

## **Definitions**

Overload Principle: An increase in physical stress on the body and the consequential ability of the body to adapt with fitness increases.

Overtraining: An excessive level of training whereby negative adaptations occur.

Training Load = Sum of exercise components (mode + frequency + intensity + duration) Others use terms like "training stress" and "volume" to describe this concept.

Periodized training (or periodization): A system of training characterized by cycles progressing overload, interrupted by recovery, then continued overload eventually resulting in one or more peaks.

## **Periodization**

Most cycling coaches endorse periodization as the best way to train. My personal experience over the last 3 years of training for bicycle racing has confirmed that this method can help you reach a higher level than you otherwise would reach using a traditional or haphazard method of training.

Components of exercise program:

- Mode: Type of training. e.g. road cycling
- Frequency: Number of times per week.
- Intensity: Level of effort.
- Duration: Length of an individual workout.

Periodization Cycles

- Micro: e.g. week
- Meso: several weeks. Cycles include base training, speed training, taper, etc.
- Macro: a year

My Plans

- 2008 See attached
- 2007 See attached

My Cycling Cycles (meso-cycles)

- Off season: Ride at least every 2-3 days.
- Foundation: Long and steady, sub lactic acid threshold
- Transition: Duration is shorter, longer intervals at or slightly above threshold.
- Speed: Short all-out interval efforts 15 seconds to 4 minutes. Duration decreased.
- Taper: Drastic reduction in frequency and duration, but not intensity 7 days leading up to peak event.
- Peak: Event

## **Other Issues**

Feedback on Intensity

- Heart Rate
- Power Meters
- Rate of Perceived Exertion (RPE) is the most important
- Ventilation Rate
- Speed

Testing: Feedback on performance

- Field testing: best at the end of a cycle

- Lactate threshold: Direct method or formulas based on field test
- Race Results

How does racing fit into the training plan?  
How hard should you train?

What I'm doing differently for 2008

- No weight lifting
- On the bike mainly, with some limited cross training in running for December-January
- If I'm stale, take 3 days complete rest.
- More recovery built into the schedule

### **Recommended Resources**

Chris Carmichael, *The Ultimate Ride*, Berkley Trade, 2004  
Joe Friel, *The Cyclist's Training Bible* (2nd ed), VeloPress, 2004

2008 Training

Period	Month	Event	Wes	Form	Load	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
Off-Season	23-Sep		-5			Previously sporadic 1.5 hr+ at least every 3 days							
Pre-Season	30-Sep		-4			Moderately Intense riding 2 hr+ 4 day a weeks >>>>							
	7-Oct		-3			Moderately Intense riding 2 hr+ 4 day a weeks >>>>							
	14-Oct		-2			Moderately Intense riding 2 hr+ 4 day a weeks >>>>							
	21-Oct	CX Race	-1			Moderately Intense riding 2 hr+ 4 day a weeks >>>>							
	28-Oct	CX Race	0			Moderately Intense riding 2 hr+ 4 day a weeks >>>>						1.00 Field Test	
Foundation	4-Nov		1	1	1	3.25 FM w/30 min HR	2.75 FM w/8x14sec S	1.75 FM w/5x3min FP	2.50 FM	1.00 FM			
	11-Nov		2	2	2	3.50 FM w/1 hr RS	3.00 FM w/8x14sec S	1.75 FM w/5x4min FP	2.75 FM w/8x14sec S	1.00 FM			
	18-Nov	Thanksgiving	3	3	3	3.75 FM w/30 min HR	3.25 FM w/6x14sec PS	1.75 FM w/6x3min FP	3.00 FM w/8x14sec S	1.00 FM			
	25-Nov		4	4	2	1.00 RR	3.00 FM w/7x14sec PS	1.75 FM w/5x3min FP	2.75 FM w/6x14sec PS	1.00 FM			
	2-Dec		5	5	3	3.75 FM w/30 min HR	3.25 FM w/8x14sec PS	1.75 FM w/5x4min FP	3.00 FM w/7x14sec PS	1.00 FM			
	9-Dec		6	6	4	4.00 FM w/1 hr RS	3.50 FM w/8x14sec S	1.75 FM w/6x3min FP	3.25 FM w/8x14sec PS	1.00 FM			
	16-Dec		7	7	5	4.25 FM w/30 min HR	3.75 FM w/6x14sec PS	1.75 FM w/5x3min FP	3.50 FM w/8x14sec S	1.50 FM	1.00 CT		
	23-Dec	Christmas	8	8	4	1.00 RR	3.50 FM w/7x14sec PS	1.75 FM w/5x4min FP	3.25 FM w/6x14sec PS	1.00 Field Test			
	30-Dec		9	9	5	4.25 FM w/40 min HR	3.75 FM w/4x2 min OL	1.75 FM w/6x3min FP	3.50 FM w/7x14sec PS	1.50 FM w/30 min T	1.00 CT		
	6-Jan		10	10	6	4.50 FM w/1 hr RS	4.00 FM w/6x14sec PS	1.75 FM w/6x3min FP	3.75 FM w/4x2 min OL	1.50 FM w/30 min T	1.00 CT		
	13-Jan		11	11	7	4.75 FM w/40 min HR	4.25 FM w/4x2 min OL	1.75 FM w/6x3min FP	4.00 FM w/6x14sec PS	1.50 FM w/40 min T	1.00 CT		
	Transition	20-Jan		12	12	4	1.00 RR	3.50 EM w/4x5 min MT	1.75 EM w/40 min T	3.25 EM w/3x10 min SS	1.00 CT		
		27-Jan		13	14	5	4.25 EM w/4x5 min MT	3.75 EM w/2x8 min CR	1.00 CT	3.50 EM w/30 min T	1.75 EM w/3x12 min SS		
3-Feb			14	16	6	4.50 EM w/1 hr RS	4.00 EM	1.00 CT	3.75 EM w/3x12 min SS	1.75 EM w/6x3min FP	1.00 CT		
10-Feb			15	18	7	4.75 EM w/3x8 min CR	4.25 EM w/3x15 min SS	2.00 EM	4.00 EM w/3x10 min CR	1.50 Field Test: 17k TT	1.00 CT		
17-Feb		Cherry Pie	16	20	6	1.00 RR	4.00 EM w/3x8 min CR	2.00 EM w/40 min T	3.75 EM w/3x12 min SS	1.00 CT			
24-Feb		Jack Frost TT	17	22	6	3.50 EM w/1 hr RS	3.00 EM w/3x3 min PI	1.25 CT run	2.75 EM w/3x3 min SR	1.50 Field Test: 17k TT			
2-Mar		Banana Belt 1	18	24	7	3.75 EM w/1 hr RS	3.25 EM w/3x4 min PI	1.25 EM w/6 min U, 2 min O x 2	3.00 EM w/3x4 min SR	1.50 EM			
Speed	9-Mar	Banana Belt 2	19	26	8	4.00 EM w/1 hr RS	3.50 EM w/4x3 min PI	1.25 EM w/75/60/45/30 x 3 DI	3.25 EM w/4x3 min SR	1.50 Field Test: 17k TT			
	16-Mar	Banana Belt 3	20	30	9	4.25 EM w/2x30min CS, w/ 4 x 90 sec CA	3.75 EM	2.00 EM w/30 min T	3.50 EM w/3x15 min SS	1.75 EM w/4x3 min PI	1.00 CT		
	23-Mar		21	32	8	1.00 RR	3.50 EM	2.00 EM w/6 min U, 2 min O x 2	3.25 EM w/3x15 min SS	1.50 Field Test: 17k TT			
	30-Mar		22	34	9	4.25 EM w/2x30min CS, w/ 4 x 90 sec CA	3.75 EM	2.00 EM w/6 min U, 2 min O x 3	3.50 EM w/3x15 min CR	1.50 Field Test	1.00 CT		
	6-Apr	Frozen Flatlands?	23	37	8	4.00 EM w/2x30min CS, w/ 4 x 90 sec CA	3.50 EM w/5x4 min PI	2.00 EM w/6 min U, 2 min O x 3	3.25 EM w/5x30sec x 2 SI	1.50 Field Test: 17k TT			
	13-Apr		24	41	7	3.50 EM w/6x15sec HSS	2.50 EM w/75/60/45/30 x 1 DI		3.00 EM w/5x4min SR	1.00 EM w/2x2 min PI			
	20-Apr	Tour of Walla Walla	25	47	6	3.00 FM w/1 hr RS	4.00 FM w/6x14sec PS	1.75 FM w/6x3min FP	3.75 FM w/4x2 min OL	1.50 Field Test: 17k TT			
	27-Apr		26	46	4	1.00 RR	3.00 FM w/7x14sec PS	1.75 FM w/5x3min FP	2.75 FM w/6x14sec PS	1.00 FM			
	4-May	Tour of Gila?	27	44	6	4.50 EM w/1 hr RS	4.00 EM	2.00 EM	3.75 EM w/3x12 min SS	1.50 Field Test: 17k TT			
	11-May	Utah State TT?	28	45	7	4.75 EM w/3x8 min CR	4.25 EM w/3x15 min SS	2.00 EM	4.00 EM w/3x10 min CR	2.00 EM w/6 min U, 2 min O x 2			
Taper	18-May	OR Team TT	29	46	8	5.00 RR	4.50 EM w/5x4min SR	2.00 EM w/40 min T	4.25 EM w/3x12 min SS	1.50 Field Test: 17k TT	1.00 EM w/6x15sec HSS		
	25-May	OR Rehearsal RR	30	47	9	5.25 EM w/1 hr RS	4.75 EM w/75/60/45/30 x 1 DI	2.00 EM	4.50 EM w/3x3 min SR	1.00 EM w/4x3 min PI	1.00 EM w/4x30sec x 3 SI		
	1-Jun		31	48	8	1.00 EM w/4x30sec x 2 SI	4.50 EM w/3x4 min PI	2.00 EM w/8 min U, 2 min O x 3	4.25 EM w/75/60/45/30 x 3 DI	1.50 Field Test: 17k TT			
	8-Jun		32	50	9	5.25 EM w/6x15sec HSS	4.75 EM w/4x3 min PI	2.00 EM w/8 min U, 2 min O x 3	4.50 EM w/75/60/45/30 x 3 DI	1.50 EM			
	15-Jun	OR State RR	33	52	8	3.50 EM w/6x15sec HSS	2.50 EM w/75/60/45/30 x 1 DI		3.00 EM w/5x4min SR	1.00 EM w/2x2 min PI			
	22-Jun	Eikhom	34	56	4	1.00 FM w/1 hr RS	3.50 FM w/6x14sec S	1.75 FM w/6x3min FP	3.25 FM w/8x14sec PS	1.00 FM			
	29-Jun		35	55	5	4.25 FM w/30 min HR	3.75 FM w/6x14sec PS	1.75 FM w/5x3min FP	3.50 FM w/8x14sec S	1.50 Field Test: 40k TT			
	6-Jul		36	53	6	4.50 RR	4.00 FM w/7x14sec PS	1.75 FM w/6x4min FP	3.75 FM w/6x14sec PS	1.00 FM			
	13-Jul		37	53	8	4.00 RR	3.50 EM	2.00 EM w/6 min U, 2 min O x 2	3.25 EM w/3x15 min SS	1.50 Field Test: 40k TT			
	20-Jul		38	53	9	4.25 EM w/2x30min CS, w/ 4 x 90 sec CA	3.75 EM	2.00 EM w/6 min U, 2 min O x 3	3.50 EM w/3x15 min CR	1.00 EM			
	27-Jul		39	54	7	1.00 EM w/1 hr RS	3.25 EM w/12x30 sec TS	1.25 EM w/6 min U, 2 min O x 2	3.00 EM w/3x4 min SR	1.50 EM			
	Peak 3	3-Aug	State TT	40	56	6	3.50 EM w/6x15sec HSS	2.50 EM w/75/60/45/30 x 1 DI		3.00 EM w/5x4min SR	1.00 EM w/2x2 min PI		
10-Aug		Cascade Classic	41	59									
17-Aug													
24-Aug													
31-Aug													
7-Sep													

Field Test HR

175

RPM Conversion	
Count	RPM
11	66
12	72
13	78
14	84
15	90
16	96
17	##
18	##
19	##
20	##
21	##
22	##
23	##

155.75

159.25

154

161

166.25

105

WT=Weight Training. 2x10 squats, 2x30 one leg press, leg pull, step-up, abs. back & 2x8 bicep, tricep, lat, pull, pectoralis. Plus jump rope.

FM= 89% heart rate ceiling, 85-95 RPM.

OL= One leg. 3x2 min pedaling with alternating one leg each 30 sec. Work on mechanics.

PS=PowerStart: 10 pedal strokes out of the saddle from a stopped position. Allow full recovery.

FP=FastPedal: 105 to 130+ RPM concentrate on pedal technique. Equal duration for work and recovery.

S=Stomps: Begin at moderate speed in a large gear. Mash pedals while seated. Recover 5 mins

HR= Hill Repeats: 91% heart rate ceiling, several > 3 min hills up to 6%, stay seated, 70+ cadence

CT= Cross Training. Snowshoeing, running, swimming can replace any workout or any hours at a 2:1 ratio.

RS=Race Simulation

EM= 91% heart rate ceiling, 85-95 RPM.

MT= Use 12-15 gear for 2-4 efforts of 5-12 min with half time of recovery, uphill recommended, 50-55 rpm. HR should not get above 88%.

T= 88% (154-158) heart rate continuous for 20-120 min, 70-75 RPM.

SS= 92% (161-165) two-four efforts of 8-20 minute with equal recovery, 85-95 RPM.

CR= 95% (166) 2-4 efforts of 8-20 min with 1:1 recovery, 70-85 RPM.

F1= Five & One: 103% (180) heart rate, 4-12 efforts of 5 min with 1 min recovery.

CS= Climbing Simulation: 2-4 climbs of 30+ min at race tempos.

TT= Single effort of 20-50 min on TT bike, warmup first with 20 EM, 10 T, 2 R, 4 SS, 2 R, 2x2min PI, 2 R, 2x2min PI, 8 R.

SR= Steep Repeats: Max effort, 5 efforts of 3-4 min with 3-5 min recovery, grades of 6-8%, in and out of saddle, 70+ cadence

PI= Maximal effort 3-8 efforts of 3-5 min with 1:1 to 1:1.5 recovery, 110-120 RPM. Best on indoor trainer.

DI= Max effort at RPM. Jump out and sprint to start, 1:1 recovery between reps, 10-15 min recovery between sets, 110+ RPM.

OU= Under is SS 92% (161-165) and over is CR 95% (166) Under followed by half-time of over, 100-115 RPM.

TS= Thirty & Five: Max effort, 12 efforts of 30 seconds with 5 minutes of recovery. Recommended for TT by Jeukendrup

RS=Race Simulation

EM= 91% heart rate ceiling, 85-95 RPM.

MT= Use 12-15 gear for 2-4 efforts of 5-12 min with half time of recovery, uphill recommended, 50-55 rpm. HR should not get above 88%.

T= 88% (154-158) heart rate continuous for 20-120 min, 70-75 RPM.

2007 Training

Period	Month	Event	Week	Form	Volume	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
Off-Season	24-Sep		-5			Sporadic 1.5 hr+ at least every 2 days>>>>	WT	WT	WT				
	1-Oct		-4			Sporadic 1.5 hr+ at least every 2 days>>>>	WT	WT	WT				
	8-Oct		-3			Sporadic 1.5 hr+ at least every 2 days>>>>	WT	WT	WT				
	15-Oct		-2			Sporadic 1.5 hr+ at least every 2 days>>>>	WT	WT	WT				
	22-Oct		-1			Sporadic 1.5 hr+ at least every 2 days>>>>	WT	WT	WT				
	29-Oct		0			Sporadic 1.5 hr+ at least every 2 days>>>>	WT	WT	WT	1.00 Field Test: 17x TT			
Foundation	5-Nov		1	1	2.75	FM w/30 min HR	2.25	FM w/8x14sec S, WT	1.50	FM w/8x3min FP	1.75	FM w/30 min HR, WT	
	12-Nov		2	2	3.00	FM w/1 hr RS	2.50	FM w/8x14sec S, WT	1.50	FM w/8x4min FP	2.00	FM w/4x5min FP, WT	
	19-Nov		3	3	3.25	FM w/30 min HR	2.75	FM w/8x14sec PS, WT	1.50	FM w/8x3min FP	2.25	FM w/30 min HR, WT	
	26-Nov	Thanksgiving	4	4	2.00	RR	2.50	FM w/8x14sec PS, WT	1.50	FM w/8x3min FP	2.00	FM w/8x3min FP, WT	
	3-Dec		5	5	3.25	FM w/30 min HR	2.75	FM w/8x14sec PS, WT	1.50	FM w/8x4min FP	2.25	FM w/8x3min FP, WT	
	10-Dec		6	6	4.00	FM w/1 hr RS	3.00	FM w/8x14sec S, WT	1.50	FM w/8x3min FP	2.50	FM w/3x2 min OL, WT	
	17-Dec		7	7	3.75	FM w/30 min HR	3.25	FM w/8x14sec PS, WT	1.50	FM w/8x3min FP	2.75	FM w/3x2 min OL, WT	
	24-Dec	Christmas	8	8	4.00	RR	3.00	FM w/8x14sec PS, WT	1.50	FM w/8x4min FP	2.50	FM w/4x2 min OL, WT	
	31-Dec	Florida	9	9	5.75	FM w/40 min HR	3.25	FM w/4x2 min OL, WT	1.75	FM w/8x3min FP	2.75	FM w/30 min HR, WT	
	7-Jan		10	10	6.00	FM w/1 hr RS	3.50	FM w/8x14sec PS, WT	1.75	FM w/8x3min FP	3.00	FM w/4x2 min OL, WT	
	14-Jan		11	11	7.25	FM w/40 min HR	3.75	FM w/4x2 min OL, WT	1.75	FM w/8x4min FP	3.25	FM w/30 min HR, WT	
	21-Jan		12	12	4.00	RR	3.00	FM w/8x14sec PS, WT	1.50	FM w/8x3min FP	3.00	FM w/4x2 min OL, WT	
Transition	28-Jan		13	14	5.75	EM w/4x5 min MT	3.25	EM w/30 min T, WT	1.50	EM	2.75	EM w/30 min T, WT	
	4-Feb		14	16	6.00	EM w/1 hr RS	3.50	EM w/40 min T	1.75	EM w/40 min T	3.00	EM w/3x10 min SS, WT	
	11-Feb		15	18	7.25	EM w/40 min T	3.75	EM w/4x8 min SS, WT	2.00	EM w/40 min T	3.25	EM w/2x8 min CR, WT	
	18-Feb		16	20	6.00	RR	3.50	EM w/3x10 min SS, WT	2.00	EM w/40 min T	3.00	EM w/3x7 min CR, WT	
	25-Feb		17	22	7.25	EM w/1 hr RS	3.75	EM w/3x12 min SS, WT	2.00	EM w/40 min T	3.25	EM w/3x8 min CR, WT	
	4-Mar		18	24	8.50	EM	4.00	EM w/3x15 min SS, WT	2.00	EM w/8x3min FP	3.50	EM w/4x7 min CR, WT	
	11-Mar	Slammer	19	26	9.75	EM w/1 hr RS	4.25	EM w/3x18 min SS, WT	3.00	EM w/8x3min FP	3.75	EM w/4x8 min CR, WT	
	18-Mar	Spring Break	20	28	7.00	RR	3.75	EM	2.00	EM w/30 min T	3.25	EM w/3x8 min CR, WT	
Speed	25-Mar	Hillsdale	21	30	8.50	EM w/2x30min CS, w/ 4 x 90 sec CA	3.00	EM w/8 min U, 2 min O x 2	2.00	EM w/8x3min SR, WT	2.25	EM w/8x3min SR, WT	
	1-Apr		22	34	9.75	EM w/2x30min CS, w/ 4 x 90 sec CA	3.25	EM w/8 min U, 2 min O x 3	2.00	EM w/8 min U, 2 min O x 2	2.50	EM w/8x3min SR, WT	
	8-Apr	Black Creek	23	38	10.00	EM w/2x30min CS, w/ 4 x 90 sec CA	3.50	EM w/8x4 min PI	2.00	EM w/8 min U, 2 min O x 3	2.75	EM w/8x4min SR, WT	
	15-Apr		24	42	7.00	RR	3.25	EM w/8x15 sec HSS	2.00	EM w/8x15 sec HSS	2.50	EM w/75/60/45/30 x 3, DI	
Transition	22-Apr	Emmett Roubaix	25	44	8.50	EM	4.00	EM w/3x15 min SS, WT	2.00	EM w/8x3min FP	3.50	EM w/4x7 min CR, WT	
	29-Apr	Deschutes TT	26	46	9.75	EM w/1 hr RS	4.25	EM w/3x18 min SS, WT	2.00	EM w/8x3min FP	3.75	EM w/4x8 min CR, WT	
	6-May		27	48	10.00	EM w/2x30min CS	4.50	EM w/4x10 min CR, WT	3.00	Field Test: Long Climb	4.00	EM w/4x10 min CR, WT	
	13-May		28	50	11.25	EM w/2x30min CS, w/ 4 x 90 sec CA	4.75	EM w/4x12 min CR, WT	3.25	EM w/8x15 sec HSS	4.25	EM w/75/60/45/30 x 3, DI, WT	
Speed	20-May		29	52	9.00	RR	4.25	EM w/8x4min SR	2.00	EM w/8 min U, 2 min O x 3	3.75	EM w/75/60/45/30 x 3, DI, WT	
Taper	27-May		30	56	7.50	EM w/15sec HSS	2.50	EM w/75/60/45/30 x 1, DI	1.25	EM w/75/60/45/30 x 1, DI	1.25	EM w/75/60/45/30 x 3, DI, WT	
Peak	3-Jun	Mt Hood	31	60	9.75	EM w/4x30sec x 2 SI	4.25	EM w/8x4min SR	2.00	EM w/8 min U, 2 min O x 3	3.75	EM w/75/60/45/30 x 3, DI, WT	
	10-Jun	Final Exams	32	64	10.00	EM w/15sec HSS	4.50	EM w/8x4min SR	2.00	EM w/8 min U, 2 min O x 3	4.00	EM w/75/60/45/30 x 3, DI, WT	
Taper	17-Jun		33	68	8.50	EM w/15sec HSS	2.50	EM w/75/60/45/30 x 1, DI	1.25	EM w/75/60/45/30 x 1, DI	1.25	EM w/8x2min PI	
Peak	24-Jun	Elkhorn	34	72	9.75	EM	4.25	EM w/8x4min SR	2.00	EM w/8 min U, 2 min O x 3	3.75	EM w/75/60/45/30 x 3, DI, WT	
	1-Jul		35	76	10.00	EM	4.50	EM w/8x4min SR	2.00	EM w/8 min U, 2 min O x 3	4.00	EM w/75/60/45/30 x 3, DI, WT	
Taper	8-Jul		36	80	8.50	EM w/15sec HSS	2.50	EM w/8x4min SR	2.00	EM w/8 min U, 2 min O x 3	3.75	EM w/75/60/45/30 x 3, DI, WT	
Peak	15-Jul	Cascade	37	84	7.00	RR	3.25	EM w/8 min U, 2 min O x 3	2.00	EM w/8 min U, 2 min O x 3	2.50	EM w/12x30 sec TS	
	22-Jul		38	84	8.50	EM w/8 min U, 2 min O x 3	4.00	EM w/8x3 min PI	2.00	EM w/8x3 min PI	3.50	Field Test: 40k TT	
Taper	29-Jul		39	84	7.50	EM w/8 min U, 2 min O x 3	3.25	EM w/12x30 sec TS	2.00	EM w/8x3 min PI	3.25	EM	
Peak	5-Aug	State TT	40	84								1.50	EM w/75/60/45/30 x 1, DI
	12-Aug		41										
	19-Aug		42										
	26-Aug		43										
	2-Sep		44										
	9-Sep		45										

Field Test HR

175

Count	RPM
11	66
12	72
13	78
14	84
15	90
16	96
17	102
18	108
19	114
20	120
21	126
22	132
23	138

155.75	WT=Weight Training, 2x10 squats, 2x30 one leg press, leg pull, step-up, abs, back & 2x8 bicep, tricep, lat, pull, pectoralis. Plus jump rope. FM= 89% heart rate ceiling, 85-95 RPM. OL= One leg, 3x2 min pedaling with alternating one leg each 30 sec. Work on mechanics. PS=PowerStart: 10 pedal strokes out of the saddle from a stopped position. Allow full recovery. FP=FastPedal: 105 to 130+ RPM concentrate on pedal technique. Equal duration for work and recovery. S=Stomps: Begin at moderate speed in a large gear. Mash pedals while seated. Recover 5 mins HR= Hill Repeats: 91% heart rate ceiling, several > 3 min hills up to 6%, stay seated, 70+ cadence CT= Cross Training: Snowshoeing, running, swimming can replace any workout or any hours at a 2:1 ratio. RS=Race Simulation EM= 91% heart rate ceiling, 85-95 RPM. MT= Use 12-15 gear for 2-4 efforts of 5-12 min with half time of recovery, uphill recommended, 50-55 rpm. HR should not get above 88%. T= 88% (154-158) heart rate continuous for 20-120 min, 70-75 RPM. SS= 92% (161-165) two-four efforts of 8-20 minute with equal recovery, 85-95 RPM. CR= 95% (166) 2-4 efforts of 8-20 min with 1:1 recovery, 70-85 RPM. F1= Five & One: 103% (180) heart rate, 4-12 efforts of 5 min with 1 min recovery. CS= Climbing Simulation: 2-4 climbs of 30+ min at race tempos. TT= Single effort of 20-50 min on TT bike, warmup first with 20 EM, 10 T, 2 R, 4 SS, 2 R, 2x2min PI, 2 R, 2x2min PI, 8 R. SR= Sleep Repeats: Max effort, 5 efforts of 3-4 min with 3-5 min recovery, grades of 6-8%, in and out of saddle, 70+ cadence PI= Maximal effort 3-8 efforts of 3-5 min with 1:1 to 1:1.5 recovery, 110-120 RPM. Best on indoor trainer. DI= Max effort at RPM. Jump out and sprint to start, 1:1 recovery between reps, 10-15 min recovery between sets, 110+ RPM. OU= Under is SS 92% (161-165) and over is CR 95% (166) Under followed by half-time of over, 100-115 RPM. TS= Thirty & Five: Max effort, 12 efforts of 30 seconds with 5 minutes of recovery. Recommended for TT by Jeukendrup HSS= Max effort with high start speed, 4-8 times with 10-20 min recovery between, 100+ RPM. CA= Climb Accelerations: 4-8 efforts of 60 sec build to 92%(161-165) then 30 sec standing sprint after shifting to higher gear with 4 min recovery, grades of 6-8% SI= Max effort at RPM, 6-24 efforts of 30-50 sec with 1:1 recovery, 110-130 RPM. RR=RecoveryRide: 60-70% (102-119) and 75-85 RPM.
154	
161	
166.25	
105	