



Accessory Fitting Instructions

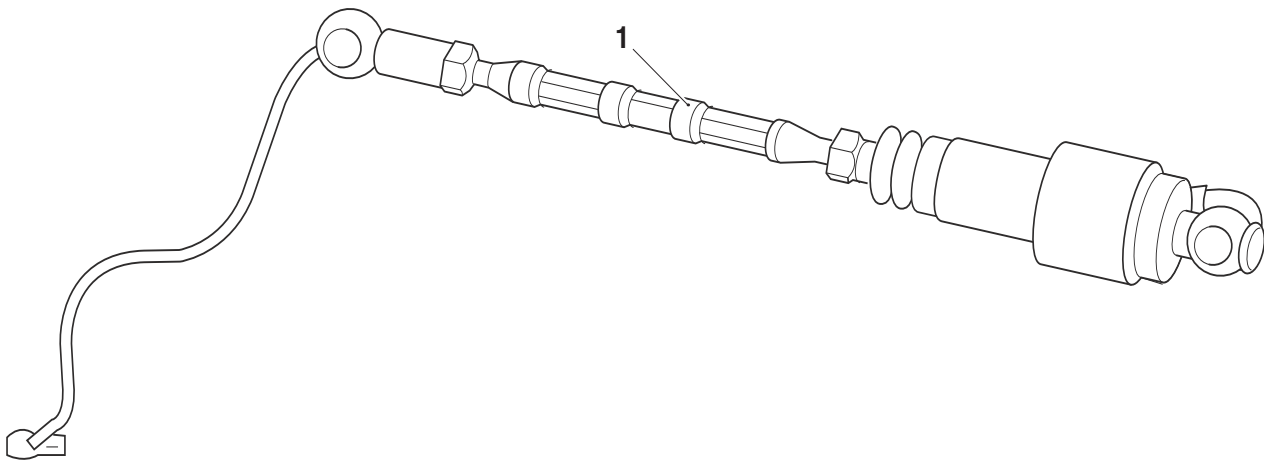
Triumph Shift Assist (TSA) Kit	
Kit Number	Models Affected
A9770199	Tiger 1200 GT

Thank you for choosing this Triumph genuine accessory kit. This accessory kit is the product of Triumph's use of proven engineering, exhaustive testing, and continuous striving for superior reliability, safety and performance.

Completely read all of these instructions before commencing the installation of the accessory kit in order to become thoroughly familiar with the kit's features and the installation process.

These instructions should be considered a permanent part of your accessory kit, and should remain with it even if your accessory equipped motorcycle is subsequently sold.

Parts Supplied



1. Shift assist unit	1 off		
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Warning

Fit only genuine Triumph accessories to those models approved by Triumph as listed in the associated Triumph fitting instructions. The accessory kits covered in this instruction are designed for use on specific models of Triumph motorcycle. The accessory kits and the models applicable are listed at the start of the instruction. They should never be fitted to any other Triumph model or to any other manufacturer's motorcycle. Fitting an accessory kit to a Triumph model not listed, or to any other manufacturer's motorcycle will affect the performance, stability and handling of the motorcycle. This may affect the rider's ability to control the motorcycle and could result in an accident causing severe injuries or death.



Warning

Always have Triumph approved parts, accessories and conversions fitted by a trained technician of an authorised Triumph dealer. The fitment of parts, accessories and conversions by a technician who is not of an authorised Triumph dealer may affect the handling, stability or other aspects of the motorcycle's operation which may result in loss of motorcycle control and an accident.



Warning

Throughout this operation, make sure that the motorcycle is stabilised and adequately supported to prevent risk of injury from the motorcycle falling.



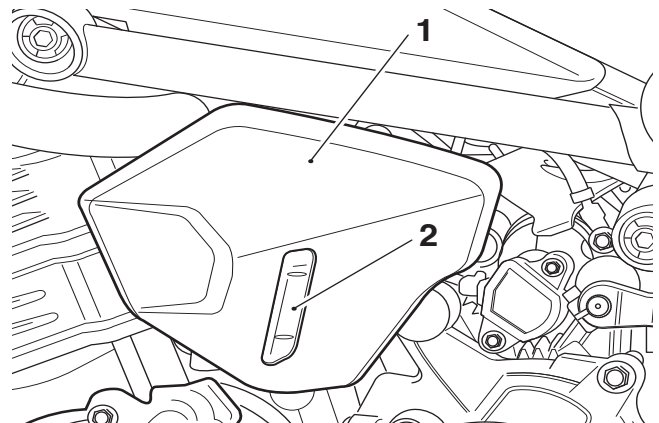
Warning

A torque wrench of known accurate calibration must be used when fitting this accessory kit. Failure to tighten any of the fasteners to the correct torque specification may affect motorcycle performance, handling and stability. This may result in loss of motorcycle control and an accident.

Note:

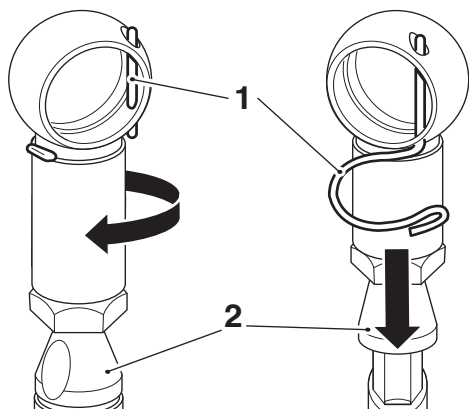
- Triumph offers a broad range of approved genuine accessories for your motorcycle. We cannot therefore cover all possible equipment variations in these instructions. For removal and installation of Triumph Genuine Accessories, always refer to the instructions supplied with the respective accessory kit. To obtain additional copies of any Triumph accessory instructions, visit www.triumphinstructions.com or contact your authorised Triumph dealer.

1. Remove the rider and passenger seats as described in the Service Manual.
2. Disconnect the battery as described in the Service Manual.
3. Remove the coolant expansion tank cover as described in the Service Manual.
4. Remove the fixings mounting the coolant expansion tank to allow access behind the tank. Make sure the coolant expansion tank is sufficiently supported and is not hanging from the coolant hoses.



1. Coolant expansion tank cover
2. Coolant expansion tank

5. Remove the upper and lower retaining clips from the gear change rod on the motorcycle, retain the clips for reuse.



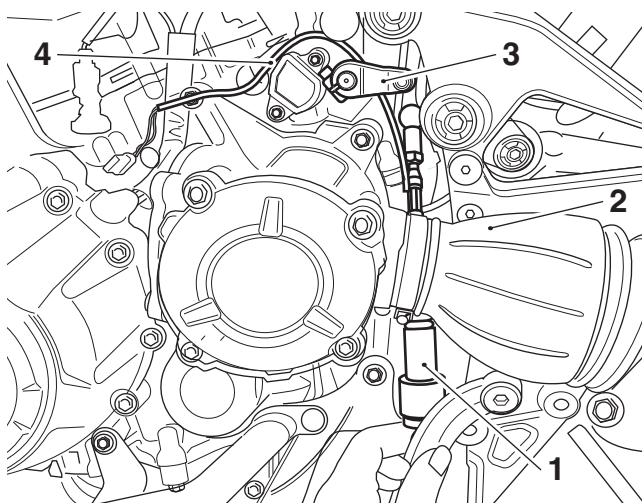
1. Retaining clip
2. Gear change rod



Caution

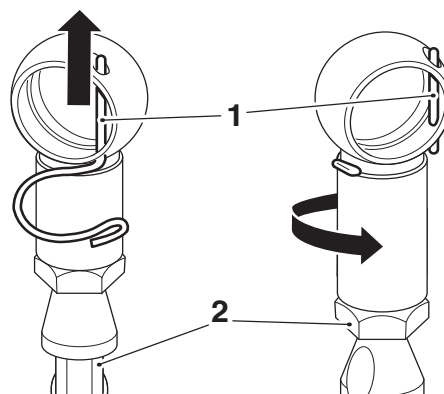
It may be difficult to remove the ball joints from the original gear selector rod. Do not use excessive force. If necessary, apply a releasing oil to the ball joints to aid removal.

6. Push the top and bottom self-retaining ball joints of the gear change rod towards the motorcycle to release the gear change rod from the motorcycle. Retain the gear change rod for reuse if the motorcycle is to be returned to its original condition.
7. Feed the shift assist unit and harness behind the drive shaft, narrow end first. The harness should be positioned facing into the motorcycle and be routed behind the upper gear change clamp, as shown.



1. Shift assist unit
2. Drive shaft
3. Upper gear change clamp
4. Harness

8. Push the upper and lower shift assist unit joints onto the ball joints on the upper gear change clamp and the gear pedal. The parts should click into place when correctly assembled.
9. Refit the upper and lower retaining clips to the shift assist unit. The fitting procedure for the clips is the opposite to the removal procedure.



1. Retaining clip
2. Gear change rod

Note:

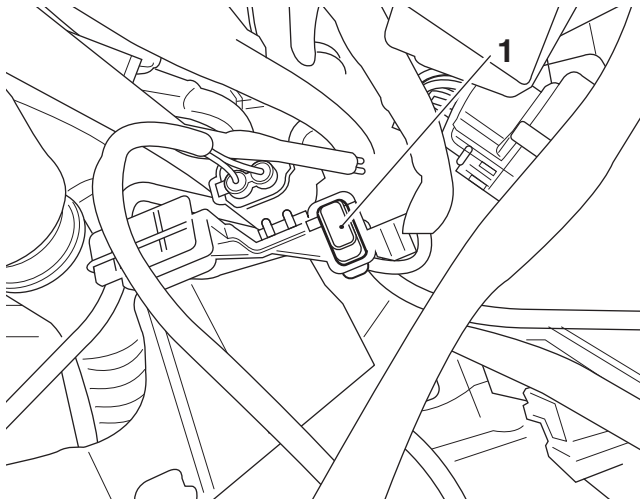
- The shift assist unit is the same length as the standard fit gear change rod, resulting in the same gear pedal height as the standard motorcycle. If it is necessary to adjust the gear pedal angle at any point after fitting the shift assist unit, please refer to Adjusting the Gear Pedal Angle.



Caution

Blanking plugs are fitted to the harness electrical connectors to prevent water ingress. If the blanking plugs are removed for any reason, they should always be refitted. The harness electrical connectors should never be left exposed without the blanking plugs fitted as this may lead to a malfunction, or premature failure of components.

10. Locate the shift assist main harness connector behind the coolant expansion tank and remove the blanking plug.



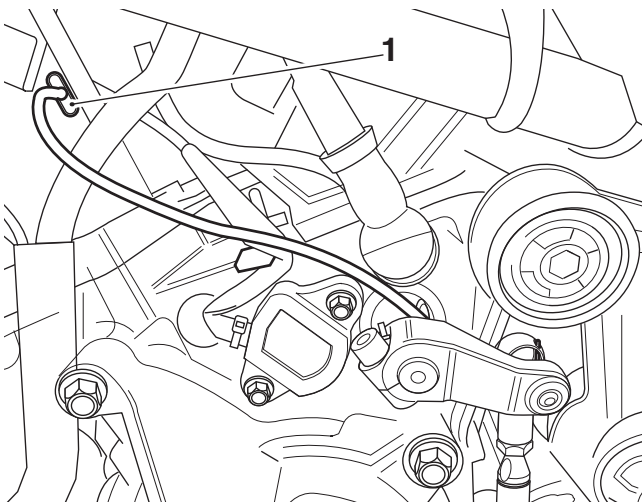
1. Blanking plug



Caution

A wiring harness which becomes trapped or kinked during installation, or general motorcycle operation, may result in wiring harness damage and electrical malfunctions.

11. Connect the shift assist unit connector to the main harness connector. The shift assist unit harness should route directly to the main harness connector, as shown. Make sure the main harness connector is still retained in the bracket on the motorcycle.



1. Shift assist unit harness and connector

12. Refit the radiator expansion tank and cover as described in the Service Manual.
13. Re-connect the battery as described in the Service Manual.
14. Refit the rider and passenger seats as described in the Service Manual.
15. Enable the TSA using the Triumph Diagnostic Tool, as described below.
 - Connect the Triumph diagnostic tool to the motorcycle and turn the ignition ON.
 - Make sure the Engine Stop switch is in the RUN position.
 - Enable TSA on the engine ECM:
 - Navigate to Diagnostics - Engine ECM - Adjust.
 - Select Enable/Disable Triumph Shift Assist.
 - Click **Start** then click the **Enable** button.
 - Return to the Main Menu.
 - Enable the TSA on the instruments:
 - Navigate to Diagnostics - Instruments - Display.
 - In the Enable/Disable Triumph Shift Assist menu item, use the drop down menu to select **Enabled**, then click the **Set** button to store the setting.
 - Disconnect the diagnostic tool.
16. Start the engine and allow it to idle for several seconds to allow adoption of the shift force sensor.
17. Ride the motorcycle for 10 seconds in each gear to enable the gear position sensor to adapt. The adaption status can be checked using the Triumph Diagnostic Tool.
18. Reconnect the diagnostic tool and check that the shift force sensor and gear positions have adapted:
 - Navigate to Diagnostics - Engine ECM - Sensor Data.
 - Select Gear Position Adaption and check that the Neutral Position Adaption and Gear Position Adaption status reports as **Adapted**.
 - Select Triumph Shift Assist Adaption and check that the Shift Force Sensor Adaption status reports as **Adapted**.
 - Disconnect the diagnostic tool.

Triumph Shift Assist will need re-enabling via the instruments if:

- The battery is disconnected.
- The instruments software is updated.

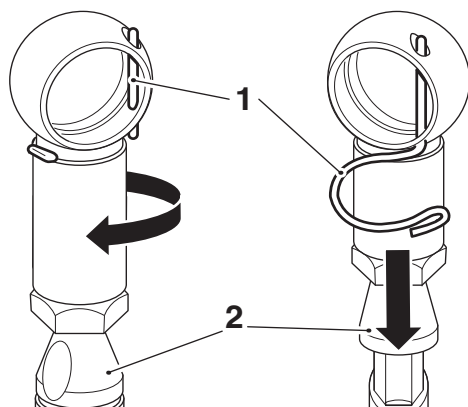
To re-enable the TSA via the instruments, go to the Motorcycle Setup menu, select TSA and select Enable.

Note:

- **If it is necessary to adjust the gear pedal angle at any point after fitting the shift assist unit, please refer to Adjusting the Gear Pedal Angle.**

Adjusting the Gear Pedal Angle

19. Unplug the shift assist unit connector from the main harness connector and release the cable.
20. Remove the upper and lower retaining clips from the shift assist unit rod on the motorcycle, retain the clips for reuse.



1. Retaining clip
2. Gear change rod

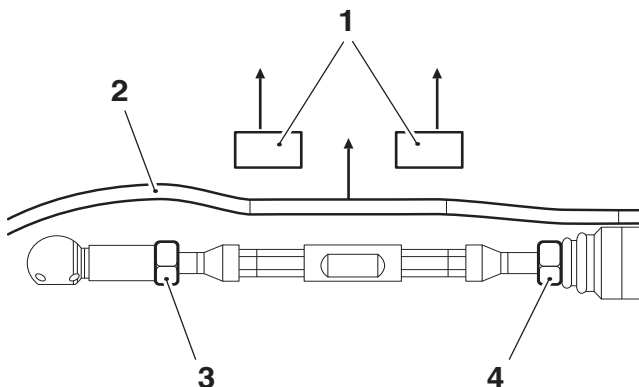


Caution

It may be difficult to remove the ball joints. Do not use excessive force. If necessary, apply a releasing oil to the ball joints to aid removal.

21. Push the top and bottom self-retaining ball joints of the shift assist unit rod towards the motorcycle to release the shift assist assembly from the motorcycle.

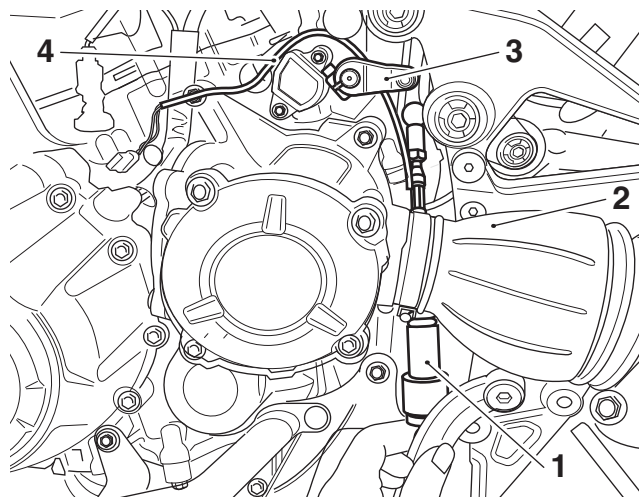
22. Remove the harness clips and carefully pull the shift assist unit harness from the groove in the shift assist unit rod.



1. Harness clip
2. Shift assist unit harness
3. Nut 1
4. Nut 2

Note:

- **Nut 2 is left hand thread.**
23. Loosen the nuts 1 and 2.
 24. Turn the shift assist unit rod clockwise to increase the rod length and anticlockwise to reduce the rod length.
 25. Feed the shift assist unit and harness behind the drive shaft, narrow end first. The harness should be positioned facing into the motorcycle and be routed behind the upper gear change clamp, as shown.



1. Shift assist unit
2. Drive shaft
3. Upper gear change clamp
4. Harness

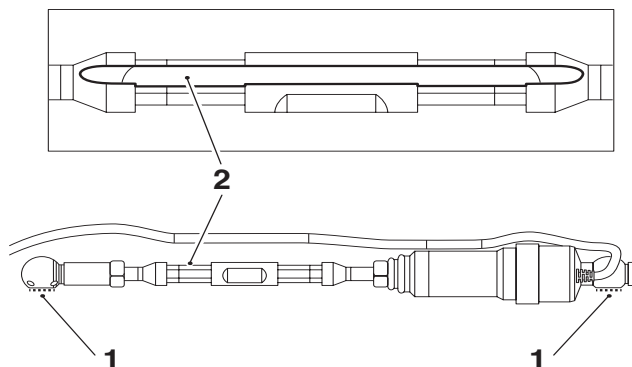
26. Push the upper and lower shift assist unit joints onto the ball joints on the upper gear change clamp and the gear pedal. The parts should click into place when correctly assembled.



Caution

It may be difficult to remove the ball joints. Do not use excessive force. If necessary, apply a releasing oil to the ball joints to aid removal.

27. Remove the shift assist assembly again, as described in step 21.
28. Repeat steps 23 to 26 until the required gear pedal angle is achieved.
29. When the gear pedal angle has been adjusted to the required position, remove the shift assist assembly as described in step 21.
30. With the shift assist unit removed from the motorcycle, check that both ball joints align and the groove in the shift assist unit rod is opposite to the ball joints after adjustment.

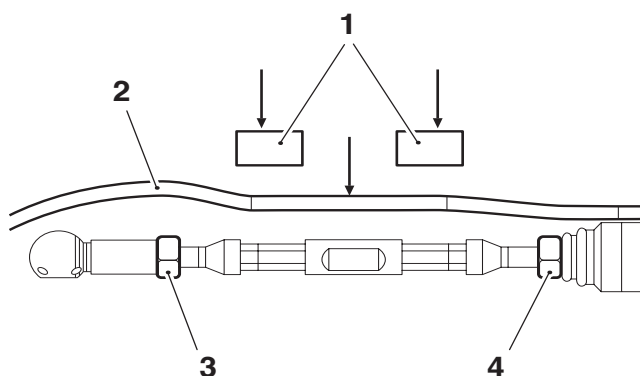


1. Ball joints aligned
2. Shift assist unit rod groove

Note:

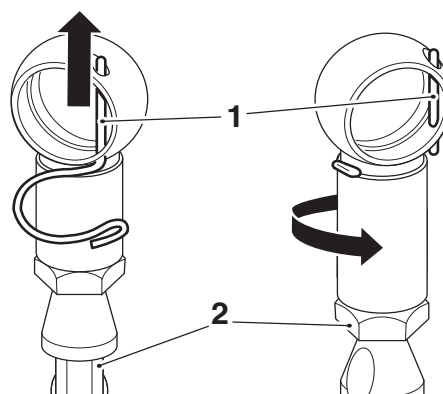
- If the ball joints do not align with each other, the rod can be rotated in the sensor housing while the lock nuts are tight to re-align the ball joints without increasing the length of the assembly. However, care must be taken to make sure the harness groove position is still correct.

31. Carefully push the shift assist unit harness back into the groove in the shift assist unit rod, and secure with the harness clips.



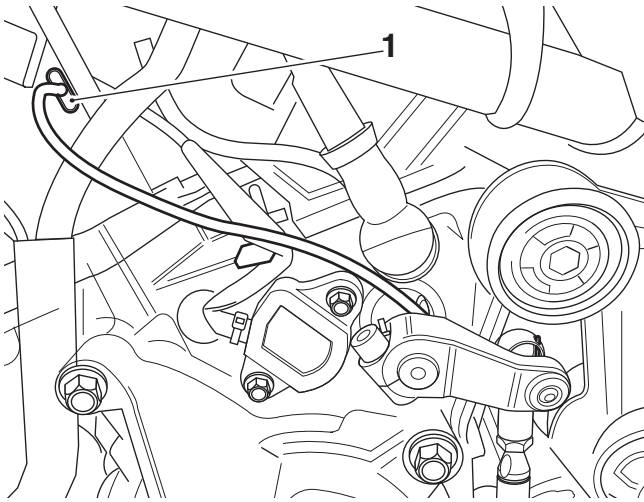
1. Harness clip
2. Shift assist unit harness
3. Nut 1
4. Nut 2

32. Tighten nuts 1 and 2 to **6 Nm**.
33. Repeat steps 25 and 26.
34. Refit the upper and lower retaining clips to the shift assist unit. The fitting procedure for the clips is the opposite to the removal procedure.



1. Retaining clip
2. Gear change rod

35. Connect the shift assist unit connector to the main harness connector. The shift assist unit harness should route directly to the main harness connector, as shown. Make sure the main harness connector is still retained in the bracket on the motorcycle.



1. Shift assist unit harness and connector

Operational Instructions:



Caution

In the event of a TSA system fault when riding, the TSA system will be disabled.

Use the clutch to change gears in the normal way otherwise damage to the engine or gear box may occur.

Contact a Triumph dealer as soon as possible to have the fault checked and rectified.



Caution

Changing gears must be completed with a quick and forceful pedal movement, making sure that the pedal moves through its full range of travel.

Always take care when changing gears. After a gear change, the pedal must be fully released before another gear change can be made.

Incorrect gear changes can cause damage to the engine and transmission.

Triumph Shift Assist (TSA) adjusts the engine torque to allow gears to engage, without closure of the throttle twist grip or operation of the clutch.

TSA is not an automatic system for changing gears. Gears must be selected and changed in the normal way using the gear pedal as described in the Changing Gears section in the Owner's Handbook.

TSA works for both up shifts and down shifts of gear. The clutch must be used for stopping and pulling away. The clutch must be used when selecting any gear from neutral, and also when selecting neutral from any other gear.

Triumph Shift Assist will not operate if:

- The clutch is applied.
- An up shift is attempted by mistake when in 6th gear.
- A down shift is attempted by mistake when in 1st gear.
- An up shift is attempted at very low engine speeds.
- A down shift is attempted at very high engine speeds.
- An up shift is attempted during overrun.
- The vehicle speed limiter is active.
- Cruise control is active.
- Traction control is operating.
- If the previous gear has not fully engaged.
- The throttle is changed during a shift.

If TSA does not operate, the clutch can be used to change gears in the normal way.

For more information on enabling and disabling the Triumph Shift Assist functionality, see the Triumph Shift Assist section in the Instrument chapter of the Owner's Handbook.



Warning

If, after fitting this accessory kit, you have any doubt about the performance of any aspect of the motorcycle, contact an authorised Triumph dealer and do not ride the motorcycle until the authorised dealer has declared it fit for use. Riding a motorcycle when there is any doubt as to any aspect of the performance of the motorcycle may result in loss of motorcycle control and an accident.



Warning

Never ride an accessory-equipped motorcycle at speeds above 80 mph (130 km/h).

The presence of accessories will cause changes in the stability and handling of the motorcycle. Failure to allow for changes in motorcycle stability may result in loss of motorcycle control and an accident.

Remember that the 80 mph (130 km/h) limit will be reduced by the fitting of non-approved accessories, incorrect loading, worn tyres, overall motorcycle condition and poor road or weather conditions.



Warning

The motorcycle must not be operated above the legal road speed limit except in closed-course conditions.



Warning

Only operate this Triumph motorcycle at high speed in closed-course, on-road competition or on closed-course racetracks. High-speed operation should only be attempted by riders who have been instructed in the techniques necessary for high-speed riding and are familiar with the motorcycle's characteristics in all conditions.

High-speed operation in any other circumstances is dangerous and may result in loss of motorcycle control and an accident.