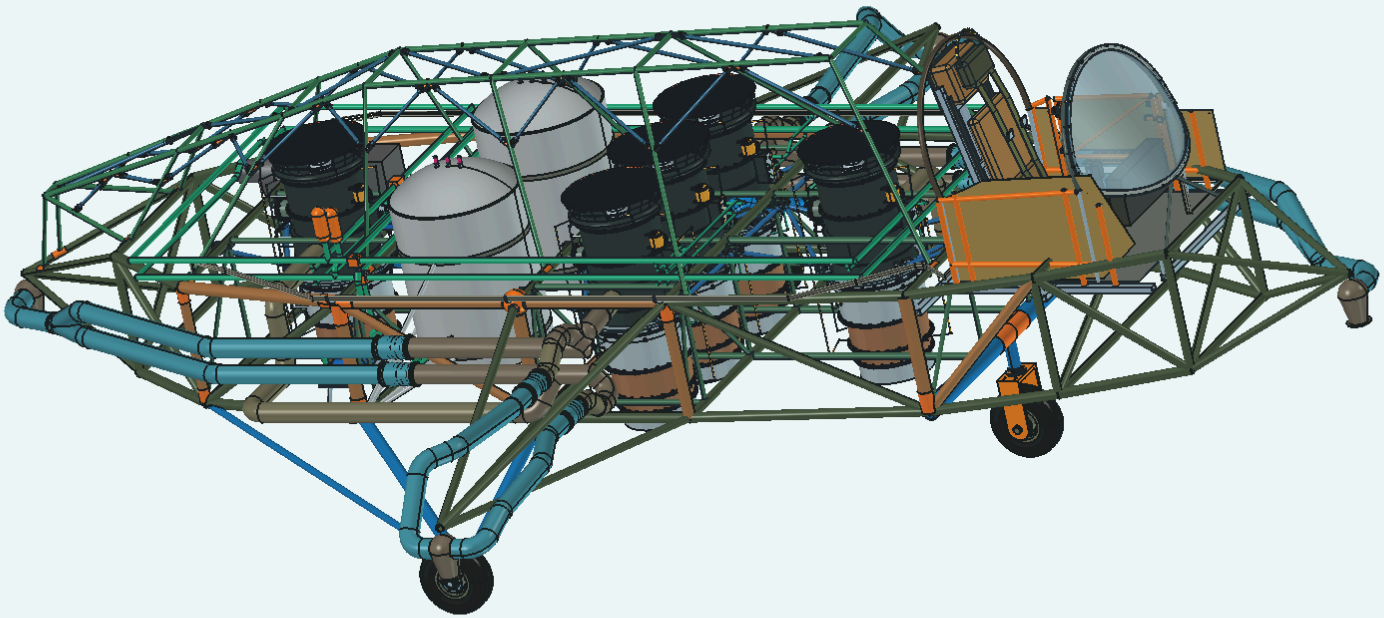
SG 1262 · H62

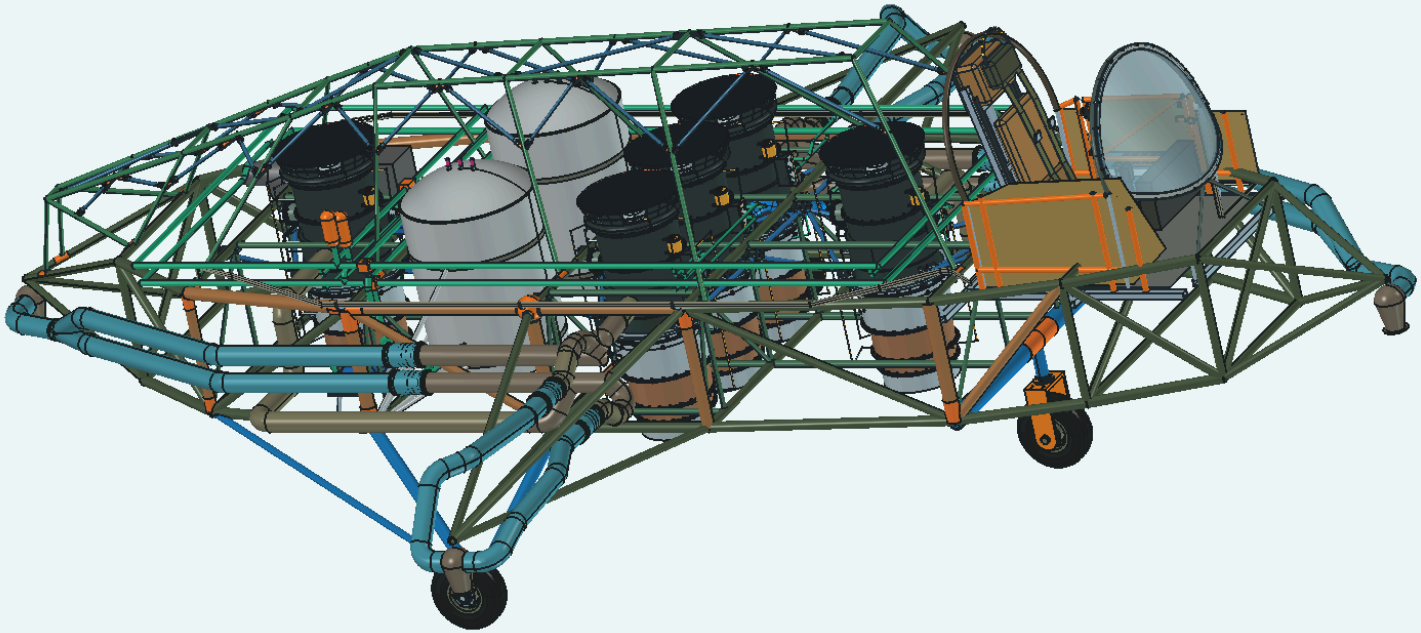
Engineering atlas

Experimental hovering rig. Layout, subsystem details and verification of revision H62.



01 Native overview

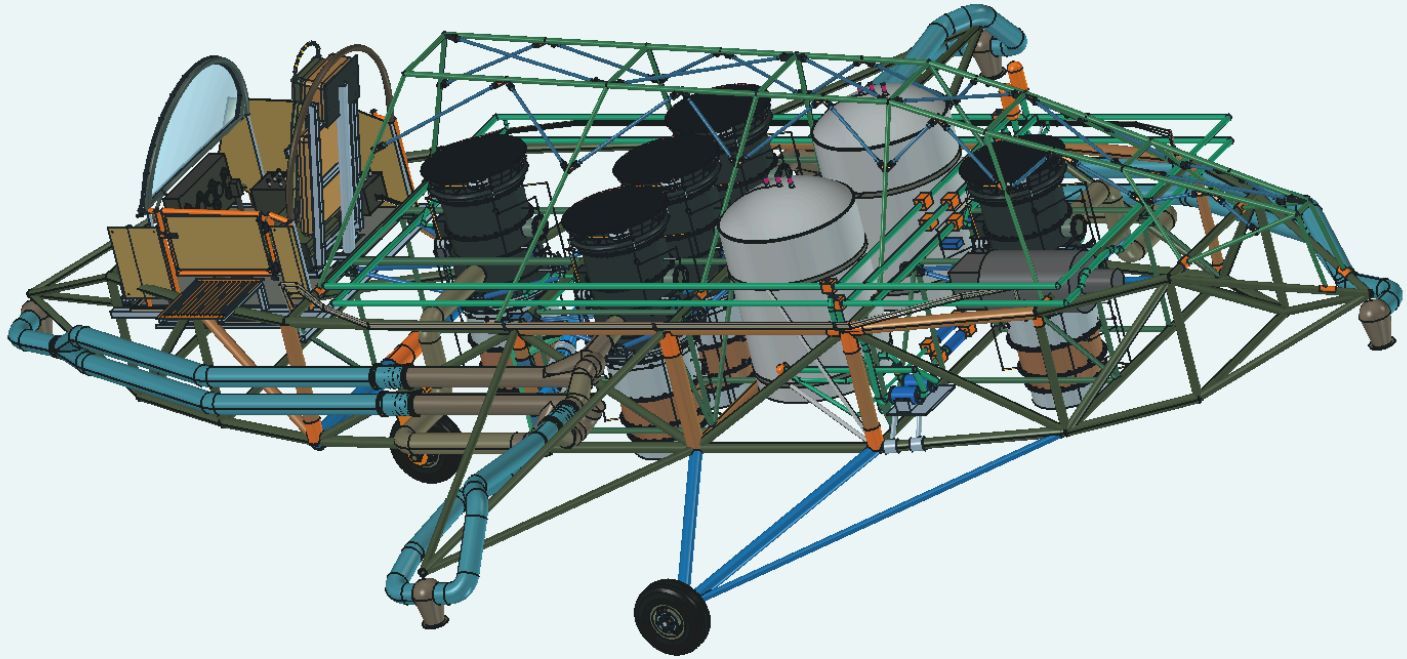
Front overview



The open frame carries five RB108 lift engines, the cockpit, two tanks, four reaction-control stations and three-point landing gear. Viewed from the nose.

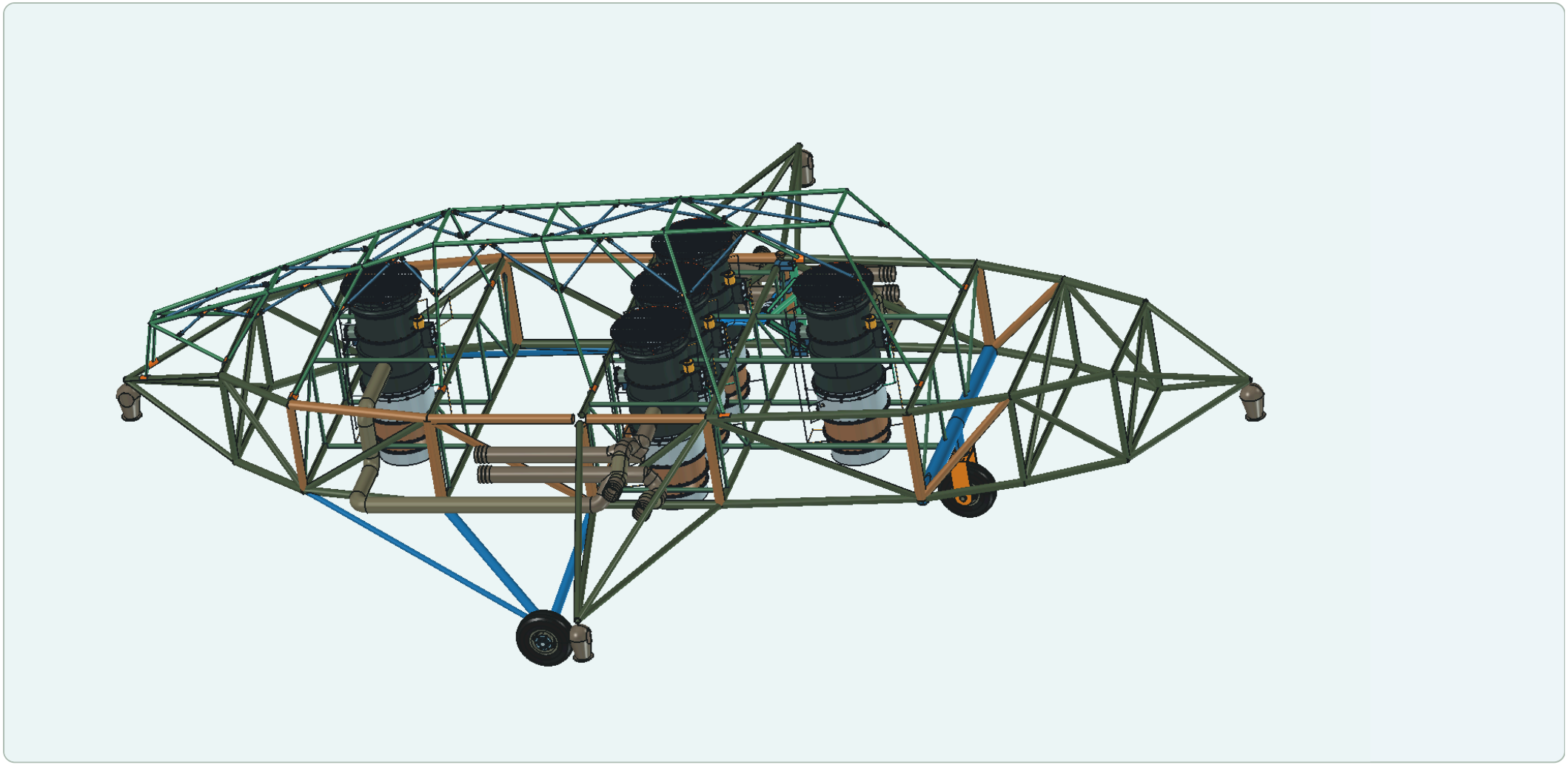
02 Native overview

Rear overview



The aft view exposes the tail nozzle, the outriggers and the engine layout. The scene retains all four nozzles. Their relative positions are clearer on the reaction-control sheet.

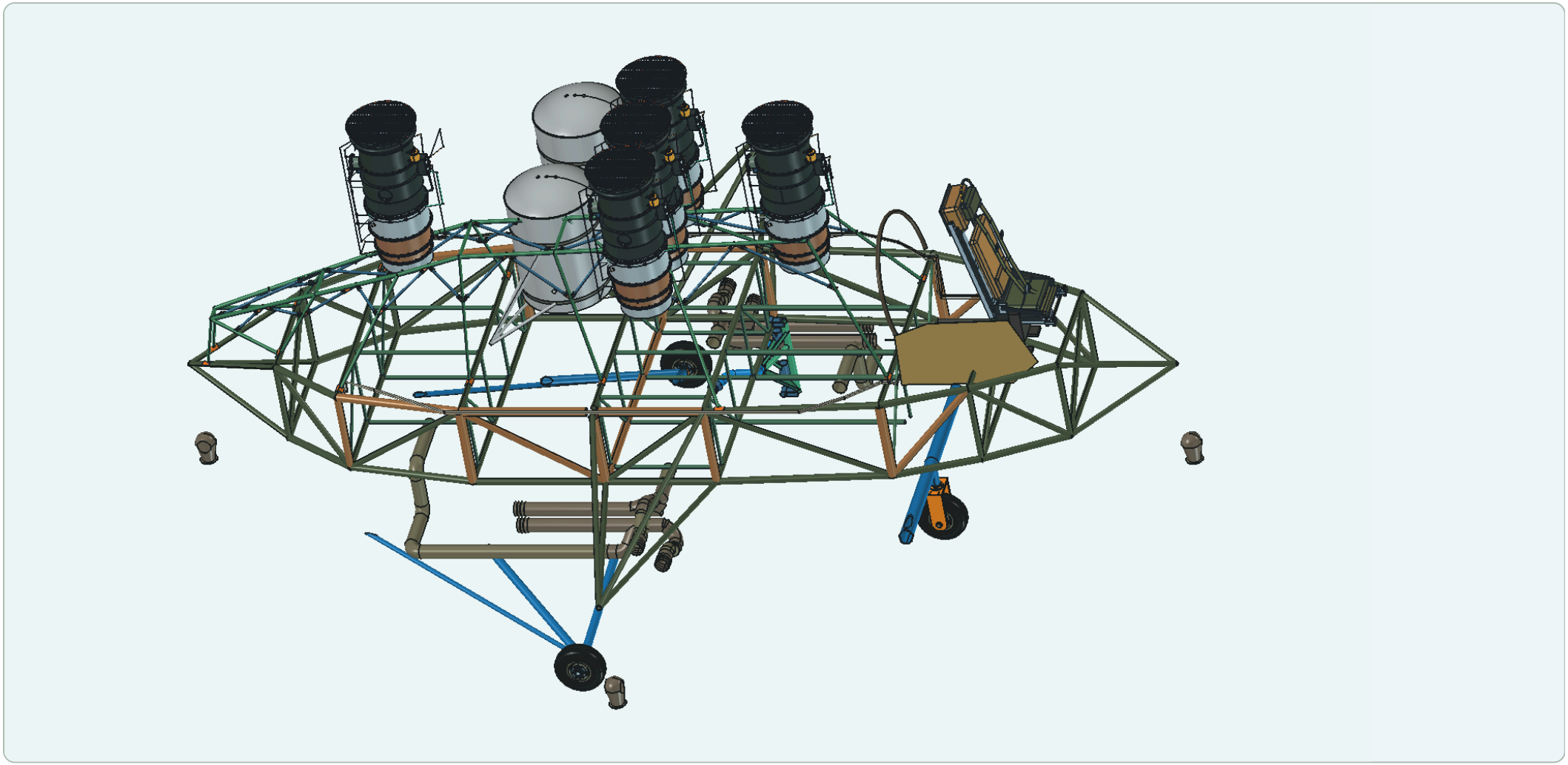
Frame and equipment datums



The lower frame, upper bows and equipment mounts define the layout. All five engines, four terminal nozzles and the landing gear remain visible for orientation. The cockpit and tanks are hidden for this view.

04 Illustrative separation

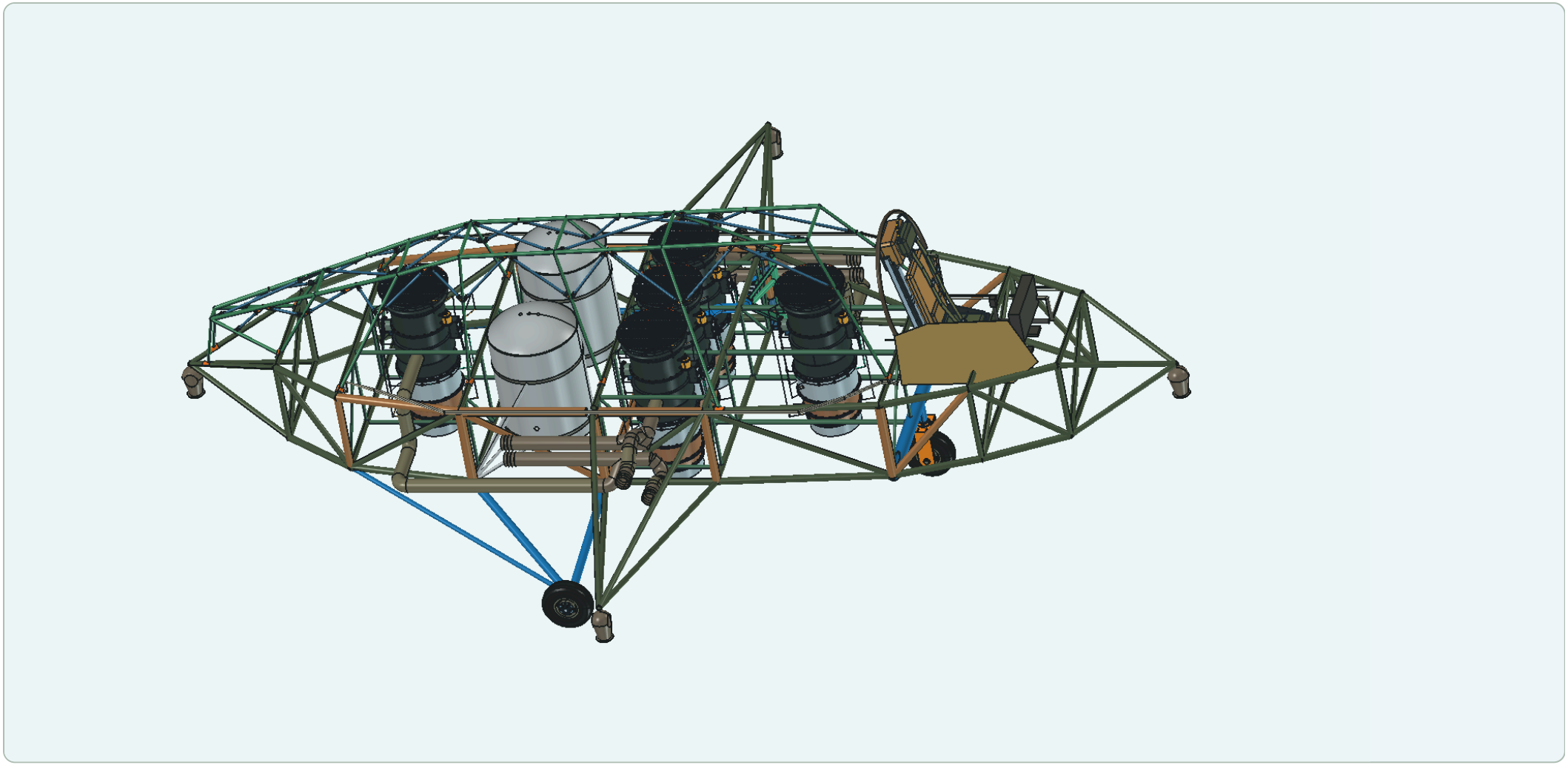
Exploded systems view



The engines are raised and the tanks, seat, gear and air lines are separated by group. Camera, scale and part selection match the next sheet. The separation shows system membership and is illustrative.

05 Paired native view

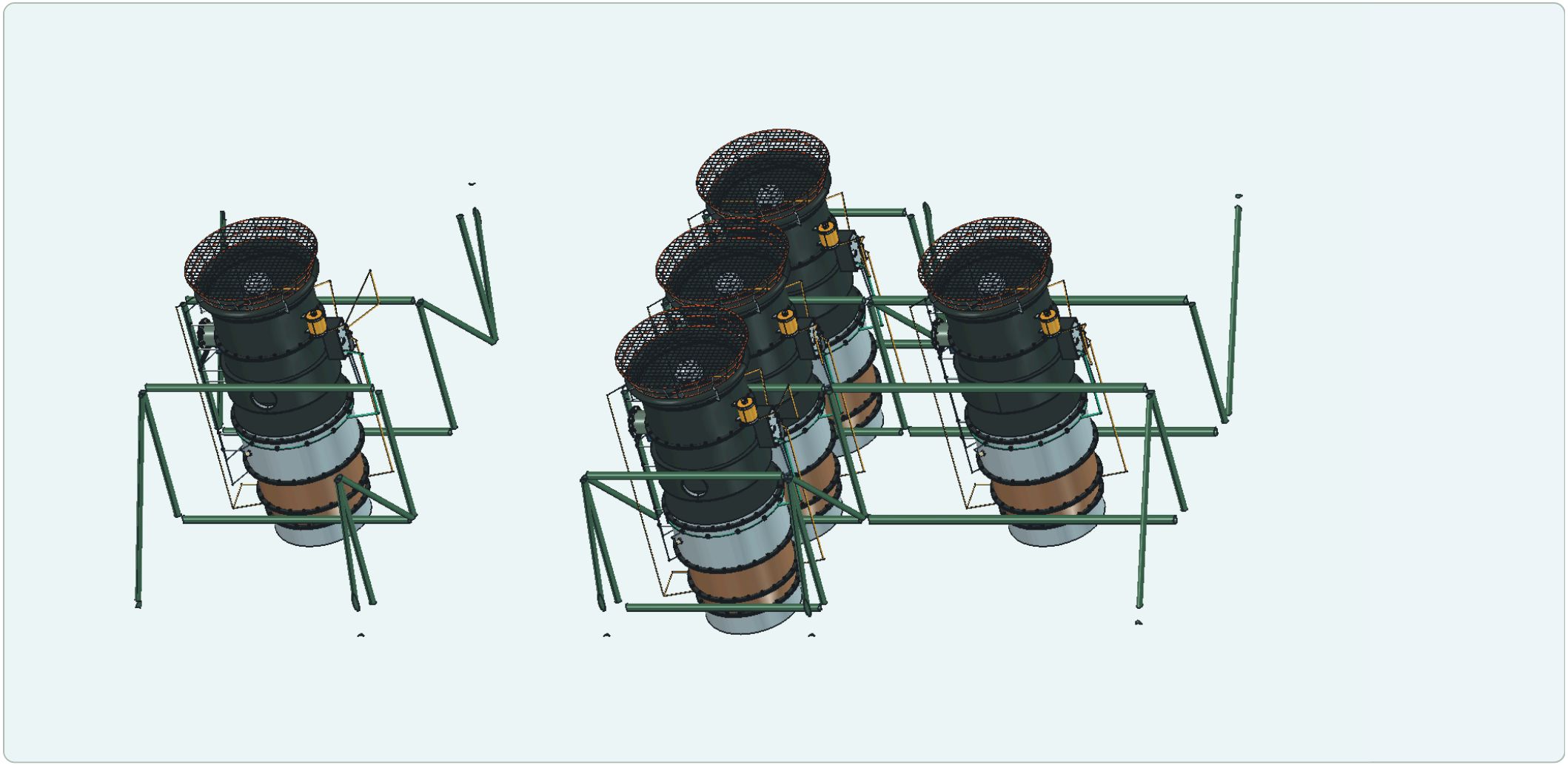
The same systems assembled



The same groups are shown at their saved H62 positions. Both sheets use the same framing so that positions and sizes can be compared directly.

06 System isolation

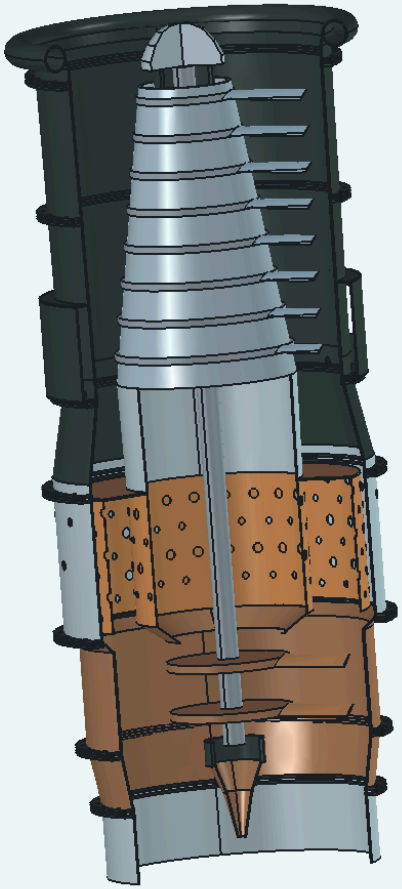
Five RB108 lift engines



Three RB108s sit in the centre plane, with two flanking the middle engine. The intakes, casings and mount grid are visible. The calculation takes all five axes from the exhaust-pipe end rings.

07 FreeCAD section

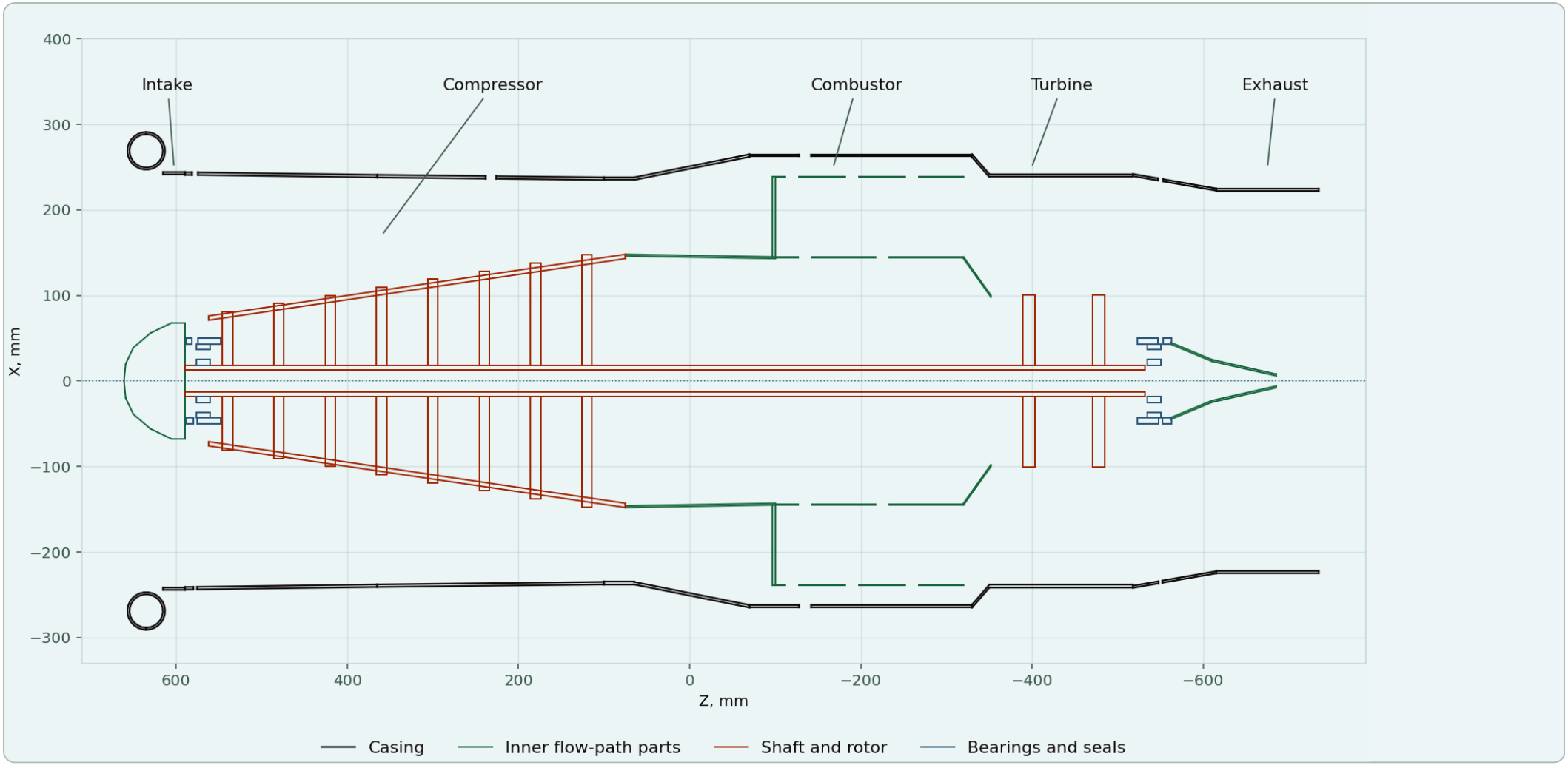
Centre RB108 in Cutaway mode



Saved _SECTION bodies open the +X/−Y sector in H62 world coordinates. The view selects the shaft, discs and one blade per stage from the native Cutaway representation. RB108 internals remain reconstruction geometry.

07A BRep section · Y = 0 mm

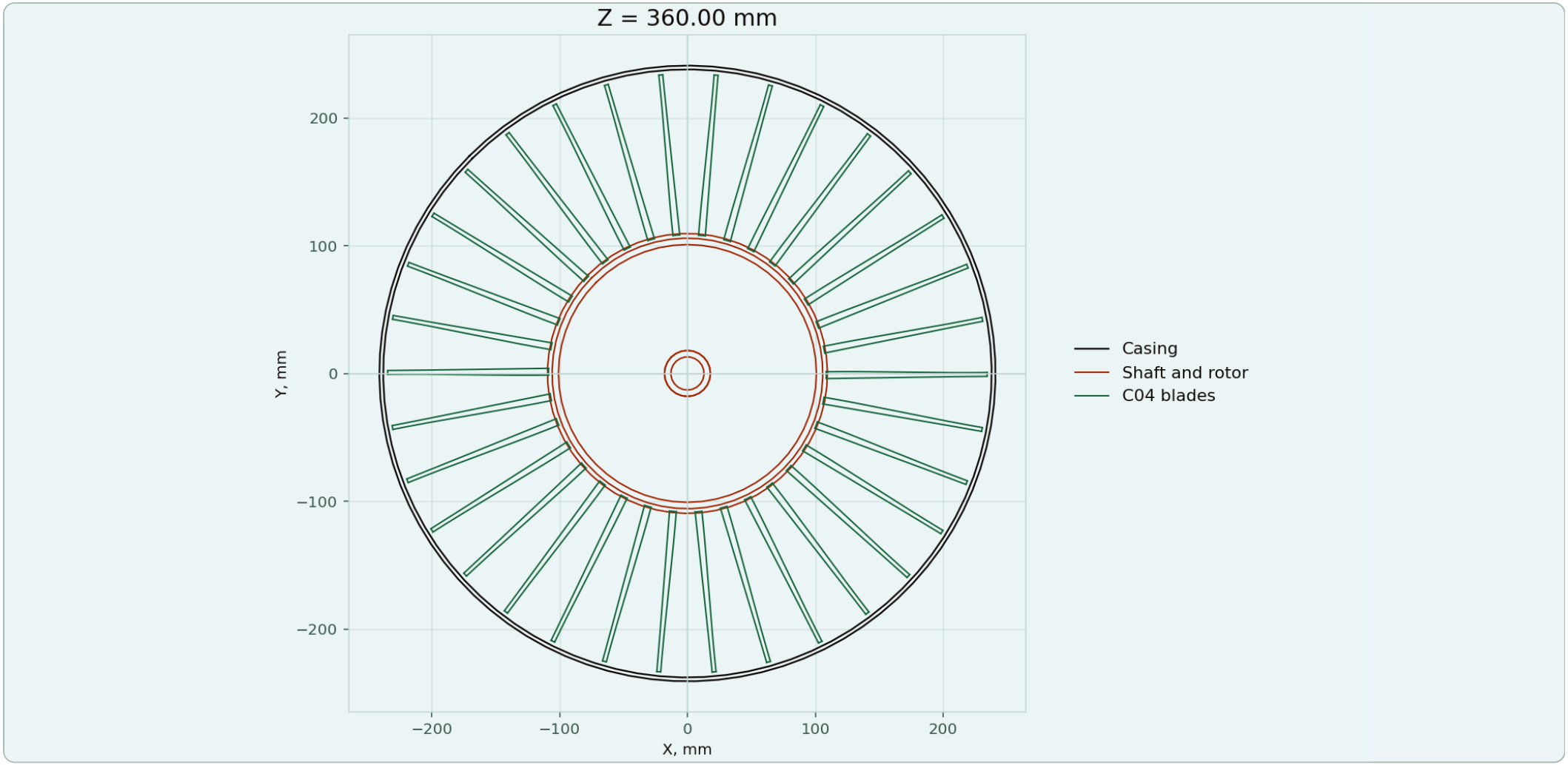
RB108 axial section



Selected centre RB108 solids intersected by Y = 0 mm in H62 world coordinates. The drawing shows the casing, shaft, rotor discs, flame tubes, bearings and exhaust path. The internal geometry belongs to the H62 reconstruction.

07B BRep section · stage C04

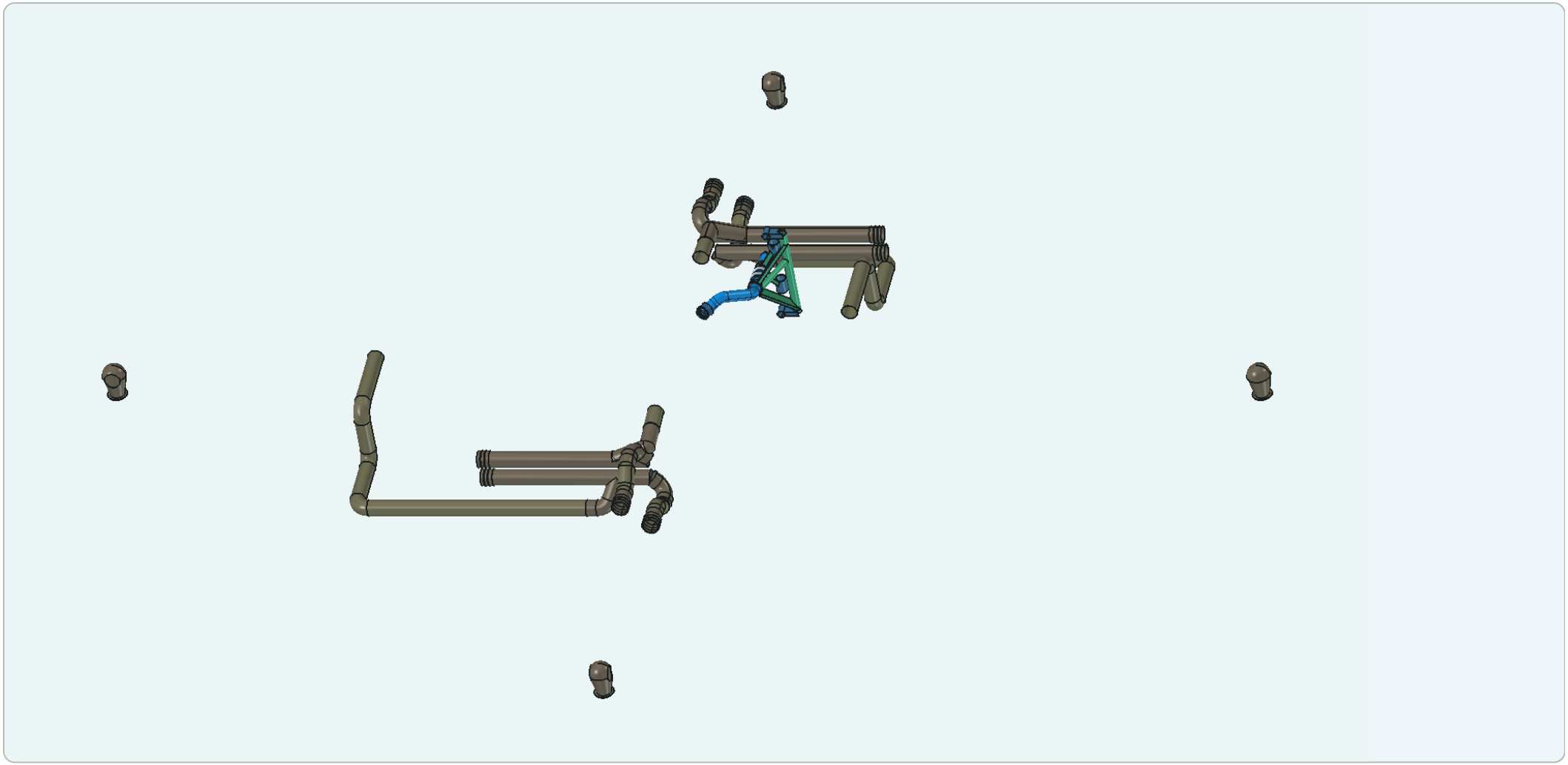
Compressor cross-section



The section crosses the reconstructed C04 rotor row. The record states the exact Z station, plane and intersected bodies. Blade outlines represent the H62 reconstruction.

08 System isolation

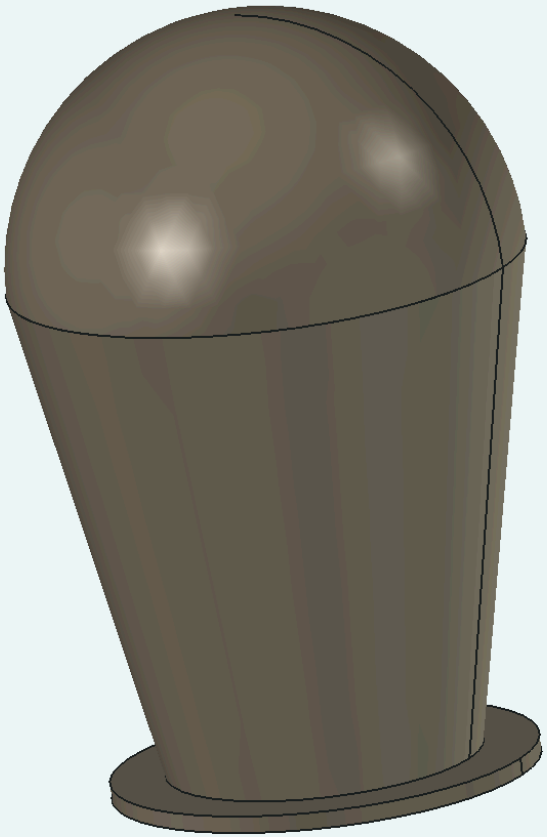
Four reaction-control stations



Four outlets provide roll and pitch in the model. The pipes, receivers and third bleed-air branch are also shown. Flow capacity, main thrust losses and yaw authority remain open.

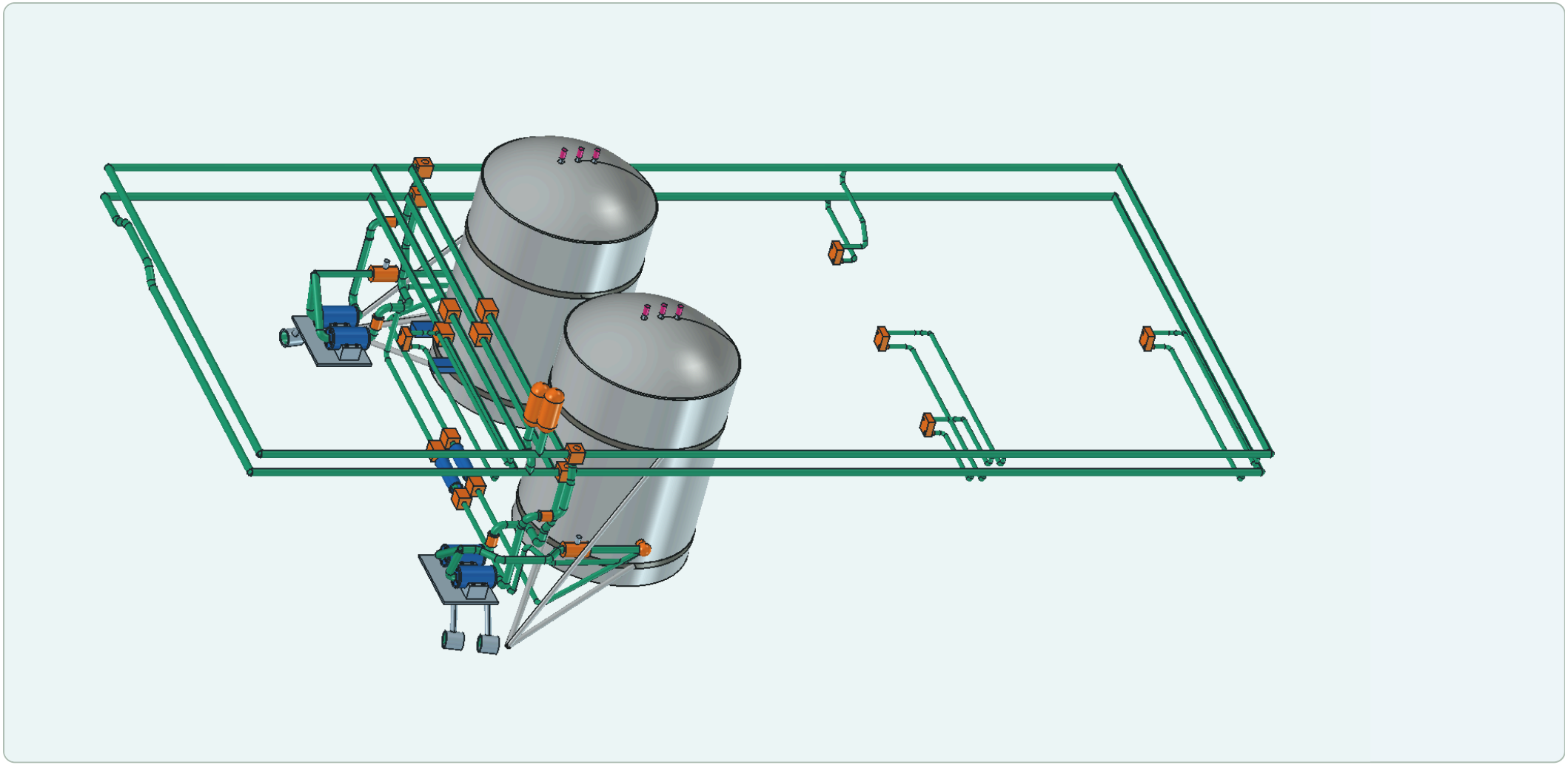
09 Isolated detail

Nose station detail



The nose nozzle and receiver retain their saved positions. H62 preserves the outer envelope and flow passage. Conditional fastener markers are hidden in the flight view. The factory joint configuration remains open.

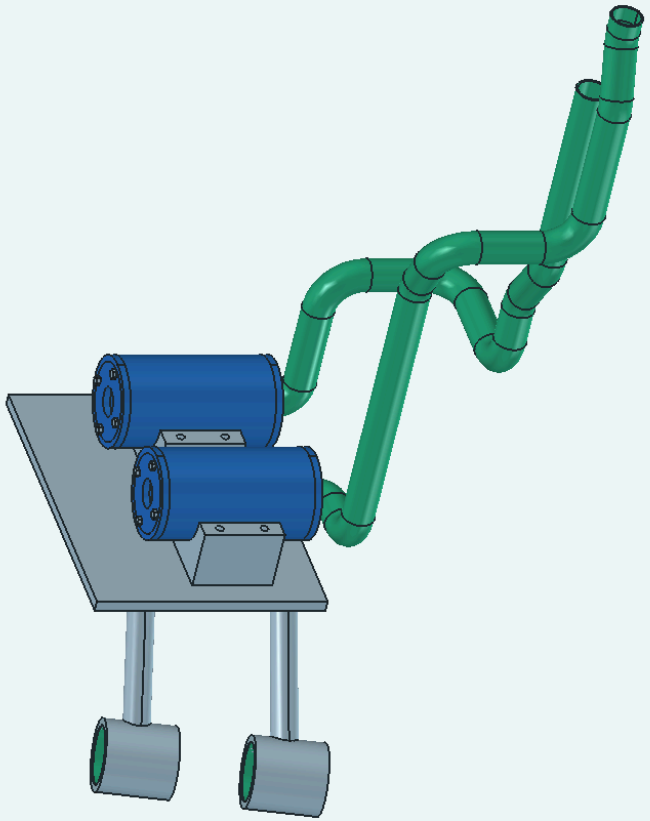
Tanks and fuel routing



Two tanks flank the longitudinal plane. The two panels carry four pumps alongside filters, collectors and lines. The centre-of-mass calculation uses the measured positions of both tanks.

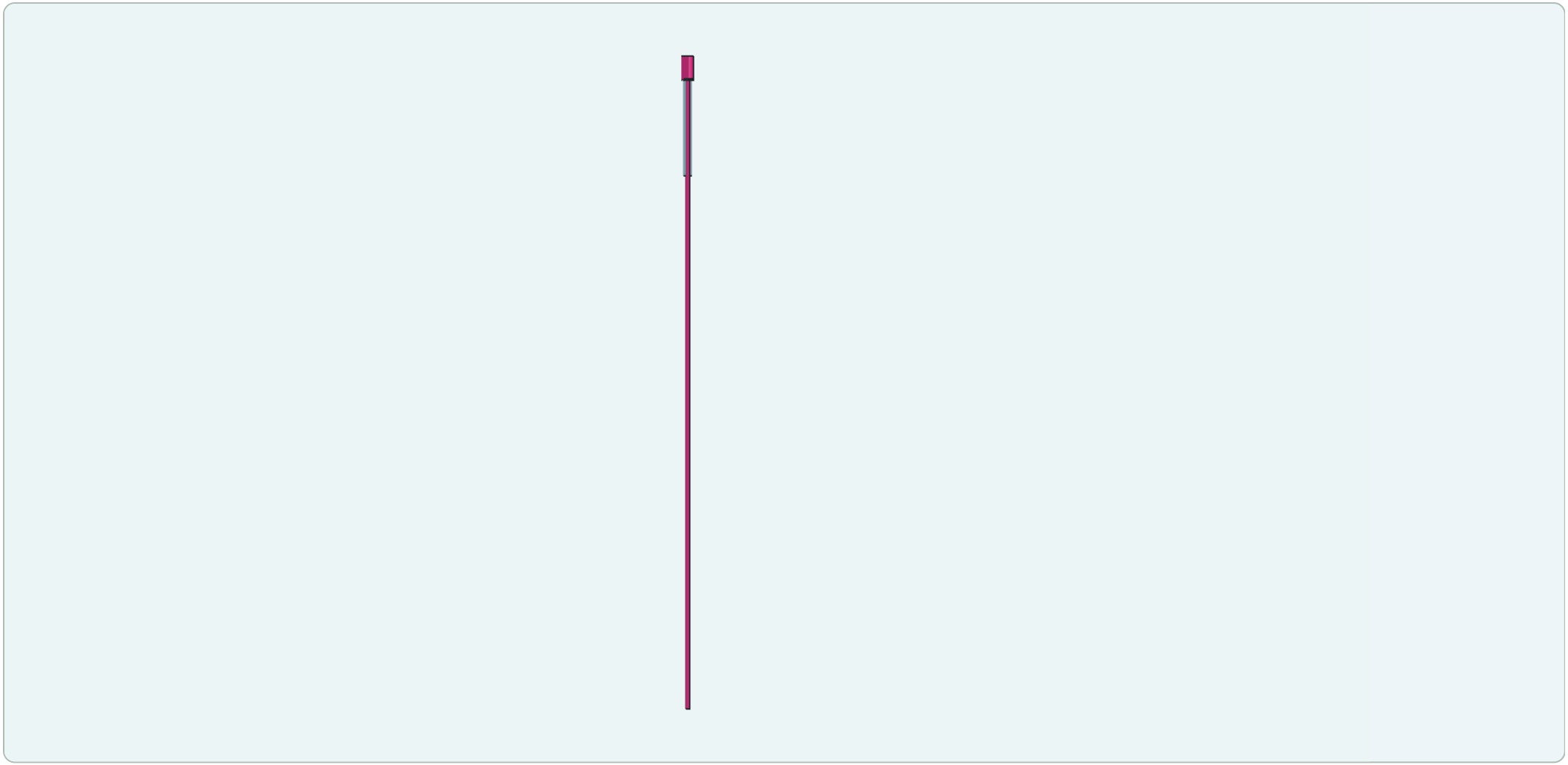
11 Isolated detail

Left pump panel



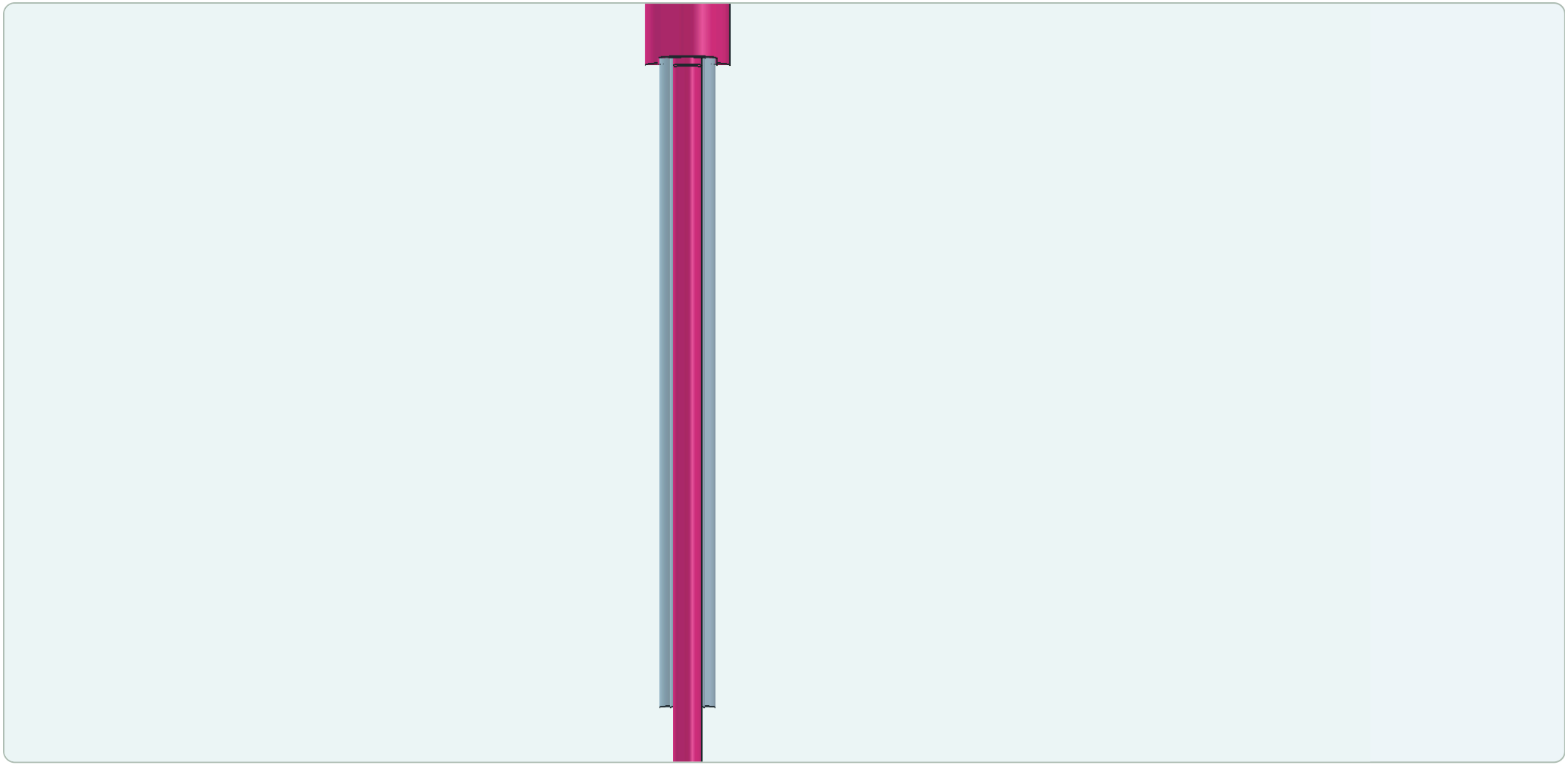
On the left panel, pump LA matches saddle LB and pump LB matches saddle LA. H62 records a 0.20 mm clearance between the pumps and saddles. The two stays and clamps are shown with the panel.

Level probe and well interface



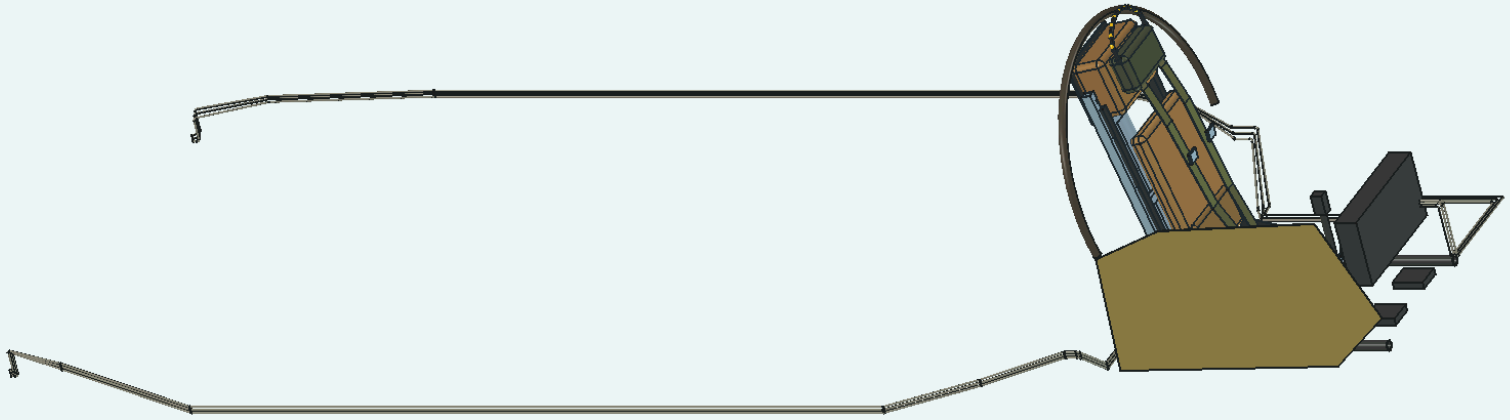
The complete Fuel_Level_L0 probe and Fuel_SenderWell_L0 well. The plane is Y = −590 mm in H62 world coordinates, retaining Y ≥ −590 mm. The following sheet enlarges the seating area.

Level sender well detail



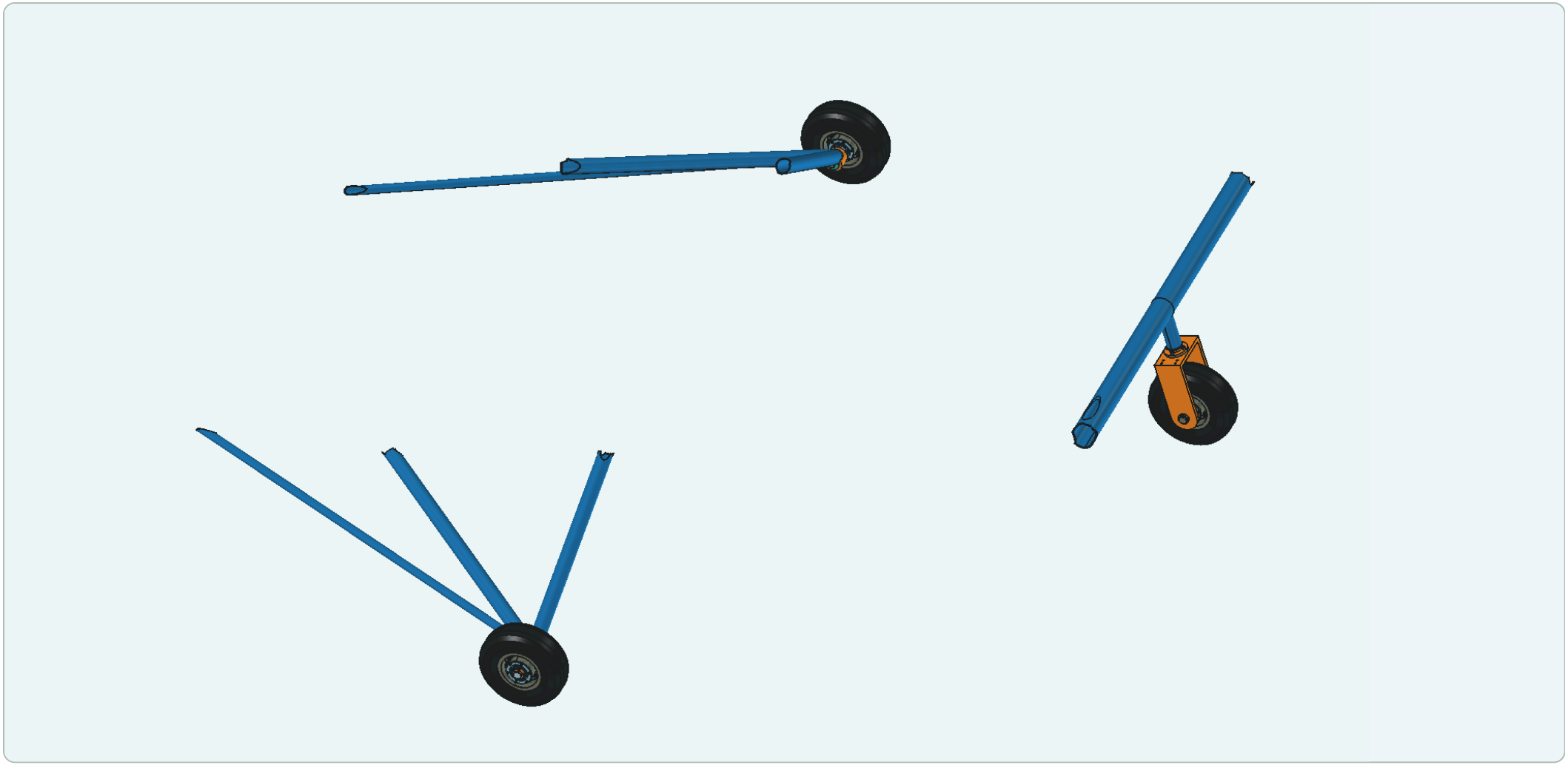
The well is enlarged in the same Y = −590 mm plane. This view focuses on the seating of the upper probe. The preceding sheet shows its full length.

Cockpit and seat



The cockpit, seat and visible control elements are shown without the surrounding frame. Concealed equipment and the exact historical cockpit arrangement still require source evidence.

Three-point landing gear



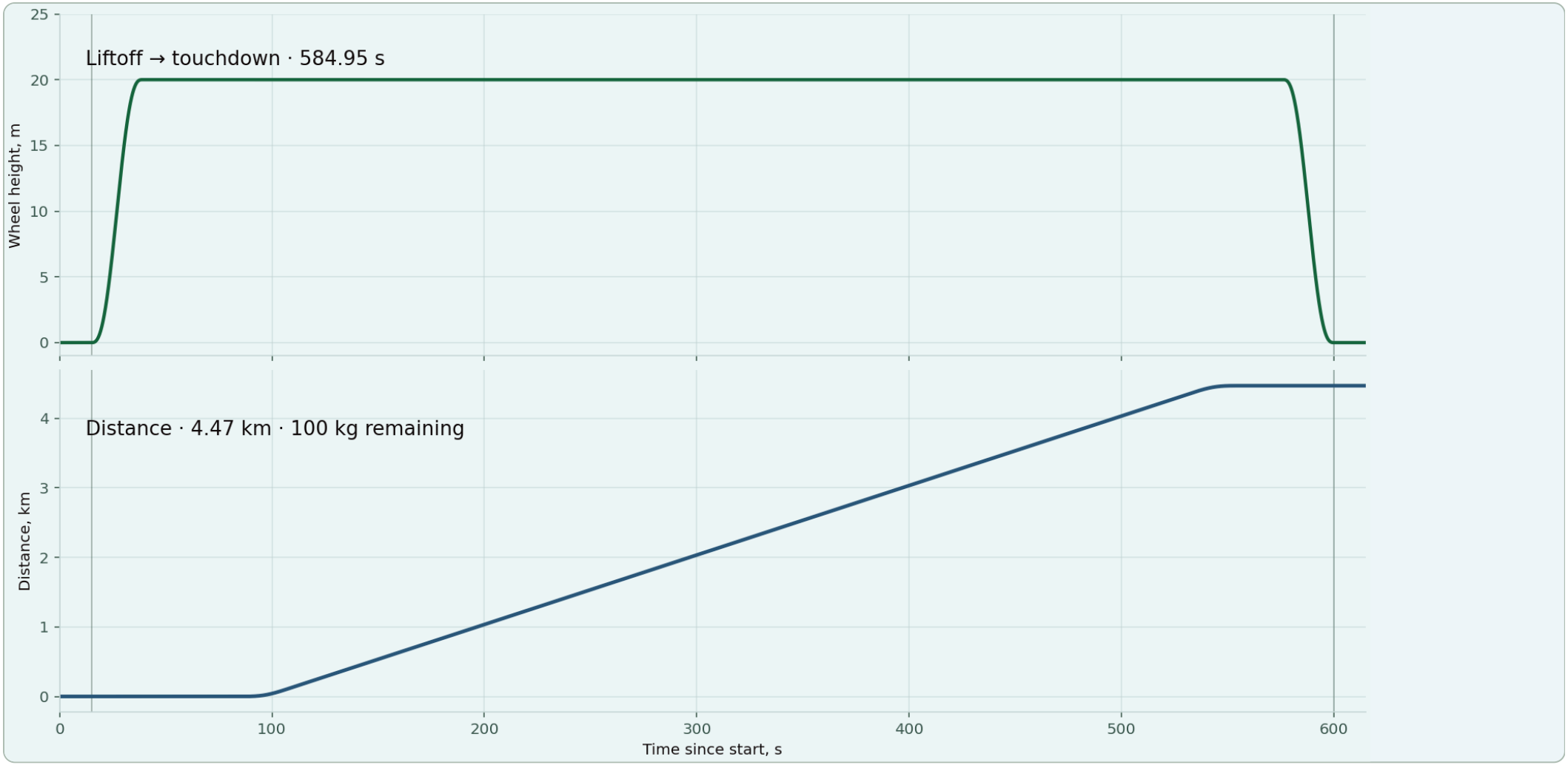
The saved geometry of the nose and two rear units defines the support triangle. In the existing calculation, the static centre-of-mass projection remained inside it before start and after shutdown.

What H62 verifies

Terminal stations	4 outlines · 24 conditional markers
Pumps	32 pairs · 0.20 mm seat clearance
Sensors	7 pairs · target overlaps removed
Rack stays	8 pairs · zero intersection volume
Routing	62 pairs rechecked

The record covers the named pairs and checked layout. Two inherited intersections with hidden DornStudy ground support equipment remain open.

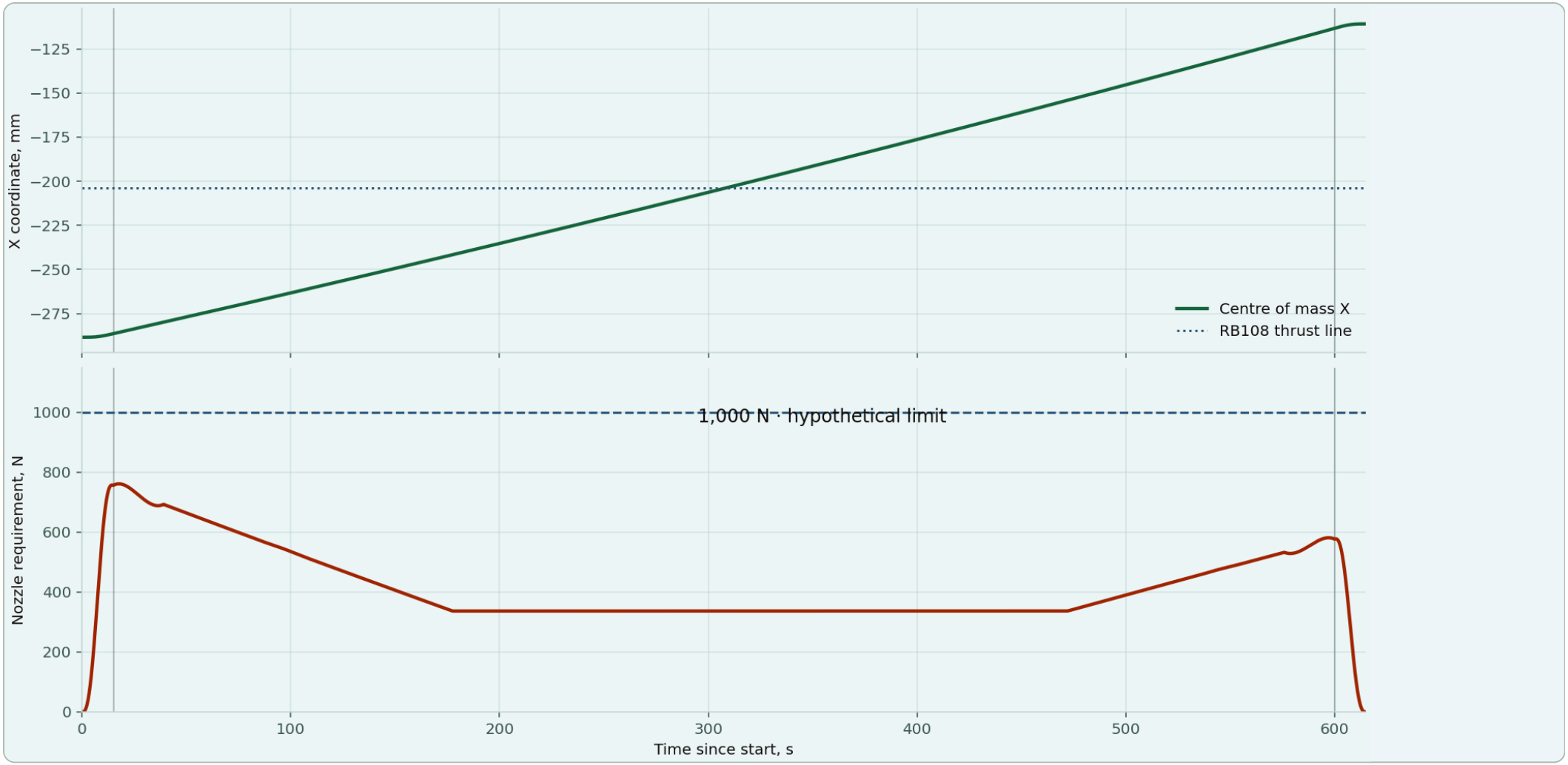
Transfer and stationary hover



The baseline transfer follows a prescribed still-air trajectory at 20 m. A separate scenario gives 8 min 57 s of stationary hover at altitude. The full cycle retains 100 kg out of 800 kg of fuel. These are H62 simulation results.

Quasi-static calculation · 22 Nov 2026

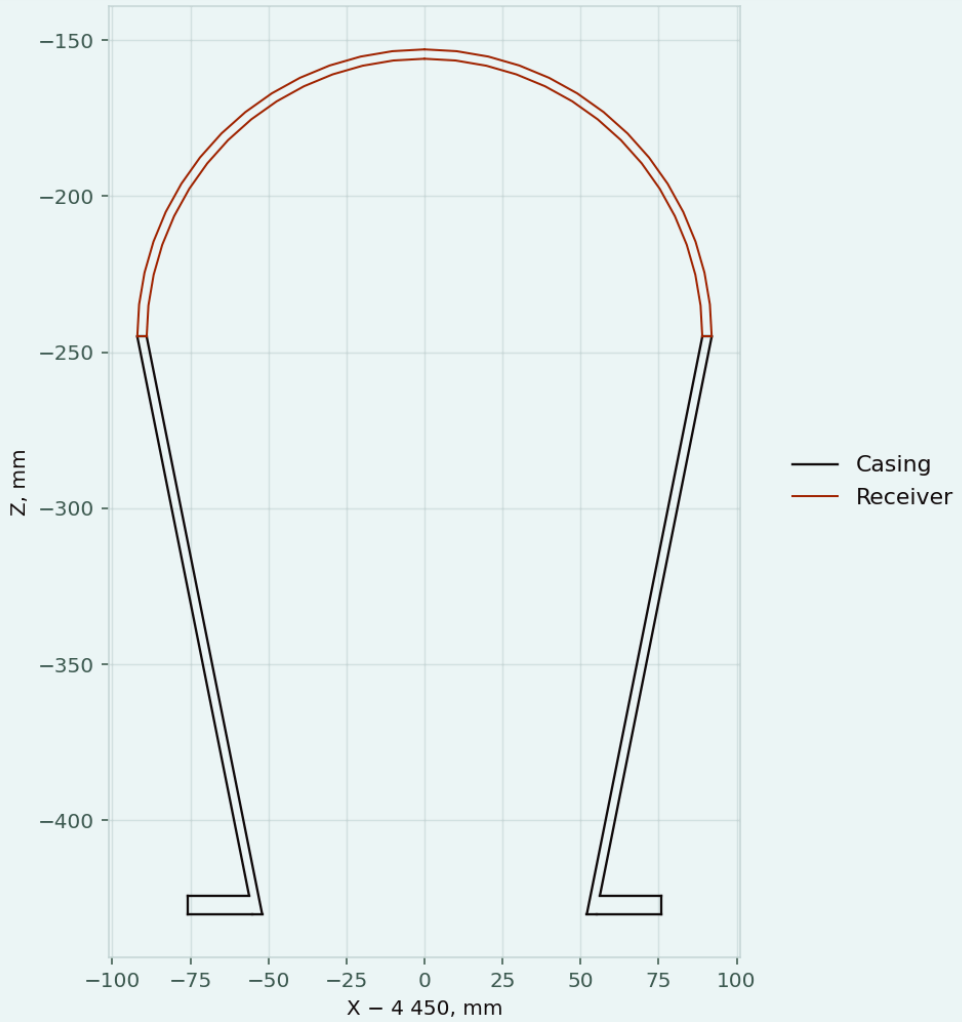
Centre of mass and control margin



With equal tank draw, the centre of mass moves 173 mm forwards between liftoff and touchdown. The peak required per-nozzle limit is 0.761 kN. Moving the estimated mass centroid 100 mm aft raises it to 1.21 kN. Available nozzle thrust and yaw authority remain open.

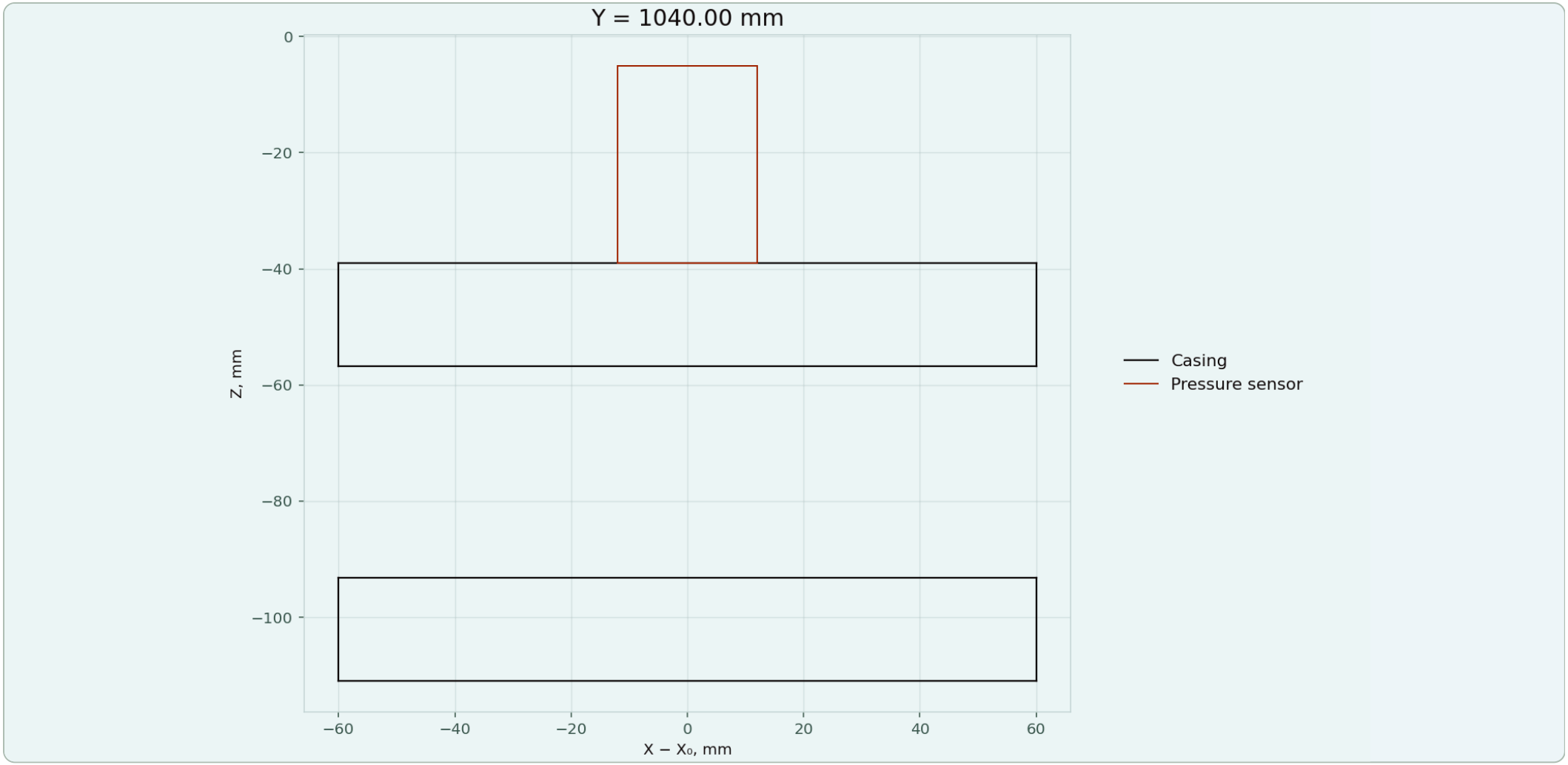
BRep section · Y = 0 mm

Nose nozzle passage



A section through Nozzle_Pitch1 and Receiver_Pitch1 shows the passage and the interface between the two solids. Fasteners retain their conditional status from H62.

Right filter and pressure sensor

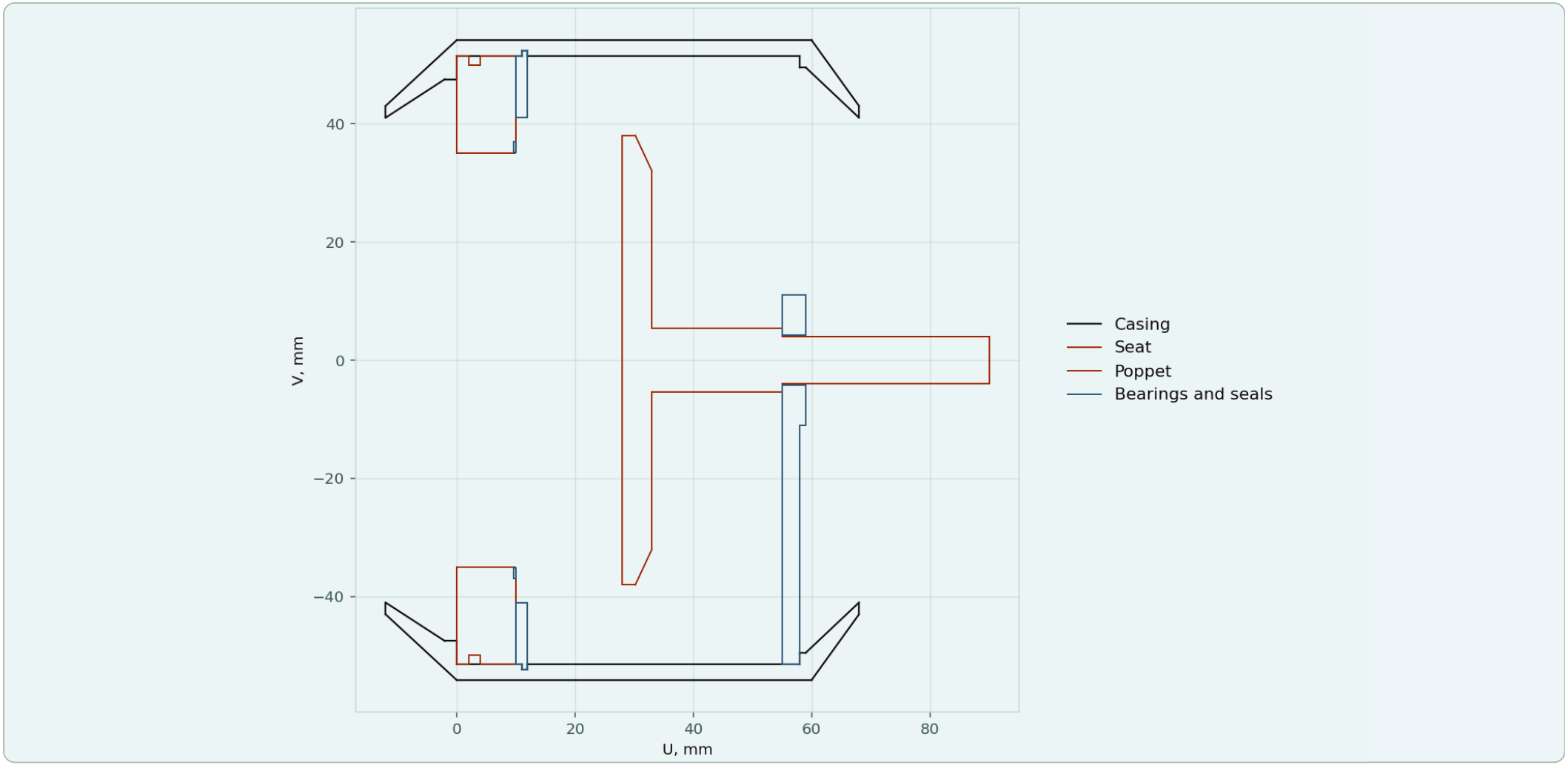


The plane crosses both Fuel_Filter_R and Fuel_PressureSensor_R. It complements the earlier pair check. The section record gives the plane station and native CAD names.

21

Axial BRep section · H62

Third bleed-air valve



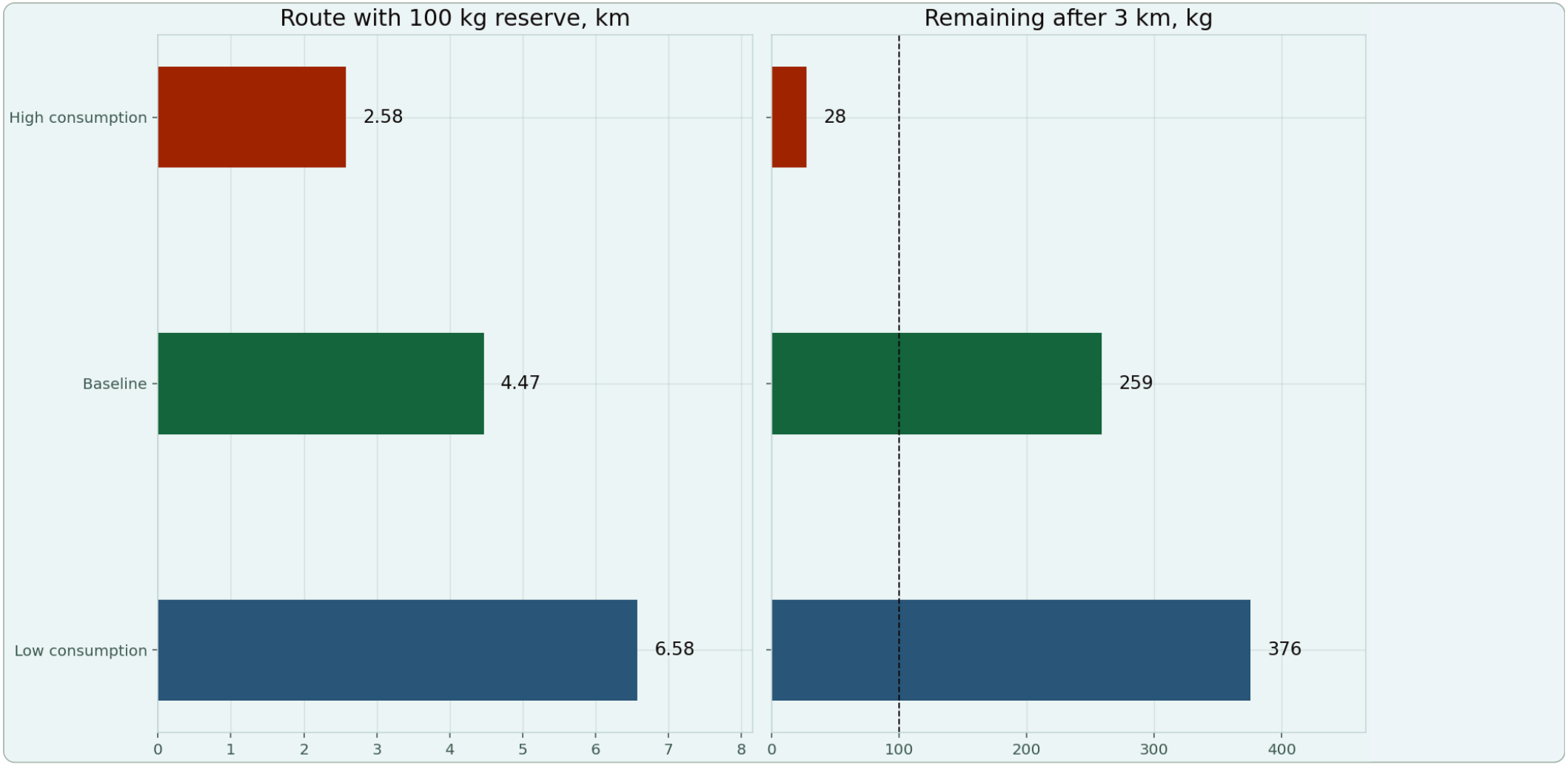
The plane follows the valve body's cylindrical axis. The body, seat, poppet and guiding parts are identified. The section records saved H62 positions. Actual travel and flow remain open.

From H61 to H62

Nozzles	4 housings and 24 conditional fasteners
Pumps and saddles	32 checked pairs
Sensor interfaces	7 checked pairs
Stays and clamps	8 confirmed overlaps resolved

The working H62 records four increments: nozzles, pumps, sensors and rack stays. The chart shows the scope of each check. Two inherited intersections with hidden DornStudy ground equipment remain open.

Three range scenarios



The left scale shows each route ending with 100 kg after shutdown. The right scale shows the fuel remaining after a fixed 3 km route. The high-consumption case leaves about 28 kg after 3 km. All three use the assumptions of the 22 November model.

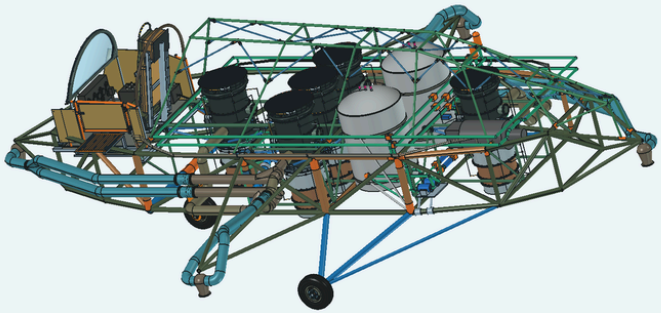
Museum exhibit and H62 model

Museum exhibit in Koblenz



Clemens Vasters · 5 Dec 2017 · CC BY 2.0 · image scaled proportionally

FreeCAD reconstruction · H62



The museum view shows air pipes alongside frame members. The saved H62 view provides CAD context. The display configuration and perspective limit comparisons of concealed joints and dimensions.

FCStd and STEP verification

First FCStd open	4,663 visible leaf shapes
STEP round trip	8,626 valid solids
Geometry comparison	8,625 bodies within tolerance
Spherical face trimming	0.01146 mm vs 0.005 mm threshold

The AP242 round trip imported 8,626 valid solids. The geometry check matched 8,625. E4_GuardMountLeg_3 retains a local spherical-trim deviation of 0.01146 mm against the 0.005 mm threshold.

SG 1262 cost scope

Airframe
Inputs open

RB108 lift engines
Inputs open

Engine mounts
Inputs open

Reaction control
Inputs open

Third bleed-air branch
Inputs open

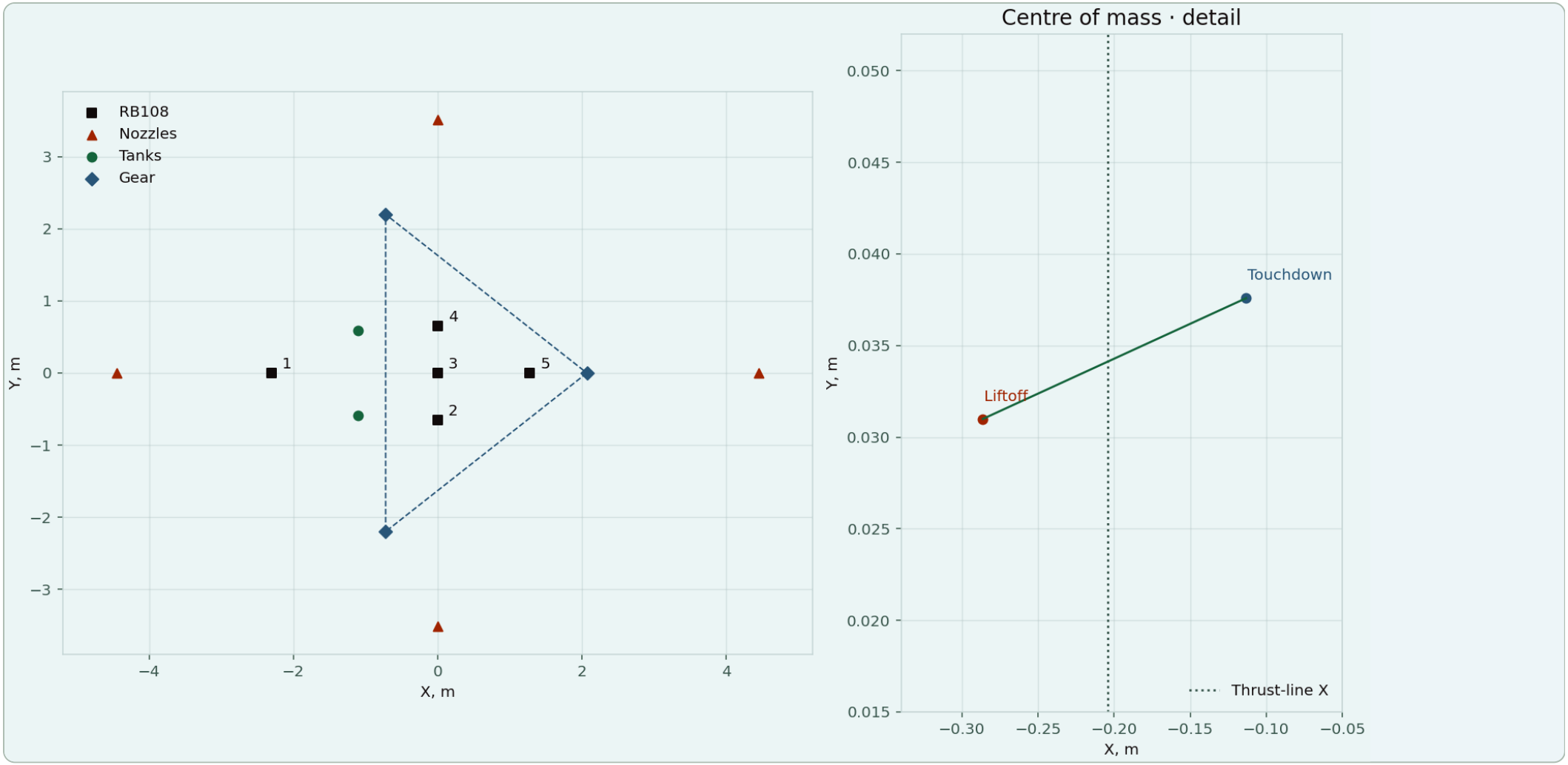
Fuel system
Inputs open

Cockpit and controls
Inputs open

Landing gear
Inputs open

Eight procurement categories correspond to SG 1262 subsystems. The project calculator leaves prices, labour and operating consumption open for SG 1262. A total requires supplier quotes and build data.

Engines, nozzles, tanks and landing gear



The H62 plan locates the five RB108 axes, four nozzle outlets, two tanks and three supports. Positions come from the BRep measurements used for the balance calculation. An inset shows the liftoff and touchdown centre-of-mass projections.

Sources and release

R02, 23 Nov 2026. Captures and sections from H62 FCStd. Source SHA-256 `7909a64f307bfade8108c095947aacfe5bed1378aba5552d34938ca9fbe7416d`.

The capture record fixes visibility, offsets and planes. The OpenCascade sections were recomputed from the saved H62 solids. Flight scenarios reuse the 22 Nov 2026 calculation. Model and player links require the atlas to sit inside the showcase folder.

Shot map · Capture record · BRep outlines and planes · Project review register · Methodology 1.1 · File manifest

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