

Adaptor 1663SP

Annex 11

This adaptor is a carbon fibre truncated cone structure connected to the spacecraft with 4 bolts, arranged on a 1633.7 mm circle. It's rear frame is bolted to the Ø 2624 reference plane. The adaptor provides for spacecraft separation.

At separation, the separation nuts are operated by gas pressure generated by booster cartridges. The threaded segments displace away from the bolts whose stored energy causes them to eject from the nuts.

The spacecraft is pushed away from the launch vehicle by 4 springs sets fixed on the adaptor which bear the spacecraft rear frame.

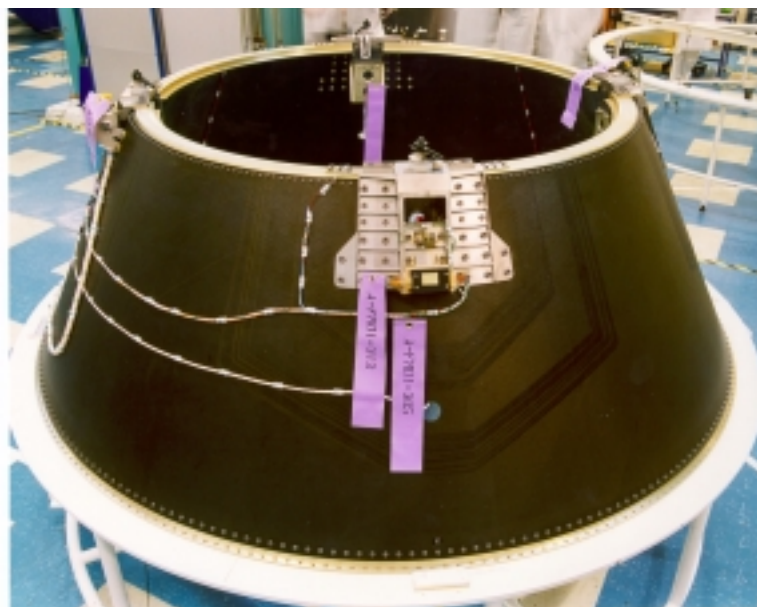
The springs are designed to release energy in the range of 50 to 150 J. The maximum spring force for each springs is 1752N.

The 1663SP adaptor has a mass of 160 kg.

The actual pair of values (M_{cu} , X_G) must remain admissible limits as [defined in Fig. A11.1.](#)

The spacecraft rear parts in contact with the adaptor must be manufactured from Aluminium alloy.

The correct positioning of the spacecraft on the adaptor is ensured by 4 titanium shears cones.



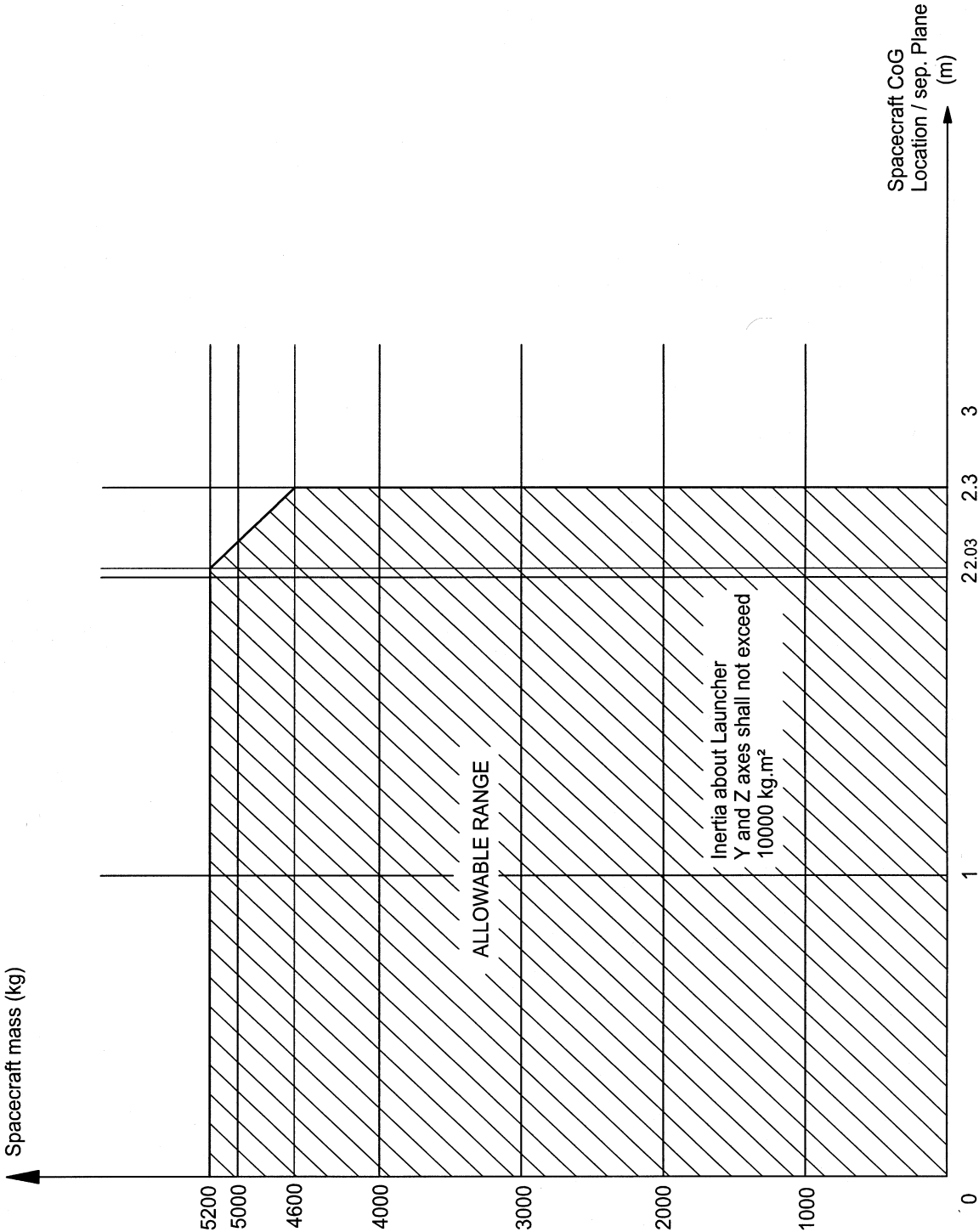


Fig. A11.1 – Limit loads of adaptor 1663SP at separation plane

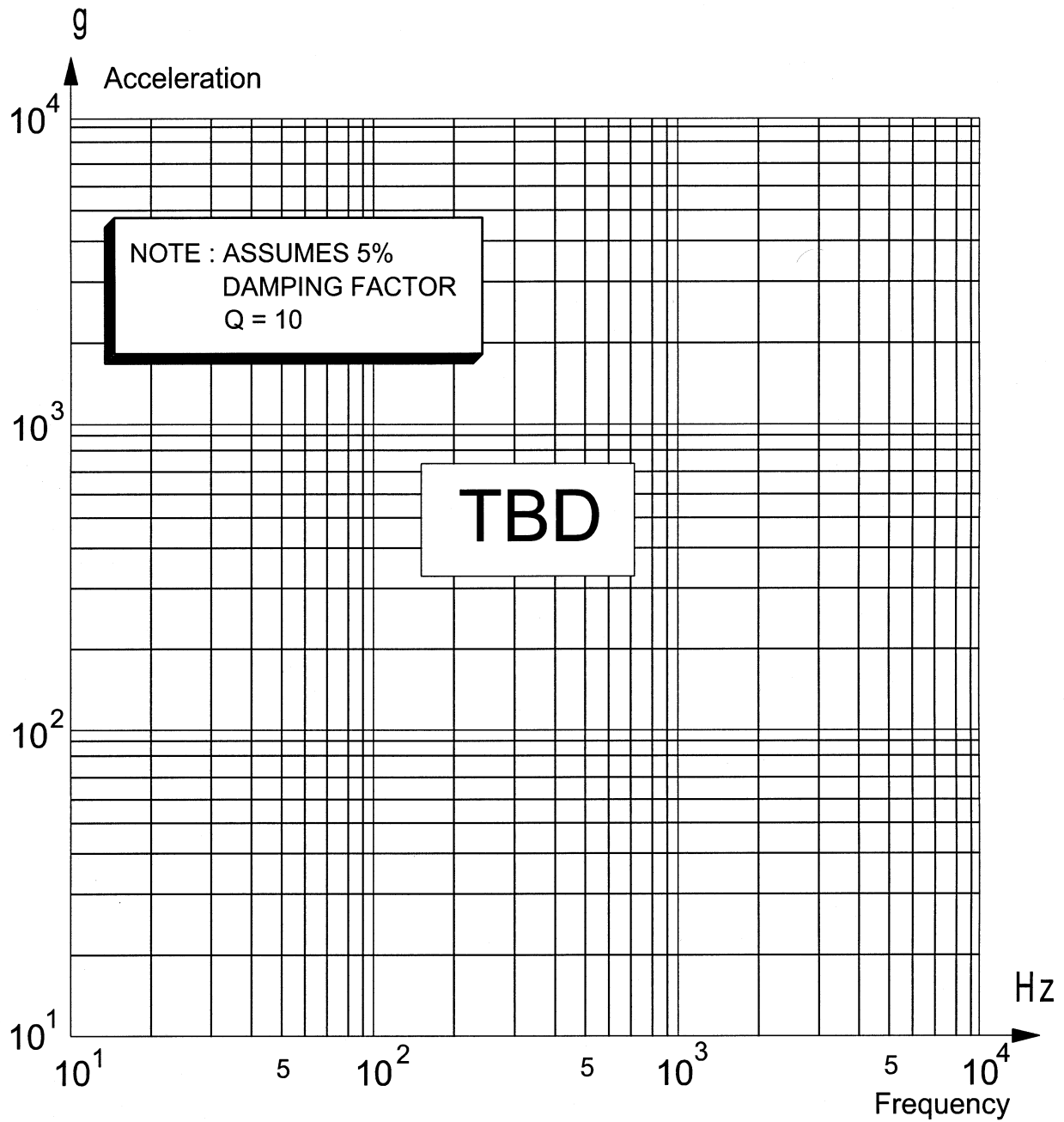


Fig. A11.2 – Adaptor 1663SP - Shock spectrum at separation plane

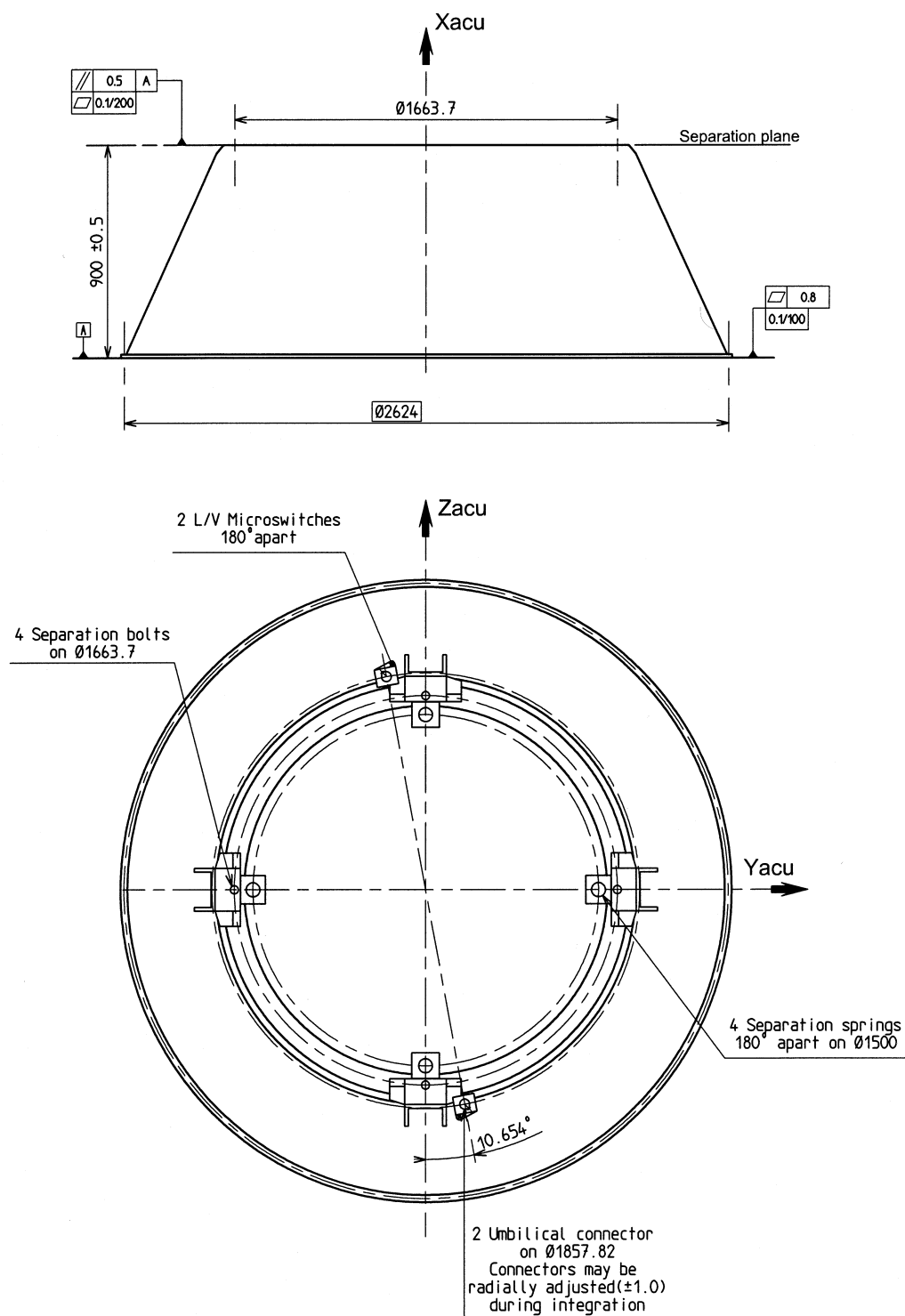


Fig. A11.3 – Adaptor 1663P - -General view and main characteristics

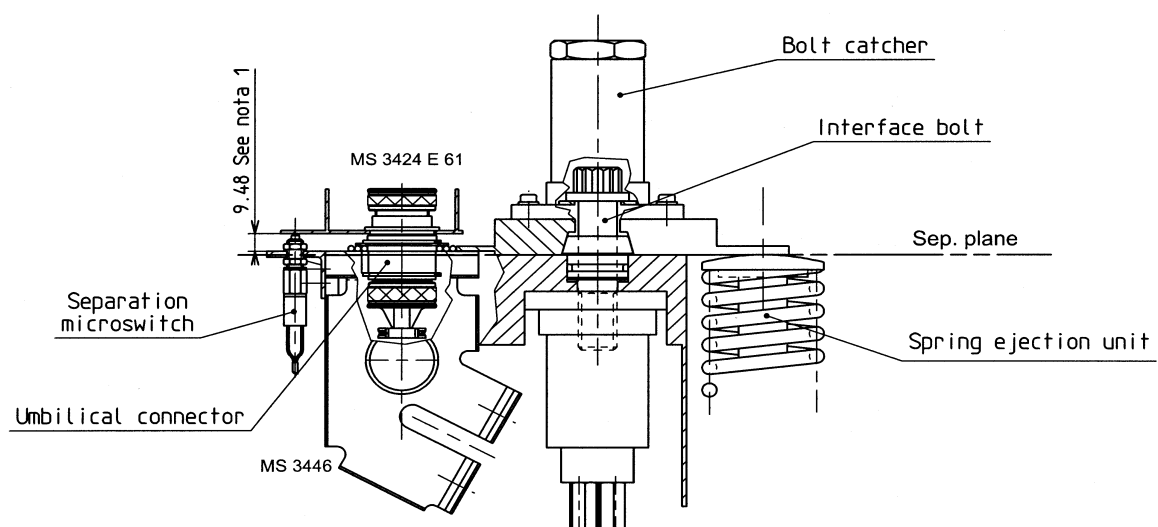
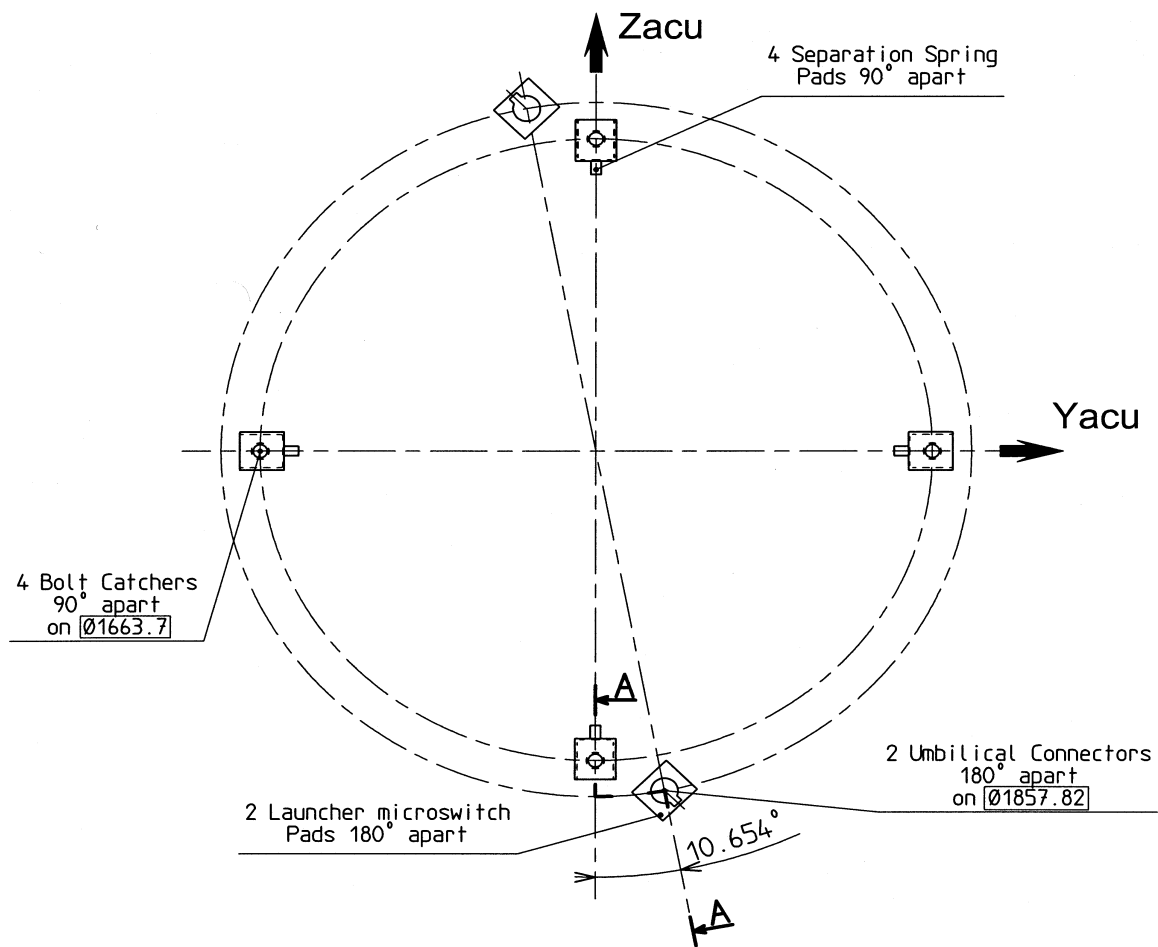
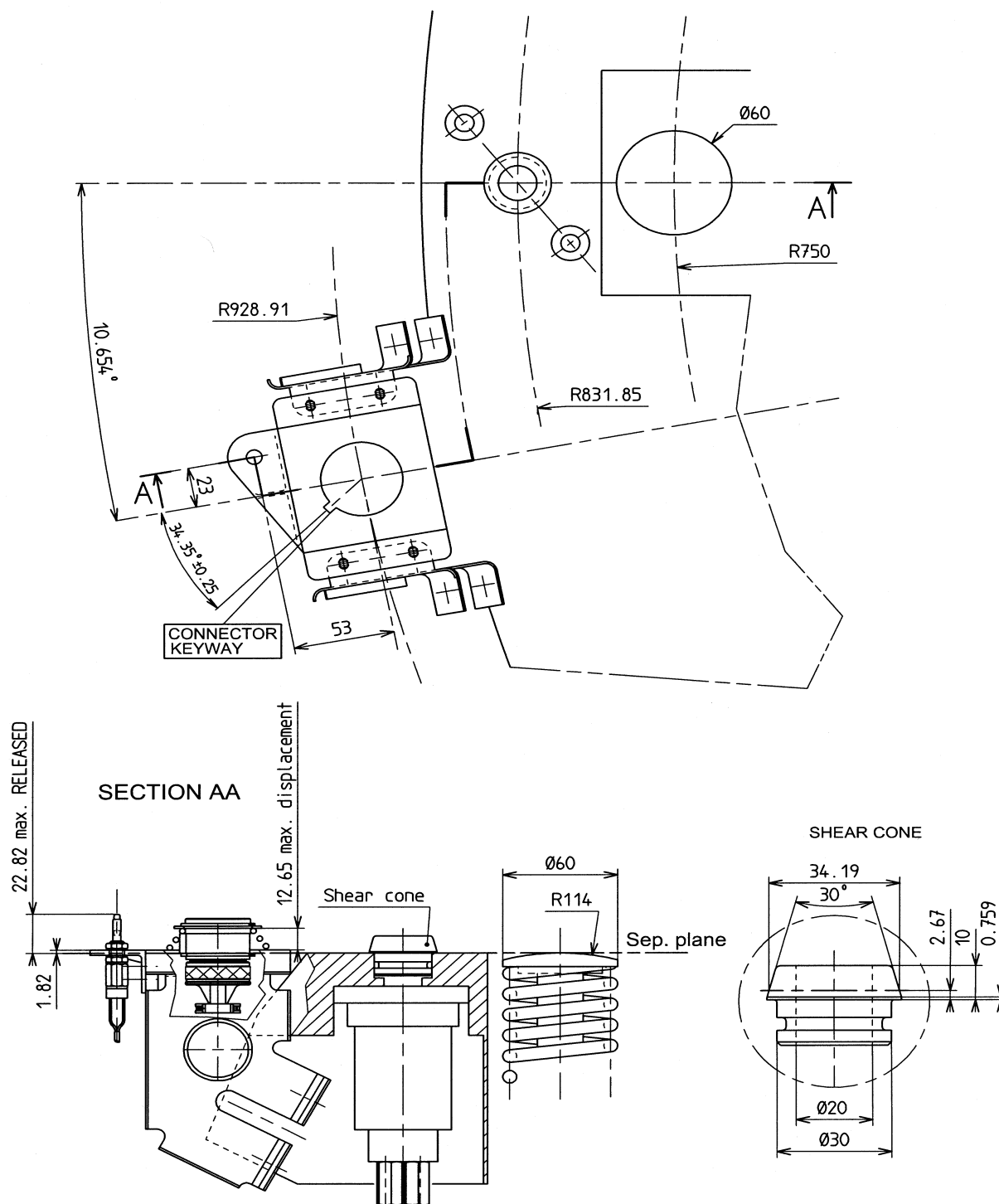
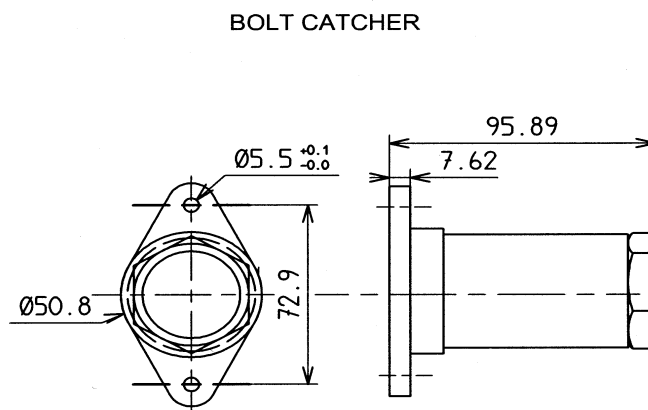
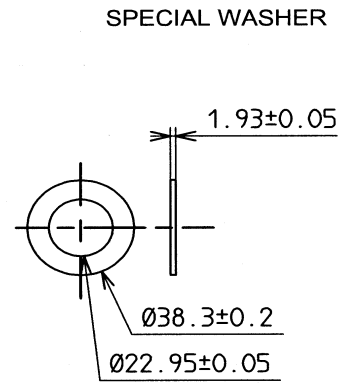
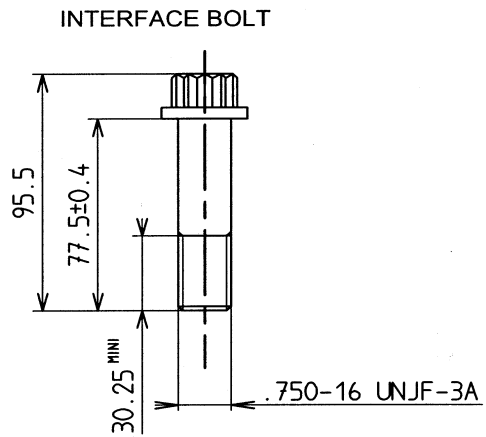


Fig. A11.4 – Adaptor 1663SP - Mechanical interface – Principle



Note: The connector may be adjusted during integration in the horizontal plane ($\pm 2\text{mm}$ in each axis)

Fig. A11.5 – Adaptor 1663SP - Adaptor side – Interface details



Note : These mechanical parts are supplied with adaptor.

Fig. A11.6 – Adaptor 1663SP – Adaptor side - Interface details

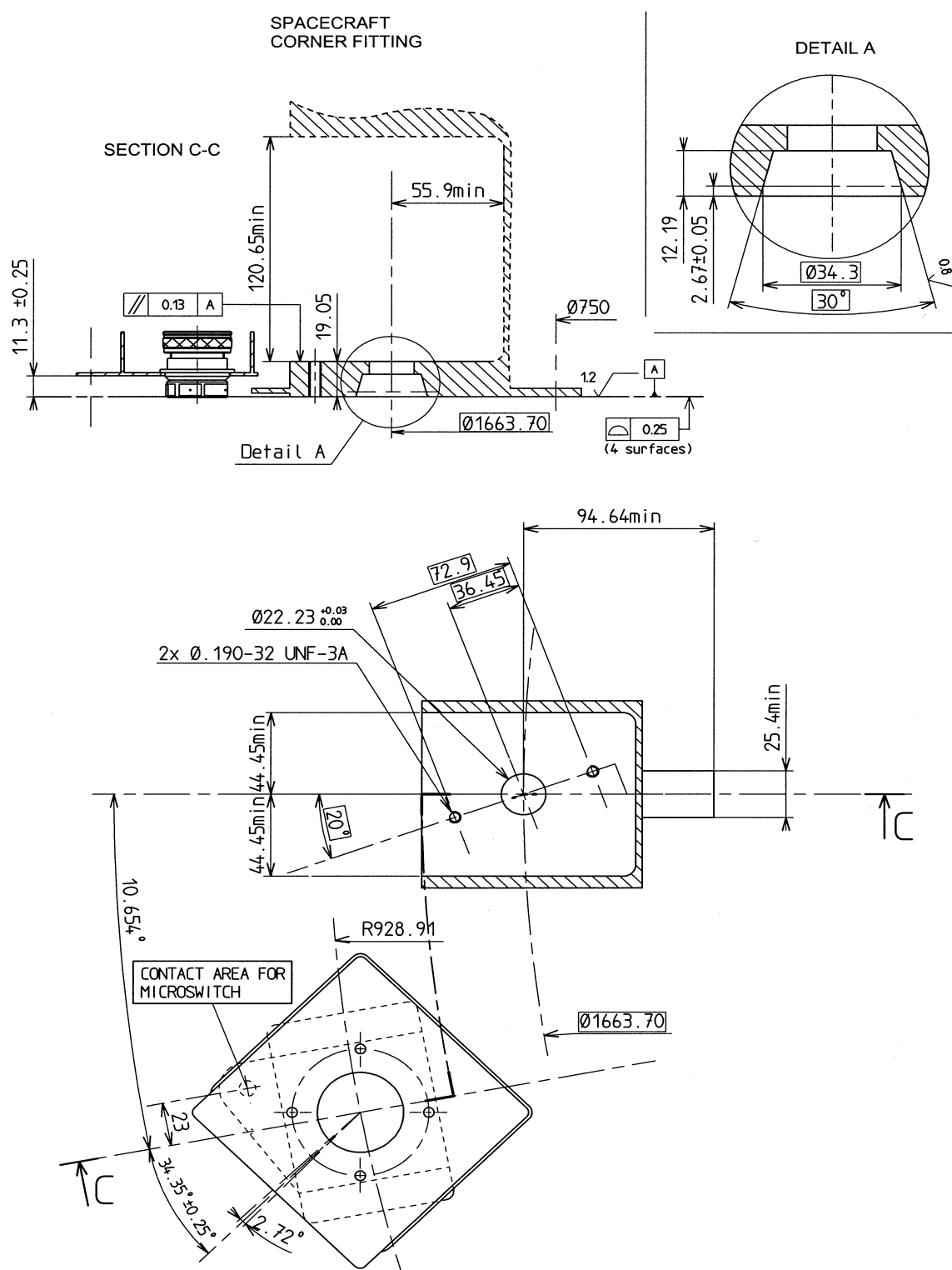


Fig. A11.7 – Adaptor 1663SP - Spacecraft side - Interface details

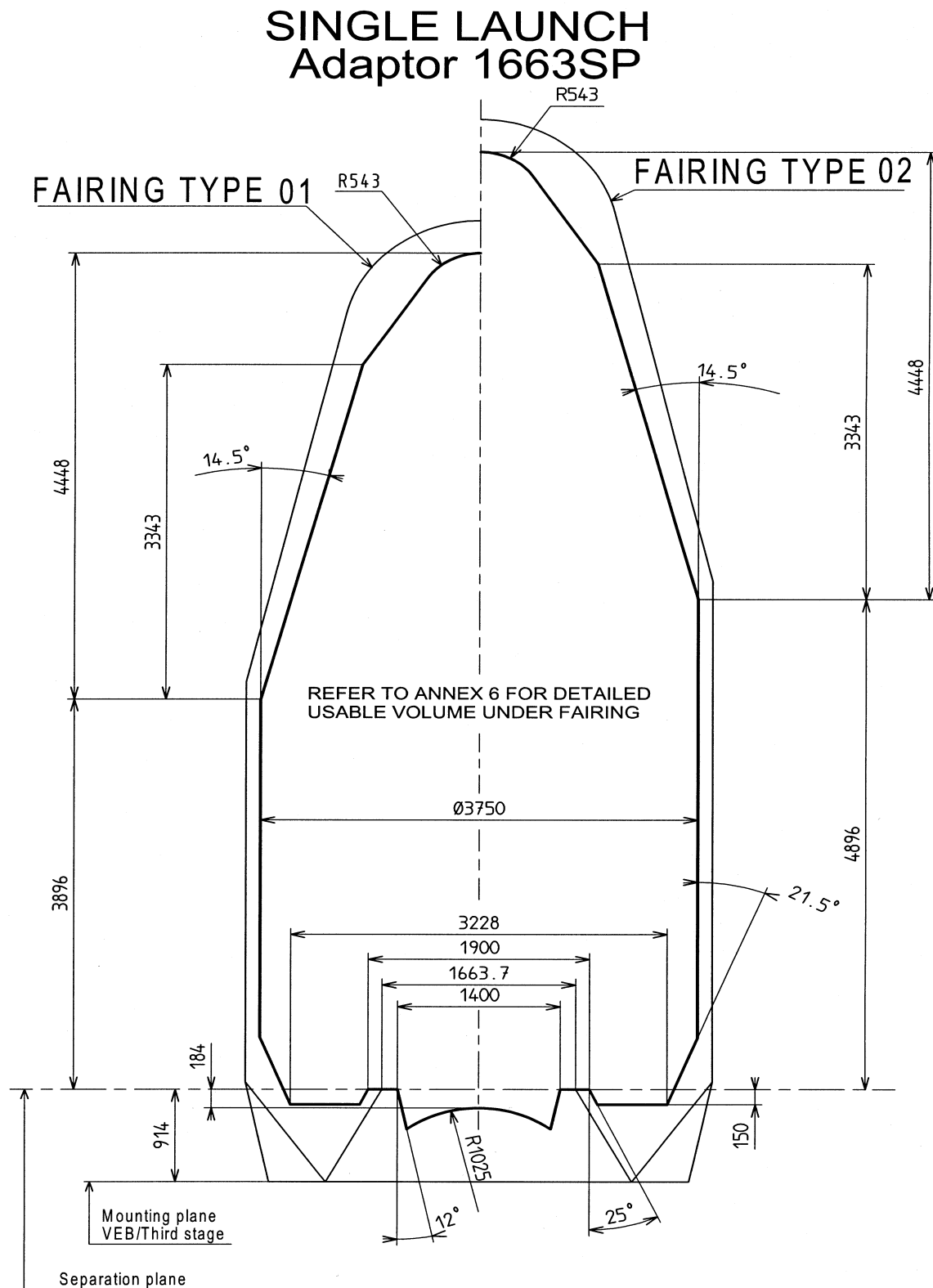


Fig. A11.8 – Usable volumes beneath fairings 01 and 02 (TBC)