

<b>Requirements Sheet</b>
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Team Number \_\_\_\_\_

Product Type: ***Motor bike***

**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):  $C \leq 5.7 \text{ \$ /part}$

Performance ( $\delta_1, \delta_2, f_1$ ):  
 Displacement  $\delta_1 \leq 0.056 \text{ mm}$   
 Displacement  $\delta_2 \leq 0.009 \text{ mm}$   
 First natural frequency  $f_1 \geq 250 \text{ Hz}$

Mass (m):  $m \leq 0.34 \text{ lbs}$

Surface Quality (Q):  $Q \geq 3$

Load Case (F):  $F1 = 50 \text{ lbs} / F2 = 75 \text{ lbs} / F3 = 100 \text{ lbs}$

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.

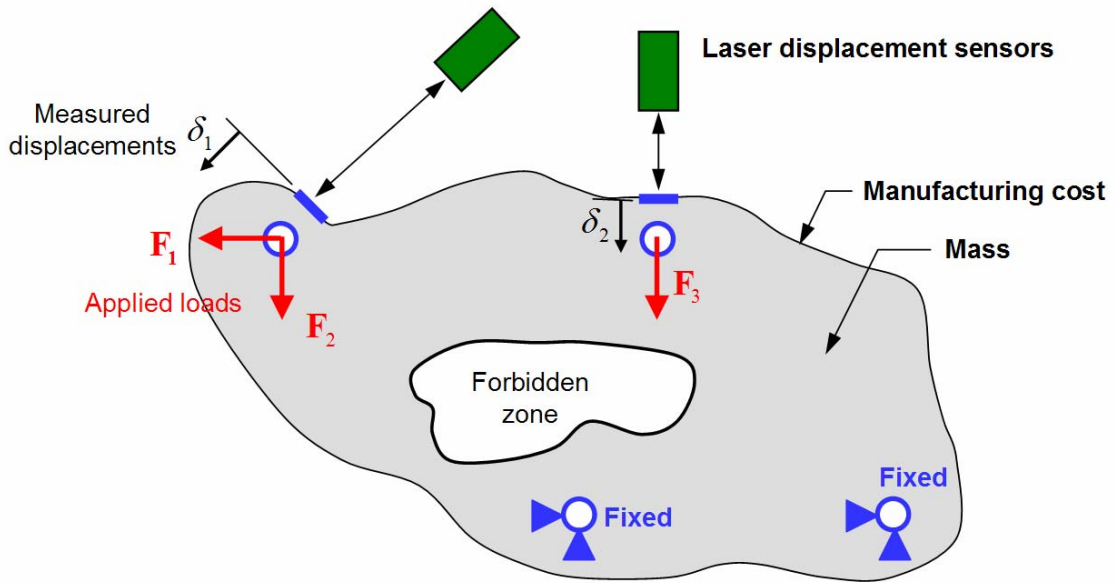
**3. Priorities**

Structural performance is the first priority for this product. Next, the customer cares about manufacturing cost and thirdly, mass 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



## Dimensions

