

Requirements Sheet

Team Number _____

Product Type: *Family Economy*

1. Market Description

This bicycle is to be designed for the mass consumer market. The expected sales volume is 100,000 per year. Affordability, excellent performance/cost ratio and light weight are most important to be successful in this market.

2. Requirements

Manufacturing Cost (C): $C \leq 3.6\$ /part$

Performance (δ_1, δ_2, f_1):
 Displacement $\delta_1 \leq 0.078$ mm
 Displacement $\delta_2 \leq 0.012$ mm
 First natural frequency $f_1 \geq 195$ Hz

Mass (m): $m \leq 0.27$ lbs

Surface Quality (Q): $Q \geq 2$

Load Case (F): $F1 = 50$ lbs / $F2 = 50$ lbs / $F3 = 100$ lbs

The part has to conform to the interface requirements and geometrical boundary conditions shown on page 2 of this document. This requirement cannot be waived.

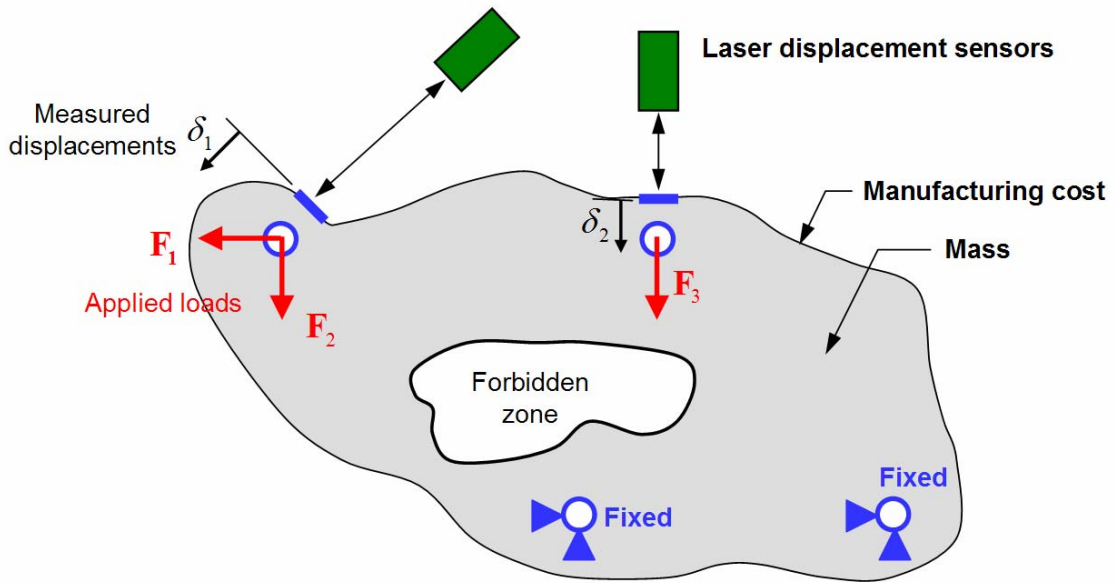
3. Priorities

Low manufacturing cost is the first priority for this product. Next, the customer cares about light-weighting (low mass) and thirdly, structural performance should be as high as possible. These priorities are shown in the Ishii-matrix below:

Attribute	Constrain	Optimize	Accept
Cost			
Performance			
Mass			

Modifications to these requirements have to be negotiated with Management.

Configuration



No forbidden zone for your team

Dimensions

