



Book SM-5 Page _____
Pub# _____
Dwg# 31-2051

GE Consumer Service Training

TECHNICIAN MANUAL

27" LAUNDRY CENTER
VOL. I WASHER

SPACEMAKER
WASHER/DRYER

WSM2700L/R
WSM2780L/R

PUB. NO. 31-2051

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GEAS 061156

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WASHER FEATURES/REQUIREMENTS

FEATURES

CAPACITY.....2.7 CU. FT.

WASH CYCLE SELECTIONS.3

REGULAR
PERMANENT PRESS
DELICATE

WASH/RINSE TEMPERATURE SELECTIONS....3

<u>SELECTIONS</u>	<u>TEMPERATURES</u>
HOT.....	HOT / COLD
WARM.	WARM' / COLD
COLD.....	COLD / COLD

NOTE: WARM MIX RATE...50% HOT. 50% COLD

WATER LEVEL SELECTIONS....3

SMALL (WATER IN TUB 5.2" TO 6.4")
MEDIUM (WATER IN TUB 8.4" TO 10.0")
LARGE (WATER IN TUB 11.9" TO 13.5")

CONTROLS

ROTARY TIME..PUSH TO SET; PULL TO START
WASH / RINSE TEMPERATURES..ROTARY SWITCH
WATER LEVEL...ROTARY PRESSURE SWITCH

WASH / SPIN SPEEDS

WASH SPEED..71/77 AGITATOR STROKES / MIN
SPIN SPEED..610/630 RPM

DRIVE MOTOR

1/2 HP @ 120 VOLTS

LINT FILTER

FULL WIDTH INNER DOOR
(POLYESTER SCREW) (REMOVABLE)

REQUIREMENTS

WATER SUPPLY

HOT & COLD FAUCETS - Must be within 42" of appliance water inlet hose connections and must be 3/4" garden hose type.)

WATER PRESSURE

Must be 10-120 PSI with a maximum unbalance (hot vs. cold) of 10 PSI.

WATER TEMPERATURE

Water heater must set to deliver 140-150 F IN THE WASHER when HOT wash is selected.

SHUT-OFF VALVES

Both hot and cold shut-off valves should be supplied.

DRAIN HEIGHT

33" MINIMUM, 96" MAXIMUM

STANDPIPE DIAMETER

1" MINIMUM with an air gap around the drain hose.

DRAIN RATE

The drain or standpipe must be capable of accepting 16 GALS/MIN.

SIPHON BREAK KIT

WH49X228 Siphon Break Kit must be used along with the furnished hose, coupling and clamps if the standpipe is less than 33" high.

ELECTRICAL

120/240 or 120/208 volt single phase, 60HZ individual branch circuit protected by 30 amp time-delay fuses or circuit breaker.

SPACEMAKER LAUNDRY

MODEL DESCRIPTION

The WSM2700 and 2780 are unitized washers with gas or electric dryer assembled as a high/low appliance with the dryer at top. Controls for the washer and dryer are located at bottom of dryer front with the dryer controls on the left and washer controls at the right. Each operates as a separate appliance and may be operated simultaneously.

WARRANTY

FULL ONE YEAR-WARRANTY:

All parts and labor for in-home service for one year after original date of purchase.

LIMITED ADDITIONAL FOUR-YEAR WARRANTY:

Any part of the washer transmission that fails within, in the second through the fifth year from original date of purchase, will be furnished free of charge. Service trip and labor charges are not warranted.

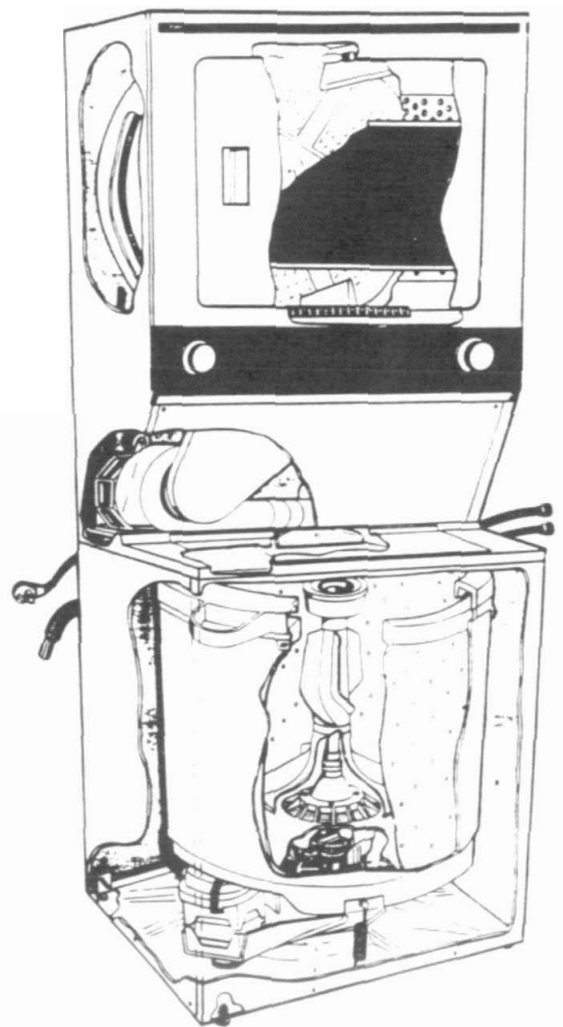
Refer to back cover of SPACEMAKER LAUNDRY Use and Care book for complete warranty information.

PRODUCT RATING PLATE

The product rating plate containing agency approvals is located on top of the appliance near the left front corner. A second model and serial label is located on the inner face of the dryer door for the convenience of the consumer and service.

PRODUCT CUT-A-WAY VIEW

27" LAUNDRY CENTER

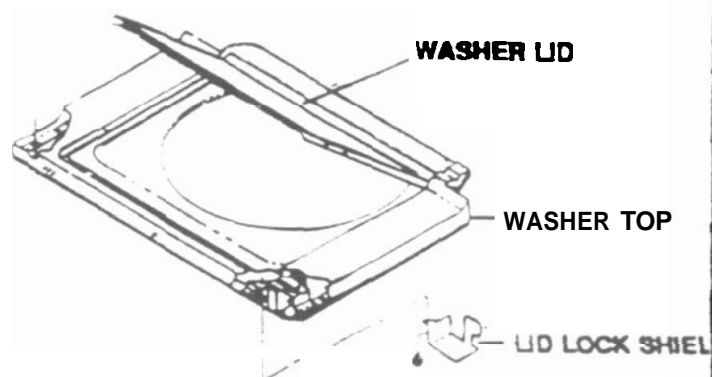


WASHER TOP PANEL

The top is secured to the washer cabinet from the inside. The washer lid and hinge assembly mounts to the washer top through grommets, and the lid is counterbalanced by a coil spring and a spring steel retainer.

THE PANEL MAY BE REMOVED AS FOLLOWS:

- A. Remove two screws securing the dryer front service access panel.
- B. Remove the washer front service panel.
- C. Remove two screws securing the washer top panel and lid assembly to the cabinet front sides.
- D. Remove two screws securing the right rear corner washer top panel hinge support
- E. Disconnect the washer lid lock switch terminal connector.
- F. Remove the washer top panel and lid assembly.
- G. Remove two screws and gasket securing hinge to lid.
- H. Remove lid hinge from washer top panel and grommet.
- I. Remove lid hinge cam (RH).
- J. Remove lid assembly.
- K. Remove one screw securing (RH) hinge spring, and one screw securing (RH) hinge support.
- L. Remove lid hinge grommets.
- M. Remove two screws securing lid strike and lid rubber bumpers.
- N. Remove bleach cup dispenser, and screw securing lid lock.
- O. Remove two screws securing lid lock.
- P. Reverse this procedure to reassemble.



SNUBBER RING

The snubber ring assembly is made of a polypropylene ring with teflon strips secured to the upper and lower edges. The top edge of the ring is identified by an arrow molded into the outer surface. The snubber ring fits between the raised dome base of the tub and transmission assembly.

TO REMOVE OR REPLACE SNUBBER RING

- A. Remove the washer front service panel.
- B. Remove the washer top panel and lid assembly.
- C. Disconnect the front vertical and horizontal springs from the base pan.
- D. Place a 2" x 4" block under drive motor section of leg and dome assembly, carefully pry up the washer tub and transmission assembly off base.
- E. Using a wire with a hook end reach under and pull out snubber ring.
- F. Install new snubber ring with arrow pointing up.
- G. Reverse procedure to reassemble

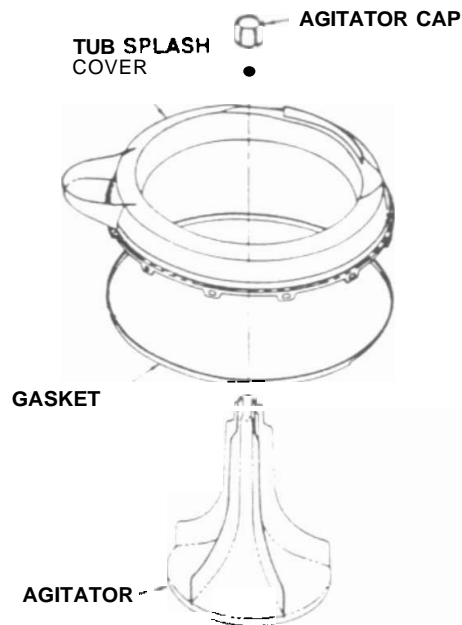
WASHER COMPONENTS AND PARTS

AGITATOR AND CAP

The polypropylene agitator and cap are centered in the inner wash basket. The cap is threaded into the agitator drive block and can be removed by turning counter clockwise. The agitator can be lifted off the drive block after the cap is removed. The drive block is splined and the agitator fits tight to the block. Upward pressure will be needed to free the agitator from the drive block.

TO REMOVE OR REPLACE AGITATOR AND CAP:

- A. Raise washer lid.
- B. Remove agitator cap by turning counter clockwise.
- C. Lift out agitator.
- D. Install new agitator and/or cap.
- E. Reverse procedure to reassemble.



DRIVE BLOCK

The drive block is fastened to the agitator drive shaft with a stud bolt. It drives the agitator and provides a means of adjusting the clearance between the lower edge of the agitator and tub. The drive block height is adjusted with shims 3/16" minimum, 5/16" maximum. A drive block puller is required to remove the drive block.



TUB SPLASH COVER

The polypropylene tub splash cover, which prevents water from splashing over the top, has a molded rear lip to prevent splash from the fill hose and nozzle assembly. The splash cover includes a bleach cup drain area. A sealing gasket in a groove around the circumference of the splash cover snaps over the outer tub assembly.

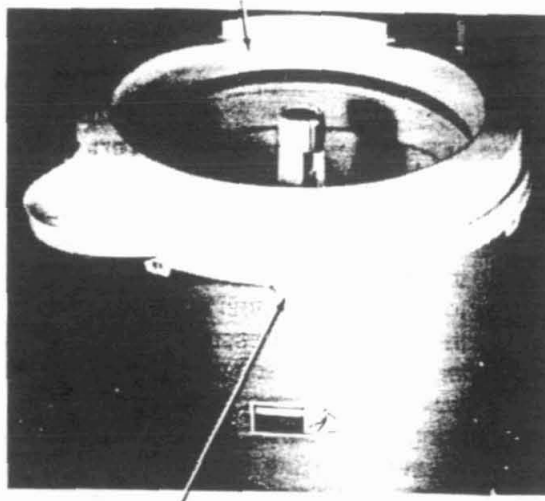
TUB SPLASH COVER REMOVAL OR REPLACEMENT

- A. Remove the dryer front service panel.
- B. Remove the washer front service panel.
- C. Remove the washer top panel and lid assembly.
- D. Release the water level pressure control tube from the retainer of the tub splash cover.
- E. Use a flat bladed screwdriver to pry outward the twelve locking tabs securing the splash cover to the outer tub assembly.
- F. Remove tub splash cover and gasket seal assembly.
- G. Install new tub splash cover; make sure the sealing gasket is in place before snapping cover into place.

NOTE: THE TUB SPLASH COVER CAN BE INSTALLED INCORRECTLY. POSITION THE BLEACH CUP DRAIN AREA DIRECTLY OVER THE WASHER DRIVE MOTOR ASSEMBLY AND MAKE SURE ALL MOUNTING TABS ARE SNAPPED SECURELY OR A LEAK DURING WILL OCCUR DURING THE SPIN CYCLE. SECURING THE THREE REAR MOUNTING TABS FIRST IS RECOMMENDED.

- H. Reverse procedure to reassemble.

TUB SPLASH COVER



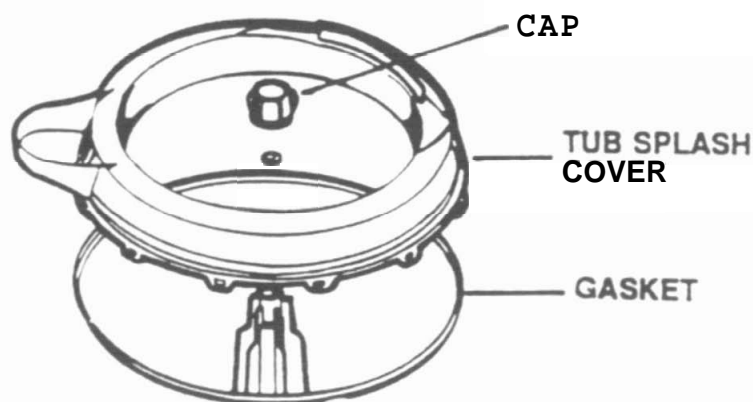
TUB SPLASH COVER MOUNTING TABS (12)

TUB SPLASH COVER GASKET

A sealing gasket (plastic rubber), in a groove around the circumference of the splash cover, snaps over the outer tub assembly for a water tight seal.

TO REMOVE OR REPLACE TUB SPLASH COVER GASKET:

- A. Remove washer and dryer front service panel.
- B. Remove washer top panel and lid assembly.
- C. Release the water level pressure control tube from the retainer of the tub splash cover.
- D. Use a flat bladed screwdriver to pry outward the twelve locking tabs securing the splash cover to the outer tub assembly.
- E. Remove tub splash cover.
- F. Install new cover and gasket.
- G. Reverse procedure to reassemble



INNER WASH BASKET

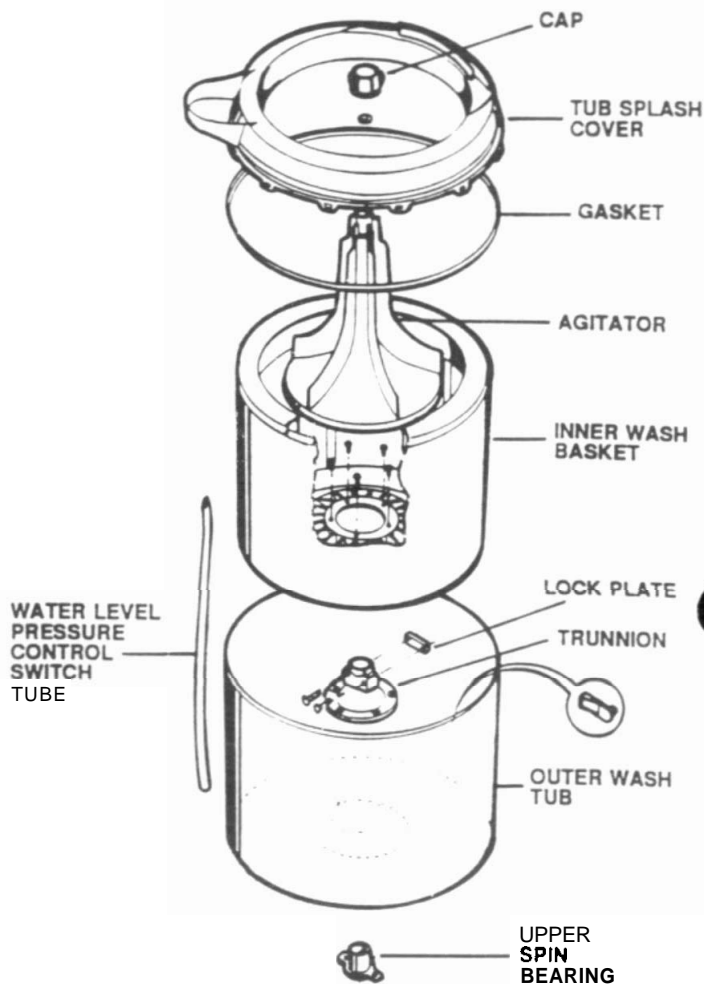
The inner wash basket is made of polypropylene, perforated at the bottom and sides to separate lint and soil from the clothes during agitation, and to extract the water during spin. The inner wash basket has a built-in upper weight ring (liquid filled). The inner wash basket is supported by the trunnion, and is held in place by five bolts. The trunnion is fastened to the spin shaft with a lockplate. The lockplate is located in a milled area on the spin shaft and is fastened to the trunnion with two hex head bolts.

TO REMOVE OR REPLACE INNER WASH BASKET:

- A. Remove dryer and washer front service panel.
- B. Remove washer top panel and lid.
- C. Release the water level pressure control tube from splash cover.
- D. Remove tub splash cover.
- E. Remove cap and agitator.
- F. Remove $5 \frac{3}{8}$ " hex bolts securing the inner wash basket to the trunnion.
- G. Slide inner wash basket up and off the transmission shaft.
- H. Install new inner basket.
- I. Reverse procedure to reassemble.

INNER WASH BASKET LINT FILTER

The inner wash basket has a self cleaning lint filter incorporated in the base of the inner wash basket. It is not necessary to clean the filter, the filter is rinsed clean during the spin cycle.



Inner Wash Basket Mounting Details

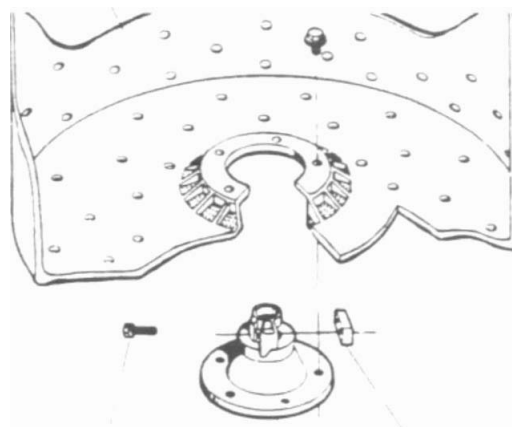
TRUNNION

The trunnion supports the inner wash basket, and is mounted to the spin shaft by a locking plate.

TO REMOVE OR REPLACE TRUNNION:

- A. Remove washer and dryer front service panel.
- B. Remove washer top panel and lid assembly.
- C. Release the water level pressure control tube from the splash cover.
- D. Remove tub splash cover.
- E. Remove cap and agitator.
- F. Remove 5 $\frac{3}{8}$ " hex bolts securing the inner wash basket to trunnion.
- G. Slide inner wash basket up and off the transmission shaft.
- H. Loosen two $\frac{1}{2}$ " hex bolts securing trunnion lockplate to milled flat of the spin shaft.
- I. Remove trunnion.
- J. Install new trunnion and apply loctite.
- K. Reverse procedure to reassemble.

INNER WASH BASKET INNER WASH BASKET MOUNTING BOLTS

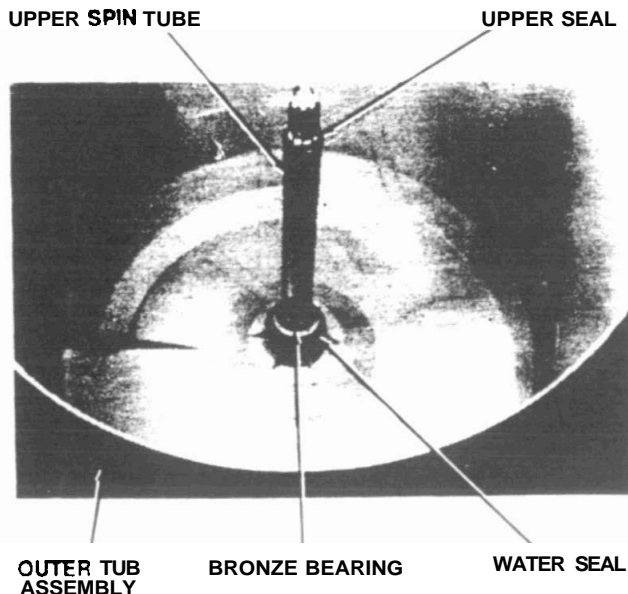


MOUNTING BOLTS TRUNNION LOCK PLATE

Inner Wash Basket and Trunnion

WATER SEAL ASSEMBLY

The water seal assembly sits underneath the trunnion and inside the upper bearing housing of the transmission. It seals the water inside the outer tub. The assembly consists of a rubber and bronze seal, and a carbon mating seal surface mounted on a spring loaded rubber bellows. The bellows seal is pressed into the upper bearing housing mounted within the outer tub. A slinger washer completes the assembly.



Water Seal Assembly

TO REMOVE OR REPLACE WATER SEAL ASM.

- A. Remove washer/dryer front service panel
- B. Remove washer top panel and lid.
- C. Release water level pressure control tube from the splash cover.
- D. Remove tub splash cover.
- E. Remove cap and agitator.
- F. Remove trunnion and inner basket.
- G. Remove bronze washer from spin shaft. Do not lubricate seal, replace.

OUTER TUB ASSEMBLY

The outer tub and air dome is made of polypropylene and is mounted to the leg-and-dome assembly. The drain hose (tub to pump) and upper spin bearing are installed onto the outer tub. The air dome on the tub side provides the connection for the pressure switch hose.

TO REMOVE OR REPLACE OUTER TUB ASM.

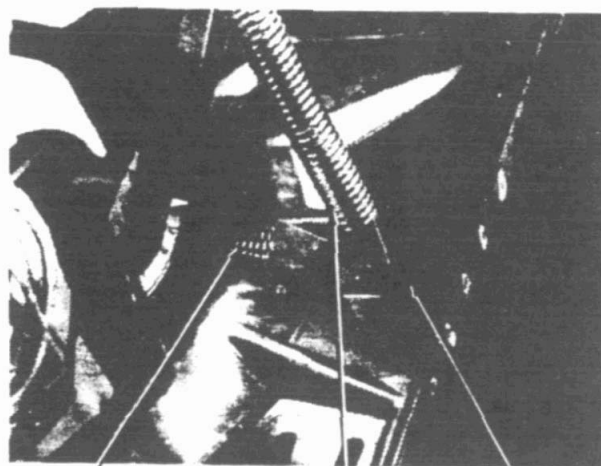
- A. Remove washer/dryer front service panel
- B. Remove the washer top panel/lid.
- C. Release water pressure control tube from the splash cover.
- D. Remove tub splash cover.
- E. Remove cap and agitator.
- F. Remove the 5 3/8" hex bolts securing the inner wash basket to trunnion.
- G. Loosen two 1/2" hex bolts securing trunnion lock plate to milled flat of the spin shaft.
- H. Remove trunnion.
- I. Remove washer drive belt.
- J. Remove outer tub to pump clamp and hose.
- K. Loosen allen set screw and remove transmission drive pulley.

- L. Remove two 3/8" hex bolts securing transmission to leg and dome assembly.
 - M. Remove three 1/2" hex bolts securing the outer wash tub to the leg and dome asm.
 - N. Lift washer transmission and outer tub assembly from leg and dome assembly.
 - O. Remove bronze washer from spin shaft.
 - P. Remove water seal, slinger from bearing housing and slide up and off spin shaft.
 - Q. Lift outer wash tub up and off transmission shaft.
 - R. Remove two screws securing upper spin bearing to the bottom of the outer wash tub.
 - S. Remove outer tub-to-pump hose (seal with adhesive upon reassembly).
- Install to complete assembly.

STABILIZING SPRINGS

Each vertical stabilizing spring hooks into an adjustable tab formed in the washer base pan and to the upper end of the leg and dome assembly. These three springs keep the washer tub centered during operation and hold the washer mechanism against the snubber ring. The red stained spring must be installed opposite the washer drive motor and pump assembly.

Each horizontal stabilizer spring hooks into the leg-and-dome and a raised tab on the washer base pan. These three springs aid in keeping the mechanism stable and centered on the crown of the washer base pan.



HORIZONTAL SPRING VERTICAL SPRING ADJUSTMENT

Stabilizer Springs

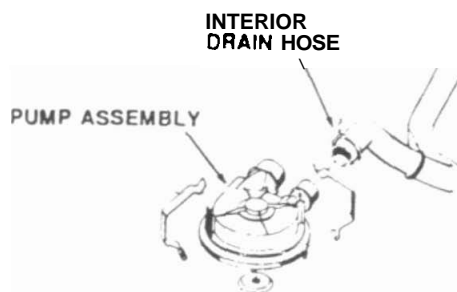
TO ADJUST VERTICAL STABILIZER SPRINGS.

When the washer is in the spin cycle, the tub splash cover (sub top) should be centered in the cabinet. If off center, adjust each vertical spring as required. Excessive out of balance loads may cause the washer splash cover (sub top) to strike the cabinet. Pressure of the leg-and-dome against the snubber can be increased or decreased by equally adjusting the tension of the vertical springs. Use a pair of vice grip pliers to adjust springs.

WATER PUMP ASSEMBLY

The water pump (a one piece seal asm.) is mounted above a water shield on top of the washer drive motor by two spring clips

NOTE: Should the washer outer wash tub be full or partially full of water, and the washer drive motor is inoperative, remove the inlet drain hose clamp. Insert a small bladed screwdriver along side the drain inlet hose allowing small flow of water into water shield. Place a pan under the overflow to catch water



TO REMOVE OR REPLACE PUMP

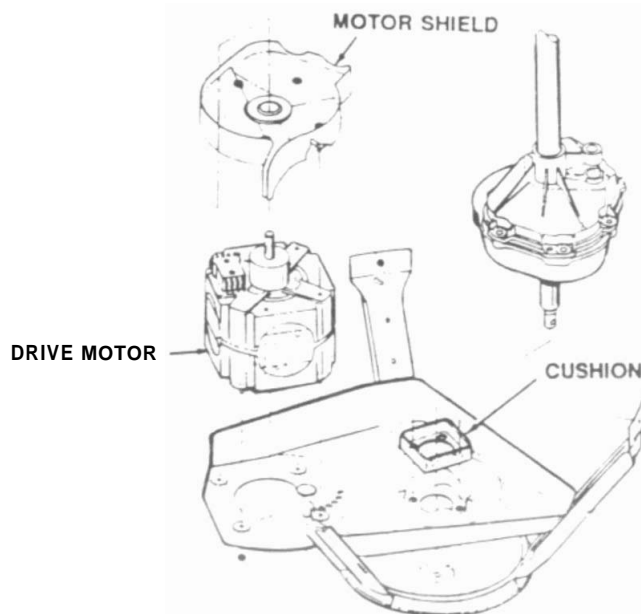
- A. Remove the washer front service panel.
- B. Remove the drain hose, inlet and outlet hoses, and clamps from the water pump assembly. Note: to gain working space to remove the water pump, remove the front outer wash tub to leg-and-dome front mounting bolt, **lift** up on outer wash tub assembly, and **reinstall** bolt into leg-and-dome assembly bolt home.
- C. Remove two spring mounting clips securing water pump assembly to washer drive motor. Note: Upon reassembly, be sure electrical leads do not become pinched under spring clips.
- D. Lift pump up and off washer drive motor shaft.
- E. Install new water pump assembly.
- F. Reverse procedure to reassemble.

DRIVE MOTOR WATER SHIELD

The water pump is mounted above the polypropylene water shield on top of the washer drive motor by two spring clips. The drive motor water shield has molded legs that **fit** into holes in the drive motor upper end plate.

TO REMOVE OR REPLACE DRIVE MOTOR WATER SHIELD:

- A. Remove washer front panel.
- B. Remove drain hose, inlet and outlet hoses and clamps.
- C. Remove two spring mounting clips securing water pump to drive motor.
- D. Remove the washer drive motor shaft slinger.
- E. Lift pump up and off washer drive motor shaft.
- F. Remove the drive motor water shield.
- G. Install new shield.
- H. Reverse procedure to reassemble.



WASHER DRIVE MOTOR

The washer drive motor is a two speed, 1/2 h.p., capacitor start, reversible motor rated at 120 volts, 60 hertz. The connections to the motor are quick disconnect type terminal blocks. The washer drive motor is mounted to the leg-and-dome assembly and drives the transmission by a pulley mounted on its shaft, a drive belt, and belt idler arm assembly.

TO REMOVE OR REPLACE WASHER DRIVE MOTOR:

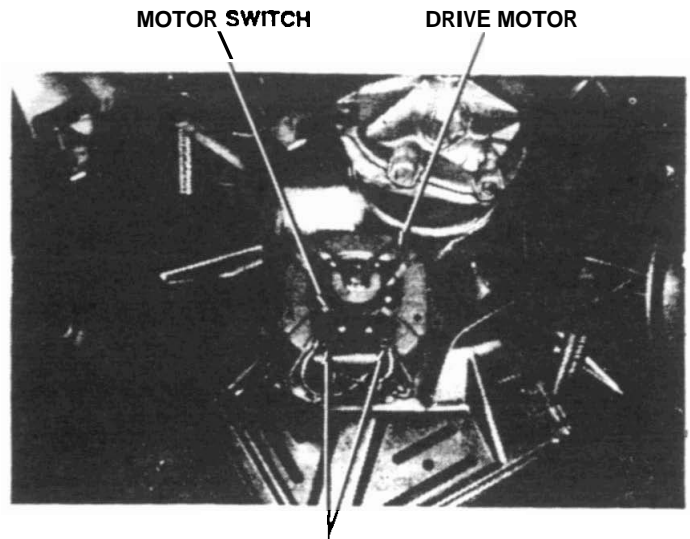
- A. Remove washer front panel.
- B. Remove the drain hose, inlet and outlet hoses, and clamps from the water pump assembly.
- C. Remove two spring mounting clips securing water pump assembly to washer drive motor.
- D. Lift pump up and off washer drive motor shaft.
- E. Remove drive motor belt (roll off).
- F. Disconnect washer drive motor, electrical terminal connector blocks.
- G. Remove four hex nuts securing the washer drive motor.
- H. Remove the washer drive motor
- I. Install new drive motor.

WASHER DRIVE MOTOR BELT

The washer drive motor belt is used to transmit power from the washer drive motor to the wash and spin basket. An idler arm pulley maintains proper drive belt tension.

TO REMOVE OR REPLACE WASHER DRIVE MOTOR BELT:

- A. Remove the washer service panel.
- B. Remove the drive motor belt (roll off).
- C. Install new washer drive motor.
- D. Reverse procedure to reassemble.



WIRING CONNECTOR BLOCKS

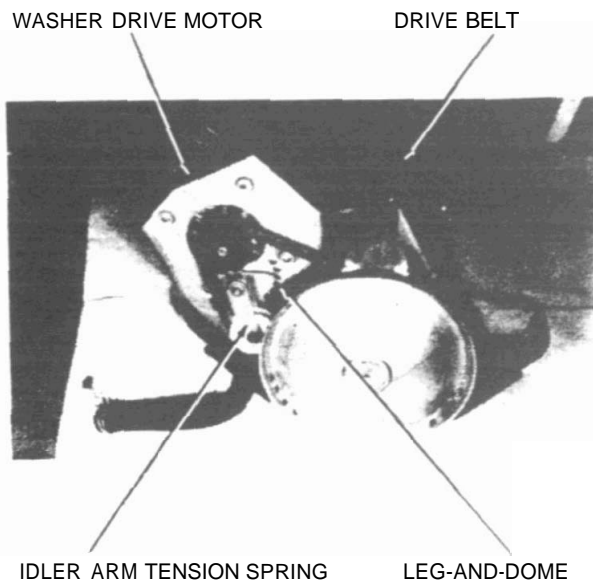
Washer Drive Motor

WASHER DRIVE MOTOR BELT IDLER ARM

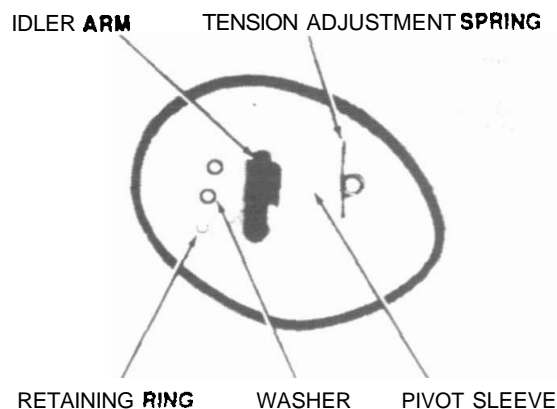
The washer drive motor belt is used to transmit power from the washer drive motor to the wash and spin basket. The idler arm pulley maintains proper drive belt tension. The drive system provides positive drive in agitation (clockwise rotation), and variable speed drive in spin (counterclockwise rotation). This dual drive function is a result of the direction of the drive. In agitation, the direction of pull is from pulley to pulley. This causes the belt to ride tight in the pulley and provide positive drive. In spin, the direction of pull is across the spring loaded idler pulley. The idler arm "senses" the load and controls belt tension to provide a gradual increase in speed as water is extracted. With an extreme out of balance load, the tub will spin at reduced speed during the spin cycle. This permits the washer to complete the full cycle.

TO REMOVE OR REPLACE WASHER DRIVE MOTOR BELT IDLER ARM:

- A. Remove washer front panel.
- B. Remove drive motor belt (roll off).
- C. Remove "C" clip retainer securing idler arm assembly to let-and-dome.
- D. Install new washer drive motor belt idler arm.
- E. Place idler arm tension spring into 3rd hole from motor.
- F. Reverse procedure to reassemble.



Idler Arm Adjustment



Idler Arm Details

ADJUST DRIVE BELT IDLER ARM TENSION

- A. Check pump out wattage. Wattage must be within specifications recommended with full water load
- B. Tighten spring to increase wattage. Loosen spring to decrease wattage.
- C. Fill inner wash basket with water to high level (maximum) and advance timer to spin cycle.
Warning: Do not restrict lid lock arm when manually depressing or damage to lid switch bi-metal element will occur and affect lock and unlock time.
- D. Start spin cycle: If water begins pumping out before the spin basket starts to spin, the belt tension is too loose. Tighten the spring two holes for a new belt and one for an existing belt. Recheck by starting spin cycle again.

PROPER ADJUSTMENT OF THE IDLER ARM TENSION IS NECESSARY FOR TROUBLE FREE OPERATION OF THIS DRIVE SYSTEM.

WATER INLET HOSE AND NOZZLE

The water inlet hose and polypropylene nozzle provide an anti-siphon device for the incoming water supply. Water flows from the water inlet valve through the inlet hose, inlet nozzle, and then into the inner wash basket. The water inlet nozzle is attached to the dryer bottom pan.

- A. Remove washer/dryer front service panel.
- B. Remove the washer top panel and lid.
- C. Loosen screw securing water inlet valve shield.
- D. Remove water inlet valve shield by pulling up.
- E. Remove water inlet fill valve clamp and hose.
- F. Remove screw securing water inlet nozzle to the dryer base.

BLEACH DISPENSER CUP

The white polypropylene bleach cup snaps into the washe top panel and is for LIQUID BLEACH ONLY.

TO REMOVE OR REPLACE DISPENSER CUP:

- A. Remove bleach dispenser cup by prying up or pushing up from the bottom.
- B. Install new cup by snapping into place.

LID AND HINGES

The washer lid is constructed of heavy gauge steel finished in a powdered paint coat. The hinge, hinge cam, door lock strike, and rubber bumpers are mounted to the lid.

TO REMOVE OR REPLACE LID/HINGES:

- A. Remove dryer front access panel.
- B. Washer front service panel.
- C. Disconnect washer lid lock switch terminal connector.
- D. Remove the washer top panel and lid assembly.
- E. Release the washer lid counterbalance hinge spring.
- F. Remove two screws and gasket securing (LH) hinge to lid.
- G. Remove lid hinge from washer top panel and grommet.
- H. Remove lid (RH) hinge cam, lid assembly, lid hinge grommets, two screws securing lid strike, and rubber bumpers.
- I. Reverse procedure to reassemble. (Note: Lubricate (RH) hinge cam spring.

WASHER BASE

The base pan assembly which serves as the support for the entire washer/dryer is constructed of heavy gauge metal embossed for strength. The base assembly is supported by leveling legs, one on each front corner with rubber inserts. The rear is supported by self-leveling leg assembly welded to the base pan. The raised portion at the center of the base provides a support surface for the snubber ring and stabilizes the tub and transmission during spin.

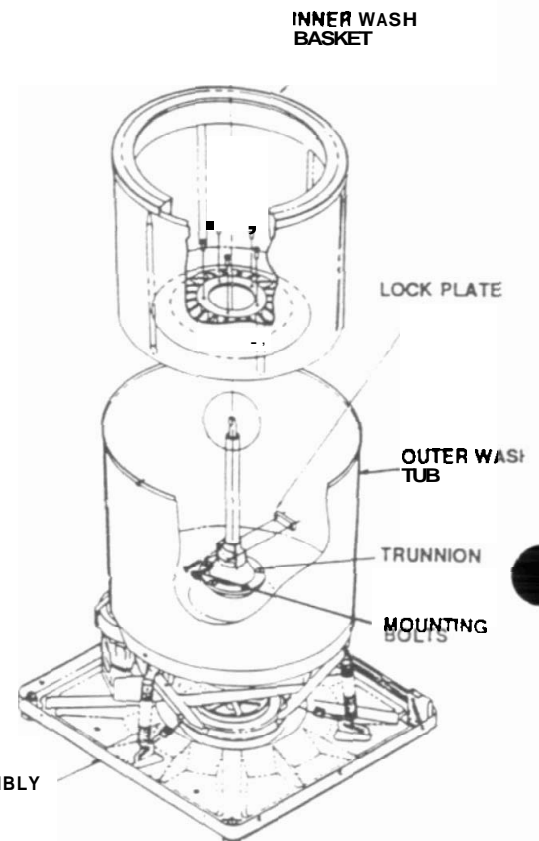
WASHER UNIT AND BASE REMOVAL:

- A. Remove front service panels.
- B. Remove washer top panel and lid.
- C. Remove water level pressure fill switch tube at the water level pressure control switch.
- D. Release motor electrical plug connectors.
- E. Remove drain hose and clamp from connector.
- F. Remove 9 screws securing washer cabinet to base. (support cabinet sides with a 2" x 2" board).
- G. Slide washer unit and base away from cabinet; be careful not to damage floor.

WASHER BASE PAN

TO REMOVE OR REPLACE WASHER BASE PAN: Inner Wash Basket Mounting Details

- A. Remove washer unit and base pan assembly.
- B. Release three vertical and three horizontal counter balance springs. NOTE: The horizontal spring with the red paint marking is mounted opposite the drive motor.
- C. Remove washer transmission, inner wash basket, and outer tub assembly from base pan.
- D. Remove snubber ring.
- E. Install new base pan assembly.



WATER INLET NOZZLE

The water inlet hose and polypropylene nozzle provide anit-syphon device for the incoming water supply. Water flows from the water inlet valve through the inlet hose, inlet nozzle, and then into the inner wash basket. The water inlet nozzle is attached to the dryer bottom pan.

DRAIN HOSE CHECK VALVE

A check valve is installed in the drain system to reduce sudsing by preventing air intake by the pump during agitation. The check valve is installed in the plastic drain hose coupling located at the rear of the washer. It is positioned inside the coupling. The semi-circular lip of the valve should be positioned up into the drain hose.

TO REMOVE OR REPLACE DRAIN HOSE CHECK VALVE.

- A. Loosen the clamp and remove the exterior drain hose from the cabinet coupling.
- B. Remove the drain hose check valve by pulling out.
- C. Install new drain hose check valve; be sure of the correct position of the check valve.
- D. Reverse procedure to reassemble.

INTERIOR DRAIN HOSE

The interior drain hose attaches to the water pump and connects to the cabinet exterior.

DRAIN HOSE CONNECTOR

The interior drain hose attaches to the water pump and connects the cabinet to the exterior connector.

TO REMOVE OR REPLACE:

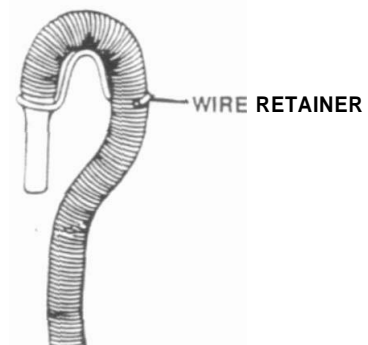
- A. Remove washer front service panel.
- B. Loosen the clamp and remove the interior drain hose from the cabinet coupling.
- C. Remove the exterior drain hose and clamp.
- D. Remove one screw securing the drain hose connector to the cabinet.
- E. Install new exterior drain hose connector.
- F. Reverse procedure to reassemble.

EXTERIOR DRAIN HOSE

The exterior drain hose attaches to the cabinet exterior connector and completes the drain to the household drain system.

TO REMOVE OR REPLACE:

- A. Loosen the clamp securing the exterior drain hose and bushing to the exterior cabinet drain connector.
8. Remove exterior drain hose and tighten clamp.
- C. Form a u shape in the end of the drain hose and install the drain hose wire retainer
- D. Reverse procedure to reassemble.



Exterior Drain Hose

WASHER ELECTRICAL COMPONENTS TEST AND REPAIR

CAUTION! ALWAYS DISCONNECT UNIT FROM ELECTRICAL POWER SOURCE BEFORE MAKING ANY ELECTRICAL TEST.

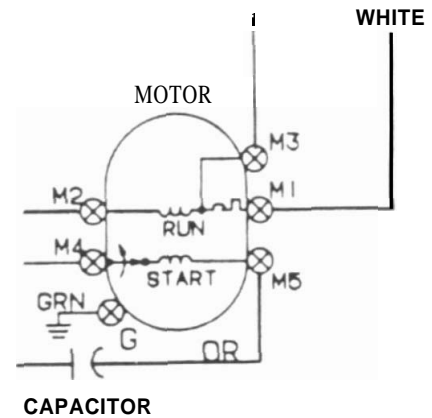
WASHER DRIVE MOTOR

The washer drive motor is either a single or a two speed, 1/2 h.p., capacitor start, reversible motor, rated at 120 volts, 60 hz. The connections at the motor switch are quick disconnect type terminal blocks. The terminal blocks are molded in such a way that they cannot be reversed. An internal overload protector is built into the motor and will open due to excessively high temperatures and/or excessive current. The overload protector is wired in series with the washer circuitry and if it opens, all washer operations will stop. The protector is self resetting and in some cases takes as long as thirty seconds to reset.

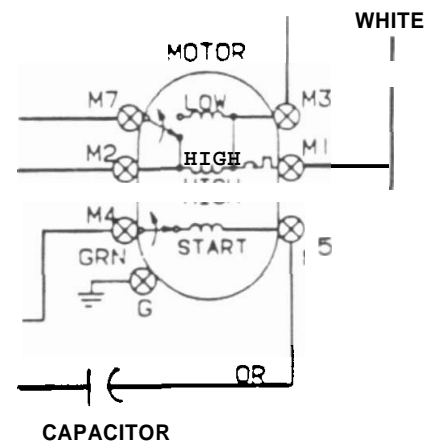
TWO SPEED DRIVE MOTOR

The high speed starts on the 4-pole main winding in conjunction with the 4-pole phase (start) winding. After the motor has accelerated sufficiently to actuate the start switch, the start winding is de-energized. When the low speed is selected, the motor starts on the 4-pole main winding and switches to the low speed 6-pole winding after the motor has accelerated to open the start switch.

If an open circuit exists in the low speed 6-pole winding, the motor will repeatedly start and stop on the low speed selection.



One Speed Motor



Two Speed Motor

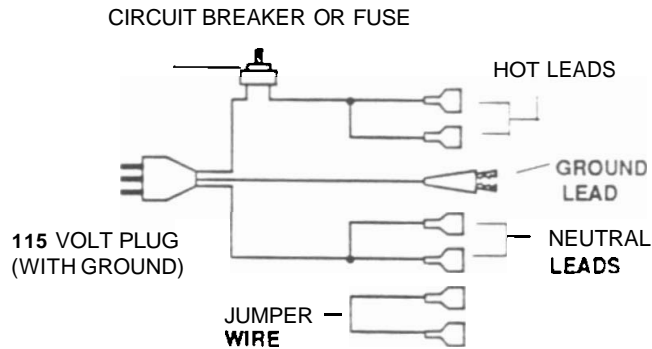
Washer Drive Motor

WASHER MOTOR TESTING

CAUTION! DISCONNECT UNIT FROM ELECTRICAL POWER SOURCE BEFORE MAKING ANY CONTINUITY TEST.

If the motor runs in one direction, but will not reverse, the timer or wiring harness is at fault because the same motor components are used when the motor runs in either direction.

Use a **120** volt test cord with four male terminals, two wires on the live side, two wires on the neutral side, and a fifth wire for the ground to test the motor.



Test Cord

Connections are made through the motor switch located at the top of the motor.

Test Cord	Motor Leads Shaft	Rotation & Speed
Line	2 6 5	Counterclockwise - Fast
Neutral	1 6 4	
Line	7 6 5	Counterclockwise - Slow
Neutral	1 & 4	
Line	2 6 4	Clockwise - Fast
Neutral	1 6 5	
Line	7 8 4	Clockwise - Slow
Neutral	1 6 5	

Illustration above shows internal wiring diagram of the one and two speed capacitor start type motors. If the motor fails to operate during any of the test outlined above, replace the motor.

WASHER DRIVE MOTOR START SWITCH

The washer drive motor start switch is mounted externally to the top of the washer drive motor and is not replaceable.

CAPACITOR

A 189-210 microfarad, 120 volt, 60 hz. rated starting capacitor is used with either the one or two speed washer drive motor, because the motor requires torque assistance to the the rotor started.

The start capacitor is mounted to a bracket which is mounted to the washer interior cabinet.

Note: **I**f the motor will not run or tries to start and shuts off, the problem may be an inoperative capacitor.

The capacitor can be tested by using an ohmmeter set on high scale. (Most digital ohmmeters do not have sufficient battery strenght to test a capacitor; the test may be misleading.) With the power disconnected, disconnect one of the terminal wires and connect the ohmmeter across the terminals.

CAUTION! BEFORE CHECKING ANY CAPACITOR, MAKE CERTAIN THAT IS IS DISCHARGED. TO DISCHARGE, REMOVE LEADS AND SHORT CAPACITOR TERMINAL WITH A JUMPER WIRE. REMOVE JUMPER WIRE.

CAPACITOR TESTING

- A. Discharge capacitor.
- B. Measure the resistance between the two capacitor terminals. If the capacitor is good, the meter should indicate continuity for a short period of time (while the capacitor is charging), then should indicate an open circuit once the capacitor is fully charged.
If the ohmmeter indicates a constant continuity between the terminals, the capacitor is shorted. If the ohmmeter has no initial reading, then the capacitor should be replaced.

TO REMOVE OR REPLACE WASHER DRIVE MOTOR START CAPACITOR.

- A. Remove washer front service access panel.
- B. Remove capacitor from its mounting bracket, the capacitor mounting bracket clips to washer cabinet rear.
- C. Remove wiring.
- D. Install capacitor.
- E. Reverse procedure to reassemble.

WASHER TIMER

The washer timer controls the sequence of operation of each of the electrical components of the washer used during a complete washing cycle. It is made up of three assemblies: the timer motor, a series of cams, and switches.

The motor is a synchronous type motor, similar to those used in electric clocks, geared down to operate a pawl and ratchet mechanism which rotates the cams every 90 seconds. The actual movement of the cam is quite rapid, to insure quick, positive opening and closing of the switch contacts and reduce arcing. Certain switch contacts operate at subinterval time.

WASHER TIMER TESTING

The user must push in the time knob and turn **it** clockwise to advance the timer. Pulling the timer out will start the washer, push knob in to stop washer.

CAUTION! ADVANCING THE TIMER IN THE KNOB OUT POSITION (WITH **115** VOLTS ACROSS IT OR RUNNING) CAN DESTROY THE SWITCH CONTACTS AND POSSIBLY DAMAGE OTHER WASHER COMPONENTS.

DISCONNECT LAUNDRY CENTER FROM ELECTRICAL POWER SUPPLY BEFORE MAKING ANY CONTINUITY TEST.

To check the timer motor operation, disconnect the two leads from the timer motor and connect them to a properly fused 120 volt service cord.

Plug the cord into the wall receptacle and check **if** the motor gear is turning. Multiple switch contacts activated by a series of cams control the water delivery, water temperature, motor, and lid lock. Determine **if** possible which period of the cycle is inoperative.

When **it** has been determined what portion of the cycle is not functioning, check the circuit from the timer to the component with a continuity tester. With the knob of the timer out (running position), turn the timer knob slowly through the portion of the cycle you need to test. **If** continuity show positive, the circuit will be closed. **It** may be necessary to operate the timer with a test cord allowing the motor to rotate the cam normally.

The timer should be replaced as an assembly and SHOULD NOT BE REPAIRED.

CONSOLE AND CONTROLS

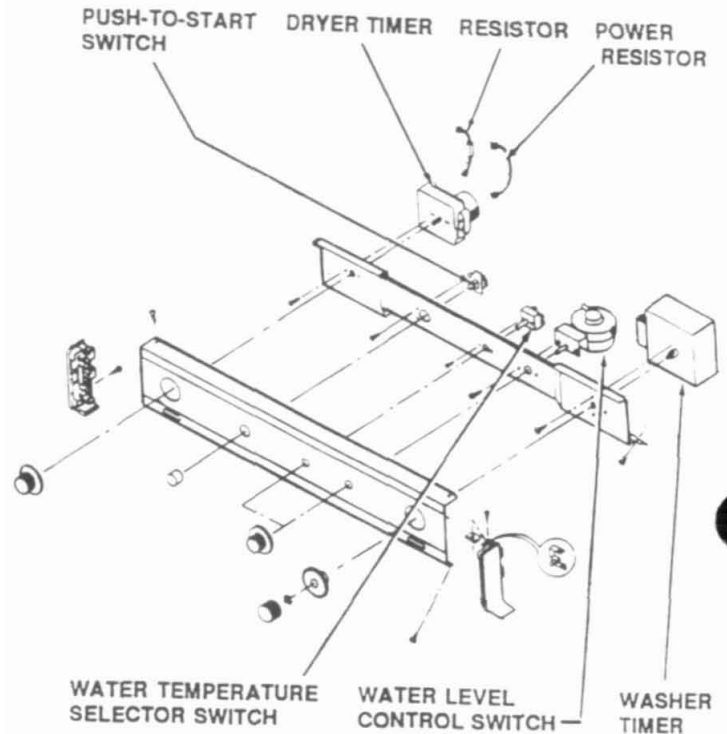
The console and controls assembly consists of the console control panel, dryer timer, dryer temperature selector switch, push to start switch, washer timer, water temperature selector switch, water level control switch, control knobs, indicator light, etc.

TO REMOVE OR REPLACE CONSOLE AND CONTROLS ASSEMBLY.

- A. Disconnect laundry center from electrical supply.
- B. Remove washer/dryer front service access panel.
- C. Remove four screws securing the console and controls assembly to side panels.
- D. Disconnect electrical wiring connector blocks.
- E. Lay console and controls assembly on a protected surface and transfer all remaining components and parts.
- F. Install new console and/or controls.

TO REMOVE OR REPLACE WASHER TIMER:

- A. Remove dryer front service access panel and safety cover panel.
- B. Remove 4 screws securing the console and controls assembly to side panels.
- C. Disconnect electrical wiring connector blocks.
- D. Lay console and controls assembly on a protected surface.
- E. Remove timer knob by pushing inner knob in and turning counterclockwise until knob threads off shaft; pull outer dial off the timer shaft.
- F. Remove two screws securing washer timer to control bracket.
- G. Remove and transfer all electrical wiring to the new timer.



Timer and Controls Mounting

WATER LEVEL PRESSURE CONTROL SWITCH.

The water level control is a pressure operated switch that controls the water level inside the inner wash basket. As the water level rises, air in the pressure tube is compressed and forced against the diaphragm in the water level control. Do not attempt to adjust the range of the water level control.

Two different types of water level pressure control switches (rotary and remote) are utilized with the 27" laundry center.

The remote water level pressure control is a snap action, triple pole-double throw switch rated 12 amps, at 120 volts. It is mounted to the dryer base pan. The remote water level pressure control switch is controlled by the push button selector switch on the control console.

The rotary (dial operated) water level pressure control switch is single pole, double throw, manual reset, normally open, pressure activated switch, rated 12 amps, at 120 volts

TO TEST WATER LEVEL PRESSURE CONTROL SWITCH

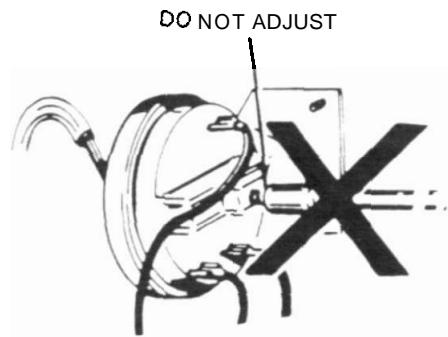
- A. If any water is remaining in the inner wash basket, empty by advancing the timer to a drain cycle.
- B. After the water has drained out, turn off washer and remove front service panel.
- C. Examine the pressure control switch tube. There should not be any water visible in the pressure tube. If water is present go to step D., if water is not present, go to step G.
- D. Remove the pressure tube at the water level control and blow into the tube until its clear. Quickly crimp the tube with your fingers and reattach the tube to the water level pressure control switch. Release the crimp and examine the pressure tube, there should be no water in it.
- E. Reconnect washer to electrical supply, set water level control to (MIN), and turn timer to a fill cycle. After the water level control has been satisfied, push and turn the timer to (OFF), open washer, and measure the depth of water. ON (MIN) setting the depth should be 5.2" to 6.4".
- F. Close lid, advance water level control to (Large), and turn timer to fill cycle. After the water level control has been satisfied, push and turn timer to (OFF), open washer lid and measure depth of water. ON (LARGE) setting the depth should be 11.9" to 13.5". Settimerto drain cycle and drain washer.
- G. Disconnect the laundry center from electrical supply.
- H. Remove the wire from terminal "2" on the water level control.

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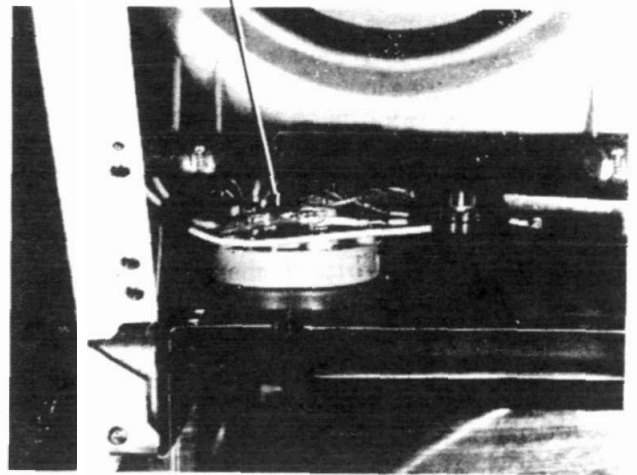
- I. Check continuity between terminals 2 and 3. Continuity should exist. If no continuity, replace the water level control.
- J. Remove the pressure tube from water level control and attach a short piece of scrap pressure tube to water level control. Blow into the tube until water level control "trips". Then tightly clamp end of tubing shut.
- K. Recheck continuity between terminals 2 and 3. No continuity should exist. Leave the clamped scrap tubing attached to the water level control for a few minutes. If water level control "trips" during this time, the internal diaphragm is leaking and the water level control must be replaced.

TO REMOVE OR REPLACE WATER LEVEL PRESSURE CONTROL SWITCH (ROTARY DIAL OPERATED):

- A. Remove dryer front service access panel and safety panel.
- B. Remove 4 screws securing the console and controls assembly to side panels.
- C. Disconnect electrical wiring connector blocks.
- D. Lay console and controls assembly on a protected surface.
- E. Remove water level pressure control switch knob.
- F. Remove two screws securing water level pressure control switch to control bracket.
- G. Remove and transfer all electrical wiring and pressure tube to the new water level pressure control switch.



Water Level Pressure Control Switch



Remote Water Level Pressure Control Switch

TO REMOVE OR REPLACE WATER LEVEL PRESSURE CONTROL SWITCH (REMOTE OPERATED):

- A. Remove dryer front access panel.
- B. Remove water level pressure control switch tube.
- C. Remove water level pressure control switch by pulling out from it slide in slot.
- D. Remove and transfer all electrical wiring to the new water level pressure control switch.
- E. Reverse procedure to reassemble.

WATER TEMPERATURE SELECTOR SWITCH

The water temperature selector switch controls the temperature of the water entering the machine. It is a four position switch that provides four cycle combinations: hot wash and cold rinse; cold wash and cold rinse; warm wash and warm rinse; warm wash and cold rinse.

The electrical check for the water temperature switch is listed in the temperature switch chart on the electrical diagram. (see example only).

WATER TEMPERATURE SELECTOR SWITCH

SWITCH POSITION	TS1 - TS5	TS2 - TS5	TS2 - TS6
WARM WASH - WARM RINSE	X	X	X
COLD WASH - COLDRINSE	X	O	O
WARM WASH - COLD RINSE	X	O	X
HOT WASH - COLD RINSE	O	O	X

X = CLOSED
O = OPEN

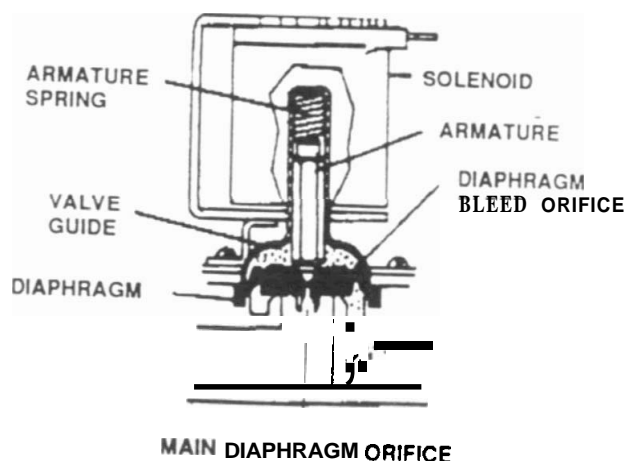
Water Temperature Selector Switch Chart

WATER INLET MIXING VALVE

The water inlet mixing valve is actually two solenoid operated valves in one body. A hot water inlet and cold water inlet valve discharge into a common mixing chamber, the flow of water out of the chamber is controlled by a rubber washer capable of maintaining a flow rate of 5 gallons per minute (+-10%) with incoming water pressure of 30 to 120 p.s.i. The inlet valves are controlled by the timer and water temperature selector switch, individually or together, to provide hot, cold, or warm water for washing. The temperature of the warm mixture is dependent upon the temperature and pressure of the hot and cold water supply lines.

VALVE OPERATION

Both inlet solenoid valves are identical in construction and operation. The valve body provides an air inlet connection and a passage with a large seat where the water flow can be stopped. The outlet of the valvebody empties into the mixing chamber. A moveable rubber diaphragm operates against the valve seat to start and stop the flow of water. The diaphragm is operated by water pressure. It has a small bleed orifice outside the seat contact area, and a large main orifice at its center. The armature of the solenoid serves to open and close the main orifice. The armature operates within a closed metal tube (valve guide) which is sealed by the outer edge of the diaphragm to the valve body. A coil spring holds the armature down against the diaphragm main orifice when the solenoid is not energized.



Water Valve Closed

The illustration shows a valve in the closed position and not energized. Water has passed through the diaphragm bleed orifice, placing incoming line water pressure on top of the diaphragm. The bottom of the diaphragm is essentially at atmospheric pressure (open to outlet). This pressure differential will hold the valve shut.

When the solenoid is energized, the resulting magnetic field pulls the armature up into the valve guide.

The armature spring is compressed by this action. When the armature moves up, it allows the water on the top side to the diaphragm to flow through the main orifice.

The diaphragm bleed orifice is much smaller than the main orifice and will not admit enough water to maintain pressure on the top side of the diaphragm, thus the pressure on the top of the diaphragm is reduced to almost zero. Therefore, the pressure under the bleed orifice lifts the diaphragm off of the valve seat allowing a full flow of water.

When the solenoid is de-energized, the armature drops down, closing the diaphragm main orifice. Water continues to flow through the diaphragm bleed orifice, building up pressure until it equalizes on both sides of the diaphragm. The spring then forces the diaphragm down against the valve seat.

TO TEST WATER VALVE

- A. Make a continuity check of the harness to determine whether or not a circuit exist.
- B. Use an ohmmeter, resistance of the solenoid should be approximately 880 ohm @77 degree F.

(con't)

- C. If harness and solenoid test check ok , simulate a normal valve operation by testing solenoid coil using a separate 115 volt power supply directly, with a properly fused and grounded service cord.
- D. If water valve operates on both solenoids, check timer, water level pressure control switch, and water temperature selector circuits. If water valve fails to operate, check valve inlet screens for debris and/or replace water inlet valve.

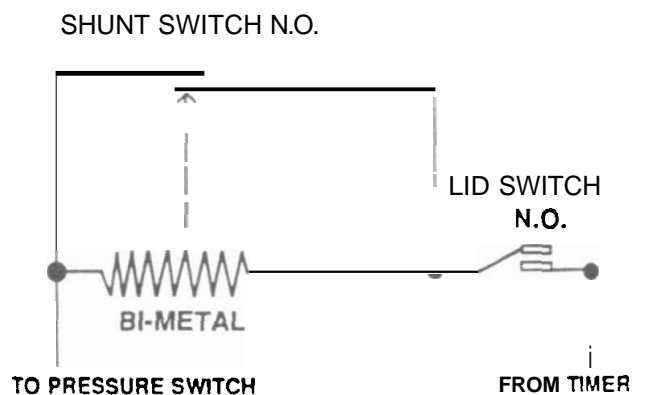
LID SWITCH AND LOCK ASSEMBLY

The lid switch and lock assembly is mounted to the top right corner of the washer cabinet top, is wired in series with the drive motor, and opens the circuit to the motor whenever the lid opened. However, the lid switch is effective only during the spin cycle. During the wash and rinse cycles the lid switch is bypassed by a parallel circuit through a timer contact, and the motor continues to operate even when the lid and lid switch are open.

This assembly incorporates the lid switch, bit-metal, and a shunt switch in a phenolic case that is mounted to a bracket. The lid locks approximately three seconds after the machine starts to spin, when the bit-metal strip energizes and pulls the locking arm into the lid strike. The shunt switch helps to protect the bit-metal from excessive current draw.

LID SWITCH-LID LOCK TESTING

NOTE: DO NOT ATTEMPT TO CHECK LID LOCK BY PLACING LINE VOLTAGE ON THE DEVICE.



Lid Switch and Lid Lock Wiring Details

LID SWITCH-LID LOCK TESTING (CONT)

Resistance is less than one ohm. A check can be made by using a jumper wire across the terminals of the switch when testing the washer under repeated spin starts. This will prevent excessive overheating of the bi-metal.

When the bi-metal is de-energized the unlock time may vary from 18 to 50 seconds, depending on the ambient conditions, length of time the unit has been running, water temperature, and load size.

It is important to check the bi-metal operation when servicing the washer. Always check for continuity of the bi-metal when replacing a new lock assembly.

LID LOCK SWITCH SHIELD

The lid lock switch shield is galvanized steel and surrounds the lid lock switch, a UL requirement for safety.



Book _____ Page _____

Pub# _____

Dwg# 31-2051

GE Consumer Service Training

TECHNICIAN MANUAL

27" LAUNDRY CENTER VOL. II DRYER

**SPACEMAKER
WASHER/DRYER**

WSM2700L/R
WSM2780L/R

1WAY VENT, REAR

PUB. NO. 31-2051

Book AM-5 Page _____

Pub# _____

Dwg# 31-2051

GEAS 061192

DRYER INDEX

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4. REPLACE DRYER DRUM REAR SUPPORT BEARING
5. DRYER DRIVE MOTOR
6. REPLACE DRYER DRIVE MOTOR
7. DRUM DRIVE BELT/IDLER ASSEMBLY
8. DRYER ELECTRICAL COMPONENTS TEST
9. DRYER TIMER
10. SAFETY THERMOSTAT
11. HEAT CONTROL THERMOSTAT TESTING
12. DRIVE MOTOR TESTING
13. DRYER TIMER/HEATER/FUSESTAT
14. GAS COMPONENTS REPAIR
15. GAS VALVE OPERATING SEQUENCE

DRYER FEATURES/REQUIREMENTS

FEATURES

CAPACITY...5.5 CU.FT.

DRYER CYCLE SELECTIONS...4

AUTOMATIC
TIMED DRY
DELICATE
AIR FLUFF

DRYING TEMPERATURE SELECTIONS...4

TIMED DRY.....HIGH
AUTOMATIC...MEDIUM
DELICATE.....LOW
FLUFF.....NO HEAT

LINT FILTER

REMOVABLE FOR CLEANING
POLYESTER SCREW

CONTROLS

ROTARY TIMER
START SWITCH...PUSH BUTTON

END OF CYCLE SIGNAL

BUZZER...1 SECOND

AIR FLOW (UNRESTRICTED)

170 CFM

DRYER DRUM SPEED

48 TO 54 RPM

DRIVE MOTOR

1/4 HP @ 120 VOLTS
1725 RPM

VENT OPTIONS

REAR VENTING ONLY

REQUIREMENTS

ELECTRICAL

120/240 or 120/208 volt single phase, 60HZ individual branch circuit protected by 30 amp time-delay fuses or circuit breaker or 20 amp for gas.

EXHAUST INFORMATION

Refer to SPACEMAKER LAUNDRY installation instructions for complete details.

HEATING ELEMENT

1 wattage @ 208/204 volts, 60HZ 3400/4500.

DRYER DRUM ROTATION

(Counter clockwise empty, RPM 48-54

SAFETY THERMOSTAT

OPENS $260^{\circ}\text{F} \pm 8^{\circ}\text{F}$
CLOSES $190^{\circ}\text{F} \pm 11^{\circ}\text{F}$

HEAT CONTROL

THERMOSTAT

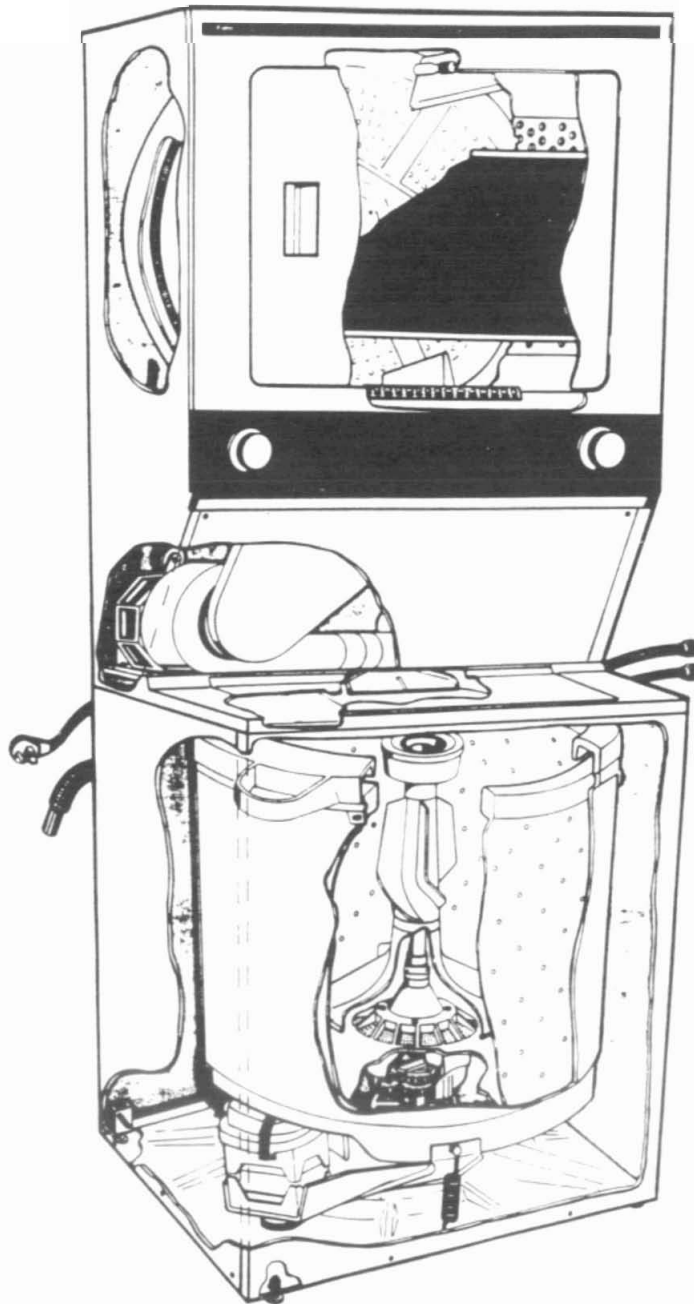
OPENS 145°F to 190°F
CLOSES 110°F to 120°F

THERMOLIMITER $300^{\circ}\text{F} \pm 12^{\circ}\text{F}$

PRODUCT CUT-A-WAY VIEW

27"

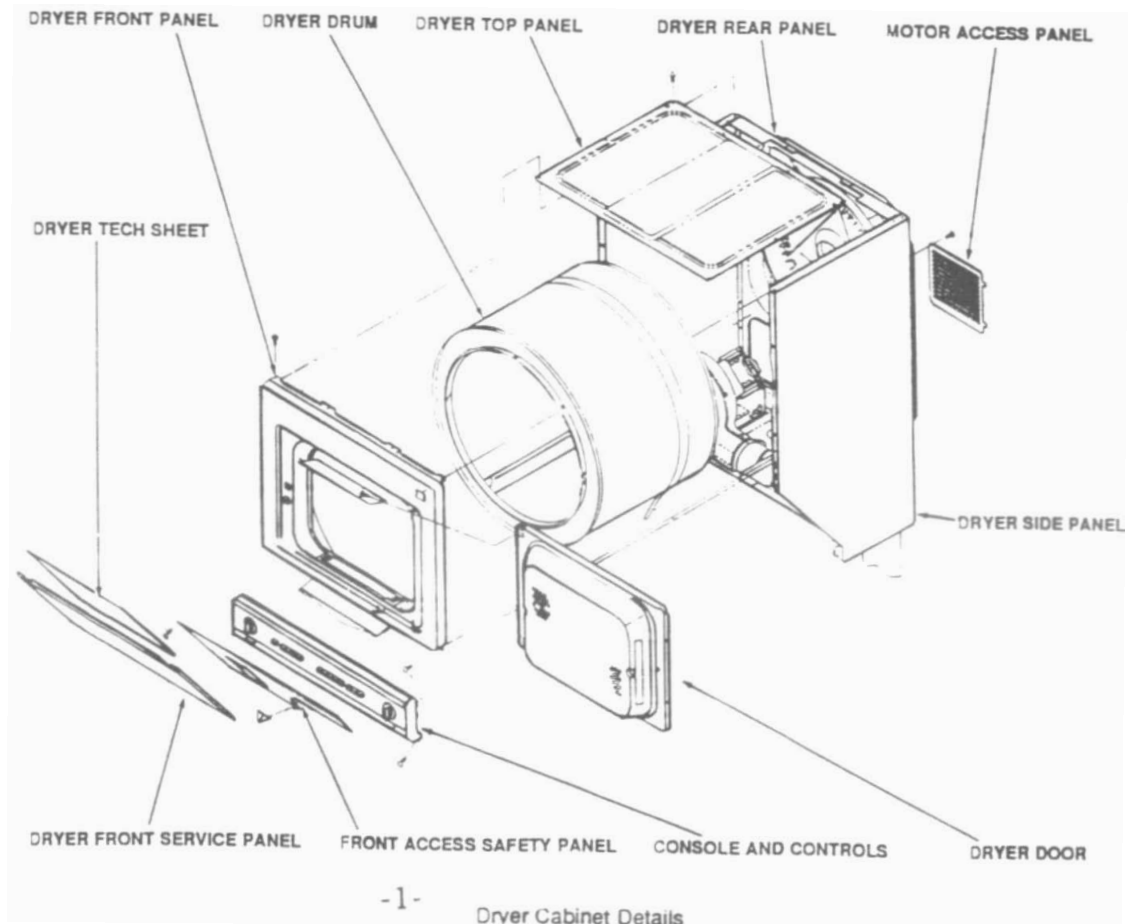
LAUNDRY CENTER



DRYER COMPONENT AND PARTS

The dryer consist of a white 5.5 cubic foot, cold rolled steel, rotating drum, a blower capable of moving a large volume of air, and an electrical heat source. A one speed dual shaft 1/4 horsepower motor drives both the blower and drum.

The drum is a metal cylinder driven by a flat belt which rides on its outer surface, and a series of pulleys. The drum support system consist of a plastic bearing that snaps into the inside of the front drum flange, and a felt seal which is glued to the front panel assembly. The rear of the drum is supported by a ball and socket type bearing that resembles a trailer hitch. A heater element is mounted to the backside of the rear panel. The blower discharges the moisture laden air to the rear vent duct system. The dryer is mounted on top of the washer by means of marriage bracket.



DRYER DRUM

TO REMOVE OR REPLACE DRYER DRUM:

- A. Remove dryer access panel.
- B. Remove console and controls.
- C. Reach through and release drum belt from idler pulley to relieve tension on the front panel.
- D. Remove two lower front screws securing the dryer front panel assembly to side panels.
- E. Remove four upper top front screws securing the dryer front panel assembly.
- F. Remove dryer top panel.
- G. Remove dryer drum by lifting up to release from rear bearing support (trailer hitch).
- H. Reverse procedure to reassemble.

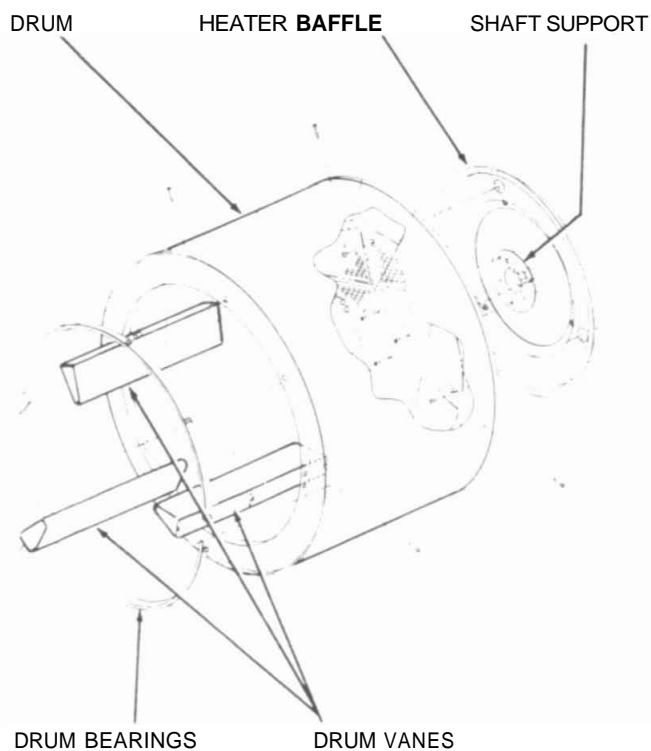


Figure G2
Dryer Drum Assembly

DRYER DRUM FRONT RING BEARINGS

The dryer drum has two ring bearings made of Celcon M90, mounted 180 degrees apart around the inside of the drum. The bearings snap into holes (5 for each bearing) around the front drum opening and are supported by a felt seal attached to the dryer front panel, inner door opening, rim flange.

TO REMOVE OR REPLACE DRYER DRUM FRONT RING BEARINGS:

- A. Remove dryer access panel.
- B. Remove console and controls.
- C. Reach through and release drum belt from idler pulley to relieve tension on the front panel.
- D. Remove two lower front screws securing the dryer front panel assembly to side panels.
- E. Remove four upper top front screws securing the dryer front panel assembly.
- F. Carefully remove the dryer front panel assembly, remove and reinstall dryer drum front ring bearing(s).

SNAP INTO PLACE

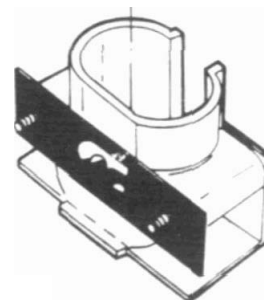
DRYER DRUM REAR SUPPORT BEARING

The dryer drum rear support bearing is a "u" shaped nylatron block that acts as the bearing surface for the dryer drum rear support. The bearing assembly, which includes two mounting screws, a mounting bracket, a grounding clip, and a small ball bearing, is mounted to the cabinet rear panel and is lubricated with Lubri-Plate. The ball bearing completes a grounding path from the drum to the cabinet and prevents axial movement of the dryer drum.

(con't)

TO REMOVE OR REPLACE DRYER DRUM REAR SUPPORT BEARING:

- A. Remove dryer front panel.
- B. Remove console and controls.
- C. Reach through and release drum belt from idler pulley to relieve tension on the front panel.
- D. Remove four upper top front screws securing the dryer front panel assembly.
- E. Remove two lower front screws securing the dryer front panel assembly to sides.
- F. Carefully remove the dryer front panel assembly.
- G. Remove dryer top panel.
- H. Remove dryer drum by lifting up to release from rear bearing support (trailer hitch).
- I. Remove two screws securing dryer drum rear support shaft bearing assembly.
- J. Tape grounding clip in correct position on back of cabinet.
- K. Apply a small amount of Lubri-Plate to the ball bearing surface, and insert the ball bearing into the recess.
Note: The small ball bearing must be positioned between the support bearing and the grounding clip.
- L. Install new dryer drum rear support shaft bearing assembly.
- M. Apply a liberal amount of Lubri-Plate to the grooves of the support bearing.



Dryer Drum Rear Support Bearing Assembly

DRYER DRIVE MOTOR

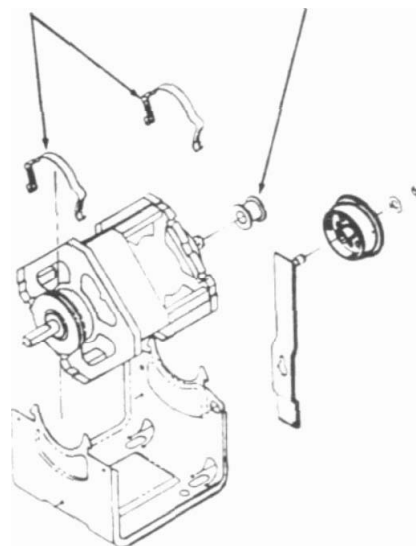
The dryer drive motor is a single speed dual shaft, 1725 r.p.m., 1/8 h.p. motor, rated at 120 volt, 60 hz. An internal overload protector is built into the motor and will open due to excessive temperature rise and/or excessive current. If the overload protector opens, all dryer operations will stop. The motor protector is self-resetting and may take as long as 30 seconds to reset.

The dryer drive motor has a multiple terminal, snap-on, electrical wiring connector block.

The centrifugal switch in the dryer motor performs three functions. When the motor is at rest, a single-pole, double throw (spdt) contact closes a circuit to the motor start windings. When the motor is started, power is momentarily supplied to the motor through the push-to-start switch. As the the motor comes to speed, the (spdt) contact disconnects the start winding and supplies power to the run winding. This provides a holding circuit to keep the motor operating after the momentary push-to-start switch is released. As the motor switch operates, a second set of contacts closes a circuit to the heating element. This portion of the motor switch prevents the heater from operating until the motor is operating at normal speed. The motor start switch is not replaceable.

MOTOR MOUNTING CLAMPS

DRIVE PULLEY



TO REMOVE OR REPLACE DRYER DRIVE
MOTOR:

- A. Disconnect Laundry Center from electrical supply.
- B. Remove dryer front access/safety panel.
- C. Remove console and controls.
- D. Reach through and release drum belt from idler pulley to relieve tension on the front panel.
- E. Remove two lower front screws securing the dryer front panel assembly to side panels.
- F. Remove four upper top front screws securing the dryer front panel assembly.
- G. Carefully remove the dryer front panel assembly.
- H. Remove dryer top panel.
- I. Remove dryer drum by lifting up to release from rear bearing support (trailer hitch).
- J. Remove two screws securing the exhaust vent elbow to the blower housing.
- K. Remove six screws securing the dryer front blower housing to the rear blower housing.
- L. Loosen the hex bolt securing the blower wheel, and slide blower wheel off drive motor shaft.
- M. Remove three screws securing the rear blower housing to the drive motor cradle.
- N. Release the electrical wiring connector block to the drive motor.
- O. Remove two clamps securing the drive motor to mounting cradle.
- P. Remove the dryer drive motor belt pulley (press on **fit**, flush with end of motor shaft.)
- Q. Install new dryer drive motor.
- R. Reverse procedure to reassemble.

DRYER DRUM DRIVE BELT

The dryer drum drive belt is a neoprene, fiberglass, and nylon tire cord reinforced flat drive belt. The dryer drum drive belt is driven by the dryer drive motor pulley around the dryer drum. Proper tension is maintained by an idler pulley and arm assembly.

TO REMOVE OR REPLACE DRYER DRUM DRIVE BELT:

- A. Remove dryer front access panel and safety cover.
- B. Reach through and release drum belt from idler pulley to relieve tension on the front panel.
- C. Remove two lower front screws securing the dryer front panel assembly to side panels.
- D. Remove four upper top front screws securing the dryer front panel assembly.
- E. Carefully remove the dryer front panel assembly.
- F. Remove dryer drum by lifting up to release from rear bearing support (trailer hitch).
- G. Install new dryer drum drive belt.
- H. Reverse procedure to reassemble.

IDLER ASSEMBLY

The idler assembly consists of an idler arm, a pulley, and a spring to maintain constant tension on the drive belt for proper drum speed. The idler arm bracket has a key hole slot and mounts over a stud on the rear of the drive motor cradle.

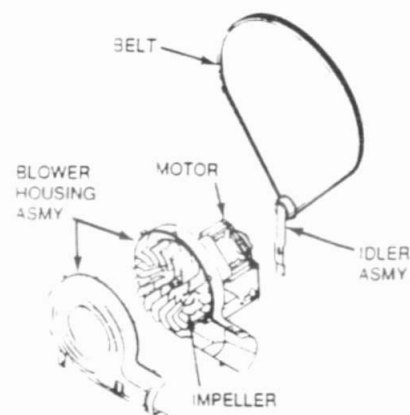
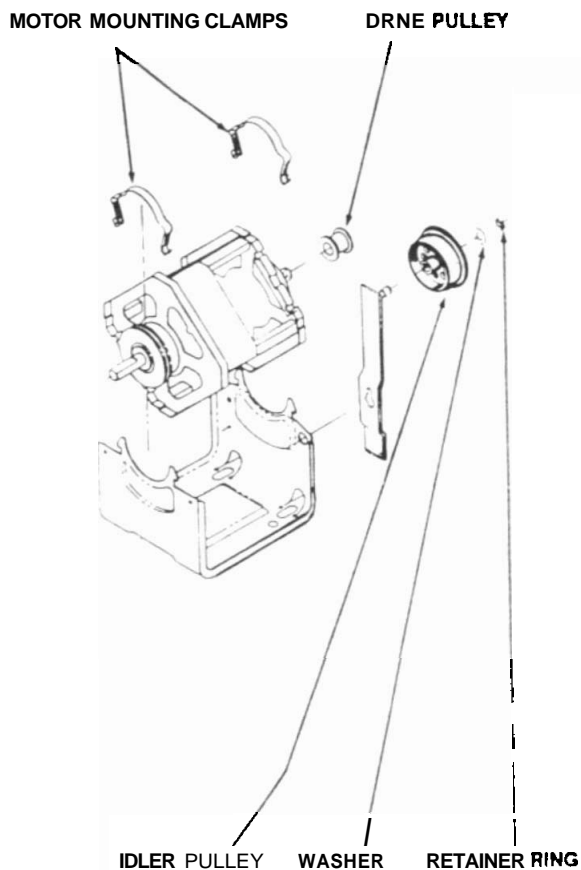


Figure G2
Dryer Drive Motor, Belt, Idler Assembly
and Blower Wheel Assembly

DRYER ELECTRICAL COMPONENTS TEST AND REPAIR

PUSH TO START DOOR SWITCH:

The push to start door switch is a single pole, single throw normally open switch mounted in the control panel. The user momentarily presses the switch button to actuate the dryer drive motor.

The door switch is a single pole single throw normally open switch mounted in the dryer front panel. **It it** is actuated by the dryer door.

Both switches are normally open. They are in series with each other, and are connected in the hot side of the line between the timer and the drive motor. Neither motor will operate until the dryer door is closed and the start switch is momentarily depressed (closed) by the user. The push to start switch is also in parallel with the centrifugal start switch in the motor. When the motor is up to speed, the centrifugal switch maintains the circuit momentarily established by depressing the push to start switch.

PUSH TO START TESTING

- A. Remove dryer front service panel.
- B. Remove four screws securing the console and controls assembly to side panel.
- C. Disconnect electrical wiring connector blocks.
- D. Lay console and controls assembly on a protected surface.
- E. Remove wires from push to start switch and connect ohmmeter across terminals.
- F. Press button, ohmmeter should show continuity.
- G. **If** no continuity, replace push to start switch.

DRYER TIMER

The dryer timer primarily controls the length of time the dryer operates. The timer consists of a series of cams and switches driven by a synchronous motor. It is set by rotating the knob and dial clockwise. There is no push pull switch in the dryer timer. The timer motor operates on 120 volts, 60 hz. In the timed cycle, the timer motor is controlled by the internal contacts of the timer. In the automatic cycle, the timer motor is controlled by backside contact #2 of the heat control thermostat.

DRYER TIMER MOTOR TESTING:

If the timer does not advance in the timed cycle(s), disconnect the timer motor leads from the timer and/or other terminals, and connect them to a fused test cord. Plug test cord into a 120 volt outlet. If the timer does not advance, replace timer.

FABRIC TEMPERATURE SELECTOR SWITCH

The fabric temperature selector switch is either a rotary or a push button switch which allows the user to select the proper temperature for each clothes load. This is accomplished in conjunction with the heat control thermostat. All fabric temperature selector switches have a set of contacts which directly control power to the dryer gas burner. These contacts are open for no heat drying. Some fabric selector switches have an additional contact which supplies current to the control thermostat biasing heater as follows:

SAFETY THERMOSTAT

The safety thermostat is snap action, automatic reset, enclosed disc type and provides protection for the dryer in the event of a blocked exhaust, clogged lint screen, or overloaded drum. **It** is mounted on the top side of the heater housing, in the air stream, and senses heat build up.

SAFETY THERMOSTAT TESTING:

- A. Disconnect Unit from electrical supply.
- B. Remove dryer top panel.
- C. Remove leads to the safety thermostat.
- D. Connect ohmmeter across safety thermostat terminals.
- E. The ohmmeter should show continuity between the two thermostat terminals at room temperature.
- F. To check for stuck contacts in the thermostat, run the dryer on high heat with the exhaust duct completely blocked. The contacts must be open within three minutes.

HEAT CONTROL THERMOSTAT

The heat control thermostat is a single pole, single throw, normally closed (but opens on temperature rise), bi-metal, snap action switch. **It** opens and closes internal contacts to control the temperature of the air flowing through the dryer. The control thermostat is located in the blower housing and is in series with the gas burner. On some models the control thermostat has a low wattage biasing heater mounted close to the bi-metal. When the bias heater is energized, the bi-metal heats up more quickly and open the circuit to the gas burner at a lower drum air temperature. Refer to wiring diagram for correct information on specific models.

HEAT CONTROL THERMOSTAT TESTING:

- A. Disconnect unit from electrical supply.
- B. Remove dryer front access panels.
- C. Remove wires from the heat control thermostat terminals. Ohmmeter should show continuity between terminals at room temperature.
- D. To check cut-out temperatures, insert a thermocouple sensing lead into the lint trap. Allow the dryer to run long enough to permit the thermostat to cycle 3 or 4 times. The temperature after the third or fourth cycle should compy with temperature chart.

HEAT CONTROL THERMOSTAT BIASING HEATER.

- A. Disconnect unit from electrical supply
- B. Remove dryer front access panel.
- C. Remove electrical wiring to the heat control thermostat biasing heater and connect ohmmeter across terminals.
- D. Should show 10,000 +- 10% ohms.

END OF CYCLE BUZZER

The end-of-cycle buzzer sounds for approximately five seconds at the end of any drying cycle, indicating to the user that the clothes should be removed from the dryer at that time to avoid wrinkling. Auto Dry Cycle has a 10 minute cool down period as opposed to the 6 minute cool down period for timed dry. Contact W to BL will close, allowing the current to flow through the buzzer coil, the pulser will sllow the buzzer to sound for five seconds of each 50 seconds of a five minute interval, alerting the user every 5 minutes with the end-of-cycle buzzer.

The end-of-cycle buzzer is part of the dryer timer.

DRYER DRIVE MOTOR TESTING:

The motor, motor protector, and centrifugal motor switch are the three components that must function correctly in order for the motor to run. To determine the cause of a motor that is not operating correctly, it is necessary to isolate the related components from the rest of the circuitry. The following service test procedures are suggested to help locate a defective component in the motor circuit.

- A. Disconnect laundry center from electrical supply.
- B. Remove dryer access panels.
- C. Remove console and controls.
- D. Reach through and release drum belt from idler pulley to relieve tension on the front panel.
- E. Remove two lower front screws securing the dryer front panel assembly to side panels.
- F. Remove four upper top front screws securing the dryer front panel.
- G. Carefully remove the dryer front assembly panel.
- H. Remove dryer top panel.
- I. Remove dryer drum by lifting up to release from rear bearing support.
- J. Disconnect all wires coming from the wiring harness to the motor start switch. Do not disconnect the wires that come from inside the motor itself.
- K. Connect a properly fused test cord to terminals 1 and 4 of the motor start switch. If the motor runs, the problem is in the dryer wiring or control. If it does not run, continue the test procedure.

The motor overload protector is not available as a replacement part. It will reset when it cools down. Allow it to cool and recheck again.

DRYERTIMER

The timer motor operates on 120 volts on 208/240 volt laundry units. In the timed cycle, the timer motor is connected to one side of the power supply line and neutral, providing 120 volts for operation. In the automatic cycle, the timer motor is connected across the 208/240 volt lines, but in series with a 4.4k ohm dropping resistor, again providing 120 volts to the timer motor.

HEATER ASSEMBLY

The heater assembly, 208/240 volts, 3400/4500 watts, is located between the rear (outer) panel and the drum back panel and is secured with 4 screws. The heater is an open coil type heater made from a continuous coil of resistance wire attached to a metal support housing with ceramic stand offs.

SAFETY THERMOSTAT

The safety thermostat is a snap action, automatic reset enclosed disc type and provides protection for the dryer in the event of a blocked exhaust, clogged lint screen, or overloaded drum. It is mounted on the top side of the heater housing, in the air stream, and senses heat build up.

HI TEMP THERMAL LIMITER FUSESTAT

The high temperature thermal limiter is a single pole, single throw, temperature activated fusestat, that when tripped will open the circuit to the motor preventing the dryer from operating. The high temperature thermal limiter fusestat cannot be reset. It is mounted on the top side of the heater housing, in the air stream and senses heat build up.

GAS COMPONENTS REPAIR

BURNER ASSEMBLY

The heat source for the gas dryer is the burner assembly shown below. The burner assembly consists of a combination gas valve assembly, a burner, and a burner tube. The burner comes from the factory sized and adjusted to deliver heat at the rate of 20,000 B.T.U.'s per hour using natural gas. The burner assembly is mounted to the access shield located behind the dryer access panel.

WARNING: No other fuel should be used with the burner assembly unless properly modified by a qualified service technician.

COMBINATION GAS VALVE

The combination gas valve assembly includes two solenoid shut-off valves, a gas pressure regulator, and a gas orifice assembled into a single cast body. The pressure regulator is factory set to maintain 3 1/2" of water column gas pressure at the orifice. The regulator is service adjustable. The two solenoid valves are in series such that the gas flowing through the pressure regulator must pass through both valves to get to the orifice and burner. The first solenoid valve is referred to as the split coil valve. The electrical coil which operates the valve is made up of two coils stacked in one housing. The upper holding coil is capable of holding the valve open but is not able to open the valve from its normally closed position. To open the valve, the lower booster coil is energized. The second solenoid valve is called the secondary valve. This valve is operated by a single electrical coil which opens the valve and holds it open when the gas burner is in operation. The orifice is a precisely drilled brass plug screwed into the outlet port of the combination valve. The orifice extends into the burner. The combination of regulated pressure and orifice size provides the proper volume of gas for the heat rating of the burner.

BURNER

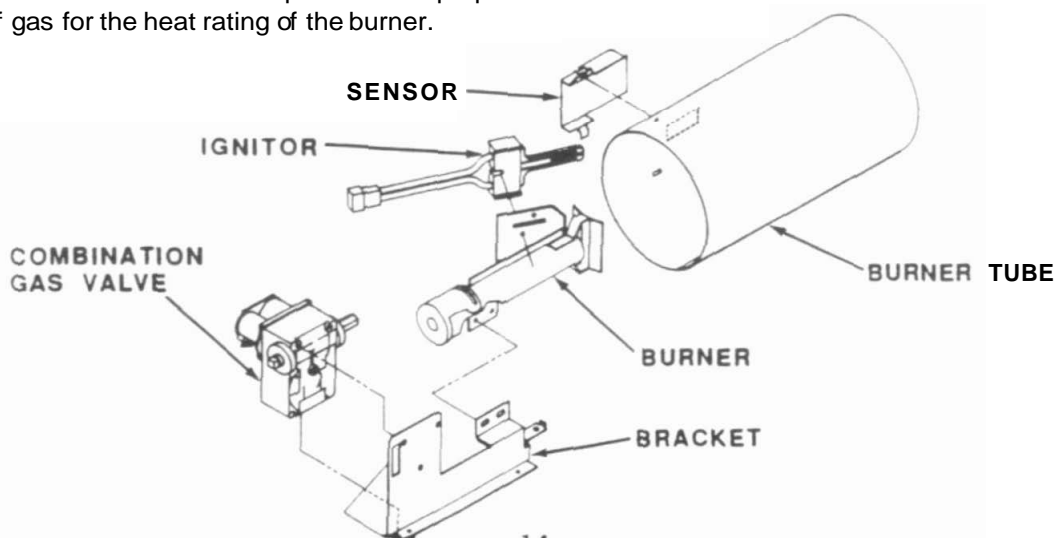
The burner is a short metal tube in which air is mixed with the gas fuel to provide a combustible mixture which will burn clean, without smoke or noxious fumes. An adjustable air shutter at the inlet controls the amount of mixing air. The shutter is preset and does not ordinarily require adjustment. A flamespreader extends out over the open end of the burner. This is the area where combustion of the fuel/air mixture takes place.

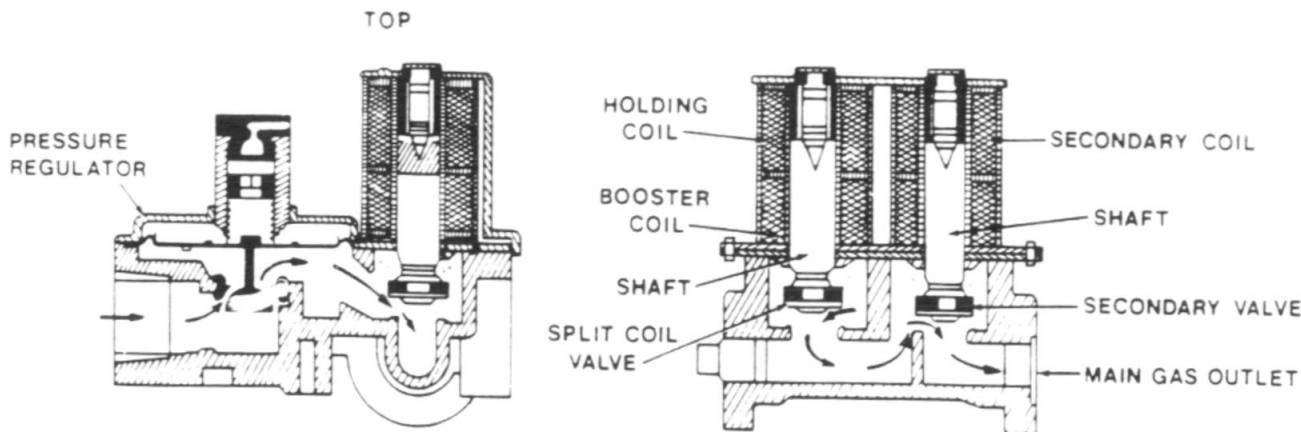
IGNITOR

Ignition of the fuel/air mixture is accomplished through the use of a silicon carbide ignitor (glow-bar). The ignitor is mounted to the burner at an angle with the glow-bar extended into the flame area. Silicon carbide is a material capable of withstanding very high temperature, but it is fragile and susceptible to contamination from skin oils and other foreign material. It must be handled with care, using the insulated support. Electrically, silicon carbide is a thermistor, i.e., its electrical resistance changes (decreases) as its temperature rises. When energized, the ignitor glow-bar begins to heat with its resistance steadily decreasing, reaching a temperature of 1800 F.

SENSOR

This device is located on the side of the burner tube. It consists of a thermostatically operated single pole, single throw (SPST), normally closed (NC) switch, mounted over a window cut into the burner tube. The sensor senses the intense heat, radiating initially from the ignitor, and then from the burner flame. The sensor opens within 15 to 90 seconds after the ignitor reaches ignition temperature. The reaction time is longest during a cold start-up.



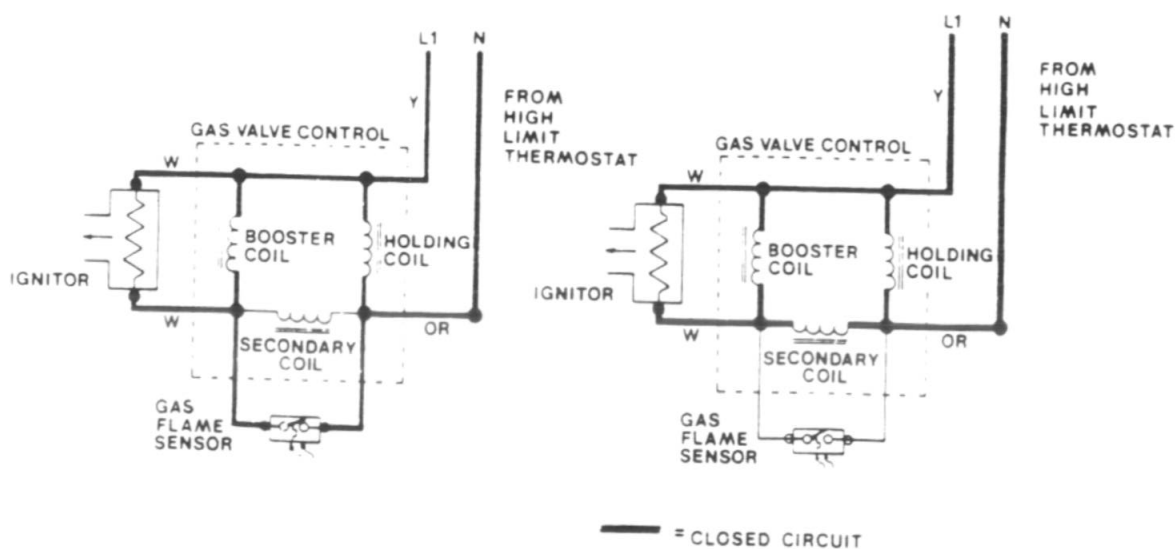


GAS VALVE OPERATING SEQUENCE

At the time of the dryer start-up, and upon a call for heat from the control thermostat, the ignitor is energized and the split coil valve opens as the following three circuits are simultaneously completed.

1. From the "hot" side of the line (YEL) through the holding coil to "neutral" (ORG).
2. From the "hot" side of the line (YEL) through the sensor and the booster coil to "neutral" (ORG).
3. From the "hot" side of the line (YEL) through the sensor and the ignitor to "neutral" (ORG).

Within 15 to 90 seconds after the ignitor reaches ignition temperature (1800 F), the sensor opens. At this point current for the ignitor passes through the secondary coil. Since the resistance of the ignitor is low when fully heated, the secondary valve opens and gas flows through the orifice into the burner. Ignition takes place. The impedance of the secondary coil reduces the current through the ignitor from approximately 4 amps to 1 amp and the current flow through the booster coil drops to almost zero. The split coil valve remains open because the holding coil remains fully energized. The sensor contacts are held open by the heat radiated by the flame. Burner operation will continue until electrical power to the burner assembly is interrupted by either the timer, the thermostat, the high limit thermostat, the door switch, the burner contacts on the motor switch (motor failure), blown



NOTES