



CCVC-SAFETY-0002

Minimum Standards for Tow Hook Mounting

Introduction:

- The Cross Country Vehicle Club requires members' vehicles to have a certain type of tow hook securely mounted to the front and rear in order to participate in club trips and events.
- Specifications of the hook are detailed in this document. This specification is provided to lessen the risk of hooks becoming lethal airborne missiles if they break or part from the vehicle.
- These are the minimum standards for fitting of all tow hooks.
- Other engineering options equal to or greater than this minimum standard are acceptable.
- These standards came into effect in 2004 for all new and existing installations.

Caution:

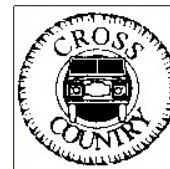
- Some later model 4 x 4s will have a crumple zone in the front chassis rails.
- The hooks or plates should not be installed over the crumple zone.
- If there is not a factory mounted hook or mounting point, you should seek professional assistance on mounting tow hooks in accordance with these Standards.
- **Note** that factory mounted hooks will be inspected to ensure they meet the following Standards.

Hooks:

- Hooks are to be bolted not welded and must comply with *Specification CCVC-SAFETY-0003 Recovery Hook Requirements*.

Chassis:

- If the chassis rail is equal to or less than 3mm thick, then three bolts are to be used when bolting hooks to the chassis. This includes box section and U section chassis rails with captive nuts.
- If the chassis rail is more than 3 mm thick, two bolts through the hook are sufficient.



Bolts:

- The diagrams below show the bolt head markings which designate the correct tensile bolts for tow hook use.

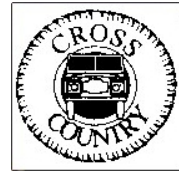


- 12mm diameter Grade 8.8 or 10.9
 - 1/2 inch Grade 5 or 8
 - Must have nylock nuts or spring washers under the nuts
 - NO cap screws
- Bolts must not be close to edges. The measurement from the end of the chassis to the bolt must not be less than:
 - 40 mm for 3 mm plate
 - 30 mm for 4 mm plate
 - 25 mm for 5 mm plate

Torque Figures

- When installing hooks it is recommended that new nuts and bolts be used. Nuts and bolts must be torqued to the following specifications:

<u>Size</u>	<u>Coarse</u>	<u>Fine</u>
12mm 8.8	57ft lbs	64ft lbs
12mm 10.9	77ft lbs	86ft lbs
1/2inch G5	66ft lbs	75ft lbs
1/2inch G8	92ft lbs	104ft lbs



Mounting – Option 1:

- The hook may be mounted straight to the chassis, if the chassis thickness is greater than 3 mm.
- 12 mm captive nuts or 12 mm nuts and bolts of a minimum M8.8 standard must be used and can only be used where the bolt passes through one side of the chassis only.
- If the captive nuts are less than 12 mm, an engineer's advice must be sought on providing a mounting of equivalent strength.

Mounting – Option 2:

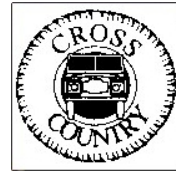
- If there are no captive nuts inside the chassis rail, and the chassis is a U section, then the back of the bolts are to be mounted through an additional plate if the chassis rail is equal to or less than 3 mm thick.
- This plate is to be the width of the chassis, 5 mm thick and 120 mm long. If the chassis is equal to or less than 3 mm thick the plate must have 3 mounting holes of 12 mm diameter. One hole is to mount the plate to the chassis independent of the other 2 hook-mounting bolts.
- If the chassis is more than 3 mm thick, only two mounting holes are needed.
- C section chassis rails are required to be boxed as per the diagram on page four of these specifications to prevent them from opening or twisting. The hooks are to be mounted as per Mounting Option 3.

Mounting - Option 3:

- If there are no captive nuts inside the chassis rail, and the chassis is a box section, it will need to be tubed and plated.
- Tubes through the chassis should be 16 mm outer diameter, with a 12 mm bore, with plates on both sides of the chassis. If the chassis rail is equal to or less than 3 mm thick, the three bolt arrangement should be used.
- The plates must be at least the width of the chassis, 5 mm thick and 120 mm long, with 3 mounting holes of 12 mm diameter. One hole is to mount the plates to the chassis independent of the other 2 hook-mounting bolts.

Mounting – Note 1:

- Bumper / Bull Bar mounted hooks only acceptable on a case by case basis.
- ARB (and TJM) state "No snatching from bumpers".

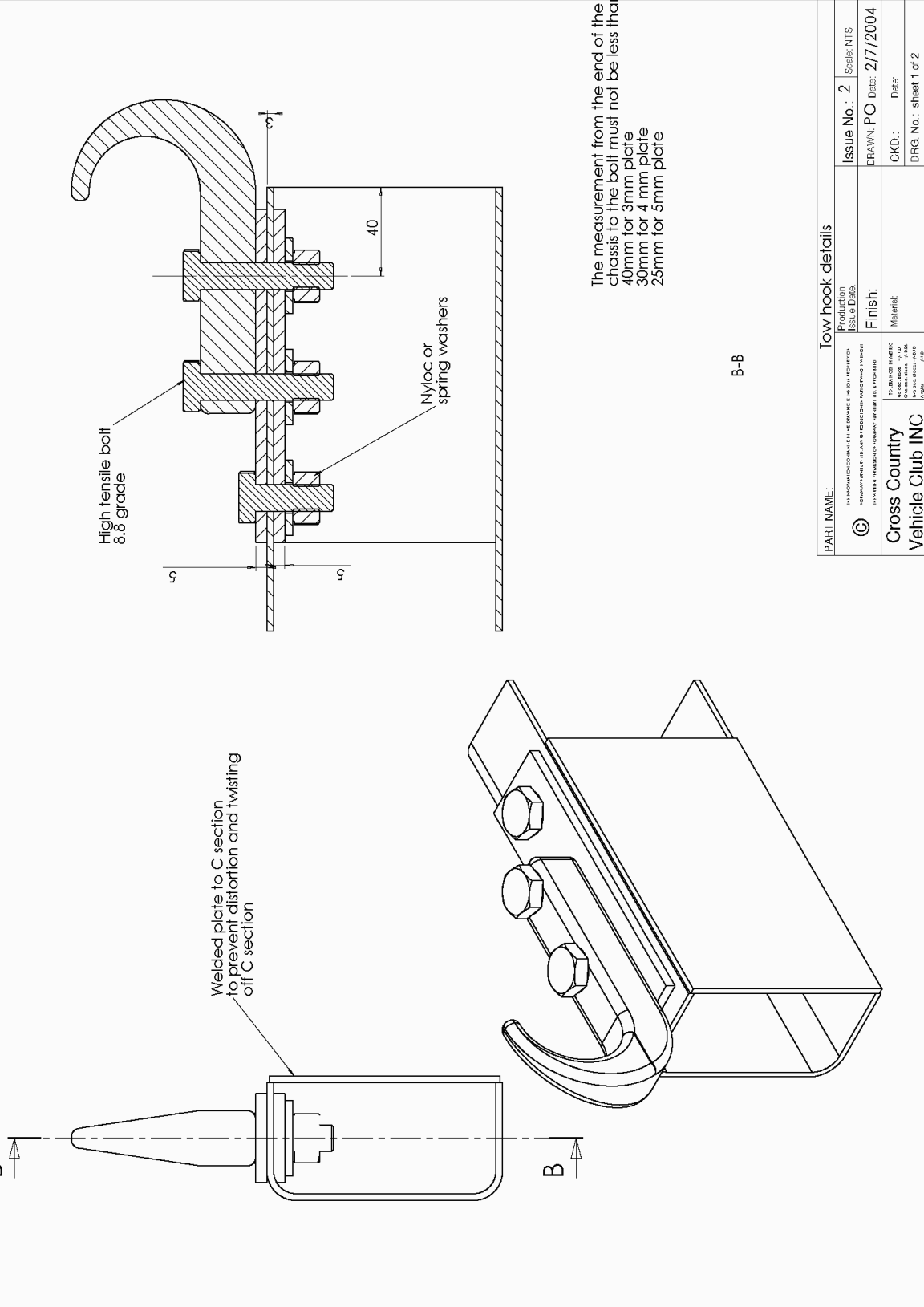


- Bumper mounted hooks will only be considered for acceptance when the mounting bolts attach directly to the chassis or to a suitable structure directly linked to the chassis.



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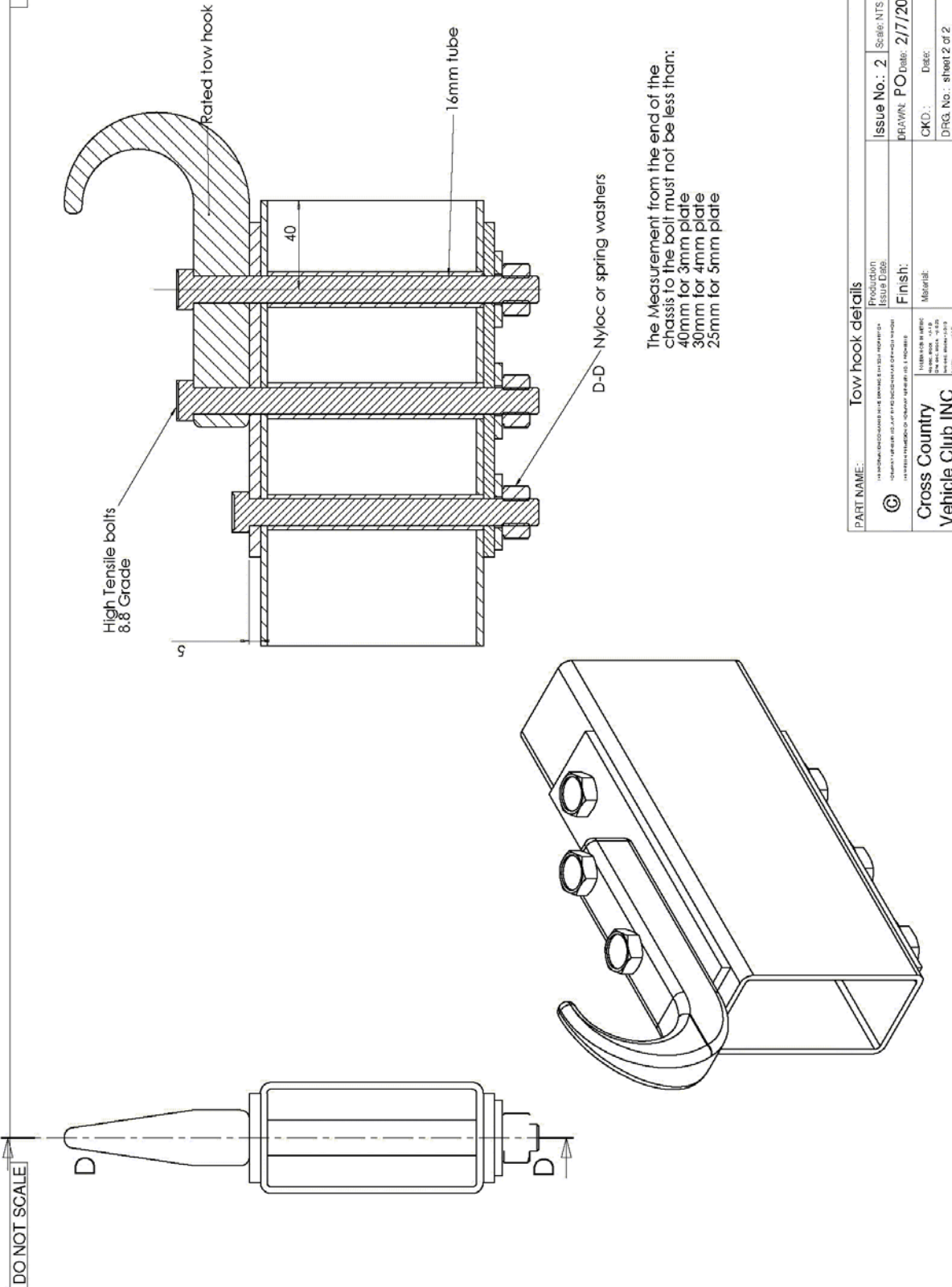


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PART NAME: Tow hook details	
Production Issue Date:	Issue No.: 2 Scale: NTS
FINISH: Material:	DRAWN: PO Date: 2/7/2004
CROSS COUNTRY VEHICLE CLUB Wellington	CKD: Date:
Cross Country Vehicle Club INC	DRG. No.: sheet 1 of 2



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PART NAME: Tow hook details © IN THE PUBLIC INTEREST OF THE CLUB AND MEMBERS CROSS COUNTRY VEHICLE CLUB WELLINGTON, NEW ZEALAND INCORPORATED IN NEW ZEALAND	Production Issue No.: 2 Scale: NTS	Issue No.: 2 Scale: NTS
	Finish: PO Material:	Date:
Cross Country Vehicle Club INC	DRG. No.: sheet 2 of 2	Date: