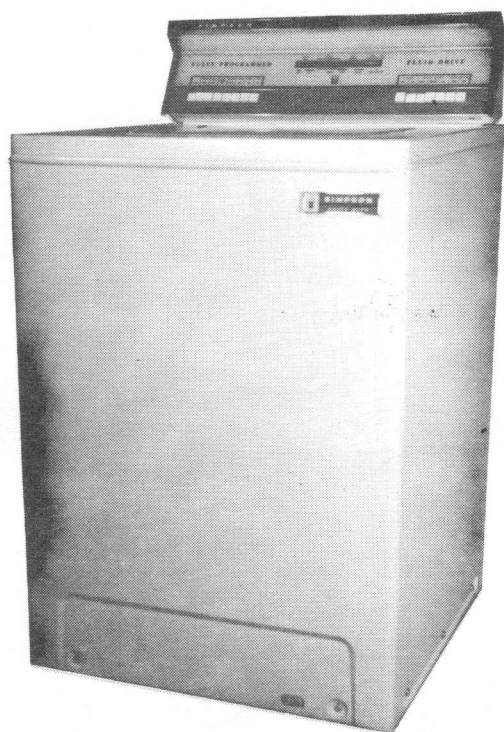


SIMPSON

AUTOMATIC WASHING MACHINE



**SPARE PARTS
AND
SERVICE MANUAL**

MODELS

13-066, 13-067, 13-068, 13-069

I N D E X

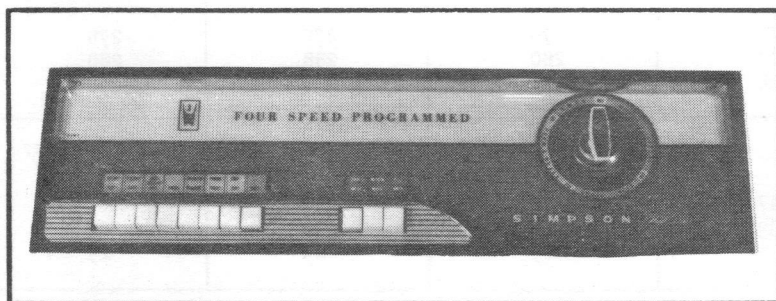
PAGES

GENERAL SPECIFICATIONS AND DESCRIPTION	SECTION 1	1 to 9
Model Identification		1
General Specifications		2 to 3
Automatic Cycle and Programme		4 to 5
General Description		6 to 9
INSTALLATION	SECTION 2	1 to 4
Installation Instructions		1 to 4
FAULT CHARTS	SECTION 3	1 to 6
1 No water entering on 'Fill' (Wash Cycle)		1
2 Water will not shut off		1
3 Water not hot enough		1
4 Warm water not at desired temperature		2
5 Machine will not switch 'On'		2
6 Agitator will not oscillate		2
7 Noisy engagement of agitator		2
8 Knock during wash cycle		3
9 Timer not advancing		3
10 Spin tub not spinning at maximum revolutions		3
11 Noisy in spin cycles		4
12 Inadequate rinsing		4
13 Pump not operating		4
14 Spinning continually		4
15 Timer re-cycling		4
16 Overload cut-out trips when machine switched 'On'		5
17 Motor not starting		5
18 Water not heating		5
19 Fuses blowing		5
20 Suds not returning		5
21 Diverter valves not working		5 to 6
22 Timer knob loose		6
23 Splashback surround loose		6
24 Splashback front panel loose		6
25 Water not pumping to drain		6
26 Splashback loose		6
27 Top rail		6
28 Splashback glass		6
29 Bleach or rinse dispenser not operating		6
SERVICE INSTRUCTIONS	SECTION 4	1 to 11
Panels		1
Agitator and Shaft		1 to 2
Filter		2
Spin tub and Centre column		2 to 3
Rinse and Bleach		3
Water mixing valve		3
Drain tub		3
Snubber		3 to 4
Thermostats and element		4
Fluid Drive and Motor		4 to 6
Transmission Gear Box		7 to 8
Pump		8
Agitator solenoid		8
Spin solenoid		8 to 9
Collar and lever		9
Diverter valve		9
Timer, Splashback, Panel and Trim		9 to 10
Pressure Switch		10
Wiring Diagrams		

GENERAL SPECIFICATIONS AND DESCRIPTION

SECTION 1

MODEL IDENTIFICATION

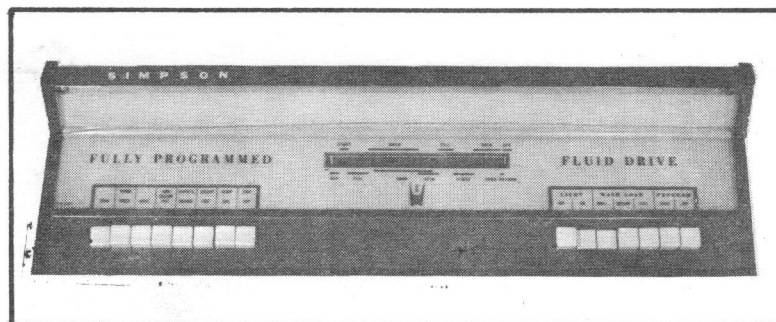


MODEL 13-066

Four Speed Programmed Automatic

MODEL 13-067

Four Speed Programmed Automatic
(with inbuilt heater)



MODEL 13-068

Fully Programmed Automatic

MODEL 13-069

Fully Programmed Automatic
(with inbuilt heater)

Simpson — AUTOMATIC WASHING MACHINES

ITEM	MODEL 13-066	MODEL 13-067	MODEL 13-068	MODEL 13-069
General Dimensions (ins.)				
Height over splashback (adjustable up)	min. 43½	min. 43½	min. 44½	min. 44½
Height over top panel (adjustable up)	min. 36½	min. 36½	min. 36½	min. 36½
Depth front to back	28	28	28	28
Width	25	25	25	25
Weights (lbs)				
Washer only	270	270	278	278
Washer with base board	280	280	288	288
Washer crated	328	328	336	336
Grated Dimensions (ins.)				
Height	47	47	47	47
Depth	33	33	33	33
Width	29	29	29	29
Motor	Two Speed 1440 R.P.M. Normal Speed 960 R.P.M. Slow Speed			
Spin Speed	600 - 650 R.P.M. Normal Speed 350 - 400 R.P.M. Slow Speed			
Agitation (oscillations per minute through arc of 203°)	63 Normal Speed 42 Slow Speed			

Simpson — AUTOMATIC WASHING MACHINES

SECTION 1

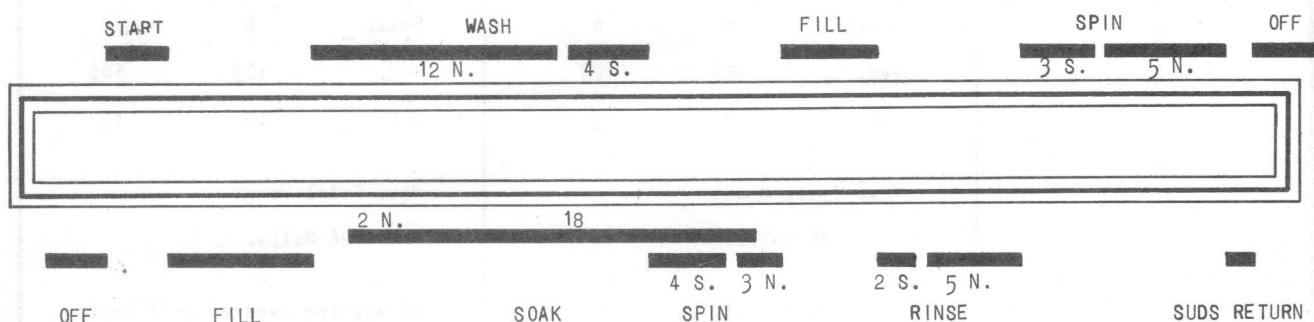
ITEM	MODELS 13-066 and 13-068	MODELS 13-067 and 13-069
Water Usage	Wash Rinse Level Galls Galls Small 8 8 Med. 10½ 10½ Full 13 13 Max. Total Usage 26 Galls. Wash may be hot, warm or cold. Rinse may be warm or cold. If hot wash is used, then hot water usage is as listed under 'wash'. If warm water is used, then hot water usage will depend on cycle selected and water supply temperatures.	Wash Rinse Level Galls Galls Small 8 8 Med. 10½ 10½ Full 13 13 Max. Total Usage 26 Galls. If machine used as self heat. Wash may be hot, warm or cold. Rinse will be cold. Hot or warm water usage will be as listed under 'wash'. If machine used in conjunction with hot water service then hot water usage will be as 066 and 068.
Thermostat setting		Hot 140 to 145°F Warm 105°F

Simpson — AUTOMATIC WASHING MACHINES

MODELS 13-068 and 13-069 - TWO SPEED PUSH BUTTON PROGRAMME

AUTOMATIC CYCLE AND PROGRAMME

The following diagram represents the timer indicator section of the control panel and shows the length of time and the speeds of each part of the cycle i.e. 3S indicates 3 minutes Slow Speed, 5N indicates 5 minutes Normal Speed.



In addition, the following chart shows the wash cycle represented by each fabric button:-

PROGRAMME SELECTOR	SOAK	PERMA PRESS	WOOL	NON COLOUR FAST	SYNTHETIC DELICATE	COLOUR FAST	HEAVY SOIL	DRIP DRY
Wash water fill	Warm	Warm	Warm	Cold	Warm	Hot	Hot	Warm
Transfer	Time in minutes Motor speed	3 Normal	3 Normal	3 Normal	3 Normal	3 Normal	3 Normal	3 Normal
Wash	Time in minutes Motor speed	2 Normal	6 Normal	2 Slow	7 Normal 1 Slow	2 Slow	7 Normal 1 Slow	12 Normal 4 Slow
Soak	Time in minutes	18	-	-	-	-	-	-
Cool Fill	-	Cold	-	-	-	-	-	-
Agitate	Time in minutes Motor speed	- -	3 Normal	- -	- -	- -	- -	- -
First Spin	Time in minutes Motor speed	- -	4 Slow	4 Slow	2 Slow 3 Normal	4 Slow	2 Slow 3 Normal	4 Slow 3 Normal
Rinse Fill	-	Cold	Warm	Cold	Cold	Cold	Cold	Cold
Transfer	Time in minutes Motor speed	- -	2 Normal	2 Normal	2 Normal	2 Normal	2 Normal	2 Normal
Rinse	Time in minutes Motor speed	- -	2 Slow	1 Slow	5 Normal	1 Slow	5 Normal	2 Slow 5 Normal
Second Spin	Time in minutes Motor speed	4 Normal	3 Slow	3 Slow	5 Normal	3 Slow	5 Normal	3 Slow 5 Normal
Run down	Time in minutes	1	1	1	1	1	1	1
Prime Suds	Time in minutes	-	-	1	1	1	1	1

Bleach and Rinse Dispenser optional on all cycles

Simpson — AUTOMATIC WASHING MACHINES

SECTION 1

MODELS 13-066 and 067 - CYCLE AND PROGRAMME

CYCLE PROGRAMME SELECTOR	NORMAL CYCLE			SHORT CYCLE		PERMANENT PRESS CYCLE		SOAK CYCLE
	HEAVY SOIL	COLOUR FAST	NON COLOUR FAST	WOOL	DELICATES	PERMA-PRESS	DRIP DRY	SOAK
Wash water fill	Hot	Hot	Cold	Warm	Warm	Warm	Warm	Warm
Transfer	Controlled by water level pressure switches							
Wash - Time in minutes and motor speed	Maximum 14			Maximum 6		Maximum 6		4 Slow
Soak - Minutes								8
Cool Fill						Cold		
Pause - Minutes						2		
Agitate - Time in minutes & motor speed						2 Normal		
First spin - Time in minutes & motor speed	4 Normal			4 Slow		4 Slow		4 Normal
Rinse fill	Cold			Warm	Cold	Cold		
Pause - Minutes	2			2		2		
Transfer	Controlled by water level pressure switches							
Rinse - Time in minutes and motor speed	4 Normal			4 Slow		4 Normal		
Second spin -Time in min. & motor speed	6 Normal			4 Slow		4 Slow		
Prime Suds	2			2				

Simpson — AUTOMATIC WASHING MACHINES

GENERAL

Modern square style cabinet with attractive glass panelled splashback.

Automatic control of operational sequence by motor driven timer, with manual selection of functional variations by push button switch.

Normal weight of wash load is up to 10 lbs. of dry clothes and washed by an agitator, with four blades, oscillating about a vertical axis. Damp drying by spinning of wash bowl.

With the exception of the works assembly, construction is from fabricated sheet steel zinc coated and sheet steel vitreous enamelled.

For use in conjunction with a standard hot water service (or cold water supply only, Models 067 and 069).

Supplied for connection 240V, 50 cycle A.C. supply only.

Finished in white only. Does not require bolting down when installed. Levelling screws compensate for uneven floors.

CABINET TOP AND LID

Top is steel pressing finished in gleaming white vitreous enamel to give a lifetime of service. Lid, of high strength anodised aluminium alloy for lightness of operation, has white baked enamel finish and opens sideways allowing maximum access to wash tub and controls. Fits flush in cabinet top, allowing full flat top work area. Operating instruction printed on underside of lid. Chrome plated brass lid hinges modified to allow easy cleaning.

White plastic trim strip covers joint between top panel and front and side panels.

CABINET SIDES AND FRONT

The two side panels are fabricated into an assembly, by means of two stiff cross members at the top to ensure maximum rigidity and squareness. Front panel has a recessed bottom portion, which is an added attraction and strengthens the panel. Both front and side panels are finished with durable white baked enamel. The works assembly is accessible by removing the front panel, secured by two screws at the bottom.

WASH BOWL

Is a heavy gauge steel pressing and is finished all over in attractive mottled grey porcelain enamel. The wash bowl has a plastic liner fitted which gives a much cleaner wash due to the sediment from the bottom of the bowl passing behind the liner and not through the clothes during the spin cycle.

An enamelled steel clothes guard and balance ring is fitted to the top of wash bowl. Wash bowl spin speeds are dependent on size of load and its eccentricity, therefore, well-balanced loads allow higher spin speeds.

OUTER TUB

Fabricated from sheet and pressed steel, it is finished all over in non-rusting porcelain enamel. Has brackets and holes to allow fitting of water valves, element and thermostat.

SNUBBER

Eccentric running of the wash bowl during spin cycle is effectively dampened by friction type snubber located under the drain tub.

TRANSMISSION

Aluminium pressure die-cast housing with new heavy duty gears and bearings.

The mechanism runs in a bath of oil and is lubricated for life. Helical gears with adjustable centre distance to ensure maximum performance. Efficient neoprene shaft oil seals are used throughout to ensure permanent retention of oil. Entire transmission, spin shaft housing and wash bowl are mounted on a single

Simpson — AUTOMATIC WASHING MACHINES

SECTION 1

rubber bush in base of machine which minimises vibration and acts as a pivot point when wash bowl is spinning eccentrically.

SPIN SHAFT AND HOUSING

The spin shaft on to which the wash bowl is mounted, is carried by a large ball race at its top end and a grease impregnated bronze bush at the bottom. Both bearings are lubricated for life and are protected from water by an efficient water seal. Bearing housing is an aluminium casting.

AGITATOR SHAFT AND BEARINGS

The shaft is nickel and chrome plated to give it a hard wear resistant rust proof surface. It runs in two specially impregnated porous bronze bushes at its lower end and in a labyrinth type grease packed nylon combination bearing/seal at the top.

AGITATOR

Scientifically designed with four vanes to give both a gentle and positive washing action. Manufactured from high quality phenolic moulding powder which provides a smooth, hard, detergent proof, lifetime finish.

The agitator is retained by a fluted black plastic knob.

FLUID DRIVE

This unit functions during spin cycle only and effectively protects the motor from harmful overloads while the wash bowl is picking up speed and also allows the machine to complete its cycle whether the load is out of balance or not.

BELTS

Silent cushion drive vee belts are used for all external drives in the transmission assembly.

SOLENOIDS

Solidly constructed for a lifetime of service, solenoids are used for operating agitator dog clutch, spin cone clutch and diverter valves.

WATER VALVES

Dual unit, combining hot and cold water, each side is independently operated by an electric solenoid. Suitable for mains pressures from 4 to 200 P.S.I. at elevated temperatures. Designed to effectively mix the hot and cold water before delivery to wash bowl, depending upon wash selection.

WATER LEVEL PRESSURE SWITCH

Ensures satisfactory operation of machine, irrespective of water mains pressure.

A push button switch provides selection of three levels of water, small, medium and full. The rinse level is same as the selected wash level.

ELEMENT (MODEL 067 and 069)

Nickel plated copper sheathed type 2.3 kilowatts and is located at the bottom circumference of the outer tub.

THERMOSTATS (MODEL 067 and 069)

Two fixed temperature 'Therm-O-Disc' types are mounted on the outer bowl and control WARM and HOT wash temperatures. The electrical contacts operate at 105°F warm and 145°F hot.

Simpson — AUTOMATIC WASHING MACHINES

PUMP

High capacity.

Impellor permanently fixed to a non-rusting stainless steel pump shaft, as used on previous models.

INLET HOSE

Specially designed to withstand high pressure at elevated temperatures. Filters fitted to inlet ends of water hoses protect valves from contamination.

WATER INLET SYSTEM

Carefully designed to comply with plumbing regulations.

DRAIN HOSES

Manufactured from special detergent resistant black rubber for maximum life.

DIVERTER VALVES

Solenoid controlled allow one-way pump to transfer heated water into wash bowl and recirculate water during wash and rinse, then pumps wash and rinse water away to suds save trough or drain as required.

LINT FILTER

A plastic container with a removable short studded filter panel that effectively collects lint as wash and rinse water is recirculated through it. The lint clinging to the many studs is easily shaken or washed out when the panel is removed at the conclusion of the wash programme.

OVERFLOW OUTLET

Is fitted to the rear side of the outer tub midway between top and bottom and is formed of moulded rubber.

CONTROL PANEL

Has a glass instrument panel with chrome and bright anodised aluminium surround.

LIGHT (MODELS 068 and 069)

A fluorescent light, built into splashback, adds extra convenience when operating machine and can be independently switched on or off when required.

MOTOR RESET

A thermal overload manual reset switch is in the electrical circuit and switches off the machine if the motor becomes overloaded.

CONTROLS (MODELS 066 and 067)

The programme selector switch allows the choice of eight different programmes for washing all modern fabrics. It selects the water temperatures best suited to the selected fabric.

The sequence timer automatically controls the laundry operations and allows the choice of four cycles i.e. Normal Cycle, Short Cycle, Perma-Press and Soak Cycle. The timer and the programme selector switch are colour coded for ease of operation. The operating cycle can be interrupted, repeated or phases omitted as desired by manual over-riding of the timer control in conjunction with the reset switch.

Wash water level is controlled by a three push-button selector switch.

MODELS 13-068 and 13-069

The seven button selector switch has three functions:-

- 1 Controls the level of the wash water.
- 2 Fluorescent light ON and OFF buttons.
- 3 Programme START and OFF buttons.

The eight button programme selector switch allows the choice of eight different programmes for washing all modern fabrics and in conjunction with the "rapid advance" timer it selects the water temperature, wash and spin speeds and times

RINSE AND BLEACH DISPENSERS (MODELS 13-068 and 13-069)

Automatically dispenses liquid rinse conditioner and liquid bleach into the outer tub at the appropriate time in the washing cycle.

Simpson — AUTOMATIC WASHING MACHINES —

INSTALLATION

SECTION 2

IMPORTANT: Adequate facilities, as detailed herein, for power and water supplies, drainage and suds storage, space and suitable floor, are the responsibility of the householder. To avoid delay and extra expense, it is essential that these conditions be fulfilled before the machine is delivered.

ELECTRICAL REQUIREMENTS

A 3 pin, 10 amp., 230-250 volt AC 50 cycle, power socket must be located within 5 feet of the machine. The power socket must be earthed and correctly installed according to local Supply Authority regulations. Use of extension leads is not recommended, particularly with heater models.

WATER SUPPLY REQUIREMENTS

Water supply requirements will vary according to the type of machine to be installed and, in most cases, the machine is selected to suit the existing facilities that are available. Where there is no hot water available a heater model should be installed so that the water can be heated in the machine. When both hot and cold water are available either a non-heater or a heater model can be installed. The heater model providing the advantage of being able to fill with cold water and heat to the required temperature in the machine or to boost the water temperature from the hot water service, should the supply be inadequate.

Hot water temperature should be between 140°F and 170°F.

Water taps should be placed conveniently close to the machine and if located directly above the control panel should be a minimum of 46" from the floor level. This will provide a clearance of three inches between the top of the control panel and the taps. Outlets must have a $\frac{3}{4}$ " gas male thread suitable to accommodate the standard nut and filters fitted to the inlet hoses; they should be within 2 feet of the machine to suit the standard length of hose supplied and readily accessible for periodic filter cleaning. Where necessary, extended lengths of inlet hoses can be fitted. Laundry arms may be converted to suit the machine at the customers expense.

NOTE: Taps and plumbing must be thoroughly flushed before connecting the machine.

FLOOR

A firm floor, not necessarily of concrete is essential. If necessary, floors must be re-inforced by a $\frac{3}{4}$ " plywood panel screwed to the existing floor, extending at least one joist on either side of the machine. The floor slope should not be greater than $\frac{3}{4}$ " in 2 feet, otherwise it may be difficult to prevent the machine from moving. Four levelling feet compensate for normal floor slopes.

Floor space must be sufficient to provide at least $\frac{1}{2}$ " clearance on each side of the machine. The maximum height of the machine (lid opened and in a vertical position) is approximately 52 inches, variations being due to the adjustment of the levelling feet; therefore a distance of at least 52 inches is required from the floor to an overhead cupboard.

SUDS STORAGE AND DRAIN FACILITIES

These facilities will vary, dependent on the requirements of the customer and the facilities used for the machine previously installed. Most new laundries have provision for the installation of an Automatic Washing Machine.

Where the suds are to be saved for following wash loads, a storage trough of at least 14 gallons capacity is necessary and should be located within 12 inches of either side of the machine. The bottom of the trough should be at least 24 inches above the floor on which the machine stands.

A cement trough holds approximately 13 gallons, these can be used by fitting an overflow extension or a stand-pipe in the plug hole. Where there are double cement troughs a $\frac{1}{2}$ " diameter hole can be drilled close to the top of the partition allowing the excess water to flow into the second trough and drain away.

Alternative types of installations are illustrated on the following page.

ALTERNATIVE LOCATION SPECIFICATION

IMPORTANT: In all installations both the drain hose and the suds saving hose must be elevated to the level of the cabinet top panel as illustrated.

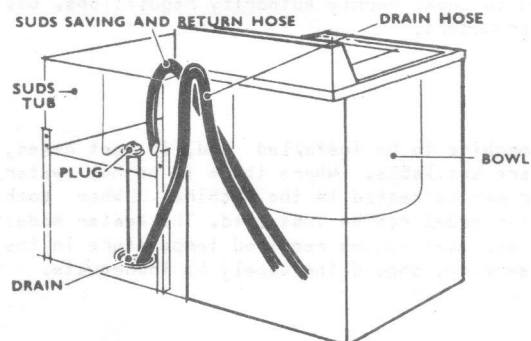


FIG. 1 SINGLE TROUGH WITH FLOOR DRAIN

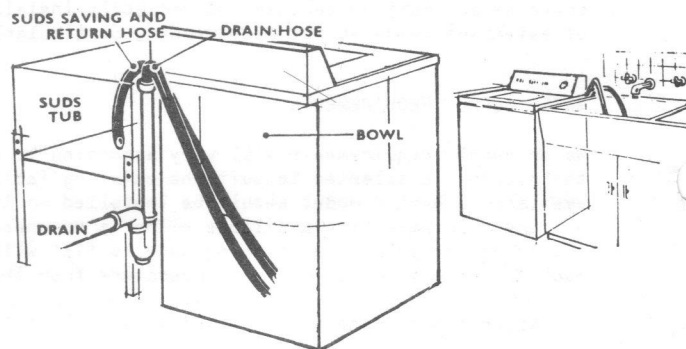


FIG. 2 SINGLE TROUGH WITH FLOOR STAND-PIPE

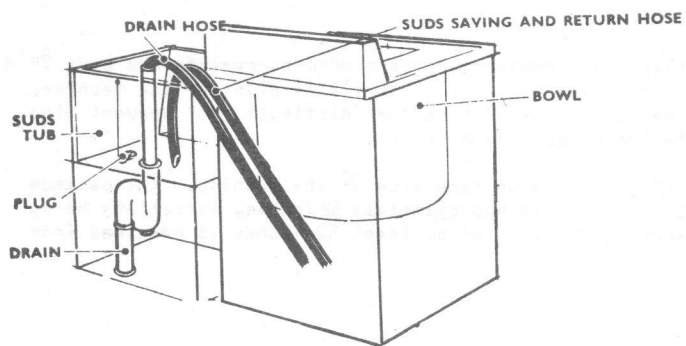


FIG. 3 SINGLE TROUGH WITH STAND-PIPE PLUG

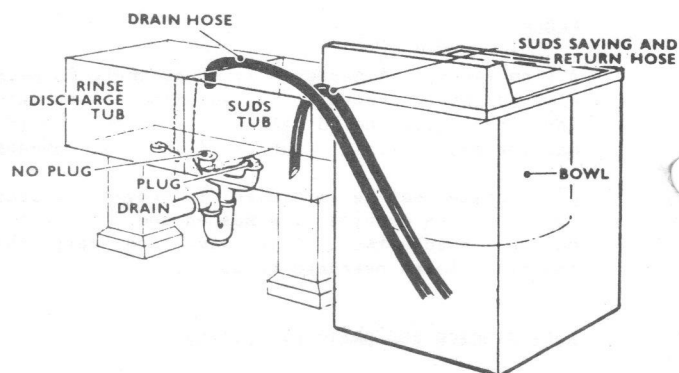


FIG. 4 DOUBLE TROUGHS

IMPORTANT: In Victoria, Water Board regulations require that the drain hose be screw connected to a floor drain stand-pipe

HANDLING

Hand trucking is carried out with the truck placed at the back of the machine and padded to prevent damage to the rear panels; the truck platform being placed beneath the base-board or the machine frame if the baseboard is already removed. Do not pull the machine onto the hand truck by the escutcheon (splashback).

INSTALLATION INSTRUCTIONS

- 1 Remove the crate from the washer. Remove tape securing the lid.
 - 2 Take out the bowl centralising packing, and remove all packages from the bowl.
 - 3 Tilt machine and place a 4" x 4" piece of timber under base frame cross number, then remove 4 bolts and washers securing base board to machine.
 - 4 The bolts are now used as levelling screws. Place a nut onto each screw followed by a spring washer then a flat washer and screw the levelling screws into the sockets in the base frame corners to a depth determined by the slope of the floor.
 - 5 Lock the two rear legs and the front left leg by tightening the locknuts against the base. Fit the rubber caps, supplied in polythene bag, to all four feet.
 - 6 Remove bottom section of the back panel and the screws on the side of the upper panel near the opening for the supply hoses. (See illustration).
 - 7 Feed the inlet supply hoses through the opening provided.
 - 8 Connect the suds save hose with the long bend and the drain hose with the short bend to the outlet ports as shown in illustration. (See also important note at end of this section).
 - 9 Replace the back panel.
 - 10 Place machine in position and adjust levelling feet until machine cannot be rocked - IT IS MORE IMPORTANT FOR IT TO BE FIRM AND STEADY THAN EXACTLY LEVEL - then tighten lock nuts against base.
 - 11 Secure the non-slip disc provided to the floor under the front right hand levelling screw. First wipe the floor under the disc with methylated spirits. Screw the leg down to give a firm contact with the floor. Finally lock securely against the base.
 - 12 Flush out the water service taps before making hose connections to ensure all possible foreign matter present through plumbing is excluded.
 - 13 Insert the restrictor (if required) and strainer washer assemblies into the tap end of the inlet hose connections and attach to the tap or taps. Ensure hose marked HOT is connected to hot tap. Turn on taps and check for leaks.
- NOTE:** Where hot and cold water pressures are equal the restrictor should be fitted to the HOT hose. Where cold water is at mains pressure - hot water is a gravity supply, the restrictors should not be used.
- 14 See that the drain hose and the suds save hose are correctly placed in their respective troughs.
 - 15 Connect the electrical service lead having ensured that the house wiring is correct.
 - 16 Before putting machine through complete cycle, advance timer to last few minutes of SPIN DRY to make sure pump clears water from pressure switch connection.

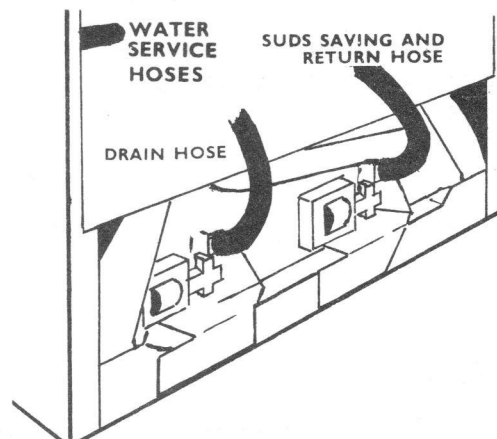


FIG. 5

Simpson — AUTOMATIC WASHING MACHINES

IMPORTANT NOTE

To prevent risk of hoses blowing off, prior to assembly ensure that inside of hose and outside of port on valve are clean and dry. On no account use lubricant of any sort.

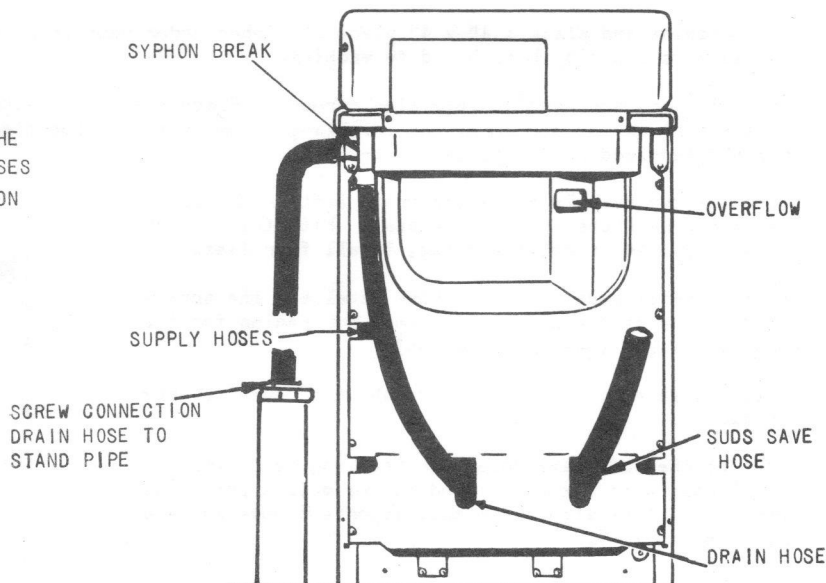
When the drain hose has to be connected to the floor stand pipe by means of a screwed connector a syphon break assembly must be installed in the drain hose otherwise water may be accidentally syphoned from the outer bowl into the drain thus rendering the machine inoperative.

Where the drain hose is not screw connected to the stand pipe, the drain hose must be a loose fit in the stand pipe ensuring an ample air gap which will effectively eliminate any tendency to syphon thus rendering a syphon break assembly unnecessary. In all instances the bend in the drain hose must be positioned no less than 26" from the floor level.

When fitting the syphon break assembly, as shown in the diagram, care should be taken to ensure that the outlet from the syphon break is above the level of the outer bowl overflow spout.

REAR VIEW OF MACHINE ILLUSTRATING THE POSITIONS OF DRAIN AND SUDS SAVE HOSES ALSO THE METHOD OF FITTING THE SYPHON BREAK ASSEMBLY INTO THE DRAIN HOSE.

NOTE THE SCREW-CONNECTED DRAIN HOSE APPLICABLE TO INSTALLATIONS IN VICTORIA.



WATER LEVEL

Due to the filter flow feature which circulates wash and rinse water, through the lint filter, from the outer bowl to the inner bowl, the "FULL WASH" setting is the most critical of the three water levels. Should this level be too low, recirculation will not be obtained and on Models 066-067 should this level be too high, the excessive amount of water in the outer bowl during filter flow recirculation may prevent the "reset" pressure switch from operating, thus preventing agitation. In both cases, the "FULL WASH" pressure switch should be adjusted or replaced.

FAULT CHARTS

SECTION 3

FAULT	CAUSE	RECTIFICATION
1 NO WATER ENTERING ON 'FILL' (WASH CYCLE)	1 Taps not turned 'ON'. 2 Inlet hoses kinked. 3 Filter screen clogged. 4 Valve coil burnt-out. 5 Loose valve coil leads. 6 Water control switch faulty. 7 Water level pressure switch(s) faulty. 8 Programme switch faulty. 9 Timer points not closing. 10 Switch in motor faulty. (066 and 067).	Turn 'ON' taps. Straighten hoses and re-position. Dismantle and clean. Replace coil. Tighten connections. Replace switch. Replace switch. Replace switch. Adjust points or replace timer. Replace switch.
2 WATER WILL NOT SHUT OFF	1 Valve not closing. 2 Water level too high. 3 Timer points incorrectly adjusted. 4 Water control switch burnt out. 5 Valve coil shorting internally (occurs when ACTIVE of supply is connected to terminal N1 of timer).	Dismantle valve and remove any obstruction. Replace any damaged parts. Replace pressure switch. Adjust or replace timer. Replace switch. Replace coil.
3 WATER NOT HOT ENOUGH	1 Excess water drawn from heater, or system not functioning correctly. 2 Inlet hoses crossed. 3 Water control switch faulty. 4 Hot thermostat faulty. (067 and 069). 5 Warm thermostat faulty. (067 and 069).	Allow to reheat or advise owner to have system checked. Reposition hoses. Replace switch. Replace hot thermostat. Replace warm thermostat.

Simpson — AUTOMATIC WASHING MACHINES

FAULT	CAUSE	RECTIFICATION
4 WARM WATER NOT AT DESIRED TEMPERATURE	1 HOT water system not functioning correctly.	Advise owner to have system checked.
	2 Water control switch faulty.	Replace switch.
	3 Excess COLD or HOT water entering machine.	Fit restrictor at tap connection. Regulate flow at taps if necessary.
5 MACHINE WILL NOT SWITCH 'ON'	1 Power point not switched 'ON', or 3 pin plug not fully inserted.	Check 3 pin plug, switch 'ON'.
	2 Overload cut-out tripped or faulty.	Reset overload button or replace cut-out. Establish reason for failure.
	3 House fuse blown.	Repair fuse.
	4 Timer leads loose.	Replace leads and tighten.
	5 Wiring harness broken or disconnected.	Repair or reconnect.
	6 Timer faulty.	Adjust or replace timer.
6 AGITATOR WILL NOT OSCILLATE	1 Motor belt broken.	Replace belt.
	2 Transmission belt broken.	Replace belt.
	3 Collar and lever arms binding on pivot bolt.	Loose and adjust pivot bolt.
	4 Clutch jaw binding on splines of agitator shaft.	Determine cause and rectify.
	5 Solenoid coil burnt out.	Replace coil.
	6 Timer points not closing.	Adjust or replace timer.
	7 Agitator shaft seized in centre column.	Remove shaft and clean. Replace if necessary. If shaft cannot be extracted, remove spin tub with shaft.
	8 Motor burnt out.	Replace motor.
7 NOISY ENGAGEMENT OF AGITATOR	1 Agitator cap loose.	Tighten cap.
	2 Agitator scraping bottom of spin tub.	Adjust agitator or replace.
	3 Agitator shaft end play.	Adjust collar.
	4 Clutch jaw worn, jumping out of engagement.	Replace clutch jaw.
	5 Timer points not closing completely.	Adjust or replace timer.

FAULT	CAUSE	RECTIFICATION
8 KNOCK DURING WASH CYCLE	1 Agitator hexagon worn. 2 Agitator cap loose. 3 End play in agitator shaft. 4 Agitator shaft lug loose. 5 Clutch jaw worn. 6 Clutch jaw not engaging fully. 7 Transmission gear box eccentric out of adjustment.	Replace agitator. Tighten cap. Adjust collar. Tighten lug or replace shaft. Replace. Determine cause and rectify. Adjust eccentric.
9 TIMER NOT ADVANCING	1 Pressure switch(s) faulty. 2 Leads loose on timer. 3 Timer motor inoperative. 4 Rapid advance motor inoperative. 5 Timer mechanism damaged. 6 Timer burnt out.	Replace switch(s). Reconnect and tighten leads. Replace timer. Replace. Replace timer. Replace timer.
10 SPIN TUB NOT SPINNING AT MAXIMUM REVOLUTIONS	1 Outlet hose kinked, causing water to build up in outer tub. 2 Clothing in outer tub entangled around rubber boot. 3 Spin Vee Belt loose, or too tight. 4 Fluid drive leaking oil. 5 Fluid drive defective. 6 Lever arms eccentric bolt adjusted too high or too loose. 7 Clutch pulley cork facing defective. 8 Motor defective. 9 Spin shaft retainer bearing seizing. 10 Main bearing seizing.	Remove kink and reposition hose. Remove article. Adjust. Replace fluid drive. Replace fluid drive. Readjust. Replace clutch pulley. Replace motor. Replace retainer bearing. Replace main bearing.

Simpson — AUTOMATIC WASHING MACHINES

FAULT	CAUSE	RECTIFICATION
11 NOISY IN SPIN CYCLES	1 Snubber pad noisy.	Clean pad and friction faces.
	2 Centralising spring hooks noisy.	Lubricate with grease.
	3 Vee belt split.	Replace Vee belt.
	4 Fluid drive assembly noisy.	Replace fluid drive.
	5 Main bearing noisy.	Replace main bearing.
	6 Pulley loose on motor shaft.	Tighten grub screws.
	7 Machine rocking; leveling screws out of adjustment.	Re-level and adjust.
	8 Motor bearings noisy.	Replace motor.
	9 Out of balance load.	Advise user on rearranging load.
12 INADEQUATE RINSING	1 Overloading machine.	Regulate loading.
	2 Excess washing compound used.	Regulate quantity.
	3 Water level too low.	Replace pressure switch.
13 PUMP NOT OPERATING	1 Outlet hose kinked.	Straighten and reposition hose.
	2 Vee belt loose.	Adjust belts.
	3 Pumped blocked.	Remove obstruction.
	4 Impellor shaft seized.	Remove, clean, replace if necessary and lubricate.
	5 Motor inoperative.	Replace motor.
	6 Transmission gear box locked.	Determine cause, rectify or replace gear box.
14 SPINNING CONTINUALLY	1 Fluid drive clutch sticking.	Clean clutch cork with petrol and re-adjust. Replace clutch pulley if necessary.
	2 Fluid drive binding on motor shaft.	Remove fluid drive, clean motor shaft and bushes. Smear motor shaft with light oil, reassemble and adjust.
	3 Spin solenoid not releasing (Residual magnetism).	Replace solenoid.
	4 Eccentric bolt out of adjustment.	Readjust.
	5 Timer points not releasing.	Adjust points or replace timer.
15 TIMER RE-CYCLING	1 Pressure switch(s) faulty.	Replace switch(s).
	2 Timer contacts incorrectly adjusted.	Adjust or replace timer.

FAULT	CAUSE	RECTIFICATION
16 OVERLOAD CUT-OUT TRIPS WHEN MACHINE SWITCHED 'ON'	1 Pump seized. 2 Overload switch defective. 3 Water control switch burnt out. 4 Timer shorting. 5 Excessive overloading with clothes. 6 Wiring harness broken. 7 Motor burnt out. 8 Motor bearings seizing. 9 Transmission gear box locked.	Dismantle and rectify cause. Replace switch. Replace switch. Adjust or replace timer. Regulate loading. Repair. Replace motor. Replace motor. Determine reason, rectify, or replace gear box.
17 MOTOR NOT STARTING	1 Motor - centrifugal switch defective. 2 Overload tripped.	Replace switch. Reset overload.
18 WATER NOT HEATING	1 Element defective. 2 Element connections loose.	Replace element. Tighten connections.
19 FUSES BLOWING	1 Element defective. 2 Motor - centrifugal switch defective. 3 Overload switch defective. 4 Motor defective. 5 Element leads loose.	Replace element. Replace switch. Replace overload. Replace motor. Adjust leads.
20 SUDS NOT RETURNING	1 Pump blocked. 2 Diverter not operating. 3 Diverter hose disconnected. 4 Not syphoning. 5 Return hose not in water.	Clear pump. Adjust or replace. Replace hose. Restart syphoning. Reposition hose.
21 DIVERTER VALVES NOT WORKING	1 Lead off coil. 2 Coil open circuit. 3 Solenoid springs defective.	Refit lead. Replace coil. Adjust or replace.

FAULT	CAUSE	RECTIFICATION
21 DIVERTER VALVES NOT WORKING	4 Solenoid binding.	Adjust or replace.
	5 Diaphragm defective.	Replace diaphragm.
	6 Diaphragm pivot binding.	Adjust.
22 TIMER KNOB LOOSE	1 Knob grub screw loose. (066 and 067)	Tighten.
23 SPLASHBACK SURROUND LOOSE	1 Fixing screws loose.	Adjust screws.
	2 Retaining peg loose.	Tighten peg or clip.
	3 Spot weld broken.	Rejoin with self-tapping screws.
24 SPLASHBACK FRONT PANEL LOOSE	1 Fixing screws loose.	Tighten screws.
	2 Retaining peg loose.	Tighten peg or clip.
25 WATER NOT PUMPING TO DRAIN	1 Diverter not operating.	Adjust diverter.
	2 Diverter pivot binding.	Adjust pivot.
	3 Solenoid defective.	Adjust solenoid.
	4 Hose off diverter.	Replace.
26 SPLASHBACK LOOSE	1 Lug broken.	Replace end.
	2 Securing screws loose.	Tighten.
27 TOP RAIL	1 Buckled or damaged.	Replace.
28 SPLASHBACK GLASS	1 Loose.	Adjust holding catches.
	2 Screening peeling.	Replace glass.
	3 Out of alignment.	Not seating correctly.
	4 Cracked.	Replace glass.
29 BLEACH OR RINSE DISPENSER NOT OPERATING	1 Loose electrical connection.	Refit lead.
	2 Coil open circuit.	Replace coil.
	3 Solenoid sticking.	Adjust or replace.
	4 Diaphragm sticking.	Replace.

SERVICE INSTRUCTIONS

SECTION 4

The washing machines have been designed so that by removing the front, top and back cabinet panels and the splashback front panel the electrical equipment and most of the mechanical components are exposed for servicing or replacement. Set out in the following pages are the methods of servicing the complete machine.

FRONT PANEL

Remove the two screws from the recessed bottom edge and lower the panel from the holding lugs situated on the front channel. (Fig. 1).

REAR PANELS

Lower rear panel is removed by taking out two P.K. screws and unhooking panel from the upper rear panel; this upper panel is held by 6 P.K. screws to the cabinet side panels.

TOP PANEL AND CONTROL PANEL

The top panel complete with splashback assembly can be partially removed by removing the two round head Phillips screws situated in the rear corners of the top panel. (Fig. 2). When these are removed the rear of the top panel can be lifted and pulled forward off the locating lugs on the front top rail. The top panel is then held by the harness and the pressure tube which are of sufficient length to permit the top panel to be raised for access to the inner and outer bowls. (Fig. 3).

Complete removal of the top panel is effected by removing the splashback assembly from the top panel as follows:— Model 066 and 067 with the top panel loose as detailed above, remove two screws securing the angle piece to rear edge of top panel then undo the four screws from underneath the top panel which go through the panel into the splashback. (Fig. 4). When re-assembling, care must be taken to replace the fibre packing pieces between the splashback and the top panel. With the splashback hanging on the wiring harness, the top panel can be completely removed.

Models 068 and 069. Are the same as 066 and 067 except that two instead of four screws have to be removed from under the top panel before the splashback can be removed.

SIDE PANELS

Remove the front and rear panels, then remove four screws from the front and rear top corners, holding the top panel bracket to the cross channels, and three screws from the bottom edge of both panels. When both panels are removed, the front and rear cross channels will come clear. (Fig. 5)

AGITATOR

To remove, unscrew the knob and lift the agitator out. Should it be difficult to free, a firm blow at the base with the hand will release it.

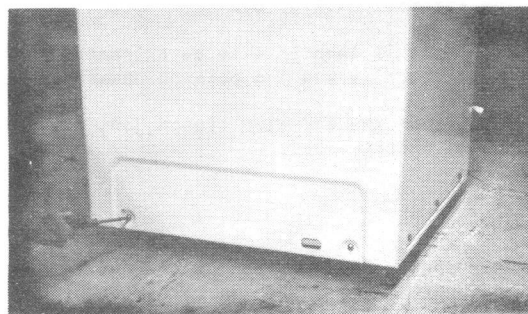


FIG. 1

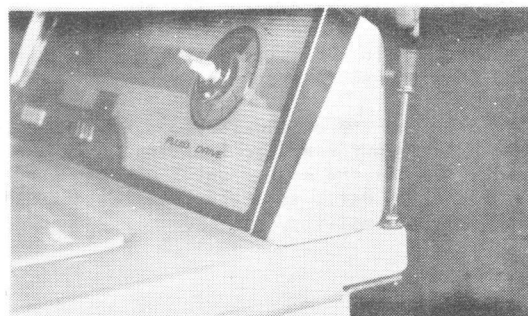


FIG. 2

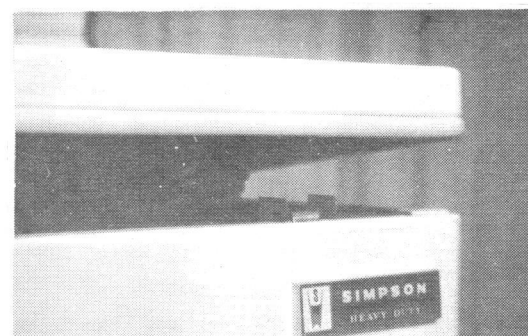


FIG. 3

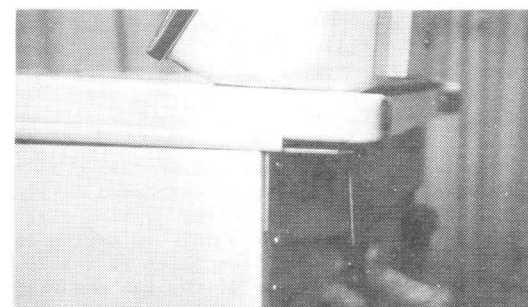


FIG. 4

Simpson — AUTOMATIC WASHING MACHINES

AGITATOR SHAFT

Removal of the shaft is achieved by first removing the front panel, then with an extended handle tube spanner, remove the nut and the bolt which passes through the adjustable collar and shaft, located under the main bearing assembly. (Fig. 6).

The shaft is then free to be extracted by grasping the agitator drive lug and pulling upwards.

Removal of the agitator clutch jaw, collar and washer can now be accomplished.

RE-ASSEMBLING

Care should be exercised when refitting the shaft to ensure that the washer is correctly placed on top of the collar. Gently lower the shaft through the washer and collar, into the clutch jaw splines. Avoid damage to either the shaft or jaw splines as this could result in the clutch jaw binding on the shaft.

Align the slotted holes in the collar with the threaded hole of the shaft and replace bolt.

NOTE: One end of the threaded hole is enlarged, acting as a lead-in for easier location. Before tightening the bolt, adjust the collar until no end play is evident on the shaft. Refit the self-locking nut when adjustments have been completed.

FILTER

The water inlet filter is removed by undoing two brass screws which secure the filter to the outer bowl. The aluminium inlet tube from the hose to the filter assembly easily pulls out and when replacing, care must be taken to see that the sealing putty between the tub and section is adequate to prevent any leakage. (Fig. 7).

SPIN TUB ASSEMBLY

Remove the top panel and the filter assembly. Remove the eight brass Phillips head screws holding the spin tub to the centre column and lift the spin tub clear of the machine. (Fig. 8).

Removal of the balance ring and the plastic liner is achieved by unscrewing the hexagon head screws around the top of the spin tub. Note the position of the spacers and washers to ensure they are replaced correctly.

The plastic fluted sleeve comprises three sections, each section is interlocked at the bottom by locating a tongue on the overlapping section into a groove in the overlapped section of the liner.

To overcome the possibility of the joint opening it is most important that each joint is located as illustrated in Fig. 9. This ensures that the two joining sleeves are correctly supported and is carried out by moving the first section around the tub until the holes in the top of the sleeve match those in the top of the tub and at the same time the edge of the sleeve to be overlapped is approximately $\frac{5}{8}$ " to the right of a raised flute in the bottom of the tub. The remaining two sleeves will automatically line up correctly when fitted. (Fig. 9).

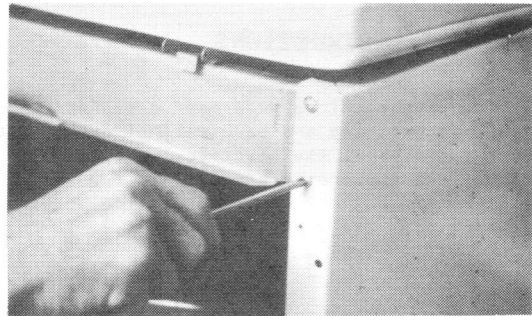


FIG. 5

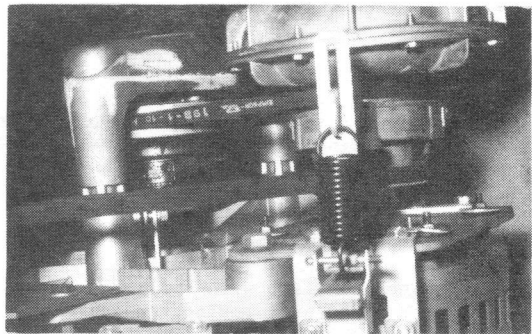


FIG. 6

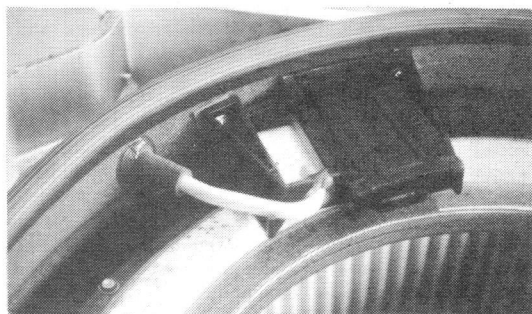


FIG. 7

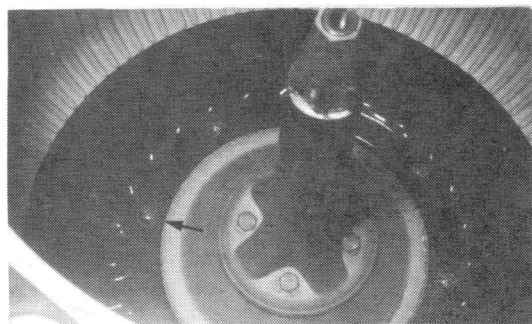


FIG. 8

CENTRE COLUMN

Remove the front panel, top panel, agitator shaft, filter assembly and the spin tub.

Remove the four hexagon headed screws holding the centre column to the spin shaft flange and the centre column can then be lifted out.

RINSE AND BLEACH DISPENSER

Remove cabinet front panel, disconnect dispenser discharge hose at the dispenser outlet; the dispenser body complete with solenoids can then be lifted slightly to unhook the plastic body from its mounting bracket on the outer tub. (Fig. 10).

The solenoids are removed from the plastic dispenser by undoing two screws and gently snapping the solenoid link free from the diaphragm. When re-assembling, care should be taken to ensure that the solenoid cores have not been reversed in the coils and that the alignment of the solenoid body, core and link is correct otherwise noisy operation could result.

WATER MIXING VALVE

Access to the dual unit is gained by removing the upper back panel. Valve unit is then exposed on the left hand side of machine, attached by three screws to a bracket welded to the outer tub. (Fig. 11).

DRAIN TUB

Remove all panels, agitator shaft, spin tub, centre column, water mixing valve and bleach dispenser. Disconnect the leads to the element and thermostat.

The rubber boot around the main bearing is next taken out by removing the two clamp bands and lifting the boot clear of the spin shaft flange. Care must be taken when refitting the boot to ensure that no crease is allowed to remain under the steel clamp bands when tightening. (Fig. 12).

Disconnect the tub to pump hose at the pump end. Remove the three centralising springs from underneath the bowl, noting the hole in which each spring is located. (Fig. 13) Note - the rear spring is stronger than the two front springs.

Eight screws hold the drain tub to the four support legs from the inside of the tube and when removed, the drain tub may be lifted up over the main bearing and clear of the base assembly. Due to the upward pressure of the large central snubber spring it is advisable, when removing these eight screws, to completely remove four screws from opposite legs and the remaining four screws slowly and evenly until they can be completely lifted out.

Ensure that the eight screws are sealed with Bostik 1462 on re-assembly.

SNUBBER

Remove all panels, agitator shaft, spin tub, centre column

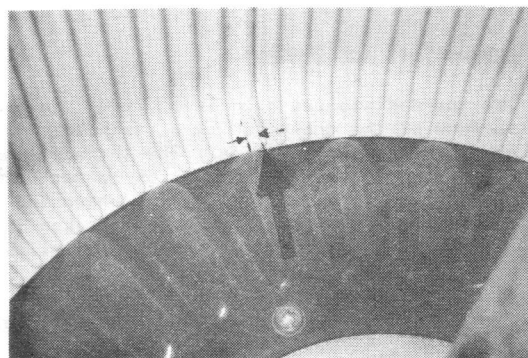


FIG. 9

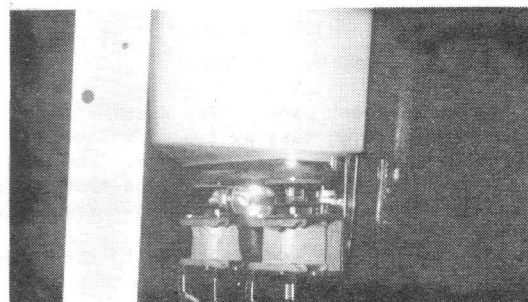


FIG. 10

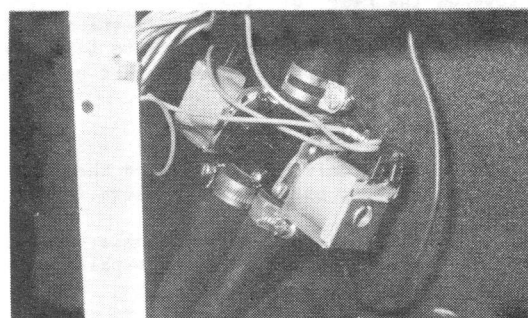


FIG. 11

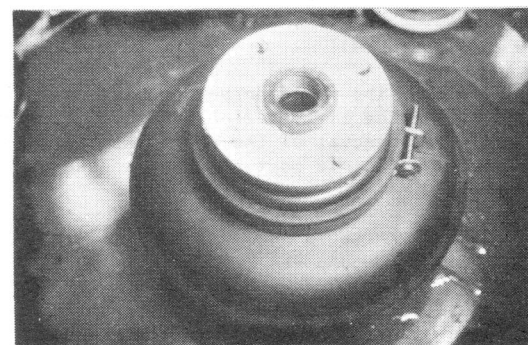


FIG. 12

Simpson — AUTOMATIC WASHING MACHINES

and drain tub. The snubber friction pad can now be lifted clear. To remove the snubber spring and friction pad supporting plate it is necessary to remove and dismantle the main bearing housing (see section on main bearing assembly). (Fig. 14).

THERMOSTATS AND ELEMENT

The thermostats are held in position against the outer surface of the drain tub by a stainless steel clip under the element securing nuts. The thermostats are removed by first disconnecting the quick connect terminals then sliding the thermostat body from under the spring clip. When re-assembling, care should be taken to ensure that the thermostats are firmly held flat against the surface of the tub. (Fig. 15).

The element is secured by two nuts on the element terminals which protrude through the underside of the outer tub. Remove the two locking nuts and thermostat clip and the element may be withdrawn from the machine when the top panel and the spin tub are removed. (Fig. 15).

FLUID DRIVE AND MOTOR ASSEMBLY

Remove the front panel. The assembly is held in place on the transmission case by two $3/8$ " hexagon head bolts through the motor mounting plate. The bolt on the right passes through a long slot in the mounting plate, which provides an adjustment to the spin vee belt. (Fig. 16).

Disconnect wiring harness leads to the agitator solenoid and spin solenoid.

Remove vee belt from the motor to the pump at the pump pulley, remove both mounting bolts, and push the motor towards the rear of the machine. Run the spin belt off from the main spin pulley, lower the motor down onto the base, and allow the fluid drive to tilt towards the rear of the machine. Slip the spin belt up over the fluid drive unit.

Removal of the assembly can only be accomplished by keeping the fluid drive tilted toward the rear and easing the whole unit out, bottom end of motor first.

Accessibility to the wiring harness connections is gained by the removal of the motor terminal cover.

For adjustments to the fluid drive assembly, sufficient length of leads permits the motor to be placed upright just outside the base frame.

FLUID DRIVE UNIT

Removal of the fluid drive unit is accomplished by first unhooking the link tension spring on the spin solenoid armature, removal of the clutch return spring, then removing the eccentric bolt at the rear end of the clutch lever arms.

The fluid drive is now free to be lifted off, including the motor-to-pump vee belt.

The clutch lever arms are attached to the fluid drive unit by two screws and although screwed tight into the arms, are quite free to pivot when screwed into position on the fluid drive thrust collar.

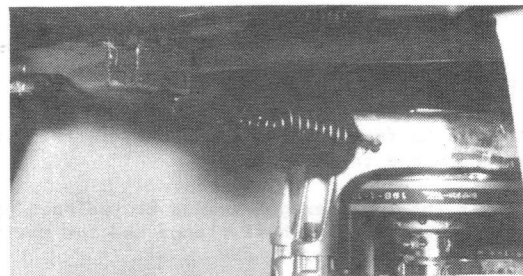


FIG. 13



FIG. 14

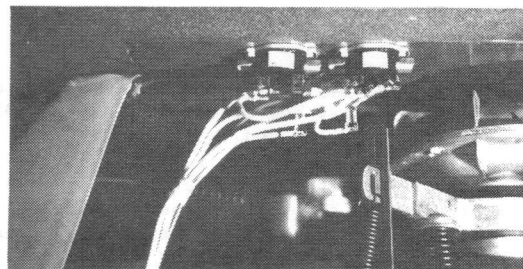


FIG. 15

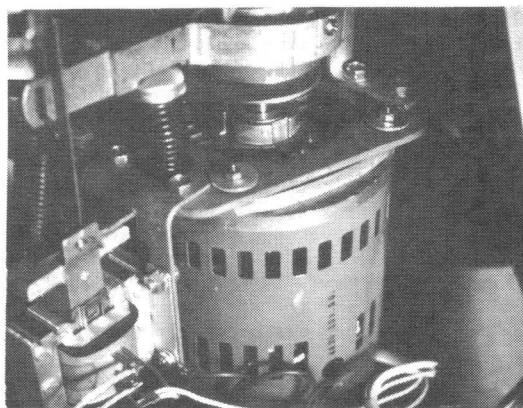


FIG. 16

When it is necessary to remove the clutch arms, the screws need only be unscrewed until the arms are free.

The fluid drive units are filled with 270 cc of Teleo Oil (Vacuum Oil Co).

SPIN CLUTCH PULLEY ASSEMBLY - The spin clutch pulley with a $\frac{1}{2}$ " hole is secured to the motor shaft by four $\frac{1}{4}$ " grub screws located in two holes 90° apart. Two lock screws, one in each hole, are first removed. Of the remaining two screws, one is a half dog grub screws, which locates in a hole in the motor shaft. The other grub screw is a cup-point which cuts into the shaft surface. Where a pulley with a $\frac{5}{8}$ " bore is fitted, it is secured to the motor shaft by one $\frac{5}{16}$ " square headed cup pointed set screw.

The pulley can be raised on the shaft by applying equal pressure under the pulley each side of the shaft, with two screw drivers or suitable levers.

The motor may now be removed from the mounting plate by undoing the four nuts on the through bolts and removing the metal washers and rubber grommets. Remove the terminal connections and earth lead.

Note: Before lifting the mounting plate off the motor, note the position of the spin solenoid in relation to the motor terminal box.

RE-ASSEMBLING

Motor mounting plate and Clutch pulley -

When replacing the motor mounting plate, ensure that the four fibre washers are placed on top of the four metal washers prior to placing the mounting plate in position. Also ensure correct positioning of the mounting plate in relation to the motor terminal box.

Remove the burr caused by the grub screw on the side of the motor shaft before refitting the spin clutch pulley. Ensure that the clutch pulley cork is free of oil. If necessary, wash only with petrol.

Inspect the top edge of the cork for evidence of a ridge, which is caused by the cone seating down too deep. As this is due to the cork being too thin, it is advisable to replace the pulley.

Correctly position the pulley to enable the half dog grub screw to locate in the hole in the shaft, tighten, and then fit remaining grub screws and tighten securely.

FLUID DRIVE ASSEMBLY

Where the clutch lever arms have been taken off the fluid drive unit, care must be taken when refitting. First assemble the two halves of the arms; when assembled, the short ends where the eccentric holes are located should meet. Adjust if necessary. Position the assembled arms equally either side of the thrust collar. Keeping the short ends together, screw both screws into the collar.

Ensure that the gaps between the side of the arms and the collar are equal, also that the short ends still remain together.

When the screws are tightened the arms should be quite free to pivot.

Next, smear a film of light oil on the motor shaft, replace motor-to-pump vee belt, and place the fluid drive in position.

Refit the eccentric stud loosely, replace return spring and retainer, also link tension and spring.

FLUID DRIVE ASSEMBLY ADJUSTMENTS

When adjusting the eccentric, care must be exercised to ensure that binding does not occur.

To adjust, first turn the eccentric stud to its maximum height, then turn clockwise only, looking at the bolt head. Correct adjustment is obtained only in the first half turn. Turning past the minimum point will pull the fluid drive against the motor shaft, causing binding when in operation.

The correct position for the eccentric is when the clutch lever arms are horizontal in relation to the motor mounting plate, or, when the fluid drive is depressed by hand, the spin solenoid armature should be midway between the solenoid pole faces and the armature stop lug of the solenoid bracket.

Simpson — AUTOMATIC WASHING MACHINES

It is essential that the clutch lever arms and link tension are centrally aligned with the solenoid armature. Adjustment is made on the lever arms bracket by loosening both screws and sliding the bracket in the direction required.

Operate the spin solenoid armature by hand several times to ensure that the link tension does not bind on the sides of the armature bracket where it is anchored by the cotter pin.

MOTOR

To remove the motor for replacement purposes only, proceed as outlined in 'Fluid Drive and Motor Assembly'.

Disconnect motor terminal connections and earth lead.

It is now only necessary to remove the four nuts securing the mounting plate to the motor and to remove the metal washers and rubber grommets. Note the position of the mounting plate in relation to the motor terminal box, then lift the fluid drive and mounting plate off the motor shaft. Remove the clutch pulley, as outlined in 'Spin Clutch Pulley Assembly'.

RE-ASSEMBLY

When refitting clutch pulley, ensure that the half dog grub screw is correctly located in the hole in the motor shaft. Replace remaining grub screws and tighten securely. Ensure that the fibre washer is placed on top of the metal washer when re-assembling.

Lubricate the motor shaft with a smear of light oil then place the mounting plate and fluid drive assembly in position.

Refit the rubber grommets, metal washers and nuts. Reconnect wiring harness connections and earth lead to motor.

Before installing the assembly, thoroughly check all adjustments as outlined in 'Fluid Drive Assembly Adjustments'.

Re-installation of the unit is accomplished by the reverse procedure outlined in 'Fluid Drive and Motor Assembly'.

When adjusting spin belt care should be taken to avoid over-tightening. A $\frac{1}{4}$ twist without too much effort is usually sufficient tension.

MAIN BEARING ASSEMBLY

Remove all panels, agitator shaft, spin and drain tubs.

Loosen both motor mounting plate bolts and run spin vee belt off main bearing pulley.

Remove the snubber disc.

The main bearing is secured to the transmission by three bolts located in the hollow posts of the housing. With these bolts removed, the assembly may be lifted off.

RE-ASSEMBLY

Correct alignment of the main bearing with the transmission is essential. Place the assembly in position, replace the three bolts and tighten. Insert the agitator shaft only, into the bush of the transmission female clutch dog and check that it is centrally located in the hole of the main bearing shaft flange. A small side-ways movement should be evident in all directions from the actual centre when the shaft is moved by hand. Should any adjustment be required, slightly loosen the three bolts and gently tap the housing in the direction required, then tighten the bolts again. Replace spin vee belt, adjust and tighten the motor mounting plate.

Check snubber disc faces, clean with petrol if necessary.

Lubricate all centraliser spring anchor points with grease.

Continue re-assembly by reversing the procedure outlined previously.

TRANSMISSION GEAR BOX ASSEMBLY

Remove all panels, agitator shaft, both tubs, fluid drive and motor assembly, assembly collar and lever, main bearing assembly, pump complete with bracket and torque rod. When all accessories are removed, the transmission gear box may be lifted out from the centre pivot cushion.

DISMANTLING THE TRANSMISSION GEAR BOX

First remove the pulley transmission by placing the agitator clutch jaw in position on the female clutch. Insert the agitator shaft through the clutch jaw splines and into the female clutch bush. Install the agitator and cap, then by holding the agitator firmly turn the pulley in the anti-clockwise direction. (Fig. 17).

WARNING: Do not attempt to use a lever to hold the female clutch, as damage may result.

Next remove the bolts securing the transmission cover to the case, and lift the cover off carefully. (Fig. 18).

To remove the gears and linkage assembly, first remove the retaining ring and washer on the main drive gear stud, then lift the gear and linkage, together with the pinion gear, clear of the case.

Should difficulty be experienced, it may be necessary to move the eccentric stud to ease the meshing of the gears. Note the amount eccentric is moved.

As the pinion gear is lifted out, always be certain to retrieve the steel thrust washer which fits over the lower end of the gear.

Sometimes, when lifting the pinion gear out, the thrust washer will slip off and remain in the case.

To remove the connecting rod from the main drive gear, remove the retaining ring from the underside of the gear.

The bellcrank is now free to be lifted out of the case as an assembly.

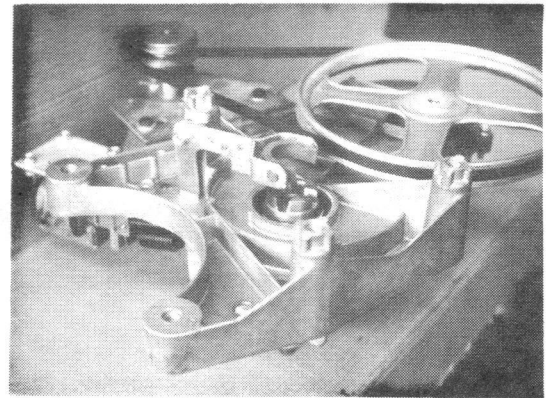


FIG. 17

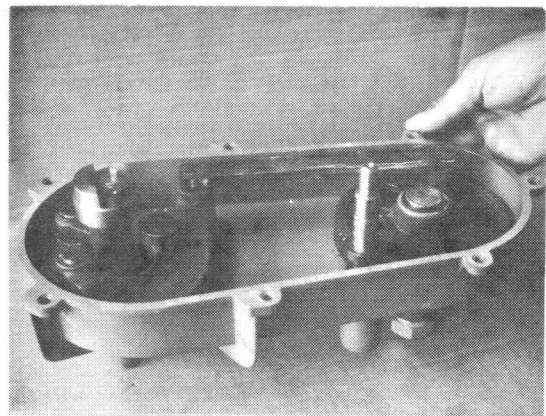


FIG. 18

RE-ASSEMBLING THE TRANSMISSION GEAR BOX

The reverse procedure is adopted.

Should the oil require changing, fill with $1\frac{1}{2}$ pints of VACUUM VISCOLITE H.H.

Always renew the transmission case gasket.

Care must be exercised when refitting the transmission cover to avoid damage to the oil seals.

Where the eccentric stud has been moved, return it to its original position, and tighten lock nut securely.

Check transmission for smooth running under full load when the machine is completely assembled.

Adjust the eccentric if necessary until smooth running is achieved. (There must be no back-lash in the gears).

RE-ASSEMBLY

Before placing the transmission into the base frame cushion, ensure that clutch return spring washer is placed correctly on top of the cushion. The centre pivot pin on the bottom of the case must pass through the washer and into the centre of the rubber cushion.

Simpson — AUTOMATIC WASHING MACHINES

Assemble and align the main spin bearing, refit the snubber assembly.

Refit all accessories, including the motor and fluid drive unit, also the vee belts.

First adjust the spin vee belt and securely tighten the motor mounting plate bolts. Then adjust both motor to pump and pump to transmission vee belts by moving the pump bracket in the direction required. The pump bracket holes and mounting holes on the transmission cover are all elongated to allow movement in all directions.

Continue re-assembly as outlined previously.

PUMP ASSEMBLY

Remove the front panel, remove the motor to pump and pump to transmission vee belts from the pump pulley.

Loosen the 'C' clamp thumb screw and remove the clamp and pump bottom. (Fig. 19).

Loosen the $\frac{1}{4}$ " grub screw securing the pulley. The impeller may now be lowered from the pump body and removed. Note the positions of the fibre washers, i.e., one between the pulley and the top bush, the other is located on the impeller shaft, against the blades. (Fig. 20).

To remove the pump body, remove the two bolts securing the pump assembly to the pump bracket.

Disconnect the tub to pump hose from the pump inlet. The assembly can now be completely removed from the machine.

Re-assemble by reversing the above procedure, then refit vee belts. Ensure that pump pulley grub screw is tight.

Refill grease cup with water pump grease and screw up until shaft is well lubricated. Refill cup again if necessary.

AGITATOR SOLENOID

Remove front panel, remove the cotter pin anchoring the link tension on the solenoid armature.

Four bolts hold the solenoid to the bracket. When these bolts are removed and the leads disconnected, the solenoid is free to be removed. (Fig. 21).

Removal of the solenoid coil is accomplished by removing the screw which passes through the guides at the lower end of the solenoid, then pulling out the armature, which in turn will also pull out both guides. Note the position of the coil terminals before removing the coil from the solenoid body.

SPIN SOLENOID

Remove front panel, take off solenoid terminal leads. Remove cotter pin anchoring the link tension to the solenoid armature.

Remove the four bolts securing the solenoid to the bracket. To one of these bolts is attached an earth lead, which must not be omitted when refitting the solenoid. (Fig. 21).

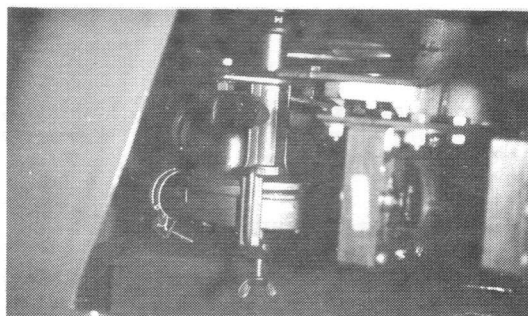


FIG. 19

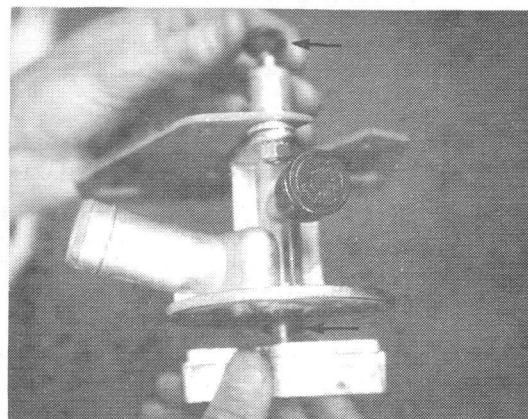


FIG. 20

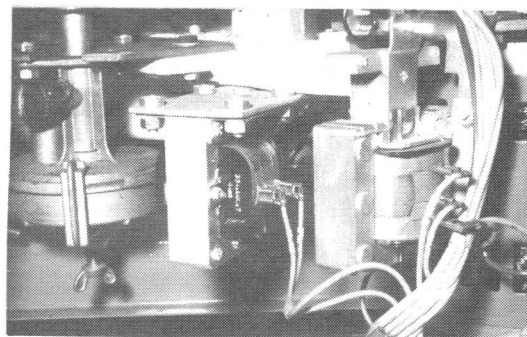


FIG. 21

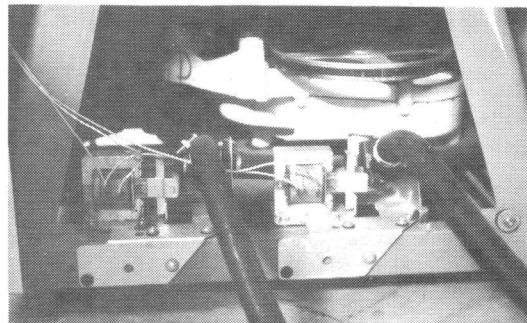


FIG. 22

Removal of the coil is the same as outlined under 'Agitator Solenoid'.

ASSEMBLY COLLAR AND LEVER

Remove the front panel. Disconnect the link tension spring and clutch return spring from the end of the lever. Remove the pivot bolt securing the assembly to the main bearing housing post. The assembly is then free to be removed.

It is emphasized that when replacing the collar and lever, the pivot bolt must not be over-tightened.

This would cause the pivot bush to spread and prevent free movement of the assembly.

DIVERTER VALVE ASSEMBLY

To remove either of the two diverter valve assemblies the lower portion of the back panel should be removed. Remove three screws and rubber mounting grommets holding the diverter mounting plate to the base assembly and remove one of the screws holding the earthing strap to the base, the diverter valve, solenoid and mounting plate can then be removed. (Figs. 22 and 23).

Hoses and diverter valve ports should be free of grease, soap or any other lubricant when replacing. Care must be taken when replacing a complete assembly to ensure that the earth strap is correctly refitted.

TIMER KNOB (MODEL 066 and 067)

Loosen the socket headed grub screw in the side of the plastic knob and remove knob from timer shaft. (Fig. 24).

SPLASHBACK FRONT PANEL AND TRIM (MODEL 066 and 067)

Remove the timer knob, remove two screws on top of chrome surround then push forward clear of the two locating pins situated at the bottom of the splashback. Remove two screws from the inside top corners of the chrome surround which will in turn release the two holding brackets and the glass can be lifted out. (Fig. 25).

SPLASHBACK FRONT PANEL AND TRIM (MODEL 068 and 069)

Remove the two screws which go through the top of the splashback back panel into the splashback trim, then lift panel clear of the two locating pins. The glass which is in two sections can be removed after two screws are taken out of the trim surround.

TIMER (MODEL 066 and 067)

Remove timer knob, remove splashback front panel, remove four hexagon headed screws holding the timer mounting bracket to the splashback then remove the two screws holding the timer to the bracket. (Fig. 26).

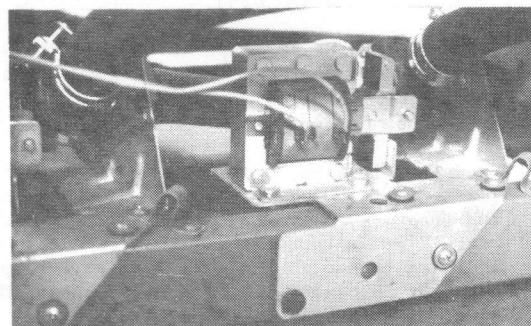


FIG. 23

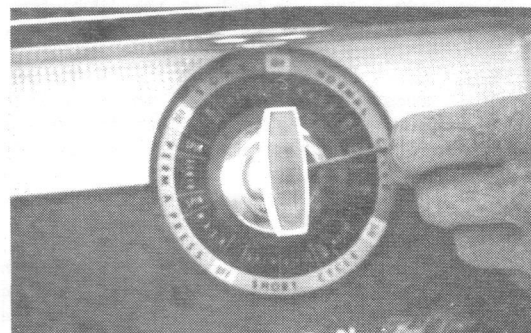


FIG. 24

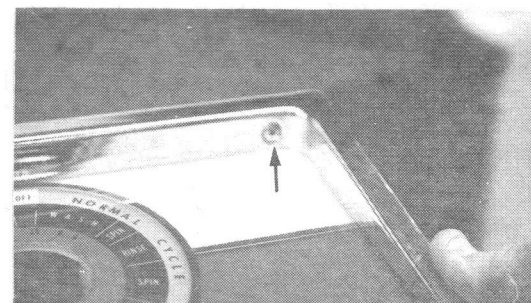


FIG. 25

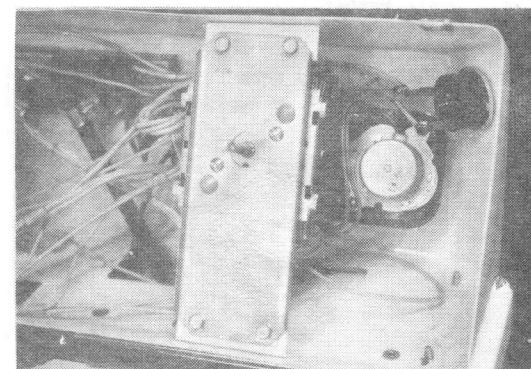


FIG. 26

TIMER (MODEL 068 and 069)

Remove splashback front panel and lay it face downward on the machine top panel. Remove three screws from the rear of the timer bracket, the timer and rapid advance motor can then be removed.

When refitting the timer indicator chain or sprocket, it is essential to position them such that the pointers will line up at right angles to the flat on the drive spindle. (Fig. 27). To ensure this is correct the timer spindle should be turned so that the flat on the spindle will be at the top horizontal position this being the 60th impulse or off position of the timer.

The two vertical pointers should, when viewed through the splashback glass, be both in the 'OFF' position and should be equidistant from the ends of the window.

To align the pointers with the markings on the splashback glass, loosen three screws at the rear of the timer mounting bracket which hold the timer to the bracket and slide the timer sideways until correct alignment is obtained.

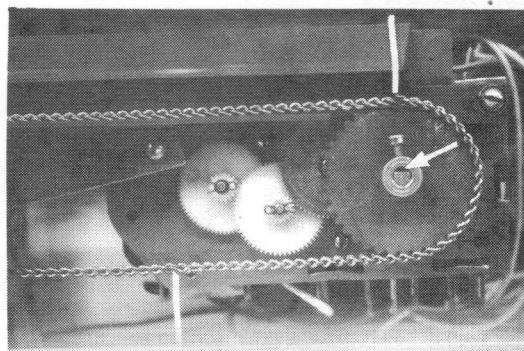


FIG. 27

SPLASHBACK REMOVAL

Remove the P.K. screws holding the back panel to the side panels and remove panel. The splashback cover securing screws can then be removed from beneath the top panel to allow the cover to be lifted away from the top panel.

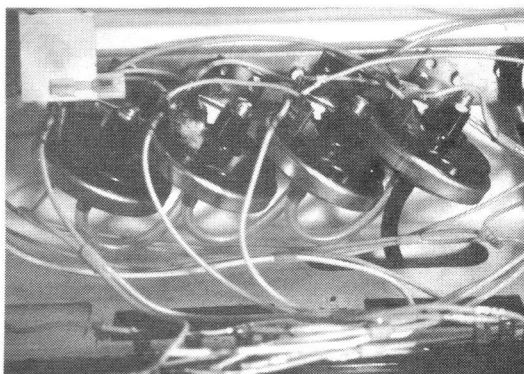


FIG. 28

PRESSURE SWITCHES

To remove pressure switches; remove the splashback front panel, two hexagon headed screws holding the individual switch brackets to the splashback rear panel, disconnect the pressure tubes and electrical connections and withdraw the switch.

The pressure switches are positioned in the splashback as follows:-

Models 066 and 067 from L to R: (Fig. 28).

- a Full Wash.
- b Medium Wash.
- c Small Wash.
- d Reset.

Models 068 and 069 from L to R: (Fig. 29).

- a Full Wash.
- b Medium Wash.
- c Small Wash.

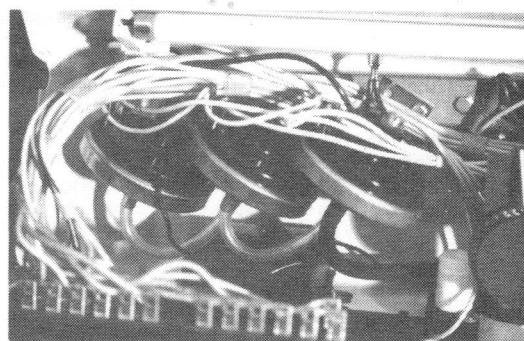


FIG. 29