DEPARTMENT OF DEFENSE

DEPOT MAINTENANCE COST AND PRODUCTION REPORTING SYSTEM

FY 1999 DATA HIGHLIGHTS

August 2000

Assistant Deputy Under Secretary of Defense
for Maintenance Policy, Programs and Resources (ADUSD(L)/MPP&R)

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INTRODUCTION

BACKGROUND

Each year the Military Departments and the Defense Logistics Agency provide cost and production data on their depot maintenance operations. This report presents selected FY 1999 depot maintenance cost and production data for major Department of Defense (DoD) depot maintenance activities (DMAs). The data in this report are from Military Department submissions (extracted from DMA cost accounting and management information systems) provided in accordance with the DoD Financial Management Regulation (FMR), Volume 6, Chapter 14, under reporting requirement symbol AP-MP(A)1397. Military Departments submitted the data to the Office of the Secretary of Defense (OSD), Assistant Deputy Under Secretary of Defense for Maintenance Policy, Programs and Resources (ADUSD(L)/MPP&R).

This report provides discrete data for each of 17 major DMAs.[1] It additionally provides, in similar format, data at the Military Service and DoD-composite levels. (Note – for the Navy, composite data are provided for the Navy Aviation Depots and Naval Shipyards) The Service and DoD data arrays include data for all reported organic depot workload accomplished, not just work accomplished at the 17 major DMAs. The arrays and analysis include all data identified in Department submissions as *Owner and/or Operator Code "1"* (identifying the work as being done by a DoD Component In-House-Depot-Maintenance-Activity)—no work performance categories are excluded. We do not include submissions for *Owner and/or Operator Code "2"* which identifies In-House Maintenance performed by a non-depot maintenance activity.

The specific information provided includes the following:

- Total costs and production (in direct labor hours [DLHs]).
- Major weapon or support system category on which maintenance was performed (by percentage of cost). We derived data using the Work Breakdown Structure (WBS) code.
- Top 10 weapon or support systems on which maintenance was performed (by cost and by percent of DLHs and cost). We derived data using the Weapon or Support System Code (WSSC). When necessary, we consolidated WSSC's corresponding to a single type model series, such as with the F-16.
- Work category performed (by percentage of cost). We derived data using the Work Performance Categories (WPC).
- Workload accomplished for different customers (by percentage of cost). Data were derived using the Customer Code.

[1] Discrete data are not reported for San Antonio Air Logistics Center (ALC) and for Sacramento ALC due to their scheduled closures.

- Breakdown of total costs per DLH by category, i.e., direct material, direct labor, other direct, overhead, and general and administrative (G&A). We derived data from appropriate labor hour and cost data entries.

DATA QUALIFIER

The data portrayed has been changed only minimally from that submitted by the Military Departments. To the greater extent, it is consistent with the exact submission compiled and forwarded to OSD. The only changes made to the data were to make it more WSSC-specific where that was possible. We accomplished this by reviewing records submitted with non-specific/unknown WSSCs. In some cases, the item nomenclature or item identification provided a direct source for a specific WSSC. Additionally, we screened non-specific/unknown WSSC records that had national stock numbers to identify the items worked on against Military Service cataloging information. Where that cataloging information indicated application to a single, specific WSSC, we recoded the record with that WSSC.

Due to rounding, figures sometimes do not add exactly. Also, data within the text may be rounded for the sake of simplicity. Finally, although the text description normally highlights key data displayed, we sometimes include additional relevant information that is not displayed in the graphic.

APPENDICES

Appendices A and B provide outlines of the work breakdown structure and the work performance categories used to characterize depot maintenance costs and production. The WBS structure identifies major weapon or support system category (e.g., aircraft and ships), type (e.g., fighters and bombers), and subsystem (e.g., engine and armament). There are 10 commodity categories. The WPCs identify the type of maintenance accomplished (e.g., overhaul, renovation, and manufacturing). There are 19 WPCs.

ADDITIONAL INFORMATION

Within the office of the Assistant Deputy Under Secretary of Defense for Maintenance Policy, Programs, and Resources, the point of contact for additional information is Mr. Jay Berry, DSN 224-0948, Commercial (703) 614-0948, or e-mail: fieldce@acq.osd.mil.

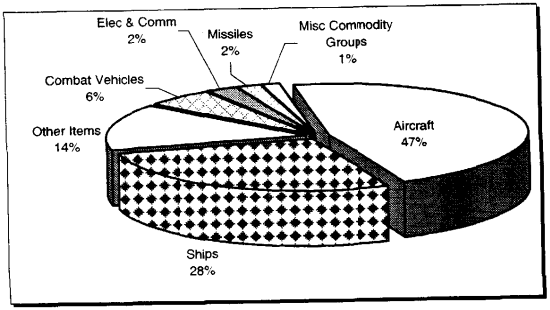
Totals

$7.66B total costs

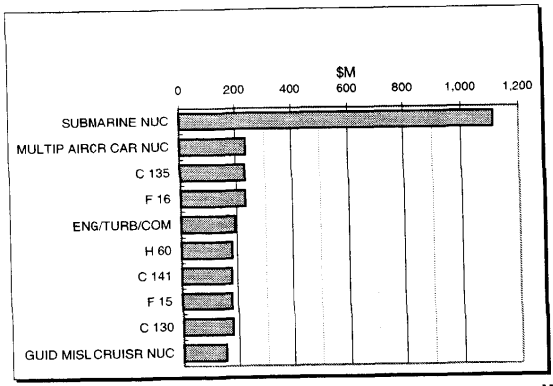
70.5M direct labor hours

- Aircraft accounted for $3.6B in total costs.
- Within the Aircraft category, 30% of the costs were charged to a general aircraft code, 22% to Cargo/Transports, and 22% to Fighters.

Major Weapon/Support System Category (by percentage of total cost)

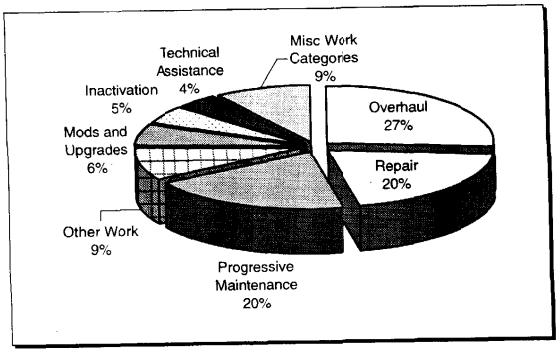


Top 10 Weapon/Support Systems (by cost)



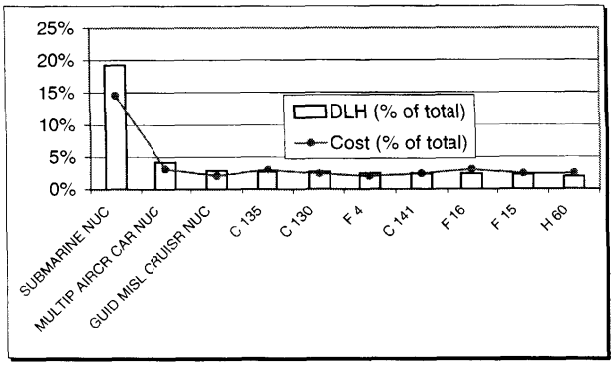
- The Nuclear Submarines WSSC accounted for $1.11B in total costs (14% of total DoD costs).
- Eng/Turb/Com is an Air Force WSSC, most likely indicating generalized turbine engine work.
- Non-specific/unknown WSSC data, not included in the graphic, accounted for costs totaling $1.6B.

Work Category Performed (by percentage of total cost)



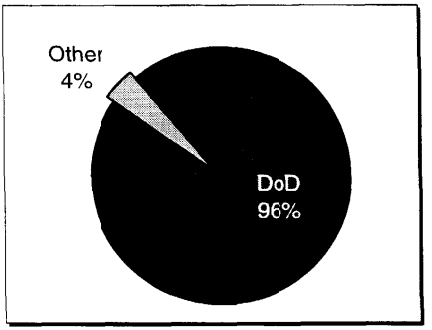
- Overhaul led all work categories performed with $2.0B in total costs.
- Overhaul work consumed 18.2M DLHs (26% of the DoD total DLHs).

Top 10 Weapon/Support Systems
(by percentage of total DLHs and cost)



- Nuclear Submarines accounted for close to 19% of DLHs expended and nearly 14% of costs.
- The top 10 systems accounted for 43% of the DLHs expended and 37% of costs.
- Non-specific/unknown WSSC data, not included in the graphic, accounted for 14M DLHs expended (17% of DoD total) and costs totaling $1.6B (21%).

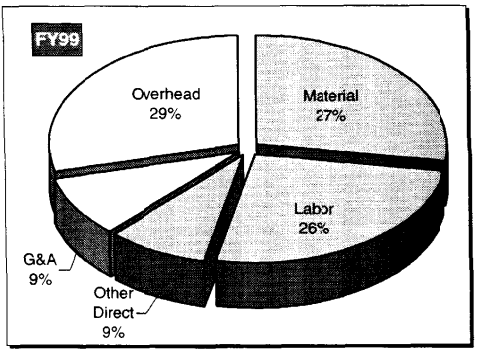
Customers
(by percentage of cost)



- Work for DoD customers totaled $7.3B in FY99
- Other Federal Agencies were the primary non-DoD customer category, with workload totaling $82M.

Cost Categories
(per direct labor hour)

Cost Category		$ per DLH		
		FY97	FY98	FY99
Direct	Material	31	33	30
	Labor	25	26	29
	Other Direct	7	6	9
Indirect	G&A	12	7	10
	Overhead	28	31	31
Total		103	103	109



- During FY99, Overhead costs represented the largest cost category, constituting 29% of total costs.
- Indirect costs—as a percentage of total costs per DLH—remained relatively steady over the past three years -- 39% in FY97, 37% in FY98, and 38% in FY99
- Total cost per DLH rose 5% in FY99.

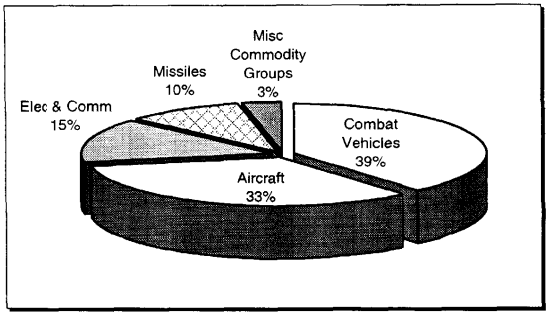
Totals

$1.03B total costs

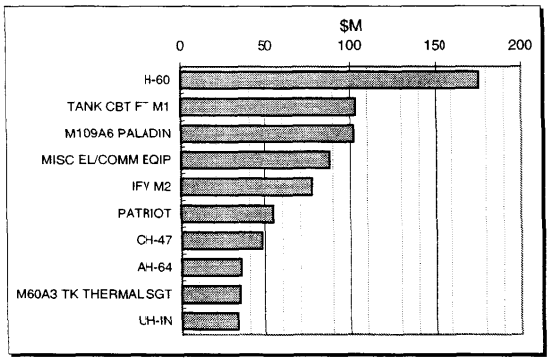
8.3M direct labor hours

- Combat Vehicles accounted for $343M of total costs.
- Within the Combat Vehicles category, 47% of the costs supported Overhaul and 37% supported Repair workload.

Major Weapon/Support System Category (by percentage of cost)

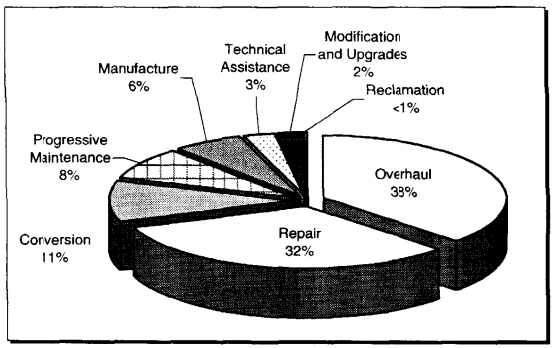


Top 10 Weapon/Support Systems (by cost)



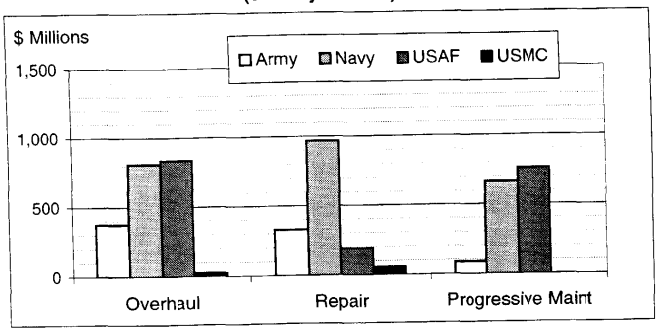
- The H-60 accounted for 17% of total costs.
- Not included in the graphic are Non-specific/unknown WSSCs which account for costs totaling $46M.

Work Category Performed (by percentage of cost)



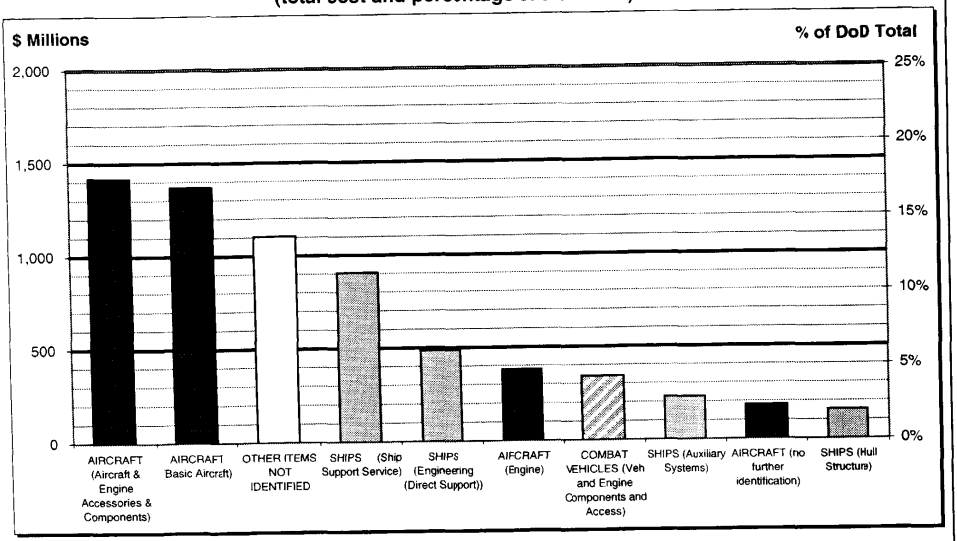
- Overhaul led all work categories performed with $378M in total costs Overhaul consumed 3.0M DLHs.
- Repair accounted for $330M and 3.1M DLHs.

Top Work Performance Categories (cost by service)



- Overhaul, Repair, and Progressive Maintenance comprise 67% of the DoD workload, accounting for $5.1B in total cost.

Top 10 Work Breakdown Structure Subsystems (total cost and percentage of DoD total)



- For the graph above, the reported costs were totaled by WBS subsystems (i.e., the third position of the WBS codes). For example, within the Aircraft category, Engine work was totaled across Fighters, Bombers, etc. (Note: records comprising the entry "Aircraft (no further identification)" are an anomaly, i.e., the records lacked second and third position entries in the WBS.)

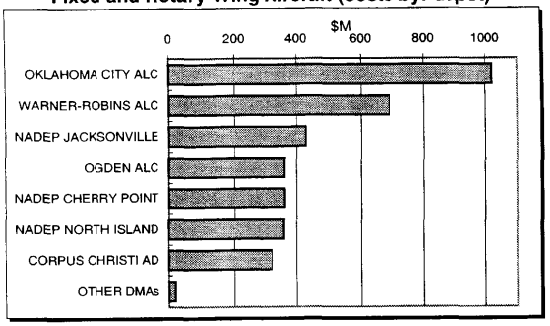
- Aircraft and Engine Accessories and Components led all 58 subsystems with $1.41B in workload (19% of total DoD costs).

- The top 10 subsystems depicted represent 86% of the total DoD workload.

- The costs in the subsystem "OTHER ITEMS NOT IDENTIFIED" are attributable primarily to the Navy (82%) and the Air Force (17%).

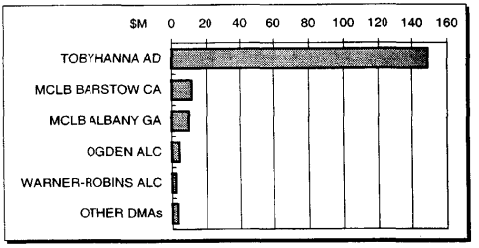
Costs by Commodity Group

Fixed and Rotary Wing Aircraft (costs byr depot)



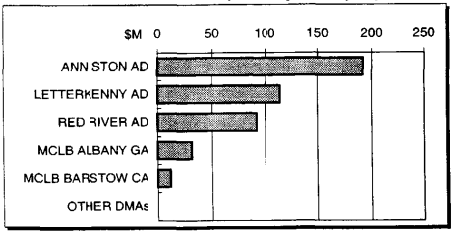
- Fixed and Rotary Wing Aircraft total costs were $3.6B (47% of total costs).
- 31% of the costs were expended on the Progressive Maintenance work performance category, 28% on Repair, and 25% on Overhaul.

Communications/Electronics (costs per depot)



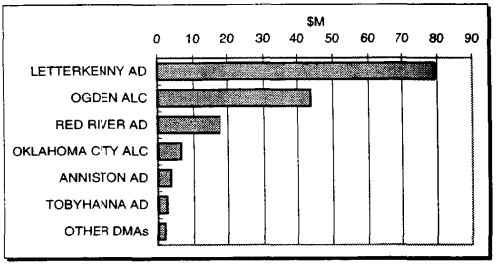
- Communications/Electronics total costs were $180M (2% of the DoD cost total).
- 42% of the costs were expended on the Repair work performance category, 22% on Manufacture, and 21% on Overhaul.

Combat Vehicles (costs per depot)



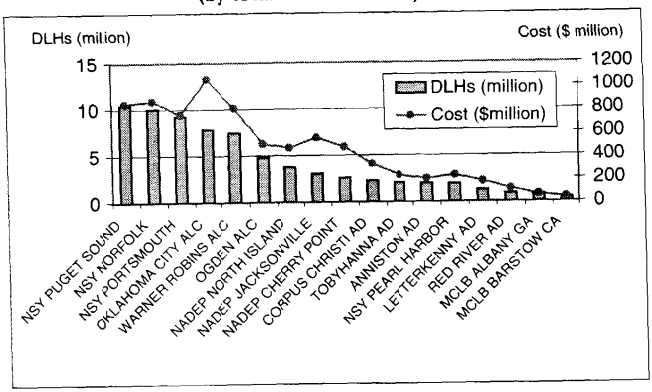
- Combat Vehicle total costs were $442M (6% of the DoD cost total).
- 33% of the costs were expended on the Overhaul work performance category, 26% on Manufacture, and 24% on Overhaul.

Missiles, Ordnance, Munitions, and Weapons (costs per depot)



- Missile, Ordnance, Munition, and Weapon total costs were $155M (2% of the DoD cost total).
- 46% of the costs were expended on the Overhaul work performance category, 34% on Repair, and 15% on Progressive Maintenance.

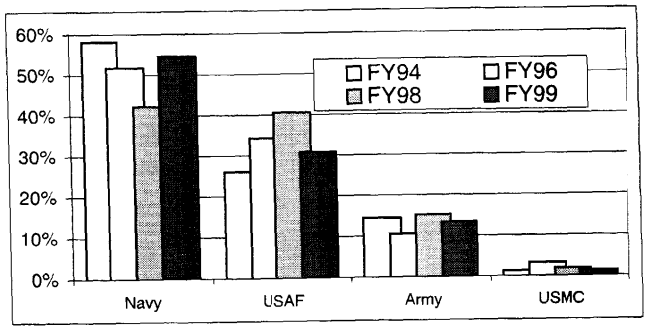
Depot Workload
(by total DLHs and cost)



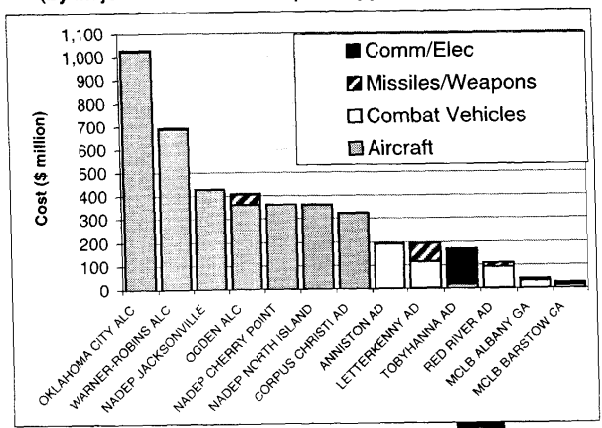
- NSY Puget Sound reported 10.4M DLHs (15% of total) and costs of $343M (11% of total).
- The 17 major DMAs depicted in the graph represent 88% of the DLHs reported and 85% of the total costs.

Service Workload Trend
(by percentage of total DoD cost)

- Navy's percentage of total DoD workload rose from 42% in FY98 to 55% in FY99.
- Air Force's percentage of total workload fell from 41% in FY98 to 31% in FY99.
- In FY99, the percentages of total workload for the Army and the Marine Corps were very close to their respective percentages in FY98.



Costs for Selected Depots
(by major multi-Service weapon/support system category)



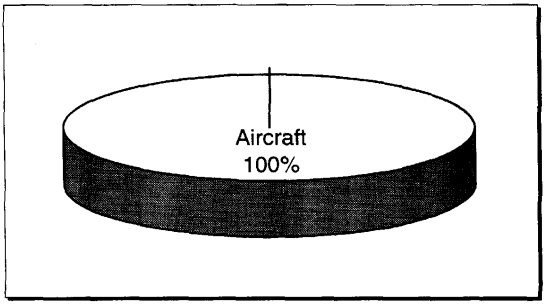
- Oklahoma City ALC had the largest total workload for the selected categories.
- Combined workload for the Naval Shipyards in the selected categories was virtually zero ($2.8M).

Totals

$323M total costs

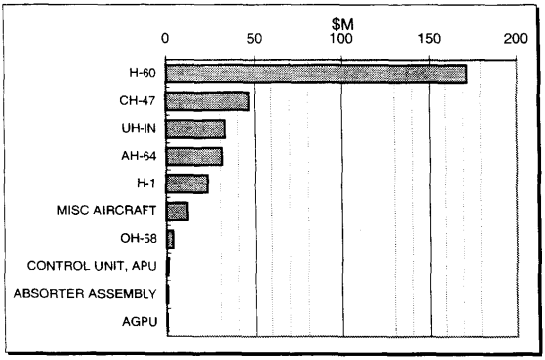
2.2M direct labor hours

Major Weapon/Support System Category (by percentage of cost)



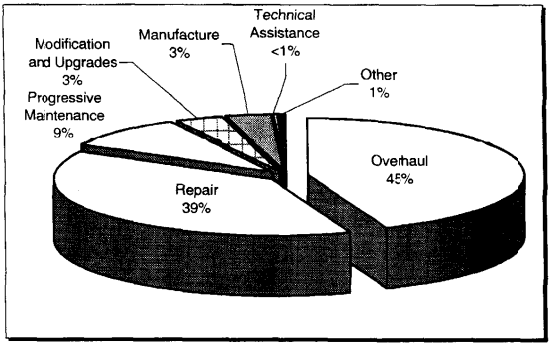
- Aircraft accounted for nearly all of the $323M costs. A neglibible amount ($27K) was spent on combat vehicles

Top 10 Weapon/Support Systems (by cost)



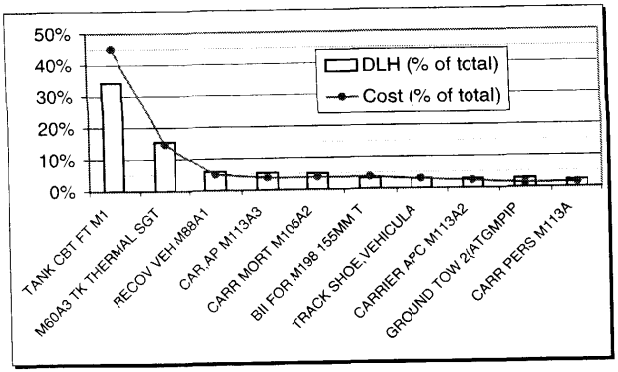
- The H-60 accounted for 53% of total costs.
- For the H-60, 53% of the costs were for Repair and 35% were for Overhaul.

Work Category Performed (by percentage of cost)



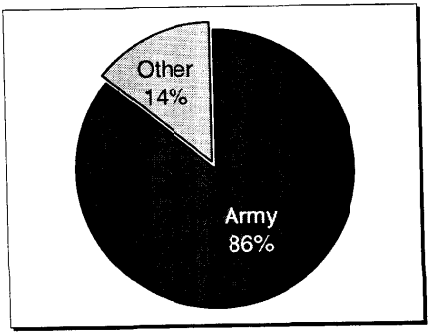
- Overhaul led all work categories performed with $142M in total costs.
- Repair costs totaled $126M.

Top 10 Weapon/Support Systems (by percentage of total DLHs and cost)



- The top 10 systems accounted for 81% of the DLHs expended and 84% of costs.
- Not included in the graphic are Non-specific/unknown WSSCs accounting for 112K DLHs and costs totaling over $11.3M.

Customers (by percentage of cost)

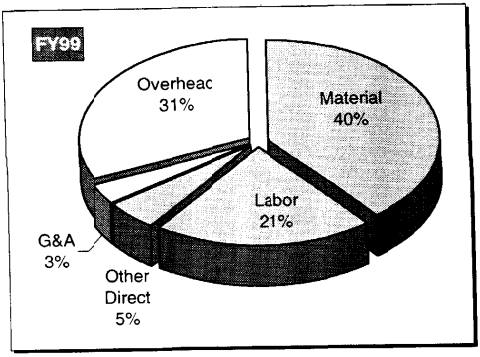


- Work for Army customers totaled $194M in FY99.
- Other Federal Agencies, the primary non-Army customer category, had workload totaling $28M.
- Work for Other customers was 26% of costs in FY98.

Cost Categories (per direct labor hour)

Cost Category		$ per DLH		
		FY97	FY98	FY99
Direct	Material	48	46	46
	Labor	23	24	24
	Other Direct	4	6	6
Indirect	G&A	4	4	4
	Overhead	39	36	36
Total		118	116	116

- For FY99, Material costs represented the largest cost category, constituting 40% of total costs per DLH.
- Total costs per DLH have remained steady over the past three years.



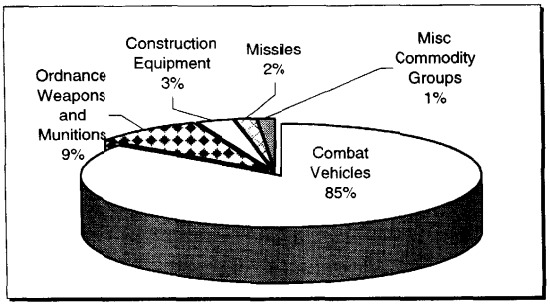
Totals

$226M total costs

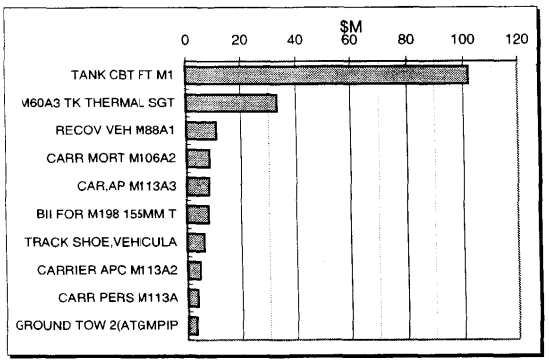
2.0M direct labor hours

- Combat Vehicles accounted for $192M of total costs.
- Within Combat Vehicles, 45% of the costs supported Overhaul and 27% supported Repair.

Major Weapon/Support System Category (by percentage of cost)

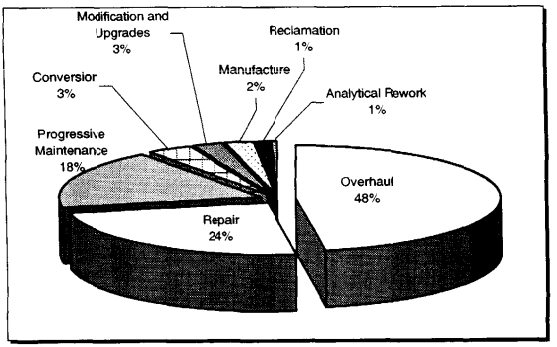


Top 10 Weapon/Support Systems (by cost)



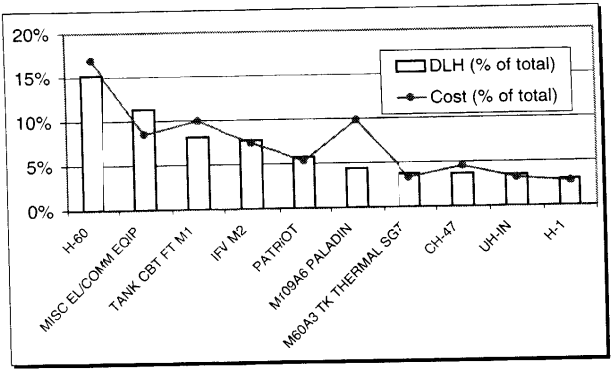
- The Tank CBT FT M1 accounted for 45% of total costs.
- Not included in the graphic are costs of $11.3M associated with Non-specific/unknown WSSCs.

Work Category Performed (by percentage of cost)



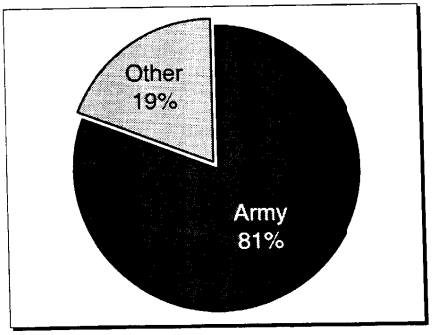
- Overhaul led all work categories performed with $108M in total costs.
- The Repair work category had $55M in total costs.

Top 10 Weapon/Support Systems
(by percentage of total DLHs and cost)



- The H-60 accounted for 15% of the direct labor hours and 17% of costs.
- The top 10 systems accounted for 66% of the DLHs expended and 72% of costs.
- Not included in the graphic are Non-specific/unknown WSSCs which accounted for 524K DLHs (6% of the total) and costs of $46M (5%).

Customers
(by percentage of cost)

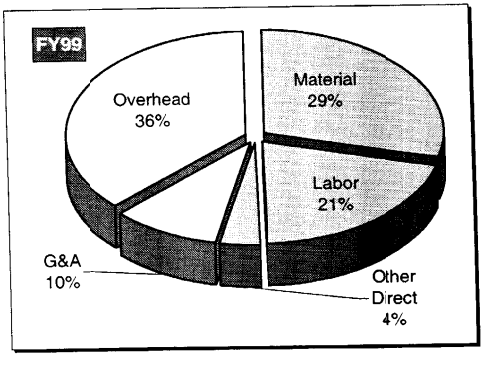


- Work for Army customers totaled $831M in FY99.
- The primary non-Army customers were the Navy (workload totaling $83M), the Air Force ($59M), and Other Federal Agencies ($40M).
- Work for Other customers accounted for 28% of costs in FY98.

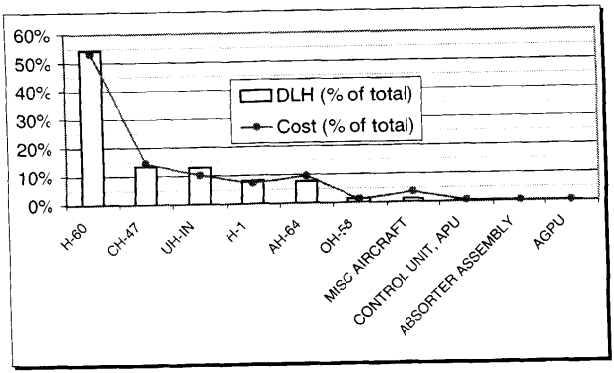
Cost Categories
(per direct labor hour)

Cost Category		$ per DLH		
		FY97	FY98	FY99
Direct	Material	36	36	36
	Labor	23	24	25
	Other Direct	3	4	4
Indirect	G&A	5	2	12
	Overhead	40	41	46
Total		108	108	124

- For FY99, Overhead costs represented the largest cost category, constituting 36% of total costs per DLH.
- Indirect costs, as a percentage of total costs per DLH, have increased from 42% in FY97 to 47% in FY99.

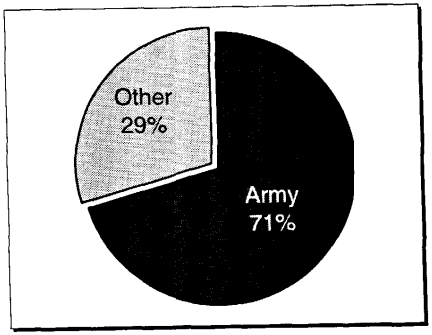


Top 10 Weapon/Support Systems
(by percentage of total DLHs and cost)



- The H-60 accounted for 54% of the DLHs and 53% of costs.
- The top 10 systems accounted for over 99% of the DLHs expended and costs.

Customers
(by percentage of cost)

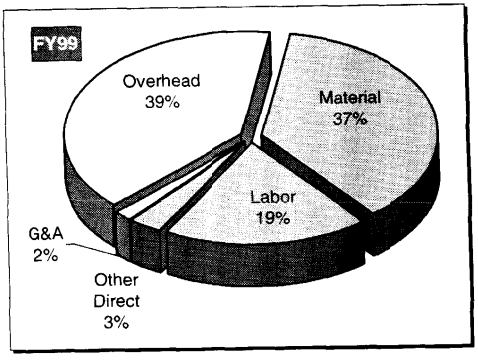


- Work for Army customers totaled $228M in FY99.
- The Navy was the primary non-Army customer, with workload totaling $74M.
- Work for Other customers was 36% of costs in FY99.

Cost Categories
(per direct labor hour)

Cost Category		$ per DLH		
		FY97	FY98	FY99
Direct	Material	45	54	53
	Labor	25	26	27
	Other Direct	1	3	4
Indirect	G&A	2	2	3
	Overhead	46	48	57
Total		119	133	145

- For FY99, Overhead costs represented the largest cost category, constituting 39% of total costs per DLH.
- Total costs per DLH rose 9% from FY98 to FY99, mainly due to increases in Overhead costs.



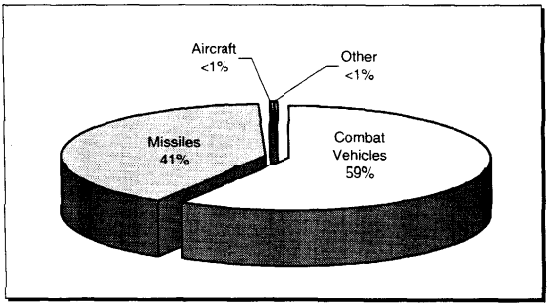
Totals

$196M total costs

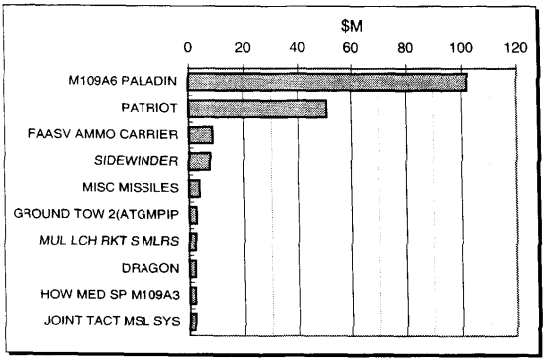
1.2M direct labor hours

- Combat Vehicles accounted for $115M of total costs.
- 70% of the Combat Vehicle costs were for Conversion.

Major Weapon/Support System Category (by percentage of cost)

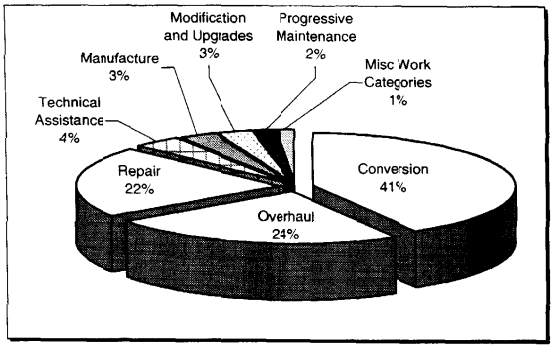


Top 10 Weapon/Support Systems (by cost)



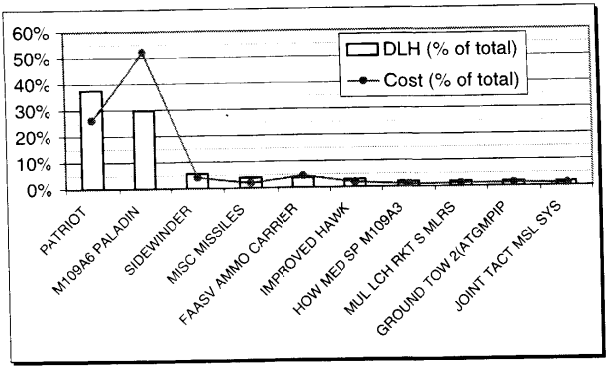
- The M109A6 Paladin accounted for 52% of total costs.

Work Category Performed (by percentage of cost)



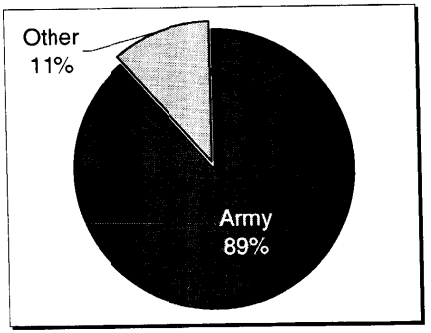
- Conversion led all work categories performed with $81M in total costs.
- Conversion consumed nearly 149K DLHs.
- Conversion only consituted 9% of costs in FY98

Top 10 Weapon/Support Systems (by percentage of total DLHs and cost)



- The Patriot accounted for the largest portion (37%) of the DLHs, while the M109A6 Paladin accounted for the largest percent of costs at 52%.
- The top 10 systems accounted for 89% of the DLHs expended and 94% of costs.

Customers (by percentage of cost)

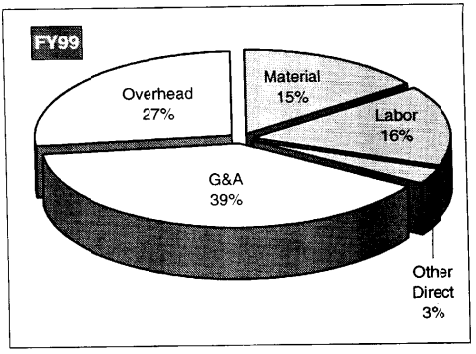


- Work for Army customers totaled $173M in FY99.
- The primary non-Army customer was the Air Force, with workload totaling $9.5M.
- Work for Other customers down from 16% in FY98.

Cost Categories (per direct labor hour)

Cost Category		$ per DLH		
		FY97	FY93	FY99
Direct	Material	32	24	25
	Labor	22	22	25
	Other Direct	5	5	5
Indirect	G&A	4	4	63
	Overhead	40	37	42
Total		102	91	159

- For FY99, G&A costs represented the largest cost category, constituting 39% of total costs per DLH.
- Total cost per DLH increased by 74% from FY 98 to FY99, mainly due to the large increase in indirect G&A costs.



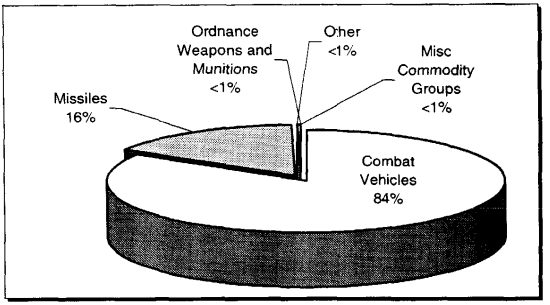
Totals

$110M total costs

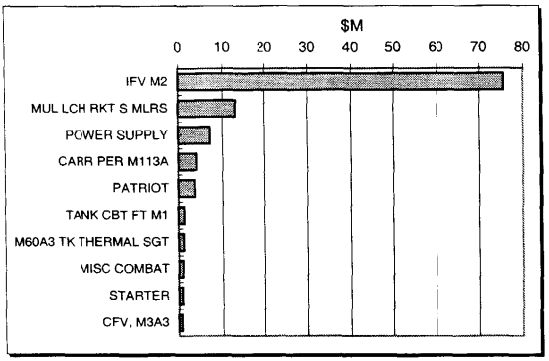
0.9M direct labor hours

- Combat Vehicles accounted for $92M of total costs.
- 45% of the Combat Vehicle costs were for Repair actions.
- Automotive Equipment accounted for 15% of costs in FY98, but none in FY99

Major Weapon/Support System a Category (by percentage of cost)

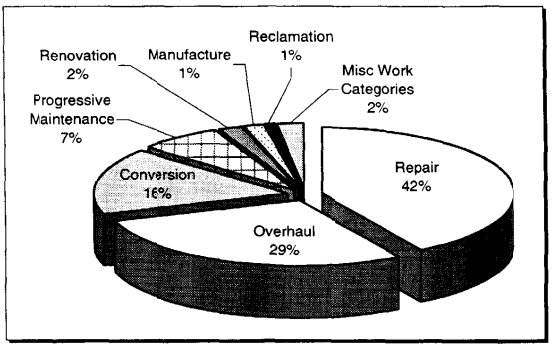


Top 10 Weapon/Support Systems (by cost)



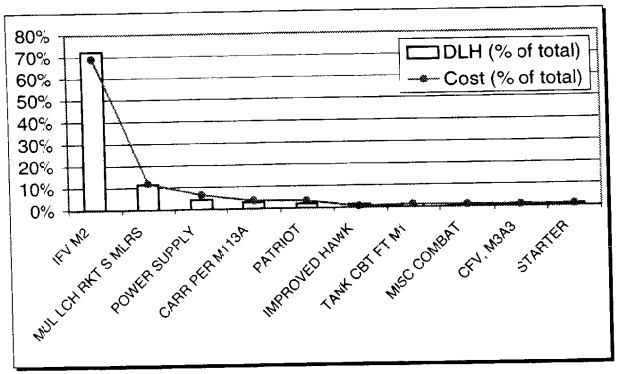
- The Infantry Fighting Vehicle M2 (shown as IFV M2) accounted for 69% of total costs.

Work Category Performed (by percentage of cost)



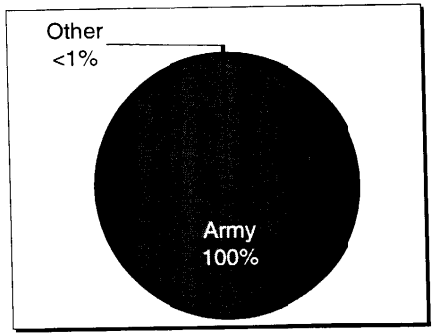
- Repair led all work categories performed with $45M in total costs.
- Repair work consumed 304K DLHs.

Top 10 Weapon/Support Systems (by percentage of total DLHs and cost)



- Infantry Fighting Vehicle M2 (shown as IFV M2) accounted for 72% of DLHs and 69% of costs.
- The top 10 systems accounted for 99% of the DLHs and 98% of the costs.

Customers (by percentage of cost)

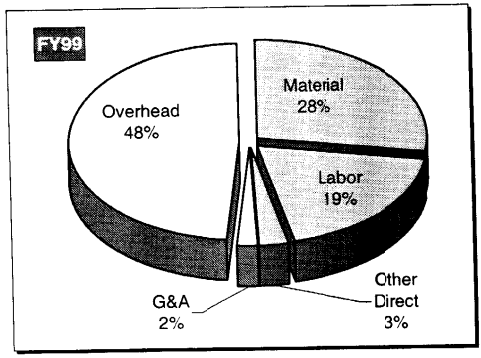


- Work for Army customers totaled $109M, and constituted nearly all work performed.

Cost Categories (per direct labor hour)

Cost Category		$ per DLH		
		FY97	FY98	FY99
Direct	Material	38	40	35
	Labor	23	23	24
	Other Direct	3	6	3
Indirect	G&A	2	1	3
	Overhead	36	42	61
Total		101	113	127

- For FY99, Overhead costs represented the largest cost category, constituting 48% of total costs per DLH.
- Total cost per DLH has risen each of the past two years: 12% in FY98 and another 12% in FY99.



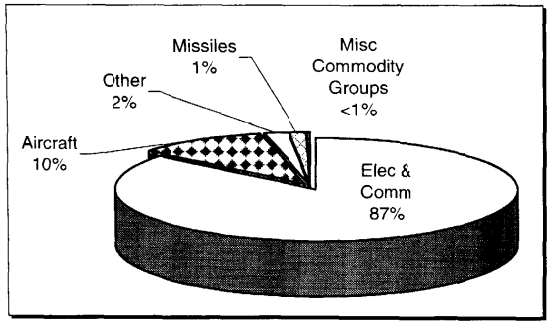
Totals

$174M total costs

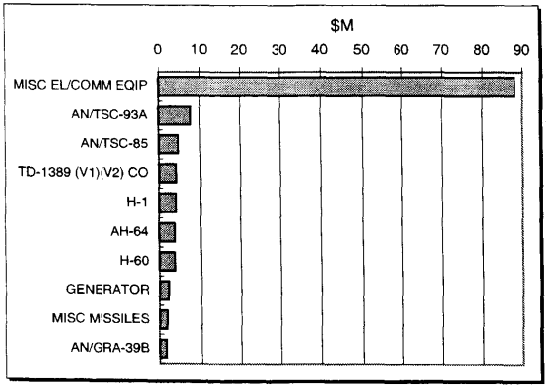
2.0M direct labor hours

- Electronics & Communications accounted for $149M of the total costs.
- Within the Electronics & Communications category, 40% of the costs pertained to Repair, 26% to Manufacture, and 21% to Overhaul.

Major Weapon/Support System Category (by percent of cost)

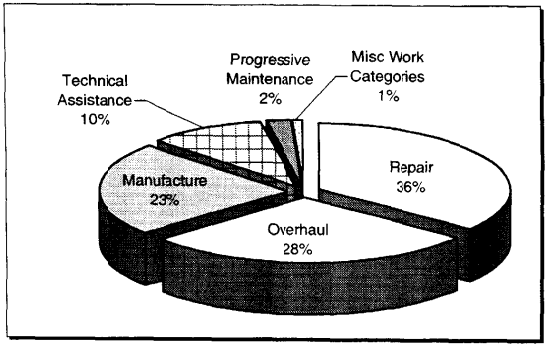


Top 10 Weapon/Support Systems (by cost)



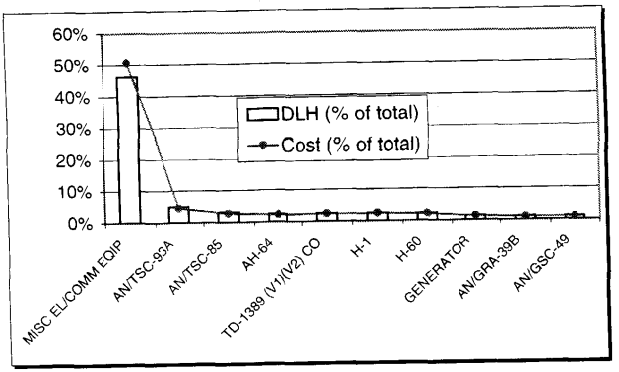
- Miscellaneous Electronics/ Communications Equipment accounted for 51% of total costs.
- Not included in the graphic are Non-specific/unknown WSSCs which account for $33M in costs.

Work Category Performed (by percentage of cost)



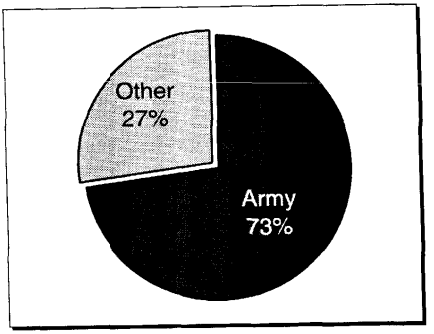
- Repair led all work categories performed with $61M in total costs.
- The Repair category consumed 766K DLHs.

Top 10 Weapon/Support Systems (by percentage of total DLHs and cost)



- Miscellaneous Electronics/ Communications Equipment accounted for 45% of direct labor hours and 51% of costs.
- The top 10 systems accounted for 68% of the DLHs expended and 70% of costs.
- Not included in the graphic are Non-specific/unknown WSSCs, which accounted for $33M in costs and 403K DLHs.

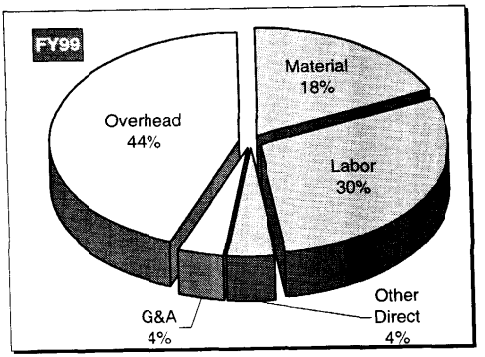
Customers (by percentage of cost)



- Work for Army customers totaled $127M in FY99.
- The Air Force was the primary non-Army customer, with workload totaling $32M.
- Work for Other customers was 26% of costs in FY98.

Cost Categories (per direct labor hour)

Cost Category		$ per DLH		
		FY97	FY98	FY99
Direct	Material	18	14	16
	Labor	23	24	25
	Other Direct	5	3	4
Indirect	G&A	13	2	3
	Overhead	36	36	37
Total		95	80	85



- For FY99, Overhead costs represented the largest cost category, constituting 44% of total costs per DLH.
- G&A costs (per direct labor hour) declined 74% between FY97 and FY99.

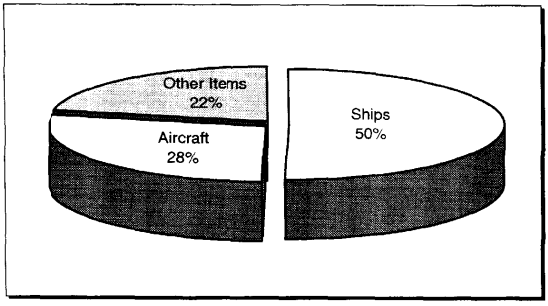
Totals

$4.2B total costs

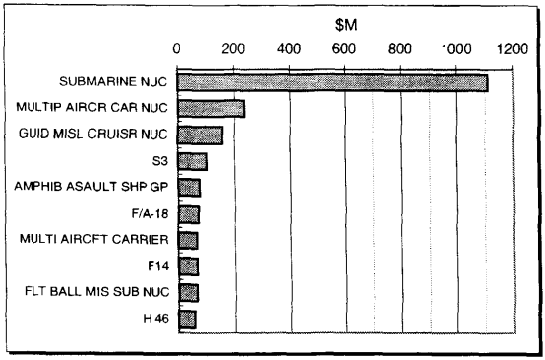
40.9M direct labor hours

- Ships accounted for $2.1B of total costs.
- Within the Ship work breakdown structure, the major Work Category was Overhaul (37% of the costs).

Major Weapon/Support System Category (by percentage of cost)

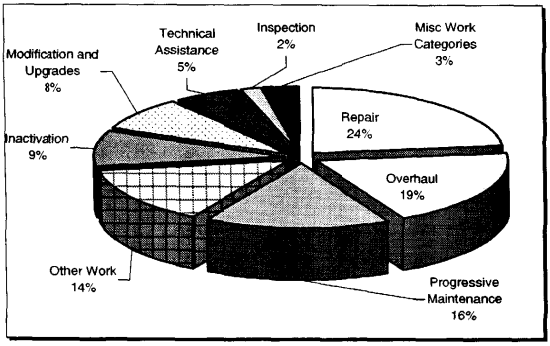


Top 10 Weapon/Support Systems (by cost)



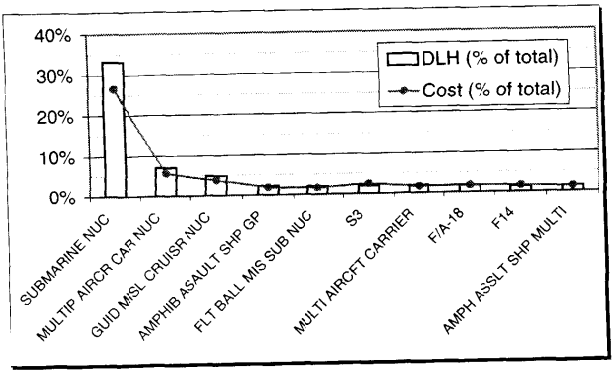
- Nuclear submarines, the top system depicted, accounted for 27% of the total costs. This is more than twice the 13% of costs accounted for by this system in FY98.
- Non-specific/unknown WSSCs, which accounted for $1.5B in costs, are not depicted in the graphic. WBS coding identified that approximately 60% of this amount was used to support Miscellaneous Systems Not Otherwise Identified, while 37% supported aircraft-related maintenance.

Work Category Performed (by percentage of cost)



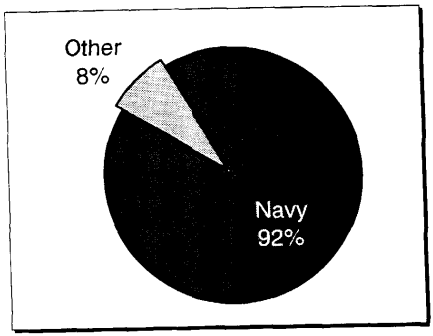
- Repair led all work categories performed with $1.0B in total costs.
- Total DLHs expended on Repair were 6.1M.

Top 10 Weapon/Support Systems
(by percentage of total DLHs and cost)



- Nuclear Submarines and Aircraft Carriers, the top two systems depicted, accounted for 33% of DLHs and 27% of costs.
- The top 10 systems depicted accounted for 51% of the DLHs and 56% of costs.
- Non-specific/unknown WSSCs, accounting for costs of $1.5B and 11.0M DLHs, are not included in the graphic.

Customers
(by percent of cost)

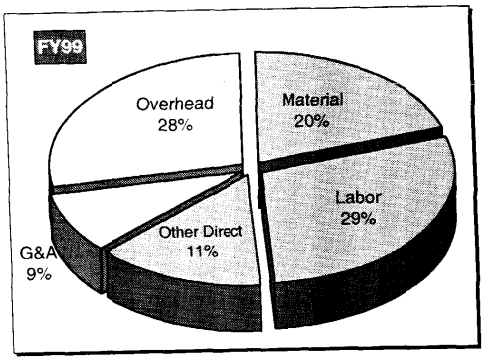


- Work for Navy customers totaled $3.8B in FY99.
- The primary non-Navy customer was not identifiable (Customer Code not interpretable).

Cost Categories
(per direct labor hour)

Cost Category		$ per DLH		
		FY97	FY98	FY99
Direct	Material	22	24	21
	Labor	26	27	30
	Other Direct	14	11	14
Indirect	G&A	14	6	9
	Overhead	22	28	28
Total		99	95	102

- For FY99, Direct Labor represented the largest cost category, constituting 29% of total costs per DLH.



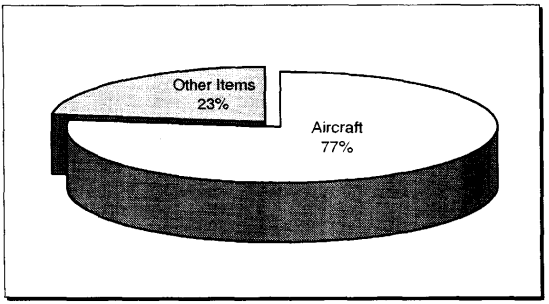
Totals

$1.5B total costs

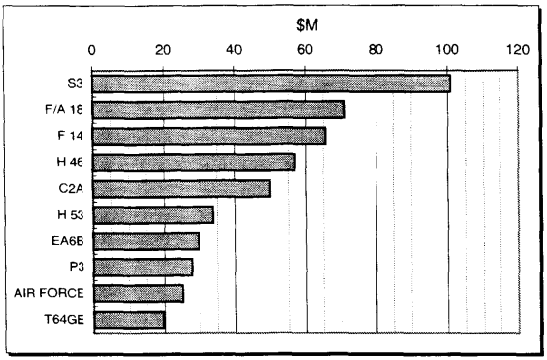
9.3M direct labor hours

- Aircraft accounted for $1.1B of total costs.
- Within the Aircraft work breakdown structure, the two major Work Categories were Repair (65% of the costs) and Progressive Maintenance (32%)

Major Weapon/Support System Category (by percentage of cost)

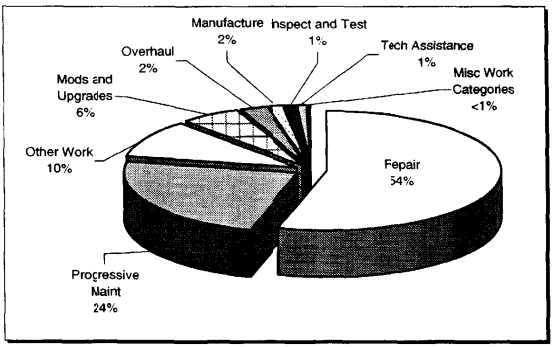


Top 10 Weapon/Support Systems (by cost)



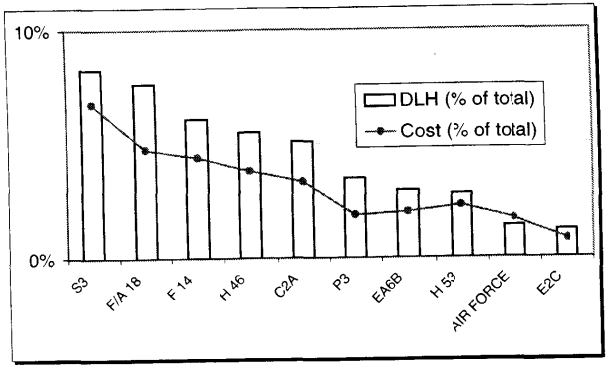
- The S3, the top system depicted, accounted for 7% of the total costs.
- Non-specific/unknown WSSCs, which accounted for $892M in costs, are not depicted in the graphic. WBS coding identified that approximately 62% of this amount was used to support aircraft-related maintenance, while 38% supported Miscellaneous Systems Not Otherwise Identified.

Work Category Performed (by percentage of cost)



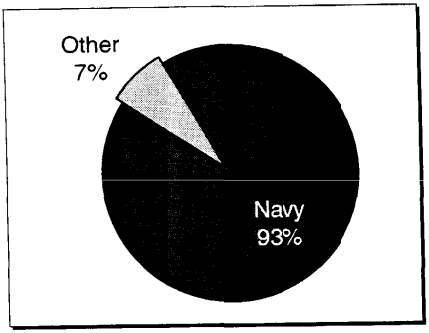
- Repair led all work categories performed with $811M in total costs.
- Total DLHs expended on Repair were 4.4M.

Top 10 Weapon/Support Systems
(by percentage of total DLHs and cost)



- The S3 and FA/18, the top two systems depicted, accounted for 16% of DLHs and 12% of costs, respectively.
- The top 10 systems depicted accounted for 44% of the DLHs and 32% of costs.
- Non-specific/unknown WSSCs, accounting for costs of $892M and 4.5M DLHs, are not included in the graphic.

Customers
(by percent of cost)

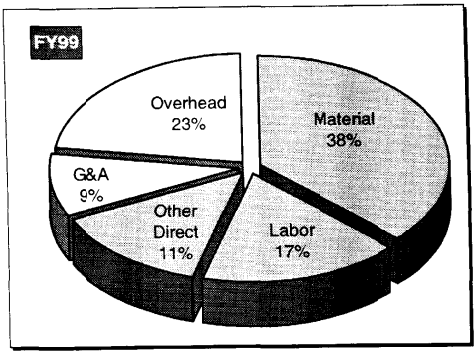


- Work for Navy customers totaled $1.38B in FY99.
- The primary non-Navy customer was the Air Force.

Cost Categories
(per direct labor hour)

Cost Category		$ per DLH		
		FY97	FY98	FY99
Direct	Material	54	62	60
	Labor	26	27	27
	Other Direct	11	7	21
Indirect	G&A	13	16	15
	Overhead	29	31	36
Total		133	143	159

- For FY99, Material represented the largest cost category, constituting 38% of total costs per DLH.
- FY99 total costs per DLH increased 11% over FY98 and 20% over FY97.



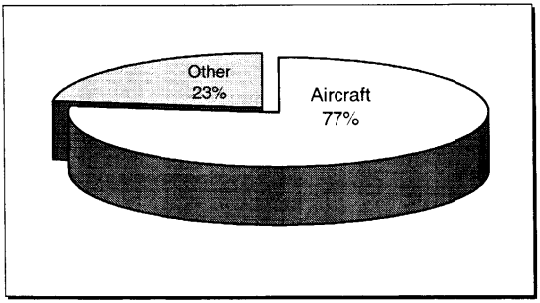
Totals

$472M total costs

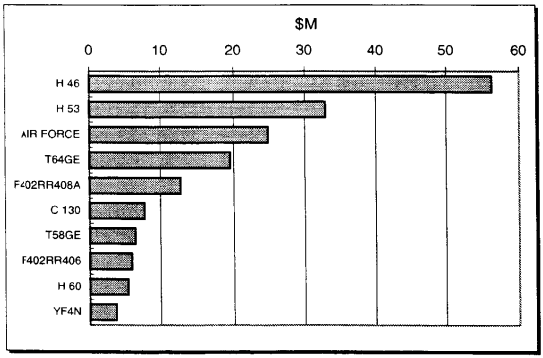
2.6M direct labor hours

- Aircraft accounted for $362M of total costs.
- Within the Aircraft category, Repair constituted 67% of the work performed.

Major Weapon/Support System Category (by percentage of cost)

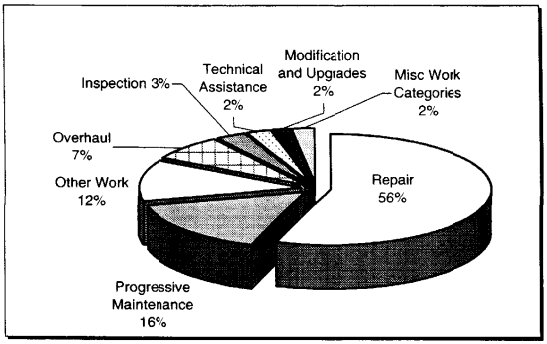


Top 10 Weapon/Support Systems (by cost)



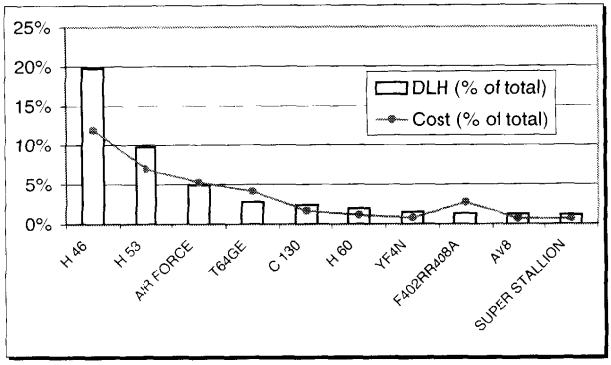
- The H-46, the top system depicted, accounted for 12% of costs.
- Not included in the chart are Non-specific/unknown WSSCs accounting for workload valued at $285M. This workload supported Miscellaneous Aircraft ($176M) and Other Systems ($109M).

Work Category Performed (by percentage of cost)



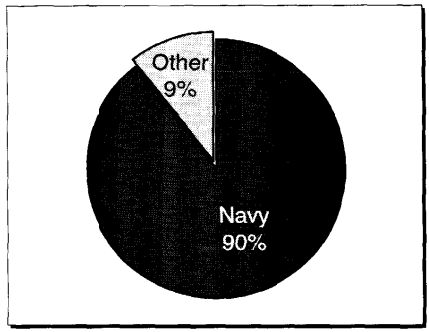
- Repair led all work categories performed with over $261M in total costs.
- Repair consumed 1.2M DLHs.

Top 10 Weapon/Support Systems
(by percentage of total DLHs and cost)



- The H-46, the top system depicted, accounted for 20% of total DLHs and 12% of costs.
- The top 10 systems depicted account for 47% of the DLHs expended and 36% of costs.
- Non-specific/unknown WSSCs, accounting for 1.26M DLHs and costs of $285M, are not included in the graphic. These WSSCs account for approximately 53% of the DLHs and 64% of costs.

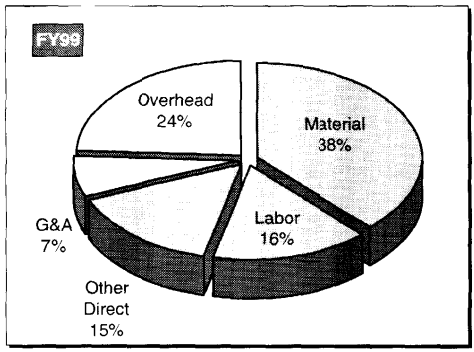
Customers
(by percentage of cost)



- Work for Navy customers totaled $422M in FY99.
- The Air Force was the primary non-Navy customer, with workload totaling $32M.

Cost Categories
(per direct labor hour)

Cost Category		$ per DLH		
		FY97	FY98	FY99
Direct	Material	54	52	70
	Labor	26	28	29
	Other Direct	35	9	28
Indirect	G&A	13	11	13
	Overhead	34	39	44
Total		161	140	184



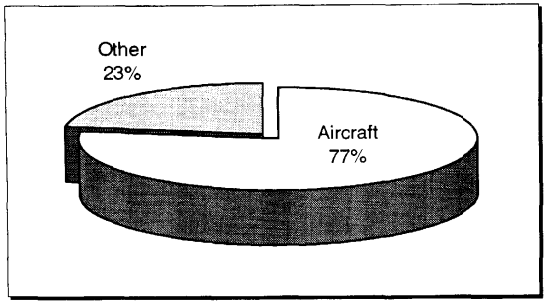
- In FY99, total costs per DLH increased by 31% over FY98.
- For FY99, Material costs represented the largest cost category, constituting 38% of total costs.
- Indirect costs (as a percentage of total costs per DLH) have fluctuated over the past three years. They were 29% in FY97, 36% in FY98, and 31% in FY99.

Totals

$554M total costs

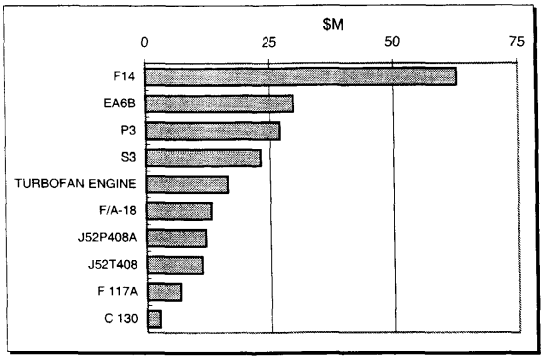
3.0M direct labor hours

Major Weapon/Support System Category (by percentage of cost)



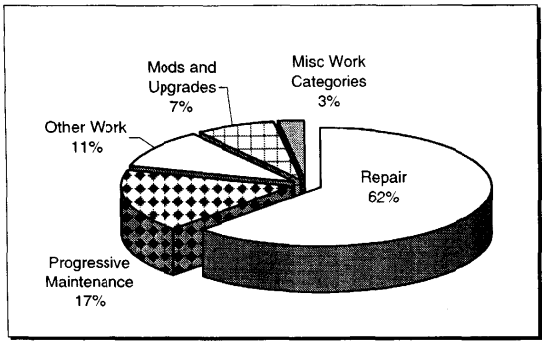
- Aircraft accounted for $429M of total costs.
- Within the Aircraft category, Repair constituted 74% of the work performed.

Top 10 Weapon/Support Systems (by cost)



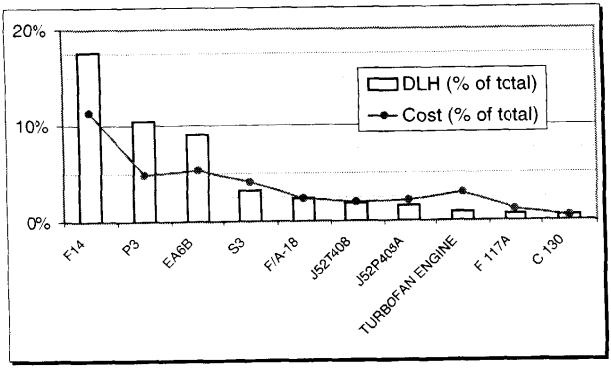
- The F14, the top system depicted, accounted for 11% of costs.
- Not included in the chart is Non-specific/unknown WSSCs accounting for workload valued at $344M. This workload supported Miscellaneous Aircraft ($220M) and Other Systems ($125M).

Work Category Performed (by percentage of cost)



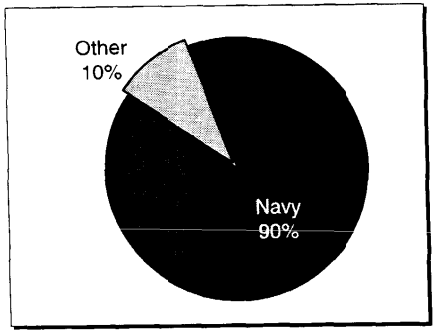
- Repair led all work categories performed with $345M in total costs.
- Repair work consumed 1.6M DLHs.

Top 10 Weapon/Support Systems
(by percentage of total DLHs and cost)



- The F14, the top system depicted, accounted for 18% of total DLHs and 11% of costs.
- The 10 systems depicted accounted for 48% of the DLHs and 36% of costs.
- Non-specific/unknown WSSCs, accounting for costs and DLHs totaling $344M and 1.5M respectively, are not included in the graphic.

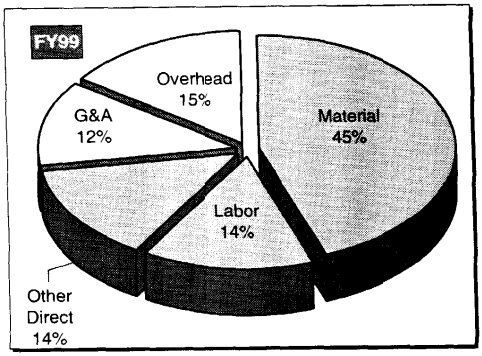
Customers
(by percentage of cost)



- Work for Navy customers totaled $498M in FY99.
- The Air Force was the primary non-Navy customer, with workload totaling $48M.

Cost Categories
(per direct labor hour)

Cost Category		$ per DLH		
		FY97	FY98	FY99
Direct	Material	64	66	82
	Labor	26	27	26
	Other Direct	32	7	25
Indirect	G&A	18	18	22
	Overhead	19	25	28
Total		158	143	183



- In FY99, total costs per DLH increased by 28% over FY98.
- For FY99, Material costs represented the largest cost category, constituting 45% of total costs per DLH.
- Indirect costs, as a percentage of DLHs, have fluctuated only slightly over the past three years.

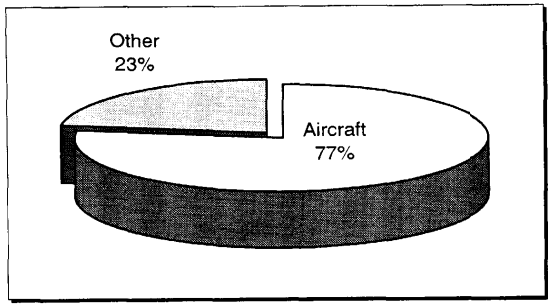
Totals

$466M total costs

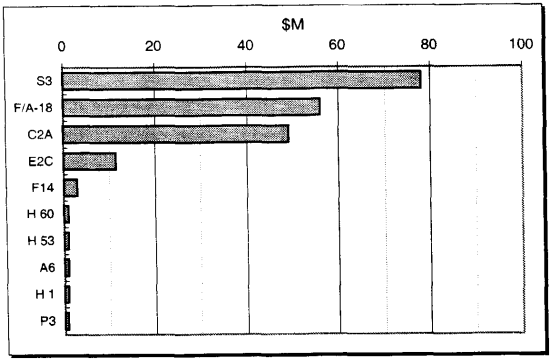
3.8M direct labor hours

- Aircraft accounted for $360M of total costs.
- Within the Aircraft category, progressive maintenance acounted for 51% of the work performed, and Repair constituted 42%.

Major Weapon/Support System Category (by percentage of cost)

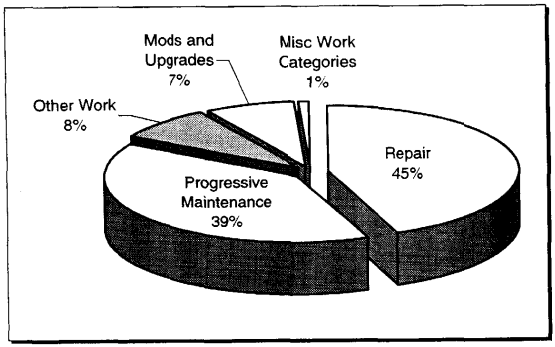


Top 10 Weapon/Support Systems (by cost)



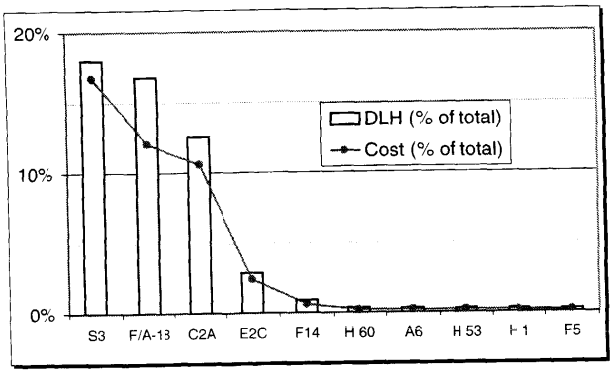
- The S3 accounted for $78M (17%) of costs.
- Not included in the chart are Non-specific/unknown WSSCs accounting for workload valued at $262M. This workload supported Miscellaneous Aircraft ($157M) and Other Systems ($105M).

Work Category Performed (by percentage of cost)



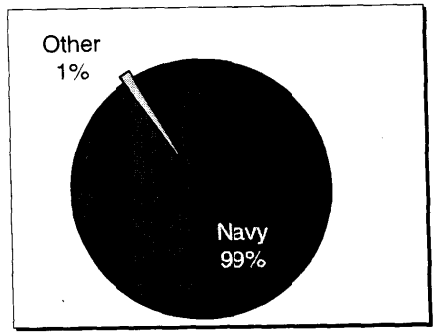
- Repair led all work categories performed with $205M in total costs.
- Repair work consumed 1.5M DLHs.

Top 10 Weapon/Support Systems (by percentage of total DLHs and cost)



- S3 accounted for 18% of the DLHs and 17% of costs.
- The top 10 systems depicted account for 52% of the DLHs expended and 43% of costs.
- Non-specific/unknown WSSCs, accounting for 1.8M DLHs and costs of $262M, are not included in the graphic.

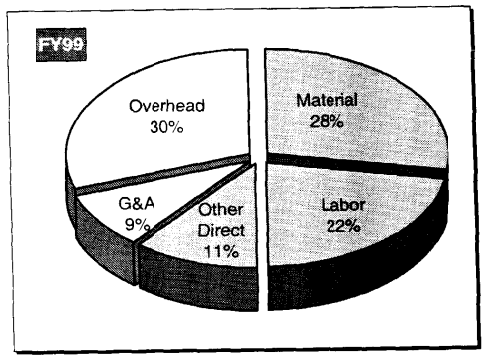
Customers (by percentage of cost)



- Work for Navy customers totaled $459M in FY99.
- The Air Force was the primary non-Navy customer, with workload totaling $4.5M.

Cost Categories (per direct labor hour)

Cost Category		$ per DLH		
		FY97	FY98	FY99
Direct	Material	42	36	35
	Labor	27	29	27
	Other Direct	33	10	14
Indirect	G&A	9	10	11
	Overhead	33	31	37
Total		144	115	124



- For FY99, Overhead costs represented the largest cost category, constituting 30% of total costs.
- Indirect costs (as a percentage of total costs per DLH) have risen over the past three years from 29% in FY97, to 36% in FY98, and 39% in FY99.
- Total costs per DLH have declined a total of14% from FY97 to FY99; however, FY99 was up 7% over FY98.

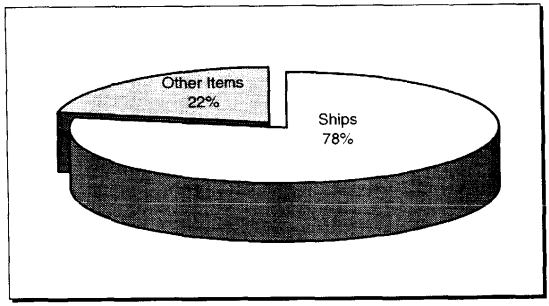
Totals

$2.7B total costs

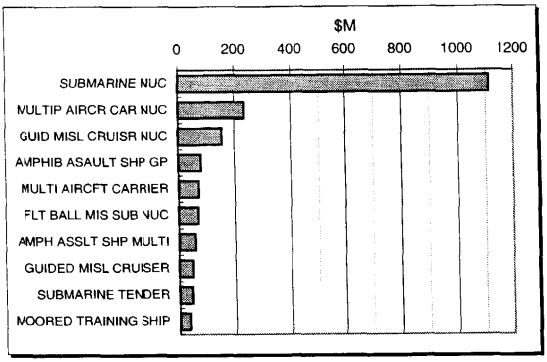
31.6M direct labor hours

- Ships accounted for $2.1B of total costs.
- Within the Ship work breakdown structure, the major Work Category was Overhaul (37% of the costs).

Major Weapon/Support System Category (by percentage of cost)

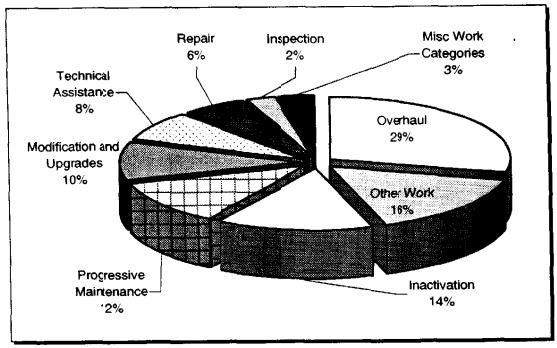


Top 10 Weapon/Support Systems (by cost)



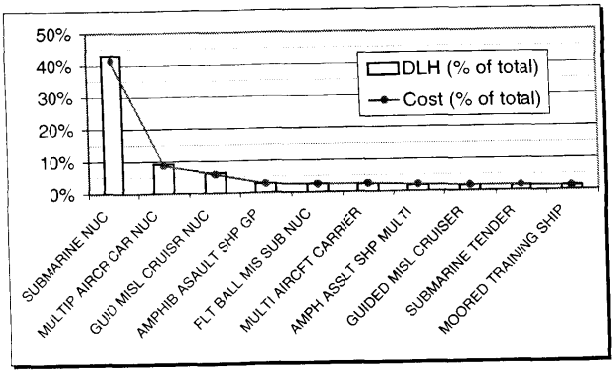
- Nuclear submarines, the top system depicted, accounted for 41% of the total costs.
- Non-specific/unknown WSSCs, which accounted for $607M in costs, are not depicted in the graphic. WBS coding identified that approximately 91% of this amount was used to support Miscellaneous Systems Not Otherwise Identified.

Work Category Performed (by percentage of cost)



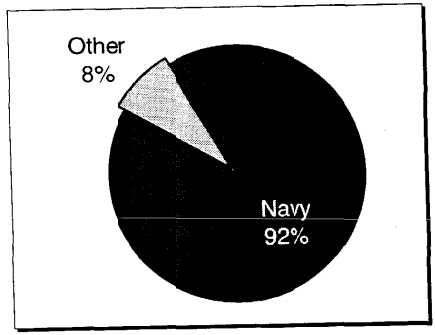
- Overhaul led all work categories performed with $773M in total costs.
- Total DLHs expended on Repair were 9.1M.

Top 10 Weapon/Support Systems
(by percentage of total DLHs and cost)



- Nuclear Submarines accounted for 43% of DLHs and 41% of costs.
- The top 10 systems depicted accounted for 73% of the DLHs and 70% of costs.
- Non-specific/unknown WSSCs, accounting for costs of $607M and 6.5M DLHs, are not included in the graphic.

Customers
(by percent of cost)

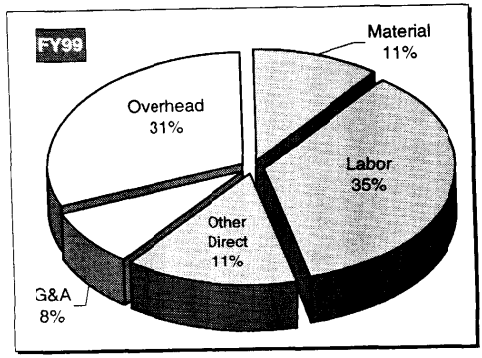


- Work for Navy customers totaled $2.46B in FY99.
- The primary non-Navy customer was not identifiable (Customer Code not interpretable).

Cost Categories
(per direct labor hour)

Cost Category		$ per DLH		
		FY97	FY98	FY99
Direct	Material	8	9	9
	Labor	29	30	30
	Other Direct	5	7	12
Indirect	G&A	16	2	7
	Overhead	23	30	26
Total		81	78	85

- For FY99, Direct Labor represented the largest cost category, constituting 35% of total costs per DLH.
- FY99 total costs per DLH are up 9% over FY98 and 5% over FY97 .

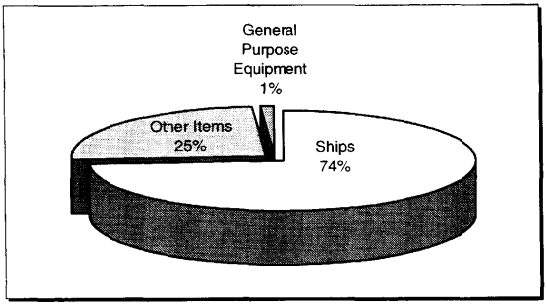


Totals

$867M total costs

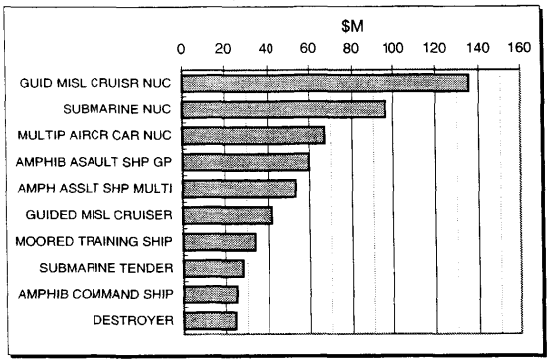
10.0M direct labor hours

Major Weapon/Support System Category (by percentage of cost)



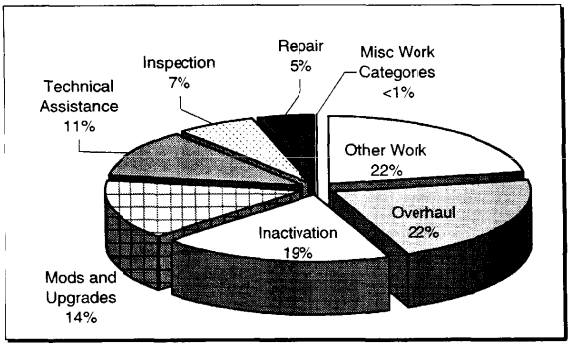
- Ships accounted for $644M of total costs.
- Within the Ship category, Overhauls accounted for 29% of the work accomplished, and Inactivation accounted for 26%.

Top 10 Weapon/Support Systems (by cost)



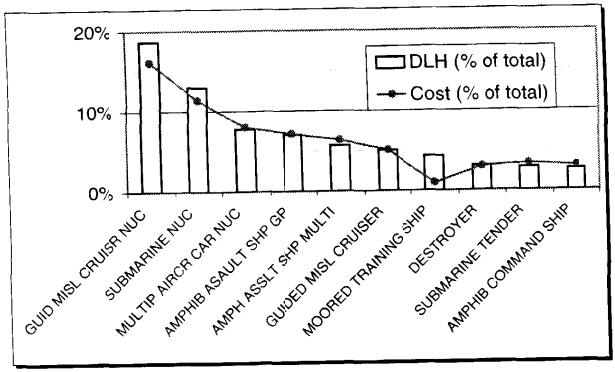
- Nuclear Guided Missile Cruisers and Submarines, the top two WSSCs depicted in the graphic, accounted for approximately 27% of total costs.
- Not included in the graphic are Non-specific/unknown WSSCs, which total $233M in costs. WBS coding identified that approximately 91% of this amount was used to support Miscellaneous Systems Not Otherwise Identified.

Work Category Performed (by percentage of cost)



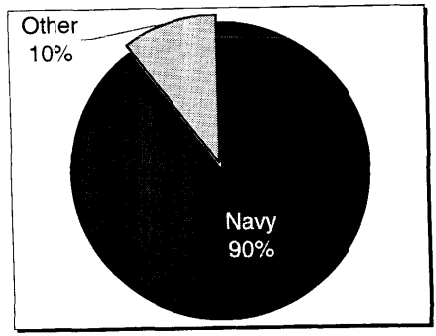
- Other Work led all work categories performed with $193M in total costs, followed closely by overhaul with $188M.
- Other Work consumed 4.5M DLHs, while overhaul consumed 9.3M

Top 10 Weapon/Support Systems (by percentage of total DLHs and cost)



- Nuclear Guided Missile Cruisers and Submarines, the top two WSSCs depicted in the graphic, accounted for approximately 32% of total DLHs and 27% of total costs.
- The top 10 systems depicted account for 70% of the DLHs expended and 65% of costs.
- Non-specific/unknown WSSCs, accounting for costs of $233M and DLHs of 2.2M, are not included in the graphic.

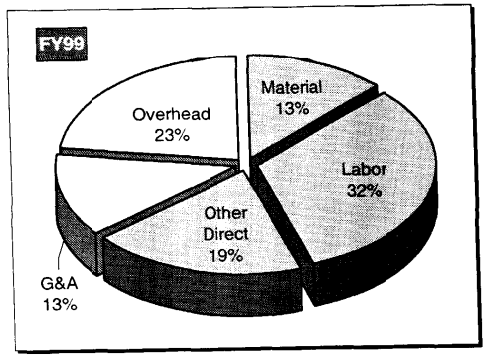
Customers (by percentage of cost)



- Work for Navy customers totaled $778M in FY99.
- Non-Navy customers included the Coast Guard ($50M) and miscellaneous Defense Agencies ($37M).

Cost Categories (per direct labor hour)

Cost Category		$ per DLH		
		FY97	FY98	FY99
Direct	Material	12	10	11
	Labor	27	27	28
	Other Direct	11	22	16
Indirect	G&A	33	5	11
	Overhead	6	25	20
Total		88	90	87



- For FY99, Labor costs represented the largest cost category, constituting 32% of total costs.
- Indirect costs have fluctuated over the past three years. They were 44% of the total costs per DLH in FY97, 34% in FY98, and 36% in FY99.
- FY99 Total costs per DLH were down 3% from FY98 and 1% from FY97.

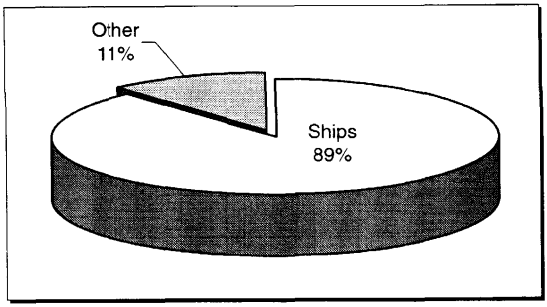
Totals

$224M total costs

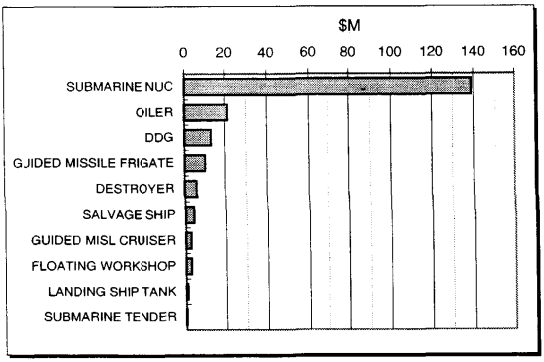
1.9M direct labor hours

- Ships accounted for $199M of total costs.
- Within the Ship category, 49% of the effort was expended on Overhauls.

Major Weapon/Support System Category (by percentage of cost)

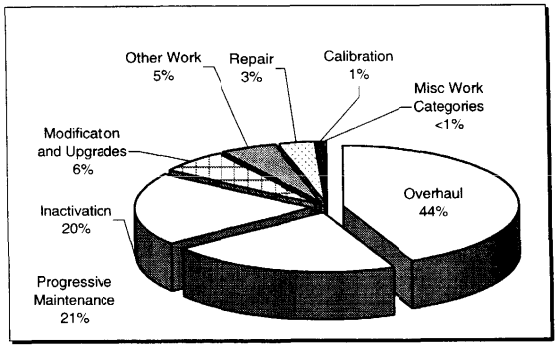


Top 10 Weapon/Support Systems (by cost)



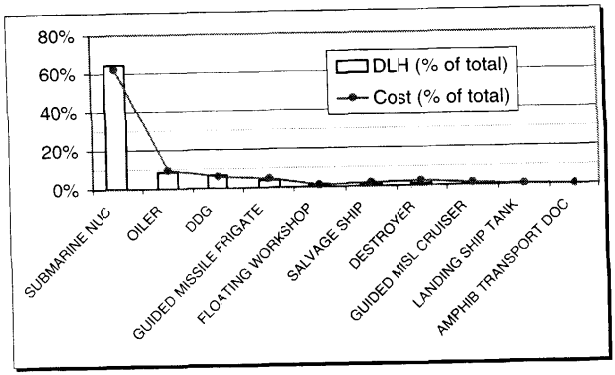
- The Nuclear Submarine workload category accounted for 62% of total costs.
- Not included in the graphic are Non-specific/unknown WSSCs accounting for $26M in costs.

Work Category Performed (by percentage of cost)



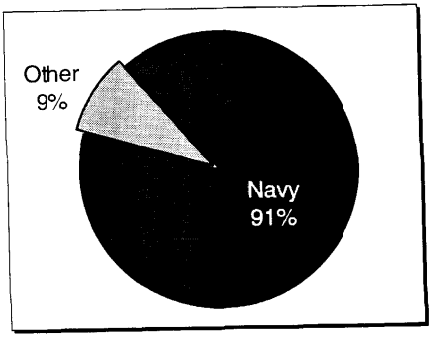
- Overhaul led all work categories performed with $98M in total costs.
- Overhauls consumed 889K DLHs.

Top 10 Weapon/Support Systems (by percentage of total DLHs and cost)



- Nuclear Submarines accounted for 64% of DLHs and 62% of costs.
- The top 10 systems depicted accounted for 88% of the total expended DLHs and costs.
- Non-specific/unknown WSSCs, accounting for costs of $26M and 230K DLHs, are not included in the graphic.

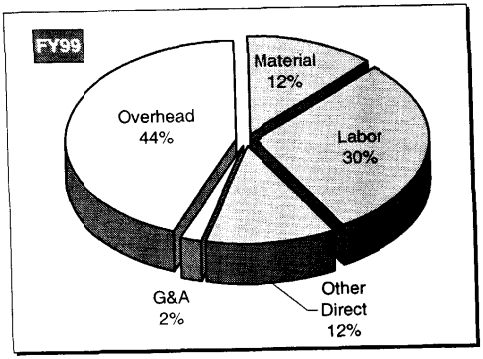
Customers (by percent of cost)



- Work for Navy customers totaled $203M in FY99.
- The primary non-Navy customer was not identifiable (Customer Code not interpretable).

Cost Categories (per direct labor hour)

Cost Category		$ per DLH		
		FY97	FY98	FY99
Direct	Material	8	12	14
	Labor	31	32	35
	Other Direct	3	7	14
Indirect	G&A	8	0	2
	Overhead	35	50	52
Total		85	101	117



- For FY99, Overhead costs represented the largest cost category, constituting 44% of total costs per DLH.
- Indirect costs represented approximately 50% of costs in FY97 and FY98, but only 46% in FY99.
- FY99 total costs per DLH were up 16% from FY98 and 39% from FY97.

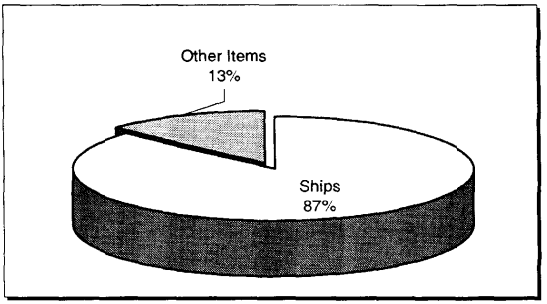
Totals

$752M total costs

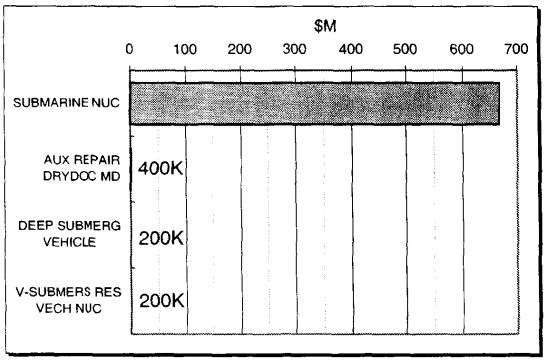
9.2M direct labor hours

- Ships accounted for $654M of total costs.
- Within Ships, WPC Overhaul consumed 59% of the costs.
- A small amount of work ($3.7M) was executed in the General Purpose Equipment and Electronics & Communication categories.

Major Weapon/Support System Category (by percentage of cost)

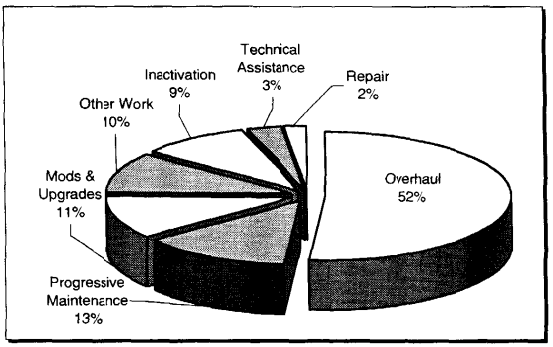


Weapon/Support Systems (by cost)



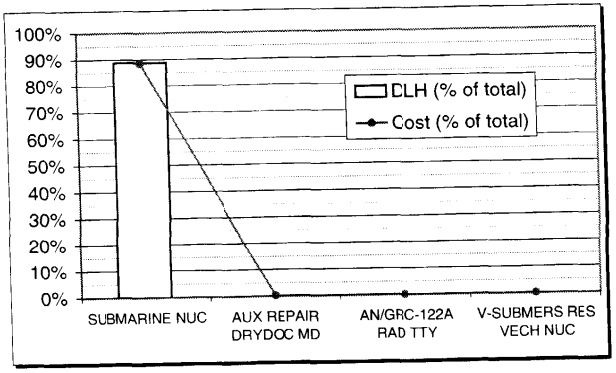
- Nuclear Submarines accounted for 88% of total costs.
- Not included in the graphic are Non-specific/unknown WSSCs accounting for $85.7M in costs. WBS coding identified that approximately 96% of this cost was used to support Miscellaneous Systems Not Otherwise Identified.

Work Category Performed (by percentage of cost)



- Overhaul led all work categories performed with $386M in total costs.
- Overhaul work consumed 4.9M DLHs.

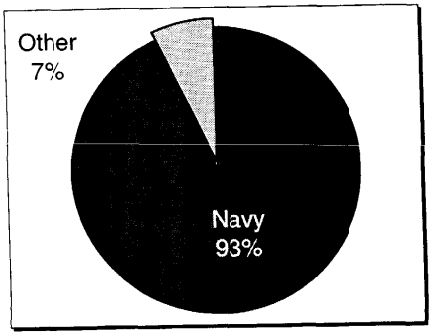
Weapon/Support Systems
(by percentage of total DLHs and cost)



- Nuclear Submarines accounted for 89% of the direct labor hours and 88% of costs.

- The systems shown in the chart account for all of the costs and DLHs expended, with the exception of Non-specific/unknown WSSCs. These WSSCs account for total costs of $85.7M and 1.02M DLHs.

Customers
(by percentage of cost)

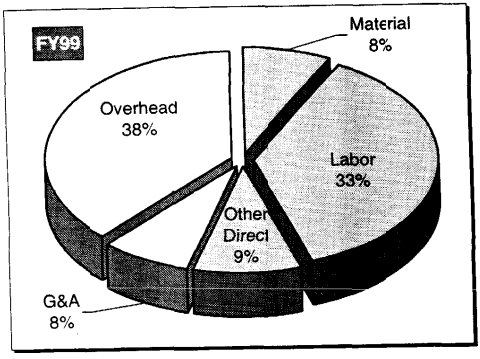


- Work for Navy customers totaled $700M in FY99.

- The primary non-Navy customer was not identifiable (Customer Code not interpretable).

Cost Categories
(per direct labor hour)

Cost Category		$ per DLH		
		FY97	FY98	FY99
Direct	Material	6	12	6
	Labor	28	30	30
	Other Direct	3	14	8
Indirect	G&A	1	2	6
	Overhead	42	33	31
Total		80	90	82



- For FY99, Overhead costs represented the largest cost category, constituting 38% of total costs per DLH.

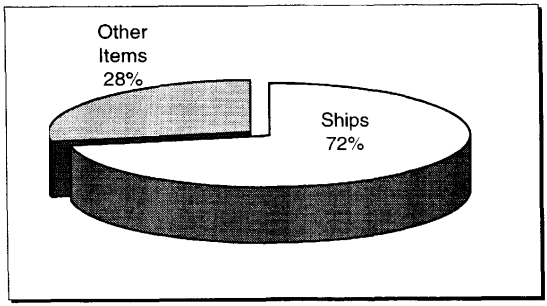
- Total costs (per DLH) returned to close to FY97 levels.

- FY99 total costs per DLH were down 10% from FY98, and up 2% from FY97.

Totals

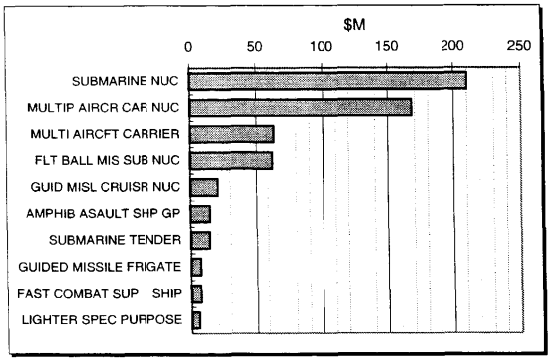
- $844M total costs
- 10.4M direct labor hours

Major Weapon/Support System Category (by percentage of cost)



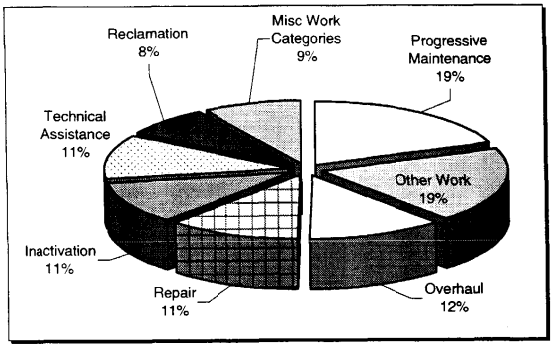
- Ships accounted for $610M of total costs.
- Within the Ship category, 27% of the work pertained to Progressive Maintenance.

Top 10 Weapon/Support Systems (by cost)



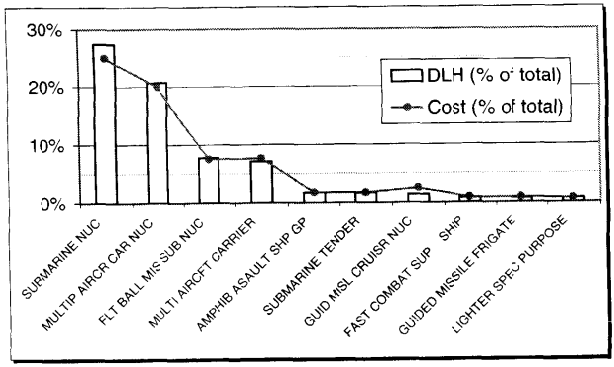
- Nuclear Aircraft Carriers and Submarines, the top two systems depicted in the graphic, accounted for 45% of total costs.
- Non-specific/unknown WSSCs accounted for $262M in costs and are not included in the chart. WBS coding identified that approximately 89% of this amount was used to support Miscellaneous Systems Not Otherwise Identified.

Work Category Performed (by percentage of cost)



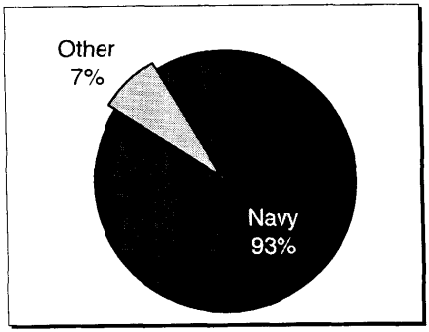
- Progressive Maintenance led all work categories performed with $165M in total costs, and consumed 2.1M DLHs.
- Other Work accounted for $160M in costs, and consumed 1.7M DLHs.

Top 10 Weapon/Support Systems
(by percentage of total DLHs and cost)



- Nuclear Submarines accounted for 27% of DLHs and 25% of costs.
- The top 10 systems depicted account for 70% of the DLHs expended and 68% of costs.
- Non-specific/unknown WSSCs, accounting for costs of $262M and 3.1M DLHs, are not depicted in the graphic.

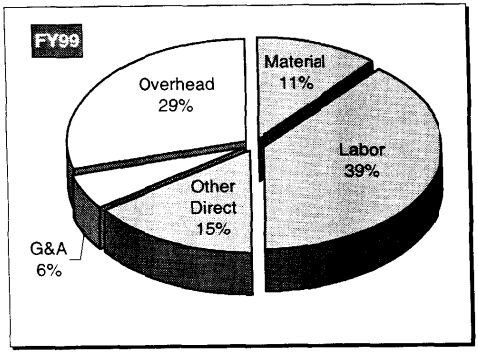
Customers
(by percentage of cost)



- Work for Navy customers totaled $781M in FY99,
- The primary non-Navy customer was not identifiable (Customer Code not interpretable).

Cost Categories
(per direct labor hour)

Cost Category		$ per DLH		
		FY97	FY98	FY99
Direct	Material	5	8	9
	Labor	29	30	31
	Other Direct	7	5	12
Indirect	G&A	13	0	4
	Overhead	18	28	24
Total		72	71	81



- During FY99, Labor costs represented the largest cost category, constituting 39% of total costs per DLH.
- Indirect costs as a percentage of total costs have decreased from 43% in FY97 to 35% in FY99.
- FY99 total costs per DLH were up 14% from FY98 and 12% from FY97.

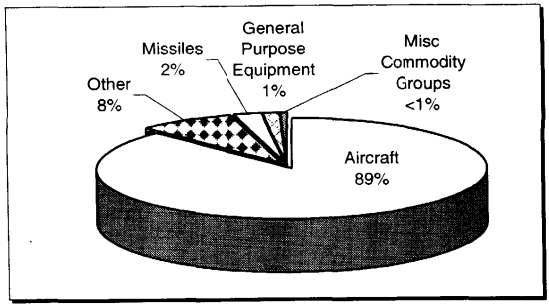
Totals

$2.36B total costs

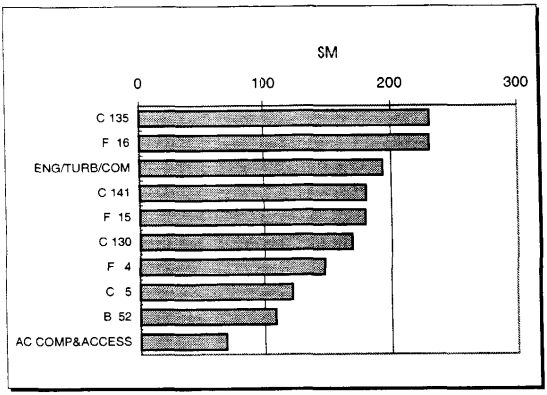
20.1M direct labor hours

- Aircraft accounted for $2.1B in total costs.
- Within the Aircraft category, Progressive maintenance accounted for 35% of the work performed and Overhauls accounted for 34%.

Major Weapon/Support Systems (by percentage of cost)

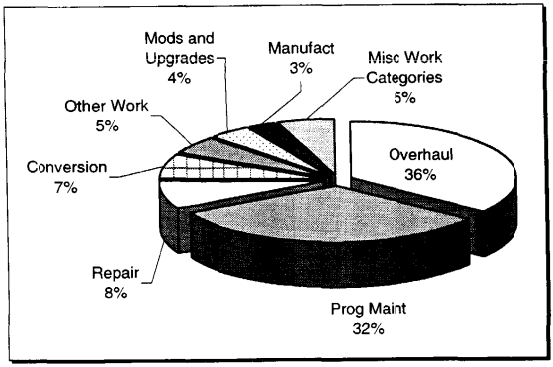


Top 10 Weapon/Support Systems (by cost)



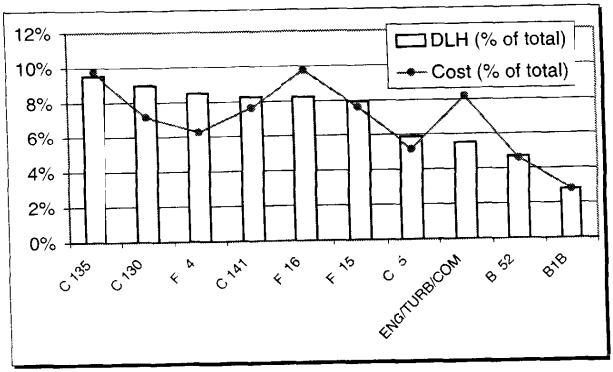
- The C-135 accounted for $230M, or 10% of total costs.
- The F-16 also accounted for around $230M.
- The eng/turb/com category supports turbine engines.

Work Category Performed (by percentage of cost)



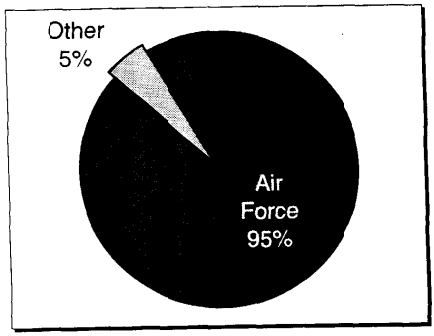
- Overhaul led all work categories performed with $835M in total costs.
- Overhaul work consumed 5.6M DLHs, while progressive maintenance consumed 7.2M DLHs.

Top 10 Weapon/Support Systems (by percentage of total DLHs and cost)



- The C-135 accounted for 10% of direct labor hours and costs.
- The top 10 systems accounted for 70% of the DLHs expended and 69% of costs.
- Non-specific/unknown WSSC categories, not included in the graphic, account for 424K DLHs (3% of total) and costs totaling $32M (3%).

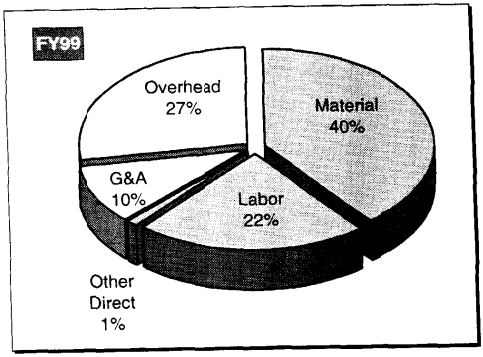
Customers (by percentage of cost)



- Work for Air Force customers totaled $2.2B in FY99.
- The Navy was the primary non-Air Force customer, with workload totaling $77M.

Cost Categories (per direct labor hour)

Cost Category		$ per DLH		
		FY97	FY98	FY99
Direct	Material	39	43	46
	Labor	24	25	26
	Other Direct	1	2	1
Indirect	G&A	11	11	12
	Overhead	32	33	32
Total		108	114	118



- For FY99, Material costs represented the largest cost category, constituting 40% of total costs.
- Indirect costs (as a percentage of total costs per DLH) have remained stable over the past three years, fluctuating between 37% and 40%.
- FY99 total costs per DLH were up 3% from FY98 and 9% from FY97.

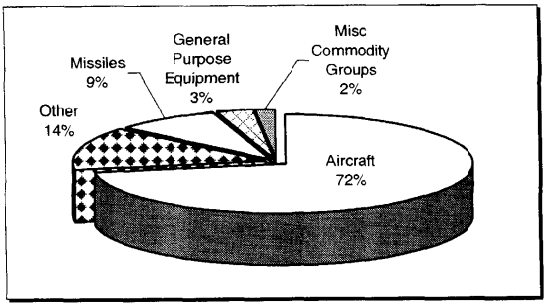
Totals

$500M total costs

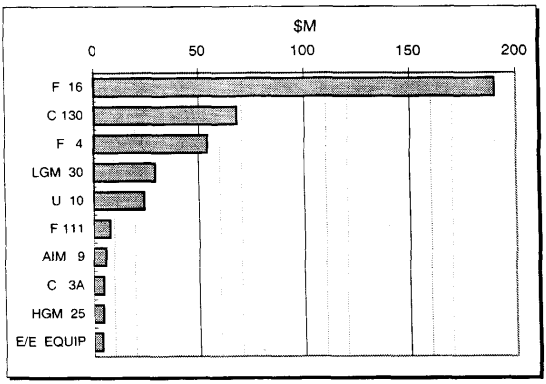
4.8M direct labor hours

- Aircraft accounted for $362M in total costs.
- Within the Aircraft category, Overhaul (36%), Conversion (35%), and Progressive Maintenance (20%) were the leading work performance categories.

Major Weapon/Support System Category (by percentage of cost)

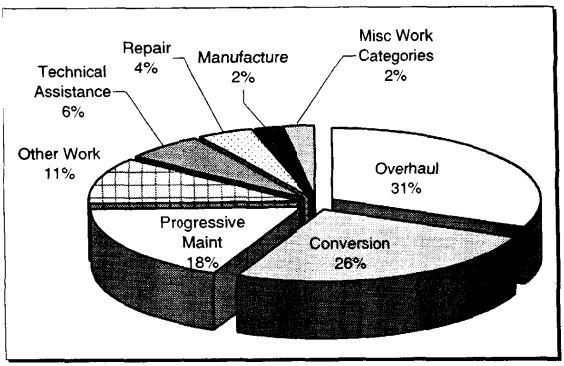


Top 10 Weapon/Support Systems (by cost)



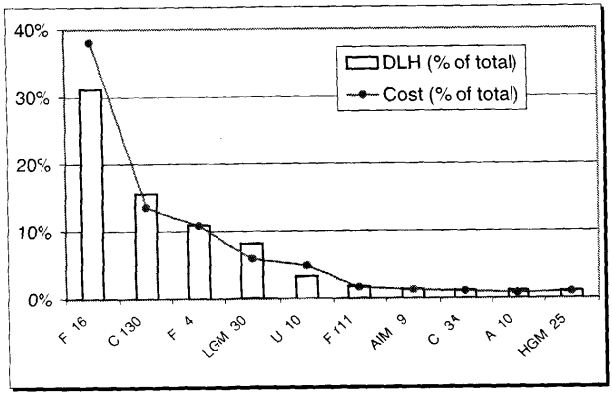
- The F-16 series aircraft accounted for 31% ($190M) of Ogden's total costs.
- Non-specific/unknown WSSC categories not included in the graphic account for costs totaling $55M.

Work Category Performed (by percentage of cost)



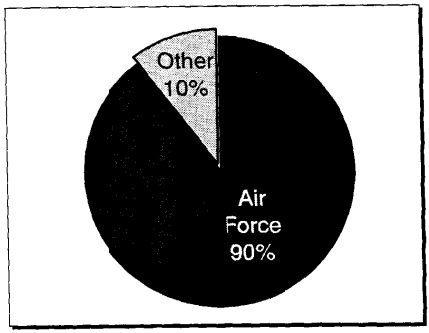
- Overhaul led all work categories performed with $156M in total costs.
- Overhaul work consumed over 1.2M DLHs.

Top 10 Weapon/Support Systems
(by percentage of total DLHs and cost)



- The F-16 series accounted for 31% of direct labor hours and 29% of costs.
- The top 10 systems accounted for 76% of the DLHs expended and 60% of costs.
- Non-specific/unknown WSSC categories, not included in the graphic, account for 701K DLHs expended (16%) and costs totaling $55M (9%).

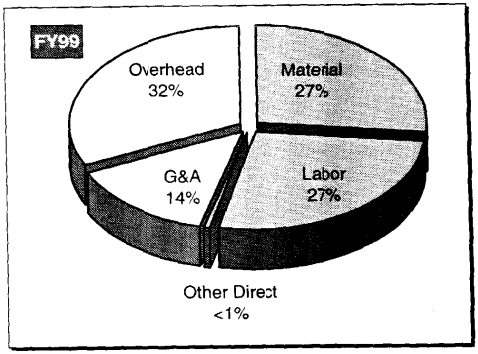
Customers
(by percentage of cost)



- Work for Air Force customers totaled $448M.
- The primary non-Air Force customer was Other Federal Agencies, with workload totaling $32M.

Cost Categories
(per direct labor hour)

Cost Category		$ per DLH		
		FY97	FY98	FY99
Direct	Material	25	25	28
	Labor	27	27	28
	Other Direct	1	0	0
Indirect	G&A	14	16	15
	Overhead	32	34	33
Total		99	103	104



- During FY99, Overhead costs represented the largest cost category, constituting 32% of total costs.
- Indirect costs (as a percentage of total costs per DLH) fell slightly in FY99.
- FY99 total costs per DLH were up 2% from FY98 and 5% from FY97.

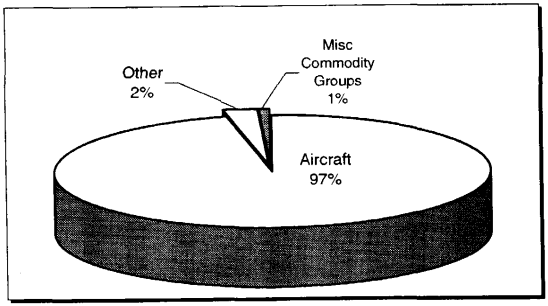
Totals

$1.1B total costs

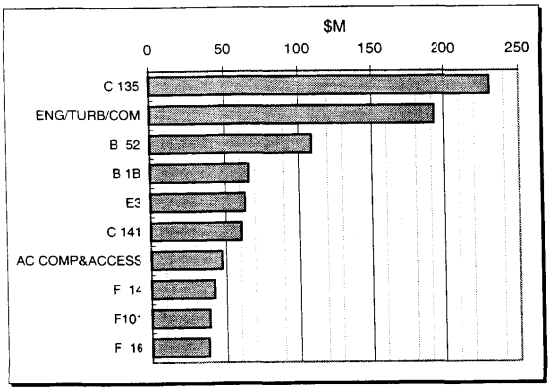
7.8M direct labor hours

- Aircraft accounted for $1.0B in total costs. In the graphic, aircraft-related engine work is included in the WBS Aircraft category.
- Within the Aircraft category, Overhauls accounted for 39% of the work accomplished, and progressive maintenance accounted for 32%.

Major Weapon/Support System Category (by percentage of cost)

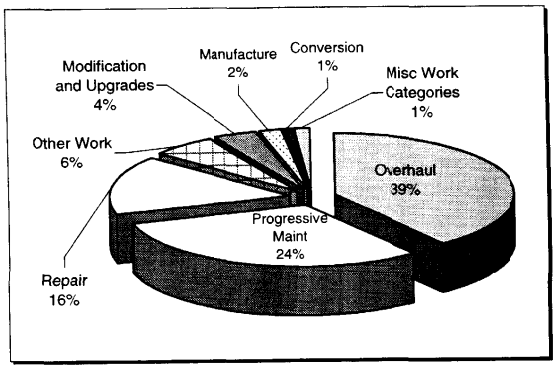


Top 10 Weapon/Support Systems (by cost)



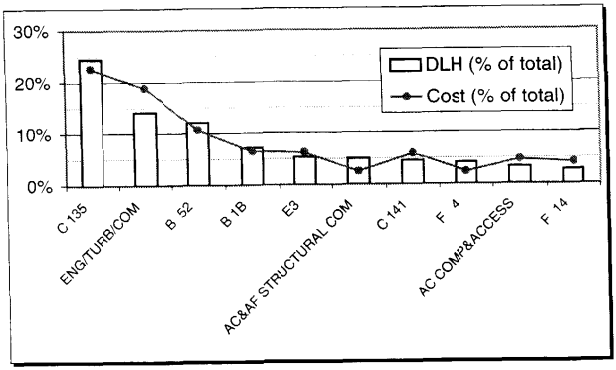
- The C-135 accounted for 24% of total costs.
- The two general weapon support systems (eng/turb/com and ac comp & access) accounted for 24% of total costs.

Work Category Performed (by percentage of cost)



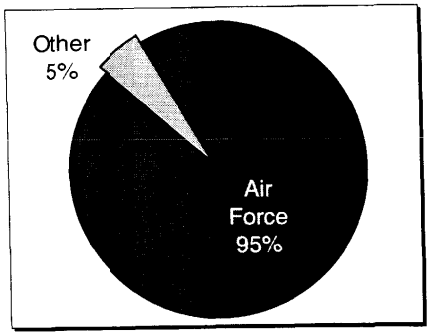
- Overhaul led all work categories performed with $419M in total costs.
- Overhaul work consumed 2.4M DLHs.

Top 10 Weapon/Support Systems
(by percentage of total DLHs and cost)



- The C-135 accounted for 24% of direct labor hours and 22% of total costs.
- The top 10 systems accounted for 82% of the DLHs expended and 80% of costs.

Customers
(by percentage of cost)

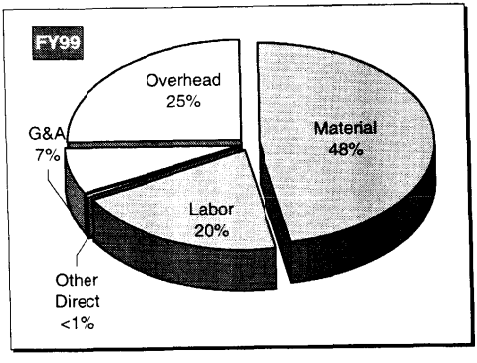


- Work for Air Force customers totaled $998M in FY99.
- The Navy was the primary non-Air Force customer, with workload totaling $57M.

Cost Categories
(per direct labor hour)

Cost Category		$ per DLH		
		FY97	FY98	FY99
Direct	Material	41	49	64
	Labor	24	25	27
	Other Direct	0	0	1
Indirect	G&A	10	9	10
	Overhead	30	31	34
Total		106	114	135

- For FY99, Material costs represented the largest cost category, constituting 48% of total costs per DLH.
- Indirect costs (as a percentage of total costs per DLH) have fallen slightly over the past three years, from 38% of costs in FY97 to 32% of costs in FY99.
- FY99 total costs per DLH were up 18% from FY98 and 27% from FY97.



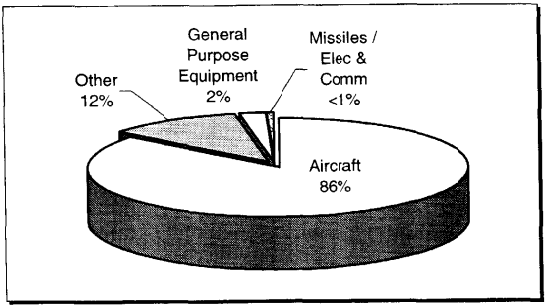
Totals

$305M total costs

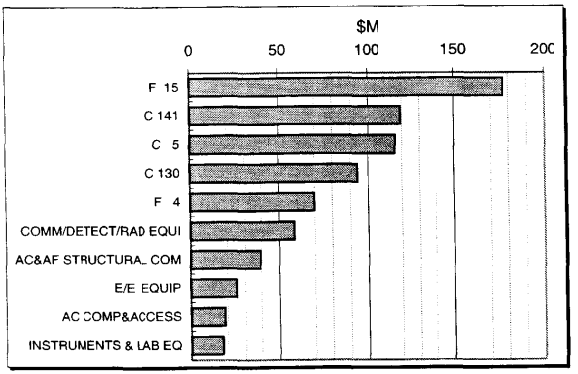
7.5M direct labor hours

- Aircraft accounted for $690M of total costs.
- Missiles / Elec & Comm does not include over $70M worth of aircraft-related Communications & Electronics workload contained in the Aircraft commodity group.

Major Weapon/Support System Category (by percentage of cost)

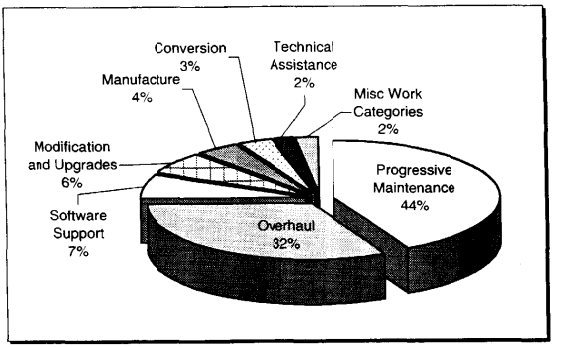


Top 10 Weapon/Support Systems (by cost)



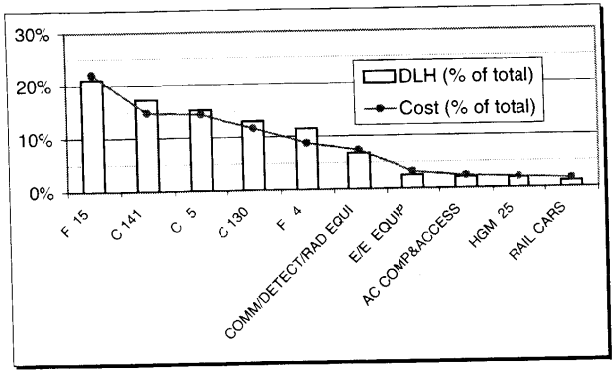
- The F-15 aircraft series accounted for 22% of total costs.
- The C-141 series accounted for just over 15% of total costs.
- Five of the ten weapon support systems are general in nature. These account for 16% of total costs.

Work Category Performed (by percentage of cost)



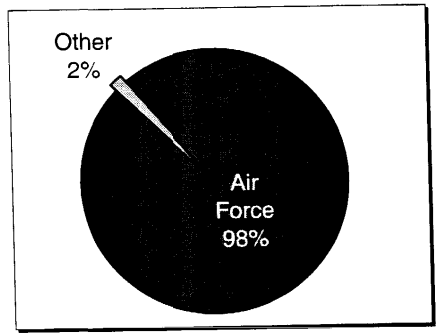
- Progressive Maintenance led all work categories performed with $344M in total costs.
- Less than 1% of costs were attributed to the Repair work performance category.

Top 10 Weapon/Support Systems
(by percentage of total DLHs and cost)



- The F-15 accounted for 21% of direct labor hours and 22% of costs.
- The top 10 systems accounted for 92% of the DLHs expended and 88% of costs.

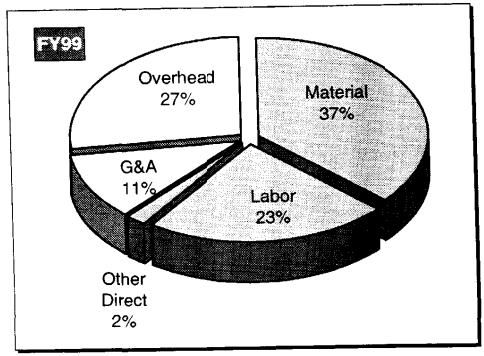
Customers
(by percentage of cost)



- Work for Air Force customers totaled $792M in FY99.
- The Coast Guard was the primary non-Air Force customer, with workload totaling over $7M.

Cost Categories
(per direct labor hour)

Cost Category		$ per DLH		
		FY97	FY98	FY99
Direct	Material	28	26	40
	Labor	25	25	25
	Other Direct	1	2	2
Indirect	G&A	9	9	12
	Overhead	32	29	29
Total		95	91	108



- During FY99, material costs represented the largest cost category, constituting 37% of total costs.
- As a percentage of total costs per direct labor hour, Indirect costs have fallen slightly over the past three years, from 44% of total costs in FY97 to 38% of total costs in FY99.
- FY99 total costs per DLH were up 19% from FY98 and 13% from FY97.

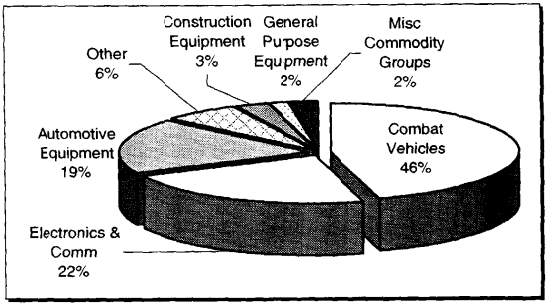
Totals

$95M total costs

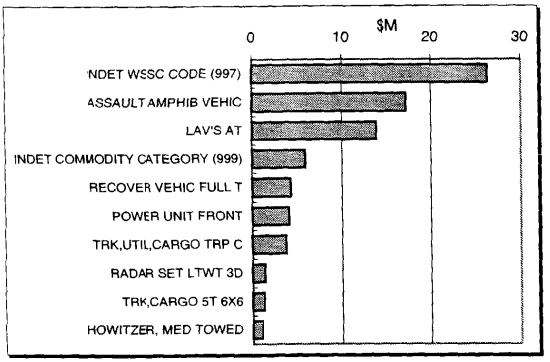
1.2M direct labor hours

- Combat vehicles accounted for $44M of the total costs.
- *Within the Combat Vehicle category,* overhaul accounted for 47% of the work accomplished, while Repair accounted for 41%.

Major Weapon/Support System Category (by percentage of cost)

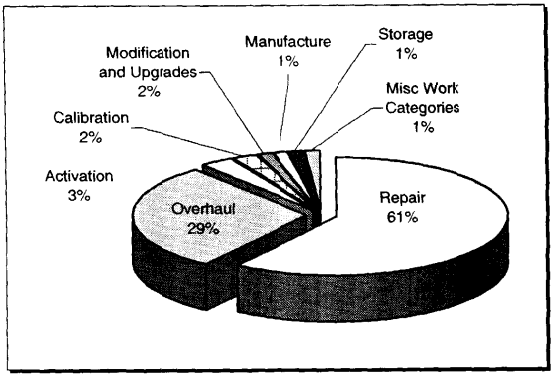


Top 10 Weapon/Support Systems (by cost)



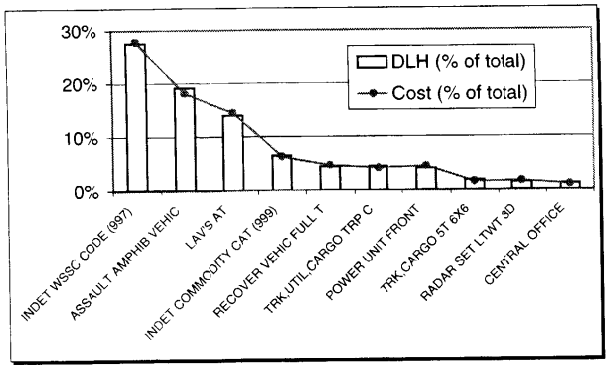
- The Indeterminate WSSC Code (997), which can indicate that work supported multiple wepaon system support categories, accounted for 28% of the total costs.
- Within the Indeterminate WSSC Code, Repairs accounted for 57% and Overhauls accounted for 20% of the costs.

Work Category Performed (by percentage of cost)



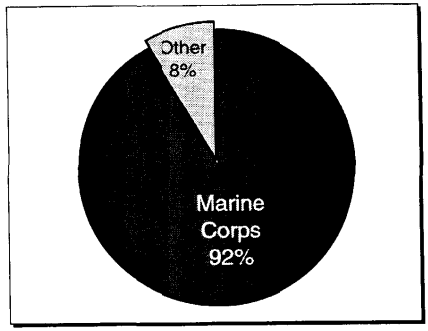
- Repairs led all work categories performed with $57M in total costs.
- Repair work consumed 709K DLHs.

Top 10 Weapon/Support Systems (by percentage of total DLHs and cost)



- The Indeterminate WSSC Code (997) accounted for 28% of the DLHs and 28% of costs.
- The top 10 systems accounted for 84% of both the DLHs and costs.

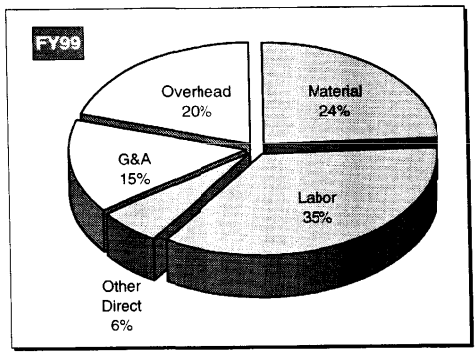
Customers (by percentage of cost)



- Work for Marine Corps customers totaled $87M in FY99.
- The Air Force was the primary non-Marine Corps customer, with workload totaling $2.2M.

Cost Categories (per direct labor hour)

Cost Category		$ per DLH		
		FY97	FY98	FY99
Direct	Material	26	20	19
	Labor	24	26	28
	Other Direct	2	4	5
Indirect	G&A	16	12	12
	Overhead	19	17	16
Total		87	79	80



- For FY99, Labor costs represented the largest cost category, constituting 35% of total costs per DLH.
- Indirect costs, as a percentage of total costs per DLH, have declined over the past three years, from 40% in FY97 to 35% in FY99.
- FY99 total costs per DLH were up 1% from FY98 but down 8% from FY97.

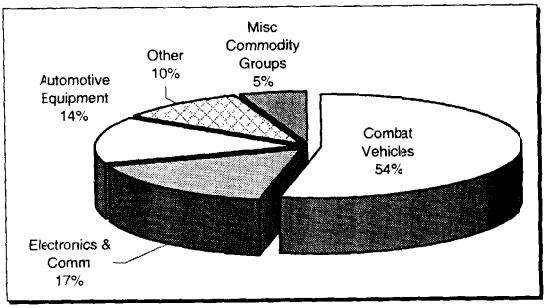
Totals

$59M total costs

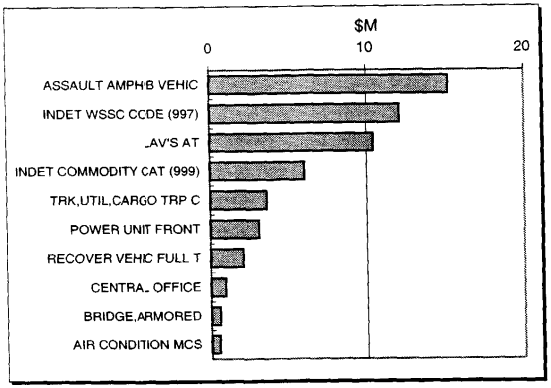
752K direct labor hours

- Combat Vehicles accounted for $31M of total costs.
- Within the Combat Vehicle category, Repair (54%) and Overhaul (34%) were the top work performance categories.

Major Weapon/Support System Category (by percentage of cost)

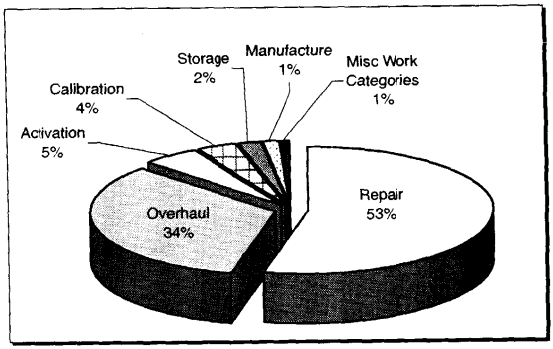


Top 10 Weapon/Support Systems (by cost)



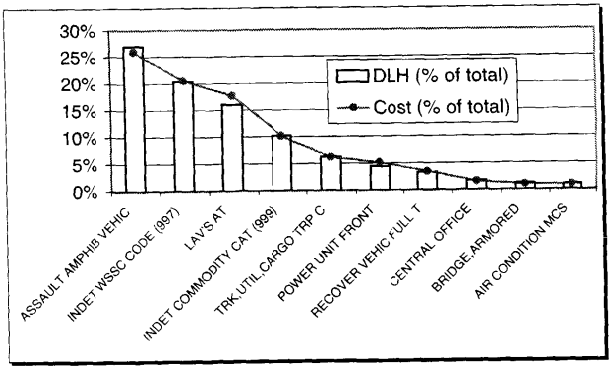
- Assault amphibious vehicles accounted for $15M (26%) of Albany's total costs.
- Within the assault amphibious vehicles category, Overhauls and Repairs accounted for 81% of costs.
- Non-specific/unknown WSSCs, accounting for $1.3M in costs, are not included in the graphic. WBS coding identified that approximately 56% of these costs supported Automotive Equipment, 27% Construction Equipment, and 15% Electronics & Communication.

Work Category Performed (by percentage of cost)



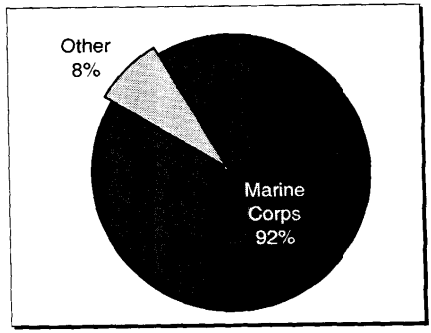
- Repair led all work categories performed with $32M in total costs.
- Repair workload consumed 406K DLHs.

Top 10 Weapon/Support Systems (by percentage of total DLHs and cost)



- Assault amphibious vehicle accounted for 27% of DLHs and 26% of costs.
- The systems shown in the chart accounted for 91% of the DLHs expended and 75% of the costs.
- Non-specific/unknown WSSCs, accounting for costs of $1.3M and 19K DLHs, are not included in the graphic.

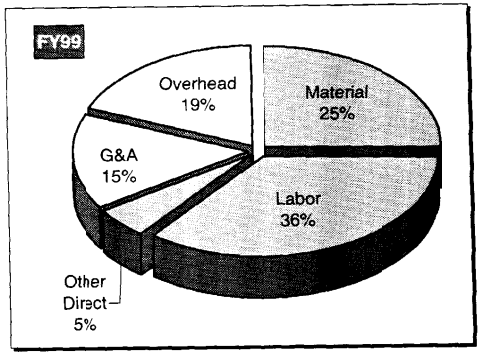
Customers (by percentage of cost)



- Work for Marine Corps customers totaled $54M in FY99.
- The Air Force was the primary non-Marine Corps customer, with workload totaling over $2.2M.

Cost Categories (per direct labor hour)

Cost Category		$ per DLH		
		FY97	FY98	FY99
Direct	Material	22	21	20
	Labor	24	26	28
	Other Direct	2	4	4
Indirect	G&A	15	11	12
	Overhead	19	16	15
Total		82	79	78



- For FY99, Labor costs represented the largest cost category, constituting 36% of total costs per DLH.
- Indirect costs— as a percentage of total costs per DLH—have declined over the past three years, from 41% in FY97 to 34% in FY99.
- FY99 total costs per DLH were down 1% from FY98 and 5% from FY97.

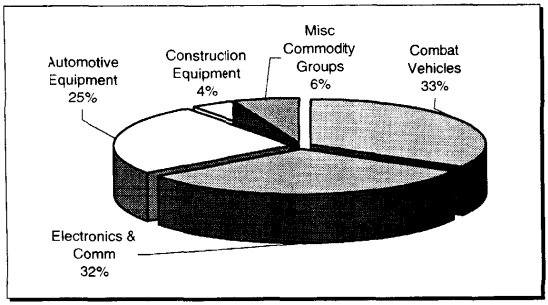
Totals

$36M total costs

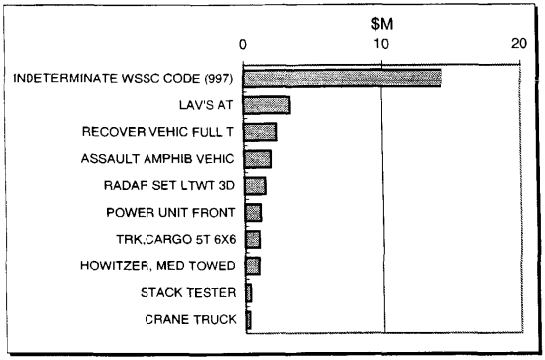
431K direct labor hours

- Combat Vehicles accounted for $12M of total costs.
- Within the Combat Vehicles workload, Repair accounted for 63% of the work accomplished, and overhaul accounted for 31%.

Major Weapon/Support System Category (by percentage of cost)

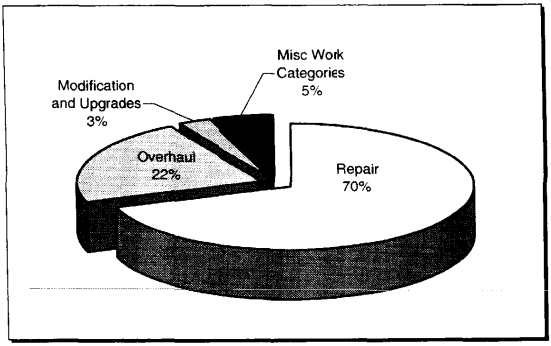


Weapon/Support Systems (by cost)



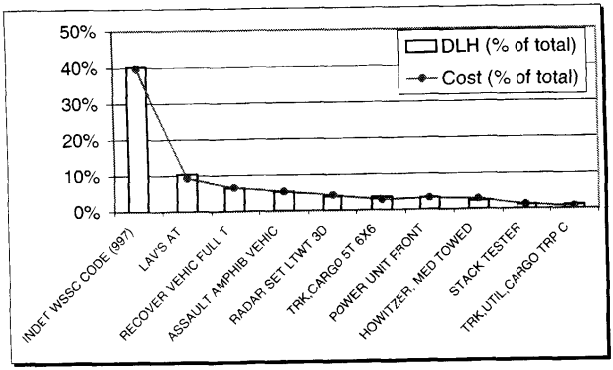
- The Indeterminate WSSC Code (997) represented $14.4M, or 40% of costs.
- Non-specific/unknown WSSCs represented $7.1M in costs.

Work Category Performed (by percentage of cost)



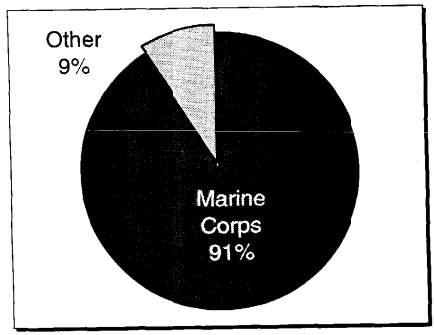
- Repair led all work categories performed with $25M in total costs.
- Repair work consumed 302K DLHs.

Top Weapon/Support Systems
(by percentage of total DLHs and cost)



- The Indeterminate WSSC Code (997) accounted for 40% of the DLHs as well as costs.
- The systems shown in the chart account for 78% of the DLHs expended and 76% of the costs.

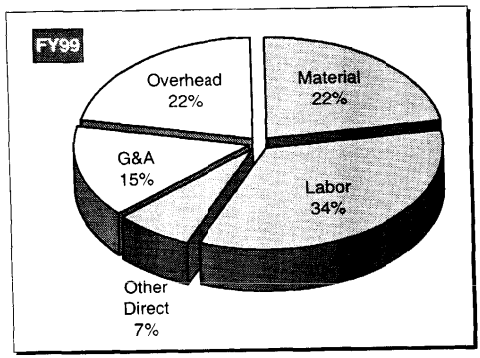
Customers
(by percentage of cost)



- Work for Marine Corps customers totaled $33M in FY99.
- The Army was the primary non-Marine Corps customer, with workload totaling just over $1.8M.

Cost Categories
(per direct labor hour)

Cost Category		$ per DLH		
		FY97	FY98	FY99
Direct	Material	30	18	19
	Labor	25	27	29
	Other Direct	2	5	6
Indirect	G&A	16	13	12
	Overhead	20	18	18
Total		92	81	84



- For FY99, Labor costs represented the largest cost category, constituting 34% of total costs per DLH.
- Indirect costs have declined slightly over the past three years, from 39% of total costs per DLH in FY97 to 37% of total costs per DLH in FY99.
- Total cost per DLH declined 9% from FY97 to FY99.

WORK BREAKDOWN STRUCTURE (WBS)

Tape Position			DESCRIPTION
79	80	81	
A			**AIRCRAFT**
	1		Fighters
		1	Basic Aircraft
		2	Engine
		3	Aircraft and Engine Accessories and Components
		4	Electronics and Communications Equipment
		5	Armament
		6	Support Equipment
		7	Other
	2		Bombers
		*	*Same as for Fighters*
	3		Cargo and/or Transports
		*	*Same as for Fighters*
	4		Trainers
		*	*Same as for Fighters*
	5		Utility
		*	*Same as for Fighters*
	6		Attack
		*	*Same as for Fighters*
	7		Patrol
		*	*Same as for Fighters*
	8		Antisubmarine
		*	*Same as for Fighters*
	9		Other (Includes Helicopters)
		*	*Same as for Fighters*
B			**AUTOMOTIVE EQUIPMENT**
	1		Tactical Vehicles
		1	Basic Vehicle (Hull and/or Body Frame and Installed Systems)
		2	Engine
		3	Vehicle and Engine Components and Accessories
		4	Electronic and Communications Equipment
		5	Armament

Tape Position			DESCRIPTION
79	80	81	
		6	Support Equipment
		7	Other
	2		Support Vehicles
		*	*Same as for Tactical Vehicles*
	3		Administrative
		*	*Same as for Tactical Vehicles*
C			**COMBAT VEHICLES**
	1		Tanks
		*	*Same as for Tactical Vehicles*
	2		Armored Personnel Carriers
		*	*Same as for Tactical Vehicles*
	3		Self-Propelled Artillery
		*	*Same as for Tactical Vehicles*
	4		Other Combat Vehicles
		*	*Same as for Tactical Vehicles*
D			**CONSTRUCTION EQUIPMENT**
	1		Tractors and Earth Moving Equipment
		1	Basic Vehicle (Hull and/or Body Frame and Installed Systems)
		2	Engine
		3	Vehicle and Engine Components and Accessories
		4	Other
	2		Cranes and Shovels
		*	*Same as for Tractors and Earth Moving Equipment*
	3		Other
		*	*Same as for Tractors and Earth Moving Equipment*
E			**ELECTRONICS AND COMMUNICATIONS SYSTEMS**
	1	**	Radio (*report to second level only*)
	2	**	Radar (*report to second level only*)
	3	**	Computer (*report to second level only*)
	4	**	Wire and Communications (*report to second level only*)
	5	**	Other
F			**MISSILES**
	1		Ballistic Missiles
		1	Basic Missile
		2	Propulsion System and Components

Tape Position			DESCRIPTION
79	80	81	
		3	Missile Accessories and Components
		4	Support and Launch Equipment
		5	Guidance System and Components
		6	Surface Communications and Control Systems
		7	Payload System and Components
		8	Other
	2		Other Missiles
		*	*Same as for Ballistic Missiles*
G			**SHIPS**
	1		Battleships and Cruisers
		1	Hull Structure
		2	Propulsion Plant
		3	Electric Plant
		4	Command and Surveillance
		5	Auxiliary Systems
		6	Outfit and Furnishings
		7	Armament
		8	Engineering (Direct Support)
		9	Ship Support Service
	2		Carriers
		*	*Same as for Battleships and Cruisers*
	3		Destroyers
		*	*Same as for Battleships and Cruisers*
	4		Submarines
		*	*Same as for Battleships and Cruisers*
	5		Patrol Vessels
		*	*Same as for Battleships and Cruisers*
	6		Mine Warfare Vessels
		*	*Same as for Battleships and Cruisers*
	7		Auxiliary and Amphibious Vessels
		*	*Same as for Battleships and Cruisers*
	8		Service Craft and Miscellaneous Vessels
		*	*Same as for Battleships and Cruisers*
	9		Frigates
		*	*Same as for Battleships and Cruisers*

Tape Position			DESCRIPTION
79	80	81	
H			**ORDNANCE WEAPONS AND MUNITIONS**
	1	**	Nuclear Weapons (*report to second level only*)
	2	**	Chemical and Bacteriological Weapons (*report to second level only*)
	3	**	Conventional Arms and Explosives (*report to second level only*)
	4	**	Small Arms (*report to second level only*)
	5	**	Artillery and Guns (*report to second level only*)
	6	**	Other (*report to second level only*)
I&J			**NOT USED**
K			**GENERAL PURPOSE EQUIPMENT**
	1	**	Rail Equipment (*report to second level only*)
	2	**	Generator or Sets (*report to second level only*)
	3	**	General Purpose Maintenance Tooling and Equipment (*report to second level only*)
	4	**	Other Items (includes Medical, Chaplain, Musical and Personal Equipment, Tents, Tarpaulins, etc.) (*report to second level only*)
	5	**	Federal Supply Group 34—Metal Working Machinery (*report to second level only*)
L	**1**	**1**	**ALL OTHER ITEMS NOT IDENTIFIED TO ABOVE CATEGORIES**

WORK PERFORMANCE CATEGORIES (WPC)

Code A - Overhaul. The disassembly, test, and inspection of the operating components and the basic structure to determine and accomplish the necessary repair, rebuild, replacement and servicing required to achieve the desired level of performance. Overhaul is synonymous with "rework" and "rebuild."

Code B - Progressive Maintenance. A predetermined amount of work that represents a partial overhaul under a program that permits the complete overhaul to be accomplished by means of two or more scheduled work efforts in the maintenance process. Progressive maintenance is synonymous with "cycle maintenance," "restricted availability," "preventive servicing," "recondition," and "phased" or "incremental maintenance."

Code C - Conversion. The alteration of the basic characteristics of an item to such an extent as to change its mission, performance, or capability.

Code D - Activation. The process of returning an item from preservation, storage, or inactive status to an active, serviceable status by means of removal from storage and containers, stripping, inspection, servicing, testing, and repair, replacement of components, assemblies, or subassemblies as required.

Code E - Inactivation. The servicing and preservation of an item prior to placement in storage or an inactive status.

Code F - Renovation. The proof and test evaluation, rework of ammunition or ordnance items as required for retaining their desired capability.

Code G - Analytical Rework. The disassembly, test and inspection of end items, assemblies or subassemblies to determine and accomplish the necessary rework, rebuild, replacement, or modification required. It includes the technical analysis of the findings and determination of maintenance criteria. Includes prototype teardown, analysis and rework of an item to determine job and material specifications for a subsequent maintenance requirement.

Code H - Modifications and Upgrades. Modifications and upgrades are changes to systems and equipment for safety reasons, to correct a deficiency, or to improve program performance. A "modification" is a change to a system that is still being produced; an "upgrade" is a change to a system that is out of production.

Code I - Repair. Action to restore an item to a serviceable condition from an unserviceable condition, correcting principally those defects that rendered the item unserviceable.

Code J - Inspection and Test/Engineering Investigations. The examination and confirmation of the condition or operational status of an item relative to its applicable specifications; includes First Article Test. Engineering investigations are used to determine the cause of reported equipment failure or malfunction and are accomplished through the application of a disassembly and inspection investigation, material analysis inspection, and/or an engineering assistance investigation.

Code K - Manufacture. The fabrication of an item from raw materials or components.

Code L - Reclamation. The authorized processing of end items, assemblies or subassemblies to obtain parts or components that are to be retained in operating materials and supplies prior to taking disposal action on the end item, assembly or subassembly. Covers demilitarization actions on items prior to disposal when the demilitarization is incidental to the reclamation.

Code M - Storage. The inspection, represervation, and maintenance in a storage status of weapons and equipment items and their subsystems and components in the supply system.

Code N - Technical Assistance. The use of qualified depot maintenance personnel to provide technical information, instructions, or guidance, or to perform specific work requiring special skills for operational activities or other maintenance organizations. Includes all demilitarization other than that incidental to reclamation when required to be reported.

Code O, P, Q, R, and S - Not Used.

Code T - Other Work. Used to complete the reporting of all maintenance work force costs incurred. Any costs incurred at a depot maintenance activity funded by the Defense Business Operations Fund that do not meet the criteria for reporting under the other work performance categories shall be reported in this category. This includes any maintenance support costs funded by a Defense Business Operations Fund activity. Maintenance support includes centralized programming and planning support, technical and engineering services, preparation of maintenance publications and engineering data, and technical and administrative training.

Code U - Software Support. The sum of all amounts for efforts required to correct software deficiencies to ensure that, during the post-deployment phase of a mission-critical computer system's life, the implemented and fielded software continues to support the system mission. Depot maintenance software support excludes efforts required to update software to operate the new hardware configurations or required to support new missions. Depot maintenance software support addresses both embedded software systems and support equipment software (e.g., automated test equipment).

Code V - Calibration. The comparison of a measurement system or device of unknown accuracy to a system or device of known and greater accuracy. The system or device of greater accuracy is a measurement standard.

Code W - Contractor Logistics Support (CLS). CLS is commercial support for those weapon systems and equipment that do not have an organic support base established. Contractors provide total support including depot maintenance for the equipment, end item, and components. CLS will include only those maintenance functions that would be classified as depot level, if the equipment was maintained organically.

Code X - Not Used.

Code Y - Scheduled Maintenance. The application of certain maintenance procedures to ensure that aeronautical equipment is maintained by controlling degradation resulting from time, operational cycles, use, and climatic exposure. Scheduled maintenance requirements are the minimum necessary under all conditions and are mandatory to ensure timely discovery and correction of defects. Includes Standard Depot Level Maintenance (SDLM) and Programmed Depot Maintenance (PDM).

Code Z - Not Used.