



DESIGN AND FABRICATION OF ADJUSTABLE HANDLE FOR TWO-WHEELER VEHICLE

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ABSTRACT

An individual's fitness is determined by two factors: the cross-section of the muscle fibers recruited to generate force and the intensity of the recruitment. Individuals with a high percentage of type I slow-twitch muscle fibers will be relatively weaker than similar individuals with a high percentage of type II fast-twitch muscle fibers, but will have higher endurance. The genetic inheritance of the muscle fiber type determines the ultimate possible limit of physical strength, although the unique location in this cortex is determined by training. The proportions of individual muscle fibers can be determined by muscle biopsy. Other factors to consider are the ability to recruit muscle fibers for a particular activity, joint angles, and length of each limb. For a given cross-section, shorter limbs can lift more weight. The ability to gain muscle also varies from person to person, mainly depends on the gene that regulates the amount of hormone secreted, but also depends on the person's gender, age, health and adequate nutrients in the diet. diet. The one-off max test is the most accurate way to determine maximum muscle strength.

INTRODUCTION

There are different ways to measure the fitness of a person or a population. Capability analysis is often performed in the field of ergonomics where a specific task (e.g. lifting, pushing, etc.) and/or posture is assessed and compared with the capabilities of the population. number for which the task is expected. intended for. External reaction moments and forces acting on the joint are often used in such cases. The bearing capacity of a joint is expressed as the amount of torque that the muscle force can generate at the joint against the external torque. Skeletal muscle produces reactive forces and moments at the joints. To avoid injury or fatigue, when the person is performing a task, such as pushing or lifting a load, external torques are generated at the joints due to the load of the hands and the weight of the body segments. ideally smaller than muscle. moment force at the joint.

One of the first sagittal plane models for force prediction was developed by Chaffin in 1969. Based on this model, the external torque at each joint must not exceed the mechanical force torque at that joint.

METHODOLOGY

There are two rods, one rigid and attached to the wheel, and the other hollow. Rigid bars should make two to three grooves by measuring the appropriate distance. The hollow bar is inserted into the rigid rod, and to the hollow bar, the pin-type mechanism is fixed, the movement of the handle can be adjusted by using this pin-and-slot type mechanism.

DESIGN AND CALCULATIONS

L1 Length of rod 1 connected to wheel = 800mm.

L2 Rod length2 = 500mm.

h.... Total height of handle before adjustment = 1200mm.

d... Distance between two holes = 60mm.

D1 = D2, Bar opacity = 50.8mm.

W adjustable handle weight = 60N.

Material = Stainless steels Bar.

Density = 7500kg/m³.

Now,

The height of the handle after adjustment is given by,

$$H = h + D$$

$$H = 1200 + 50.8$$

$$H = 1250.8\text{mm.}$$

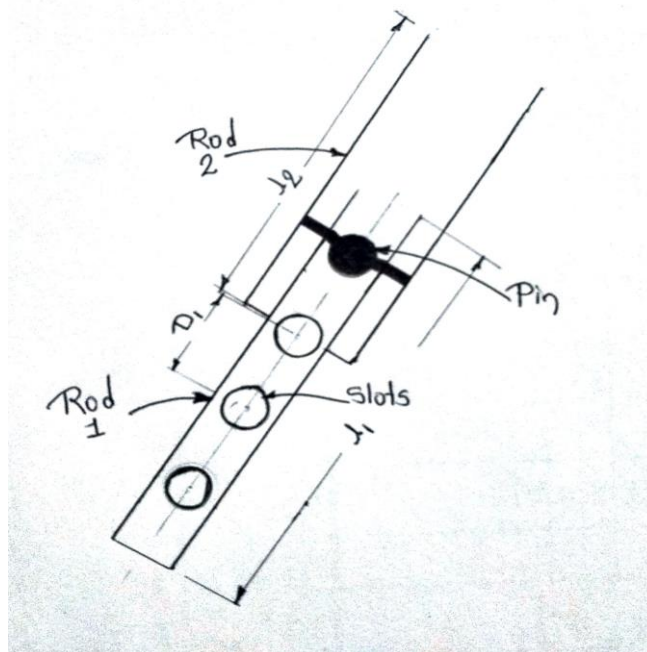


Fig.1: Diagram for Adjustable Handle in Two Wheeler Vehicle

RESULTS AND DISCUSSION

To troubleshoot and other problems related to the vehicle's handlebars, can be done by this handle adjustment mechanism. One can easily adjust the handle by means of a pin that is attached to the handle of the rod. From a safety point of view, the handle and latch should be sturdy and resistant to impact.

CONCLUSION

Distal force can be measured semi-quantitatively using a grip strength ergometer (or a patient's compressed and inflated blood pressure cuff) to record grip strength. Special equipment, most commonly a dynamometer, is required. Dynamometry is a more accurate measurement of the force exerted by a muscle and can record the difference in force over time. There are expensive versions as well as cheaper versions found by internet search.

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