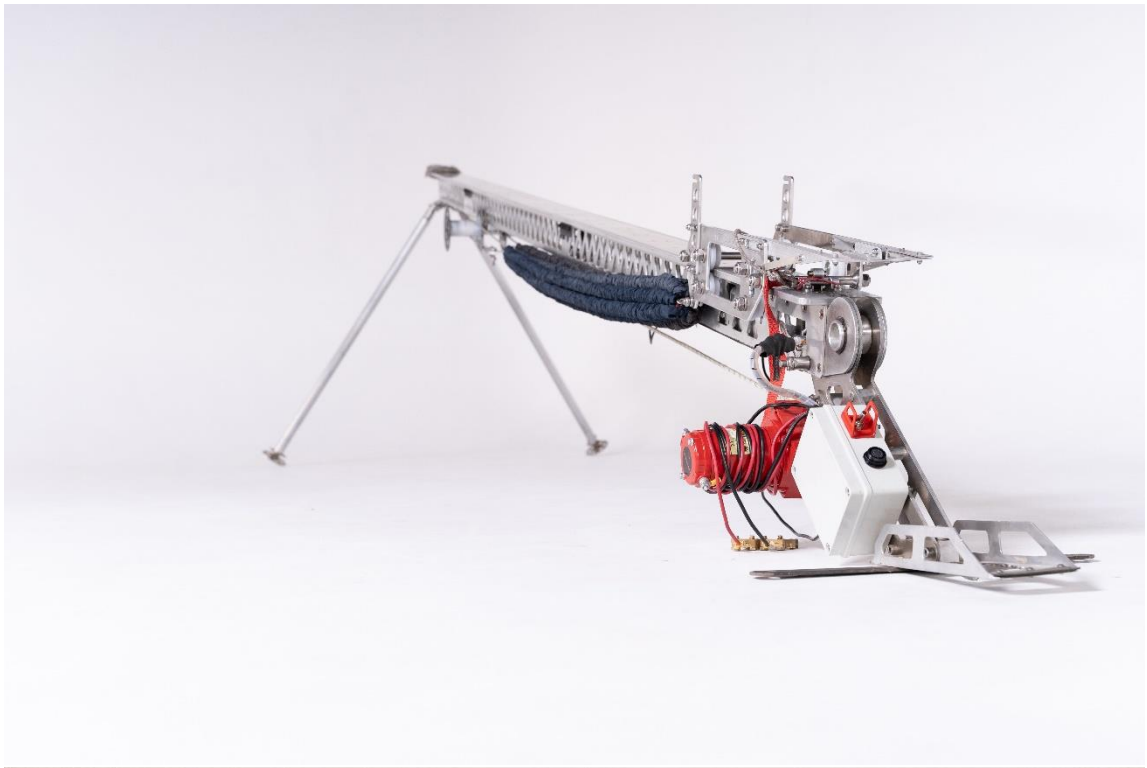
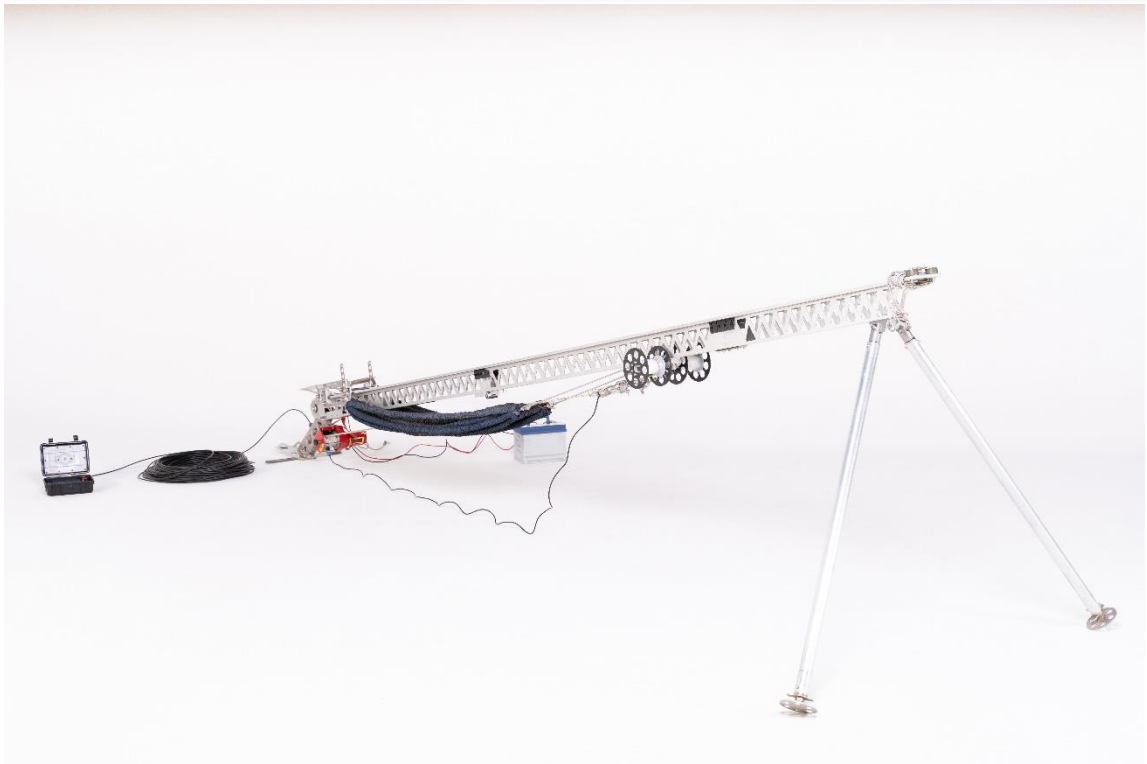
UKR SPEC _ systems

# UAV Launching System SCL-1A





## Purpose:

The ground launcher SCL-1A is a mechanism designed to launch from the ground an unmanned aerial vehicle (UAV) with a takeoff weight of up to 10 kg at a speed of up to 25 m / s (90 km / h).
GL SCL-1A able to launch UAVs from limited areas with ground cover, in different weather conditions, at any time of day, in the temperature range from -15 ° to + 40 ° C.

## Description:

Structurally, the launcher consists of a rail and a launcher installed on it. Latex harnesses are attached to the trolley, which are stretched through the unit by an electric winch to the required force. The ground launcher works autonomously and is powered by a lead-acid battery. The number of starts depends on the capacity of the battery, the state of its charge and the ambient temperature. Power supply of the installation from the car accumulator is allowed.
Control of start is carried out by the remote wire control panel up to 100 m long. Tension of plaits to the set effort can be carried out both in automatic, and in a manual mode. The level of tension of the harnesses is monitored by the indicator of the electronic dynamometer.
In the SCL-1A there is a possibility of compulsory emergency release of tension of plaits. When harnesses armed, the carriage with the launched UAV on it is countered by a safety pin, which is pulled out immediately before starting.

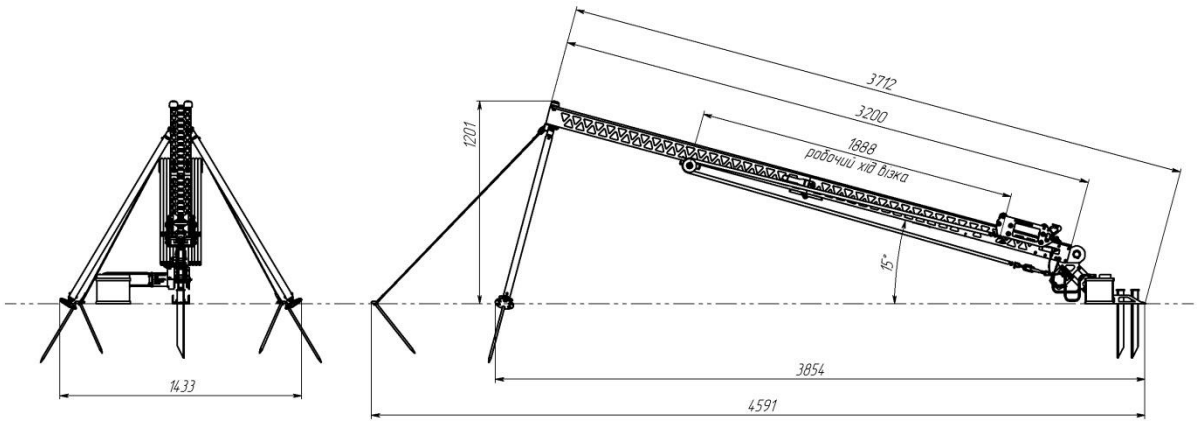



Fig. 1. General view of the launcher.

## Launcher technical data:

The general view of the launcher is shown in Fig. 1.

| | |
|---|---|
| Maximum weight of the launched UAV (with a speed of 25 m/s) | 10 kg |
| Maximum launch speed of the UAV | 25 m/s |
| Range of ambient working temperatures | -15°/+ 40°C |

| | |
|---|---|
| Launch angle of the rail relative to the ground | 12° |
| Length | 3,85 m |
| Width | 1,43 m |
| Height | 1,2 m |
| Overall length of the rail | 3,71 m |
| Carriage stroke | 1,89 m |
| Rail weight | 41 kg |
| Carriage weight | 2,75 kg |
| Launcher overall weight (including pegs, sling ropes, safety pin, battery and remote control) | 60 kg |

Technical characteristics of the control and power system:

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|---|---|
| Control panel weight | 0,5 kg |
| Control panel harness length | 100 m |
| Rated battery voltage | 12 V DC |
| Maximum battery capacity | 60 A*h |
| Maximum battery power | 6480 W |
| Maximum discharge current | 540 A |
| Maximum power of the electric winch | 670 W |
| Maximum traction force | 400 kgF |
| Average start interval | 15 m |
| Maximum number of starts on one battery charge | 9 |

Operational characteristics of GL:

| | |
|---|---|
| Time of assembly of the launcher | 15 m |
| Number of people to assembly the catapult | 2 |
| Minimum number of people to move LS boxes | 2 |
| Time of arming of harnesses and preparation for UAV launch | 15 m |
| Total weight of LS without transport box and auxiliary equipment | 65 kg |

## Transportation and storage:

GL SCL-1A is stored and transported in one box showed on fig. 2.

Fig. 2. Transport box of GL SCL-1A.

| | |
|---|---|
| GL box dimensions | 430x520x2020 mm (39 kg) |
| Total weight of GL with transport box | 100 kg |

Packing of GL in a box is shown in fig. 3.

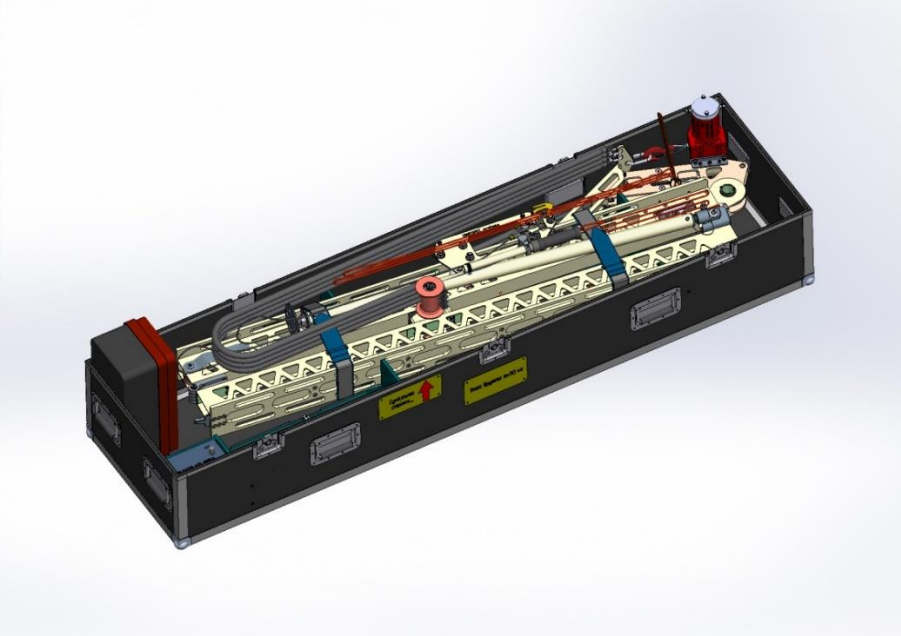

Fig. 3. Packing of GL SCL-1A.