



Accessory Fitting Instructions

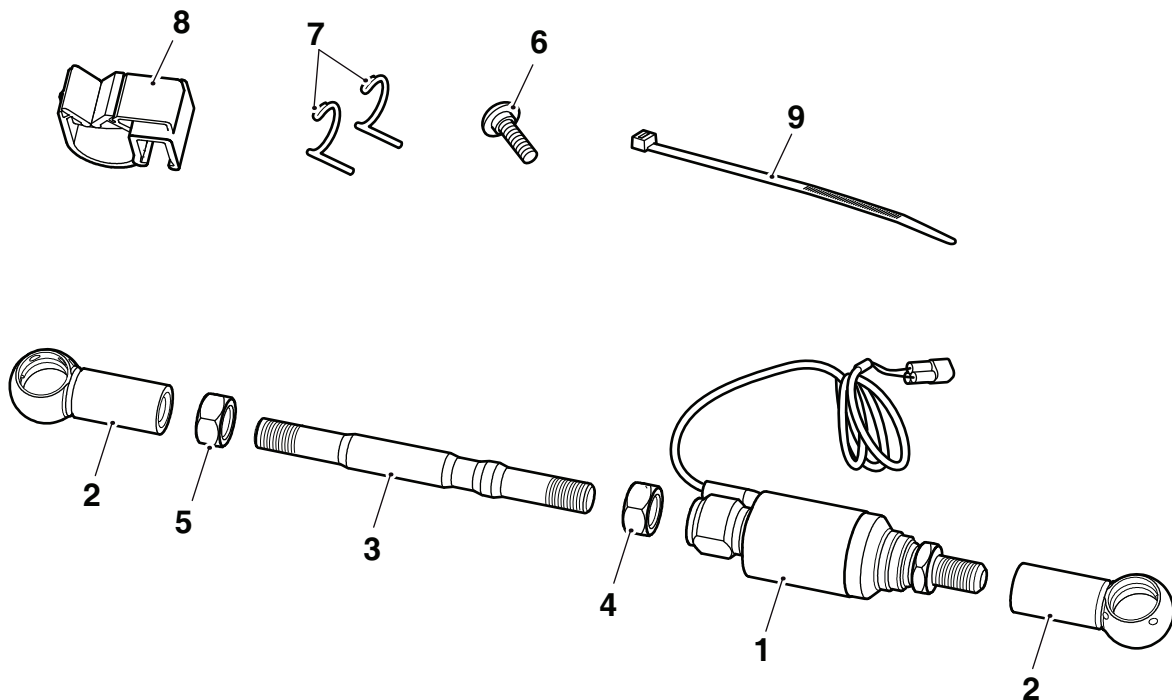
Triumph Shift Assist (TSA) Kit	
Kit Number	Models Affected
A9778508	Tiger 1200 XR _x , Tiger 1200 XR _x LRH, Tiger 1200 XC _x

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 force sensor	1 off	6. Fixing, M5 x 12 mm	1 off
2. Ball joint	2 off	7. Wire clip (if supplied)	2 off
3. Gearchange rod	1 off	8. Cable clip	1 off
4. Nut, M6 left hand thread	1 off	9. Cable tie	1 off
5. Nut, M6 right hand thread	1 off	10. Thin lock nut	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. 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, ensure that the motorcycle is stabilised and adequately supported to prevent risk of injury from the motorcycle falling.



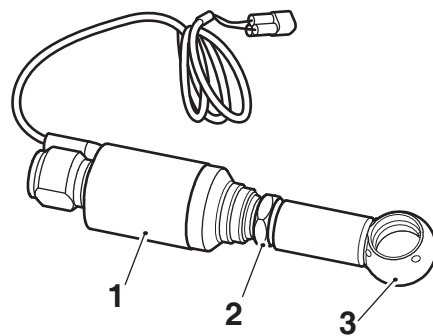
Warning

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:

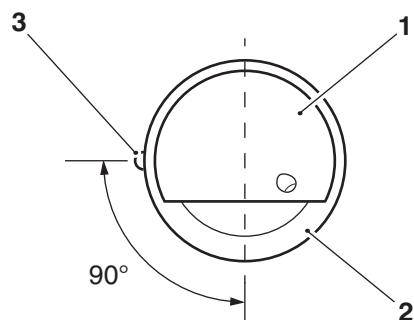
- Triumph offers a broad range of approved genuine accessories for your motorcycle. We cannot therefore cover all possible equipment variations in these instructions. For removal and installation of Triumph Genuine Accessories, always refer to the instructions supplied with the respective accessory kit.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

1. Remove the seat, as described in the Service Manual.
2. Disconnect the battery, negative (black) lead first.
3. Remove the coolant expansion tank, as described in the Service Manual.
4. Remove the original gear selector rod from the motorcycle as described in the Service Manual. Retain the gear selector rod for reuse if the motorcycle is to be returned to its original condition. Retain the ball joint retaining wire clips for reuse.
5. Screw the thin lock nut and a ball joint from the kit fully onto the shift force sensor, as shown.



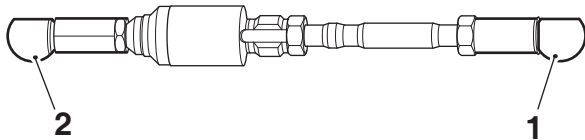
1. Shift force sensor
2. Thin lock nut
3. Ball joint

6. Loosen the ball joint until it is positioned at 90° to the shift force sensor harness outlet, as shown below.



1. Ball joint
2. Shift force sensor
3. Harness outlet

7. Tighten the lock nut against the ball joint to **6 Nm**.
8. Collect the gear change rod, right hand and left hand thread lock nuts from the kit.
9. Fit the left hand thread and right hand thread lock nuts to the gear change rod.
10. Screw the left hand threaded end of the gear change rod into the shift force sensor assembly by three complete turns.
11. Screw the ball joint from the kit onto the right hand threaded end of the gear change rod by three complete turns.
12. Turn the gear change rod ball joint to align it with the shift force sensor ball joint, as shown.



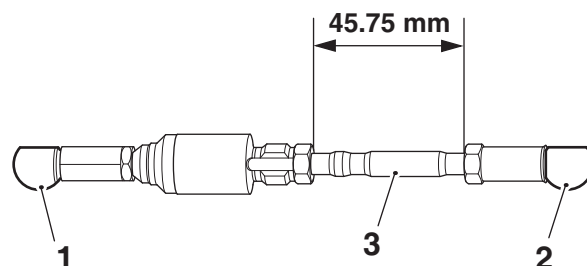
1. Ball joint, gear change rod
2. Ball joint, shift force sensor

Note:

- The initial setting of the TSA assembly is different for specific models. Follow the appropriate setting procedure below.

Tiger 1200 XR_x, Tiger 1200 XC_x

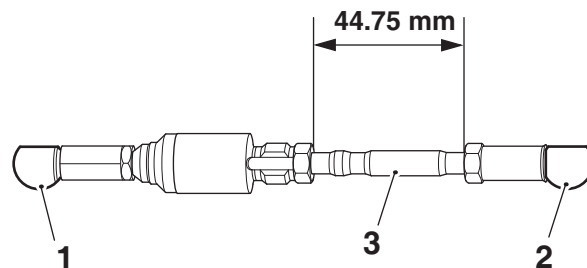
13. While holding the ball joints and shift force sensor and gear change rod stationary, turn the gear change rod to adjust its length to 45.75 mm as shown below. Tighten the gear change rod lock nuts to **6 Nm**.



1. Ball joint, shift force sensor
2. Ball joint, gear change rod
3. Gear change rod

Tiger 1200 XR_x LRH

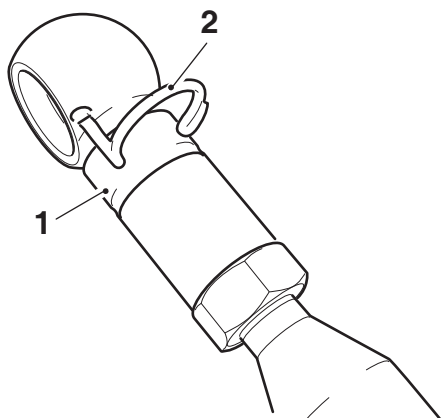
14. While holding the ball joints and shift force sensor and gear change rod stationary, turn the gear change rod to adjust its length to 44.75 mm as shown below. Tighten the gear change rod lock nuts to **6 Nm**.



1. Ball joint, shift force sensor
2. Ball joint, gear change rod
3. Gear change rod

All Models

15. Secure the shift force sensor harness to the gear change rod with the cable tie from the kit.
16. Fit the TSA assembly to the motorcycle, as described in the Service Manual.
17. If supplied fit the wire clips from the kit, or if not supplied use the original wire clips to retain the ball joints. Ensure the wire clips locate correctly in the ball joints, before rotating the clips to lock in place.



1. Ball joint
2. Wire clip

Note:

- The main harness connector for the shift force sensor is located in the area behind the coolant expansion tank.
18. Remove the blanking plug from the main harness connector and plug in the shift force sensor connector.

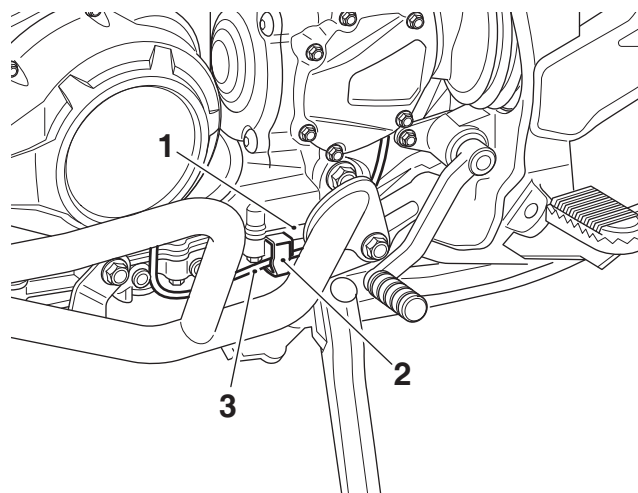


Caution

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

19. Ensure there is not excessive shift force sensor cable extending to the outside of the motorcycle, any excess cable should be tucked into the area behind the coolant expansion tank.

20. Secure the shift force sensor cable to the sump using the cable clip from the kit.



1. Sump
2. Cable clip
3. Shift force sensor cable

21. Refit the coolant expansion tank using the M5 x 12 mm fixing from the kit, as described in the Service Manual.
22. Reconnect the battery, positive (red) lead first and tighten the battery terminals to **4.5 Nm**.
23. Refit the seat, as described in the Service Manual.

Note:

- The correct engine calibration must be downloaded to the motorcycle ECM prior to starting the engine. This information can be found on the 'Triumph Online' dealer website.
24. Connect the Triumph Diagnostic Tool and download the correct engine calibration with the TSA enabled to the ECM following the procedure on the 'Triumph Online' dealer website.
 25. Fully shut down the motorcycle, then switch the ignition back on.
 26. Enable the TSA on the instrument panel, as described in the Service Manual.
 27. Ride the motorcycle for 10 seconds in each gear. The instruments will display a 'Transmission Warning' message until the gear positions are adapted.

Note:

- **If it is necessary to adjust the gear pedal angle at any point after fitting the TSA assembly, follow the steps below.**
28. Remove the seat, as described in the Service Manual.
 29. Disconnect the battery, negative (black) lead first.
 30. Remove the coolant expansion tank, as described in the Service Manual.
 31. Remove the shift force sensor cable from the cable clip.
 32. Unplug the shift force sensor connector from the main harness connector and feed the cable back through the frame.
 33. Loosen the top ball joint lock nut on the shift force sensor assembly.
 34. Disengage the bottom ball joint from the gear pedal.
 35. Turn the TSA assembly to achieve the desired pedal angle. Note, the TSA assembly must be turned in complete revolutions to ensure the shift force sensor cable is positioned in its original orientation. Ensure the shift force sensor has a minimum of four full revolutions of thread engagement on the gear change rod after adjustment.
 36. Refit the bottom ball joint to the gear pedal.
 37. Tighten the top ball joint lock nut to **6 Nm**.
 38. Refit the shift force sensor cable, as described in the Service Manual.
 39. Refit the coolant expansion tank using a new M5 x 12 mm fixing, as described in the Service Manual.
 40. Reconnect the battery, positive (red) lead first and tighten the battery terminals to **4.5 Nm**.
 41. Refit the seat, as described in the Service Manual.

Operational instructions:**Caution**

Triumph Shift Assist (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.

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 control of the motorcycle leading to 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 lead to loss of control or 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 will lead to loss of motorcycle control and an accident.