



Accessory Fitting Instructions

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.

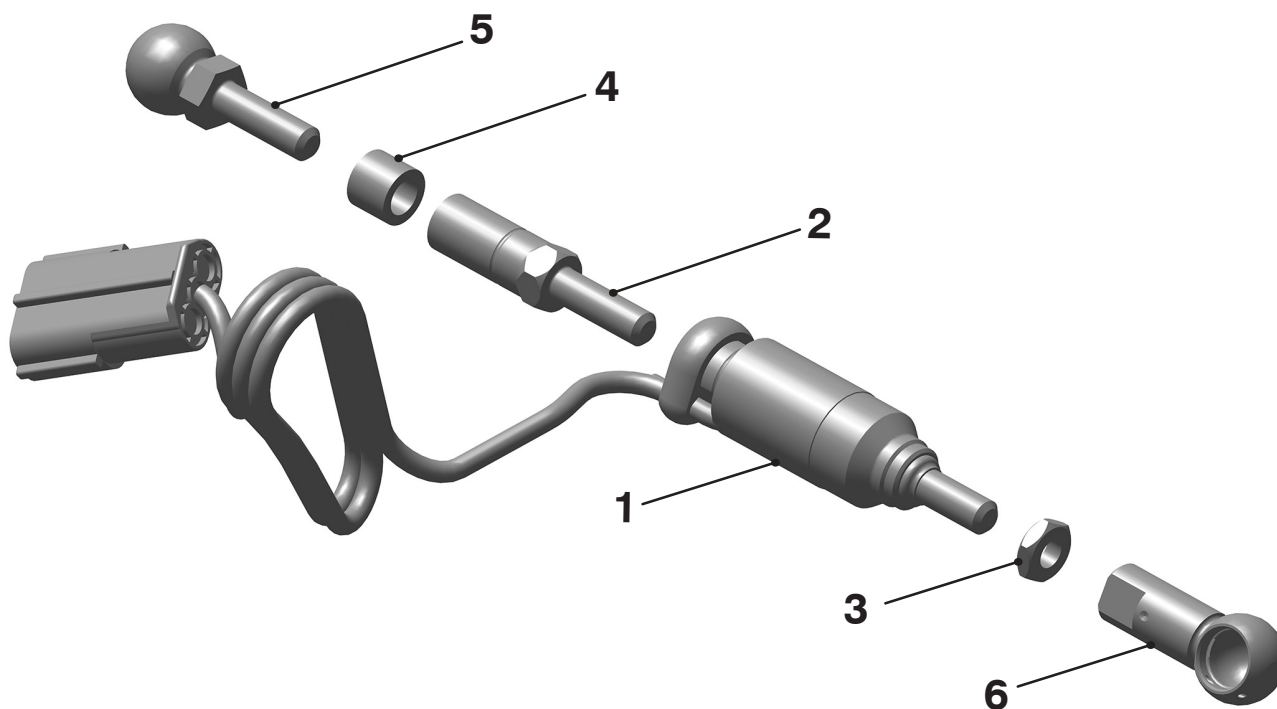
Completely read all of these instructions before commencing the installation of the accessory kit in order to become thoroughly familiar with the kit's features and the installation process.

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.

TSA (Triumph Shift Assist) Kit	
Kit Number	Models
A9778507	Rocket 3 R, Rocket 3 GT, Rocket 3 GT Triple Black, Rocket 3 R Black
TSA kit A9778507 must only be used with the appropriate accessory Gear Pedal Kit listed below, and cannot be used with the original gear pedal fitted to the motorcycle.	
A9778833	Rocket 3 R, Rocket 3 R Storm, Rocket 3 GT, Rocket 3 GT Storm, Rocket 3 GT Triple Black, Rocket 3 R Black
On motorcycles up to VIN AC6814, TSA kit A9778833 must be used with the appropriate accessory Gear Pedal Kit listed below.	
On motorcycles from VIN AC6815, TSA kit A9778833 can be used with the original gear pedal fitted to the motorcycle following the steps in this instruction.	
Gear Pedal Kit	
A9770224, A9770301	Rocket 3 GT
A9770225, A9770302	Rocket 3 R
A9770231	Rocket 3 GT Triple Black
A9770232	Rocket 3 R Black

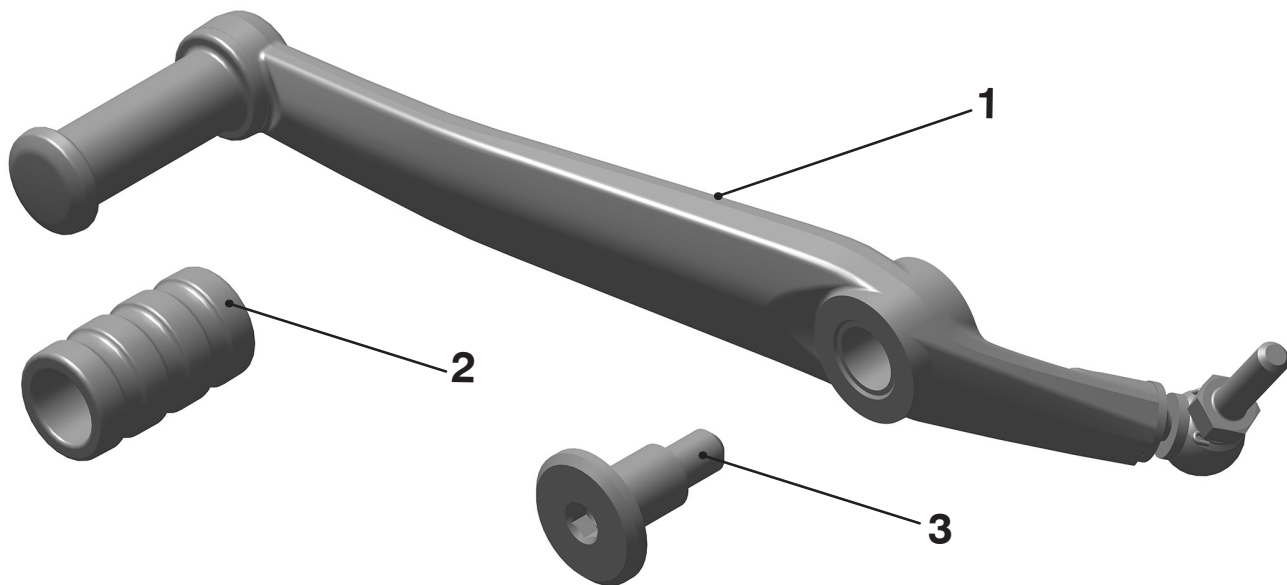
Parts supplied

A9778507, A9778833



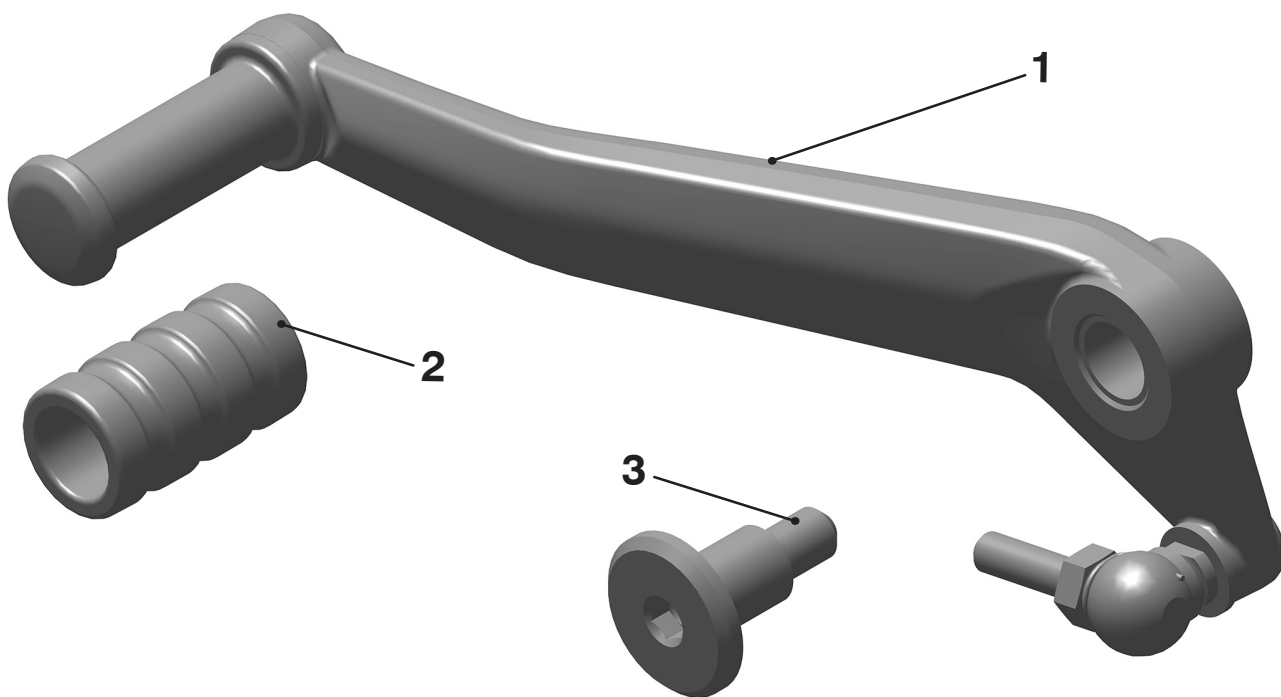
1. TSA sensor	1 off	5. Ball joint, male (left hand thread), A9778833 only	1 off
2. Extension rod	1 off	6. Ball joint, female (left hand thread), A9778833 only	1 off
3. Lock nut, M6 (left hand thread)	1 off	7. Cable tie	1 off
4. Spacer	1 off		

A9770224, A9770301, A9770231



1. Gear pedal assembly	1 off	3. Pivot bolt	1 off
2. Rubber, gear change pedal	1 off		

A9770225, A9770302, A9770232



1. Gear pedal assembly	1 off	3. Pivot bolt	1 off
2. Rubber, gear change pedal	1 off		

⚠ 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.

Failure to follow the advice above may lead to loss of motorcycle control which could result in serious injury or death.

⚠ WARNING

Always have Triumph approved parts, accessories and conversions fitted by a competent person with the specialist knowledge and technical understanding of motorcycles, such as an authorised Triumph dealer.

The fitment of parts, accessories and conversions by a person without the specialist knowledge and technical understanding of motorcycles may affect the handling, stability or other aspects of the motorcycle's operation.

Failure to follow the advice above may lead to loss of motorcycle control which could result in serious injury or death.

⚠ 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.

Failure to follow the advice above may lead to loss of motorcycle control which could result in serious injury or death.

⚠ WARNING

Make sure the motorcycle is stabilised and adequately supported.

Do not support the motorcycle on any ancillary component, the exhaust system or any other non structural parts of the motorcycle frame.

A correctly supported motorcycle will help prevent it from falling.

An unstable motorcycle may fall resulting in motorcycle damage, serious injury or death.

NOTICE

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.

Fitment of TSA kit

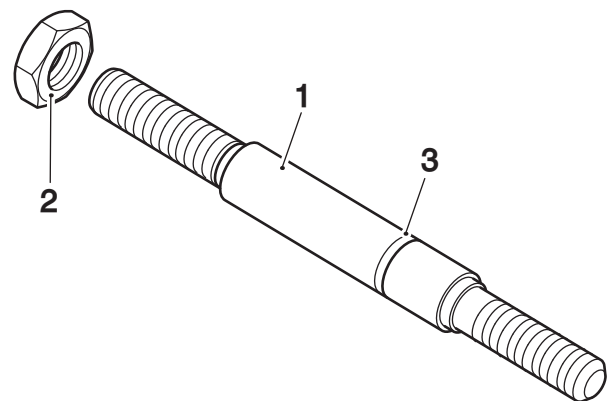
All Models

1. Remove the rider and passenger seat, as described in the Service Manual.
2. Disconnect the battery, as described in the Service Manual.
3. Remove the original gear selector rod from the motorcycle.

NOTICE

The left hand threaded end of the selector rod is identified by a machined ring on the gear selector rod.

4. Remove the right hand threaded lock nut from the selector rod. Retain the gear selector rod for reuse if the motorcycle is to be returned to its original condition. Retain the lock nut for reuse.



1. Selector rod
2. Lock nut, right hand thread
3. Machined ring, left hand thread identification

Models up to VIN AC6814 Only

5. Remove the gear pedal as described in the Service Manual. Retain the gear pedal for reuse if the motorcycle is to be returned to its original condition. Discard the pivot bolt.

NOTICE

The method of fitting an accessory gear pedal is the same as that for the original gear pedal.

Rocket 3 GT use A9770224, A9770301

Rocket 3 R use A9770225, A9770302

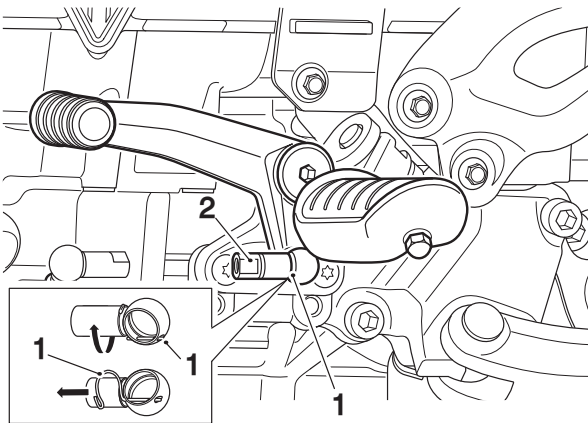
Rocket 3 GT Triple Black use A9770231

Rocket 3 R Black use A9770232

6. Fit the gear pedal and pivot bolt from the appropriate accessory kit, as described in the Service Manual.
7. Fit the gear pedal rubber from the kit on to the gear pedal.

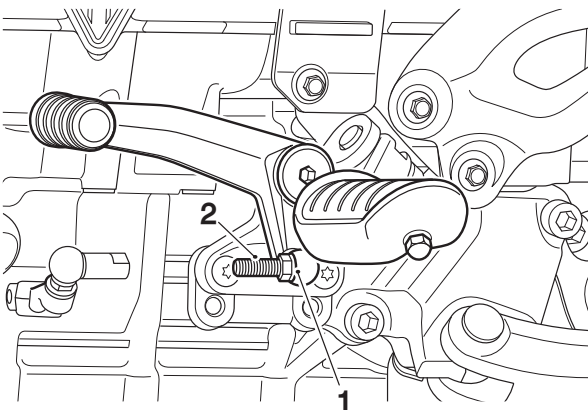
Models from VIN AC6815 Only

8. Remove the wire clip and outer section of the ball joint from the ball joint fitted to the gear pedal. Retain the wire clip for reuse. Retain the outer section of the ball joint for reuse if the motorcycle is to be returned to its original condition.



1. Ball joint, outer section
2. Wire clip

9. Fit the male left hand threaded ball joint from the TSA kit on to the ball joint on the gear pedal and secure with the original wire clip.



1. Ball joint, male left hand thread
2. Wire clip

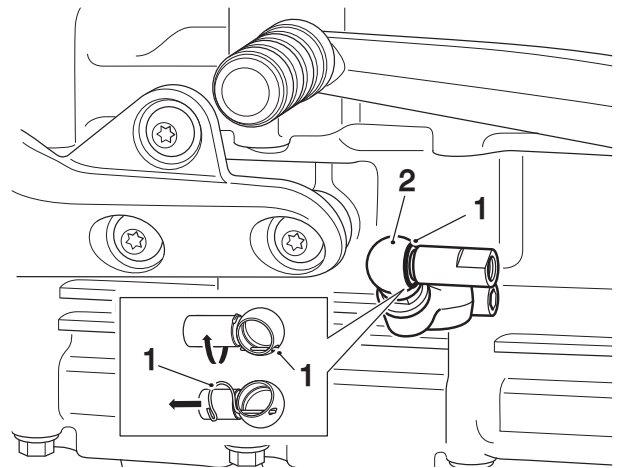
All Models

NOTICE

If the TSA kit contains a right hand threaded female ball joint, follow steps 10 and 11.

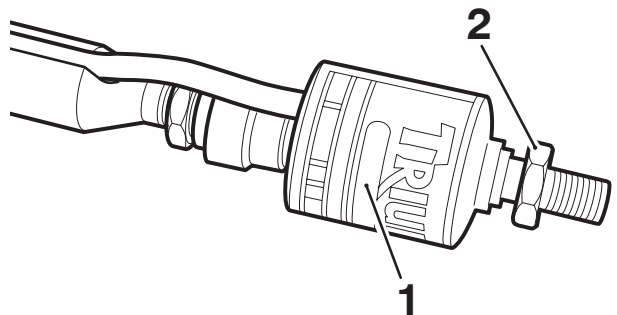
If the TSA kit does not contain a right hand threaded female ball joint, continue from step 12.

10. Remove the wire clip and outer section of the ball joint from the ball joint fitted to the gear change clamp on the engine. Retain the wire clip for reuse. Retain ball joint outer section for reuse if the motorcycle is to be returned to its original condition.



1. Ball joint, outer section
2. Wire clip

11. Fit the female right hand threaded outer ball joint from the TSA kit, where supplied, to the ball on the gear change clamp on the engine and secure with the original wire clip.
12. Remove the plastic end cap from the TSA sensor.
13. Screw the original right hand threaded lock nut fully onto the TSA sensor, as shown.



1. TSA sensor
2. Lock nut, right hand thread

Rocket 3 R Models, Rocket 3 R Black Only

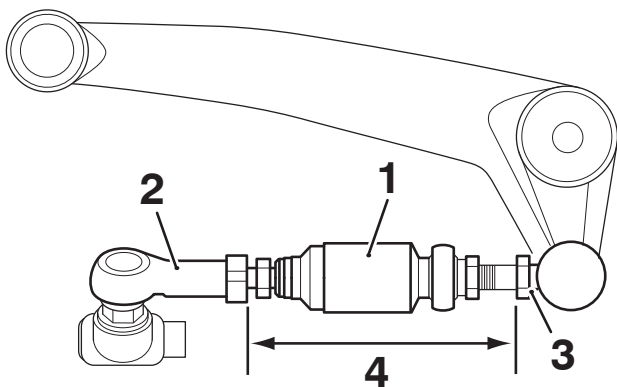
14. Fit the left hand threaded lock nut from the TSA kit fully on to the gear pedal ball joint.

NOTICE

The gear clamp ball joint has a right hand thread. The gear pedal ball joint has a left hand thread.

Make sure the TSA sensor cable is positioned at the top of the assembly when the adjustment below is completed.

15. Fit the TSA sensor to the gear pedal and gear clamp ball joints in the orientation shown.
16. By turning the TSA sensor adjust the length of the TSA assembly until the measurement between the ball joints shown below is as follows; If steps 10 and 11 were not completed the measurement between the ball joints should be **67.1 mm**. If steps 10 and 11 were completed the measurement between the ball joints should be **70.1 mm**.



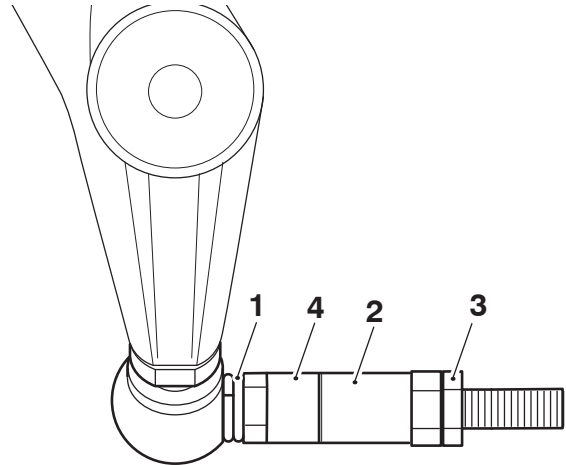
1. TSA sensor
2. Gear clamp ball joint (right hand thread)
3. Gear pedal ball joint (left hand thread)
4. Measurement between the ball joints

17. Tighten the lock nut on the gear pedal ball joint (left hand thread) against the TSA sensor body to **6 Nm**.

18. Tighten the lock nut (right hand thread) against the gear clamp ball joint to **6 Nm**.

Rocket 3 GT, Rocket 3 GT Triple Black Models Only

19. Collect the TSA extension rod, spacer and left hand threaded lock nut from the kit.
20. Fit the left hand threaded lock nut fully on to the extension rod.
21. Fit the spacer from the kit and screw the TSA extension rod fully on to the gear pedal ball joint, as shown.



1. Gear pedal ball joint (left hand thread)
2. TSA extension rod
3. Lock nut, left hand thread
4. Spacer

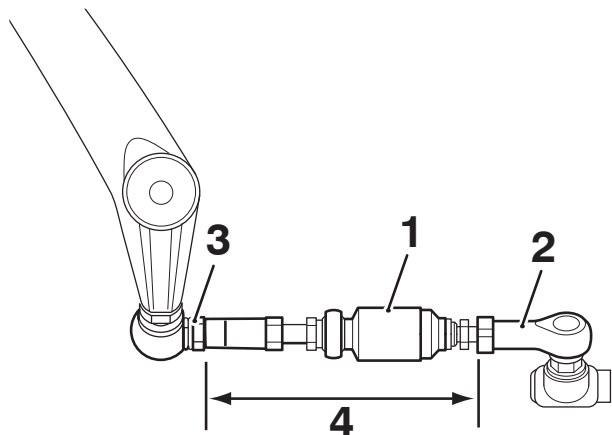
NOTICE

The gear clamp ball joint has a right hand thread. The gear pedal ball joint has a left hand thread.

Make sure the TSA sensor cable is positioned at the top of the assembly when the adjustment below is completed.

22. Fit the TSA sensor to the gear pedal extension rod and gear clamp ball joints in the orientation shown.

23. By turning the TSA sensor adjust the length of the TSA assembly until the measurement between the ball joints shown below is as follows; If steps 10 and 11 were not completed the measurement between the ball joints should be **96.9 mm**. If steps 10 and 11 were completed the measurement between the ball joints should be **99.9 mm**.

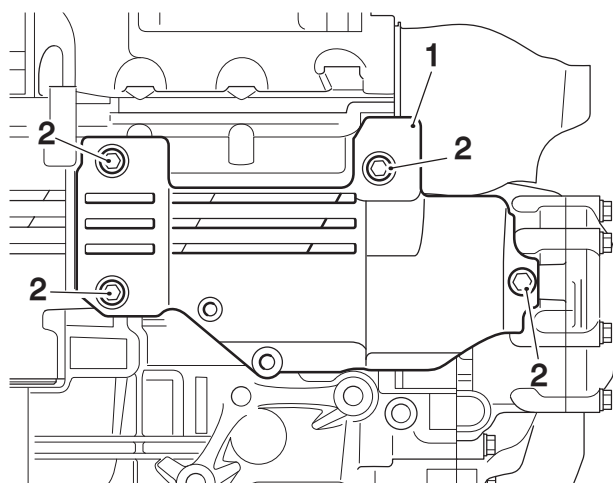


1. TSA sensor
2. Gear clamp ball joint
3. Gear pedal ball joint
4. Measurement between the ball joints

24. Tighten the extension rod lock nut (left hand thread) against the TSA body to **6 Nm**.
25. Tighten the lock nut (right hand thread) against the gear clamp ball joint to **6 Nm**.

All Models

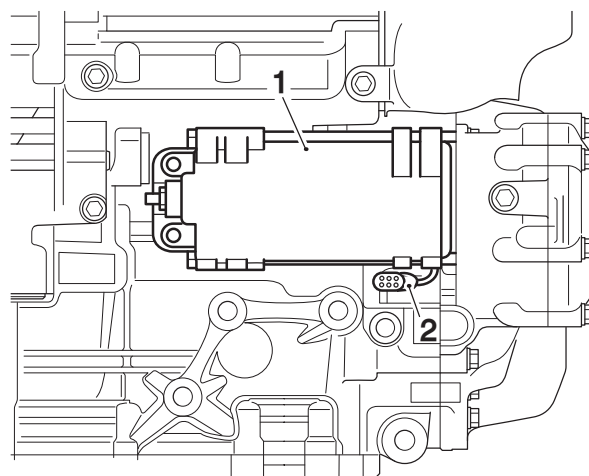
26. Remove the starter motor cover from the left hand side of the motorcycle. Retain the starter motor cover and fixings for reuse.



1. Starter motor cover
2. Fixings

NOTICE

The main harness connector for the TSA sensor is located in the area behind the bottom of the starter motor.



1. Starter motor
2. TSA main wiring harness connector

NOTICE

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

27. Route the TSA sensor cable through the motorcycle frame to the area behind the bottom of the starter motor.
28. Remove the blanking plug from the main harness connector and plug in the TSA sensor cable connector.
29. Make sure there is not excessive TSA sensor cable extending to the outside of the motorcycle, any excess cable should be tucked into the area behind the starter motor and retained with the cable tie from the TSA kit.
30. Refit the starter motor cover with the original fixings. Tighten the fixings to **9 Nm**.
31. Reconnect the battery, as described in the Service Manual.
32. Refit the seat, as described in the Service Manual.

Adjusting the Gear Pedal Angle

If it is necessary to adjust the gear pedal angle at any point after fitting the TSA, follow the steps below.

NOTICE

When adjusting the gear pedal angle do not remove the TSA ball joints from either the transmission linkage or foot control.

If the ball joints are removed from either the transmission linkage or foot control when adjusting the gear pedal angle, the adjustment setting of the TSA assembly could be compromised which may result in a TSA malfunction.

33. Remove the seat.
34. Disconnect the battery as described in the Service Manual.
35. Remove the starter motor cover.
36. Unplug the TSA connector from the main harness connector and release the cable.
37. Loosen both lock nuts on the TSA assembly.
38. Turn the TSA assembly to achieve the desired pedal angle. Note, the TSA assembly must be turned in complete revolutions to ensure the TSA cable is positioned at the top.
39. Tighten the lock nut on the gear pedal ball joint/extension rod (left hand thread) against the TSA sensor body to **6 Nm**.
40. Tighten the lock nut (right hand thread) against the gear clamp ball joint to **6 Nm**.
41. Repeat steps 26 to 32.

Enabling and Adjusting the Triumph Shift Assist

NOTICE

The Triumph Shift Assist must be enabled first, then the shift pattern adjusted to suit the type of foot controls fitted using the Triumph diagnostic software.

1. Connect the Triumph diagnostic tool and turn the ignition ON.
2. Make sure the engine stop switch is in the RUN position.
3. Navigate to 'ENGINE DIAGNOSTICS - Adjust'.
4. Select 'Enable/Disable Triumph Shift Assist'.
5. Click 'Start', then click 'Enable'.
6. Navigate back to 'ENGINE DIAGNOSTICS - Adjust'.
7. Select 'Adjust Shift Force sensor shift pattern'.
8. Click 'Start', then select the foot control type fitted: 'Forward mounted foot controls' or 'Rear mounted foot controls'.

NOTICE

The Shift Force Sensor voltages should read as shown in the following table.

Gear Pedal Position	Forward Mounted Controls (sensor in tension on up shifts)	Rear Mounted Controls (sensor in compression on up shifts)
Up shift	3.6 V	1.6 V
Rest	2.6 V	2.6 V
Down shift	1.6 V	3.6 V

9. Start the engine and allow it to idle for several seconds to allow adaption of the shift force sensor.
10. 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.

NOTICE

Triumph Shift Assist (TSA) is optimised for on-road use only.

It must not be used during off-road or track riding.

NOTICE

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.

NOTICE

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

After fitting the accessory kit the motorcycle will exhibit new handling characteristics.

Operate the motorcycle in a safe area free from traffic to gain familiarity with any new characteristics.

Operation of the motorcycle when not familiar with any new handling characteristics may lead to loss of motorcycle control which could result in serious injury or death.

⚠ WARNING

If, after fitting this accessory kit, you have any doubt about the performance of any aspect of the motorcycle, contact a competent person with the specialist knowledge and technical understanding of motorcycles, such as an authorised Triumph dealer.

Riding a motorcycle when there is any doubt as to any aspect of the performance of the motorcycle may lead to loss of motorcycle control which could result in serious injury or death.

⚠ WARNING

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

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.

The presence of accessories will cause changes in the stability and handling of the motorcycle. Failure to allow for changes in motorcycle stability may lead to loss of motorcycle control which could result in serious injury or death.

⚠ WARNING

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.

Only operate this Triumph motorcycle at high speed in closed-course, on-road competition or on closed-course racetracks.

High-speed operation in any other circumstances is dangerous and may lead to loss of motorcycle control which could result in serious injury or death.

NOTICE

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