



***Reaching New Heights with  
Access Solutions for the  
Aviation Industry***

*A comprehensive guide to solving  
height access challenges on rotary &  
fixed-wing aircraft*



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## ABOUT

### SAFESMART AVIATION

With our years of experience in the Aviation industry, SafeSmart will work with you to achieve the optimum height access solutions to improve your safety and efficiency whilst carrying out maintenance tasks.

Here at SafeSmart, we have extensive experience in aviation maintenance access solutions, and our process is designed to provide the best possible results for our customers.

1. Initial engagement to determine which aircraft you are operating, and which maintenance tasks are to be carried out.
2. Based on customer requirements, SafeSmart will provide a technical and commercial proposal which includes; pricing, design concepts and a detailed scope.
3. Upon acceptance of the proposal, SafeSmart will submit formal design drawings for approval, including modelling on the aircraft to provide an accurate visual representation of how the platforms fit with the aircraft.
4. Upon design approval, we proceed with the manufacture of the products required.
5. Products are delivered and commissioned on-site, and engineering certification, maintenance manuals, and safety & operating instructions are supplied.

When you partner with the best height access supplier globally, you can be confident that your needs will always come first.

### ROTARY AND FIXED-WING MARKETS;

From line maintenance right up to heavy maintenance, our height safety platforms provide access to all aircraft areas for quick and easy inspection and repair. Whether it's fixed-wing or rotary aircraft, our platforms are designed to give you the stability and flexibility to get the job done safely and efficiently.



### TRUSTED ON THE GROUND, FOR SAFETY IN THE SKY

SafeSmart Aviation has been a trusted name in the aviation industry for years, providing height access solutions that improve safety and efficiency whilst carrying out maintenance tasks. And it's clear why our client list contains some of the world's most iconic aviation operators and manufacturers. We're trusted on the ground, for safety in the sky.

We're not just seen as a critical factor in ensuring the work area on the ground is safest and most efficient, but also technicians who use our platforms. They know we'll always go above and beyond when it comes to their safety while carrying out essential aircraft maintenance.

We have designed and manufactured for clients such as Airbus, Delta, WestJet, Bombardier, United, Qantas, Boeing, US Air Force, CHC, Air Mauritius, Sikorsky, Discovery air Defence, STARS Air Ambulance, Government of Saskatchewan, Air New Zealand, Royal Air Force and many more.





## FROM THE DIRECTOR

Despite the significant impact of COVID-19, there are plenty of blue skies ahead for SafeSmart Aviation. We are continuing to invest and further develop our capabilities. Not to mention there have been advancements recently in the SafeSmart Aviation product line-up.

A particularly exciting part of our journey, was the latest product launch of the UltraRaise Platform. Also we are increasingly seeing some of our custom projects turn into 'off the shelf' products, manufactured again and again for other clients who also saw value in them for gaining efficiency and added safety for their personnel. Some examples of this are our BridgeDeck and EasyRaise Platform ranges.

Added to this, some big clients such as United Airlines, NASA, PHI, & Qantas coming back to us for repeat orders of Rotary and Aircraft custom platforms. The future looks bright for SafeSmart Aviation.

We continue to pride ourselves as being one of the most trusted partners in height access safety for the hangar, ramp and flightline, and this has been achieved through engagements that range from communications via our website to face-to-face events. Heading into this next chapter, we are putting more resources into servicing the aviation sector in global MRO hotspots making our products smarter, more user-friendly and recognisable via internal and market research.

Thanks to our loyal clients, we are now poised to further establish ourselves as the industry's knowledge source for height safety. I am pleased to present to you in the following the pages the innovations, case studies, successes and results that continue the SafeSmart Aviation journey.

**Jeff Wearmouth, SafeSmart Aviation**



U.S. AIR FORCE



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## CAPABILITIES

### AND THE SAFESMART AVIATION CLIENT EXPERIENCE

We know that with the development of every new aircraft comes new challenges for safely accessing it during maintenance and other ground-based activities – new contours, new protrusions for avionics and other equipment, and new heights.

With our in-house design and manufacturing teams, we save time for clients by coming up with the most innovative solutions. We have consulted with clients for aircraft of any type, designed custom platforms in-house, manufactured the resulting products in-house, and delivered and installed where requested.

### CONSULTATION

Our pre-sales service is where we stand above the rest. In each region SafeSmart Aviation serves, we have qualified representatives who specifically understand the MRO industry and its needs when working at height around aircraft.

We can visit your worksite to assess your hangar or ramp for potential dangers and advise solutions for adding safety and efficiency to your maintenance activities. We will take dimensions of the aircraft on-site or via correspondence, consider all sensitive points of the aircraft and brief our design team on the best way to access a specified point or points on the aircraft.

### CONCEPT AND DESIGN

Our in-house design team take into consideration all aspects of the aircraft's needs for fast and safe maintenance turnaround times and create a design that perfectly suits the aircraft – this is whether it is for a full-surround platform or a more specific product to allow access to wheel wells, windscreens, tails, or any other maintenance point.

Using the latest design software, clients are presented with full drawings and interactive CAD files so they can explore the product at all angles prior to sign-off on manufacture.

### WHEN IT ALL COMES TOGETHER

Our own fabrication facilities in the USA and New Zealand feature some of the most skilled tradespeople with experience in working with many metals—particularly aluminium—which produces workmanship at welded points and hinged features that are second to none.

Final products are chemically treated for added weather resistance, carefully packed and shipped to anywhere in the world via our trusted freight partners.

### AND THEN SOME

SafeSmart Aviation offers full post-sale support with instructional documentation for assembly and care, onsite visits to assess the effectiveness of the new system and ongoing updates on regulatory changes relating to the airfield's region.



FOR ALL YOUR  
CUSTOM REQUIREMENTS: ASK US



FIND US ONLINE | SAFESMARTAVIATION.COM

FROM ANYWHERE IN THE WORLD

Find out more about SafeSmart Aviation online now.

For digital versions of this catalogue, new case studies and to interact with CAD animations of custom projects, go to [www.safesmartaviation.com](http://www.safesmartaviation.com)

### INSTAGRAM AND LINKEDIN

Join the conversation or see our projects as they happen.



## SECTION 01

### GENERAL

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# AVIATION CHOCK TROLLEY

Code	Description
210760	Aviation Chock Trolley

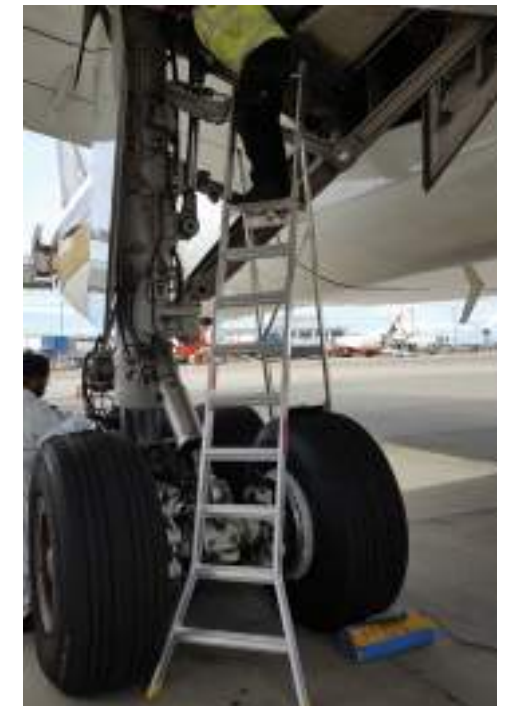
- › Keeps the ramp neat and tidy with an efficient storage area for chocks and cones
- › Standard unit holds 8 x chocks and 8 x cones, can be customised to suit different quantities
- › Foot operated floor locks to quickly secure and move trolley
- › Ergonomic handles makes it easy for one person to move and use
- › Slashes time: one person can quickly and easily move around an aircraft and place or remove chocks and cones
- › Slashes manpower: one person can complete the task in the same amount of time it would take 4 people previously
- › Wind rated for 98kph



# WARTHOG PLATFORM LADDER

Code	Type	Size (Deck Height)
210093	2 Step	0.6m
210094	3 Step	0.9m
210095	4 Step	1.2m
210096	5 Step	1.5m
210097	6 Step	1.8m
210098	7 Step	2.1m
210099	8 Step	2.4m
210100	9 Step	2.7m
210101	10 Step	3.0m
210201	Spring Loaded Castor (ea)	
210128	Full Surround Safety Rail	

- › 450 x 450mm platform area
- › 10 year manufacturers warranty
- › Fully welded box section aluminium frame
- › Won't twist like a standard platform ladder
- › Platform kick board stops slips & spills
- › Large comfortable platform & handrail for longer duration work
- › Folds flat for storage & transportation

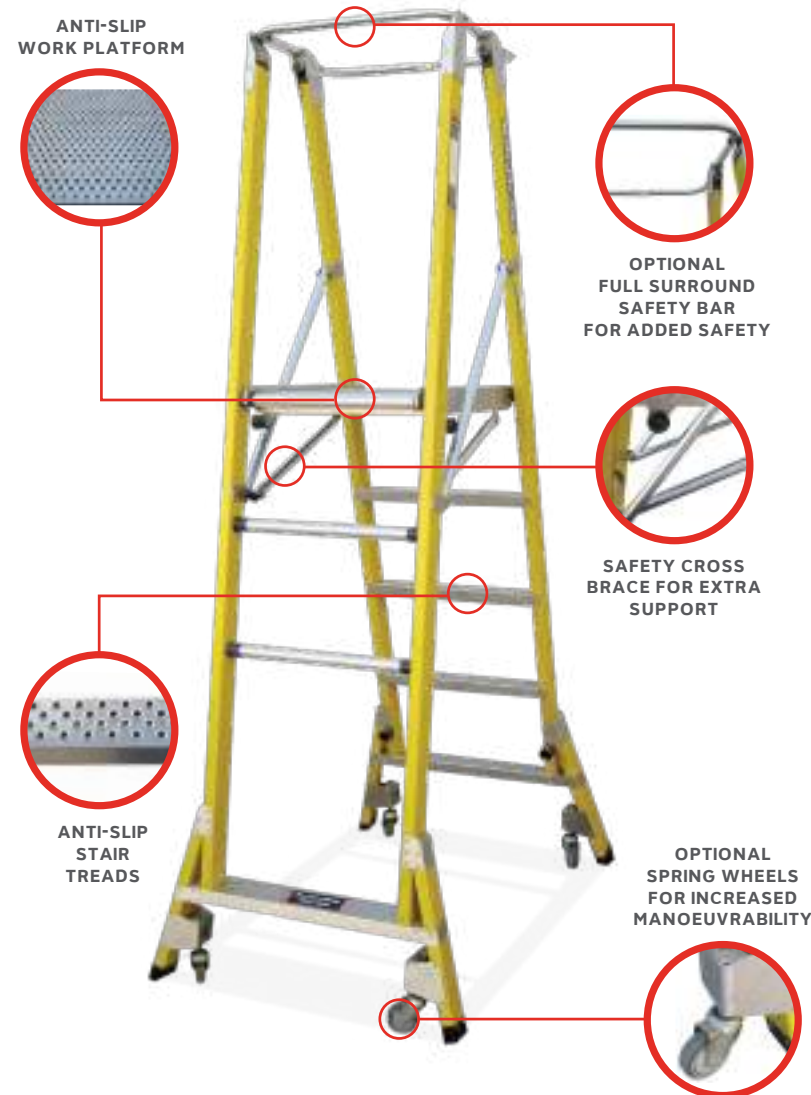




## BRANACH FIBREGLASS PLATFORM LADDER

Code	Type	Deck Height
210336	2 Step	0.6m
210356	3 Step	0.9m
210317	4 Step	1.2m
210318	5 Step	1.5m
210319	6 Step	1.8m
210320	8 Step	2.4m
210321	10 Step	3.0m
210322	12 Step	3.6m

- › Sturdy & durable
- › Lightweight & easy to move
- › Single action set-up
- › Comfortable, non-restrictive 450mm wide platform
- › Non-slip hinged aluminium platform
- › Rubber feet
- › Optional backrail for all round protection



## A FRAME AVIATION PLATFORMS

Code	Description
210283	3 Step 850mmH
210284	5 Step 1400mmH
210285	7 Step 2000mmH
210286	Heavy Duty Handrail set including Toeboard

- › Ideal for working under the fuselage of an aircraft
- › 450 x 450mm platform area
- › Complete with wheels, handles and rubber buffers
- › Handrail set for added peace of mind and compliance in use (when there are no overhead obstructions)
- › Heavy duty welded frame for engineering use



COLLAPSED GUARDRAIL AND GATE SET



GUARDRAIL AND GATE SET





# SUPER MAINTENANCE PLATFORM

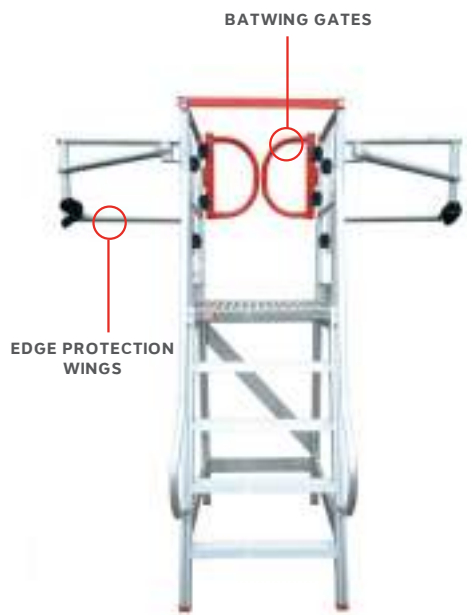
Code	Platform Height	Platform Size	Type
210183	565mm	800 x 800mm	2 Step
210184	850mm	800 x 800mm	3 Step
210185	1130mm	800 x 800mm	4 Step
210186	1400mm	800 x 800mm	5 Step
210187	1700mm	800 x 800mm	6 Step
210188	1970mm	1000 x 1000mm	7 Step
210189	2250mm	1000 x 1000mm	8 Step
210190	2540mm	1000 x 1000mm	9 Step
210191	2828mm	1000 x 1000mm	10 Step
210192	3100mm	1000 x 1000mm	11 Step
210105	3300mm	1000 x 1000mm	12 Step
210106	3600mm	1000 x 1000mm	13 Step
210107	3950mm	1000 x 1000mm	14 Step
210770	Batwing Gate		2 - 6 Step
210771	Batwing Gate		7 - 14 Step
210834	Fold-out Protection Wings 1.2mL		2 - 6 Step
210849	Fold-out Protection Wings 1.0mL		7 - 14 Step



**IDEAL FOR BOTH**  
WORKSHOP & IN-FIELD ACCESS

- › Certification plate includes engineers approval, SWL rating and serial number
- › Built tough with 82 x 50mm marine grade aluminium RHS - no C channel!
- › Perforated and swaged deck for superior traction in wet & greasy conditions
- › Wind rated for line conditions

**225KG** Weight Rating | Made in **NEW ZEALAND** | Complies with **AS/NZS 1657 : 2018**



# CANTILEVER PLATFORM

Code	Platform Height	Platform Size	Steps
210240	565mm	800 x 1800mm	2 Step
210241	850mm	800 x 1800mm	3 Step
210242	1130mm	800 x 1800mm	4 Step
210243	1400mm	800 x 1800mm	5 Step
210244	1700mm	800 x 1800mm	6 Step
210245	1970mm	1000 x 2000mm	7 Step
210246	2250mm	1000 x 2000mm	8 Step
210247	2540mm	1000 x 2000mm	9 Step
210248	2828mm	1000 x 2000mm	10 Step
210249	3100mm	1000 x 2000mm	11 Step
210108	3300mm	1000 x 2000mm	12 Step
210109	3600mm	1000 x 2000mm	13 Step
210110	3950mm	1000 x 2000mm	14 Step



- › Allows you to get right up against your work area without reaching out from the platform
- › Built tough with 82 x 50mm marine grade aluminium RHS - no C channel!
- › Available with Edge Protection Wings and Batwing Gates
- › Towable option available for use on the flightline

**225KG** Weight Rating | Made in **NEW ZEALAND** | Complies with **AS/NZS 1657 : 2018**

**Optional 45° stair access**





# EASYRAISE

Code	Platform Height	Platform Size	Price
210371	1.2 - 2.4M 4 Step	1000 x 1000MM	POA
210370	1.4 - 2.8M 5 Step	1000 x 1000MM	POA
210372	1.9 - 3.8M 7 Step	1000 x 1000MM	POA
210103	EasyRaise Retro-Fit Forklift Channel Set of 2		POA

Other sizes also available - please enquire

- › Height adjustable platform with manual winch
- › Incrementally adjustable through a range of platform heights
- › Compact & mobile for easy deployment
- › Cantilever length increases as platform is raised
- › Much safer and less risk of damage to aircraft than using an EWP in the hangar



SCAN CODE TO VIEW VIDEO

**225KG**  
WEIGHT RATING



**CUSTOM SIZES AVAILABLE**

**MADE IN NZ**



# SUPER TRESTLE

Code	Type	Deck Size	Deck Height
210220	Wide Platform max height 1000mm	450 x 1200mm	400 - 1000mm
210221	Wide Platform max height 1300mm	450 x 1600mm	600 - 1300mm
210222	Wide Platform max height 1700mm	450 x 1600mm	700 - 1700mm
210223	Super Trestle Plank 450mm x 2400mmL	450 x 2400mm	
210287	Full Surround Handrails to suit 210220		
210224	Full Surround Handrails to suit 210221/210222		
210225	Plank Handrail - one sided for a single plank		
210226	Spring Loaded Wheel		

- › 450mm deck width
- › Folds down flat for easy transport & storage
- › Independent safety testing approved
- › Legs are splayed to straddle helicopter skids



**MADE IN NZ**

**200KG**  
WEIGHT RATING





# BRIDGEDECK

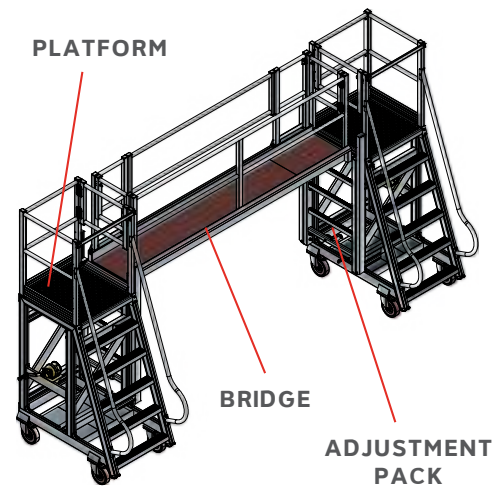


SCAN CODE TO VIEW VIDEO

Code	Description
210465	BridgeDeck 6 Step Base Platform (LH Access)
210466	BridgeDeck 6 Step Base Platform (RH Access)
210467	BridgeDeck 9 Step Base Platform (LH Access)
210468	BridgeDeck 9 Step Base Platform (RH Access)
210469	BridgeDeck - Adjustment Pack (to suit 6/9 step)
210470	BridgeDeck - Adjustment Pack (to suit 9 step)
210471	BridgeDeck Bridge 2.5mL Bridge
210472	BridgeDeck Bridge 3.0mL Bridge
210473	BridgeDeck Bridge 4.2mL Bridge

Complies with AS/NZS 1657 : 2018

- › Perfect for bridging access over plant and equipment
- › Can be used without bridge as maintenance platforms, or with bridge as a complete system
- › 900mm of height adjustment for many different applications
- › 1200mm height adjustable packs also available
- › Easily height adjustable using hand winch
- › Can bridge off side or end of base units

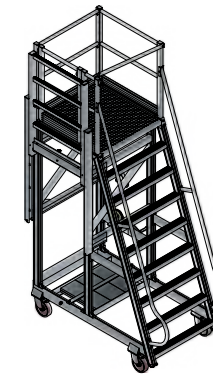


# CUSTOMISE YOUR BRIDGEDECK

## STEP 1: CHOOSE YOUR PLATFORM



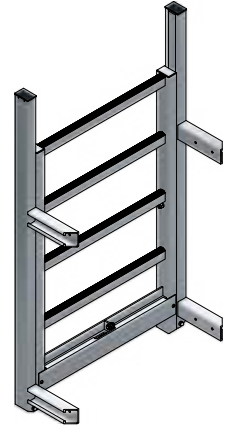
BridgeDeck 6 Step Base Platform



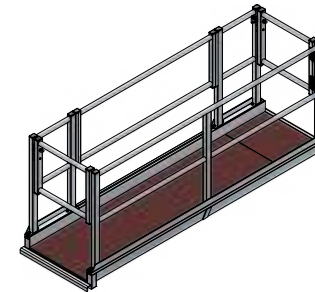
BridgeDeck 9 Step Base Platform

## STEP 2: CHOOSE YOUR HEIGHT ADJUSTMENT PACK

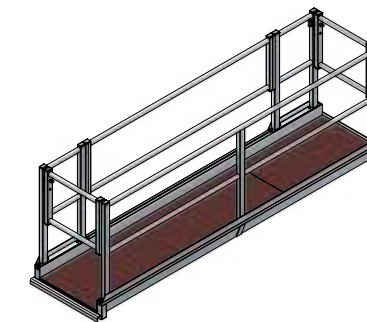
900mm height adjustment packs can be used on both the 6 and 9 step BridgeDeck platforms, 1200mm packs can be used with the 9 step platforms only.



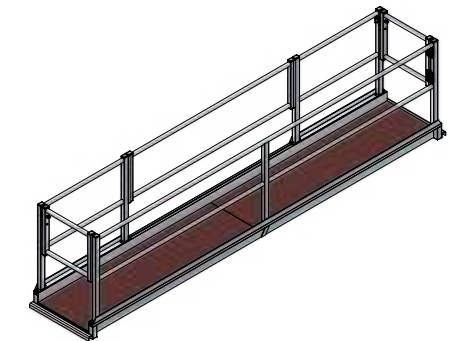
## STEP 3: CHOOSE YOUR BRIDGE LENGTH



2.5m x 0.71m Bridge



3.0m x 0.71m Bridge



4.2m x 0.71m Bridge



› Pneumatic wheels available for rough terra





# ULTRARAISE

Code	Description
210375	7 Step UltraRaise Fixed Cantilever H/Adj Platform 1.97mH – 3.38mH w. 70deg Acc
210376	10 Step UltraRaise Fixed Cantilever H/Adj Platform 2.82mH – 4.51mH w. 70deg Acc
210377	UltraRaise Retrofit Loop Guardrail Frame, 2.0mD x 2.0mW
210378	UltraRaise Retrofit Loop Guardrail Frame, 1.2mD x 1.5mW
210379	UltraRaise Bridge 3.0mL x 0.6mW w removable Guardrail, Midrail & Toeboard (ea side)

- › Any custom size and length available
- › Massive height adjustment range!
- › Compact and mobile for easy deployment and use in tight workshops
- › 700mm clear cantilever regardless of the height it is set at
- › Height adjustable platform with a manual winch
- › 3 access directions off the platform allowing for flexibility in configuration
- › Bridging attachment to connect between units has multiple configurations
- › Bridging components no heavier than 17kgs to allow easy install and dismantle
- › Bubble levels at each jack location to assist with levelling
- › Loop guardrail attachment can be placed in all 3 directions off the platform
- › Guardrail support leg adjusts in 25mm increments



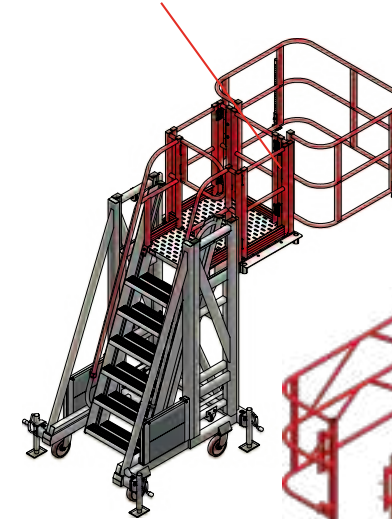
7 STEP



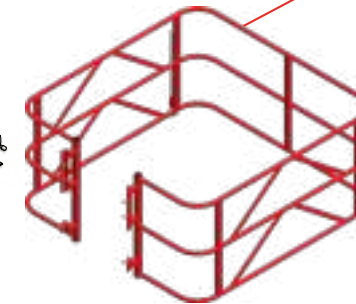
10 STEP

# ADD-ONS

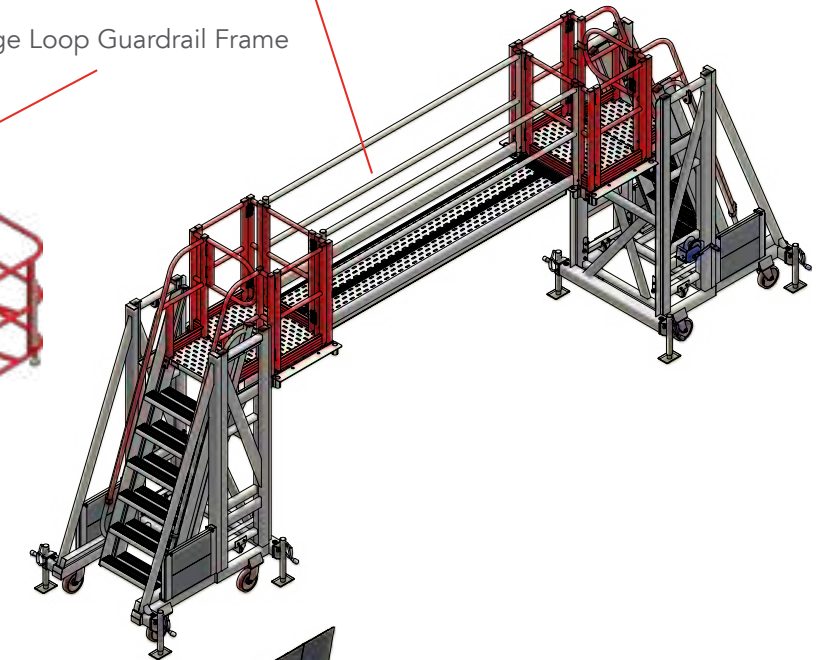
210378 Small Loop Guardrail Frame



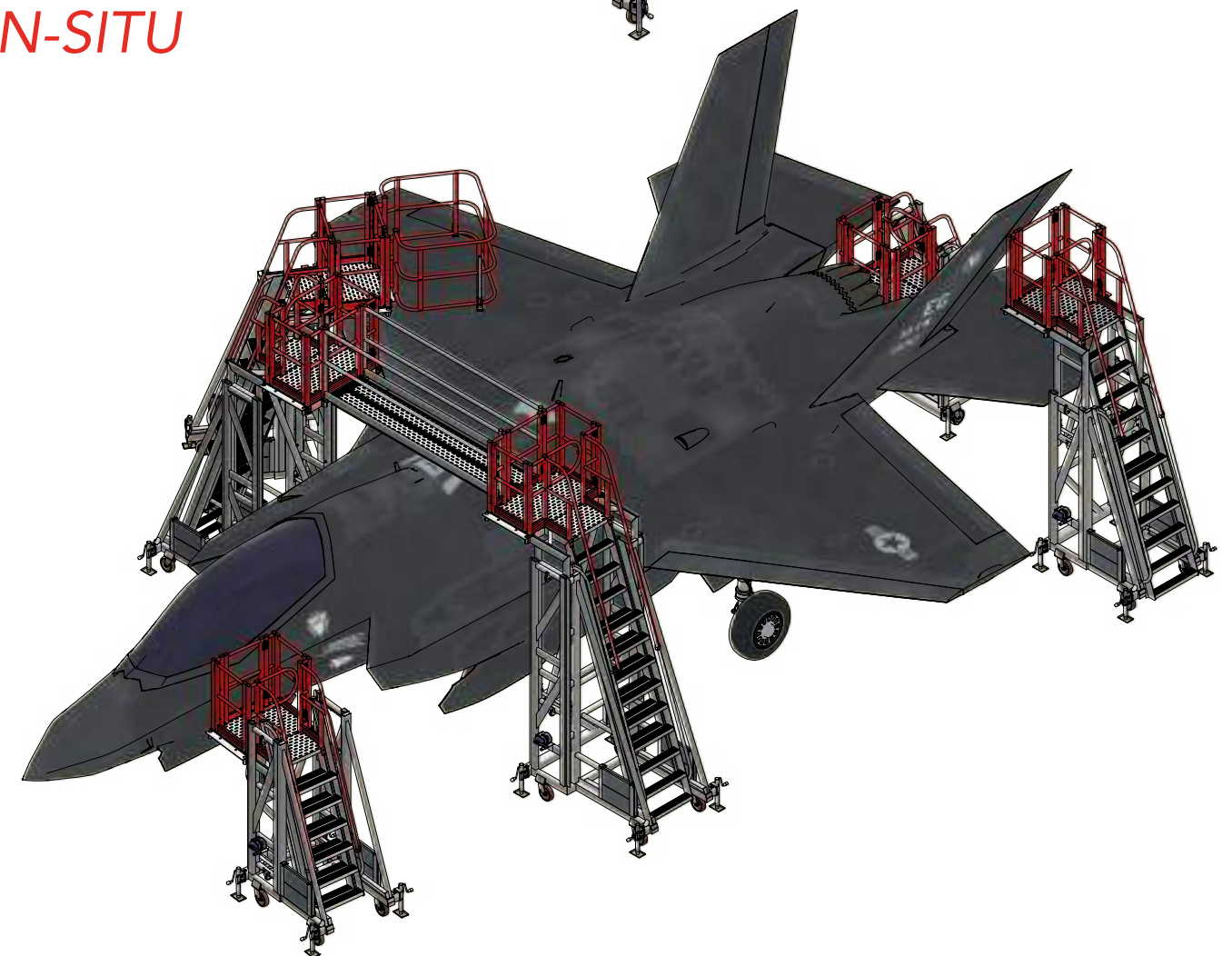
210377 Large Loop Guardrail Frame



210379 UltraRaise Bridge



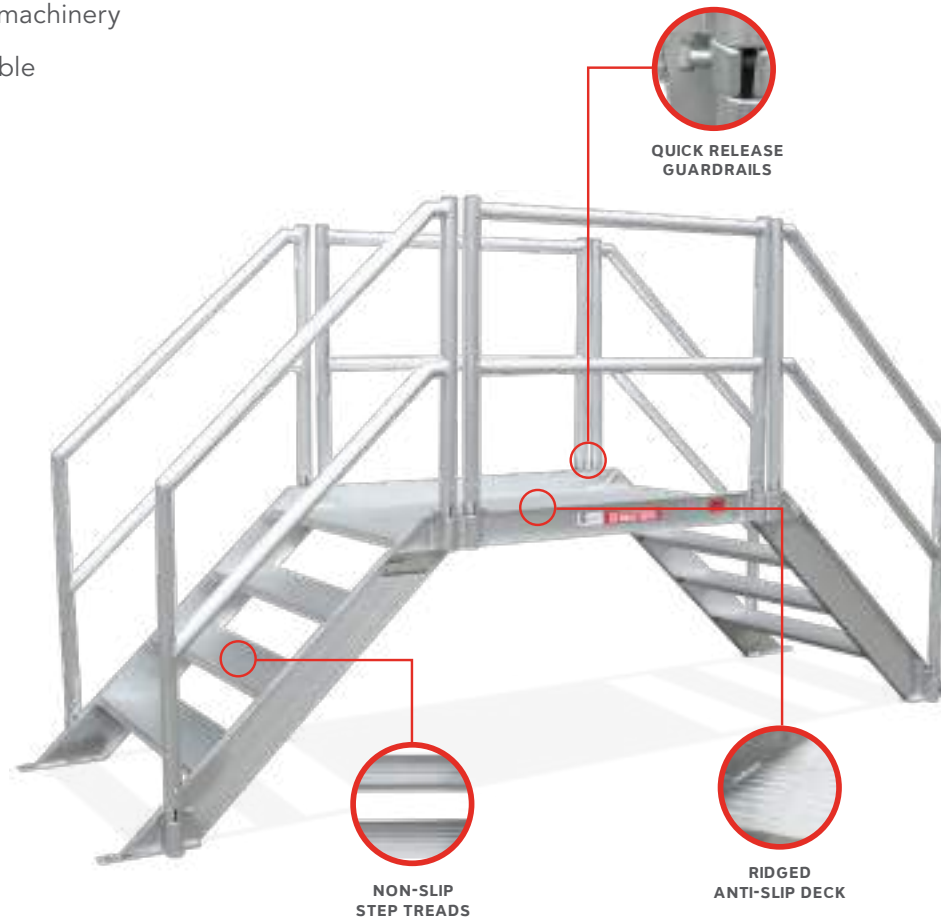
# IN-SITU





# CROSSOVER & STEP-THROUGH PLATFORMS

- › Non-corrosive aluminium - suitable for caustic environments
- › Bridge safely over conveyors and machinery
- › Any custom size and length available



CROSSOVER PLATFORM



FOLDING STEP-THROUGH DESIGN



## SECTION 02

### FIXED-WING

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## JETBLUE GAIN GROUND SAFETY

### FIXED WING CASE STUDY

**AIRCRAFT**  
EMBRAER E-190

#### THE CHALLENGE

New York-headquartered low-budget airline jetBlue experienced challenges with maintenance worker safety when they were working on their fleet of Embraer E-190 aircraft.

A lack of height access GSE that would help technicians access specific maintenance points saw the workers resort to unconventional—and unsafe—ways of carrying out their tasks, with equipment not specifically designed for height access.

To alleviate this, jetBlue looked to work platform provider SafeSmart Aviation for a design consultation.

#### MAINTENANCE POINTS THAT REQUIRED BETTER HEIGHT ACCESS:

- › Auxiliary power unit (APU – tail-mounted, at 864mm wide and 3353mm off the ground)
- › Cargo door and engine pylons
- › Wheel wells

SafeSmart visited the worksite and took specifications for dimensions from the E-190. And assessing the work area, SafeSmart identified whether the resulting design would need to be hand-portable or towable.

#### THE DESIGN

SafeSmart has produced work platforms for Embraer aircraft before, but the E-190's contours and access points were a little bit different. For all three access points—informed by previous projects—a new design was conceived from scratch.

Made from high grade aluminium for strength, weather resistance and portability, a suite of three platforms were designed and built in-house.

#### THE RESULT

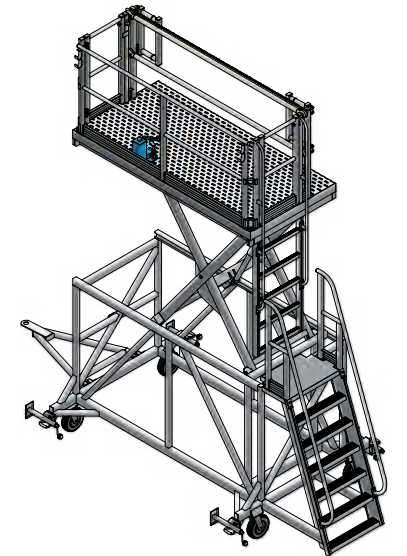
jetBlue's technicians are now experiencing a far shorter turnaround time on set scheduled tasks, thanks to the ease of which each platform in this suite can be deployed and removed.

And now jetBlue can confidently confirm that tasks around the E-190 are carried out to OSHA requirements.

## KEY PLATFORMS USED IN THE JETBLUE PROJECT:

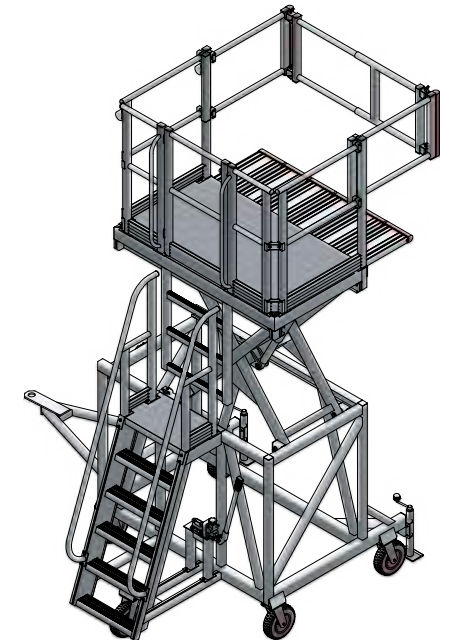
#### Wing/APU Access – Features:

1. Hydraulic hand lifting mechanism/foot pump actuated, in scissor style, with height lock
2. Vertical retractable fall protection railings, with stops for varying heights.
3. Foldable work bench
4. Modular adjoining stands to connect for under-wing use
5. 4 x robust castors with t-handle release and step brakes
6. Tow hitch



#### Cargo Door and Engine Pylon Access – Features:

1. T-shaped platform with catch tray underneath
2. Stand ladder for lowered platform/vertical ladder for raised platform
3. Stand features a lowered height of 1219mm with a maximum raised height of 2439mm
4. Platform 915mm long and 1829mm wide
5. Platform extends 457mm from the 1829mm front edge
6. Lifting mechanism: hydraulic hand/foot pump actuated scissor style
7. Vertically-retractable fall protection railings with stops to allow for different railing heights
8. A foldable work bench for ease of use
10. 4 x free castors with T-handle release mechanism and step brakes
11. Tow hitch



#### Wheel Well Access – Features:

1. Fixed platform height of 1372mm
2. Telescopic handrail with pin and hole at various settings to avoid fuselage contact
3. Brace-free design to 'straddle' 1524mm diameter wheel and door
4. Sliders on side to allow snug access around landing gear
5. 254mm foam filled castors
6. Folding outriggers under sliders for stability
7. Tow bar hitch
8. Foot-operated floor locks x 2





# MAIN ENTRY DOOR ACCESS STAIRS

## HEIGHT ADJUSTABLE ENTRY DOOR ACCESS STAIRS

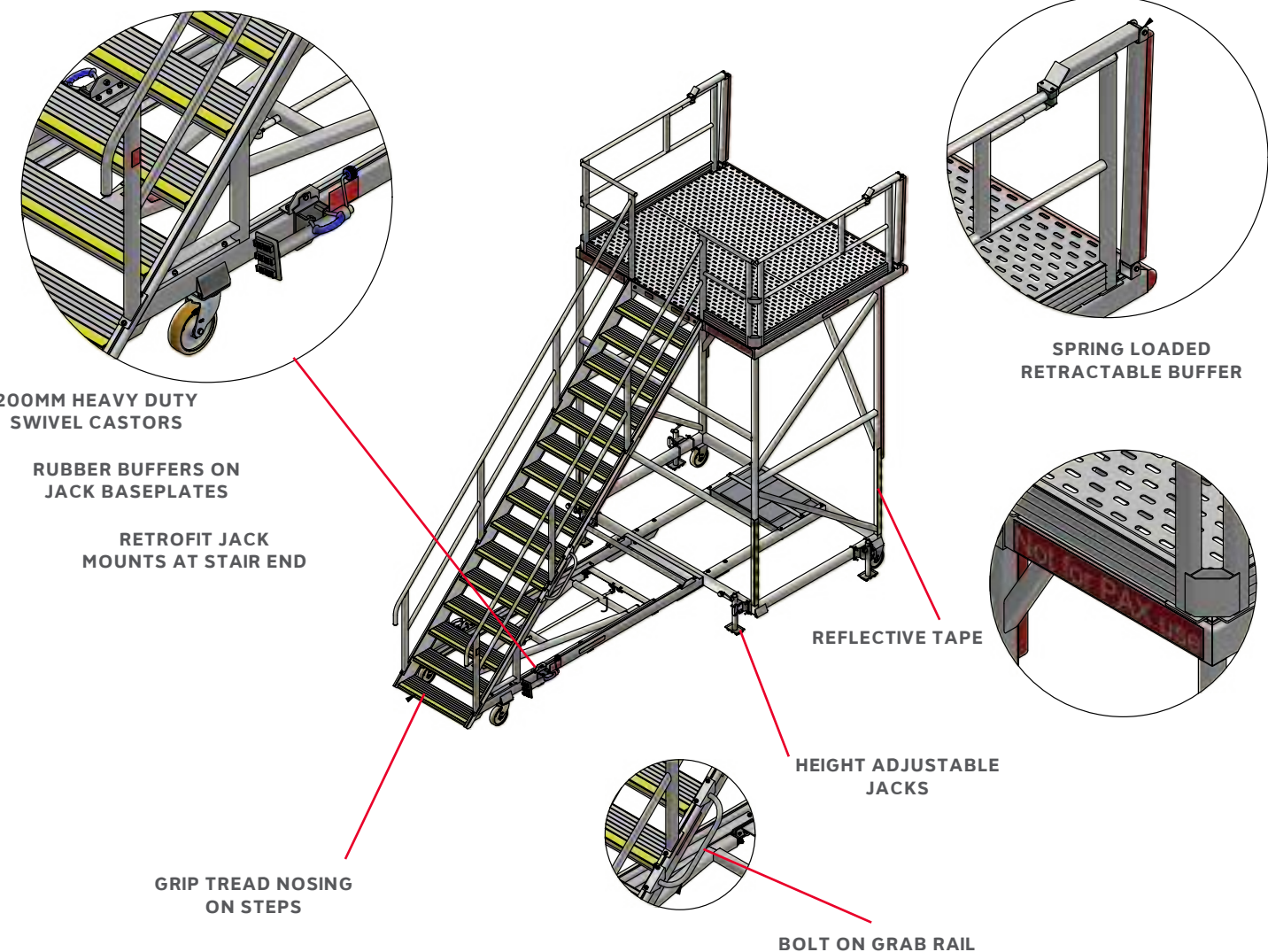
- › Height Adjustable to allow access to different doors and Aircraft
- › Various configurations and options available
- › Adjustability via hand winch or hydraulic options available
- › Towable for transport between locations on the line



# MAIN ENTRY DOOR ACCESS STAIRS

## ENGINEERING ACCESS STAIRS

- › Easily manoeuvrable by one person
- › Ideal for use on the line
- › More mobile to manoeuvre than passenger access stairs
- › Sliding guardrails to allow the doors to open
- › Large landing area for tools and equipment





# MAIN ENTRY DOOR ACCESS STAIRS

## ENGINEER MAIN ENTRY DOOR ACCESS STAIRS

- › Mesh infill panels on handrails for added protection
- › Extended top platform area and SWL rating for extra men and tools



YELLOW CHAIN GATE WITH NO ENTRY SIGN

BOLT ON GRAB RAIL

TOWBAR STOWS UNDER STAIR

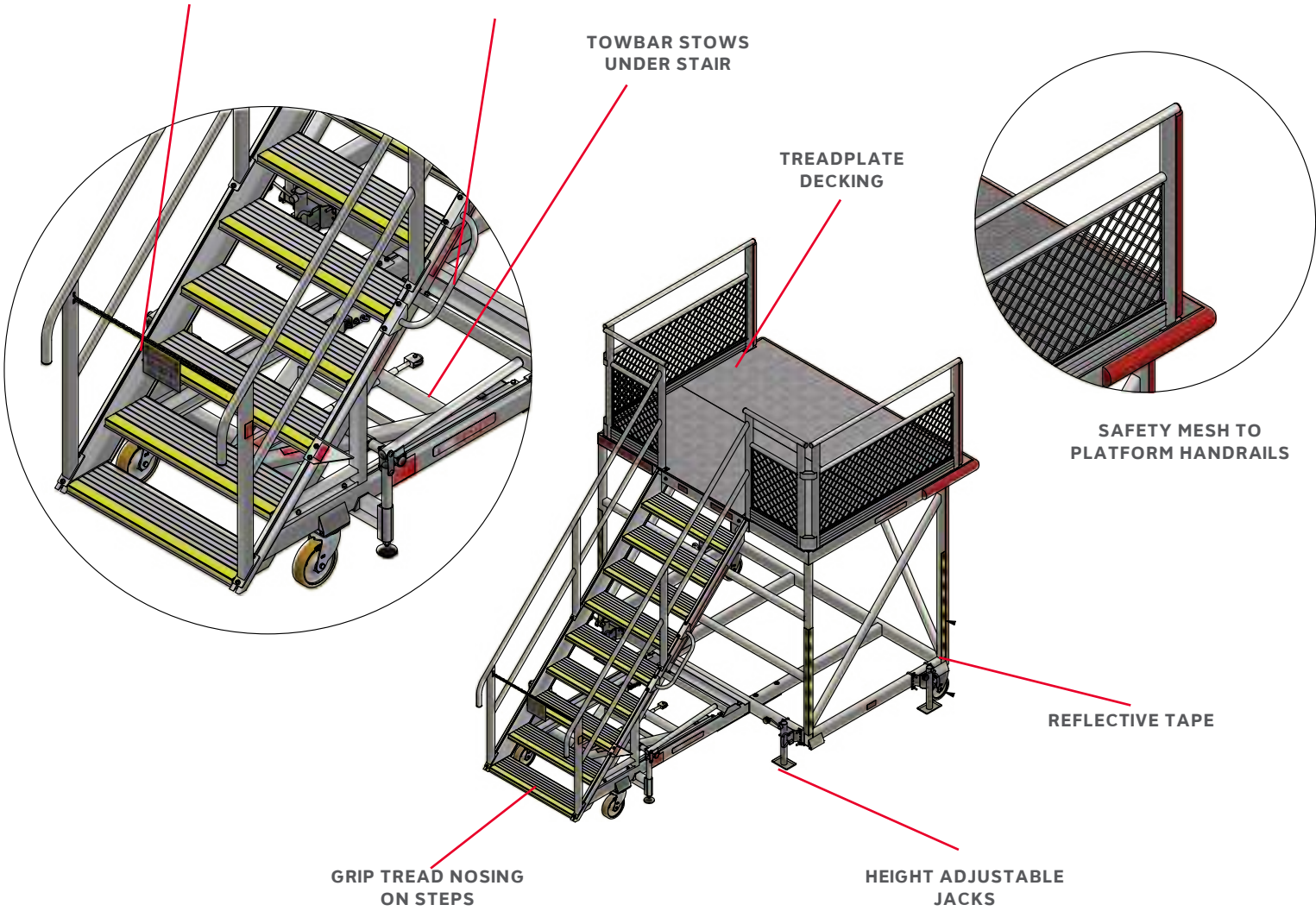
TREADPLATE DECKING

SAFETY MESH TO PLATFORM HANDRAILS

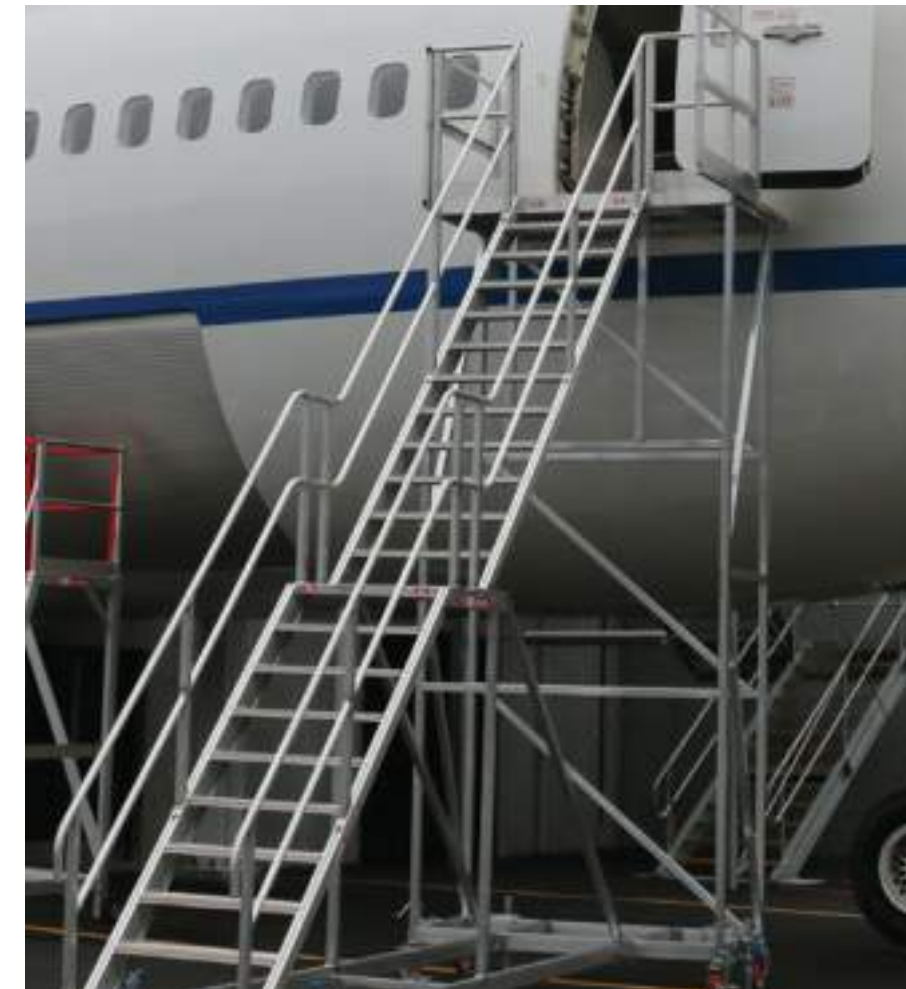
REFLECTIVE TAPE

GRIP TREAD NOSING ON STEPS

HEIGHT ADJUSTABLE JACKS



## CABIN ACCESS STAIRS

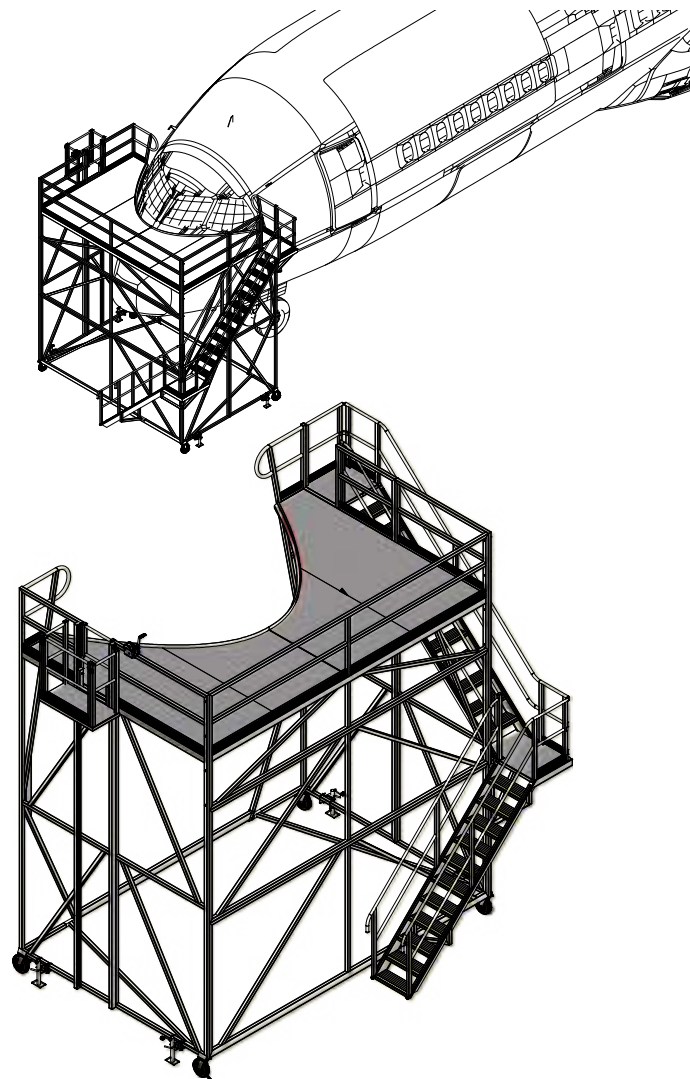
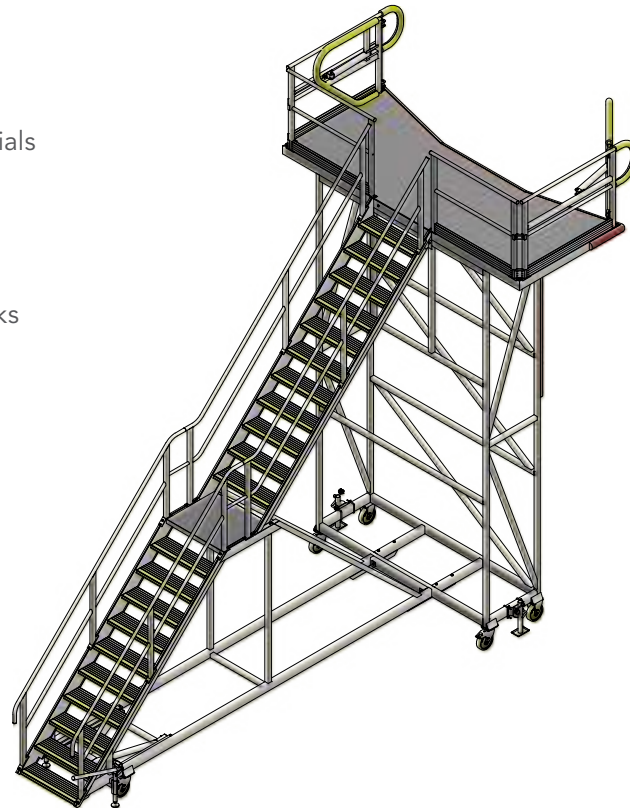




# WINDSHIELD ACCESS

## FIXED HEIGHT WINDSHIELD ACCESS PLATFORMS

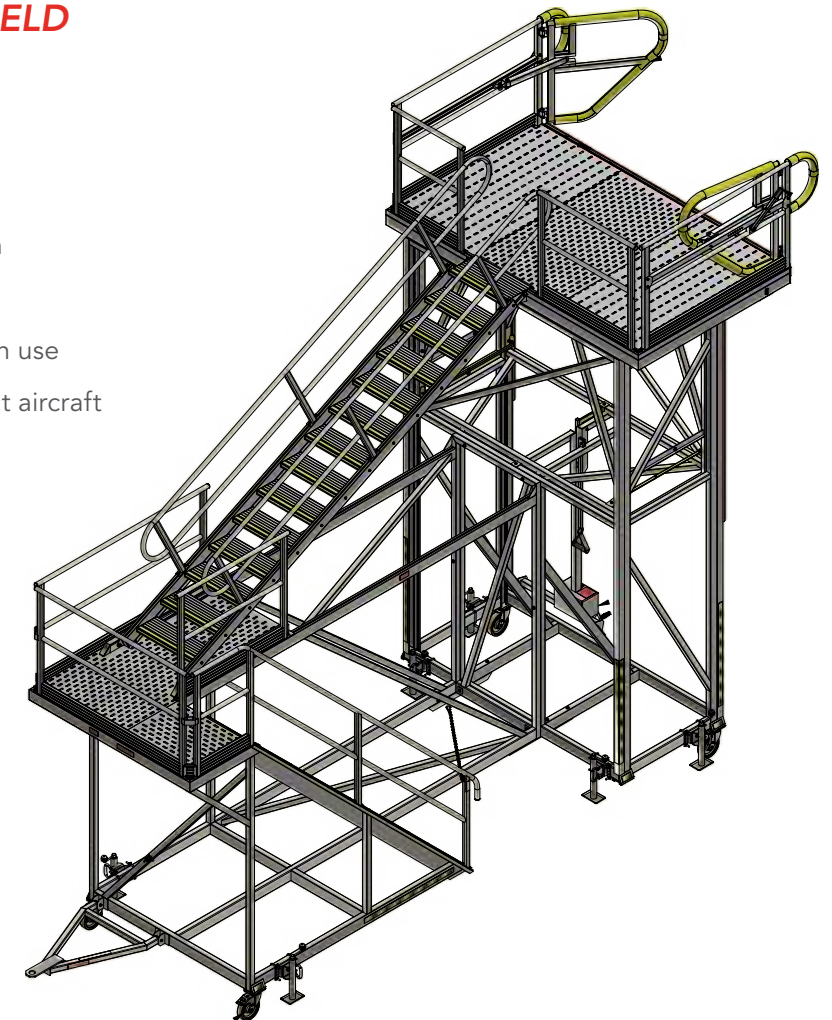
- › Available with stairs off the end or either side of the platform - depending on space constraints
- › Configurable Guardrails for access from either side of aircraft
- › Includes lifting hoist to top platform, for parts and materials
- › Treadplate decking
- › Foam buffer
- › Mobile on 260mm pneumatic wheels with adjustable jacks for stability insitu
- › Bolt-on stair and stair handrails
- › Platform handrails integrated into main bolt-together frames



# WINDSHIELD ACCESS

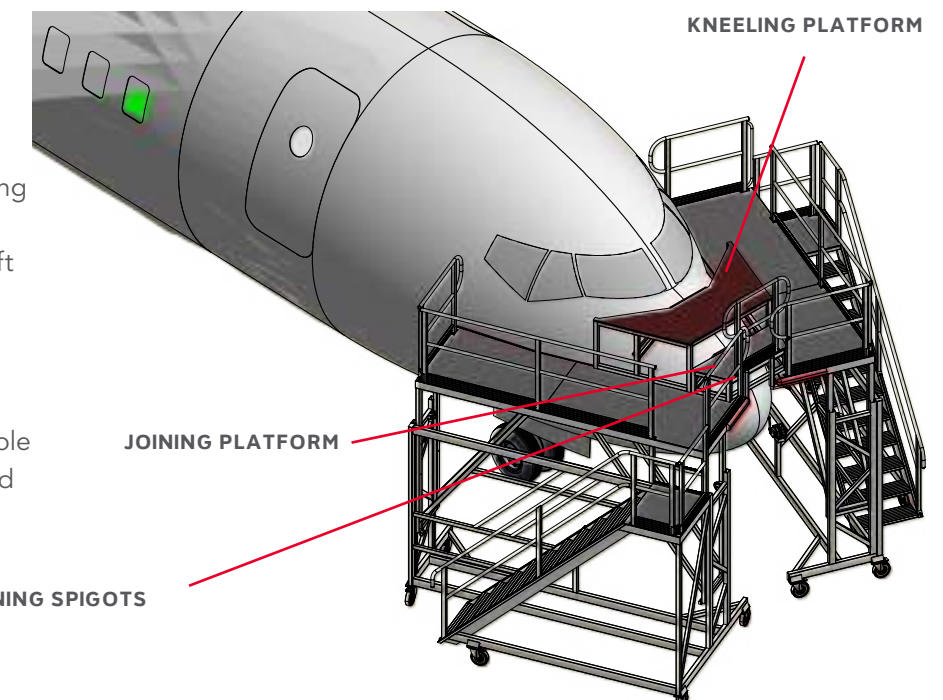
## ADJUSTABLE HEIGHT WINDSHIELD ACCESS PLATFORM

- › Adjustable Guardrail System
- › Sliders to fit Windscreen Contour
- › Single Lever to engage slider locking system
- › Auto-braked handwinch
- › Tow bar stowed against platform when not in use
- › EVA foam fender to leading edges to protect aircraft



## NOSE DECK PLATFORM

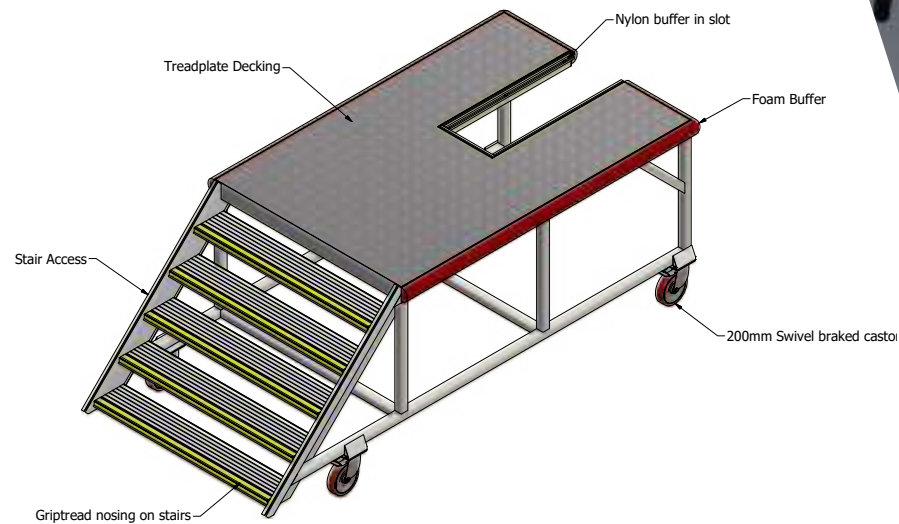
- › High Tensile Aluminium construction
- › Infill platform joining spigots can be bolted in various positions along this slotted member to allow for adjustment to suit different aircraft widths
- › 12mm griptread birch ply for kneeling comfort
- › Side Platforms are height adjustable to allow a great variety of uses and configurations





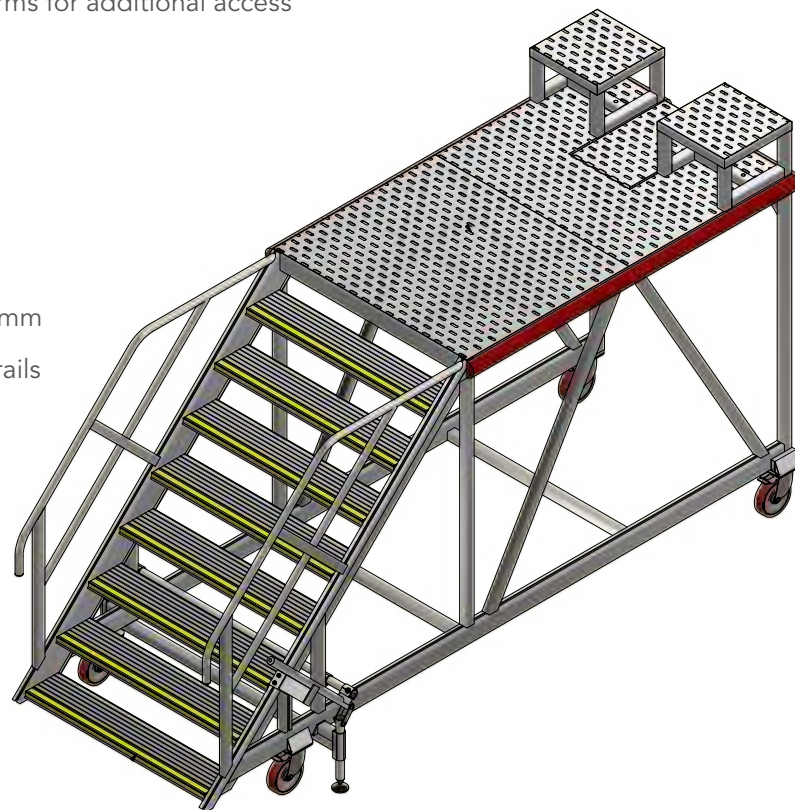
# NOSE LANDING GEAR

## NOSE STRUT SERVICING STAND



## NOSE LANDING GEAR ACCESS PLATFORM

- › Removable steps on upper platforms for additional access
- › Perforated Plate Decking
- › Stair Access
- › Grip tread nosing on steps
- › Lever Brake
- › Removable Slot Cover
- › Removable steps 450 x 450 x 300mm
- › Optional height adjustable guardrails
- › 200mm Swivel Braked Castors



# CARGO ACCESS STAIRS

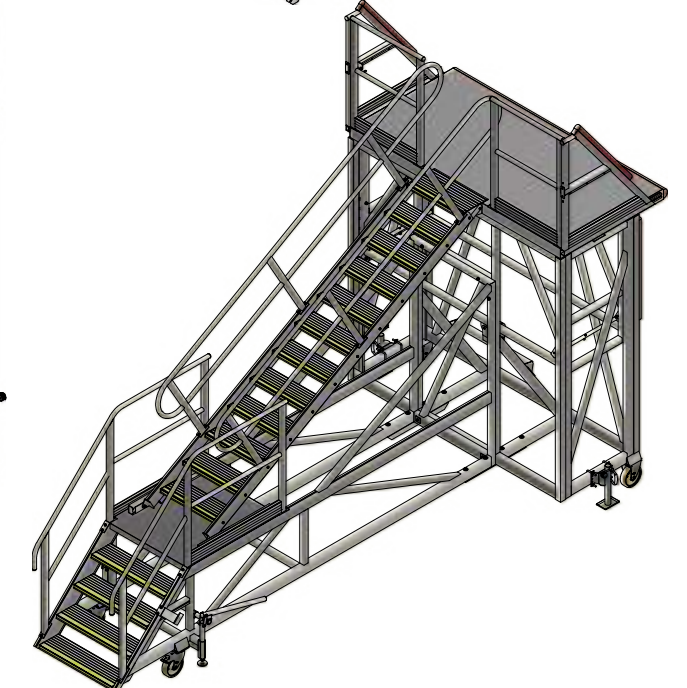
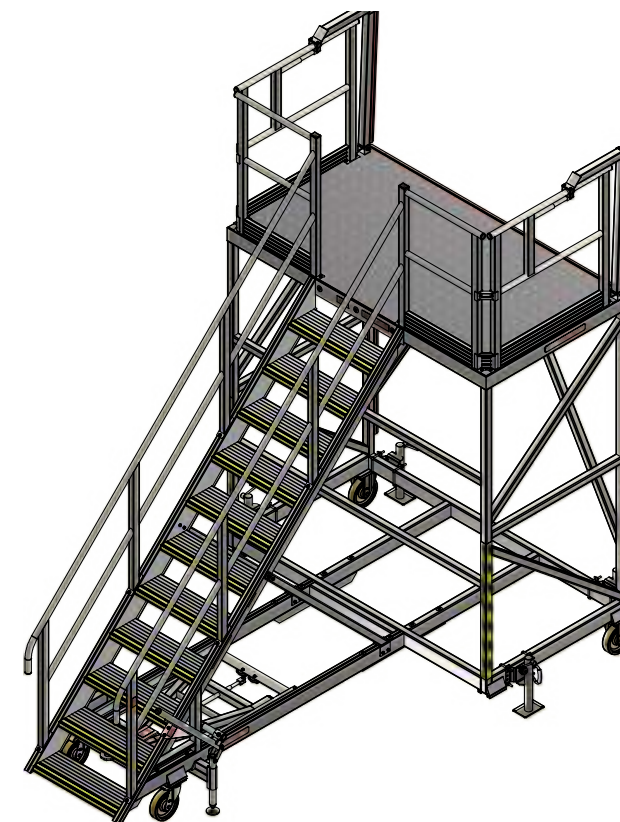
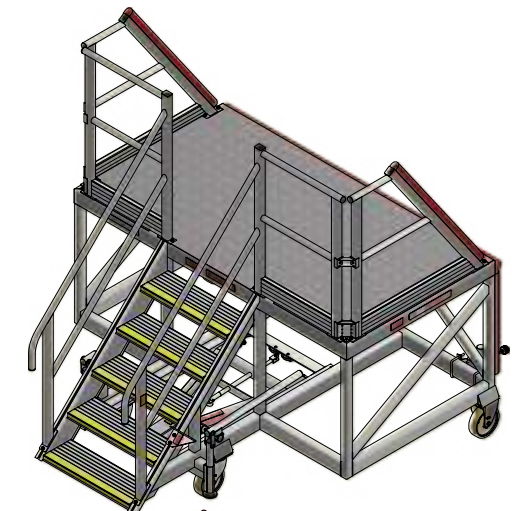
## CARGO DOOR ENGINEERING ACCESS STAIRS

- › Allows for personnel access into the cargo hold area



## MANY CONFIGURATIONS & OPTIONS

- › Multiple step configurations
- › Mid-landing to adjustable height platforms
- › Sliding or profiled handrails available
- › Towable options available
- › Wide and Narrow Body Aircraft





## CARGO DOOR OPERATING STAND

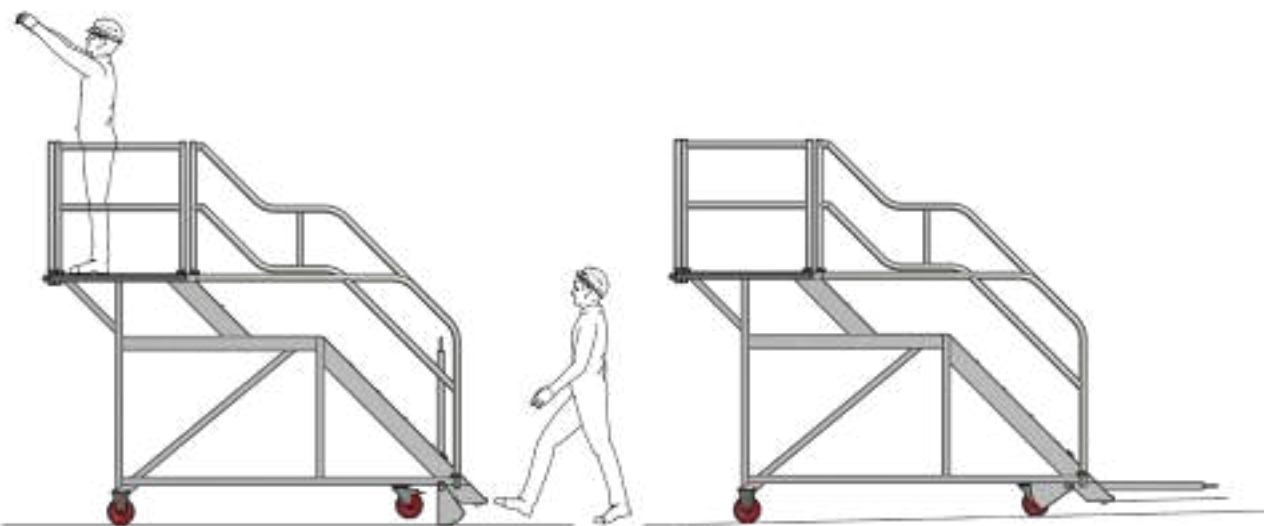
### CARGO DOOR OPERATING STAND

- › Guardrails slide out to allow access to the door activation handle, and then back in to allow the door to swing open whilst the operator accesses the activation panel from a safe platform area



### CARGO ACCESS PLATFORM

- › Allows for safe & easy access to open cargo doors
- › Tow system for transport
- › Rubber buffer to exposed edges
- › Top platform level is used to activate the door, the lower platform level is for the user to stand on when the door opens
- › Side handrails are sliding to allow door to open over the platform level



## CARGO DOOR OPENING STAND

### CARGO DOOR OPENING STAND

- › For use on the line
- › Gives personnel safe and quick access to the cargo door controls
- › Retractable Towbar
- › Wind rated for airport conditions





# MULTI-PURPOSE ACCESS PLATFORMS

## CROWN ACCESS PLATFORM

- › Height Adjustable via a manual locking winch - safely work on top of wings, crown and other areas of the aircraft
- › Cantilevered deck to allow access to the crown of the aircraft
- › Extended Guardrail Area to provide edge protection for users when on the aircraft

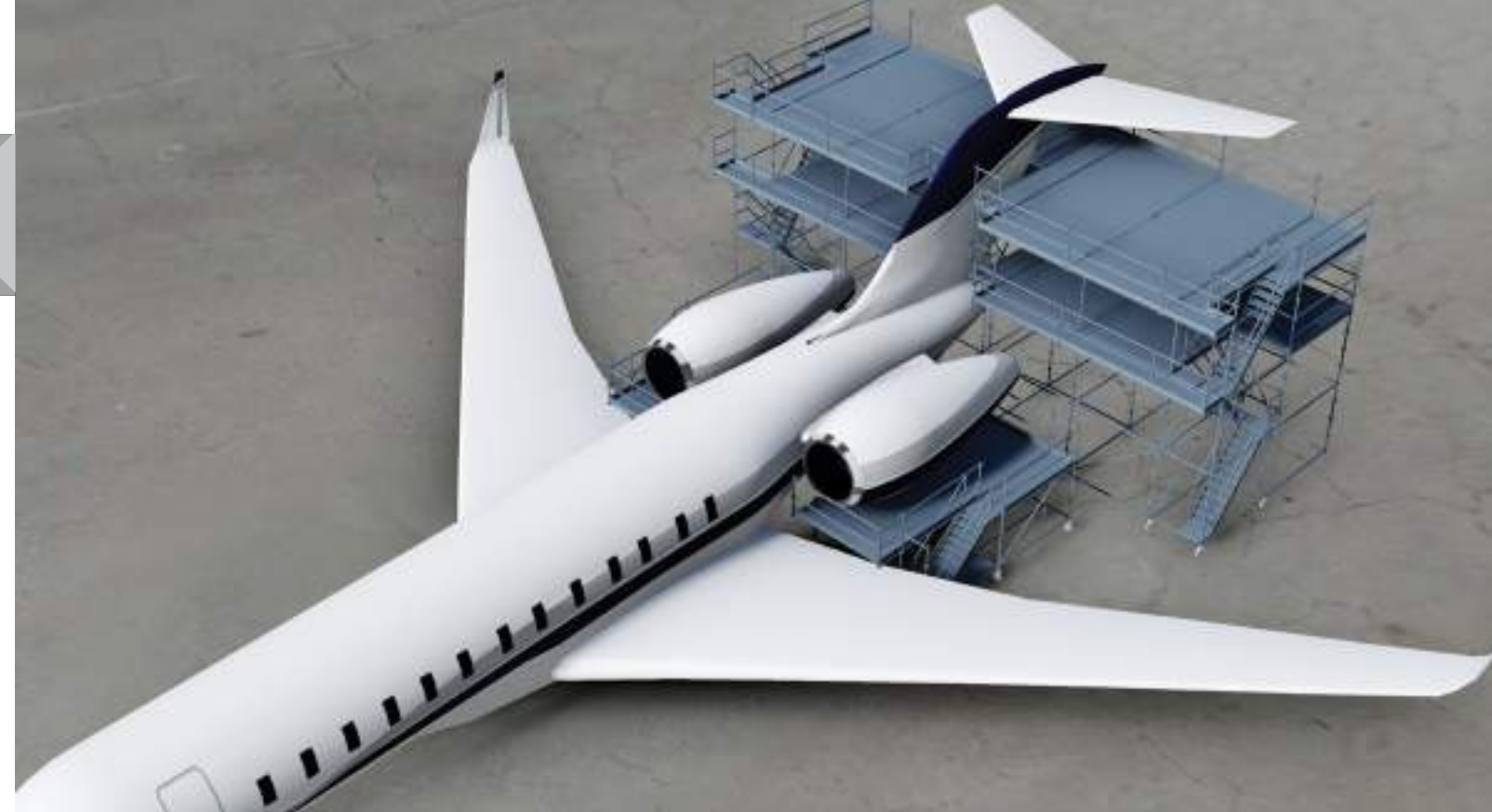


LADDER RAISES WITH CANTILEVER & GRAB RAILS TO AID ASCENT



## GENERAL PURPOSE ENGINEER ACCESS STAIRS

- › Available in various sizes for single-man access to all points of the aircraft
- › Quick-release removable guardrails for multiple uses on the aircraft



## KEEPING SKYWEST BEST FIXED WING CASE STUDY

**AIRCRAFT**  
EMBRAER CRJ 200,700  
AMD 900

### THE CHALLENGE

Utah-based SkyWest—one of North America’s busiest domestic short-hop small capacity airlines—acquired new aircraft in the form of the Embraer CRJ 200, 700 and 900. SkyWest bolstered the fleet with this aircraft to help accommodate the demands of the corporate market, as a partner with United Airlines, Delta Airlines, American Airlines and Alaska Airlines.

SkyWest’s busy schedule required an aircraft that was fast (top speed of Mach 0.78) and was able to be maintained in a fast turnaround time. The fleet already featured aircraft from the Embraer offering that was similar—35-40-seater with rear-mounted engines—to the CRJ series, along with maintenance platforms to suit.

However, minor differences in engine position and fuselage shape meant that new platforms needed designing and building in order to still comply with ground support health and safety requirements.

### THE DESIGN

SafeSmart Aviation attended the site and took measurements and specifications of the CRJ200; dimensions taken were also applicable to the 700 and 900. Within a matter of days, a design was ready, and the client was happy to sign off on their customized maintenance platform, complete with highly durable aluminium construction, easily manoeuvrability by hand and a new level of access that gets technicians up to the engines at the perfect height, all without the unit coming into contact with any part of the aircraft.

The platform also features enough space to hold tools, to save the technicians the time-wasting and painstaking task of clambering up and down in order to swap tools. The platform was also designed to be easily folded and safely placed well away from the aircraft when not in use.

### THE RESULT

Delighted with the experience, SkyWest now look to SafeSmart Aviation for new ways of making the ramp and hangar safety, all while increasing efficiency.

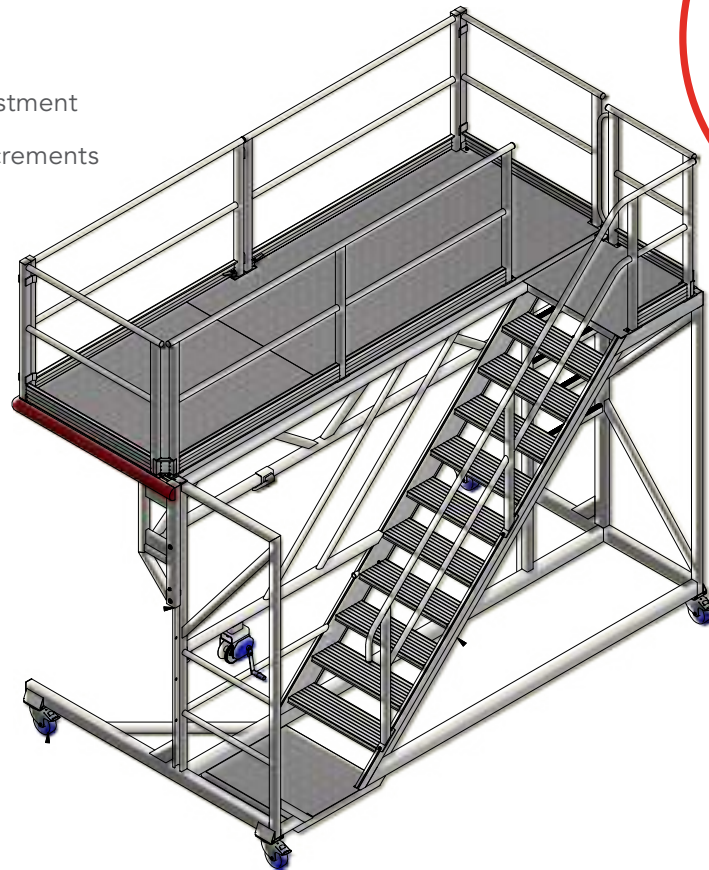


# WINDSHIELD / WING DOCK

# UNDERWING MOBILE DOCKING

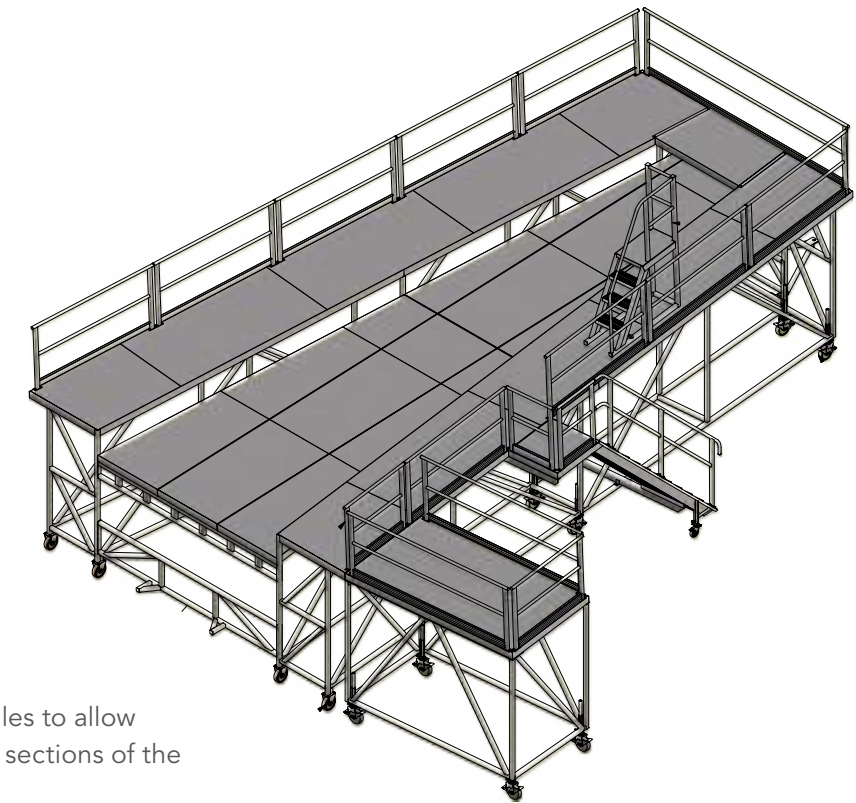
Height Adjustable to allow access to either the windshield OR the wing area

- › Treadplate decking
- › Removable front handrail
- › Foam buffering
- › Handwinch for height adjustment
- › Platform locks at 25mm increments
- › Stair Access
- › 150mm swivel castors

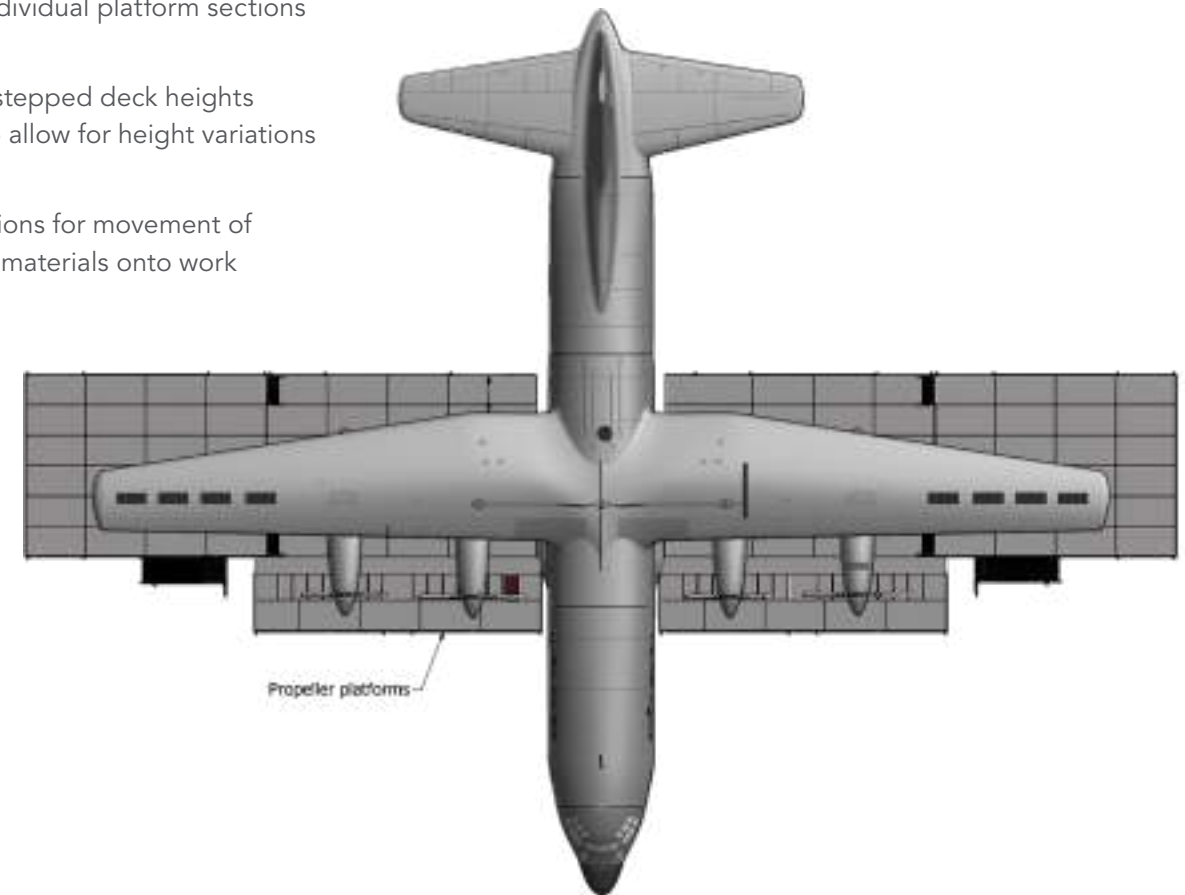


**MULTI PURPOSE  
UNDERWING /  
WINDSCREEN  
ACCESS**

- › Sliders and configurable guardrails for positioning in different areas and for different aircraft
- › Adjustable height allows for ultimate versatility



- › Configurable in modules to allow flexibility in accessing sections of the wing
- › Removable guardrails allows users to close off individual platform sections as required
- › Angled or stepped deck heights available to allow for height variations of wings
- › Gated sections for movement of goods and materials onto work platform







## F-35 FIXED WING CASE STUDY

### AIRCRAFT F-35

#### THE CHALLENGE

The world class F-35 fighter jet is an impressively advanced and capable multirole fighter being rolled out amongst the participating nations militaries in the Joint Strike Fighter program.

Because of its high performance and complex design, the inspection, maintenance, and repair schedules for this aircraft are crucial to its continued efficacy and capacity as a strike aircraft. Ground teams and their engineers and technicians require safe and efficient access to all aspects of the F-35 fighter.

But with many maintenance, repair, and overhaul tasks to be undertaken across the fighter's advanced avionics, complex STOVL design and myriad of ordnance systems, ground teams need to not only protect themselves but also the aircraft's various components.

One option is to create full surround platforms.

Suitable in some scenarios, but more can create more problems in others. Fully elevated and guardrailed docks can often be bulky to manoeuvre and restrict access to entire systems on the fighter. But what if an access solution could be smaller, easily manoeuvrable, and height adjustable without compromising safety?

Working with ground teams and maintenance personnel, SafeSmart Aviation's internal team of engineering and technical experts in the aviation industry created two outstanding options. The Multi-Purpose Cantilevered Stand overcomes working safely at heights on the aircraft while providing a better solution than full surround solutions. Available in either 45-degree access or 70 degree access, these platforms are 100% manually adjustable in height and protect both aircraft and maintenance personnel.

Completely manoeuvrable for easy repositioning with their castors & wind down jacks plus they're light with marine grade aluminium construction.

#### THE DESIGN

After consultation with ground teams, we learnt that egress via a comfortable angle and unrestricted movement on working areas were extremely important to their ability to execute tasks during MRO work. As a result, each platform has a large working area, adjustable with a manual winch to any height up to 2.8 metres for the 70-degree model and 2.6 metres for the 2.6 meter 45-degree model.

#### THE SOLUTION

Both platforms are cantilevered out each side providing a larger work area while securing each platform is easy with the top mounted wind down jacks that level and stabilise the platform on any surface. Additionally, the 70-degree platform comes complete with towing capabilities for fast deployment in hangars.

Protecting the composite material of their airframe was imperative while works were being undertaken. To minimise the risk of damage to the fighter, strategic positioning of protective rubber foam line the leading edge on both platforms. With telescopic guardrails mounted on the 70-degree platform's working area providing extra protection, no matter it's positioning.

Finally, MRO personnel are fully protected at the top of the work area. The 45-degree platform provides full surround protection with guardrails (top and mid) and spring-load batwing gate. Once positioned against the work area, the 70-degree platform secures personnel with the spring-loaded batwing gate plus telescopic guardrails for added protection.

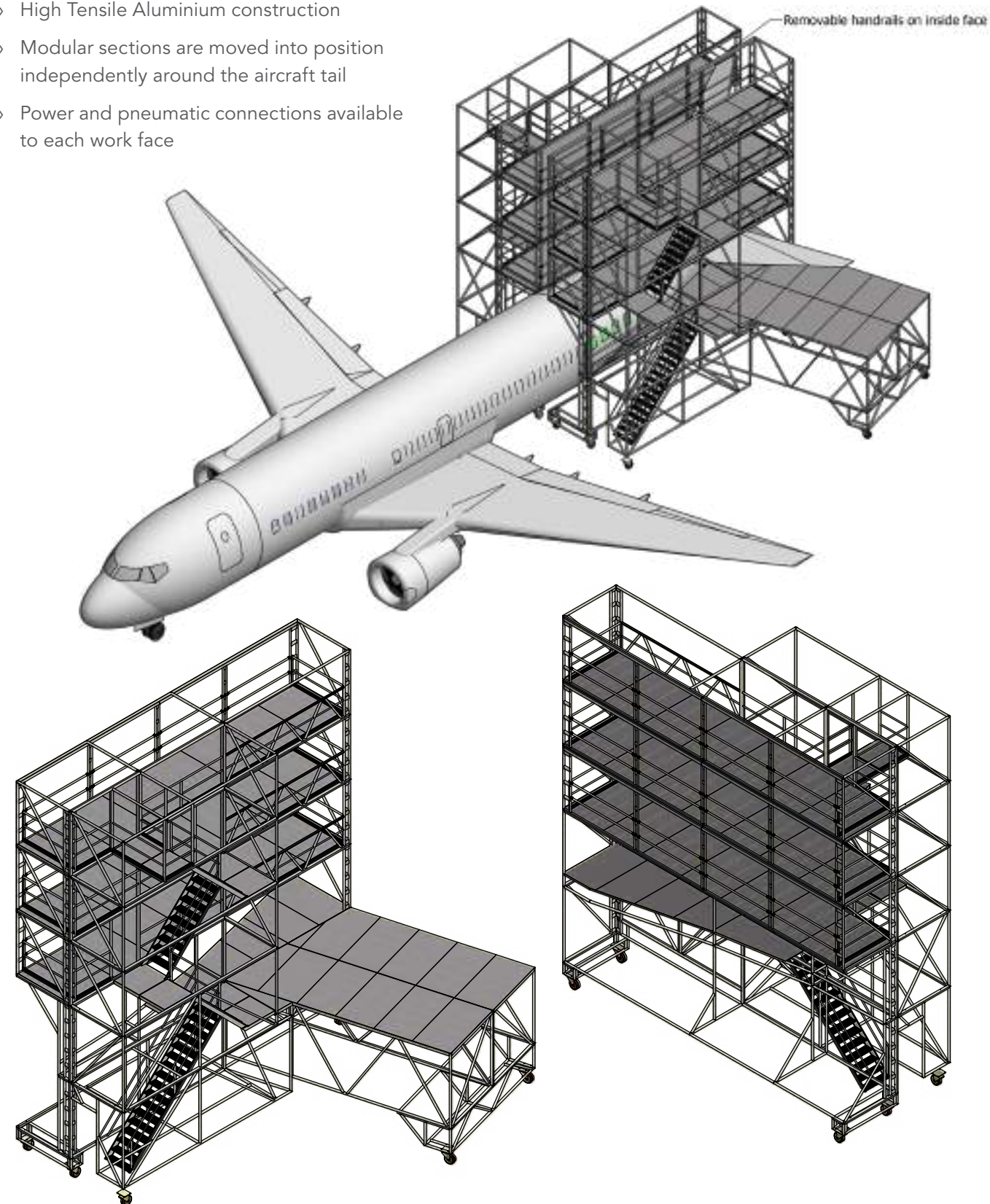




# TAIL DOCKING

## TAIL DOCK VERTICAL STABILISER MOBILE DOCKING

- › High Tensile Aluminium construction
- › Modular sections are moved into position independently around the aircraft tail
- › Power and pneumatic connections available to each work face



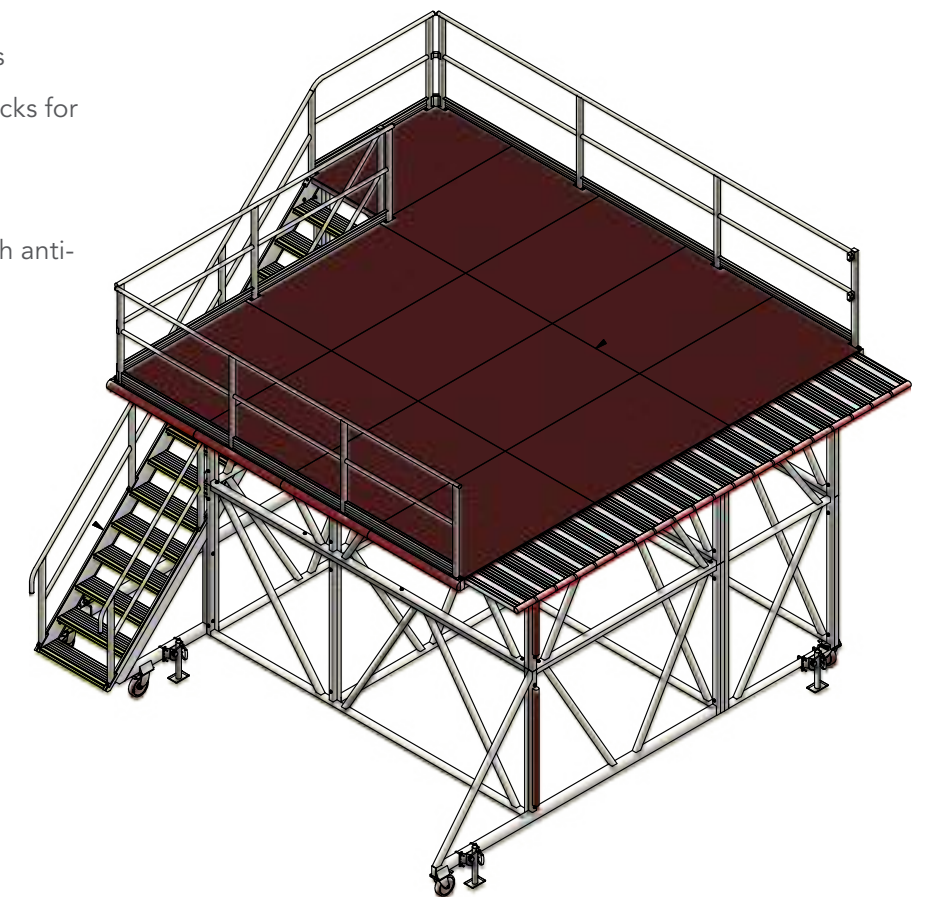
# TAIL DOCKING

## HORIZONTAL STABILISER MOBILE DOCKING

- › Fully Mobile Aluminium Tail Dock
- › Simply rolls into position in seconds, when aircraft is in the hangar
- › Allow access for up to 8 personnel concurrently, to the tail and engines



- › Plywood decking
- › Extendable slider planks to match varying profiles
- › Protective foam buffer
- › 200mm swivel braked castors
- › Height adjustable machine jacks for stability
- › 45 degree stair
- › Griptread extrusion steps with anti-skid fibreglass nosings





# AIRCRAFT SURROUND DOCKING

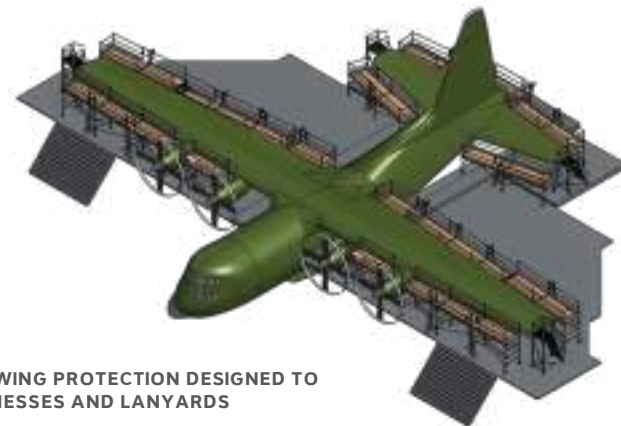
## LARGER SCALE INSTALLATIONS | VARIOUS DOCKING CONCEPTS

### AIRCRAFT DOCKING SYSTEM HERCULES C130 (PICTURED)

- › SafeSmart Access provided the complete solution from system design to installation
- › Job: Hercules C130 heavy duty refurbishment for the RAAF Richmond, NSW, Australia
- › The package includes heavy duty steel base docking platforms, structural aluminium custom mobile platforms and aluminium mobile scaffold to create a complete access solution
- › Proscaf scaffold and clear span truss beams allow for tight space requirements and plenty of unobstructed access for operators underneath the platform
- › Custom design aluminium platforms encapsulate the aircraft completely yet can be easily relocated if required
- › Mobile scaffolding gives cost effective access to the wing surfaces
- › Complete system can be disassembled for redeployment
- › Unique, configurable design for different maintenance programs
- › Removeable nose docks and sliders so aircraft can be quickly moved



MOBILE ALUMINIUM DOCKING FOR NOSE AND PROPELLER ACCESS  
UNIQUE SLIDING PLATFORM SYSTEM FOR CLOSE ACCESS TO FUSELAGE



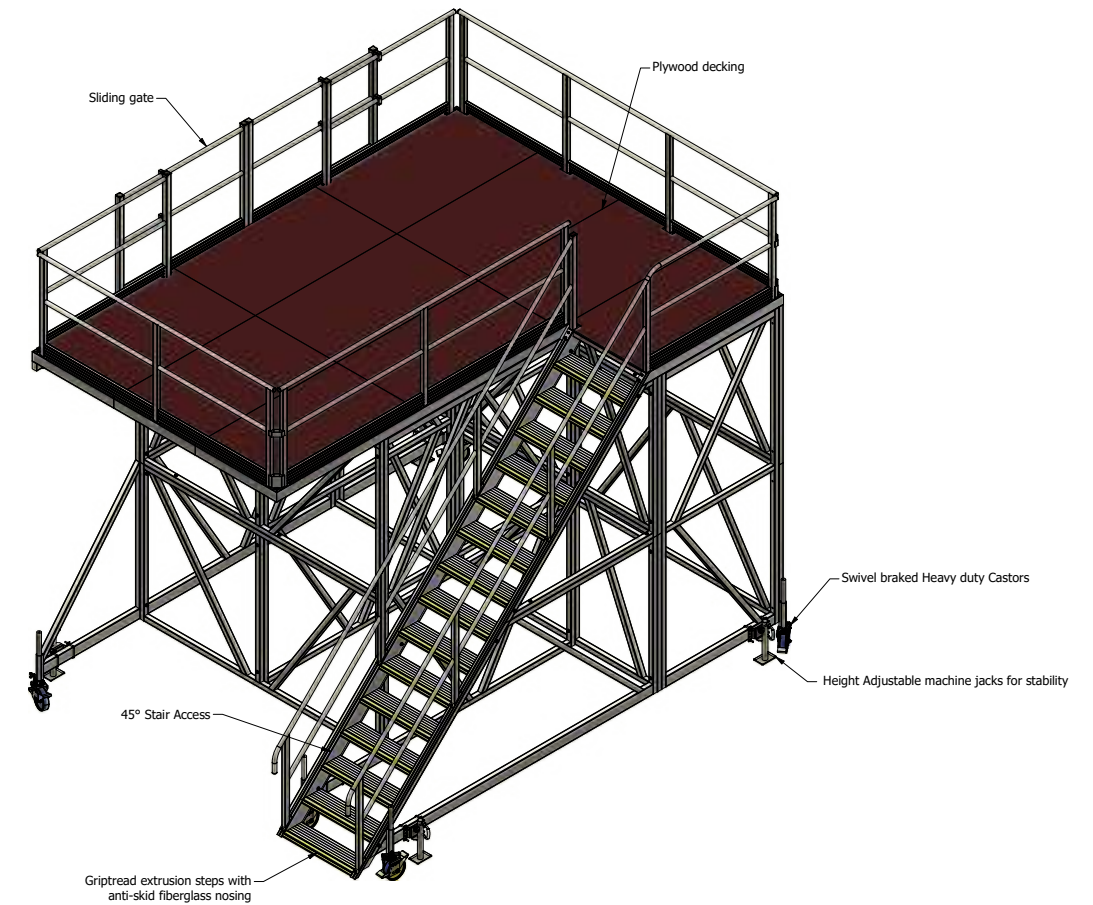
MOBILE SCAFFOLDING FOR WING PROTECTION DESIGNED TO  
AVOID USING HARNESES AND LANYARDS



# APU / GPU ACCESS PLATFORMS

## APU ACCESS PLATFORM

- › Large surface area to allow for install and removal of the APU unit
- › Alternative lifting hoist arrangement to handling of the APU
- › Sliding Guardrails for loading of materials, via forklift



## GPU ACCESS (LINE) STAND

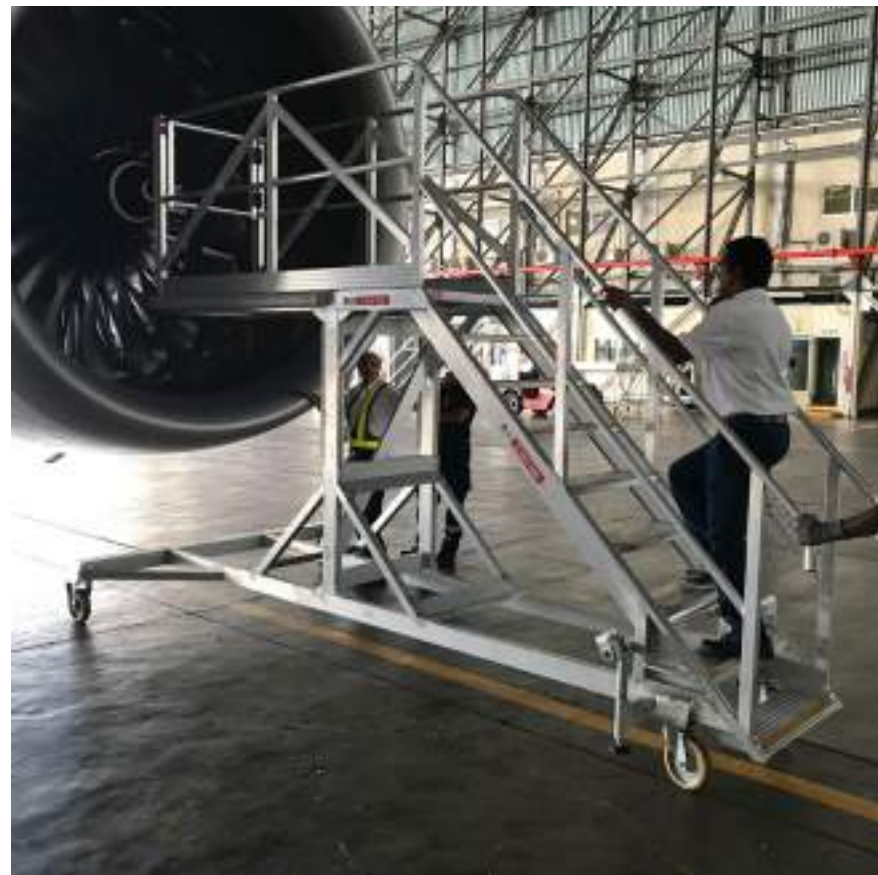
- › Ideal for line maintenance - simple and easy for one person to move around a bay
- › Stair access
- › Grip tread nosing on steps





# ENGINE INLET / EXHAUST ACCESS

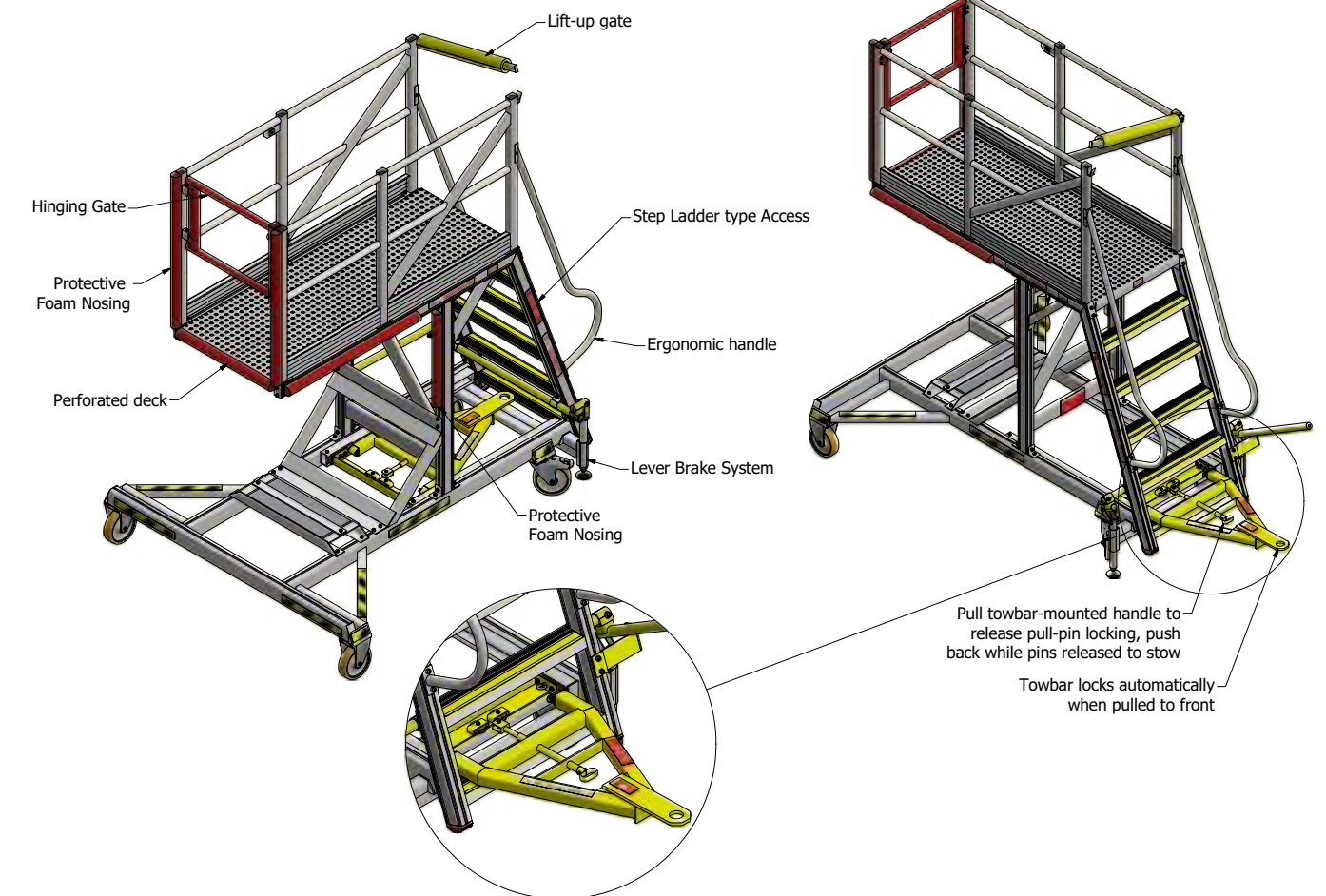
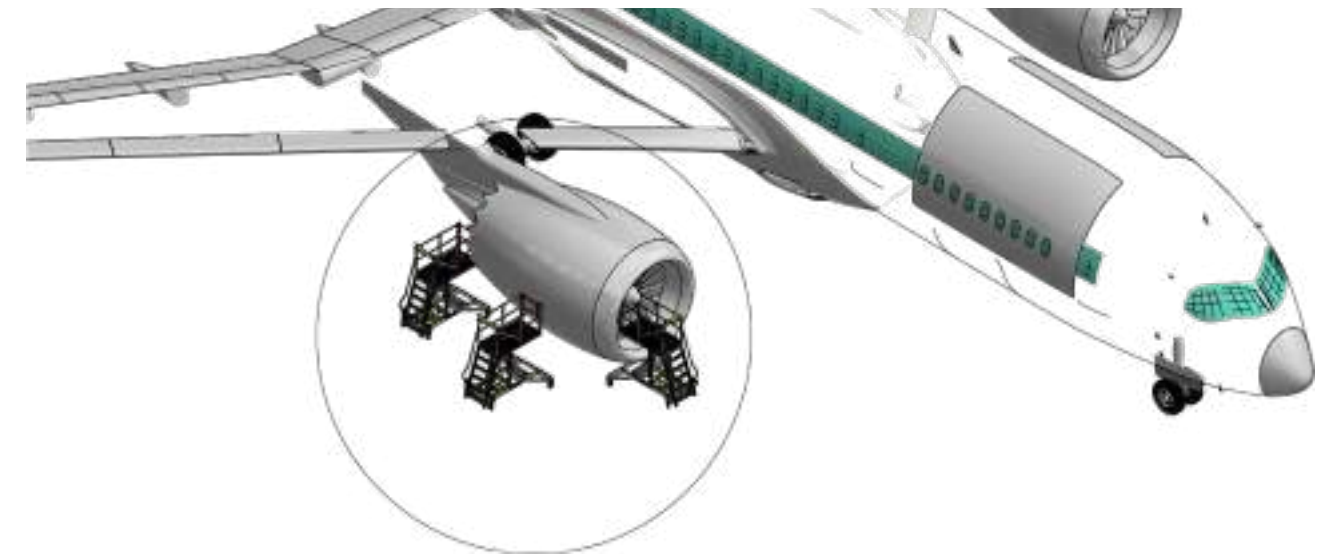
- › Cantilevers right into engine to allow access to blades engine lining, and other maintenance points
- › Designed for use at front and rear of engine
- › Can also be used for landing gear access
- › Towable for transportation between hangars
- › Optional tool trays for storage of laptops and equipment



# ENGINE INLET / EXHAUST ACCESS

## MAINTENANCE STEPS FOR ENGINE INLET / OUTLET ACCESS

- › Access right into the front and rear of the engine, for engine blade change, and attrition liner repairs





# ENGINE OIL CHECK & CHANGE ACCESS

## DUAL LEVEL OIL CHECK STAND

- › Towable and wind-rated for use on the line, Includes oil and tool storage compartments
- › Different platform levels, for inboard and outboard engines
- › Storage tray under platform to catch oil
- › Unique lever actuated locking system and tow bar



# ENGINE OIL CHECK & CHANGE ACCESS

## ENGINE OIL CHECK & CHANGE PLATFORM

- › Sliding guardrails for use for multiple applications around aircraft
- › Ideal for engine oil checks, avionics access, under fuselage access and more

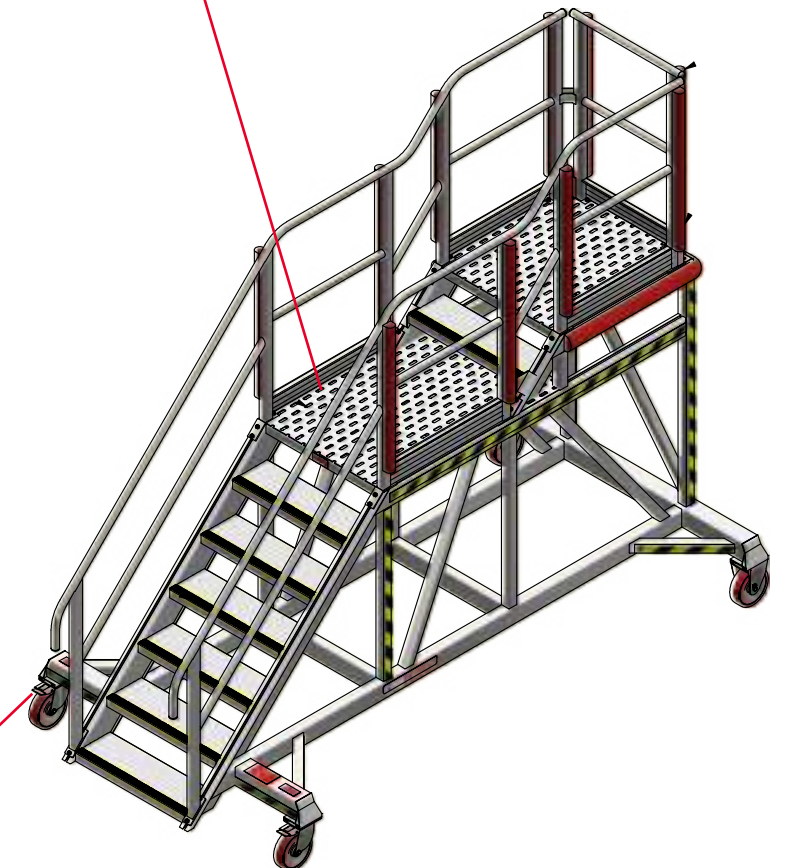


PERFORATED DECK



HI-VIS STEP NOSING

200MM FULLY BRAKED SWIVEL CASTORS

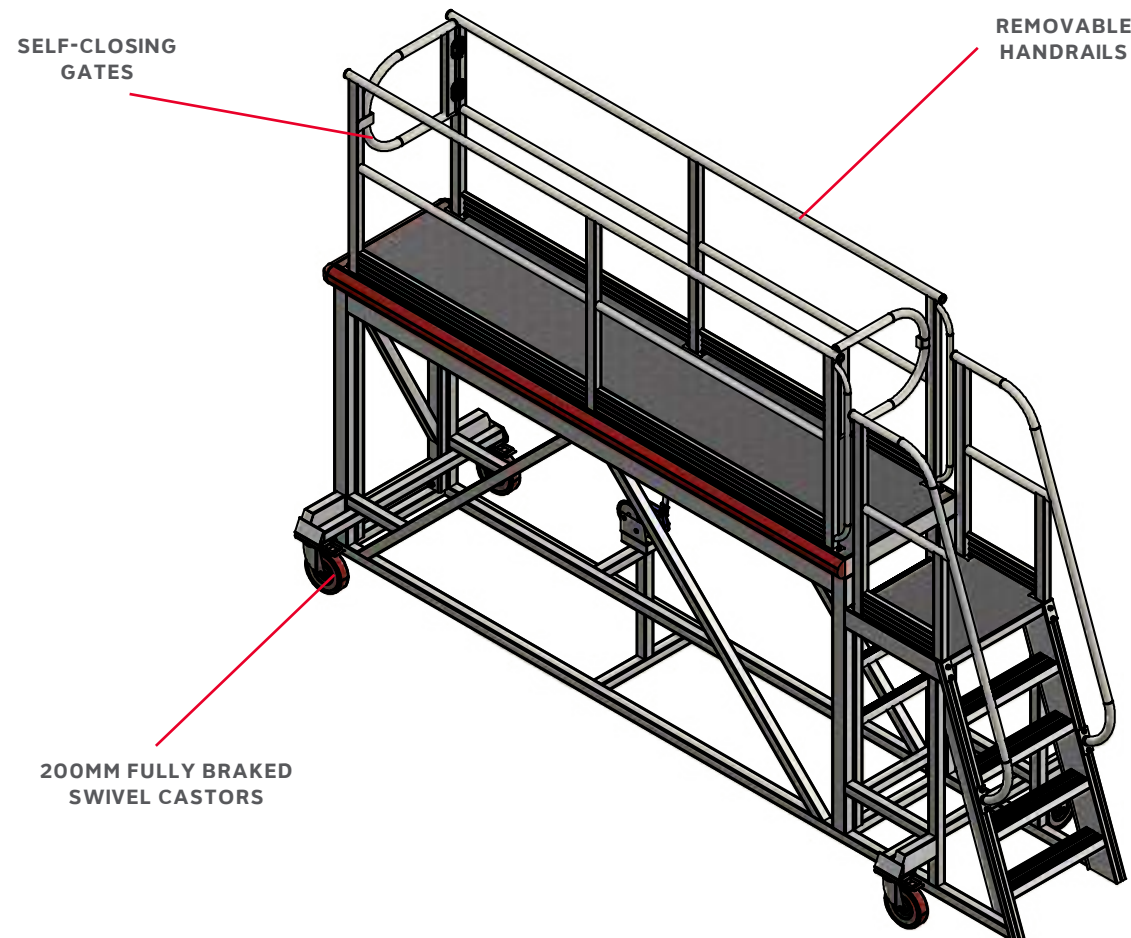




# ENGINE UNDERCOWL ACCESS

## UNDERCOWL ACCESS PLATFORM

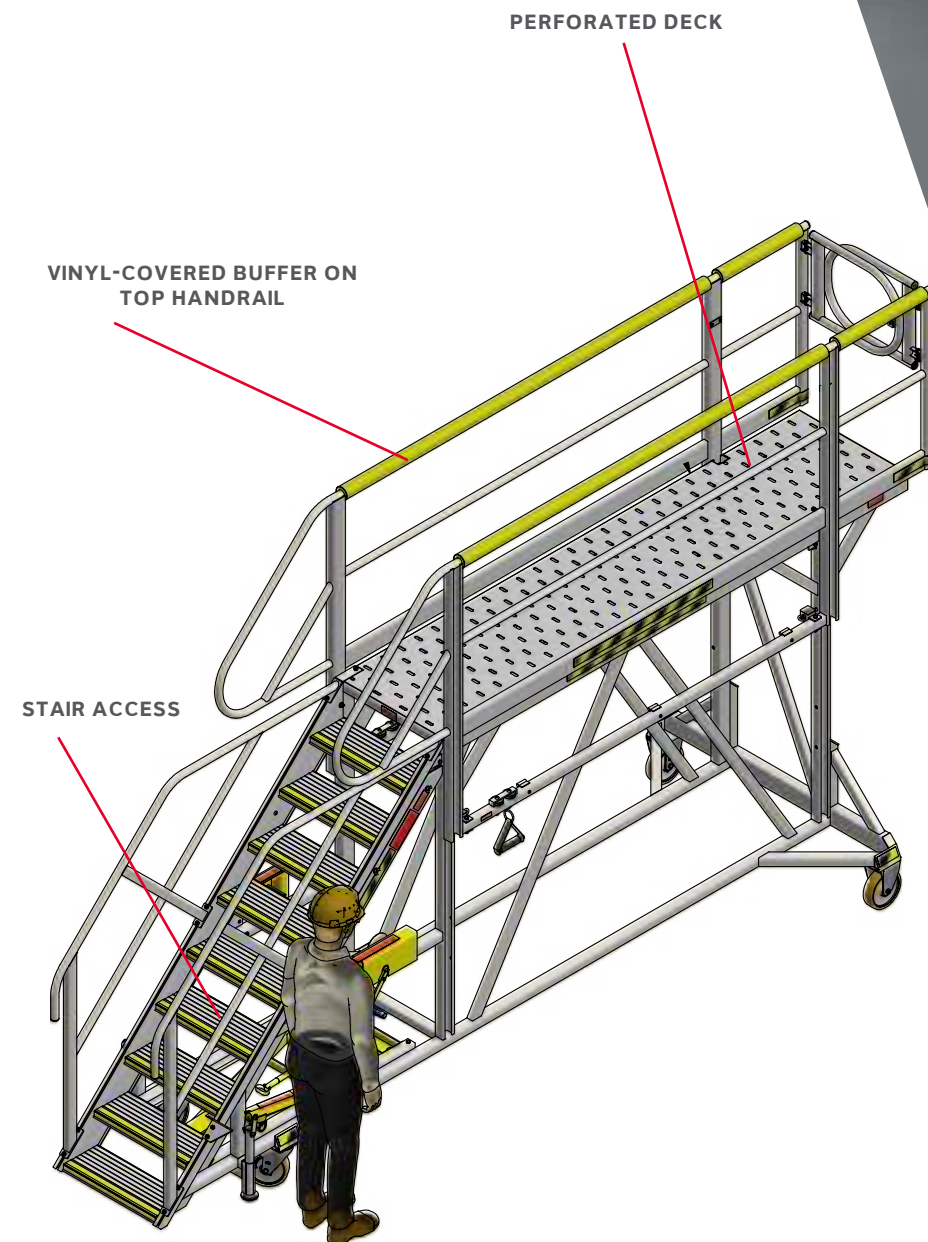
- › Different height platforms to suit inboard and outboard engines
- › Height adjustable platform option also available.
- › Sliding, height adjustable guardrails for ultimate useability
- › Narrow footprint to allow a stand to be used on either side of the engine
- › Towable and wind-rated for use on the line



# ENGINE UNDERCOWL ACCESS

## UNDERCOWL ACCESS STAND

- › Height Adjustable Guardrail to create enclosed edge protection no matter in what configuration the platform is used



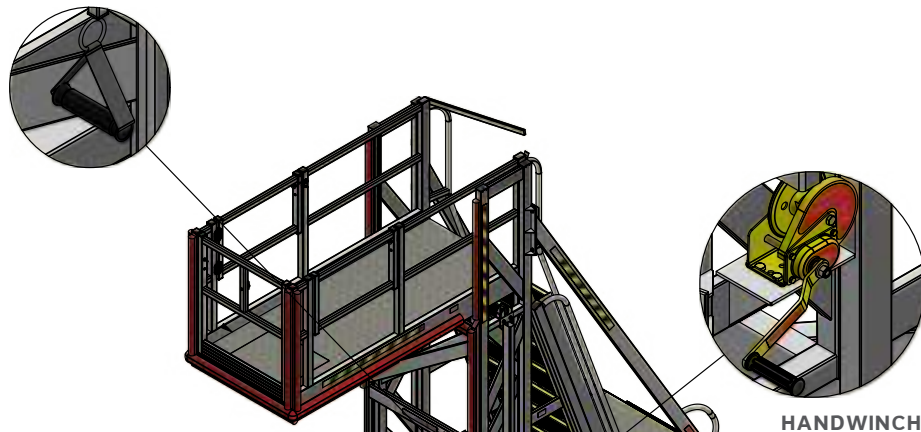


# OVERWING / FUSELAGE ACCESS

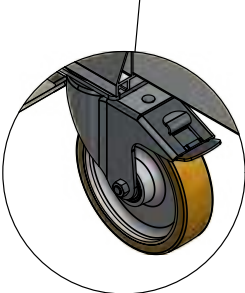
## HEIGHT ADJUSTABLE CANTILEVER PLATFORM

- › Handles for relocation of platform
- › Fibreglass step nosings
- › Removable Hatch for access to top of wings or fuselage
- › Treadplate Decking
- › Sliding handrails

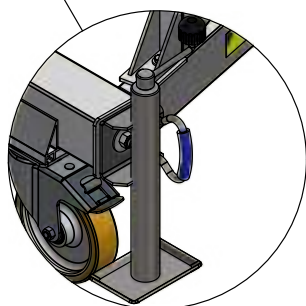
STIRRUP HANDLE TO RELEASE HEIGHT LOCKING PINS IN 280MM INCREMENTS



HANDWINCH



200MM HD SWIVEL BRAKED CASTORS

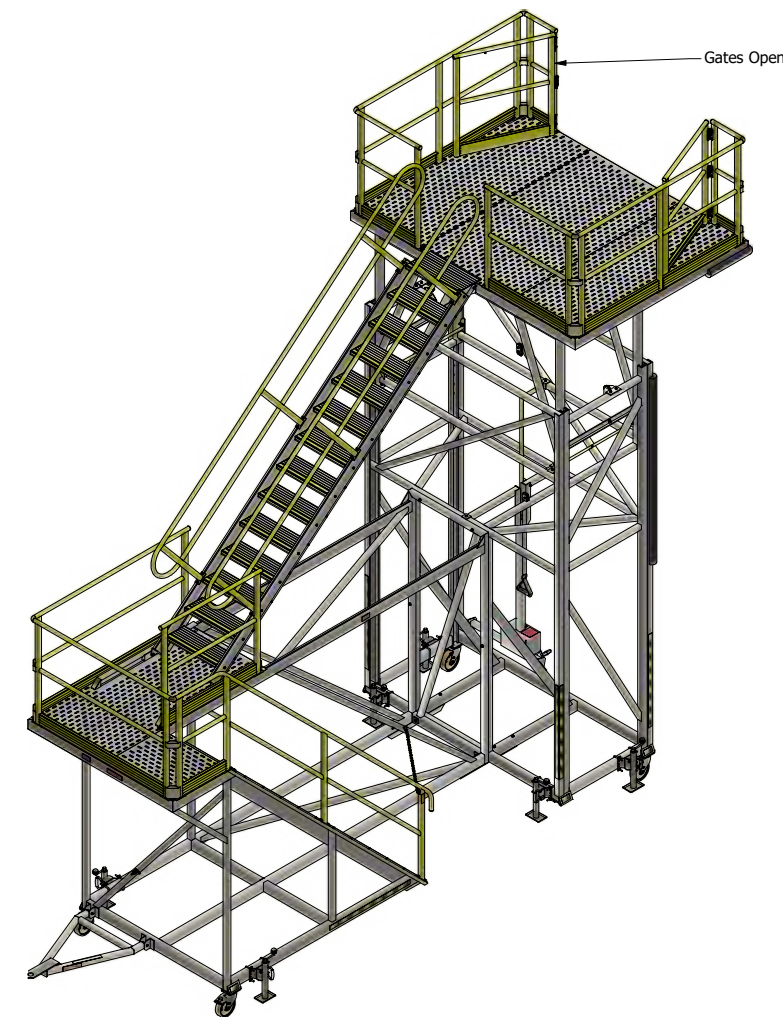


WIND-DOWN STABILISERS



## FUSELAGE ACCESS HEIGHT ADJUSTMENT PLATFORM

- › Adjustable Height Platform to access top of fuselage OR Main Entry Doors
- › Return stairs to reduce footprint in the hangar
- › Folding gates to edge protect top platform OR to fold out and provide an enclosed area on top of the fuselage



Gates Open





## PYLON ACCESS / REFUELLING STAND

### PYLON ACCESS PLATFORM

- › Large cantilever to allow access to the centre of the engine pylon
- › Aluminium Perforated Plate for Superior Traction
- › Pin-locking swing gate
- › EVA Foam Protective Buffer
- › Hand Operated Brake
- › 200mm Swivel and Fixed Heavy Duty Castors



### REFUELLING STAND

- › Lift-up gate
- › Includes hose winch to lift fuelling hose up to re-fuelling point
- › Perforated deck
- › Ergonomic handles
- › Step Ladder type access
- › Heavy duty towable swivel castors SWL 900kg



## 'MISSION COMPLETE' WITH A SAFE & EFFICIENT SOLUTION TO ACCESS THE TOP OF AIRCRAFT FUSELAGE

**AIRCRAFT CLASSIFIED**

### THE CHALLENGE

Mission Systems Australia is a subsidiary of L3Harris Technologies, Inc. Mission Systems Australia is a provider of maritime systems and solutions in electronic mission systems integration, sustainment and training, maritime integrated communications

systems, underwater signal intelligence and maritime domain awareness for both defence and commercial applications. Mission Systems needed to replace an old ladder, used for access to the top of aircraft fuselage.

### THE DESIGN

Mission Systems Australia approached SafeSmart Access to provide for a custom solution. SafeSmart's engineering team reviewed Mission Systems specifications and designed a more efficient and safer product. The custom 5.4mH maintenance platform with mid-landings included reflective hazard tape, upper fully welded frame, right hand gate & bolted end panel. The Mission Systems Australia team mentioned that they were very impressed with our sales, service, delivery and assembly option.

### THE SOLUTION

SafeSmart now has the product added to the Aircraft Access category of the website, with more specific details, as a reference for global aviation operators who may have similar applications.



# MAIN LANDING GEAR ACCESS

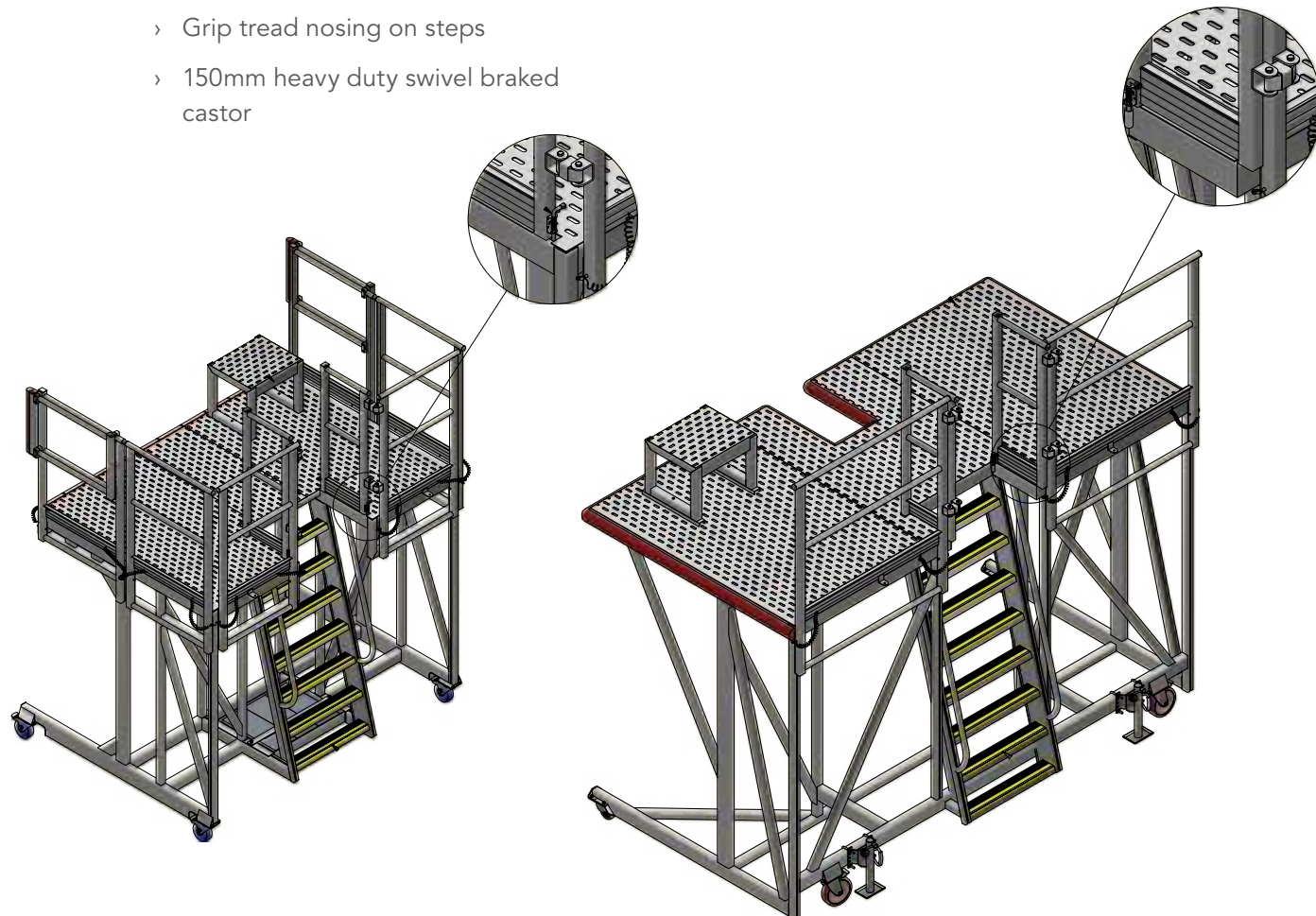
## WHEEL WELL ACCESS PLATFORM

- › Sliding guardrails for ultimate protection
- › Configurable for LH or RH of aircraft
- › Cantilevered to cover space over wheels and provide required access to oil and cabling points
- › Platform Sliders to ensure that potential fall gaps are closed ensuring ultimate safety



### FEATURES

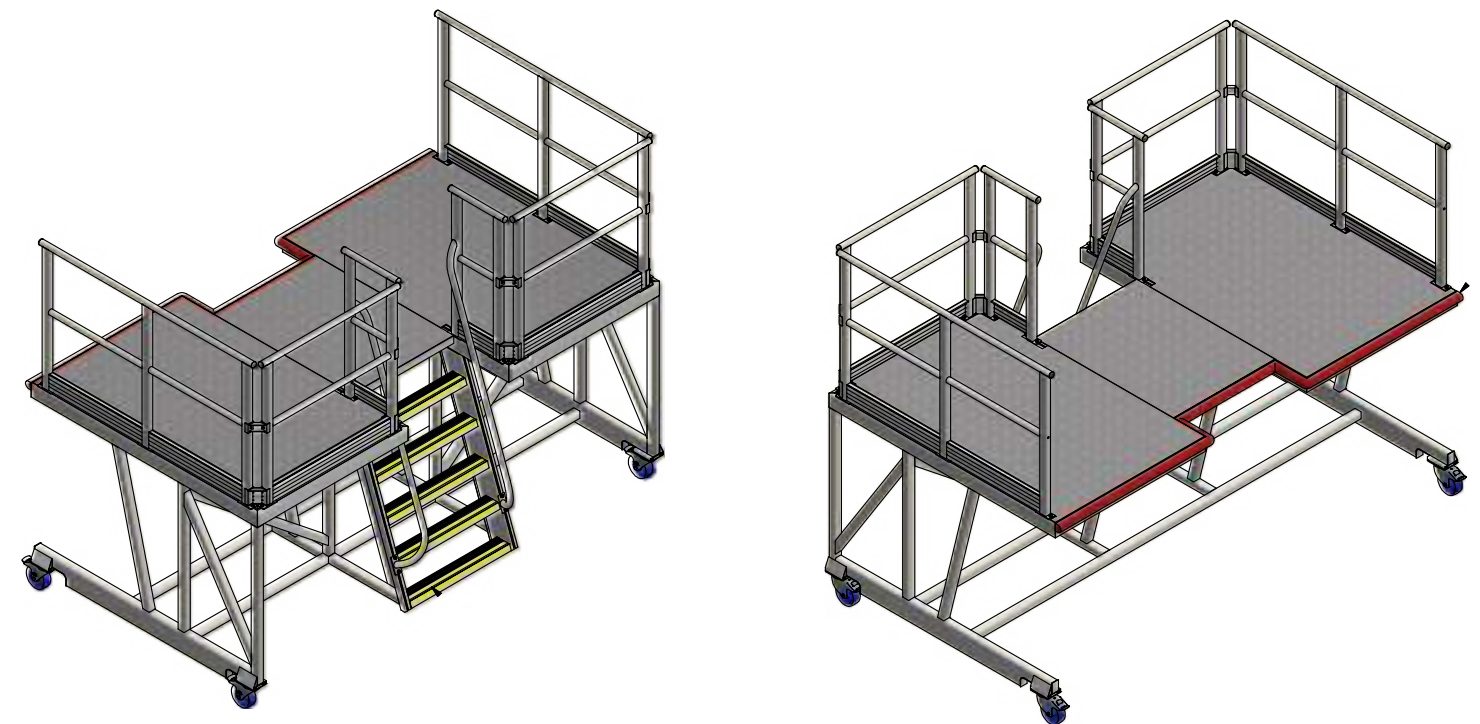
- › Perforated Plate Decking
- › Guardrail locks in place with spring pins
- › Grip tread nosing on steps
- › 150mm heavy duty swivel braked castor



# MAIN LANDING GEAR ACCESS

## HYDRAULIC BAY ACCESS STAND

- › Removal or Sliding Guardrails for configuration in various areas
- › Treadplate decking
- › Removable handrails
- › Grip tread nosing on steps
- › 150mm heavy duty swivel braked castors





# TRANSFORMER CABLE ACCESS

## TRANSFORMER CABLE ACCESS PLATFORM

- › Large, safe and sturdy work platform
- › Perforated, slip resistant deck area
- › Constructed from high tensile, box section marine grade aluminium
- › Includes rubber / foam composite buffering to aircraft contact areas
  
- › Transformer cable bracket
- › Rubber foam protection
- › Reflective tape
- › Fibreglass nosing
- › Lift-up handles for transport



# WORKSHOP ACCESS PLATFORMS CASE STUDY

**AIRCRAFT**  
VARIOUS

## THE CHALLENGE

A Victoria-based aircraft parts manufacturer had some existing workshop platforms for accessing various aircraft components. A new design was needed to incorporate some features which would make the platforms more versatile and efficient.

## THE DESIGN

The client contacted SafeSmart Aviation to see how they could improve the platform features. With a tight deadline, SafeSmart Aviation's design team and internal engineers were assigned the case and came up with a great solution. Incorporating elements such as tool holders, protective rubber buffers,

a fold-up top step, and a holder for a jig when not in use, made the new platform more versatile for multiple uses and suited both taller and shorter users much more efficiently & safely.

## THE RESULT

The client was impressed with the combination of high-quality design capabilities and more so were very pleased that efficiency and productivity had increased.

SafeSmart Aviation now has the product added to the Airplane Access category of the website, with more specific details, as a reference for global aviation operators who may have similar applications.

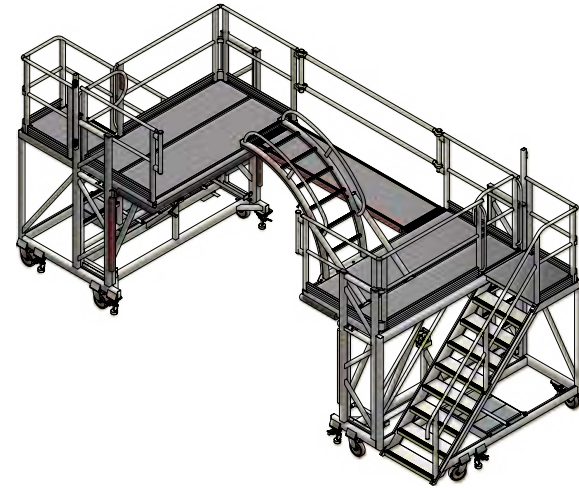




# ENGINE CHANGE DOCKING

## SIDE ENGINE PLATFORM

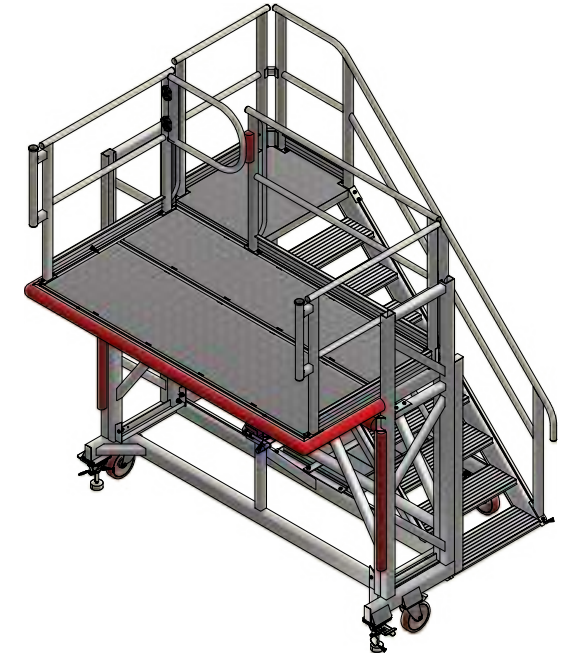
- › Sliding upper platform and long lower platform to allow access to complete length and height of the engine at all times
- › Sliders protrude from the side of the platform to match the shape of the engine, ensuring no gaps for potential falls
- › Handrails are reversible to configure platform for either side of the engine and aircraft



# ENGINE CHANGE DOCKING

## SIDE ENGINE PLATFORM

- › Self closing gate
- › Treadplate decking
- › 200mm fully braked swivel castors
- › Handwinch for adjustment
- › Heavy duty foot operated floor locks
- › Stair access



## ENGINE STAND ACCESS DOCKS

- › Platforms are height adjustable to allow access to different heights of the engine
- › Extended curved ladders for additional reach to areas of the engine







## A UNITED HEIGHT ACCESS SUITE CASE STUDY

**AIRCRAFT**  
BOEING 787  
DREAMLINER

### THE CHALLENGE

One of the USA's busiest carriers, United Airlines, purchased new Boeing 787 Dreamliner aircraft in 2016-17, and found new challenges during maintenance activities, especially with access around and over the top of the engines. A maintenance facility at LAX services these engines. And despite being detached during the process, the engines stand at over 115 inches from the ground up. Routine maintenance between flights, with the engines attached, also became an issue for mechanic welfare at height.

The contractor was continuing to use standard ladders, particularly a well-known specialised bent ladder, which while being technically compliant and providing access, was dangerously flimsy when scaled to the top. United needed a similarly-shaped ladder with the same hand-manoeuvrability, but with the addition of a non-flexing construction. protection elements work together to provide close yet safe access to the turbofan,

compressors, combustors and turbines, under cowlings and nacelles, right through to the exhaust nozzle. The modular system halves are easily wheeled together to create a unique bridging system over the top of the engine, too.

### THE DESIGN

Besides the design of a non-flexing version of the previous ladder, SafeSmart Aviation found other points of access around the engine which could benefit from easier access. To integrate with the new ladders, a completely modular and adjustable system was designed and manufactured per the 787 engine's dimensions and specifications.

A combination of high-grade aluminium stairs, work platform areas, heavy duty castors and edge protection elements work together to provide close yet safe access to the turbofan, compressors, combustors and turbines, under cowlings and nacelles, right through to the exhaust nozzle. The modular system halves are easily wheeled together to create a unique bridging system over the top of the engine, too.



*United's technicians can wheel two of SafeSmart's identically-mirrored arched access systems together to form one safe bridge over the aircraft's engines.*

### THE RESULT

Being lightweight aluminium, yet extremely strong, this system makes it easy for engineers to gain access to the engines quickly, safely, and in compliance with strict OSHA regulations. United's LAX technicians are gaining more efficient productivity through being able to scale the engines with all their tools, also, eliminating constant ascent and descent of stairs during their shifts.

With the Dreamliner fleet being a relative newcomer in the history of commercial aircraft, there is scope to distribute this system to any operator with a similar fleet.





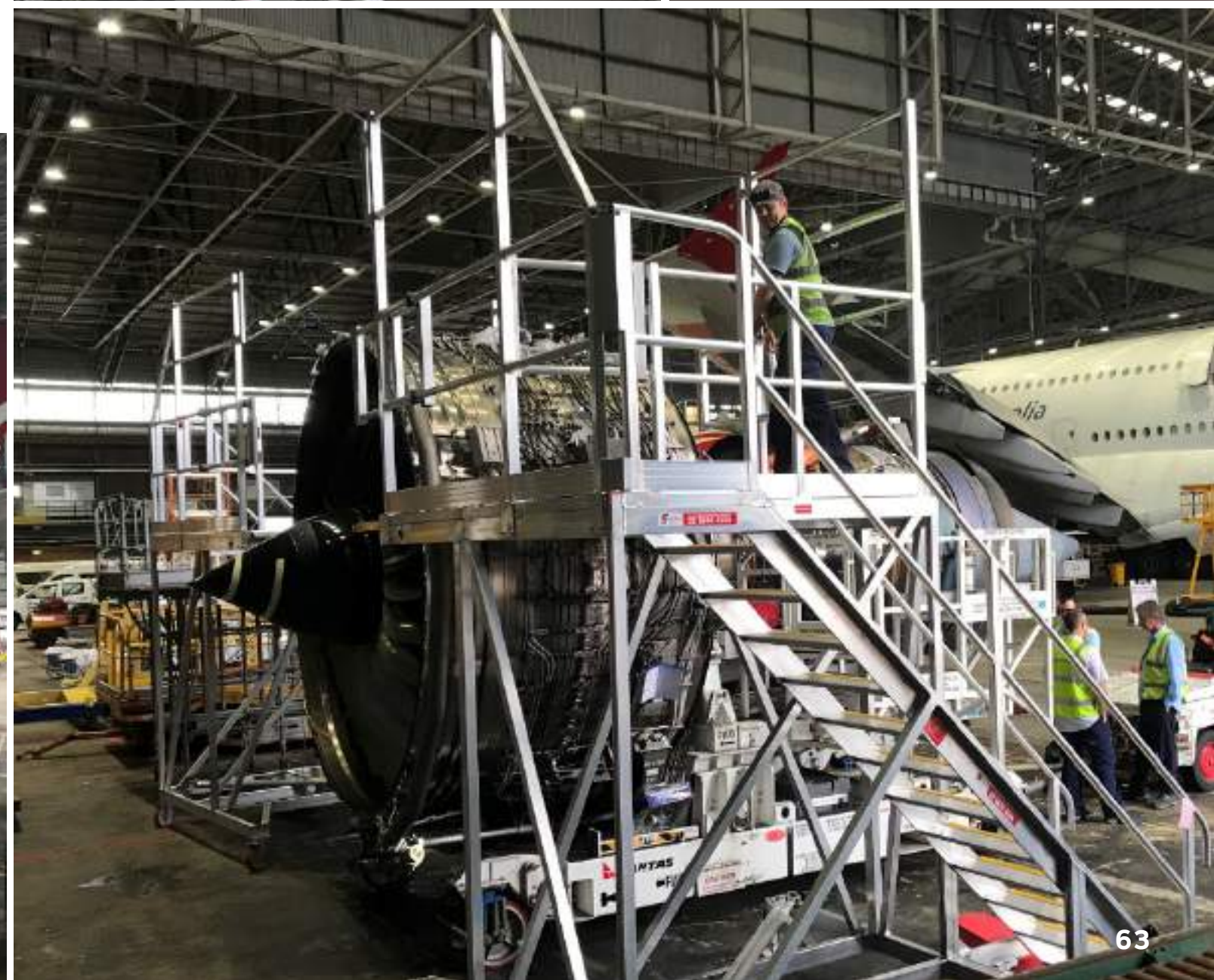
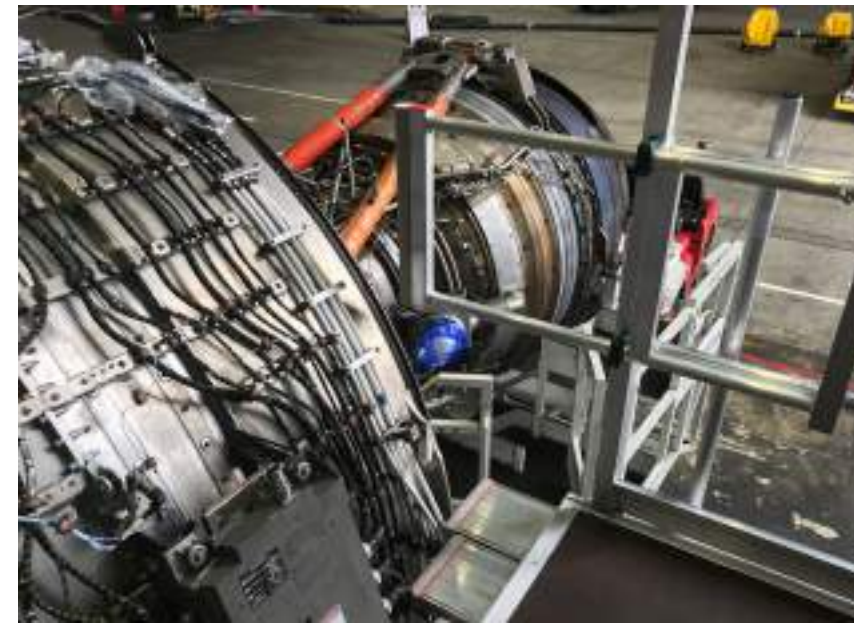
# SIDE ENGINE PLATFORM

## FEATURES

- › Ladder on the platform can slide full width of platform with inline clamp for braking
- › Adjustable sliders contour to varying engine profiles
- › Extended guardrails link across the engine and provide fall protection whilst the ladder is in use



# SIDE ENGINE PLATFORM





# CURVED ENGINE ACCESS LADDERS

## CURVED ENGINE LADDERS

- › Easy access to all areas of the engine, for hangar staff
- › Foam buffers to protect engine from contact



# AVIONICS / E&E ACCESS

## MANY CONFIGURATIONS & OPTIONS

- › Multiple step configurations
- › Sliding or extendable guardrails available for confined space edge protection







TINKER AIR FORCE BASE, OKLAHOMA CITY, USA



## SECTION 03

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## WORK AREA MANAGEMENT

### A SAFE RESTORATION CASE STUDY

**AIRCRAFT**  
BOEING B-52  
STRATOFORTRESS

#### THE CHALLENGE

In a very special project, the USAF were restoring "Ghost Rider", a B-52H bomber that had been sitting in storage in the Arizona desert for several decades, at Tinker Air Force Base, in Oklahoma.

During the nine-month restoration, fragile componentry needed to be removed, to allow technicians full access inside bomb bays and wheel wells. This included the bomb bay doors.

These curved aluminium doors required careful handling when separated from the aircraft – even a slight deformity would render the doors incompatible with the contour of the aircraft's fuselage shape, and therefore void for use. The USAF's previous solution had been a shelf unit with webbing straps that allowed for fuselage curvature. However, these straps were rotting, posing a risk of the doors falling.

#### THE DESIGN

SafeSmart Aviation took measurements and weight specifications from the B-52's parts, and custom-designed a rack that suited the bomber exactly – a curved shelf system with protective foam.

Specifications were also taken from the aircraft's existing wheeled base chassis, so SafeSmart's lightweight unit could be mounted onto it via engineered connection points.

#### THE RESULT

The USAF could place the bomb doors on the trolley safely, securely, quickly and easily, for transporting around the base. For other B-52s at Tinker, the system also keeps the flight line tidy during maintenance.

And thanks to assistance by suppliers like SafeSmart Aviation, the project was delivered 90 days early, and Ghost Rider was amazingly recommissioned into full military use, to full operational flying status.

SafeSmart Aviation has also provided custom products to the US Army and Marines. Now, The US Air Force also see SafeSmart as a trusted partner in safe height access solutions for the hangar and ramp.





# AW139 PLATFORMS

# AW139 PLATFORMS

## AW139 SIDE ACCESS PLATFORM - SLIMLINE VERSION

- › Large, uninterrupted work space under platform allowing access to doors whilst the platforms are in position
- › Power and air lines to platform available as an option
- › Narrow stand to minimise footprint in the hangar
- › Profiled platform to cantilever over the aircraft skids



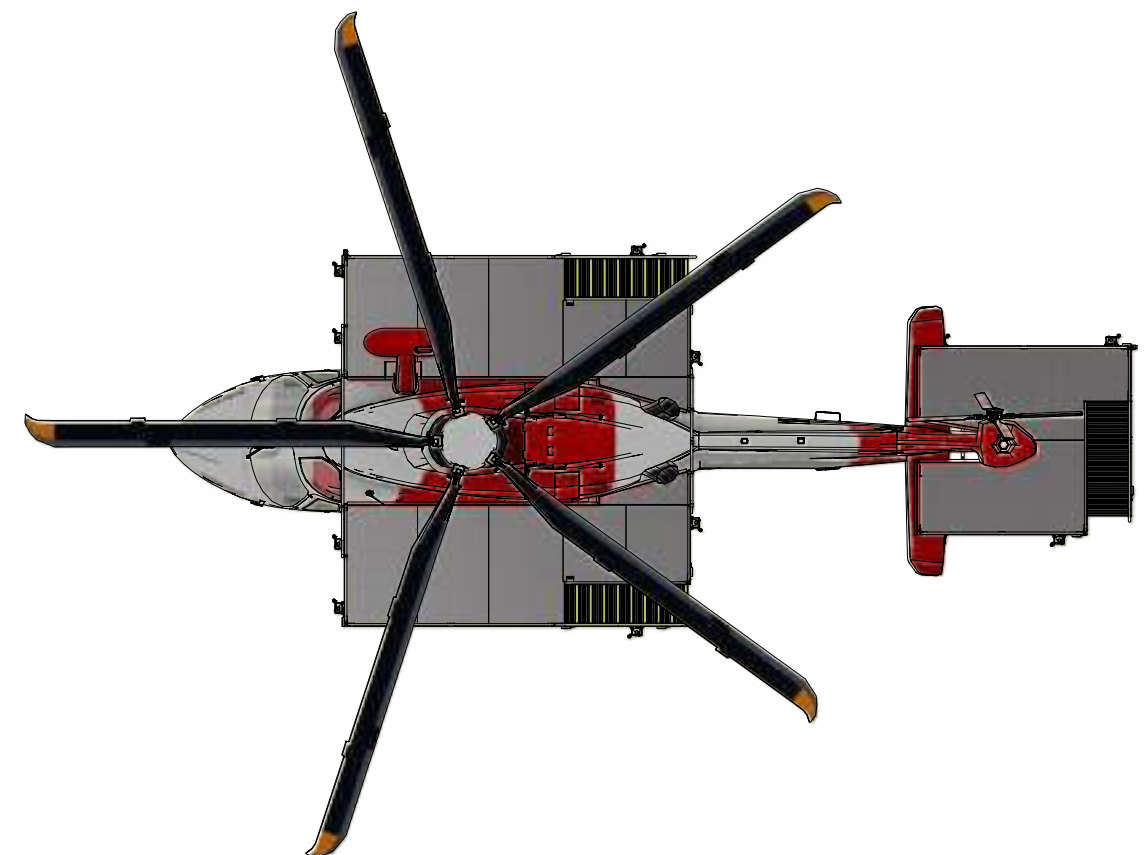


# AW139 PLATFORMS

# AW139 PLATFORMS

## AW139 SIDE ACCESS PLATFORM - WIDE VERSION

- › Available with lighting under stand, also available with power and air lines
- › Wider frame for additional engineers and tooling as required
- › Extendable guardrails slide out over fuselage, to provide full surround edge protection when working on the aircraft





# AW139 PLATFORMS

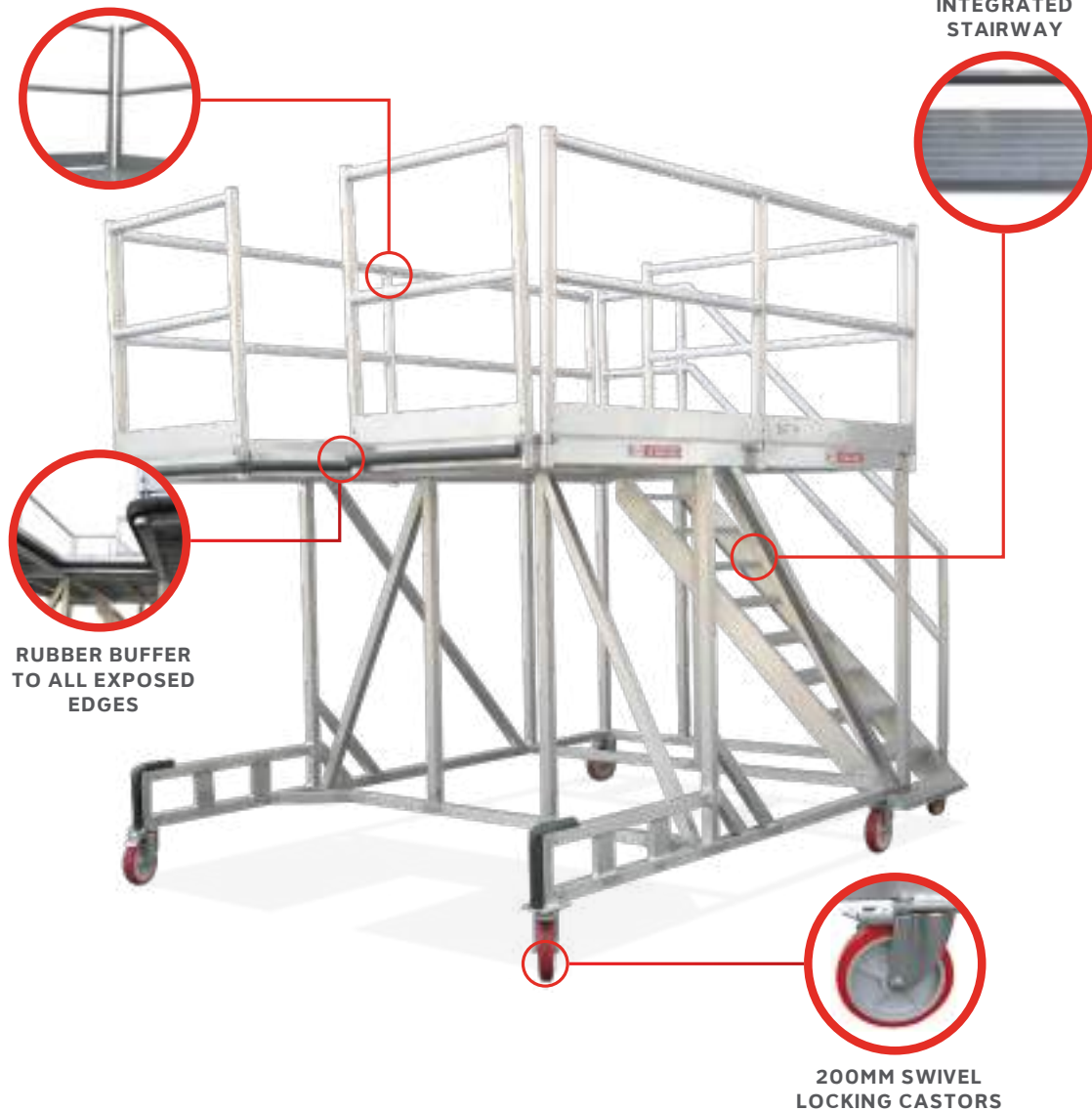
## SMALL AW139 WRAP-AROUND TAIL DOCK

Specially-designed to give close "u-shape" access around the AW139's tail during rotor checks and maintenance. SafeSmart's platforms can be configured to suit any height, length or size helicopter tail.



FRONT GUARDRAILS PIVOT TO ALLOW PLACEMENT OF THE STAND WITHOUT DAMAGING AIRCRAFT

INTEGRATED STAIRWAY



# AW139 PLATFORMS

## LARGE AW139 TAIL DOCK

- › This platform allows the service people to walk completely around the rotor, carrying heavy equipment, tools or replacement parts
- › Large deck caters for a forklift or gantry crane to lift heavy parts onto the platform





# AW139 PLATFORMS

## DUAL ACCESS AW139 TAIL DOCK

- › Stairs both sides of platform for uninterrupted access
- › Reduced footprint length for tight workshop areas
- › Available with independent staircases for configurable access



## PHI CASE STUDY

### HELICOPTER AW139

#### THE CHALLENGE

PHI (Petroleum Helicopters International, Inc.) is an American commercial helicopter operator, founded in 1949, by Robert L. Suggs. PHI is based in Lafayette, Louisiana and provides service for the oil and gas industry, aeromedical services, pilot training and aircraft maintenance. With branches in New Zealand, Australia, the Philippines, Ghana, Cyprus and Saudi Arabia, PHI run one of the largest commercial helicopter fleets in the world.

PHI has an advanced and varied fleet of helicopters including: Sikorsky, Airbus, Bell and Leonardo.

#### THE DESIGN

PHI contacted SafeSmart in New Zealand looking for an access solution for their mechanics working on the Leonardo AW139. Their engineers were very specific about what they needed in a platform solution.

- Mobile Platforms to meet AS/NZS standards
- Ensure regularly accessed service points were within easy reach, designing bracing elements so they would not block entry or be a hazard.
- Working heights were also critical, so the platform needed to be height adjustable to be adapted to working on different parts of the machine.

SafeSmart's R&D team designed a Modular Platform System with Mobile Stairs which could be used for multiple access points around the helicopters.

#### THE RESULT

The outcome was very satisfactory for both parties. "We found the consultative approach of SafeSmart very beneficial. We could introduce a new requirement or idea and their CAD designers could make the changes and we would be able to review in a 3D format. The end result was a bespoke unit to suit the working methods of our mechanics." said Pierre Lavoie, PHI's NZ Technical Director.





*Like many of SafeSmart's platforms, this system for HNZ Group is easily wheeled by hand up to the aircraft and secured into place via foot-lockable castors.*



## HNZ CASE STUDY

### HELICOPTER AW139

REFER TO PG 74  
FOR DUAL ACCESS  
AW139 TAIL DOCK

### THE CHALLENGE

HNZ (Helicopters New Zealand) was facing a challenge around safely accessing the tail rotor on their Dual Access AW139 Tail Dock for maintenance work. Significant space constraints and various maintenance configurations required a custom solution, and HNZ commissioned SafeSmart Aviation to design and build this for them.

### THE DESIGN

SafeSmart designed and built a split tail dock that could be wheeled in from either side of the aircraft and joined together, with detachable mobile stairways that could be mounted at several points on the tail dock or used as a standalone platform for working on other parts of the aircraft.

Height-adjustable castors allowed the platform to be raised and lowered depending if the helicopter was jacked or not.

### THE RESULT

SafeSmart Aviation's custom capabilities allowed HNZ to procure a solution that fitted within the multiple constraints of the working environment, while also making a safer and more efficient workflow for the engineers.





# BELL 412 PLATFORMS

## BELL 412

A dual-level platform suitable for accessing rotors and maintenance point panels on the lower rear of the aircraft. Configurable for any model of Bell helicopter.

## BELL 412 SIDE MAINTENANCE STAND

- › Side platforms developed for most helicopters (Bell 412 high skid pictured)
- › Platform also has a cantilever to allow for skid floats
- › Light weight & easily manoeuvred into position with one person
- › Easy roll castors are suitable for most helicopter maintenance areas
- › Fully handrailed and fully compliant



## MICROFLITE A SAFE RESTORATION CASE STUDY

### HELICOPTER BELL 212

#### THE CHALLENGE

Microflite, a Victorian provider of a premium range of tours, charter flights, Airwork applications, pilot training and aircraft services, own a fleet of helicopters. They run a fleet of Bell Helicopters and have an in-house state of the art maintenance workshop. This forward-thinking company required two bespoke custom aluminium mobile platforms particularly for the Bell 212 Aircraft for workers to safely access all upper areas of the aircraft.

#### THE DESIGN

Microflite approached SafeSmart Aviation for a solution.

Due to the specialist knowledge of the SafeSmart Aviation design team, access is still enabled to the cabin when the side platforms are in place. Other key features include:

- Upper handrails that lower for more clearance
- High grade aluminium anti-slip treadplate decking
- Foam buffer to leading edge – protect aircraft skin

#### THE RESULT

Positive feedback from the client is that the platforms are incredibly well-constructed and are rock solid when working off them.

More importantly, the safety for their maintenance crews is like they never had before, and they have become 'best in class' with their safety.

SafeSmart Aviation now has the product added to the Helicopter Access category of the website, with more specific details, as a reference for global aviation operators who may have similar applications.



## BELL 429 HEAVY MAINTENANCE STANDS

- › Full surround platform for rotor access
- › Wide platform for tool storage
- › 45 degree stairs for faster, safer and more efficient access
- › Separate tail rotor stand
- › Padded contact points to eliminate contact damage to helicopter
- › Cantilever allows closer access to work area
- › Full surround toeboard for tool drop protection



## BELL 429 FLIGHT LINE STANDS

- › Large cantilever to reach over aircraft mobile dolly and access the work area





## EUROCOPTER PLATFORMS

### EUROCOPTER PLATFORMS

- › The Eurocopter in this instance required dual-level access for maintenance tasks around the engine bay and lower rear of the fuselage. This platform's design can be modified to suit any similar rotary aircraft



## EC130 SIDE ACCESS STANDS

### EC130 SIDE ACCESS STANDS

- › The EC130 Side Access Stands in this instance required two custom aluminium mobile platforms for aircraft engineers to safely access the EC130 as well as a similar aircraft with a different profile. A sliding platform section was also added to the unit to ensure that it was compatible with both aircraft





# SEASPRITE MOBILE DOCKING SYSTEM

## KAMAN SH-2G SEASPRITE HELICOPTER DOCKING SYSTEM

- › Full surround platform for rotor access
- › Wide platform for tool storage
- › 45 degree stairs for faster access
- › Separate tail rotor stand
- › Padded contact points to eliminate contact damage to helicopter
- › Cantilever allows closer access to work area
- › Full surround toeboard for tool drop protection



# FULL SURROUND DOCKING SYSTEM

## SIKORSKY BLACK HAWK FULL SURROUND ACCESS PLATFORMS

Originally custom designed for the US Army's Black Hawk during refurbishment. Also applicable to all variants such as the Seahawk, Pave Hawk, Battle Hawk, Desert Hawk and others. Side, top, engine bay and tail access.

- › Full surround platforms for heavy maintenance on aircraft
- › Platforms are re-configurable for different maintenance programs





## BK117 SIDE ACCESS PLATFORMS

### MBB/KAWASAKI BK117

- › A twin-mirrored system that is easily wheeled by hand up to the aircraft, with dual-level access to junction of fuselage and tail and top engine bay
- › Flip-up upper platform allows the operators to stand at dual levels
- › Trussed frame design for optimum strength



## H145 PLATFORMS

### H145 PLATFORMS

- › Tool tray/laptop stand for engineer use
- › Dual level platform, for access to all main service areas of the aircraft
- › Main Rotor Blade area, Engines, and Transmission
- › Mobile on solid rubber wheels, for ease of movement in rough terrain
- › Cantilevered frame, to avoid conflict with aircraft skids



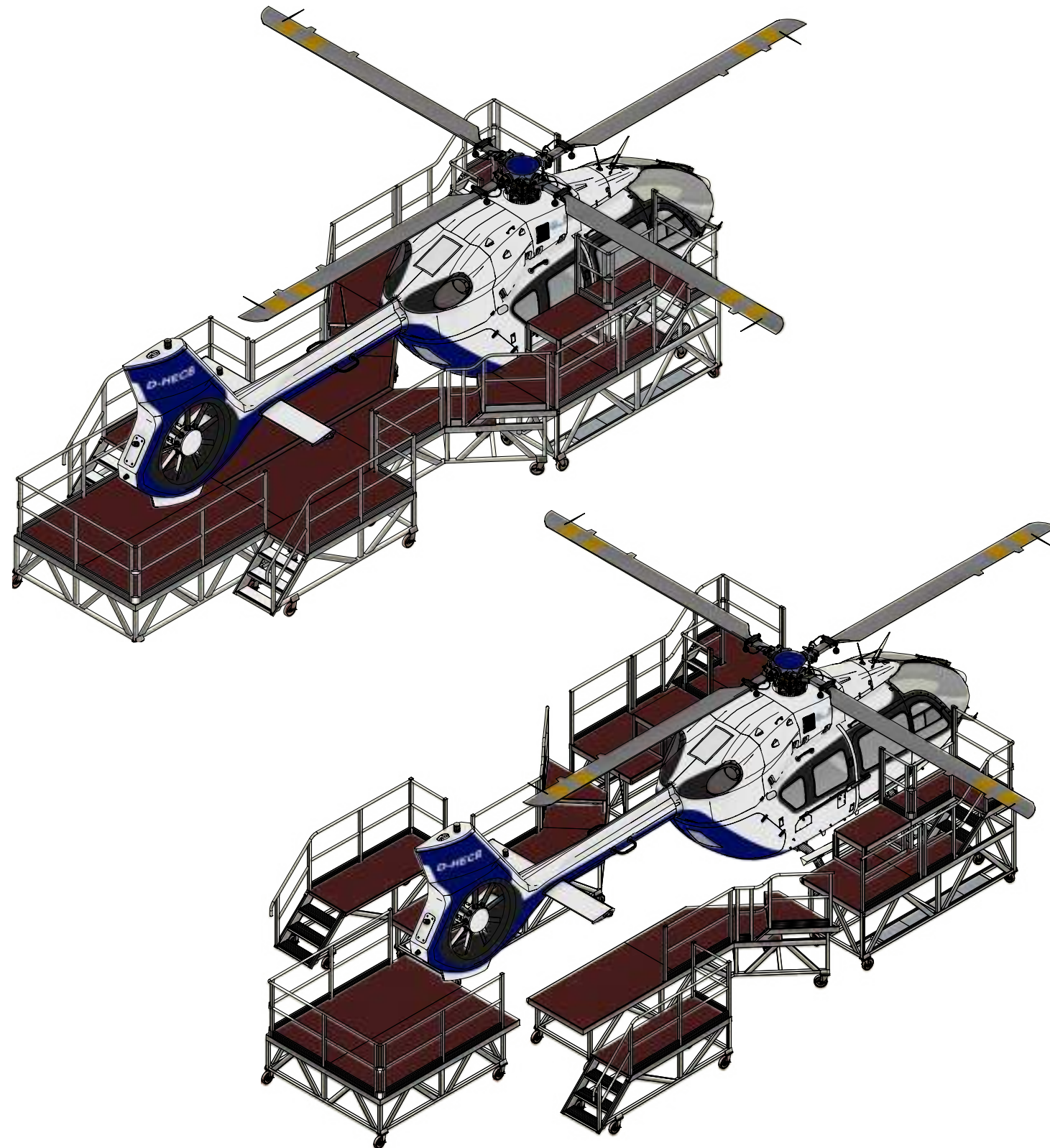


# H145 FULL SURROUND DOCKING SYSTEM

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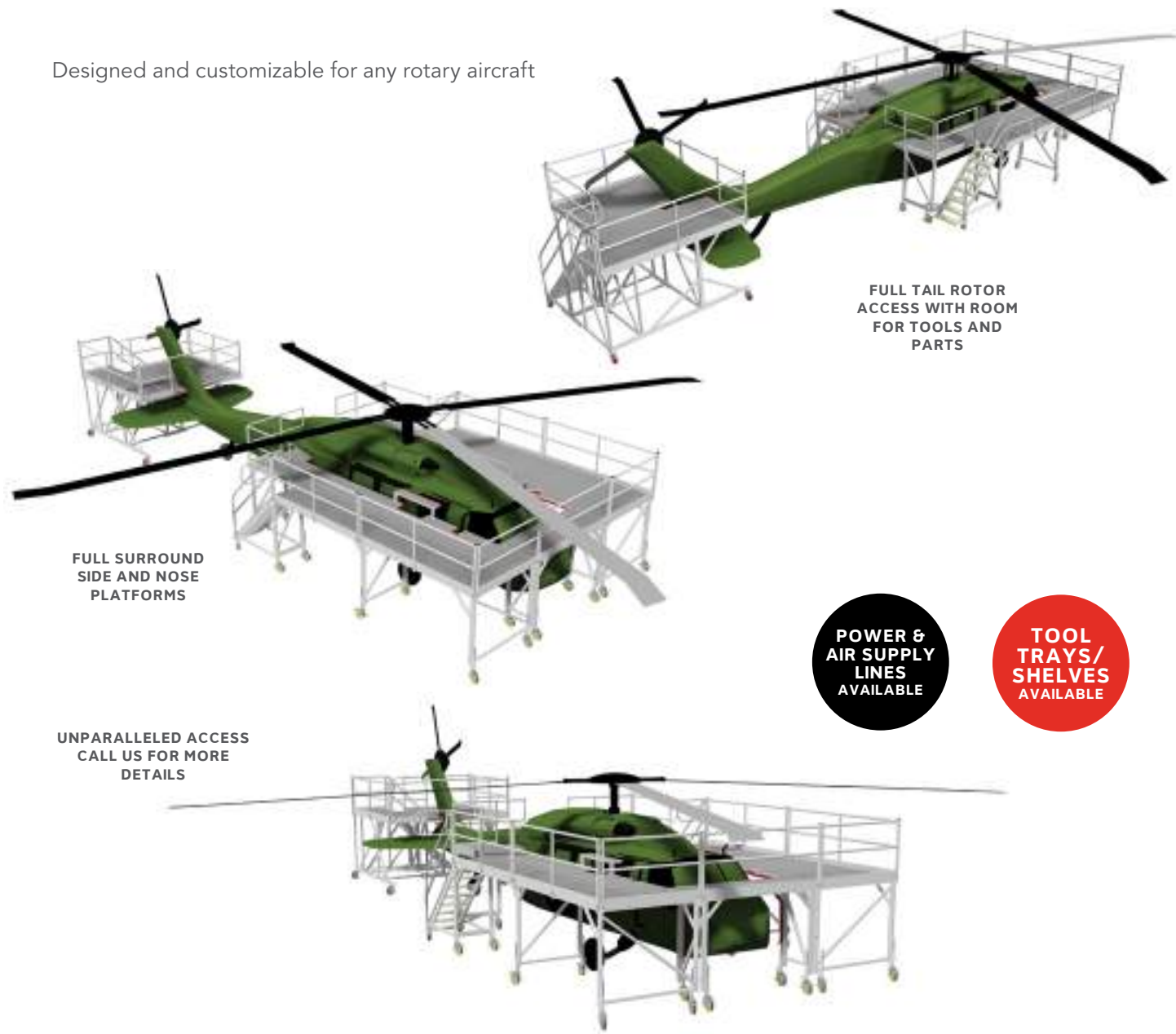
- › Full surround platforms for heavy maintenance on aircraft
- › Platforms are re-configurable for different maintenance programs





# SIDE AND TAIL PLATFORMS

Designed and customizable for any rotary aircraft



## ROTOR BLADE STAND

This design can be specially-modified to suit any type of rotor blade. Rotor blades are protected thanks to a selection of padding types available for the support arms, and one-step foldaway means that the stand is out of the way during use.

High grade castors and lightweight aluminium provides easy hand-wheeling and weather-resistance. Also available in non-collapsible configuration.





# CUSTOM MAINTENANCE STAIRS

# CUSTOM MAINTENANCE STAIRS

## CUSTOM MAINTENANCE STAIRS: ANY SHAPE OR SIZE

Our in-house custom shop can design and build a work platform to suit any rotary aircraft. We consider the relative fragility of the machine's components when in drafting stage so that the platform is a perfect fit that creates gapless on-foot access without the system touching the aircraft.

And many of our systems are hand-manoeuvrable thanks to lightweight yet robust marine grade aluminium construction.

## WIDE MAINTENANCE STAIR

- › Cantilever design allows for unobstructed access to aircraft
- › Perfect for use on helicopters & fixed wing aircraft
- › Flat packed design for easy transport



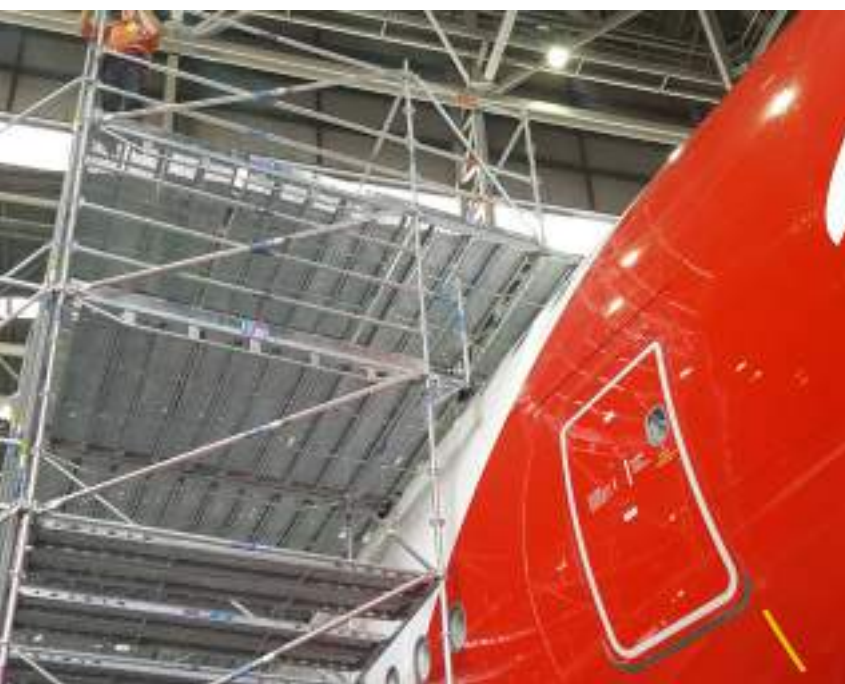


# PROSCAF

- › SafeSmart's unique Proscaf system is available in steel and aluminium, and is ideal for creating fully configurable and customisable work platforms for aircraft access
- › Rosette connection allows for configuring around the contours of aircraft. The rosette connection and very high component strength of braces and ledgers means allow for larger cantilevers and bridging portions of the scaffold - ideal for working over the fuselage, wings, pylon, crown and other difficult areas of an aircraft
- › Due to the unique locking connection, minimal components are used to create a structure - reducing weight and complexity



TO FIND OUT MORE ABOUT PROSCAF, VISIT [WWW.PROSCAF.COM](http://WWW.PROSCAF.COM)







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