

Military Aircraft Turbulence Categories			
Aircraft Type		Common Name	Turbulence Category
Military Identifier	FAA Identifier		
AH-1 (see Note 3)	HUCO	Cobra/Huey Cobra	I
OH-58 (see Note 3)	B06	Kiowa	
RQ-7B (see Note 6)		Shadow	
T-41D	C172	Mescalero	
T-51A	C150	Cessna 150	
TG-15A/B	TG15	Duo Discus/Discus Glider	
TH-1 (see Note 3)	B205	Iroquois/Huey	
UH-1 (see Note 3)	B212	Iroquois/Huey	
AH-64 (see Note 3)	H64	Apache	II
B-2A (see Note 5)	B2	Spirit	
B-52H	B52	Stratofortress	
C-5A/B/C/M	C5	Galaxy/Super Galaxy	
C-9A/C	DC93	Nightingale/Skytrain	
C-20B/H (see Note 5)	GLF3/4	Gulfstream III/IV	
C-21A	LJ35	Learjet 35	
C-37A/B	GLF5	Gulfstream V	
C-40B/C (see Note 5)	B737	BBJ, Clipper	
C-130 (see note 7)	C130	Hercules/Commando II/etc.	
CC-18-180	PA18	Cubcrafters Top Cub	
CH-47 (see Note 3)	H47	Chinook	
CV-22 (see Note 4)	V22	Osprey	
E-8	E8	JSTARS	
H-3 (see Note 3)	S61	Sea King	
H-53 (see Note 3)	H53	Sea Stallion/Sea Dragon	
H-60 (see Note 3)	H60	BlackHawk/SeaHawk	
KC-135R/T	K35R	Stratotanker	
T-38A	T38	Talon	
T-53A	SR20	Cirrus/Kaydett	
TG-16A	TG16	DG-1000 Club Glider	
U-21	BE10	King Air	
UH-72 (see Note 3)	UH72	Lakota	
A-29		EMB 314 Super Tucano	III
C-12 C/D/F/J	B190	Huron/King Air	
C-17A	C17	Globemaster III	
C27J	C27	Spartan	
C-32A (see Note 5)	B752	Boeing 757, Air Force Two	
EA-6B	A6	Prowler	
EO-5C		DHC-7-102/103	
E-9A	E9	Bombardier Dash 8, Widget	
E-4B	B742	NAOC	
E-11A	E11	Bombardier Global Express/XRS	
EA-18G	F18	Growler	
F-15C/D	F15	Eagle	
F/A-18 (A-F)	F18	Hornet/Super Hornet (E/F)	
F-22 (see Note 5)	F22	Raptor	

KC-10A	DC10	Extender	III
KC-46A		Pegasus	
MC-12	MC12	Huron	
MQ-1B/C	MQ1	Predator/Gray Eagle	
MQ-9	MQ9	Reaper	
QF-4		Phantom (Drone)	
OC-135B		Open Skies	
RC-135		Rivet Joint	
RO-6A		DHC-8-311/315	
RQ-4	RQ4	Global Hawk	
T-1A	BE40	Jayhawk	
T-38C	T38	Talon (for UPT)	
T-6A	TEX2	Texan 2	
U-2S	U2	Dragon Lady	
UV-18B	DHC6	Twin Otter	
UV-20	PC6T	Pilatus Turbo Porter	
A10C	A10	Thunderbolt II	IV
B-1B	B1	Lancer	
E-3B/C/G	E3TF/E	Sentry	
F-15E	F15	Strike Eagle	
F-16C/D	F16	Fighting Falcon	
F-35A (see Note 5)	F35	Lightning II	
QF-16	F16	Fighting Falcon	
RC-26B		Metroliner	

**Table 1:** Turbulence categories for military aircraft.

Civilian Aircraft Turbulence Categories			
Aircraft Type		Common Name	Turbulence Category
Aircraft Identifier	FAA Identifier		
C-152	C152	Cessna Aerobat	I
C-172	C172	Cessna Skyhawk	
C-175	C175	Cessna Skylark	
C-182	C182	Cessna Skylane	
C-185	C185	Slywagon	
DA-20	DA20	Diamond Katana	
PA-38	PA38	Piper Tomahawk	
PAY-3	PAY3	Piper Cheyenne	
A-300	A306, A30B	Airbus A300	II
A-319	A319	Airbus A319	
A-320	A320	Airbus A320	
A-340-200	A342	Airbus A340	
A-340-300	A343	Airbus A340	
A-340-500	A345	Airbus A340	
A-340-600	A346	Airbus A340	
B-200	BE20	Beechcraft Super King Air	
B-350	BE30	Beechcraft Super King Air	
B-727	B721,B722,B72Q,R721,R722	Boeing 727	

B-737-600	B736	Boeing 737-600	II
B-737-700	B737, C-40	Boeing 737-700, BBJ	
B-737-800	B738	Boeing 737-800	
B-737-900	B739	Boeing 737-900	
B-747	B741, B742,B743,B74D,B744	Boeing 747	
B-777	B772, B773	Boeing 777	
BE-20	BE20	Beechcraft Super King Air	
C-208	C208	Cessna Caravan, U-27	
C-310	C310	Cessna 310, L-27	
C-402	C402	Cessna 402 Businessliner	
C-414A	C414	Cessna Chancellor	
C-421	C421	Cessna Golden Eagle	
CL-600	CL60	Canadair Challenger 600	
CRJ	CRJ1, CRJ2, CRJ7, CRJ9	Canadair Regional Jet	
DC-8	DC8	Douglas DC 8, Super 62	
G-520	EGRT	Egret	
Gulfstream IV & V	GLF4, GLF5	Gulfstream IV, V	
L-13	L13	Blanik Glider	
L-23	L23	Super Blanik Glider	
LJ-25/35/55/60	LJ25/35/55/60	Learjet 25/35/55/60	
MD-80	MD81, MD82, MD83, MD87, MD88	McDonnell Douglas MD-80	
PA-18	PA18	Piper Super Cub	
SR-20	SR20	Cirrus	
B-737/200	B732	Boeing 737-200	III
B-757	B752	Boeing 757-200	
B-767	B762, B763	Boeing 767-200, 767-300	
DC -8 (Super 63)	DC86	Douglas DC 8-60 Series	
DC-10	DC10	McDonnell Douglas DC-10, MD-10	
DHC-6	DHC6	DeHavilland Twin Otter	
E-145	E145	Embraer Regional Jet 145	
JS-41	JS41	Bae Jetstream 41	
MD-11	MD11	McDonnell Douglas MD-11	

**Table 2:** Turbulence categories for civilian aircraft.

**Note 1:** The turbulence categories in this table were derived using such aircraft considerations as wing span, wing area, aspect ratio, taper ratio, wing sweep, and others. The table therefore should be considered authoritative; however, an aircraft's weight, airspeed, and/or altitude may change its turbulence category from its default value found in this table. Original source document is AFWAL-TR-81 3058. For updates and aircraft additions, contact AFLCMC/XZIG, DSN 785-2299/2310.

**Note 2:** If an aircraft is not listed, the following conservative turbulence categories can be made: Jets and multi-engine prop/turbo-prop aircraft that fly at/above FL180 can be considered Category II. All other aircraft should be considered Category I.

**Note 3:** Turbulence categories for helicopters are primarily determined from aircrew feedback. The methodology used for fixed-wing aircraft is not applied to helicopters due to their added complexity.

**Note 4:** The CV-22 displays aspects of flight that include rotor-wing operations and therefore objective gust load calculations and turbulence categorization are not possible for rotor phase of flight (e.g. takeoff/landing).

**Note 5: Turbulence categories for aircraft with gust alleviation systems (passive or active) are likely less susceptible to turbulence than their computed category.**

**Note 6: Turbulence categories for Small UAVs (Mean Aerodynamic Chord < 2 ft), cannot be determined using the Gust Loads Formula and therefore should be considered CAT I.**

**Note 7: This turbulence category applies to ALL Modified/Basic Mission Designators and Model Series (for example, C-130H, LC-130H, AC-130J, HC-130J, MC-130J, WC-130J, etc.)**

Turbulence forecasts in Terminal Aerodrome Forecasts (TAFs) are specified for Category II aircraft. Modify the local turbulence forecast for the type of aircraft supported. An aircraft's sensitivity varies considerably with its weight (amount of fuel, cargo, munitions, etc.), air density, wing surface area, wing sweep angle, airspeed, and aircraft flight "attitude." Since aircraft sensitivity to turbulence varies considerably, use caution when applying forecast turbulence to a specific aircraft type, configuration, and mission profile. Table 3 is a guide to convert turbulence intensities for different categories of aircraft.

Turbulence intensities for different categories of aircraft			
Cat. I	Cat. II	Cat. III	Cat. IV
N	N	N	N
(L)	N	N	N
L	(L)	N	N
L - (M)	L	(L)	N
M	L - (M)	L	(L)
M - (S)	M	L - (M)	L
S	M - (S)	M	L - (M)
S - (X)	S	M - (S)	M
X	S - (X)	S	M - (S)
X	X	S - (X)	S
X	X	X	S - (X)
X	X	X	X
Key: N = None, ( ) = Occasional (less than 1/3 of the time), L = Light, M = Moderate, S = Severe, X = Extreme			

**Table 3:** Guide for converting turbulence intensities between different categories of aircraft.