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performance to airplane performance throughout a time history, differences may be rationalized by providing a comparison of elevator, aileron and rudder surface position.

- NOTES: 1. All airspeeds should be clearly annotated as to indicated, calibrated, etc. Like types of airspeed will be offered for comparison in any test.  
 2. Where 2 tolerances are given, the less restrictive may be used unless otherwise indicated.

a. FLIGHT CONDITION CODES.

- (1) Ground/Takeoff
- (2) First Segment Climb
- (3) Second Segment Climb (if applicable to flap change)
- (4) Enroute Climb
- (5) Cruise
- (6) Descent
- (7) Approach
- (8) Landing

b. SIMULATOR TEST	TOLERANCE	FLIGHT CONDITIONS
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(1) STATIC CONTROL CHECKS.\*\*

- |  |  |   |
|--|--|---|
| (a) Column Position vs Force and Surface Position Calibration        | + or - 2 degree Elevator<br><br>+ or - 5 lbs or 10%                        | 1 |
| (b) Wheel Position vs Force and Surface Position Calibration;        | + or - 1 degree Aileron<br>+ or - 2 degrees Spoiler<br>+ or - 3 lbs or 10% |   |
| (c) Rudder Pedal Position vs Force and Surface Position Calibration; | + or - 2 degrees Rudder<br>+ or - 5 lbs or 10%                             | 1 |
| (d) Nosewheel Steering Force   | + or - 3 lbs or 10%  | 1 |
| (e) Rudder Pedal Steering  | + or - 5 lbs or  |   |











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- (2) Visual ground                      + or - 100 feet                      8  
     segment at precision  
     approach minimums  
     (depth of field of view)

NOTES - VISUAL GROUND SEGMENT CONTENT

a. Standard method to evaluate visual scene content - simulator should be established on a published precision approach at Category II decision height (radio altitude/main wheel height) and the RVR set to published minimums. No ceiling is needed. Landing lights are optional.

b. Category II minimums should be used instead of Category I or III because of the visual definition available at Category II.

c. Evaluation of the scene content should normally be made with a homogeneous restriction to visibility. However, operators desiring to apply slant range visual reductions should provide the method used to determine the slant range RVR.

d. Operators should indicate in their ATG how their calculations are used to develop the visual scene and the visual system approach/runway light intensity setting used.

3. PHASE I - In addition to the performance tests listed in Paragraph 2 of this appendix, the following additional tests are required for Phase I simulators.

a. SIMULATOR TESTS	TOLERANCE	FLIGHT CONDITIONS
(1) TAXIING		
(a) Minimum Radius Turn	+ or - 10 ft	1
(b) Rate of Turn Versus Nosewheel Steering Angle	Rate of Turn + or - 2 degree/sec or 10%	1
(2) LONGITUDINAL CONTROL.		
(a) Short Period Dynamics *		5
(b) Phugoid Dynamics	+ or - 10% of period and time to 1/2 (or double) amplitude or + or - .02 in damping ratio	5















- (2) Runway centerline lights from 3 miles.
- (3) Threshold lights (red and green) and touchdown zone lights from 2 miles.
- (4) Markings should be adequate to recognize threshold, centerline and touchdown zone markings within range of landing lights for night scenes.

c. Representative airport scene content including:

- (1) Airport taxiways.
- (2) Accuracy of Categories I, II, III weather minimum visual scene.  
(Refer to Appendix I, para. 4.d and Appendix 5, para. 2.d(2).)
- (3) Surface on runways.
  - (a) Representative lighting for the runway is use including runway edge and centerline lighting, VASI and approach lighting of appropriate color and taxiway lights.
  - (b) Operational landing lights.
  - (c) Instructor controls of:
    - 1 Cloudbase
    - 2 Visibility in miles and RVR in feet
    - 3 Airport selection
    - 4 Airport lighting

4. PHASE I SIMULATOR FUNCTIONAL TESTS. In addition to the Basic simulator functional tests, the following additional tests are required for a Phase I simulator.

a. Motion System. Special effects, including:

- (1) Runway rumble, oleo deflections, effects of groundspeed and uneven runway characteristics.
- (2) Buffets on the ground due to spoiler/speedbrake and thrust reversal.
- (3) Bumps after lift-off of nose and main gear.
- (4) Buffet during extension and retraction of landing gear.
- (5) Buffet in the air due to flap and spoiler/speedbrake extension. Approach-to-stall buffet.



