being installed.

For locating the lower bearing .95 inches up from the bottom, a new mandrel must also be used. Because of the brake drum, the installer tool must also be updated with a new offset stop bar. These tools are available through Dept. 806.

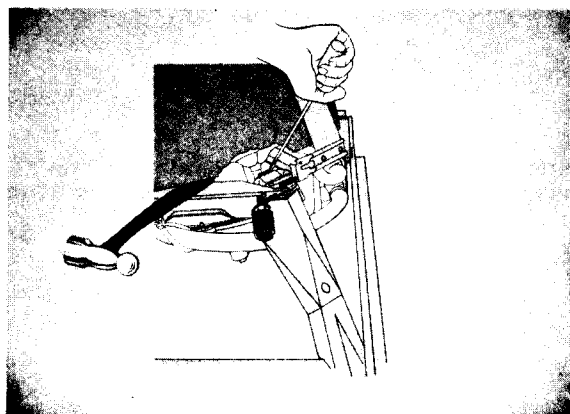
CAUTION: Place a protective tube over the gearcase mounting stud so that the machined surface is not damaged by the offset bar.



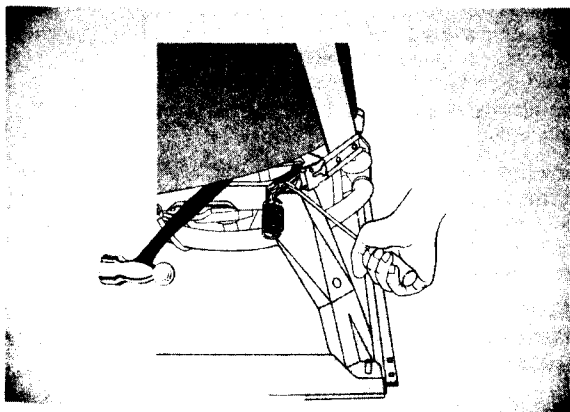
- 98** The top bearings should be lubricated with one teaspoon of turbine oil. The seals above the bearings require a 1/8 teaspoon of Rykon grease wiped into the seal cavities. The seals below the bearings, both top and bottom, should also be filled with Rykon grease. All seals should be coated with turbine oil before installing them.



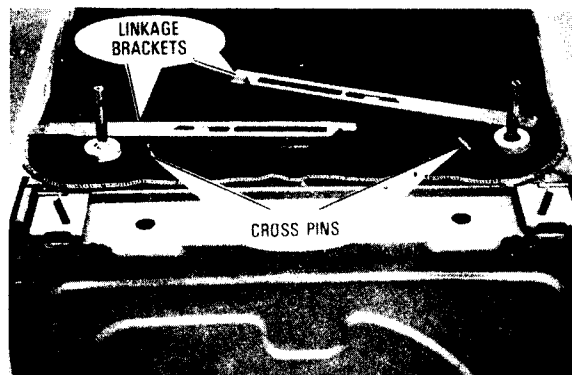
- 99** To replace any of the friction pads, the machine does not have to be completely disassembled.



- 100** By just removing the cabinet and the suspension springs, and then propping the tub support up with a hammer handle, the tub support pads can be removed with a screwdriver.



- 101** The suspension plate pads can also be removed and replaced the same way.



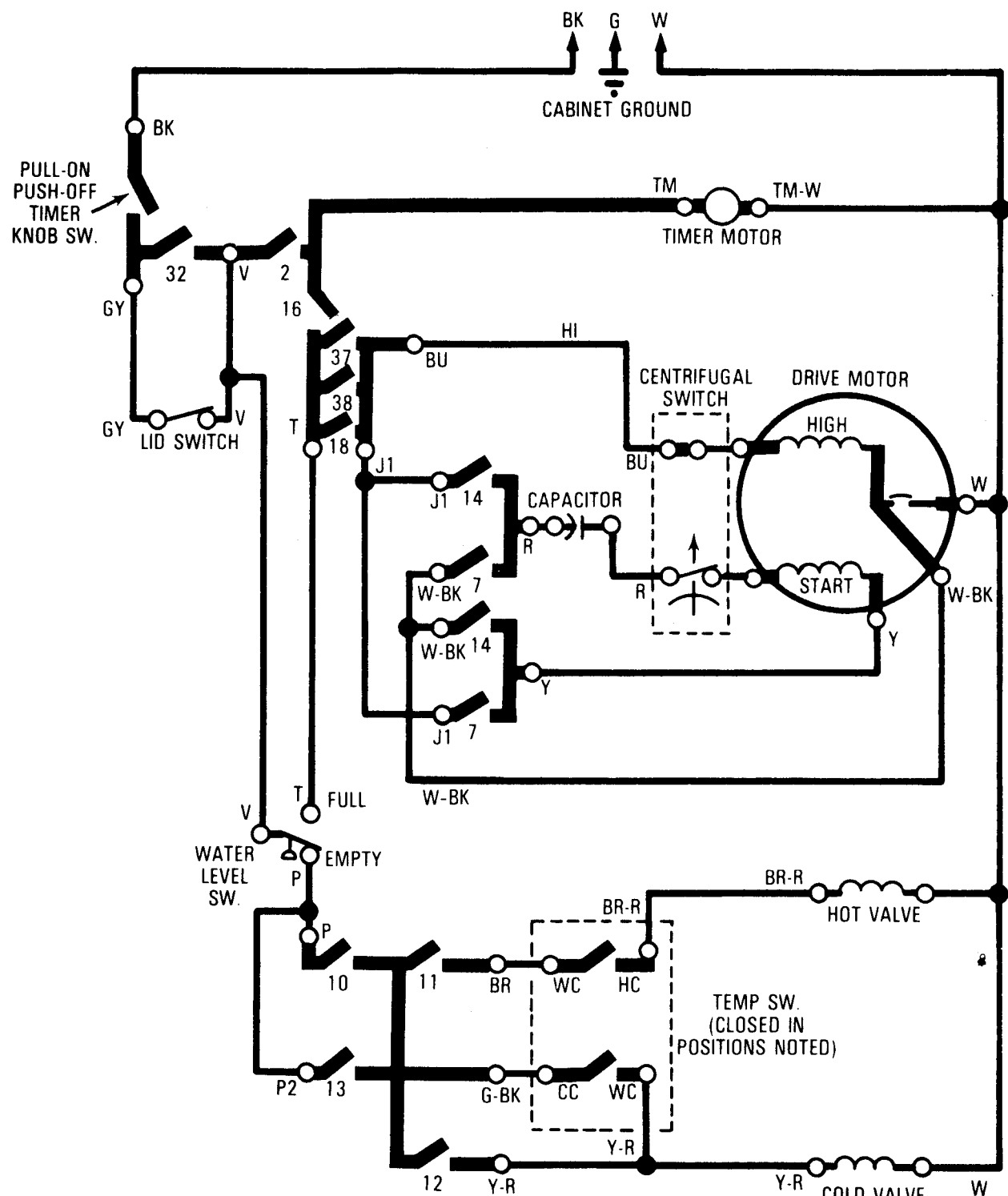
- 102** To change a foot, drive out the cross pin using a punch and hammer. If the whole mechanism has to be removed, both feet must be removed. The word "UP" is stamped into the linkage brackets to aid in reassembly.

■ LEVELING MECHANISM CAN BE REMOVED
■ WORD "UP" STAMPED ON LINKAGE BRACKET

		14		13		12		11		10		9		8		7		6		5		4		3		2		1		CAM						
		T	B	T	B	T	B	T	B	T	B	T	B	T	B	T	B	T	B	T	B	T	B	T	B	T	B	T	B							
		37	38	13	10			18	11	12					16		14	7					2		14	7	32				SWITCH					
		S.I.S. BYPASS	MOTOR S.I.S.	SPRAY	DEEP FILL			MOTOR	WASH FILL	RINSE FILL					TIMER		MOTOR SPIN	MOTOR AGIT.					BYPASS		MOTOR SPIN	MOTOR AGIT.	LID SW. BYP.				SWITCH FUNCT.					
		T	T	—	P			T	BR	Y-R					T		J	W-BK					TM		W-BK	J	GY				TERM					
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2																														2	NORMAL	FILL	WASH-HI			
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AUTOMATIC WASHER WIRING DIAGRAM

62868B



TIMER SWITCH
 INTEGRAL COMPONENT CONNECTION
 HARNESS WIRING
 0 TERMINAL CONNECTION

X TIMER SWITCH MAY BE OPEN OR CLOSED.
 TIMER STEPS ARE 120 SECONDS DURATION.
 SUB-INTERVAL SWITCH (OPERATION IS
 INTERMITTENT AND SEQUENCE IS AS SHOWN).

