HAND FREE GRIP-TWIST CONTROL

The current application relates to one or more devices and methods for a hand free grip-twist control. The application also relates one or more methods for making, assembling, disassembling, installing, configuring, maintaining, repairing and using the one or more devices for the hand free grip-twist control.

A handgrip grip-twist mechanism has a rotatable grip around a handlebar. The rotatable grip when rotated will usually not stay in a new position but will return to its original position. This is a result of a spring within the rotatable grip that forces the rotatable grip to return to its original position.

One example is a handgrip controlled motorcycle which faces an inherent problem of maintaining a fixed acceleration level of the motorcycle. The rider of the motorcycle has to place his hand on the grip and apply a rotational force resulting in fatigue of the rider’s wrist and hand. Once the hand of the rider is released from the grip, the acceleration level of the motorcycle resumes to its steady state and the travelling motorcycle decelerates.

The conventional way of maintaining the acceleration level of the motorcycle is to grip and twist on a handle grip. This however increases the fatigue level of the rider's wrist and hand. The art work well on automatic as well as on manual gear system.

Another way of maintaining the acceleration level of the motorcycle is to lock the grip by an external device. This however poses a potential hazard. In the event of an emergency, the rider would have to unlock before assuming control of the motorcycle.

It is an object of the present application to provide a new and an improved hand free grip-twist control for improving the user experience when using a hand free grip-twist type of control. The hand grip is a new innovation base as a retainer to hold and or stay at the desire position of the user without gripping to propel towards their desired direction.

The present application further aims to provide one or more new and useful methods for making, assembling, disassembling, installing, configuring, maintaining, repairing and using the one or more tools for the hand free grip-twist control. Essential features of the inventions are provided by one or more independent claims, whilst advantageous features are presented by their dependent claims respectively. The hand free grip-twist control to control the acceleration level works on both with and without any tension cable tethered to a cable retainer. The acceleration level stays at a position even when a hand of a rider releases his grip on the handgrip.

According to a first aspect, the present application provides a hand free grip-twist control to fixed the acceleration level of a motorcycle engine whereby a retainer hold the grip-twist stays at a position even when a hand of a rider releases his grip on the handgrip.

The hand free grip-twist control device comprises a at least retainer surrounding the handlebar. A rotating part with a grip portion along the handle for the rider to hold tight on and a retainer for retaining a grip-twist.

The hand free grip works on both with and without any tension cable. The acceleration level stays at a position even when a hand of a rider releases his grip on the handgrip.

In a first embodiment. When the rider twists the grip, the attraction force and/or repelling forces of the magnet creates a firm resistance and prevents the grip-twist from reverting to its original position when the rider’s hand is released.

The hand free grip-twist control secured to a handlebar. The cylindrical extension surrounding the handlebar. A rotating part has a retainer magnet at the cylindrical extension by rotating around the said cylindrical extension A ring material can be suck by magnet positioned at the distal end of the rotating part and connected to the cylindrical extension. The cylindrical extension having a plurality of protrusions extending from one end, the protrusions having a plurality of retaining profiles for coupling the ring, the protrusions and retaining profiles not exceeding an outer diameter of the cylindrical extension.

In a second embodiment, magnet and the ring is replaced by a circular expander install between the protrusion and the grip-twist A retaining expander preset to the holding power to retain the grip-twist at a position even when a hand of a rider off his grip on the handgrip. The magnet and the ring work as a retainer.

The second embodiment comprises grip-twist secured to the handlebar, the handlebar having the cylindrical extension surrounding the handlebar. A circular expander having a hole in the centre The expander is mounted between the grip-twist and on the cylindrical extension by rotating around the said cylindrical extension The expander is positioned at the distal end of the rotating part and connected to the cylindrical extension. The cylindrical extension having a plurality of protrusions extending from one end, the protrusions having a plurality of retaining profiles for coupling the expander, the protrusions and retaining profiles not exceeding an outer diameter of the cylindrical extension.

In the first and second embodiment, the grip-twist position is controlled by devices interacting between the, grip-twist and cylindrical extension using magnetic force and mechanical force by expander tension or frictional forces.

In a third embodiment, the control of the acceleration level at the distal end of the grip part and the magnet. The principle is to control the grip part, making it stationary when the rider’s hand is released by having the magnet disc in the grip part. This protrusion with a ring between the magnet on grip-twist When the rider twists the grip part, the magnet annular disc interacts with the protrusions on the annular ring.

The third embodiment comprises the grip-twist fixed to the handlebar, the handlebar having the cylindrical extension surrounding the handlebar. The ring part mounted on the cylindrical extension An annular magnet on at least one of its surfaces. The ring positioned connected to the cylindrical extension. The cylindrical extension having a plurality of protrusions extending from one end, the protrusions having a ring, the protrusions not exceeding an outer diameter of the cylindrical extension.

In a fourth embodiment, same function as one, second and third embodiment. Only install the retainer in the handlebar next to begin of grip-twist control; The handlebar is a round pipe having the same diameter and the grip-twist is plug in to the handlebar.

In a fifth embodiment, the grip part is long that encapsulates a longer surface area of the handlebar. The retaining profiles are between the grip-twist and the handlebar.

The subject of the present application is now explained with respect to the following Figures in which

Fig. 1 illustrates an exploded view of the fourth embodiment of the grip-twist control device having an expander on the handlebar contacted the begin part on the grip-twist.

Fig. 2 illustrates a second embodiment of the hand free grip-twist control device having a cylindrical extension with a protrusion at its end of a handlebar, at least one retainer install between the grip-twist control devise and the cylindrical extension. The retainer is an expander.

Fig. 3 illustrates a third embodiment of the hand free grip-twist control device having the annular magnet located at the grip part and the ring on the cylindrical extension.

Fig. 4 illustrates a first embodiment of the hand free grip-twist control device having a retainer between the cylindrical extension and the grip part.

Fig. 5 and 6 illustrates a fourth embodiment of the hand free grip-twist control device having a retainer at the begin of the grip part.

Fig. 7 illustrates a fifth embodiment of the hand free grip-twist control device having add the magnetic material in the grip-twist and add material can be HELD by magnet in the handlebar or add the magnetic material in the handlebar and add material can be held by magnet in the grip-twist.

In the following description, details are provided to describe the embodiments of the present specification. It shall be apparent to one skilled in the art, however, that the embodiments may be practice without these details or with other details.

Some embodiments have similar parts. The similar parts may have the same names or similar part numbers. The description of one part applies by reference to another similar part, where appropriate, thereby reducing the repetition of text without limiting the disclosure of the description.

Fig. 1 illustrates to a fourth embodiment of the present application. In particular, Fig. 1 illustrates an exploded view of the fourth embodiment of the grip-twist 1100 a handlebar, an expander 1102, a rotating part 1101.

The expander 1102 install on the handlebar at a fixed position and press on the grip-twist 1101.

The installed expander fix at the position ability to stay holding grip-twist at the same position after the user off the hand on the grip-twist.

Fig. 1 is showed one of the examples to install the expander. One of other way, by adding a stopper on the handlebar-to contacted with the expander. The stopper can preset a position to cause expander ability to stay holding grip-twist at the same desired position after the user off the hand on the grip-twist.

Fig. 2 illustrates a second embodiment of the hand free grip-twist control device. 201 the grip twist, a handlebar 200, expander 202, cylindrical extension 203 and 204 is a cylindrical extension before fix to the handlebar.

Fig. 2 is showed one of the examples to install the expander and cylindrical extension. The expander install between the grip-twist and the cylindrical extension. The cylindrical extension fixed at the desired position to force on the expander and create a stay holding ability to stay holding grip-twist at the desired same position after the user off the hand on the grip-twist.

Fig. 3 illustrates a third embodiment of hand free grip-twist control device. 301 the grip-twist, a handlebar 300, round ring can held by magnet 305, magnet 302, cylindrical extension 303 and 304 is a cylindrical extension before fix to the handlebar.

Fig. 3 is showed one of the examples to install the magnet, ring can stick by magnet and cylindrical extension. The magnet is install on the grip-twist at a fixed position and the ring install on the cylindrical extension at the fixed position. The cylindrical extension install on the end of handlebar at fixed position and make the ring contact to the magnet. The magnet held on the ring and ability to stay holding grip-twist at the same position after the user off the hand on the grip-twist.

Fig. 4 illustrates a first ~~fourth~~ embodiment of the hand free grip twist control device 401 the grip-twist, a handlebar 400, ring can held by magnet 405, magnet 402, cylindrical extension 403 and 404 is a cylindrical extension before fix to the handlebar.

Fig. 4 is showed one of the example to install the magnet, ring can stick by magnet. The magnet is fixed on the cylindrical extension and the ring install on the grip-twist next to the cylindrical extension. The cylindrical extension fixed on the end of handlebar and make the magnet contact to the ring. The ring, magnet and cylindrical extension install at a fixed position. The magnet stuck on the ring and ability to stay holding grip-twist at the same desired position after the user off the hand on the grip-twist.

Fig. 5 relates to a fourth embodiment of the hand free grip-twist control device 501 the grip-twist, a handlebar 500, ring can held by magnet 505, magnet 502.

Fig. 5 is showed one of the example to install the magnet on the grip-twist and ring can stick by magnet on the handlebar. The ring install on the handlebar at the fixed position and the magnet install on the grip-twist at the fixed position. When the grip-twist turn, the magnet turn together with the grip-twist, the ring remain in the same position.

The magnet contacted with the ring. The magnet stick to the ring and ability to stay holding grip-twist at the same position after the user off the hand on the grip-twist. The magnet and the ring work as a retainer.

Fig. 6 illustrates a fourth embodiment of hand free grip-twist control device. 601 the grip-twist, a handlebar 600, ring can held by magnet 605, magnet 602.

Fig. 6 is showed one of the example to install the ring can be held by magnet on the grip-twist and magnet on the handlebar. The magnet install on the handlebar at a fixed position and the ring install on the grip-twist at a fixed position. The magnet contacted with the ring. The magnets held to the ring and ability to stay holding grip-twist at the same position after the user off the hand on the grip-twist. The magnet and the ring work as a retainer.

Fig. 7 illustrates a fifth embodiment of hand free grip-twist control device. 701 the grip-twist, a handlebar 700.

Fig. 7 is showed a standard grip-twist and handlebar, the invention in four process. One is to add magnetic material in or on the grip-twist and add material can held by magnet in or on the handlebar. Second is add magnetic material in or on the handlebar and add material can held by magnet in or on the grip-twist. Third is use magnetic material to manufacture the grip-twist and use material can be held by magnet to make the handlebar. The fourth is use magnetic material to manufacture the handlebar and use material can be held by magnet to make the grip-twist. The four process is having the same ability, to stay holding grip-twist at the desired position after the user off the hand on the grip-twist.

The following itemized list of elements describes further embodiments of the present application.

In the application, unless specified otherwise, the terms "comprising", "comprise", and grammatical variants thereof, intended to represent "open" or "inclusive" language such that they include recited elements but also permit inclusion of additional, non-explicitly recited elements.

As used herein, the term "about", in the context of concentrations of components of the formulations, typically means +/- 5% of the stated value, more typically +/- 4% of

the stated value, more typically +/- 3% of the stated value, more typically, +/- 2% of the stated value, even more typically +/- 1% of the stated value, and even more typically +/- 0.5% of the stated value.

Throughout this disclosure, certain embodiments may be disclosed in a range format. The description in range format is merely for convenience and brevity and should not be construed as an inflexible limitation on the scope of the disclosed ranges. Accordingly, the description of a range should be considered to have specifically disclosed all the possible sub-ranges as well as individual numerical values within that range. For example, description of a range such as from 1 to 6 should be considered to have specifically disclosed sub-ranges such as from 1 to 3, from 1 to 4, from 1 to 5, from 2 to 4, from 2 to 6, from 3 to 6 etc., as well as individual numbers within that range, for example, 1, 2, 3, 4, 5, and 6. This applies regardless of the breadth of the range.

It will be apparent that various other modifications and adaptations of the application will be apparent to the person skilled in the art after reading the foregoing disclosure without departing from the spirit and scope of the application and it is intended that all such modifications and adaptations come within the scope of the appended claims.

Reference Numerals

1101,201,301,401,501,601,701	grip-twist
305,405,505,605	ring
203,303,403	cylindrical extension
302,402,502,602	annular magnet
1102,202	expander
204,304,404	cylindrical extension before install to the handlebar

CLAIMS

1. A hand free grip-twist control device for mounting in a grip region of a handlebar, which comprises:
   - a retainer proximal between a grip part distal to the handlebar.
   - The user turn the grip-twist control rotating part to the desired control on the acceleration level.
   - The retainer part ability to stay holding grip-twist rotating part at the same position after the user off the hand on the grip-twist.

2. The hand free grip-twist control device of claim 1, wherein a grip-twist is fixed to a handlebar, the grip-twist–having a cylindrical extension surrounding the handlebar.

3. The hand free grip-twist control device of claimed in claim 1 and 2, wherein a retainer positioned at the distal end of the grip-twist rotating part and connected to the cylindrical extension. The retainer part ability to stay holding grip-twist rotating part at the same position after the user off the hand on the grip-twist.

4. The hand free grip-twist control device of claim 1, wherein the cylindrical extension having a plurality of protrusions extending from one end, the protrusions having a plurality of retaining profiles for coupling the distal end of the grip-twist rotating part, the protrusions and retaining profiles not exceeding an outer diameter of the cylindrical extension.

5. The hand free grip-twist control device of claimed in claims 1 to 4, wherein a retainer designed in 2 parts. One part is a ring made by material can hold by magnet. The second part is a magnet.

6. The hand free grip-twist control device of claimed in claim 1 and 5, wherein the retaining profiles ring installed at the surface of the protrusion to contact to the magnet and the magnet install at the end part of the grip-twist are capable of being joined and released to the securing profiles on the ring.

7. The hand free grip-twist control device of claimed in claim 1 and 5, wherein the retaining profiles magnet disk installed at the surface of the protrusion to contact to the ring and the ring install at the end part of the grip-twist.

8. The hand free grip-twist control device of claimed in claim 1 to 4, wherein the retaining profiles designed work as an expander.

9. The hand free grip-twist control device of claimed in claim 1 to 4 and 8 wherein the expander install between the grip-twist control rotating part and the cylindrical extension.

10. The hand free grip-twist control device of claimed in claim 8. The expander can force to compress on any side, when the force going off. The expander will be expanding. When expanding will become a holding energy force for both surface contact with the expander.

11. The hand free grip-twist control device of claimed in claim 8 and 10. The expander installed between the end of grip-twist control rotating part and the beginning part of the protrusion and set the force enough to hold the grip-twist control rotating part at the same position after user hand off from turning the grip-twist.

12. The hand free grip-twist control device of claimed in claim 1, 5 and 9. The retainer can install in other part of equipment that connected and control by the grip-twist to hold the grip-twist at the same position after the user off from the grip-twist control.

Abstract

A HAND FREE GRIP-TWIST CONTROL

A hand free grip-twist control device for mounting in a grip region of a handlebar that includes a magnet, an annular disc, a rotating part and a ring position in the rotating part. The grip-twist control device includes a cylindrical extension and a retainer. The retainer is mounted on the cylindrical extension. The cylindrical extension encompasses a plurality of protrusions with a plurality of retaining profiles extending at one end of the cylindrical extension for connecting to the ring. The connection between the cylindrical extension and the ring is releasable.