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Flying with your JetForce Avalanche Backpack?

The following regulatory information is intended as guidance for airline passengers who intend to fly with their JetForce Avalanche Backpack and any spare batteries aboard domestic or international commercial airline flights. The JetForce Avalanche Backpack and spare batteries are permitted to be carried by passengers aboard aircraft according to US and international air transport regulations if the guidance in this document is followed. The JetForce Avalanche Backpack is considered a consumer electronic device when the battery is installed in the backpack. The JetForce Avalanche backpack does NOT contain any compressed gas cylinder or explosives. Please present this explanation if questioned by your carrier or by ground security.

While you should not have problems taking your JetForce backpack onto commercial flights, security personnel and the airlines have the ultimate say about what is allowed through security and onto an aircraft.

Relevant JetForce specifications:

JetForce Avalanche Backpacks inflate using an electric fan that is powered by a lithium ion battery having a watt-hour rating of 43.2 or 57.6 Watt hours depending on the year of manufacture.

pre-2016: 43.2 Wh.
2016-2017: 57.6 Wh.

JetForce Avalanche Backpacks do not contain compressed gas cartridges, explosives or explosive triggers (squibs).

TSA Regulations

Avalanche backpacks are not on the TSA's list of prohibited items. The JetForce Avalanche Rescue Backpack is not a vehicle airbag.

https://www.tsa.gov/travel/security-screening/prohibited-items

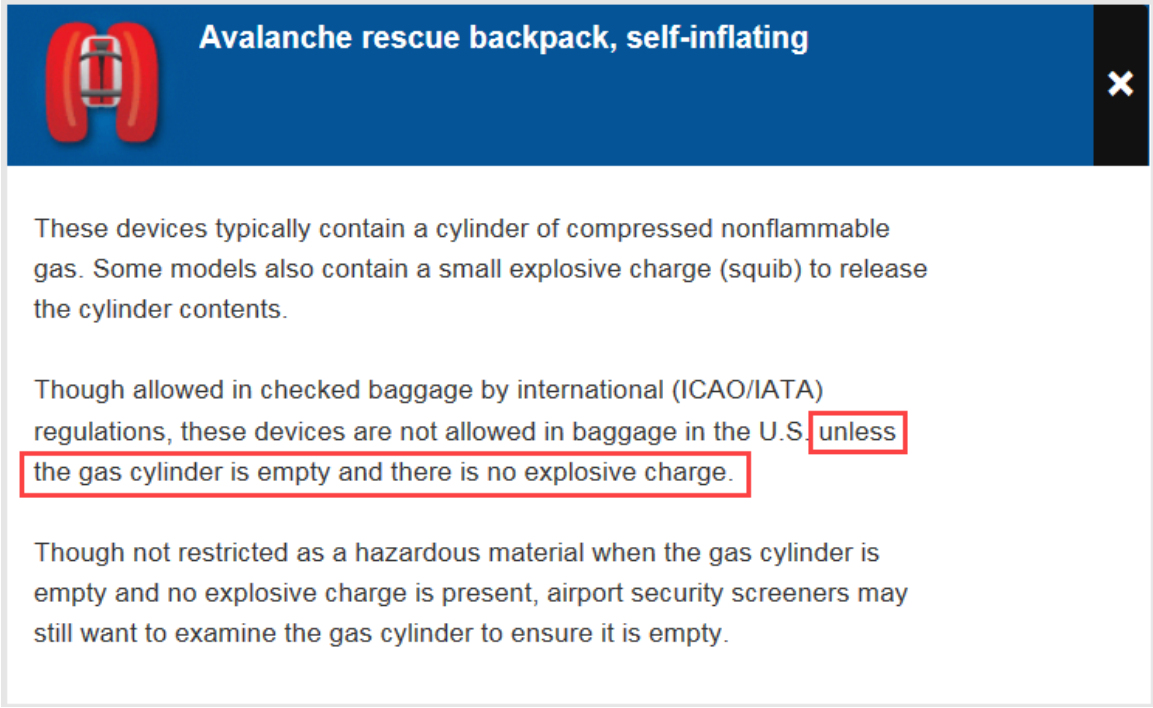
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FAA Regulations

FAA's Hazardous Materials Regulations state that avalanche rescue backpacks are not allowed in baggage in the U.S. unless the gas cylinder is empty and there is no explosive charge. JetForce Avalanche Airbags do NOT contain a compressed gas cartridge, an explosive charges or an explosive trigger (squib).

Spare lithium ion batteries must be in carry-on baggage and cannot be in checked baggage.

See the image and link below.



http://www.faa.gov/about/initiatives/hazmat_safety/

JetForce Avalanche Airbags do NOT contain any compressed gas cylinder or any explosive charge.

The regulated component in a JetForce Avalanche Airbag is the lithium ion battery. The FAA has specific requirements for transporting lithium ion batteries on commercial airlines. Please refer to the following website for full details.

https://www.faa.gov/about/office_org/headquarters_offices/ash/ash_programs/hazmat/passenger_info/media/Airline_passengers_and_batteries.pdf

Batteries Carried by Airline Passengers

Frequently Asked Questions

Q1. What kinds of batteries does the FAA allow in carry-on baggage (in the aircraft cabin)?

A1. *For carry-on baggage checked at the gate or planeside, see Q2, below.* Passengers can carry most consumer-type batteries and portable battery-powered electronic devices for their own personal use in carry-on baggage. Spare batteries must be protected from damage and short circuit. Battery-powered devices must be protected from accidental activation and heat generation. Damaged or recalled batteries, including when in a device, must not be carried. **Batteries allowed in carry-on baggage include**:

- **Lithium ion batteries** (a.k.a.: rechargeable lithium, lithium polymer, LIPO, secondary lithium). Passengers may carry all consumer-sized lithium ion batteries (up to 100 watt hours per battery). This size covers AA, AAA, cell phone, PDA, camera, camcorder, handheld game, tablet, portable drill, and standard laptop computer batteries. The watt hours (Wh) rating is marked on newer lithium ion batteries and is explained in #3 below. External chargers are also considered to be a battery.

  With airline approval, devices can contain larger lithium ion batteries (101-160 watt hours per battery), but spares of this size are limited to two batteries in carry-on baggage only. This size covers the largest aftermarket extended-life laptop batteries and most lithium ion batteries for professional-grade audio/visual equipment.

Q2. What kinds of batteries does the FAA allow in checked baggage (including gate-checked bags)?

A2. Except for spare (uninstalled) lithium metal and lithium-ion batteries, all the batteries allowed in carry-on baggage are also allowed in checked baggage. The batteries must be protected from damage and short circuit or installed in a device. Battery-powered devices—particularly those with moving parts or those that could heat up—must be protected from accidental activation. **Spare lithium metal and lithium ion/polymer batteries are prohibited in checked baggage—this includes external battery packs. Electronic cigarettes and vaporizers are also prohibited in checked baggage. "Checked baggage" includes bags checked at the gate or planeside.**

Batteries Allowed in Airline Passenger Baggage in the US

Sep 9, 2016

Based on US DOT regulations (49 CFR, Sec. 175.10). TSA security, individual airline, and international rules may, at times, be more restrictive.

Type of Battery There is no limit to the number of batteries or devices carried for personal use unless specified below.	**Allowed in carry-on baggage?**		**Allowed in checked[1] baggage?**	
	In equipment[2]	**Spares**	**In equipment**	**Spares**
Lithium ion (rechargeable lithium, lithium polymer, LIPO) as used in small consumer electronics, such as cell phones, tablets, tools, cameras, PDAs, and laptops. Limited to 100 watt hours[3] or less per battery. 	**YES**	**YES** When protected from damage and short circuit	**YES** *E-cigarettes and vaporizers are prohibited in checked baggage.*	**NO**

JetForce Avalanche Backpack lithium ion batteries have a watt-hour rating between 58 - 43 Watt hours depending on the year of manufacture (pre-2016: 43.2 Wh. 2016-2017: 57.6 Wh.).

IATA (International Air Transport Association) regulations do cover the transport of avalanche rescue packs and electronic devices.

Dangerous Goods Regulation, 57th EDITION (2016)

TABLE 2.3.A

Provisions for Dangerous Goods Carried by Passengers or Crew

(Subsection 2.3)

TABLE 2.3.A Provisions for Dangerous Goods Carried by Passengers or Crew (Subsection 2.3)

Dangerous goods must not be carried in or as passengers or crew, checked or carry-on baggage, except as otherwise provided below. Dangerous goods permitted in carry-on baggage are also permitted "on one's person", except where otherwise specified.

	The approval of the operator is required	Permitted in or as checked baggage	Permitted in or as carry-on baggage	The pilot-in-command must be informed of the location
Alcoholic beverages, when in retail packagings, containing more than 24% but not more than 70% alcohol by volume, in receptacles not exceeding 5 L, with a total net quantity per person of 5 L.	NO	YES	YES	NO
Ammunition (cartridges for weapons), securely packaged (in Div. 1.4S, UN 0012 or UN 0014 only), in quantities not exceeding 5 kg gross weight per person for that person's own use. Allowances for more than one person must not be combined into one or more packages.	YES	YES	NO	NO
Avalanche rescue backpack, one (1) per person, containing a cartridge of compressed gas in Div. 2.2. May also be equipped with a pyrotechnic trigger mechanism containing less than 200 mg net of Div. 1.4S. The backpack must be packed in such a manner that it cannot be accidentally activated. The airbags within the backpacks must be fitted with pressure relief valves.	YES	YES	YES	NO
Batteries, spare/loose, including lithium metal or lithium ion cells or batteries, for portable electronic devices must be carried in carry-on baggage only. These batteries must be individually protected to prevent short circuits.	NO	NO	YES	NO
Lithium Batteries: Security-type equipment containing lithium batteries (see 2.3.2.6 for details).	YES	YES	NO	NO
Lithium Batteries: Portable electronic devices containing lithium metal or lithium ion cells or batteries, including medical devices such as portable oxygen concentrators (POC) and consumer electronics such as cameras, mobile phones, laptops, tablets and power banks, when carried by passengers or crew for personal use (see 2.3.5.9). Batteries must not exceed 2 g for lithium metal batteries and 100 Wh for lithium ion batteries.	NO	YES	YES	NO
Lithium batteries, spare/loose with a Watt-hour rating exceeding 100 Wh but not exceeding 160 Wh for consumer electronic devices and PMED or with a lithium content exceeding 2 g but not exceeding 8 g for PMED only. Maximum of two spare batteries in carry-on baggage only. These batteries must be individually protected to prevent short circuits.	YES	NO	YES	NO
Lithium battery-powered electronic devices. Lithium ion batteries for portable (including medical) electronic devices, a Wh rating exceeding 100 Wh but not exceeding 160 Wh. For portable medical electronic devices only, lithium metal batteries with a lithium content exceeding 2 g but not exceeding 8 g.	YES	YES	YES	NO

Avalanche Rescue Backpacks are allowed on aircraft pending the approval of the operator.

JetForce airbags packs do not have pressure relief valves because the bags are open systems and cannot overpressure.

The Lithium Battery in a JetForce avalanche rescue backpack is rated at 57.6 Watt-Hours or less.

2.3.5.9 Portable Electronic Devices (Including Medical Devices) containing Batteries

Portable electronic devices, which may include medical devices such as portable oxygen concentrators (POC) and consumer electronics such as cameras, mobile phones, laptops, tablets and power banks containing batteries when carried by passengers or crew for personal use, which should be carried in carry-on baggage. Spare batteries must be individually protected to prevent short circuits by placement in the original retail packaging or by otherwise insulating terminals, e.g. by taping over exposed terminals or placing each battery in a separate plastic bag or protective pouch and carried in carry-on baggage only. In addition, lithium batteries are subject to the following conditions:

(a) each installed or spare battery must not exceed:

1. for lithium metal or lithium alloy batteries, a lithium content of not more than 2 g; or
2. for lithium ion batteries, a watt-hour rating of not more than 100 Wh.

(b) batteries and cells must be of a type that meets the requirements of the UN Manual of Tests and Criteria, Part III, subsection 38.3;

(c) articles containing lithium metal or lithium ion cells or batteries, the primary purpose of which is to provide power to another device, e.g. power banks, are permitted in carry-on baggage only. These articles must be individually protected to prevent short circuits by placement in the original retail packaging or by otherwise insulating terminals, e.g.by taping over exposed terminals or placing each battery in a separate plastic bag or protective pouch;

(d) electronic cigarettes containing lithium batteries are permitted in carry-on baggage only (see 2.3.5.17);

(e) if devices are carried in checked baggage the passenger/crew member must take measures to prevent unintentional activation.

2.3.4.3 Avalanche Rescue Backpack

STATE VARIATIONS: USG-02

One avalanche rescue backpack per person containing a cartridge of compressed gas in Division 2.2 without a subsidiary risk. The avalanche rescue backpack may also be equipped with a pyrotechnic trigger mechanism containing not more than 200 mg net of explosives in Division 1.4S. The backpack must be packed in such a manner that it cannot be accidentally activated. The air bags within the backpacks must be fitted with pressure relief valves.

The JetForce Avalanche Rescue Backpack does not contain a compressed gas cylinder or a pyrotechnic trigger mechanism.

All spare batteries, including lithium metal or lithium ion cells or batteries, for such portable electronic devices must be carried in carry-on baggage only. These batteries must be individually protected to prevent short circuits.

YES	**Permitted in or as carry-on baggage**
NO	Permitted in or as checked baggage
YES	**Permitted on one's person**
NO	The approval of the operator(s) is required
NO	The pilot-in-command must be informed of the location

The Black Diamond JetForce Avalanche Rescue Backpack (also referred to as an Avalanche Airbag) is not a Class 9 electronically initiated automotive safety device, UN 3268 (previously or commonly referred to as an airbag).

Japan Airlines

The rules for carrying an electronic device onto a Japan Airlines flight, taken from the following link (http://www.jal.com/en/safety/airport/baggage.html), are listed below.

Items	Requirement	Quantity		Carry-on	Checked
		Per Container	Per Person		
Electronic Devices with Built-in Lithium or Lithium Ion Batteries such as Watch, Calculator, Camera, Mobile Phone, Computer, Video Camera, etc.)	Less than 2g of lithium in lithium batteries			○	○
	More than 2g			×	×
	Less than 160Wh in lithium ion batteries			○	○
	More than 160Wh			×	×
Spare Lithium Batteries (disposable)	Less than 2g of lithium *Protected individually(*1) to prevent short circuits			○	×
	More than 2g			×	×
Spare Lithium Ion Batteries (rechargeable)	Less than 100Wh *Protected individually(*1) to prevent short circuits			○	×
	100Wh to 160Wh *Protected individually(*1) to prevent short circuits.		2	○	×
	More than 160Wh			×	×

(*1) "Protected individually" means that it is packed in the retail package at the time of purchase or to isolate the terminal (protect bare terminals with tape, store batteries individually in a plastic bag or protection pouch, etc).

CERTIFICATIONS:

- The JetForce Avalanche Backpack has been certified by TUV SUD Product Services GmbH according to the PPE Directive 89/686/EEC and to prEN 16716, Certificate No. P6 14 09 48703 017 and P6 16 08 48703 022.

Check the label on your JetForce battery label to determine the Watt-Hour rating.



43.2 Watt Hour batteries:

- The JetForce Avalanche Backpack Battery has passed testing according to IEC 62133 (ed.2) by TÜV SÜD Battery Testing GmbH, Report No. BE99307004104.
- The JetForce Avalanche Backpack Battery has passed testing according to UN38.3. by TÜV SÜD Battery Testing GmbH, Report No. BE99307004164.

57.6 Watt Hour batteries:

- The JetForce Avalanche Backpack Battery has been certified to IEC 62133 (ed.2) by UL (Demko), DENMARK, Certificate No. DK-49821-UL.
- The JetForce Avalanche Backpack Battery has passed testing according to UN38.3. by UL International Polska, Certificate No. 20151013-4787066869-8INR19/66.

NOTE:

If necessary, the battery can be disconnected from the electrical system. Removing the battery should not be necessary because the system cannot deploy unless it is turned on; however, the final decision rests with the TSA officer on whether an item is allowed through the checkpoint, and the final decision rests with airline personnel on whether an item is allowed onto an aircraft, so be prepared to disconnect the battery if they insist.

Disconnecting the battery from the control module requires a #1 or #2 phillip's screw driver.



1. Unzip the main cargo compartment. The battery compartment is in the bottom of the pack.

2. Locate the battery compartment, open the zipper and remove the battery and control module.

3. Remove the two screws and separate the battery from the control module.

4. Place tape over the battery contact area to ensure that the battery contacts will not touch any metal during transport.



5. After arriving at your destination, re-attach the battery and turn the system on briefly to check the battery status and perform a self-diagnosis according to the JetForce Backpack Instructions For Use.