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Mechanics of Materials

Topic 8 – Transformations of Stress and Strain

by

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The aircraft shown is being tested to determine how the forces due to lift would be distributed over the wing. This chapter deals with stresses and strains in structures and machine components.



Source: https://www.hq.nasa.gov/office/aero/iasp/images/f_18_in_fll_1.jpg



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Cylindrical pressure tanks need to withstand stresses in different directions.



Source: https://commons.wikimedia.org/wiki/File:Steel_15l_cylinder_with_boot_and_net_and_Aluminium_12l_cylinder_PB128188.jpg



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Spherical pressure vessel needs to withstand stresses in different directions.



Source: https://commons.wikimedia.org/wiki/File:Gaskessel_gr.jpg



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Cylindrical pressure vessels need to withstand stresses in different directions.



Source: <https://www.indiamart.com/girishchandraghosh/horizontal-bullet-tank-calibration.html>



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