



# Washing Machine Not Spinning



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### First Steps

Check whether your machine has a High-Efficiency badge or not.

For **High Efficiency (HE) machines**, refer to the solution directly under each possible cause. We will offer separate subheadings for **Top Loaders** and **Front Loaders** when the solutions differ.

If you've got an older top loader machine without a High-Efficiency badge, refer to the "**Traditional Machines**" sections, as these will cover older top loader machines mainly built before 2000. If there's no Traditional Machines section, just follow the main solution, as it doesn't differ from high-efficiency machines.

For the causes that follow, we assume:

- Your washing machine is plugged in and hasn't been accidentally unplugged. Check that it has power.
- If it doesn't even respond to start, this isn't the place, [you need to consider why the machine won't start at all](#).
- That it is able to fill with water. If so, turn the water off for now.
- You ran a Reset sequence on your machine if it has electronic controls.

**Note:** If you replace a component on a machine with electronic controls, you should run a reset and a calibration/ recalibration, if available. Otherwise, you may not clear the error.

On to the causes!

## Causes

### 1 Lid Switch / Door Latch Problem

In order to operate the lid or door must be closed and locked. These units have a latch as well as a door or lid switch.

- If it won't lock, check the strike (the part that goes into the latch hole) for damage, like bending or breakage.
- If the strike is OK just replace the latch assembly. This is usually pretty simple on either a top loader or a front loader.
- The latch assembly is usually held by only a few screws, and access just involves opening the top of the machine on a top loader, or moving the door gasket/bellows out of the way on a front loader. Take out the old part, and install the new one and you're finished after you reassemble the other parts.

Usually, these machines will give a diagnostic error code if they have a problem with the door switch or latch. They may "limp" for a while where repeatedly closing the door or lid will allow them to operate, but a replacement part is the best solution.

Some newer top-load units will give you a short window at the beginning of a cycle to add clothes, but they need to lock and receive a signal from the lock device indicating "locked" to continue. Often there will be a door-locked light in the control area. If the machine cannot detect a locked lid, it will not spin, although in some cases it might agitate.

## Traditional Machines

This is the very first item to check on your top load machine, especially older ones. These machines will often agitate with the top open, but will not spin. Some newer machines will neither agitate nor spin with the lid open. (handy for creating a soak cycle, just leave the lid open.)

- If the machine will start agitating as soon as you close the lid, the switch is not the problem. (It knows the lid is closed.)
- You will need to remove the top of the machine to get to the lid switch. In some cases, this might involve most of the cabinet as the top and sides are joined together, but the repair is simple.
- You need to check the continuity on the lid switch when the lid is closed (the switch is in the operated position).
  - Use a multimeter, set it to a continuity setting or Rx1 setting, and make sure you have continuity when the switch is operated.
  - If no continuity, replace the switch.

If the lid switch/door latch checks out, go on to the next item.

## 2 Broken Belt / Loose Belt or Coupler Failure

A number of High-Efficiency front loaders (Frigidaire/some Kenmore) and many HE top loaders (Whirlpool/Kenmore/GE) have drive belts that can break or slip. A few Traditional machines (GE/Maytag for example) have them as well.

- You can check the belt tension (make sure the machine is unplugged) and if the belt is loose so that you can slide it by hand on the pulleys, you should replace the belt.
- If the belt looks worn or is cracked or frayed, replace it.
- Of course, if the belt is broken, replace it.
- Note that you can remove the belt on machines with a flat-style belt by walking it off the pulleys to check it. This is not a symptom of a loose belt. You can do this with a V-belt but it's more difficult and you may pinch yourself.
  - You can pull the belt to one side while spinning the pulleys so the belt moves off the pulleys.
  - To reinstall it or replace it just reverse the process.

## Traditional Machines-Coupler

On some (Whirlpool, Roper, Kenmore) top loaders of the "direct drive" type, there is a flexible plastic and rubber **coupler** that connects the motor and transmission directly. This acts as a shock absorber for the drive train as well so it sees wear.

- This is a very common point of failure for these machines. and they may still operate in wash cycles since the motor reverses to pump or spin.
- You need to disassemble the coupler to check its condition which almost takes more time to describe than to do once you have access to it. You can put the washer on its back (be careful of or remove the drain hose) to gain access.
- Disconnect the pump from the motor (just snap on the clips).
- Disconnect the motor from the transmission same kind of clip but with a retaining screw.
- The failures include:
  - The rubber part will be cracked or broken (you will find pieces sometimes under the machine).
  - The plastic "spiders" will be cracked. Beware, they can look good from the outside and may even spin the shafts.
  - When disassembled check the "double D" holes in the plastic spiders. They can be rounded off by the motor or transmission shafts. The shaft will just spin in the hole and not drive the coupler (or do so poorly).

If the belt or coupler looks good, go on to the next item.

### 3 Splutch and Shift Actuator or Clutch Failure

Not a clutch, but a variable speed motor, is at the heart of the spin cycle on the newer top loader machines. The motor speed is increased gradually by a motor controller and the spin speed can vary from a low speed spin to a high speed spin.

The task of shifting from only the agitator or wash plate moving, to the whole basket spinning is done by the shift actuator (electric) and the splutch (a kind of toothed clutch). Many Whirlpool and Maytag units use this system. Some machines use a variation of the splutch that engages splines, we will refer to both as splutches.

- One cause to check is to see if the shift actuator has failed or become disconnected so the splutch isn't shifted.
  - You can test the actuator motor on a Whirlpool machine with a multimeter set to resistance function. It should read between 2000-3500 ohms.

- You can also check that the shift actuator arm is properly engaging the splutch operating lever and hasn't fallen out.
- If the actuator looks rusty or water damaged, replace it.
- The Whirlpool actuator also has a speed-sensing component that can cause the control board to get erroneous readings which will usually trigger a diagnostic code.

Another cause is the splutch itself has failed (plastic after all). There will often be a clicking or rattling sound when the machine tries to spin.

- Check the splutch actuating lever with the actuator removed if it sticks or binds, replace the splutch.
- Here is a [helpful video on dealing with a splutch and actuator](#).
- Here is another [video that demonstrates and explains the Splutch](#)
- If all these parts have checked out, go to the next item.

## Traditional Machines

A cause of not spinning for these older top loaders is a worn-out **clutch**. The clutch allows the basket to begin spinning gradually and keeps the machine from destroying itself with sudden impact-type loads. This does cause the clutch to wear, and finally, it will wear enough that the basket won't even spin.

- On some models (Whirlpool/Kenmore post-1986) the clutch band is involved in releasing the brake which holds the basket still when the agitator is operating.
- When this brake is released, the basket can spin with the clothes and allow the water to be extracted.
- When the clutch is worn, it both can't release the brake and/or can't grip the clutch drum strongly enough to stop slipping as the basket comes up to speed.
- You will often see spinning that is just a slow-speed version of what it should be.
- Older GE models will have the clutch built onto the motor shaft.

One sign of a worn-out clutch will be the fact that starting the basket spinning by hand allows the machine to spin. ***This is a hazardous procedure as you have to bypass the lid switch; just start the basket turning a bit if you can. Often your little help will allow the brake to disengage and it will spin from there on its own.*** The machine will be able to then build up speed and spin fairly normally.

Another symptom will be clothes that take two spin cycles to actually be dry enough to

put them into the dryer. Enough water is removed by the first spin, so that the basket is light enough to start and not slip as much on the second spin, and it goes to full speed.

Here is a [link to an excellent guide on clutch band replacement](#). Since the band is the worn part, it is almost always the part to be replaced when the clutch fails.

If all these parts have checked out, go to the next item.



#### Kenmore 400 Washer clutch band Replacement

45 minutes - 1 hour

Moderate

[View Guide](#)

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## Washing Machine Not Draining Fully

These machines frequently use a drain pump that is driven by its own separate motor. Also because of higher spin speeds they are built with interlocks that prevent the washer from spinning at the highest speed until properly drained.

A cause of not spinning may be the drain pump, as the machine won't spin at all until sufficiently drained.

- You can manually drain the machine (buckets and towels are needed) and check if it will spin after it is drained. If so, the drain pump is failing. If it won't spin, there is likely a problem with the water level sensing system.
- You will want to check to see if the drain hose is clogged. If it is, clean it out.
- Check to see if the filter is clogged, as the machine may not be able to drain properly with a clogged filter. Make sure to clean the filter as that is a maintenance item in any event.
- The drain pump itself may be clogged. You can disconnect the hose from the tub to the pump to check, especially on top loaders with no pump filter.
- The drain pump may be failing. If so it will often make a loud grinding noise and may pump very slowly even with a known unclogged hose. If that's the case replace the pump.

## Additional Steps for Front Loaders Only

Additionally, many newer front loaders will give diagnostic codes on their displays, which can help you to check various components.

- Note if you get errors regarding draining, like a code indicating a clogged drain

hose, that may be the reason your machine refuses to spin.

- Sometimes a failing pump is treated by the machine as a clogged hose. Check the error codes if they occur.

If it pumps OK and the hose is clear, go to the next item.

## Traditional Machines

GE traditional machines **can** suffer from this problem, as somewhat later models used a drain pump and so had to monitor the water level so as not to try to spin a full machine, which would be hard on the drive system.

- Open the front panel, and look for the tube connected to the side of the outer tub.
- Remove it from the connector, and look for obstructions or grime in the tube.
- You can clean it with a small dowel or carefully with a straightened metal clothes hanger.
- Once it's clean, try blowing through it. You should hear the water level switch click up in the control console area.
- If the hose is plugged, replace it, or remove it from the machine to more completely clean it.
- You should also try to clear the opening to the air chamber where the hose is connected.

Others of these older machines use a simple system for filling, and they don't usually suffer from this preventing spinning. In fact, some models would spin and drain at the same time. It doesn't hurt to clean the tube, though.

In many cases (Whirlpool Direct Drive for example) the washer has only one motor and it is directly connected to the pump, if the washer will run, it will likely drain, and not be prevented from spinning by water level issues.

Usually, the pump is designed so that it will only pump out when the motor reverses from the direction it runs for agitation. Whirlpool added a neutral setting to the gearing in their transmissions so that the washer could pump out nearly fully before they started to spin.

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## Water Level System Failure

This system operates using air that is trapped when the machine fills with water. As the water level rises, the trapped air increases in pressure and pushes against a diaphragm in the pressure switch or sensor. If the system isn't working correctly, It may cause your

machine to behave very similarly to Not Draining Fully above.

Instead of there being actual water, the problem is that the unit believes there is water present, because the pressure switch (water level sensor or control) is being fooled by clogs, or is defective.

The machine may try to drain and may have actually drained, but it still thinks it is full. Often this can arise because of a clog in the line that connects the pressure switch/sensor to the tub of the machine.

On older machines, the water level control will have a switch inside it. These can fail either mechanically or electrically.

On some newer machines, it will have a movable coil that allows the machine to sense the water level. This allows the machine to set the water level needed as it fills. It both senses how full the machine is and allows the machine to shut off the water when it has reached the desired level.

These newer machines usually will give error codes if there is a problem with the sensor.

- The sensor can be checked in a diagnostic mode on the machine.
- Make sure that the sensing line or pressure tube is clear.
  - On many machines, the sensor is connected by a piece of flexible tubing to the tub or drum, and blowing through it is sufficient to blow out clogs.
  - Disconnect it from the level sensor and blow strongly through the tube. you may hear a little gurgling and there may be a bit of resistance, but you usually can dislodge a clog this way.

There is a known problem with some top loaders (GE) which have a sensing chamber that is readily clogged because of manufacturing defects. An opening on the chamber is manufactured partially obstructed. [Here is a video showing the fix.](#)

On some Kenmore HE3t front load washers, a part called the Air Trap can get clogged with lint, and will also prevent the machine from spinning (you will get error codes). It is located at the back rear of the outer drum, and the water level sensor hose is connected to it. Here is a [Video of the process](#). The video is kind of out of order so watch the whole thing if you choose to watch it.

- If the sensor is OK, go on to the next item. if not replace it.

## 6 Capacitor Failure

Occasionally, the motor run capacitor will fail, and the machine will not spin (it may not run at all and just hum). To test it you will need to be sure it is discharged first. Use a

screwdriver to touch both contacts simultaneously to discharge it.

You can test the capacitor with a multimeter, either on capacitance function (best) or by setting it to a resistance function and checking if the resistance value starts low and increases across the terminals of the capacitor, until it indicates an open circuit.

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## Tub Suspension Failure

### Top Loaders

Some top loaders can have a suspension rod failure which will cause the clothes to be thrown to one side of the machine and cause an unbalanced condition which will keep the machine from going into the high spin mode.

- You can check the suspension by pushing the basket down either by the agitator or by the rim (if there's no agitator).
- If the basket just moves back into position quickly that indicates a good suspension, Go on to the next cause.
- If it bounces several times like a ball, this is a sign of failure in the suspension. Replace the suspension rods on the machine as a group. If one is failing, then others could fail soon as well.

### Front Loaders

Front-load machines can suffer from a worn drum suspension. Most front loaders use a shock absorber system, and when the shocks wear, the machine will become very bouncy because the shocks won't slow down the movement of the drum.

- You can check to see if the shocks are still OK by giving the drum a downward push near the front it should move back smoothly with no bouncing.

Bad shocks will cause the machine to vibrate and the control board will show an out-of-balance condition. The machine may also indicate an error code associated with a failure in the drum suspension.

Sometimes the machine will start to spin but can't complete the spin because of an out-of-balance condition. Usually, you will hear a great deal of banging and the machine will shut itself down. At times the machine

### Traditional Machines

On some Whirlpool direct drive design machines there are small plastic glide strips of a kidney bean shape that support the tub. When these glides wear out, they allow the tub to oscillate very violently with a mildly unbalanced load and can trigger an unbalance

alarm on some machines which will stop the spin cycle.

## 8 Tub / Drum Bearing Failure

A less common but still significant problem will be the failure of the tub/drum bearing or bearings.

This failure will usually be accompanied by grinding or groaning noises.

This is among the more involved repairs as it requires substantial disassembly of your machine. You will need to remove the tub/drum.

- If you choose to do this repair (it is long but not particularly difficult) you should **make sure to replace the tub/drum seal** while you do the work, as the failure of this seal is usually connected to the failure of the bearings.
- Having an assistant and space to work is usually very helpful.

## Top Loaders

You will need some specialized tools with a top load machine, like a spanner wrench or a special large hex wrench for the tub nut. You will need to be able to lift out the basket and then the entire tub assembly. This applies to Traditional machines as well.

## Front Loaders

You will likely have to disassemble the machine nearly completely. Generally, there aren't as many special tools needed, as you don't have two separate rotating pieces like a top loader. Room to work is a must and be prepared to organize the myriad of screws you will remove. Since you will need in almost every case to split the outer tub/drum, make sure to have a gasket for that joint on hand.

## 9 Spider Failure (Front Loaders)

This is perhaps the most involved repair and frequently is not economically worthwhile on older machines which are more likely to suffer this failure. The failure results from corrosion of the arms of the spider, the device which ties the basket/inner drum to the drive shaft. This shaft is constructed as part of the spider.

A sign of this failure is a clunking sound when the machine tries to enter the spin portion of the cycle. If the machine does load sensing with partial basket rotations, you might hear the noise at that point. You may also be able to tell this from a wobble when you spin the basket by hand.

It can be worthwhile if combined with a bearing replacement because it appears that the

It can be worthwhile to combine with a bearing replacement because it ensures that the drive shaft of the machine which is supported by the bearings will be new and clean, and less likely to cause wear on the new drum seal, the failure of which is what usually leads to bearing failure. Usually, the bolts that attach the spider to the tub/drum are installed with a permanent thread locker which requires heating to loosen, and the bolts may be unwilling to loosen. Purchasing a set of OEM replacement bolts (they are frequently stainless steel) is highly recommended if you choose to do this repair.

[Here is an excellent video](#) showing this replacement in an LG machine. The task is similar in other machines.

## 10 Motor Failure

The motor can fail so that it won't run in one direction which can make it impossible for the machine to spin.

A strong sign that there is a problem with the motor is if the unit will not run through a wash cycle, since the motor is involved in this action. Also, you may have heard humming from the unit with no action.

Many units will also signal a problem with a diagnostic code.

## 11 Motor Control Board Failure

If the motor runs on some cycles, but not others, that points to the motor control board. If it runs on cycles where it turns in the same direction as another cycle where it won't run, this strongly points to the motor control board. Some machines do not have a dedicated motor control board, so if that's the case, skip to the next item.

## 12 Control Board Defective

The last resort, if all the other items have checked out, the control board is likely the problem. Sadly, it isn't last because it's uncommon, but rather because it is costly. The service manuals on many machines will point you here after you check the other possibilities, and you may have gotten a diagnostic code for that.

## Additional Information

[Great Video](#) on many aspects of no-spin problems of HE Whirlpool top loaders. Long, but a course in diagnostics and fixes. Worth the time if you have one of these machines.