

General Index of Maintenance & Logistics Websites

Prepared by James C. Downing, CPL

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Note! The Internet sites are always undergoing constant change and revision. There are many good references for term papers/reports. Not all of the Websites have been revised. For those that have changed and an error message is received try using a good search engine and perform a key word or document title search. Many of these references will also be included in the posted Modules and Assignments for each week. You can also perform a key word search of this document. **On the top bar click on "Find" and enter a key word that you want to search for in this document. If the Web link does not open then try coping and pasting the link directly into your Web browser.**

Research and Innovative Technology Administration (RITA), Bureau of Transportation Statistics.
<http://www.bts.gov/> Excellent Airline and Air Cargo information.

Metacrawler & Dogpile Search Engines

Navigating the FAA Websites

MSG-3

(1.0 Series) Other Maintenance Websites

General Aviation Manufacturers Association

Air Transport Association

Regional Airline Association

ASCI/MGMT419 Aircraft Maintenance Articles & Websites, These are some of best general aviation maintenance & management articles that are available on the Internet.

DAU Maintenance Management

<https://acc.dau.mil/CommunityBrowser.aspx?id=22449&lang=en-US>

MGMT 440 Logistics Articles and Websites

PBL, DAU PBL

Quality Assurance & ISO 9000 Websites

Aerospace Unions and Labor Issues

Management Theory

Professional Aviation Maintenance Association (PAMA)

Integrated Logistics Support (ILS)

Configuration Management

Sustainment <https://acc.dau.mil/CommunityBrowser.aspx?id=18073&lang=en-US>

(2.0 Series) Department of Defense & Military Websites

Defense Acquisition University (This is another excellent reference Website)

Search Mil.Com <http://www.searchmil.com/> Excellent source of military topics.

Air University

International Society of Logistics (SOLE)

[American Production and Inventory Control Society \(APICS\)](#)
[Council of Logistics Management \(CLM\)](#), Changed to the “[Council of Supply Chain Management Professionals \(CLM\)](#)”
[DOT Transportation Research Board](#)
[Transportation Security Administration \(TSA\)](#)
[Intermodal Transportation](#)
[Human Factors](#)
 NASA Ames <http://www.nasa.gov/centers/ames/home/index.html>
 Boeing Lean Enterprise <http://www.boeing.com/news/frontiers/archive/2002/august/cover.html>
[Personnel Management](#)
[F-35 Logistics Articles](#)
[Boeing 787 Videos](#)
[Supply Chain Management](#)
[Sustainment and Performance Based Logistics \(PBL\)](#) (Major References)
[PBL, DAU PBL](#)

Navigating The FAA Websites [Top](#)

The FAA Home Page [Available] <http://www.faa.gov/> provides many links to valuable information that can be accessed there. A few of the important addresses are listed here:

- About the FAA [Available] <http://www.faa.gov/aboutfaa/index.cfm>
- **Site Help & Search:** [Available] <http://www.faa.gov/> . Type in a key word such as “Aging Aircraft” and many responses will delivered. This is one of the best tools to find maintenance related topics.
- **FAA Aerospace Forecasts 2008-2025**
http://www.faa.gov/data_research/aviation/aerospace_forecasts/
- Advisory Circulars [Available]
http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgAdvisoryCircular.nsf/MainFrame?OpenFrameSet&CFID=11148511&CFTOKEN=1bdfc0839545c4fc-D8702200-1372-4132-8D00416295A929E8&jsessionid=7030b65220853394f93c2f471df504e25b71
- Advisory Circulars [Available] [Top](#)
http://www.airweb.faa.gov/REGULATORY_AND_GUIDANCE_LIBRARY/RGADVISORYCIRCULAR.NSF/MAINFRAMENETSCAPE4X?OpenFrameSet
- **FAA Regulations:** [Available]
<http://www.landings.com/landings/pages/fars.html>
http://www.faa.gov/regulations_policies/faa_regulations/
- How Do I Become a Mechanic? [Available]
<http://www.faa.gov/mechanics/become/basic/>
- FAA Flight Standards Service. Many handbooks and other links and topics available
http://www.faa.gov/about/office_org/headquarters_offices/avs/offices/afs/
- Human Factors in Aviation [Available] <http://hfskyway.faa.gov/> . This site provides access to products of the Federal Aviation Administration Flight Standards Service Human Factors in Aviation Maintenance and Inspection Research Program.
- Flight Standards Information Management Systems (8900)
<http://fsims.faa.gov/PICResults.aspx?mode=EBookContents>

- **FAA Regulations:** [Available] <http://www.landings.com/landings/pages/fars.html>
http://www.faa.gov/regulations_policies/faa_regulations/

Aging Aircraft Inspection Systems Research The Aviation Safety Research Act of 1988 directed the FAA to develop technologies and conduct data analysis for predicting the effects of aircraft design, [Available] <http://www.tc.faa.gov/its/cmd/factsheets/data/AAR-430/aainsp~1.pdf> - size 95.3K

MSG-3 ATA 2002.1 [Available from Jim Downing] [Top](#)

Suspected Unapproved Parts Program also [Available]

<http://www.faa.gov/aircraft/safety/programs/sups/media/supfn111.pdf>

PowerPoint presentation from the FAA discussing Health Monitoring and Management Systems (HMMS),

https://www.faa.gov/news/conferences/2006_us_europe_conference/presentations/media/HMMS.ppt

Research and Innovative Technology Administration (RITA), Bureau of Transportation Statistics.

<http://www.bts.gov/> Excellent Airline and Air Cargo information.

(1.11) Logistics World Magazine [Available] <http://logisticsworld.com/>

Many links available.

(1.12) Reliability Analysis Techniques:

(1.12.1) Isograph Direct home page <http://www.isograph-software.com/index.htm>

Links to: [Fault Tree Analysis](#), [Simulation](#), [Prediction](#), [FMECA](#), [Reliability Block Diagram](#), [Life Cycle Costing](#), [Markov Analysis](#), [Hazop](#), [Weibull](#). Techniques of Reliability Prediction Software <http://www.isograph.com/workbench.htm>

(1.12.2) Reliability Center. [Available] <http://www.reliability.com/>

(1.13) [The Aircraft Mechanics Fraternal Association](#) [Available] <http://www.amfanatl.org/> , <http://www.amfa5.org/> , http://en.wikipedia.org/wiki/Aircraft_Mechanics_Fraternal_Association

(1.14) Aircraft Technology Engineering & Maintenance Magazine [Available]

<http://www.freetrademagazinesource.com/8-2048825322/description.aspx>

(1.15) Air Transport World The magazine of World Airline Management [Available]

<http://www.atwonline.com/magazine/index.html>

(1.16) Overhaul & Maintenance: The Aviation Week Magazine for O & M Management

[Available] http://www.aviationnow.com/avweek1/om_marketing_page.jsp

Some articles are available in the current and back issues.

(1.17) AW&ST Aviation Now [Available] <http://www.aviationnow.com/>

(1.19) **Evergreen International Aviation, Inc.** (EA) is a privately held global aviation services company that is active through seven subsidiary companies. These subsidiaries operate under the Evergreen name and provide services that include specialized helicopter aviation services; air cargo transportation for major airlines and freight forwarders; aircraft maintenance and repair services; helicopter and fixed-wing aircraft sales; airport logistics and ground handling operations; complete helicopter component repair and overhaul; and agricultural and

nursery products. [Available] <http://www.evergreenaviation.com/>

(1.21) Airline Suppliers Association (ASA). The Airline Suppliers Association is an independent aviation association dedicated to addressing the concerns and needs of the companies involved with the supply of aviation parts. [Available] <http://www.aviationsuppliers.org/> . About Us <http://www.aviationsuppliers.org/aboutus.htm>

(1.21.1) The ASA-100 Quality System Standard Version 3.5. [Available] [Top http://www.aviationsuppliers.org/accreditation/ASA-100%20Documents.htm](http://www.aviationsuppliers.org/accreditation/ASA-100%20Documents.htm)

(1.25) Study for contracting services for the Government (A76 Studies) [Available] <http://www.whitehouse.gov/omb/circulars/a076/a076sa6.html> .

(1.27) Human Factors and Human Resources Web sites:

(1.27.1) Human Factor [Available] <http://www2.hf.faa.gov/opsManual/>

(1.27.2) Human Factors Toolbox [Available]

<http://www.amtonline.com/publication/article.jsp?pubId=1&id=5571>

(1.27.3) Human factors and aircraft maintenance. [Available]

http://findarticles.com/p/articles/mi_m0IBT/is_8_60/ai_n6183928/

(1.27.4) Federal Aviation Administration Human Factors. [Available]

<http://hfskyway.faa.gov/hfskyway/index.aspx>

(1.27.5) Reference Maintenance Human Factors. NASA [Available]

<http://humanfactors.arc.nasa.gov/>

(1.27.6) Human Factors & Ergonomics. Many good

links to other sites [Available] <http://www.usernomics.com/human-factors.html>

Human Factor 101. Retrieved 24 February 2007 from <http://human-factors.arc.nasa.gov/web/hf101/index.html>

(1.28) **Society for Human Resource Management**. Home Page [Available] <http://www.shrm.org/> .

(1.29) **Camp Systems International**. **Good examples of available civil maintenance and support software programs**. [Available] <http://www.campsys.com/> . Click on Products & Services” and click on different links.

(1.30) Reliability Centered Maintenance (RCM) References:

(1.30.1) The Society for Maintenance & Reliability Professionals, or SMRP, is an independent, non-profit society by and for practitioners in the Maintenance & Reliability Profession. [Available] <http://www.smrp.org/>

(1.30.4) Excellent links to RCM Principles. [Available]

<http://www.reliabilityweb.com/fa/rcm.htm>

(1.30.4.2) Maintenance Management - A New Paradigm, by John Moubray.

Abstract: This paper attempts to summarize fifteen of the most important areas of Change, which have occurred in the field of physical asset management over the past fifteen years. Excellent information [Available]

<http://reliabilityweb.com/index.php/articles/list/category/reliability-centered-maintenance/>

AIAA American Institute of Aeronautics and Astronautics <http://www.aiaa.org/>

(1.33) Organizational Theory and Structures Websites. See ATA Airline Handbook Chapter 3

(1.33.1) Organizational structures [Available]

<http://choo.fis.utoronto.ca/FIS/Courses/LIS1230/LIS1230sharma/od2.htm>

(1.34) The Journal of Air Transportation World Wide's (JATWW) mission is to provide the global community immediate key resource information in all areas of air transportation.

[Available] <http://jat.unomaha.edu/> [Top](#)

AeroInfo.com <http://www.aeroinfo.com/>

(1.36) **Quality Assurance & ISO 9000 Websites:** [Top](#)

(1.36.1) **NASA: ISO 9000 General Information.** Many good “Quality” links (Click on subjects): What is ISO 9000? Why ISO 9000? How Does ISO 9001 Work? 20 System Element Requirements for ISO 9001 [Available] <http://www.hq.nasa.gov/office/iso>

(1.36.2) ISO 9000 Translated into Plain English - Table of Contents. Our web site translates ISO 9000 into plain English. It discusses ISO 9000, 9001, 9002, 9003, 9004, 10011, and 10013. And it introduces three internal audit programs and a quality 650, [Available] <http://praxiom.com/>

(1.37) Engineering Support Websites:

(1.37.1) Honeywell's Customer Support Engineering organization. [Available]

<http://www.honeMaintenanceengineering.supportywell.com/sites/aero/Custom-Support.htm>

(1.38) **Aerospace Unions and Labor Issues Websites:** [Top](#)

(1.38.1) **The International Association of Machinists and Aerospace Workers** [Available] <http://www.goiam.org/> News <http://www.goiam.org/news.cfm>

(1.38.2) **The Aircraft Mechanics Fraternal Association** is a craft-oriented, independent aviation union. It is not an industrial union. The AMFA is committed to elevating the professional standing of Aviation Maintenance Technicians and to achieving continual improvements in the wages, benefits and working conditions. Good overview of the organization and current issues. [Available] <http://www.amfanational.org/>

Big Labor.com <http://www.biglabor.com/unionweb/AMFA.html>

Recent Union News <http://www.goiam.org/news.cfm>

(1.39) **Management Theory References** [Top](#)

(1.39.1) **The Five Functions of Management.** (mgmtref2.doc) [Available]

<http://www.ag.ohio-state.edu/~mgtexcel/Function.html>

(1.39.1.1) Planning [Available] <http://www.ag.ohio-state.edu/~mgtexcel/Planning.html>

(1.39.1.2) Organizing [Available] <http://www.ag.ohio-state.edu/~mgtexcel/Organize.html>

(1.39.1.3) Staffing [Available] <http://www.ag.ohio-state.edu/~mgtexcel/Staffing.html>

(1.39.1.4) Directing [Available] <http://www.ag.ohio-state.edu/~mgtexcel/Direct.html>

(1.39.1.5) Controlling [Available] <http://www.ag.ohio-state.edu/~mgtexcel/Control.html>

(Quality management

(1.39.10) Business Management and Entrepreneurship. (mgmtref2.doc) [Available]

<http://www.bused.org/busmgn.html> Save as mgmtx1.htm

(1.39.12) Motivation Theory, Fredrick Herzberg (Mgmtref.doc) [Available] http://www.accel-team.com/human_relations/hrels_05_herzberg.html

(1.39.13) David C. McClelland: Motivation Theory (Mgmtref.doc) [Available]

http://www.accel-team.com/human_relations/hrels_06_mcclelland.html. A discussion of motivation and achievement factors.

(1.39.14) Abraham H. Maslow's Hierarchy of Needs (Mgmtref.doc) [Available]

http://www.accel-team.com/human_relations/hrels_02_maslow.html

(1.39.15) George Elton Mayo's Hawthorne Experiments (Mgmtref.doc) [Available]

http://www.accel-team.com/human_relations/hrels_01_mayo.html

(1.39.16) Motivation Theory, Human Relations (Mgmtref.doc) [Available]

http://www.accel-team.com/human_relations/index.html. A discussion of industrial and human relations concepts.

(1.39.17) The theorists and their theories (Mgmtref.doc) [Available]

http://www.accel-team.com/motivation/theory_01.html. Provides an over of: Theory X & Y, Maslow, Herzberg, Chris Argyris, Likert, Fred Luthan's contingency approach, and Victor Vroom's expectancy theory.

1.39.19) Motivation Theory Rensis Likert (Mgmtref.doc) [Available]

http://www.accel-team.com/human_relations/hrels_04_likert.html

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(1.40.0) Plant Maintenance. Many good plant maintenance articles [Available]

http://www.plant-maintenance.com/maintenance_articles.shtml

(1.40.1) Articles on Computerized Maintenance Management Systems (CMMS).

Available] http://www.plant-maintenance.com/maintenance_articles_cmms.shtml

(1.40.2) Management Articles [Available]

http://www.plant-maintenance.com/maintenance_articles.shtml (The following indexes of articles listed.

Professional Aviation Maintenance Association (PAMA) [Available] <http://www.pama.org/AV Power general aviation engineering services web cite>. It just basically gives a introduction to the company, some of its core competencies, experience and services they offer. [Available] <http://www.avpower.net/>. [Top](#)

(1.0) Other Maintenance Websites

NOTE! "Metacrawler" [Available] <http://www.metacrawler.com/index.html> is an excellent academic "Search Engine" to find information on the "Internet". Much of the information listed in the references was found using "Metacrawler".

Dogpile [Available] <http://www.dogpile.com/info.dogpl/> is another excellent search engine.

[Top](#)

(1.1) Primary references & links to everything in aviation. [Available] <http://www.landings.com/> Links to "Fleet" and other Information. Go to "Search" type "Maintenance" or other key words.

(*1.3) **General Aviation Manufacturers Association (GAMA)** [Available]

<http://www.gama.aero/home.php>

(1.4) **Air Transport Association:** Trade organization for U.S. Airlines Home Page Enter [Available] <http://www.airlines.org/>

(*1.4.2) New ATA “Spec2000 <http://www.spec2000.com/> . Click on Overview. Also Click on major Tabs:

1. [ATA Aviation Marketplace](http://www.spec2000.com/20.html) ,<http://www.spec2000.com/20.html>
2. [E-Commerce Standards](http://www.spec2000.com/30.html), <http://www.spec2000.com/30.html>
3. [File Standards](http://www.spec2000.com/40.html), <http://www.spec2000.com/40.html>
4. [Bar Coding Standards](http://www.spec2000.com/50.html), <http://www.spec2000.com/50.html>

[ATA Aviation Marketplace](http://www.spec2000.com/20.html) <http://www.spec2000.com/20.html>

Click on secondary links.

- o [Procurement Database](#)
- o [Repair Database](#)
- o [Surplus Database \(formerly known as AIRS\)](#)
- o [Tools, Test & Ground Equipment Database](#)
- o [Needs Database](#)

[E-Commerce Standards](http://www.spec2000.com/30.html) <http://www.spec2000.com/30.html>

Click on secondary links.

[Order Administration and Invoicing](#)
[Repair Order Administration](#)
[Warranty Claims Placement](#)
[XML Representations](#)

[File Standards](http://www.spec2000.com/40.html) <http://www.spec2000.com/40.html>

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Click on secondary links.

[Provisioning](#)
[Inventory Consumption Data Exchange](#)
[Performance Reporting](#)
[Delivery Configuration](#)
[Reliability Data Collection/Exchange](#)

[Bar Coding Standards](http://www.spec2000.com/50.html) <http://www.spec2000.com/50.html>

<http://www.airlines.org/products/AirlineHandbookTableofContents.htm>

(1.4.3) ATA Airline Handbook Chapter 3: Structure of the Industry. **Discusses how air carrier maintenance is organized (line and staff)** [Available]

<http://www.airlines.org/products/AirlineHandbookCh3.htm>

(1.4.4) ATA Airline Handbook Chapter 6: Safety. **Discusses the regulatory role of the DOT/FAA** [Available] <http://www.airlines.org/products/AirlineHandbookCh6.htm>

(1.5) International Air Transport Association: Trade organization for international airlines
[Available] <http://www.iata.org/index.htm>

(1.6) ICAO: International Civil Aviation Organization Home Page [Available]
<http://www.icao.int/>

(*1.6.1) ICAO STRATEGIC ACTION PLAN [Available]
http://www.icao.int/icao/en/strat_txt.htm

(1.7) Industry Best Manufacturing Practices. Many are aviation related. [Available]
<http://www.bmpcoe.org/>

ASCI/MGMT 419 Aircraft Maintenance Articles (ASCI/MGMT 419) This is a very good general aviation Website. [Available] <http://www.amtonline.com/> [Top](#)

- A Comparison of Aircraft Maintenance Organizational Structures, <http://www.stormingmedia.us/85/8510/A851062.html>
- New USAF Wing Structure (**Full text available**). http://findarticles.com/p/articles/mi_m0IBO/is_4_28/ai_n13822258/
- **Camp Systems International. Good examples of available civil maintenance and support software programs.** [Available] <http://www.campsys.com/> . Click on **Products & Services** and then click on the different links.
- Articles on Computerized Maintenance Management Systems (CMMS). [Available] http://www.plant-maintenance.com/maintenance_articles_cmms.shtml
- Aging Systems: <https://acc.dau.mil/CommunityBrowser.aspx?id=22415>
- Reliability, Availability, and Maintainability: <https://acc.dau.mil/CommunityBrowser.aspx?id=18009>
- An Introduction to TPM http://www.plant-maintenance.com/articles/tpm_intro.shtml
- Reliability Centered Maintenance (RCM) <http://www.fractalsolutions.com/reliability.html>
- *Human Factor 101*. Retrieved 24 February 2007 from <http://human-factors.arc.nasa.gov/web/hf101/index.html>
- ERGOWORLD's Air & Ground Human Factors <http://www.interface-analysis.com/ergoworld/trans.htm>
- Usernomics <http://www usernomics.com/human-factors.html>
- HUMAN FACTORS & ERGONOMICS RESOURCES http://www.2-sir.com/Human_Factors/ [Top](#)
- Search Mil.Com <http://www.searchmil.com/> Excellent source of military topics.
- DoD Materiel Readiness <http://www.acq.osd.mil/log/mr/index.html>
- Military Manuals.com: <http://www.military-manuals.com/>
- USAF e Publishing: <http://www.e-publishing.af.mil/shared/media/epubs/afi21-101.pdf>
Link to AFI 21-101, June 2006.
- Industry Steering Committee Article: <http://www.airworthy.us/id2.html>
- SMRP is an independent, non-profit society by and for practitioners in the Maintenance & Reliability Profession. [Available] <http://www.smrp.org/> .
- Relex (RCM): <http://www.reliability-centered-maintenance.com/>
- Wikipedia: http://en.wikipedia.org/wiki/Reliability_centred_maintenance
- Reliability Web.com: <http://www.reliabilityweb.com/fa/rcm.htm>
- John Moubray, Chapter 1: <http://www.maintenanceresources.com/referencelibrary/rcm/rcm1.htm>
- Maintenance Management - A New Paradigm, by John Moubray. Abstract: This paper attempts to summarize fifteen of the most important areas of change, which have occurred in the field of physical asset

management over the past fifteen years. Excellent information [Available]

<http://www.maintenanceresources.com/referencelibrary/rcm/maintparadigm.htm>

- Boeing RCM Article [Available] <http://www.boeing.com/commercial/ams/mss/brochures/reliability.html>
- NASA RCM website: <http://www.nasa.gov/offices/oce/llis/0891.html>
- Business Process Reengineering [Available] <http://www.brint.com/BPR.htm> and Michael Hammer <http://www.hammerandco.com/about.asp> .
- Demings 14 points (TQM) [Available]. <http://www.educesoft.com/quality/demming.htm> and <http://www.hci.com.au/hcisite2/articles/deming.htm> [Top](#)
- Leader to Leader Institute [Available] <http://www.pfdf.org/>
- The Peter F. Drucker Graduate School of Management: Peter Drucker Awarded the Presidential Medal of Freedom! - Drucker School and City of Claremont to host Mystery Charity Event. 1021 North Dartmouth Ave. ...[Available] <http://drucker.cgu.edu/>
- This article is from HRM Guide, which is a website dedicated for Human Resources Management. It discusses management theory dating back to the 50's and 60's and mentions Theories X and Y, Maslow's and Herzberg's motivational theories. http://www.hrmguide.co.uk/introduction_to_hrm/management-theory.htm

MGMT 440 Logistics Articles and Websites:

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- Society of Reliability Engineers (SRE) <http://www.sre.org/>
- Reliability Analysis Center http://src.alionscience.com/pdf/2nd_Q1998.pdf, <http://src.alionscience.com/src/toolbox.do>
- ISOGRAPH <http://www.isograph.com/workbench.htm> Isograph Software www.isograph-software.com
- The Society for Maintenance & Reliability Professionals, or SMRP, is an independent, non-profit society by and for practitioners in the Maintenance & Reliability Profession. <http://www.smrp.org/>
- Aircraft Sustainment <http://www.afrlhorizons.com/Briefs/Sept02/VA0208.html>
- Availability is not Reliability <http://www.barringer1.com/ar.htm>
- Maintainability <http://www.barringer1.com/jul01prb.htm>
- Managing Availability http://www.reliabilityweb.com/excerpts/excerpts/managing_availability.htm
- PBL Products (Operational Availability) <http://baidefense.boernerassociatesinc.com/gpage18.html>

Quality Assurance & ISO 9000 Websites:

- International Organization for Standardization (official Website) [Available] <http://www.iso.org/iso/en/ISOOnline.frontpage> .
- ISO 9000 Translated into Plain English - Table of Contents. Our web site translates ISO 9000 into plain English. It discusses ISO 9000, 9001, 9002, 9003, 9004, 10011, and 10013. And it introduces three internal audit programs and a quality 650, [Available] <http://praxiom.com/>
- Derco Aerospace Manual. http://www.dercoaerospace.com/pdf/quality/AB_QUALITY_SUPPLIER_MANUAL_9172007.pdf
- Aerospace Quality Management Systems PowerPoint: www.iaqg.sae.org/iaqg/meetings/dallas_9100.ppt

Defense Acquisition University: [Available 28 June 06] <http://www.dau.mil/basedocs/acquisitionresources.asp>

Acquisition Community Connection: <https://acc.dau.mil/CommunityBrowser.aspx>

[Copy and paste this link to you Web browser if the link does not open. There might be some blocking security issue].

- [Contingency Contracting](#)
- [Contracting](#)

- [Data Management](#)
- [DoD Wireless](#)
- [Earned Value Management](#)
- [Facilities Engineering](#)
- [Information Technology](#)
- [Logistics Management](#)
- [Production Quality & Manufacturing](#)
- [Program Management](#)
- [Risk Management](#)
- [Science & Technology Management](#)
- [Systems Engineering](#)
- Defense Logistics Agency <http://www.globalsecurity.org/military/agency/dod/dla.htm>
- National Contract Management Association <http://www.ncmahq.org/>
- Publications <http://www.ncmahq.org/publications/jcm.asp> Many good article here.
- The NASA Cost Estimating Handbook is also available from http://ceh.nasa.gov/webhelpfiles/Cost_Estimating_Handbook_NASA_2004.htm
- THE LEARNING CURVE <http://fast.faa.gov/archive/v0100/pricing/98-30c18.htm>
- The SOLEtech Website provides a wealth of articles spanning all aspects of life-cycle management. There is a wealth of information for the preparation of the CPL Exam <http://www.sole.org/soletech.asp> . Enter key words.

Supply Chain Management: [Top](#)

- - ERAU ASCI 644 Graduate Course Textbook resource: The Management of Business Logistics: A Supply Chain Perspective, 7e by John J. Coyle http://www.swlearning.com/quant/coyle/seventh_edition/coyle.html. Good resource material available here. Follow the links.
- **Supply Chain Management:** <https://acc.dau.mil/CommunityBrowser.aspx?id=22412>
- Personnel Policy Service, Inc. - Human Resources Policies, Employee Compliance Manual, and other links [Available] <http://www.ppspublishers.com/>
- Business Resource Center <http://www.zeromillion.com/business/personnel/personnel-management.html>

Other Supply Chain Management Weblinks:

1. Council of Logistics Management Changed to the **“Council of Supply Chain Management Professionals (CLM)”** [Available] <http://www.cscmp.org/>

Founded in 1963, the Council of Supply Chain Management Professionals (CSCMP) is the preeminent association for individuals involved in supply chain management. CSCMP provides educational, career development, and networking opportunities to its over 10,000 members and to the entire profession.

CSCMP was originally founded as the National Council of Physical Distribution Management (NCPDM) in January 1963. NCPDM was formed by a visionary group of educators, consultants, and managers who envisioned the integration of transportation, warehousing, and inventory as the future of the discipline. At that time, physical distribution was just beginning to edge its way into the corporate lexicon and make its considerable presence felt in the business community.

In 1985, recognizing the growing field of logistics, the association's focus broadened as it changed its name to the [Council of Logistics Management \(CLM\)](#). It stayed that way until 2004 when CLM's Executive Committee voted to become CSCMP, effective in 2005.

3. CSCMP's Supply Chain Quarterly magazine is a journal to promote the practice and advancement of the supply chain management profession. [Available 23 May 08 from] <http://cscmp.org/memberonly/scquarterly.asp>

Supply Chain Management (SCM)

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Supply Chain Management is another important initiative that can be effectively used within a PBL contract to reduce parts pipeline time and to reduce total program costs. Many of the new DOD major acquisitions will incorporate PBL and Supply Chain Management as a program requirement. The subject of Supply Chain Management (SCM) is not discussed in any great detail in this paper. The two references below will provide an overview of SCM.

4. Supply Chain Management. Wikipedia Reference. [Available 21 May 08 from] http://en.wikipedia.org/wiki/Supply_chain_management This Website provides a good overview of SCM and also provides Web links to other references.

5. Supply Chain Management (SCM) [Retrieved 21 May 08 from] <https://acc.dau.mil/CommunityBrowser.aspx?id=22412>. This DOD Website provides a good military overview of SCM and it also provides Web links to other DOD references.

6. Joint Publication (JP) 1-02 (Dictionary)

http://www.dtic.mil/doctrine/jel/new_pubs/jp1_02.pdf "

7. JP 4-09

http://www.dtic.mil/doctrine/jel/new_pubs/jp4_09a.pdf

Supply chain management is a "cross-functional approach to procuring, producing, and delivering products and services to customers. The broad management scope includes sub-suppliers, suppliers, internal information, and funds flow." JP 4-09 also states "supply chain management provides an intellectual and organizational approach to managing, integrating, and assuring all the elements that affect the flow of materiel to the joint force. Military supply chain management is the discipline that integrates acquisition, supply, maintenance, and transportation functions with the physical, financial, information, and communications networks in a results-

oriented approach to satisfy joint force materiel requirements."

According to paragraph C1.2.1 of the DoD Supply Chain Materiel Management Regulation <http://www.dtic.mil/whs/directives/corres/html/414001r.htm> (DoD 4140.1-R), dated 23 May 03: "To supply materiel and logistics services to DoD units throughout the world, the DoD Components maintain a supply chain consisting of weapon system support contractors, retail supply activities, distribution depots, transportation networks including contracted carriers, Military Service and Defense Logistics Agency (DLA) integrated materiel managers (IMMs), weapon system program offices, commercial distributors and suppliers including manufacturers, commercial and organic maintenance facilities, and other logistics activities (e.g., engineering support activities (ESAs), testing facilities, cataloging services, reutilization and marketing offices)." Effective supply chain management breaks down traditional functional stovepipes of procurement, transportation, materiel management, [Top](#) maintenance, and so forth, and instead facilitates an integrated end-to-end customer-focused perspective. Although there is no one single universally accepted DoD-commercial sector definition of Supply Chain Management, several other widely accepted definitions include:

"Supply Chain Management encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all Logistics Management activities. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third-party service providers, and customers. In essence, Supply Chain Management integrates supply and demand management within and across companies. Supply Chain Management is an integrating function with primary responsibility for linking major business functions and business processes within and across companies into a cohesive and high-performing business model. It includes all of the Logistics Management activities noted above, as well as manufacturing operations, and it drives coordination of processes and activities with and across marketing, sales, product design, finance and information technology." Source: Council of Logistics Management (CLM)

"The supply-chain - a term now commonly used internationally - encompasses every effort involved in producing and delivering a final product or service, from the supplier's supplier to the customer's customer. Supply-chain management includes managing supply and demand, sourcing raw materials and parts, manufacturing and assembly, warehousing and inventory tracking, order entry and order management, distribution across all channels, and delivery to the customer." Source: Supply Chain Council

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(1.9) **Regional Airline Association** [Available] <http://www.raa.org/>

(1.10) SAP Aerospace & Defense home page [Available] <http://www.sap.com/>

(*1.10.1) SAP Aerospace & Defense – [Available]

<http://www.sap.com/solutions/industry/aero-defense/>

(1.11) **SOLE - The International Society of Logistics** is a non-profit international professional society composed of individuals organized to enhance the art and science of logistics technology, education and management. [Available] <http://www.sole.org/>

- The SOLEtech Website provides a wealth of articles spanning all aspects of life-cycle management. There is a wealth of information for the preparation of the CPL Exam [available] <http://www.sole.org/soletech.asp>.

- Nine Application Divisions: <http://www.sole.org/appdiv.asp>

Commercial Products
Configuration and Data Management
Defense
Electronic Commerce
Environmental Applications
Management and Strategy
Space
Supportability Engineering
Transportation and Distribution

- CPL CERTIFICATION - From homepage “Index” click CPL CERTIFICATION or [Available] <http://www.sole.org/cpl.asp> .

-- CPL Study Guide - File is in Microsoft Word for Office '97 format. (**cplstygd.zip**, 68KB, SOLE, Apr 2000.) [Available] <http://www.sole.org/cpl.asp> .

-- CPL Application, Instructions, and Brochure - Files are in Microsoft Word for Office '97 format. (**cplapp.zip**, 86KB, SOLE, Aug 2002.) [Available] <http://www.sole.org/cpl.asp> .

-- Zip file contains 3 documents in Microsoft Word format: Recertification Points Request, CPL-R-1; Chapter Activity Receipt, CPL-R-2; The CPL Recertification Program, Nov 9, 97, recert_f.doc. (**cplrcrt.zip**, 125KB, SOLE, Mar 2000.) [Available] <http://www.sole.org/cpl.asp> .

-- Logistics Bibliography - Collection of Books and Publications for the logistician covering a broad range of topics as well as selected references for the CPL Program. Microsoft Word for Office '97 format. Also available in html online in the Member Services area. (**logbib.zip**, 16KB, SOLE, Feb 2000.) [Available] <http://www.sole.org/cpl.asp> . [Top](#)

American Production & Inventory Control Society (APICS). [Available] <http://www.apics.org/>

Founded in 1957 as the American Production and Inventory Control Society, APICS has since expanded its focus to include a full range of programs and materials on individual and organizational education, standards of excellence, and integrated resource management. To reflect this new direction, we are now known as APICS—The Educational Society for Resource Management.

APICS—The Educational Society for Resource Management is a not-for-profit international educational organization respected throughout the world for its education and professional certification programs. With over 60,000 individual and corporate members in

20,000 companies worldwide, APICS is dedicated to using education to improve the business bottom line.

APICS is recognized globally as:

- the source of knowledge and expertise for manufacturing and service industries across the entire supply chain in such areas as materials management, information services, purchasing and quality.
- the leading provider of high-quality, cutting-edge educational programs that advance organizational success in a changing, competitive marketplace
- a successful developer of two internationally recognized certification programs, Certified in Production and Inventory Management (CPIM) and Certified in Integrated Resource Management (CIRM)
- a source of solutions, support, and networking local chapters, workshops, symposia, and the annual APICS International Conference and Exposition.

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Sustainment & Performance Based Logistics (PBL)

The author has provided a list of general logistics references with links to the documents that relate to what has become known as “**Department of Defense (DOD) Acquisition Management**”. Many of these references relate to Lockheed-Martin and were retrieved from public domain Internet sites. A review of these resources will provide an overview and a resource for the understanding of “**Department of Defense (DOD) Acquisition Management**”, “**Integrated Logistics Support (ILS)**”, “**Supportability**”, “**Sustainment**”, “**Supply Chain Management**”, and “**Performance Based Logistics (PBL)**”.

DAU Sustainment <https://acc.dau.mil/CommunityBrowser.aspx?id=18073&lang=en-US>

Sustainment involves the supportability of fielded systems and their subsequent life cycle product support - from initial procurement to supply chain management (including maintenance) to reutilization and disposal. It includes sustainment functions such as initial provisioning, cataloging, inventory management and warehousing, and depot and field level maintenance. Sustainment begins when any portion of the production quantity has been fielded for operational use. Sustainment includes assessment, execution and oversight of performance based logistics initiatives, including management of performance agreements with force and support providers; oversight of implementation of support systems integration strategies; application of diagnostics, prognostics, and other condition based maintenance techniques; coordination of logistics information technology and other enterprise integration efforts; implementation of logistics footprint reduction strategies; coordination of mission area integration; identification of technology insertion opportunities; identification of operations and support cost reduction opportunities and monitoring of key support metrics. (**continued after the table below**)

Many important topics are available: Click on links.

[Aging Systems](#) , [Condition Based Maintenance Plus \(CBM+\)](#), [Configuration Management \(CM\)](#), [Depot Level Maintenance](#), [Logistics/Product Support Plans Maintenance Management](#), [Modifications, Upgrades and Service Life Extension Programs \(SLEP\)](#), [Reliability Centered Maintenance \(RCM\)](#), [Software Sustainment](#), [Supply Chain Management \(SCM\)](#), [Supply Chain Management \(SCM\) Strategy \(PBL Toolkit\)](#), [Technical Data & Interactive Electronic Technical Manuals \(IETM\)](#), [USAF Acquisition & Sustainment Toolkit](#)

Sustainment [ACC] - Windows Internet Explorer

https://acc.dau.mil/CommunityBrowser.aspx?id=18073&lang=en-US

of performance agreements with force and support providers; oversight of implementation of support systems integration strategies; application of diagnostics, prognostics, and other condition based maintenance techniques; coordination of logistics information technology and other enterprise integration efforts; implementation of logistics footprint reduction strategies; coordination of mission area integration; identification of technology insertion opportunities; identification of operations and support cost reduction opportunities and monitoring of key support metrics. (*continued after the table below*)

Sustainment Quick Reference Topic List (click on hyperlinked topic to directly access)

Aging Systems	Balanced Scorecard	Cataloging	Commodity Councils	Condition Based Maintenance Plus (CBM+)
Configuration Management (CM)	Continuous Modernization	Continuous Process Improvement (CPI) (Lean & Six Sigma)	Contractors Accompanying the Force (CAF)	Corrosion Prevention & Control
Defense Acquisition Executive Summary-Sustainment (DAES-S)	DLMS Migration & MILS Elimination	Demilitarization and Disposal	Depot Level Maintenance	Diminishing Manufacturing Sources & Material Shortages (DMSMS)
Distribution & the Distribution Process Owner (DPO)	End-to-End Customer Support	Independent Logistics Assessments (ILA)		Item Unique Identification (IUID)
Lead-Free Electronics/Solder	Logistics Resources & Tools	Logistics/Product Support Plans	Maintenance Management	Military Equipment Valuation (MEV) & Accountability
Modifications, Upgrades and Service Life Extension Programs (SLEP)	Munitions & Explosive Safety	Munitions Maintenance & Sustainment	National Inventory Management Strategy (NIMS)	Obsolescence Management
Packaging	Packaging, Handling, Storage & Transportation (PHS&T)	Parts Management Program	Post-Production Support Planning (PPSP)	Prognostics & Health Management (PHM) and Enhanced Diagnostics
Public Private Partnerships (PPP)	Quadrennial Defense Review (QDR) 2006 Report	Radio Frequency Identification (RFID)	Reliability Centered Maintenance (RCM)	Retrograde, Recapitalization, & RESET
Sense and Respond Logistics	Software Sustainment	Specifications, Standards & Related Publications	Standardization	Strategic Sourcing
Structural Integrity Programs (SIP)	Supply Chain Management (SCM)	Supply Chain Management (SCM) Strategy (PBL Toolkit)	Sustainment Related Training Resources	Technical Data & Interactive Electronic Technical Manuals (IETM)
Technology Insertion	USAF Acquisition & Sustainment Toolkit	Wide Area Workflow (WAWF)		

According to Joint Publication 4-0 (Doctrine for Logistic Support of Joint Operations), sustainment is defined as: "The provision of

Topics available <https://acc.dau.mil/CommunityBrowser.aspx?id=18073&lang=en-US>

References:

1. *The Evolution of Logistics Management and the Development of the Early General Dynamics F-16 Program Plan*. (A paper written by James C. Downing. Revised November, 2008). [Top](#)

This paper was revised and edited by the author primarily for Embry-Riddle Aeronautical University (ERAU) students, who attend the author's logistics classes. This paper serves as an introduction to Logistics Management in the "Aircraft Life-cycle". In the ideal state, the aircraft design and development process is accomplished concurrently (**Concurrent Engineering**) with the program life-cycle logistics requirements. Within the life-cycle concept the portion of logistics support that relates to customer support once the aircraft are delivered to the users is now called "**Sustainment**". This paper traces the evolution of military logistics management from just prior to World War I to the 1980s when the paper was first written. Much of the information has been revised and edited from the author's earlier research papers in 1982 and 1994. The paper takes advantage of the author's first-hand F-16 support expertise and also provides an overview of the "**Integrated Logistics Support (ILS)**" aspects" that were found in the first "*General Dynamics F-16 Air Combat Fighter (ACF) Program Proposal*", which was presented to the DOD in 1974. Also included is an outline of the "**F-16 Program Plan**", which includes the following topics:

- A. Volume II, Technical
- B. Volume IV, **Integrated Logistic Support (ILS)**

C. Volume VI, Management

- Material & Subcontract Management Plan
- Configuration Management Plan
- Quality Control Plan
- Cost/Schedule Control System

D. Volume VII, Manufacturing and Production Planning, **Work Breakdown Structure (WBS)**

In the early 1990s the author was exposed to the unofficial DOD *heuristic philosophy*; “**Good - Fast - Cheap**”. This corresponds to “**Quality – Schedule, & reduced Total Program Costs**”. This philosophy could be widely heard in the SOLE meetings and in the DOD acquisition management circles and briefings. This simple three-word “**sound bite**” conveys the desired goals and the positive results that must be pervasive in all forms of effective business and logistics philosophy, programs, and plans. The Department of Defense (DOD) used this criteria as desired qualities and the basis of the various *figures of merit* that are employed when developing new weapon systems. “**Good**” *relates to the quality and the inherent reliability of an organization’s products or services*. “**Fast**” *relates to reducing product design & development, production, logistics, and other scheduling times*, and “**Cheap**” *relates to lowering the total program costs* in order to increase profits for the supplier and making it affordable for the customer (Downing, 2008).

It is interesting to notice that all DOD initiatives since the early 1990s were employed to accomplish at least one or more of the goals of; **increasing product quality, reducing schedule times, or lowering total program costs**. The principles of **Performance Based Logistics (PBL)** will help accomplish all three goals.

2. An Introduction to Aircraft Life-Cycle and Integrated Support Management: (A Review of MIL-HDBK-502, Department of Defense Handbook Acquisition Logistics). A paper written by James C. Downing. Revised October, 2008).

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This is another paper written by the author primarily for Embry-Riddle Aeronautical University (ERAU) students, who attend the author’s logistics classes. The author’s perspective is from the Integrated Logistics Engineering and Management point of view. The principles of “Aircraft Acquisition Management”, “Systems Engineering/Systems Integration”, “Project Management”, “Life-cycle Management”, “Integrated Product Development”, and “**Integrated Logistics Support (ILS)**” are disciplines and initiatives that have been effectively used by the Department of Defense (DOD), for many years, to design, develop, and support military aircraft and space vehicle systems throughout their programmed life-cycles. Thus the life-cycle is measured from conception to the death (disposal) of the program or “womb to tomb”. A good portion of this paper is a review of **MIL-HDBK-502, Department of Defense Handbook Acquisition Logistics** (30 May 1997).

3. MIL-HDBK-502 Department of Defense Handbook Acquisition Logistics, 30 May 1997

[Retrieved 6 May 08 from] <https://acc.dau.mil/CommunityBrowser.aspx?id=32543>.

This is an early 1997 DOD documents that advocated the “**Performance Based Logistics (PBL)**” concept. This is an excellent resource, which states:

To provide more affordable logistic support for materiel systems the Department of Defense is **focusing on total cost of ownership throughout the life cycle**. Achieving affordable support depends upon effective acquisition logistics management and planning.

This handbook offers guidance on acquisition logistics as an integral part of the systems engineering process. The information contained herein is applicable, in part or in whole, to all types of materiel and automated information systems and all acquisition strategies. However, this handbook does not present a “cookbook” approach to acquisition logistics—such an approach could not accommodate the vast, widely varying, array of potential materiel acquisitions. It does offer examples and points to consider to help you shape your overall thought processes. (MIL-HDBK-502, 1997, p. i)

4. An Overview of Acquisition Logistics. Air Force Institute of Technology [Retrieved 6 May 08 from] <https://acc.dau.mil/GetAttachment.aspx?id=142351&pname=file&lang=en-US&aid=27644>.

Acquisition Logistics is a multi-functional, technical management discipline associated with the design, development, test, production, fielding, **sustainment**, and improvement/modification of cost effective systems that achieve the user's peacetime and wartime readiness requirements. **The principal objectives of Acquisition Logistics are to ensure that support considerations are an integral part of the system's design requirements**, that the system can be cost-effectively supported throughout its life-cycle, and that the infrastructure elements necessary for the initial fielding and operational support of the system are identified, developed and acquired. The majority of a system's life-cycle costs can be attributed directly to operations and support costs once the system is fielded. Because these costs are largely determined early in the system development period, it is vitally important that system developers evaluate the potential operational and support costs of alternative designs and factor these into early design decisions. (Andrews, n.d., p. 2)

A generally accepted description of logistics states that it is a disciplined, unified and iterative approach to the management and technical activities necessary to: [Top](#)

- a. Develop support requirements that are related consistently to readiness objectives.
- b. Integrating support considerations into the system and equipment design.
- c. Identify the most cost-effective approach to supporting the system when it is fielded.**
- d. Ensure the required support structure elements are developed, acquired and delivered. (Andrews, n.d., p. 3)

5. Defense Acquisition Guidebook (DAG). https://akss.dau.mil/dag/help_welcome.asp
Entire Guidebook PDF. <https://akss.dau.mil/dag/GuideBook/PDFs/GBNov2006.pdf>.

The purpose of the DAG is to assist the acquisition workforce in using and understanding the DoD Acquisition Policies and the guidance associated with those policies. Three views were created to assist in navigation, as well as to present the information in different ways. The Document View is for those who wish to navigate in more of a "library" style. The Life Cycle Framework View is for those who are more interested in the activities and policies associated with either a life cycle phase or a milestone review. The Functional View is for those who want to quickly review their topic of interest. (From the DAG, FAQ)

6. Performance Based Logistics (PBL) Support Guidebook. (No date). Defense Contract Management Agency. [Retrieved 15 May 08 from] <https://acc.dau.mil/GetAttachment.aspx?id=32507&pname=file&lang=en-US&aid=6146>.

This Guidebook should be part of DCMA Directive 1, Chapter 2.3, Acquisition Logistics. It should be positioned in Paragraph 5, with a URL link named, Performance Based Logistics Support Guidebook. (Title page)

7. DOD Directive 5000.1, The Defense Acquisition System. (May 12, 2003)
<https://akss.dau.mil/dag/DoD5000.asp?view=document&doc=1>.

2.1. This Directive applies to the Office of the Secretary of Defense, the Military Departments, the Chairman of the Joint Chiefs of Staff, the Combatant Commands, the Office of the Inspector General of the Department of Defense, the Defense Agencies, the DoD Field Activities, and all organizational entities within the Department of Defense (hereafter collectively referred to as "the DoD Components").

2.2. The policies in this Directive apply to all acquisition programs. (n.p.n.)

8. DOD Directive 5000.2, Operation of the Defense Acquisition System. (May 12, 2003)
<https://akss.dau.mil/dag/DoD5000.asp?view=document&doc=1>.

PURPOSE: This Instruction:

1.3. Establishes a simplified and flexible management framework for translating mission needs and technology opportunities, based on approved mission needs and

requirements, into stable, affordable, and well-managed acquisition programs that include weapon systems and automated information systems (AISs).

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1.4. Consistent with statutory requirements and reference (c), authorizes Milestone Decision Authorities (MDAs) to tailor procedures to achieve cost, schedule, and performance goals. (n.p.n.)

9. *Designing and Assessing Supportability in DOD Weapons Systems: A Guide to Increased Reliability and Reduced Logistics Footprint.* Prepared by the Office of Secretary of Defense (OSD). (October 24, 2003). [Retrieved 6 May 08 from] <https://acc.dau.mil/CommunityBrowser.aspx?id=32566>.

This guide is designed for use by PMs [Program Managers] or activity charged with responsibility for weapon systems programs. The term PM, as used here, refers to the entire, integrated program office team, including program office personnel, other government personnel, and industry. The purpose of the guide is to provide methodologies for integrating sustainment objectives into performance objectives to achieve the most capable and life cycle cost effective systems possible in both the short- and long-terms. Using information in this guide, the PM team will be able to select and integrate their approach, strategies, and tools to achieve the objectives of increased reliability and reduced logistics footprint and fulfill their TLCSM responsibility. (p. 5)

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The DoD 5000 series segregates the system life cycle into phases:

- Pre-systems acquisition: Accomplished in Concept Refinement and Technology Development Phases
- Systems acquisition: Consisting of a System Development and Demonstration Phase and a Production and Deployment Phase.
- **Sustainment activities: Accomplished in the Operations and Support Phase. (p. 5)**

10. *AR Pamphlet 700-127 ILS Manager's Guide DTD 1 Feb 1989.* [Retrieved 6 May 08 from] <https://acc.dau.mil/CommunityBrowser.aspx?id=142578&lang=en-US>.

Integrated Logistic Support (ILS):

“ILS is the process through which the composite of management and analysis actions necessary to assure effective and economical support of a materiel system, **both before and after fielding, are accomplished. The basic management principle of the ILS process is that logistic support resources must be developed, acquired, tested, and deployed as an integral part of the materiel acquisition process**” (*AR Pamphlet 700-127, p. iii.*)

The **ILS elements** identified in 1989 in AR Pamphlet 700-127 are:

- Design Influence
- Maintenance Planning
- Manpower and Personnel
- Supply Support
- Support Equipment and Test Measurement and Diagnostic Equipment
- Training and Training Devices
- Technical Data
- Computer Resource Support
- Packing, Handling, and Storage
- Transportation and Transportability
- Facilities
- Standardization and Interoperability. (p. 1)

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ILS was the primary tool that defined the “**Operation and Support**” requirements for a weapons system prior to the evolutionary initiative incorporation of “**Sustainment**” and “**Performance Based Logistics (PBL)**”.

11. Blanchard, B. (2004). *Logistics Engineering and Management, 6th Edition*. Prentice Hall: Upper Saddle River, NJ. (ISBN 0-13-142915-9). [Top](#)

Benjamin S. Blanchard is Professor of Engineering-Emeritus at Virginia Polytechnic Institute and State University and a consultant in such fields as systems engineering, reliability and maintainability, maintenance and logistics support, and life-cycle costing. Prior to his current role, he served as Assistant Dean of Engineering for Public Service, College of Engineering (until June 1995), and as Chairman of the Systems Engineering Graduate Program (1979-1996). He taught courses in systems engineering, reliability and maintainability, and logistics engineering. Before joining Virginia Tech in 1970, he was employed in industry for 17 years where he served in the capacity of design engineer, field service engineer, staff engineer, and engineering manager (Boeing Airplane Co., Sanders Associates, Bendix Corp., and General Dynamics Corp.). Prior to his industry career, he was an electronics maintenance officer in the U.S. Air Force for several years.

Professor Blanchard's academic background includes a BS degree in Civil Engineering, graduate coursework in Electrical Engineering, and a MBA degree (through an Executive Development Program). He has authored four textbooks (*System Engineering Management, Logistics Engineering And Management, Engineering Organization And Management, and Design And Manage To Life-Cycle Cost*), and has co-authored four additional texts (*Systems Engineering And Analysis, Maintainability: A Key To Effective Serviceability And Maintenance, Life-Cycle Cost And Economic Analysis, and Maintainability Principles And Practices*). He has published numerous journal articles and has lectured extensively throughout North America, Europe, Asia, and Australia. Professor Blanchard is a Charter member, Fellow, CPL, newsletter editor, member of the Board of Advisors, and past-president of the International Society of Logistics (SOLE); and several other professional organizations (IIE, IEEE, NDIA, and CLM); and a "Visiting Professor" at the University of Exeter (UK). (Retrieved 14 May 08 from <http://www.sie.arizona.edu/sysengr/INCOSE/ben.html>). [Top](#)

The two Logistics Support Figures following were published by Blanchard in different publications.

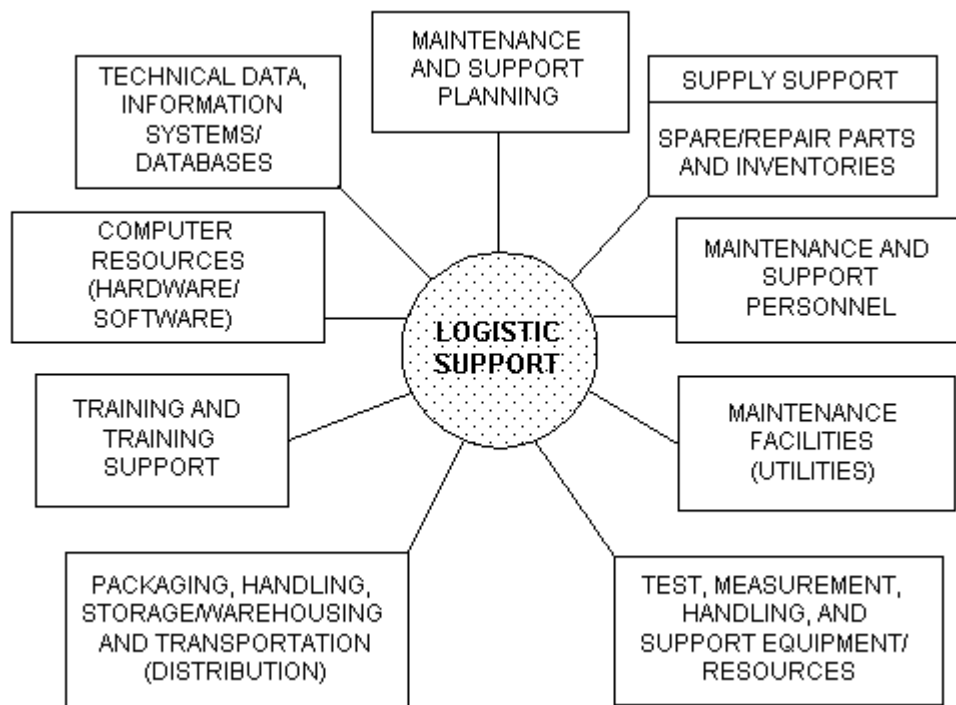


Figure 1. Functional elements of logistics (source: B.S. Blanchard, *Logistics Engineering and Management, 5th Ed., Prentice Hall, NJ, 1998, Figure 1.3*). Retrieved from **SOLEtech, December 2001 Volume 4.12**, Retrieved from <http://www.sole.org/soletech.asp>.

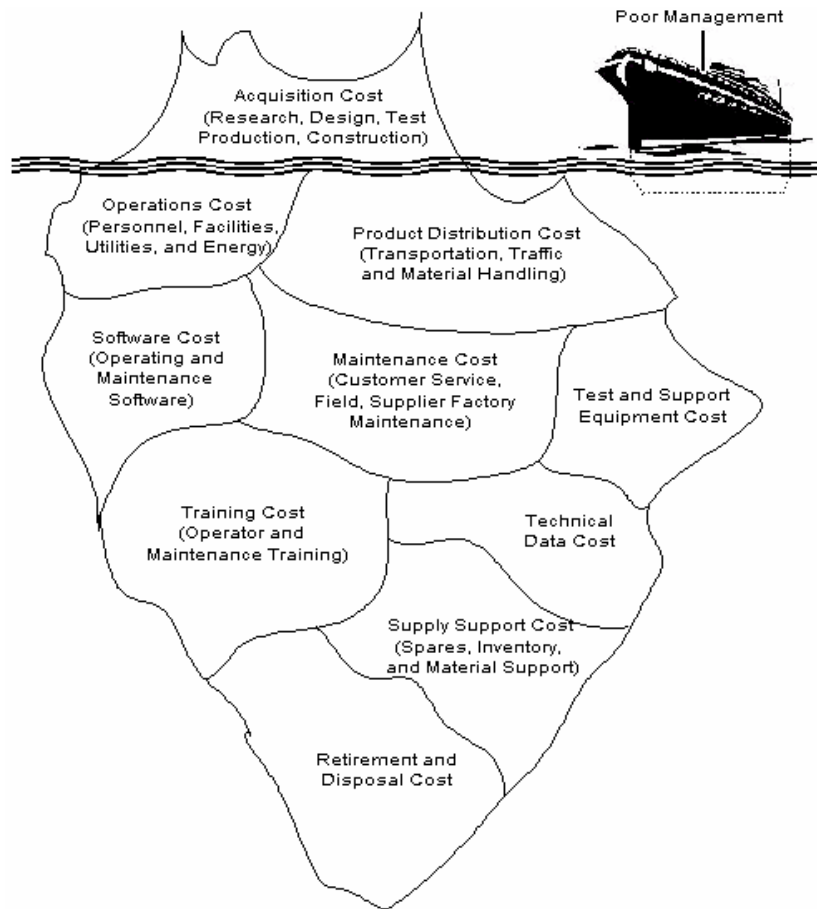


Figure 2. Total cost visibility (source: B.S. Blanchard & W.J. Fabrycky, *Systems Engineering and Analysis*, 3rd Ed., Prentice Hall, NJ, 1998, Figure 17.2). Retrieved from SOLEtech, December 2001 Volume 4.12, Retrieved from <http://www.sole.org/soletech.asp>

12. Langford, J. (2007). *Logistics: Principles and Applications*, 2nd Ed., NY: McGraw-Hill. ISBN: 139780071472241.

This updated guide offers a complete blueprint for logistics excellence, covering design and production, product reliability, maintainability, quality assurance, supply chain techniques, and more. This new edition features new material on **performance-based systems engineering** and its impact on life cycle logistics. This is the textbook used in one of the author's Embry-Riddle Aeronautical University (ERAU) logistics classes. [Top](#)

13. *Systems Engineering Fundamentals*. (January, 2001). DOD Systems Management College. <http://www.dau.mil/pubs/pdf/SEFGuide%2001-01.pdf>.

PREFACE

This book provides a basic, conceptual-level description of engineering management disciplines that relate to the development and life cycle management of a system. For the non-engineer it provides an overview of how a system is developed. For the engineer and project manager it provides a basic framework for planning and assessing system development.

Information in the book is from various sources, but a good portion is taken from lecture material developed for the two Systems Planning, Research, Development, and Engineering courses offered by the Defense Acquisition University.

The book is divided into four parts: *Introduction; Systems Engineering Process; Systems Analysis and Control; and Planning, Organizing, and Managing*. The first part introduces the basic concepts that govern the systems engineering process and how those concepts fit the Department of Defense acquisition process. Chapter 1 establishes the basic concept and introduces terms that will be used throughout the book. The second chapter goes through a typical acquisition life cycle showing how systems engineering supports acquisition decision making.

The second part introduces the systems engineering problem-solving process, and discusses in basic terms some traditional techniques used in the process. An overview is given, and then the process of requirements analysis, functional analysis and allocation, design synthesis, and verification is explained in some detail. This part ends with a discussion of the documentation developed as the finished output of the systems engineering process.

Part three discusses analysis and control tools that provide balance to the process. Key activities (such as risk management, configuration management, and trade studies) that support and run parallel to the system engineering process are identified and explained.

Part four discusses issues integral to the conduct of a systems engineering effort, from planning to consideration of broader management issues. [Top](#)

In some chapters supplementary sections provide related material that shows common techniques or policy-driven processes. These expand the basic conceptual discussion, but give the student a clearer picture of what systems engineering means in a real acquisition environment. (p. iv)

14. NASA Systems Engineering Handbook. (June, 1995). NASA. [Retrieved 7 May 08 from] <http://snebulos.mit.edu/projects/reference/NASA-Generic/NASA-SP-610S>.

Preface

This handbook was written to bring the fundamental concepts and techniques of systems engineering to NASA personnel in a way that recognizes the nature of NASA systems and the NASA environment. The authors readily acknowledge that this goal will not be easily realized. One reason is that not everyone agrees on what systems engineering is, nor on how to do it. There are legitimate differences of opinion on basic definitions, content, and techniques. Systems engineering itself is a broad subject, with many different aspects. This initial handbook does not (and cannot) cover all of them. (p. xi)

16. Operational Availability Handbook. (June 2003). OPNAVINST 3000.12A (US Navy). [Retrieved 8 May 08 from] <https://acc.dau.mil/CommunityBrowser.aspx?id=32668&lang=en-US>. **Operational Availability (Ao) is a Key Performance Parameter (KPP) in most PBL Programs.**

A good discussion of Operational Availability (Ao) is available in OPNAVINST 3000.12A, Operational Availability of Equipments and Weapons Systems – Y. It states, “OPNAVINST 3000.12A updates Navy policy regarding Operational Availability (Ao) as a primary measure of readiness of naval systems, **subsystems and equipment and provides definitions and equations for calculating Ao**” (“Operational Availability Handbook”, June 2003).

17. Department of Defense Handbook: Work Breakdown Structure for Defense Materiel Items. (2 Jan 1998). [Retrieved 6 May 08 from] Complete PDF Version http://www.acq.osd.mil/pm/currentpolicy/wbs/MIL_HDBK-881A/MILHDBK881A/WebHelp3/MIL-HDBK-881A%20FOR%20PUBLICATION%20FINAL%2009AUG05.pdf. HTML Version

http://www.acq.osd.mil/pm/currentpolicy/wbs/MIL_HDBK-881A/MILHDBK881A/WebHelp3/MILHDBK881A.htm

FOREWORD:

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1. This handbook is approved for use by all Departments and Agencies of the Department of Defense. It is for guidance only and should not be included as a contract requirement.
2. This handbook addresses mandatory procedures for those programs subject to DoD Instruction 5000.2. It also provides guidance to industry in extending contract work breakdown structures.
3. **A Work Breakdown Structure (WBS) provides a consistent and visible framework for defense materiel items and contracts within a program.** This handbook offers uniformity in definition and consistency of approach for developing the top levels of the WBS. The benefit of uniformity in the generation of work breakdown structures and their application to management practices will be realized in improved communication throughout the acquisition process.
4. This handbook is an update to MIL-HDBK-881, Work Breakdown Structures for Defense Materiel Items. MIL-HDBK-881A is based on the cooperative efforts of the military services with assistance from industrial associations. Changes to the handbook specifically address the advances in technology, modification of the acquisition process, and incorporation of new developmental concepts and approaches. (p. i)

19. Statement of Work (SOW). (December, 1997). NASA NPG 5600.2B. [Retrieved 13 April 08 from] <http://www.hq.nasa.gov/office/procurement/newreq1.htm>.

Caveat: Although the NPG below was allowed to elapse, the guidance contained in it is still useful for writing/reviewing work statements.

Preface

The objective of this guide is to provide guidance and assistance to our technical and program customers when it is necessary to develop a statement of work for a procurement.

This document provides guidance, instructions and references for the preparation of statements of work for NASA acquisitions. Although it provides coverage for statements of work in general, it emphasizes the use of **Performance (Based) Work Statements (PWS)**. It is the NASA policy that all contracts will be considered for PWS and focus on outcomes or results and not methods of performance or processes. Acquisition reform is striving to reduce Government risk by using performance-based specifications and standards, which make the contractor responsible for providing the product requested, assuming the risk for meeting performance requirements, and seeking innovations to efficiently and effectively achieve performance objectives. Contractors will be given more latitude for determining methods of performance, with more responsibility for performance quality. The use of PWS should lead to more cost-effective acquisitions and better value. (p. i)

[Top](#)

20. Global Sustainment Our Commitment, Your Success. (Brochure, No Date). Lockheed Martin Aeronautics Company. [Retrieved 6 May 08 from] <http://www.lockheedmartin.com/data/assets/corporate/press-kit/Sustainmen-Brochure.pdf>.

- **World-class Sustainment for World-Class Customers.**
- **Product Support Integration**

- **Improved Performance. Lower Cost**
- **Proven: PBL in Action. (n.p.n.)**

21. *Guide to Sustainment KPP [Key Performance Parameters], (1 December 2007).* Defense Acquisition University. [Retrieved 6 May 08 from] <https://acc.dau.mil/CommunityBrowser.aspx?id=191656>.

Purpose.

The purpose of this guide is to provide program managers, their staff, and logistics participants in the acquisition process a guide to assist them in ensuring that effective sustainment is addressed and accomplished over the life cycle of a system through compliance with the **Sustainment Key Performance Parameter (KPP) for Materiel Availability and Key System Attributes (KSAs) for Reliability and Ownership Costs** requirements as outlined in CJCSI 3170.01. Considering sustainment upfront enables the acquisition and requirements communities to provide a weapon system with optimal availability and reliability to the Joint Warfighter at value. This guide will not attempt to prescribe what will be provided to support Sustainment KPP and KSA requirements. It will provide factors which should be considered when determining if the rationale being provided meets the rigor needed for programs requiring a Sustainment KPP review. Methods are not directed, but must withstand critical review and supporting documentation must provide sufficient detail to validate methods. The Sustainment Requirements Development Report Handbook, currently being staffed by OSD-ATL, will assist program managers on developing the sustainment KPP, its KSAs, and a corresponding rationale report. (p. 1)

22. *A Lean Sustainment Enterprise Model for Military Systems.* Acquisition Review Quarterly Fall 2002. <http://www.dau.mil/pubs/arg/2002arg/MathaiseFL02.pdf>.

As existing weapon systems age and the costs and cycle times on the maintenance, repair, and overhaul of these systems increases, various organizations within the U.S. Department of Defense are conducting independent studies to help the system become more efficient. Current research efforts on maintenance repair and overhaul operations focus on individual elements of this “**sustainment**” system. However, to more effectively solve the sustainment problem, research should be conducted on the whole enterprise, from raw material suppliers to final product delivery. To accomplish this objective, **the authors developed a new “lean” framework for military systems sustainment.** The goal of this model is to minimize non–value-added activities throughout the entire enterprise. (p. 275)

23. *Sustainment Partnering: A Value Added Strategy.* (March 2, 2004). Lockheed Martin Aeronautics Company PowerPoint Presentation [Bill Anderson]. [Retrieved 6 May 08 from] <http://www.dtic.mil/ndia/2004log/tues/anderson.ppt>.

24. *Joint Strike Fighter: Management of the Technology Transfer Process.* (March, 2006). US Government Accounting Office (GAO). [Retrieved 8 May 08 from] <http://www.gao.gov/new.items/d06364.pdf>.
[Top](#)

Background:

The JSF program began in 1996 and is the largest DOD acquisition program to date with an estimated cost of over \$250 billion for the development and production phase of the program. The program’s goals are to develop and field a family of stealthy fighter aircraft for the Navy, Air Force, Marine Corps, and U.S. allies. To achieve its mission, JSF will incorporate low observable technologies, defensive avionics, advanced onboard and off-board sensor fusion, internal and external weapons, and advanced prognostic maintenance capability. The program intends to produce three variants. The carrier suitable variant will complement the Navy’s F/A-18 E/F. The conventional take-off and landing variant will primarily be a replacement for the Air Force’s F-16 and A-10 aircraft and will complement the F-22A. The short take-off and vertical landing variant will replace the Marine Corps’ F/A-18 and AV- 8B aircraft. (p. 3)

Anticipating Technology Transfer Needs:

In July 2003, we reported that due to the early involvement of international partners in developing the system, the JSF program has had to mitigate a particular set of challenges related to technology transfers. To address these challenges, the prime contractor needs to anticipate time frames for national disclosure and technology transfer decisions. The anticipation of these needs would allow for a timely submission of license applications as well as providing time to identify potential back-up suppliers, if necessary. Accordingly, we recommended that the JSF Program Office direct the prime contractor to complete an international industrial plan that

- identified current and potential contracts involving the transfer of sensitive data and technology to partner suppliers,
- evaluated the risks that unfavorable export decisions could pose for the program, and
- developed alternatives to mitigate those risks, such as using U.S. suppliers. (pp. 7-8)

25. Gill, Luke. (23 October 2003). *F-35 Joint Strike fighter Autonomic Logistics Supply Chain [PowerPoint Presentation]*. Lockheed Martin Aeronautics Co. [Retrieved 8 May 08 from] <http://opim.wharton.upenn.edu/fd/forum/pdf/Gill.pdf>.

26. Gill, Luke. (20 October 2004). *Lockheed Martin Aeronautics Company* (PowerPoint). [Retrieved 8 May 08 from] http://opim.wharton.upenn.edu/fd/forum/pdf_2004/Gill.pdf. ([Go there](#)). **F-35 JFS Global Sustainment**.

27. *F-35 Expectations ... Why Are We Here?* [Kirby Moore PowerPoint] (2007). 2007 International Support Equipment Conference. Lockheed Martin Corporation. [Retrieved 8 May 08 from] <http://www.lockheedmartin.com/data/assets/sts/ISEC2007/Day1-2-ISECExpectationsWhyWeAreHereRevB.ppt#257,1,Expectations>.

F-35 Global Support Expectations:

- F-35 Development Overview
- F-35 Support System ...the Vision
- Departure From Traditional Military Aircraft Support. [Top](#)
- Pay for Performance
- Key Elements of F-35 Support Package. (p. 2)

28. *F-35 Joint Strike Fighter Program LRIP 1 Performance Based Agreement (PBA) Between the Joint Strike Fighter Program Office (JSFPO) and the United States Air Force (USAF)*. (29 Aug 2005). [[Retrieved 8 May 08 from] <https://acc.dau.mil/CommunityBrowser.aspx?id=46477&lang=en-US>.

PURPOSE:

US Department of Defense (OSD) has identified the Joint Strike Fighter (JSF) Program as a **Performance Based Logistics (PBL) Program**. References A-D and other applicable directives and guidelines provide guidance for establishing a viable PBL Program. Integral to establishing a PBL program is the development of Performance Based Agreements (PBAs) that characterize the support relationships and performance metrics as agreed between the JSF Program Executive Officer (PEO) and the Warfighter (the Participant).

The purpose of this PBA is to establish and document a support relationship as well as metrics that reflect the Warfighter's needs in terms of performance-based sustainment at the platform (Air System) level for Low Rate

Initial Production (LRIP) 1 while maintaining an appropriate emphasis on Full Rate Production (FRP) and post-Production sustainment phases. This performance includes contractor-government support requirements and identification of Warfighter resource requirements. Based on lessons learned and changing requirements, it is envisioned that a PBA will be developed and approved by the respective Participants and the JSF PEO prior to each LRIP, Production, and post-Production contract. The metrics in Section 4 of this PBA reflect those metrics that will be evaluated during LRIP 1.

This PBA establishes the relationship between the JSF PEO and the USAF, the Participant for LRIP 1. Specifically, it establishes Military Performance Objectives and the metrics that support these outcomes. These performance objectives are the centerpiece of the overall F-35 PBL support strategy and document required performance for all PBL contracts that support the F-35 CTOL aircraft. Once established, these performance objectives will be translated by the JSFPO, with participation from the USAF, into an LRIP 1 PBL contracts with both the Product Support Integrator (PSI) and the Propulsion System Contractor (PSC). (p. 2)

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29. JSF Performance Based Agreements and the PBL Supplier. Support Equipment Industrial Base Day 3 [PowerPoint Presentation]. (2007). Lockheed Martin. [Retrieved 6 May 08 from] [http://www.lockheedmartin.com/data/assets/sts/ISEC2007/Day3-1-SEPBLApproachBriefingDay3r2\(Cambra\).ppt](http://www.lockheedmartin.com/data/assets/sts/ISEC2007/Day3-1-SEPBLApproachBriefingDay3r2(Cambra).ppt).

Topics

- **Types of JSF Suppliers**
- **What's In It For Your Company**
- **PBA and PBL Contracting Approach**
- **PBL Supplier Transition**
- **Summary. (p.2)**

30. F-35 Joint Strike Fighter (JFS) Fact Sheet. (May, 2006). Australian Government Department of Defense. [Retrieved 6 May 08 from] http://www.defence.gov.au/JSF/docs/JSF_Fact_Sheet.pdf.

The JSF is being developed as a fifth-generation, stealthy, multi-role fighter for the US Air Force, US Navy, US Marine Corps, the UK Royal Navy and Royal Air Force. Three variants are being produced, whilst aiming to maximise commonality: a Conventional Take Off & Landing (CTOL) variant, a Short Take Off & Vertical Landing (STOVL) variant and a Carrier Variant (CV). The JSF is characterised by a low observability design, internal weapons and fuel carriage, advanced electro-optical and infrared sensors, long range, the ability to employ a wide range of air-to-surface and air-to-air weapons, state of the art prognostics and health management, a single engine and radically reduced support requirements. (p. 1)

31. C-17 Partnering Agreement. (26 Jul 2002) [Retrieved 6 May 08 from] <https://acc.dau.mil/CommunityBrowser.aspx?id=46477&lang=en-US>.

From page 1:

This Direct Sales Partnering Agreement is a public-private partnership arrangement between The Boeing Company and Air Logistics Centers (ALCs) to provide C-17 weapon system depot-level maintenance and repair support. It provides the overarching terms and conditions that are applicable to Direct Sales Orders (DSOs) entered into between the parties. The parties envisioned such an arrangement after entering into a Long Range Memorandum of Agreement (LRMOA), dated 8 November 2001, which details the commitment to and framework for a long-term C-17 sustainment partnership in support of the C-17 flexible sustainment contract(s). This partnership represents the parties commitment to the common goals of: implementing innovative, collaborative partnering and teaming to meet customer, contractual and statutory requirements.

33. Guidebook for Performance-Based Services Acquisition (PBSA) in the Department of Defense. (December 2000). [Retrieved 6 May 08 from] <https://acc.dau.mil/CommunityBrowser.aspx?id=37307>.

Policy

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“It is the policy of the Department of Defense that, in order to maximize performance, innovation and competition, often at a savings, performance based strategies for the acquisition of services are to be used wherever possible. While not all acquisitions for services can be conducted in a performance-based manner, the vast majority can. Those cases in which performance-based strategies are not employed should become the exception. In order to ensure that the Department continually realizes these savings and performance gains, the DoD establishes, at a minimum, that 50 percent of service acquisitions, measured in both dollars and actions, are to be performance-based by year 2005.” – Under Secretary of Defense, Acquisition, Technology & Logistics (USD (AT&L)), April 5, 2000. (p. 6).

PBSA Definition

PBSA involves acquisition strategies, methods, and techniques that describe and communicate measurable outcomes rather than direct performance processes. It is structured around defining a service requirement in terms of performance objectives and providing contractors the latitude to determine how to meet those objectives. Simply put, it is a method for acquiring *what is required* and placing the responsibility for *how it is accomplished* on the contractor. (p. 6)

34. Blumberg, G. (Summer, 2007). *Performance Based Logistics: Leveraging Industry/Government Partnerships (Part IV) [A discussion of the C-130J Program]*. Aviation Aftermarket Defense. [Retrieved 7 May 08 from] http://www.scvisions.com/PDFs/Summer_PBL_AAD.pdf.

Performance Based Logistics (PBL) is now the preferred U. S. Department of Defense approach when purchasing weapons systems support. Tying long-term contracts to the performance of weapons systems over their life cycles, the PBL approach pays contractors for performance outcomes, not repairs. Under PBL, the goals of system availability, cost minimization, and bringing MRO activities closer to the end user. This article is Part 4 in an ongoing series providing an inside view of PBL contracting. (p. 2)

35. **Australian Hercules C-130J Through Life Support Project.** (No date) [Retrieved 22 May 08 from] <http://www.defence.gov.au/dmo/asd/c130j/c130j.cfm>. Downloaded information from Website. ***Note! The next two Australian references are available from this Website.***

What is the C-130J Through Life Support Project?

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This project was initiated in October 2005 to establish a performance based C-130J Through Life Support contract. DMO will deliver this contract via a competitive restricted tender process consistent with the Australian Defense Aerospace Sector’s Strategic Plan. The goal of the C-130J Project is to deliver:

- Improved delivery of sustainment services.
- A performance based support arrangement through to C-130J Planned Withdrawal Date of 2030.
- A long term relationship with industry to deliver improved value for money.
- Full price disclosure with profit related to risk and performance.
- A meaningful transfer of risk from the Defence Materiel Organisation (DMO) to the contractor.

36. *Australian Performance Based Contracting Handbook Version 2. (2006)*. [Retrieved 7 May 08 from] http://www.defence.gov.au/dmo/asd/publications/asd_pbc_v2.pdf **File Copy.**

Version 2 of the handbook further emphasises the structured approach to the development and application of a PBC Framework within the Australian Defence Aerospace Sector. Specifically, Version 2 has been modified to include a General Process for developing a PBC Framework. The rest of the handbook is devoted to taking this General Process and applying it to four specific contract types; (1) Through Life Support (TLS) Contract, (2) Contracted Maintenance (CM) Support Contracts, (3) Repairable Item (RI) Support Contracts and (4) Aero Engine Support Contracts.

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The following key principles continue to be applied in all Aerospace Systems Division contractual considerations:

- The achievement of Value for Money contractual outcomes for the Commonwealth is essential.
- The Key Performance Metrics used to measure contracted outcomes should be simple, measurable and meaningful.
- In return for longer term contracts there is an expectation of continued performance improvement and/or reduced cost of ownership over the life of the contract.
- The overall profit rate applied to the contract pricing should relate to the level of risk involved, and the at-risk margin is enduring for the life of the contract.
- The level of profit awarded should be linked to an agreed level of performance. The level of contractor exposure should be sufficient to incentivise performance to the agreed level.
- The Commonwealth will retain the right to terminate in whole or part for consistent under performance.
- The handbook has been exposed to a number of our industry partners via the Aerospace System Division PBC Industry Forum and Aero Engine Industry Panel. The Forum and Panel are arrangements between the Division, Australian Aerospace, Boeing Australia Limited, BAE Systems (Australia), Raytheon (Australia) and more recently QANTAS, Smiths Aerospace, General Electric and Rolls Royce. While the Forum and Panel has proved very useful in the open exchange of ideas. (p.3)

38. *F-117 Performance Based Logistics (PowerPoint)*. ASC/YND. [Retrieved 7 May 08 from] <https://acc.dau.mil/CommunityBrowser.aspx?id=46633>.

Topics

- **F-117 Sustainment Partnership**
- **F-117 Performance Based Logistics (PBL)**
- **F-117 Keys to Success**
- **F-117 Lessons Learned. (p. 3)**

39. *Study Reveals Performance Based Logistics Contract Activities Continues to Grow, Despite Industry Challenges*. (March 2008). Aviation Week & SAP. [Retrieved 15 May 08 from] http://bus.utk.edu/utpbl/documents/White_Papers/SAP%20PBL%20Aviation%20Week%20Survey%20White%20Paper%20Final%20Final.pdf.

This report contains a detailed statistical analysis of the results to the survey titled *Aviation Week Performance-Based Logistics Survey*. The results analysis includes answers from all respondents who took the survey in the 13 day period from Thursday, March 6, 2008 to Wednesday, March 19, 2008. There were 329 responses to the survey during this time. All results were tabulated by AVIATION WEEK's online survey research vendor Vovici, an independent research firm based in Dulles, Virginia. Questions were written jointly by SAP and AVIATION WEEK, and Vovici provided a link to the online questionnaire. The tabulations for the survey are done on Vovici systems. (p. 1)

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Analysis of survey results clearly indicate that the greatest challenges in successfully executing PBL contracts start very early in the acquisition process. Access and fully understanding customer requirements early in the acquisition process and building those requirements into pricing models, managing the risks associated with those requirements, remains a central theme in PBL contracts. Visibility into the extended supply chain (customer to supplier's supplier) also consistently appears to be one of the biggest challenges. The top ten challenges identified are as follows:

1. The ability to price the contract correctly (prior to execution)
2. Determining an accurate forecast of customer requirements
3. Understanding and gaining access to customer requirements
4. Assessing the monetary risk in delivering on a PBL contract
5. Obtaining visibility into Supply Chain, Maintenance, Repair, and Overhaul activities
6. Management of Suppliers

7. Capabilities of current service support logistics processes and systems
8. Ability to effectively track and manage performance against contractual metrics
9. Poor Data Quality
10. Ability to effectively account for the business as payment transitions from a transaction based arrangements to outcome based arrangements. (p. 5)

40. NASA/John C. Stennis Space Center Surveillance Plan Performance-Based Contract NAS13-98048 with Space Imaging EOSTAT. (No date). NASA [Retrieved 15 May 08 from] http://glcf.umiacs.umd.edu/data/restrictedaccess/dataright/SI_surveillance_plan.pdf
[Top](#)

PURPOSE:

This surveillance plan defines the process the Government expects to follow to obtain data, evaluate the contractor, and determine if contract performance is acceptable. The Government reserves the right to modify this plan at any time during the contract. (p. 2)

41. PBL Surveillance Plan Example. (No date). [Retrieved 8 May 08 from] <https://acc.dau.mil/CommunityBrowser.aspx?id=120521&eid=46648&lang=en-US>.

This surveillance plan is designed to ensure the parties have a **complete understanding as to the metrics to be measured**, the sources from where the data will be collected and precisely how metrics results will be calculated and the appropriate Award/Incentive Fee applied. This Plan is divided into 2 Sections. Section 1.0 covers those metrics that will be measured for Award/Incentive Fee purposes. Those requirements are: Sustaining Engineering Support Response Time (SESRT) [Year 1 (FY'0X) & 2 (FY'0X)] and Customer Satisfaction (Year 1 & 2). Section 2.0 covers those metrics that will be monitored, for the purpose of establishing metrics. Goals will be used initially for Mission Capability hours, Stockage Effectiveness and Customer Wait Time (Priorities 1 – 8). In Year 1, these metrics will be monitored and data collected to serve as a basis for developing metrics for the second year of performance. These developed metrics will be incorporated in Year 2 and become subject to remedies and incentives through the Award Fee/Incentive Fee process. (p. 5) [Top](#)

42. Performance Based Contracting PowerPoint Presentation]. (No date). Florida State University Purchasing Department. [Retrieved 14 May 08 from] <http://www.purchasing.fsu.edu/JobAids/PBCpresentation2.ppt>.

43. Performance Based Contracting: A technical point of view, review and discussion. (No date). [Retrieved 14 May 08 from] http://isd.gsfc.nasa.gov/Papers/DOC/JM_PBC.pdf.

According to the Office of Financial Management (OFM), performance based service contracting has been a key topic of interest for state agencies in recent years. OFM believes that as agencies work to contract for results instead of merely buying services, performance based contracting will become an important tool to assure that the State's taxpayers are receiving the best value for the services purchased. To assist OFM and state agencies understand the best practices and trends in performance based service contracting, OFM included research on performance based contracting as part of its scope of work for auditing personal and client service contracts.

To identify best practices and trends, FCS Group conducted a literature search and contacted several agencies in other states and local jurisdictions that have implemented performance based contracting. The literature search involved searching the internet and using library data bases from the University of Washington and the King County Library District. Over 40 related articles and documents concerning performance based contracting were reviewed. A bibliography is in Appendix A. Based on the literature review, FCS Group also contacted agencies in New York City, in San Diego County, and in the states of Wisconsin, Arizona, Minnesota, and Illinois.

As part of identifying the best practices and trends, the literature review and the survey of other states and jurisdictions focused on the following key issues:

- What is performance based contracting?
- What are the expectations of performance based contracting?
- What is the contract management process for performance based contracts?
- What implementation issues and barriers must be addressed to assure that performance based contracting is successful? (p. 4)
- [Top](#)

45. *Best Practices and Trends in Performance Based Contracting.* (December 14, 2005). FSC Group. [Retrieved 13 May 08 from] http://www.ofm.wa.gov/contracts/perf_based_contracting.pdf.

46. *Defense Acquisitions: Assessment of Selected Weapon Programs.* (March, 2008). GAO Report to Congressional Committees. [Retrieved 13 May 08 from] <http://www.gao.gov/new.items/d08467sp.pdf>.

This report provides information on 72 individual weapon programs and assesses overall trends in DOD acquisition outcomes for decision makers to use as they determine the best ways to invest limited resources in the face of competing demands. Programs were selected for individual assessment based on several factors, including (1) high dollar value, (2) stage in acquisition, and (3) congressional interest. The majority of the 72 programs covered in the report are considered major defense acquisition programs by DOD. We conducted this performance audit from June 2007 to March 2008 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. Appendix I contains detailed information on our scope and methodology. (p. 10)

Programs of Interest:

- C-130 Avionics Modernization Program (AMP). (p. 54)
- C-130J Hercules. (p. 56)
- C-5 Avionics Modernization Program (AMP). (p. 57)
- C-5 Reliability Enhancement and Reengineering (C-5 RERP). (p. 60)
- F-22 Modernization Program. (p. 85)
- Joint Strike Fighter (JFS). (p. 105)

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47. *Spring 2007 Industry Study Final report: Aircraft Industry.* (Spring, 2007). The Industrial College of the Armed Forces – National Defense University Fort McNair, Washington, D.C. 20319-5062. [Retrieved 15 May 08 from] http://www.ndu.edu/ica/industry/reports/2007/pdf/2007_AIRCRAFT.pdf.

Abstract

The aircraft industry plays a critical role in today's global economy. Comprising a wide array of firms supplying various products and services to a diverse and dynamic customer base, this industry represents a compelling case study from three distinct perspectives: a business strategy analysis, a review of the underlying

economics, and an overview of national security issues. To provide this perspective, the study provides a description of the major markets comprising the industry followed by an analysis of the issues outlined above. Finally, the report details policy recommendations outlining the proper role of government in maintaining a vibrant industry. (p. i)

48. Air Force Instruction (AFI) 21-101, Aircraft and Equipment Maintenance Management (29 June 2006). Retrieved 21 Oct 08 from <http://www.e-publishing.af.mil/shared/media/epubs/AFI21-101.pdf>.

This USAF document provides some of the best Guidance of USAF aircraft maintenance procedures. View the “**Table of Contents**” for a listing of the maintenance and support topics, which include :

- Maintenance Concept (Levels of Maintenance) –Are contractors involved with Organizational (O), Intermediate (I), or Depot (D) level maintenance? Is two level (“I” and “D”) level maintenance being used?
- Reliability and Maintainability –Identify the factors that present customer dissatisfaction.
- Performance-Based Activities – What metrics could be employed to benefit the customer?
- Modification Management – What future modifications does the customer plan to implement? When and at what locations will modifications be incorporated?
- Maintenance Management Metrics
- Maintenance Discipline
- Support Agreements
- Maintenance Information Systems (MIS) – Identify the maintenance and supply hardware and software being used by the customer.
- Maintenance Training –what training efforts would benefit the customer?
- Safety
- Maintenance Organization
- Maintenance Scheduling
- Aircraft Configuration Management
- Quality Assurance
- Tool and Equipment Management
- Maintenance Supply Support
- Bench Stock and Consumables
- Aircraft Damage Repair
- Intermediate (Back shop) Repair Facilities

48. Sticker Shock: Estimating the Real Cost of Modern Fighter Aircraft. (2006). Defense Aerospace. [Retrieved 13 May 08 from] <http://www.defense-aerospace.com/dae/articles/communiques/FighterCostFinalJuly06.pdf>.

Aircraft Costs by program:

- Dassault Aviation Rafale
- Saab JAS-39 Gripen
- Boeing F/A-18E Super Hornet
- Boeing F-15E Strike Eagle
- Eurofighter
- Lockheed Martin J-35 Joint Strike Fighter
- Lockheed Martin F-22A Raptor. (p. 1)

DAU Performance Based Logistics (PBL) Homepage
<https://acc.dau.mil/CommunityBrowser.aspx?id=18074>

See next page

The screenshot shows a Microsoft Internet Explorer browser window with the address bar displaying <https://acc.dau.mil/CommunityBrowser.aspx?id=18074>. The page title is "PBL [ACC]".

Sign In Section: Includes fields for "User Name:" and "Password:", a "Sign In" button, and links for "Request an Account", "Benefit of Membership", and "Forgot My Password or Login".

Community Explorer: A sidebar menu with categories like "Logistics Management", "Policy and Guidance", "PBL", "PBL Policy & Guidance", "PBL Toolkit", "Statutory Requirements", "Sustainment", "Logistics Transformation", "Logistics Library", "Resources & Tools", "Training Center", "LOG Community Connection", "LOG Archive", "Joint Logistics Educators", and "Acquisition Logistics".

Main Content Area:

- PBL Topic:** A yellow folder icon labeled "PBL" with the subtext "Topic".
- Activity Ranking:** Shows "How is ranking calculated?" with a red arrow icon.
- User Reviews:** Shows a red minus sign icon.
- Navigation:** Tabs for "Main View", "Discussions", "What's New", and "Activity".
- Contributions:** "39 contributions at this topic" and a search link "Search Knowledge in this Community".
- Text Content:**
 - Definition:** "Performance Based Logistics (PBL) is a support strategy that places primary emphasis on optimizing weapon system support to meet the needs of the warfighter. Its primary tenets are documentation of warfighter performance requirements as measurable metrics in [Performance Based Agreements \(PBAs\)](#), designation of single point accountability for performance with a [Product Support Integrator \(PSI\)](#), and development of support metrics and accompanying incentives to ensure that the performance objectives are met. In short, PBL is buying *Performance*, not transactional goods and services. PBL delineates outcome performance goals of weapon systems, ensures that responsibilities are assigned, provides incentives for attaining these goals, and facilitates the overall life-cycle management of system reliability, supportability, and total ownership costs. It is an integrated acquisition and logistics process for buying weapon system capability."
 - Source-of-support:** "Source-of-support decisions for PBL do not favor either organic or commercial providers. The decision is based upon a [best-value analysis](#) or [business case analysis](#) of the provider's product support capability to meet set performance objectives. *The major shift from the traditional approach to product support emphasizes what, not from whom, program managers buy.* Instead of buying set levels of spares, repairs, tools, and data, the new focus is on buying a predetermined level of availability to meet the warfighter's objectives."
 - PBL Toolkit:** "The [PBL Toolkit](#) has been developed to assist Program and Logistics managers in the development and execution of PBL strategies. The toolkit allows users to navigate a Web-based 12-step common process model associated with building performance-based product support strategies for DoD weapon system programs. The toolkit provides an explanation of each step, brings together the best resources and materials to support each step, and identifies the outputs of each step."
- Diagram:** A circular diagram titled "Access PBL Toolkit Here" with four quadrants: "Control", "Foundation", "Planning", and "Execution". The center contains icons for "Warfighter", "Performance Based Logistics", and "Command & Government".
- Footer:** "PBL Quick References" and "Become a Member" link.

See next page [Top](#)

PBL [ACC] - Microsoft Internet Explorer

Address: <https://acc.dau.mil/CommunityBrowser.aspx?id=18074>

Operational Availability

PBL [ACC]

- Requirements
 - Sustainment
 - Logistics Transformation
 - Logistics Library
 - Resources & Tools
 - Training Center
 - LOG Community Connection
 - LOG Archive
 - Joint Logistics Educators
 - Acquisition Logistics

Participate

- Become a Member
- Search...

ACC Practice Center Version 1.6

and facilitates the overall life-cycle management of system reliability, supportability, and total ownership costs. It is an integrated acquisition and logistics process for buying weapon system capability.

Source-of-support decisions for PBL do not favor either organic or commercial providers. The decision is based upon a [best-value analysis](#) or [business case analysis](#) of the provider's product support capability to meet set performance objectives. *The major shift from the traditional approach to product support emphasizes what, not from whom, program managers buy.* Instead of buying set levels of spares, repairs, tools, and data, the new focus is on buying a predetermined level of availability to meet the warfighter's objectives.

The **PBL Toolkit** has been developed to assist Program and Logistics managers in the development and execution of PBL strategies. The toolkit allows users to navigate a Web-based 12-step common process model associated with building performance-based product support strategies for DoD weapon system programs. The toolkit provides an explanation of each step, brings together the best resources and materials to support each step, and identifies the outputs of each step.

PBL Quick References

Integrate Requirements & Support	Form PBL Team	Baseline System	Develop Performance Outcomes	Product Support Integrator
Workload Allocation Strategy	Supply Chain Management Strategy	Performance Based Agreements	Business Case Analysis	Award Contracts
Financial Enablers	Implement and Oversight	DoD PBL Policy & Guidance		Statutory Requirements

Below is a list of PBL Learning Resources that have been popular with over 10,000 members of the DoD and defense industry workforces:

- [PBL Continuous Learning Module \(3 hours\)](#)
- [PBL Online Course \(LOG 235A: 50 hours\)](#)
- [PBL Classroom Course \(LOG 235B: 5 days\)](#)
- [PBL Guide \(Second Edition published in FY05\)](#)
- [PBL Toolkit \(12 step Framework Online\)](#)
- [PBL Performance Support \(Roadshows & Workshops\)](#)

For questions about the LOG 235 courses contact Kevin Wedmark. For questions about other PBL learning resources contact Jerry Cothran.

Highlighted Contributions

Contributions

See next page [Top](#)

PBL Toolkit <https://acc.dau.mil/CommunityBrowser.aspx?id=22482>

Access PBL Toolkit Here



Performance Based Logistics (PBL) is a support strategy that places primary emphasis on optimizing weapon system support to meet the needs of the warfighter. Its primary tenets are documentation of warfighter performance requirements as measurable metrics in [Performance Based Agreements \(PBAs\)](#), designation of single point accountability for performance with a [Product Support Integrator \(PSI\)](#), and development of support metrics and accompanying incentives to ensure that the performance objectives are met. In short, PBL is buying *Performance*, not transactional goods and services. PBL delineates outcome performance goals of weapon systems, ensures that responsibilities are assigned, provides incentives for attaining these goals, and facilitates the overall life-cycle management of system reliability, supportability, and total ownership costs. It is an integrated acquisition and logistics process for buying weapon system capability.

[Top](#)

- (1.11.1) Logistics World Magazine [Available <http://logisticsworld.com/>
Many links available.
- (1.12) Reliability Analysis Techniques:
(*1.12.1) Isograph Direct home page <http://www.isograph-software.com/index.htm>
<http://www.isograph.com/index.htm>
Links to: [Fault Tree Analysis](#), [Simulation](#), [Prediction](#), [FMECA](#), [Reliability Block Diagram](#), [Life Cycle Costing](#), [Markov Analysis](#), [Hazop](#), [Weibull](#). Techniques of Reliability Prediction Software <http://www.isograph.com/workbench.htm>
- (1.12.2) Reliability Center. [Available] <http://www.reliability.com/>
- (1.13) [The Aircraft Mechanics Fraternal Association](#) [Available] <http://www.amfanatl.org/> ,
<http://www.amfa5.org/> , http://en.wikipedia.org/wiki/Aircraft_Mechanics_Fraternal_Association
- (1.14) Aircraft Technology Engineering & Maintenance Magazine [Available]
<http://www.aviationindustrygroup.com/index.cfm?pg=30>
- (1.15) Air Transport World The magazine of World Airline Management [Available]
<http://www.atwonline.com/>
- (1.16) Overhaul & Maintenance: The Aviation Week Magazine for O & M Management [Available] <http://www.wadaviation.com/> . Some articles are available in the current and back issues.
- (1.17) AW&ST Aviation Now [Available] <http://www.aviationnow.com/>
- (1.19) **Evergreen International Aviation, Inc.** (EA) is a privately held global aviation services company that is active through seven subsidiary companies. These subsidiaries operate under the Evergreen name and provide services that include specialized helicopter aviation services; air cargo transportation for major airlines and freight forwarders; aircraft maintenance and repair services; helicopter and fixed-wing aircraft sales; airport logistics and ground handling operations; complete helicopter component repair and overhaul; and agricultural and nursery products. [Available] <http://www.evergreenaviation.com/>

(1.20) **MMMC Hot Links Links** to: Publication / Services, Associations, Suppliers / Repair Facilities, Maintenance Facilities, Federal Government, and many others [Available]

<http://www.mmmc.com/links.html#cat1>

(1.21) Airline Suppliers Association (ASA). The Airline Suppliers Association is an independent aviation association dedicated to addressing the concerns and needs of the companies involved with the supply of aviation parts. [Available]

<http://www.aviationsuppliers.org/> . About Us <http://www.aviationsuppliers.org/aboutus.htm>

(*1.21.1) The ASA-100 Quality System Standard Version 3.4. [Available]

<http://www.aviationsuppliers.org/accreditation/ASA-100.htm>

(*1.25) Study for contracting services for the Government (A76 Studies) [Available]

<http://www.whitehouse.gov/omb/circulars/a076/a076sa6.html> .

(*1.27) Human Factors and Human Resources Web sites:

(*1.27.1) Human Factor Issues in Interactive Electronic Technical Manuals for Aircraft Maintenance. Written By: George A. Rivera [Available]

<http://members.aol.com/geo13/ietm.htm> .

(*1.27.4) Federal Aviation Administration Human Factors. The Office of Chief Scientific and Technical Advisor for Human Factors. Home page [Available]

<http://www.hf.faa.gov/>

(*1.27.5) Reference Maintenance Human Factors. NASA [Available]

<http://humanfactors.arc.nasa.gov/>

(1.27.6) Human Factors & Ergonomics. Many good

links to other sites [Available] <http://www.usernomics.com/human-factors.html>

(1.27.7) **Society for Human Resource Management**. Home Page [Available]

<http://www.shrm.org/> . Publications [Available] <http://www.shrm.org/pubs/>

Magazine [Available] <http://www.shrm.org/hrmagazine/>

(1.29B) **Camp Systems International**. **Good examples of available civil maintenance and support software programs**. [Available] <http://www.campsys.com/> . Click on Products & Services” and click on different links.

(1.30) Reliability Centered Maintenance (RCM) References:

(1.30.1) The Society for Maintenance & Reliability Professionals, or SMRP, is an independent, non-profit society by and for practitioners in the Maintenance & Reliability Profession. [Available] <http://www.smrp.org/>

(1.30.4) Excellent links to RCM Principles. [Available]

<http://www.maintenanceresources.com/ReferenceLibrary/RCM/Index.htm>

(*1.30.4.1) This is an excerpt of the first chapter of the book by John Moubray, Reliability-centered Maintenance. (Click) [Introduction to Reliability-Centered Maintenance](#)

(1.30.4.2) Maintenance Management - A New Paradigm, by John Moubray.

Abstract: This paper attempts to summarize fifteen of the most important areas of Change, which have occurred in the field of physical asset management over the past fifteen years. Excellent information [Available]

<http://www.maintenanceresources.com/ReferenceLibrary/RCM/MaintParadigm.htm>

(1.30.5) Equipment Management Breakthrough Maintenance Strategy for the 21st Century

- (1.30.6) Best Practice Maintenance Strategies for Mobile Equipment. A Conference Paper. Bali, Indonesia, By Sandy Dunn, March 1997 (Excellent discussion of RCM and the new RCM2 in aviation) [Available (rcmsites.doc) or]
<http://www.maintenanceresources.com/ReferenceLibrary/MaintenanceManagement/BestPractice.htm>
- (1.30.8) Reliability Center, Inc. Good links and reliability articles. Glossary of MTBF and other reliability terms. [Available] <http://www.reliability.com/glossary.htm>
- AIAA American Institute of Aeronautics and Astronautics <http://www.aiaa.org/>
- (1.33) Organizational Theory and Structures Websites. See ATA Airline Handbook Chapter 3
- (1.33.1) Organizational structures [Available]
<http://choo.fis.utoronto.ca/FIS/Courses/LIS1230/LIS1230sharma/od2.htm>
- (1.34) The Journal of Air Transportation World Wide's (JATWW) mission is to provide the global community immediate key resource information in all areas of air transportation. [Available] <http://jat.unomaha.edu/>
 AeroInfo.com <http://www.aeroinfo.com/>
- (1.35.4) Maintenance Management Reference Articles. Click on subjects. [Available]
<http://www.maintenanceresources.com/ReferenceLibrary/MaintenanceManagement/Index.htm>
- (1.36) **Quality Assurance & ISO 9000 Websites: [Top](#)**
- (1.36.1) **NASA: ISO 9000 General Information.** Many good “Quality” links (Click on subjects): What is ISO 9000? Why ISO 9000? How Does ISO 9001 Work? 20 System Element Requirements for ISO 9001 [Available] <http://www.hq.nasa.gov/office/iso>
- (1.36.2) ISO 9000 Translated into Plain English - Table of Contents. Our web site translates ISO 9000 into plain English. It discusses ISO 9000, 9001, 9002, 9003, 9004, 10011, and 10013. And it introduces three internal audit programs and a quality 650, [Available] <http://praxiom.com/>
- (1.37) Engineering Support Websites:
- (1.37.1) Honeywell's Customer Support Engineering organization. [Available]
<http://www.honeywell.com/sites/aero/Custom-Support.htm>
- (1.38) **Aerospace Unions and Labor Issues Websites: [Top](#)**
- (1.38.1) **The International Association of Machinists and Aerospace Workers** [Available]
<http://www.goiam.org/>
- (1.38.2) **The Aircraft Mechanics Fraternal Association** is a craft-oriented, independent aviation union. It is not an industrial union. The AMFA is committed to elevating the professional standing of Aviation Maintenance Technicians and to achieving continual improvements in the wages, benefits and working conditions. Good overview of the organization and current issues. [Available] <http://www.amfa5.org/>
- (1.38.3) **2002-2003 Union Activities & Speeches:**
http://www.amfanatl.org/Pages/06_News&Information/UAL/2005-05-16%20AMFA%20UAL%20TA%20Overview.pdf
Big Labor.com <http://www.biglabor.com/unionweb/AMFA.html>

Machinists Demand Jobs Worth Fighting For
http://www.iamaw.org/publications/spring2003/machinists_demand.htm

Export North American Products, Not Jobs

<http://www.iamaw.org/publications/spring2003/export.htm>

Big, Bold and Broad Initiatives Needed

http://www.iamaw.org/publications/spring2003/big_bold.htm

Electroshocks for a Sputtering Economy

<http://www.iamaw.org/publications/spring2003/electroshocks.htm>

Taking the High Road

http://www.iamaw.org/publications/spring2003/high_road.htm

Transportation (Southwest Airlines)

<http://www.iamaw.org/publications/spring2003/transportation.htm>

Railroading the Act Labor Law Under Attack

<http://www.iamaw.org/publications/spring2003/railroading.htm>

Aerospace (Presidential Aerospace Commission: Mission Unaccomplished)

<http://www.iamaw.org/publications/spring2003/aerospace.htm>

Commentary

<http://www.iamaw.org/publications/spring2003/commentary.htm>

Working Families Face Rough Sledding in New Congress

http://www.iamaw.org/publications/spring2003/rough_sledding.htm

Recent Union News <http://www.goiam.org/news.cfm>

Unions accept massive cutbacks at US Airways By Paul Sherman 6 January 2003

<http://www.wsws.org/articles/2003/jan2003/usa-j06.shtml>

United Airlines bankruptcy signals new attacks on US workers US Airways and American seek millions in concessions, By Kate Randall 11 December 2002

<http://www.wsws.org/articles/2002/dec2002/unit-d11.shtml>

Bush administration drives United Airlines into bankruptcy Government panel demands all-out attack on airline workers By Kate Randall 7 December 2002

<http://www.wsws.org/articles/2002/dec2002/ua-d07.shtml>

(1.39) Management Theory References

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(1.39.1) *The Five Functions of Management*. (mgmtref2.doc) [Available]

<http://www.ag.ohio-state.edu/~mgtexcel/Function.html>

- (1.39.1.1) Planning [Available] <http://www.ag.ohio-state.edu/~mgtexcel/Planning.html>
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<http://www.eagle.ca/~mikehick/quality.html>
- (1.39.9) The Shape of Things to Come: An Interview with Peter F. Drucker. (mgmtref2.doc) [Available] <http://www.pfdf.org/leaderbooks/L2L/summer96/drucker.html>
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<http://www.bused.org/busmgn.html> Save as mgmtx1.htm
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- (1.39.13) David C. McClelland: Motivation Theory (Mgmtref.doc) [Available]
http://www.accel-team.com/human_relations/hrels_06_mcclelland.html. A discussion of motivation and achievement factors.
- (1.39.14) Abraham H. Maslow's Hierarchy of Needs (Mgmtref.doc) [Available]
http://www.accel-team.com/human_relations/hrels_02_maslow.html
- (1.39.15) George Elton Mayo's Hawthorne Experiments (Mgmtref.doc) [Available]
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- (1.39.17) The theorists and their theories (Mgmtref.doc) [Available]
http://www.accel-team.com/motivation/theory_01.html. Provides an over of: Theory X & Y, Maslow, Herzberg, Chris Argyris, Likert, Fred Luthan's contingency approach, and Victor Vroom's expectancy theory.
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- (1.40.0) Plant Maintenance. Many good plant maintenance articles [Available]
http://www.plant-maintenance.com/maintenance_articles.shtml
- (1.40.1) Articles on Computerized Maintenance Management Systems (CMMS). Available] http://www.plant-maintenance.com/maintenance_articles_cmms.shtml
- (1.40.2) Management Articles [Available]
http://www.plant-maintenance.com/maintenance_articles.shtml (The following indexes of articles listed.
- Professional Aviation Maintenance Association (PAMA)** [Available] <http://www.pama.org/>
AV Power general aviation engineering services web cite. It just basically gives a introduction to the company, some of its core competencies, experience and services they offer. [Available]
<http://www.avpower.net/>.

(2.0) Department of Defense (DOD) & Military Websites: [Top](#)

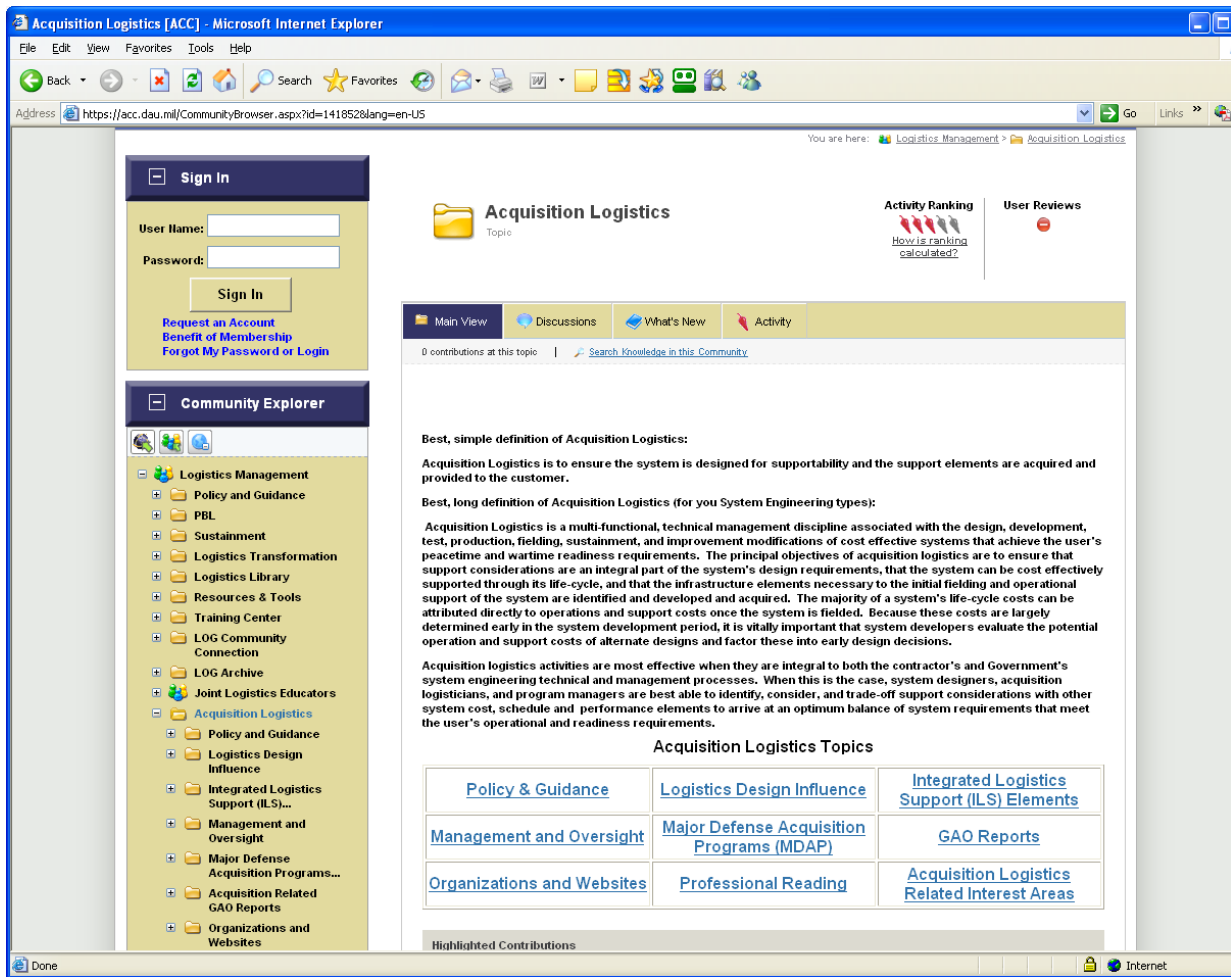
Acquisition Community Connection Homepage

<https://acc.dau.mil/CommunityBrowser.aspx>

The screenshot shows the ACC Practice Center website in Microsoft Internet Explorer. The browser's address bar displays <https://acc.dau.mil/CommunityBrowser.aspx>. The website header includes the 'Acquisition Community Connection' logo and the 'Defense Acquisition University' name. A navigation bar contains links for 'Home | Contact Us | Privacy Policy | ACC Tutorial | DoD Certificate'. A search bar is positioned at the top right. The main content area is titled 'ACC Practice Center' and features a 'Main View' tab. Below this, there are two columns: 'Participate in a Community' and 'Special Interest Areas', each containing a list of links to various topics. A 'Hot Topic Forums' section is also present. On the left side, there is a 'Sign In' form with fields for 'User Name' and 'Password', and a 'Community Explorer' menu listing various categories like 'User Info and Training', 'Contingency Contracting', and 'Data Management'.

Acquisition Logistics <https://acc.dau.mil/CommunityBrowser.aspx?id=141852&lang=en-US>. Article: Overview of Acquisition Logistics ([Go there](#))

See next page.



Integrated Logistics Support (ILS):

Integrated Logistics Support (ILS) Elements <https://acc.dau.mil/CommunityBrowser.aspx?id=141953>

ILS Wikipedia http://en.wikipedia.org/wiki/Integrated_Logistics_Support

FAA Integrated Logistics Support Process Manual (ILSPM), June 2007
<http://fast.faa.gov/toolsets/ILSPG/indexstart.htm>

Integrated Logistics Support Plan (ILSP):

ILSP Template http://www.floridait.com/SEMP/Files/PDF_Report/ApxU.pdf

Logistics/Product Support Plans
<https://acc.dau.mil/CommunityBrowser.aspx?id=22452>

Long Description

Product support is the package of support functions necessary to maintain the readiness and operational capability of weapon systems, subsystems, and support systems. It encompasses all critical functions related to weapon system readiness, including materiel management, distribution, technical data management, maintenance, training, cataloging, configuration management, engineering support, repair parts management, failure reporting and analyses, and reliability growth. The source of the support may

be organic or commercial, but its primary focus is to optimize customer support and achieve maximum weapon system availability at the lowest total ownership cost (TOC). Although each service may in some cases use a different name, in their most basic sense, Product (or Logistics) Support Plans are still plans outlining how logistics support and sustainment of a weapon system will be managed over its life cycle.

LOGSA <https://www.logsa.army.mil/lec/syspars/> User's Guide

<https://www.logsa.army.mil/lec/syspars/users-guide.cfm>

<http://fast.faa.gov/flowcharts/testflow/sys60N.htm>

Systems Planning and Requirements System (formerly Logistics Planning and Requirements System (LOGPARS)) <https://acc.dau.mil/CommunityBrowser.aspx?id=142119&lang=en-US>

Long Description

The SYSPAR (formerly LOGPARS) is a web-enabled, tri-service expert system that assists PM and ILSM in preparation of ILS and supportability planning documentation.

The ILS planning process requires in-depth knowledge in many different functional specialties. Resource shortages and lack of expertise and training contribute to inadequate planning and inappropriate specification of requirements. The SYSPAR is designed to enhance productivity and accuracy in ILS planning and performance by leading the user through a series of questions designed to establish ILS and supportability strategy and develop the associated tailored program planning documentation. Through tailored interactive question and answer sessions the SYSPAR assists the user in systematically considering all issues pertinent to his or her ILS program. The decision networks embedded within the SYSPAR lead the user through the maze of supportability issues to be considered. Automated consistency checks help the user to avoid inconsistencies.

SYSPAR produces comprehensive, high quality, and timely acquisition program documents such as: Acquisition Strategy, Supportability Strategy, Materiel Fielding Plan, Performance Based Agreement, PBL Strategy, Life Cycle Schedule generator, ILS Statement of Work, ILS Performance Specification, Provisioning Plan, and Transportability Report.

Configuration Management:

ACC/DAU Configuration Management <https://acc.dau.mil/CommunityBrowser.aspx?id=22414&lang=en-US> [US Navy Configuration Management Definitions.doc](#)

Configuration Management (CM) is an umbrella activity developed to (1) identify change, (2) manage that change, (3) ensure that the change is being properly implemented, (4) report the change to others who may have an interest, and (5) record the change for historical reference. It includes the technical and administrative direction and surveillance actions taken to identify and document the functional and physical characteristics of a configuration item (CI), to control changes to a CI and its characteristics, and to record and report change processing and implementation status. CM also provides a complete audit trail of decisions and design modifications.

The DoD *Defense Acquisition Guidebook* contains specific Configuration Management guidance in both Chapter 4 (Systems Engineering), para 4.2.3.6 and Chapter 5 (Life Cycle Logistics) para 5.2.1.4. The 10 Nov 04 [Performance Based Logistics: A Program Manager's Product Support Guide](#) also contains Configuration Management guidance in para 4.1.

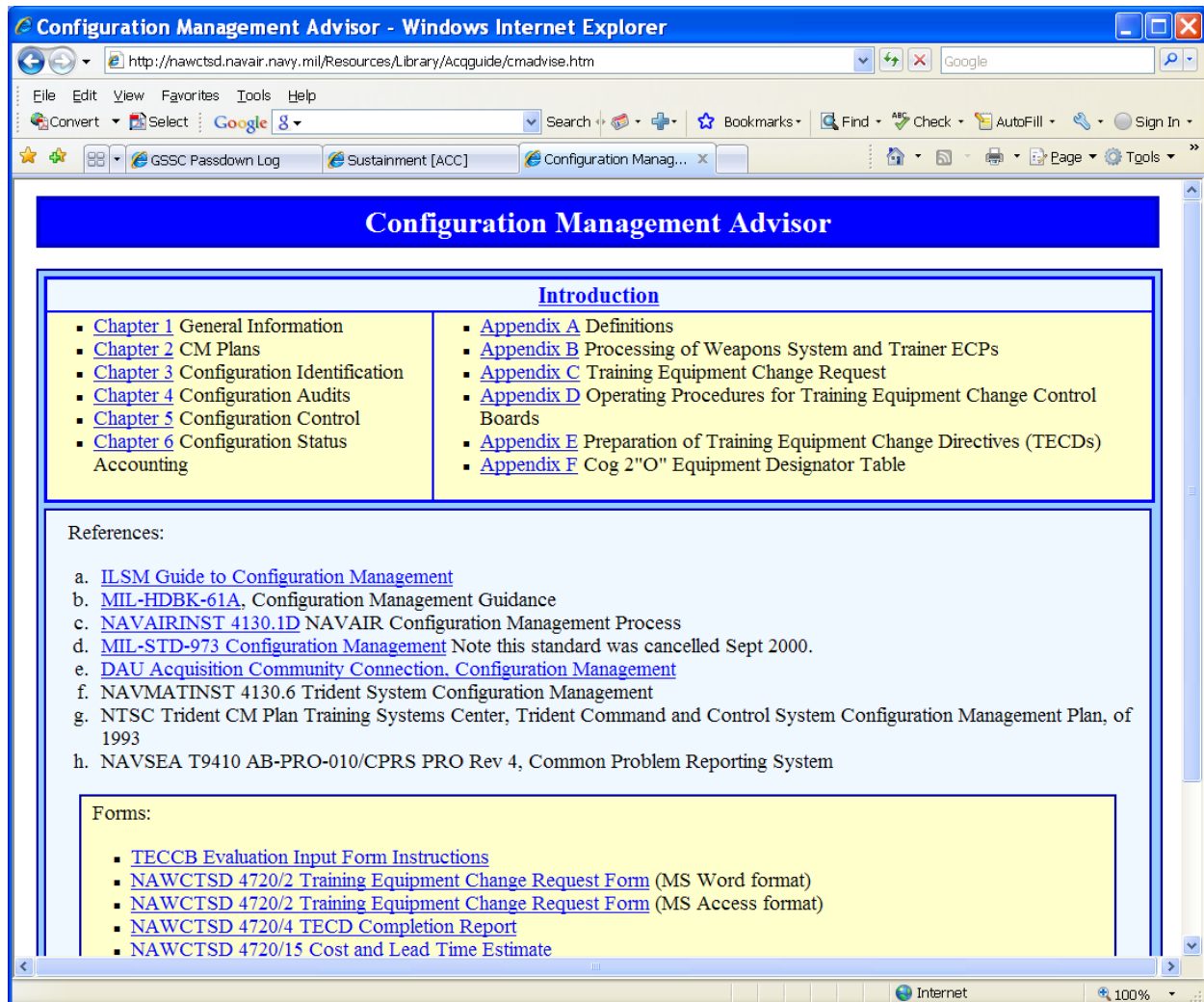
Configuration Management Advisor

<http://nawctsd.navair.navy.mil/Resources/Library/Acgguide/cmadvise.htm>

Navy Configuration Management Handbook

<http://nawctsd.navair.navy.mil/Resources/Library/Acgguide/ilsm-configuration-mgmt-hdbk.htm>

<http://nawctsd.navair.navy.mil/Resources/Library/Acgguide/NAVAIRINST%204130.1D%20Config%20Mgmt%20Process.pdf>



Defense Acquisition University: [5 Nov 06] [Top](#)

- [AT&L Knowledge Sharing System \(AKSS\)](#) [5 Nov 06] <https://akss.dau.mil/default.aspx>
- [Acquisition Community Connection \(ACC\)](#) <https://acc.dau.mil/CommunityBrowser.aspx>
- [Acquisition Links](#) <http://www.dau.mil/basedocs/acquisitionlinks.asp>
- [Contingency Contracting](#)
- [Continuous Process Improvement](#)
- [Contracting](#)
- [Data Management](#)

- [DoD Wireless](#)
- [Earned Value Management](#)
- [Facilities Engineering](#)
- [Information Technology](#)
- [Logistics Management](#)
- [Production Quality & Manufacturing](#)
- [Program Management](#)
- [Risk Management](#)
- [Science & Technology Management](#)
- [Small Business](#)
- [Systems Engineering](#)
- **Aging Systems:** <https://acc.dau.mil/CommunityBrowser.aspx?id=22415>
- Performance Based Acquisitions: <https://acc.dau.mil/CommunityBrowser.aspx?id=18004>
- Reliability and Maintainability: <https://acc.dau.mil/CommunityBrowser.aspx?id=18009>

Performance Based Services Acquisition

[Top](#)

(2.0.1) Defense Contract Management Agency (DCMA).

http://www.dcma.mil/communicator/news_release/2004/NR_090804.htm

About DCMA http://www.dcma.mil/communicator/files/DCMA_Fact_Sheet.pdf

Earned Value Management

http://www.dcma.mil/communicator/files/DCMA_EVMS.pdf

(2.1) DoD weapon systems and equipment maintenance home page [Available]

<http://www.acq.osd.mil/log/mppr/>

(2.3) Major Acquisition Policy Documents [Available]

<http://akss.dau.mil/dag/DoD5000.asp?view=framework> are available from links at this website.

Latest Update: April 5, 2002:

- [DoD Directive 5000.1 \(including Change 1\)](#)

Subject: Defense Acquisition System

Most Recent Publication: 23 October 2000

- [DoD Instruction 5000.2](#)

Subject: Operation of the Defense Acquisition System

Most Recent Publication: 5 April 2002

- [DoD Regulation Guidance 5000.2-R](#)

Subject: Mandatory Procedures for Major Defense Acquisition Programs (MDAPs)

and Major Automated Information System (MAIS) Acquisition Programs

Most Recent Publication: 5 April 2002

- The Defense Acquisition Board (DAB) Schedule

Subject: Current DAB/OIPT Schedule Calendar

- [The Major Defense Acquisition Programs List](#)

Subject: Current list of ACAT I programs

Most Recent Publication: 13 November 1999

- [The Rules of the Road](#)

Subject: A guide for leading successful IPTs

Most Recent Publication: October 1999 [Top](#)

(2.3.1) Index [Available] <http://www.acq.osd.mil/acqweb/nav/index.html>

(2.3.2) Speeches and Testimonies USD(AT&L) Documents Page [Available]

<http://www.acq.osd.mil/acqweb/usd/index.html>

(2.5) DOD Maintenance Policy, Programs, and Resources (Fact Book) (Available)

<http://www.acq.osd.mil/log/mppr/index.html>.

(*2.4.1) [AFI 21-101 MANAGING AEROSPACE EQUIPMENT MAINTENANCE \(USAF\)](#),
29 Jun 06, [Available, 19 Jun 07]

<http://www.e-publishing.af.mil/shared/media/epubs/afi21-101.pdf>

(2.5) [MIL-HDBK-502 Department of Defense Handbook Acquisition Logistics](#), 30 May 1997
(Available, June 07. If the link does not open copy and paste the Web address [URL] directly
into your Web browser.) <https://acc.dau.mil/CommunityBrowser.aspx?id=32543>,

<https://acc.dau.mil/CommunityBrowser.aspx?id=59106&lang=en-US>

This handbook offers guidance on acquisition logistics as an integral part of the systems engineering process. The information contained herein is applicable, in part or in whole, to all types of materiel and automated information systems and all acquisition strategies. To provide more affordable logistic support for materiel systems the Department of Defense is focusing on total cost of ownership throughout the life cycle. Achieving affordable support depends upon effective acquisition logistics management and planning. Section Five of the Handbook addresses Supportability Analyses.

(2.6) [Menu For Military Standards and Handbooks html](#))

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(2.9) [\(2.9\) Visit this Website: \(2.8\) Defense Acquisition University \[Available\]](#)

<http://www.dau.mil/> . This is an excellent source for a multitude of logistics topics

(Reliability, Maintainability, Program Management, and etc). Try entering a key word search.

Acquisition Community Connection [Available] https://acc.dau.mil/simplify/ev_en.php

type key words in “Search” window

Many topics available (Contract Management, Logistics Management, Risk Management, Facilities Engineering, Program Management, Systems Engineering, and others).

Air & Space Power Chronicles Home Page. Maxwell AFB articles [Available]

<http://www.airpower.maxwell.af.mil/>

(2.10) **Acquisition Community Connection**, Logistics Library. By alphabetical topics.
<https://acc.dau.mil/CommunityBrowser.aspx?id=18080>

(3.13) **Department of Transportation (DOT) Transportation Research Board (TRB)** [Top](#)
[Available] <http://www.nas.edu/trb/> . This is an excellent reference for ASCI 602.

(3.13.1) Transportation Research Circulars [Available]
http://www.trb.org/news/blurb_browse.asp?id=16

This is an excellent reference for ASCI 602.

(3.13.2) **TRB Publications** [Available] <http://www4.trb.org/trb/onlinepubs.nsf> . This is an excellent reference for ASCI 602. [Top](#)

(3.14) **Transportation Security Administration (TSA)**. This is an excellent reference for ASCI 602. [Available] <http://www.tsa.gov/>

On November 19, 2001, the President signed into law the Aviation and Transportation Security Act (ATSA), which among other things established a new Transportation Security Administration (TSA) within the Department of Transportation. This Act established a series of challenging but critically important milestones toward achieving a secure air travel system.

Intermodal Transportation [ASCI 602]

(4.1) **Intermodal Association of North America**. [Available] <http://www.intermodal.org/>

(4.0) Human Factors: [Top](#)

(4.2) Cornell University Ergonomics Web <http://ergo.human.cornell.edu/>

(4.3) Human Factors & Ergonomics Society <http://hfes.org/>

(4.4) Technical Reports and Publications <http://www.beta-research.com/aerohf.html>

(4.5) National Transportation Library <http://ntl.bts.gov/display.cfm?sub=a5&cat=1>

(4.6) NASA Human Factors <http://human-factors.arc.nasa.gov/>

(4.7) HUMAN FACTORS & ERGONOMICS RESOURCES

http://www.2-sir.com/Human_Factors/

(4.8) Usernomics <http://www.usernomics.com/human-factors.html>

(4.9) ERGOWORLD's Air & Ground Human Factors <http://www.interface-analysis.com/ergoworld/trans.htm>

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(5.1) Blanchard, B. (1981). Logistics Engineering and Management (2nd ed.). Englewood Cliffs:Prentice-Hall.

(5.2) Blanchard, B. (1992). Logistics Engineering and Management (4th ed.). Englewood Cliffs:Prentice-Hall.

(5.3) King, F. H., (1986). Aviation Maintenance Management. (1st ed.). Southern Illinois University Press

Air University Library – Maxwell AFB, AL Provides *citations and abstracts* to articles, news items, and editorials from military and aeronautical periodicals covering all branches of the

military. Also supplies links to some *complete (full-text)* items available on the Internet. AULIMP is issued by the [Air University Library](#), Maxwell Air Force Base, Alabama, and is provided by the [Defense Technical Information Center](#). Coverage: 1990-current (updated quarterly). <http://www.au.af.mil/au/aul/sitemap.htm> & <http://www.dtic.mil/dtic/aulimp/index.html>

<http://www.au.af.mil/au/aul/lane.htm>

<http://www.stormingmedia.us/18/1809/A180924.html>

Personnel Management:

Personnel Policy Service, Inc. - Human Resources Policies, Employee Compliance Manual, and other links [Available] <http://www.ppspublishers.com/>
<http://www.wisageek.com/what-is-personnel-management.htm>

Business Resource Center [Available] <http://www.zeromillion.com/business/personnel/personnel-management.html>

F-35 Logistics Articles:

F-35 Autonomic Logistics: http://www.jsf.mil/program/prog_org_autolog.htm

Boeing Commercial Airplanes (BCA) has launched a series of videos as part of the promotional material for the 787, which include the launch of ALL of the 7-Series airplanes. <http://787premiere.newairplane.com/>

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