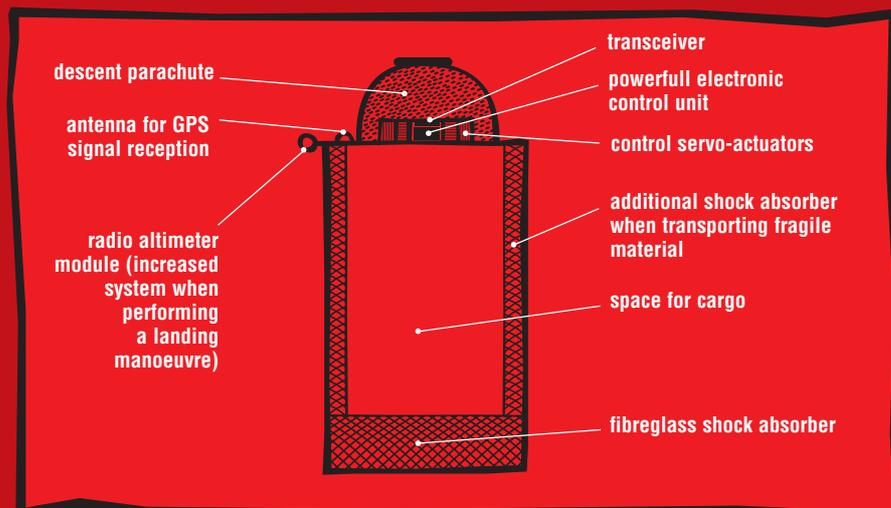
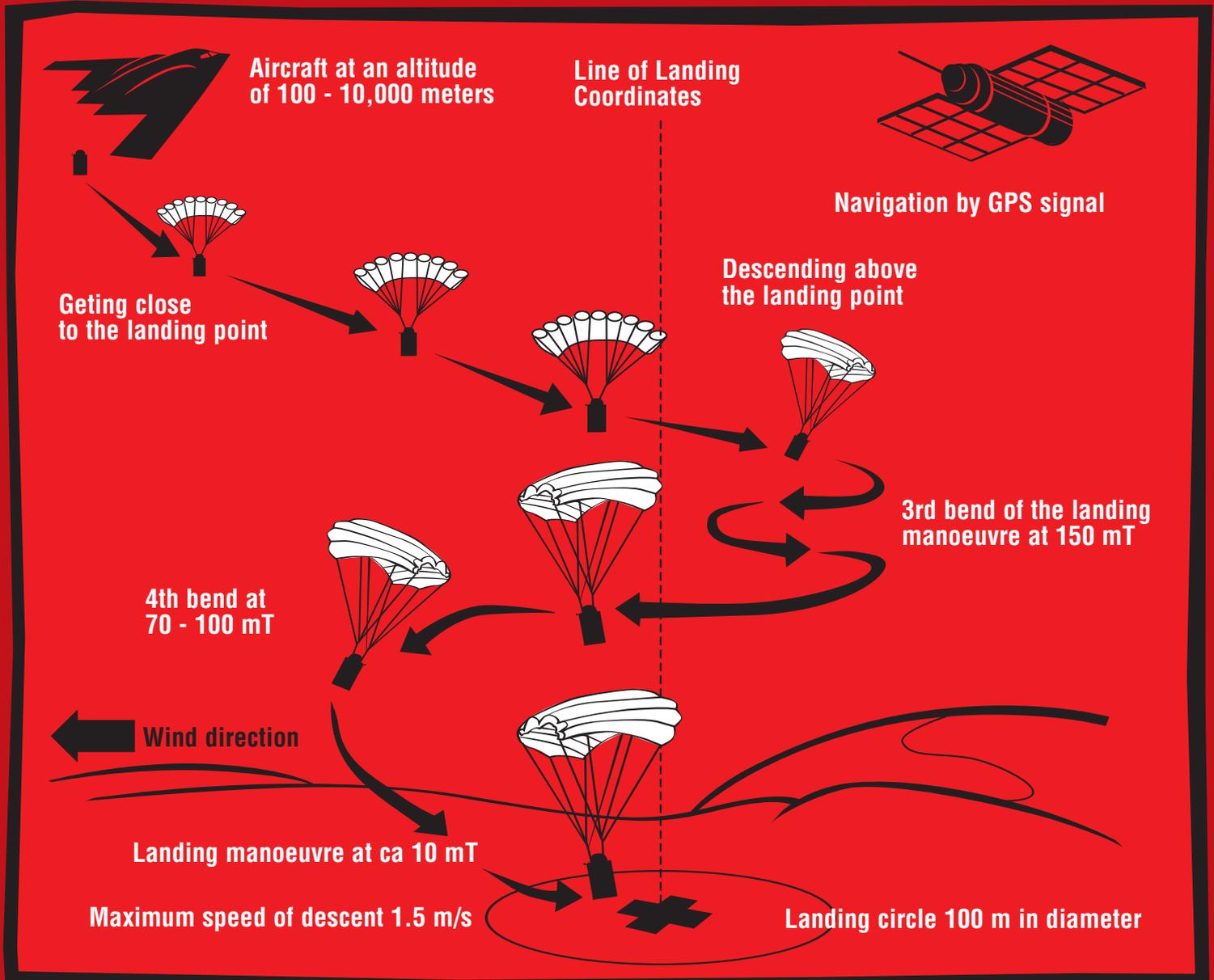


TL-6424-CDD AUTONOMOUSLY GUIDED PRECISION AIRDROP SYSTEM

AmPad[®]

PARAFOIL AIR DELIVERY SYSTEM FOR MILITARY AND HUMANITARIAN PURPOSES

- supplies the military troops with a possibility to drop the containers without getting in contact with an enemy
- provides material supply or transport to inaccessible places
- helps in supply actions when natural disasters, i.e. when suitable transfer nodes such as harbours or airports for classical aircrafts are absent



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TL-6424-CDD ANTONOMOUSLY GUIDED PRECISION AIRDROP SYSTEM **AmPad**[®]

Air Delivery System's characteristics

the system enables a targeted supply to inaccessible places e.g. mountains or vast forests by using the GPS coordinates or 3 radio beacons situated in triangle

the system enables to supply the military troops by dropping the containers from high altitudes, out of reach of enemies or guided missiles

the parachute incorporates a smart communication system among the dropped containers that coordinates a drop order of the others according to their position, altitude and real-time wind conditions

the system enables to the operator on earth to amend the container airdrop point by using a radio terminal and also to monitor the number of parachutes and the location of their intended impact point

the system enables to measure the altitude by means of a radio altimeter, and thus to amend a dropping speed when uneven surface

the communication system is secured from any abuse of enemies or any unauthorised persons by a special coded algorithm developed in our company

Advantages of the Air Delivery Systems

the system enables to supply from high altitudes in comparison with current systems, which enable only unguided airdrop deliveries under low transits that means a high risk for the aircraft and its crew if in contact with an enemy or in case of bad weather conditions

the system enables economical savings compared to the supply by helicopters, which are economically more demanding and their operational reach is limited this system is reusable and is possible to be dropped from the aircrafts with higher economy of operation the system has been designed for a general unqualified civil aircraft staff (the qualifications are replaced by an intelligent control module system)

the container with the descent parachute, servo-actuators, control module, radio beacon etc. make one separate part which can be easily connected by the bayonet sockets to any other suitable cargo e.g. an unpiloted aircraft, return spacecraft of a reconnaissance satellite etc.)

system's weight has been designed to enable an easy manipulation with the containers without using any material handling machines and to match with commonly used aircrafts.



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Technical specifications of the system

Container for the transported cargo

It has been designed for a transported cargo capacity of 200 litres and the weight up to 200 kg. Container's structural frame ensures a maximum mechanical strength. In its bottom part there is a fiber glass absorber of landing shocks attached to the bayonet sockets. Specially modified fiberglass effect high absorption of the impact force. For fragile cargo transport it is possible to use, in addition, a supplementary shock absorber, which enables to transport even very fragile items if the cargo hold is decreased by 20%.

Antenna

Receives GPS signal transmission, a signal from the ground terminals. Besides, it transmits radio signals for easier container's identification on the ground. The antenna with a visual signalization strobe light is covered by a transparent housing.

GPS module

Processes a GPS signal, analyses the data on position and transmits this information to the electronic control unit.

Radio altimeter module

In case some fragile items are to be transported, a radio altimeter together with the electronic control unit performs an accurate landing manoeuvre.

Powerfull electronic control unit

Processes information on position, altitude, position of other containers and 3 ground radio beacons situated in triangle. Analyses current flight attitude and steers the descent trajectory.

Servo-actuators

Control the trailing edge of the descent parachute by a parachute line, and thus they enable a change of the flight attitude.

Descent parachute

Ensures that the cargo transport to a designed place is in a planned descent curve.

Static line

Provides an activation of a drogue parachute after the system is dropped from an aircraft

Technical parameters of the Air Delivery System

- max. weight of transported material up to 250, 500 and 1000 kg
- weight of a composite container itself up to 5 kg
- weight of a disposable removable fiberglass
- shock absorber up to 2 kg
- weight of a removable cargo pod with a parachute, electronic control unit, accumulator and servo-actuators ca 10 kg
- vertical landing speed up to 0.5 m/s
- a wing-shaped parachute has a glide ratio of 1:3
- the control system enables to control the parachute in all axes, i.e. turning, speeding-up, braking.
- landing accuracy within a 50- till 100-metre radius according to the given coordinates or 3 radio beacons situated in triangle.
- reach of the communication terminals to provide a soft landing and a smart guidance of airdrop up to 10 km
- reach of a search radio beacon up to 50 km
- measurement range of a radio altimeter up to 300 meter
- the system enables to an automatic system upgrade for different usage via **sModern**[®]
- the system enables communication among the terminals and among the individual Air Delivery
- Systems by using of an **iFamily**[®] communication protocol
- the system enables to record the flight history with the help of **Scheck**[®] method in order to provide a long-term follow-up and system tuning