

AFRA – LEADING THE WAY IN SAFE AND SUSTAINABLE AIRCRAFT END-OF-LIFE MANAGEMENT

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With increasing focus on environmental and operational issues related to aircraft end-of-life and related practices, procedures, and safety and environmental concerns, the Aircraft Fleet Recycling Association (AFRA) is uniquely positioned as the only international trade association focused on aircraft disassembly, recycling, and end-of-life solutions. AFRA seeks to build awareness and endorsement of the AFRA Best Management Practice (BMP) guide that helps assure that facilities operate in a safe and environmentally responsible fashion, and accredits companies that meet the minimum best practices.

In a recent study conducted in partnership with TeamSAI, AFRA estimated that between 1,200 and 1,800 aircraft will be torn down or dismantled over the next three years (2014-2016)¹, and that a key challenge is to recycle and disassemble these materials in a way that is environmentally responsible. Not all end-of-life aircraft owners are considering environmental performance when looking for a disposal provider, and not all customers are aware of the risks of end-of-life aircraft in the field of aviation safety and environment, and the effect of that on value. AFRA strives to ensure responsible handling of materials, jobsites, and the safety of aircraft disassemblers and the flying public.

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About the Aircraft Fleet Recycling Association (AFRA)

AFRA is the leading global organization for developing and promoting the safe and sustainable management of end-of-life aircraft and components. AFRA was founded in 2006 at Chateauroux, France with the mission to organize and present an industry perspective on aircraft sustainability via the development and recommendation of best practices and technologies for the management of the world's older aircraft fleet. It is essentially a membership-based global collaboration meant to elevate industry performance and to increase commercial value for end-of-life aircraft through safety (aviation and labor), environmental responsibility, business practices, technology advancements, and regulatory engagement.

AFRA currently has 68 member companies, from almost 20 different countries, and is headquartered in Washington, DC. AFRA offers four different membership categories, and its members include aircraft disassembly companies, material recycling companies, air centers, OEMs, lessors and airlines, and research institutes.

Reducing the Environmental Footprint of the Sector

Core values of the Association are quality, safety, environmental stewardship, and collaboration. AFRA aims to ensure that its BMP-accredited members: meet or exceed industry standards, protect the safety of employees, place communities and passengers first, protect the environment and reduce the industry's impact on critical resources through the product lifecycle, and strive to include all aviation stakeholders in all AFRA-sanctioned activities.

In practice, AFRA works toward realizing these values by: maintaining and encouraging industry recognition of, and participation in, its accreditation program and BMP; engaging its members in key projects and initiatives; and entering into working partnerships with aligned organizations.

AFRA Accreditation and the BMP Guide

AFRA's guide titled "*Best Management Practice for Management of Used Aircraft Parts and Assemblies and for Recycling of Aircraft Materials*" (BMP) is the global standard for environmentally responsible aircraft disassembly and recycling. The document represents a collection of recommendations concerning best practices for the management of parts that are removed from aircraft, engines, or other assets during the *disassembly* of an asset at the end of its service life. It also provides guidelines for the *recycling* of parts and materials that are recovered from aircraft, engines, or other assets during the recycling of an asset at the end of its service life.

The document provides guidance on employing Best Practices, which are auditable standards. The purposes of the BMP guidelines are to: increase and sustain the value of end-of-life assets, grow BMP awareness, increase the number of aircraft dismantled and recycled according to BMP, and to improve the recycling rate of the current fleet. AFRA accreditation is available for Association members as well as non-member companies. Companies can choose to be accredited for disassembly, recycling, or for dual accreditation.

Our Place in the Market

Between 40% and 50% of the weight of most dismantled aircraft is returned to the parts distribution pipeline. AFRA members estimate disassembly of between 400 and 600 aircraft per year through 2017, with those numbers likely to increase beyond that. Those estimates are based on both the age of aircraft in circulation, as well as on publicly available statistics on new orders placed with major aircraft manufacturers. Of course, as with any industry, world economies play a vital part in the decision to take aging aircraft out of service. In the last worldwide recession, AFRA members across the globe saw the availability of aircraft to be disassembled and recycled drop substantially, while the past few years have seen a slow but steady increase.

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We have also seen saturation in the marketplace of companies engaged in aircraft disassembly and recycling, which can bring into question the viability of many of the smaller shops, which would be based almost solely on the availability of aircraft to recycle. The more planes there are, the more room there is in the industry, but it is safe to say that based on the current landscape the industry will be operating at or above capacity for some time to come.

Many of the companies engaged in aircraft recycling are accredited by AFRA and working to its Best Management Practices for both disassembly and recycling. The increase in aircraft owners specifying AFRA BMP in their disassembly and recycling requests for proposals (RFPs) is a major step in the right direction.

Key Initiatives and Partnerships

AFRA was founded in 2006, so it is now entering its tenth year as the global organization for developing and promoting the safe and sustainable management of end-of-life aircraft and components. In that relatively short time, the Association has developed a sound membership and has accredited various companies for aircraft disassembly, recycling, or both, in accordance with its Best Management Practices.

Some recent statistics of interest regarding aircraft end-of-life based on feedback from AFRA members worldwide include:

- Average parts value per aircraft is estimated between \$1-3 million.
 - Engines have most value.
 - Can have no value if records of aircraft are not available.
- Total tear-down/dismantling market is estimated to be \$80 million per year.
- Recycling /dismantling cost for certain aircraft may exceed parts value.
 - Customers are likely to seek low-cost providers.
- To manage and reduce the overall environmental impact, while increasing end-of-life value at the disassembly phase...
 - Better performance = higher cost = higher component value.
- Users are increasingly recognizing AFRA standards.
- Airlines such as Delta, Cathay Pacific and ANA are referencing the AFRA standards or the use of the AFRA BMP in their RFPs.
- FAA, SFO Airport, and US DOD have referenced AFRA standards in their RFPs.

As an international organization, AFRA is focused on continuing to grow its membership among companies engaged directly in aircraft recycling. It also places a high priority on targeting those companies and organizations with a specific interest in the industry, such as aircraft manufacturers, parts distributors, industry suppliers, research organizations, and other stakeholders. Additionally, the AFRA membership is collectively interested in promoting the industry through targeted outreach that speaks to the importance and value of its BMP, as well as to educate aircraft owners about the decision-making process regarding aircraft end-of-life.

Beyond those, AFRA is involved with a number of related associations and industry influencers and stakeholders, which have a mutual interest in ensuring the safe and responsible disassembly and recycling of aircraft. These groups believe that specific attention must be paid to the safety of those individuals who perform the work, the environment in which the process takes place, and the responsible distribution of parts or recycling of the remaining materials from the process.

Over the next three years, AFRA would like to see a marked increase in aircraft owners asking for AFRA accreditation in their disassembly and recycling RFPs. Increased participation of disassembly and recycling companies in AFRA is also sought so that they will become will become part of the discussion.

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The participation of many companies and organizations at the industry level will foster discussion and action on how all players can continue to improve practices and processes collectively. It will also encourage more companies to take the next step and work towards AFRA accreditation.

AFRA plans to continue to expand its outreach and engagement with key industry stakeholders to educate and inform them about the AFRA organization, aircraft disassembly and recycling, and AFRA's Best Management Practices. There are also many opportunities to engage with other segments of the industry where there is a complementary interest in the safe and successful disassembly and recycling of aircraft. Among the groups AFRA is actively engaged with are: ISTAT (International Society of Transport Aircraft Trading - Americas and Europe), ATAG (Air Transport Action Group), ICAO (International Civil Aviation Organization), IATA (International Air Transport Association), ASA (Aviation Suppliers Association), UK Environment Agency, EASA (European Aviation Safety Agency), and the FAA (Federal Aviation Administration). It is AFRA's hope to receive input and guidance from these and other groups that supports AFRA Best Management Practices as part of the aircraft end-of-life decision tree.

Conclusion

The Aircraft Fleet Recycling Association's robust best practices accreditation program, as well as its international outreach and initiatives with government agencies and NGOs to promote industry best practices, help ensure that aircraft disassembly, recycling, and end-of-life solutions are implemented with the highest level of integrity.

Reference

1. "State of the Aircraft Dismantling and Recycling Business," better insight by TeamSAI. 2014.