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**Documentation Sheet**

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Restricted

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<b>Keywords :</b> Full scale fatigue, Airframe, Spectrum loading	
<b>Abstract :</b> <p>Random load sequence for the full scale fatigue test of Mig-21M airframe is derived from flight data. Loads corresponding to 'g' peak/trough are derived from information on Mach number, angle of attack and weight of the aircraft.</p> <p>The random load sequence will be applied flight-by-flight on the airframe during the full scale test. These loads will be simulated with the help of 16 servo-hydraulic actuators. The loading actions of each of these actuators are derived.</p> <p>This report describes, in detail, the derivation of the random load sequence and the loading action on the multi-actuator test rig to be used in the Mig-21M airframe. A mini-load sequence is derived by omitting lower g-ranges on the basis of their cumulative damage contribution.</p> <p>It is suggested that this mini-load sequence be used in the full scale test of Mig-21M airframe.</p>	