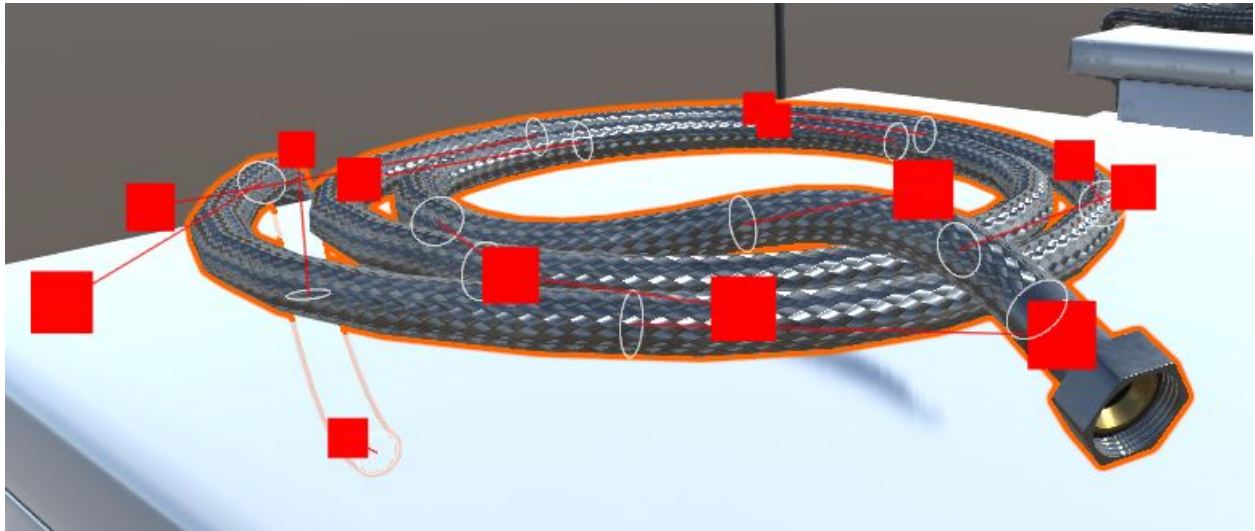


Thank you for purchasing the Ultra Washing Machine PBR asset!

Hose and Cable Editor	1
Inspector Properties	1
Hose and Cable Types	2
Water Hose	2
Drain Hose	2
Power Cable	2
Washing Machine Display and Shader	3
Shader Parameters	3
Realistic Washing Program	5
WashingMachineController	5
WashingMachineTransformAnimator	6
WashingMachineAudioController	7

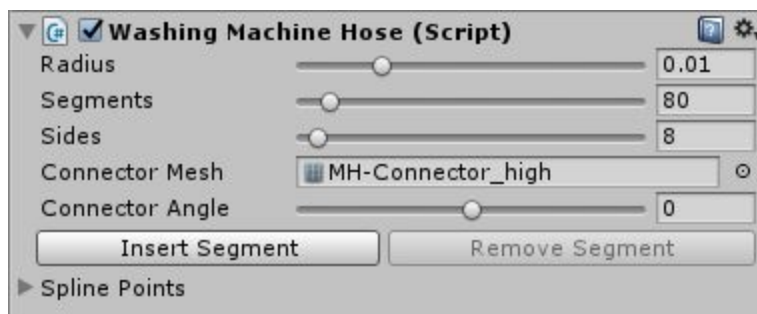
Hose and Cable Editor

The washing machine includes a spline-based hose and cable editor so you can wire it up realistically in your scene. This is controlled by the WashingMachineHose-Script.



Inspector Properties

- **Radius** controls the diameter/thickness of the hose.
- **Segments** controls the number of cylinders generated to follow the spline. A higher number leads to better seamless results but more polygons are needed.
- **Sides** controls how many sides each segment has (the sides that make up each cylinder).
- The **Connector Mesh** is placed at the end of the hose and can be twisted with the **Connector Angle** if it does not match a socket/fixture in your scene.

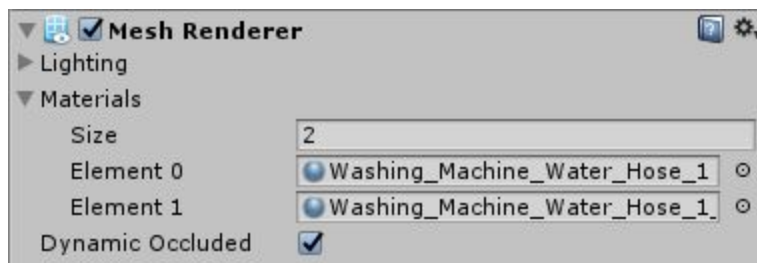


Hose and Cable Types

The washing machine comes with a water hose, a drain hose and a power cable. The washing machine comes with 3 skins and therefore the hoses and cables are also available in 3 skins.

Water Hose	Drain Hose	Power Cable
		
		
		

If the connector mesh does not appear at the end of the hose or cable, please ensure that two material slots have been assigned in the mesh renderer.



Washing Machine Display and Shader

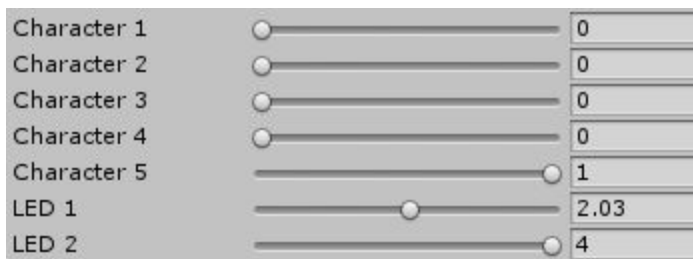
The washing machine has a modern user interface that displays the current temperature, the remaining time and the status LEDs of the washing program. They are all controlled by the shader "Washing Machine Display".



If you do not want or cannot use the shader, you can use a generic fallback texture called "Washing_Machine_Display_2_Emissive" in the emission slot of a standard shader.

Shader Parameters

The shader is based on the standard shader and uses the usual textures for the front panel of the washing machine. There is also a "Characters" texture that contains the digits.



Character 1, 2, 3 and 4 control the digits shown on the display. You can show 0 to 9.
Character 5 is the colon separator that can be turned on and off to indicate passing seconds.

LED 1 controls the vertical position of the left temperature LED.

LED 1	Recommended Value	Description
90°	4.01	The 90°C temperature setting.
60°	3.00	The 60°C temperature setting.
40°	2.03	The 40°C temperature setting.
30°	1.02	The 30°C temperature setting.
Cold	0.00	The cold temperature.

LED 2 controls the vertical position of the right washing program LED.

LED 2	Recommended Value	Description
Ready	4.00	The powered on state does a quick system check before starting the primary wash cycle.
Wash	3.00	The primary wash state fills the washing machine with water, then the clothes and soap are swirled around together thanks to the agitator.
Rinse	2.03	The rinse 1 (slow swirling) and 2 (draining) state drains the dirty, soapy water. The rinse 3 state refills the washing machine and the clothes are "rewashed" in clean water. The rinse stop state refills the washing machine and applies fabric softener.
Spin	1.03	The spin state spins the clothes very fast and excess water is removed by centrifugal force.
End	0.01	The finished state occasionally spins the clothes as anti-wrinkle protection.
















Font: <https://www.dafont.com/digital-7.font>






Realistic Washing Program

The washing machine comes with an hour-long washing program replicated exactly from a real washing machine to faithfully simulate reality.

WashingMachineController

This is the primary script that runs the washing machine program. It doesn't animate the drum and doesn't play sounds! It only executes the washing program and provides events and status information that other scripts in the scene can respond to.

 WashingCycle	The current washing cycle.
 OnWashingCycleChanged	Occurs when the washing cycle has changed.
 WaterEnabled	Whether the water is currently enabled.
 OnWaterChanged	Occurs when the water is enabled or disabled.
 DrainEnabled	Whether the drain pump is currently enabled.
 OnDrainChanged	Occurs when the drain pump is enabled or disabled.
 SoapEnabled	Whether the soap is currently enabled.
 OnSoapChanged	Occurs when the soap is enabled or disabled.
 FabricSoftenerEnabled	Whether the fabric softener is currently enabled.
 OnFabricSoftenerChanged	Occurs when the fabric softener is enabled or disabled.
 CentrifugeSpeed	The current centrifuge speed (0.0f to 1.0f).
 OnCentrifugeSpeedChanged	Occurs when the centrifuge speed has changed.
 CentrifugeEnabled	Whether the centrifuge is currently enabled.
 OnCentrifugeChanged	Occurs when the centrifuge is enabled or disabled.
 TurningDirection	Gets the current turning direction of the washing machine drum.

 OnTurningDirectionChanged	Occurs when the turning direction of the washing machine has changed.
 Temperature	The temperature setting of the washing machine (washing programs do not change this number).
 RemainingExecutionTime	The remaining washing program execution time in seconds.
 StartWashingProgram	Starts the washing program.
 StopWashingProgram	Stops the washing program.

The inspector provides a small user interface for *demonstration purposes only*.



WashingMachineTransformAnimator

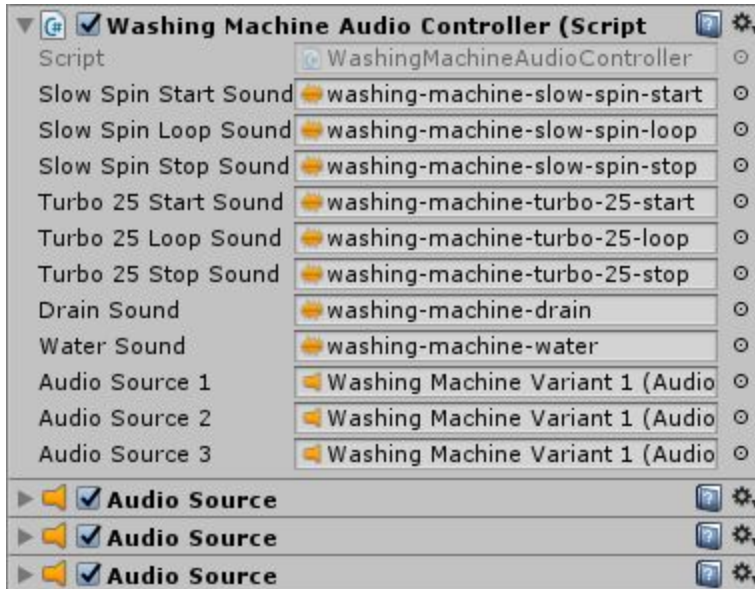
This script reacts to the washing machine controller script and animates the drum and interface LEDs. The separation between these scripts allows you to, for example, make a copy of the script and use it to animate a physical body - but that is outside the scope of this document and the product (as the drum is a hollow cylinder it's concave, making it quite difficult to pull off and very game requirement specific).



The **Drum Transform**, as the name suggests, should be set to the drum of the washing machine. Since the display uses a custom shader, any other object in the scene that uses the same material will share the same graphics. This will cause issues with multiple washing machine instances. Each variation of the washing machine (or in the scene) should thus have its own **Display Material**.

WashingMachineAudioController

This script reacts to the washing machine controller script and plays breathtaking sound with start, loop and end segments. It crossfades audio samples and uses multiple audio sources to create a realistic experience.



- **Slow Spin** is the slow rotating sound of the drum.
- **Turbo** is heard when the washing machine switches to centrifuge mode.
- **Drain** is the sound of the draining pump. This is often mixed with the centrifuge or when all the water is drained from the machine and later refilled.
- **Water** is the water inlet that fills the machine.

Three audio sources must be assigned to the script. This is used for the crossfading. There is no predetermined use of these audio sources, it is very situational (see the script for more details).