



Shape and Position of The Hands on The Bicycle Drop Bar Analysis

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Abstract

Study Purpose. Road cycling activities are closely related to the aerodynamics and stability of the bicycle movement when used by the user. Drop bars are one of the elements of a road bike and help control speed movements while driving. Drop bars, or what is commonly known as road bike handlebars, are designed to ride at high speeds without sacrificing bike stability.

Materials and methods. The research carried out aims to analyze the shape and position of the hands when riding a bicycle, the results of which can be used to maximize the potential of the bicycle drop bar object. This is because cycling has become a community activity nowadays and the use of drop bars on bicycles is often an option for cycling. By using descriptive qualitative research method the shape of the drop bar can be associated with driving stability.

Results. The research was conducted by observing a literature study that describes the shape, position of the user, and speed of the bicycle against the drop bar. The drop bar form is made by adjusting the needs and desires of its users. The shape of the drop bar on a racing bicycle can affect the speed, agility, stability, and direction of the bicycle while riding.

Conclusion. The comfort generated by the position of the user's hands on the drop bar while riding has an important role in directing and balancing the bicycle so that it does not fall and maintains a constant speed in other words the bicycle is in a stable state.

Keywords: Shape, Position, Grips, Drop Bars, Bicycle

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Introduction

A bicycle is a tool for possible transportation operated with an easy without-use machine. Along with walking time, bikes start to develop into something usually called vehicle electricity, or bicycle electricity (Ramadhan & Dinata, 2021). Bicycles are defined as one tool for transportation in the most land-friendly possible environment and take a route that isn't too far away (Nugroho, 2020). A bicycle is defined as a vehicle that has two wheels aligned and chained together. The moment, besides a healthy body, a bike also works as a means of fun and gets used for various adventures (Anam & Al Harits, 2021).

A bicycle is something characteristic of transportation in a friendly environment with a simple mechanism because of the driving process. A bicycle consists of some parts, like wheels, handlebars, and saddle (Suganda et al., 2018). Three parts related to the operation bicycle. The moment This There are various types of bikes on the market, it depends on the capabilities and needs of users (Prakosa & Tjahjaningsih, 2021).

Stability in the simplest sense is called the term stationary or No sway (Kencana et al., 2019). Stability is defined as the ability to maintain balance and return to normal when experiencing something distracting. Variation of possible obstacles bothers stability drive depending on configuration and model. loss of stability can be caused by conditions that are not under control (Ramadhan & Sihombing, 2017)

Handlebar bicycle racing (drop bar) works as a tool rudder to be influential to the stability of the bike so no shake (Huda & Khamami, 2017). These conditions received by the handlebar bicycle racing are condition natural so the expected capable guard balance bike at the moment used. because it's used on the streets (Anam & Al Harits, 2021), bicycle If not stable so will endanger the user. In deep development, handlebar bicycles are known to race with drop bars and have suitable configurations and models with function matter; this is for stability when driving a bicycle.

The drive is A behavior Where one man up or rides A tool destination transportation to reach an area with a distance certain. The drive can be interpreted as something activity man operate tool transportation with method custom assortment mechanism vehicle that alone. The behavior of every individual in driving matters a lot to road safety for individuals and also for others (Widodo & Fadeli, 2018). In driving, every individual must obey existing regulations, such as case drive a bicycle must be on track (Iswantono & Kadembo, 2021)

Use a handlebar bicycle. This dropbar aims to reach high when driving a bicycle. Besides that, if noticed further away, then besides speed, the use of drop bars is also intended for the use of bicycles with distance far. because various matters such, then concentration driver bicycles are also required for more maximum. Because with the use of drop bars, conditions are also necessarily noticed.

Bicycle handle bars with the dropbar type have started to be in demand from enthusiastic cyclists, which during the pandemic began to increase. This can be caused by the existence of bicycle hobbyists in informing them of the advantages of dropbars and the application of dropbars when using a bicycle. So that indirectly it can also increase the volume of bicycles that use drop bars. And not infrequently without taking into account the body factor when driving.

This is in line with Phil Burt's statement in his book entitled "Bike to Fit 2nd edition Optimize your bike position for higher performance and injury avoidance" explaining that users must always ensure a good driving position. It was explained that changes in bicycle components can affect the riding position so that it can affect the driving process. Which can result in fatigue and even accidents (Burt, 2022: 6)

Formula Problem Based on from background behind and the problems that have been explained in so study This will emphasize some formula problems in the form question: How influence form dropbar bike on stability drive and How influence the position of the grip bicycle to stability drive.

Materials and methods

Study participants

Data collection was carried out through the studies library and observation through sources that have passed the stage study library, so the data obtained were consistent with existing problems and libraries in research. Method observations used consist of observing and

recording in a manner systematic phenomena that occur in the subject research. Obtained data grouped in a manner systematic and detailed and customized with question

In research, this is the data that has been obtained from results observation level stability user moment drive bicycle racing. Position data is also obtained from a user-moment-driven bicycle whose race can influence the speed and stability of users (Lutfi & Baehaqi, 2022). Obtained data through analysis of events, phenomenon, or condition References Then processed. The results of related data processing handlebar bicycles in a manner clearly show the mechanism or function of handlebar bicycles based on a change in existing form. Change from handlebar bicycle is a very influential stability user moment drive (Loppies et al., 2022). Instrument Study

Tools used in research This form drop bar object, study bibliography and interviews No structured to drop bar user. object drop bar obtained through observation of driver bicycles that use handlebar manifold drop bar. As for studies, the library used is based on existing literature data recorded and processed following needed research, that is to influence grip on the drop bar to user bicycles.

Study Organization

Method qualitative descriptive is a method or References For getting inside data purposeful research for understanding and interpreting meaning interaction behavior man in a situation certain from the corner view researchers (Rukin, 2019). Research using qualitative references must possibly be more understanding of the investigated subject. This is done for developing concepts, explaining reality problems that occur, and understanding One or more phenomena that occur (Semiawan, 2010).

Type research used studies descriptive, with explanation details about the depiction mechanism position grip users on a capable drop bar influence speed bike at the moment drive. Explanation descriptive the obtained through drop bar data that has been observed in a manner systematic and directed. this addressed for know how much influence the grip on the drop bar on the user at the time does activity cycling.

In a study, this is obtained from a data source with observations in a manner direct through discussed observations about the influence of drop bar bicycle to stability drive on the situation certain (Umanailo et al, 2019). The Drop Bar bike plays an important role as a controller speed bicycle. This thing shows how a mechanism drop bar or handlebar bicycle can be useful when a user drives bicycle racing (Nishitani & Kitawaki, 2020).

Statistical Analysis

In line with the research objective to provide analytical results of the shape and position of the hands when riding a bicycle using a drop bar (Evans et al, 2021). So that it can produce information in the form of maximum use of the dropbar and optimal driving. With measurement instruments based on data collection methods. So that the results are obtained in the form of useful information from users and the use of dropbars (Caon, 2020).

Process analysis is carried out on the data set that has been obtained in a manner detailed and deep. Method analysis used is method qualitative data analysis, where the data is already collected with the observation process through studies References managed in a manner deep for processed in framework answer existing problems (Pakpahan et al., 2022). Method This is used for explains in a manner descriptive based on yield data observations that have been done. The general data analysis process is done before and after data collection (Rukajat, 2018). Deep data analysis study This through stages or grouping processes with notice connection between drop bar bicycle with stability user moment drive and compare the data. The objective of the analysis of this data is to obtain clear data results on the mechanism *drop bars* so that they can be easily understood and used as a source for the test hypothesis (Subagyo & Ip, 2020). The analysis makes use of data in the form of position user and drop bar form, p the aim For know How to influence the drop bar to stability moment drive bicycle racing (Roberto et al.,

2022).

Results

Stability

Stability in meaning simply is known with the term calm or no shake. Stability is defined as the ability to condition the body and vehicle in a position balanced as well as avoid all distractions and challenges (Ramadhan & Sihombing, 2017). Disturbance stability can be caused by the existence of various types of conditions that are not controlled.

When riding a bicycle, the driving stability factor needs special attention. In this case, the use of bicycles tends to be on roads whose conditions consist of various types of vehicles and people (Zhang et al, 2011). So that the stability factor in riding a bicycle can also be influenced by the conditions of the user and their suitability for the driving environment. (Wang & Liu, 2019)



Figure 1. Position drive bicycle
(Various source)

In a moment drive vehicle, each needs to notice all existing and related aspects with stability That, starts from stability emotional until stability physical. All aspects need to be considered and understood to minimize things that don't want a momentary drive vehicle.

Bicycle

Bicycle is the simplest means of transportation Because only human-powered and functional to operate without a machine. because that's a bicycle Still is the most friendly transport environment Because No exhaust fumes or substances CO₂ (Muhammad et al., 2018). As a result, bicycles known as tool transportation and tools sport offer lots of benefits Good for health or the environment.



Figure 2. Shape and type bicycle
(Various source)




At first, bicycles were the only tool for transportation land that can transport people within a distance near the course, however, mature This with there are new models like bicycle racing, function, and designation bicycles started to shift for the number of individuals (Ramadan & Dinata, 2021). Bicycle racing is normally used by some individuals as a means tool transportation distance near, means sport until work for many.

Bicycle racing consists of some parts among them are wheels, drop bars, bicycle bodies, cleats, chains, and saddles (Suganda et al., 2018). All components strung together relate to One other inside an operational bicycle. Components of bicycle racing have been designed as well as modified from the conventional model to be able to by designation get more speed good (Lépine et al., 2014).

Stability bike and position driving a bicycle

One aspect of driving a bicycle is the position of driving the bicycle alone. Positioning proper cycling will help safety and protect the driver's bicycle. Position good hands moment drive bicycle possible driver for the drive in a comfortable position (Ciascai et al, 2022). Positioning good hands moment driving also helps prevent the driver do the thing that isn't wanted, starting from avoiding injury consequences using bikes that don't appropriate until avoiding an accident driver consequence position drive that is not fun. Positions drive their influence big on the rider's bicycle. Individuals also have different implications depending on some factors like age, style, ride, health, and flexibility drive (Nishitani & Kitawaki, 2020). Moment drive bicycle way, In driving bicycle racing, many opportunities position hands can apply,

Table 1. Position hand at the moment drive bicycle

No	Picture	Information
1.		Position Relax On position relaxed, position hands are in part <i>drops</i> on the drop bar. Position This is a normally used moment to drive <i>road bikes</i> with speeds low until medium.
2.		Position Aggressive On position aggressive, laying hand is normally placed in section <i>ramps</i> until <i>hooks</i> on the drop bar Position This is normally used to expert enough power big to accelerate more lot and got good speed.
3.		Position aerodynamics On position, this driver positions their hand in part <i>tops</i> on the drop bars bicycle. The objective from position This so that the driver benefits from aerodynamics from more wind ramps and low <i>drag</i> coefficient for maximizing speed rate driving so that can record time faster.

Every position driving a bicycle has some odds and every position has its objective as well as each other 's impact driving A bicycle depends on the conditions and needs to drive a driver is A behavior man Where an individual up or operates A tool destination transportation for reaching something point area and distance travel with various types of mechanisms (Suhardi et al., 2014). In driving, riders should know as well as understand all aspects of the vehicle to minimize as well as avoid things that aren't wanted. drive Already become commonplace in man in undergoing activity every day (Suhardi et al., 2014).



Figure 3. Activity with bicycle
(Various source)

Cycling is an activity to move the body to be able to make the bicycle move. So that in practice, bicycles cannot move without power from their users (Gu et al, 2021). With the use of dropbars on bicycles which were originally devoted to roadbikes, the element of human power as a driving force cannot be eliminated (Wang et al, 2019), even with various kinds of activities on the road, the user's concentration level also needs to be optimally provided (Gadsby & Watkins, 2020). This is because apart from power, the sense of sight also needs to be used when cycling as input from the road conditions encountered. And this will be dangerous if the physical condition of the rider is fatigued. A bicycle can make activity support a man For do activities For the move from point A to point B. Activity drives A bicycle can be made as an activity sport, hobbies until it becomes a work main for several individuals, like traders around, racer bicycles, and so on.

Discussion

Stability drive bicycle

Term stability in driving bicycle ability for drive A bicycle with a stem full without existing constraints and obstacles that are not desired (Kurniawan et al., 2020). Stability drive bicycles are an important aspect in drive, without stability, then users will find it difficult to do activity drive. One part of the most influential bike level comfort driver and stability bicycle is the system rudder bicycle alone.

No A little calculating rider that stability from drive A bicycle generated consequence position users (Ji et al., 2017), number more wheels from One wheel until speed user bicycle That alone, however, fact shows that stability drive bicycle Not only from matter the, but stability drive majority generated from exists rudder Very helpful bicycle handlebar. In guard stability, drive a bicycle.



Figure 4. Stability drive bicycle
(Various source)

The majority public assumes that stability in driving a bicycle originates from effect gyroscopic effects of speed and position body in driving a bike, however actually in the picture proves that the position body and speed rate just No can make a position ride bicycle stable, however rudder the bike handlebar. That's what matters in stability A rate bicycle.

In drive bicycle racing, the position of the hand is influential for stability drive bikes, position, as well as direction from A wrong handlebar, will raise enough causality influential in stability bikes and rides bicycle That alone. Positioning the hand-hold rudder bicycle is a very important role For a direct and balanced bike so no fall and stay at a constant speed.

Conclusions

A Cyclist is a behavioral man Where an individual up or operates A tool destination transportation for reaching something point area and distance travel with various types the mechanism. In drive A vehicle, each individual should notice all existing and related aspects of stability, starting from stability emotions, stability moment drive, as well as stability physically. All aspects must be noticed and understood to minimize things that don't want a moment to

drive A vehicle. A bicycle is A tool of transportation that has the simplest mechanism because the method it works can run only with and be driven by humans as well as without through help of A machine. Bicycle racing consists of several parts, among them are wheels, drop bars, bodies, cleats, chains, and saddles. Components of bicycle racing have been designed as well as modified from the conventional model to be able to follow designation to get more speed.

Position hand in riding a good bike would be a very possible driver for driving with a comfortable position. In driving a racing bicycle, there are some opportunities to position hands that can be implemented, among others position relaxed, aggressively, and aerodynamic. In driving, riders should know as well as understand all related aspects of driving a bicycle an internal scope through physique rider and external like environment drive. owned by the vehicle to minimize as well as avoid things that don't want to be done. Term stability in drive bicycle ability for drive A bicycle with control full without existing constraints and obstacles that are not wanted. In driving racing bicycles, the position of the hand is influential for stability drive bikes, position, as well as direction from A wrong handlebar, will raise enough causality influential in stability bikes and riders' bicycle That alone. With notice of existing aspects, the driver creates circumstances safe moment drive especially moment stability bicycle awake.

At this time, not a few people use bicycles as a means of transportation to get around. and over time, the type of bicycle comes with various variants. and one of them is a bicycle using a drop bar. which was originally known that a bicycle with the use of a drop bar is a bicycle with a road bike. which has an element of speed in its presence. so that not a few dropbar users, can race with motorized vehicles. because of this, this research is here to provide an explanation to the public regarding one of the elements of the dropbar which is included with an analysis of the shape and position of the ride so that the negative impact can be minimized

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Conflict of interest

All authors declare that there is no conflict of interest whatsoever in this research.

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