Technical News 163
April 2015
Strictly Confidential

Contents

Item 1.

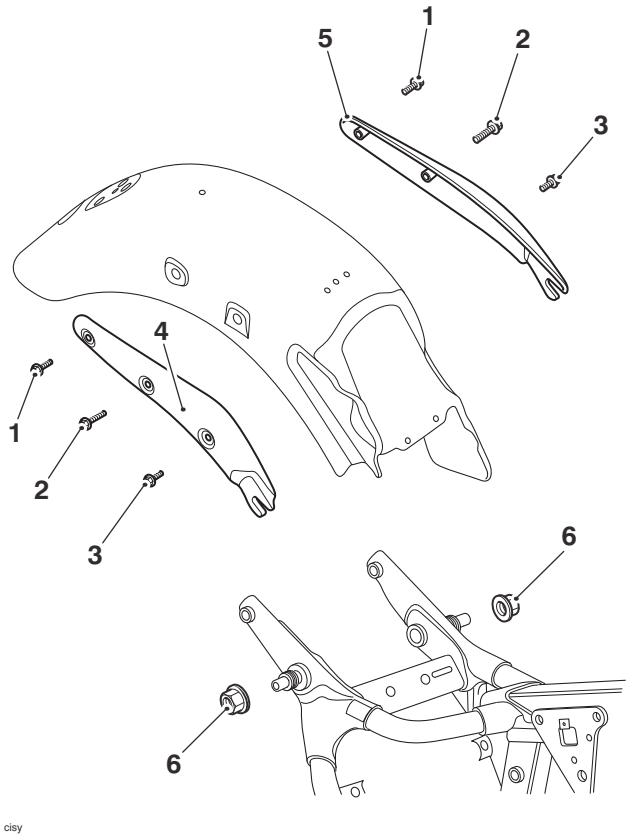
Description: **Mudguard Alignment**

Models affected: **Speedmaster - All models, America - All models**

In the event that the rear mudguard alignment on the above models requires adjustment, proceed as follows:

Warning

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



1. **Rear mudguard to bracket fixing**
2. **Front mudguard to bracket fixing**
3. **Mudguard bracket to frame fixing**
4. **Right hand side mudguard bracket**
5. **Left hand side mudguard bracket**
6. **Rear suspension unit boss to bracket nut**

Check direction of misalignment and proceed as follows:

1. Loosen front and rear mudguard to bracket fixings.
2. Loosen mudguard bracket to frame fixings.
3. Loosen rear suspension unit boss to bracket nuts.

If misalignment is to the left, proceed as follows:

Left Hand Side

1. Apply pressure downwards to left hand side mudguard bracket and left hand side of mudguard.
2. Tighten rear suspension unit boss to bracket nut (left hand side) to **108 Nm**.
3. Tighten mudguard bracket to frame fixing (left hand side) to **60 Nm**.
4. Tighten front mudguard to bracket fixing (left hand side) to **25 Nm**.
5. Tighten rear mudguard to bracket fixing (left hand side) to **25 Nm**.

Right Hand Side

6. Apply pressure upwards to right hand side mudguard bracket and right hand side of mudguard.
7. Tighten rear suspension unit boss to bracket nut (right hand side) to **108 Nm**.
8. Tighten mudguard bracket to frame fixing (right hand side) to **60 Nm**.
9. Tighten front mudguard to bracket fixing (right hand side) to **25 Nm**.
10. Tighten rear mudguard to bracket fixing (right hand side) to **25 Nm**.

If misalignment is to the right, proceed as follows:

Right Hand Side

1. Apply pressure downwards to right hand side mudguard bracket and right hand side of mudguard.
2. Tighten rear suspension unit boss to bracket nut (right hand side) to **108 Nm**.
3. Tighten mudguard bracket to frame fixing (right hand side) to **60 Nm**.
4. Tighten front mudguard to bracket fixing (right hand side) to **25 Nm**.
5. Tighten rear mudguard to bracket fixing (right hand side) to **25 Nm**.

Left Hand Side

6. Apply pressure upwards to left hand side mudguard bracket and left hand side of mudguard.
7. Tighten rear suspension unit boss to bracket nut (left hand side) to **108 Nm**.
8. Tighten mudguard bracket to frame fixing (left hand side) to **60 Nm**.
9. Tighten front mudguard to bracket fixing (left hand side) to **25 Nm**.
10. Tighten rear mudguard to bracket fixing (left hand side) to **25 Nm**.

When ordering replacement parts, always refer to the EPC.
Please mark your copy of the Service Manual with this information.

Item 2.

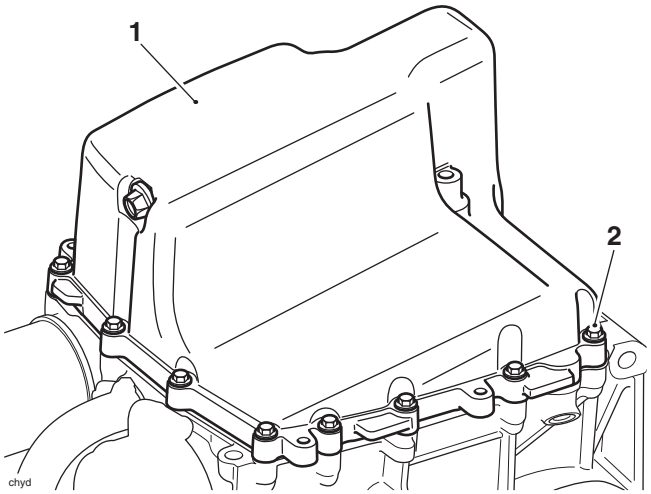
Description: **Sump**

Models affected: **Street Triple ABS and Street Triple R ABS from VIN 560477, Street Triple ABS 70 kW and Street Triple 660 cc**

The torque figure for the sump fixings has changed to **10 Nm** on the above models.

Note:

- **Models already in service need not be retightened unless the fixings have been loosened or removed.**



1. Sump
2. Fixings

Please mark your copy of the Service Manual with this information.

Item 3.

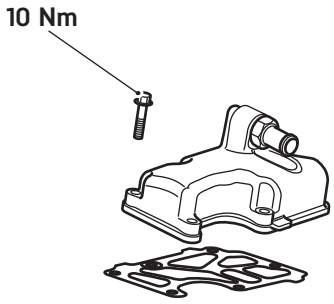
Description: **Crankcase Breather Cover Bolts**

Models affected: **Street Triple, Street Triple 660 cc, Street Triple R and Street Triple Rx**

The torque figure for the crankcase breather cover bolts has changed to **10 Nm** on the above models.

Note:

- **Models already in service need not be retightened unless the fixings have been loosened or removed.**



Please mark your copy of the Service Manual with this information.

Item 4.

Description: **Sump Plug Sealing Washer**

Models affected: **Various**

Model	Market	From Engine Number
Daytona 675 all models from VIN 564948	All except Brazil and India	701483
Daytona 675 all models from VIN 560948	Brazil/India only	701835
Speed Triple 1050 from VIN 461332	All except Brazil and India	701483
Speed Triple 1050	Brazil/India only	701835
Speed Triple R	All except Brazil and India	701483
Street Triple and Street Triple R from VIN 560477, Street Triple 660 cc	All	701456
Bonneville, Bonneville T100	Brazil/India only	701910
Bonneville, Bonneville T100, Scrambler, Thruxton, America, Speedmaster	All except Brazil and India	701544
Tiger Sport	All except Brazil and India	701483
Tiger Sport	Brazil/India only	701835

A new oil sump plug sealing washer has been introduced to the above models at the engine numbers listed above and is retrofittable.

The difference between the original and the latest condition sealing washer is the thickness of the washer. The latest condition sealing washer is 3.0 mm thick compared to the original sealing washer at 1.5 mm thick.

The torque figure for the oil sump drain plug remains at **25 Nm**.

When ordering replacement parts, always refer to EPC.

Please mark your copy of the Service Manual with this information.

Item 5.

Description: **Seat Lock**

Models affected: **Tiger 800, Tiger 800XC, Tiger XCx, Tiger XCa, Tiger XRx and Tiger XRt from VIN 708953**

A revised washer has been introduced on the above models from VIN 708953 and is retrofittable. The thicker washer allows the rivet to achieve a tighter fixing between the seat lock and its bracket. If the seat lock is removed or replaced for any reason, one thicker 11 x 1.6 mm washer is to be used with a new 4.8 x 18 mm rivet.

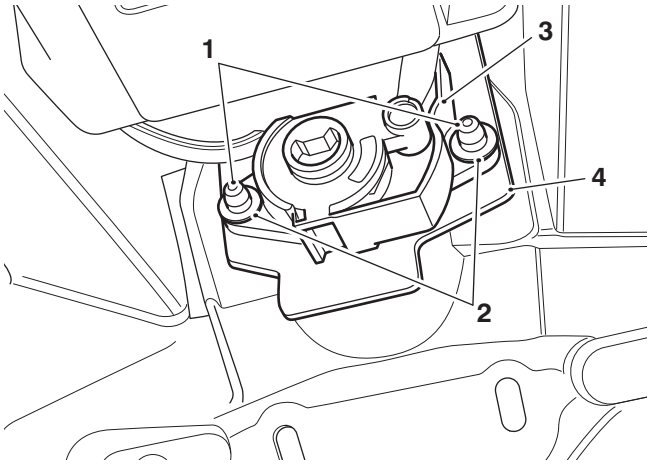
Parts required

Description	Part Number	Quantity
Washer 11 x 1.6 mm	T3550289	2 off
Rivet 4.8 x 18 mm	T3300062	2 off

When ordering replacement parts, always refer to the EPC.

Note:

- **Models already in service need not be replaced unless the seat lock has been loosened or removed.**



1. **Rivets 4.8 x 18 mm**
2. **Washers 11 x 1.6 mm**
3. **Seat lock**
4. **Bracket**

When ordering replacement parts, always refer to the EPC.

Please mark your copy of the Service Manual with this information.

Item 6.

Description: **Drive Belt Tension**

Models affected: **Thunderbird ABS, Thunderbird Commander, Thunderbird LT, Thunderbird Storm ABS and Thunderbird Night Storm**

We seek to remind dealers of the correct tensioning method for drive belts on the above mentioned models using the tension and alignment tools. Rear wheel alignment must be checked and if necessary adjusted every time the rear wheel has been removed or the final drive belt adjusted.

Final Drive Belt Tension Inspection

Always inspect the drive belt tension at the intervals specified in the Scheduled Maintenance chart.

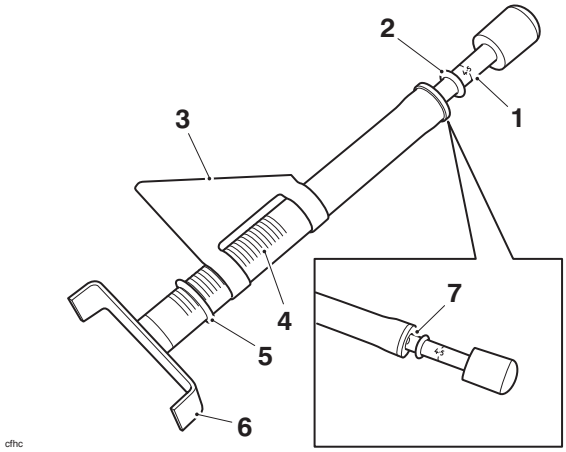
Average mileage for a drive belt is 60,000 miles (100,000 kms). Drive belts are a consumable item and are not covered under warranty.

Squeaking drive belts are not defective, therefore do not automatically replace the drive belt. Clean, re-tension and align the drive belt correctly first.

Note:

- **The drive belt runs against the thrust face of the pulley, not centrally. Do not attempt to deliberately misalign the rear wheel in order for the belt to run centrally on the pulley.**

Drive belt tension must be measured using the belt tension gauge T3880126, which is available from your Triumph dealer.



Belt Tension Gauge T3880126

1. **Load scale - 4.5 kgf (10 lbf) mark**
2. **O-ring**
3. **Deflection slider**
4. **Deflection scale (0.5 mm (0.020 in) increments)**
5. **O-ring**
6. **Belt cradle**
7. **Load scale (zero position)**

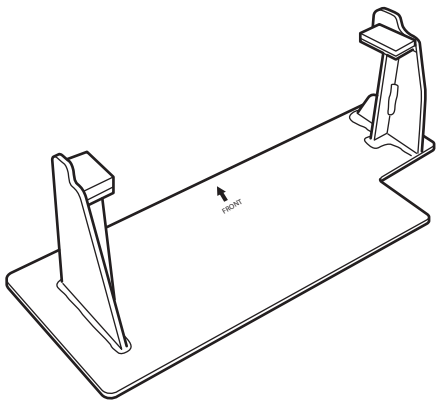
Drive belt tension can be measured with the motorcycle on the side stand, or with the rear wheel raised off the ground. The method of measurement and adjustment is identical, but the belt tension specification for each method is different.

Drive belt tension must be measured with the drive belt cold (at ambient temperature).

Position the motorcycle either on the side stand or with the rear wheel raised off the ground.

To Raise the Rear Wheel off the Ground

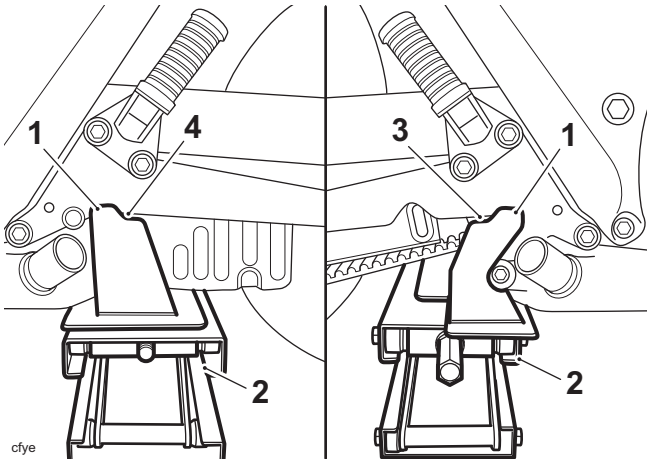
For all models except Thunderbird Commander and Thunderbird LT, the motorcycle support plate T3880803, shown below, will be required.



Motorcycle Support Plate T3880803

All Models Except Thunderbird Commander and Thunderbird LT

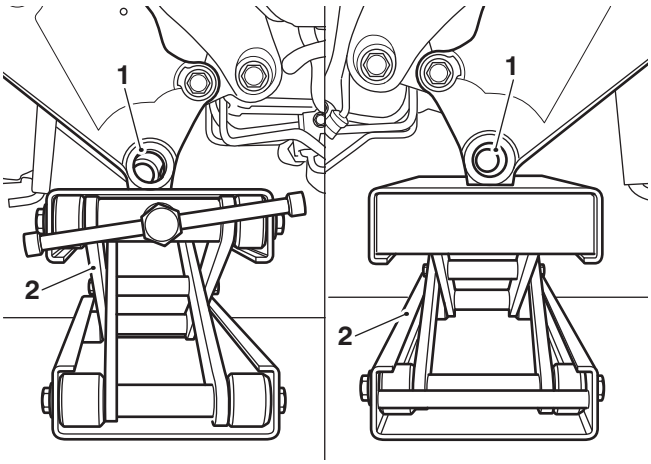
Motorcycle support plate T3880803 should be positioned with the arrow facing the front of the motorcycle, with the plastic pads located under each rear footrest bracket as shown below:



1. **Motorcycle support plate T3880803**
2. **Proprietary motorcycle lifting jack**
3. **Plastic pad, right hand**
4. **Plastic pad, left hand**

Thunderbird Commander and Thunderbird LT

Position a proprietary motorcycle lifting jack to the front of the rear footrest hanger as shown below:



1. Rear footrest hanger
2. Proprietary motorcycle lifting jack

All Models

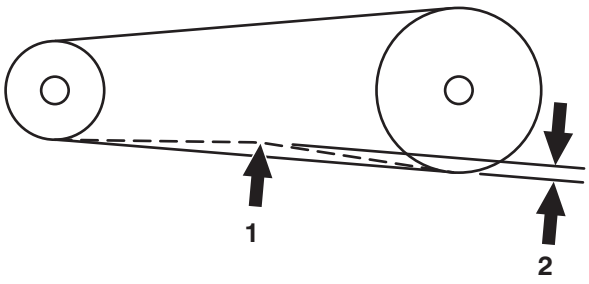
Raise the motorcycle so that the rear wheel is clear of the ground using a proprietary motorcycle lifting jack.

Refer to the chart below for the correct drive belt tension specification for the method of motorcycle support you are using.

Drive Belt Tension Specification

Motorcycle on side stand	5.5 to 7.0 mm (0.20 to 0.27 in)
Motorcycle with the rear wheel off the ground	7.5 to 9.0 mm (0.30 to 0.35 in)

Drive belt tension is measured by applying a 4.5 kilogram-force (kgf) (10 pound-force (lbf)) load to the plunger on the belt tension gauge T3880126, once it has been positioned to the lower run of drive belt; this load then deflects the belt. The belt deflection can then be measured using a scale on the tool.



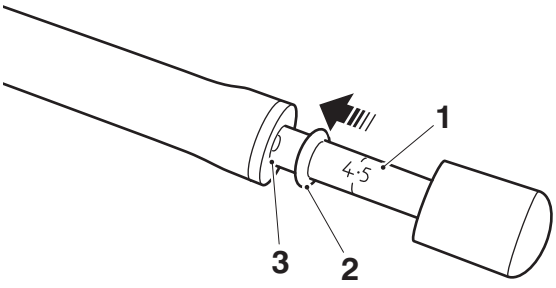
1. 4.5 kgf (10 lbf) applied to belt
2. Amount of deflection

Measure the drive belt tension as follows:

Note:

- **During the following procedure the exhaust is shown removed for clarity.**

1. Slide the small O-ring on the belt tension gauge T3880126 along the tool to the zero position on the load scale.



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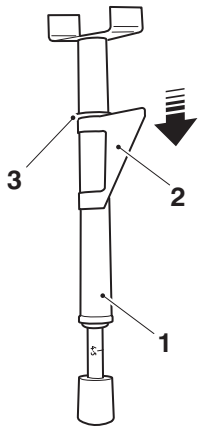
1. **Load scale**
2. **O-ring**
3. **Zero position**

2. Push the deflection slider and its O-ring down the tool, so that it will not touch the drive belt lower cover when the tool is positioned to the drive belt.
3. Rotate the deflection slider so that it will contact the lower belt cover when the tool is positioned to the motorcycle.



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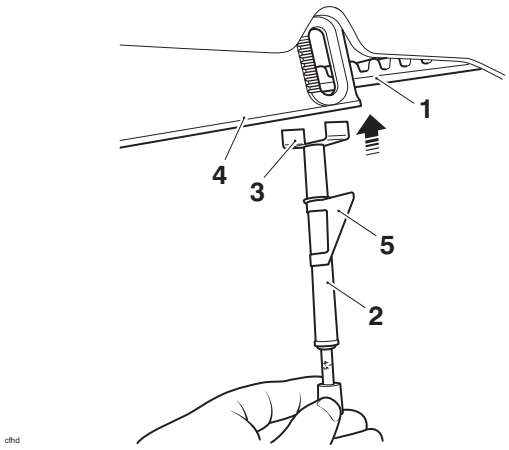
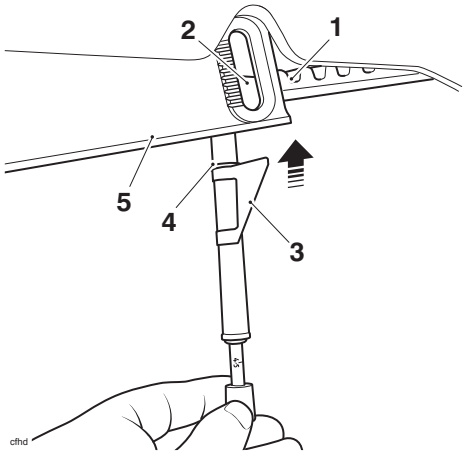
1. **Belt tension gauge T3880126**
2. **Deflection slider**
3. **O-ring**

4. Gently position the tool's belt cradle to the centre of the lower drive belt run, ensuring the deflection slider on the tool body is **NOT** in contact with the drive belt cover at this stage.



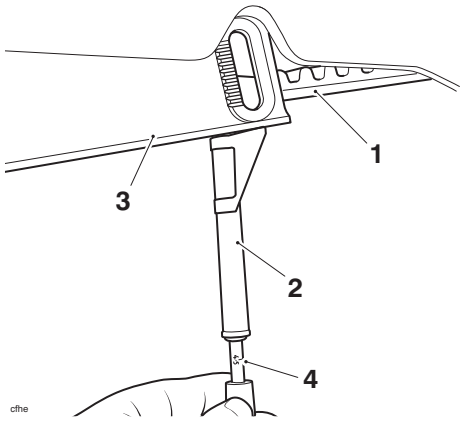
1. **Drive belt**
2. **Belt tension gauge T3880126**
3. **Belt cradle**
4. **Drive belt lower cover**
5. **Deflection slider**

5. Taking care not to deflect the belt, slide the deflection slider and its O-ring upwards until the slider just touches the belt cover.



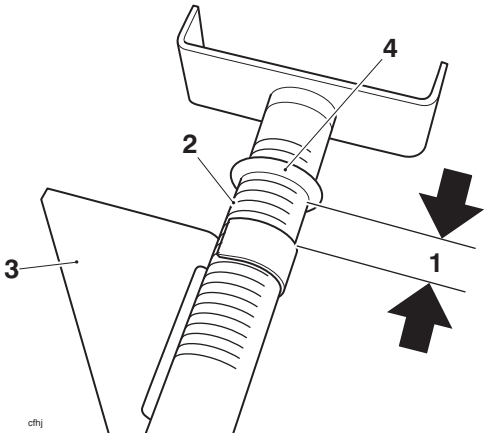
1. **Drive belt**
2. **Belt cradle**
3. **Deflection slider**
4. **O-ring**
5. **Drive belt lower cover**

6. Apply force to the belt tension gauge in an upwards direction, until the 4.5 kgf (10 lbf) mark on the load scale is reached. The deflection slider must remain stationary against the belt cover while the force is applied.



1. **Drive belt**
2. **Scale**
3. **Drive belt lower cover**
4. **Load scale**

7. Remove the tool, taking care not to move the O-ring or deflection slider, and read the belt deflection on the scale on the tool.
8. The belt deflection is the gap between the top of deflection slider and the lower edge of the O-ring. The increments on the scale are 0.5 mm (0.020 in) apart.



1. **Belt deflection**
2. **Scale**
3. **Deflection slider**
4. **O-ring**

9. Repeat the measurement at several points around the drive belt to locate its tightest point. Always adjust drive belt tension at the tightest point in the drive belt.

If the drive belt deflection is outside the limits given below, the drive belt must be adjusted as described in the Service Manual.

Drive Belt Tension Specification

Motorcycle on side stand	5.5 to 7.0 mm (0.20 to 0.27 in)
Motorcycle on support stand T3880803	7.5 to 9.0 mm (0.30 to 0.35 in)

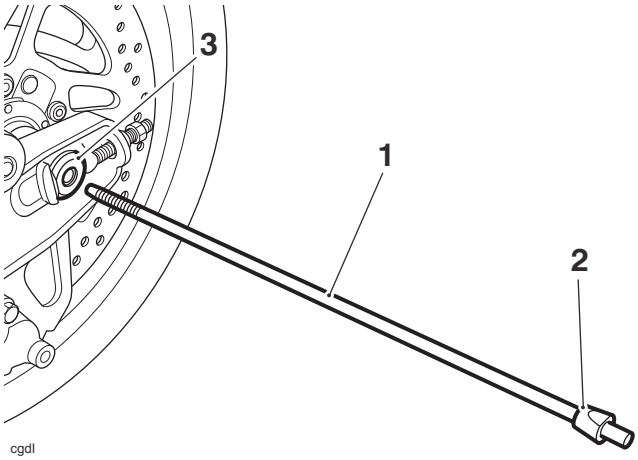
Rear Wheel Alignment Procedure

To correctly align the rear wheel, follow the procedure described below.

Note:

- **Silencer removal is required to accurately measure the rear wheel alignment and torque the rear wheel axle nut.**

1. Remove the exhaust silencers as described in the Service Manual.
2. Adjust the final drive belt tension as previously described.
3. Remove the measuring block from the threaded end of the wheel alignment tool T3880148.
4. Insert the threaded end through the rear wheel axle from the left hand side. Locate the taper on the rod into the axle.

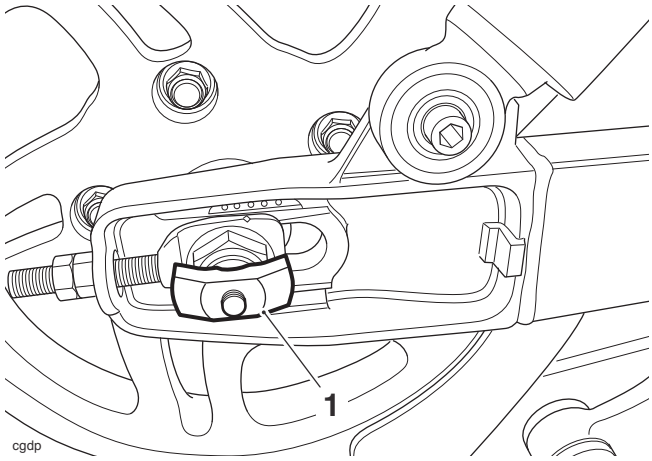


1. **Wheel alignment tool T3880148**
2. **Taper**
3. **Rear wheel axle**

5. Refit the measuring block on to the threaded rod, ensuring the block faces the swinging arm as shown below.

Note:

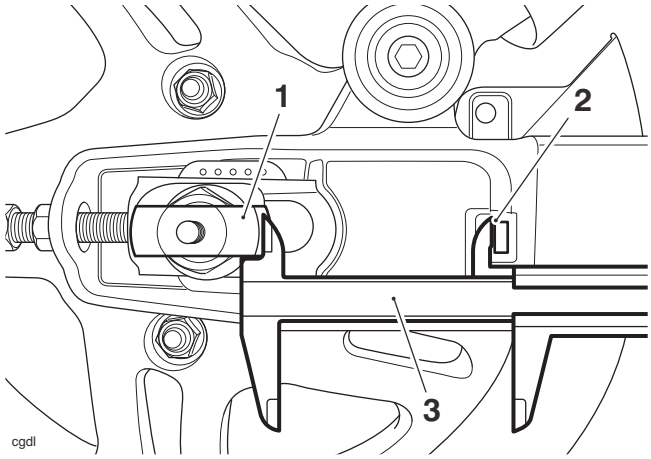
- **If fitted correctly, the tool will self-centre on the axle, and the measuring surface of the block will align with the machined block on the swinging arm.**

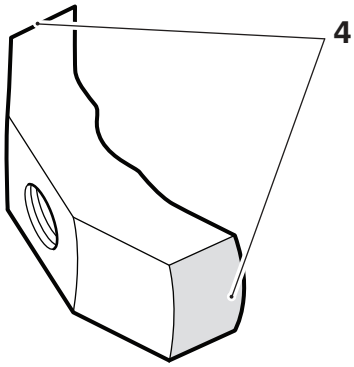


1. **Measuring block (shown in correct orientation)**

6. Rotate the block so it aligns with the axle slot in the swinging arm.
7. Hand tighten the tool sufficiently to prevent it from rotating during measurement. Do not over-tighten.

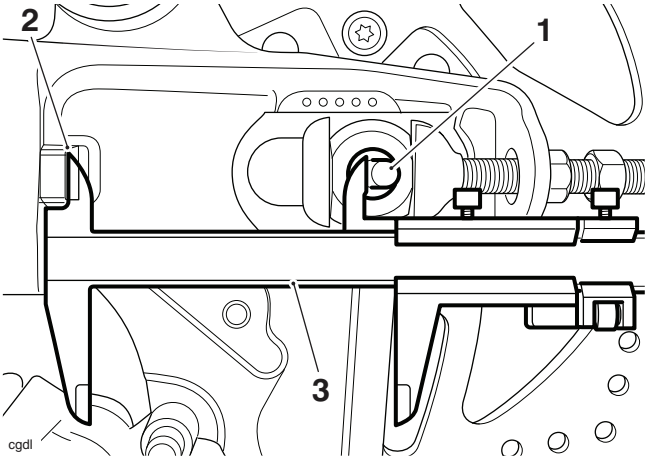
8. On the right hand side of the motorcycle, measure between the machined face of the swinging arm and the measuring surface of the tool using a vernier caliper, as shown below. Note the reading.

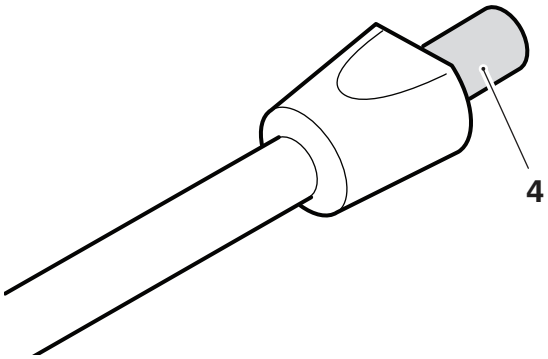




1. **Wheel alignment tool T3880148 measuring pin**
2. **Swinging arm measuring surface**
3. **Vernier caliper**
4. **Tool measurement surface**

9. Repeat the measurement on the left hand side of the motorcycle, measuring between the machined face of the swinging arm and the measuring pin of the tool, as shown below. Note the reading.





1. **Wheel alignment tool T3880148 measuring pin**
2. **Swinging arm measuring surface**
3. **Vernier caliper**
4. **Tool measurement surface**

10. The two measurements must be equal +/- 0.30 mm. If the measurements are not equal, loosen the rear wheel spindle and carefully adjust the wheel position using the final drive belt adjusters. Repeat the adjustment until the measurements are within the limits specified.
11. Check that the final drive belt adjustment is still correct. Re-adjust as necessary until the final drive belt tension **and** wheel alignment are both correct.
12. Tighten the rear wheel spindle to **110 Nm**.
13. Tighten both adjuster lock nuts to **25 Nm**.
14. Remove the service tool.
15. Refit the silencers as described in the Service Manual.

Please mark your copy of the Service Manual with this information.

Item 7.

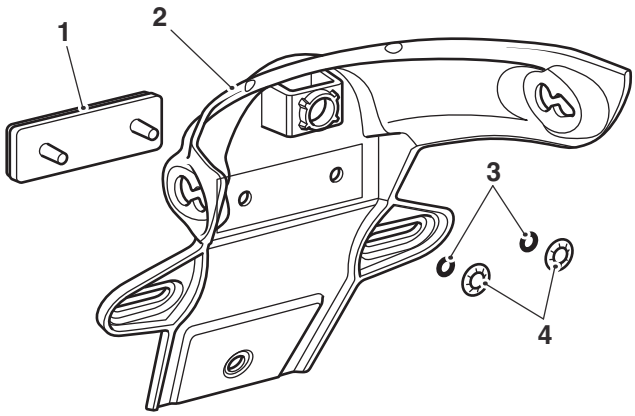
Description: **Reflector Mounting O-Rings**

Models affected: **Thunderbird, Thunderbird Storm, Thunderbird Night Storm**

O-rings have been introduced to the rear reflector mountings on the above models from VIN 702714.
The new O-rings are retrofittable to the above models.

Installation

1. Position the rear reflector to the registration plate moulding and secure using the rubber O-rings and the retaining washers as shown below.



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1. **Rear reflector**
2. **Registration plate moulding**
3. **O-ring**
4. **Retaining washer**

When ordering replacement parts, always refer to the EPC.

Please mark your copy of the Service Manual with this information.

Item 8.

Description: **Water Inlet Cover Bolt and Water Outlet Cover Bolts**

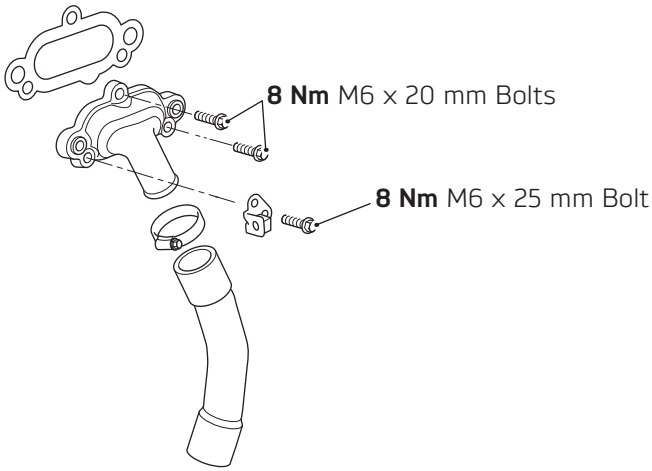
Models affected: **Street Triple, Street Triple 660 cc, Street Triple R and Street Triple Rx**

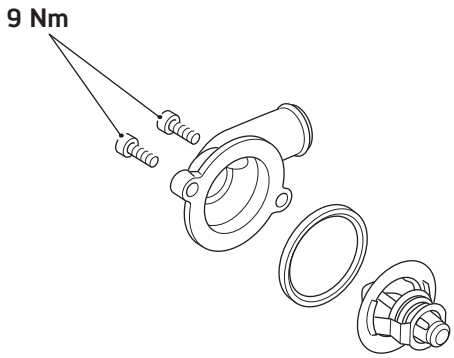
The torque figure for the M6 x 1.0 mm x 25 mm water inlet cover bolt has changed to **8 Nm** on the above models. The torque figure of **8 Nm** is unchanged for the remaining two M6 x 1.0 mm x 20 mm water inlet cover bolts.

The torque figure for the water outlet cover bolts has also changed to **9 Nm**.

Note:

- **Models already in service need not be retightened unless the fixings have been loosened or removed.**





Please mark your copy of the Service Manual with this information.

Item 9.

Description: **Bleeding the Brakes**

Models affected: **All Models**

It has come to our attention that the brake bleeding sequences described in the Service Manuals are not being followed correctly.

We seek to remind dealers to follow the brake bleeding procedures that are described in the relevant Service Manuals.

The generic procedure described below is a simplified reminder of the brake bleeding procedures for all models. When bleeding front and rear brakes dealers must refer to the procedures described in the Service Manual.

Bleeding the Front Brakes

Warning

Before starting work, ensure the motorcycle is stabilised and adequately supported. This will help prevent it from falling and causing injury to the operator or damage to the motorcycle.

Warning

Ensure absolute cleanliness when adding brake fluid to the brake fluid reservoir. Do not allow moisture or debris to enter the cylinder, as this will adversely affect the fluid properties. Always use fluid from a sealed container and do not use fluid from a container that has been opened for any period of time. Always check for fluid leakage around hydraulic fittings and for damage to hoses. A dangerous riding condition leading to loss of motorcycle control and an accident could result if this warning is ignored.

Warning

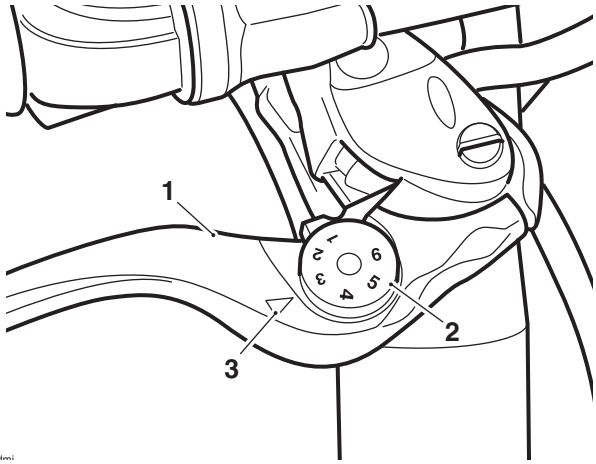
Use only DOT 4 specification brake fluid as listed in the General Information section of the Service Manual. The use of brake fluids other than those DOT 4 fluids listed in the General Information section may reduce the efficiency of the braking system leading to loss of motorcycle control and an accident.

Observe the brake fluid handling warnings given earlier in this section of the manual.

Caution

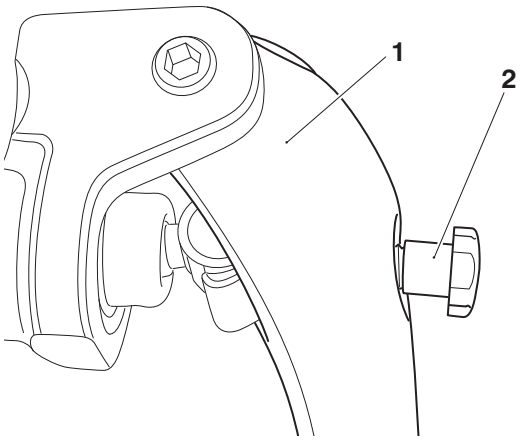
To prevent paint damage, do not spill brake fluid onto any area of the bodywork. Spilled brake fluid will damage paintwork.

1. **For models with an adjuster wheel on the brake lever:** Note the original setting of the brake lever adjuster in order that it can be returned to the same position when the bleeding operation is complete. Set the brake lever adjuster to position No. 1.



1. Brake lever (Daytona 675 shown)
2. Adjuster wheel
3. Triangular mark

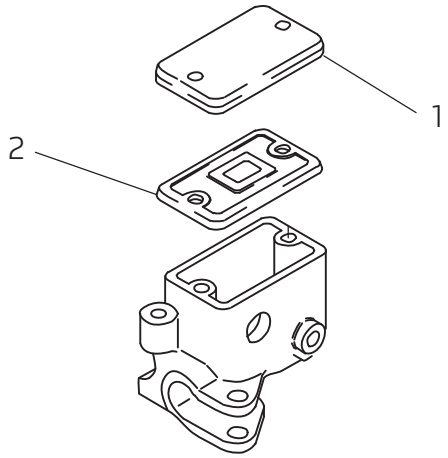
2. **For models with an adjuster screw on the brake lever:** Note the original setting of the brake lever adjuster in order that it can be returned to the same position when the bleeding operation is complete. Turn the brake lever adjuster fully in.

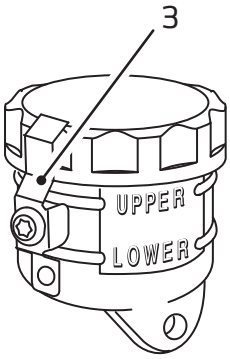


1. Brake lever (Daytona 675 R shown)
2. Adjuster screw

3. Turn the handlebars to bring the fluid reservoir to a level position.
4. Remove the screws and, if fitted, the security clip for the reservoir cap.

5. Taking care not to spill any brake fluid, remove the brake reservoir cap and the rubber diaphragm.

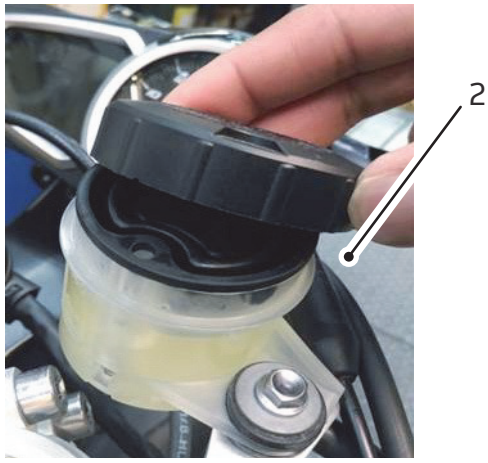




1. **Brake reservoir cap**
2. **Rubber diaphragm**
3. **Security clip**

Models with the Cylindrical Front Brake Fluid Reservoir Only

6. When the cap is removed, ensure the rubber diaphragm remains in the cap. If the rubber diaphragm remains on the brake fluid reservoir, remove it and fit it correctly into the cap.

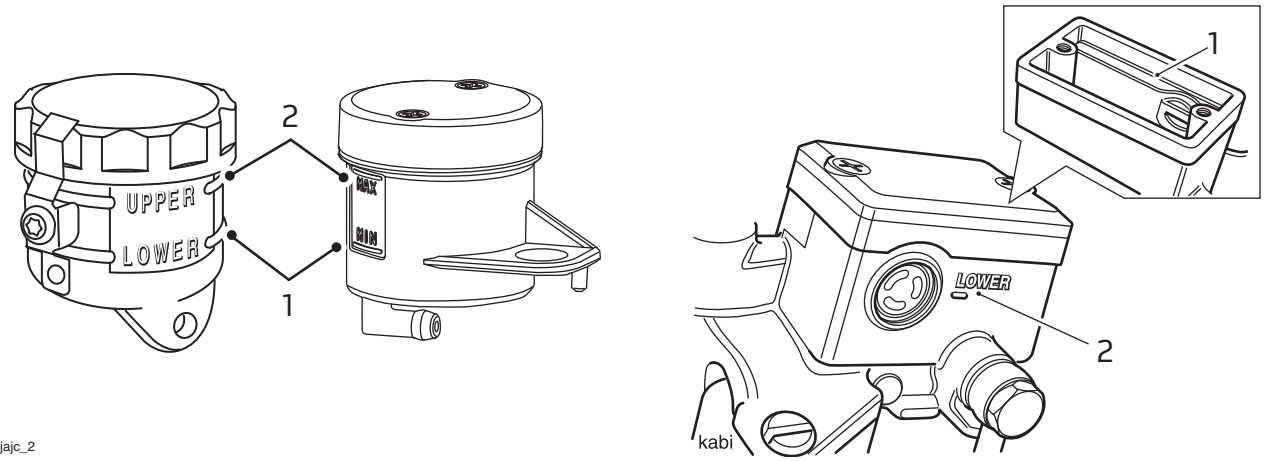


1. **Rubber diaphragm in cap**
2. **Rubber diaphragm out of cap**

All Models

Note:

- **When bleeding the brakes, ensure the rubber diaphragm is not on the brake fluid reservoir and is correctly fitted in the reservoir cap.**
- **During the bleeding process, do not allow the fluid level to fall below the lower level mark in the reservoir. If the fluid level is allowed to fall below this mark, air may enter the system and the sequence of bleeding must be repeated.**



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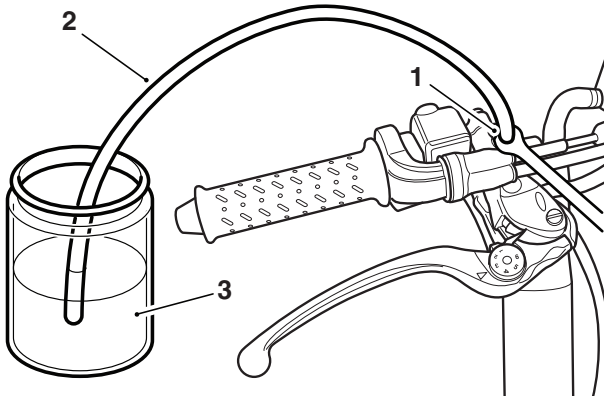
1. **Lower level**
2. **Upper level**

Note:

- **During bleeding, ensure the end of the bleed tube is below the level of clean brake fluid in the container.**

7. **For front brake master cylinders with a bleed nipple:** With the aid of an assistant the brake master cylinder must be bled before the front brake calipers, as described in the Service Manual. When all the air is removed, tighten the bleed nipple to the torque figure described in the Service Manual.



1. **Bleed nipple (on master cylinder)**
2. **Bleed tube**
3. **Container (with clean brake fluid)**

8. With the aid of an assistant, bleed the front caliper(s) as described in the Service Manual. If two calipers are fitted, bleed calipers in the order described in the Service Manual. When all the air is removed, tighten the bleed nipples to the torque figure described in the Service Manual.

Models with ABS

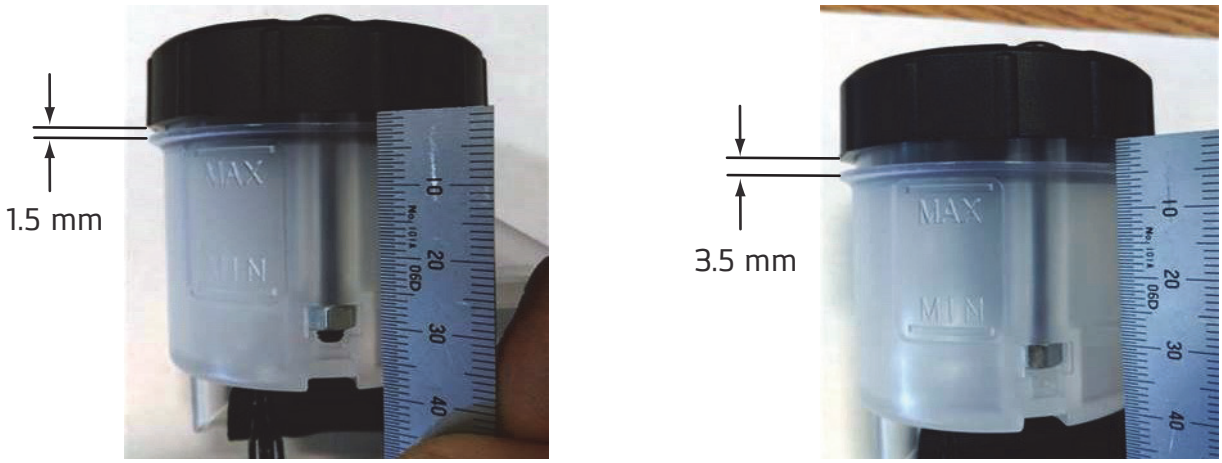
9. Bleed the front brake system again using the Triumph diagnostic tool as described in the Service Manual.
10. Disconnect the Triumph diagnostic tool and repeat the brake bleed procedure for models without ABS, as described in the Service Manual.

All Models

11. When the calipers have been bled, ensure the brake lever operation has a firm resistive feel to it, does not feel spongy and that the lever cannot be pulled back to the handlebar. Take remedial action as necessary.
12. Turn the handlebars to bring the fluid reservoir to a level position and check that the brake fluid level in the reservoir is up to the upper mark on the reservoir.
13. Check the rubber diaphragm for folds, cuts or tears, replace if necessary.
14. Ensure the diaphragm is fitted correctly in the reservoir cap and refit the cap. Tighten the reservoir cap and security clip fixings to the torque figure described in the Service Manual.

Models with the Cylindrical Front Brake Fluid Reservoir Only

15. When the cap is fitted, check the gap between the lower edge of the cap and the ridge on the brake fluid reservoir. This gap should be no greater than 1.5 mm. If the gap is greater than 1.5 mm check to ensure that the rubber diaphragm is fitted correctly.



Reservoir Cap Gap

All Models

16. Reset the brake lever adjuster to the original setting.
17. Check the operation of the front brakes and check to ensure there are no brake fluid leaks at the reservoir, brake bleeding nipples and unions.

Bleeding the Rear Brakes

The procedure for bleeding the rear brakes is similar to the procedure for the front brakes. Dealers are requested to bleed the rear brakes as it is described in the relevant Service Manual.

Check the operation of the rear brakes and check to ensure there are no brake fluid leaks at the reservoir, brake bleeding nipples and unions.

Item 10.

Description: **Front Wheel, Inner Tube and Valve**

Models affected: **Thunderbird LT**

A new front inner tube incorporating an angled valve has been released for the above model from VIN 703083. The angled valve is designed to allow improved access in service and does not require a retaining nut and washer.

A new front wheel with an increased valve hole diameter has also been released to allow fitment of the new inner tube and valve.

Note:

- **The new front inner tube is not retrofittable. Parts will continue to support the old condition inner tubes for models already in service.**
- **The new front wheel is retrofittable to earlier models only when fitted as part of kit. Parts will no longer support old condition front wheels and any replacement will be to the new condition.**
- **Old condition inner tubes are not suitable for use with the new condition wheels.**

Warning

Do not fit old condition inner tubes to new condition wheel rims. Failure to fit the correct inner tube may cause deflation of the tyre resulting in loss of motorcycle control and an accident.

The following parts kits have been released for use when replacing the front wheel rim or front wheel assembly on Thunderbird LT models up to VIN 703082.

Kit, Spares, Rim, Wheel, Front - Thunderbird LT

Kit Part Number	Kit Contents	Part Numbers
T2000314	Front Wheel Rim Inner Tube, 150/80R16 Valve Cap	T2000310 T2000162 T2000501

Kit, Spares, Wheel, Front - Thunderbird LT

Kit Part Number	Kit Contents	Part Numbers
T2000312	Front Wheel Assembly Inner Tube, 150/80R16 Valve Cap	T2000311 T2000162 T2000501

Removal and installation of the front wheel is as described in the Service Manual.

When ordering replacement parts, always refer to the EPC.

Please mark your copy of the Service Manual with this information.

Circulation

Initial and date when read and return to central file holder

Service Manager	Parts Manager	Sales Manager	Workshop Supervisor	Technician 1	Technician 2