

Contents at a Glance

<i>Introduction</i>	1
<i>Part I: Getting Started</i>	7
Chapter 1: Channeling Your Inner Grease Monkey	9
Chapter 2: Bike Physiology: Understanding How Your Bike Works.....	19
Chapter 3: Setting Up Shop: Repairing Your Bike at Home	35
Chapter 4: Making like MacGyver: Handling Repairs on the Road.....	53
Chapter 5: Help! When You Need Professional Assistance	69
<i>Part II: Basic Bike Repairs</i>	81
Chapter 6: Burning Rubber: Tires and Tubes	83
Chapter 7: Hugging the Curb: The Wheels	99
Chapter 8: Stopping Short: The Brakes.....	119
Chapter 9: Taking Your Seat: Saddles and Seat Posts.....	143
Chapter 10: Hitting the Links: The Chain.....	155
Chapter 11: Gearing Up: Freewheels and Cassettes.....	173
<i>Part III: Shifting into a Higher Gear: Advanced Bike Repairs</i>	189
Chapter 12: Holding It All Together: The Frame and Suspension.....	191
Chapter 13: Putting the Pedal to the Metal: The Drivetrain.....	207
Chapter 14: Dropping It into Gear: The Shifting System	231
Chapter 15: Turning on a Dime: The Steering System.....	251
<i>Part IV: Keeping Your Bike on the Road</i>	271
Chapter 16: An Ounce of Preventive Maintenance.....	273
Chapter 17: Regular Bike Maintenance	289
<i>Part V: The Part of Tens</i>	299
Chapter 18: Ten (Or So) Steps to Take before You Ride	301
Chapter 19: Ten Considerations in Fitting Your Bike.....	309
Chapter 20: Ten Ways to Improve the Performance and Comfort of Your Bike ...	319
<i>Index</i>	325

Table of Contents

<i>Introduction</i>	1
About This Book	1
Conventions Used in This Book	2
What You're Not to Read	3
Foolish Assumptions	3
How This Book Is Organized	3
Part I: Getting Started	3
Part II: Basic Bike Repairs	4
Part III: Shifting into a Higher Gear: Advanced Bike Repairs	4
Part IV: Keeping Your Bike on the Road	4
Part V: The Part of Tens	5
Icons Used in This Book	5
Where to Go from Here	5
<i>Part 1: Getting Started</i>	7
Chapter 1: Channeling Your Inner Grease Monkey	9
Starting down the road of bike repair and maintenance	9
Before, During, and After Your Ride	10
Before you ride	11
While you ride	12
After you ride	12
Making repairs	12
Performing Maintenance	15
Monthly maintenance	15
Annual maintenance	16
Chapter 2: Bike Physiology: Understanding How Your Bike Works	19
Gross Anatomy: Identifying the Parts of a Bike	20
Getting Your Bearings	23
Don't Screw This Up: The Threading System	24
Tightening enough, but not too much	25
When fasteners come loose	26
Shopping for threaded fasteners	26
Considering How Cables Control a Bike	27



Gearing Up.....	29
Making Sure You Don't Get Derailed.....	30
The Quickest Release in the West.....	32
Other Bike Parts to Keep in Mind.....	34

Chapter 3: Setting Up Shop: Repairing Your Bike at Home 35

Tools of the Trade.....	36
Assembling your bike-tool starter kit.....	37
Specialized tools for advanced bike jobs	43
Setting Up Shop.....	48
Considering how much space you need	48
Factoring in ventilation.....	48
Looking into the light(ing).....	49
Wrangling a workbench	49
Focusing on storage.....	49
Banking on a bike stand.....	49

**Chapter 4: Making like MacGyver:
Handling Repairs on the Road 53**

When You Can't Call AAA: Handling Your Own Bike Repairs on the Side of the Road	54
Repairing a bent rim.....	54
Replacing a broken spoke.....	55
Fixing flats and torn tires	57
Repairing a broken chain.....	57
Extracting a jammed chain	58
Dealing with the derailleur	59
Knowing When You Should Walk Home	63
Inspecting Your Bike after an Accident	64
Looking for looseness	64
Checking the alignment.....	65
The All-Purpose Repair Tool: Duct Tape.....	66

Chapter 5: Help! When You Need Professional Assistance 69

What to Look for in a Bike Shop	69
Shopping at Your Bike Shop.....	72
Buying a bike	72
Buying accessories	76
Recognizing the Repairs You Need Help With.....	78
Repairing frames.....	78
Installing a new headset.....	78
Truing a wheel.....	79
Working on suspension.....	79

Part II: Basic Bike Repairs 81
Chapter 6: Burning Rubber: Tires and Tubes 83

Why Flat Tires Happen to Good People.....	84
Fixing a Flat.....	85
Grabbing yourself a wheel.....	85
Removing the tire or at least half of it.....	87
Finding the puncture.....	90
Patching the tube.....	91
Inspecting the tire.....	93
When it's more than just a flat.....	93
Ready to Roll!.....	94
Putting on the tube and tire.....	94
Attaching the wheel.....	96
Coming to a screeching halt: When you get another flat right away.....	97
A Pound of Cure: Preventing a Flat.....	97

Chapter 7: Hugging the Curb: The Wheels 99

The Spin on Wheels.....	99
Shopping for new wheels.....	100
Caring for your wheels.....	101
Inspecting the wheels for problems.....	102
Taking off a wheel.....	103
Repairing dents in the rim.....	106
Installing the front and rear wheels.....	106
Hubba-Hubba: Working on the Hubs.....	107
Overhauling the hubs.....	108
Reassembling the hubs.....	111
Adjusting a hub.....	114
I Spoke Too Soon: Working on the Spokes.....	115
Replacing a spoke.....	115
Truing a wheel.....	116

Chapter 8: Stopping Short: The Brakes 119

Types of Brakes.....	120
Inspecting the Brakes.....	123
Removing and Installing Brakes and Brake Pads.....	124
Removing brakes and brake pads.....	125
Installing brakes.....	128

Adjusting Brakes	130
Adjusting brake-pad position	130
Centering and tensioning brakes	132
Silencing those squeaking brakes!	136
Using the brake quick release	137
Replacing brake cables	138
Chapter 9: Taking Your Seat: Saddles and Seat Posts	143
Saddle Up! Types of Saddles	144
Material	144
Function	145
Gender	146
Removing and Installing a Saddle	147
Adjusting the Saddle Fore, Aft, and Height	150
Angling for the right angle	150
Fore and aft, to and fro	151
Chapter 10: Hitting the Links: The Chain	155
A Chain Is Not a Chain Is Not a Chain: Types of Chains	155
Recognizing What Can Go Wrong with the Chain	158
Getting down and dirty	158
Stuck in a rut: Stiff links	158
Wear and tear	160
Caring for Your Chain	163
Keeping it simple: Cleaning and lubricating your chain	163
Going deeper: Giving your chain a heavy-duty cleaning	165
Replacing a Chain	167
Unchain me! Removing the chain	167
Measuring your new chain	169
Reassembling your chain	170
Chapter 11: Gearing Up: Freewheels and Cassettes	173
The Dirt on Freewheels and Cassettes	173
What's so free about a freewheel?	174
The best things come in packages: The cassette	175
Inspecting Your Freewheel or Cassette	176
Cleaning the Freewheel or Cassette	176
Lubricating the Freewheel or Cassette	177
Removing a Freewheel or Cassette	178
Removing a freewheel	178
Removing a cassette	179
Removing individual the cogs on a freewheel or cassette	183
Removing the free-hub body	186
Installing a Freewheel or Cassette	187

***Part III: Shifting into a Higher Gear:
Advanced Bike Repairs* 189**

**Chapter 12: Holding It All Together:
The Frame and Suspension 191**

I've Been Framed: Your Bike's Frame 192
 What to look for in a frame 194
 Types of frame materials 195
 Inspecting your frame 196
 Maintaining your frame 199
 Suspended in Disbelief: The Suspension 201
 Types of suspension 202
 Tuning the suspension 202
 Maintaining the suspension 206

Chapter 13: Putting the Pedal to the Metal: The Drivetrain 207

Putting the Pedal to the Metal 207
 Shopping for new pedals 208
 Identifying worn-out pedals 209
 Removing pedals 209
 Overhauling the pedals 211
 Installing new pedals 213
 Crank It Up! Working on the Crankset and Bottom Bracket 214
 The crankset 215
 The bottom bracket 223

Chapter 14: Dropping It into Gear: The Shifting System 231

Demystifying Derailleurs 231
 The rear derailleur 232
 The front derailleur 241
 The derailleur cable 246
 Gear Shifters 248
 Removing shifters 250
 Installing shifters 250

Chapter 15: Turning on a Dime: The Steering System 251

Gimme a Hand: Types of Handlebars 252
 Delving Deeper: Handlebar Options 253
 Taping Your Handlebars 255
 Getting Your Head around This: The Headset 261
 Inspecting the headset 261
 Adjusting your headset 262
 Overhauling your headset 263

Part IV: Keeping Your Bike on the Road..... 271**Chapter 16: An Ounce of Preventive Maintenance273**

Before You Ride	274
Assembling an emergency tool kit.....	274
Giving your bike the once-over: A pre-ride inspection	276
While You Ride.....	278
After You Ride.....	278
Cleaning your bike	278
Giving your bike a lube job.....	282
Storing your bike.....	287

Chapter 17: Regular Bike Maintenance289

Monthly Maintenance	290
Surveying your bike for structural damage.....	290
Kicking the tires	290
Cleaning your bike	291
Giving your bike a lube job.....	291
Tightening up	292
Checking the brakes	292
Examining the chain, cogs, and chainrings	292
Protecting your saddle.....	293
Inspecting the suspension	293
Annual Maintenance.....	293
Deep-cleaning the chain.....	294
Truing the wheels	294
Replacing cables and housing.....	295
Overhauling the hubs.....	295
Overhauling the headset.....	296
Overhauling the pedals	296
Overhauling the bottom bracket	297
Cleaning the rear derailleur.....	297
Replacing the brake pads	297
Replacing the handlebar grips or tape.....	298
Waxing the frame	298
Checking your accessories	298

Part V: The Part of Tens..... 299**Chapter 18: Ten (Or So) Steps to Take before You Ride301**

Take a Road Safety Skills Class	301
Adjust the Handlebars	302
Adjust the Saddle.....	303

Check Tire Pressure 304
Check the Brakes 304
Look for Looseness 304
Check the Wheels 306
Grab Your Toolkit 307
Wear Your Helmet and Gloves 307
Improve Your Visibility 308
Stock Your Emergency Gear 308

Chapter 19: Ten Considerations in Fitting Your Bike 309

Considering Crank Arm Length 310
Going for Gearing 310
Resisting the Temptation to Tilt Your Saddle 311
Setting the Saddle Height 311
Looking at the Saddle Fore and Aft 311
Choosing the Right Saddle Type 313
Sizing Up the Frame 314
Focusing on Frame Dimensions 315
Positioning Your Handlebars 316
Getting a Handle on Handlebar Style 317

**Chapter 20: Ten Ways to Improve the Performance
and Comfort of Your Bike 319**

Upgrading Your Wheels and Tires 319
Ramping Up Your Rear Derailleur 320
Beefing Up Your Bearings 321
Pumping Up Your Pedals 321
A Shoe-In: Choosing the Best Shoes for the Job 322
Saddle Up! Taking Your Saddle to the Next Level 322
Upgrading Your Handlebars 322
Boosting Your Brake Levers 323
Taking Your Clothing up a Notch 323
Embracing Your Inner Geek with a Cycling Computer 324

Index 325

xvi

Bike Repair & Maintenance For Dummies
