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Though Cut Off From Western Support, Russian-Seized Airlines Could Still Fly For Years



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An Aeroflot Airbus A320 takes off at Moscow's Sheremetyevo international airport on June 14, 2017.

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Even before Russian President Vladimir Putin signed a law authorizing the seizure of hundreds of Western-built aircraft leased and operated by Russian airlines on Monday, questions had swirled over how long Russia

could operate them. Despite sanctions barring Boeing, Airbus and others from providing maintenance or support, the answer may be for years to come.

Russian carriers have 650 Western-built aircraft on lease, of which 487 are non-Russian owned, according to Airfinance Journal stats cited by JPMorgan analysts. The aircraft were either actively operating in Russia or returned to the country from abroad shortly after sanctions came into force.

European sanctions require lessors to cancel their leases with Russian airlines by March 28, giving Western lessors a short window to repossess their planes. Most seem to have had little chance to do so.

A few Russian airliners on the ground in Europe were successfully barred from flying out in late February. An [attempt](#) to repossess an Aeroflot A321neo in Egypt early this month narrowly failed, with the aircraft hastily returning to Russia via a Mediterranean and Turkish route.

On Wednesday, Connecticut-based lessor Aircastle [said](#) that it had managed to repossess two of the 12 aircraft it has been leasing to Russian airlines though it gave no details as to the specific aircraft or circumstances.

But most of the leased aircraft are now on Russian soil. Earlier this week, Jefferies analyst Sheila Kahyaoglu told [Bloomberg](#) that the seized airliners should be able to fly for the next six months to a year — assuming sanctions remain in place that long — but operating them for longer will be far less possible. Not everyone agrees with this assessment.

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Ernest Arvai, president of Maryland-based consultancy [AirInsightGroup](#), says that most of the newer aircraft could be kept operational for four to five years with a lower operational tempo, the existing Russian spares inventory, aftermarket parts (including black market parts) and cannibalization.

Numbers vary but the average age of the leased aircraft is somewhere around six years [according to lessors](#). With the rule of thumb for heavy maintenance (D Checks) intervals at about a decade, the leased airliners could have a four year-plus window before they'd typically be required to be torn down for partial rebuild.

Arvai points out that maintenance, repair and overhaul (MRO) capabilities within Russia are well established.

“They’ve got a decent MRO infrastructure. Russia has a long history of aviation between its domestic [OEMs] Ilyushins, Tupolevs and Antonovs, and its ability to train aviation technicians is robust. Maintaining one [airliner] isn’t that different from another except for some of the unique software you find on the Airbus products.”

Russian managers and technicians have intimate knowledge of the requirements of the leased aircraft and what flexibility they have in

repairing or replacing components. The country has also developed its own small but growing support industry, Arvai says.

“They effectively have domestic suppliers now for a number of components whether they need to replace a Raytheon-made pitot tube with a Russian-built model or source some [domestic] avionics. Their industry isn’t geared up to the degree Western countries have but if they need to reverse-engineer and build components in a long sanctions situation, they have that capability.”

Much of the consumption of aircraft components depends on how the airplanes are operated, what frequency of flights (cycles) and air-miles they rack up.

“Their hour-to-cycle ratio will be different because they’ll presumably be operating shorter flights within Russia. That usually calls for more maintenance. The least [maintenance-heavy] planes are those used on long-haul international flights. Full-throttle takeoff and landing are really what eats up parts. Airplanes that fly across the Pacific tend to have fewer maintenance visits than aircraft on one-hour domestic flights.”



Aeroflot Russian Airlines and Rossiya Airlines jet aircrafts at Moscow-Sheremetyevo International ...

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[AviationWeek MRO](#), projects that the top five Russian-operated aircraft in need of MRO are (in ascending order) the Boeing 747-8F, Airbus A330-300, Airbus A320 Boeing 737-800 and Boeing 777-300ER. Three out the five are less likely to see short-haul service meaning what common parts or spares are in their pipelines might be saved for the short-haul aircraft. Nonetheless, higher frequency intra-Russian routes could put pressure on inventories.

Prior to the Ukraine invasion Russia domestic sector demand was not insignificant at about 5% of global available seat kilometers according to AviationWeek senior air transport & safety editor Sean Broderick. In an [MRO podcast](#) he observed that Russian airlines would be denied remote/online tech support by the airframers and engine makers. Software updates for the aircraft will be unavailable Arvai adds.

“If a critical flight safety issue comes up, like Boeing’s MCAS [Maneuvering Characteristics Augmentation System, blamed for 737-Max

accidents], that could be an issue they're not prepared for.”

But a lack of Western support doesn't necessarily mean parts and spares will be unobtainable. A Russian official in charge of airworthiness management at the country's national regulator said Russia would look to India, Turkey and China for spares/support. Another AviationWeek editor, James Pozzi, noted that China apparently rebuffed a request for spares recently. Given its own very large fleet of western aircraft and stockpiles of parts, whether it persists in withholding support is a key question.

While Scott Hamilton, editor of [Leeham News and Analysis](#), says he can't see Asian countries like Japan supporting Russian air carriers, “China's claims that it won't supply parts can't reliably be taken at face value. Parts from India may be able to migrate in [to Russia] as well.”

Hamilton cites Iran as the most noteworthy example of a country which has still managed to keep its airliners marginally operational despite decades of heavy sanctions.

“Iran has been prohibited from importing Boeing or Airbus airplanes for decades. It has had to cannibalize its aircraft to obtain parts or get them on the black market. According to the database [ch-aviation](#), Iran has 112 airliners in storage and 147 that are active. Twenty-four others are in various stages of maintenance.”

Some of the aircraft are vintage Russian airliners, most likely in storage. Aside from a few newer ATR regional aircraft, New York-based CreditSights analyst Roger King told [AIN Online](#) that Iran's fleet averages 26 years old. But with creativity (and anxiety-producing deferred maintenance) Iran has kept it flying without the leverage that Russia has even though Putin has turned his country into another pariah state.

The combined 800 or so total Western airliners in Russia (including

wholly owned aircraft) provide a potential pool of cannibalized spares even without external support. The fact that some spares may be used or “timed-out” is not a firm roadblock to their use by a Russian state carrier like Aeroflot.

“Airplanes are built with double and triple redundancies,” Arvai explains. “When one part goes, they can often continue to fly perfectly and still have a [diminished] safety margin. Are dictatorial regimes liable to ignore safety? They don’t tend to care a lot for their people anyway so they’ll look the other way and have some people ‘pencil-in’ some maintenance. That’s scary but possible.”

Engines may be the scariest prospect for those trying to operate the leased aircraft. Save for 300 or so SaM146 engines (designed/produced by joint venture between Safran of France and NPO Saturn of Russia) which power Russia’s indigenous Sukhoi Superjet 100 regional airliner, all the engines used by the country’s airlines - and certainly those it leased - are made by Western manufacturers.

Gauging the difficulty of maintaining engines without factory support isn’t easy given the fact that OEMs like GE Aviation and Pratt & Whitney Commercial Engines declined to comment for this article. Boeing and Airbus likewise didn’t offer input by publication time.



Rolls Royce jet engine production factory, Derbyshire, United Kingdom (Photo by Tim Graham/Getty ... [+] TIM GRAHAM/GETTY IMAGES

“The question comes down to engine parts and engine maintenance,” Arvai agrees. “I think they can keep these engines flying for a while. As with Iran, if you have a fleet of six or eight of a certain type aircraft, one that goes down gets used as spare parts.”

Russia’s bonanza of natural resources could allow it to barter, above or below the table, for engine replacements as well.

Domestic demand may be as big a risk to the operation of seized airliners as a lack of spares and service. “How long can [Russian carriers] survive on domestic and a few international flights?” Arvai asks.

A precipitous fall in domestic demand brought on by a crashing Russian economy could in turn damage its MRO suppliers, leading to a loss of credit, operating capital and capability as their personnel leave to find alternate employment or indeed any other opportunity. Many of those in the aviation industry have a more sophisticated international outlook than

the average Russian, Arvai notes.

“Aeroflot, which was heavily internationally oriented and has several domestic subsidiaries, has already seen several of its executives leave. Their director of strategy left last week and made an interesting Facebook post that said, ‘I’ve left Russia. I’ve left Aerflot. My whole life is over.’ There have been other key people [at Aeroflot subsidiaries] who have left. The airlines themselves would probably love to give airplanes back or negotiate some other terms but I don’t think they’re going to be permitted to.”

At the JPMorgan Industrials Conference earlier this week, Air Lease Corp. CEO John Plueger [said](#) he thought it was still possible lessors might get some of their aircraft from privately owned Russian airlines who “very much see the endgame beyond this current crisis.”

Arvai counters, “I don’t see how you’re going to get an airplane back if the Russians aren’t allowing them to fly out of the country. I think they’re screwed at this point.”

Scott Hamilton concludes that the leased aircraft in Russia need not stop flying anytime soon for technical reasons.

“The Russian airlines should know how to handle minor engine and software issues that arise in the normal course of airline operation. Bigger and deeper issues where you need to remove an engine and tear it down may cause problems for smaller airlines but I’d expect bigger airlines like Aeroflot would have some of that skill set, the same for software unless there are regulatory or dual-use ITAR restrictions.”

“Theoretically, I think these airplanes could operate for years.”

Analysts believe the damage from the crisis for Western lessors will be manageable, with insurance likely to cover losses if the aircraft need to be

written off. The largest lessor, AerCap, [has said](#) Russian operators only account for about 5% of its fleet by net book value, while SMBC appears to be among the most exposed, with 10% of its fleet leased to Russian airlines, according to JPMorgan.



The Airbus A320 of S7 Airlines blurred by the jet exhaust of another airplane lands at Domodedovo ... [+] UNIVERSAL IMAGES GROUP VIA GETTY IMAGES

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