



CAD/PAD International Logistics Meeting (ILM)

CAD/PAD Health Assessment Guide

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- 11 June 2019 -

Distribution Statement A (19-064): Approved for Public Release. Distribution unlimited.

CAD/PAD Health Assessment

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DODICs with Trace Data	Current data		Projected - lose largest lot		Production Risk	Technical Risk	Overall Risk	OA Scheduled	Next Est. Delivery Date	TMS
	No SLEs	Params applied	No SLEs	Params applied						
ZZ01	Red	Red	Red	Red	No History	1-3 Months	Critical	FY20	6/30/2019	EA-18G, FA-18A, FA-18B, FA-18C, FA-18D, FA-18E, FA-18F, NEA-18G, T-45C
ZZ03	Green	Green	Red	Yellow	3-6 Months	0-1 Months	Med. Risk	FY20	12/3/2018	AV-8B, EA-18G, FA-18A, FA-18B, FA-18C, FA-18D, FA-18E, FA-18F, NAV-8B, NEA-18G, NFA-18C, NFA-18D, T-45C, TAV-8B
ZZ04	Green	Green	Red	Red	0-1 Months	0-1 Months	Med. Risk	FY18	NONE	EA-18G, FA-18A, FA-18B, FA-18C, FA-18D, FA-18E, FA-18F, NEA-18G, NFA-18C, NFA-18D, S-3B, T-45C, TAV-8B
ZZ17	Green	Green	Red	Red	6+ Months	1-3 Months	Med. Risk	FY18	8/31/2018	EA-18G, FA-18B, FA-18D, FA-18F, NEA-18G, NFA-18D, T-45C
ZZ22	Green	Green	Green	Green	6+ Months	1-3 Months	No Risk	FY19	5/29/2018	EA-18G, FA-18A, FA-18B, FA-18C, FA-18D, FA-18E, FA-18F, NEA-18G, T-45C
ZZ23	Red	Yellow	Red	Red	6+ Months	0-1 Months	High Risk	FY20	6/8/2018	EA-18G, FA-18A, FA-18B, FA-18C, FA-18D, FA-18E, FA-18F, NEA-18G, T-45C
ZZ24	Green	Green	Red	Red	No History	0-1 Months	Med. Risk	FY18	6/30/2018	EA-18G, FA-18A, FA-18B, FA-18C, FA-18D, FA-18E, FA-18F, NEA-18G, T-45C
ZZ72	Green	Green	Red	Yellow	1-3 Months	0-1 Months	Med. Risk	FY18	12/24/2018	EA-18G, FA-18A, FA-18B, FA-18C, FA-18D, FA-18E, FA-18F, NEA-18G, T-45C
ZZ88	Green	Green	Green	Green	3-6 Months	1-3 Months	No Risk	FY18	6/29/2018	EA-18G, FA-18A, FA-18B, FA-18C, FA-18D, FA-18E, FA-18F, NEA-18G, T-45C
ZZ89	Green	Green	Red	Red	3-6 Months	0-1 Months	Med. Risk	FY18	7/31/2018	EA-18G, FA-18A, FA-18B, FA-18C, FA-18D, FA-18E, FA-18F, NEA-18G, T-45C
ZZ94	Green	Green	Green	Green	6+ Months	0-1 Months	No Risk	FY18	6/29/2018	EA-18G, FA-18A, FA-18B, FA-18C, FA-18D, FA-18E, FA-18F, NEA-18G, NFA-18C, NFA-18D, T-45C

Note: The data represented in the above chart and in the following graphics is fictitious and has been created for instructional purposes only.

Health Assessment Explanation

A B C D E										
	Current data		Projected - lose largest lot							
DODICs	No SLEs	Params applied	No SLEs	Params applied	Production Risk	Technical Risk	Overall Risk	OA Schedule	Next Est. Delivery Date	TMS
AWAK	Green	Green	Green	Green	3-6 Months	0-1 Months	No Risk	FY19	NONE	FA-18A

• Run INVENTORY FORECAST four times:

- Current model – Assesses based on TRACE installs and OIS stock only
- Apply PARAMS SLEs to current model
- Removing largest lot from current model
- Combination of removing largest current lot and applying SLEs

E.

No Risk	Run C shows full 15 months of availability > 0
Low Risk	Run A shows full 15 months of availability > 0, and Run D shows full 15 months of availability > 0
Medium Risk	Run A shows at least 6 months (but < full 15) of availability, and Run B shows full 15 months of availability > 0. and Run D shows availability through next expected delivery month
High Risk	Run A shows limited availability (<0) during next 15 months, and Run B shows at least 6 months of availability > 0
Critical	Run B shows less than 6 months of availability > 0

Weighted by
production
risk and
technical
risk



TMS CAD/PAD Summary

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FY19

FY20

FY21

FY22

FY23

FY24

ZZ08
GWD: Aug 19

ZZ66
GWD: Sep 19

Aircraft
Grounded

Operating at
Serious Risk

Operating at
Medium Risk

No additional
Risk

DODICs

Issue

Impact

Mitigation

ZZ08
Cartridge
Actuated
Initiator

LOT Failure

- LAT test failure still not resolved
- Poor propellant performance

- 25 Aircraft grounded
- Additional A/C impact in 30 days

- Expedite failure investigations
- Investigate rework options
- 2nd source effort

ZZ66
Under Seat
Rocket
Motor

Transportation / Shipping

- International shipping and DCMA approvals delaying shipment

- If not resolved within 30 days will require HRA

- Appropriate leadership engaged
- Lead turn HRA

Help Needed

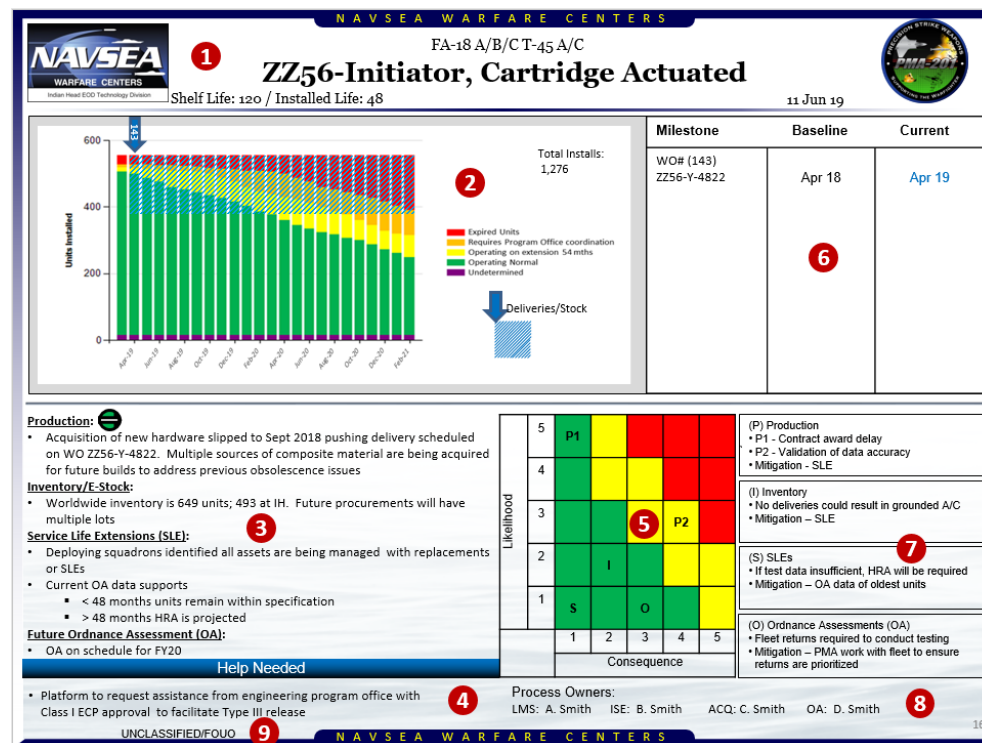
- None at this time

Supportability Summary Chart

CHART DESCRIPTION:

The Supportability Summary Chart is broken into nine primary sections:

- 1 Header
- 2 Inventory Posture/Health
- 3 Status Description
- 4 Help Needed
- 5 Risk Cube
- 6 Critical Milestones
- 7 Risk/Mitigation
- 8 Process Owners
- 9 Footer





Supportability Summary Chart Header

Department of Defense Identification Code (DODIC): Four-digit code used by the DoD to identify explosives and ammunition.

Nomenclature: A description of the associated component.

Aircraft platform(s) associated with this item.

NAVSEA WARFARE CENTERS



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FA-18 A/B/C T-45 A/C

ZZ56-Initiator, Cartridge Actuated

Shelf Life: 120 / Installed Life: 48

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Shelf Life: The period of time, in months, from the date of manufacture that an item can remain in its environmentally sealed container and still be serviceable.

Installed Life: The period of time, in months, from the date the environmentally sealed container has been opened that an item is allowed to be used.

Note: The installed life expiration date will never exceed the shelf life expiration date.

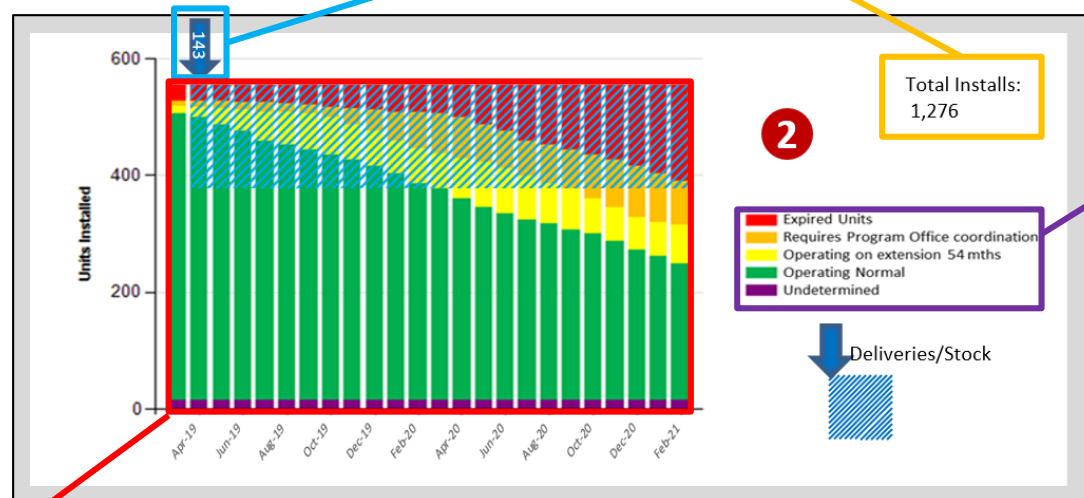
Date of latest chart revision.

Supportability Summary Chart

Inventory Posture/Health

Indicates the month and quantity of product delivery.

Total number of the associated DODIC currently installed on the briefed platform(s).



Key which briefly describes each of the associated colors identified on the graph.

For a more detailed description of the colors, see slide 15.

Depicts the actual and projected inventory posture and health for the associated DODIC.

Solid colors represent the actual and projected installed population's health. The progression through the colors is what would occur with the current installed population, if no change-outs were accomplished. Hashed blue color represent the projected install health resulting from product delivery and availability for installation ("blue" = "green").

In the above example, the delivery of 143 units in April-19 provides enough assets to keep this DODIC healthy until Sept-20 where the health moves slightly into the yellow.



Supportability Summary Chart

Status Description

Identifies the current production trend for this DODIC. The various trend options can be found on slide 14.

Contains a succinct description of the current DODIC status.

This section captures the issues and plans in process which need to be addressed.

Production:



- Acquisition of new hardware slipped to Sept 2018 pushing delivery scheduled on WO ZZ56-Y-4822. Multiple sources of composite material are being acquired for future builds to address previous obsolescence issues

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Inventory/E-Stock:

- Worldwide inventory is 649 units; 493 at IH. Future procurements will have multiple lots

Service Life Extensions (SLE):

- Deploying squadrons identified and all assets are being managed with replacements or SLEs
- Current OA data supports
 - < 48 months units remain within specification
 - > 48 months HRA is projected

Future Ordnance Assessment (OA):

- OA on schedule for FY20



Supportability Summary Chart

Help Needed



Help Needed

- Platform to request assistance from engineering program office with Class **4** approval to facilitate Type III release

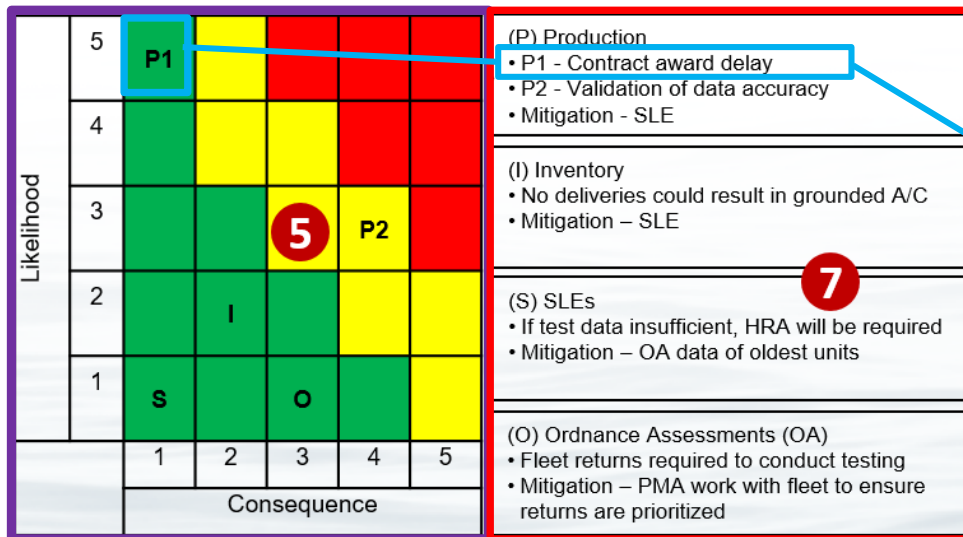
This section is used to identify the help needed from the platform program office or above.

An example may be a request for assistance in obtaining data.



Supportability Summary Chart

Risk Cube & Risk/Mitigation



The risks identified in section **7** correlate directly to a likelihood and consequence on the risk cube.

The risk evaluation criteria can be found on slide 14.

Identified risk and associated mitigations are listed in this section.

If there are multiple risks identified in a specific category a numerical qualifier will be provided (e.g. P1, P2).

Standard risk cube providing a graphical representation of the risks identified in section **7**



Supportability Summary Chart Critical Milestones



This section is used to capture and identify critical DODIC milestones and may contain information from sections ②, ③, and ⑦.

Milestone	Baseline	Current
WO# (143) ZZ56-Y-4822	Aug 2017	Aug 2017
6		



Supportability Summary Chart

Process Owners & Footer

Process Owners:

LMS: A. Smith ISE: B. Smith ACQ: C. Smith OA: D. Smith

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Identifies the member, and their associated field, responsible for maintaining the accuracy of the chart.

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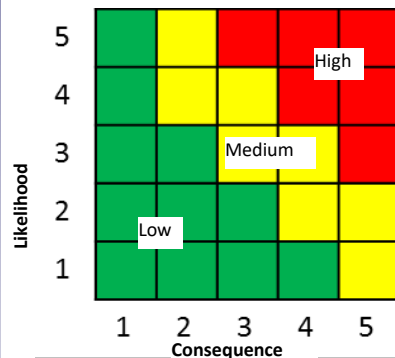
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Distribution statement will be identified here on the bottom left.












Reference Material

Risk Evaluation Criteria



Level	Likelihood	Probability of Occurrence
1	Not Likely	~10%; Will effectively avoid or mitigate this risk based on standard practices
2	Low Likelihood	~30%; Have usually mitigated this type of risk with minimal oversight in similar cases
3	Likely	~50%; May mitigate this risk, but workarounds will be required
4	Highly Likely	~70%; Cannot mitigate this risk, but a different approach might
5	Near Certainty	~90%; Cannot mitigate this risk, No known processes or workarounds are available

Production Trend

	Improving	Stable	Getting worse
Good			
Issue/Risk			
Poor			

Consequence	Level	Health Assessment Risks			
		Production	Inventory	Service Life Extension (SLE)	Ordnance Assessment (OA)
		Will deliveries meet current plan?	Will current inventory (after current SLEs are applied) meet Fleet demand until new deliveries expected?	Will the current OA data support current/future SLEs until delivery?	Can we generate additional data to be utilized to provide the rationale for more SLEs?
	1	No impact to delivery schedule (eg: Assets have completed production, successfully LAT'd and no Admin issues are known to exist)	Inventory is adequate to meet Fleet's demands (maintenance-cycle changeouts) without any further increase in approved extension	Current OA data is recent and supports extensions until the next maintenance cycle for installed devices within CAD/PAD parameters	Adequate samples of interest are on hand ready to test
	2	Less than 30 days maximum delay potential to Delivery Date	Inventory is not adequate to meet Fleet's demands without further extensions being applied. Required extensions are expected to be supportable	Current OA data is recent but does not support extensions until the next maintenance cycle without platform level approval; but extensions (within CAD/PAD control) are available for at least 1 year to allow for off-cycle changeouts	Samples are on hand and ready to test, but do not cover the full spectrum of lots/conditions of interest
	3	1-3 month delay to delivery resulting from production/test/admin issue	Inventory is not adequate to meet Fleet's demands, and extensions until next scheduled maintenance date are not available; Off-cycle changeouts required; but projected emergency needs are covered by available inventory	Current OA data is recent but data only support platform approval levels extensions for currently installed devices. RA will be needed, but formal HRA will not be needed. -OR- OA data is not current and other supporting data (like item) may be needed to conduct analysis	Samples are on hand for testing, but would not meet statistical significance, more samples are required to perform a meaningful test
	4	3-6 month delay to delivery resulting from production/test/admin issue	Inventory is not adequate to meet Fleet's demands, and extensions until next scheduled maintenance date are not available; Projected emergency needs are not covered by available inventory, but TYCOM could authorize cannibalization to keep aircraft operational	Current OA data is recent, SLEs are currently at the platform-approval level. Supporting HRA analysis shows performance exceeding acceptable platform levels prior to production delivery, but risk likely acceptable at platform level.	No relevant material on hand for testing, entire sample would need to be pulled from in-service installs, which is supportable by current inventory posture
	5	6+ month delay to delivery resulting from production/test/admin issue	No stock available to meet emergency needs; Cannibalization is not an option; Resulting in grounding	Current OA data is recent but data projects performance outside platform-approval level or an unacceptable risk prior to current projected delivery date, with potential for grounding. -OR- No relevant data exists to support extensions.	No relevant material on hand for testing and there is no material available in-service to pull for testing

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Supportability Summary Chart

Inventory Posture Color Key

These units are beyond program office risk acceptance and either ground the aircraft or require higher level HRA acceptance to continue operations.

These units exceed established service life limits but are within platform limits. Program office coordination is required to continue operations.

These units exceed established service life limits but performance is still within the unit's specification requirements.

Operating within established life limits.

There is no information in TRACE for this/these units.

- Expired Units
- Requires Program Office coordination
- Operating on extension 54 mths
- Operating Normal
- Undetermined

1

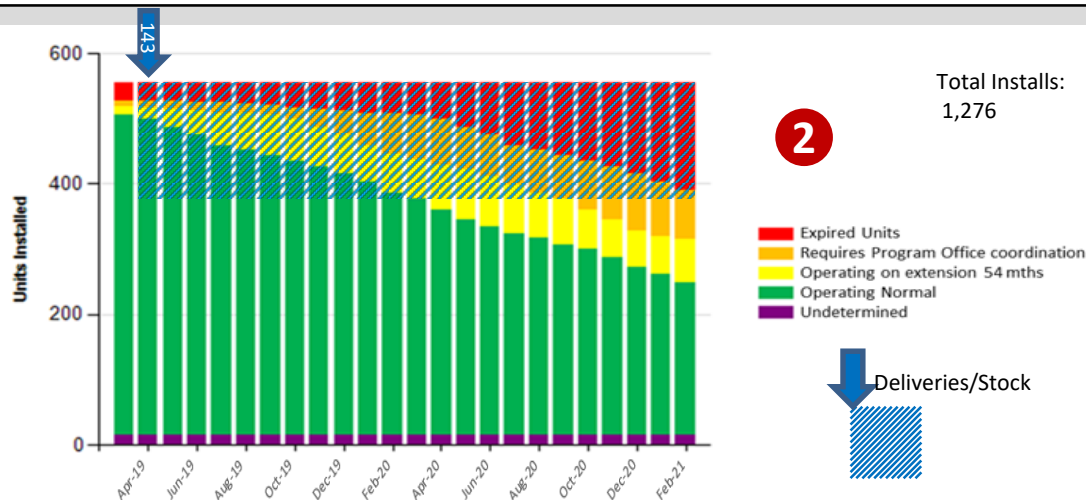
FA-18 A/B/C T-45 A/C

ZZ56-Initiator, Cartridge Actuated

Shelf Life: 120 / Installed Life: 48

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Milestone	Baseline	Current
WO# (143) ZZ56-Y-4822	Apr 18	Apr 19

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Production:

- Acquisition of new hardware slipped to Sept 2018 pushing delivery scheduled on WO ZZ56-Y-4822. Multiple sources of composite material are being acquired for future builds to address previous obsolescence issues

Inventory/E-Stock:

- Worldwide inventory is 649 units; 493 at IH. Future procurements will have multiple lots

Service Life Extensions (SLE):

- Deploying squadrons identified all assets are being managed with replacements or SLEs
- Current OA data supports
 - < 48 months units remain within specification
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Future Ordnance Assessment (OA):

- OA on schedule for FY20

Help Needed

Likelihood	5	P1					(P) Production • P1 - Contract award delay • P2 - Validation of data accuracy • Mitigation - SLE
	4						
	3			5	P2		(I) Inventory • No deliveries could result in grounded A/C • Mitigation - SLE
	2		I				(S) SLEs • If test data insufficient, HRA will be required • Mitigation - OA data of oldest units
	1	S		O			(O) Ordnance Assessments (OA) • Fleet returns required to conduct testing • Mitigation - PMA work with fleet to ensure returns are prioritized
		1	2	3	4	5	
		Consequence					

7

4

Process Owners:

LMS: A. Smith

ISE: B. Smith

ACQ: C. Smith

OA: D. Smith

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