Answer on Question #48199, Engineering, Other

Task:

4. What other shapes will generate lift?

a) Will a house brick generate lift?

b) Will a saucer?

c) Will a football?

Answer:

Any object with an angle of attack in a moving fluid, such as a flat plate, a building, or the deck of a bridge, will generate an aerodynamic force (called lift) perpendicular to the flow. Airfoils are more efficient lifting shapes, able to generate more lift (up to a point), and to generate lift with less drag.

A house brick angled will generate lift

Smart people have been able to design flying saucers that use air flowing over curved surfaces to generate lift.

The shape of the ball makes the football act similar to an airplane wing. If the angle of attack is not zero, the football redirects the airflow, which produce lift.

The angle of attack is non-zero. The air is deflected downward. The football interacts with air molecules and exerts a net downward directed force on the molecules. According to Newton's third law, the air molecules exert a net upward force on the football.When lift is produced, the air flows faster over the top them over the bottom side of the football. The drag force is larger on surface elements the top than on surface elements on the bottom of the ball.

So, a house brick angled, flying saucers and football will generate lift.