be done early in the planeâĢĻs development âĢĶ before any hardware was built and at the same time other aircraft system designs were underway.ĊThe solution: advanced predictive softwareĊMessier-Bugatti met these challenges with the Imagine. Lab Ground Loads software based on the AMESim simulation platform, which the company had implemented on previous projects for predicting the behavior of complex multi-domain intelligent systems. Engineers began by selecting and piecing together individual components and subsystems from among a library of pre-defined items:Ċ- hydraulic pressure drop,Ċ- hydraulic component design,Ċ- electromechanical, motors, and drives,Ċ- thermal resistance,Ċ- thermal hydraulics, andĊ- thermal, hydraulics, and electrical basics.Ċ|Local electrohydraulic generation system (LEHGS) consists of a reservoir, left, with accumulator and other accessories, and an electric motor-driven pump, right. In addition to emergency braking on all 20 wheels of the A380, the power units also provide backup hydraulic power for the all-important nose wheel steering system. |ĊUnlike conventional system modeling languages that require computer programmers to write software, the overall system model is created graphically, and engineers are prompted to enter parameters where necessary. In this way, AMESim software creates a multi-domain system model from