

**BY ORDER OF THE COMMANDER
AIR FOR MATERIEL COMMAND**



AIR FORCE INSTRUCTION 21-103

**AIR FORCE MATERIEL COMMAND
Supplement**

ADDENDUM_F

12 SEPTEMBER 2016

Maintenance

**EQUIPMENT INVENTORY, STATUS
AND UTILIZATION REPORTING
SYSTEM/T-38A/B/C MINIMUM
ESSENTIAL SUBSYSTEM LIST (MESL)**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements AFI 21-103_AFMCSUP, *Equipment Inventory, Status and Utilization Reporting*. It establishes guidance and assigns responsibility to provide AFMC Test Fleet aircraft status changes/updates in accordance with (IAW) current maintenance conditions and the developed MDS specific mission essential subsystem list (MESL). This instruction applies to all AFMC organizations that manage or perform maintenance on AFMC owned/possessed aircraft regardless of Air Force Specialty Code. Ensure that all records created as a result of processes prescribed in this publication are maintained IAW Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS). This publication may be supplemented at any level, but all direct Supplements must be routed to the Office of Primary Responsibility (OPR) of this publication for coordination prior to certification and approval. The authorities to waive wing/unit level requirements in this publication are identified with a Tier ("T-0, T-2, T-3") number following the compliance statement. See AFI 33-360, Publications and Forms Management, for a description of the authorities associated with the Tier numbers. Submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority, or alternately, to the Publication OPR for non-tiered compliance

items. Send comments and suggested improvements to this instruction on AF Form 847, *Recommendation for Change of Publication*, to HQ AFMC/A4MM, 462 Chidlaw Road, Wright-Patterson AFB OH 45433-5006.

These MESLs complement AFI 21-103, *Equipment Inventory, Status, and Utilization Reporting*. They apply to maintenance activities supporting AFMC test missions across AFMC.

SUMMARY OF CHANGES

This publication has been substantially revised to meet the intent of AFI 21-103 AFMCSUP; this Addendum must be reviewed in its entirety. The MESL is modified based on user inputs and has been updated to reflect current mission requirements. Additionally, removed Tier 1 (T-1) IAW AFI 33-360 dated 1 December 2015, MAJCOM level instruction will not Tier references above the MAJCOM waiver authority (e.g. Table 1.1. Tier Waiver Authorities, Tier T-1 may be used in publications at Departmental level only.).

1.1. General. The MESL is the basis of status reporting IAW 21-103. MESLs lay the ground work for reporting the status of assigned/possessed AFMC test fleet aircraft and equipment supporting AFMC test missions. They list the minimum essential systems and subsystems that must work on test fleet aircraft to perform specifically assigned unit test, training, or other missions.

1.2. Qualifying notes are: Used to define system exceptions and help explain complex degraded mission systems.

1.3. It is understood that: Any aircraft or support equipment system or subsystem may be subjected to test or tested under a test scenario and/or are test dependent as directed by the test mission director. If identified by test mission director, those systems or subsystems, if not already identified by qualifying notes, must be operational to be considered FMC or PMC for that mission.

2.1. Reading the MESL. A MESL is read by comparing the systems stated by WUC column (column 2) against the Full Systems List (FSL) and all applicable Basic Systems List (BSLs) across the page (DTE - Developmental Test and Evaluation, DTS - Developmental Test Support, BFT/NT/TT - Training). Each unit's Design Operational Capability (DOC) statement determines applicability of BSL columns. The aircraft or equipment MESLs incorporate all AFMC assigned/possessed aircraft/equipment and therefore it is important to compare only the columns listed in the MESL which are applicable to the units assigned/possessed aircraft. For example, units with training (TF) coded aircraft would determine report status using only the FSL and TNG columns. Units with multiple coded aircraft will ensure status is reported using the MESL columns appropriate to the individual aircraft/equipment assignment code or type mission being flown. (T-2)

Table 2.1. AT/T-38A/B/C Minimum Essential Subsystem List (MESL).

NO.	WUC	SYSTEM/SUBSYSTEM	FSL	BSL		
				DTE	DTS	BFT/NT/TT
1.	11000	Airframe	X	X	X	X
2.	11000	Windshield/Canopy	X	X	X	X
3.	11520	Pylon	X6 (T-38B/C)	X2	X1	X1
4.	12100	Cockpit and Controls	X	X	X	X
5.	13000	Landing Gear and Brakes	X	X	X	X
6.	14000	Flight controls	X	X	X	X
7.	23000	Turbojet Powerplant/Gearboxes	X	X	X	X
8.	41000	Air Conditioning/Pressurization/ Anti-Ice Control	X	X	X	X
9.	42000	Electrical System	X	X	X	X
10.	44110	Exterior Lights	X3	X3	X3	X3
11.	44200	Interior Lights	X4	X4	X4	X4
12.	45000	Hydraulic and Pneumatic Power	X	X	X	X
13.	46000	Fuel System	X	X	X	X
14.	47000	Oxygen System	X	X	X	X
15.	49000	Miscellaneous Utilities	X	X2	X	X
16.	51100	Instruments	X	X	X	X
17.	51111	Accelerometer	X	X2	X	X
18.	51211	Clock	X	X2	X6	X6
19.	51300	Angle of Attack (AOA)	X	X2	X5	X5
20.	55200	AVTR	X5	X2	X2	X5,6
21.	55B00	Recording Equipment	X5	X2	X2	X5,6
22.	63B00	Radio Communications	X	X	X	X
23.	64B00	Interphone, AN/AIC-18	X	X	X	X
24.	65A00	IFF	X	X	X	X
25.	65C00	TCAS	X ^(T-38C)	X	X	X
26.	71B00	Instrument Landing System	X	X2	X1	X1
27.	71Z00	TACAN	X	X2	X1	X1
28.	74200	Optical Sight/HUD	X5 ^(T-38C)	X2	X2	X6
29.	75000	Weapon Delivery	X ^(T-38B)	X2	X1	X1
30.	91000	Emergency/Personnel Equipment	X	X	X	X
31.	97000	Egress System	X	X	X	X
32.		DAS	X5	X2	X2	X5,6
33.		Telemetry System	X5	X2	X2	X5,6
34.		IRIG Time Set	X5	X2	X2	X5,6
35.		Flight Test Video Recorder	X5	X2	X2	X5,6
36.		TSPI	X5	X2	X2	X5,6
37.		Inertial Navigations	X	X	X	X

Table 2.2. Qualifying Notes.

1.	IMC or Cross Country sorties require either a TACAN/ILS equipped aircraft, or T-38C (if applicable). BFM/Intercepts sorties require a TACAN aircraft with Gun sight, or T-38C aircraft (if applicable). Air-to-Ground sorties require AT-38B with pylon and SUU, or a T-38C.
2.	Test dependent. As determined by test conductor based on mission objectives.
3.	Landing and Taxi light portion of the system is required for all flights. Restricted to day only if only one beacon operates, both beacons and all position lights must be operational for night missions.
4.	As required by AFI 11-218 and 11-202 V3.
5.	If installed.
6.	As required for specific mission.

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 Director of Logistics, Civil Engineering
 and Force Protection

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFI 11-202, Volume 3, *General Flight Rules*, 7 Nov 2014

AFI 11-218, *Aircraft Operations and Movement on the Ground*, 28 Oct 2011

AFI 21-101, *Aircraft and Equipment Maintenance Management*, 21 May 2015

AFI 21-103, *Equipment Inventory, Status and Utilization Reporting*, 26 Jan 2012

AFI 33-360, *Publications and Forms Management*, 1 Dec 2015

AFMAN 33-363, *Management of Records*, 1 Mar 2008

AFPD 21-1, *Air and Space Maintenance*, 29 Oct 2015

Prescribed Forms

There are no prescribed forms for this publication

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*, 22 Sep 2009

Abbreviations and Acronyms

AFMC—Air Force Materiel Command

AOA—Angle of Attack

AVTR—Audio or Video Tape Recorders

BSL—Basic Systems List

CNI—Communication Navigation Identification

DOC—Design Operational Capability

DTE—Developmental Test and Evaluation

DTS—Developmental Test Support

ECM—Electronic Counter Measures

FSL—Full Systems List

HUD—Heads-Up Display

IAW—In Accordance With

IFF—Identification Friend or Foe

JHMCS—Joint Helmet Mounted Cueing System

MDS—Mission Design Series

MESL—Minimum Essential Subsystem List

MPCD—Multi-Purpose Color Display

OPR—Office of Primary Responsibility

PMC—Partial Mission Capable

RLG—Ring Laser Gyro

TACAN—Tactical Air Control and Navigation

TCAS—Traffic Collision Avoidance System

TCTO—Time Compliance Technical order

TNG—Training

UHF—Ultra High Frequency

VHF—Very High Frequency

VSD—Vertical Situation Display

WUC—Work Unit Code