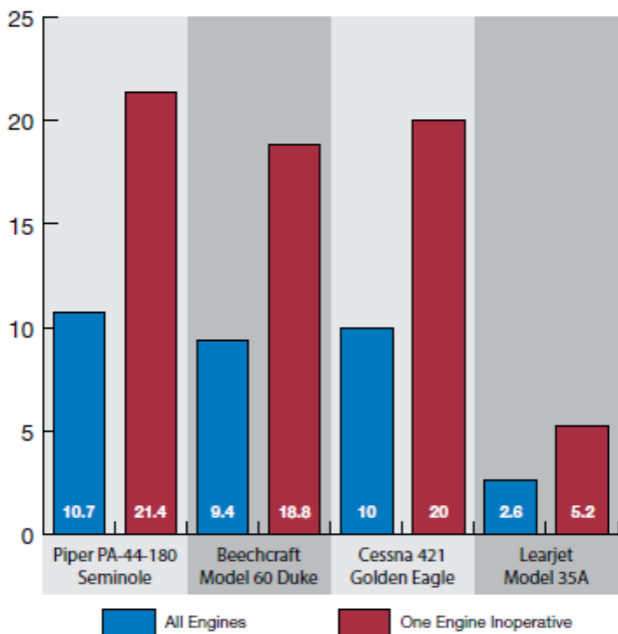


## WING AND POWER LOADINGS CAN CHANGE

Multi-Engine Airplane Power Loadings  
(pounds per horsepower/thrust at gross weight)



Much of the discussion regarding wing and power loadings presumes these values remain constant. Nothing could be further from reality.

At a minimum, an airplane's weight changes as fuel is burned. Airplanes engaged in fire-fighting and parachute operations, as further examples, routinely see wide variations in wing and power loading during a single flight.

For the typical GA pilot, the most glaring—and challenging—changes in wing and power loading will come when flying a multi-engine airplane after a powerplant failure. As the chart above demonstrates, losing half of an airplane's power also doubles its power loading. Since a relatively low power loading results in better climb performance, increasing the weight each available horsepower must carry through the air means greatly reduced climb capability, among other performance hits. From the above, it's rather easy to understand the old saying that a twin has two engines because it needs two engines.