

RYAN X-13 . AIRFRAME, SYSTEMS, AND EQUIPMENT :

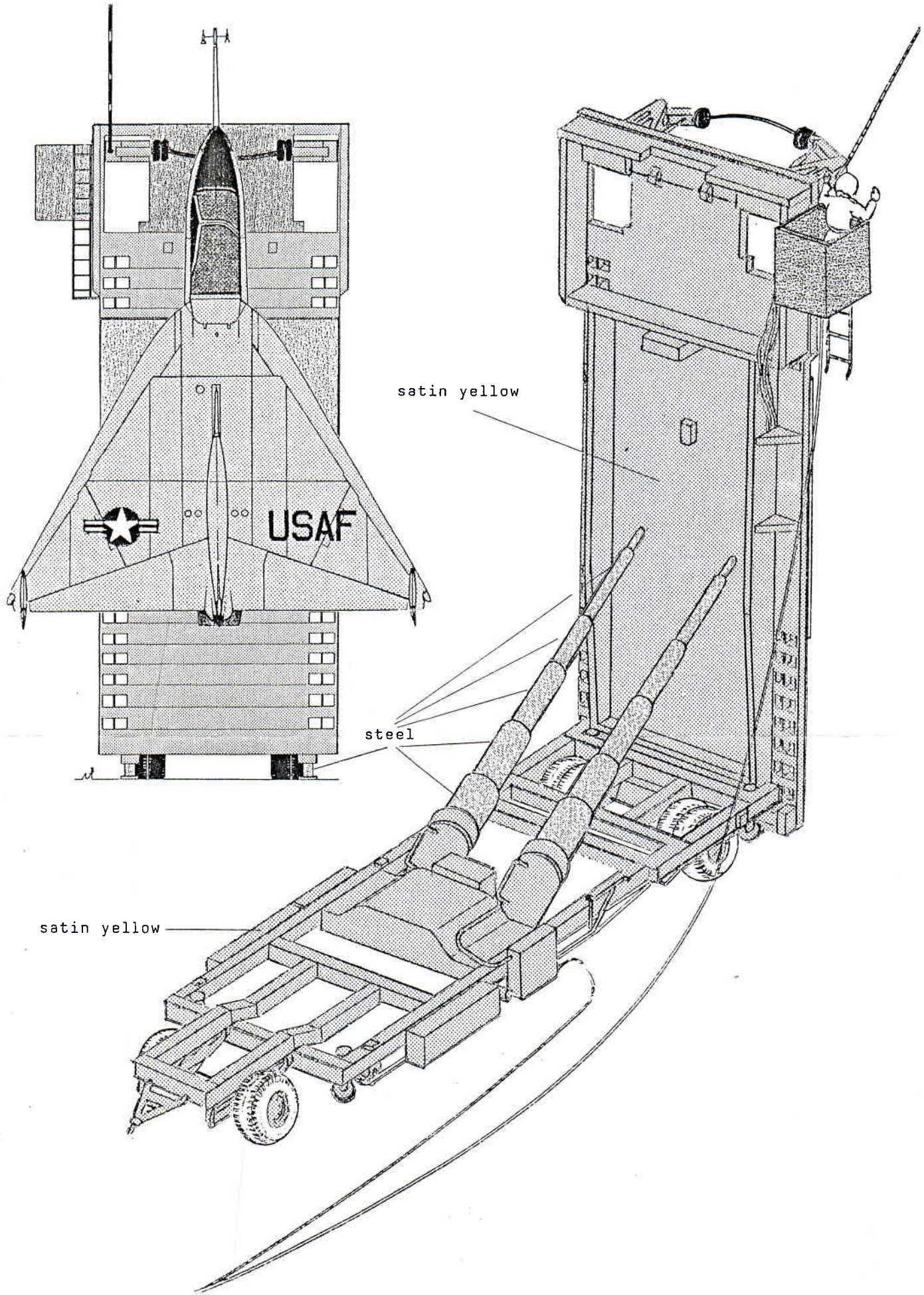
The X-13 was an all-aluminium aircraft with titanium structure in high-heat sink engine areas. In the VTOL mode it had no conventional landing gear, but instead mounted two small bumper skids on the fuselage along with a small retractable nose hook.

The latter supported the entire airplane from a short section of cable that normally was suspended between two mechanical arms attached to the articulated portion of a transportable flatbed trailer. This cable could also be suspended between any two strong, stationary objects such as large trees or poles. For trailer launching and retrieval, the flatbed of the trailer could be raised to a vertical position by two massive hydraulic rams. Once in this position, the X-13 could liftoff from the cable by rising vertically a few inches and hovering away from the trailer.

In order to enter the conventional horizontal flight mode, the X-13, following liftoff, accelerated vertically and as airspeed and altitude increased, began a pitch-over to horizontal flight.

Following completion of a mission, retrieval of the X-13 took place in just the opposite sequence. The airplane would decelerate and the nose would slowly pitch up to the vertical. As vertical attitude increased, so did the engine thrust (through pilot input). Eventually, the airplane was completely vertical once again, held in the air by the thrust of the engine.

Once the airplane was hovering just above ground level, a taxi procedure would slowly bring it to the trailer and its supporting cable. A ground observer, to help direct the X-13 to the cable, was situated in a cage mounted on the flatbed's upper left corner. Constant radio contact was maintained during this portion of the landing procedure. A 20-foot-long pole with colored dimensional markings, protruded horizontally from one side of the flatbed. As the X-13 neared the cable, the pilot could see this pole and thus judge his height and distance from the hook point. Additionally, specially designed attitude instrumentation inside the X-13's cockpit, along with a stability augmentation system, assisted in low-altitude hovering.



satin yellow

steel

satin yellow

Zur freundlichen Beachtung :

Das benutzte Epoxy-Material ist Hitzeempfindlich. Aus produktionstechnischen Gründen kann es durchaus vorkommen, daß Teile des Modells etwas verzogen sind.
Wir empfehlen : unter Wärmeeinwirkung (z.B. heißes Wasser) ein verzogenes Teil wieder gerade zu formen.
Anschließend für ca. 1Stunde unter Kälteeinwirkung fixieren (z.B. im Kühlschrank).

Epoxy-Teile kleben Sie bitte mit Epoxy-Kleber (UHU-Greenit, "TWIN", usw.).

For gluing Epoxy-parts please use adhesive or cyanocrylate glue, example UHU-Greenit, "TWIN", etc.