

CCVC-SAFETY-0006

Policy On Vehicle Recovery Points

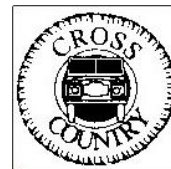
INTRODUCTION

1. A vehicle Recovery Point is a strong point on a vehicle that can safely be used for snatch recovery or winching. A Recovery Point provides a closed metal loop, often formed as a slot that is used with a Bow Shackle to attach a snatch strap or winch hook. This policy describes several types of recovery points and specifies the requirements of CCVC for their use as an alternative to the rated tow hook required under *CCVC-SAFETY-0003 and 0004*.
2. A Bow Shackle typically has a breaking load some 5 or 6 times the WLL stamped on the shackle. This ensures that the overall recovery equipment has a breaking strain well above the high forces used in snatch recovery and it is probable that the shackle would be the last part of the arrangement to fail. None the less, persons should always stand well clear of any snatch recovery or winching.
3. A rated Bow Shackle will be stamped with the WLL and a shackle rated at 4.7 tonne will generally be sized 19 mm or greater.
4. Where the Recovery Point is formed as a slot, the Bow Shackle should be fitted through the slot and the snatch strap attached to the shackle pin. This minimises sideways forces¹ on the shackle pin. The angle of pull for snatching should be as straight as possible but must never exceed the maximum turning angle of the front wheels. If a snatch is unsuccessful on two attempts then winching, with a pulley block if necessary, should be used to recover the vehicle.
5. The use of Bow Shackles as a part of a Recovery Point fitting does not in any way approve Bow Shackles or other metal fittings to join two or more recovery straps together for snatching.

FRONT RECOVERY POINTS

6. A Recovery Point fitting used on the front of the vehicle is vehicle specific. They may come in left and right hand versions. They must be fitted only to the vehicle/s specified by the manufacturer for the particular product, and then fully in accordance with the instructions and materials provided.
7. A front Recovery Point fitting is typically rated at 8,000 kg and is intended to be used with a Bow Shackle with a rating WLL (Working Load Limit) of

¹ Sideways forces tend to spread the shackle apart and places stress on the weakest point, being the pin threads.



at least 4.7 tonne² A snatch strap must have a minimum rating of 5,000 kg to meet CCVC requirements³ and overall arrangement will therefore give adequate strength for snatch recoveries.

- 8. A front Recovery Point with a rating of 8,000 kg or greater, fitted in accordance with manufacturer's instructions to vehicles specified by the manufacturer is an acceptable alternative to a rated tow hook. They must be used in conjunction with a rated Bow Shackle with a WLL of 4,700kg or greater.**

REAR RECOVERY POINTS

9. Fittings are available for use on vehicles with removable rear tow ball type fittings. With the tow ball removed a recovery type fitting can be inserted into the square box section and secured by a retaining pin.
10. The rating of the removable portion of commercial removable tow ball fittings⁴ on vehicles varies, typically a minimum of 2,500 kg and with some models having a maximum rating of 3,600 kg. The rating of the corresponding vehicle mounted "hitch receiver" portion will at least match these ratings, but would normally be significantly greater. For snatching or winching the overall arrangement should have strength of at least 5,000 kg. A hitch receiver to be used for snatching or winching should be attached to the chassis by 12 mm M8.8 tensile bolts.
11. The adequacy of any overall arrangement depends on the strength of both the "hitch receiver" (and its mounting points) as well as the strength of the recovery fitting itself. The strength of any arrangement is always limited by the shear strength of the retaining pin. This is a maximum⁵ of 10,000 lb (approx. 4,530 kg).

- 12. CCVC requires that a rear hitch receiver fitted to a vehicle should have a minimum strength of 5,000 kg and be attached by 12 mm M8.8 tensile bolts.**

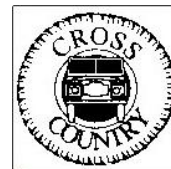
13. Fittings are available that provide a tow hook arrangement that that inserts into the hitch receiver. A rated hook will provide a progressive failure point under extreme loads, as if it were mounted directly onto the chassis.

² One metric tonne is equivalent to 1000 kg.

³ Snatch straps are available with ratings up to 8,000 kg.

⁴ See for example www.trojan.co.nz

⁵ See <http://vikingoffroad.com/utp-multi-hitch/>



- 14. CCVC requires that where a tow hook type recovery hitch fitting is used the hook must be of the rated type and attached with 12mm M8.8 tensile bolts, in accordance with CCVC SAFETY 0003 and 0004.**

15. There are also fittings with a shackle point, rather than a tow hook. These are typically used with a Bow Shackle. These do not provide a progressive failure point and are therefore not accepted by CCVC.

FACTORY FITTED RECOVERY POINTS

16. Some vehicles are factory fitted with recovery points or other fittings that are claimed to be suitable for snatching or winching. (These are not “tie down” type loops or hooks which are only intended for towing or securing on trailers etc.).
17. There is no available data from vehicle manufacturers which provide a WLL or safety factor for such fittings and these are therefore not accepted by CCVC.

AVAILABLE PRODUCTS

18. At the time of writing this specification products are known to be available for the vehicles listed below:

Front Recovery points

Holden Colorado/ Isuzu D Max / MU-X 2012 onwards
 Mazda BT50 and Ford Ranger 2011 onwards
 Nissan Navara NP300 2015 onwards
 Nissan GU/Y61 Patrol Feb 2002 onwards
 Mitsubishi Triton MQ 2015 onwards
 Toyota Hilux 2005 onwards
 Toyota Hilux and Fortuner 2015 onwards
 Toyota Landcruiser 70 series 1999 onwards
 Toyota LC200 2007 onwards
 Toyota Prado 150 and FJ Cruiser
 ARB has other models under development.

Rear Recovery Hitch's and tow hook fittings- manufacturers

ARB
 Bushranger
 Hayman Reece
 Ironman
 OZtrail
 Rydge Ryder
 Trojan
 TJM
 Viking Offroad.