T-6 DODIC Update

26 June 2018

Agenda

- T-6 CAD/PAD Trouble Item Summary
- T-6 Interim Rapid Action Changes (IRACs)
- T-6 Service Life Extensions (SLEs)
- T-6 Conventional Ordnance Deficiency Reports (CODR)
- Maintenance Procedures & Planned Improvements
  - JL54 Product Improvement
  - JL56 & JL57
- CFIS-B Status
- JL46, JL47, and JL48

As of 2 April 2018

T-6 Trouble Item Summary

DoDIC	Name	Issue	Current Mitigation	Get Well Date	Future Mitigation
JL57	JAU-79/A Cartridge Actuated Initiator	**PSEMC Production** - Technology test failures - Limited production capacity	- The US Navy has 820 New JL57s coming into Navy Stock between Aug 2018 and Feb 2019. - Solo mode operation	- Feb 2019.	Digital Inline Timer (DIT)
JL56	JAU-78 & 91/A Cartridge Actuated Initiator	**PSEMC Production** - Old design had multiple no-fires in 2014 - Latent defect effected all installed lots - Closely tied to JL57	- Bypassing with solo mode - Contractor nearly complete with replacement build for defective hardware	- Dec 2018	Digital Inline Timer (DIT)
JL64	CCU-156/A Cartridge, Impulse	**Production** - Poor propellant performance	- Service Life Extensions	- Sep 2018	Both lots will be rebuilt by the Contractor with improved propellant
DWEX	JAU-82/A Seat Movement Detection laser	**Obsolescence** - Orbital-ATK is manufacturer of DWEX units. ATK cannot make any more DWEX units after current 166 in-process. - Problems receiving next lot of TLX Ammo data cards	- SLEs where possible - Cannibalizing units removed from CFIS-B installs with useful life remaining	- Aug 2022, when CFIS-B replacements complete	Replace with JN53 as part of CFIS-B ballistic system replacement to current Laser system
DWEZ	JAU-81/A Internal Canopy Fracture Laser	**Obsolescence** - Being replaced by new CFIS-B ballistic system - Problems receiving next lot of TLX Ammo data cards	- Service Life Extensions - HRA / RA may be required	- Aug 2022, when CFIS-B replacements complete	Replace with JN54 as part of CFIS-B ballistic system replacement to current Laser system

As of 2 April 2018

T-6 Trouble Item Summary (continued)

DoDIC	Name	Issue	Current Mitigation	Get Well Date	Future Mitigation
DWEY	CCU-158/A Laser Initiated Detonator	**Obsolescence** - Being replace by new CFIS-B ballistic system - Problems receiving next lot of TLX Ammo data cards	- SLEs - Planning OA test in FY19 to validate in-service lot	- Aug 2022, when CFIS-B replacements complete	Replace with TLX as part of CFIS-B ballistic system replacement to current laser system
DWFH	Donor Assembly, Single	**Delayed contract award** - Transitioning to USAF IDIQ contract - Replacements coming in later than just in time need	- Expedite Delivery - Current OA Data can support extension to at least 156 months total age and 84 months install time	- Nov 2018	- N/A
DWFI	Donor Assembly, Dual	**Delayed contract award** - Transitioning to USAF IDIQ contract - Replacements coming in later than just in time need	- Expedite Delivery - Current OA Data can support extension to at least 156 months total age and 84 months install time	- Jan 2019	- N/A
JL53	ATU-136/A Actuator, Mechanical	**Delayed contract award** - Transitioning to USAF IDIQ contract - Replacements coming in later than just in time need	- Expedite Delivery - Current OA Data can support extension to at least 156 months total age and 84 months install time	- Jan 2019	- N/A

As of 2 April 2018

T-6 Trouble Item Summary (continued)

DoDIC	Name	Issue	Current Mitigation	Get Well Date	Future Mitigation
JL46	Flexible Linear Shape Charge	**Production** - Delivery issues - Limited OA data due to damaged returned test assets	- Service Life Extensions using like item data	- Dec 2018	- N/A
JL47	Periphery, Mild Detonating Cord	**Production** - Latent defect led to lot rebuild - Limited OA data due to damaged returned test assets	- Service Life Extensions using like item data	- Nov 2018	Working with Manufacturer to prevent latent defects
JL48	Overhead, Mild Detonating Cord	**Production** - JL48 change-outs dependent on JL47, zero JL47 units in inventory - Limited OA data due to damaged returned test assets	- Service Life Extensions using like item data	- Nov 2018	Working with Manufacturer to prevent latent defects

T-6 (IRACs)

- CAD/PAD issued 5 IRACs for 8 DODICs on the T-6 Aircraft this fiscal year

- IRAC 139, date-time-group - P 031905Z MAY 17
  - Permanently changes the service life of DODIC JL55
    - Installed Life from 60 to 72 months. Shelf Life remains unchanged at 84 months
- IRAC 140, date-time-group - P 011507Z JUN 17
  - Permanently changed the service life of DODIC DWFH, DWFI, JL53, and JL54
    - DWFH, and DWFI - Shelf Life from 133 to 144 months. Install Life remains unchanged at 72 months
    - JL53 - Shelf Life from 133 to 144 months. Install Life remains unchanged at 72 months
    - JL54 - Shelf Life from 108 to 132 months. Install Life remains unchanged at 60 months

T-6 IRACs (continued)

- IRAC 141 date-time-group - P 271920Z NOV 17
  - Permanently changed the service life of DODIC JL56
    - Installed Life from 48 to 36 months. Shelf Life from 84 to 60 months
- IRAC 142 date-time-group - P 302304Z NOV 17
  - Permanently changed the service life of DODIC JL56
    - Lots produced prior to October 2015 will increase Shelf Life from 60 to 84 months, and increase installed Life from 36 to 48 months
    - Lots produced after October 2015 will maintain Shelf life of 60 months, and install life of 36 months
- IRAC 143 date-time-group - P 151857Z MAR 18
  - Permanently changed the service life of DODIC JL62
    - Installed Life from 48 to 60 months, Shelf Life from 84 to 108 months
  - Permanently changed the service life of DODIC JL63
    - Installed Life remains unchanged at 72 months and Shelf Life from 108 to 120 months

Service Life Extensions (SLEs)

Navy had 1,090 service Life extension requests this fiscal year for FY18

DODIC	Approved Beyond	Approved	Limited Approval	Denied	Total
DWEV	0	7	0	0	7
DWEX	1	9	18	7	35
DWEY	0	25	2	2	29
DWEZ	0	1	0	1	2
DWFF	0	1	0	0	1
DWFH	0	2	1	0	3
DWFI	0	4	3	0	7
JL46	0	37	7	3	47
JL47	3	42	14	0	59
JL48	8	46	3	0	57
JL49	0	5	0	1	6
JL50	0	3	0	0	3
JL51	1	5	0	1	7
JL52	0	4	0	1	5
Totals	13	191	48	16	268

Service Life Extensions (SLEs)

Navy had 1,090 service Life extension requests this fiscal year for FY18

DODIC	Approved Beyond	Approved	Limited Approval	Denied	Total
JL53	0	21	2	0	23
JL54	1	7	0	2	10
JL55	1	8	7	3	19
JL56	0	92	0	2	94
JL57	11	154	1	8	174
JL58	0	6	0	0	6
JL59	0	5	0	0	5
JL60	1	6	1	0	8
JL61	0	0	1	0	1
JL62	1	135	23	1	160
JL63	0	9	9	3	21
JL64	5	37	32	7	81
JL65	1	51	6	4	62
JN26	0	20	23	2	45
JN28	17	35	57	4	113
Totals	38	586	162	36	822
Grand Totals	51	777	210	52	1090

T-6 Conventional Ordnance Deficiency Reports (CODRs)

T-6 Aircraft has had 37 CODRs since last ILM (May 2017)

DODIC	Qty	Issue
DWEX	2	Inadvertently Fired
DWEY	2	Inadvertently Fired
DWEZ	4	Inadvertently Fired
DWFH	2	Inadvertently Fired
DWFG	4	Inadvertently Fired
JL47	1	Transparency broke while removing from frame
JL50	17	Seized/Corroded JL50 SMDC lines into the acceptor
JL52	3	Booster Tip Damaged
JL53	2	Inadvertently Fired

37 assets

Replacement cost approximately $178.2K

JL54 Product Improvement

National Stock Number (NSN): 1377-99-126-9725
Nomenclature: Cartridge, Delay – Automatic Deployment Unit (ADU)
Install quantity: 2 each

• The current JL54 ADU cartridge can no longer be ordered due to the obsolescence of propellant used in the delay column

• There is an adequate stockpile of propellant to fill current contracts of ADU Cartridge orders

• A redesigned ADU cartridge is currently going through a qualification program scheduled to be completed in 2018

JL56 Status

Production:

- JL56 production had a failure to fire during Lot Acceptance Test (LAT)
- 9 different items compete for priority on the Time Delay Production Line
  - Production capacity limiting production rate
- Shipments based on individual aircraft impact

Inventory/E-Stock:

- IHEODTD Stock Inventory is low, and world-wide stock inventory is sitting at COMTRAWING-4 and COMTRAWING-5 awaiting change-outs for OA testing.
  - Mitigation: If no assets available by 30 Sep, revised HRA will be needed

JL56 Status (continued)

Service Life Extensions (SLE):

- All new JL56s have a 60 month Shelf life and a 36 month Install life
- Solo Mode used to bypass the JL56. Units can be extended until new configuration is installed
- If 2020 Ordnance Assessment (OA) doesn't support current life limits, aircraft may be grounded

Future Ordnance Assessment (OA):

- Next scheduled OA scheduled FY20.
  - Test may be accelerated based on Programmatic need
  - The installed service life reduced to 36 month based on prior OA data. If new OA reduces the service life further, US Navy inventory will not be able to support demand

General:

- Cartridge potentially replaced with an alternative Time Delay in the future
- On-Board Oxygen Generation System (OBOGS) mitigation may require T-6 aircraft to return to BOTH modes

JL57 Status

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- 9 different items compete for priority on the Time Delay Production Line
  - Production capacity limiting production rate
- Shipments based on individual aircraft impact

Inventory/E-Stock:

- NSWC IHEODTD Stockpoint inventory is low, and world-wide stock inventory located at COMTRAWING-4 and COMTRAWING-5 awaiting change-out for OA testing.
- Navy inventory pipeline of JL57s will not meet future demands
- Mitigation:
  - SLEs to bridge gap until deliveries
  - Prioritize shipments based on individual aircraft impact
  - Replacement-in-kind (RIK) from Air Force
  - T-6 program office is prioritizing aircraft across the services

JL57 Status (continued)

Service Life Extensions (SLE):

- All new JL57s have a 60 month shelf life and a 24 month installed life
- SLEs up to 63 months will be issue on a case by case basis to mitigate the shortage
- Aircraft on SLE past the 24 month service life will be required to fly in solo mode to mitigate the risk of a seat to seat interaction during egress

Future Ordnance Assessment (OA):

- OA Failure resulted in lots MBA12H001-039 through -042 to be uninstalled.
- CAD/PAD Personnel requested JL57s with adequate installed lives to be returned to NSWC IHEODTD for follow-up OA testing in third quarter of FY18

JL57 Status (continued)

- Navy Fleet return units are dependent on change-outs issued from the September 2017 lot of JL57s

- If follow-up OA testing shows the JL57 has a worse aging trend then predicted, the service life will not be extended and could be decreased from 24 months

General:

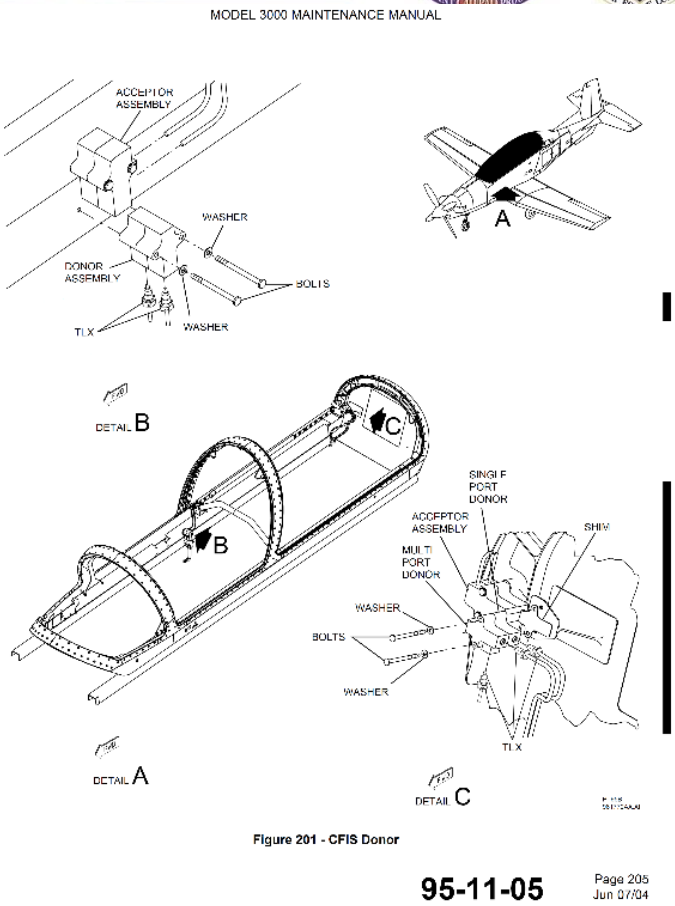
- OBOGS mitigation may require T-6 aircraft to return to BOTH mode from SOLO mode
- Could potentially be replaced with an alternative Time Delay in the future

CFIS-B/DWEX Background

- Canopy Fracture Initiation System (CFIS) is laser initiated
- Laser source (flash bulbs) obsolete
- USN and USAF is receiving the last quantity of DWEXs by June 2018

CFIS-B System Description

- Provides off the shelf Ballistic Initiators to replace laser obsolescence
- Ballistic system prevalent in other USG Platforms with proven reliability and cost effectiveness
- Fiber Optic Harness replaced by Thin Layered Explosive (TLX) Lines
- Development complete and retrofit to commence upon attrition of Seat Movement Detection Laser (SMDL)



CFIS-B Status Update
TCTCO/TD ACC-777

DODICs being replaced by CFIS-B

Current DODIC: DWEV – External Canopy Fracture Laser
Replacement DODIC: No replacement, removed in accordance with TCTO/TD AFC-63

Current DODIC: DWEX – Seat Movement Detection Laser
Replacement DODIC: JN53 - Seat Movement Detection Initiator(SMDI)

Current DODIC: DWEY - Detonator, Laser Initiated
Replacement DODIC: No direct replacement – replaced by TLX Lines

Current DODIC: DWEZ – Internal Canopy Fracture Laser
Replacement DODIC: JN54 - Internal Canopy Initiator (ICI)

CFIS-B TLX DODICs

DODIC	Nomenclature	WUC
JN43	DETONATING CORD ASSEMBLY – TLX - RAU-5V1/A	9712Q
JN44	DETONATING CORD ASSEMBLY – TLX - RAU-5V2/A	9712R
JN45	DETONATING CORD ASSEMBLY – TLX - 9712S	9712S
JN46	DETONATING CORD ASSEMBLY – TLX – RAU-6V1/A	9712T
JN47	DETONATING CORD ASSEMBLY – TLX - RAU-6V2/A	9712U
JN48	DETONATING CORD ASSEMBLY – TLX - RAU-6V3/A	9712V
JN49	DETONATING CORD ASSEMBLY – TLX - RAU-6V5/A	9712W
JN50	DETONATING CORD ASSEMBLY – TLX - RAU-6V4/A	9712X
JN51	DETONATING CORD ASSEMBLY – TLX - RAU-6V6/A	9712Y
JN52	DETONATING CORD ASSEMBLY – TLX – RAU-6V7/A	9712Z
JN83	DETONATING CORD ASSEMBLY – TLX – Set DODIC	97W13

Obtaining Kits

- Ordering INERT Metal Part Kits
  - Hardware kits are ordered from Contractor Operated and Maintained Base (COMB) activity, which will store and ordered metal parts kits from Orange Park Kitting Facility
  - NSN 1377-01-652-4935

- Ordering Explosive TLX Lines and Initiators
  - CADs ordered via standard practice
    - AF units order from Hill AFB
    - Navy units will use Web Ordering

JL46, JL47, and JL48 update

- Delivery of Devices are expected prior to FY19
- Decide best course of action to return JL46, JL47, and JL48 for OA testing
  - Option 1
    - Return Canopy Glass with all Cords attached
  - Option 2
    - Send a team to COMTRAWINGs-4, 5, & 6 as well as NAS Patuxent River (VX-20), Test Pilot School (TPS) to instruct the Fleet on procedures to remove and package cords for return.

This is an example of how to package the cords for return

QUESTIONS?