



VMC RUGBY CHAIRS

Owners and Maintenance Manual

First off, let us say “Thank you” for investing in a Vesco Metal Craft product. We take a great deal of pride in fabricating what we believe to be the very best rugby chair on the market today. Through extensive R&D with a few top ranked players, we are constantly looking for new ways to keep our chairs on the cutting edge, both technically and innovatively.

TEAM VESCO

Section A) Setup.....PG. 1-2

Section B) Routine Maintenance..... PG. 3-6

Section C) Do's & Don'ts..... PG. 6

Section D) The Airlines And Your Chair.....PG. 6-7

Section E) Trouble Shooting.....PG. 7

Section F) Spare Parts.....PG. 7

Section G) Assembly Sheet.....PG. 8

SECTION A) SETUP

1) UPHOLSTERY

Both the seat bottom and seat back upholstery are tension adjustable. By loosening or tightening the Velcro straps you can tailor your seating to your own personal style. The seat back straps are accessed by pulling the center pad loose from the strap section. Start at the front, bottom , pulling it forward and up, continuing over the top and down the back side. Adjust the straps as necessary and replace the center pad making sure to conform it to the shape you desire, i.e. don't loosen the straps and then replace the center section Velcro taut as it will not allow the strap section to conform to the desired shape. NOTE- The further you sit to the rear, the more center of gravity you add.

The seat bottom straps are easily accessible from the bottom of the seat or you may wish to flip your chair up on end. By adjusting the straps, you can increase or decrease your dump angle or just sit lower.

NOTE: allow a 'break-in period of approx. 30-40 hours of playing time for your upholstery to stretch and conform to your body before making final adjustment.



2) FOOTREST

The footrest can be adjusted to any allowable HEIGHT by loosening the pinch clamp screw (3/16" allen wrench) on both pinch clamps and raising or lowering the footplate to the desired height. TIP: To make it easier to slide the footrest up and down, remove the pinch clamp screws and LIGHTLY tap a small screwdriver between the split in the clamps.

To move the footplate forward or rearward, remove the two screws, (1/8" allen wrench) Move plate to desired holes and reinstall screws. We highly recommend using 'blue' (#242) loctite on all hardware when reinstalling.

3) REAR ANTI-TIPS

In a 'perfect' world, it would be best to have ALL wheels on the ground, but since gym floors are not perfect, you need to have .25"-.5" clearance.

Our chairs leave the shop with .5"+/- clearance. Due to customer weight, this may have to be adjusted. Adjusting them too low may cause you to 'high center' on an uneven floor, resulting in lost traction with your big wheels. Adjusting them too high causes wasted motion as your pushing energy is used to 'wheelie' your chair, rather than propel you forward.

To adjust the height, using a screwdriver or putty knife, pry off the black plastic plugs on top of the caster housing to expose the caster stem bolt and nut. Remove the nut with a 3/4" socket, lift the rear of the chair and remove the caster assembly. To lower the caster, Remove washer/s from top and slide onto caster stem. To raise, remove washer/s from caster stem and add to top. Re-install nut and tighten until caster does not rotate freely, Then back it off slightly until caster rotates with minimal effort.

Caution! Make certain to change both sides equally, i.e. thick / thin washers.

4) LAP BELT ATTACHMENT

On the brace that attaches the seat back to the main frame, you will find an allen head screw (1/8" allen wrench) that is provided for attachment of a lap belt. To attach a lap belt, simply remove screw and washer, insert thru belt and re-attach.



SECTION B) ROUTINE MAINTINANCE & CARE

BASIC TOOLS

7/16", 1/2" & 3/4" COMBINATION WRENCHES
1/2" & 3/4" SOCKETS AND RATCHET.
1/8" & 3/16" ALLEN WRENCHES
MEDIUM STANDARD TIP SCREWDRIVER
TIRE PUMP
TIRE PRESSURE GAUGE
TIRE REMOVAL TOOL/S
SPOKE WRENCHES (1/4" NUT DRIVER OR SOCKET + SPINERGY SPOKE
WRENCH FOR SL TYPE WHEELS) OR (SPINERGY SOCKET WRENCH +
SPINERGY SPOKE WRENCH FOR SLX TYPE WHEELS)
HALF-ROUND MEDIUM-COURSE FILE (MID-POINT & OFFENSIVE CHAIRS
ONLY)

ADVANCED / TEAM TOOLS

5/8" OPEN END WRENCH (3/4" FOR 5/8" RECEIVERS)
1-1/8" AND / OR 1-16" BOX END WRENCH
1/2" BRAKE HONE (FLAT STONE STYLE)
1/4" OR LARGER CORDLESS DRILL
242 'BLUE' LOC-TITE
271 'RED' LOC-TITE
HIGH-TEMP HEAT GUN
CHAIR CHECK GAUGE

1) TIRES

We supply our chairs with Kenda 'Iron cap' tires or Schwalbe 'RightRun' tires as per your preference.

KENDA'S - These high performance tires are made with a silica compound in the tread area to reduce rolling resistance and a thicker sidewall to resist pinch punctures. There is nothing to be gained by 'hyper-inflating' these tires over 120 P.S.I. In fact, doing so will only stretch the tire and cause possible tire to wing clearance issues on offensive chairs.

SCHWALBE'S - These are the new benchmark tires in their basic line and are high performance tires that are equipped with smooth sidewalls, which are also thicker than Kenda's, to further resist pinch punctures. They feature a particularly hard wearing "Black'n'Roll" central tread compound as well as their Puncture Protection belt, common in all the Schwalbe basic tires. There is a maximum recommended P.S.I. of 145 on these tires.



2) WHEELS

Once a month or more check your wheels for broken or loose spokes. Keeping your wheels true helps the overall performance of your chair. To replace a broken spoke, first remove tire, tube and rim liner to expose the spoke nuts. You should now be able to remove the broken spoke. Install the new spoke and nut. Spin the wheel as you tighten the nut, checking for wheel run-out. Have your wheels professionally trued if the run-out is not acceptable.

Check that the wheel bearings spin freely with no grinding or flat spots. The bearings are sealed and require no lubrication. When replacing the bearings, make certain they are fully seated in their bore, if not, you will have difficulty installing the axle

NOTE: The use of aluminum spoke guards on offensive chairs may cause the wheel to offset from center as the aluminum applies pressure to the outboard spokes, which has the same effect as tightening the outboard spokes. **DO NOT ATTEMPT TO ADJUST THE AXLE SLEEVE TO OVERCOME THIS PROBLEM AS DAMAGE MAY OCCUR**

3) AXLES, AXLE RECEIVERS & JAMB NUTS

Keep your axles clean and properly adjusted. Adjust the axle by holding the flats at the axle end with a 7/16" (9/16" on 5/8" axles) wrench while turning the adjusting nut with a 3/4" (15/16" on 5/8" axles) wrench. The axle is adjusted correctly when you can feel a **VERY SLIGHT** amount of play with the wheel fully inserted into the axle sleeve. If the axle is adjusted too tight, the detent ball won't be able to fully deploy, allowing the axle to come loose.

The axle receiver and jamb nut are installed with high strength 'red' #271 loc-tite, so they **SHOULD** never need tightening. A red 'reference' line is painted across the jamb nut and the camber tube bung to indicate if loosening of the jamb nut has occurred.

CAUTION: DO NOT ATTEMPT TO ADJUST THE AXLE RECEIVER OR OVERTIGHTEN THE JAMB NUT AS DAMAGE WILL OCCUR.

PLEASE CALL US FIRST IF YOU FEEL YOU HAVE A DAMAGED RECEIVER!

If the axle receiver has become damaged and must be replaced, the following procedure **MUST** be followed or damage may occur. Before removing, measure the distance the receiver protrudes from the camber tube as the new receiver **MUST** be installed at the same distance. NOTE: see page 8 for default reveal distance. Using a high temperature heat gun, heat the sleeve end of the camber tube, from the end to approximately 3" toward the center. Depending on the wattage of the heat gun, you may have to apply heat from 5 to 15 minutes. If possible, use the jamb nut to remove the axle receiver. If the jamb nut turns before the receiver, remove the nut completely to allow more wrench access to the receiver. Continue to apply heat until the loc-tite begins to soften allowing you to turn the receiver. Before installing a new receiver, all remaining loc-tite **MUST** be removed. Apply #271 Loc-tite in a zig-zag pattern from the bottom to approx. 1/2" from



the top. Stand the receiver on end and allow the Loc-tite to flow out until it covers all the threads. Allow 24 hours for the Loc-tite to set-up before leaving an axle in the receiver or the axle may become permanently stuck in the receiver.

4) WHEEL ALIGNMENT

Correct wheel alignment is crucial to chair performance. DO NOT change front caster wheel size or alter caster stem ride height as this will affect the toe-in. If you experience problems with your chair not tracking properly, you probably have a bent axle or a bad front caster wheel. To check your axles, first remove them from the wheels, if you find this difficult, it is your first clue that the axle is bent. Next, insert them FULLY into the axle receiver. They should slide in and out without any binding. If you detect resistance, try a NEW axle. If the new axle slides in and out smoothly, your axle was bent. If you detect resistance with a new axle, you may have a burr inside the axle receiver, which can be easily removed with a 1/2" brake hone mounted in a drill. Spray the hone with WD-40, insert it into the receiver and run the drill at a SLOW R.P.M., (500-800 R.P.M.) moving the hone in and out at the same time. The hone removes material very quickly, so run it for no more than 10 to 15 seconds at a time. Clean the inside of the receiver thoroughly, removing all grit before attempting to re-install the axle.

5) FRAME

Since June 2006, all of our frames are professionally heat treated to aerospace standards, making our frames more robust than ever. That being said, DO NOT attempt welding on your frame as this will negate the heat treating process.

Unlike steel, aluminum does have a fatigue life. The constant pounding and abuse that rugby chair must endure taxes the frames. Once a month, do a good visual inspection of your frame, looking for any cracks.

6) CASTER WHEEL ASSEMBLIES

Keep your caster wheels free of accumulated gook from the gym floors, as it increases your rolling resistance.

Avoid running into curb cut-outs if pushing your chair outdoors as this may bend your front caster stems and/or damage the caster stem bearings. If you find your front caster forks are not rotating smoothly, you may need to replace the caster stem and/or bearings. When replacing a bent stem bolt, make sure to note the location and thickness of the ride height washers for correct reassembly. NOTE: see page 8 for default ride height shims Use 'blue' #242 loc-tite on both lower jamb nuts. Tighten upper lock-nut (3/4" wrench or socket) until snug and caster is difficult to rotate, then loosen nut slightly. If the nut is too loose, it may cause 'caster flutter' at higher speeds. If you are experiencing 'caster flutter', snug the lock-nut slightly.



7) WINGS

On mid-point and offensive chairs, if your tire starts to rub on the wing and you have not hyper-inflated your tires, you probably have a bent axle. Replace the axle and recheck. If the problem still persists, use a medium- course half round file to remove the problem area of the wing

8) UPHOLSTERY

Once a month, check the condition of your upholstery. Look for any rips, tears or premature wear that may cause a future failure and replace if necessary.

9) NUTS AND BOLTS

Although we assemble all hardware using loc-tite, it is still a good idea to check that nothing has come loose. The items to check are, 1) The 6 rear caster guard mounting screws (1/8" allen wrench) 2) The 2 footplate mounting screws (1/8" allen wrench) 3) Lap belt attachment screws (1/8" allen wrench) 4) Footrest height adjustment screws (3/16" allen wrench) 5) Visually check the axle receiver jamb nut. If the reference line between the nut and axle bung do not line up, SNUG up the jamb nut using an 1-1/8" wrench or, 1-1/16" if your chair is equipped with the thin (1/4") jamb nuts.

CAUTION: Over tightening the jamb nuts will pinch the axle in the receiver!

SECTION C) DO'S AND DON'TS

- 1) Do read and understand this manual thoroughly before using your new chair.
- 2) Do refer to the 'TROUBLE SHOOTING' section of this manual if you have a problem with your chair.
- 3) Do call us if you experience a problem with your chair that you can not resolve using this manual
- 4) DON'T run into curb cut-outs when pushing outside, you will bend your front caster stems and ruin the bearings



SECTION D) THE AIRLINES AND YOUR CHAIR

We have had to repair far too many chairs that were damaged by the airlines, so it is in your best interest to take every precaution when traveling with your chair.

Here are a few hints to help your chair arrive undamaged.

- 1) NEVER leave your wheels on the chair. Remove them and place them in a wheel bag for protection.
- 2) ALWAYS gate check your chair whenever possible.
- 3) ALWAYS check your chair over THOROUGHLY before traveling.
- 4) ALWAYS check your chair over thoroughly BEFORE leaving the airport.

SECTION E) TROUBLE SHOOTING

Axles.....PG. 4, paragraph 3)....PG. 5, paragraph 4)

Anti-tips..... PG. 2, paragraph 3)

Alignment.....PG. 5, paragraph 4)

Front casters..... PG. 5, paragraph 6)

Wing / Tire rub..... PG. 6, paragraph 7)

SECTION F) SPARE PARTS

Being well prepared is a vital part of any winning team. Each player needs to carry a few spare items for his or her chair in the event of an equipment failure.

Listed below are the items we would suggest having with you when using your chair.

- 1) A minimum of one spare wheel, complete with spoke guard & push rim.(two is better)
- 2) One complete caster assembly. (Fork, stem, wheel, spacers, axle, bearings)
- 3) Two caster stem bearings. (can also be used in Spinergy wheels)
- 4) Two bare caster wheels. (they do wear out and should be changed in pairs)
- 5) Two spare axles. 1/2" x 4.25" or 5/8"x 4.25" or 5/8" x 4.75"(serial # 1500 & up)(considered as consumables, they are meant to bend before your wheel does)
- 6) Minimum of one spare tire.
- 7) Minimum of two spare tubes.