ABOUT THE RUSSIAN AIRPOWER ALMANAC

On the following pages, we present a variety of information about the modern Russian air force, including its organization, leadership, aircraft, weapons, deployment, and other capabilities. It has been compiled from open sources inside and outside of Russia.

When the Soviet Union collapsed in 1991, Russia’s air force entered a long decline, as budgets and flying time plummeted and new developments languished. In recent years, though, Russia has begun reinvesting in its airpower. Old systems have been upgraded and new systems are entering service. The Sukhoi T-50 fighter—advertised to be a fifth generation, stealthy analogy to the USAF F-22—is well along in flight test, and first deliveries are a year away. Russia also promises a modern stealth bomber in the early 2020s. In the meantime, it has ordered several squadrons’ worth of the Su-35S, considered the apex of the Flanker series, and has pledged to put the huge Tu-160 Blackjack bomber back into production.

Russia has also ratcheted up its readiness with greater attention to flying time and exercises. Those exercises—along with wars against Georgia and Ukraine and aggressive actions near NATO and US airspace, ships, and bases—are to signal that Russia means to aggressively reverse its long military decline.

Here, we present a timeline of the Russian air force rebuild and some of the key milestones on its path toward reasserting its airpower.

1991

When the USSR disintegrated, 15 Soviet republics became 15 independent states, organizing into a new Russian Federation on Christmas 1991. Declaring itself the heir of the defunct USSR—and of most of its military assets—Russia claimed a place as a permanent member of UN Security Council.

While each of the Soviet Union successor states organized its own armed forces, Russia’s were the largest, and it pulled back within its new borders the bulk of what had been the Soviet air forces. Under the old regime, only 40 percent of combat aircraft were based in Russian territory, and they were usually the oldest ones. After the consolidation, two-thirds of the former Soviet air forces resided in the new Russia.

1998

Soviet air assets had been distributed among the air force, air defense forces, navy, and ground forces. In 1998, they were reorganized, and the majority of air defense components—surface-to-air missile units, interceptor fighter forces, and the radar airspace observation network—were transferred to the air force. The remainder of air defense—i.e., the ballistic missile warning system, Moscow missile defense corps, and space control network—were transferred to strategic rocket forces and, in March 2001, to the newly created space forces (known since 2011 as the air and space defense forces). The cost-cutting reorganization reduced personnel by 20 percent. Afterward, just 70 air regiments remained from the previous 100 (and 37 anti-aircraft missile regiments).

In early 2003, Russian army combat and transport helicopters were put under control of the air force; since then, the army has not owned any aviation assets. Eight armies were put under the air force, as well as some direct reporting units (including test and evaluation centers, pilot schools, scientific institutes, repair plants, and storage bases).

Two air armies were created; one for long-range bombers and tankers and another for strategic transport aircraft. Six other air and air defense armies were created for regional commands. The structure was further refined during the next four years, and more units were disbanded.
Despite having air superiority during the short war with Georgia in 2008, the Russian air force lost six aircraft in five days of combat, including a Tu-22M3 bomber. Radical changes followed.

Defense Minister Anatoly Serdyukov in late 2008 ordered a broad reorganization. The air force’s 160,000 personnel would be cut by 36,000, and air armies would be transformed into operational commands. Bombers and transports were put under the control of Long-Range Air Command and Military Transport Air Command, respectively. The six territorial air force and air defense armies were reorganized into four AF and AD commands tied to new military districts.

At lower levels, air bases—roughly analogous to a US Air Force air base wing, including aircraft and facilities both—were created. Air bases first grade (the equivalent of a division, created by the merger of two or more regiments) and air bases second grade (equivalent of a regiment) were created.

The air force and navy played tug-of-war with some aircraft, notably some Su-27s and MiG-31 interceptors, but these aircraft ended up with the navy. However, in 2011, the Russian navy’s Tu-22M3 medium bombers—previously the main aerial counter to American aircraft carriers—were transferred to the air force permanently.

Rising oil income allowed Russia to begin an earnest modernization of its air forces in 2008. Most of its equipment dated back to before 1991, but modest (and slow) upgrades had been in motion since 2004 on a variety of aircraft. One of the few new pieces of gear acquired during the lean times was the Kh-555 strategic cruise missile—the non-nuclear version of the Kh-55.

In late 2008, however, the Defense Ministry announced orders for some 248 new tactical aircraft (exercising an option for 32 further strike airplanes four years later) as well as 89 new jet trainers. Naval aviation is receiving 24 MiG-29K carrier-based fighters, ordered in 2012. A total of 693 attack, transport, and utility helicopters were also ordered.

The banner year was 2014, when the Russian air arms took delivery of 142 combat, trainer, and special duty aircraft (including about 30 midlife upgrades) and 135 combat, transport, and trainer helicopters.

During this period, flying hours expanded, thanks to more funding for fuel, overhauls, and service life extensions. Pilots in tactical aviation, who in the lean years could only expect 20 to 25 flying hours per year, now got 60 to 100 hours, while transport pilots got about 120 hours.

Air bases also got long-deferred maintenance and improvements, starting with those hosting flight test, the central command, and strategic bombers. Tactical bases are next in line.

Serdyukov was fired in the wake of a bribery scandal, and his successor, Sergey Shoygu, ordered a reversal of some of Serdyukov’s changes. Air regiments with combined but geographically separated equipment were consolidated. The old-style regiments, divisions, and other unit designations were restored, as were the air armies, which replace the operational commands. While the number of regiments dropped 50 to 60 percent, the number of aircraft per unit increased, and these also have more modern gear.

Tactical squadrons now have about 12 aircraft (plus one or two combat trainers), and long-range bomber squadrons have about 10 aircraft. Helicopter squadrons generally have 20 aircraft.

After the Crimea annexation in 2014, Russia quickly deployed military forces—including air forces—to the peninsula. A naval aviation unit in Crimea—there with Ukraine’s consent before the invasion—was beefed up with new Su-30SM fighters.

Russia is establishing a greater presence in the Arctic, given both the discovery of large oil and mineral reserves there and increased sea traffic as the waterways become increasingly ice-free. Headquartered at Tiksi, a new Joint Strategic Command has been formed, with linkages to the Northern Fleet, which will have its own air and air defense units. These will have both interceptors and attack jets. Some 13 airfields in the Arctic are to be repaired and restored to front-line service.

Russian military spending has increased substantially. It was 15.5 percent of the national budget (or 3.2 percent of the gross domestic product) in 2013, growing to 19.2 percent (3.7 percent of GDP) for 2014 and was planned to be 23 percent of the state budget (4.6 percent of GDP) in 2015.

Russia’s economy has suffered a double hit in recent years, though. Oil prices have declined steeply, and Western economic sanctions—imposed after the Crimea annexation and also because of Russian-supported attacks in Ukraine—have taken a toll. The ruble has been severely devalued, but it remains to be seen whether President Vladimir Putin will allow the situation to drive cuts in military growth. The nation’s military resurgence is popular with the Russian public and backstops Putin’s aggressive posture toward Europe.
AIR FORCE

The Russian air force has 148,000 people, about 2,000 aircraft (including 1,200 combat-capable ones) and 900 helicopters (including 300 combat-capable ones).

Main Command of the Air Force
HQ: Balashikha
Commander in Chief: Colonel General Viktor Bondarev, since May 6, 2012

Direct reporting units

<table>
<thead>
<tr>
<th>Unit</th>
<th>Location</th>
<th>Inventory</th>
</tr>
</thead>
<tbody>
<tr>
<td>800th Air Base</td>
<td>Chkalovskiy</td>
<td>Special transports</td>
</tr>
<tr>
<td>929th National Flight Test Center</td>
<td>Akhtubinsk</td>
<td></td>
</tr>
<tr>
<td>4th National Air Personnel Preparation and Military Evaluation Center</td>
<td>Lipetsk</td>
<td></td>
</tr>
<tr>
<td>Unknown regiment</td>
<td>Lipetsk</td>
<td>Tactical combat aircraft</td>
</tr>
<tr>
<td>Unknown squadron</td>
<td>Savasleyka</td>
<td>Mig-31</td>
</tr>
<tr>
<td>237th Air Technology Demonstration Center</td>
<td>Kubinka</td>
<td>Su-27, Mig-29, An-30</td>
</tr>
<tr>
<td>344th Combat Training and Flight Crew Training Center of Army Aviation</td>
<td>Torzhok</td>
<td>Helicopters</td>
</tr>
<tr>
<td>924th National Unmanned Aircraft Center</td>
<td>Kolomna</td>
<td>Pilotless vehicles</td>
</tr>
</tbody>
</table>

Training air bases

<table>
<thead>
<tr>
<th>Unit</th>
<th>Location</th>
<th>Inventory</th>
</tr>
</thead>
<tbody>
<tr>
<td>116th Training Center of Combat Application</td>
<td>Privolzhskiy (Astrakhan)</td>
<td>Mig-29</td>
</tr>
<tr>
<td>192nd Training Air Base</td>
<td>Tikhoretsk</td>
<td>L-39C</td>
</tr>
<tr>
<td>195th Training Air Base</td>
<td>Kushchevskaya</td>
<td>L-39C, Su-27, Mig-29, Su-25</td>
</tr>
<tr>
<td>200th Training Air Base</td>
<td>Armavir</td>
<td>Mig-29, L-39C, Yak-130</td>
</tr>
<tr>
<td>205th Training Air Base</td>
<td>Balashov</td>
<td>An-26</td>
</tr>
<tr>
<td>209th Training Air Base</td>
<td>Borisoglebsk</td>
<td>Yak-130, Su-25</td>
</tr>
<tr>
<td>213th Training Air Base</td>
<td>Kotelnikovo</td>
<td>L-39C</td>
</tr>
<tr>
<td>217th Training Air Base</td>
<td>Rtishchevo</td>
<td>L-410</td>
</tr>
<tr>
<td>219th Training Air Base</td>
<td>Michurinsk</td>
<td>L-39C</td>
</tr>
<tr>
<td>221st Training Air Base</td>
<td>Shagol (Chelyabinsk)</td>
<td>Tu-134, An-26</td>
</tr>
<tr>
<td>272nd Training Air Base</td>
<td>Maykop</td>
<td>L-39C</td>
</tr>
<tr>
<td>339th Training Air Base</td>
<td>Sokol (Saratov)</td>
<td>Mi-8, Ansat, Ka-226, Mi-2</td>
</tr>
<tr>
<td></td>
<td>Syzran</td>
<td>Mi-24, Mi-8</td>
</tr>
</tbody>
</table>

Many Russian bases are designed with revetments to protect aircraft, such as these Tu-22M3s, in case of an attack.
### Long-Range Air Command

**37th Air Army of High Supreme Command (Strategic Purpose)**

**as of Aug. 1, 2015**

**HQ: Moscow**

**Commanding Officer: Lieutenant General Anatoly Zhikharev, since Aug. 5, 2009**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Location</th>
<th>Inventory/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>6950th Air Base</td>
<td>Engels</td>
<td>Two squadrons Tu-160, two squadrons Tu-95MS</td>
</tr>
<tr>
<td>Air Group A</td>
<td>Engels</td>
<td>Three squadrons Tu-22M3</td>
</tr>
<tr>
<td>Air Group E</td>
<td>Shaykovka</td>
<td>Two squadrons Tu-22M3</td>
</tr>
<tr>
<td>6952nd Air Base</td>
<td>Ukrainka (Seryshevo)</td>
<td>Four squadrons Tu-95MS</td>
</tr>
<tr>
<td>Air Group V</td>
<td>Ukrainka (Seryshevo)</td>
<td>Two Tu-22MR reconnaissance aircraft, An-30</td>
</tr>
<tr>
<td>43rd Combat Training and Flight Crew Training Center</td>
<td>Ryazan (Dyagilevo)</td>
<td>Tu-22M3, Tu-95MS</td>
</tr>
<tr>
<td>27th Composite Air Regiment</td>
<td>Tambov</td>
<td>Tu-134UBL, An-26</td>
</tr>
<tr>
<td>203rd Independent Tanker Air Regiment</td>
<td>Ryazan (Dyagilevo)</td>
<td>Two squadrons Il-78</td>
</tr>
</tbody>
</table>

### Military Transport Air Command

**61st Air Army of High Supreme Command (Military Transport Aviation)**

**as of Aug. 1, 2015**

**HQ: Moscow**

**Commanding Officer: Lieutenant General Vladimir Benediktov, since January 2013**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Location</th>
<th>Inventory/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>12th Military Transport Air Division</td>
<td>Migalovo (Tver)</td>
<td>Il-76, An-22</td>
</tr>
<tr>
<td>196th Military Transport Air Regiment</td>
<td>Migalovo (Tver)</td>
<td>Il-76</td>
</tr>
<tr>
<td>334th Military Transport Air Regiment</td>
<td>Kresty (Pskov)</td>
<td>Il-76</td>
</tr>
<tr>
<td>566th Military Transport Air Regiment</td>
<td>Seshcha (Bryansk)</td>
<td>An-124, Il-76</td>
</tr>
<tr>
<td>708th Military Transport Air Regiment</td>
<td>Taganrog</td>
<td>Il-76</td>
</tr>
<tr>
<td>610th Combat Training and Flight Crew Training Center</td>
<td>Ivanovo</td>
<td>Il-76, other transports</td>
</tr>
<tr>
<td>144th Independent Air Regiment of Long-Range Radar Surveillance</td>
<td>Ivanovo</td>
<td>A-50</td>
</tr>
<tr>
<td>117th Independent Military Transport Air Regiment</td>
<td>Orenburg</td>
<td>Il-76, An-12PPS</td>
</tr>
</tbody>
</table>
### 1st Air Force and Air Defense Command

**HQ:** Voronezh  
**Commanding Officer:** Major General Aleksandr Duplinsky, since Jan. 14, 2014

<table>
<thead>
<tr>
<th>Unit</th>
<th>Location</th>
<th>Inventory/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>105th Composite Air Division</td>
<td>Voronezh</td>
<td>Two squadrons Su-34, one squadron Su-24MR, An-30</td>
</tr>
<tr>
<td>47th Composite Air Regiment</td>
<td>Voronezh</td>
<td>In 2013-17, due to major repairs on the base, aircraft from Voronezh temporarily relocated to Buturlinovka.</td>
</tr>
<tr>
<td>899th Attack Air Regiment (Starting 2017)</td>
<td>Buturlinovka</td>
<td>Su-25 to be based here.</td>
</tr>
<tr>
<td>790 Fighter Air Regiment</td>
<td>Khotilovo</td>
<td>Two squadrons MiG-31, one squadron Su-27</td>
</tr>
<tr>
<td>14th Fighter Air Regiment</td>
<td>Khalino (Kursk)</td>
<td>Three squadrons MiG-29</td>
</tr>
<tr>
<td>159th Fighter Air Regiment</td>
<td>Besovets</td>
<td>Three squadrons Su-27</td>
</tr>
<tr>
<td>98th Independent Composite Air Regiment</td>
<td>Monchegorsk</td>
<td>Two squadrons Su-24M/MR, one squadron MiG-31, Mi-8, Su-34 starting from 2015</td>
</tr>
<tr>
<td>33rd Independent Composite Transport Air Regiment</td>
<td>Levashovo</td>
<td>Special transports</td>
</tr>
</tbody>
</table>

**Helicopter assets**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Location</th>
<th>Inventory/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>15th Army Aviation Brigade</td>
<td>Ostrov</td>
<td>Ka-52, Mi-28N, Mi-35M, Mi-8, Mi-26</td>
</tr>
<tr>
<td>549th Air Base of Army Aviation</td>
<td>Levashovo</td>
<td>Mi-24, Mi-8</td>
</tr>
<tr>
<td>2nd Air Group</td>
<td>Pribylovo</td>
<td>Mi-24/Mi-35M, Mi-8</td>
</tr>
<tr>
<td>378th Air Base of Army Aviation</td>
<td>Vyazma</td>
<td>Mi-24, Mi-8, Mi-28N</td>
</tr>
</tbody>
</table>

The command also operates a flight of four Su-27 fighters deployed to Baranovichi air base in Belarus.

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### Su-34 Bort 23 red approaching a tanker. Note the extended refueling probe over the aircraft’s nose.

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### 2nd Air Force and Air Defense Command

**HQ:** Yekaterinburg  
**Commanding Officer:** Lieutenant General Viktor Sevostyanov

<table>
<thead>
<tr>
<th>Unit</th>
<th>Location</th>
<th>Inventory/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>6980th Air Base</td>
<td>Chelyabinsk</td>
<td>Two squadrons Su-24M, one squadron Su-24MR</td>
</tr>
<tr>
<td>2nd Air Group</td>
<td>Shagol (Chelyabinsk)</td>
<td></td>
</tr>
<tr>
<td>3rd Air Group</td>
<td>Bolshoye Savino (Perm)</td>
<td>Two squadrons MiG-31</td>
</tr>
<tr>
<td>390th Independent Composite Transport Air Regiment</td>
<td>Kansk</td>
<td>Two squadrons MiG-31</td>
</tr>
<tr>
<td>999th Air Base</td>
<td>Koltsovo (Yekaterinburg)</td>
<td>Special transports</td>
</tr>
<tr>
<td>3rd Air Group</td>
<td>Kant, Kyrgyzstan</td>
<td>Su-25, Su-27, transports</td>
</tr>
</tbody>
</table>

**Helicopter assets**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Location</th>
<th>Inventory/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>48th Air Base of Army Aviation</td>
<td>Kamensk Uralsky</td>
<td>Mi-8, Mi-24</td>
</tr>
<tr>
<td>2nd Air Group</td>
<td>Upruno (Yuzhnouralsk)</td>
<td>Mi-8, Mi-24, Mi-26</td>
</tr>
<tr>
<td>562nd Air Base of Army Aviation</td>
<td>Tolmachevo (Novosibirsk)</td>
<td>Mi-8, Mi-24</td>
</tr>
</tbody>
</table>
3rd Air Force and Air Defense Command
11th Air Force and Air Defense Army
as of Aug. 1, 2015
HQ: Khabarovsk
Commanding Officer: Major General Aleksandr Tatarenko, since August 2013

<table>
<thead>
<tr>
<th>Unit</th>
<th>Location</th>
<th>Inventory/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>303rd Composite Air Division</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22nd Fighter Air Regiment</td>
<td>Tsentralnaya Uglovaya (Vladivostok)</td>
<td>Two squadrons Su-27SM, one squadron MiG-31, Su-30M2</td>
</tr>
<tr>
<td>23rd Fighter Air Regiment</td>
<td>Dzemgi (Komsomolsk)</td>
<td>Two squadrons Su-27SM, one squadron Su-35, Su-30M2</td>
</tr>
<tr>
<td>277th Bomber Air Regiment</td>
<td>Khurba (Komsomolsk)</td>
<td>Su-24M/M2</td>
</tr>
<tr>
<td>187th Attack Air Regiment</td>
<td>Chernigovka</td>
<td>Two squadrons Su-25SM</td>
</tr>
<tr>
<td>799th Independent Reconnaissance Air Regiment</td>
<td>Varfolomeevka</td>
<td>Su-24MR</td>
</tr>
<tr>
<td>120th Independent Composite Air Regiment</td>
<td>Donna</td>
<td>Su-30SM, Su-25</td>
</tr>
<tr>
<td>257th Independent Composite Transport Air Regiment</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Helicopter assets

| 439th Air Base of Army Aviation               |                   |                                     |
| 573rd Air Base of Army Aviation              |                   |                                     |
| 2nd Air Group                                |                   |                                     |
| 575th Air Base of Army Aviation              |                   |                                     |

The Mi-26 Halo is the world’s largest and heaviest helicopter. Roughly 40 remain in Russian military service.

The Soviet response to the F-111—the Su-24 (Su-24M shown here)—is gradually being replaced by the new Su-34.

4th Air Force and Air Defense Command
4th Air Force and Air Defense Army
as of Aug. 1, 2015
HQ: Rostov-on-Don
Commanding Officer: Major General Andrey Yudin, since May 2012

<table>
<thead>
<tr>
<th>Unit</th>
<th>Location</th>
<th>Inventory/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>559th Independent Bomber Air Regiment</td>
<td>Morozovsk</td>
<td>Su-34, Su-24M</td>
</tr>
<tr>
<td>11th Independent Reconnaissance Air Regiment</td>
<td>Marinovka (Volgograd)</td>
<td>Su-24MR</td>
</tr>
<tr>
<td>535th Independent Composite Transport Air Regiment</td>
<td>Erebuni, Armenia</td>
<td>Special transports MiG-29</td>
</tr>
<tr>
<td>3624th Air Base</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1st Composite Air Division</td>
<td>Krymsk</td>
<td></td>
</tr>
<tr>
<td>31st Fighter Air Regiment</td>
<td>Millerovo</td>
<td>Three squadrons MiG-29</td>
</tr>
<tr>
<td>3rd Composite Air Regiment</td>
<td>Krymsk</td>
<td></td>
</tr>
<tr>
<td>960th Attack Air Regiment</td>
<td>Primorsko-Akhtarsk</td>
<td>Su-27, Su-30, Ka-27</td>
</tr>
<tr>
<td>368th Attack Air Regiment</td>
<td>Budyonovsk</td>
<td>Two squadrons Su-25</td>
</tr>
<tr>
<td>27th Composite Air Division</td>
<td>Belbek (Crimea)</td>
<td></td>
</tr>
<tr>
<td>37th Composite Air Regiment</td>
<td>Gvardeyskoye</td>
<td>One squadron Su-24M, one squadron Su-25SM</td>
</tr>
<tr>
<td>38th Fighter Air Regiment</td>
<td>Belbek</td>
<td>Two squadrons Su-27SM, Su-30M2</td>
</tr>
<tr>
<td>39th Helicopter Regiment</td>
<td>Dzhankoy</td>
<td>Mi-8, one squadron Ka-52, one squadron Mi-28N, Mi-35M</td>
</tr>
</tbody>
</table>

Helicopter assets

| 393rd Air Base of Army Aviation               | Korenovsk         | Ka-52, Mi-28, Mi-24/Mi-35M, Mi-8   |
| 546th Air Base of Army Aviation              | Rostov-on-Don     | Mi-24, Mi-28, Mi-8, Mi-26          |
| 387th Air Base of Army Aviation              | Budyonovsk        | Mi-28, Mi-35M, Mi-8, Mi-26         |

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NAVAL AVIATION

The Russian naval aviation service has 28,000 people, about 140 combat-capable aircraft, 50 transport aircraft, and 90 helicopters.

### Naval Aviation

**HQ: Moscow**  
**Commanding Officer: Major General Igor Kozhin, since August 2010**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Location</th>
<th>Inventory/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>859th Combat Training and Flight Crew Training Center of Naval Aviation</td>
<td>Yeysk</td>
<td>Su-33, Su-27, Su-25UTG</td>
</tr>
</tbody>
</table>

**Northern Fleet, HQ: Severomorsk**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Location</th>
<th>Inventory/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>279th Independent Shipborne Fighter Air Regiment</td>
<td>Severomorsk-3</td>
<td>Su-33, Su-27, Su-25UTG</td>
</tr>
<tr>
<td>7050th Air Base</td>
<td>Severomorsk-1</td>
<td>Su-33, Su-27, Su-25UTG</td>
</tr>
<tr>
<td>2nd Air Group</td>
<td>Severomorsk-1</td>
<td>Su-33, Su-27, Su-25UTG</td>
</tr>
<tr>
<td>3rd Air Group</td>
<td>Su-33, Su-27, Su-25UTG</td>
<td></td>
</tr>
</tbody>
</table>

**Pacific Fleet, HQ: Vladivostok**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Location</th>
<th>Inventory/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>7060th Air Base</td>
<td>Yelizovo (Petropavlovsk Kamchatsky)</td>
<td>Il-38</td>
</tr>
<tr>
<td>ASW squadron</td>
<td>Yelizovo</td>
<td>Ka-27</td>
</tr>
<tr>
<td>ASW helicopter squadron</td>
<td>Yelizovo</td>
<td>MiG-31</td>
</tr>
<tr>
<td>Fighter squadron</td>
<td>Yelizovo</td>
<td>MiG-31</td>
</tr>
<tr>
<td>7062nd Air Base</td>
<td>Nikolayevka</td>
<td>Il-38</td>
</tr>
<tr>
<td>ASW squadron</td>
<td>Nikolayevka</td>
<td>Ka-27</td>
</tr>
<tr>
<td>ASW helicopter squadron</td>
<td>Nikolayevka</td>
<td>Ka-27</td>
</tr>
<tr>
<td>2nd Air Group</td>
<td>Knevichi</td>
<td>Transports</td>
</tr>
<tr>
<td>4th Air Group</td>
<td>Mongokhoto</td>
<td>Tu-142MZ, Tu-142MR</td>
</tr>
</tbody>
</table>

**Baltic Fleet, HQ: Kaliningrad**

<table>
<thead>
<tr>
<th>Unit</th>
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<th>Inventory/Notes</th>
</tr>
</thead>
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<tr>
<td>72nd Air Base</td>
<td>Chkalovsk</td>
<td>Su-27</td>
</tr>
<tr>
<td>Fighter squadron</td>
<td>Chkalovsk</td>
<td>Chkalovsk</td>
</tr>
<tr>
<td>Attack squadron</td>
<td>Chernyakhovsk</td>
<td>Su-24M</td>
</tr>
<tr>
<td>Helicopter squadron</td>
<td>Chkalovsk</td>
<td>Mi-24, Mi-8</td>
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<tr>
<td>ASW helicopter squadron</td>
<td>Donskoye</td>
<td>Ka-27</td>
</tr>
<tr>
<td>Transport squadron</td>
<td>Khrabrovo</td>
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**Black Sea Fleet, HQ: Sevastopol (Crimea)**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Location</th>
<th>Inventory/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>318th Mixed Air Regiment</td>
<td>Kacha</td>
<td>Ka-27, Be-12, transports</td>
</tr>
<tr>
<td>43rd Independent Naval Attack Air Regiment</td>
<td>Novofyodorovka (Saki)</td>
<td>One squadron Su-24, one squadron Su-24MR, Su-30SM</td>
</tr>
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</table>

**Caspian Flotilla, HQ: Astrakhan**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Location</th>
<th>Inventory/Notes</th>
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</thead>
<tbody>
<tr>
<td>Air Group</td>
<td>Kaspiysk</td>
<td>Transports</td>
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</table>

**Above: This Tu-142MK Bear-F, Mod 3, is named for the city of Cherepovets and is based at Kipelovo.**

**Right: An Il-20RT, based at Severomorsk-1. The aircraft originally tracked space launches but now serves as a regular transport.**
## Grades and Insignia

### United States Air Force

#### Officer
- Second Lieutenant (O-1)
- First Lieutenant (O-2)
- Captain (O-3)
- Major (O-4)
- Lieutenant Colonel (O-5)
- Colonel (O-6)
- Brigadier General (O-7)
- Major General (O-8)
- Lieutenant General (O-9)
- General (O-10)

#### Enlisted
- Airman Basic (E-1) No insignia
- Airman (E-2)
- Airman First Class (E-3)
- Senior Airman (E-4)
- Staff Sergeant (E-5)
- Technical Sergeant (E-6)
- Master Sergeant (E-7)
- Senior Master Sergeant (E-8)
- Chief Master Sergeant (E-9)
- Chief Master Sergeant of the Air Force (E-10)

### Russian Air Force

#### Officer
- Junior Lieutenant
- Lieutenant
- Senior Lieutenant
- Captain
- Major
- Lieutenant Colonel
- Colonel
- Major General
- Lieutenant General
- Colonel General
- General of the Army

#### Enlisted
- Private
- Corporal
- Junior Sergeant
- Sergeant
- Senior Sergeant
- Master Sergeant

The Russian Air Force grades and insignia are presented alongside their US counterparts for comparison purposes.
Maps by Zaur Eylanbekov

Left: western Russia.
Below: eastern Russia.
A Tu-95MS Bear-H and Il-78 tanker imitate aerial refueling, escorted by MiG-29s during a Victory Day parade.

Su-27SM Bort 06 based at Lipetsk is a multirole fighter upgrade of the standard Flanker-B and first appeared in 2002.

Above: The MiG-29SMT based at Lipetsk is an upgraded version of the early fighter, with new radar, avionics, inflight refueling, and increased fuel capacity (evidenced by the enlarged spine).

All Tu-160s are named for famous Soviet or Russian pilots, aviation designers, and engineers. Here, personnel at Engels air base christen Blackjack Valentin Bliznyuk, in honor of the aircraft’s chief designer.
An-22 departing Migalovo air base near Tver.

A Lipetsk-based MiG-29. The ball in front of the canopy is the MiG’s infrared search and track and laser rangefinder.

A Tu-22M3 Backfire forming up off the right wing of a Tu-95MS Bear.

An electronic warfare version of An-12 seen at Akhtubinsk.

A Su-35 flying a display routine at Ramenskoye, near Moscow.
The largest military airlifter in the world completed its maiden flight in December 1982. Fifty-five examples of the An-124 have been built, and 26 remain in Russian air force service.

An upgraded A-50U Mainstay, stationed at Ivanovo. The AWACS platform based on the Ilyushin Il-76 airlifter was modified by Beriev and first flew in December 1978.

A pair of Su-24Ms on a training mission.

A Bear crew at the controls of a Tu-95MS during a training mission from Dyagilevo air base.
LONG-RANGE BOMBER AIRCRAFT

Tu-22M3 • NATO reporting name: Backfire-C
Brief: Intercontinental strategic bomber with variable-geometry wing, designed for supersonic missile delivery. Despite rumors it was offered to China and India, it was never exported outside the Soviet Union. Backfire was a subject disagreement between the US and Soviet Union during Strategic Arms Limitation Talks (SALT II). The US demanded it be included in limits on strategic aircraft, while the Russians argued it should not be included because, due to the fleet’s location and capabilities, it was incapable of directly attacking the continental US. The eventual treaty signed on June 18, 1979, excluded Backfire from the strategic arms limits, provided its in-flight refueling capability was removed and production was not increased. Tu-22M’s priority Cold War targets were US aircraft carriers and cruise-missile armed cruisers in the Mediterranean and Atlantic Ocean (in the maritime role). Its primary aim in a major move against NATO was to have been cutting US supply lines to Europe by destroying strategic harbors and airfields. Backfires saw limited action in regional wars, employing free-fall bombs rather than strategic weapons. Tu-22M2s struck targets in Afghanistan in 1984, and again between October 1988 and January 1989, covering the Soviet withdrawal. The aircraft flew some 100 sorties over Chechnya from November 1994 to January 1996, dropping conventional bombs and providing battlefield illumination. The bomber most recently flew strikes during the 2008 invasion of Georgia, where it suffered its first combat loss to a Georgian anti-aircraft missile. The latest Tu-22M3M variant resulted from an MLU that added new radar, improved navigation and communications systems, self-defensive suite, and digital flight controls.

Extant Variants:
- Tu-22MR. Reconnaissance version; two in service at Belaya air base.
- Tu-22M3M. Upgraded version.

Function: Supersonic long-range bomber, missile carrier, reconnaissance.
Delivered: 1969-93.
Inventory: 100+.
Accommodation: four.
Dimensions: span 76 ft 5 in swept to 112 ft 6 in span, length 139 ft 4 in, height 36 ft 3 in.
Weight: max T-O 273,373 lb.
Ceiling: 45,932 ft.
Performance: dash speed 1,429 mph, 621 mph at S-L, operational radius 1,367 miles.
Armament: standard one, max three Raduga Kh-22/Kh-32 supersonic 310-mile-range missiles. Up to 42 x 1,100-lb, or eight 3,300-lb, or two 6,600-lb general-purpose bombs. Nuclear bombs; sea mines.

Tu-95MS • NATO reporting name: Bear-H
Brief: A Russian counterpart to the US B-52. The world’s fastest turboprop aircraft. Initial Tu-95 production at the Kuibyshev (Samara) plant from 1955 to 1969 covered several versions including the Tu-95M bomber, Tu-95K missile carrier, and Tu-95RTs maritime reconnaissance version, the last of which was retired in the early 1990s. Production of the Tu-142 maritime patrol aircraft was based on a highly upgraded Tu-95 design. With the advent of long-range ALCMs in the 1970s, Tu-95 production was relaunched after a 13-year hiatus. The resulting Tu-95 MS was based on a converted Tu-142 ASW airplane, to carry the Kh-55 missile. An MLU ordered in 2009 is adding new radar, a five-panel glass cockpit, and modern flight controls and navigation systems. The three first aircraft, designated Tu-95MSM, were redelivered to the VVS in late 2014 and early 2015 still without the full scope of the MLU, e.g., radar. Plans call for the upgrade of 20 additional aircraft by 2016. The fleet was adapted in the early 2000s to carry the conventional Kh-55 ALCM, and approximately half of the fleet is modified to carry 10 additional missiles externally. Aircraft are undergoing mods to enable external carriage of eight Kh-102 extended-range nuclear ALCMs (reducing aircraft range to 4,350 miles in this configuration).

Extant Variants:
- Tu-95MS: Latest production version, capable of cruise missile delivery.
- Tu-95MSM. Upgraded aircraft.

Function: Long-range heavy bomber, missile carrier.
Delivered: December 1982–92 (Tu-95MS).
Inventory: 61.
Accommodation: seven.
Dimensions: span 164 ft 2 in, length 161 ft 2 in, height 43 ft 8 in.
Weight: max T-O 407,885 lb.
Ceiling: 34,450 ft.
Performance: speed 516 mph, range 6,524 miles.
Armament: six long-range nuclear Kh-55, or conventional Kh-555 ALCMs on internal rotary launcher. Future weapons incl eight nuclear Kh-102 ALCMs.

Tu-160 • NATO reporting name: Blackjack
Brief: Russia’s most powerful and modern strategic bomber, externally resembling the B-1B Lancer. The Tu-160’s blended fuselage/wing center section maximizes radar deflection for low observability. Its widely spaced engines allow for two tandem weapon bays. The variable-geometry wing is manually selected between 20° for T-O and landing, 35° for Mach 0.77 speed, and 65° for supersonic flight. The first 19 Tu-160s were initially deployed to Prylyuky AB, Ukraine, where they remained after the collapse of the USSR. Russia bought eight aircraft back from Ukraine in 1999 and restored them; the remaining were scrapped, with one placed on display. Tu-160s routinely participate in long-range patrols that have intensified around Europe and in the Pacific. Upgrades initiated in 2011 added the new Kh-102 missile. MLU aircraft are designated Tu-160M, incorporating new radar, navigation and communications systems, and ECM. The initial phase, excluding radar replacement, was delivered to the Russian air force in 2014. Five additional airframes are slated for upgrade in 2015. The Russian government recently announced the intent to restart Tu-160M2 production with a potentaim order for up to 50 aircrafts to bridge the gap to the planned next generation PAK-DA bomber.

Extant Variants:
- Tu-160. Basic production variant.
- Tu-160M. Upgraded aircraft.

Function: Supersonic long-range heavy bomber.
TACTICAL COMBAT AIRCRAFT

MiG-29 • NATO reporting name: Fulcrum

Brief: Lightweight fighter aircraft. The MiG-29 was the first Soviet fighter exhibited to the Western public at the Farnborough air show in 1988, as part of Gorbachev’s rapprochement with the West. The initial 1971 heavy fighter design was split between what became the lightweight MiG-29 and Sukhoi’s heavier Su-27. The MiG-29 was produced in high numbers for the Soviet air force and export customers, with production peaking in 1988, when 228 single-seat and 50 two-seat examples rolled off the line. Due to its limited range, the Russian air force elected to forgo an MLU program, in favor of the Sukhoi Flanker. The VVS received 28 new-build MiG-29SMs (plus six two-seat trainers) in 2009, after they were rejected by Algeria. The multirole SMT variant incorporates increased fuel capacity and modern digital fire-control, as well as upgraded IRST and HIMS and new air-to-ground weapons. A second batch of 16 new-build fighters was ordered in 2014, for delivery by 2016. The navalized MiG-29K was developed as a carrier-capable variant for the Indian navy, with the SMT’s fire-control systems, and was first delivered in 2009. The VFM ordered 24 in 2012, designating the single-seat variant MiG-29KR and two-seat variant MiG-29KUB, for operations aboard the carrier Admiral Kuznetsov. Russia is testing two land-based types derived from the MiG-29K, dubbed MiG-29M and MiG-35. The MiG-35 incorporates AESA radar and upgraded RD-33MR turbofans.

Extant Variants:
- MiG-29UB: Non-radar-equipped, two-seat combat trainer.
- MiG-29SMT: Modernized multirole version.
- MiG-29KUB: Two-seat training version of the MiG-29KR.
- MiG-29MT: Shore-based fighter lacking carrier-specific equipment.
- MiG-35: Developmental variant with AESA radar and improved engines.

Function: Multirole fighter.
Delivered: from July 1983.
Inventory: approx 150 (VVS), 14 (VMF).
Accommodation: pilot.
Dimensions: span 37.3 ft, length 56.9 ft, height 15.5 ft.
Weight: max-T-O 43,431 lb (MiG-29SMT: 48,702 lb).
Ceiling: 57,400 ft.
Performance: speed 1,491 mph, max: speed Mach 2.35 for new aircraft (currently limited to Mach 1.5). Range 2,050 miles with two external tanks.

Su-24M • NATO reporting name: Fencer-D

Brief: Variable-geometry nuclear and conventional strike aircraft designed for low-level penetration. The Su-24 was designed in the 1960s as a counterpart to the Air Force’s F-111. The basic Su-24M is equipped with a large dual-band FCR, laser/TV targeting, and terrain-following radar. The fleet is undergoing low-cost upgrades through 2020. Upgraded aircraft are designated Su-24MSVF-24 and incorporate more accurate navigation and fire-control systems. Roughly 50 aircraft have undergone mods to date. The Su-24M2 is an MLU version with a new manufacturer-supplied navigation and fire-control system, improved radar, modern INS and satnav systems, and reportedly, the new podded KS-418 jammer. Thirty airframes were upgraded between 2007 and 2009. The Su-24 is due to be replaced by the Su-34.

Extant Variants:
- Su-24M2: Manufacturer-upgraded airframe.
- Su-24MS: All-weather, multisensor reconnaissance aircraft.

Function: SEAD, air interdiction.
Inventory: about 260 (incl 30 VMP).
Accommodation: pilot and WSO side-by-side (pilot to port).
Dimensions: span 34 ft swept to 57.9 ft spread, length 80.5 ft, height 20.3 ft.
Weight: max-T-O 87,523 lb.
Ceiling: 37,703 ft.
Performance: speed 1,091 mph max or 746 mph at S-L with weapons, operational radius at S-L 242 miles without or 354 miles with external tanks, ferry range 1,585 miles.
Armament: one 3-barrel 23 mm cannon (260 rd), four R-33 or nuclear R-335 air-to-air missiles, two medium-range R-40T, or four self-defense R-60 missiles.

MiG-31 • NATO reporting name: Foxhound

Brief: Long-range, supercruise-capable interceptor. The MiG-31 was the world’s first PESA-equipped fighter, designed in 1968 to replace the MiG-25. The aircraft is designed for autonomous intercept without GCI support, mainly employed in Russia’s northern regions against cruise missile attack. The aircraft retains its predecessors’ Mach 2.3 cruise performance, adding the all-altitude multitarget capability of the Zaslon PESA and longer endurance. Despite design capabilities, speed is reportedly limited to Mach 1.5 due to canopy material limitations. Aircraft data links allow networking between aircraft and to AOCs. The upgraded MiG-31BM that has been ordered adds improved PESA radar and new weapons, and more than 50 have been upgraded to date. The upgraded Zaslon-AM radar reputedly doubles the aircraft’s detection range to 149 miles, and mods replaced the systems operator’s dated displays with LCD screens in the aft cockpit. New weaponry include four 124-mile-range R-37M air-to-air missiles and four close air combat R-73 missiles.

Extant Variants:
- MiG-31B: Standard late production variant with Zaslon-A radar.
- MiG-31BS: Upgraded MiG-31B.
- MiG-31BM: Current upgraded aircraft with Zaslon-AM radar and new missiles.

Function: Long-range interceptor.
Inventory: about 120.
Accommodation: pilot (front) and WSO (rear).
Dimensions: span 44.2 ft, length 74.4 ft, height 20.1 ft.
Weight: max-T-O 101,853 lb.
Ceiling: 67,585 ft.
Performance: speed Mach 2.83; speed Mach 2.35 for new aircraft (currently limited to Mach 1.5). Range 2,050 miles with two external tanks.
Armament: one internal six-barrel 23 mm cannon (260 rd), four R-33 or nuclear R-335 air-to-air missiles, two medium-range R-40T, or four self-defense R-60M air-to-air missiles on the wing pylons.
Su-25 • NATO reporting name: Frogfoot

**Brief:** Heavily armored subsonic close air support aircraft. The Su-25 was designed in 1968 as a highly survivable and maneuverable, subsonic CAS platform, analogous to the A-10. The Su-25UTG is a navalized, carrier-capable training aircraft, complete with arresting gear. The standard variant was heavily employed in Afghanistan from 1979 to 1989 and was extensively modified based on lessons learned during the conflict. Su-25s were used in combat in Chechnya and in the invasion of Georgia in 2008. The Su-25SM is an MLU variant with modernized targeting and navigation systems, and approximately 85 airframes have been delivered since 2006. The latest Su-25SM3 adds modernized self-defense and communications equipment.

**Extant Variants:**
- **Su-25:** Standard single-seat CAS platform (NATO Frogfoot-A).
- **Su-25UB:** Two-seat combat trainer (NATO Frogfoot-B).
- **Su-25UTG:** Shipborne trainer with weapons system removed.
- **Su-25SM:** Upgraded Frogfoot-A.
- **Su-25SM3:** Upgraded Frogfoot-A with new self-defense and comm suites.

**Function:** Attack.

**Delivered:** 1979-92.

**Inventory:** approx 200.

**Accommodation:** pilot.

**Dimensions:** span 47.1 ft, length 50.9 ft, height 15.8 ft.

**Weight:** max T-O 38,800 lb (Su-25), 41,890 lb (Su-25SM).

**Ceiling:** 22,950 ft.

**Performance:** speed 590 mph, range without external tanks at S-L 317 miles, ferry 1,450 miles.

**Armament:** one double-barrel 30 mm cannon (250 rd). Combat mix incl various types of free-fall or guided weapons, laser guided or standard rockets, and gunpods on eight underwing pylons, and two R-60 air-to-air missiles on wingtip pylons. Russian air force Su-25s are adapted to carry two tactical nuclear free-fall bombs.

Su-27 • NATO reporting name: Flanker

**Brief:** Originally designed in 1969 as an air superiority fighter and later adapted as a multirole aircraft, as a counterpart to the US F-15. The Su-27 forms the backbone of Russia's fighter force and is still in limited production for Russian and export customers. The current multirole Su-27SM was developed as a derivative of the Su-30MKK exported to China. The aircraft incorporates only basic improvements, retaining the legacy Cassegrain radar.

**Extant Variants:**
- **Su-27:** Standard operational model (NATO Flanker-B).
- **Su-27UB:** Two-seat combat-capable trainer (NATO Flanker-C).
- **Su-27SM:** Upgraded aircraft with air-to-ground capability (50+ modified).

**Function:** Air superiority, multirole fighter.

**Delivered:** 1982.

**Inventory:** approx 400 (approx 70 multirole Su-27SM).

**Accommodation:** pilot.

**Dimensions:** span 48.2 ft, length 72 ft without probe, height 19.5 ft.

**Weight:** empty 36,112 lb, standard T-O 51,654 lb, max T-O 62,391 lb.

**Ceiling:** 60,700 ft.

**Performance:** max speed 1,491 mph, 870 mph at S-L, max operational range 2,193 miles, 833 miles at S-L.

**Armament:** one internal 30 mm cannon (150 rd); up to 10 air-to-air missiles incl medium-/extended-range R-27/R-27E and short-range R-73, or RVV-AE and R-77-1 (air-to-air loadout); mix of guided AGM incl Kh-31A/P anti-ship/anti-radiation missiles (up to four), S-25LD missiles (two), and KAB-500Kr (four), and KAB-1500Kr (one) GBU (air-to-ground loadout).

Su-30 • NATO reporting name: Flanker

**Brief:** Tactical bomber derived from the Su-27 fighter, as a replacement for the Su-24M. The aircraft boasts a 30 to 50 percent range improvement over the Su-24 and is equipped with modern targeting and navigation systems that are compatible with the latest generation of weapons. The Su-30 is primarily tasked with tactical interdiction/penetrating strike and is capable of hitting targets with 8,800 lb of weapons at up to a 500-mile range. It incorporates a low-signature X-band PESA radar capable of engaging four simultaneous surface targets. Two development aircraft saw combat during the 2008 invasion of Georgia, destroying an air defense radar site with an anti-radiation missile. It carries podded SLAR, TV camera, linear IR, and Sigint payloads in the reconnaissance role, and data are transmittable to ground stations via real-time wideband data link. The aircraft is fitted with the powerful L175/L265 Khibiny-M ECM suite, complemented by external ECM pods.

**Function:** Strike, SEAD, reconnaissance, EW.

**Delivered:** since December 2006.

Su-34 • NATO reporting name: Fullback

**Brief:** Tactical bomber derived from the Su-27 fighter, as a replacement for the Su-24M. The aircraft boasts a 30 to 50 percent range improvement over the Su-24 and is equipped with modern targeting and navigation systems that are compatible with the latest generation of weapons. The Su-34 is primarily tasked with tactical interdiction/penetrating strike and is capable of hitting targets with 8,800 lb of weapons at up to a 500-mile range. It incorporates a low-signature X-band PESA radar capable of engaging four simultaneous surface targets. Two development aircraft saw combat during the 2008 invasion of Georgia, destroying an air defense radar site with an anti-radiation missile. It carries podded SLAR, TV camera, linear IR, and Sigint payloads in the reconnaissance role, and data are transmittable to ground stations via real-time wideband data link. The aircraft is fitted with the powerful L175/L265 Khibiny-M ECM suite, complemented by external ECM pods.

**Function:** Strike, SEAD, reconnaissance, EW.

**Delivered:** since December 2006.
**Su-35 • NATO reporting name: Flanker**

*Brief:* The most modern development of the Flanker, the Su-35 is intended as a lower-cost complement to Russia's fifth generation T-50 PAK-FA, along with the upgraded Su-30SM/M2 fleets. Though externally similar to the Su-27, the aircraft has shorter vertical stabilizers and tail "stinger" and lacks its predecessor's airbrake, deflecting its rudders instead for aerodynamic braking. The Su-35's revised structure incorporates new materials, its fully integrated targeting and navigation system links its Avionics and Onboard Electronic Warfare Suite (OES) suite to its radar. The aircraft's Byelka (Squirrel) AESA radar, ECM, and Atoll EO suite, in addition to its vertical tail and winglets, will give it a significantly improved radar cross section compared to the Su-30.

**Performance:** max speed Mach 2.25, speed at S-L 870 mph, range 2,237 miles clean, 2,976 miles with external tanks.

**Armament:** full spectrum of current and developmental Russian tactical missiles.

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**Su-35 • NATO reporting name: Flanker**

*Brief:* Fifth generation, multirole aircraft designed to replace the Su-27 as the Russian air force's dominant fighter. The T-50 is being developed under the PAK-FA (Future Air Complex of Tactical Aviation program) begun in the late 1990s. The T-50 features low observable characteristics, supercruise, advanced sensor fusion, and high maneuverability, making it a nominal competitor to the F-22. The manufacturer claims the T-50's radar cross section is equal to three or four square feet, compared to the Su-27's 160-square-foot radar signature, owing mostly to internal weapons carriage. The aircraft's Byelka (Squirrel) AESA radar, ECM, and Atoll EO suite, in addition to its navigation, communications, and data links, are tied to a central computer. IOC and full-rate production are currently, and unrealistically, slated for the end of 2016. Since the prototype's first flight in 2010, the type has logged only 600 test flights. Russia is cooperating with India to develop a two-seat export version for the Indian Air Force, under India's Fifth Generation Fighter Aircraft (FGFA) program.

**Performance:** max speed Mach 2.25, speed at S-L 870 mph, range 2,237 miles clean, 2,976 miles with external tanks.

**Armament:** full spectrum of current and developmental Russian tactical missiles.

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**A-50 • NATO reporting name: Mainstay**

*Brief:* Russia's sole airborne early warning aircraft, converted from Ilyushin Il-76MD Candid airframe, with a radar housed in a rotodome above the fuselage. Its Shmel (Bumblebee) radar is reputedly capable of detecting and tracking targets at up to 143 miles in look-down mode, or up to 217 miles operating from high altitude. Mainstay can track up to 45 targets and vector 12 fighters simultaneously to intercept. The first MLU aircraft was redelivered to the Russian air force in 2011 and redesignated A-50U. Three operational and one prototype aircraft were upgraded; upgrade of next batch was ordered in 2014. MLU airframes received new computers with more reliable, digital signal processing and modern LCD operator stations, as well as new navigation and comms. The mainstay difference between A-50 and A-50M is the absence of fins that shielded the legacy platform from signal reflections. Contractor Beriev is developing a next generation AWACS based on the more modern Il-76MD-90A version of the airframe. The prototype A-100 entered conversion in late 2014. The type is slated for IOC by late 2017.

**Extant Variants:**

**Inventory:**
- 15+

**Dimensions:**
- span 165.7 ft, length 158.4 ft incl refueling probe, height 48.4 ft.
- Weight: max T-O 418,878 lb.
- Ceiling: 40,000 ft.
- Performance: max speed 503 mph, patrol speed 373 mph, range 3,170 miles, patrol duration four hours at 621 miles from base.

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**A-50U Mainstay**

**Performance:** speed 336 mph, cruising speed 267 to 295 mph, max range 1,634 miles.

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**II-20 • NATO reporting name: Coot-A**

*Brief:* Radar reconnaissance and Elint aircraft based on Ilyushin Il-18D airliner. The primary sensor is the Igla (Needle) Ku-band SLAR, housed in a 21-foot cigar-shaped fairing under the fuselage, housing the high-resolution radar antenna. An upgraded II-20M version is under development, after which, plans call for the majority, if not the entire fleet, to be upgraded. II-20MS aircraft retain the Igla SLAR, paired with a more modern computer, a new Elint payload, and new self-defensive suite including UV missile warning, and decoy systems. The separate II-20RT version is used by Russia's strategic RVSN as a tracking and signal relay/translator platform for national security space and ICBM launches. The SLAR pod is removed and replaced with a more modern computer, a new Elint payload, and new self-defensive suite including UV missile warning, and decoy systems. The separate II-20RT version is used by Russia's strategic RVSN as a tracking and signal relay/translator platform for national security space and ICBM launches. The SLAR pod is removed and replaced.
**II-20 Coot-A**

**Brief:** Airborne early warning and battlefield surveillance helicopters. The Ka-31 serves the navy, acting as an airborne picket, detecting air and sea-surface threats, while the Ka-35 is used by the army, designed for battlefield surveillance. Both helicopters are based on the Ka-27 ASW helicopter, with fuselage modifications to house their specialized mission equipment. The Ka-31 is equipped with the Oko (Eye) pulse-Doppler L-band radar, which uses a large, rotating, rectangular antenna. The radar employs passive electronic scanning, for establishing elevation, and mechanical scanning to track a target's azimuth. The army Ka-35 version is in development and is optimized for land-based surveillance, including a potent self-defensive suite. Both helicopters deploy a stowable antenna that folds flush with the underfuselage and is optimized for land-based surveillance, including a potent self-defensive suite.

**Function:** Electronic reconnaissance.

**Inventory:** approx 12.

**Dimensions:** rotor diameter 52.2 ft each, fuselage length 37.1 ft, height 33.4 ft.

**Weight:** max T-O 141,056 lb.

**Ceiling:** 32,800 ft.

**Performance:** speed 460 mph, range 5,000 miles.

**Ka-31, Ka-35 • NATO reporting name: Helix**

**Brief:** Airborne early warning and battlefield surveillance helicopters. The Ka-31 serves the navy, acting as an airborne picket, detecting air and sea-surface threats, while the Ka-35 is used by the army, designed for battlefield surveillance. Both helicopters are based on the Ka-27 ASW helicopter, with fuselage modifications to house their specialized mission equipment. The Ka-31 is equipped with the Oko (Eye) pulse-Doppler L-band radar, which uses a large, rotating, rectangular antenna. The radar employs passive electronic scanning, for establishing elevation, and mechanical scanning to track a target’s azimuth. The army Ka-35 version is in development and is optimized for land-based surveillance, including a potent self-defensive suite. Both helicopters deploy a stowable antenna that folds flush with the underfuselage and is optimized for land-based surveillance, including a potent self-defensive suite. Both helicopters deploy a stowable antenna that folds flush with the underfuselage and is optimized for land-based surveillance, including a potent self-defensive suite. The Ka-31 is equipped with the Oko (Eye) pulse-Doppler L-band radar, which uses a large, rotating, rectangular antenna. The radar employs passive electronic scanning, for establishing elevation, and mechanical scanning to track a target’s azimuth. The army Ka-35 version is in development and is optimized for land-based surveillance, including a potent self-defensive suite. Both helicopters deploy a stowable antenna that folds flush with the underfuselage and is optimized for land-based surveillance, including a potent self-defensive suite. Both helicopters deploy a stowable antenna that folds flush with the underfuselage and is optimized for land-based surveillance, including a potent self-defensive suite. Both helicopters deploy a stowable antenna that folds flush with the underfuselage and is optimized for land-based surveillance, including a potent self-defensive suite.

**Function:** Electronic reconnaissance.

**Inventory:** approx 12.

**Dimensions:** rotor diameter 52.2 ft each, fuselage length 37.1 ft, height 33.4 ft.

**Weight:** max T-O 244,162 lb.

**Ceiling:** 40,000 ft.

**Performance:** approx speed 500 mph, range 5,000 miles.
II-22 • NATO reporting name: Coot-B
Brief: Theater-level airborne command post and relay aircraft based on the Ilyushin II-18D turboprop airliner. The II-22 is identifiable by its bullet-shaped tailfin cap and a shallow6-foot-long, underfuselage pod (30 ft on II-22M). A single airframe registered RA-75903, was converted as a developmental Sigint and stand-off jamming platform designated II-22PP. The PP variant features four bulbous ECM fairings on the sides and rear of the fuselage. The fixed underfuselage pod houses a self-defensive chaff/flare system. Testing was completed at Akhtubinsk test center in 2014, and plans call for three aircraft (including the prototype) to be converted as EW platforms. The aircraft’s EW suite is also slated to equip a larger, more modern Tu-214-based EW platform (dubbed Tu-214PP) scheduled to fly in 2018.

Extant Variants:
- II-22 Bison. Airborne command post version.
- II-22M11-RT Sokol. Upgraded version of the II-22M with Sokol-K radio relay system.
- II-22K. Single airframe equipped with Sokol-K radio relay system.
- II-22PP. Developmental Sigint and EW platform.

Function: Command and control, signal relay, EW.
Inventory: 15+.
Accommodation: flight crew: five; mission crew: at least six.
Dimensions: span 122.8 ft, length 117.8 ft, height 33.4 ft.
Weight: max T-O 140,000 lb.
Ceiling: 33,000 ft.
Performance: speed 373 mph, range in excess of 3,850 miles, endurance 10 hours.

Il-80 • NATO reporting name: Maxdome
Brief: Strategic airborne command post similar to the Air Force’s E-4B National Airborne Operations Center, converted from the Il-86 wide-body airliner. The Il-80 is a part of a command system of the Russian nuclear forces, which reports to the General Staff of the Russian Armed Forces. Maxdome has an advanced comms suite equipped with VLF and trailing wire antenna for communications with submerged ballistic missile submarines. At least two of the four aircraft were modernized for compatibility with the Zveno-2S command and control network.

Function: National airborne command post.
Inventory: four (two likely airworthy).
Accommodation: flight crew: four; operational crew: numerous.
Dimensions: span 157.7 ft, length 195.3 ft, height 51.9 ft.
Weight: max T-O 474,000 lb.
Ceiling: 36,000 ft.
Performance: speed 528 mph, range in excess of 4,350 miles.

II-82
Brief: Relay aircraft to augment Russia’s II-80 Maxdome airborne command posts, converted from Il-76 airlifter. The II-82 features a prominent Satcom hump on the forward fuselage (similar to Maxdome), as well as VLF and a trailing wire antenna for communication with submerged ballistic missile submarines. The II-82 lacks the transparent nose glazing of the standard airlifter and features a number of additional antenna aerials along the fuselage. Beriev upgraded at least one aircraft in 2008. The II-82’s effective combat radius is unknown.

Function: Relay aircraft.

ATTACK AND TRANSPORT HELICOPTERS

Ka-29 • NATO reporting name: Helix-B
Brief: Ship-based helicopter for air assault, transport, and marines’ CAS. The Ka-29 is developed from the Ka-27 ASW helicopter and features a new cabin fuselage to accommodate 12 troops. The platform is capable of firing Shturn-V anti-tank missiles, equipped with chaff/flare, and some carry the L-166V (NATO Hot Brick) IR jammer. The cockpit and engines are fitted with armor plating and foam fuel-tank inerting. Helicopters are deployed either individually aboard ships, and many near-new airframes are currently in storage.

Function: Attack, assault, and transport helicopter.
Inventory: unknown.
Accommodation: pilot and weapons systems officer, side-by-side.
Dimensions: rotor diameter 52.2 ft, fuselage length 37.1 ft, height 17.9 ft.
Weight: combat T-O 24,471 lb, max T-O 25,353 lb.
Ceiling: 14,100 ft.
Performance: max speed 180 mph, speed 146 mph, range 286 miles with 16 troops.
Armament: eight 9M114 (NATO AT-6 Spiral) tube-launched anti-tank guided missiles, unguided rockets, gun packs, bombs. Optionally, 2A42 30 mm single-barrel cannon (250 rd) on port weapon rack.

Ka-52 • NATO reporting name: Horkum-B
Brief: Scout-attack helicopter with coaxial, contrarotating rotors and ejection seats. The helicopter’s Ka-band radar is used for targeting, navigation, and reconnaissance tasks, featuring a 15-mile effective range against large structures, and up to nine miles against vehicle targets. The radar’s wide 2.6-foot radar array is facilitated by the helicopter’s unique side-by-side crew arrangement. The aircraft’s EO turret houses thermal imaging camera, TV camera, laser rangefinder/designator for guided missiles, and laser spot tracker. The Ka-52’s powerful self-defense suite combines radar, laser, and UV-warning sensors, IR jamming, and chaff/flare. The Ka-52K Katran (Spiny Dogfish) is a developmental, navalized version for use on the yet-to-be delivered, French-built Mistral class amphibious assault ships. Katran features shorter, folding wings and folding rotor blades, strengthened undercarriage, modified radar, and the original EO turret, and anti-ship weapons including the Kh-35UV missile.

Function: Scout, attack.
Delivered: 1991–93 (Ka-50), and then since 2010 (Ka-52s).
Inventory: six Ka-50s, 75+ Ka-52s.
Accommodation: two pilots side-by-side.
Dimensions: rotor diameter 47.6 ft, fuselage length 45.5 ft, height 16.6 ft.
Weight: combat T-O 23,810 lb with six ATGMs, max T-O 26,896 lb.
Ceiling: 14,100 ft.
Performance: max speed 186 mph, speed 162 mph, combat range 286 miles, ferry range 690 miles.
Armament: one 30 mm cannon (460 rd), six to 12 laser guided Ataka-1 or Vikhr-1 (NATO AT-16 Scallion) anti-tank missiles, or radio guided Ataka missiles. Up to four rocket launchers. Four Igla (NATO SA-18 Grouse) portable SAMs.
Mi-8 • NATO reporting name: Hip

Brief: World's second most common utility helicopter, after the lighter Bell UH-1 Huey, and continuously produced for 50 years. All Russian military helicopters are designated Mi-17, Mi-171, or Mi-172 (depending on manufacturers). The Russian defense ministry resumed large-scale purchases after a 15-year break in 2008, ordering more than 300 new-build Mi-8s. Approximately 100 other countries operate Mi-8 variants, mostly in military applications. The newest production version Mi-8MTV-5 features a wider main rotor and enhanced weapons. The Mi-17V-5 is its export equivalent. The Mi-8 has been produced for more than 30 years, and is distinguished by an all-glass cockpit.

Accommodation: pilot, weapons operator, flight engineer.

Dimensions: rotor diameter 56.4 ft, length (with rotors) 70 ft, fuselage length 57.5 ft, height 14.6 ft to above rotor head, wing span 16.6 ft.

Weight: combat T-O 24,030 lb, max T-O 26,015 lb (Mi-35M).

Performance: max speed 186 mph, speed 149 mph, combat range 342 miles, ferry range 621 miles (Mi-35M).

Armament: two twin-barreled 23 mm GSh-23V cannon in undernose turret, one 2.36 inch (60mm) rocket, auxiliary loading for 20 rockets, and KAB-500 bombs. Alternatively, 122 mm and 80 mm unguided rockets, CBUs, gun packs.

Inventory: approx 150 (Mi-24); 49 (Mi-35M).

Function: Attack, air assault, CSAR.

MI-26 • NATO reporting name: Halo

Brief: World's largest heavy-lift helicopter, produced nearly unaltered for 30 years. Due to its massive size the Mi-26 requires rigorous maintenance and overhaul. Gearbox and transmission lives are limited to 3,000 hours, while rotor blades are limited to approximately 1,000 hours, and its obsolete engines require overhaul after 600 hours. A civil-convert Mi-26 successfully recovered a downed US Army CH-47 Chinook in Afghanistan. The US purchased 63 of the Mi-26s for use by the Afghan National Army, with ferry range 1,193 miles.

Accommodation: pilot, weapons operator, flight engineer, radio operator.

Dimensions: rotor diameter 98.4 ft, length (with rotors) 110.7 ft, height 26.7 ft, cabin length 49.2 ft incl ramp, cabin width 10.7 ft.

Weight: max T-O 123,459 lb.

Performance: max speed 186 mph, speed 149 mph, combat radius 96 miles.

Armament: one single-barrel 30 mm 2A42-2 cannon (250 rd) in movable nose turret. Standard eight (max 16) 9M120 Ataka anti-tank missiles, and four 9M39 Igla-V anti-aircraft missiles. Alternatively, 122 mm and 80 mm unguided rockets, CBUs, gun packs.

Inventory: approx 40.

Function: Anti-armour, attack.


MI-28N • NATO reporting name: Havoc-B

Brief: Specialized anti-tank attack helicopter developed starting in 1976 as a counterpart to AH-64 Apache. After many setbacks, the helicopter finally entered Russian military service in recent years. The Mi-28N is heavily armored with 770 lb of titanium and ceramic-plate protecting the cockpit and engine bays. The cockpit is further glazed in 35 to 50 mm bullet resistant glass, capable of withstanding a direct hit by a 12.7 mm round or 20 mm shell fragments. Engine driving reduces the aircraft's IR signature by mixing hot exhaust through the rotor arc. The fuel tanks are self-sealing, and self-defensive equipment includes RWR, UV- and laser-warning receivers, and flares. Deliveries of 15 export Mi-28NE to Iraq began in 2014, and Algeria placed an order for up to 42 aircraft.

Extant Variant:

• Mi-28N. Standard version for VVS (NATO Havoc-B).

Inventory: approx 150.

Function: Anti-armour, attack.

Delivered: from 2014.

MI-28 • NATO reporting name: Havoc-B

Brief: Specialized anti-tank attack helicopter developed starting in 1976 as a counterpart to AH-64 Apache. After many setbacks, the helicopter finally entered Russian military service in recent years. The Mi-28N is heavily armored with 770 lb of titanium and ceramic-plate protecting the cockpit and engine bays. The cockpit is further glazed in 35 to 50 mm bullet resistant glass, capable of withstanding a direct hit by a 12.7 mm round or 20 mm shell fragments. Engine driving reduces the aircraft's IR signature by mixing hot exhaust through the rotor arc. The fuel tanks are self-sealing, and self-defensive equipment includes RWR, UV- and laser-warning receivers, and flares. Deliveries of 15 export Mi-28NE to Iraq began in 2014, and Algeria placed an order for up to 42 aircraft.

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• Mi-28N. Standard version for VVS (NATO Havoc-B).

Inventory: approx 150.

Function: Anti-armour, attack.

Delivered: from 2014.

MI-26 • NATO reporting name: Halo

Brief: World's largest heavy-lift helicopter, produced nearly unaltered for 30 years. Due to its massive size the Mi-26 requires rigorous maintenance and overhaul. Gearbox and transmission lives are limited to 3,000 hours, while rotor blades are limited to approximately 1,000 hours, and its obsolete engines require overhaul after 600 hours. A civil-convert Mi-26 successfully recovered a downed US Army CH-47 Chinook in Afghanistan. The US purchased 63 of the Mi-26s for use by the Afghan National Army, with ferry range 1,193 miles.

Accommodation: pilot, weapons operator, flight engineer, radio operator.

Dimensions: rotor diameter 98.4 ft, length (with rotors) 110.7 ft, height 26.7 ft, cabin length 49.2 ft incl ramp, cabin width 10.7 ft.

Weight: max T-O 123,459 lb.

Performance: max speed 186 mph, speed 149 mph, combat radius 96 miles.

Armament: one single-barrel 30 mm 2A42-2 cannon (250 rd) in movable nose turret. Standard eight (max 16) 9M120 Ataka anti-tank missiles, and four 9M39 Igla-V anti-aircraft missiles. Alternatively, 122 mm and 80 mm unguided rockets, CBUs, gun packs.

Inventory: approx 40.

Function: Anti-armour, attack.


MI-28 • NATO reporting name: Havoc-B

Brief: Specialized anti-tank attack helicopter developed starting in 1976 as a counterpart to AH-64 Apache. After many setbacks, the helicopter finally entered Russian military service in recent years. The Mi-28N is heavily armored with 770 lb of titanium and ceramic-plate protecting the cockpit and engine bays. The cockpit is further glazed in 35 to 50 mm bullet resistant glass, capable of withstanding a direct hit by a 12.7 mm round or 20 mm shell fragments. Engine driving reduces the aircraft's IR signature by mixing hot exhaust through the rotor arc. The fuel tanks are self-sealing, and self-defensive equipment includes RWR, UV- and laser-warning receivers, and flares. Deliveries of 15 export Mi-28NE to Iraq began in 2014, and Algeria placed an order for up to 42 aircraft.

Extant Variant:

• Mi-28N. Standard version for VVS (NATO Havoc-B).

Inventory: approx 150.

Function: Anti-armour, attack.

Delivered: from 2014.
An-22 • NATO reporting name: Cock
Brief: Was the world’s largest propeller-driven airlifter when it debuted in the late 1960s, powered by the same turboprop engines fitted to the Tu-95 Bear bomber. The aircraft’s cargo bay is three feet wider than the Il-76 airlifter and cheaper to operate than the larger An-124 strategic airlifter. The Russian air force plans to keep the remaining An-22 fleet in service until 2020.
Function: Heavy airlift.
Delivered: 1969-76.
Inventory: six.
Accommodation: aircrew: five; 132,277 lb of cargo incl vehicles, missile systems, up to 151 paratroops, or 292 troops (in double-deck cabin configuration).
Dimensions: span 211.3 ft, length 188 ft, height 41.3 ft.
Weight: max T-O 496,040 lb.
Ceiling: 29,528 ft.
Performance: speed 373 mph, range 2,300 miles with full payload, max 5,900 miles.

An-124 • NATO reporting name: Condor
Brief: World’s largest military transport aircraft, surpassing the C-5 Galaxy. Russian and Ukrainian contract carriers employed the aircraft in support of NATO operations in Afghanistan under the Strategic Airlift Interim Solution (SALIS) program from 2006 to 2014. The An-124 fleet is being updated to An-124-100 standards as aircraft are overhauled, bringing them up-to-date with civil airspace requirements.
Extant Variants:
• An-124. Heavy intratheater strategic airlifter.
• An-124-100. Upgraded aircraft with civil certification.
Function: Heavy, long-range strategic airlift.
Inventory: 26.
Accommodation: aircrew: six; up to 330,693 lb of payload (max certified 264,554 lb) with drive-through access via nose and rear ramps.
Dimensions: span 240.5 ft, length 226.7 ft, height 69.2 ft.
Weight: empty 385,800 lb, max T-O 892,871 lb (An-124) or 864,210 lb (An-124-100).
Ceiling: 38,058 ft.
Performance: speed 574 mph, range 2,300 miles with full payload, max 2,144 miles when 44,092 lb of fuel delivered, or 2,144 miles when 88,185 lb delivered.

II-76 • NATO reporting name: Candid-B
Brief: The Russian air force’s standard airlift platform. A total of 880 legacy II-76s were produced at a plant in Uzbekistan from 1973 to 2011. Russia is relaunching domestic production of a modernized II-76MD-90A version, incorporating a new wing, modern PS-90A-76 turbofans, and new avionics. The updates increase the aircraft’s max T-O weight to 462,971 lb, while cutting fuel consumption by 12 percent. The new version is capable of carrying 40 tons of cargo more than 4,000 miles.
New-build aircraft retain the legacy aircraft’s cargo bay dimensions, which are too narrow to fit a large percentage of common military vehicles and equipment. The VVS is developing new tanker and AEW platforms based on the new production model. Plans are in place to retrofit a least 40 legacy aircraft to similar Il-76MDM standards. The newest II-76MD-90A is slated to enter service in 2015.
Extant Variants:
• II-76M. Initial dual-role tanker/transport.
• II-76M. Current operational version.
• II-76M-90A. Developmental aircraft based on the new II-76MD-90A.
Function: Tanker.
Delivered: 1985-93.
Inventory: approx 15.
Accommodation: six, incl refueling operator in the tail.
Dimensions: span 165.7 ft, length 152.9 ft, height 48.4 ft.
Weight: max T-O 462,970 lb.
Ceiling: refueling altitude: 6,562 to 29,525 ft.
Performance: speed 466 mph, refueling speed 267-367 mph, radius 3,138 miles when 44,092 lb of fuel delivered, or 2,144 miles when 88,185 lb delivered.

II-78 • NATO reporting name: Midas
Brief: Aerial tanker based on II-76MD transport and the only tanker in Russian air force service. Russia is developing the new II-78M-90A version, based on the new-build II-76MD-90A airlifter, and is expected to enter production in 2016. The aircraft was adapted for the tanker role with cargo-bay tanks which are removable in II-78 and permanent on the II-78M. The aircraft is equipped with two wing-mounted pods to refuel combat aircraft and port-fuselage pod for refueling heavier aircraft.
Extant Variants:
• II-78. Initial dual-role tanker/transport.
• II-78M. Current operational version.
• II-78M-90A. Developmental aircraft based on the new II-76MD-90A.
Function: Tanker.
Delivered: 1985-93.
Inventory: approx 15.
Accommodation: six, incl refueling operator in the tail.
Dimensions: span 165.7 ft, length 152.9 ft, height 48.4 ft.
Weight: max T-O 462,970 lb.
Ceiling: refueling altitude: 6,562 to 29,525 ft.
Performance: speed 466 mph, refueling speed 267-367 mph, radius 3,138 miles when 44,092 lb of fuel delivered, or 2,144 miles when 88,185 lb delivered.

An-12 • NATO reporting name: Cub
Brief: Was the Soviet Union’s large tactical transport aircraft, specialized for airdrop and tactical insertion, similar to the US C-130. The An-12 was replaced in the tactical role by the II-76, but remains in service as a base-level support aircraft.
Extant Variants:
• An-12. Airlift variant (NATO Cub-A).
• An-12PP. Standoff EW escort aircraft (NATO Cub-C and Cub-D).
Function: Medium airlift, EW.
Delivered: May 1959-72.
Inventory: approx 65.
Accommodation: aircrew: six; up to 44,092 lb of cargo, 91 troops, or 60 paratroops.
Dimensions: wing span 124.8 ft, length 108.6 ft.
Weight: max T-O 134,482 lb.
Ceiling: 33,465 ft.
Performance: cruising speed 342 to 373 mph, range with full fuel 3,604 miles, range with full payload 2,144 miles.
Armament: two tail-mounted 23 mm cannons (some airframes); runway-illumination flare-bombs.

An-124 • NATO reporting name: Condor
Brief: World’s largest military transport aircraft, surpassing the C-5 Galaxy. Russian and Ukrainian contract carriers employed the aircraft in support of NATO operations in Afghanistan under the Strategic Airlift Interim Solution (SALIS) program from 2006 to 2014. The An-124 fleet is being updated to An-124-100 standards as aircraft are overhauled, bringing them up-to-date with civil airspace requirements.
Extant Variants:
• An-124. Heavy intratheater strategic airlifter.
• An-124-100. Upgraded aircraft with civil certification.
Function: Heavy, long-range strategic airlift.
Inventory: 26.
Accommodation: aircrew: six; up to 330,693 lb of payload (max certified 264,554 lb) with drive-through access via nose and rear ramps.
Dimensions: span 240.5 ft, length 226.7 ft, height 69.2 ft.
Weight: empty 385,800 lb, max T-O 892,871 lb (An-124) or 864,210 lb (An-124-100).
Ceiling: 38,058 ft.
Performance: speed 497 mph, range 3,107 miles with 264,554 lb payload, max 9,998 miles.

An-12 • NATO reporting name: Cub
Brief: Was the Soviet Union’s large tactical transport aircraft, specialized for airdrop and tactical insertion, similar to the US C-130. The An-12 was replaced in the tactical role by the II-76, but remains in service as a base-level support aircraft.
Extant Variants:
• An-12. Airlift variant (NATO Cub-A).
• An-12PP. Standoff EW escort aircraft (NATO Cub-C and Cub-D).
Function: Medium airlift, EW.
Delivered: May 1959-72.
Inventory: approx 65.
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Dimensions: wing span 124.8 ft, length 108.6 ft.
Weight: max T-O 134,482 lb.
Ceiling: 33,465 ft.
Performance: cruising speed 342 to 373 mph, range with full fuel 3,604 miles, range with full payload 2,144 miles.
Armament: two tail-mounted 23 mm cannons (some airframes); runway-illumination flare-bombs.
An-26 • NATO reporting name: Curl
Brief: Light transport aircraft derived from the civil An-24 commuter airliner, with a wider fuselage and hydraulically operated rear cargo-ramp (horizontally stowable for airdrop).
Extant Variants:
• An-26R. Tactical communications-relay aircraft (NATO Curl-B).
• An-26M. AE aircraft with surgical facilities.
• An-26Sh. Navigation trainer.
Function: Light airlift, communications relay, AE.
Inventory: approx 140.
Accommodation: aircrew: three to five; up to 12,125 lb of cargo or 40 troops, or 30 paratroops. In AE configuration, 24 litter patients and three attendants.
Dimensions: wing span 99.8 ft, length 78.1 ft.
Weight: max T-O 52,910 lb.
Ceiling: 27,500 ft.
Performance: max speed 336 mph, range with max payload 808 miles, ferry range 2,300 miles.
Armament: two illumination flare-bombs on racks at each side of the fuselage.

An-26C

An-72 • NATO reporting name: Coaler
Brief: Twin-turbofan light STOL airlifter designed to replace the An-26. The aircraft incorporates blown-flap technology (similar to the Boeing YC-14) and is capable of operations from short, unimproved airstrips. The prototype Coaler-A incorporated a shorter aft fuselage and smaller wing, while Coaler-B is the civil variant. The military An-72 was originally intended to support special operations and directly supply frontline forces, but changes in military doctrine have resulted in An-72s primarily conducting executive airlift. The executive-configured An-72S is equipped with 38 passenger seats and a smaller cargo bay capable of transporting a small vehicle. Some airframes are fitted with a self-defensive suite.
Extant Variants:
• An-72. Standard production military transport (NATO Coaler-A).
• An-72S. Executive airlift version.
Function: Light airlift, VIP transport.
Inventory: approx 100.
Accommodation: aircrew: three; standard 11,000 lb, max 22,000 lb of cargo.
Dimensions: span 104.6 ft, length 92.1 ft.
Weight: max T-O 96,342 lb.
Ceiling: 40,026 ft.
Performance: max speed 540 mph, range 2,734 miles with 75 passengers.

An-26 Curl

An-140-100

An-140-100
Brief: Turboprop commuter airliner intended to replace the An-24 with a faster, more efficient, and longer-range platform. Only 35 examples were produced on three assembly lines in Russia, Ukraine, and Iran, due to a lack of orders. The Russian military is the sole operator of the type, with 14 additional examples still on order.
Extant Variant:
• An-140-100. Production version.
Function: VIP transport.
Delivered: August 2011-present.
Inventory: eight (five VVS, three VMF); 14 ordered.
Accommodation: two aircrew, 52 passengers; max payload 13,228 lb.
Dimensions: wing span 83.7 ft, length 74.1 ft.
Weight: max T-O 47,400 lb.
Ceiling: 24,934 ft.
Performance: max speed 336 mph, range with max payload 808 miles, ferry range 2,300 miles.

An-140-100

L-410 Turbolet

L-410 Turbolet
Extant Variants:
• L-410UVP. Early STOL version.
• L-410UVP-E20. Current production version with upgraded engines and avionics.
Function: Light transport.
Delivered: 1997-91; February 2011-present.
Inventory: approx 30 incl. 11 new-production UVP-E20 versions.
Accommodation: two pilots and 19 passengers.
Dimensions: wing span 65.6 ft, length 47.3 ft.
Weight: max T-O 14,550 lb.
Ceiling: 27,500 ft.
Performance: max speed 251.7 mph, max range 944.5 miles.

Tu-134 • NATO reporting name: Crusty
Brief: Soviet-era commercial aircraft converted as a VIP transport for the defense ministry command staff. Most aircraft are equipped with long-range comms, identifiable by the “stinger” antenna protruding from the tail. The passenger cabin is divided into three compartments including a planning room, rest area, and comms.
Extant Variants:
• Tu-134A. Standard variant.
• Tu-134B. Later aircraft with improved avionics and smaller flight crew.
• Tu-134Sh. Bomber navigator trainer.
Function: VIP transport, trainer.
Delivered: 1966-84.
Inventory: approx 100.
Tu-134UBL Crusty

**Tu-134UBL Crusty**

**Dimensions:** wing span 123.2 ft, length 157.2 ft, max T-O 220,462 lb.

**Performance:** speed 581 mph, range with full payload 2,360 miles, max range 4,100 miles.

**Accommodation:** approx 20, incl one Tu-154M-LK1.

**Inventory:** Delivered: 1972 to 2013.

**Function:**• Tu-154M-LK1. Photo surveillance aircraft for the Open Skies program.
• Tu-154M. Aircraft equipped with newer D-30KU-154 engines.
• Tu-154M-LK1. Photo surveillance aircraft for the Open Skies program.

**Extant Variants:**
• Tu-154B-2. Most numerous version powered by Kuznetsov NK-8-2U turbfans.
• Tu-154M. Aircraft equipped with newer D-30KU-154 engines.
• Tu-154M-LK1. Photo surveillance aircraft for the Open Skies program.

Il-38 • NATO reporting name: May

**Brief:** ASW aircraft derived from the Il-18 airliner and roughly equivalent to the Lockheed P-3 Orion. The Il-38 combines the Il-18s wings, tail, engines, and landing gear with a completely redesigned fuselage with two internal weapon bays.

**Dimensions:** wing span 97.9 ft, length 98.8 ft, height on parking 29.9 ft.

**Weight:** max T-O 79,366 lb.

**Ceiling:** 26,250 ft.

**Performance:** max speed 329 mph, max range 2,237 miles.

**Armament:** 3,300 lb (max 6,614 lb with reduced fuel load) of weapons and stores incl torpedoes, depth charges, mines, and sonobuoys in an internal bay.

**Extant Variants:**
• Il-38. Legacy variant.
• Il-38N. Upgraded aircraft with modernized sensors and mission system.

**Function:** Shore-based ASW, maritime patrol.

**Delivered:** 1968-72.

**Inventory:** 22 incl four upgraded Il-38Ns.

**Accommodation:** eight.

**Dimensions:** span 122.8 ft, length 131.7 ft, height 33.4 ft.

**Weight:** max T-O 145,500 lb.

**Ceiling:** mission altitude 330 ft through 3,300 ft.

**Performance:** max speed 400 mph, mission speed 200 to 250 mph, ferry range 5,900 miles, patrol duration three hours at 1,400 miles.

**Armament:** standard 12,000 lb (max 18,500 lb) of buoys and weapons incl APR-2, APR-3, AT-2, or UMG-1 torpedoes, PLAB-250 or RBK-100 depth charges, Zagon guided depth charges, or one RYu-2 nuclear depth charge. India's Il-38 will carry two Kh-35E anti-ship missiles.

Ka-27 • NATO reporting name: Helix

**Brief:** Ship- or shore-based family of ASW and SAR helicopters. Manufacturer Kamov's typical twin-coxial contrarotating rotor arrangement makes the helicopter compact despite its 24,000-lb weight, making it ideal for ship-borne deployment. Kamov designed an entire series of civil and military designs based on the Ka-27's core systems, including the Ka-29 attack, Ka-31 and Ka-35 radar platforms, export Ka-28, and civil Ka-32. Russia began upgrading the first eight airframes to Ka-27M standards in 2015 with plans to modernize 46 by 2020. Modifications include new avionics, AESA radar, MAD, EW, dipping sonar, and navigator's tactical display. New weapons include APR-3 rocket-propelled torpedo and Zagon-2 guided depth charge.

**Extant Variants:**
• Ka-27. Standard ASW version (NATO Helix-A).
• Ka-27PS. SAR version (NATO Helix-D).
• Ka-27M. Current upgraded version.

**Function:** ASW, SAR.

**Delivered:** 1979-91.

**Inventory:** approx 80 incl 60+ ASW (some non-airworthy).

**Accommodation:** three.

**Dimensions:** rotor diameter 52.2 ft, fuselage length 37.1 ft, height 17.7 ft.

**Weight:** max T-O 24,251 lb.

**Ceiling:** 11,500 ft.

**Performance:** max speed 180 mph, range 435 miles, patrol duration one hour, 25 minutes at 125 miles from base.

**Armament:** 1,323 lb (max 2,052 lb) of weapons and stores in heated bay, incl one APR-2, AT-1MV or UMG-1 torpedo; depth charges, sonobuoys.

Tu-142 • NATO reporting names: Bear-F, Bear-J

**Brief:** ASW and maritime patrol version of the Tu-95 Bear strategic bomber designed to operate at distances up to 2,500 miles from a shore base. The aircraft's Korshik (Black Kite) sensor system couples search radar, sonobuoys, and tactical-data presentation system. The aircraft's MAD sensor functions as an independent system. The most recent Tu-142MZ incorporates the newer Zarechye sonobuoy system and
An-2 • NATO reporting name: Colt
Brief: The partially fabric-covered An-2 biplane is the oldest type still in Russian air force service, and several dozen are retained to support airborne troops’ parachute jump-training (similar to the Air Force’s UV-18 Twin Otter).
Function: Utility.
Inventory: dozens.
Accommodation: two pilots, 12 passengers/paratroops.
Dimensions: rotor diameter 37.7 ft, length with rotors turning 44.4 ft.
Weight: max 7,280 lb.
Ceiling: 18,700 ft.
Performance: speed 171 mph, max range 316 miles.

Yak-130 • NATO reporting name: Mitten
Brief: New generation light-attack/trainer jointly developed by Yakovlev and Italy’s Aermacchi. The twin-jet, swept wing subsonic trainer boasts a high thrust-to-weight ratio and quadruple digital fly-by-wire control systems. The aircraft incorporates wingtip decoy launchers, and new radar and targeting pods are being developed to expand its combat capability. In addition to Russian air force orders, Russia is exporting Yak-130 versions to Algeria, Bangladesh, and Belarus. The VVS has orders to expand its combat capability. In addition to Russian air force orders, Russia is exporting Yak-130 versions to Algeria, Bangladesh, and Belarus.
Extant Variant: • Yak-130: Next generation fly-by-wire light-attack/trainer.
Function: Trainer.
Delivered: from February 2010.
Inventory: 65.
Accommodation: two pilots in tandem ejection seats.
Dimensions: wing span 32.3 ft, length 37.7 ft.
Weight: trainer configuration 15,935 lb, max 22,679 lb.
Ceiling: 37,730 ft.
Performance: speed 466 mph, normal range 684 miles, ferry 1,087 miles.
Armament: two underwing pylons for rocket pods/bombs.

L-39C Albatros
Brief: Czech-built single engine jet trainer introduced during the Soviet-era and still used as the Russian air force’s standard military pilot training platform, despite introduction of the Yak-130. The aircraft retains its 1970s avionics suite but uses new Bekas-03 radios. The original ejection seats are being gradually replaced by new Russian-built K-93 seats.
Function: Advanced trainer.
Inventory: approx. 150.
Accommodation: two pilots in tandem ejection seats.
Dimensions: length 39.8 ft, wing span 31.0 ft.
Weight: max 10,362 lb.
Ceiling: 37,730 ft.
Performance: speed 466 mph, normal range 684 miles, ferry 1,087 miles.
Armament: dozens.

Tu-142MR Bear-J
Brief: Long-range ASW.
Function: Long-range ASW.
Delivered: 1968-94.
Inventory: approx 20 of all versions.
Accommodation: two pilots, two navigators, navigator/weapons-system operator, three mission system operators, technician, rear gunner, and ECM operator on equipped airframes.
Dimensions: span 164.2 ft, length 174.2 ft, height 44.7 ft.
Weight: max T-O 407,885 lb.
Performance: max speed 531 mph, speed 457 mph, range 7,456 miles, patrol duration four hours, 10 minutes at 2,500 miles from base.
Armament: 9,700 lb (max 19,800 lb) in two fuselage bays. Options incl three APR-3, APR-2, AT-2M or UMG1 torpedoes, depth charges (incl nuclear ones), mines, and sonobuoys.

ACRONYMS
AE aeromedical evacuation
AESA active electronically scanned array
AGM air-to-ground missile
ALCM air launched cruise missile
ASW anti-submarine warfare
CAS close air support
CBL cluster bomb unit
COIN counterinsurgency
CSAR combat search and rescue
ECM electronic countermeasures
ELINT electronic intelligence
EO electro-optical
EW electronic warfare
FIR forward looking infrared
GBU guided bomb unit
HMS helmet-mounted sight
INs inertial navigation system
IR infrared
IRST infrared search and track
LCD liquid crystal display
LCM Liquid Crystal Monitor
LORAN long range navigation
MAD Magnetic Anomaly Detector
MLU midlife upgrade
MUW multiple underwing
NAS National Airspace System
NAV Electro-Optical System
NATO North Atlantic Treaty Organization
NOE Noise of Enemy
ODD Operation Desert Shield
OE Operational Effectiveness
OPER Operation
OIR Operation Inherent Resolve
OSI Optics System
PSM Precision Strike Munition
R2T Reconnaissance, Target Acquisition, and Tracking
RIM-116 Rolling Airframe Missile
RLO Radar Warning Receiver
SAM surface to air missile
SAR search and rescue
SATN satellite navigation
SEAD suppression of enemy air defenses
SINS strapdown inertial navigation system
SLAR side looking airborne radar
SLAR side looking airborne radar
SMC Special Mission Cargo
STOL short takeoff and landing
T-O takeoff
VLF very low frequency
VMF Russian navy (Voyenno-Morsky Flot)
WVS Russian air force (voyenno-Vozdushnye Sily)
WVO weapon systems officer