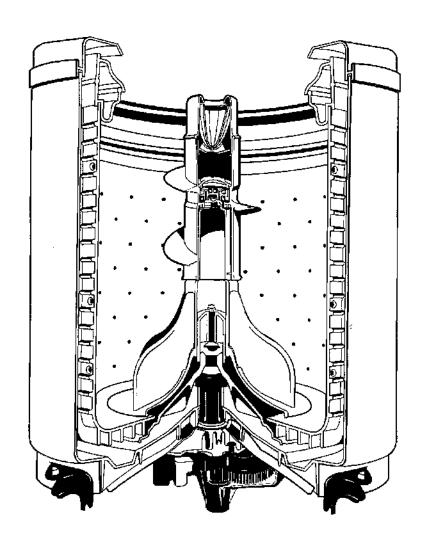


# **Technician Manual**

Front Service Full Size Washer Single and Two Speed

For use with Training video Pub. 31-10015

# WBXR1060T Single Speed WDSR4110T Two Speed



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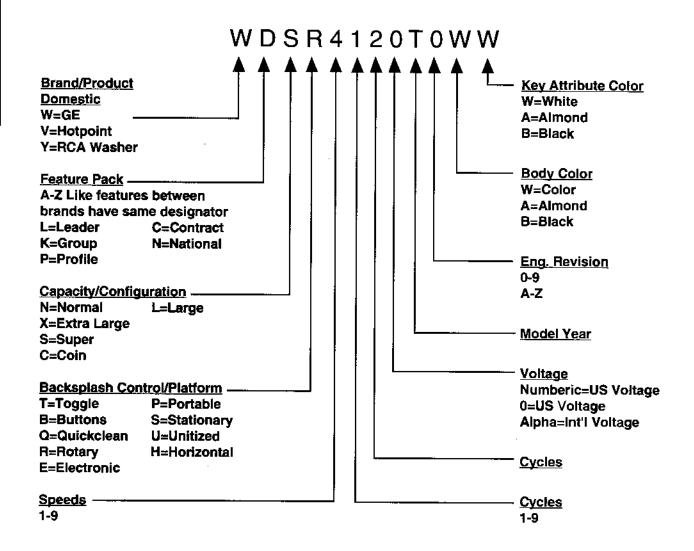
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#### **Serial Number Prefix Codes**

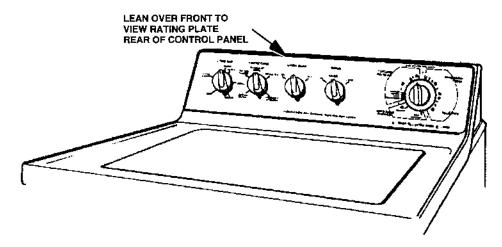
<u>Mont</u>	<u>:h</u>	<u>Year</u>	
Jan	Α	1995	М
Feb	D	1996	R
Mar	F	1997	S
Apr	G	1998	T
May	Н	1999	V
Jun	L	2000	Z
Jul	М	2001	Α
Aug	R	2002	D
Sept	S	2003	F
Oct	T	2004	G
Nov	V	2005	Н
Dec	7		

# **EXAMPLE**

AM123456S

Model Built in January 1995

The rating plate is located on the center of the rear of the control panel so that you see the model, serial, and UL approval information from the front of the washer.

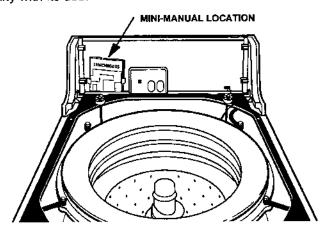


The washer line, is a totally new design, incorporating the optimum washability, capacity, quiet operation, and ease of service. The models are 100% front serviceable, with 40% fewer parts. The washer comes in two capacities a 2.7 cubic foot, and a 3.2 cubic foot models, that feature a Permatuf 2 basket. Water evacuation is accomplished with a remote pump, and a drain before spin system. All washers are equipped with an overflow tube, located on the left side of the tub, extending to the lower left rear corner. This safety feature will allow water to be diverted to the floor in case of water valve and/or pressure switch failure. Two new agitators have been incorporated into the new model line, the spiral and the dual action. Some models have an optional bleach port, and fabric softener dispenser.

The drive system has a rotating transmission with metal gears and a disc brake, it comes as a single component. The brake is activated at end of spin, and also when the lid is lifted as a safety feature during spin. The unique brake design is a quiet brake, that mates to the tub and platform assembly. A common clutch is used and is not designed to be rebuilt. It is serviced as a unit. The motors come in a single and two speed version.

All washers are manufactured and supplied with provisions for proper grounding. The installation instructions advise on proper grounding. Safety devices should never be removed unless for servicing, and must always be replaced before the service call is completed. Safety devices are engineered into the product and should never be removed, bypassed or altered in such a manner as to defeat or hinder the purpose for which they were intended.

The mini-manual contains service information on one side and the schematic diagram, and cam charts needed to perform diagnostic test. The 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 with its use.



The lint filtering system consist of the turbo pump, agitator, air bell, and two permanent self cleaning filters in the bottom of the spin basket. During agitate water moves through the sides and up from the bottom through the two permanent self cleaning filters.

During pump down, prior to spin, the turbo pump is energized, and water is drawn out the sides and down through the permanent self cleaning filters to clean and remove all lint from the bottom side of the filter and flush lint down the drain.

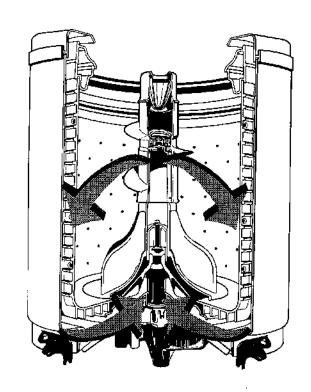
Depending on model, two types of agitators are used as shown below:

# Water Levels in Basket

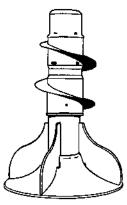
- Measure water levels from inside bottom of basket front-left.
- 2. Highest levels are + or .5" All other levels are + or - .7"

3.2	Cu.	Ft.	& 2.7	'Cu.	Ft.

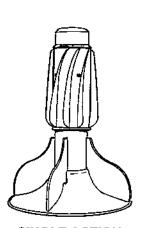
One level					14
Two level		8.0			14
Three level	7.0		10.0		14
Four level	7.0	8.0	10.0		14
Variable	7.0	8.0	10.0	12.0	14



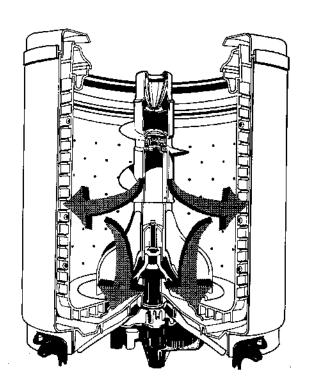
WASH



**DUAL ACTION** 



SINGLE ACTION



**DRAIN** 

# **WASHER FEATURES:**

CAPACITY	
EX. Large	2.7
Super Large	3.2
SPIN SPEEDS	
Fast	630 RPM
Slow	420 RPM
AGITATION	
Stroke rate - fast/slow	154/103 strokes per minute
Arc of stroke	108 degrees
AGITATORS	-
Styles	Dual Action
, i	Single Action
LINT FILTER	
Self Clean	Yes
AGITATE/SPIN SPEEDS	
Options fast/slow	2
Max Combinations Cold Rinse Only	4
WATER TEMPERATURE	
Options Hot, Warm, Cold	3
Max Combinations	4
END OF CYCLE SIGNAL	
Option	Yes
WATER LEVEL	
Options	5
Combinations	8
DISPENSERS	
Fabric Softener (Option)	Yes
Bleach Port (Option)	Yes
DRAIN PUMP	
Drain down before spin	Yes
FRONT SERVICE	Yes 100%
BASKET AND TUB	Permatuf 2 Basket
	Polypropylene Tub
SAFETY IN SPIN	Lid switch with quiet brake
TRANSMISSION	Rotating transmission, metal gears with built in
	counterweight, 5.5 oz. oil
MOTOR (Note: common clutch for	Form W - Two speed motor clutch as single
single and two speed)	(Capacitor start), centrifugal switch
	Form T - Single speed, centrifugal switch
VOLTAGE	115V 60 Hz. Protect with 15 to 20 amp individual
	branch circuit
CONTROLS	Rotary
	QuickClean
WARRANTY	See back of model specific Use and Care
· · · · · · · · · · · · · · · · · · ·	

# INSTALLATION

Washer must be installed on firm flooring to minimize vibration during spin cycles. Concrete flooring is best, but wood base is sufficient providing floor meets FHA standards. Washer should not be installed on rugs or exposed to weather.

### **PLUMBING**

**WATER PRESSURE -** Must be 10 p.s.i. minimum to 150 p.s.i. dynamic pressure measured at faucet.

**WATER TEMPERATURE** - Household water heater should be set to deliver water at 120° to 150° (50° to 66°C) IN THE WASHER when HOT wash is selected.

SHUT-OFF VALVES - Both hot and cold shut-off valves (faucets) should be supplied.

**DRAIN** - Water may be drained into a stand pipe or set tub. The discharge height **MUST NOT BE LESS THAN 30 INCHES** nor more than 8 feet above the base of the washer. The stand pipe must be 1-1/2" minimum inside diameter and must be open to the atmosphere.

**ELECTRICAL** - This appliance must be supplied with a **115V**, **60 Hz**, and connected to an individual, properly grounded branch circuit, protected by a 15 or 20 amp circuit breaker or time-delay fuse.

**ALCOVE** - Minimum clearances between washer and adjacent wall or other surfaces are:

0" either side

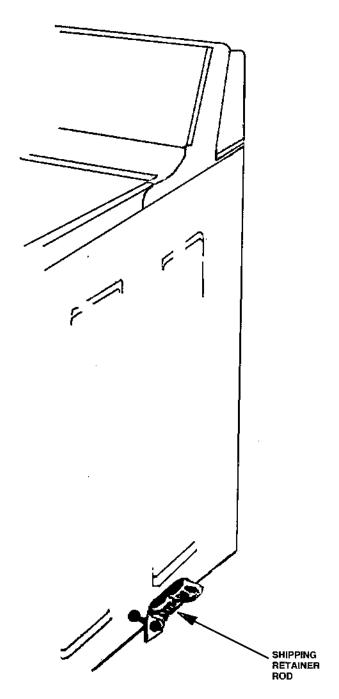
2" front

3" rear

Minimum vertical space from floor to overhead shelves, cabinets, ceilings, etc., is 52°. Closet doors must be louvered or otherwise ventilated and have at least 60 square inches open area for washer only, or if the closet contains both a washer and dryer, doors must contain at least 120 square inches of open area equally distributed.

# PREPARE WASHER FOR INSTALLATION

- Remove carton, cardboard inner pack, and installation accessories from under lid. Drain hose is in washer basket.
- Grasp retainer rod on lower right side (has a tag on the strap), and pull rod straight out and discard.



SHIPPING RETAINER ROD

3. Move washer to installation location for remaining hose and electrical preparation.

# DRAIN HOSE ATTACHMENT

- Remove all installation items from the washer basket.
- 2. Remove red plug from drain hose port. (**NOTE:** some water may be present, this is normal.)
- Push drain hose clamp on the conical end of external drain hose and snap into grooved stot as shown. (NOTE: requires some force to push on).
- 4. Push tapered conical end of drain hose and clamp into washer drain hose port. Insert two screws into drain hose clamp as shown, and drive to mount clamp to washer cabinet back.

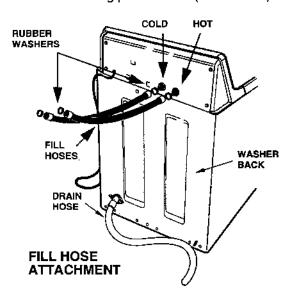
**NOTE:** If drain hose facility doesn't meet the 30" standpipe height requirement, thread drain hose through supplied anti siphon clip and mount to cabinet back as shown.

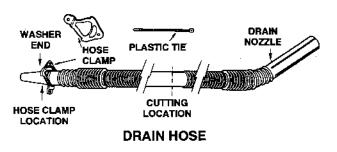
If a longer drain hose is required, connect additional drain hose (WH41X324) to original hose at this point, hose clamp (WH1X2036) will be needed to clamp the two hoses together.

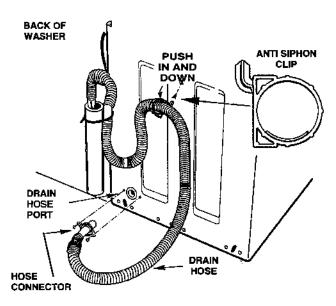
# FILL HOSE ATTACHMENT

1. Insert rubber washers into both ends of each fill hose. Attach fill hose marked HOT to water valve inlet shown. Attach fill hose marked COLD to water valve inlet shown. Couplings should be hand tightened plus 1/2 turn with pliers.

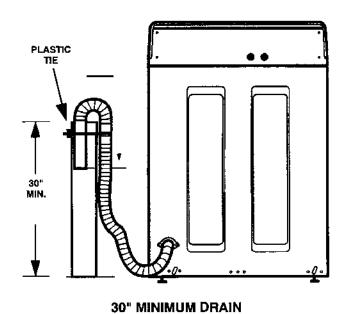
**NOTE:** If longer fill hoses are needed, 8 foot hoses are available using part number (WH41X185)







**EXPOSED PLUMBING** 



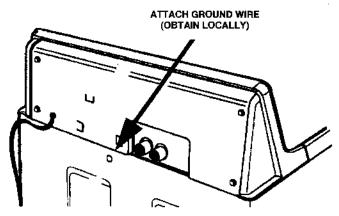
# WASHER ELECTRICAL PREPARATION

 If required, an external ground wire (not provided) which meets local codes may be added. Attach with sheet metal screw provided in accessory bag to rear of washer as illustrated.

# PREPARE TO INSTALL WASHER

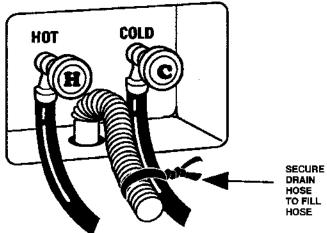
- 1. Be sure water supply lines have been thoroughly flushed.
- 2. Move washer to final location. **DO NOT** let fill or drain hoses drag and get under washer.
- 3. Adjust front leveling legs as necessary to level washer. Front leveling legs are adjustable; if adjustment is necessary, relevel. The washer must rest firmly on all four legs. To "set" rear self leveling system, tip washer forward so that rear base is about 4" off the floor, then tip back until it rest on all four legs. The legs come preinstalled, with 1" hex to adjust as shown in illustration. The legs have a Santoprene insert to provide non slip surface.
- 4. Install drain hose in drain facility and secure with plastic tie strap provided or tape.

NOTE: drain hose nozzle may be shortened if original length prevents full insertion into drain facility.

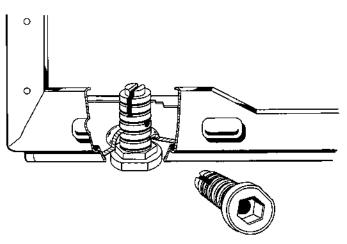


**EXTERNAL GROUND WIRE** 

# RECESSED PLUMBING



**SECURE DRAIN HOSE** 



**CUT AWAY VIEW LEVELING LEGS** 



# **Load Size**

Selecting load size allows customer to set water level (pressure switch), for best washing result appropriate size should be selected.



# Wash/Spin Speed

This refers to the speed of the agitator during the wash and the basket during spin.

With the normal wash speed the agitator moves faster. Use for cottons, denims and play clothes. With the gentle wash speed the agitator moves slower. Use for the delicate and knit items.

The Fast spin speed is for durable items, Slow spin speed is for delicate items like sweaters and lingerie. Clothes will be less-dry than when using a fast spin speed.



# Wash/Rinse Temp

Use the chart below as a general guide:

Wash/Rinse Temperature Guide		
	Wash Temp.	Rinse Temp.
Cottons White	Hot	Cold
Cottons Colors	Warm*	Cold
Perm. Press	Warm*	Cold
Delicates	Cold	Cold
Washable Woolens	Warm*	Cold/Warm



# Selecting Cycle/Starting Wash

- \* Push in Cycle knob to select the desired cycle. See the Cycle descriptions.
- \* Add detergent
- \* Pull out the Cycle knob to start washer.
- \* Add clothes and close lid.



# **Cycle Descriptions**

# **COTTONS REGULAR**

For heavily to lightly soiled cottons, linens, work and play clothes.

# PERMANENT PRESS

For synthetics, blends, and/or delicate fabrics with normal soil.

### **KNITS**

Specially designed for normally soiled knits.

# **DELICATES**

For lingerie and special care fabrics with to normal soil.

# **AUTO SOAK**

For heavily soiled clothes. Begins with a brief agitation, soaks for specified period of time, then moves through the rest of the cycle automatically.

# SOAK

For heavily soiled clothes that need to be soaked before washing.



# Additional Features

#### **EXTRA RINSE**

When the consumer uses extra detergent or bleach to clean heavily soiled clothes, they may want to use the extra rinse option. The option provides a second deep cold rinse in the Cottons Regular cycle. Consumer should turn the Extra Rinse knob to SET. The washer will pause for a few minutes before the Extra Rinse option begins.

#### LIQUID BLEACH DISPENSER

Consumer should never pour undiluted liquid chlorine bleach directly onto clothes or into the wash basket.

Powdered bleach or non-chlorine bleach should not be poured into bleach dispenser.

Before the consumer starts the washer, they should pour measured amount of bleach directly into bleach dispenser.

### **AGITATOR CAP**

Cap fits on top of agitator, if it accidentally comes off consumer should simply put it back on. **NOTE**: **Nothing should be poured into the agitator if the top** 

is removed.

# **FABRIC SOFTENER DISPENSER**

The Fabric Softener Dispenser automatically releases liquid fabric softener at the proper time during the cycle. To use follow the steps listed below.

- 1. Make sure the dispenser is securely attached to agitator.
- Pour liquid fabric softener into dispenser, using amount recommended on package.
- **3.** Add water to dispenser until it reaches the maximum fill line.

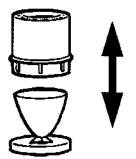
#### NOTE:

- \* Do not stop the washer during the first spin. This will cause the dispenser to empty too soon.
- \* Do not use the fabric Softener Dispenser with Auto Soak.
- \* Never pour fabric softener directly on clothes. It will leave spots on the clothes.
- \* Only use dispenser for liquid fabric softeners. If dispenser gets clogged, see cleaning section below.

# CLEANING FABRIC SOFTENER DIS-PENSER:

- 1. Remove the dispenser from the top of the agitator.
- 2. Separate the dispenser cup from the cover by grasping the top and pushing down on the inside of the cup with your fingers. Dispenser cup will pop free from the cover.
- 3. To clean the dispenser, soak both the dispenser cup and the dispenser cover in the following solution:

1 gallon (3.8 liters) warm water 1/4 cup (60ml) heavy duty liquid detergent 1 cup (240ml) bleach



- **4.** If necessary, loosen build-up with a clean, soft cloth after soaking. Do not use a stiff brush; you may roughen the surface of the dispenser.
- **5.** Rinse and reassemble dispenser. Place dispenser back on agitator.

# **KEY POINTS**



1995 laundry products have new model numbers.



Washer is a completely new design, with no interchangeable parts with the old washer.



Two capacities:

2.7 Cubic Feet Extra-Large Capacity

3.2 Cubic Feet Super-Large Capacity



4. Inlet water pressure must be 10 p.s.i. minimum to 150 p.s.i. measured at faucet.



5. Household water heater should be set to deliver water at 120 to 150 F. (50) to (66 C.) in the washer when hot wash is selected.



6. Drain height must not be less than 30 inches, nor more than 8 feet above the base of the washer.



7. If the drain hose facility doesn't have a height of at least 30", then the anti-siphon clip (supplied in installation pack) must be inserted in the back of the washer cabinet and drain hose thread through the clip to give high drain loop.



Motors come in capacitor start two speed. Form W, and single speed Form T, with 1/2 HP rating.



9. Washer must be connected to an individual, properly grounded branch circuit, protected by a 15 or 20 amp circuit breaker or time delay fuse.



10. Installation clearances between washer and adjacent wall or other surfaces are:

0" either side

2" front

3" rear



11. Washer should have FHA concrete or wood base sufficient to meet FHA standards.



12. Rating plate with model and serial number and UL approval is on rear-center of control panel and is viewed by leaning over front.

# *WBXR1060T WBXR4110T*

# TECHNICIAN QUIZ- General/Installation Use and Care

# Questions: (circle your answer)

- 1. Mini Manual is located in:
- A. Front panel
- B. Taped to back
- C. Inside of control panel
- 2. Rating Plate is located:
- A. Right front corner
- B. Back of control panel
- C. Left rear corner
- 3. The shipping retainer rod:
- A. Is a shipping retainer rod, on left bottom that is to be removed at installation
- B. Is mounted to the bottom with two hex screws
- C. Is no longer needed on the new washer design
- 4. All the parts on the new washer are:
  - A. Completely interchangeable with the old design
  - B. Partially interchangeable with the old design
  - C. Totally different and not interchangeable with the old design
- 5. Proper standpipe drain height is:
  - A. 30"
  - B. 37 1/2"
  - C. 8 foot
- 6. The two speed motor is a brand new FORM;
  - A. W.
  - B. Q.
  - C. J.

# WBXR1060T WBXR4110T TECHNICIAN EXERCISE- General/Installation Use and Care

Goal: Locate vital product service information, and product characteristics

Tools required: 1 #15 Torx	screwdriver
Identify the model and se     Model	rial number of the washer in class and record hereSerial
2. Remove 4 #15 Torx screv	ws form the control panel and note location of mini-manual: A. Center B. Left C. Right
<ul><li>3. Find location of shipping</li><li>4. Find cold water inlet in wa</li></ul>	retainer rod and if present remove ater valve and note location (facing the machine) A. Right hand side B. Left hand side
5. Level rear of washer	
6. Find and note location of	the anti-siphon clip on the rear of the washer:  A. Rear left side  B. Rear right side  C. Rear center
7. Have instructor check yo	ur work.

NOTES

# **CONTROL PANEL**

(Provides access to Timer, Water Valve, Water Level Switch, Water Temperature Selector Switch)

The control panel is a contemporary design with ease of service being a major design consideration. The switches are tab interlock, and the harness connectors only fit the switch it was designed to connect. Control panel switch bracket is galvanized, with three tabs designed to allow the switchtrim to be supported during service. Mini Manual is located in the control panel.

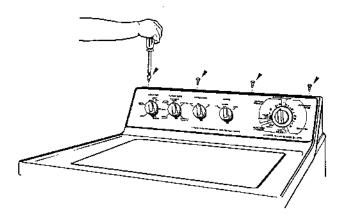
- 1. Remove four (4) # 15 Torx screws from top of control panel
- Mini Manual can be accessed from this position, or simply remove four torx screws and reach in the backsplash. Locking tabs in the front of switch trim allow partial forward rotation to support switch trim.
- 3. (Shut off water) Water valve is serviceable by removing the 4 # 15 torx screws on the top of the control panel, and rotating forward the switch trim as in step 2, two 1/4" hex screws mount the water valve. Water valve can be changed by pinching oft inlet hoses and pulling through back of control panel to remove.
- 4. Reverse steps to reassemble.

# TO REMOVE TIMER

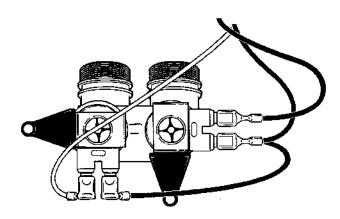
Timers are not technician serviceable. If found to be faulty replace the entire timer-timer/motor assembly. Timers are model specific and only fit the model it's designed to fit.

- 1. Remove timer knob assembly, timer dial assembly, and spring clip from timer shaft.
- 2. Protect finish on cover and lid by covering with a towel, remove control panel torx screws shown in section , and rest switch trim assembly on the cover tabs for support.
- 3. Remove harness from timer.
- 4. Remove one 1/4' hex screw that attaches timer to switch trim support. Timer is held in place with two locking tabs under bracket. Move timer to the left
- 5. Reverse steps to replace timer.

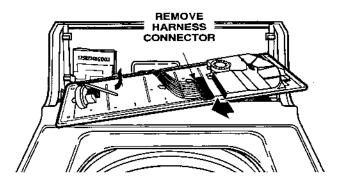
(NOTE: You will see a PC board on back right of control panel. This is a safety monitor, which senses transmission rotation through a read switch at transmission shaft. This should require no service.)



REMOVE 4 - #15 TORX SCREWS



WATER VALVE SERVICED THROUGH CONTROL PANEL



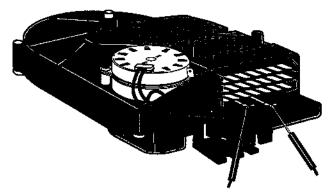
MOVE TIMER TO LEFT TO RELEASE TABS

# **TO SERVICE TIMER**

(Timer is not technician serviceable, if defective replace timer assembly, the timer motor and timer are the assembly)

- 1. Remove 4 # 15 Torx screws, and rotate down switch trim on locking tabs. Remove harness terminal.
- 2. Check continuity with ohmmeter set to R x 1 scale by probing timer terminals at appropriate point on timer dial corresponding to made contacts on cam chart in mini manual. (FOR PERSONAL SAFETY MAKE SURE POWER IS OFF TO APPLIANCE.) Ohmmeter should show continuity (closed) or no continuity (open). No continuity indicates a defective timer and should be replaced.
- Remove 1 1/4" hex screw mounting timer to switch bracket, and pull timer to the left to release bracket mounting tabs.
- 4. Reverse steps to reassemble.

(**TECH TIP**: The timer is a "STEP" type timer which uses a latch and pawl engagement, to advance the cycle. Due to the design of the timer it is possible for the timer to appear not to advance for up to 3 minutes. As the timer progresses to the next "STEP", the timer will advance. Several "OFF" zones appear in the cam chart, and during those times the timer motor will not be running. Timer is model specific, check for correct timer/model when replacing.)



**CHECK TIMER ASSEMBLY** 

# **WATER PRESSURE SWITCH**

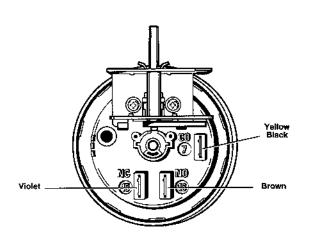
The water pressure switch is a new design and is accurate. Rotating the dial sets a cam that controls the diaphragm, the water pressure is sensed through pressure from the take off at the lower portion of the tub. Terminal connectors are marked (NC) normally closed and (NO) normally open, and common terminal on the switch

(**TECH TIP:** Before disconnecting hose from water level switch, be sure water level in machine is below bottom of wash basket. After reconnecting hose, put machine in spin for at least one minute before checking operation of switch)

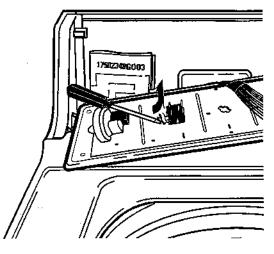
- If water level is below basket, remove control panel, and pressure switch hose.
- 2. Disconnect terminal connectors, note (NC) Violet, (NO) Brown, (CO) Yellow Black.
- 3. Check terminals for continuity.
- 4. If defective replace by inserting a small screwdriver under locking tab, rotating the switch counterclockwise, and lifting switch out of switch bracket to remove.
- 5. Reverse steps to reassemble, put machine in spin for at least one minute before checking operation of switch.

# TEMPERATURE SELECTOR SWITCH

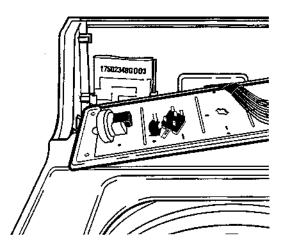
- Remove 4 #15 Torx screws to access switch.
- Remove harness terminal connectors.
- Apply light pressure to the back of the switch insert small screwdriver under locking tab to disengage. Turn the switch <u>counter-clock wise.</u> Pull switch out of bracket keyhole.
- 4. Repeat steps to replace.



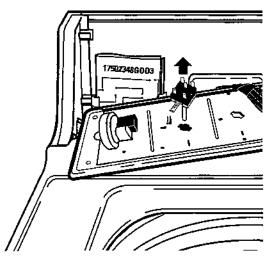
PRESSURE SWITCH



INSERT SMALL SCREWDRIVER UNDER TAB

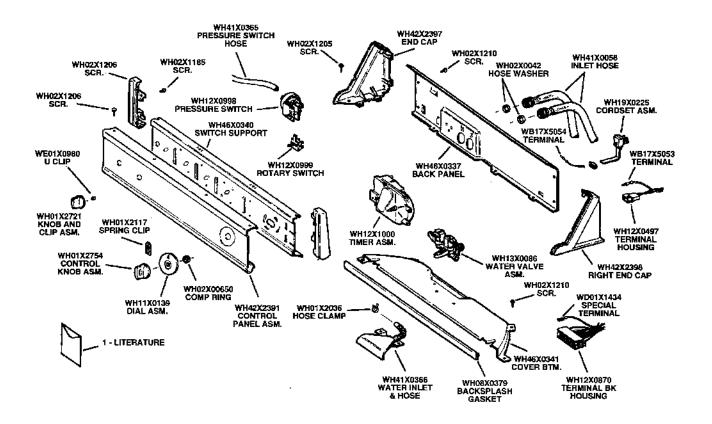


TURN SWITCH COUNTERCLOCKWISE

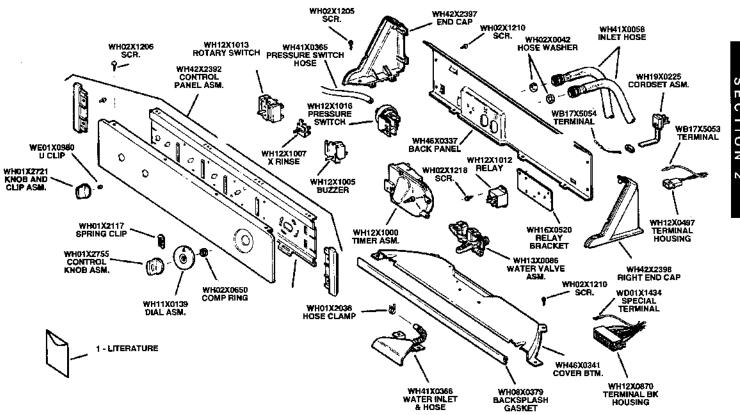


PULL SWITCH OUT OF BRACKET

# WBXR 1060 X-LARGE



# **WDSR 4110 SUPER LARGE**



# **KEY POINTS**



Mini Manual is located in the control panel.



Control panel can be opened by removing 4-#15 Torx screws



Water valve can be changed by pinching off inlet hoses, or turning off faucets, and removing through control panel back.



Timers are not technician serviceable, and are model specific.



Before disconnecting hose from water level switch, be sure water level in machine is below bottom of wash basket. After reconnecting hose, put machine in spin for at least one minute before checking operation of switch.



Terminals on water pressure switch are labeled common, normally open, and normally closed.



Switches are removed by inserting a small screwdriver under the locking tabs, and while lifting up on tab rotate the switch counterclockwise until it will come out of the keyhole in control panel switch bracket.

# WBXR1060T WBXR4110T

# TECHNICIAN QUIZ- Control Panel/Timer/ Water Valve/Switches

# Questions: (circle your answer)

- 1. Water valve is:
- A. Serviceable from inside the control panel
- B. Can not be serviced
- C. Electronic

2. The timer is:

- A. An impulse "STEP" timer
- B. Purple
- C. Just like the old one
- 3. All the switches are mounted to the switch bracket with:
  - A. Bubble Gum
  - B. Metal to Metal tab and lock design
  - C. Magnets
- 4. With an impulse or "STEP" timer it is possible to:
  - A. Remove it completely and not replace
  - B. Use old parts from previous timers
  - C. Have the indicator dial appear not to move up to 3 minutes depending upon model
- 5. Before disconnecting hose form water level switch:
  - A. Be sure water level is at top of basket
  - B. Make sure you have boots on
  - C. Make sure water level is below bottom of wash basket, and wait one minute after reconnection before checking.
- 6. All the switches after the metal tab is disengaged can be rotated:
  - A. Clockwise to remove
  - B. Counterclockwise to remove
  - C. Cannot be removed

WBXR1060T WBXR4110T

# TECHNICIAN EXERCISE- Control Panel/Timer/ Water Valve/Switches

Goal: Open control panel, remove and replace water valve, remove and replace timer, remove and replace water pressure switch.

Tools required:

#15 Torx screwdriver 1/4" nut driver Small flat blade screw driver Pliers

- 1. Using the #15 Torx screwdriver remove the 4 trox screws form the top of the control panel.
- 2. Remove harness from timer, remove 1-1/4" hex screws from timer to switch bracket, remove timer knob assembly, timer dial assembly, and spring clip. When complete replace timer, and knob assembly.
- 3. Remove the 2- 1/4" hex screws form water valve, remove terminals, pull forward and then replace the water valve, and terminals
- 4. Remove water pressure switch by first removing knob. Remove terminals, unhook pressure switch hose, using small screwdriver under locking tab, rotate 180 degrees to remove from switch bracket. Reassemble when complete.
- 5. Have instructor check your work.

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#### CABINET

The cabinet is galvanized sheet metal, with powdered paint coating and is extremely rust resistant. It has an enclosed bottom, and is 3 sided with a front panel. The lid has a patented colored lid instruction, that is unique to each model, and should only be replaced with the proper lid for the model being serviced. The levelling legs are installed from the factory, and are Polypropylene with Santoprene non skid base. Base of levelling legs have a 1" hex nut design to allow easy adjustment if necessary. Rear is self leveling, and is accomplished by lifting the rear legs 4" off the floor and lowering unit.

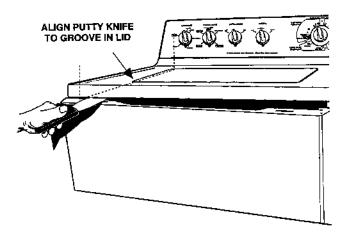
### To Service Front Panel

(Provides service access to tub, basket, motor, remote pump, front suspension rod and spring assembly and hex screws mounting cover to apron)

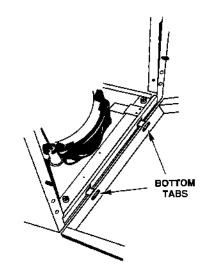
- 1. Locate 2 spring clips between cover and front panel by aligning putty knife with groove on either side of lid and cover. Use care not to scratch the paint on cover or front panel.
- 2. Insert putty knife and push to release clips.
- Rotate front panel forward and lift off cabinet base locating tabs.
- 4. Reverse steps to reassemble To Service Cover/Lid Assembly

(Provides access to, lid switch and switch connector to timer block, top cabinet suspension supports, bleach funnel and hose, and rubber tub dampeners.)

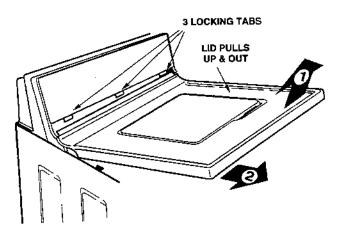
- 1. Remove front panel.
- 2. Remove two 1/4" hex screws front left and right side of cabinet top support.
- 3. Pull cover/lid assembly towards you and up about 2". Disconnect bleach funnel clamp from bleach hose using pliers.
- 4. Release lid switch wire connector, wires are orange/ orange-white. Connector is located in right rear corner of cover, you may need to press down on wiring to allow clearance to remove connectors.
- 5. Remove cover/lid assembly, taking care not to allow lid to swing out and be damaged.
- 6. Reverse steps to reassemble.



LOCATE AND RELEASE 2 SPRING CLIPS



**ROTATE PANEL OUT TO REMOVE** 



PULL COVER AND LID ASSEMBLY
UP AND TOWARDS YOU

# **PUMP**

#### To Service Tub Seal

- Remove basket as previously shown.
- 2. Using channel locks, grasp 1 of the four tabs molded into the top of the seal, and pull the seal out.
- 3. Position new seal and seat, tap or push the seal into place, making sure seal is fully seated.
- 4. Reverse steps to replace basket.

# To Service Remote Pump

- 1. Remove front panel.
- 2. Pump is located in lower right front corner of cabinet. Disconnect harness connectors, **pinch off black sump hose to prevent water leakage**, remove external drain hose clamp and hose, and black sump to pump drain hose clamp and hose.
- 3. Remove 2- 1/4" hex screws in the front of pump and lift out pump.
- 4. Reverse steps to replace pump.

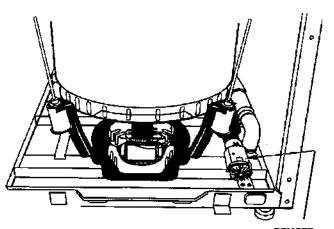
(TECH TIP: When a foreign object is removed from the pump, the front fan blade will rotate easily.)

#### MOTOR/CLUTCH

# To Service Motor/Clutch

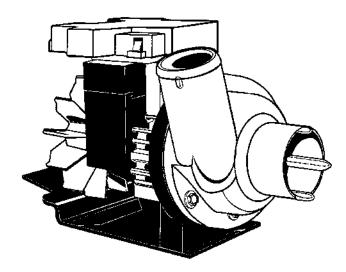
- Remove front panel, access motor and clutch from front
- 2. Loosen (4) 3/8" nuts on leg and platform asm.
- Move motor towards the center of the platform to release belt tension, and remove belt.
- 4. After removing 4 motor mount bolts, rotate transmission to a position that allows you enough clearance to pull the motor out by moving the bottom forward to allow the assembly to clear the platform.
- 5. The clutch is mounted on top of the motor with a one shot removable clutch spring clip that engages flats in the motor shaft. To remove the clutch, remove the clip and lift the clutch up.
- Reverse and repeat previous steps to reassemble.

(**TECH TIP**: To reassemble use method shown in illustration, place and align a new spring clip in the position shown, and roll the clip into place.)

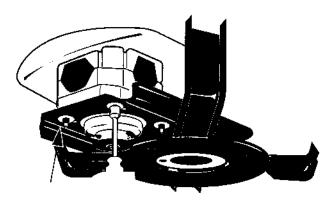


REMOTE PUMP

# REMOTE PUMP LOCATION



**REMOTE PUMP** 



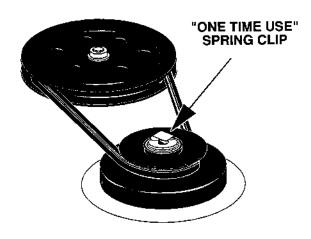
REMOVE (4) 3/8" NUTS ON MOTOR TO LEG AND PLATFORM

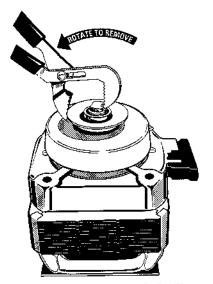
# **CLUTCH**

# To Remove Clutch

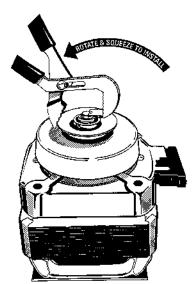
Clutch can be ordered as a repair part, and is not shipped with the motor.

- 1. Remove non reusable spring clip by grasping clip with pliers, as shown in illustration, and rotate to remove.
- 2. To reinstall, place clutch over motor shaft until it is seated. Align clip so that the clip bottom aligns with flats in motor shaft.
- 3. Rotate and squeeze to install.



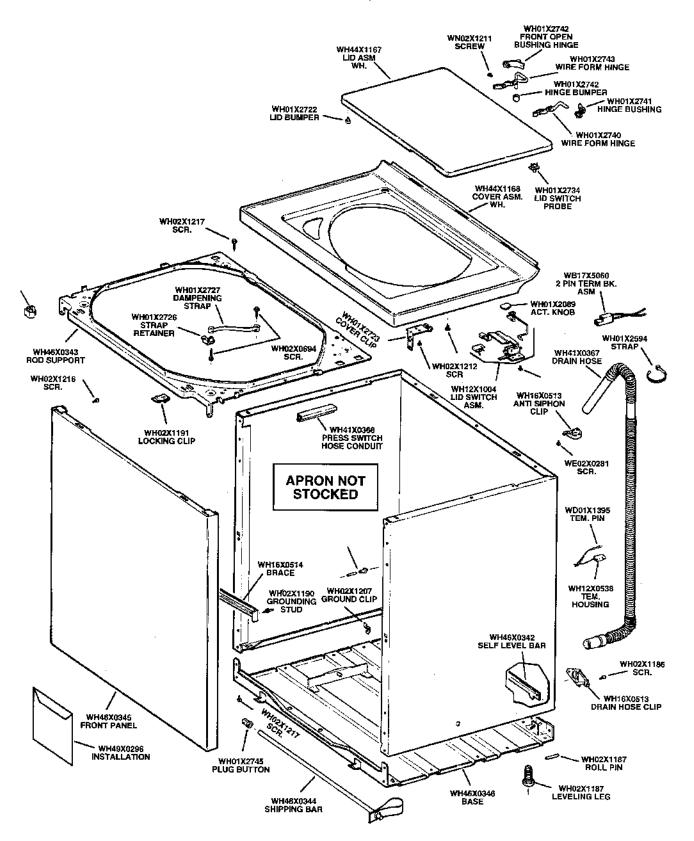


REMOVE SPRING CLIP

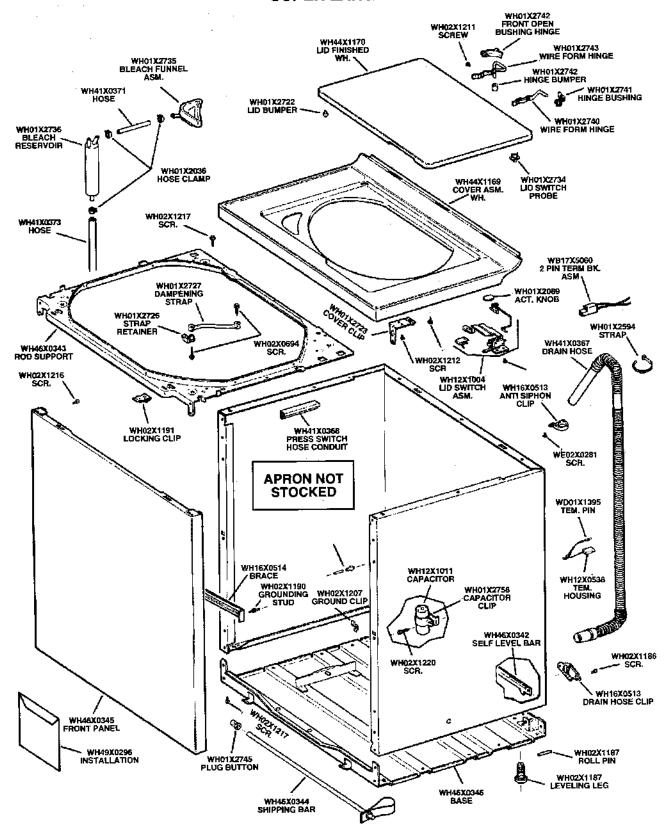


**INSTALL SPRING CLIP** 

# WBXR1060 X-LARGE



# WDSR4110 SUPER LARGE



# **KEY POINTS**



Cabinet is galvanized sheet metal, with powdered paint coating, and is rust resistant.



Front leveling legs come preinstalled, and the rear is self leveling by lifting up the rear of the washer 4" off the floor and placing it down.



To remove front panel, find two spring clips by aligning a putty knife with the groove on either side of lid and pushing to release.



To remove cover/lid assembly, remove front panel, remove 2 1/4" hex screws, pull cover and lid up and out to reveal lid switch connector on right corner of cover, release lid switch connector, and remove cover.



Suspension is a "floating off the floor" design, with color coded suspension rod and spring assemblies.



Plastic cover over spring assembly, acts as bellows to give air shock effect on washer suspension.



To remove rod and spring assembly lift up with one hand on tub, to reduce weight. Use other hand to release plastic retainer that holds spring housing to platform.



When removing suspension rod and spring assemblies, remove front first, let them hang freely, the reach in over top of tub, and release rear rod and spring assemblies.

# WBXR1060T WBXR4110T

# TECHNICIAN QUIZ- Cabinet/Pump/Motor Clutch

# Questions: (circle your answer)

1. Clutch is a:

- A. Common Clutch
- B. Shifter activated
- 2. Front leveling legs:
- A. Come preinstalled and level
- B. Have been eliminated
- C. Are just like the old ones
- To remove front panel:
- A. Get a can opener
- B. Locate groove formed by lid/cover insert putty knife and push to release clips.
- C. Remove 4 7/16" bolts
- 4. With front panel removed to remove cover/lid:
  - A. Slid sideways until you hear a clicking noise
  - B. Push straight back on cover
  - C. Remove 2-1/4" hex bolts form front, pull cover and lid towards yourself and up about two inches, disconnect bleach funnel hose with pliers, and lid switch connector at right rear of cover.
- 5. When there is a foreign object in the pump:
  - A. Use a bit and brace to auger it out
  - B. Call for help
  - C. Pinch off sump hose, and remove clamp, remove any foreign object, then rotate pump fan, if it rotates freely reassemble.
- 6. The drive motor can be removed from:
  - A. The front
  - B. The back
  - C. The bottom

WBXR1060T WBXR4110T

# TECHNICIAN EXERCISE- Cabinet/Pump/Motor Clutch

Goal: Remove front panel, motor, and clutch

Tools required:

Putty knife

3/8" box end wrench

Pliers

- Using the putty knife align with grooves formed on left and right of cover and lid, and push to release clips.
- Rotate basket to position transmission to give the greatest clearance. Remove harness connector. Remove 4-3/8" nuts using box end wrench. Move motor towards the center of the platform to release belt, pull the motor out by moving the bottom forward to allow the clutch clear the platform. Replace motor.
- Locate pump on right form the corner of cabinet, remove electrical connections, remove two bolts located on front pump bracket, remove pump. Do not disconnect hoses. Reinstall pump.
- 4. Have instructor check your work.

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#### SUSPENSION

The suspension system is unique in that the spin basket, tub, and leg and platform assembly are suspended from the rod support. The rod support sets atop the cabinet and provides, through 4 socket liners durable ball joints. The rod support gives the suspension a pivot point for the rod and spring assembly. A dampening system consisting of 4 dampening straps mounted to the tub cover, dampens rotation movement during start up and braking.

The 4 spring and rod assemblies are color coded to make sure they are replaced in the correct position, same color front, same color back. Spring compression is different in the front, to compensate for the added weight of the motor. The plastic cover over the spring assemblies provides a housing that acts as an air shock, to give proper compression during the movement of the wash action. The spring and rod assembly has been tested to support a weight of 700 lbs. each, to insure a durable suspension system.



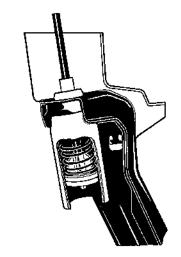
- 1. Remove front panel. Remove cover and lid.
- 2. Remove 4 dampening screws front dampeners at tub cover.
- 3. Remove front rod and spring assemblies, (One at a time), by lifting tub/platform up with one hand to take weight off of suspension bellows.

(NOTE: To remove rod and spring assembly, hold down on ball joint and pull rod forward gently to release.)

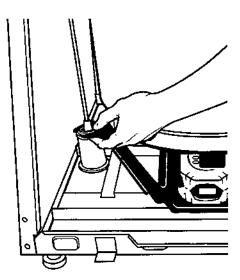
- 4. Using thumb and forefinger to release, pull the bellows out of the platform, and allow to hang freely. Repeat for other side on front.
- The tub/platform assembly will now lean forward, after both rod and spring assemblies are released. Access the rear spring through the top of the cabinet, and unhook the two rear spring and rod assemblies.

(TECH TIP: Allow the front and back rod and spring assemblies to hang freely, they won't be in you way, and it will keep the proper rod and springs in the front and the back.)

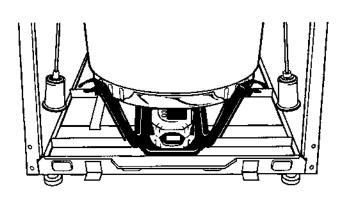
Reverse steps to reassemble.



ROD AND SPRING ACTS AS AIR SHOCK (CUT AWAY VIEW)



REMOVE ROD AND SPRING ASSEMBLIES IN FRONT



ALLOW ROD AND SPRING ASSEMBLIES TO HANG FREELY

#### SPIN BASKET

#### To Service Spin Basket

(provides access to agitator hub and screw, transmission to tub nut, tub seal, and tub)

- Remove front panel and cover/lid.
- 2. Disconnect (4) dampening straps from tub, attached by 5/16" hex head screws.
- 3. Remove tub cover by lifting out 8 tabs on tub cover, and pulling cover off.
- 4. Remove agitator by grasping bottom and sharply pulling up, or use agitator removal strap as shown.
- 5. Remove 7/16" hex bolt attaching air bell coupling to transmission spline shaft.

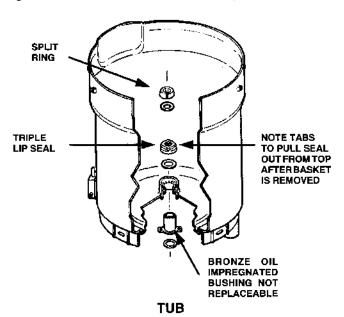
(**Tech Tip:** The 7/16" bolt has an "O" ring and should be replaced every time it is removed to maintain air bell seal.)

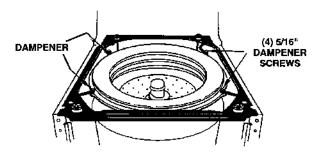
- 6. Remove **left-handed** 1- 11/16" transmission hub nut. This nut is **aluminum**, take care not to round the edges when removing or replacing. (Note that the word "LOOSEN" with an arrow showing turn to the LEFT appears on the nut.
- 7. Tilt tub / basket / platform forward to allow clearance to remove basket.
- 8. Lift basket out and set it aside.

(**NOTE:** You may hear water in balance ring. This is sealed and is normal.)

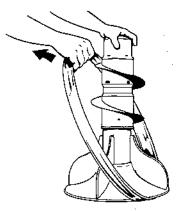
9. Replace the basket by reversing procedure.

(**TECHTIP:** When replacing hub nut, tighten snug, then tighten 1/4 turn with hammer and tool.)

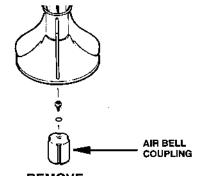




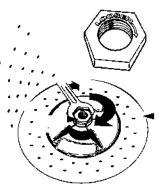
REMOVE (4) 5/16" SCREWS



**REMOVE AGITATOR** 



REMOVE AIR BELL COUPLING



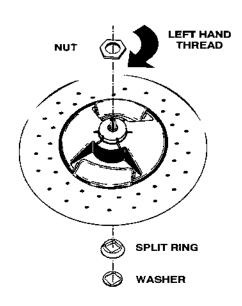
**REMOVE HUB NUT** 

#### TUB/MOTOR ASSEMBLY

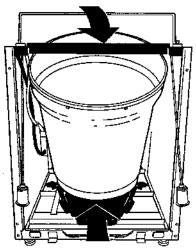
#### To Service Tub/Motor Assembly

(Provides access to Tub, Transmission, Belt and Pulleys)

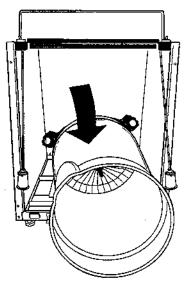
- 1. Remove front panel, cover/lid, remove agitator by using belt tool as shown.
- 2. Remove split ring and washer from transmission.
- 3. Remove **front** rod and spring asm. (one at a time) by lifting motor tub assembly up to take weight off suspension bellows at lower portion of the rod. Pull the bellows out of the leg and platform asm., and allow them to hang freely. The front and the rear rod and spring assembly have different springs that are color coded and shouldn't be switched.
- 4. The motor and tub assembly will now lean forward after both front suspension rods are removed. This allows clearance to remove unhook the two rod and spring assemblies in the rear.
- 5. Disconnect motor harness connector, and grounding wire to frame, pressure switch hose at take off, and disconnect bleach funnel hose at lid. Save plastic ties to redress hoses as shown
- 6. Disconnect hose from bottom of tub to pump.
- 7. Lift and push bottom of tub/motor assembly towards the rear, and roll top of tub out under top lip of cabinet.
- 8. Roll tub out per illustration.
- 9. Pull tub out of apron by tilting it over on its top as shown in illustration
- Reverse steps to reassemble.



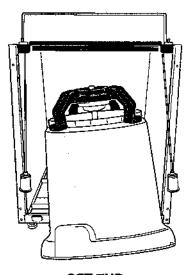
#### **PULL TOP OUT FRONT**



**PUSH BOTTOM IN** 

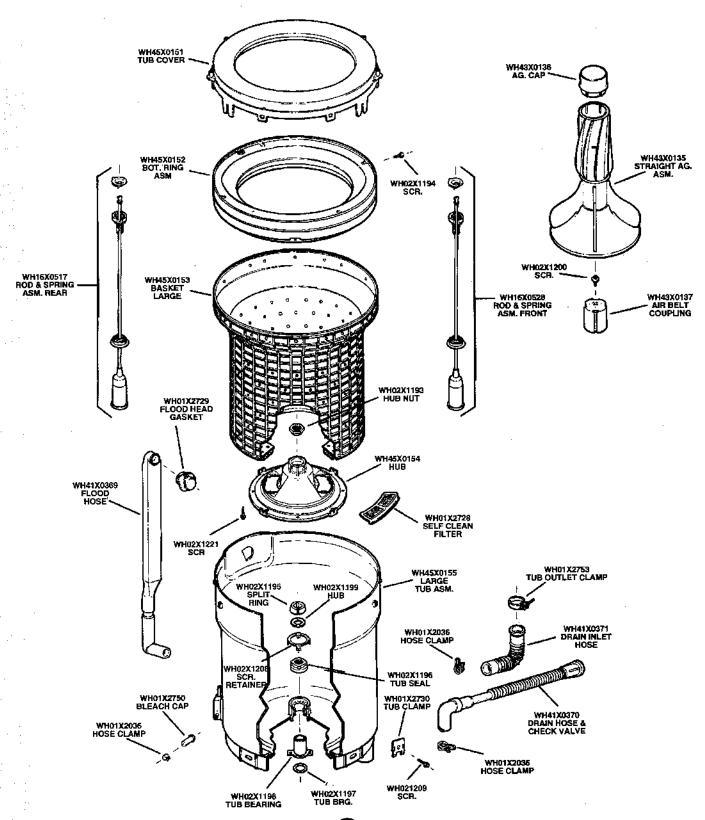


TILT TUB OUT FRONT

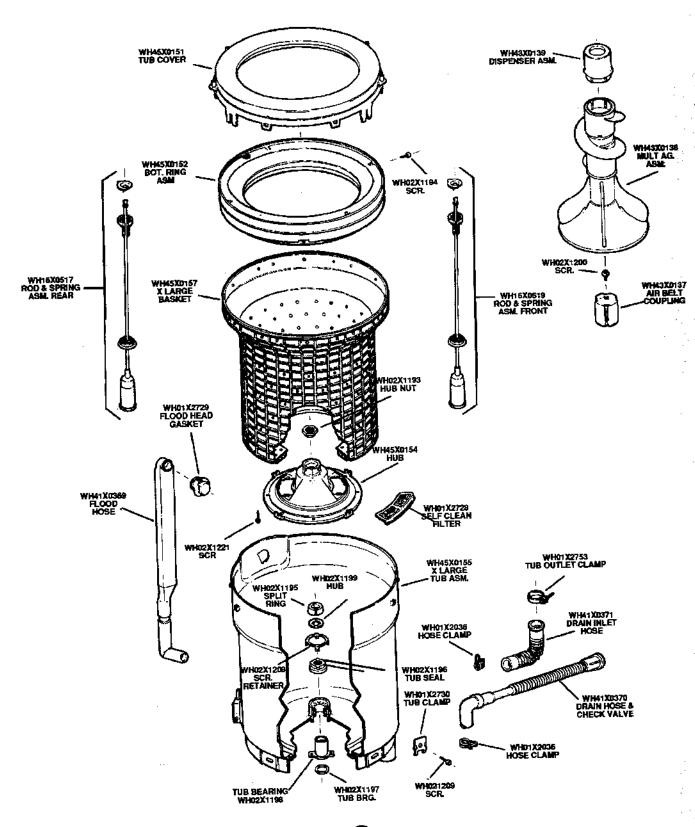


SET TUB
WITH PLATFORM UP

#### WBXR1060 X-LARGE



#### WDSR4110 SUPER LARGE



#### **KEY POINTS**



Suspension system is a Floating "off the floor" design.



Rod and springs assemblies should be allowed to hang free when disconnected.



Rod and springs are different spring tensions.



Rod and Springs act like an Air Shock.



To remove rod and springs from leg and platform lift up with one hand and use thumb to release.



7/16" "O" ring screw in air bell coupling must be replaced only at time serviced.



Hub Nut is "Left Hand" Thread.



Underneath the basket is split ring and washer.



To remove tub unhook sump hose, electrical connections, rod and spring assemblies, push bottom in tilt tub out front.

### WBXR1060T WBXR4110T

# TECHNICIAN QUIZ- Suspension/Spin Basket/Tub

## Questions: (circle your answer)

- 1. To remove the agitator you will need:
  - A. Belt tool
  - B. Tongs
  - C. Jack
- 2. Suspension rod and spring assemblies act as:
  - A. Hook
  - B. Air shock with a compressed spring
  - C. Are just like the old ones
- 3. When the rod and spring assembly is released at the bottom you should:
  - A. Be Happy
  - B. Cinch them up with rope
  - C. Let them hang freely, they won't be in your way
- 4. The hub nut is a:
- A. Left hand thread
- B. Wheel cover enthusiast
- C. Washer option
- 5. After removing agitator, 7/16" bolt and air bell, left hand hub nut, and basket:
  - A. You remove the split ring and washer
  - B. Roll pin
  - C. Gasket
- 6. The tub/platform can be removed by unhooking all the necessary components and:
  - A. Pull out the top
  - B. Push bottom in, tilt tub out front
  - C. Pull out the bottom

## WBXR1060T WBXR4110T

# TECHNICIAN EXERCISE- Suspension/Spin Basket/Tub

Goal: Remove agitator, suspension rod and springs, spin basket, tub.

Tools required:

Belt tool 7/16" nutdriver Hub nut tool 1/4" nut driver Pliers

- 1. Using the belt tool remove the agitator.
- 2. Using the 7/16" nutdriver remove the air belt coupling bolt and air bell coupling.
- 3. Using hub nut tool, (LEFT HAND THREAD!), remove hub nut, and spin basket.
- 4. Remove front suspension rod and spring assemblies.
- 5. Release 8 tabs and remove tub cover out the front.
- 6. Remove sump hose, motor harness, and ground screw.
- 7. From the front reach back behind the tub and release the rear rod and spring assemblies.
- 8. Push the bottom of the tub towards the rear, and tilt the top out from under the front cabinet rod support.
- Set tub up on its top, leave it in this position until you complete the next exercise on transmission.
- 10. Have instructor check your work.

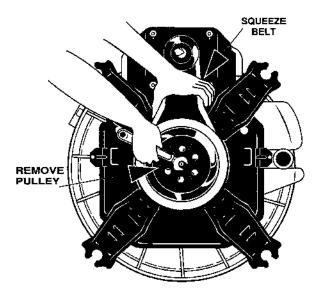
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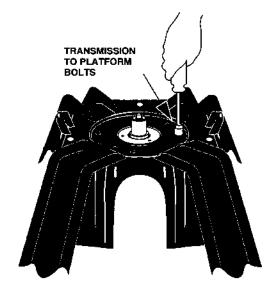
#### **TRANSMISSION**

#### To Service Transmission

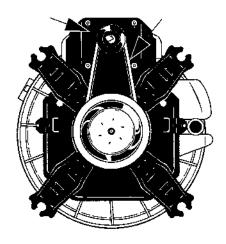
- 1. With motor/tub/transmission assembly upside down, loosen motor mounts to release belt tension.
- 2. Remove transmission drive pulley by holding belt to as shown, to remove pulley nut. (1 3/4° nut).
- 3. After pulley is removed, remove 4 3/8" bolts mounting the transmission mounting plate to leg and platform assembly
- 4. Remove 4 1/2" hex bolts mounting platform and leg asm. to tub. Remove wire tie fastening overflow tube.
- 5. Remove leg and platform support.
- 6. Lift transmission up and out. Transmission/brake assembly is one component, and is replaced as a component. Transmission assembly is not technician serviceable.
- 7. Reverse and repeat steps 1-6 to replace transmission-brake assembly. (Note: take care to positively align the locating bosses before reinstalling the 4 platform to transmission bolts.



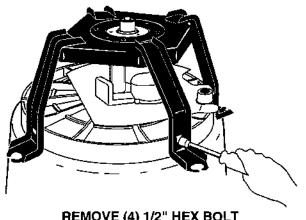
**LOOSEN 3/4" NUT FROM PULLEY** 



REMOVE (4) 3/8" BOLTS MOUNTING TRANSMISSION TO PLATFORM



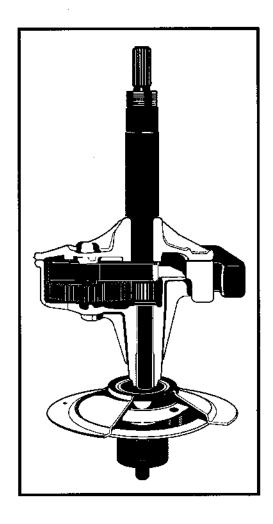
**PULLEY DETAIL** 



REMOVE (4) 1/2" HEX BOLT PLATFORM TO TUB

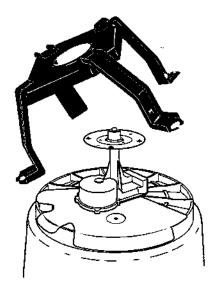
## TRANSMISSION (con't.)

**Note:** Transmission cutaway below is shown to provide you with an internal view. Transmission is a rotating design, with all metal gears, metal counterweight, and 4 oz. of oil. The transmission and quiet brake are one component, and is replaced and not rebuilt.

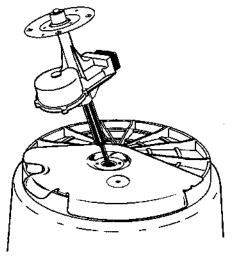


**CUTAWAY VIEW OF TRANSMISSION** 

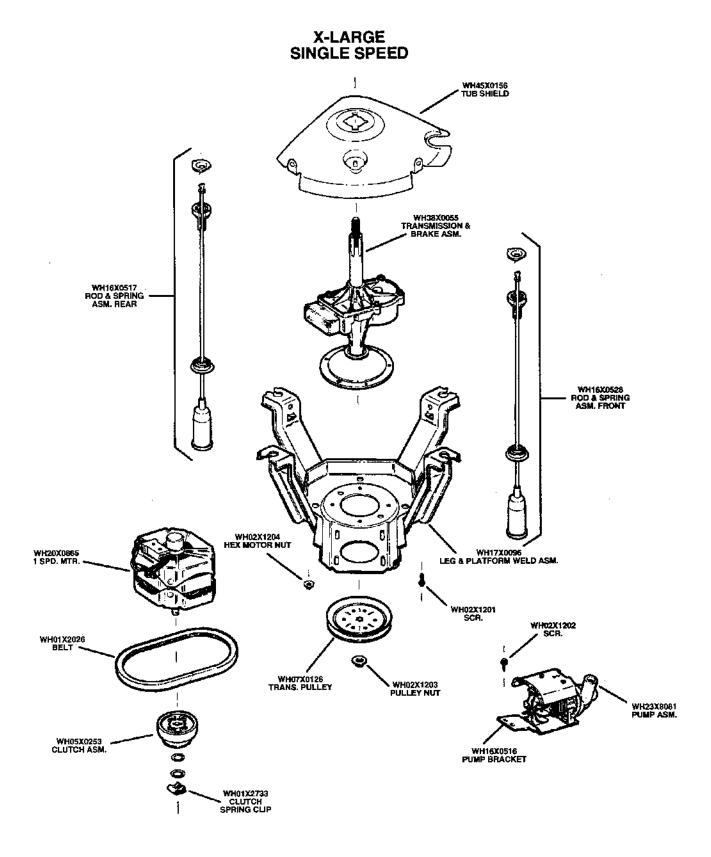
New Transmission provides durability with its all-metal gears. There are no plastic gears to wear or break. All-metal gears provide more durability than plastic gears of the same size. These metal gears allow for a smaller and more balanced transmission. Agitation is attained by turning the transmission in a clockwise motion. Spin speeds occur when the transmission is spun or rotated in a counterclockwise motion. A durable seal system reduces the chance of leaking.

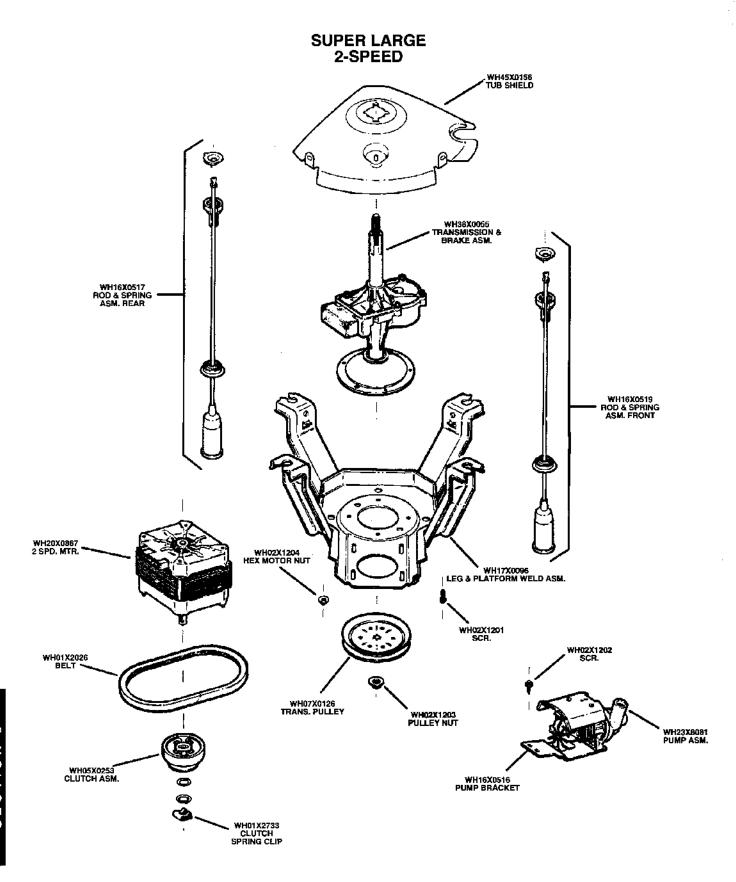


REMOVE PLATFORM



**REMOVE TRANSMISSION** 





#### **KEY POINTS**



Use agitator removal strap to remove agitator.



7/16" air bell coupling bolt has an "O" ring and should be replaced every time coupling is removed.



Align groove in air bell coupling to agitator fin to reinstall.



Hub nut, mounting basket to transmission, is LEFT HAND THREAD



When replacing hub nut, tighten snug, then tighten 1/4 turn with hammer and tool.



Remove rod and spring assembly, one at a time, front first, then back, let them hang freely.



Transmission pulley is mounted to transmission by 3/4" nut.



Positively align locating bosses from brake to platform.



Transmission and quiet brake are one component, and replaced when defective.



Motor and clutch can be removed from the front, using a 3/8" rachet, rotating transmission for clearance, and pulling motor out.



Clutch is not shipped with replacement motor, and it has a non reusable spring clip, mounting clutch to motor shaft.

### WBXR1060T WBXR4110T

# TECHNICIAN QUIZ- Transmission

## Questions: (circle your answer)

- 1. The transmission is:
- A. Repaired in the home
- B. Made out of plastic
- C. Replaced with the brake as one component
- 2. To make sure the transmission is aligned to the leg and platform you must:
  - A. Draw lines on the
  - B. Rotate counterclockwise
  - C. Align locating bosses in platform to transmission/brake
- 3. The transmission does the following when in operation:
  - A. Rotates
  - B. Indexes
  - C. Moves up and down
- 4. Quiet disc brake is shipped as:
  - A. A separate part
  - B. A single component with the transmission
  - C. Washer option
- 5. The transmission spins:
- A. Clockwise for agitate, rotates counterclockwise for spin.
- B. Only clockwise
- C. Only counterclockwise

## WBXR1060T WBXR4110T TECHNICIAN EXERCISE- Transmission

Goal: Remove, replace transmission, reassemble washer per previous steps Tools required:

3/4" open end wrench 3/8" nutdriver

1/2" nut driver

1/4" nut driver

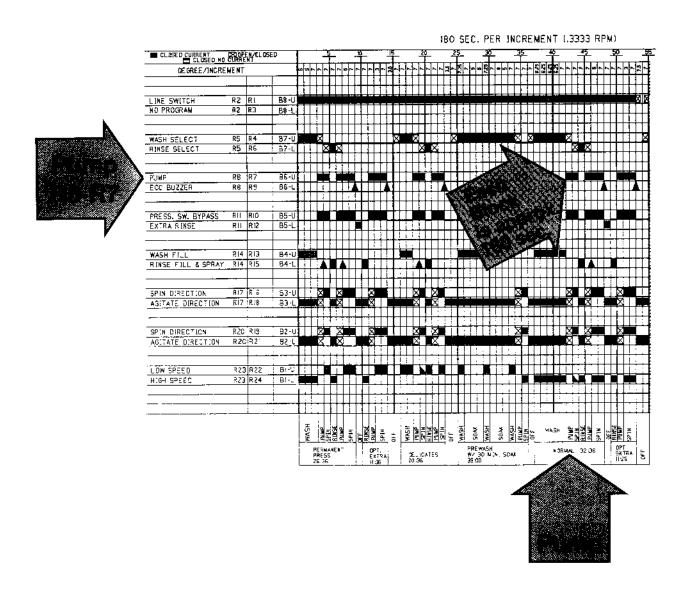
With front panel, cover and lid, tub cover, basket, suspension, sump hose and electric connection removed do the following exercise:

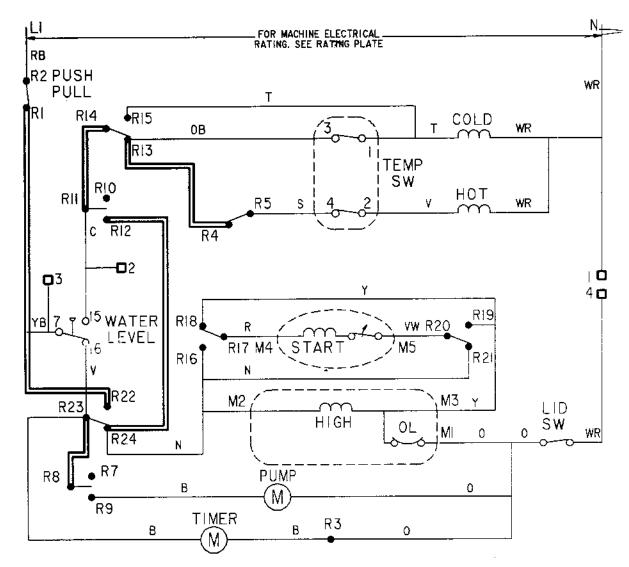
- 1. Remove 3/4" pulley nut from pulley, hold drive belt to prevent pulley form turning.
- 2. Remove 4-3/8" bolts from platform to transmission to platform.
- 3. Remove 4-1/2" bolts form platform legs to tub.
- 4. Lift transmission up and out of tub.
- 5. Have instructor check your work, and reassemble washer

NOTES
NOTES
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The timer cam chart shows the "STEP" or impulse type timer. The normal wash cycle shown below is approximately 32 +/- minutes, in approximate increments shown on the top of the cam chart, these increments can vary due to cam engagement.

As an example on the cam chart below you will see a NORMAL WASH shown below by an arrow. If you go straight up that column towards the top, and find the arrow for PUMP, the intersection will show a black box symbol which says the pump is energized. Following the row to the left you will note the timer terminal numbers (marked on timer case), R8 and R7. Check those terminals with timer indicator in NORMAL WASH, at 1ST PUMP, to check for continuity. MAKE SURE WASHER IS UNPLUGGED BEFORE CHECKING.





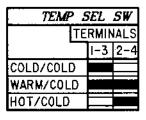
NOTE: CONTROL SWITCHES IN SCHEMATIC ARE SHOWN SET FOR NORMAL WASH AT START OF AGITATION ON THE CAM CHART. MANUAL SWITCHES IN SCHEMATIC ARE SHOWN SET FOR WARM/COLD TEMP SELECTION. NUMBERS AND LETTERS INDICATE CORRESPONDING COMPONENT TERMINAL DESIGNATIONS.

DOUBLE LINES INDICATE BUSSING INSIDE TIMER AND SELECTOR SWITCH.

- O SWITCH CONTACT
  TIMER SW TERM
- S BUSS TERM

  PC BOARD TERM





COLOR	SYM
BLACK	8
BROWN	С
RED	R
ORANGE	0
YELLOW	Υ
GREEN	G
DK. BLUÉ	N
LT. BLUE	Α
VIOLET	V
GRAY	S
WH!TE	W
TAN	Т
PINK	P
BARE	X

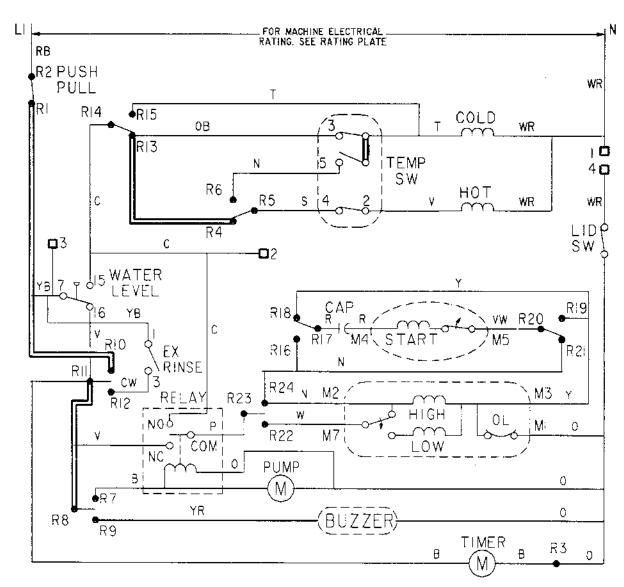
#### WATER LEVEL SWITCH

BEFORE DISCONNECTING
HOSE FROM WATER LEVEL
SWITCH, BE SURE WATER
LEVEL IN MACHINE
IS BELOW BOTTOM OF
WASH BASKET. AFTER
RECONNECTING HOSE, PUT
MACHINE IN SPIN FOR AT
LEAST ONE MINUTE BEFORE
CHECKING OPERATION OF
SWITCH.

80 SEC. PER INCREMENT 10.75 RPM1

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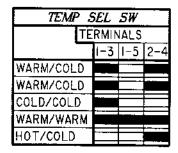
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NOTE: CONTROL SWITCHES IN SCHEMATIC ARE SHOWN SET FOR NORMAL WASH AT START OF AGITATION ON THE CAM CHART. MANUAL SWITCHES IN SCHEMATIC ARE SHOWN SET FOR PERM PRESS TEMP AND LOW SPEED SELECTION. NUMBERS AND LETTERS INDICATE CORRESPONDING COMPONENT TERMINAL DESIGNATIONS.

DOUBLE LINES INDICATE BUSSING INSIDE TIMER AND SELECTOR SWITCH.

- O SWITCH CONTACT
  TIMER SW TERM
  BUSS TERM
  CO PC BOARD TERM
- OPEN CLOSED



#### COLOR SYM BLACK В BROWN ε RED R ORANGE ō YELLOW Y GREEN G DK. BLUE N LT. BLUE Α VIOLET ٧ GRAY 5 WHITE W TAN Р PINK

χ

BARE

#### WATER LEVEL SWITCH

BEFORE DISCONNECTING
HOSE FROM WATER LEVEL
SWITCH, BE SURE WATER
LEVEL IN MACHINE
IS BELOW BOTTOM OF
WASH BASKET, AFTER
RECONNECTING HOSE, PUT
MACHINE IN SPIN FOR AT
LEAST ONE MINUTE BEFORE
CHECKING OPERATION OF
SWITCH.

180 SEC. PER INCREMENT (.3333 RPM)

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R6 N	R5 S	R4
R9 YR	RB	R7 B
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RI5 T	RI4 C	RI3 OB
RIB Y	RI7 R	RI6 N
R2I N	R20 VW	RI9 Y
R24	R23	R22 W
5		

NOTES

WBXR1060T WBXR4110T TECHNICIAN QUIZ- Answers

## Section:

## General/Installation/Use and Care

1. C 4. C

2. B 5. A

3. A 6. A

## Control Panel/Timer/

## Water Valve/Switches

1. A 4. C

2. A 5. C

3. B 6. B

## Cabinet/Pump/Motor/Clutch

1. A 4. C

2. A 5. C

3. B 6. A

# Suspension/Spin Basket/Tub

1. A 4. A

2. B 5. A

3. C 6. B

## **Transmission**

1. C 4. B

2. C 5. A

3. A