Scale model of the Saturn I launch vehicle



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Description

Photograph showing a one-third scaled model of the Saturn I Block II launch vehicle. Ground wind investigations form an indispensible part of the painstaking research program that lies behind successful flights of launch vehicles of all sizes, and the National Aeronautics And Space Administration Langley Research Center has specialized in such wind-tunnel studies for many years. Here, in a cooperative program with the George C. Marshall Space Flight Center, is an installation in Langley's Transonic Dynamics Tunnel of an aero-elastically scaled model of the Saturn I Block II launch vehicle with the Apollo spacecraft and its escape system. It is mounted on a turntable with the umbilical tower so that it can be rotated to receive the force of the wind stream from any direction. Before wind tunnel tests begin, the model is shaken mechanically to determine its vibration characteristics. Surface winds cause steady oscillatory deflection of free-standing launch vehicles which must be thoroughly understood to overcome problems in structural strength, guidance alignment, and instrument checkout. Wind-tunnel test results guide the design of launch pedestals to assure ample strength for any surface wind conditions.

Date(s)

8x10 inches (21x26 cm) Color

Related Collection Webb, James E. Papers

Keywords Rockets (Aeronautics) Space sciences Space flight

HST Keywords National Aeronautics And Space Administration; Langley Research Center; Virginia - Hampton

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