Transcript of the Joint FAA/Industry Symposium on

Level B Airplane Simulator Motion Requirements

Part 4 of 9

Abbreviations

Washington Dulles Airport Hilton June 19 - 20, 1996

Abbreviations

Boeing 727; 3-engine jet transport airplane

Boeing 737; 2-engine jet transport airplane

747(-400) Boeing 747(-400); 4-engine wide-body jet transport airplane

Boeing 757; 2-engine jet transport airplane

Boeing 767; 2-engine wide-body jet transport airplane

Boeing 777; 2-engine wide-body long-range jet transport airplane

AC Advisory Circular

ADI Attitude Director Indicator

AGARD North Atlantic Treaty Organization Advisory Group for Aerospace

Research and Development

AH-1(W) Bell Huey Cobra 1(2)-engine attack helicopter

AQP Advanced Qualification Program

A to D Analog to Digital

B-2 Northrop Spirit 4-engine stealth bomber airplane

B-1900 Beechcraft 1900 2-engine turboprop airplane

C-5 Lockheed Galaxy 4-engine military cargo/transport airplane

C-17 McDonnell Douglas 4-engine military cargo/transport airplane

C-130 Lockheed Hercules 4-engine military cargo/transport turboprop airplane

CAA Civil Aviation Authority (United Kingdom)

CAE CAE Electronics Limited; Canadian simulator designer and manufacturer

CEN Comité Européen de Normalisation (European Committee for

Standardization)

CG Center of Gravity

CH-46 Boeing-Vertol Sea Knight 2-engine tandem-rotor transport helicopter

Chinook Boeing-Vertol CH-47 2-engine tandem-rotor transport helicopter

CNN Cable News Network

CRT Cathode Ray Tube,

DASH 8 Bombardier (De Havilland) 2-engine turboprop airplane

DC-9(-80) McDonnell Douglas 2-engine jet transport airplane

DC-10 McDonnell Douglas 3-engine wide-body jet transport airplane

Abbreviations 1

DOF Degrees Of Freedom

D to A Digital to Analog

EFIS Electronic Flight Instrument System

F-4 McDonnell Douglas Phantom II 2-engine multi-role fighter

F-14 Grumman Tomcat 2-engine multi-role fighter

F-15 McDonnell Douglas Eagle 2-engine fighter

F-16 Lockheed Martin Fighting Falcon 1-engine multi-role fighter

F-18 McDonnell Douglas Hornet 2-engine multi-role fighter

FAA Federal Aviation Administration

FAR Federal Aviation Regulation

FSAA Flight Simulator for Advanced Aircraft

FTD Flight Training Device

g acceleration due to gravity, 9.8 meters per second squared (m/sec²)

GP-4 General Purpose computer used in flight simulators

heli helicopter

IATA International Air Transport Association

IFR Instrument Flight Rules

IG Image Generator

JAA Joint Aviation Authorities (Europe)

KLM Koninklijke Luchtvaart Maatschappij voor Nederland en Koloniën (Royal

Dutch Airlines)

LOE Line Oriented Evaluation

LOFT Line Oriented Flight Training

m mass

mil milliseconds

MIL-STD Military Standard

NADS National Advanced Driving Simulator

NASA National Aeronautics & Space Administration

NASA-Ames NASA Ames Research Center, Moffett Field, California

NLR National Lucht- en Ruimvaartlaboratorium (National Aerospace

Laboratory, The Netherlands)

NT-33 Airforce variable stability airplane (modified T-33 trainer)

Abbreviations 2

P-51 North American Mustang 1-engine World War II fighter

PC Personal Computer

PDP-11 Programmable Data Processor (Digital Equipment Corporation)

PIO Pilot Induced Oscillation

prop propeller

PSD Power Spectral Density**psi** pounds per square inch

RAA Regional Airlines Association
RATS Roll Axis Tracking Simulator
R&D Research and Development

reg(s) regulation

RLD Rijksluchtvaartdienst (Dutch department of civil aviation)

RTO Rejected Takeoff

SAS Stability Augmentation System

sim(s) simulators(s)

SIMONA International Centre for Research in Simulation, Motion and Navigation

Technologies, Delft, The Netherlands

SME Subject Matter Expert

spec specification

TDI Training Devices Inc.

UK United Kingdom

v velocity (speed in a specified direction)

V₁ takeoff decision speed (formerly denoted as critical engine failure speed)

V-22 Bell/Boeing-Vertol Osprey 2-engine tilt-rotor vertical/short takeoff &

landing aircraft

VGA Video Graphics Array

 \mathbf{V}_{MCA} minimum control speed with the critical engine inoperative¹

VMS Vertical Motion Simulator at NASA-Ames

x double-dot the second derivative of x; denotes acceleration

x longitudinal body axis

y lateral body axisz vertical body axis

Abbreviations 3

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¹ The sub a indicates in the air in take-off configuration