



# CYCLING

## Merit Badge Requirements

- 1) Show that you know first aid for injuries or illnesses that could occur while cycling, including hypothermia, heat reactions, frostbite, dehydration, insect stings, tick bites, snakebites, blisters and hyperventilation.
- 2) Clean and adjust a bicycle. Prepare it for inspection using a bicycle safety checklist. Be sure the bicycle meets local laws.
- 3) Show your bicycle to your counselor for inspection. Point out the adjustments for repairs you have made. Do the following:
  - A) Show all points that need oiling regularly.
  - B) Show points that should be checked regularly to make sure the bicycle is safe to ride.
  - C) Show how to adjust brakes, seat level and height, and steering tube.
- 4) Describe how to brake safely with foot breaks and with hand brakes.
- 5) Show how to repair a flat. Use an old bicycle tire.
- 6) Take a road test with your counselor and demonstrate the following:
  - A) Properly mount, pedal, and brake including emergency stops.
  - B) On an urban street with light traffic, properly execute a left turn from the center of the street; also demonstrate an alternate left turn technique used during periods of heavy traffic.
  - C) Properly execute a right turn.
  - D) Demonstrate appropriate actions at a right-turn-only lane when you are continuing straight
  - E) Show proper curbside and road-edge riding. Show how to ride safely along a row of parked cars.
  - F) Cross railroad tracks properly
- 7) Describe your state's traffic laws for bicycles. Compare them with motor-vehicle laws. Know the bicycle-safety guidelines.
- 8) Avoiding main highways, take two rides of 10 miles each, two rides of 15 miles each, and two rides of 25 miles each. You must make a report of the rides taken. List dates, routes traveled, and most interesting things seen. \*
- 9) After fulfilling requirement 8, lay out on a road map a 50-mile trip. Stay away from main highways. Using your map, make this ride in 8 hours.

\* The bicycle must have all required safety features. It must be registered as required by your local traffic laws.

### Requirement 1

Describe first aid for the following:

Hypothermia: \_\_\_\_\_  
\_\_\_\_\_

Heat Reactions: \_\_\_\_\_  
\_\_\_\_\_

Frostbite: \_\_\_\_\_  
\_\_\_\_\_

Dehydration: \_\_\_\_\_  
\_\_\_\_\_

Insect Stings: \_\_\_\_\_  
\_\_\_\_\_

Tick Bites: \_\_\_\_\_  
\_\_\_\_\_

Snakebites: \_\_\_\_\_  
\_\_\_\_\_

Blisters: \_\_\_\_\_  
\_\_\_\_\_

Hyperventilation: \_\_\_\_\_  
\_\_\_\_\_

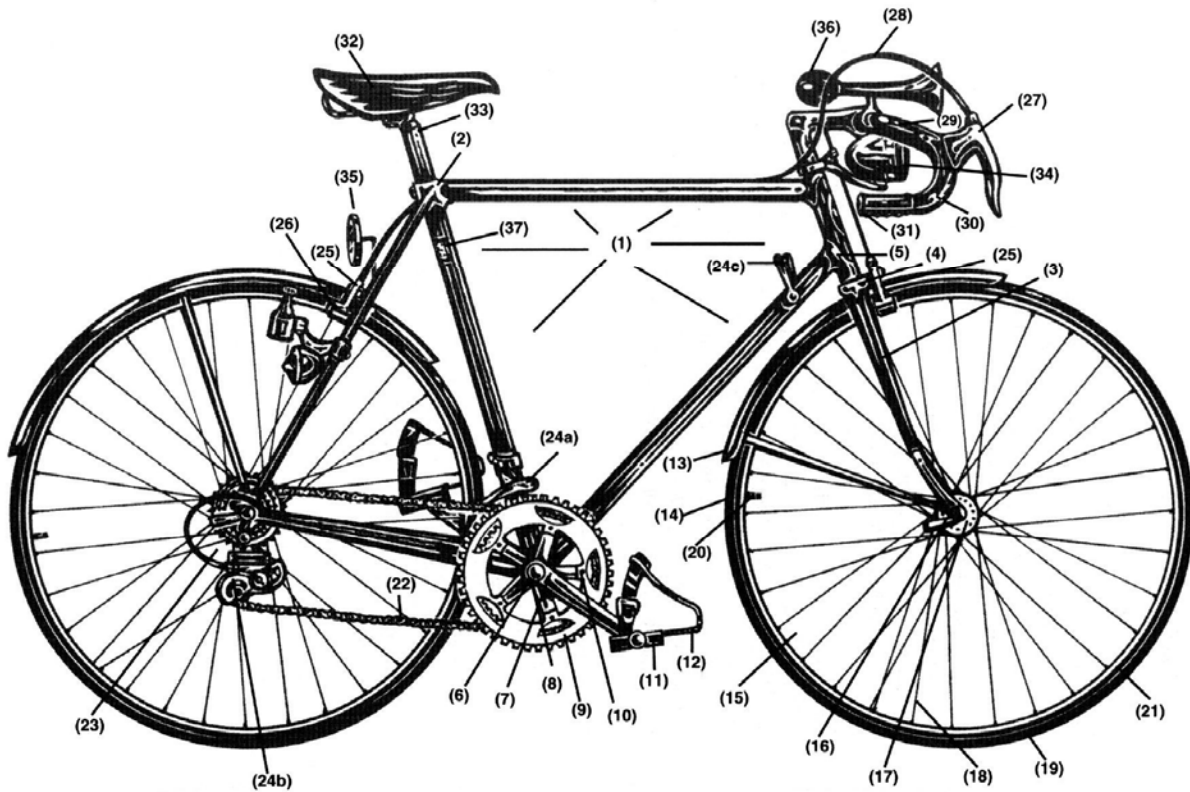
### Requirement 2

Clean and adjust your bicycle. Describe what you did during the cleaning and adjusting. Also, describe how long it took you and what tools were needed to do the job: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_ On the following sheet you will find a Bicycle Safety Checklist. Use the checklist to prepare your bike for inspection.

\_\_\_\_\_ Make sure your bike meets local laws.

## Bicycle Safety Checklist



- \_\_\_\_\_ Frame (1) - Clean and not bent out of shape. No cracks at Frame Joints (2).
- \_\_\_\_\_ Front Fork (3) - Clean and not bent out of shape. No cracks at Fork Joints (4).
- \_\_\_\_\_ Headset Bearing (5) - Well lubricated; turns freely with no binding. No perceptible play in the assembly.
- \_\_\_\_\_ Bottom-Bracket Bearing (6) - Turns freely with not more than barely perceptible play in the bearing.
- \_\_\_\_\_ Crank Arms (7) - Clean and not bent out of shape. Tightened securely on the Crankset Axle (8).
- \_\_\_\_\_ Chainrings (9) - Clean, not worn, and not bent out of shape. Chaining Bolts (10) tightened securely to hold Chainrings to Crankarms.
- \_\_\_\_\_ Pedals (11) - Bearings well lubricated; turn freely with no perceptible play in the bearing. Pedals tightly screwed into Crankarm. Toe Clips (12) functional.
- \_\_\_\_\_ Fenders (13) - Clean; tightly attached without rattling or rubbing against the Tires (14).
- \_\_\_\_\_ Wheels (15) - Run true and round. Wheel nuts tight. Closed and tight quick-releases (16). Centered in form or frame members.
- \_\_\_\_\_ Wheel Bearings (17) in hubs - Well lubricated and properly adjusted to move freely with no more than barely perceptible play.
- \_\_\_\_\_ Spokes (18) - None broken or bent. Tightened to a uniform tension.
- \_\_\_\_\_ Tires - Good Tread (19). Valves (20) completely airtight. Properly inflated to recommended pressure.
- \_\_\_\_\_ Rims (21) - Clean of all oil and grime. Free of dents or kinks.
- \_\_\_\_\_ Chain (22) - Proper tension, allowing 1/2 inch of play. No stiff links. Clean, lubricated, and wiped of excess lubrication.
- \_\_\_\_\_ Gearing (23) - Clean and oiled. Three-speed gears adjusted to eliminate all slipping. Front (24a) and Rear (24b) derailleurs adjusted for proper shifting with Shifters (24c).
- \_\_\_\_\_ Brakes (25)
  - Coaster - Even braking. Operate within a 20-degree back-pedaling motion.
  - Hand - Even braking. All nuts tight. Front and rear brakes work without binding. Minimum of 3/16 inch of rubber on Brake Pads (26). Brake pads aligned with rims and contact rims with a minimum of movement of Hand Controls (27). No squeal when brakes are used.
- \_\_\_\_\_ Cables (28) - No frayed ends. No broken strands. All taut.
- \_\_\_\_\_ Handlebars (29) - Tightened securely. Grips (30) not worn; fit snugly. Adjusted to comfort of rider. Ends (31) plugged. In line with wheel.
- \_\_\_\_\_ Saddle (32) - Height, tilt, and fore/aft position adjusted to rider. All adjustments securely tightened. Seatpost (33) not extended beyond maximum mark on post.
- \_\_\_\_\_ Lights (34) - Front light visible for 500 feet. Generator or battery in good operating condition.
- \_\_\_\_\_ Rear Red Reflectors/Lights (35) - Visible for 300 feet. Lights/Blinkers functional with generator or batteries.
- \_\_\_\_\_ Bell or Horn (36) - In good operating condition. All accessories well tightened and securely fastened. No broken frames or fasteners.
- \_\_\_\_\_ Bike Registration (37) - If required by local law, must be displayed on frame.

### Requirement 3

What are some of the points that need oiling regularly? \_\_\_\_\_

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What points should be checked regularly to make sure the bike is safe to ride? \_\_\_\_\_

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\_\_\_\_\_ Show your bike to your counselor for inspection. Have them initial here when complete.

\_\_\_\_\_ Show all points that need oiling regularly.

\_\_\_\_\_ Show points that should be checked regularly to make sure the bicycle is safe to ride.

\_\_\_\_\_ Show how to adjust brakes, seat level height, and steering tube.

### Requirement 4

Describe how to brake safely with foot brakes and with hand brakes. You can write your description down here: \_\_\_\_\_

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### Requirement 5

\_\_\_\_\_ Using an old bicycle tire, show how to repair a flat. Have your counselor initial here when completed.

### Requirement 6

Take a road test with your counselor and demonstrate the following:

\_\_\_\_\_ Proper mounting, pedaling, and braking including emergency stops.

\_\_\_\_\_ On an urban street with light traffic, properly execute a left turn from the center of the street; also demonstrate an alternate left-turn technique used during periods of heavy traffic.

\_\_\_\_\_ Properly execute a right turn.

\_\_\_\_\_ Demonstrate appropriate actions at a right-turn-only lane when you are continuing straight.

\_\_\_\_\_ Show proper curbside and road-edge riding. Show how to ride safely along a row of parked cars.

\_\_\_\_\_ Cross railroad tracks properly.

### Requirement 7

Describe your state's traffic laws for bicycles: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

How are they different or the same from the motor-vehicle laws? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

What are the bicycle-safety guidelines? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### Requirement 8

Avoiding main highways, take two rides of ten miles each, two rides of fifteen miles each, and two rides of twenty-five miles each. You must make a report of the rides taken. List dates, routes traveled, and interesting things seen. Use the following forms to make your trip reports

Before you begin each of your rides you may want to prepare by considering the following:

- 1) Do an inspection on your bike using the Bicycle Safety Checklist.
- 2) Make sure you wear the proper safety equipment such as a helmet and gloves.
- 3) Let others know where you will be going, leave them a map or route of your planned trip. Give them an estimated time of return.
- 4) Be Prepared. Take along a small tool kit that includes tire patches and any other items you may need while on your trip. Don't forget a First Aid Kit.

On the following page you will find an example of a Cue Sheet. Cue Sheets tells how to follow a planned route. Using the sample below, make an outline for each of your rides. You will find a blank Cue Sheet on the next page. Make a copy of the blank Cue Sheet and use them for each ride.

## Sample Cue Sheet

Distance	Signal	Action	Description
0.0		L	Locust Street
0.2	SS	R	Sixteenth Street
3.0	TL	L	Bridge Street (becomes Third Street)
2.1	TL	X	Lowther Street
2.5	TL	L	Humel Avenue
4.1	TL	L	Eighteenth Street (becomes Creek Road)
5.7		BL	Lisburn Road (becomes Spangler's Mill Road)
6.7			Caution: metal deck bridge
7.6		L	Limekin Road
8.4		L	Green Lane Drive
10.3	SS	R	Cedar Cliff Drive
11.5	TL	R	Simpson Ferry Road
11.9		L	Elkwood Street
12.0	SS	L	Locust Street
12.0		L	Home

Legend: SS = Stop Sign; L = Left; R = Right; TL = Traffic Light; X = Cross;  
 BL = Bear Left; BR = Bear Right



Scout Name: \_\_\_\_\_ Unit #: \_\_\_\_\_ Date: \_\_\_\_\_

# Bike Ride Trip Logs

## 10 Mile Ride #1

Date: \_\_\_\_\_ How long did it take you? \_\_\_\_\_ How many riders were there? \_\_\_\_\_

Describe the route you took: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Give a brief report of your ride, including any interesting things you saw: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Did you run into any problems along the way? \_\_\_\_\_ If so, explain the situation and how you dealt with it: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## 10 Mile Ride #2

Date: \_\_\_\_\_ How long did it take you? \_\_\_\_\_ How many riders were there? \_\_\_\_\_

Describe the route you took: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Give a brief report of your ride, including any interesting things you saw: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Did you run into any problems along the way? \_\_\_\_\_ If so, explain the situation and how you dealt with it: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Scout Name: \_\_\_\_\_ Unit #: \_\_\_\_\_ Date: \_\_\_\_\_

**15 Mile Ride #1**

Date: \_\_\_\_\_ How long did it take you? \_\_\_\_\_ How many riders were there? \_\_\_\_\_

Describe the route you took: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Give a brief report of your ride, including any interesting things you saw: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Did you run into any problems along the way? \_\_\_\_\_ If so, explain the situation and how you dealt with it: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**15 Mile Ride #2**

Date: \_\_\_\_\_ How long did it take you? \_\_\_\_\_ How many riders were there? \_\_\_\_\_

Describe the route you took: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Give a brief report of your ride, including any interesting things you saw: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Did you run into any problems along the way? \_\_\_\_\_ If so, explain the situation and how you dealt with it: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Scout Name: \_\_\_\_\_ Unit #: \_\_\_\_\_ Date: \_\_\_\_\_

**25 Mile Ride #1**

Date: \_\_\_\_\_ How long did it take you? \_\_\_\_\_ How many riders were there? \_\_\_\_\_

Describe the route you took: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Give a brief report of your ride, including any interesting things you saw: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Did you run into any problems along the way? \_\_\_\_\_ If so, explain the situation and how you dealt with it: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**25 Mile Ride #2**

Date: \_\_\_\_\_ How long did it take you? \_\_\_\_\_ How many riders were there? \_\_\_\_\_

Describe the route you took: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Give a brief report of your ride, including any interesting things you saw: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Did you run into any problems along the way? \_\_\_\_\_ If so, explain the situation and how you dealt with it: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

