

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



AIR FORCE INSTRUCTION 21-103

**AIR FORCE MATERIEL COMMAND
Supplement**

ADDENDUM_P

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Maintenance**

**EQUIPMENT INVENTORY, STATUS AND
UTILIZATION REPORTING SYSTEM/B-52H
MINIMUM ESSENTIAL SUBSYSTEM LIST
(MESL)**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements AFD 21-1, *Air and Space Maintenance*, AFI 21-101, *Aircraft and Equipment Maintenance Management*, and AFI 21-103, *Equipment Inventory, Status and Utilization Reporting*. It establishes policy 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 AFMAN 33-363, *Management of Records*, and disposed of IAW the Air Force Records Disposition Schedule (RDS) located at <https://www.my.af.mil/afirms/afirms/afirms/rims.cfm>. 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.

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.

1.1. Qualifying notes are used to define system exceptions and help explain complex degraded mission systems.

1.2. 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. Reading the MESL. A MESL is read by comparing the systems stated by WUC or UNS 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, TNG - 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.

B-52H MINIMUM ESSENTIAL SUBSYSTEM LISTING (MESL)

NO.	WUC	SYSTEM/SUBSYSTEM	FSL	BSL		
				DTE	DTS	TNG
1.	11000	Airframe	X	X	X	X
2.	12A/B/D/F	Ejection System, Control Stowage System and Relief Station	X	X1	X1	X1
3.	12D00	Food Service/Curtain/Instructor Crew Seat Control/ Equipment Stowage System	X	X2	X2	X2
4.	12F/H/J Except 12GA/K	Relief Station/Equipment System/ANC Crew Seat	X	X		
5.	12GA/K	Thermal Curtains/PLTZ (Acft Sys Only)	X			
6.	13000	Landing Gear System	X	X	X	X
7.	14000	Flight Control System	X	X	X	X
8.	23000	Turbojet/Turbofan Powerplant	X	X	X	X
9.	23KQJ	Starter Cartridge/Pneumatic	X	X3	X3	X3
10.	41000	Air Conditioning, Pressurization, Surface Ice Control	X	X4	X4	X4
11.	42000	Electrical Power Supply	X	X	X	X
12.	44A00	Aircraft Lighting	X	X21	X21	X21
13.	45000	Hydraulic System/Pneumatic System	X	X	X	X

14.	46000	Fuel System	X	X	X	X
15.	47000	Oxygen System	X	X	X	X
16.	49B/D	Miscellaneous Utilities	X	X	X	X
17.	51A00	Flight Instruments	X	X5	X5	X5
18.	51B00	Fuel Quantity	X	X6	X6	X6
19.	51C/D/E	Miscellaneous Instruments/ Pitot Static Systems/ Engine Instruments	X	X	X	X
20.	52000	Autopilot	X	X22	X22	X22
21.	60A00	MRT	X	X22		
22.	61000	HF Radio	X	X7	X7	X7
23.	62000	V/UHF Communications	X	X23	X23	X23
24.	63000	UHF Communications	X	X23	X23	X23
25.	64000	Interphone System	X	X	X	X
26.	65000	Identification Friend or Foe (IFF)	X	X	X	X8
27.	69000	Secure Voice Communications	X	X18,22	X18	X18
28.	71000 Except 71E00	Radio Navigation/HSI/ADI	X	X9	X9	X9
29.	72000	Radar Navigation	X	X	X	X
30.	73000 Except 73G/K/L/P	Bomb Navigation System/AHRS	X	X19	X19	X19
31.	73G00	Bomb Navigation Misc. Systems/Equipment	X	X10,22	X10,22	X10
32.	73L00	Bomb Nav Control Display Set	X	X	X	X
33.	73V00	INS	X	X11	X11	X11
34.	73U00	AMI Modified Bomb Nav Computers	X	X17	X17	X17
35.	75000	Weapons Delivery System	X	X	X	X20
36.	76000 Except 76M/P/R/T	Electronic Countermeasures Systems	X16	X16	X16,22	X16,22
37.	76M00	ALT 16	X22	X22	X22	X22
38.	76P00	ALT 32(H)	X	X22	X22	X22
39.	76R00	ALQ 155	X	X22	X22	X22
40.	77E00	Forward Looking Infrared or Electro-Optical Viewing System (STV or FLIR)	X	X	X	X20
41.	77J00	Data Presentation Group	X	X15	X15	X15
42.	77N00	Control Display Set (When CONECT Equipped)	X	X22	X22	X22
43.	79000	Global Positioning System	X	X22	X22	X22
44.	93000	Drag Chute System	X	X	X	X
45.	95000	Airborne Cooperational	X	X22	X22	X22
46.	97000	Explosive Devices and Components	X	X	X	X
47.		Special Instrumentation System	X	X24		
48.		Analog Data Recorder		X24		

49.		Digital Data Recorder (MARS 2/2E)		X24		
50.		Telemetry System		X24		
51.		IRIG Time Set		X24		
52.		Flight Test Video Recorder		X24		
53.		TSPI (ARDS, GAINR)		X24		

QUALIFYING NOTES:

1. Gunner's seat not required to be operational for PMC
2. Aisle curtain required for NVG use. All other equipment not required or may be inop.
3. Cartridge starters on engines 4 and 5 must be operational for PMC.
4. Normal or alternate pressurization, temperature control, window heat, and engine antic-ice must be operable for PMC.
5. Clock and accelerometer not required to be operational. C-2A gyro not required to be operational if MD-1, AHRS and stand-by Attitude indicator are operational.
6. Total fuel flow gage not required to be operational. CG/FLAS required being operational on TF coded aircraft only.
7. #2 UHG with full AFSATCOM required when HF is inoperative
8. Test set 1843 not required to be operational for FMC.
9. HSI and ADI AT pilot and co-pilot stations must be operational. Other subsystems in this WUC not required.
10. 73GAO tone scoring not required being operational.
11. One INS must be operational for PMC.
12. System 9 must be operational for PMC.
13. Either system 11 or system 12 must be operational for PMC.
14. Systems 1, 2, 3 and 13 must be operational, system 5 or 8 must be operational, either system 4 or 6 must be operational, and either system 7 or 14 must be operational for PMC.
15. Pilot's, co-pilot's and radar navigator's systems must be operational for PMC.
16. ALQ-153 is no longer used.
17. A minimum of one AMI processor must be operational for PMC.
18. Intelligence broadcast receiver (IBR), USB and Ethernet support panels not required to be operational. One central information management system (CIMS) required to be operational (When CONECT equipped).
19. Crew Workstation not required to be operational (When CONECT Equipped).

20. One Multi Function Display set (MFDS) must be operational (When CONECT Equipped).
21. As required by AFI 11-202, Vol 3.
22. Test dependent. As determined by test director based on mission objectives.
23. Must have an operational UHF or VHF radio. May require both for test mission.
24. Special instrumentation is Development, Test, and Evaluation, and test support specific.

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