



NEWSLETTER

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Key aspects of service, maintenance, replacement

By Coy Stepro

A few general principles make good sense for maintenance and serviceability in any industry.

#1 Have a documented maintenance program. It's a simple concept we all can agree on. The program must be tailored to your specific application; and there is no one size fits all approach. The work demands of the equipment versus the cost to production if the equipment is unexpectedly down, is a good method to establish the frequency and extent to which maintenance activities are performed. Weather conditions: harsh heat and sunlight, extreme cold, saltwater spray versus a piece of equipment that is stored inside force different approaches. Some equipment sets idle for 85% of the year, but when it's needed every auxiliary activity hinges on that piece of equipment working. In these situations that piece of equipment is vital and must be 100% ready to go.

Your equipment list may be so large that you must over service some equipment to have a "normal" maintenance schedule. This is a reality of the world we live in. Standardization of processes helps all organizations and people.

#2 When should consumable items be replaced? This area can be a bit subjective. When should a caster be replaced? When should a worn bumper be replaced? Where do you draw this line? At SAS, our approach asks what does it cost to continue to use the caster that has no tread on it, a caster that won't swivel, a bumper that is hard as a rock or completely missing. **(continued next page)**

What's ahead in 2026 for aircraft maintenance

The industry is poised for significant technological transformation in the year ahead. Tools such as augmented and virtual reality will become more common for training and on-the-job guidance, helping technicians learn complex procedures faster. AI and predictive analytics will be used to monitor aircraft systems in real time, spotting potential failures before they happen and cutting unscheduled downtime. Drones, robotics, and collaborative inspection bots will speed up visual inspections and automate repetitive tasks like surface preparation and exterior checks, improving efficiency and safety. 3D printing may increasingly be used to manufacture parts on demand, reducing inventory needs. Blockchain and advanced maintenance software are also emerging to strengthen record-keeping, traceability, and regulatory compliance.

At the same time, the industry faces real strain from workforce shortages. A combination of an aging technician pool, retirements, and a slow pipeline of new entrants means many maintenance roles will go unfilled in the coming years unless training and recruitment ramp up. Some analyses project tens of thousands of mechanic jobs may remain open by the late 2020s, putting pressure on existing staff and potentially slowing maintenance operations. To cope, companies will invest more in training partnerships, recruit younger workers with interests in digital tools, and increasingly adopt automation to augment human labor.

In short, 2026 will be marked by rapid innovation alongside significant human resource challenges, with technology helping bridge—but not fully erase—the gap between demand and available qualified personnel.

Maintain, repair, or replace

Often, we don't identify these items as a cost until one day the maintenance stand is not usable because a caster sheared off while crossing the hangar door tracks. Or, a stiff or missing bumper damages the aircraft. The truth is these non-replaced items reduce efficiency every time that piece of equipment is used. A little extra effort here, an additional pull there, we've all heard it said with pride "but we got it done!" (Yes, and at what cost?)

Another thought process on maintenance is if you don't keep your equipment in good condition, at some point you'll be deciding if it's worth getting back in a good working condition versus just buying a new unit. What's the reality of your situation? Is getting a new purchase approved easier or faster than maintaining what you have?

#3 Replacement parts

Folks in the aircraft industry know well the importance of being able to acquire replacement parts for aircraft in a timely manner. In the general manufacturing sector, and in the maintenance stand industry, this is not always be so clear. Most stands are somewhat simple. The same can be said for the pieces that make up the stands. But as you move up to more complex stands and docks, this is just not true. For example, even some ULD dollies require items that can be hard to find and acquire, or take extra time because they come from overseas.

At SAS, we choose to use as many off-the-shelf components as possible. The design requirements dictate the needed parts, but we often rethink our design to be able to use an off-the-shelf part that can be purchased readily, and often at lower cost. Off-the-shelf parts are typically available in a day or two and that means the customer does not need to spend money warehousing replacement parts in-house. But we do suggest customers stock replacement parts for items that have long lead times in order to prevent costly down time.

Ultimately, your decision process ties back to points 1 and 2. Every situation will be different but at SAS these items are always considered from a perspective of how they affect our customers' success with our products.

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