

The Bike Rack

Introduction

As an avid cyclist and owner of a diminutive 1969 MGB roadster, I was frequently faced with the problem of transporting my race bike to and fro the several ultramarathon cycling events I participated in. My initial solution to the problem was to place my bike behind the B's two front seats. However, this entailed the removal of its front and rear wheels, chain, and derailleur--a very time-consuming practice. A better solution was needed.

Typical bicycle carriers on the market either attached to a vehicle's roof or strapped onto the car's trunklid. Since my car was a convertible, the former type was not an option. Furthermore, I had qualms about a bulky bicycle carrier resting on the shiny paint of my classic automobile. Hence, my prototype luggage rack-mounted bicycle carrier was born.

Objective & Requirements

To design and manufacture a bicycle rack that met the following criteria:

- Quick set-up time
- Does not touch vehicle's paint
- Stable in cross-winds and heavy cornering
- Lockable
- Compact and easily stored
- Under \$100 in parts and materials

The Final Product

My solution is shown in the following pages. As the pictures show, setup is a 5-step process that takes approximately 2-3 minutes:

1. Unfold bicycle carrier
2. Clamp onto luggage rack
3. Attach single bolt through the two channel-section members using (2) 7/16" wrenches.
4. Take off front wheel of bicycle
5. Attach and lock bicycle fork to the fork mount's lockable Cyclox skewer. The rear wheel of bicycle will be resting in the rear channel-section member.

The advantages of the bicycle carrier is as follows:

- Extremely lightweight: under 5 pounds
- Foldable; extremely compact
- One-bolt design minimizes setup time
- Total cost: \$58 (\$33 for 6 lbs. of raw aluminum and \$25 for the Cyclox locking skewer)
- Attaches to the luggage rack, safely away from the car's paint