

Date: 22/3/2010

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Ref - Statement of initial observations made during Impact testing of Point Two Equine Air Jacket

Scenario 1

Impact to chest simulating frontal impact from 1.4m fall onto flat surface

Purpose - investigate potential reduction in rib fractures and associated underlying injuries.

- Without safety clothing, the ATD sustains an equivalent of a 60% risk of AIS 3+ injury which exceeds limits regarded as acceptable in the automotive industry.
- The PTJ, with or without BETA jacket, reduced the risk of rib fractures and underlying organ damage, by as much as 20%.
- The BETA jacket alone provided negligible benefit in this impact scenario.
- For this impact scenario, the PTJ provides the greatest protection when used alone.

Scenario 2

Impact to back simulating rear impact from 0.75m fall onto flat surface

Purpose - investigate shear, compression and bending impact loads to the spine.

- The PTJ, when used with a BETA jacket can improve neck and pelvis protection by reducing shear and compression loads by approximately 63%.
- The PTJ provides approximately 45% more protection than BETA alone.
- For this impact scenario, the PTJ provides the greatest overall protection to the neck and pelvis when used alone.

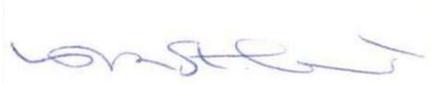
Initial Observations

There is no evidence that the PTJ would exacerbate any neck injury and in fact, in rear impact testing it provided the greatest reduction in the neck and pelvis loading.

In combination, the BETA and PTJ provide reduced loading for the majority of performance measures and therefore improved protection to the wearer when compared to the BETA alone.

The PTJ may have extended performance benefits beyond the fall scenarios considered.

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Initial observations relating to impact performance assessment of Point Two Equine Air Jacket

In order to illustrate that there are no additional risks associated with the Point Two Air Jacket (PTJ) when compared to other body protection products or no protection, TRL evaluated the performance of the Jacket in a two typical dynamic impact scenarios.

Scenario 1 - Impact to chest simulating frontal impact from 1.4m fall onto flat surface
Scenario 2 - Impact to back simulating rear impact from 0.75m fall onto flat surface

The purpose was to investigate whether the Point Two Air Jacket was likely to worsen injuries to the neck and spine and what level of injury risk benefit could be achieved during a chest impact in a typical horse fall. Based on this study, the following statements summarise TRL's main observations.

- *There is no evidence that the PTJ would exacerbate spinal injury and in fact, during rear impact testing, it provided the greatest reduction in the neck and pelvis loading*
- *In combination, the BETA and PTJ provide reduced loading for the majority of performance measures and therefore improved protection to the wearer when compared to the BETA alone.*
- *The PTJ may have extended performance benefits beyond the fall scenarios considered.*
- *The PTJ, when used with a BETA Level 3 body protector, improves protection to the spine by up to **69%**¹*
- *The PTJ, provides approximately **45%** more protection for the lower spine than a BETA level 3 jacket alone²*
- *The PTJ,, with or without BETA jacket, reduced the risk of rib fractures and underlying organ damage, by as much as **20%**³*

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¹ Reduction in peak neck and lower spine shear and compression loads for scenario A fall (when compared with no protection)

² Reduction in peak lower spine shear and compression loads for scenario A fall (compared with typical BETA level 3 protection)

³ Reduction in risk of AIS3+ injuries, compared with no protection in scenario B fall.

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