



STUDENT ACTIVATION



# Stress Engineer

Various parts of an airplane—the wings, ribs, fasteners, fittings, etc.—encounter large amounts of stress and pressure during takeoff, flight, and landing. To maintain safety, an aircraft and all its parts must be able to carry the load of flight. **Stress engineers** inspect aircraft and ensure that they are in good working order.

## STRESS ENGINEER

The main role of **stress engineers** is to determine the stresses and strains that each part of an aircraft will endure and then ensure that each part maintains stability when subjected to the forces and heavy loads of flight. Usually they work with the “big” parts of an aircraft, like the wings and body, but they can be called in to analyze even the smallest aspect of commercial flight, such as the plastic silverware! Stress engineers are also responsible for checking part assembly and complying with industry safety regulations.

## IS STRESS ENGINEER A GOOD CAREER FOR ME?

Me	Stress Engineer
I have a curious mind. I like to predict and solve big problems.	Stress engineers help solve complex mechanical and structural problems before they occur.
I am interested in aviation and airplanes.	Stress engineers analyze the fatigue that an aircraft will endure to ensure safety.
I like understanding how things work.	Stress engineers must fully understand the nuances and interconnectedness of each part of an aircraft.
I am very spatially aware. I am good at video games and enjoy using virtual reality.	Stress engineers are particularly skilled at visualizing aircraft in use and potential hazards certain stresses and loads might create.
I enjoy explaining things. I like working with others.	Stress engineers are strong communicators and directly work with multiple engineering teams.

# Stress Engineer

STUDENT ACTIVATION (CONTINUED)



How does this career help me?	How does this career help the world?
Every time you or a family member boards an airplane, you benefit from the work of a <b>stress engineer</b> . The parts and assembly of the aircraft have been meticulously tested to make sure that the passengers and crew are safe during flight.	Many processes in the world economy—from transporting business travelers to carrying food and goods across borders—depend upon international flight. <b>Stress engineers</b> play a vital role in global economic mobility.

What are some similar careers?
<b>Mechanical engineers</b> typically design power-producing machines or parts used in those machines. They are involved in designing, developing, building, and testing products. <b>Reliability engineers</b> analyze the ability of systems or products to function as they were designed.

Here are ways to practice the skills to be a successful **stress engineer**:

- Meet with your guidance counselor to organize your schedule around the ability to take technology, engineering, and mechanics classes.
- Obtain a product or appliance that isn't working as it was designed. Reverse engineer the product until you can determine the cause of the defect. Can you develop a "fix" that would have kept the defect from happening in the first place?
- Research and apply for internships in the aviation field.

