

# **SURPLUS PART SALES AN OVERVIEW**

by

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# **Surplus – Why Am I Talking About This?**

Why Airlines Use Surplus

Sources of Surplus

Surplus Market Size

The Players

Quality

Conclusions

# Surplus – FAA Authorized Parts Not Wanted By Their Current Owner

**“I can buy serviceable for less than the price of PMA, and I don’t have to worry about all the restrictions.”  
- MRO Purchasing Manager**

- Surplus parts “Don’t get no respect”.
- PMA has all the glamour and attention.
- In fact the surplus market is much larger than the PMA market, and surplus is a potent competitor to PMA.



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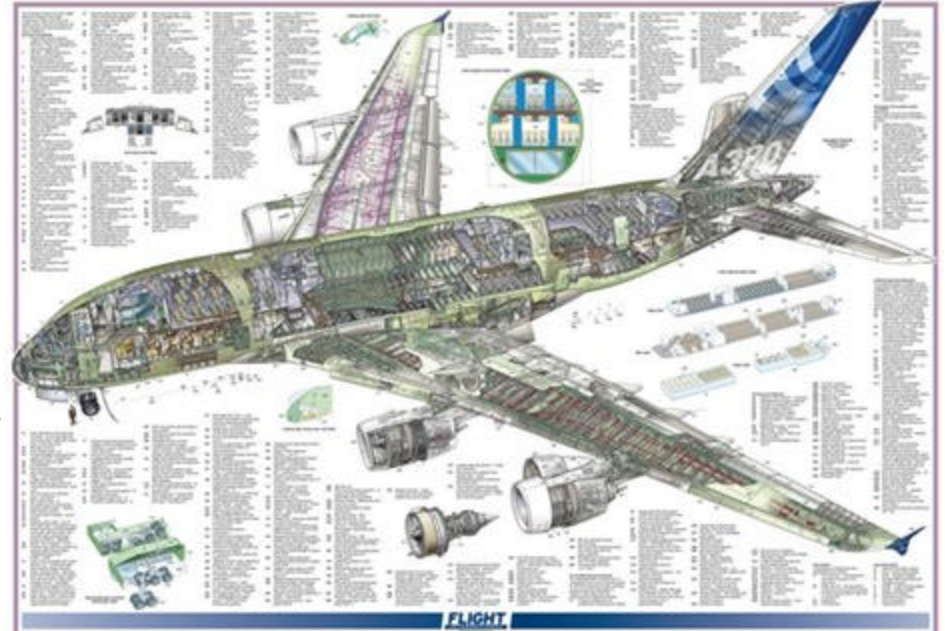
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# Why Do Airlines & MROs Like Surplus?

- **Low Cost**
  - Typically 30% to 50% below OEM cost (negotiable) for the same part.
  - Many reliable sources in competition.
- **Short Lead Times**
  - Available inventory is highly visible or easy to track down.
  - If you know the market, surplus is a viable alternative to parts on the shelf.
  - Surplus alleviates lead time problems with OEMs.



**AIRCRAFT ARE COLLECTIONS OF  
SPARE PARTS FLYING  
IN CLOSE FORMATION**

# Why Do Airlines & MROs Like Surplus?

- **Surplus usage is not faced with the same restrictions as PMA.**
  - **Unfavorable leasing company perceptions**
  - **Bill of material and repair manual complications**
  - **Active opposition by the OEMs**
  
- **On the other hand...**
  - **Surplus parts have usually been used by somebody else.**
  - **Airlines technical staff often believe their own parts are in better condition than parts run by other airlines.**
  - **Quality assurance is an ongoing responsibility.**

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# No Airline Ever Intended To Have Surplus Inventory

- A great deal of surplus results from the variance between plan and actual.
  - Maintenance is a probabilistic business.
  - Plan as you will. the aircraft has a mind of its own.
- A sudden surge of visits creates high temporary demand and permanent inventory.
- Inventory is often used to hide shop production difficulties.



**To minimize AOGs an airline must hold stock levels to support greater than average demand. By definition stocking to average demand means you are out of stock half the time.**



# Airlines Cash In On Excess Inventory

- Airlines continuously balance inventory on hand with current requirements and sell the excess.
- Lean production strategies reduce turn time and requirement for supporting inventory.
- Airlines sell inventory to repair suppliers as part of long term maintenance support package.



**EQUALS**

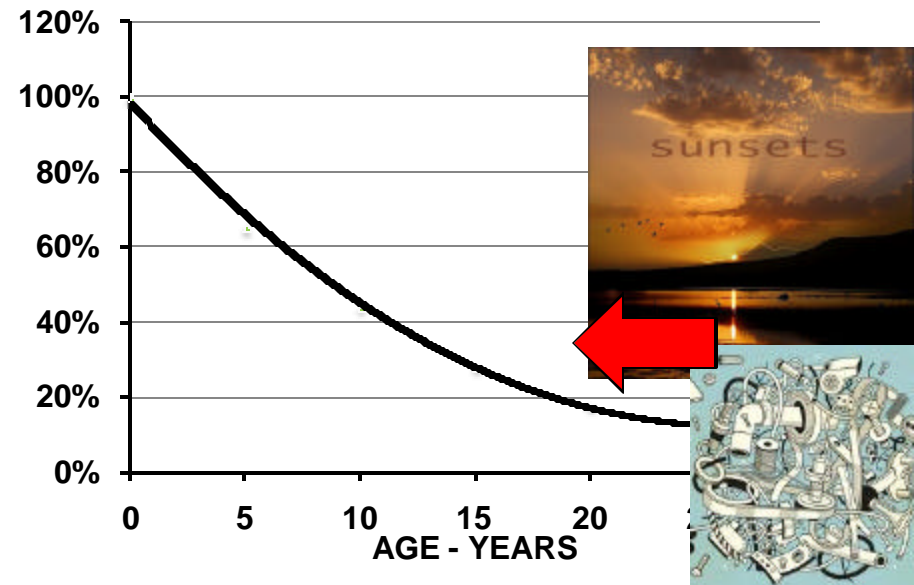


**Airlines have tens of billions of dollars tied up in inventory.**

# Fleet Retirements Swell Surplus At End Of Aircraft Life Cycle

- **Some airlines mine their retiring aircraft for inventory.**
  - **Surplus used to avoid new purchases from OEM.**
  - **Engines, components, landing gear prime candidates.**
- **Many aircraft and engines retired from fleets are sold to the surplus market.**
- **Profitability of surplus market has prompted some lessors to retire aircraft early and sell to the surplus industry.**

AIRCRAFT BASE VALUE VS. AGE



Source: AVITAS

**GA Telesis stated in a recent conference that 300 to 400 “young” aircraft are being dismantled for parts each year.**

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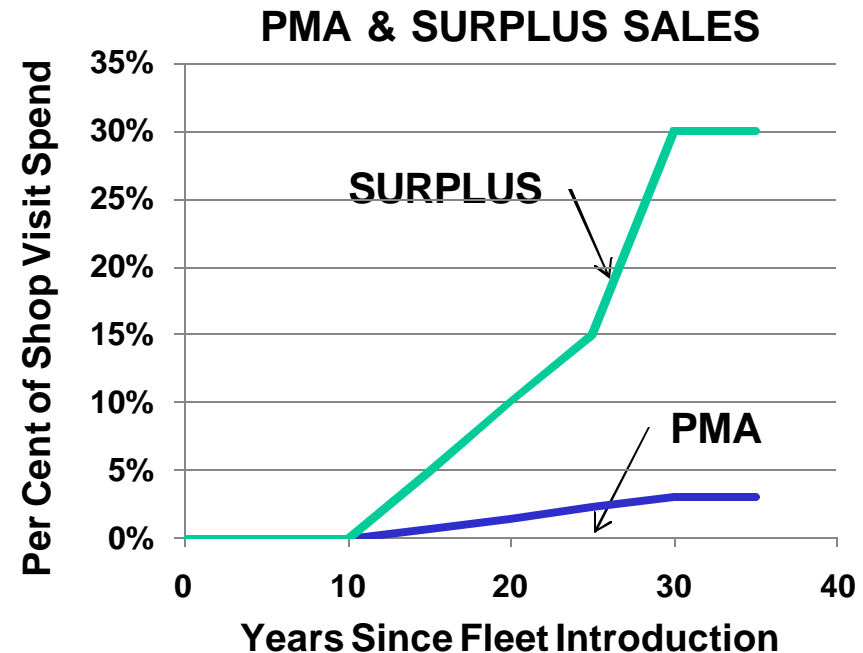
# Surplus Material Price Is Determined By Supply And Demand

- **Surplus dealer wins or loses based on the price he pays the source for the material.**
  - Dealer typically pays 20% or more of new part price.
  - Supply & demand, condition, and quality of paperwork all affect price.
- **Surplus purchase price generally ranges between 50% to 70% of new OEM part.**
  - Unused surplus in high demand commands highest price.
  - Condition affects price.
  - Quality of paperwork can also affect the price.



# Surplus Sales Volumes Vary Throughout The Engine Life Cycle

- PMA and surplus sales are virtually non existent prior to the first engine shop visit.
- PMA and surplus sales grow continuously throughout the mature phase of the engine life cycle.
- New part sales plummet, and surplus sales double when the engine reaches its sunset phase.
- Surplus material sales are approximately 10 times PMA sales.



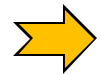
**AeroStrategy estimated  
2010 MRO surplus material  
sales to be \$2.3 billion. (18%)**

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# Many Different Players Work The Surplus Market

- The surplus market is highly entrepreneurial with no dominant player.
- Hundreds of businesses compete in the market.
  - Distributors
  - Brokers
  - Airlines
  - MROs
  - OEMs
  - PMA manufacturers



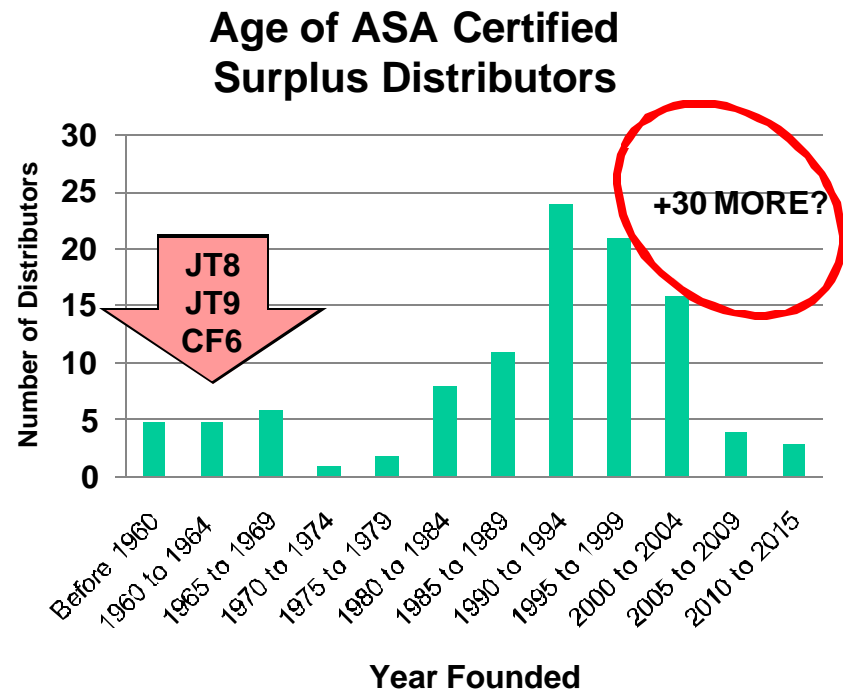
**Old purchasing managers never die.  
They just move to Florida and sell parts.**

# Players – Distributors & Brokers

- **Independent Distributors dominate the surplus market.**
  - **Access to capital and industry experience are critical to success.**
  - **Other factors are important**
    - Quality systems
    - Logistics expertise
    - Warehousing
    - Inventory management software
    - Ability to manage repairs
- **Expertise and contacts are important to brokers.**
  - **Brokers don't own the inventory they sell.**
  - **Add a layer of cost on sales.**

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16



**The number of firms surged as the aircraft entering service in the 1960s entered their sunset.**

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# Players – Airlines And MROs

- **Maintenance Organizations**
  - **MROs purchase \$billions in inventory at fleet introduction and sell off most of it during the sunset phase.**
  - **All maintenance organizations have specialists that buy, sell, and trade throughout the fleet life cycle.**
- **Some airlines have pooled resources to increase presence in the surplus market.**
- **Maintenance organizations with component and part repair shops also have the opportunity to create “sweat equity”.**
  - **Unserviceable, but repairable, material can be purchased at very low cost.**
  - **Repairing unserviceable surplus increases value far beyond the cost of repair.**
  - **Efficient repair operations and capacity are required to make this pay off.**

## Players - OEMs

- **Boeing, P&WA, and GE have all established organizations to buy and sell surplus material.**
- **Surplus provides several opportunities to the OEMs.**
  - **Make money.**
  - **Support their customers.**
  - **Support their own MROs and PBTH contracts.**
  - **Deny sales to PMA.**

**At this time the OEM surplus efforts lack the mass to dominate the surplus market and significantly influence prices.**

# Players – e Commerce Markets

- e commerce markets provide visibility to millions of surplus parts.
- These markets bring buyers and sellers together for a fee.
  - Markets charge membership or transaction fees.
  - Do not sell articles.
- All those listings and transaction provide another useful product – market information.
- Current e commerce markets include:



- ILS
- PartsBase
- ABD
- One Aero
- APLS
- PartsLogistics

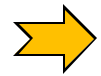
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# What About Quality??

## Most Of These Parts Are Used

- The FAA does not directly regulate or oversee distributors.
  - Have regulations covering many of the functions.
  - Part 3 requires accurate representation of part.
  - FAA has issued AC 00-56A recommending quality requirements.
- Industry relies on voluntary accreditation by distributors.
- FAA states that “acquiring parts through accredited distributors is a sound safety practice”.

**Regulations allow an air carrier to delegate anything except responsibility for airworthiness**



OR



# Accreditation Covers Important Quality Requirements

- **System to assure that material is traceable to a prior source and bears acceptable documentation**
- **Acceptable quality system, manual, and training of personnel**
- **Appropriate facilities with safe material control and storage**
- **Inspection system with appropriate, calibrated tools**
- **Segregation and mutilation of scrapped parts**
- **System to maintain and control technical information**
- **Packaging control to adequately protect parts**
- **Procedures for splitting lots and duplicating documents**

**To maintain accreditation a distributor must have a complete audit at least once every 36 months with at least one surveillance audit during the interval.**

# **A Number Of Organizations Are Capable Of Providing Quality System Standards Acceptable To The FAA**

- **Aviation Suppliers Association – ASA-100**
- **American National Standards Institute –  
ISO 9000 Series**
- **General Aviation Parts Suppliers – GAPSA 100**
- **Society of Automotive Engineers**
  - **NADCAP AS 7103**
  - **NADCAP AS 7104**
- **Transonic Aviation Consultants – TAC 2000**
- **C.A.S.E. is also approved by the FAA for  
evaluation and surveillance of distributors.**



**This system of voluntary accreditation of distributors  
has worked well for the aviation industry.**

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# Conclusions

- **The surplus parts business provides a valuable service to the aviation industry and stiff competition for PMA.**
- **The sale of surplus parts has low barriers to entry and is highly fragmented.**
  - **Ripe for consolidation**
  - **Potential opportunity for PMA suppliers**
- **OEMs participate in surplus sales but at this time play only a minor role.**
- **The voluntary accreditation program is working well for the industry.**



**Chumlee says,**

**“Thanks for  
your attention.**

**Any questions?”**