

# MRO

Aerospace Magazine

## **C-ing Is Believing** Return of The C Check



### **Direct Maintenance**

Business continuity and expansion in Africa

### **USM Components**

Steady growth as market demand returns

### **MRO Europe**

Industry gathers once again in Amsterdam

# USM trends **bolster** cost-effective return to service

Post COVID, there is likely to be even more acceptance for USM components.  
*Photo: Ascent Aviation*



*As airlines begin to pull their aircraft from storage and examine their cost base, **Keith Mwanalushi** finds that used serviceable materials are creating an opportunity to help aircraft operators and MROs reduce costs while maintaining operational efficiency.*

## USED SERVICEABLE MATERIALS



“It appears that most, if not all, airlines are now integrating USM components into their maintenance strategies to find ways to reduce maintenance costs.”

*Mike Scott, Ascent Aviation Services*

The USM market has become more competitive than ever.  
Photo: Ascent Aviation

Even prior to the COVID pandemic, there has been a significant increase in the demand from airlines in Used Serviceable Material (USM) components, due to the significant cost savings that can be realised versus purchasing a new part from the OEM.

After the demand shock in mid-2020, at Pratt & Whitney for example, they initially saw a spike in supply, with few actual sales, until the market stabilised more in late-2020. “Throughout 2021 we experienced a better market-driven equilibrium between supply and demand, with USM pricing remaining generally lower than pre-pandemic,” comments Rob Grossman, Managing Director, Commercial Serviceable Assets (CSA), Pratt & Whitney. He says there continues to be a large, but shrinking quantity of parked aircraft, though those assets are only slowly retiring to meet the USM demand. “This limited retirement trend appears driven by market demand, and by extension, the prices those assets can command in the marketplace,

versus their potential future revenues for re-entering service later. I see a steady growth trend for USM as the overall market demand returns and prices rise again in the coming year,” Grossman anticipates.



Rob Grossman, Managing Director, Commercial Serviceable Assets (CSA), Pratt & Whitney

One way the pandemic changed the marketplace for USM was a dramatic increase of available whole assets and the expected reduction of “end of life” engine values from the peak in 2019, observes Michael Sawitoski, Director, GE & CFM Engine Part Sales at Magellan Aviation Group. “This, of course, is due to the combination of travel restrictions, grounded aircraft, and airline operators utilising green time on newer regional and narrowbody aircraft.”

With this oversupply, Sawitoski reckons the USM market has become more competitive than ever, however, he predicts that as aircraft are reintroduced into service and maintenance activities resume, there will be a sharp increase in the demand for USM as airlines replace their feedstock as well as the harvested parts that were removed from stored aircraft. “On a more positive note, cargo demand has helped stabilise the industry during the pandemic, offering steadiness in the widebody engine market in a time

where passenger travel was non-existent.”

Mike Scott, Senior Director of Sales at Ascent Aviation Services says in the post COVID environment, there is likely to be even more acceptance for USM components and finding any cost advantages, as the airlines continue to rebound from reduced demand that was experienced due to the lockdowns in most countries during the spring and summer of 2020. “It appears that most, if not all, airlines are now integrating USM components into their maintenance strategies to find ways to reduce maintenance costs,” he suggests.

Scott indicates that utilising serviceable or repaired USM components versus purchasing new OEM components, can save anywhere from 25 to 50% off the material purchase cost, depending on the pedigree of the unit and demand factors. He says this is a significant savings in the overall maintenance costs for an aircraft whether during a heavy check or during routine line maintenance. The serviceable or overhauled USM component, having been to a 145 repair shop to be inspected, repaired, overhauled, and tagged with a dual release 8130-3 / EASA Form 1, will also have nearly identical reliability to the new OEM unit.

Back at Magellan, they recently had the opportunity to sit down with several



Mike Scott, Sr. Director of Sales,  
Ascent Aviation Services

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Mike Sawitoski, Director, GE & CFM Engine Part Sales at Magellan

airlines and, in those conversations, Sawitoski reports that cash preservation was still of utmost importance, and it will continue to be even as demand in the industry returns. “USM will continue to play a great part in the recovery of our industry as it is much more cost-effective than factory-new material from the OEM. This, alongside the rising repair costs from MROs due to a labour shortage stemming from layoffs in the early days of the pandemic, ensures that USM becomes a much more attractive flight-plan for operators whose highest priority is conservative spending to preserve cashflow,” Sawitoski expands.

USM pricing varies substantially depending on the part and its pedigree, though in general, an operator may recognise savings of approximately 40% by utilising USM versus new material. Grossman highlights that the actual savings recognised for a given shop visit is typically much less though, because for many parts, new material is the only viable option. At Pratt & Whitney they offer a broad range of solutions to meet operator’s specific maintenance needs, including USM through their Commercial Serviceable Assets (CSA) business, as well as fleet management programmes, and

fixed price agreements. – “All of these solutions are geared to help our customers better manage their maintenance cost and mission profiles,” he adds.

Several airlines are also looking at ways to simply rely on the aftermarket USM supply chain more than carrying their own inventory levels, sees Jason Reed, President, Flight Solutions Group – A GA Telesis company. “Leasing inventory and AOG support was a common thread we saw with most airline activities over the last year.” He saw that those activities were focused mainly on USM due to high levels of availability – “our inventory lease and AOG teams showed a spike increase in demand and still sees that demand as a strategy by the airline community for the foreseeable future.

Maintenance strategies are typically focused on the inventories required to support a fleet. Reed says an airline will be subject to an annual price increase of 3%-5% for catalogue items and much more for non-catalogue items by purchasing new material. “The best hedge against those increases is to utilise USM materials that remain consistently priced year over year. In addition, those USM parts can lead to dramatic decreases in maintenance costs, especially for

## USED SERVICEABLE MATERTIALS

engine, APU, and landing gear green-time exchanges versus overhauls. With the forecast of increased teardowns over the next five years, an airline can now develop a complete maintenance strategy of avoiding as many overhauls as possible by substituting with USM materials and green-time assemblies," Reed tells.

Going one step further, Reed echoes similar scenarios where airlines and MROs have taken a lease versus buy mentality in the USM space to lower their overall capital costs. He says this lease strategy also creates a significant risk mitigation approach towards inventory book values 7-10 years out – "By leasing those inventories, their overall maintenance cost and CASM are further lowered."

Stephen Fer, General Manager at STRADE, (powered by SR Technics) feels a more dynamic market such as the USM market, driven by a proper demand and supply, offers airlines and MRO providers an actual and fair valuation of component assets. "Whereas traditional large flight hour programme agreements or new OEM parts have locked airlines into fixed, long-term, or restricted offerings, the USM market offers a dynamic solution where price, component conditions, and sourcing options can be optimised in accordance with individual financial and procurement strategies." Fer is adamant that USM



Stephen Fer, General Manager STRADE



STRADE, the new brand operating as an independent unit powered by SR Technics.

create an opportunity to help airlines and MROs reduce costs while maintaining operational efficiency.

Looking towards recovery, at STRADE, they see USM playing a key part in supporting the industry's increase in operations and demand for more affordable parts options. Fundamental to the notion of rebound, concerning USM, Fer points to trust in the capability of the market to cover operational needs and trust in having a reliable supply chain from a broader perspective, for instance, in terms of quality. Hence, the rebound will not be driven by the sheer perception of cost reduction but by the presence of trustworthy partners in the USM market.

The overall teardown business continued with around 700 aircraft torn down in 2020. Those teardowns coupled with already existing large aftermarket

USM inventories created a significant surplus of USM material due to a lack of demand in the last 18 months. That pipeline has opened again in the previous three months, with USM now moving at about 70% of 2019 levels, according to data from GA Telesis. "In addition, many OEMs stopped producing high volumes of parts for the last year, which will produce a new spares supply chain backlog in 2022. This will further drive the speed of aftermarket sales of USM in the coming year. GA Telesis is already seeing this effect and has already quickly returned to 2019 spares sale levels," says Reed.

Richard Hough, EVP and Chief Technical Officer at Engine Lease Finance (ELFC) argues that aside from this positive trend, it is still too early to make statements as to how the pandemic has changed the marketplace for USM, however, he says



Jason Reed, President, Flight Solutions Group

there are a few strong signals that the engine MRO market and therefore the USM market will be significantly different in the future. "The expected increase in aircraft retirements will result in an increased supply of USM, which has historically been a constraint on the size of the market because USM was unable to meet the market demand for such parts as the engine SV rate was greater than the required number of engines being parted out to support them."

Secondly, Hough stresses that this pandemic has highlighted the flaws of the "power by the hour" business model employed by the OEM's which will see a retrenchment of such offerings in the future and open the market for independent MRO's and therefore greater use of USM.

It's clear that the USM market offers alternatives to some very expensive repair and overhaul procedures, which can exceed the cost of a replacement through a USM by a mile. Further, integrating USM in the overall maintenance strategy also helps to ensure parts availability and avoids operational shortfalls due to supply chain issues at the OEM. René Popp, Head of Engineering, Asset & AOG Desk at Spairliners specifies that in cases of AOG events, it is also simply a faster alternative to the regular OEM

lead times. "At Spairliners, our customers benefit from quicker delivery of parts and lower turnaround times for repairs. Unfortunately, the costs that can be saved on the parts are currently completely offset by the costs for logistics, which have increased dramatically during the pandemic."

Spairliners is carefully monitoring the price development of USM and logistics, so the coming months will show if this combination results in a positive effect on the bottom line.

Hough figures that the availability of cheaper material alone will not accelerate the rebound in the aftermarket and until airlines have greater confidence that



Richard Hough, EVP and Chief Technical Officer at ELFC

the recovery in air travel is sustainable and profitable, where possible they will continue to focus on conserving cash by burning green time off stored and parked engines and leasing spares in preference to engine refurbishment. "When the market does recover and MRO activity increases, I believe that airlines will continue to place significant emphasis on minimising event costs and therefore seek to obtain USM wherever possible. The increased availability of USM through fleet retirements and engine part outs will provide the supply to match the increasing demand and ultimately result in a much

greater market share for USM than before the pandemic," he states.

Popp from Spairliners adds that although more USMs are available, the demand is also significantly increasing, which could in turn drive prices for USMs up and result in offsetting the positive effect, meaning that spending will rebound but could remain high – "However, it is already visible now, as more aircraft are back in the air, that the prices are beginning to stabilise," he notes.

As we see the global fleets of popular types like the B737, A320, EJETs and CRJs continue to return to service there is likely good opportunity for operators to integrate USM into their supply chain strategies as these platforms have clear USM availability and solutions available from players like AAR.

There will undoubtedly be components that are simply not out there in the USM space to support fleet demands as airlines fly their newer, right sized fleets. To tailor for this, AAR and its OEM Solutions business division has signed some key OEM distribution and support agreements to cover key components on the newer fleet variants or those with large fleet sustainment requirements such as the recent announcement with Arkwin supporting their product portfolio. Carl Glover, AAR's VP Sales & Marketing for



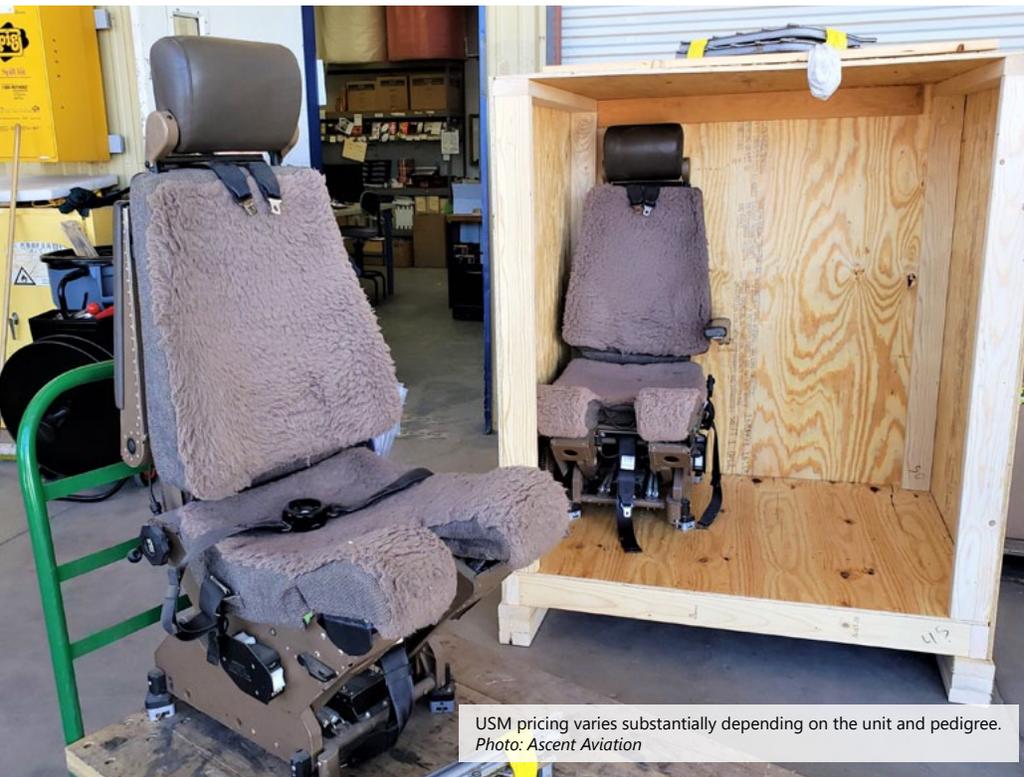
René Popp, the new Head of Engineering, Asset & AOG Desk at Spairliners

## USED SERVICEABLE MATERIALS

Life Limited Parts (LLPs) to be selected over new, depending on the build life of the engine, and further cost savings can be found using USM HPT blades, LPT and HPC airfoils and other components. This should significantly reduce the engine maintenance cost without having a negative TOW impact if aligned to target build life.

Greenwell continues: "We are forecasting that there will be an increase in teardown activities to meet the growing demand for USM, with this expected to be a permanent shift of higher adoption rates of USM by airlines, therefore we expect the USM market to rebound quicker overall in terms of material spending than new parts."

Mike Cazaz, CEO at Werner Aero Services sums up saying that most of the transactions we are seeing today are of last minute or as-needed basis transactions rather than strategic purchasing, hence it is too early to point out any changes in the USM market because of the pandemic. "One can argue that this is the 'change' that the pandemic has caused, but I find it hard to believe that it is sustainable. The lessons we have taken from this pandemic experience so far; how to improve inventory management going forward and how to better manage future investments to minimise such as with this global disaster."



USM pricing varies substantially depending on the unit and pedigree.  
Photo: Ascent Aviation

the Americas explains to this publication: "Under this agreement we are supporting both the operators and those MRO stations who are overhauling the Arkwin components with kits, rotables and other innovative support offerings."

Glover hints that some industry participants have made recent announcements of their intention to increase USM offering as part of their service offering to customers – "This is a

glowing endorsement to AAR's service and business model that there is a clear demand for USM and an integrated supply chain offering of new and used material in the support of the global fleet as our operators navigate the challenges of the pandemic and the market recovery."

At the Kellstrom Aerospace Group, they observed that the pandemic resulted in the greatest decline in USM demand the industry has endured and in contrast left 2019 as a peak in demand. The approach at Kellstrom is to use the pandemic as a mechanism to redefine the aftermarket supply chain, post COVID, that is more efficient and delivers more value to airlines and MROs than prior to the pandemic – according to David Greenwell, VP Sales & Marketing.

"During the pandemic we have worked with several airlines that have been adopting a more USM first approach to airframe rotatable and engine component procurement, we see that this adoption should continue, especially as savings can result in excess of 90% of the list price over purchasing new via exchanges," says Greenwell.

Engine overhauls are one of the highest maintenance cost drivers for an airline, and Greenwell indicates that optimising repair worksopes with USM can allow



Carl Glover, AAR Vice President  
Sales & Marketing for the Americas



Mike Cazaz, CEO at Werner Aero Services