

NEW WASHER FROM MABE



Revise June 21

O6-MAN-AW-02

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THE WARRANTY HAS CHANGED

Very Important: Starting Jan 1st 2006 production code **AL**, The warranty has changed to one year on parts & labor.

You will have to pay attention to serial numbers. Any appliance manufactured prior to **AL** will have the previous warranty and any appliance manufactures after **AL** will have a one year warranty on parts and labor.

IMPORTANT SAFETY NOTICE

Warning: This information is intended for use by individuals possessing adequate backgrounds of electrical, electronic and mechanical experience.

Any attempt to repair a major appliance may result in personal injury and property damage. The manufacturer or seller cannot be responsible for the interpretation of this information, nor can it assume any liability in connection with its use.

CAUTION

To avoid personal injury while servicing this unit, disconnect power before servicing. If grounding wires, screws, straps, clips, nuts, or washers used to complete a path to ground are removed for service, they must be returned to their original position and properly fastened.

EASY BRAND PRODUCT CHARACTERISTICS

PRODUCT FEATURES:

CAPACITY

2 sizes available:

24" width (2.5 cu. ft. capacity)

27" width (2.5 and 3.2 cu. ft. capacity)

Electronic controls, 4 to 6 wash cycles, bleach dispenser & fabric softener dispenser. *Fabric softener dispenser only available on some 27" models.

ENERGY / WATER

Efficiency (MEF: Modified Energy Factor) 1.04 minimum; 2004 compliant

Water Usage (WF: Water Factor) 43 + - 1 gallon

CONTROL

Location Rear

Control Type / Layout Electronic

GENERAL APPEARANCE, Unit Colors White

Plastic Basket

GENERAL FEATURES

Agitator

Leveling System

Bleach Dispenser

Basket Access Diameter, 15.148 inches

Wash Temperatures: "Hot" : 43 °C +- 2°C ; "Warm" 26°C +- 2°C ; "Cold": Supply water temperature

Rinse Temperatures: Supply water temperature

Water Levels: 3

WASH CYCLES

Total number: 4 to 6 wash cycles.

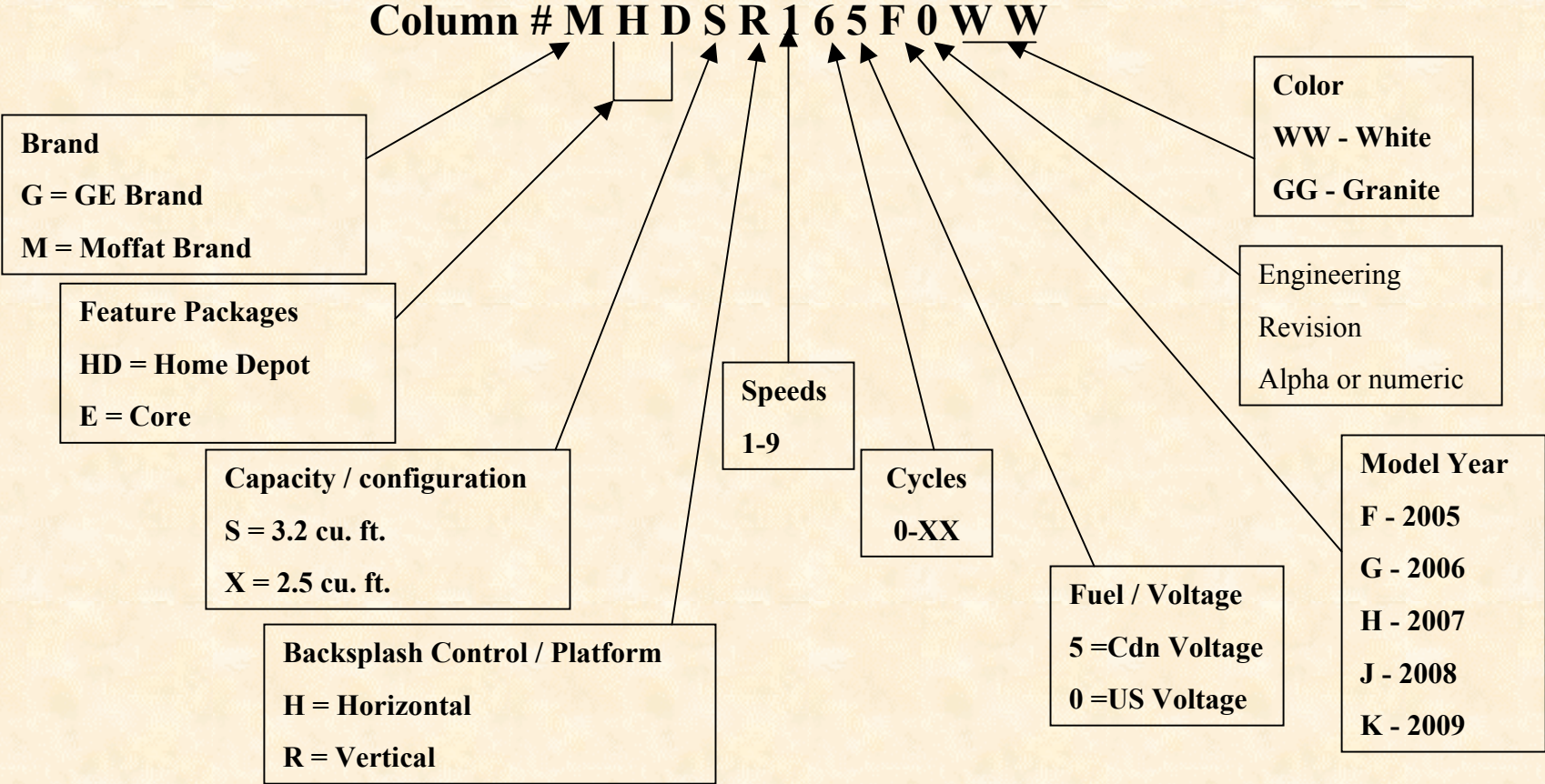
ELECTRICAL REQUIREMENTS

Voltage: 120 volt

Current: 12 amp maximum 60 Hz

SERIAL PLATE NOMENCLATURE DESCRIPTION

Mabe washer model nomenclature consists of 12 columns with the following assignments:



SERIAL PLATE

The plate is located on the washer's lid right bottom corner when it is open.



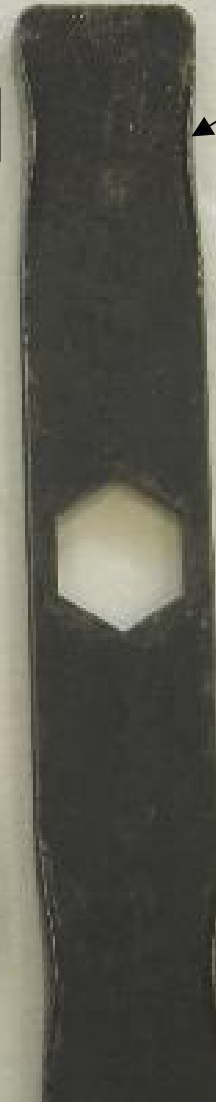
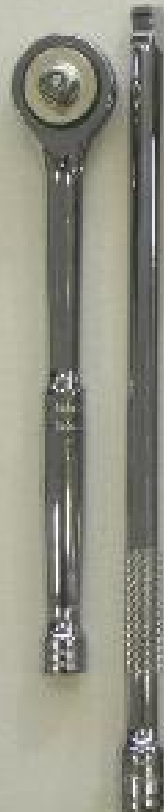
PRODUCT PLAN

Washers	Home depot			Home Depot	
Brand:	Moffat	GE	Moffat	Moffat	Moffat
Type of Washer	24" Top Load	24" Top Load	27" Top Load	27" Top Load	27" Top Load
Model number	MHDXR145FWW	GJXR1065FWW	MEXR1055FWW	MHDSR165FWW	MESR1065FWW
Based on MABE Model	TL903	TL903			
ANNUAL USAGE					
Capacity	Super	Super	Super	Super Plus	Super Plus
Capacity Cu. ft	2.5 cu.ft.	2.5 cu.ft.	2.5 cu.ft.	3.2 cuft	3.2 cuft
Energy					
DOE 2004 Energy	YES	YES	YES	YES	YES
Controls	Electronic	Electronic	Electronic	Electronic	Electronic
Wash/Rinse Temps	3 (locked)	3 (knob)	3 (locked)	3 (knob)	3 (knob)
Water Levels	3	3 (knob)	3 (knob)	3 (knob)	3 (knob)
Wash System					
Wash Basket	Permatuf II	Permatuf II	Permatuf II	Permatuf II	Permatuf II
Wash Mechanism	Straight	Straight	Straight	Deluxe	Deluxe
Wash/Spin Combinations	1	1	1	1	1
Drive System					
Motor	1 Speed	1 Speed	1 Speed	1 Speed	2 Speed
Transmission	Planetary Gear	Planetary Gear	Planetary Gear	Planetary Gear	Planetary Gear
Maximum Spin Speed	670	670	670	670	670
Dispensing Systems	Manual	Manual	Manual	Manual	Manual
Bleach	X	X	X	X	X
Fabric Softener				X	X
Signals					
Operation Indicator	LED	LED	LED	LED	LED
Wash Cycles					
Number of Programs	4	6	5	6	6
Heavy Duty	Whites(HOT)	Heavy Duty	Heavy Duty	Heavy Duty	Heavy Duty
Whites	Whites (WARM)	Whites	Whites	Whites	Whites
Colors	Mixed Load (COLD)	Colors	Mixed Load (COLD)	Colors	Colors
Easy Care	Mixed Load (WARM)	Easy Care	Mixed Load (WARM)	Easy Care	Easy Care
Delicates	Delicates	Gentle Wash	Delicates	Delicates	Delicates
Speed Cycle	Speed Cycle	Speed Cycle	Short Wash	Speed Cycle	Short Wash
Appearance					
Colors Available	WW Only	WW Only	WW Only	WW Only	WW Only

TOOLS



SOCKETS



ALLEN KEY



TORX

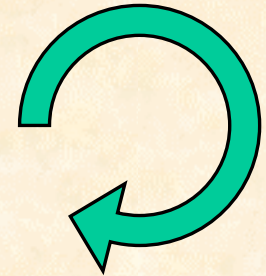


Lock Ring Pliers

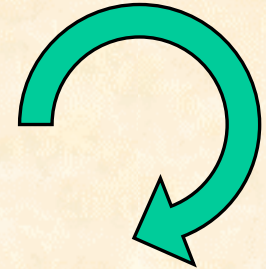
How agitation works

- 1 speed induction motor
- A different agitation arc for every cycle (reversing motor)
- The shorter the arc, more delicate the agitation...
- ...and lower SPMs means gentler wash!!!

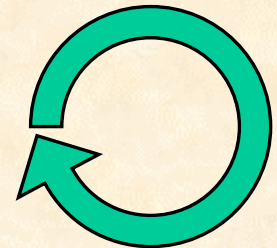
Colors= 280 degrees at
75 strokes per minute



Delicates= 240 degrees at
75 strokes per minute



Heavy Duty= 360 degrees at
90 strokes per minute



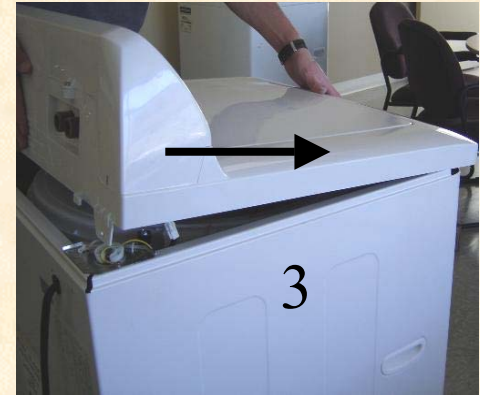
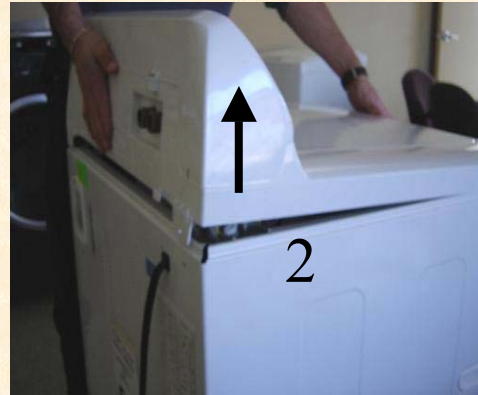
HOW TO REMOVE THE CONTROL PANEL

- 1- Remove the two screws behind the control panel.
- 2- Raise to remove.



HOW TO REMOVE THE TOP

Remove the two screws behind the washer. Pull the back of the top up and forward to remove. Notice 3 electrical plugs.

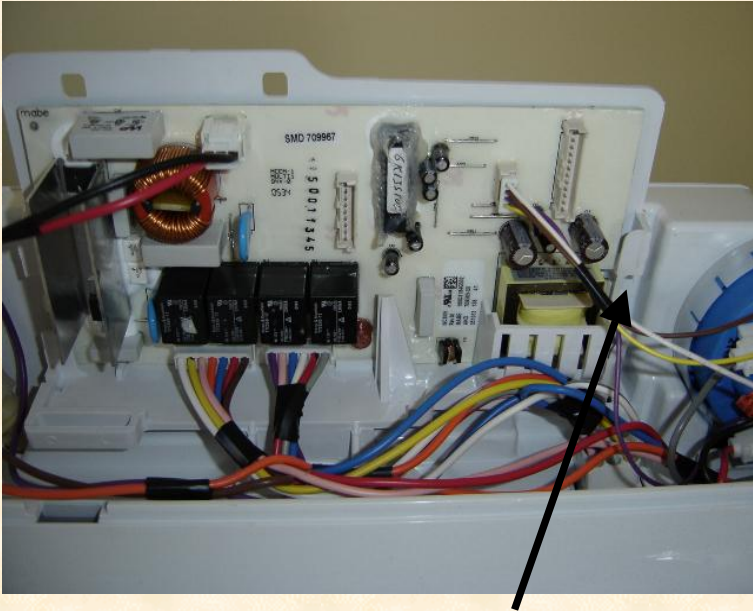
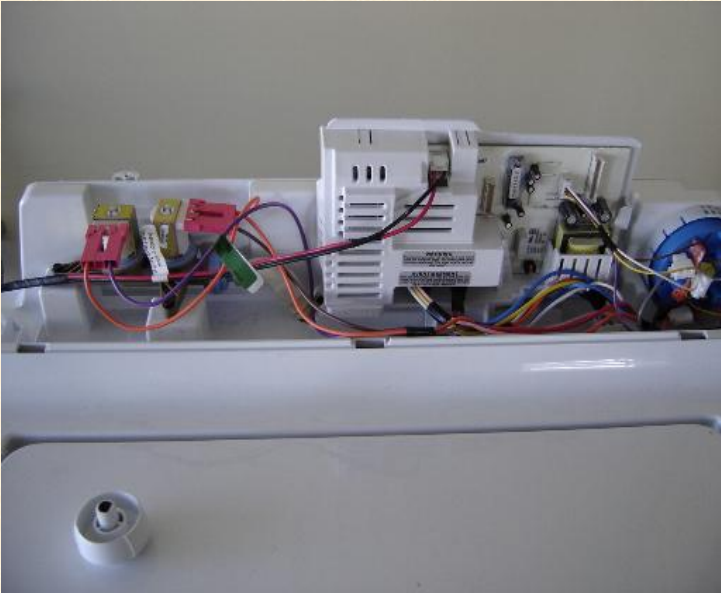


HOW TO REMOVE THE TOP (cont.)

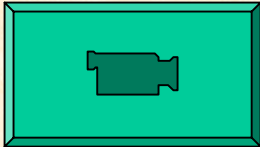
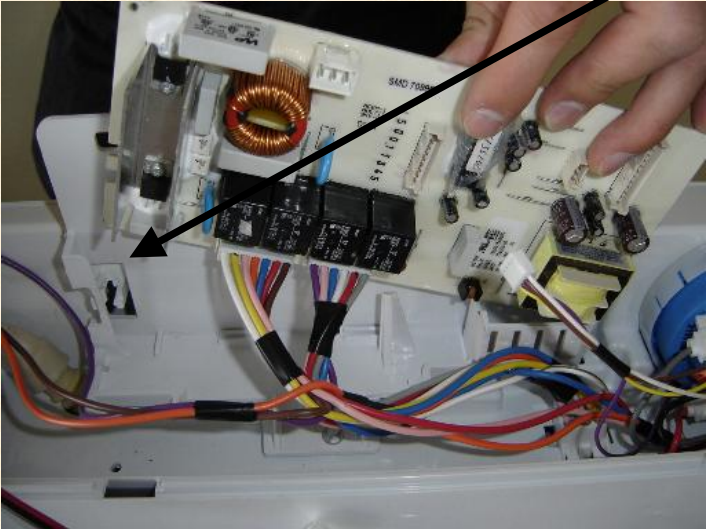
Disconnect the 3 electrical plugs and unplug the pressure switch hose to remove the top.



ELECTRONIC CONTROL (PCB)



The electronic control is held in place with plastic tabs.



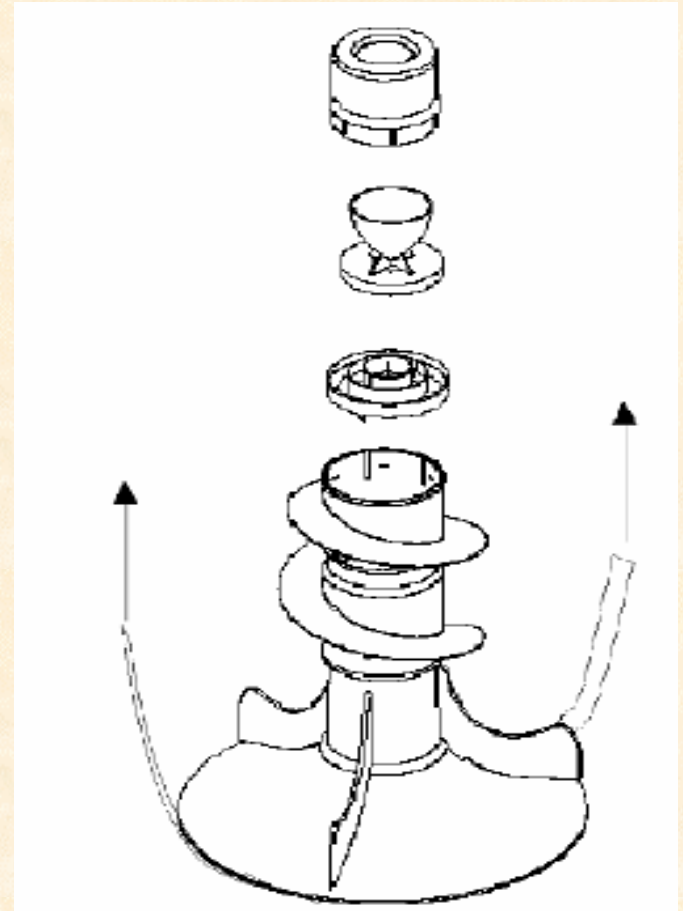
AGITATORS

There are two different kinds of agitators depending on the model, 3.2 & 2.5 cu.ft.

The **3.2, cu.ft.** washer agitator is held by the coupling. (air bell) (friction fit)

Agitator puller (belt WH5X1326)

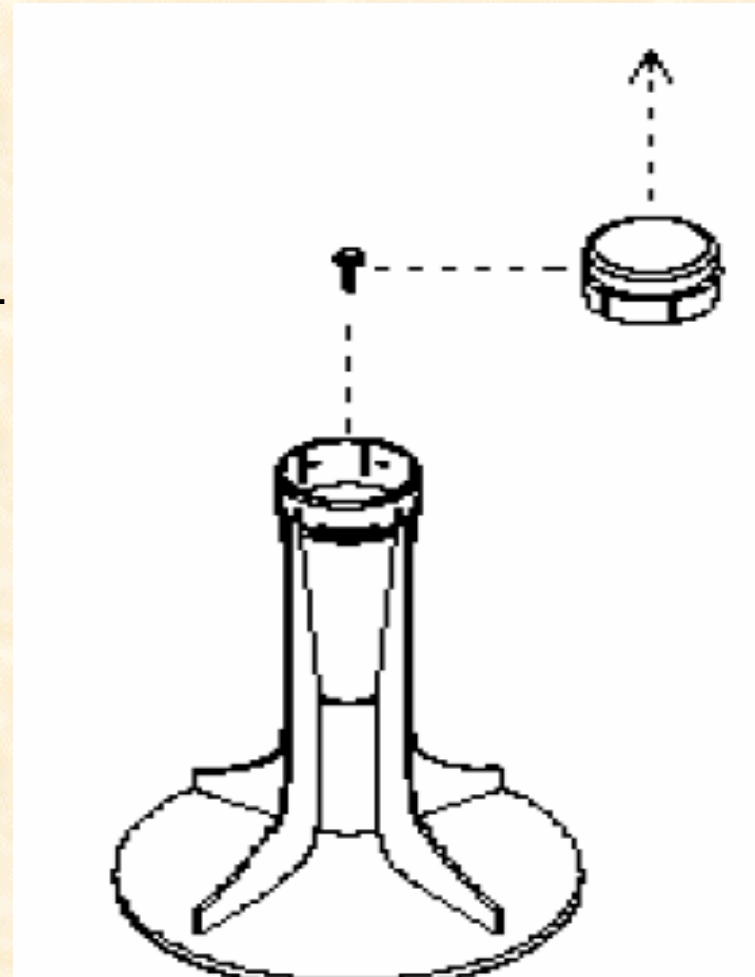
can be used to remove.



AGITATORS (cont.)

The **2.5 cu.ft.** model agitator is held in place with a 3/8" bolt.

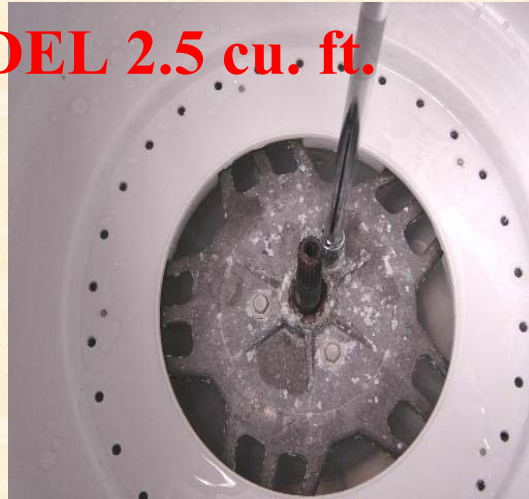
Use a 3/8 socket with a 14 in. extension to remove.



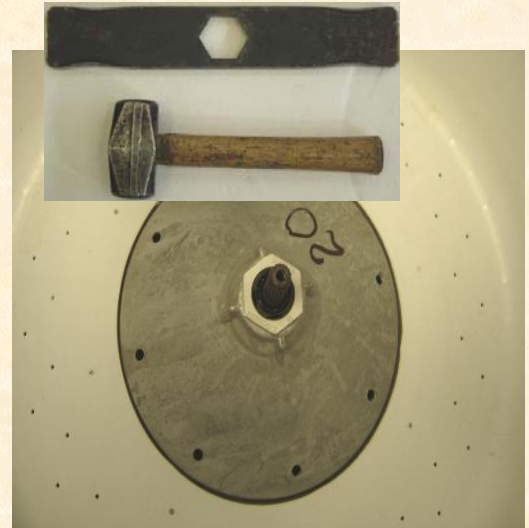
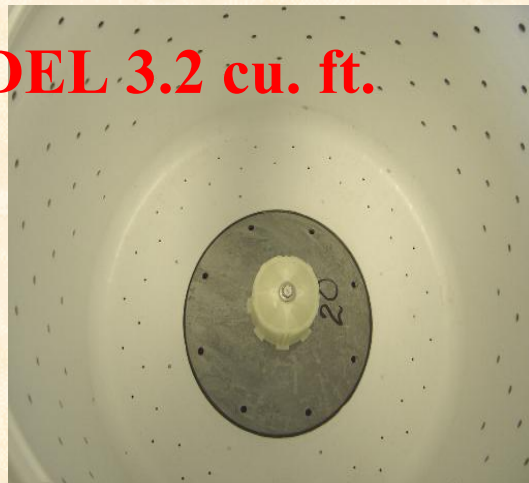
AGITATORS (cont.)



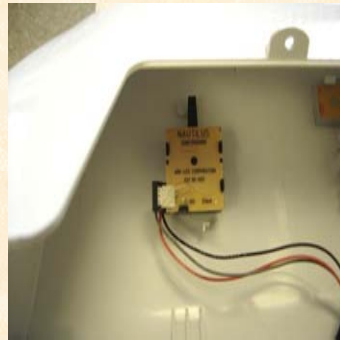
MODEL 2.5 cu. ft.



MODEL 3.2 cu. ft.



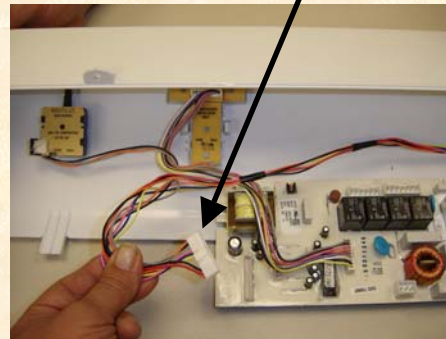
HOW TO CHECK THE CYCLE SELECTOR SWITCH



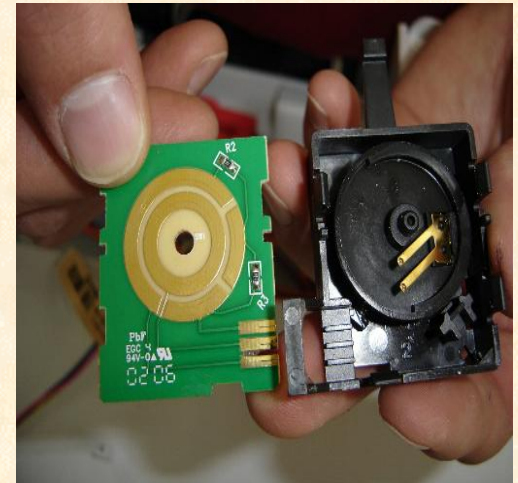
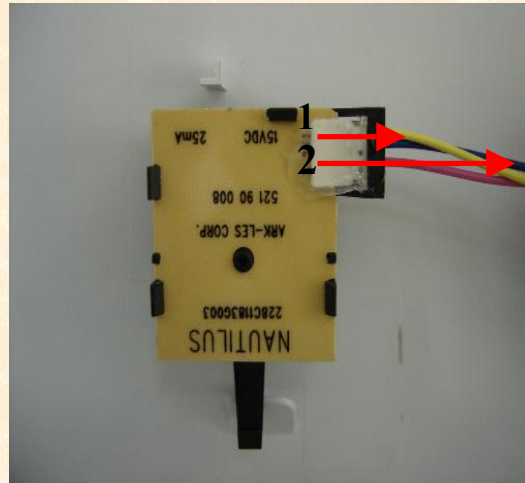
USE THE MULTIMETER TO CHECK SELECTOR SWITCH

<u>Position</u>	<u>Reading between orange and black</u>
OFF	800 Ω
HEAVY DUTY	700 Ω
WHITES	600 Ω
COLOURS	500 Ω
EASY CARE	400 Ω
DELICATE	300 Ω
SHORT WASH	200 Ω
SPIN ONLY	100 Ω

You must check at the harness Plug removed from the main board



HOW TO CHECK THE WATER LEVEL SELECTOR



USE A MULTIMETER TO CHECK THE WATER LEVEL SELECTOR SWITCH

Position

Reading between 1, Yellow & 2, Blue

SMALL

0 Ω

MEDIUM

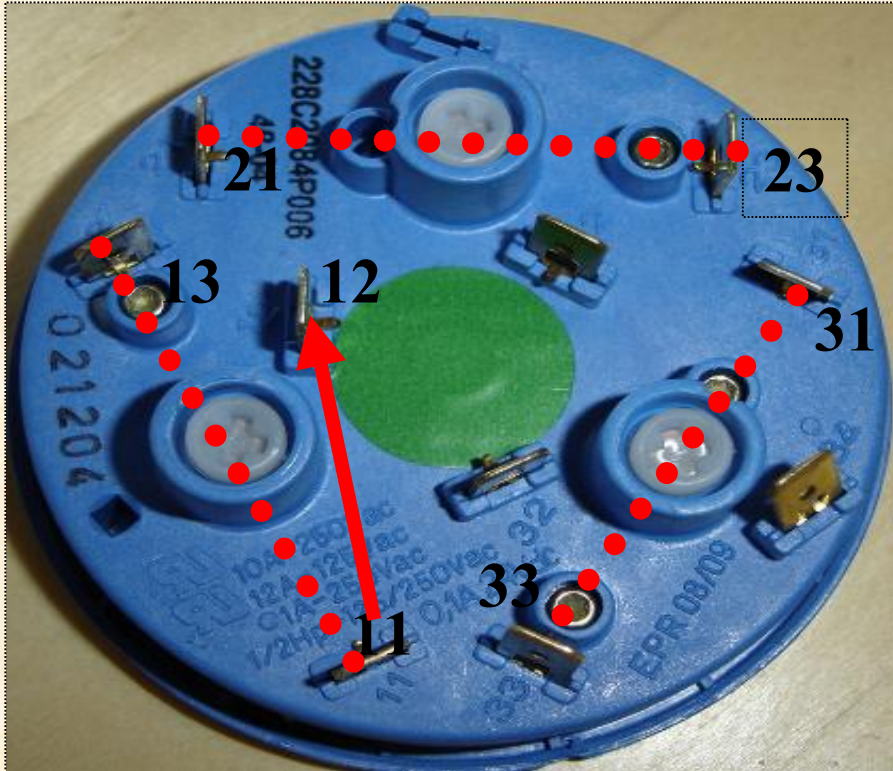
180 Ω

LARGE

360 Ω

You must check at the harness Plug removed from the main board

PRESSURE SWITCH



CONTACT NORMALLY OPEN

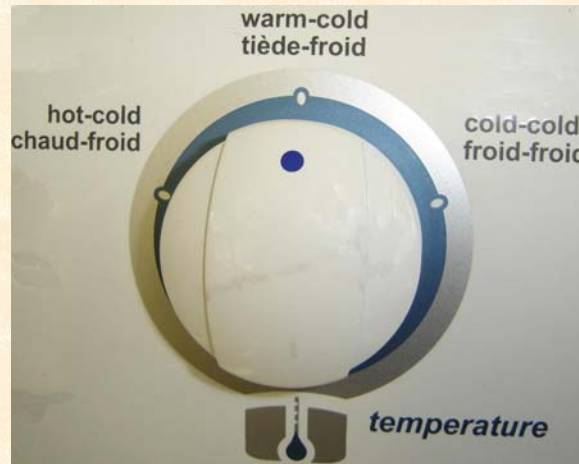
SMALL, CONTACT 11 & 13

MEDIUM, CONTACT 21 & 23

LARGE, CONTACT 31 & 33

CONTACTS 11 AND 12 WILL BE CLOSED UNTIL THE FIRST WATER LEVEL IS REACHED, THIS PREVENTS THE MACHINE FROM SPINNING IF IT HAS TOO MUCH WATER IN THE TUB.

HOW TO CHECK THE WATER TEMPERATURE SELECTOR SWITCH



USE THE MULTIMETER TO CHECK THE WATER TEMPERATURE SELECTOR

Position

Reading between Orange & Red

HOT \ COLD

360 Ω

WARM \ COLD

180 Ω

COLD \ COLD

0 Ω

**You must remove the plug
at the main board to test the
water temperature selector
switch**

LOAD MONITOR

Speed sensor on motor « senses » difficult conditions (increased work load).

Ex: large load of clothes with not enough water.

Control board adjusts agitation arc to lessen burden on motor & transmission and reduce wear on clothes.

Ex: Arc goes from 280 degrees to 240 degrees, and reduces number of strokes per minute.

If load is lessened, control board re-sets to original setting.

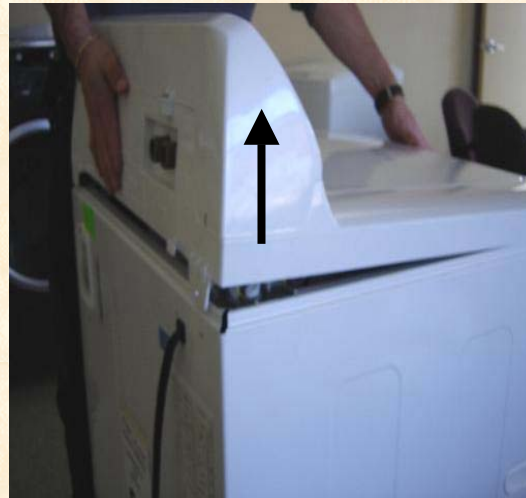
Ex: Arc goes back up to 280 degree.

HOW TO REMOVE THE TRANSMISSION

NOTE

Use a 3 ft by 3 ft floor protector under the washer to avoid damaging its components or the floor when separating the tub assembly from the cabinet when detaching the damping straps.

1-REMOVE THE TOP



HOW TO REMOVE THE TRANSMISSION (cont.)

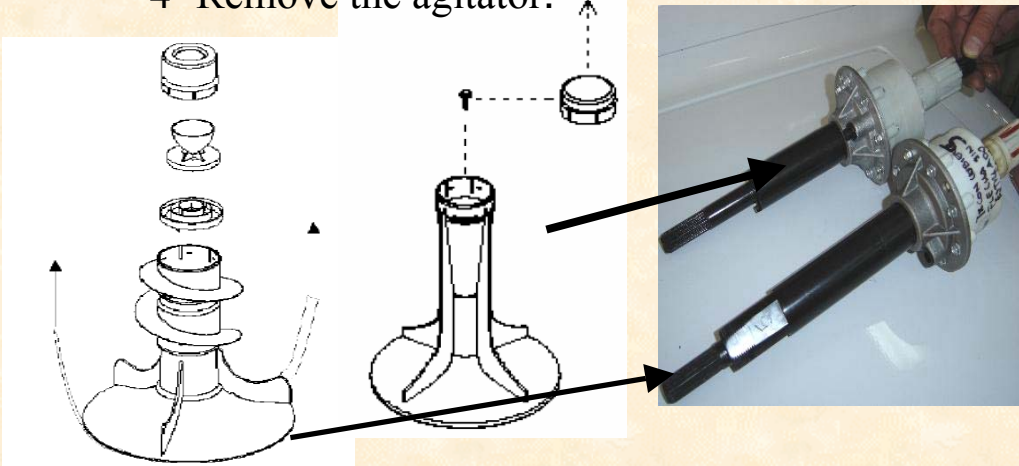
2- Remove the screw for the damping straps.



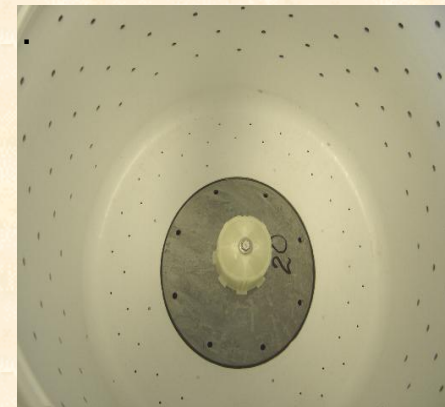
3- Remove the tub cover.



4- Remove the agitator.



5- Remove the air bell.



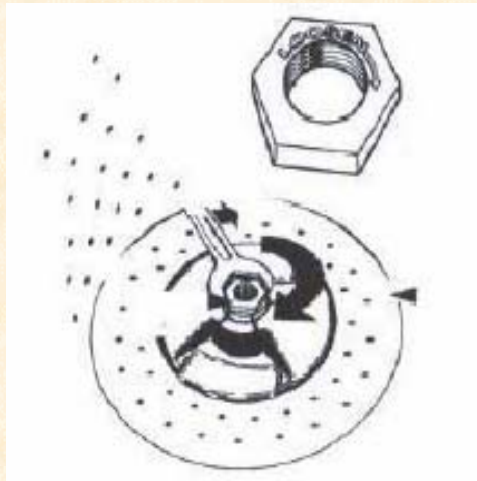
HOW TO REMOVE THE TRANSMISSION (cont.)



2.5 cu. ft. washer

Once the agitator is removed loosen the 3- 3/8" bolts by about 3 turns. It is not necessary to remove the bolts completely to remove the tub.

Tapping the top of the loose bolts gently will release the inner basket.



3.2 cu. ft. washer

Use a tub wrench (WX5X1325) to remove the left hand thread tub nut. Same wrench used on a GE washer.

Note: When re-assembling, use a hammer with the wrench to tighten the tub nut. Hand tighten with the wrench then 1/4 of a turn using a hammer.

HOW TO REMOVE THE TRANSMISSION (cont.)



SUSPENSION

Before the sub-washer is released, unlock the main harness and the drain hose clips. Release the drain hose from the cabinet so both components can be separated.



The suspension rods are detached by pulling the rods up and removing the socket.



Once the tub is separated from the cabinet, re-position the suspension rods to the clips located on top of the tub exterior to be able to lift the cabinet out.

HOW TO REMOVE THE TRANSMISSION (cont.)

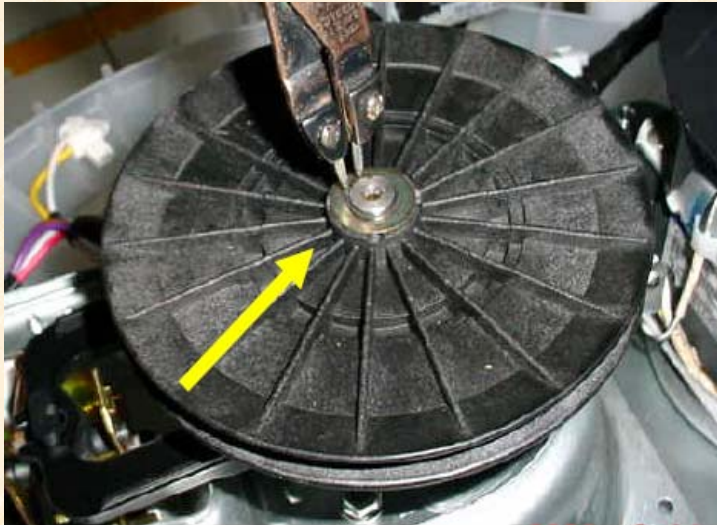


You now have access to the outer tub, and the bottom of the washer including the transmission.

HOW TO REMOVE THE TRANSMISSION (cont.)



In case the suspension rods need to be changed, the damping strap and the rod will have to be threaded through the outer tub bottom hole at the same time to remove as shown on this image.



Use lock ring pliers to remove the lock ring that holds the pulley to the transmission.

Using any other tools can damage the lock ring.

HOW TO REMOVE THE TRANSMISSION (cont.)

Note: The motor, pump and solenoid can be serviced from the bottom without removing the cabinet .

The next step in removing the transmission, it is to remove the belt and the motor.

The belt can be forced over the transmission pulley. (See picture #26 below.)

You can also loosen the 2 motor 1/2 inch bolts. (See picture # 27 below.)



HOW TO REMOVE THE TRANSMISSION (cont.)

NOTE:

Remove the pump to prevent it from getting damaged.

It is held in place with 3 (1/4 " screws) as shown in picture 28.

Then, remove the solenoid and limit switch. (pictures #29 and #30)



Video Clip

HOW TO REMOVE THE TRANSMISSION (cont.)



The capacitor is held in place with a $\frac{1}{4}$ " screw.



Remove 3 (3/8) bolts to remove the solenoid base. The base can also be removed before removing the solenoid to make the disassembling easier.

HOW TO REMOVE THE TRANSMISSION (cont.)

TRANSMISSION, MOTOR AND PUMP



Remove 12 (3/8) bolts holding the transmission base to the outer tub.



Once the base is removed, release the wire harness plastic retainer.

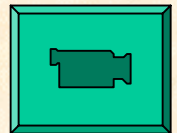
Removing the transmission is now complete.

The transmission is a complete sub-assembly including the base as shown in the picture.

HOW TO INSTALL THE TUB SEAL

A new tub seal should always be changed when changing the transmission.

The seal must first be inserted on the transmission shaft taking the necessary care not to damage the internal part of the seal. This can be done by placing a plastic bag on the transmission assembly. When assembling the transmission with the base located in the bottom of the tub, the pressure must be made uniformly.



HOW TO REMOVE THE MOTOR

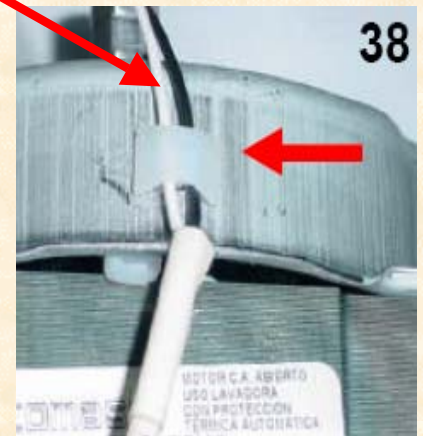
Remove the belt. Remove the 3/8 bolts holding the motor to the base. Use a 1/8 Allen wrench to remove the pulley. (picture 35)

It is then possible to remove the motor sensor, which is fastened by a support that can be removed with an angular movement (picture #36).

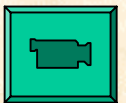
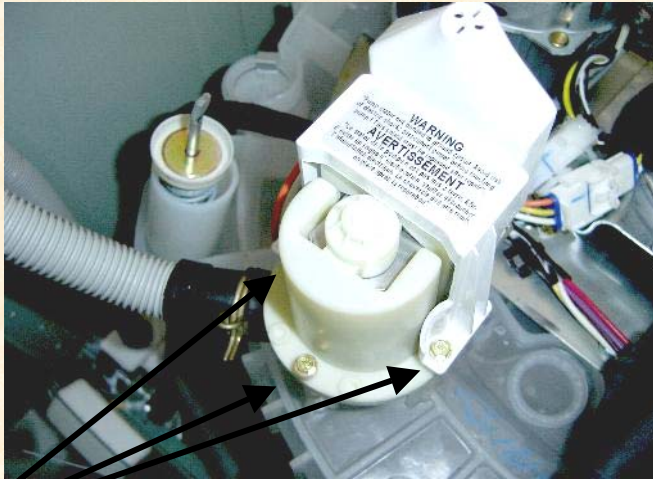
The sensor can now be removed (friction fit into two slots, picture #37).

Finally the sensor harness can be removed from the motor cover (picture #38).

IMPORTANT NOTICE: THE POSITION OF THE HARNESS IS VERY IMPORTANT

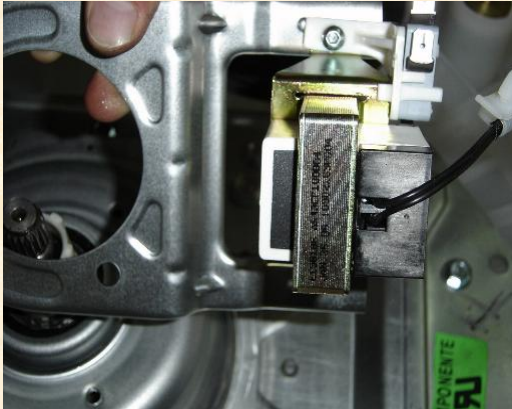


HOW TO REMOVE THE PUMP

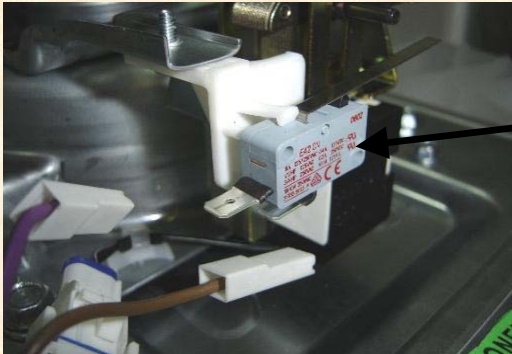


REMOVE THE SCREWS HOLDING THE PUMP.

AGITATION SOLENOID AT THE TRANSMISSION



Solenoid (140Ω)

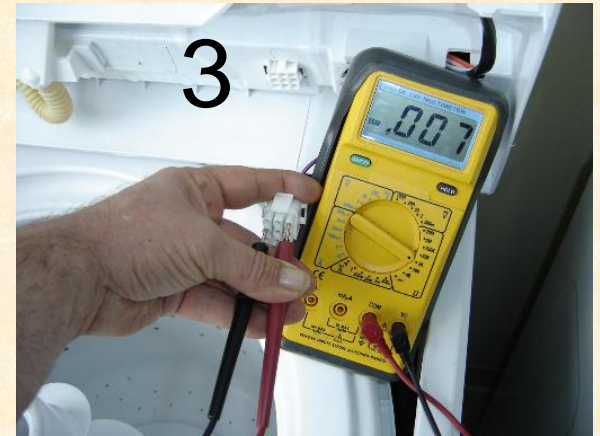


Solenoid switch



The solenoid is energized during the wash (agitation).

HOW TO CHECK THE COMPONENTS FROM THE PLUG



You can check different components from the plug underneath the top of the washer.

1- Lift up the top.

2- Unplug the main connection.

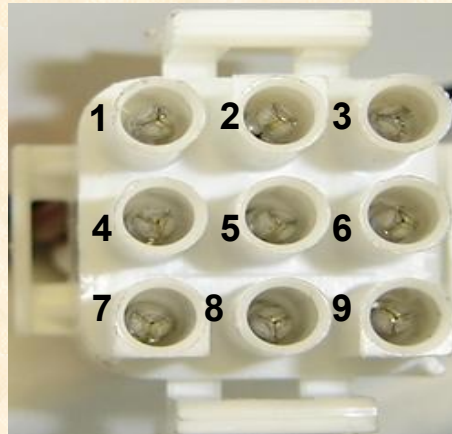
3- Do the test.

You can check the solenoid, drain pump, motor and the speed control. The readings obtained are resistances (Ω).

HOW TO CHECK THE COMPONENTS AT THE PLUG (cont.)

- 1= Brown
- 2= Orange
- 3= Yellow
- 4= White
- 5= White/Black
- 6= Grey
- 7= Red
- 8= Blue
- 9= Pink

MODEL 3.2 cu. ft.



Components

Solenoid
 Drain pump (3.2 cu. ft.)
 Motor (1 coil)
 Motor (1 coil)
 Motor (both coils)
 Speed sensor

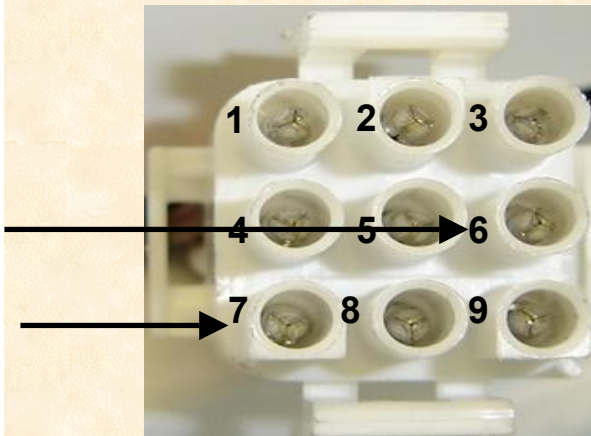
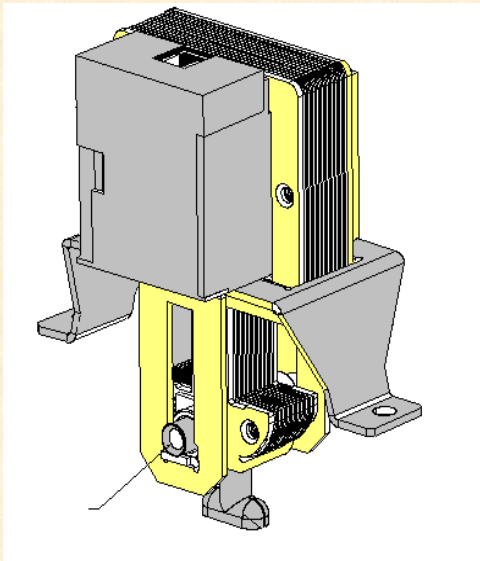
Wire location & resistance

Between 6 & 7= 140 Ω
 Between 2 & 5 =16 Ω
 Between 3 & 2 = 4 Ω
 Between 2 & 4 = 4 Ω
 Between 3 & 4 = 8 Ω
 Between 8 & 9 = 31 M Ω reverse
**the polarity from your multimeter
 you will read infinite**

Colors

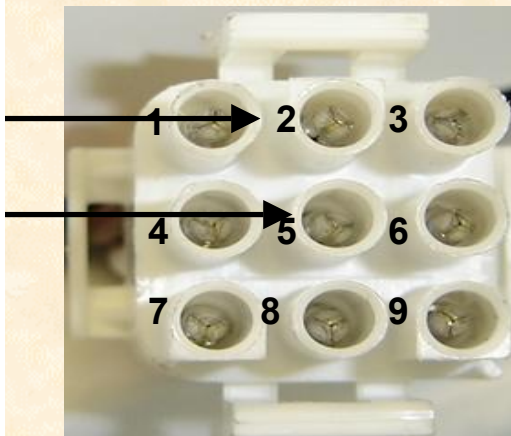
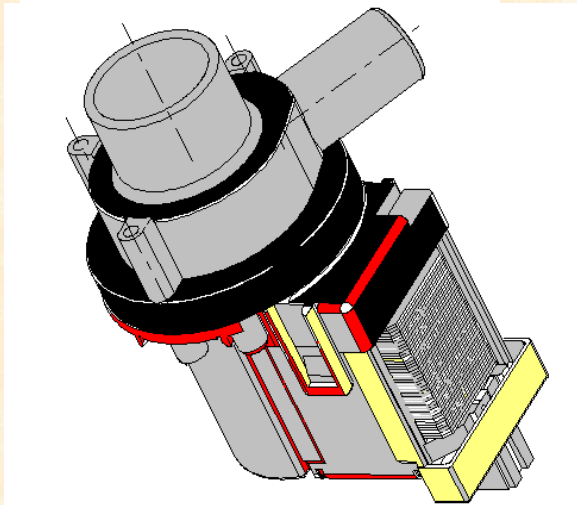
Red & Grey
 Orange & White/Black
 Yellow & Orange
 Orange & White
 Yellow & White
 Blue & Pink

HOW TO CHECK THE COMPONENTS AT THE PLUG (cont.)



Solenoid (140Ω)

Between 7 & 6, Red & Grey

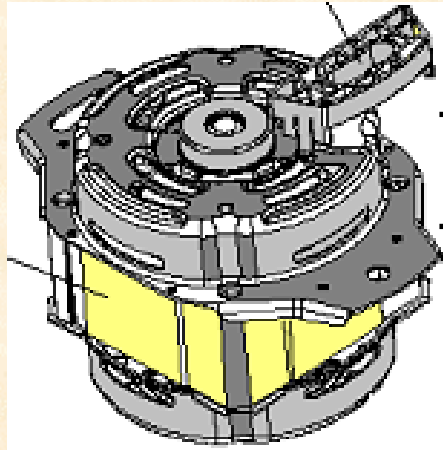


**Drain pump (3.2 cu. ft.)
(16Ω)**

Between 2 & 5, Orange & White/Black

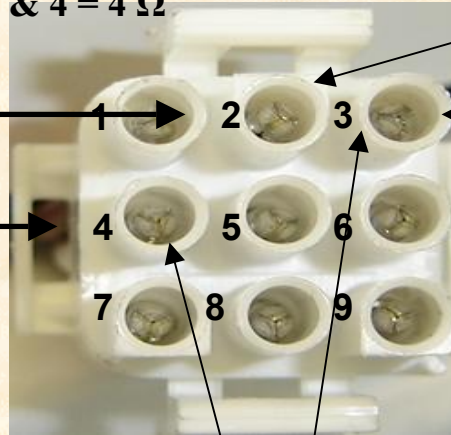
HOW TO CHECK THE COMPONENTS AT THE PLUG (cont.)

MOTOR



Orange & White

Between 2 & 4 = $4\ \Omega$



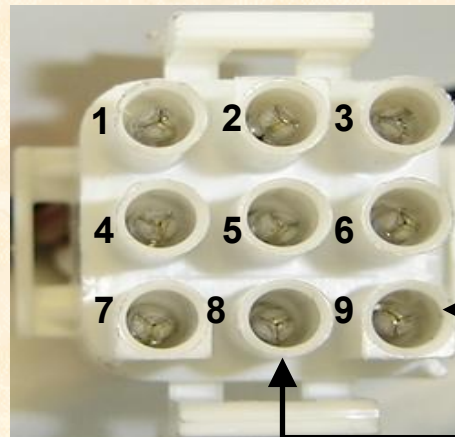
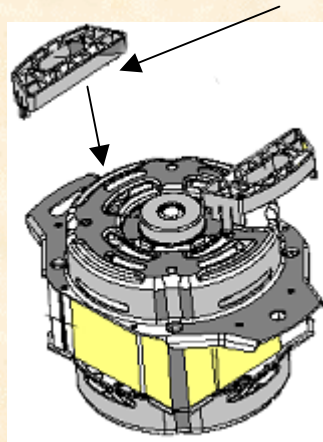
Yellow & Orange

Between 3 & 2 = $4\ \Omega$

Between 3 & 4 = $8\ \Omega$

Yellow & White

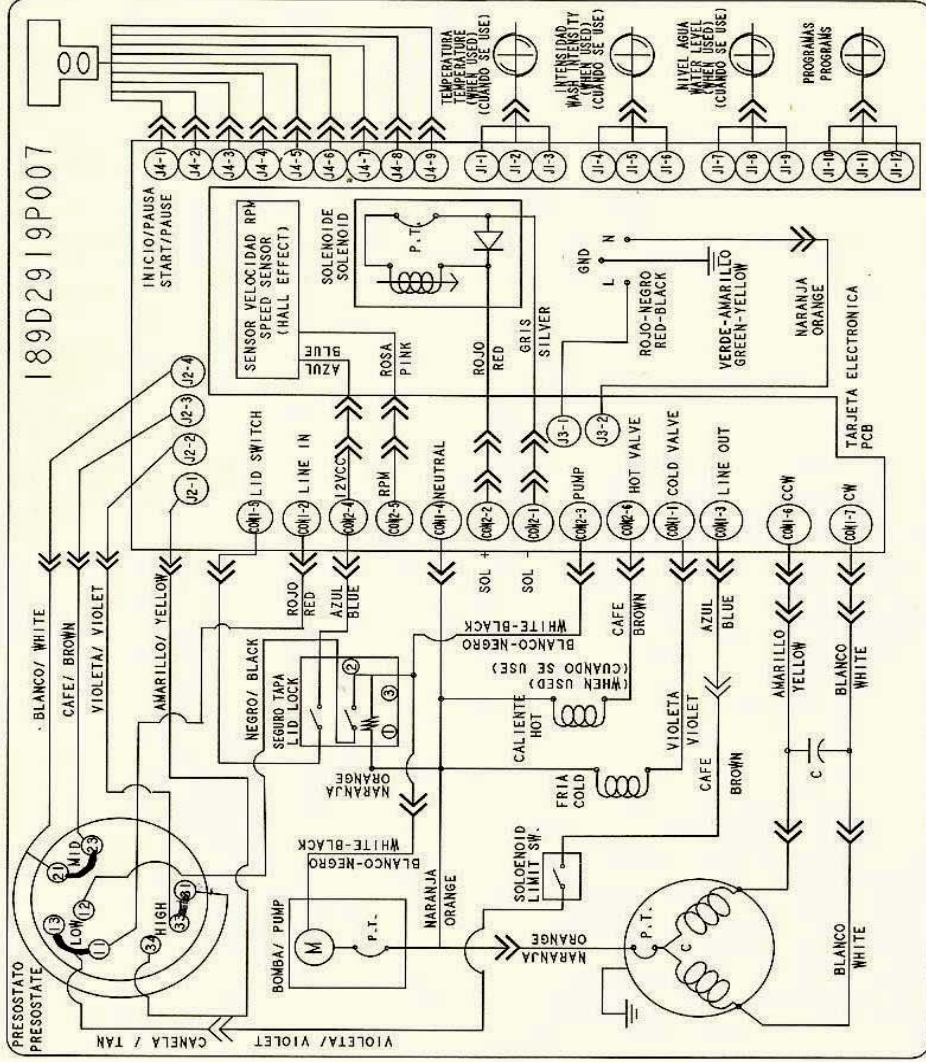
SPEED SENSOR



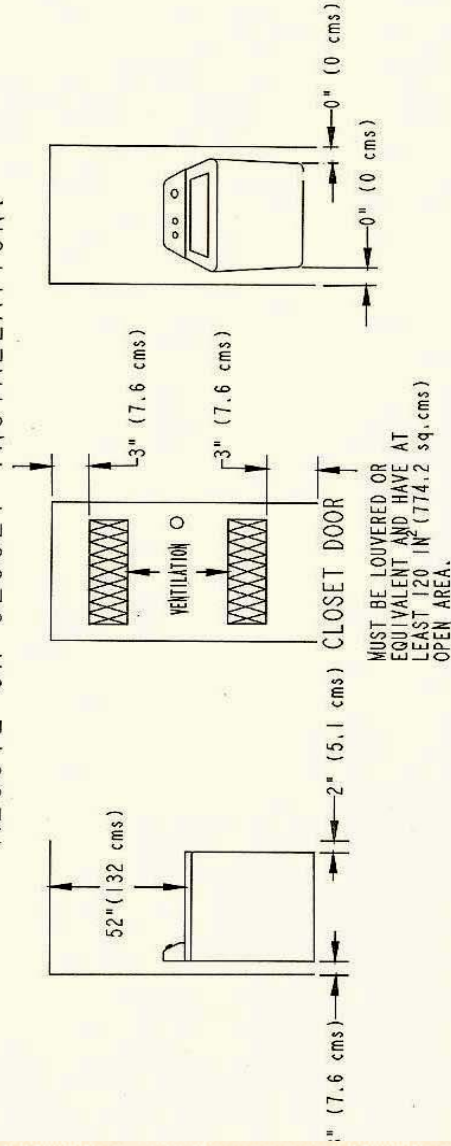
Blue & Pink

Between 8 & 9 = $34\ M\Omega$ reverse the polarity from your multimeter you will read infinite.

ELECTRIC DIAGRAM



ALCOVE OR CLOSET INSTALLATION.



WARNING- CONTROL SETTINGS DO NOT REMOVE ELECTRICAL POWER FROM THIS MACHINE. AVOID RISK OF ELECTRIC SHOCK; DISCONNECT THE POWER CORD FROM THE ELECTRICAL OUTLET BEFORE MAINTENANCE OR REPAIR.

TROUBLE SHOOTING

Solenoid Problem Detected:

- Once the water level is reached the solenoid is energized making a CLICKING NOISE.
- If the solenoid is not energized and you don't hear a CLICKING NOISE the pilot lights on the control panel will flash.

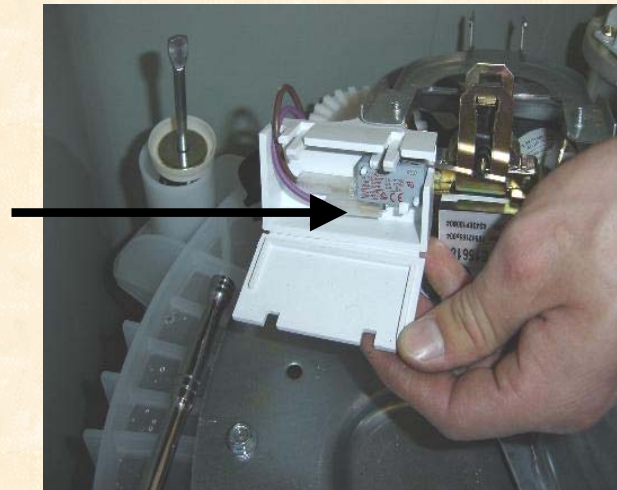
(CHECK THE SOLENOID.)



Micro-Switch at the Solenoid Problem is detected:

- Once the water level is reached the solenoid is energized making a CLICHING NOISE.
- If the motor does not start, the PCB will not get a signal from the micro-switch and the pilot lights on the control panel will flash.

(CHECK THE MICRO-SWITCH OR THE MOTOR.)



TROUBLE SHOOTING (cont.)

Speed Sensor Defect Detected:

-Once the water level is reached you will hear the solenoid noise then you will see a complete shake of the agitator, then the failure appears (leds flashing)

. (CHECK THE SPEED SENSOR.)

Motor Defect Detected:

-Once the water level is reached the solenoid is energized making a CLICKING NOISE.

If the motor doesn't start, the pilot lights of the control panel will flash.

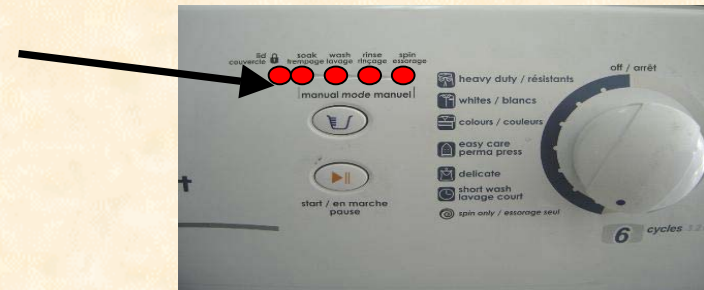
(CHECK THE MICRO-SWITCH OR THE MOTOR.)



Speed Sensor

You can also be check at the harness Plug removed from the motor.

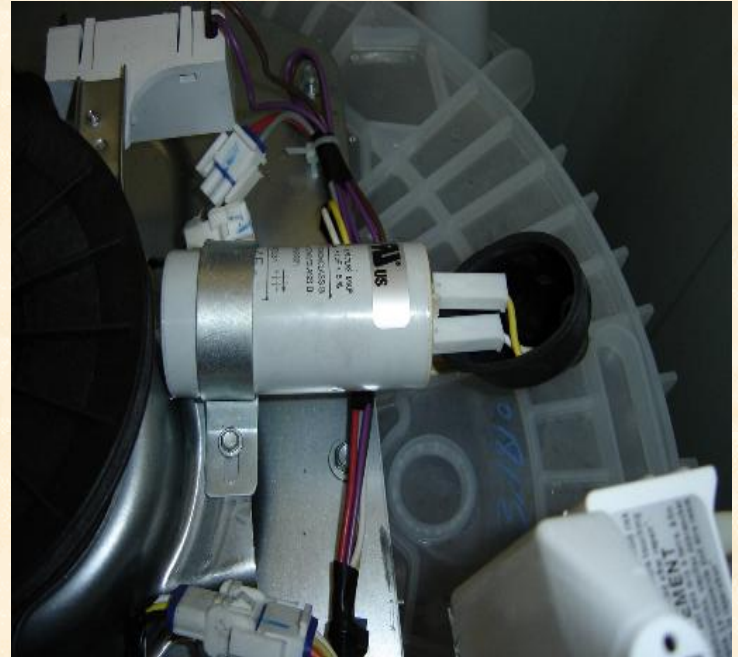
The reading is $4.5M\Omega$ and if you reverse the polarity from your multimeter you will read $24M\Omega$



TROUBLE SHOOTING (cont.)

Capacitor Defect Detected:

- Once the water level is reached the solenoid is energized making a CLICKING NOISE.
- If the capacitor is defective you will hear a **BIG HUM.**



**CAUTION - SHARP EDGES
REMEMBER . . . WEAR YOUR
CUT-RESISTANT GLOVES**

