

# **SHOP RULES**

- 1. Respect...**
  - ...your instructors,**
  - ...your classmates,**
  - ...your tools.**
- 2. Clean up after yourself.**
- 3. Put tools in their proper places.**
- 4. Tools and parts must never leave the shop.**
- 5. No riding in the shop or anywhere in the school.**
- 6. No swearing.**
- 7. You may work only on the bike that is assigned to you.**
- 8. Never be afraid to ask a question.**
- 9. Don't waste anything.**
- 10. Enjoy your work and be proud of your accomplishments.**

# RECYCLE-A-BICYCLE PROJECT RULES

## GENERAL SHOP RULES

1. To work in the bike shop you must be enrolled in the Bicycle Maintenance and Repair Workshop. Absolutely no friends allowed.
2. Follow the posted bike shop rules. Instructors are much nicer if they don't have to act like police officers.
3. All parts must stay on the original bike. Frames are like people and parts are like clothes. No stripping .
4. Any bike that does not belong to the project may not stay overnight. Slumber parties are for people, not bikes.
5. You may not trade a bike with one another while in the shop. Take care of business outside the bike shop and school.

## EARN-A-BIKE RULES:

1. You must work a total of 24 hours. The first eighteen hours are dedicated to shop work.. After 18 hours have been completed, you may choose a bike. The last six hours may be spent working on your bike.
2. To earn hours, you must fill out a team report in class and demonstrate to the instructor that you completed the tasks assigned to you..
3. You may earn additional credit by signing up to spend time in the shop on Saturday. There are two sessions: 10 - 12 and 12:30 to 3:30. If you do not show up within a half hour, you forfeit your time slot to someone else.

## FIX-A-BIKE RULES:

1. You may exchange hours for parts and supplies. The number of hours required for these materials are determined by the instructor. You must fill out the Request Form and wait for the next class when the instructor will tell you how many hours are necessary to work.
2. To earn hours you must fill out a team report in class and demonstrate to the instructor that you completed the tasks assigned to you.
3. You must sign up with the instructor to fix your bike on Saturday. Ten time slots are available per session. There are two Saturday sessions: 10 -12 and 12:30 - 3:30. If you do not show up within a half hour, then you forfeit your time slot to someone else.

## Common Requests

Patch kit	1 hour	<b>Tires:</b>	
Tire levers	1 hour	BMX & road bike (new)	5 hours
Brake cable	1/2 hour	BMX & road bike (used)	3 hours
Housing	1/2 hour	Mountain bike (new)	8 hours
Brake pads	1 hour	Mountain bike (used)	6 hours

# Recycle-A-Bicycle Survey

Name \_\_\_\_\_ Age \_\_\_\_\_

School \_\_\_\_\_ Class \_\_\_\_\_

1. Do you know how to ride a bicycle? \_\_\_\_\_
2. If you don't, would you like to learn? \_\_\_\_\_
3. Do you have a bicycle of your own? \_\_\_\_\_
4. If you have a bicycle, what type is it? Check the box next to the picture that looks the most like your bike. If you don't have a bike, check the style that is your favorite.

BMX or  
Freestyle



Mountain Bike  
(All-Terrain Bike)



Racing/Touring  
(10 or 12-Speed)



Scooter



3-Speed



Other (Name it)  
\_\_\_\_\_



5. What color is your bike? \_\_\_\_\_
6. What company manufactured it? \_\_\_\_\_
7. What is the longest bike ride you have been on?  
I rode from \_\_\_\_\_ to \_\_\_\_\_
8. How many miles was it? If you don't know, take a guess. \_\_\_\_\_
9. Do you like to ride bikes? Why? \_\_\_\_\_  
\_\_\_\_\_
10. Why are bikes good for the environment? \_\_\_\_\_  
\_\_\_\_\_
11. Do you wear a helmet when you ride? \_\_\_\_\_

*On the first day of a new class, students are asked to complete this survey. It helps the instructor make up an attendance sheet (see next page), gauge the reading, writing, and biking skills of the kids, and find out if they're likely Earn-A-Bike participants.*



Name \_\_\_\_\_

Class \_\_\_\_\_

Date \_\_\_\_\_

Grade \_\_\_\_\_

## Recycle-A-Bicycle Final Quiz

PART I. Multiple choice. Underline the correct answer.

- The best tool you can use to remove a tire from a rim is:
  - A screwdriver
  - The handle of an old spoon
  - Tire levers
  - An adjustable wrench
- After you have found the hole in an inner tube, the next step is to:
  - Hold the tube underwater
  - Stick a patch over the hole
  - Put the wheel back on the bike
  - Roughen the tube lightly with sandpaper or a scraper
- On a bicycle tire, the letters "P.S.I." stand for:
  - P**lease **S**top **I**nflating
  - P**erfectly **S**olid **I**nterior
  - P**ounds per **S**quare **I**nch
  - P**ennsylvania **S**eems **I**nteresting
- Which of the following are not found in the hub?
  - Rimstrips
  - Cones
  - Dust caps
  - Lock nuts
- The purpose of ball bearings is to:
  - Reduce friction
  - Slow the bike down
  - Look very clean and shiny
  - Keep the grease from falling out
- Finish this sentence: "If my brakes are properly adjusted —"
  - " — my brake pads should strike the tire."
  - " — my levers should touch the handlebars when I squeeze them."
  - " — the pads will make a very loud squealing noise."
  - " — the pads will be very close to the rim, but won't touch it until I squeeze the lever."
- Which of the following tools should not usually be used on brakes?
  - The pressure gauge
  - The 3rd Hand
  - The cable cutter
  - The Y wrench

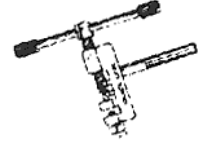
8. If you have 2 chainrings on your crankset and 6 cogs on the freewheel, how many speeds does your bike have?
- A) Eight
  - B) Twelve
  - C) Ten
  - D) Eighteen
9. Which of the following is required by law for kids in New York State under the age of 16?
- A) Fenders
  - B) A rear-view mirror
  - C) Helmet
  - D) Rubber tires
10. Most nuts and bolts are tightened when you turn them clockwise (to the right). Why does the left pedal go the other way?
- A) It keeps the pedal from falling off
  - B) It makes the pedal harder to steal
  - C) It drives bike mechanics crazy
  - D) It allows the bike to go in reverse
11. Which is the correct definition of the word "overhaul"?
- A) To transport a heavy load by bicycle or truck
  - B) To remove a defective part and throw it away
  - C) A special type of clothing worn by working men on the job
  - D) To take something apart, clean it thoroughly, and then reassemble it
12. The headset is an important part of the bicycle because it:
- A) Allows you to keep in contact with headquarters
  - B) Protects your skull in a crash
  - C) Makes it possible to steer the bike
  - D) Keeps the front wheel from falling off
13. If the rim on your bicycle was bent, you might be able to straighten it by:
- A) Jumping up and down on it
  - B) Tightening and loosening certain spokes
  - C) Inflating the tires
  - D) Putting the wheel in the Overton Rim Rejuvenator and setting the dial to "HIGH"
14. In the video on bike history, we saw a bicycle that set a speed record of nearly 65 miles per hour. What made it so fast?
- A) It had a nuclear-powered engine
  - B) It had a very large front wheel
  - C) Shaquille O'Neal was pedalling it
  - D) It had a special shell that reduced wind resistance

15. What is the name of the largest bike race in the world?

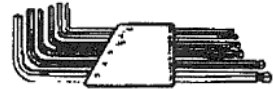
- A) The Indianapolis 500
- B) The Tour de France
- C) The Boston Marathon
- D) The Arc de Triomphe

PART II. Matching. Draw lines from the pictures of the tools to their names.

1. Cone wrench



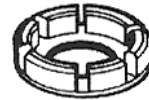
2. Adjustable wrench



3. Cable cutter



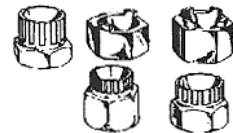
4. Chain link tool



5. Y-Wrench



6. Tire levers



7. Crank extractor



8. Allen keys



9. Freewheel removers



10. Spoke wrench







# CERTIFICATE OF COMPLETION

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*Emmanuel Rodriguez*

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Has successfully completed the Recycle-A-Bicycle course in

## BICYCLE REPAIR

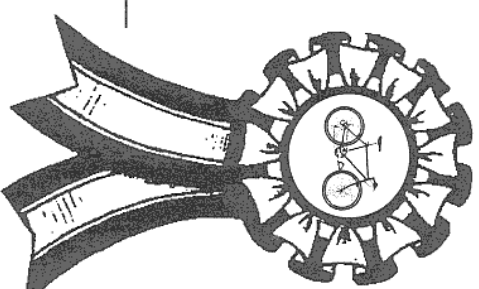
and has satisfactorily demonstrated the ability to fix flat tires, perform basic maintenance, replace cables, adjust brakes and gears, overhaul bearing assemblies, and true wheels.

AWARDED THIS FIFTEENTH OF JUNE, 1994

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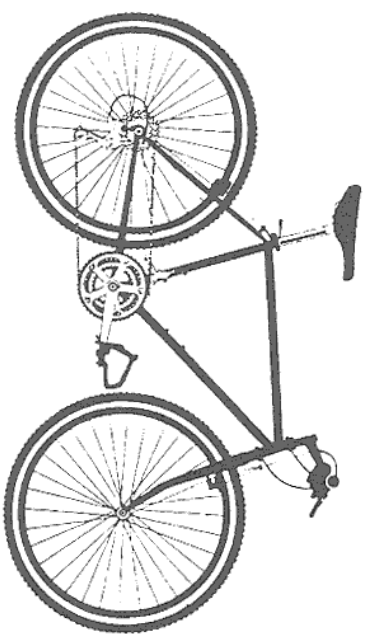
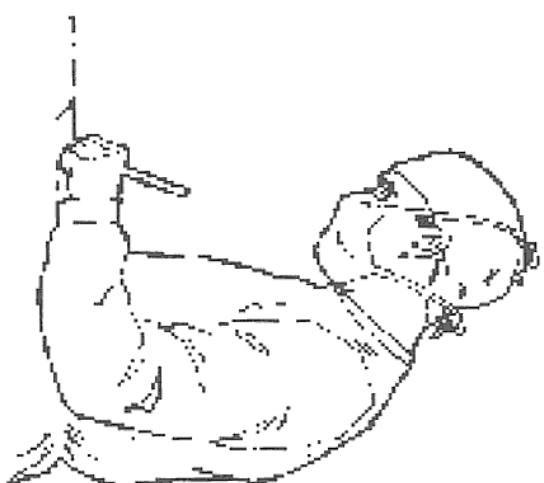
GEORGE ROMAN BABIAK,  
MASTER MECHANIC AND INSTRUCTOR

KAREN OVERTON,  
PROJECT DIRECTOR



**REINTEIBER:**

**You are  
the Doctor...**



**...and the  
Bicycle is  
your Patient!**

# Repair Forms



## THIS BICYCLE HAS BEEN RECYCLED

Make/Model: \_\_\_\_\_

Style: \_\_\_\_\_

Size: \_\_\_\_\_

Serial #: \_\_\_\_\_

Control #: \_\_\_\_\_

Date finished: \_\_\_\_\_ ●

Estimated Value: \_\_\_\_\_

Final destination: \_\_\_\_\_

Transfer date: \_\_\_\_\_

Additional notes: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Every bike in the Recycle-A-Bicycle shop has a ticket attached to the handlebars. There are three styles, each of them printed in a different color. The colors make it easy to spot the categories of bikes in a crowded shop.

1) **Check-In and Diagnosis** (facing page, left)– This is attached to all bikes slated for recycling. The master mechanic fills this out as completely as possible before any kids, volunteers, or staff begins to work on the bike. It's printed on green card stock.

2) **Repair Ticket** (facing page, right)– This is used when a “customer” brings in a bike of their own to be repaired. The chief differences between this and the Check-In and Diagnosis form are the spaces for name, phone, and address, and the estimated cost (i.e. cost in a “regular” bike shop) column. We do this one in yellow.

3) **This Bicycle Has Been Recycled** (above)– When a bike is finished, the master mechanic gives it a final checkover and adjustment. If all is well, he or she signs off on the Check-In and Diagnosis form and files it away. This ticket (which is orange) is then filled out and attached.

# Recycle-a-Bicycle Project

Check-in &  Diagnosis

Make/Model:	Type:
Color:	Serial #:
Frame Size:	Control #:
Checked in by:	Intake Date:
Donated by:	
Mechanic:	Finish Date:

## Repair Checklist

PART:	WORK NEEDED:	O.K.?
Frame		<input type="checkbox"/>
Fork		<input type="checkbox"/>
Crankset		<input type="checkbox"/>
Bottom Brkt.		<input type="checkbox"/>
Chainrings		<input type="checkbox"/>
Crankbolts		<input type="checkbox"/>
Pedals		<input type="checkbox"/>
Drive Chain		<input type="checkbox"/>
Headset		<input type="checkbox"/>
Stem & Bars		<input type="checkbox"/>
Saddle/S'post		<input type="checkbox"/>
Front Wheel		<input type="checkbox"/>
Tire/Tube		<input type="checkbox"/>
Rim		<input type="checkbox"/>
Spokes		<input type="checkbox"/>
Hub		<input type="checkbox"/>
Rear Wheel		<input type="checkbox"/>
Tire/Tube		<input type="checkbox"/>
Rim		<input type="checkbox"/>
Spokes		<input type="checkbox"/>
Hub		<input type="checkbox"/>
Freewheel		<input type="checkbox"/>
Front Brake		<input type="checkbox"/>
Rear Brake		<input type="checkbox"/>
F. Derailleur		<input type="checkbox"/>
R. Derailleur		<input type="checkbox"/>
Shift levers		<input type="checkbox"/>
OTHER WORK/NOTES:		
		<input type="checkbox"/>
Supervisor signature:		

Additional information may be listed on other side of ticket.

# Recycle-a-Bicycle Project

Repair  Ticket

Bike Owner:	Phone:
Address:	
Make/model:	
Color:	Type:
Checked in by:	Intake Date:
Mechanic:	Finish Date:

## Repair Checklist

PART	WORK NEEDED	VALUE	O.K.?
Frame			<input type="checkbox"/>
Fork			<input type="checkbox"/>
Crankset			<input type="checkbox"/>
Bott. Brkt.			<input type="checkbox"/>
Chainrings			<input type="checkbox"/>
Crankbolts			<input type="checkbox"/>
Pedals			<input type="checkbox"/>
Drive Chain			<input type="checkbox"/>
Headset			<input type="checkbox"/>
Stem & Bars			<input type="checkbox"/>
Saddle/S'post			<input type="checkbox"/>
Front Wheel			<input type="checkbox"/>
Tire/Tube			<input type="checkbox"/>
Rim			<input type="checkbox"/>
Spokes			<input type="checkbox"/>
Hub			<input type="checkbox"/>
Rear Wheel			<input type="checkbox"/>
Tire/Tube			<input type="checkbox"/>
Rim			<input type="checkbox"/>
Spokes			<input type="checkbox"/>
Hub			<input type="checkbox"/>
Freewheel			<input type="checkbox"/>
Front Brake			<input type="checkbox"/>
Rear Brake			<input type="checkbox"/>
F. Derailleur			<input type="checkbox"/>
R. Derailleur			<input type="checkbox"/>
Shift levers			<input type="checkbox"/>
TOTAL ESTIMATED COST:		<input type="text"/>	
ACTUAL COST:		<input type="text"/>	
Additional Notes:			
Supervisor signature:			

Additional information may be listed on other side of ticket.