ORDER

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

7210.35A

12/6/78

SUBJ: AIRCRAFT CLIMB AND DESCENT CHARACTERISTICS

1. PURPOSE. This Order prescribes aircraft climb and descent characteristic maximum values to be assigned to aircraft types in the aircraft characteristics table of the NAS En Route Stage A system.

2. DISTRIBUTION. This Order is distributed to selected offices in Washington and Regional Headquarters, Area Offices, the National Aviation Facilities Experimental Center, the Aeronautical Center, and all Air Route Traffic Control Centers.

3. CANCELLATION. Order 7210.35, Aircraft Climb and Descent Characteristics, dated November 10, 1977, is canceled.

4. BACKGROUND. CCD 4658 (Case File AT300-CPF-033A) identified that the present method for detection of possible Mode C errors in the NAS En Route Stage A system needed improvement. Therefore, CCD 4658 was implemented in the NAS En Route A3d2.6 system update. The CCD allows for individual aircraft climb and descent values to be adapted for each type aircraft adapted in the Aircraft Characteristics Record (ACHR). These adapated values will aid in detecting invalid Mode C errors, allow automatic display of Mode C altitudes for high performance aircraft, and reduce controller input to reestablish Mode C display.

5. ACTION. Facility chiefs shall insure:

a. That control personnel are briefed on the Mode C reasonableness feature contained in the NAS En Route Stage A system and its inherent limitations.

b. That any program modifications that provide for climb/descent values higher than the maximum values contained in this Order are removed.

c. That locally adapted climb/descent values are adapted as low as possible to ensure Mode C Reasonableness, follow the adaptation guidelines, and do not exceed the maximum values contained in this Order for each category.

6. MISCELLANEOUS. Provisions of this Order will be incorporated into Handbook 7210.3D.

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Initiated By: AAT-330

APPENDIX 1. AIRCRAFT CHARACTERISTICS GUIDELINES

CATEGORY DEFINITION

1. Category 1 - Single-Engine Piston Aircraft
   Maximum climb/descent 3500 FPM

2. Category 2 - Multi-Engine Piston Aircraft
   Maximum climb/descent 5000 FPM

3. Category 3 - Single-Engine Turboprop
   Maximum climb/descent 4000 FPM

4. Category 4 - Multi-Engine Turboprop
   Maximum climb/descent 5000 FPM

5. Category 5 - Civilian Turbojet
   Maximum climb/descent 7000 FPM

6. Category 6 - Military Fighter Type Turbojet
   Maximum climb/descent 10,000 FPM

7. Category 7 - Military Cargo/Bomber Type Turbojet
   Maximum climb/descent 8000 FPM

8. Category 8 - Special Super Performance Turbojet (see page 2)
   Maximum climb/descent 20,000 FPM

Special Super Performance Turbojets are defined as follows:

Civilian	Military
CONC	A5 - All types
DA 10	A6
G2	F5 - All types
LEAR Jets - all types	F8 - All types
	F14
	F15
	F16
	T38
	VLCN

ADAPTATION GUIDELINES

When adapting the Aircraft Characteristics Record (ACHR) for use by the NAS En Route Stage A system, the following guidelines should be used:

1. Use the aircraft data contained in Controller Chart Supplement, Section 8, as much as possible;

2. Adapt the maximum descent parameter (AACCJ) for individual aircraft equal to or larger than the maximum climb parameter (AACLM);

3. Adapt the flight data processing parameter (AACLA) for individual aircraft lower than the maximum climb parameter (AACLM);

4. Adapt the flight data processing parameter (AACLA) and the maximum climb parameter (AACLM) equal for the nonadapted aircraft entry (ALOR);

5. Adapt the system parameter General Aircraft Climb Rate, GCLR, equal to the maximum climb parameter (AACLM) adapted in the nonadapted aircraft entry (ALOR), and

6. Adapt the system parameters General Aircraft Climb Rate, GCLR, and General Aircraft Descent Rate, GTDR, equal.