



Data Analysis Supporting Army Aviation Corrosion Control and Prevention Investment Decisions

Be the people

Report Documentation Page				Form Approved OMB No. 0704-0188	
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Corrosion Control - Data Analysis



Data... *challenges & opportunities*

(Where's the data?)

OSMIS-CEAC
Costs

IMMC
2410 Part Data

AMRDEC
Maintenance
Engineering Calls

Data
Analysis

LIW - LOGSA
RIDB - Readiness

ULLS-AE
CBM Data Warehouse

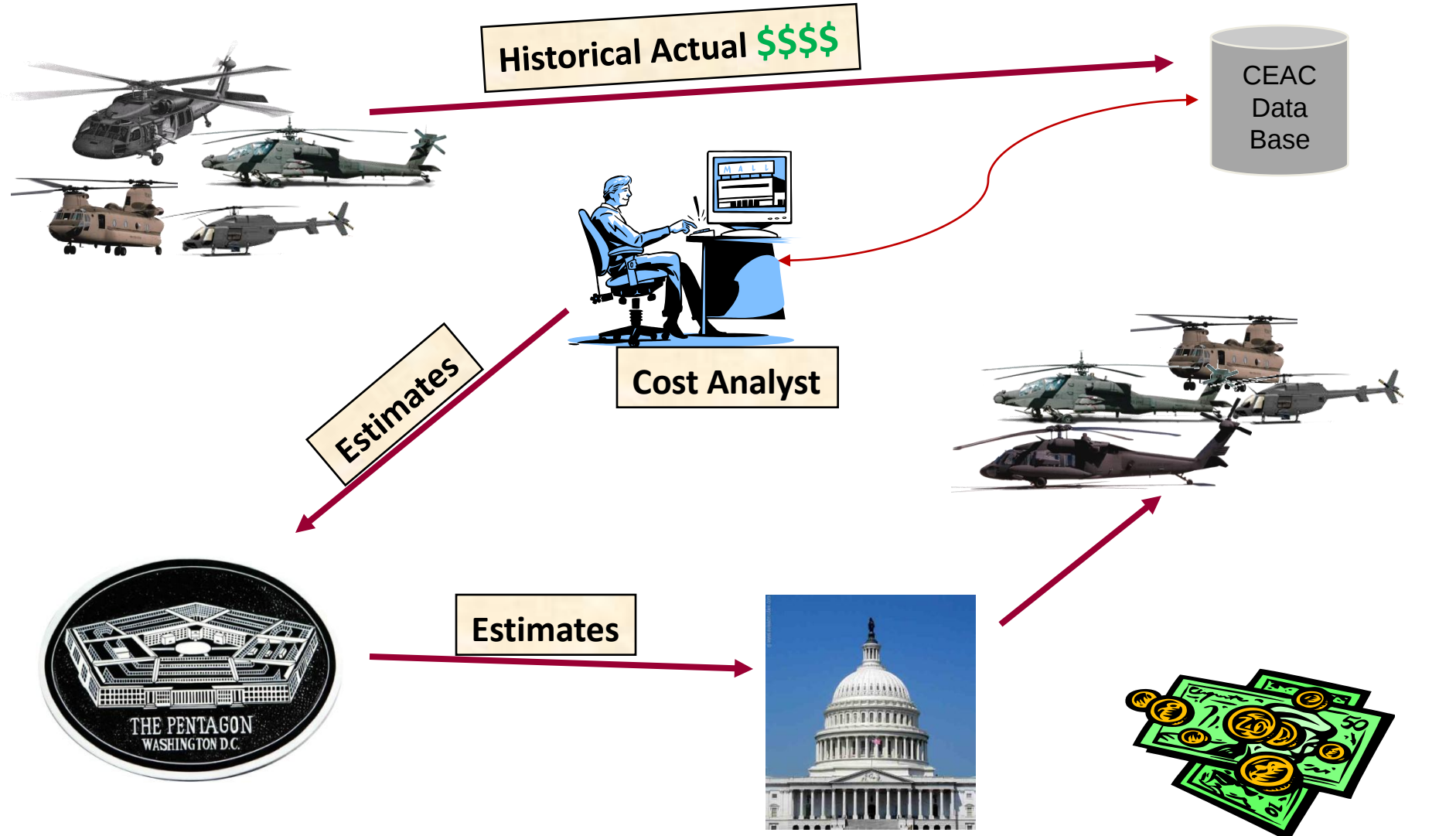
AMCOM RESET Data

Safety
Accident Data

What is the cost and where are the benefits?



OSMIS: OVERVIEW OF THE \$\$\$\$\$\$ PROCESS

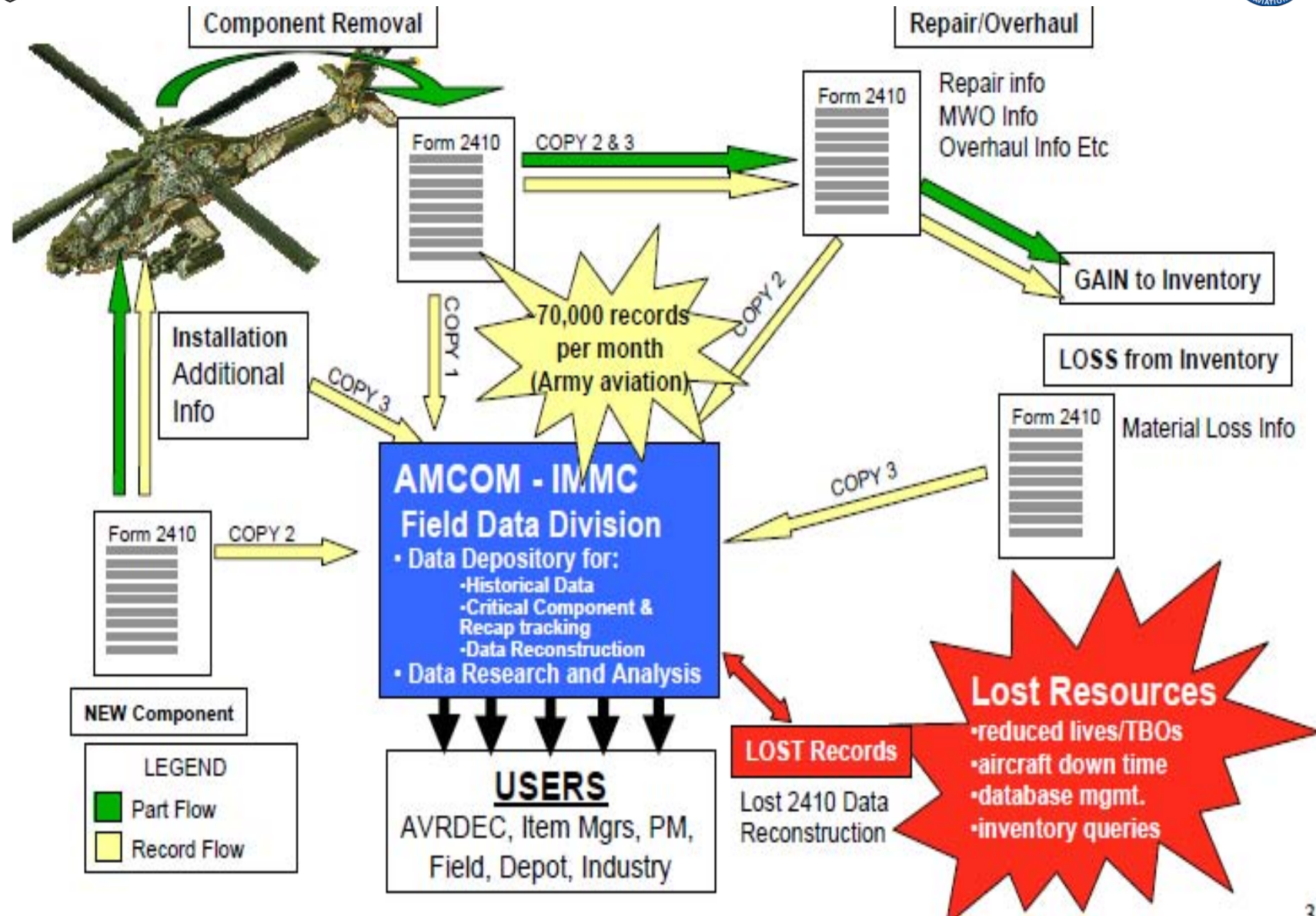


DA Form 2410

COMPONENT REMOVAL AND REPAIR/OVERHAUL RECORD For use of this form, see DA PAM 738-751; the proponent agency is DCSLOG										REQUIREMENT CONTROL SYMBOL CSGLD-1052(R3)					
SECTION I - IDENTIFICATION															
CONTROL NUMBER 624882		1. NOMENCLATURE Engine Gas Turbine			2. NSN 2840-01-070-1003			3. PART NUMBER 6035T00G01							
4. SERIAL NUMBER GEE306591		5. CAGE CODE 99207		6. NO. OF PREV O/Hs CC		7. TIME SINCE LAST INST (HRS) 350 0		8. TIME SINCE NEW (HRS) 2766 2769		9. TIME SINCE OVERHAUL (HRS) CC		10. FAILURE CODE 317 799			
11. POS 1	12. HSF	13. METER HRS		14. WUC 04A		15. COMPONENT CUMULATIVE COUNT/HOURS									
16. APU SSN		17. APU HRS		18. APU SSO		19. VERSION		a. LCF 1		b. LCF 2		c. TTI		d. OP HOURS	
								1 0 4 9 ± 0 4 7		7 3 2 3 7 3 ± 7		8 3 0 8 ± 8		2 7 6 9 2 7 6 6	
SECTION III - REPAIR/OVERHAUL/GAIN															
20. REMOVED FROM (NOMEN NHA)				21. NSN (NHA)				22. PART NUMBER (NHA)							
23. SERIAL NUMBER (NHA)				24. HOURS (NHA) 1385		25. NHA CUMULATIVE COUNT/HOURS									
26. APU START METER				27. APU HOUR METER		a. LCF 1		b. LCF 2		c. TTI		d. OP HOURS			
28. HISTORY RECORDER SN ECD03595						29. HISTORY RECORDER READING									
						a. LCF 1		b. LCF 2		c. TTI		d. OP HOURS			
						2 7 4 2 7 2		1 6 0 3 ± 5 9 7		1 4 7 ± 3 5		6 8 5 6 8 2			
30. ACFT MODEL UH-60A		31. ACFT S/N 8023426		32. MAINT LEVEL 0		33. DATE REMOVED 96128		34. UIC (This Action) WOWFAA							
39. DATE CHECKED 96185		40. PID AND TELEPHONE NUMBER AW0980 DSN 861-2361				41. UIC (This Action) WOMUAA		42. MANHOURS TO REPAIR/OVERHAUL 203							
43. INSPECTION AND ACTION CODES						44. REASON FOR GAIN		45. CONTRACT NUMBER		46. MAINT LEVEL D		47. ACT FAIL CODE 317		48. SRA/ESRA N	
(A) SERV		E (E) REPAIR		(G) REBUILT											
(B) UNSERV		(D) REMFG		(F) O/HAUL											
REMARKS															
Total cumulative counts and hours calculated by WOWFAA due to history recorder failure.															

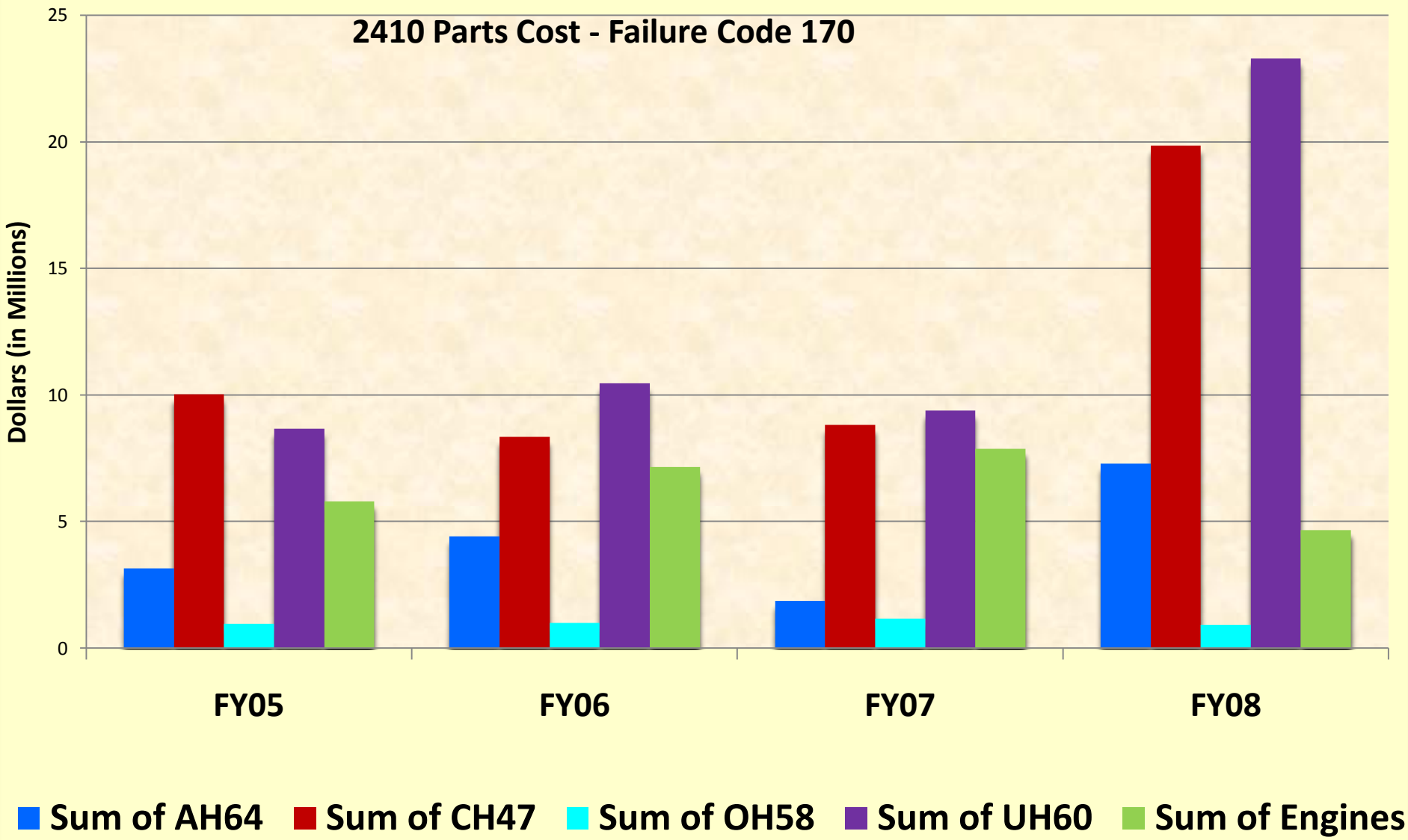


2410 Data Flow



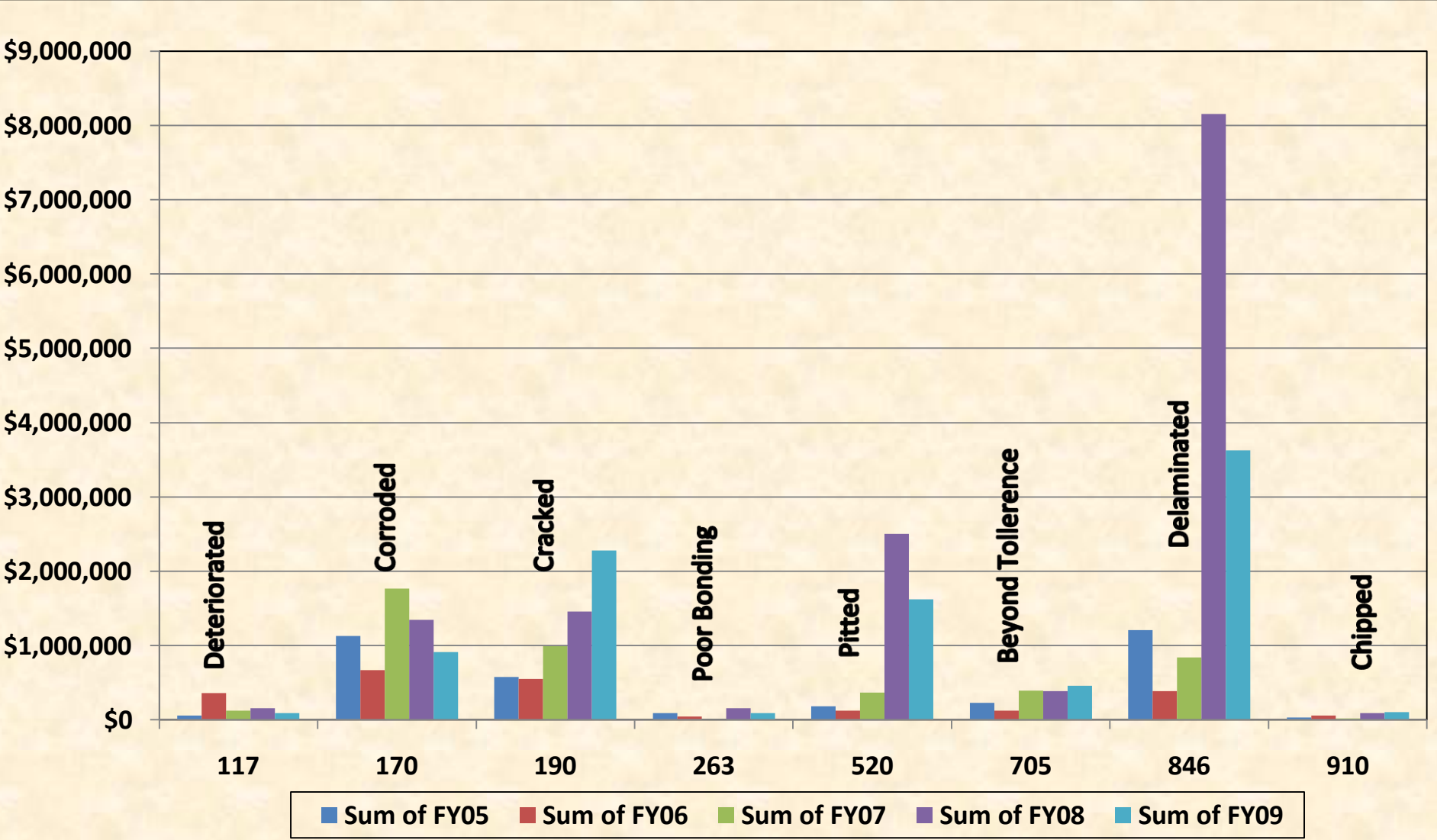


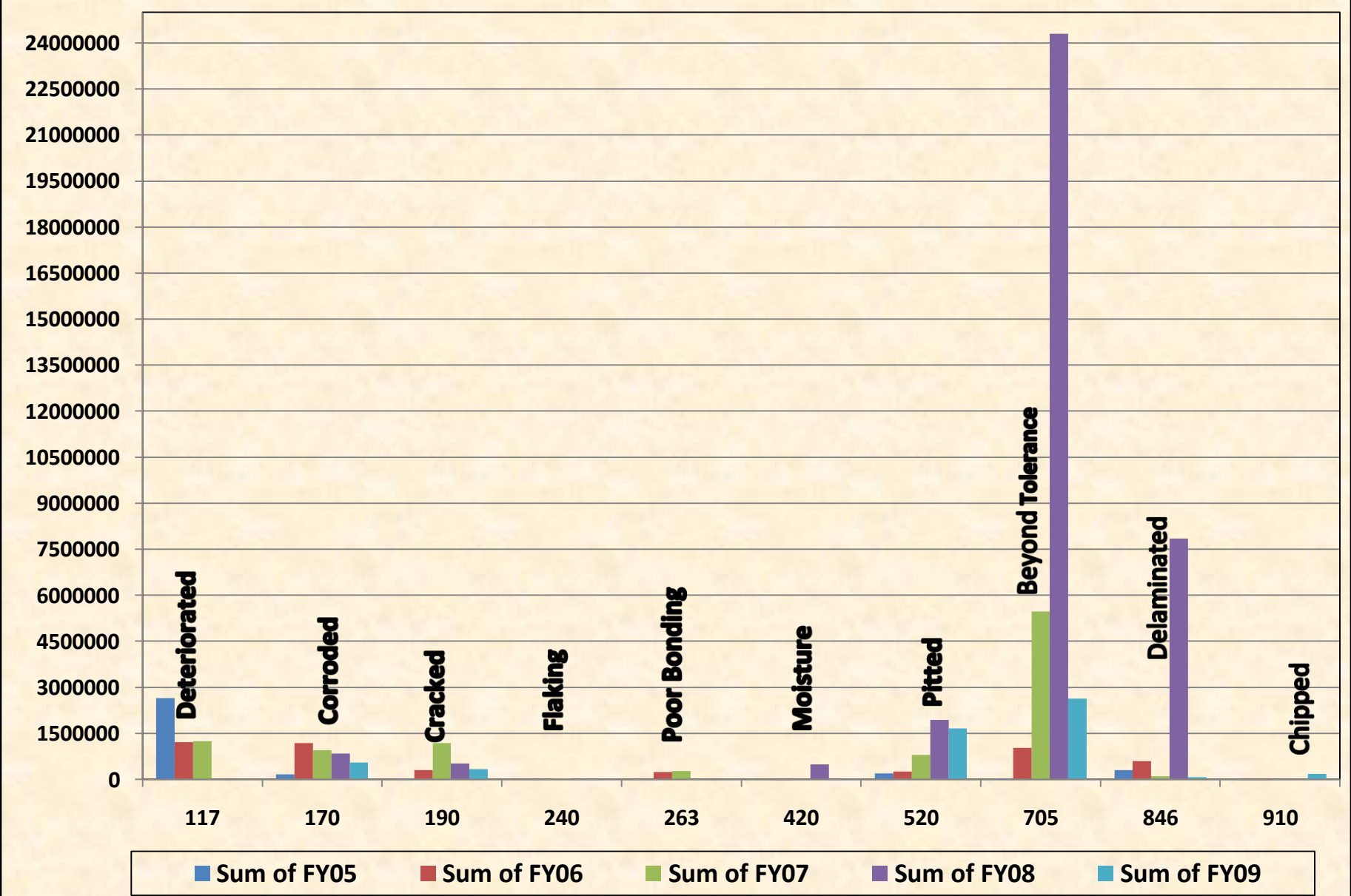
Cost of Aviation 2410 Parts From Corrosion

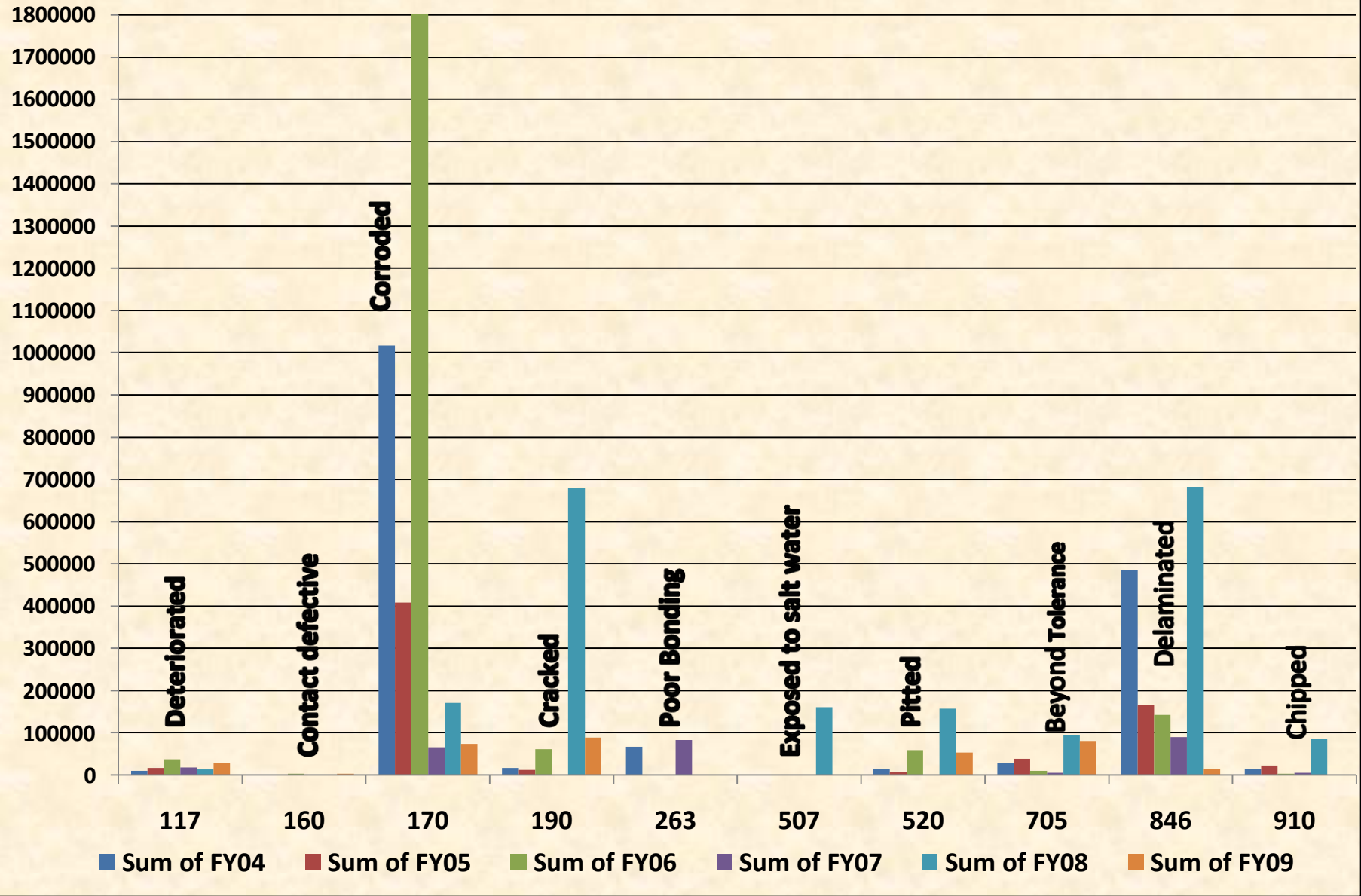




Apache Corrosion Codes from 2410 Data

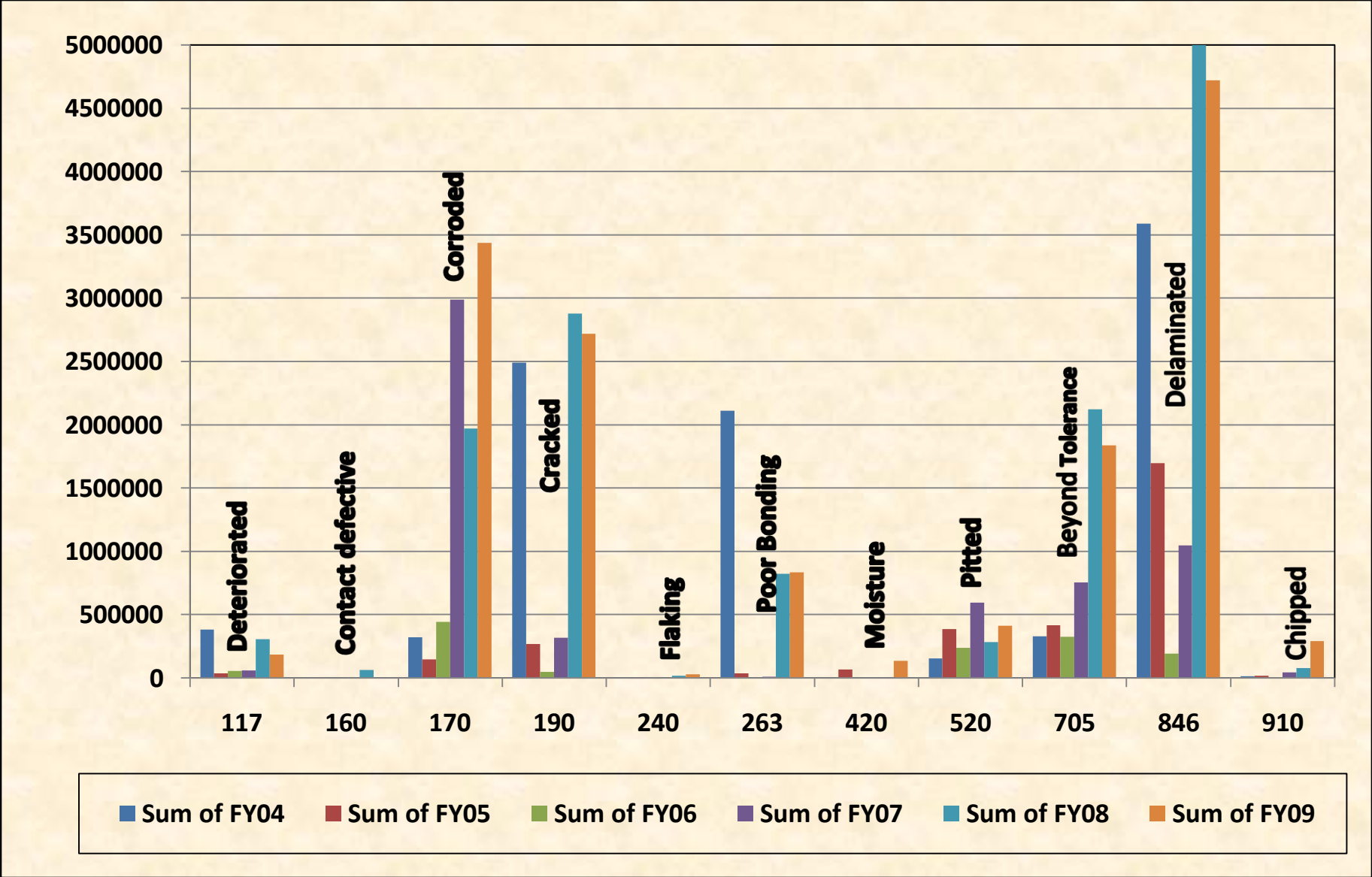








Blackhawk Corrosion Codes from 2410 Data





Maintenance Engineering Call (MEC) Data

Requests for engineering assistance or clarification are called Maintenance Engineering Calls (MECs). A MEC can be initiated by depot or field maintenance personnel requesting AMRDEC engineering support and these requests are typically for deviations from standard maintenance procedures, special repairs not clearly outlined in Army maintenance technical manuals, or to resolve Depot Maintenance Work Request (DMWR) inadequacies.

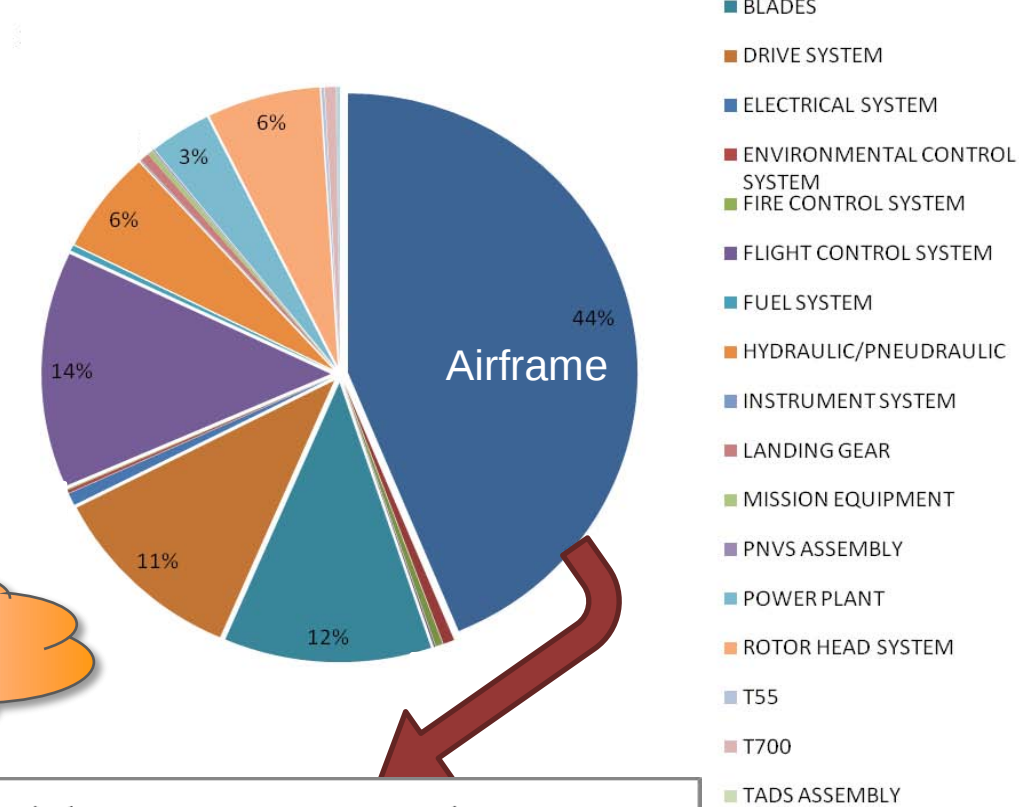
MAINTENANCE ENGINEERING CALL (MEC)
IAW AR 70-62, this MEC will be retained in aircraft historical records and the aircraft logbook, or other applicable historical records, as long as the deviation is in effect.

Shop Submittal Date		Date in Engineering 29-OCT-09		MEC Number F100287	
AC Type EH-60A	Tail Number 86-24569	AC System AIRFRAME		AC System S/N	
AC System Modifier Fuselage structure				Government Type ARMY	
CSI No		CC Affected No	TSN 6148.9	NSN	
Part Number 70212-02112-155/-157		Serial Number		Nomenclature 34.5R O/B Angles	
Discrepancy Cracked	Tech Pub TM 1-1500-204-23-10	Pub fig		Page & Para	
Contact	Contact Location Hunter AAF, Savannah	Contact Phone 912-315-7944	WONO		
AMDF Cost	Repair Cost \$ 7,200.00	Originator	Orig Ph#		
Problem : During MEAN phase maintenance inspection found the R/H 34.5 beam to have 1" crack at F.S. 311 W.L. 261. Request authorization to repair 34.5 beam crack repaired as directed by engineering.					
Engineering Disposition : 1). Authorization is granted to AFMA RASM-East, Hunter AAF, Savannah, GA to repair/replace angles, P/N 70212-02112-155/-157, for EH-60A aircraft 86-24569. 2). Reference TM 1-1500-204-23-10 for standard sheet metal practices and OEM Drawing 70212-02112. 3). Prepare the aircraft for repair by: a). Jack and level b). Remove major dynamic components from upper deck (i.e. engine and five-pack). 4). Remove (to be replaced) angle P/N 70212-02112-157 and remove minimal amount of fasteners to cut angle P/N 70212-02112-155 at STA 340. 5). NDI 308 tab area for cracks. If found, inform the undersigned for additional instructions. 6). Local fabricate angles P/N 70212-02112-155/-157 AL ALY 7075-T6, 0.63 inches thick. 7). Local fabricate splice angle, AL ALY 7075-T6, 0.63 inches thick, to pick up minimum 3 rivets of splice. Joggle splice angle to pickup gusset at STA 343.6. 8). General Notes: a). Ensure 2D+.03 edge distance. Match drill all existing holes.					
Authorized By: 1		Authorized On: 29-OCT-09		Last Addendum Date:	
Email:		Phone:		QC STAND	
				Page 1 of 2	

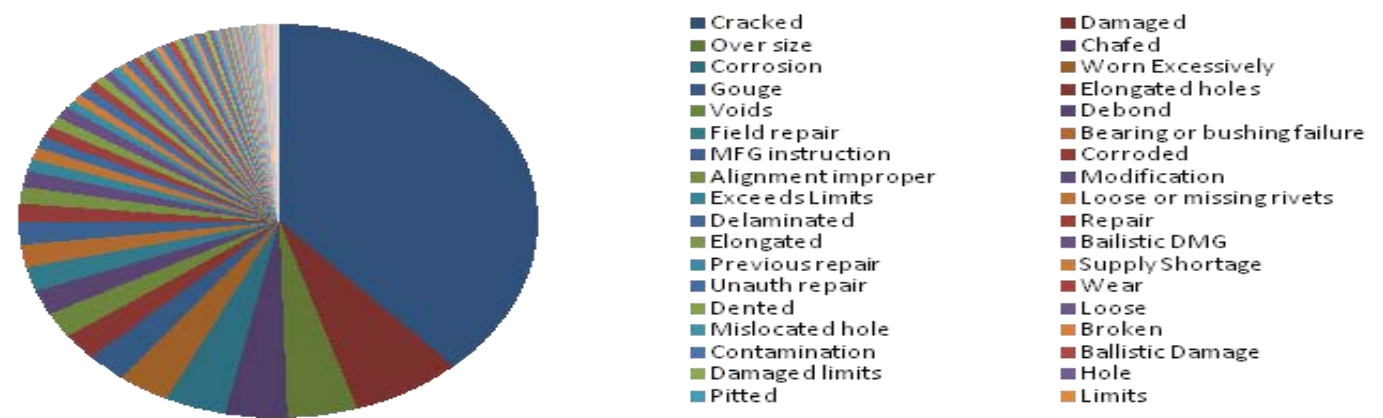


MECs During Aviation RESET

Distribution of MECs BY Subsystem
RESET Once



Airframe Structural Issues Represent Greatest Percentage of Defects/Damage Found and Accounted for in MECs





Total Discrepancies Found In Reset (MECs) Total Population –Top 30 Drivers



**MECs Related to
Cracking or Corrosion**

	AH-64A	AH-64D	CH-47D	HH-60L	OH-58D	UH-60A	UH-60L	Grand Total
Cracked	8	122	95	1	109	518	343	1196
Damaged	5	66	121	3	56	158	87	496
Leaking (liquid)	9	46	1	3	3	209	142	413
Corrosion	3	40	132		4	64	46	289
Worn Excessively	10	48	49	2		102	72	283
Debond		17	65		14	84	68	248
Bearing or bushing failure	25	89	16		2	29	22	183
Corroded		10	90		3	19	26	148
Gouge	2	23	31		12	39	38	145
Over size		14	100			14	6	134
Torn		2				79	38	119
Chafed	1	73	9		17	9	10	119
Exceeds Limits	1	2	12		1	37	62	115
Broken	3	15	5	3	2	30	37	95
Elongated holes	4	37	21		3	11	8	84
Alignment improper		7	2	2	3	19	50	83
Voids		3	13		29	5	5	55
Repair	1	7	20		4	14	8	54
Modification		15	5		4	16	13	53
Dented	2	18	8		3	9	12	52
Finish						9	42	51
Delaminated		1	17		22	5	5	50
Erosion						22	28	50
Supply Shortage		38	1			8		47
Limits			4			4	38	46
Deviation		1	19		1	6	19	46
MFG instruction		7	2	1		26	7	43
Field repair		29	1		3	6	3	42
Wear		23	3			2	11	39
Stripped		1	3	1	9	8	15	37



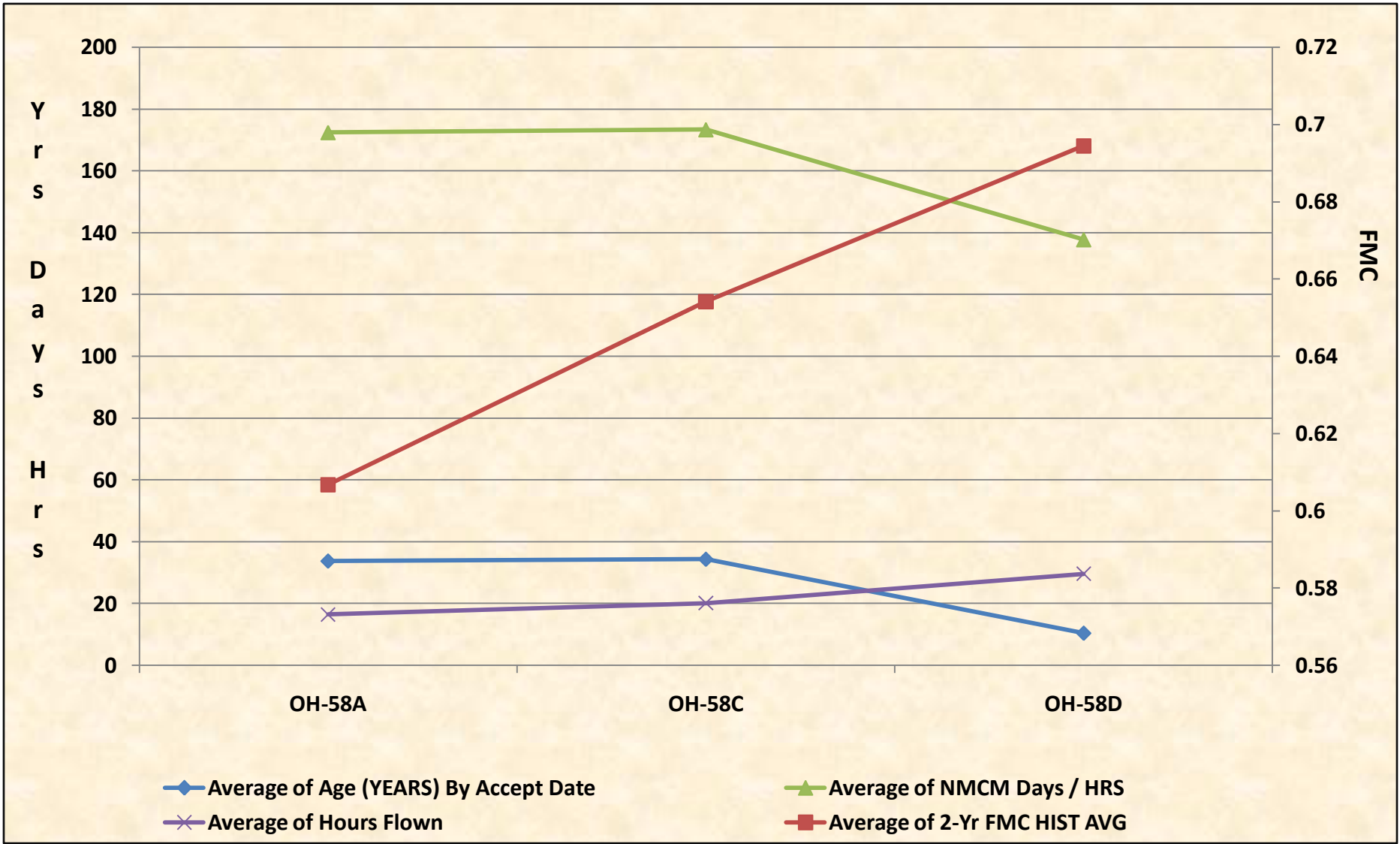
LIW - Readiness Integrated Data Base (RIDB). Source: LOGSA



ARMY AIRCRAFT INVENTORY, STATUS AND FLYING TIME For use of this form, see AR 790-138; the proponent agency is DCSLOG				1. PERIOD ENDING 15 Sep 95		2. PAGE NO. 1		3. NO. OF PAGES		REQUIREMENT CONTROL SYMBOL CSGLD-1837(R1)			
4. ORGANIZATION HQ 1ST BN, 1ST AVN REGT, 82ND ABN DIV				5. TELEPHONE (Comm/DSN) DSN 236-2260		6. UNIT IDENTIFICATION CODE WDFJAA				7. (Do not write in this space)			
8. POST, CAMP, STATION FORT BRAGG, NC 28307				9. COMMAND FORSCOM									
10. SUMMARY DATA													
MISSION DESIGN SERIES a	SERIAL NUMBER b	ASSIGNMENT AND FUNCTIONAL CODE c	HRS. ON HAND DURING REPORT PERIOD d	MISSION CAPABLE			NOT MISSION CAPABLE			HOURS FLOWN DURING MONTH k	NUMBER OF LANDINGS / TOUGHDOWN AUTO- ROTATIONS l	GAINED OR LOST m	
				FMC e	PMC PMCM f PMCS		NMCS g	NMCM DEPOT h AVIM i AVUM j					
AH64A	87-0482	AGA	744	417	C2/11		186	0	0	130	18	13/0	LT GT
AH64A	87-0483	AGA	744	187		A2/13	0	0	0	544	10	4/0	
AH64A	87-0484	AGA	744	711		A30/25	0	0	0	8	32	44/0	
UH60L	91-09790	BGC	744	629	D2/4	C52/4	0	0	40	67	29	52/0	
OH58D	87-00729	AGA	744	133			71	540	0	0	03	14/0	
OH58D	87-00737	AGA											
OH58D	89-00086	AGA	744	462			166	0	0	116	37	54/0	
11. TYPED OR PRINTED NAME, GRADE, AND POSITION OF AUTHENTICATING OFFICER JOSEPH R. HOWELL, LTC AV COMMANDING								12. SIGNATURE <i>Joseph R. Howell, LTC</i>					



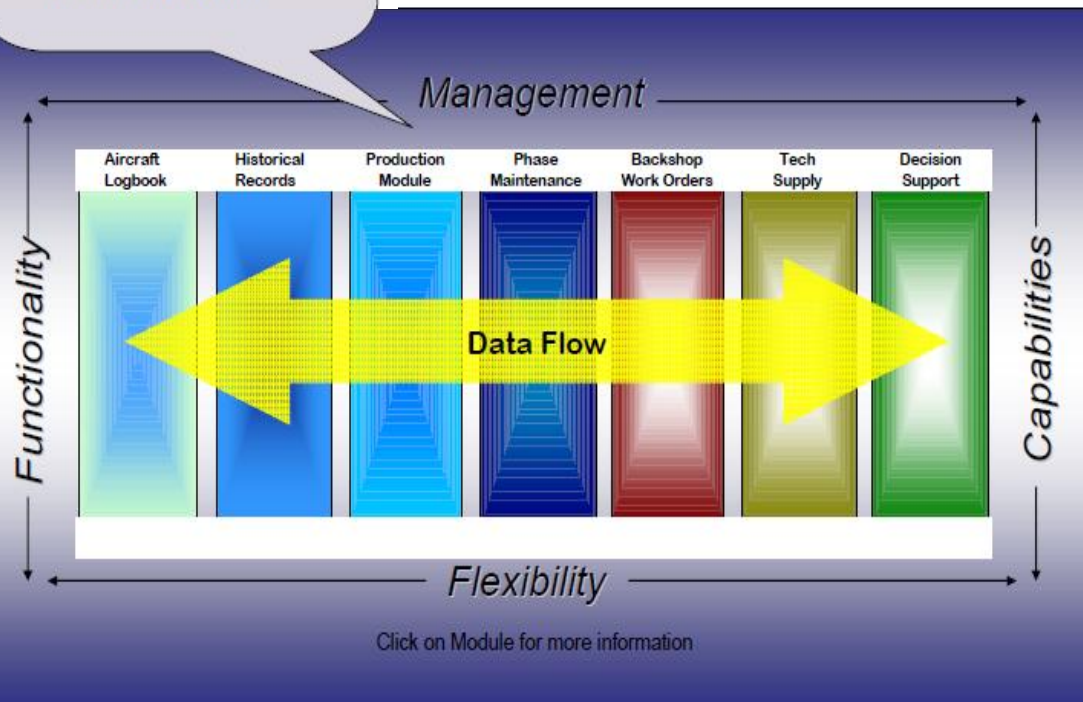
RIDB Example



What is ULLS-A(E)?

- PC/Windows based multi-user software developed in 160th SOAR
- Designed to operate at AVUM automates PLL & TAMMS-A functions
- Incorporates a LAN to link functions of:
 - Aircraft Logbook, Historical Records
 - Supply, PC, QC, Work Orders, Phase Maintenance
 - Decision Support System

Reporting under the Army Materiel Status System (AMSS)



a. Once fielded with the Unit Level Logistics System (ULLS), the reporting unit will no longer report materiel condition status on the hardcopy DA Form 2406, DA Form 3266-1, and DA Form 1352. The Army Materiel Status 6 AR 700-138 • 26 February 2004 System (AMSS), an integral part of ULLS/SAMS 1/SAMS 2, is designed to accumulate the necessary transactions/ status changes at unit and support levels during the report period (16th day/0001 hours of the month to the 15th day/ 2400 hours of the following month). At the end of the report period (defined as 2400 hours on the 15th day of the month) , ULLS AMSS will process these transactions/status changes and produce an output (file named "awame130.dat") that is equivalent to the "front side" data on the current hardcopy forms. The equivalent "back side" information on the current hardcopy forms is generated as each NMCS part is ordered at the unit and/or support levels. Data are passed from ULLS through SAMS-1 and is collected by the SAMS 2, which is located at the supporting materiel management center, (for example, Division Materiel Management Center (DMMC), Brigade Materiel Management Center (BMMC), and so forth). This data (readiness and NMCS) will be transmitted by Active Army units and arrive at LOGSA not later than 2400 hours on the 7th workday (excludes weekends and U.S. Federal holidays) following the end of the report period. National Guard and Reserve unit reports are due to LOGSA by the 1st day of the month following the end of the report period. Reports will be transferred to LOGSA electronically via the SAMS-2 LOGSA interface (SAMS-2) diskette/COMM transfer process), or output data will be produced on floppy disks.



LOGSA



**AUTHORITY: CHAPTER 3, AR
700-138**



ULLS A(E): Automated Forms and Records



- DA Form 759 Series Individual Flight Record and Certificate – Army
- DA Form 1352 Series Army Aircraft Inventory, Status and Flying Time
- DA Form 2405 Maintenance Request Register
- DA Form 2407 Series Maintenance Request
- DA Form 2408-4 Series Weapon Record/Sighting Data
- DA Form 2408-5 Series Equipment Modification Records
- DA Form 2408-12 Army Aviators Flight Record
- DA Form 2408-13 Series Aircraft Status Information/Maintenance Records
- DA Form 2408-15 Series Aircraft Historical Records
- DA Form 2408-16 Series Aircraft Component Historical Records
- DA Form 2408-17 Aircraft Inventory Record
- DA Form 2408-18 Equipment Inspection List
- DA Form 2408-19 Series Aircraft Engine Historical Records
- DA Form 2408-20 Oil Analysis Log
- DA Form 2408-31 Aircraft Identification Card
- DA Form 2408-33-R Meter Tracked Component Record
- DD Form 2026 Army Oil Analysis Request
- DA Form 714A Engine Historical Record
- OH-58D/719 Side/Transverse Roof Beam Retirement Life Worksheet

Flight/Maintenance Records

2408-4-1E	2408-12E	Eng/APU
2408-13-1/2E	2408-18E	Journal

☐ **S**ystem Status
☐ **L**andings
☐ **S**ervicing
☐ **M**aintenance
☐ **H**oist Status
☐ **HIT** Summary



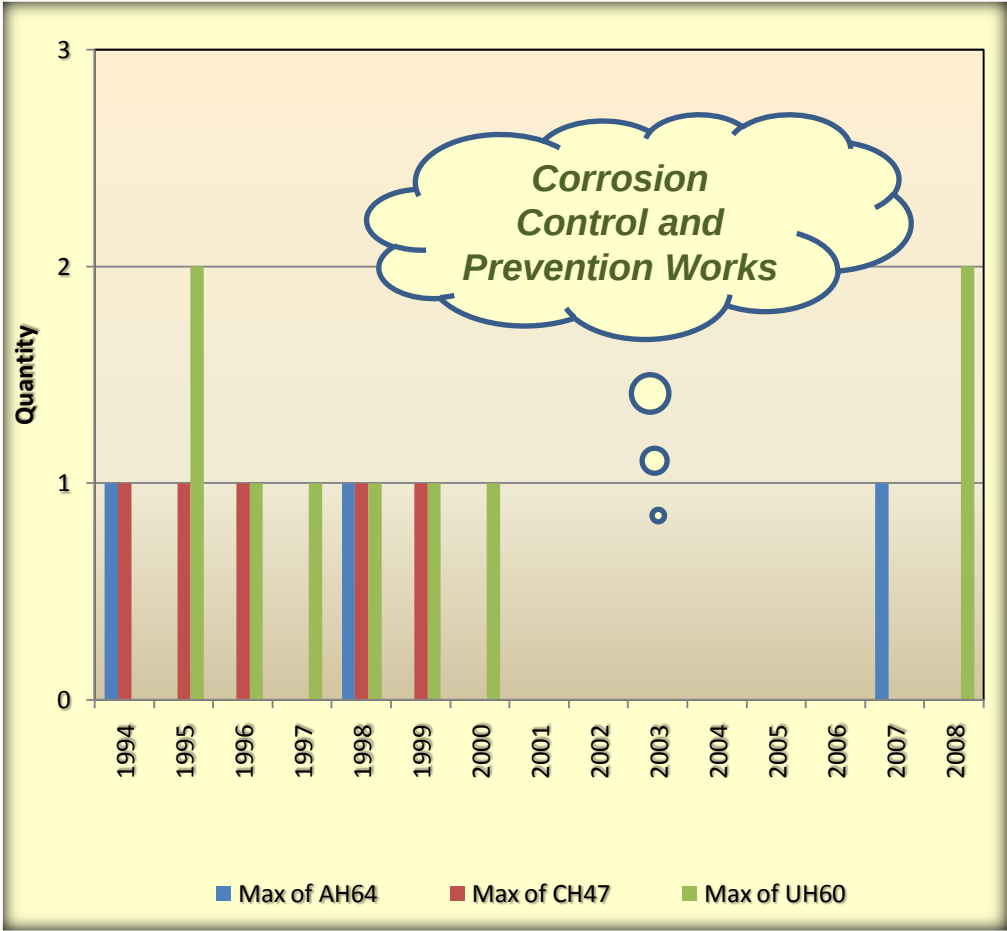
**ARMY
AVIATION**



Safety: Corrosion Related Incidents by FY



FY	MDS	Case Number	AMC
1994	CH47D	19940111008	D
	AH64A	19940214001	A
1995	CH47D	19950212003	E
		19950726001	C
	MH60A	19950730002	C
	UH60	19950820002	E
1996	CH47D	19960611006	E
	UH60	19951016005	E
		19960219004	E
1997	UH60	19970529016	E
		19970723004	E
1998	AH64A	19980117001	C
	CH47D	19971103001	C
	UH60	19980107001	E
1999	CH47D	19990224010	C
	UH60	19981026001	C
2000	UH60	19991124003	E
2007	UH60	20070827003	E
2007	AH64	20070824001	E
2008	UH60	20080320003	E
2008	UH60	20080208001	C

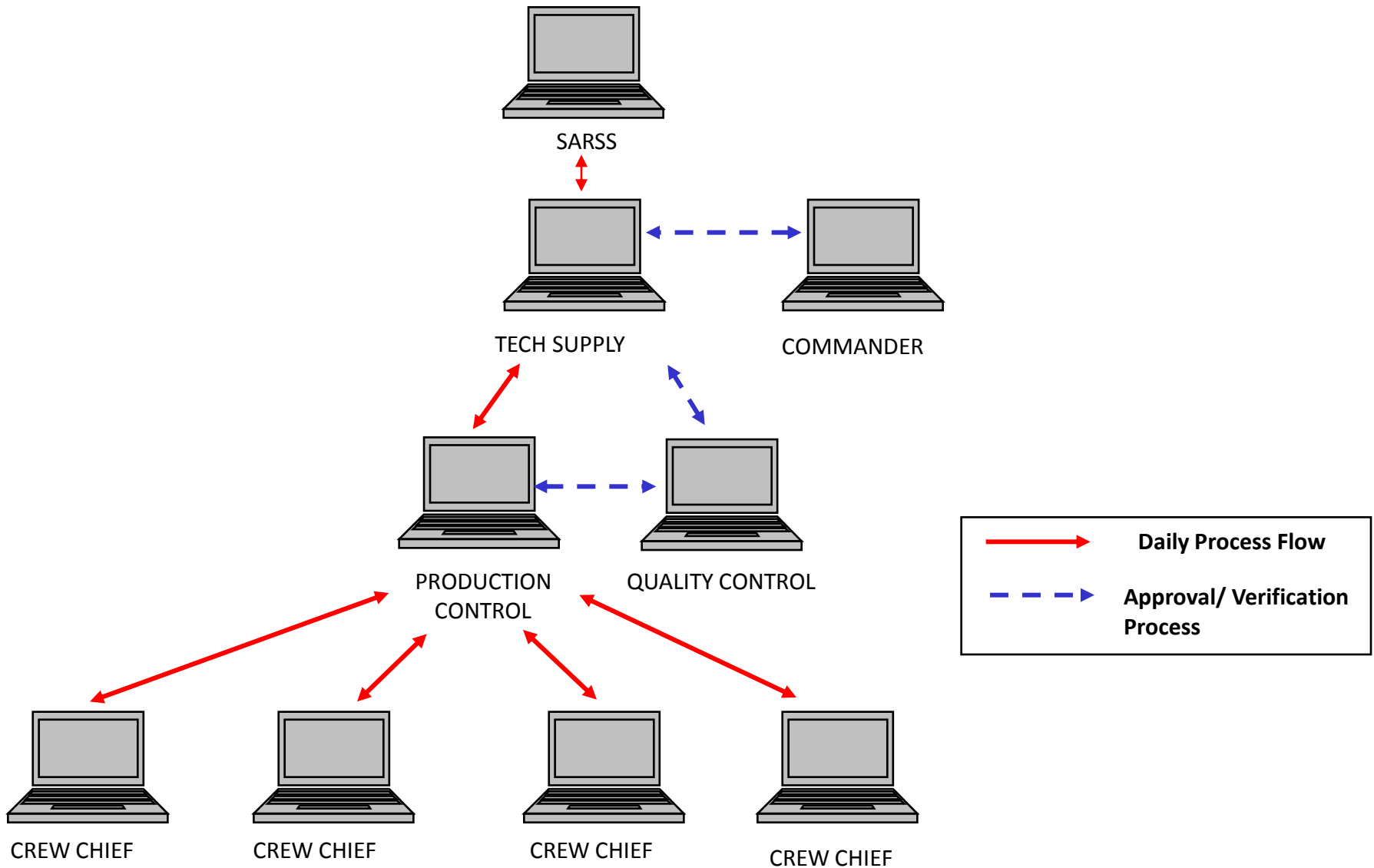


Recommend Full Funding: ZERO Class A Corrosion Accidents since 1994! A direct result of the CPC Program

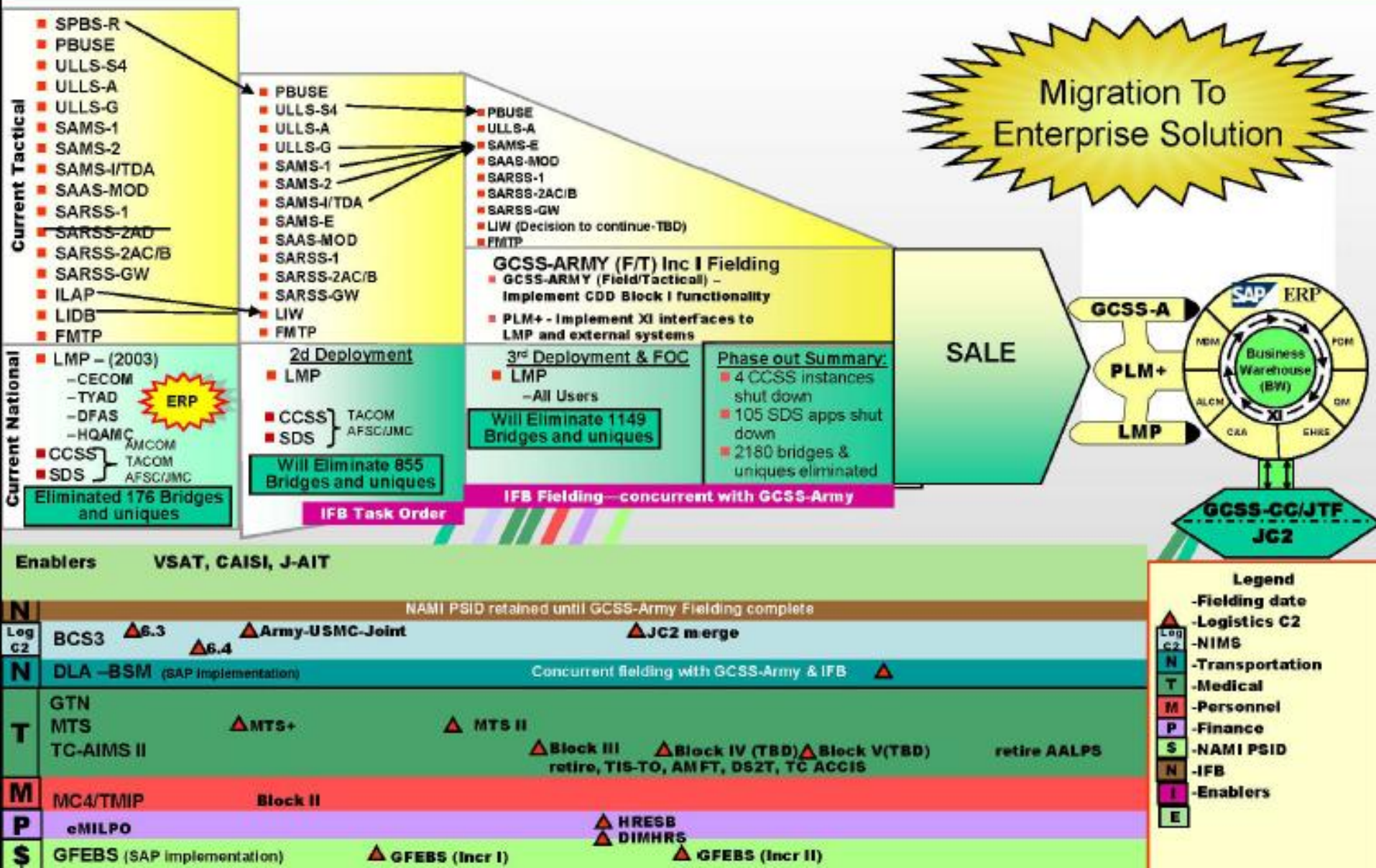


Back-up Slides

Tech Supply Role Interface Chart

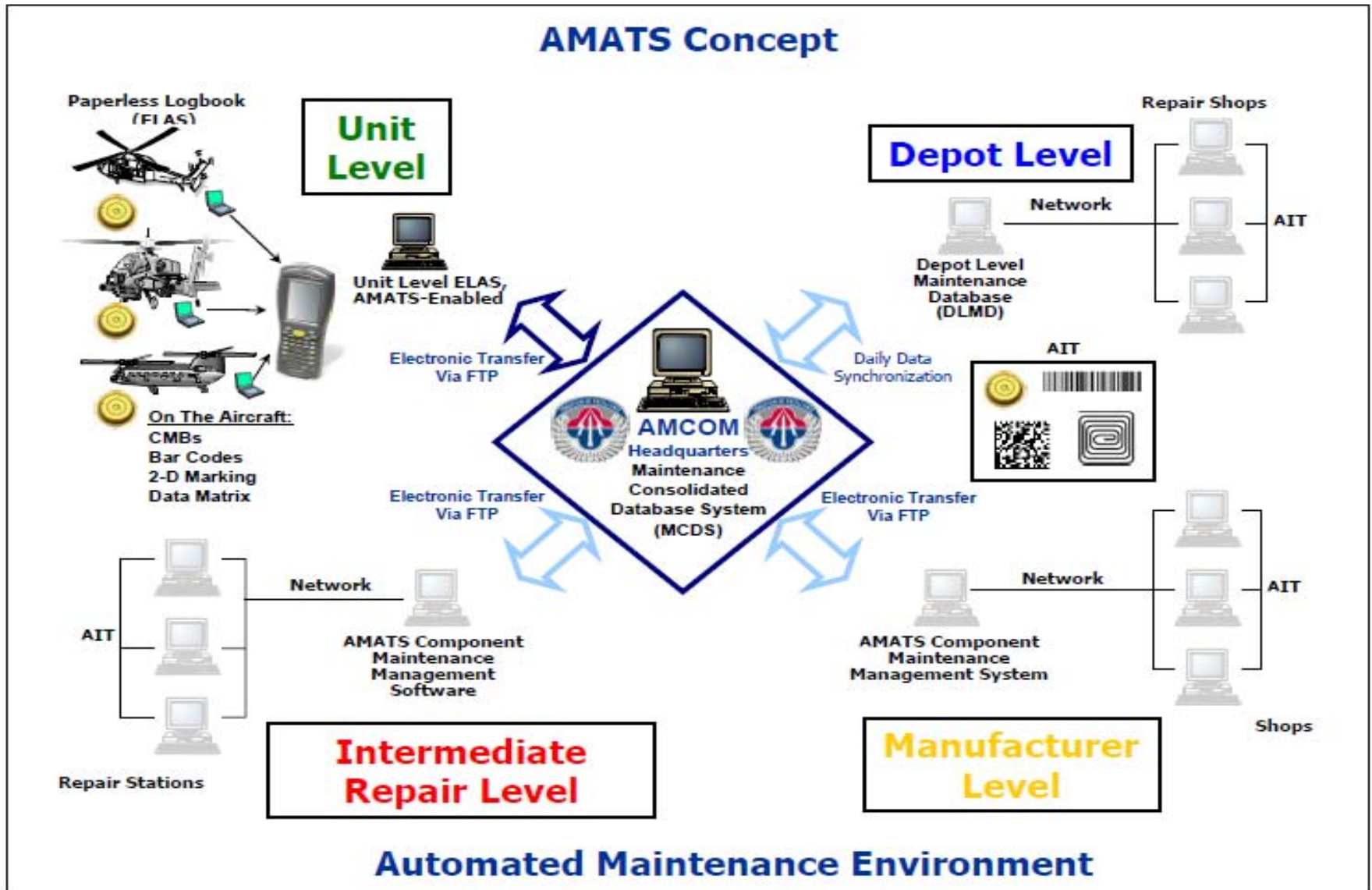


Enterprise Logistics Automation Transition Plan.. Path to One Logistics Integrated Enterprise ...



Aviation Maintenance Automated Tracking System (AMATS)

AMATS Concept



The Road Ahead

We know that \$s driving change and that ----is driving ---- and -
--...

...It's up to us to make
sure that we have the
right destination and
the maps to get us
there!

