



## LIST OF RUSSIAN SPACE LAUNCH FAILURES SINCE DEC. 2010

Russia's once reliable fleet of space launch vehicles began a string of failures beginning in December 2010 that has created significant consternation in Russia's space program and brought about firings and reorganizations, but the failures continue. Following is a list, with links to SpacePolicyOnline.com articles where available.

- December 2010, Proton-Block DM, upper stage failure, three Russian GLONASS navigation satellites lost
- February 2011, GEO-IK2, Rokot-Briz, upper stage failure, Russian geodetic satellite stranded in transfer orbit
- August 2011, Ekspress AM-4, Proton-Briz, upper stage failure, Russian communications satellite stranded in transfer orbit
- [August 2011, Progress M-12M \(called Progress 44 by NASA\), Soyuz U-Fregat, third stage failure](#) due to clogged fuel line, Russian cargo spacecraft for International Space Station lost
- [November 2011, Phobos-Grunt, Zenit-Fregat, upper stage failure](#), Russian Mars-bound spacecraft stranded in Earth orbit
- [December 2011, Soyuz 2.1a, third stage failure](#), Russian Meridian military communication satellite lost
- [August 2012, Proton-Briz, upper stage failure](#), Russian Ekspress-MD2 and Indonesian Telkom-3 communications satellites stranded in transfer orbit
- [December 2012, Proton-Briz, upper stage failure](#), Russian Yamal 402 communications satellite delivered to wrong orbit.
- January 2013, Rokot-Briz KM, upper stage failure. Three Russian Strela military communications satellites incorrectly placed into orbit; one (Kosmos 2483) nonfunctional.
- [February 2013, Zenit-3SL Sea Launch](#), first stage hydraulic pump failure, Intelsat-27 communications satellite lost
- [July 2013, Proton-M failure](#) immediately after launch due to [incorrectly installed angular velocity sensors](#), three Russian GLONASS navigation satellites lost
- [May 2014, Proton-M failure](#), [failed bearing in third stage steering engine](#), Russian Ekspress-AM4R communications satellite and Briz upper stage lost (replacement for Ekspress-AM4 satellite lost in August 2011)
- [August 2014, Soyuz ST-B/Fregat malfunction](#) due to [frozen hydrazine](#) left two European Galileo navigation satellites in wrong orbit (launch was by Arianespace from Kourou, French Guiana)
- [April 2015, Soyuz 2.1a malfunction](#) at time of separation from Progress M-27M spacecraft, a cargo mission to ISS (NASA calls it Progress 59). Spacecraft placed in wrong orbit, made uncontrolled reentry over Pacific Ocean May 7, 2015 EDT. Investigation determine cause was "[design peculiarity](#)."
- (list continues on next page)

- [May 2015, Proton-M/Briz-M failure, design flaw in turbopump](#) of third stage steering engine. Mexican MexSat-1 (Centenario) lost.
- [December 2015, Soyuz 2.1v Volga upper stage failure](#), military Kanopus-ST satellite lost
- **June 9, 2016** – not a Proton launch failure (the Intelsat 31 satellite successfully reached orbit), but problems with the second stage resulted in an investigation that grounded all Proton launches for almost a year after manufacturing defects were found in the second and third stage engines [see [Anatoly Zak's account](#) on RussianSpaceWeb.com for details].
- [December 2016, Soyuz-U, malfunction during third stage operation](#), Progress MS-04 cargo spacecraft lost due to third stage engine failure (fire in the oxidizer pump)
- [November 2017, Soyuz 2.1b/Fregat](#), Meteor M2-1 weather satellite and 18 cubesats lost apparently due to incorrect programming of navigation equipment on the Fregat upper stage.
- [October 2018, Soyuz FG](#), Soyuz MS-10 crew launch to ISS. Strap-on collided with core stage approximately 2 minutes after liftoff instead of separating due to human error when mating the strap-on to the rocket (separation pin was bent). Automated systems instantly separated the crew capsule carrying Russian cosmonaut Aleksey Ovchinin and NASA astronaut Nick Hague and it landed safely.