

<b>Requirements Sheet</b>
---------------------------

Team Number \_\_\_\_\_

Product Type: ***BMX***

**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):  $C \leq 8.6 \text{ \$ /part}$

Performance ( $\delta_1, \delta_2, f_1$ ):  
 Displacement  $\delta_1 \leq 0.060 \text{ mm}$   
 Displacement  $\delta_2 \leq 0.009 \text{ mm}$   
 First natural frequency  $f_1 \geq 340 \text{ Hz}$

Mass (m):  $m \leq 0.23 \text{ lbs}$

Surface Quality (Q):  $Q \geq 4$

Load Case (F):  $F1 = 75 \text{ lbs} / F2 = 100 \text{ lbs} / F3 = 75 \text{ lbs}$

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.

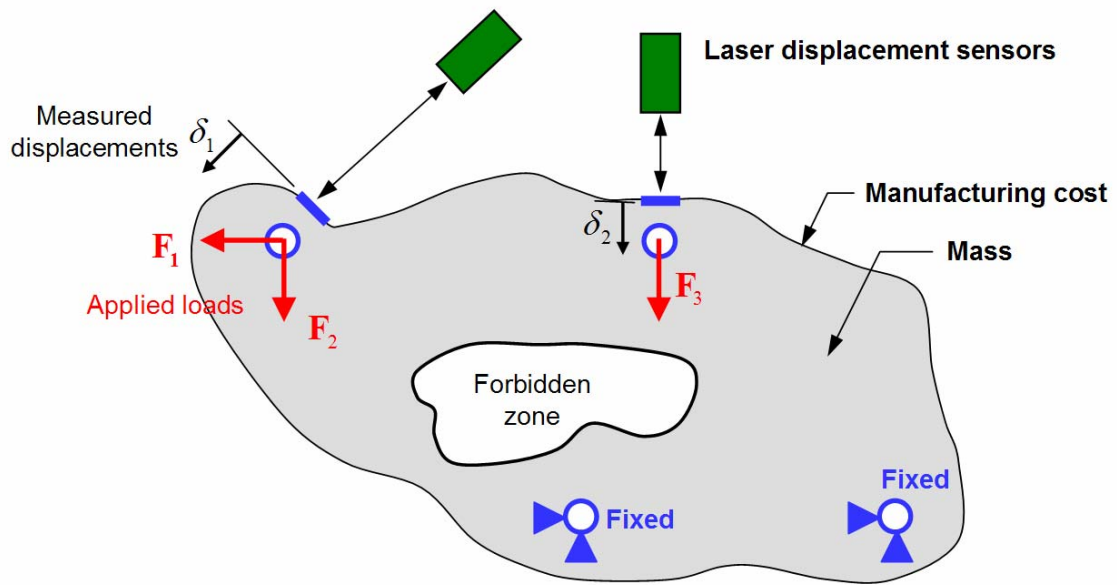
**3. Priorities**

Structural performance is the first priority for this product. Next, the customer cares about light-weighting (low mass) and thirdly, manufacturing cost should be as low 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

