

Personal Bicycle Fitting Report

Rider Information



Courtney Saario
Specialized Dolce

PRE-FIT NOTES

Courtney is a recreational cyclist coming in today for a fit on her road bike. She enjoys riding with friends and in group rides. She has had left knee issues while riding. Flexibility assessment reveals excellent range of motion at all joints. Forefoot angle is slightly varus. Standard Arch with pronation. 1/3 knee bend difficulty. No apparent leg length discrepancy.

Rider is warmed up on a Cyclops PowerBeam Pro electromagnetically-braked ergometer at 100 watts. The rider is prepared for 3D Motion Capture by marking the following eight bilateral anatomical structures with infrared markers:

Head of 5th Metatarsal Head (ball of foot), Distal end of Calcaneus (heel), Lateral Malleolus (ankle), Lateral Femoral Condyle (knee), Greater Trochanter (hip), Acromion (shoulder), Lateral Epicondyle (Elbow), Dorsum (upside) of wrist joint.

DURING-FIT NOTES

15 second data captures are taken at 30 watt increments until the rider perceives the effort to represent 7 on a scale of 10 (10/10 is theoretically the power associated with VO2max). 3D angles and other fit parameters (see pages 4 and 5) represent an average of the number of events (example knee angle extension) recorded within the capture time. This is a Retül-specific technique called Stroke Intelligence.

The following changes are made:

1. Saddle moved up 4 cm
2. Saddle was moved forward 20 cm
3. Cleat was moved back 5 mm
4. Narrowed stance width
5. Saddle was rotated nose down 2 degrees
6. Made stem angle plus 8

POST-FIT NOTES

A neutral fit was achieved today. It is important that you remember that after a bike fit there is a short period of time under which the body undergoes adaptation to the changes made during the fit. During this time, it is recommended that you reduce your riding intensity to ensure that the adaptation process is a success. It is normal to experience some different muscle usage and stresses. As you move forward in your cycling career, we do recommend continued work on your flexibility and core strength. This will ensure that you can reach your performance goals without compromise.

Good luck this season!! And please let me know if there is anything else we can do to make your ride more enjoyable.

SITE & SESSION INFO

NAME: Retül Studios Denver
OPERATOR: Todd Carver
PHONE: 720.406.1171
DATE/TIME: 2011/05/19, 11:13

ADDRESS: 2449 Larimer St.
Denver, CO 80215
USA
WEBSITE: www.retul.com

THIS BIKE FIT PERFORMED USING THE RETÜL SYSTEM 

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Courtney Saario
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Before



After



SITE & SESSION INFO

NAME: Retul Studios Denver
OPERATOR: Todd Carver
PHONE: 720.406.1171
DATE/TIME: 2011/05/19, 12:20

ADDRESS: 2449 Larimer St.
Denver, CO 80215
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Rider Information



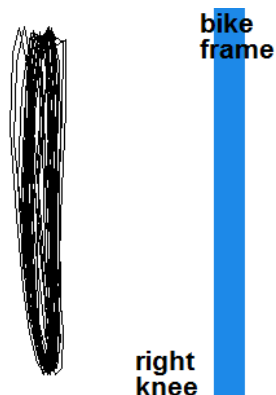
Courtney Saario
 Age 25
 Female
 720.998.2713
 courtney@retul.com

RIDING STYLE: Serious
 Recreational
GOALS: Health and Fitness
INJURIES/PAIN: 4 left knee surgeries
FLEXIBILITY: High
TRAINING VOL: 4

MEASUREMENTS & ANGLES

	Knee Angle Flexion	113 deg		Ankle Maximum	102 deg
	Knee Angle Extension	39 deg		Ankle Minimum	83 deg
	Knee Forward of Foot	11 mm		Ankle Range	19 deg
	Knee Lateral Travel	26 mm		Knee Travel Tilt	1 deg
	Hip Angle Closed	60 deg		Hip Vertical Travel	54 mm
	Hip Angle Open	110 deg		Back Angle	46 deg
	Hip to Wrist Vertical	-48 mm		Hip to Elbow Vertical	116 mm
	Hip to Wrist Horizontal	659 mm		Hip to Elbow Horizontal	436 mm
	Hip Foot Lateral Offset	-1 mm		Shoulder Angle to Elbow	65 deg
	Elbow Angle	147 deg		Shoulder Angle to Wrist	82 deg
	Thigh Length	392 mm		Forearm Angle	-36 deg
	Shin Length	387 mm		Power Output Ave (Max)	170 W(173 W)
				Speed Ave (Max)	14 MPH(14 MPH)
				Cadence Ave (Max)	87 RPM(101 RPM)

KNEE TRACING (FRONT VIEW)



BIKE & SESSION INFO

MAKE/MODEL: Specialized Dolce
TYPE: Road
PEDALS: Clipless
HANDLEBAR: Drop
DATE/TIME: 2011/05/19 12:15
SIDE: right #10
DURATION: 15 sec
NOTES: Final Capture

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MEASUREMENTS & ANGLES

	Knee Angle Flexion Knee Angle Extension	116 deg 37 deg		Ankle Maximum Ankle Minimum Ankle Range	95 deg 75 deg 20 deg
	Knee Forward of Foot Knee Lateral Travel	20 mm 25 mm		Knee Travel Tilt	-4 deg
	Hip Angle Closed Hip Angle Open	62 deg 113 deg		Hip Vertical Travel Back Angle	56 mm 45 deg
	Hip to Wrist Vertical Hip to Wrist Horizontal	-57 mm 640 mm		Hip to Elbow Vertical Hip to Elbow Horizontal	62 mm 419 mm
	Hip Foot Lateral Offset	-1 mm		Shoulder Angle to Elbow Shoulder Angle to Wrist	63 deg 83 deg
	Elbow Angle	136 deg		Forearm Angle	-28 deg
	Thigh Length Shin Length	398 mm 381 mm		Power Output Ave (Max) Speed Ave (Max) Cadence Ave (Max)	170 W(173 W) 13 MPH(13 MPH) 80 RPM(91 RPM)

KNEE TRACING (FRONT VIEW)

bike frame



left knee



BIKE & SESSION INFO

MAKE/MODEL: Specialized Dolce
TYPE: Road
PEDALS: Clipless
HANDLEBAR: Drop
DATE/TIME: 2011/05/19 12:12
SIDE: left #9
DURATION: 15 sec
NOTES: Final Capture

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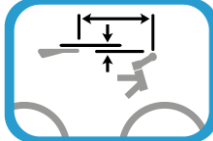
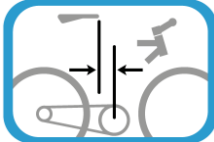
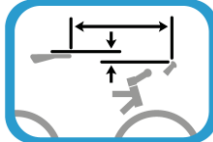

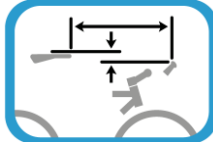

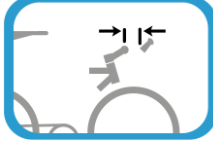

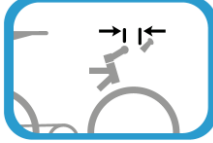
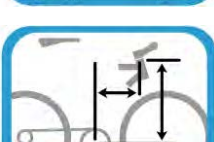
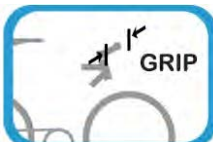
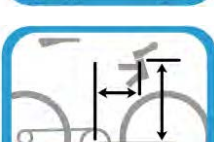
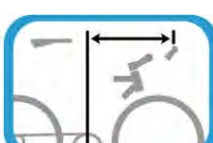
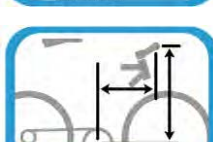
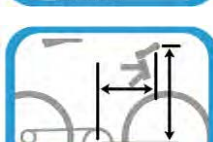
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MAKE/MODEL: Specialized Dolce
NAME: Courtney Saario
SIZE: 51
YEAR: 2006
STYLE: Road
NOTES:
STEM: x 100
SPACER STACK:
CRANK LENGTH: 170
PEDALS: Look
SADDLE: Specialized
BARS:

MEASUREMENTS & ANGLES

	Saddle Height <i>BB to center of saddle profile</i>	680 mm		Handlebar Reach <i>tip of saddle horiz to bar top</i>	478 mm
	Saddle Setback <i>BB horiz to front tip of saddle</i> <i>neg denotes saddle behind BB</i>	-26 mm		Handlebar Drop <i>cen of saddle profile to bar top</i> <i>neg denotes denotes bar below saddle</i>	-26 mm
	Saddle Angle <i>angle of saddle to horizon</i> <i>neg denotes nose down</i>	0 deg		Grip Reach <i>tip of saddle horiz to front end of grip</i>	618 mm
	Eff. Seat Tube Angle <i>BB to center of saddle profile</i>	77 deg		Grip Drop <i>cen of saddle to front end of grip, neg denotes grip lower</i>	17 mm
	Grip Angle <i>angle to horizon</i> <i>pos denotes front end up</i>	37 deg		Bar Reach <i>center of bar to back end of grip</i>	50 mm
	Frame Stack	527 mm		Grip Width <i>grip center to center</i>	401 mm
	Frame Reach <i>BB to center of headtube top</i>	378 mm		BB to Grip Reach <i>BB to front end of grip</i>	591 mm
				Handlebar Stack	620 mm
				Handlebar Reach <i>BB to center of bar</i>	451 mm

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