

WWR

Rugby Wheelchair
Resource

March 2024

worldwheelchair.rugby



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Introduction

This document details the sport technical, design, and specification options for entry, developing and elite level wheelchair rugby chairs.

These are only guidelines as each chair is generally designed for a specific athlete. Generic chairs used socially will not perform as well as a custom designed chair. The material provided in this document is accurate at date of publication and may be subject to change as and when WWR amend the international game rules of wheelchair rugby.

WWR wish to thank Melrose Kiwi Concept Chairs, Vesco Metal Craft Inc. and Wheelchair Rugby Canada for their contributions toward this resource and the use of materials produced by each of them.

WWR supports a Recycle, Repair & Reuse program as many athletes have more than one sport chair. When their older chairs become less efficient and effective at the higher performance level, we support the implementation of an R, R & R program. It may be possible to locate someone who will gather up the chairs, repair them and send them on to a member who needs them. Contact other clubs in your region, other member nations, Regional Managers or the Office see what might be possible.

Wheelchair rugby is played with a volleyball and sports wheelchairs. Originally players started using their everyday chairs, but these soon become damaged especially if one or more athletes begin using a formal rugby chair. Basketball chairs will suffice if rugby chairs are not easily obtained and when day chairs are getting damaged. Ask for secondhand basketball chairs from local clubs.

Please note, it is not necessary to have new wheelchair rugby chairs to begin with – any chair will do to get people playing. Athletes generally wear rubber gloves to protect their hands and aid with gripping the ball.

Basic chair design

Wheelchair rugby equipment has evolved significantly since the Introduction of the sport. Early competition was performed with everyday chairs until the late 1980's and early 1990's. The chair is now built to a specific standard however there are still many differences between individual chairs due to the individual measurements of each athlete that plays the sport. To minimise costs, many clubs may purchase several chairs for all athletes to share. In such cases a common width chair that is built may have a 16-inch seat width for the smaller athletes and perhaps an 18 inch seat width chair for some of the larger athletes. It is also possible to minimise costs by only using the high point offence chair opposed to the low point defense chairs which require very specific 'pick bar' designs to meet international standards.

As athletes develop and the national program competes internationally it is likely that each athlete will require a custom-built chair to fit their body size and shape. This will also minimise any risk of injury due to poor fitting or poor seating position for an athlete.

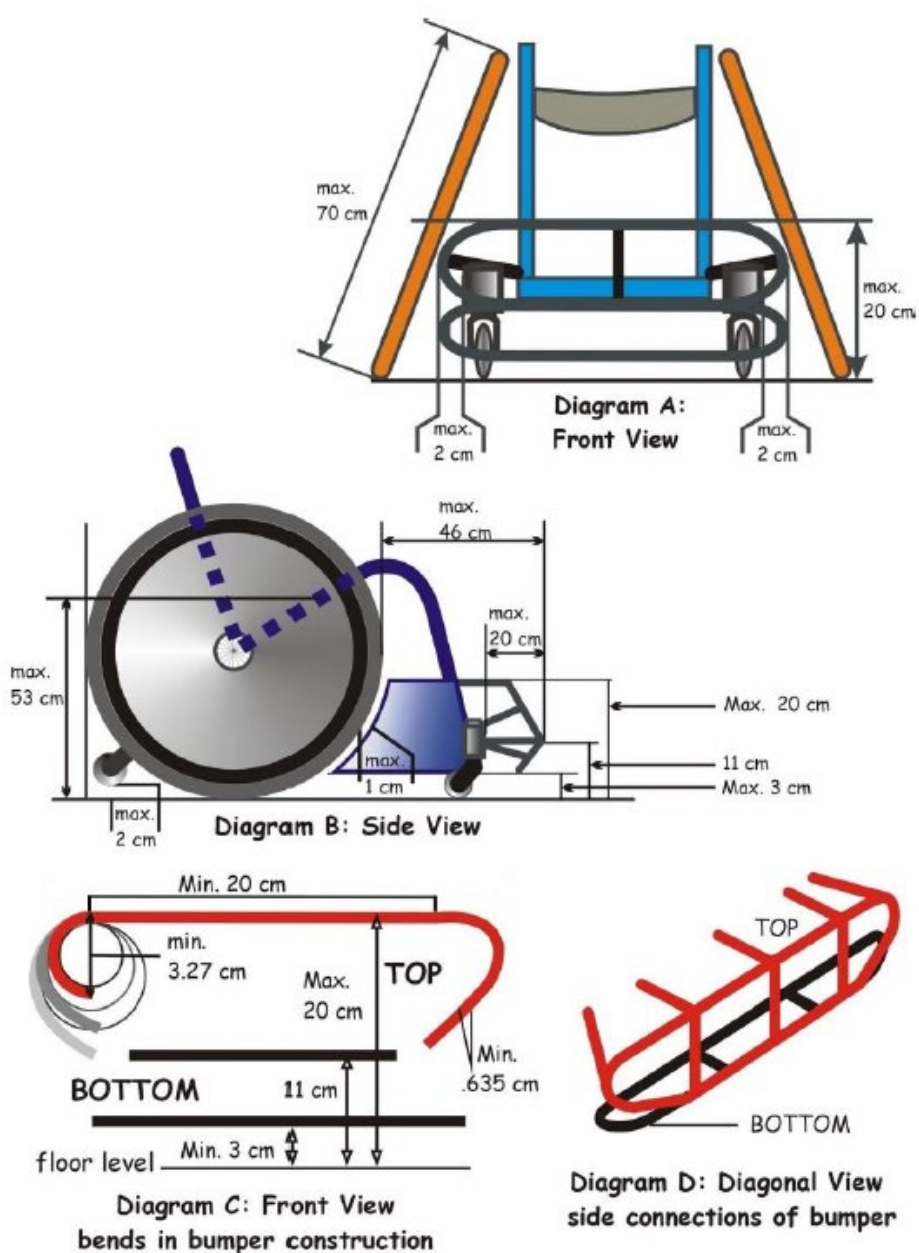
Rule specifications

The images below have been copied from the WWR International Rules at time of publication. The latest version can be viewed on the WWR website as some specifications do change so, please review these Rules to ensure you are utilizing the most recent information.

All details of chair specifications including ball holders can be viewed in Section 4 of WWR International rules Articles 23-32 via this [link](#)

General Measurements

The basic chair dimensions and specification can be found in the WWR International rules. In general terms the following images apply for any chair manufacturer.



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Manufacturers

Below is a list of some wheelchair rugby chair manufacturers of the more commonly used and known at the time of creating this resource.

Country	Manufacturer	Website
Brazil	Alphamix	https://alphamix.com.br//categorias/esportivo
South Africa	The Campus of Central University of Technology (Africa)	https://pdts.co.za/rugby-wheelchair/1984jbm@gmail.com
New Zealand	Melrose Kiwi Concept Chairs	https://melrosewheelchairs.co.nz
United States	Vesco Metal Craft	https://vescometalcraft.com
Great Britain	RMA Sport	https://rmasport.com/rugby-landing/
Great Britain	RGK	https://rgkwheelchairs.com/wheelchairs/sport-wheelchairs/predator.html
Italy	Offcarr	https://www.offcarr.com/prodotto/gotry/
Czech Republic	Ultina	https://ultina.company/sport/
Indonesia	Maju	C/o Rodney Holt rodney@balisports.com
Poland	GMT	https://www.gtmmobil.com.pl/oferta/wozki-sportowe/
Germany	SCHMICKING	https://www.schmicking.com/
Denmark	Wolturnus	https://wolturnus.dk/en/

Other interesting introduction chair concepts can be found here.

Design week Unique and Low cost rugby chair age 8-11

<https://www.designweek.co.uk/issues/22-28-august-2022/aston-university-design-low-cost-rugby-wheelchair/>

School/"try sports day" plastic chairs: Germany <https://plazur-industries.fr/references/poetic-introduces-a-new-green-wall/>

Applying for funding

Funding programs are often available within your country to help access funds to purchase new chairs or even used chairs from other sports (e.g. wheelchair basketball) that can be used for all ranges of experience. We have prepared a resource to assist you with funding applications. Please contact WWR office to receive a copy of this resource.

Spare parts

At a minimum a spare-parts list for either an individual athlete or team would include:

- A spare wheel, complete with spoke guard and push rim (two wheels are better)
- One complete castor assembly
- Two castor stem bearings
- Two castor wheels
- Two Spare Axles
- One Spare Tire
- Two Spare Tubes

Maintenance

It is very important that you look after your new chair. This will ensure you get the most effective, efficient, and longest lifetime possible. There are several basic actions you can perform weekly to ensure the chair is in best possible form while playing wheelchair rugby.

These activities include.

- Pumping up tires each week.
- Checking castor bearings for anything reducing the speed these can turn.

VESCO Meetal Craft ® has partnered with Wheelchair Rugby Canada (WRC) to produce a useful "Chair Maintenance" video series. WWR is grateful to VESCO and WRC and wishes to thank them for sharing this valuable resource.

The following link, provided by WRC shows many videos and details of different maintenance that may be required during your time playing the sport.

<https://wheelchairrugby.ca/equipment-management/>

Basic tool kit

The following tools are most often used for chair maintenance. A more detailed list can be viewed on the WRC Equipment Management page link above.

- Tire Removal Tools
- Adjustable wrenches
- Metric and Standard size Allen key sets
- Metric and Standard Socket and Ratchet Set
- Screwdriver with assorted bits.
- Metal files. (Flat and rat tail)
- High Pressure Air pump (with Gauge)
- Open end wrenches 1/2", 3/8
- Vise Grips
- WD40 or equivalent

Elite chair design

The level of detail that can be customised for the elite athlete is extensive. These customisations are often only able to be determined after playing the sport for a long period of time and after several different chairs are used by the athlete. This therefore can be a very expensive exercise resulting in a large cost to determine the best set up of chair for each specific athlete. To be able to understand the details required please review examples of Individual script forms from Vesco and Melrose Chairs which can be found here.

Vesco script https://vmcrugbychairs.formstack.com/forms/vmc_rugby_chair_orderform

Melrose offensive script <https://melrosewheelchairs.co.nz/script-pages/rhino-high-point-script.pdf>

Melrose defensive script <https://melrosewheelchairs.co.nz/script-pages/rhino-low-point-script.pdf>

Chair Blueprints

WWR has a set of blueprints available on our website to build an offense or defense rugby chair. These have been supplied by Melrose Kiwi Concept Chairs from New Zealand.

The documents can be located here: <https://worldwheelchair.rugby/wp-content/uploads/2024/03/WWR-Chair-blueprints-final.pdf>