SLIDES ONLY

NO SCRIPT PROVIDED

NAVAIR Fiber Training

- **NAVAIR sailors don't know that they don't know about Fiber Optics and here is why!**

- **The COMNAVAIRFORINST 4790.0D ch-1 doesn't mention the MIL-STD-1678-1d at all. The 4790.2d Ch-1 does mention fiber optics twice under Chapter 10 in the EWIS NAMPSOP. The 4790.2d Ch-1 does mention the NAVAIR 01-1A-505-4.**
- **Below you can read what the NAMP states about training for the EWIS program. It mentions for fiber optics you must take an awareness eLearning course.**

- 10.26.3.2 Training All maintenance technicians who perform on-aircraft maintenance must have a working knowledge of EWIS. Training requirements: a. Maintenance technicians (including maintenance aircrew) not directly involved in EWIS inspections or repairs must complete the EWIS Wiring Awareness training course (CNATT-008- WRA-021-002-B0) per paragraph 10.1.4.7 (NAMP Indoctrination Training). If fiber optic cabling is applicable to the aircraft, personnel will also complete the EWIS Fiber Optic Awareness (CNATT-008-FBO-021-001-B0). These courses are available on Navy e-Learning at the following link: https://learning.nel.navy.mil/ELIAASv2p/. (1) Individual course completion may be conducted via Navy e-Learning by navigating to the link below and browsing course content for the applicable course. (a) Navy e-Learning Portal: https://learning.nel.navy.mil/ELIAASv2p/ (b) EWIS Wiring Awareness (CNATT-008-WRA-021-002-B0) (c) EWIS Fiber Optic Awareness (CNATT-008-FBO-021-001-B0).

1/ Applications to select only a MQJ with PC polish: Optical loss unless otherwise specified, Return Loss, OTDR using a hi
resolution module.
2/ Applications to select an overfilled launch MQJ: Detector end MQJ for optical loss test, when specified Launch end M
for optical loss test, Launch end MQJ for return loss test, OTDR measurement using a high resolution module.
3/ Applications to select a restricted launch MQJ: When specified Launch end MQJ for optical loss test.
4/ MQJ's are built to Requirement 6207 of MIL-STD-1678-6. Polish types are:
PC, E = Domed ferrule with an enhanced PC polish;
PC, S = Domed ferrule with a standard PC polish;
NC, S = Flat ferrule with a standard NC polish; and
APC, E = Domed ferrule with an enhanced APC polish.
Ferrule end face meets end face geometry for the specified polish type (see 4.6.2 of MIL-STD-1678-6 Requirement 620
Method used to verify polish type conforms to 4.6.1 of MIL-STD-1678-6 Requirement 6207.

NAVAIR FIBER TRAINING

- **NAVAIR 01-1A-505-4 publication mentions the MIL-STD-1678-1d 17 times, those mentions in the 505-4 only talk about Measure Quality Jumpers (MQJ's) and polishing requirements. There are no mentions of training requirements.**

What is the MIL-STD-1678, you ask?

3. This standard practice provides detailed information and guidance to personnel concerned with ensuring standardization of fiber optic cable topologies (optical fiber cabling and associated components) on military mobile vehicles used in air, land, and sea applications. In general, the requirements and methods specified herein are not identifiable to any specific mobile vehicle class or type, but are intended to standardize and minimize variations in requirements, test setups, test measurement procedures, test sample fabrication configurations, and other aspects that must be addressed for completeness. Where specified, constrains for usage or platform types will be listed. The term "platform" will be used to refer to the military mobile vehicles in general or, where designated, one particular class (such as "aircraft platform") or one particular type within that class (such as "F-35").

MIL-STD-1678 REQUIREMENT 1306

MIL-STD-1678-1D
w/ Change Notice 2

REQUIREMENT 1306

PERSONNEL PROFICIENCY

1. Purpose. This requirement establishes initial and recurring criteria for ensuring that military maintainers, depot artisans, prime and sub-prime contractors, and others within the fiber optic community (both Government and commercial, see 6.3) have initial and maintain an adequate skill set for their assigned fiber optic responsibilities.

6.3.1 Aircraft applications. Commercial entities include Government or Contracted Installation/Repair/Training Teams and those contracted within Government organizations such as Fleet Readiness Centers (FRCs) Depot level Maintenance and Repair, Marine Aviation Logistics Squadrons (MALs), Air Force Materiel Commands (AFMCs), Air Force Air Logistics Centers (ALCs), Aircraft Sustainment Wings (ASWs), Combat Sustainment Wings (CSWs), United States Army Aviation and Missile Command (AMCOM), military training centers, and the Aviation and Missile Research, Development, and Engineering Center (AvMC).

6.3.2 Navy shipboard applications. Commercial entities include Ship Builders, Industrial Activities, Government/Contracted Installation/Repair Teams, Alteration Installation Teams (AITs), Ship/Planning Yards, On-Site Representative (OSRs) in addition to those contracted within Government organizations such as Supervisor of Shipbuilding (SUPSHIP), Regional Maintenance Centers (RMCs), Field Maintenance Activities (FMAs), and In Service Engineering Agents (ISEAs)."

TABLE 1306-IV. Number of skill sets required selection guide for maintainers.

Function Performed	Minimum Essential Skill Sets
Those working in the locations with fiber optic cabling (i.e., handling)	Awareness
Those disconnecting the fiber optic cabling	Awareness, Basic skill sets
Those performing troubleshooting of fiber optic cabling	Awareness, Basic skill sets, Intermediate skill sets
Those repairing of fiber optic cabling	Awareness, Basic skill sets, Intermediate skill sets, Advance skill sets
Those fabricating new fiber optic cabling	Awareness, Basic skill sets, Intermediate skill sets, Advance skill sets, Craftsman skill sets

TABLE 1306-I. General/cable harness personnel proficiency skill sets.

	Maintainer		Cable harness assembler		Installer		Non-fiber optic user		Quality assurance	
Actions	Initial	Recur	Initial	Recur	Initial	Recur	Initial	Recur	Initial	Recur
Awareness										
Basic theory	X		X		X		X		X	
Laser and fiber safety	X	X	X	X	X	X	X	X	X	X
Handling	X		X		X		X		X	
Labeling	X		X		X		X		X	
Requirement for ferrule end face cleanliness	X		X		X		X		X	
Criteria for ferrule end face inspection and geometry	X		X		X		X		X	
Basic skill sets										
Clean ferrule end face	X		X		X				X	
Inspect ferrule end face	X		X		X				X	
Perform optical loss test on cable assembly/harness	X		X		X				X	
Intermediate skill sets										
Troubleshoot connector and cabling	X		X		X				X	
Install cable harness	X		X		X				X	
Use OTDR to test cable harness	X	X	X	X	X				X	
Theory of operation	X	X	X	X	X				X	
Advance skill sets										
Perform connector/terminus terminations	X	X	X	X	X	X				
Perform repairs (mechanical splicing)	X	X	X	X						
Perform repairs (fusion splicing)	X	X	X	X						
Perform remove and replace of installed cabling	X		X		X					
Craftsman skill sets										
Perform cable harness assembly	X	X	X	X						
Perform post installation inspection	X				X				X	X