



Fall Protection Manufacturers Association of Australia
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TECHNICAL BRIEFING NOTE

SUBJECT	DATE ISSUED	REVISION NUMBER
Twin Tail Lanyards	July 2007	1

Background

Energy absorbing twin tail lanyards are designed as a component of an integrated Personal Fall Protection System and therefore need to be used in conjunction with compatible anchor points and a full body harness.

Twin tail lanyards are frequently used in attached climbing applications where freedom of vertical and horizontal movement at height is required. They are common in the construction industry as well as in telecommunications and power transmission operations.

Design

The twin tail lanyard (See Figure 1) generally comprises a single shock absorbing device fitted at one end with an integral double action hook or screw connector. The second end of the shock absorber is connected to two, equal length, lanyard “tails” - each terminating in identical double action hooks or karabiners. These tails may be rope, web or cable depending on the design and required use of the lanyard.

Lanyards should be long enough to ensure usability while remaining as short as possible to minimise free fall distances. The overall length of the lanyard, from the tip of the hook at one end of the shock absorber to the tip of the hook at each tail must not exceed 2M.

As with all energy absorbing lanyards, the shock absorber must not deploy at a force below 200Kg and, when used to arrest a fall, must limit the maximum force on the body to below 6kN. This applies whether one or both tails are connected to one or two certified anchor points.

Note:- The use of two single lanyards, each with its own shock absorber, will not offer the same level of protection or limit the fall forces in the event of a fall. When two shock absorbers act in parallel in this fashion, the resulting forces may double, placing higher loads on the user.

Correct Use

The single hook / connector at the shock absorber end of the twin tail lanyard should be connected to the rear dorsal D ring of the full body harness and the connection checked for security.

Note:- If the full body harness is fitted with a dorsal extension, a shorter twin tail lanyard must be used such that the overall length from the dorsal D ring on the harness (not the dorsal extension) to the end lanyard hook does not exceed 2M.

An anchorage point – preferably above the level of the dorsal connection – should be selected and one tail of the lanyard connected to the anchorage and checked. The second tail should be left free or attached to a stowage point clearly marked by the manufacturer on the harness. At this point the operator is protected and may move within the limits of the lanyard length. Adjustable lanyards can also be used to minimise any free fall distance.

After progressing, the operator should connect the second tail to a new anchorage and check for security before disconnecting the first tail – which should again be left free or correctly stowed in a clearly marked stowage point.

When in work position, both tails may be connected to the one anchor point or be attached to separate anchorages. The same level of protection is offered in both instances. When both tails are attached to the one anchorage, care should be taken to ensure there will be no interference between the hooks in the event of loading.

Note:-The hook from one tail should NOT be attached to the hook from the other tail.

Incorrect Use / Application

The unused tail of the lanyard should NEVER be back hooked to any loop, D ring or web strap of the harness – other than to a tearaway loop clearly marked by the manufacturer as a lanyard stowage point. Such clearly marked stowage points are designed to tear away and release the hook under extremely small loads.

The tails of the lanyard should NEVER be allowed to become twisted or to pass round the neck, under the arms or between the legs of the operator. Such action WILL partially or completely short circuit the shock absorber and lead to potentially fatal forces within the fall protection system.

Training

Australian Standards AS/NZS1891.4, section 2.2.10 - User Competency, states that:-
“Users of fall arrest systems and equipment shall be assessed for competence prior to being allowed to work without direct supervision and shall undergo additional training if necessary to ensure that they are competent in the correct use of the equipment they are required to use”

The connection and use of twin tail lanyards must be clearly understood by the operator and, while this is clearly outlined in the manufacturers User Instruction Manual, accredited operator training should be undertaken from a Registered Training Organisation (R.T.O.) that is suitably accredited in Height Safety training.

Equipment Inspection

Reference AS/NZS1891.4 Section10 - Instructions for use.

Before each use the lanyard should be carefully inspected by the user to ensure that it is in good working condition.

The inspection should include careful checks:-

- To ensure that all labels are present and legible and that the indicated date of removal from service has not been reached.
- To ensure that all hardware is present and secure and is not distorted and does not have any sharp edges burrs, cracks or corrosion.
- To ensure that self locking snap hooks or karabiners work freely and properly.
- To ensure that webbing or rope shows no signs of wear, cuts, burn marks or changes in webbing colour or stiffness. Variances in colour and stiffness may indicate chemical damage.
- To ensure the webbing or rope is free of knots, frayed or cut or broken fibres and that it is free of paint or other markings.
- To ensure there is no rust staining on webbing or rope around the metal components.
- To ensure that stitching is clearly visible through the tear web cover and that the energy absorber shows no signs of activation.
- To ensure that no other stitching on the lanyards shows any damage.

In addition to operator pre-use inspection, the lanyard should be inspected by a competent person every 6 months. These inspection results must be recorded and retained in an inspection record. Most manufacturers supply inspection record sheets or labels at the time of purchase.

Should any inspection reveal an unsafe condition, the lanyard must be tagged out and removed from service immediately.

Additional Information

For any additional information, please refer to other Technical Briefing Notes on this website.

For specific information please use the links on this website to your manufacturer of choice - a member of:-

The Fall Protection Manufactures Association of Australia Limited.

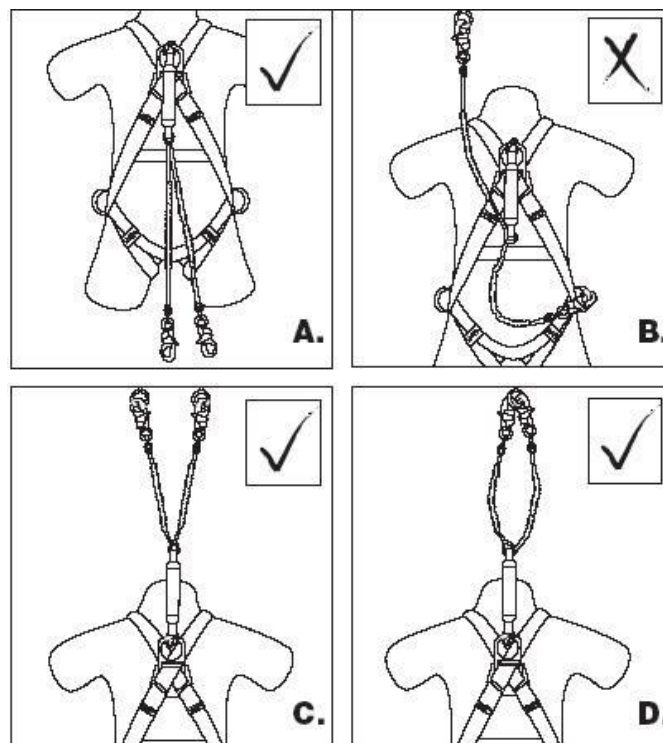
www.fpma.com.au

Appendix 1

Use of Twin Lanyards

The personal shock absorbing end of the lanyard **MUST** be attached to a fall arrest connection point on the harness at all times.

Do **NOT** attach the lanyard tails to any part of the harness at any time (Fig B.) This is known as “short-circuiting” and *could cause the lanyard to fail in the event of a fall.*



Correct use of twin lanyard

Fig C. It is best to use both lanyards at all times.

Fig D. Either or both lanyard tails **MUST** be attached to an anchorage at all times.

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