

KSTRONG®
UNRIVALED SAFETY.

KS GROUP



**T-LINE
SAFETY SYSTEM
PRODUCT USAGE**

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T-Line — Smarter Fall Protection Without Compromise

The T-Line is a breakthrough fall protection system designed to protect workers where conventional solutions fall short. By combining a lifeline and fall arrest system into a single, compact unit, T Line delivers greater safety, faster installation, and unmatched versatility. Its twin, independently operating lifelines are housed in one unit and configured in a triangular layout, allowing spans of up to 24 metres (model dependent) without intermediate supports. This eliminates costly structural modifications and reduces downtime on site.

In the event of a fall, the dual cables automatically equalise—minimising swing, reducing lateral movement, and keeping the user safely positioned. The result is a safer, more stable fall arrest with fewer risks and greater confidence for workers at height.

T Line: fewer components, fewer compromises, and superior protection.

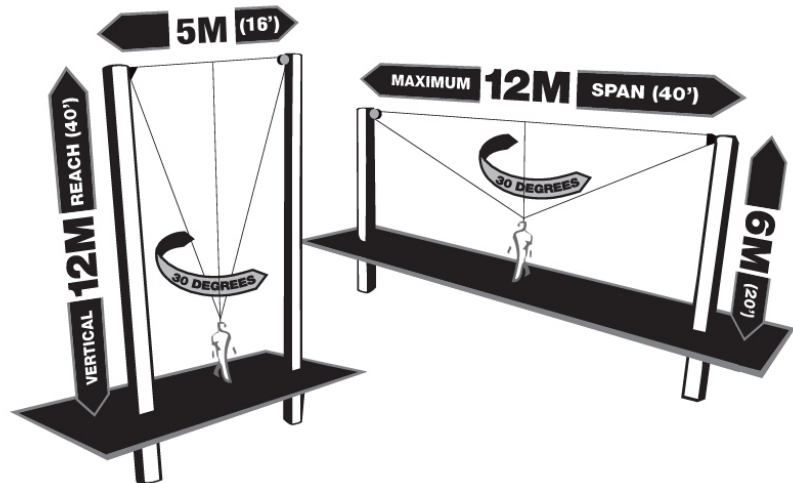
Features

- Consists of two lifelines allowing Horizontal or Vertical movement for the user
- Freedom of Movement to access work areas such as pipes, poles, platforms, walkways, loading areas, etc
- Suitable for Permanent or Temporary Installations
- Quick & Easy Installation
- Reduced swing fall risk & fall arrest distances over larger spans
- The range is available in four models: AFA945012 (6–12 m) and AFA945024 (12–24 m), as well as AFA945012R (6–12 m) and AFA945024R (12–24 m), both featuring integrated Rescue Retrieval capability.
- Third Party Testing: QUINTIN CERTIFICATIONS Protocol of tests TLINE V2



Learn more about the T-Line Safety System by clicking the links below:

- [Technical Data Sheet](#)
- [Video](#)
- [Product Page](#)
- [Flyer](#)



SCAN TO VIEW
T-LINE VIDEO



SCAN TO VIEW
T-LINE VIDEO



Product Usage – Truck Wash Bays

The Challenge

- Workers need to access the tops of trucks for cleaning purposes. This can pose the risk of a fall from height, so a fall protection system was required to ensure that the tasks can be carried out safely
- The fall protection system was required to provide access over the entire length of the 24m long wash bays. This would have been problematic for a traditional system, especially on the outdoor wash bay that would not allow for the installation of intermediate supports
- A system is needed that will ensure that very small fall arrest distances are provided, due to the small fall clearances to some obstructions.

The Solution

- A 24m(80') T-Line was able to be installed in each wash bay. This allowed the users to access the full length of the wash bay from the one system.
- The total installed cost of the T-Line was far cheaper than that of any other alternatives, especially for the outdoor wash bay as the T-Line only required one steel pole to be installed at the end of the 24m long wash bay, with no intermediate supports.
- The short fall arrest distances provided by the T-Line were more like those of a rigid rail type system, except at a fraction of the cost.



T-Line installed on a 24m long Truck Wash Bay

TRUCK WASH BAYS



The T-Line is accessed via a tag line and it retracts up to the roof when not being used, so that it does not get in the way of any truck movements.

Product Usage – Mining Equipment Assembly Area

The Challenge

- Workers need to climb on top of the various pieces of mining equipment, whilst they are assembled and tested. This can pose the risk of a fall from height, so a fall protection system was required to ensure that the tasks can be carried out safely.
- The fall protection system needed to cater for pieces of equipment with various shapes and sizes.
- The structural steelwork above the workshop would not have allowed a horizontal lifeline to be installed unless there was significant expenditure on additional steelwork.
- A system is needed that will ensure that very small fall arrest distances are provided, due to the small fall clearances to some obstructions.

The Solution

- A 12m(40') T-Line was installed in the work bay. This allowed the users to access the full length and width of any piece of equipment from the one system.
- The was able to be installed on the sloping roof without the need for expensive structural modifications.
- The short fall arrest distances provided by the T-Line were more like those of a rigid rail type system, except at a fraction of the cost. This provides superior levels of safety for the users when working in the vicinity of potentially dangerous objects.



MINING EQUIPMENT ASSEMBLY



The T-Line is installed under the sloping roof without the need for extensive additional steelwork to provide a horizontal installation. The user can access anywhere along the length or width of any odd shaped piece of equipment



The T-Line offers superior protection with short fall arrest distances, so as to ensure the safety of personnel when working in close proximity to dangerous objects.

Product Usage – Tanker & Confined Space

The Challenge

- Preference to mount system on the main beams in the sloping roof.
- Lots of services and steelwork that would restrict traditional fall protection systems.
- Continuous protection required, from the time the user leaves the walkway, to accessing the top of the tanker and into the tank itself (confined space).
- Required simplified rescue system.

The Solution

- 2x 12m (40') T-Line units mounted under the sloping roof, provides the user freedom to access anywhere on top of or inside the tankers without the possibility of a pendulum swing and with very short fall arrest distances.
- Life Lines bypass plumbing services and other steelwork hanging below the roof, whilst maintaining total freedom for the user.
- Each user is able to connect to the T-Line on the walkway, then walk out on top of the tanker. An external winch is used to lower one user into the confined, whilst the spotter/supervisor remains at the entrance to the confined space. If the person within the confined space requires retrieval, the T-Line winch can be easily deployed and used to extract the person. The winch can even be operated by someone from behind the safety of the hand rail on the walkway.



Sloping the roof for installation

TANKER & CONFINED SPACE



Loops Around Existing Services



Additional Pulleys Use to Redirect Lifeline

Which can be operated from the safety of the walkway



Use can park the Twin Line mode above the entry to the confined space, then enter the confined space in single line mode only.

Product Usage – Tanker Trailer Service Facility

The Challenge

- Workers need to access the tops of the tanker trailers for a variety of manufacture and servicing requirements. This can pose the risk of a fall from height, so a fall protection system was required to ensure that the tasks can be carried out safely
- The large steel sections that make up the roof structure, were not located directly above each service bay, this made it difficult to find a fall protection system that would work, without having to install a lot of expensive additional steelwork
- The roof pitch is quite steep, which means that intermediate supports for a horizontal lifeline would have been more difficult and costly to install
- A system is needed that will ensure that very small fall arrest distances are provided, due to very little fall clearance to some obstructions

The Solution

- A 12m(40') T-Line was able to be installed on the roof purlins, due to the lower design forces for the anchorages on a T-Line, this helped drastically reduce the cost. The installation was quick and simple, seeing that the T-Line only required anchor points at each end (with no intermediate supports)
- The T-Line allows the users to access the full length of the tanker trailers, for any tasks that need to be performed, whilst providing the protection of extremely short fall arrest distances. The user is protected from the moment that they leave the ground

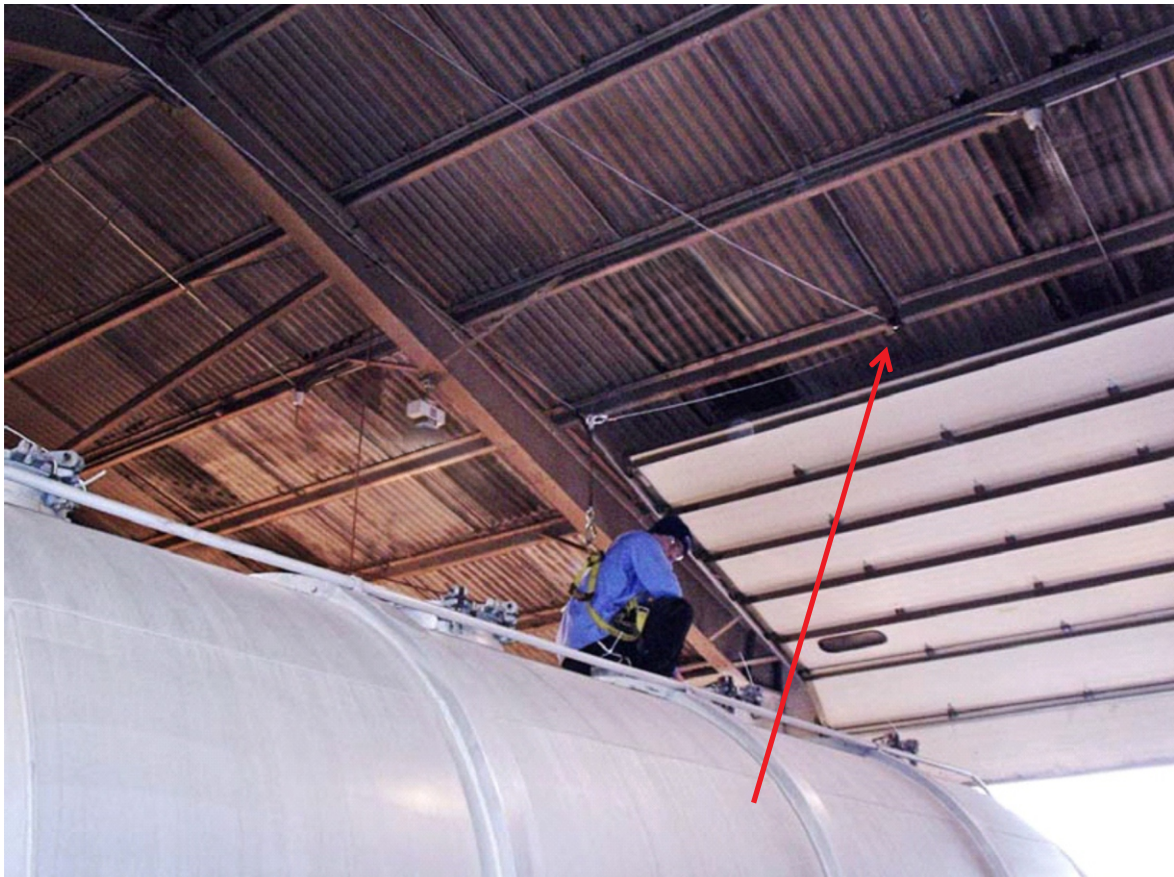


T-Line installed at Tanker Trailer Service Facility – allows the user to hook on before leaving the ground.

TANKER TRAILER FACILITY



The T-Line allows the user to access anywhere along the length or width of the tankers.



The T-Line did not require additional steelwork to be installed, here it can be seen that the T-Line was able to be fixed to the roof purlins. There is only one fixing at each end, with no intermediate supports

Product Usage – Conveyor Access

The Challenge

- Vehicle Component Manufacturer has an assembly line that features multiple conveyor systems that cannot be provided with hand rails and walkway access etc. Personnel must access the conveyors for servicing and to rectify any jams etc.
- Complex structure does not facilitate access for horizontal lifelines, anchorags at each end of the conveyor are at different heights.
- Many Services etc that would obstruct traditional fall protection systems from working properly.
- Expensive Engineered systems being considered but still not ideal.

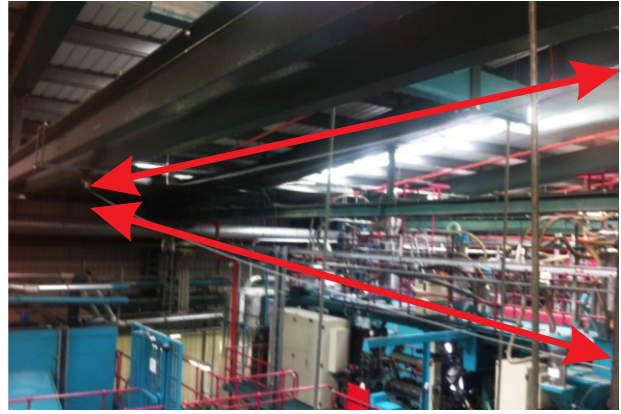
The Solution

- 12m (40') T-Line systems installed to provide access to each conveyor. The system retracts up out of the way when not in use and can be retrieved using a tag line etc stowed at convenient locations.
- Service personnel can access anywhere along the conveyors or related infrastructure due to the horizontal and vertical freedom provided, with no possibility of a pendulum swing.
- The low fall arrest distances offered by the T-Line ensure that adequate fall clearance is provided to nearby equipment etc.
- Lifelines can be directed around services etc without compromising the freedom or safety of the user.
- The total installed cost of the T-Line systems represents a fraction of the cost of an engineered system.



T-Line mounted above the conveyor, with each end at different heights

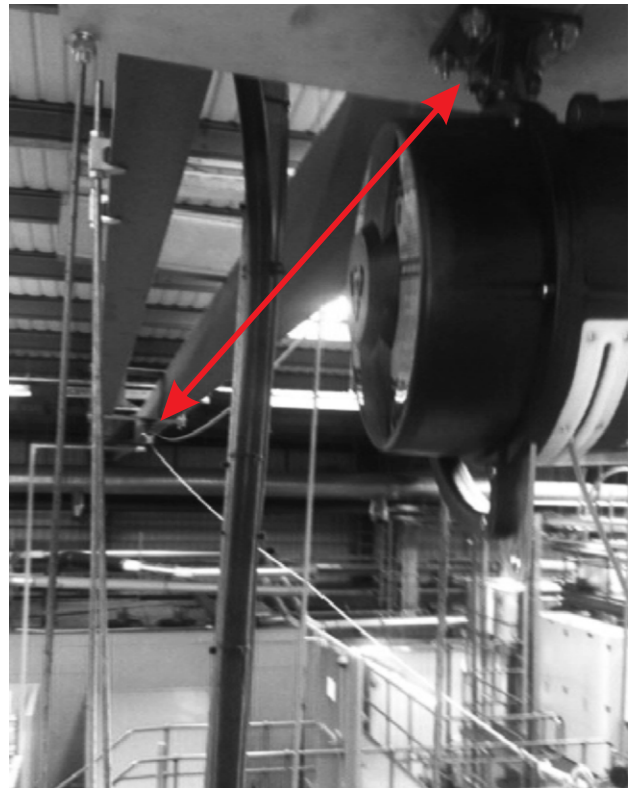
CONVEYOR ACCESS



Quick and simple installation of the T-Line at each end, with no intermediate supports required.



Service Technicians free to access any location on the conveyors.



Easy Installation of the T-Line in a complicated environment with many services etc present.

Product Usage – Frans De Wit BV

Taking worker safety seriously is a core principal for Frans De Wit BV. For complete and safe access in their new MTR Tank Container Building in Moerdijk, Frans De Wit have selected the T-Line as their safety system when working on top of ISO Tanks .

By utilising the canopy over the work area the installation was straight forward and allows access from the gantry onto the tank top.

The T-Line was chosen for this installation, used with Beam Clamps, a full body harness and rear extension strap to allow ease of connection for the user.

The new MTR building in Moerdijk



T-Lines installed under the canopy in the 3 bays where access is required.



Using the T-Line Beam clamp the installation was straight forward





Lowering the Bridge



Connecting the T-Line



Crossing onto the Tank



Clear to work freely

Product Usage – Heavy Vehicle Workshop

The Challenge

Mechanics working on Heavy Vehicles such as Mining trucks etc can be exposed to potential fall risks when performing some tasks.

A fall protection system was needed that could allow the mechanics to access anywhere on the vehicle, whilst ensuring that they are protected from a fall and possible pendulum swing.

A system is needed that will ensure that very small fall arrest distances are provided, due to very little fall clearance to some obstructions.

The very high roof was problematic for rigid rail and horizontal life line type systems, due to the very long lanyards required. The fall protection system could not be mounted below the crane, as this would have created an obstruction to its movement.

The fall protection system needed to allow the overhead crane to remain in operation, whilst personnel are working on the vehicles.

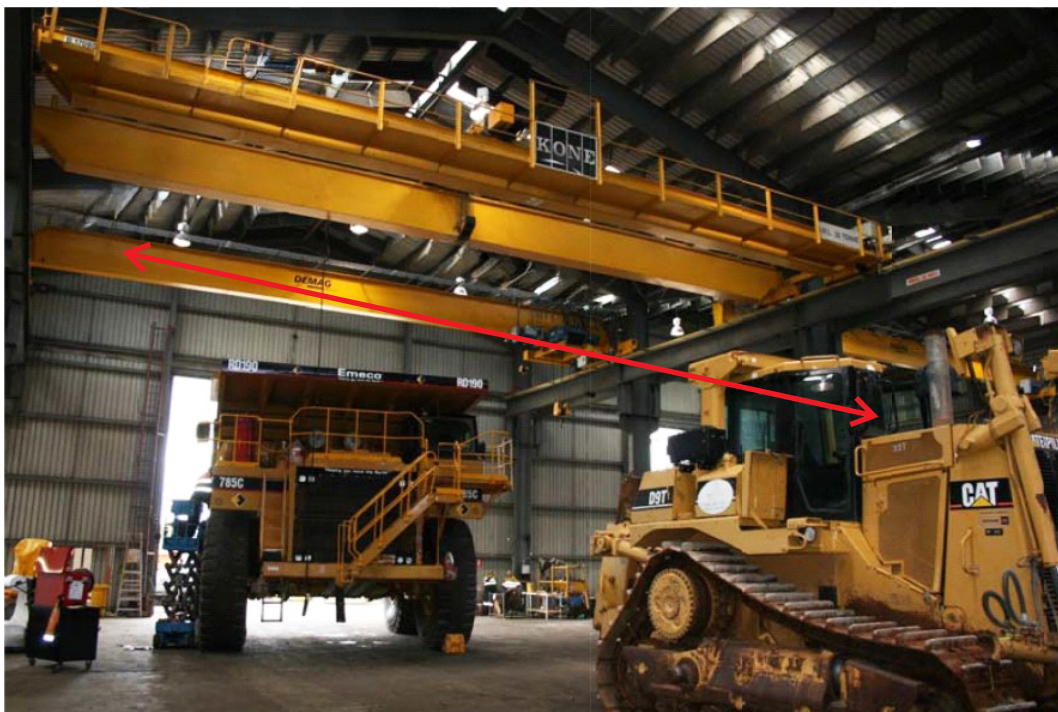
The Solution

A 12m (40') T-Line was installed to provide access for all vehicle types in the service bay. Alternatively, a 24m(80') T-Line could have been used for multiple bays.

The T-Line provides access anywhere on top of the vehicle and provided superior protection with fall arrest distances as short as 300mm (1') .

The T-Line can be looped around the overhead crane, so as to allow the mechanics to work on the vehicle, whilst they use the crane to help position large items.

The T-Line retracts up to the roof when not in use and avoids clashing with the crane.



The Heavy Vehicle Workshop caters for many different vehicle types.

HEAVY VEHICLE WORKSHOP



In this image, a 12m(40') T-Line is installed over a service bay. A 24m(80') T-Line could also be used to provide even larger work areas.

The T-Line allows the user to move anywhere on the vehicle, whilst ensuring extremely small fall arrest distances as short as 300mm(1') are achieved. The user is also protected from any possible pendulum swings in the event of a fall.



The T-Line retracts up to the roof and out of the path of the crane when not in use.

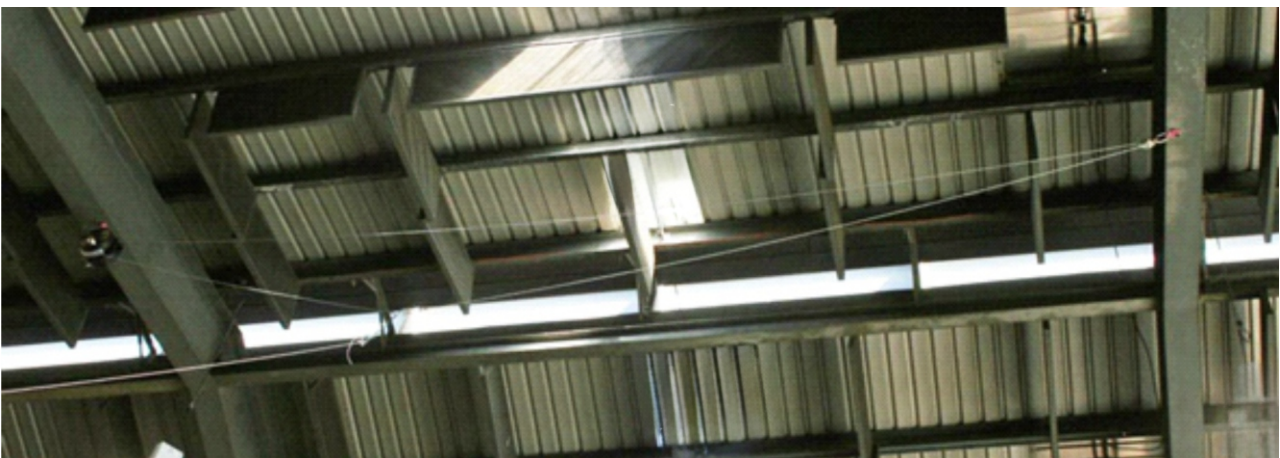


Image showing the 12m (40') T-Line spanning one service bay and retracted up to the roof structure.

HEAVY VEHICLE WORKSHOP



The T-Line is not affected by the height of the roof structure, where single lanyard systems can experience reduced effectiveness when a long lanyard lags behind the user.

Product Usage – Isotainer & Container Repair Facility

The Challenge

Workers need to access the tops of the isotainers and other types of containers to conduct the repairs. This can pose the risk of a fall from height, so a fall protection system was required to ensure that the tasks can be carried out safely.

There are a lot of services installed beneath the roof, so the fall protection system needed to be able to work with these in place, whilst not restricting the movement of the worker.

The atmosphere can be quite corrosive due to the cleaning activities that take place. The fall protection system needs to be able to cater for such an environment.

A system is needed that will ensure that very small fall arrest distances are provided, due to very little fall clearance to some obstructions.

The Solution

A 12m(40') T-Line was installed on the roof structure above and it provides access for the workers to move anywhere on top of the isotainers in that bay. The installation was quick and simple, seeing that the T-Line only requires anchor points at each end (with no intermediate supports).

The T-Line life lines are looped around the overhead service pipework. The user is able to move about freely below this pipework without restriction and free of any possibility of having the system get caught or “snagged” on the pipework.

Due to the nature of the T-Line, the housing containing all moving parts etc is away from the work area, it is also very well sealed, so it is not affected by any steam etc used to clean the tankers.



ISOTAINER & CONTAINER FACILITY



The user is able to move anywhere on top of the isotainers without any restriction caused by the overhead service pipework.

Product Usage – Aircraft Hangar

The Challenge

Light Aluminium structure couldn't support the loads from HLL

High Roof would have resulted in less than ideal lanyard lengths and possible jerky motion with greater fall arrest distances if trailing behind

Structural bracing was inhibiting the installation of other system types

Expensive Engineered systems being considered but still not ideal

Sloping roof preventing traditional horizontal systems from being installed for access

Mobile tower type systems being considered for wing access but only provide access to a small portion of the wing and must be constantly relocated. Also very expensive.

The Solution

2x XL T-Line systems installed to provide access to the fuselage

Lower forces from T-Line were suitable for the lighter support structure

The T-Line lifelines extend down to the user, so no long lengths of lanyard required

The T-Line provides exceptionally low fall arrest distances (in this instance approx. 2' or 600mm)

The T-Line could be mounted at the apex of the roof structure, the life lines simply loop around the structural bracing members without inhibiting movement for the user

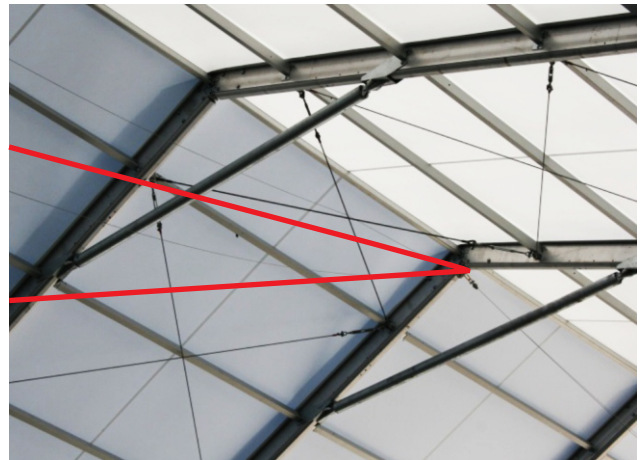
1x XL T-Line to be installed on each side of the sloping roof, to facilitate access to each of the wings



XL T-Line Installation for Fuselage Access



Simple Anchor Points at each end, with no intermediate supports

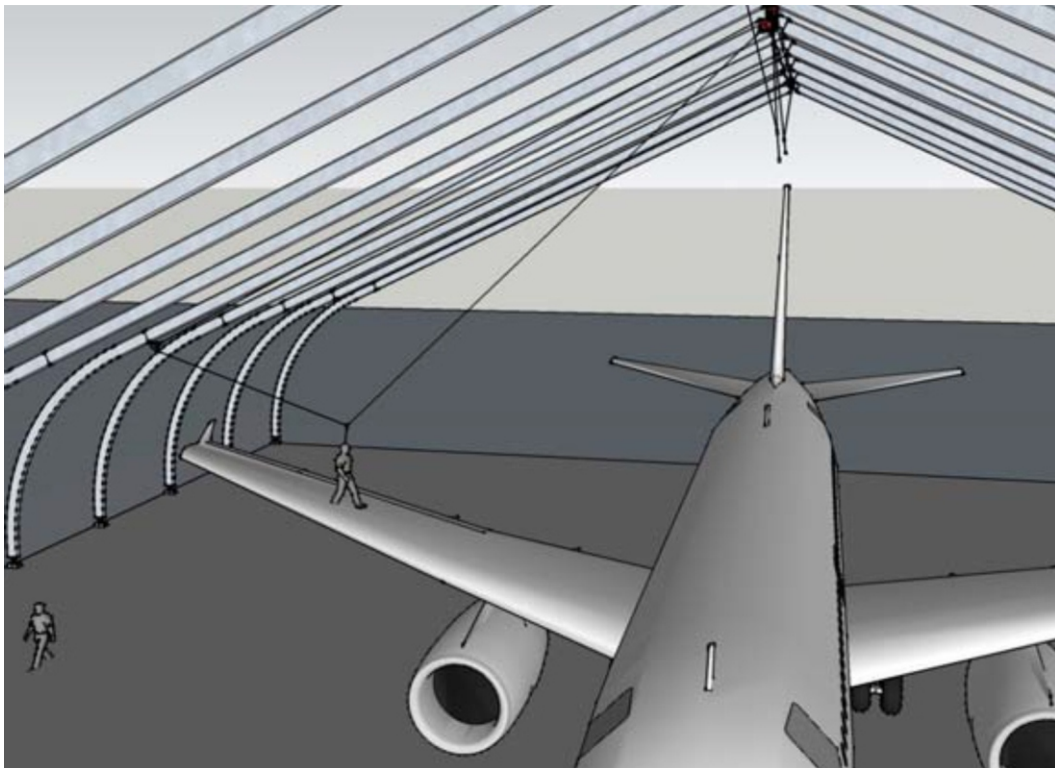


The Lifelines loop around the existing structural braces in the roof, without limiting the movement of the user or the T-Line.

A Tag Line can be used to access the T-Line from ground level.

When the system is not needed, it is allowed to retract up to the roof, so that it is out of the way of any aircraft movements and the tag line is tied off at an accessible location.

AIRCRAFT HANGAR



Proposed T-Line Installation for Wing Access

Product Usage – Container Dome and other temporary structures

The Challenge

- Lightweight temporary structures like container domes etc are commonly used for field works hops in mining and construction etc. These lighter structures typically cannot support the design loads from horizontal lifelines and the like.
- Often tasks being carried out in these facilities require the use of fall protection due to the presence of fall risks whilst working on large pieces of equipment, such as mining trucks.
- A fall protection system was needed that could allow the mechanics to access anywhere on the vehicle, whilst ensuring that they are protected from a fall and possible pendulum swing.
- A system is needed that will ensure that very small fall arrest distances are provided, due to very little fall clearance to some obstructions.

The Solution

- A 24m(80') T-Line can span the full length of the workshop, with only a single fixing at each end, which makes installation quick and simple.
- The forces produced by the T-Line are much lower than that of a HLL and when the engineering check was performed, it showed that the dome structure was capable of supporting the required design loads.
- The T-Line provides access anywhere on top of the vehicle and provided superior protection with fall arrest distances as short as 300mm (1').



CONTAINER DOME



The T-Line provides access to anywhere on top of the vehicle being worked on, whilst providing the safety of extremely small fall arrest distances and the total installed cost of the system is a fraction of the cost of a rigid rail type system.



Multiple T-Line Systems can be installed side-by-side, so as to allow multiple users complete freedom to access the full length of the work area, without having to swap lanyards etc to pass each other. The total installed cost of several T-Line's costs less than a similar traditional system and the T-Line solution provides greater levels of freedom and safety for the user.



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