

Aerial Work Platform & Boom Lift

The load is a person. That changes every number.

RATED BY AN ENVELOPE, NOT A NUMBER

A crane is rated by what it can lift; this machine is rated by where it may safely put a person. Reach and capacity trade continuously - full basket at short reach, light basket at full reach - so the honest specification is a LOAD-MOMENT ENVELOPE in which every combination of height, outreach and basket load is either permitted or not. Machines are bought on the two flattering corners; they must be designed on the whole region.

ENFORCED BY THE MACHINE

The operator stands in the basket - the worst place to judge reach, with the strongest incentive to go a little further. So the machine senses boom angle, extension, slew and basket load, computes its position in the envelope, and CUTS MOTION BEFORE THE EDGE, with margin. A placard is information; the cutout is enforcement. Correct function at the envelope edges is demonstrated at acceptance, not asserted in a manual.

THE ENVELOPE MOVES WITH THE GROUND

Everything the machine computes assumes the base stayed put. Outriggers are therefore sensed DOWN AND CARRYING LOAD with the chassis LEVEL - not merely deployed - before elevation is permitted; tilt is monitored continuously, because ground behaves differently after an hour of load and after rain; and the wind rating sits inside the envelope computation, because at height the basket is a sail.

THE FAILURE WITH NO POWER IN IT

A burst hose, a stalled engine, a flat battery - with a person at height. HOLDING VALVES BOLT DIRECTLY ONTO THE CYLINDERS, so a hose burst strands the oil rather than the person: the hose is the flexing, weathered, weakest part, and with the valve on the cylinder its failure stops the platform instead of lowering it at the speed of the leak. Below that sits a manual, flow-restricted lowering path that brings the basket down under gravity, controlled, with no power anywhere on the machine - demonstrated at commissioning. And GROUND CONTROLS OVERRIDE THE BASKET, because the rescue case is an operator who cannot operate; at handover the override and manual descent are exercised as a drill.

THE MACHINE

- Structure and kinematics - boom, scissor or mast, basket level through the range
- Hydraulics and holding - cylinder-mounted holding valves, no-power lowering
- Stability and interlocks - outriggers loaded, chassis level, wind counted
- Controls, power and mobility - ground override, stowage interlocks, travel duty

VARIANTS

Truck-mounted articulated boom lift · Self-propelled scissor lift · Aluminium mast platform (single / dual) · Trailer-mounted boom lift

SCOPE

Ours: platform design and integration, structure and kinematics, envelope definition and enforcement, hydraulics with cylinder-mounted holding valves and no-power emergency lowering, outrigger and stability interlocks, basket and safety furniture, controls with ground override, travel and stowage interlocks, weatherproofing, installation, commissioning, load and function testing to the applicable standard, training and AMC. Bought-in certified: cylinders, valves and power units, drive motors and engines, batteries, sensors, tyres, axles, control hardware. The customer's: the duty, the applicable standard and the acceptance programme.

STATUS

Engineered to order. Equipment of this class has been quoted across truck-mounted, scissor and mast-type aerial work platform requirements; no delivered aerial work platform is claimed.