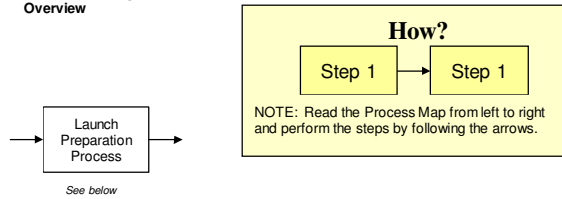


## How a Shuttle is Launched

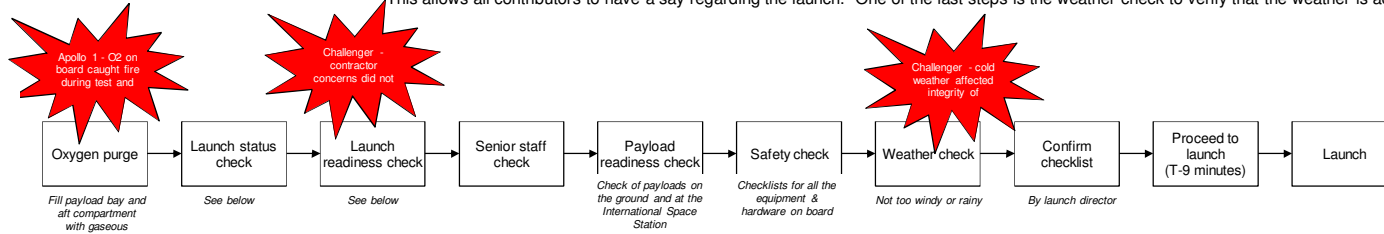
### Launch Preparation Process Map Overview



To show the steps involved in shuttle launch preparation, we can prepare a Process Map. Although a Process Map looks like a Cause Map, its purpose is to show the steps that must be accomplished, in order, for successful completion of a process. We can begin a Process Map with only one box, the process that we'll be detailing. Here, it's the "Launch Preparation Process". We break up the process into more detailed steps in order to provide more useful information about a process. Here the information used was from [Wired Magazine](#) and [NASA's Launch Blog](#) (where they'll be providing up-to-date details as the launch process begins).

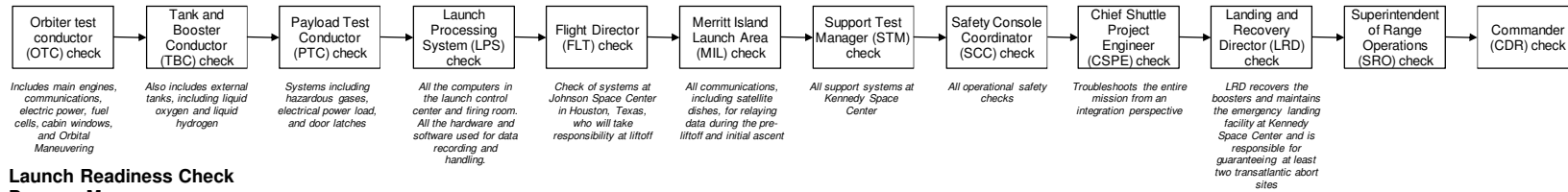
Here we break down the Shuttle Launch Process into 9 steps, though we could continue to add more detail until we had hundreds of steps. Some of the steps have been added (or updated) based on issues with previous missions. For example, on Apollo 1, oxygen on board caught fire during a test and killed the crew. Now one of the first steps is an oxygen purge, where oxygen in the payload bay and aft compartments is replaced with nitrogen. On Challenger, concerns about equipment integrity in extremely cold weather were not brought to higher ups. Now there's a Launch Readiness Check, where more than 20 representatives of contractor organizations and departments within NASA are asked to verify their readiness for launch. This allows all contributors to have a say regarding the launch. One of the last steps is the weather check to verify that the weather is acceptable for

### Launch Preparation Process Map Mid-Detail Level



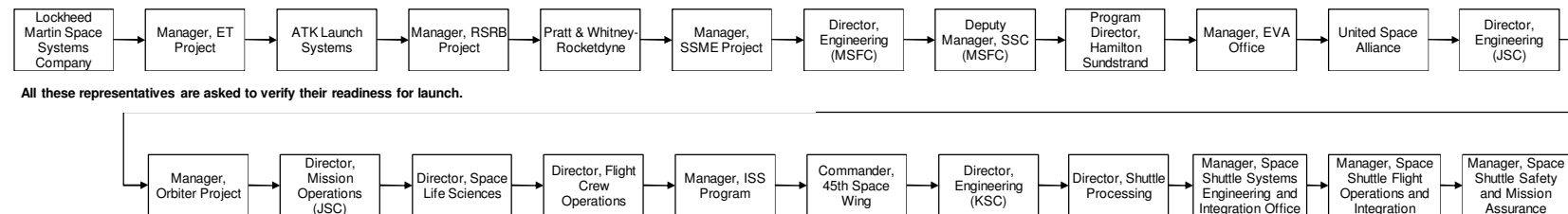
### Launch Status Check Process Map Detail Level

All these steps make up the "Launch Status Check" step in the "Launch Preparation Process" shown above



### Launch Readiness Check Process Map Detail Level

All these steps make up the "Launch Readiness Check" step in the "Launch Preparation Process" shown above



Similar to the Launch Readiness Check, we can add additional detail to the Launch Status Check. This step can be further broken down to show the checks of systems and positions that must be completed before the Launch Status step can be considered complete. Each step within each Process Map shown here can be broken down into even more detail, depending on the complexity of the process and the need for a detailed Process Map.