



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.

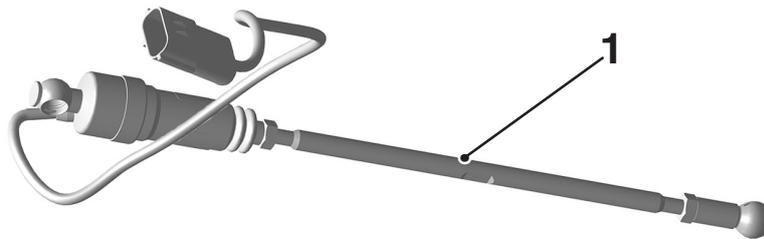
Completely read all of these instructions before commencing the installation of the accessory kit in order to become thoroughly familiar with the kit's features and the installation process.

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.

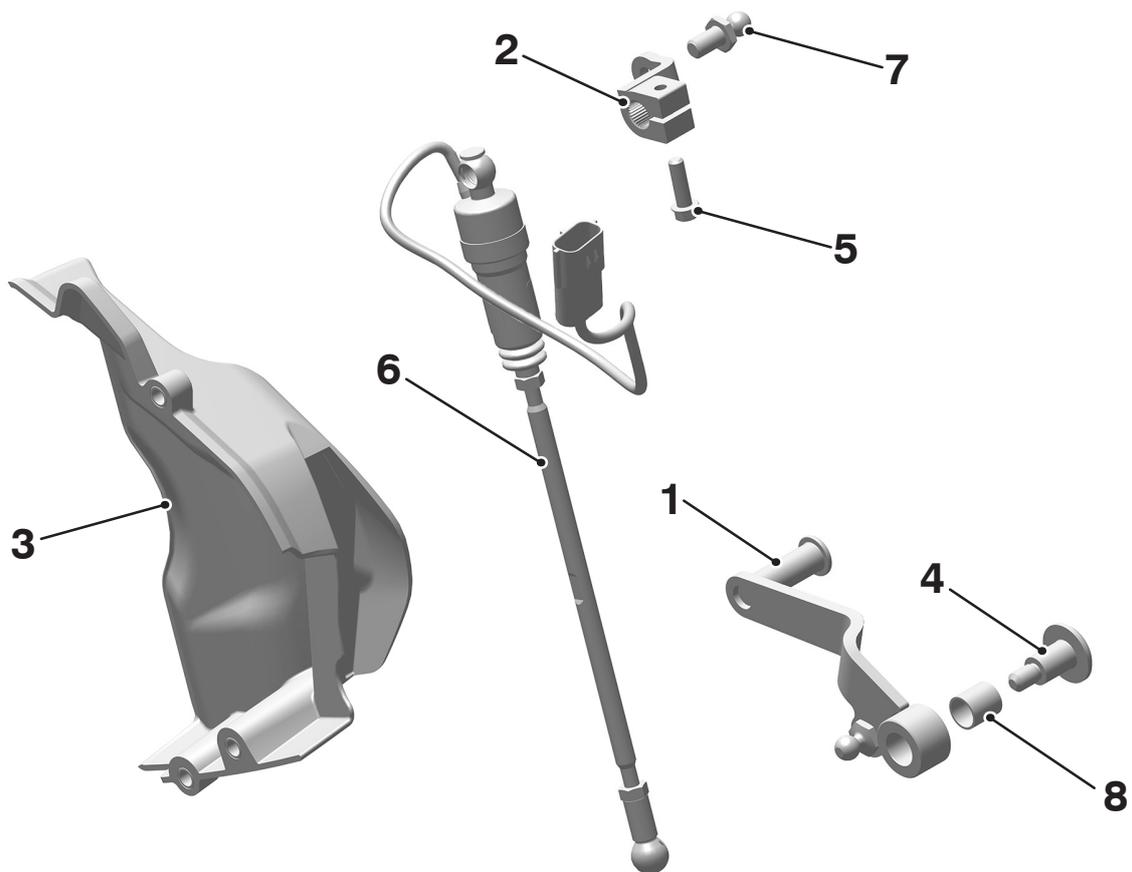
Triumph Shift Assist (TSA)	
Kit Number	Models
TSA	
A9770427	Trident from VIN AG0881, Daytona 660
Triumph Shift Assist Fitting Kit	
A9770426	Trident from VIN AC6898 up to VIN AG0880
A9770435	Daytona 660

Parts supplied

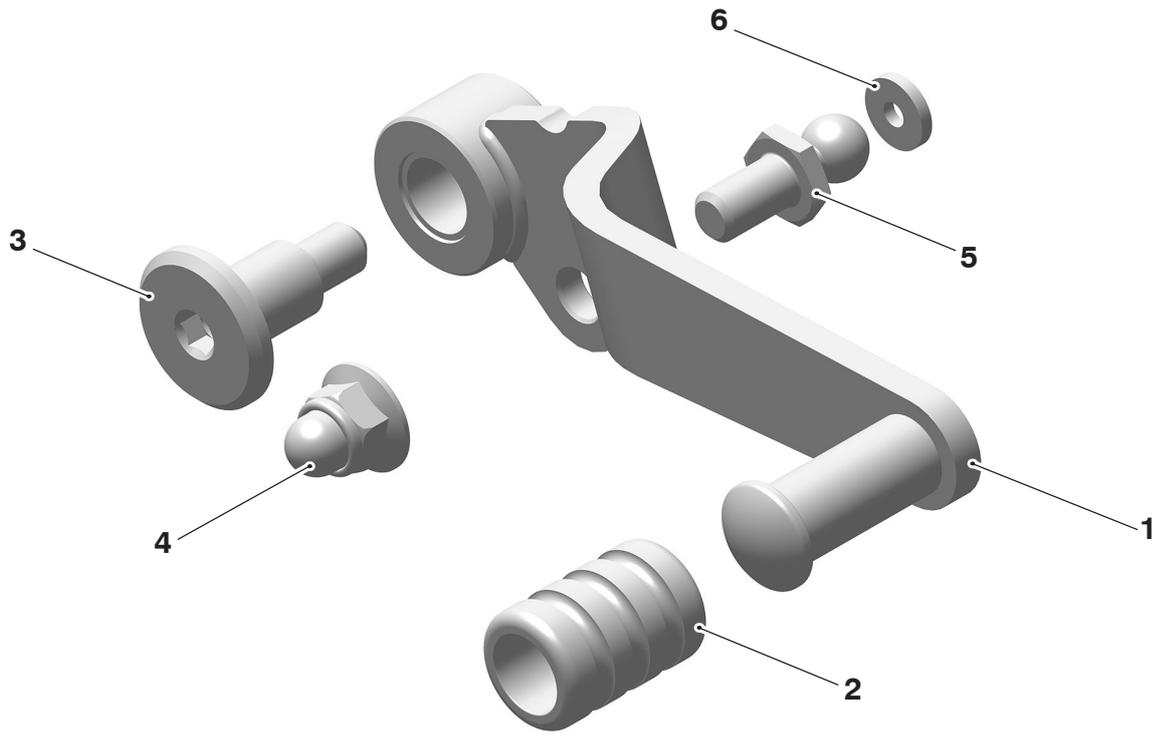
A9770427



1. TSA Sensor	1 off
---------------	-------



1. Gear change pedal	1 off	5. M6 x 20 fixing	1 off
2. Gear change clamp	1 off	6. TSA sensor	1 off
3. Sprocket cover	1 off	7. Ball joint	2 off
4. M8 pivot bolt	1 off	8. Gear pedal bush (where supplied)	1 off



1. Gear change pedal	1 off	4. Nut, M8 domed	1 off
2. Rubber, gear change pedal	1 off	5. Ball joint	1 off
3. M8 pivot bolt	1 off	6. Seal, ball joint	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.

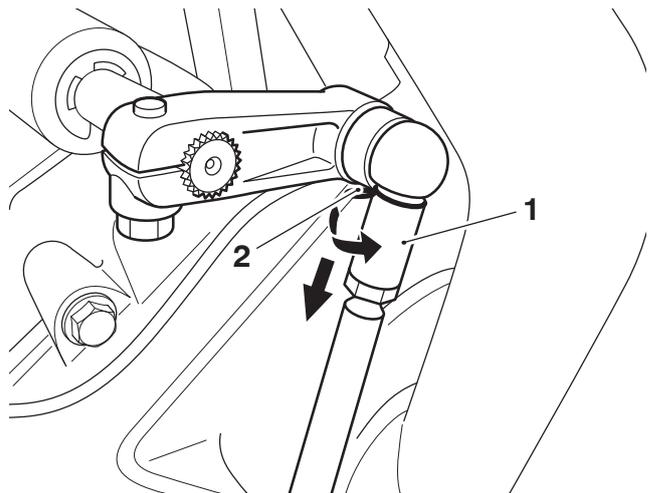
We cannot therefore cover all possible equipment variations in these instructions. For removal and installation of Triumph Genuine Accessories, always refer to the instructions supplied with the respective accessory kit.

To obtain additional copies of any Triumph accessory instructions, visit www.triumphinstructions.com or contact your authorised Triumph dealer.

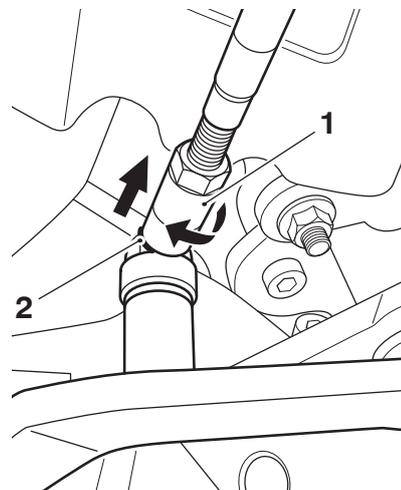
Removal of Gear Selector Rod

All Models

1. Remove the seat as described in the Service Manual.
2. Disconnect the battery as described in the Service Manual.
3. Remove the wire clips retaining the original gear selector rod upper and lower ball joints, as shown. Retain the wire clips for reuse.

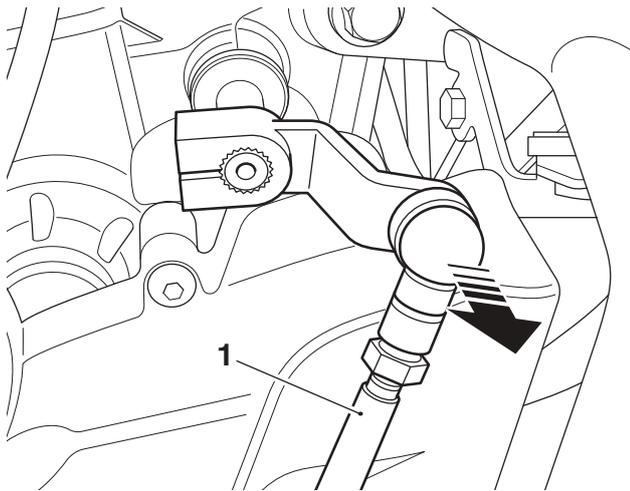


1. Ball joint
2. Wire clip



1. Ball joint
2. Wire clip

- Remove the original gear selector rod from the motorcycle.

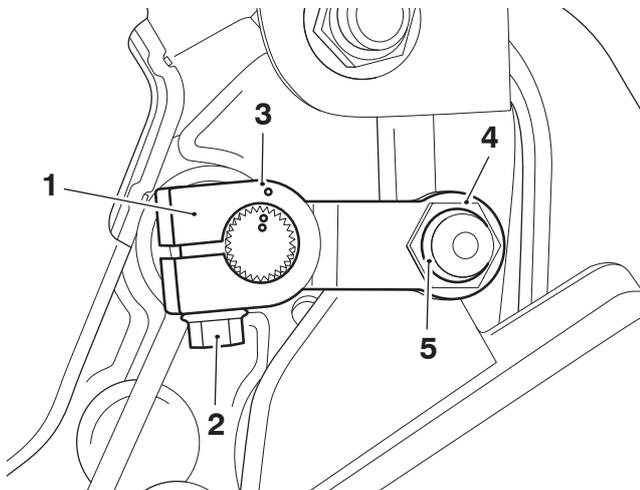


1. Gear selector rod (upper ball joint shown)

Replacing the Gear Change Clamp and Gear Change Pedal

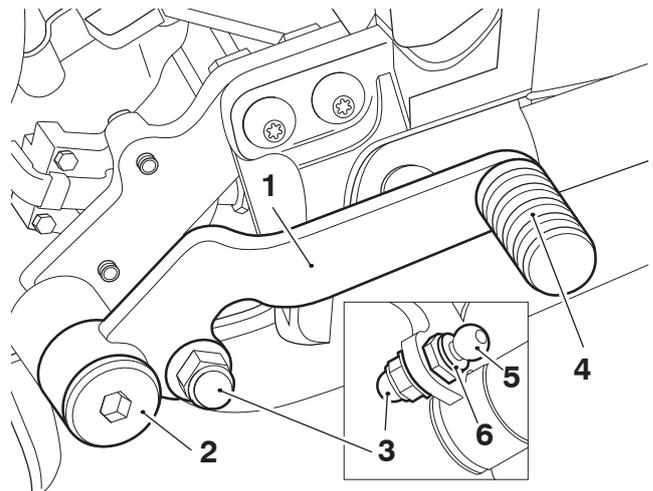
Trident Models from VIN AC6898 up to VIN AG0880 Only

- Remove the fixing from the gear change clamp and remove the gear change clamp from the splined shaft, noting the orientation of the alignment dots. Retain the gear change clamp for reuse if the motorcycle is to be returned to its original condition, discard the fixing.



1. Gear change clamp
2. Gear change clamp fixing
3. Alignment dots
4. Ball joint
5. Seal

- Remove the ball joint from the gear change clamp and discard the ball joint. Retain the nut and the seal for reuse.
- Fit the ball joint from the kit to the new gear change clamp using the original nut and seal. Torque the nut to **12 Nm**.
- Remove the pivot bolt from the gear change pedal and remove the gear change pedal from the motorcycle. Retain the gear change pedal for reuse if the motorcycle is to be returned to its original condition, discard the pivot bolt.



1. Gear change pedal
2. Pivot bolt
3. Ball joint nut
4. Toe finder rubber
5. Ball joint
6. Seal

- Remove the ball joint from the gear change pedal and discard the ball joint. Retain the nut and the seal for reuse.

NOTICE

If the accessory kit does not contain a gear change pedal bush continue from step 6.

If the accessory kit contains a gear change pedal bush continue from step 7.

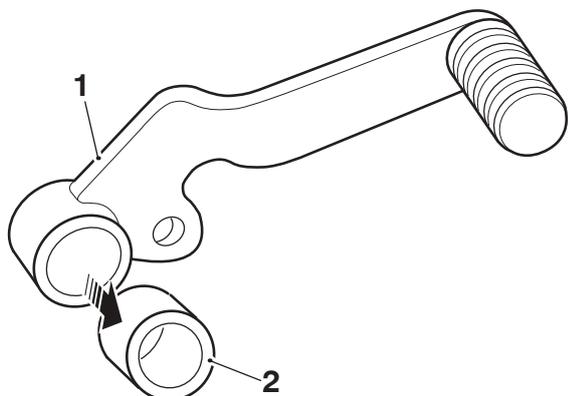
NOTICE

Always use a hydraulic press when removing or fitting a gear change pedal bush.

Removing or fitting a gear change bush by any other method may result in damage to the gear change pedal or bush.

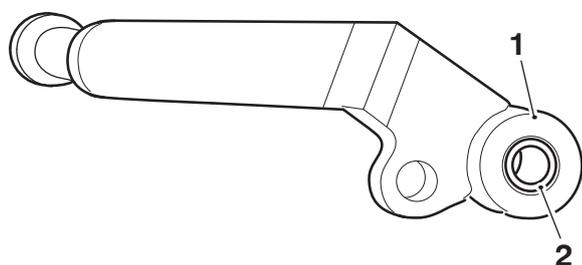
Any damage to the gear change pedal or bush may affect the TSA operation.

- Noting the position of the gear change pedal bush for reassembly, using a hydraulic press carefully remove the bush from the gear change pedal. Retain the bush for reuse.



- Gear change pedal
- Bush

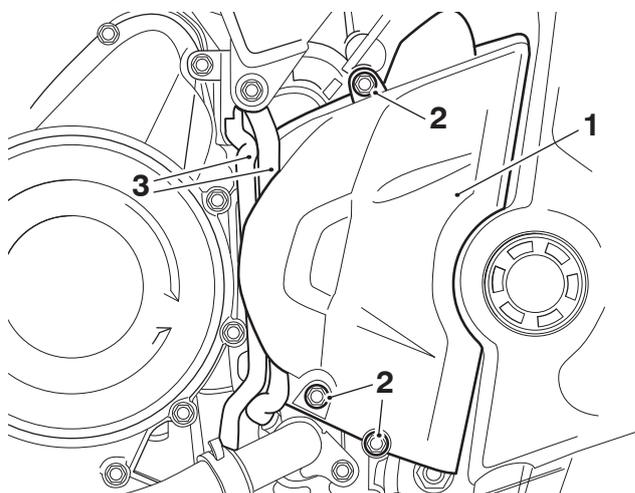
- Using a hydraulic press fit the bush from the kit, or where applicable the original bush, into the new gear change pedal making sure the bush is flush with the rear face of the gear change pedal, as shown below.



- Gear change pedal
- Bush

- Fit the ball joint from the kit to the new gear change pedal using the original nut and seal. Torque the nut to **12 Nm**.

- Remove the rubber from the toe finder on the original gear change pedal and fit to the gear change pedal from the kit. Retain the original gear change pedal for reuse if the motorcycle is to be returned to its original condition.
- Remove the three sprocket cover fixings and remove the sprocket cover; note the routing of the breather hoses. Retain the three M6 fixings.



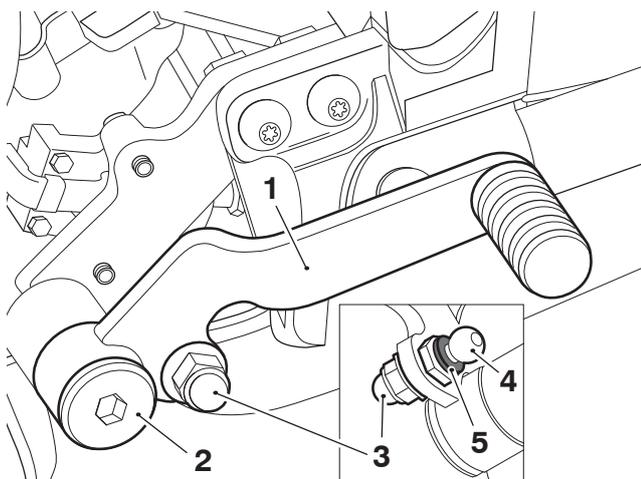
- Sprocket cover
- Sprocket cover retaining fixings
- Breather hoses

- Fit the sprocket cover from the kit in the reverse of removal, ensuring the breather hoses are routed correctly. Refit the three M6 fixings. Torque to **9 Nm**.
- Fit the gear change pedal from the kit using the new M8 pivot bolt. Torque to **22 Nm**.
- Fit the gear change clamp from the kit to the splined shaft, ensuring the dots on the splined shaft aligns with the dot on the gear change clamp as noted from removal. Secure the gear change clamp with the new M6 x 20 fixing. Torque to **9 Nm**.

Daytona 660 Models Only

- Remove the pivot bolt from the gear change pedal and remove the gear change pedal from the motorcycle, noting the position of the gear change clamp for installation.
- Retain the gear change pedal for reuse if the motorcycle is to be returned to its original condition, discard the pivot bolt.
- Fit the ball joint and seal assembly to the gear change pedal and tighten the ball joint nut to **8 Nm**.

17. Install the gear change pedal onto the gear change bracket. Install and tighten a new pivot bolt to **22 Nm**.



1. Gear change pedal
2. Pivot bolt
3. Ball joint nut
4. Ball joint
5. Seal

18. Remove the left hand fairing as described in the Service Manual.

Connecting the TSA

All Models

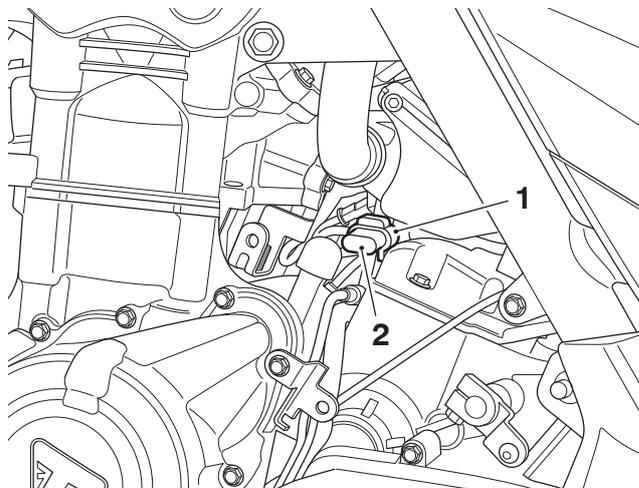
1. Remove the coolant expansion tank as described in the Service Manual.

NOTICE

Care must be taken to prevent damage when using any tools to assist the removal of a blanking plug from a main harness connector.

Any damage to a main harness connector may prevent correct connection of any subharness, or may cause electrical malfunctions.

2. Locate the TSA main harness connector on the left hand side of the motorcycle. Remove the blanking plug from the connector. Retain the blanking plug for reuse if the motorcycle is to be returned to its original condition.



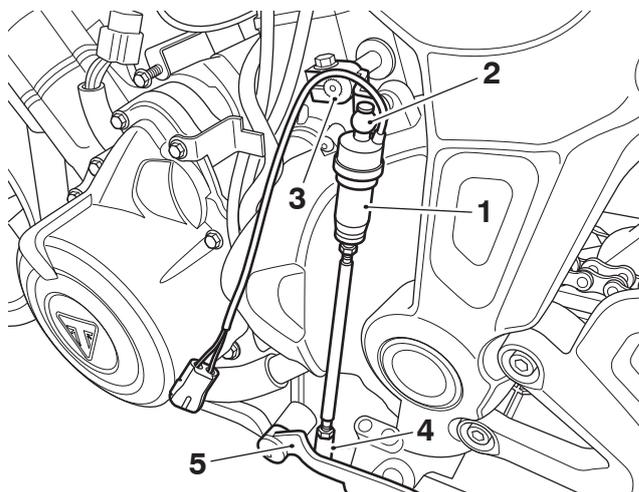
1. TSA main harness connector
2. Blanking plug

NOTICE

Make sure the ball joints are correctly located.

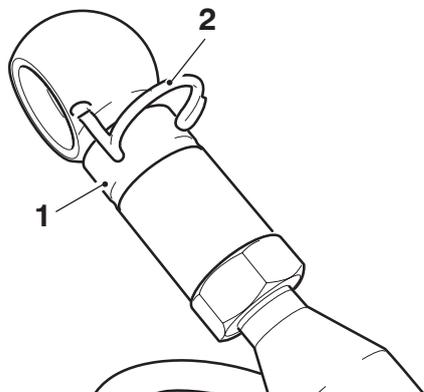
Failure to do so could result in the TSA assembly becoming detached from the motorcycle.

3. Fit the TSA assembly upper and lower ball joints to gear change clamp and gear change pedal on the motorcycle in the orientation shown below. An audible click can be heard when the ball joints are fully assembled.



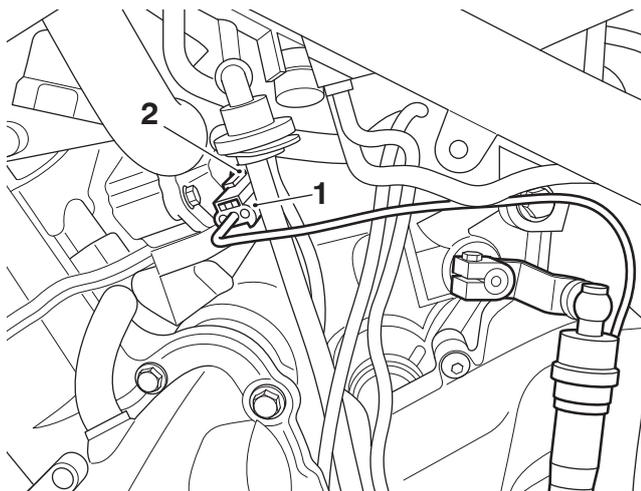
1. TSA assembly
2. Upper ball joint
3. Gear change clamp
4. Lower ball joint
5. Gear change pedal

- Refit the wire clips to retain the upper and lower ball joints, as described in the Service Manual. Make sure the wire clips locate correctly in the ball joints, before rotating the clips to lock in place.



- Ball joint
- Wire clip

- Connect the TSA harness connector to the main harness connector.



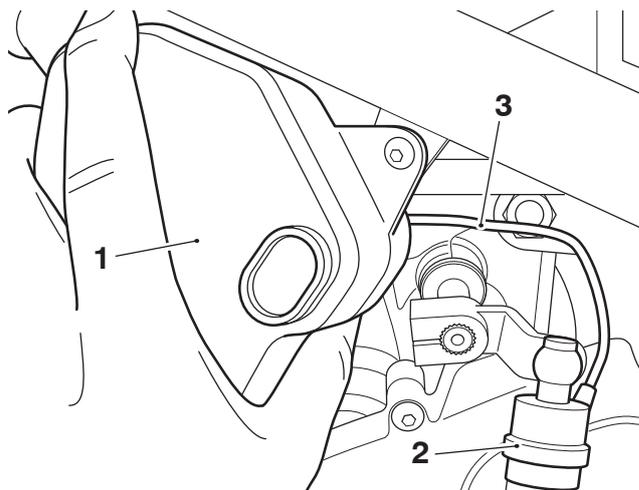
- TSA harness connector
- Main harness connector

NOTICE

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

- Make sure any excess TSA harness is tucked into the space behind the coolant expansion tank.

- Refit the coolant expansion tank as described in the Service Manual.



- Coolant expansion tank
- TSA assembly
- TSA wiring harness

Daytona 660

- Refit the left hand fairing as described in the Service Manual.

All Models

- Reconnect the battery as described in the Service Manual.
- Refit the seat as described in the Service Manual.

Enabling the TSA

NOTICE

Triumph Shift Assist must be enabled using the Triumph diagnostic software.

- Connect the Triumph diagnostic tool and turn the ignition ON.
- Make sure the engine stop switch is in the RUN position.
- Navigate to ENGINE DIAGNOSTICS - Adjust.
- Select 'Enable/Disable Triumph Shift Assist'.
- Click Start, then click Enable.
- Disconnect the Triumph diagnostic tool.
- Refit the seat as described in the Service Manual.
- Enable the TSA via the instruments by navigating to the Motorcycle Setup menu, select TSA and select Enabled.
- Start the engine and allow it to idle for several seconds to allow adaption of the shift force sensor.
- 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.

Adjusting the Gear Change 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.

NOTICE

The lock nut at the sensor is a left hand thread, the lock nut at the lower ball joint is a right hand thread.

11. Loosen both ball joint lock nuts on the TSA assembly.
12. Turn the TSA gear selector rod until the desired gear pedal angle is achieved.
13. Tighten the lock nuts to **6 Nm**.

TSA Operation

⚠ CAUTION

TSA is optimised for on-road use only. It must not be used during off-road or track riding.

⚠ 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.

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.

TSA will not operate if:

- 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.

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 Enabled.

⚠ 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.