

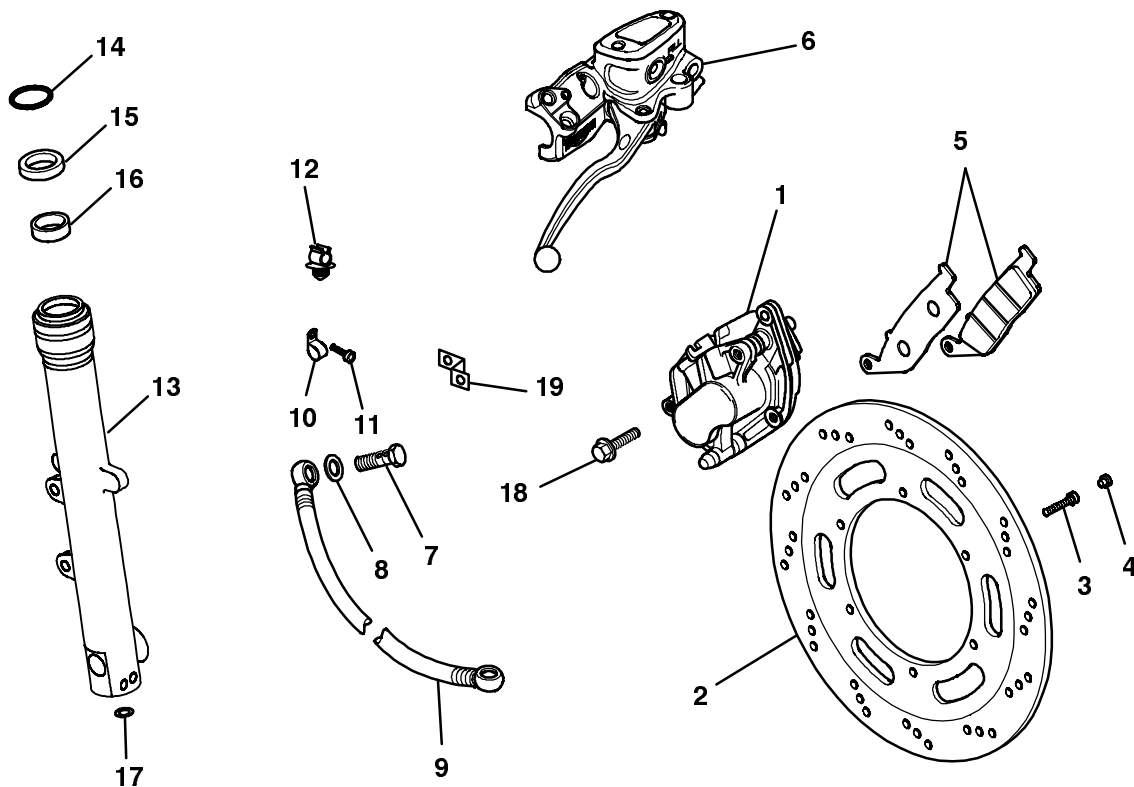
# Brake Upgrade Kit Fitting Instructions – Bonneville America



**! 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 motorcycles operation which may result in an accident causing injury or death.

**! WARNING:** This brake upgrade kit is designed for use solely on the Triumph Bonneville America and should not be fitted to any other Triumph model or to any motorcycle of other manufacturers. Fitting this brake upgrade kit to any other Triumph model or to any motorcycle of other manufacturers may interfere with the rider and could affect the stability and handling of the motorcycle leading to an accident causing injury or death.

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



## Parts Supplied:

1. Right hand caliper assembly .	1 off	11. Torx bolt . . . . .	1 off
2. Disc . . . . .	1 off	12. Clip . . . . .	2 off
3. M8 disc bolt . . . . .	6 off	13. RH outer fork tube . . . . .	1 off
4. M8 chrome trim cap . . . . .	6 off	14. Fork dust seal . . . . .	1 off
5. Pad set . . . . .	1 off	15. Fork oil seal . . . . .	1 off
6. Master cylinder assembly . . . . .	1 off	16. Top bush . . . . .	1 off
7. M10 banjo bolt . . . . .	1 off	17. Sealing washer . . . . .	1 off
8. M10 washer . . . . .	7 off	18. M8 x 40 hex head bolt . . . . .	2 off
9. Bridging hose . . . . .	1 off	19. Bracket, front hose . . . . .	1 off
10. 'P' clip . . . . .	1 off	20. Template . . . . .	1 off

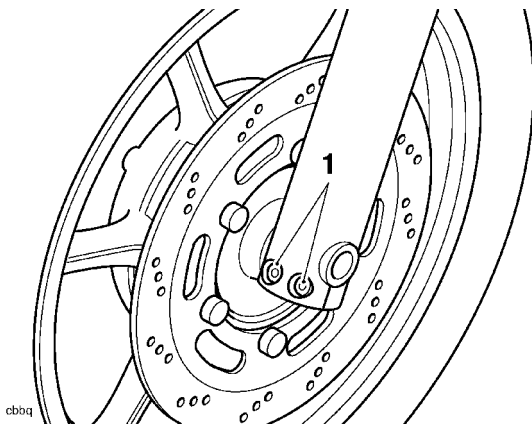
# Brake Upgrade Kit Fitting Instructions – Bonneville America



**!** **WARNING:** This brake upgrade kit is designed for use solely on the Triumph Bonneville America when fitted with the cast wheel upgrade kit. Fitting this brake upgrade kit to a Triumph Bonneville America which has not been converted using the cast wheel upgrade kit could affect the stability and handling of the motorcycle leading to an accident causing injury or death.

**!** **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.

1. Support the motorcycle so that the front wheel is clear of the ground.
2. Remove the front wheel spindle bolt.
3. Slacken the wheel spindle clamp bolts on both forks.



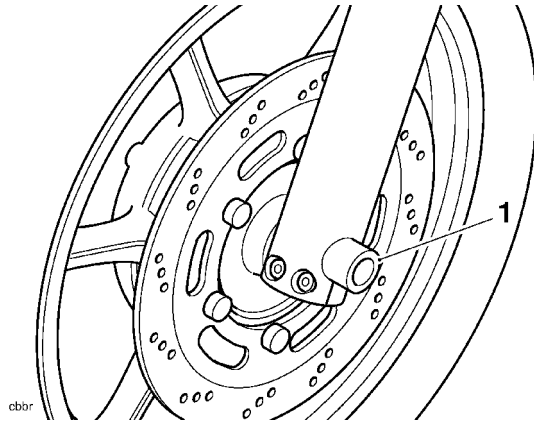
## 1. Spindle clamp bolts

4. Detach the front brake caliper from the left hand front fork.

**!** **CAUTION:** Do not allow the caliper to hang on its brake hose while detached from the fork as this could damage the brake hose.

To prevent brake hose damage, always support the caliper while it is detached from the fork.

5. Support the wheel and withdraw the spindle.



## 1. Wheel Spindle

6. Manoeuvre the wheel out from the forks collecting the speedometer drive as you do so.

**!** **CAUTION:** With the wheel removed, always support the speedometer cable and drive and do not allow either component to become twisted or to fall onto dirty surfaces.

Twisting or falling onto dirty surfaces could lead to premature wear and/or erratic speedometer operation.

7. Recover the spacer from the right side of the hub

**!** **CAUTION:** Do not allow the wheel to rest on the brake disc as this could damage the disc. To prevent bearing damage, ensure no dirt enters the wheel bearings whilst the wheel is removed.

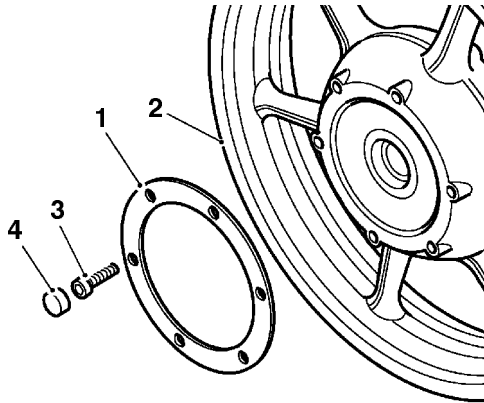
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- Carefully prise the trim caps from the six bolts securing the chrome flange to the right hand side of the wheel as shown below. Remove the six bolts and the chrome flange.

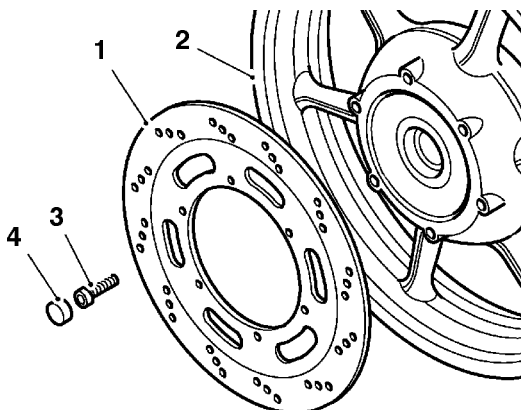
**NOTE:**

- The chrome flange, bolts and trim caps will not be refitted but should be retained for future re-use if the brake upgrade kit is ever removed.



- Flange
- Wheel
- Bolt
- Trim cap

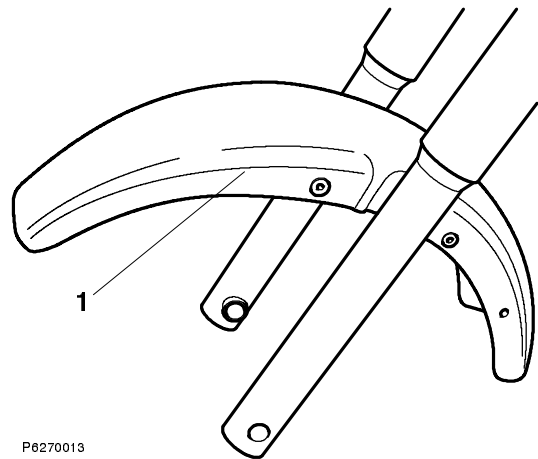
- Ensure the disc and wheel surfaces are clean. Assemble the disc to the right hand side of the wheel. Secure the disc to the wheel using the six M8 bolts supplied with the kit. Tighten the bolts evenly and progressively to a final torque of **22 Nm**. Fit a chrome trim cap from the kit to each retaining bolt.



- Disc
- Wheel
- Bolt
- Trim cap

- Undo the bolts securing the mudguard bracket to the fork legs noting the location of the brake hose bracket and 'P' clip beneath the head of the left hand rear bolt.

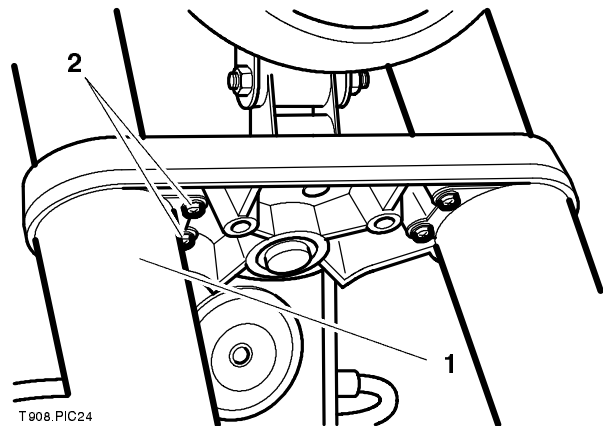
- Remove the mudguard assembly from the motorcycle taking care not to damage the painted surface.



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**1. Front mudguard**

- Release the right hand lower fork shroud from the under-side of the bottom yoke. Protect the mudguard mountings with tape then allow the shroud to rest on the mudguard mounting lugs.



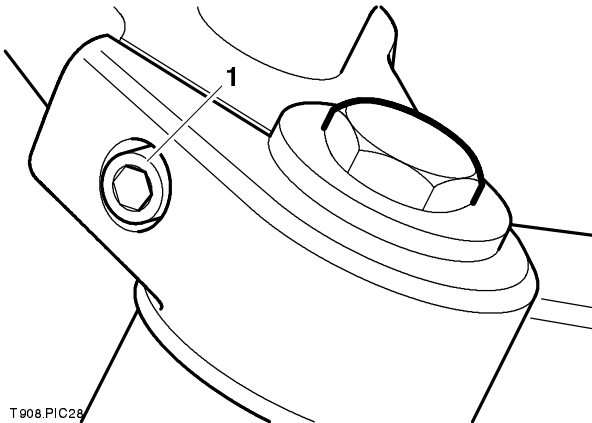
T908.PIC24

- Fork shroud
- Fork shroud fixings

# Brake Upgrade Kit Fitting Instructions – Bonneville America

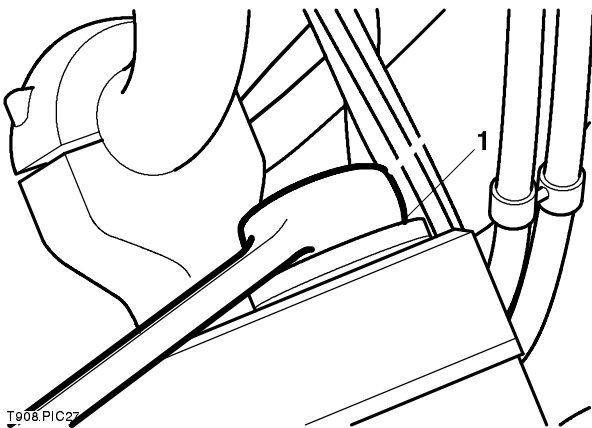


13. Slacken the top yoke clamp bolt.



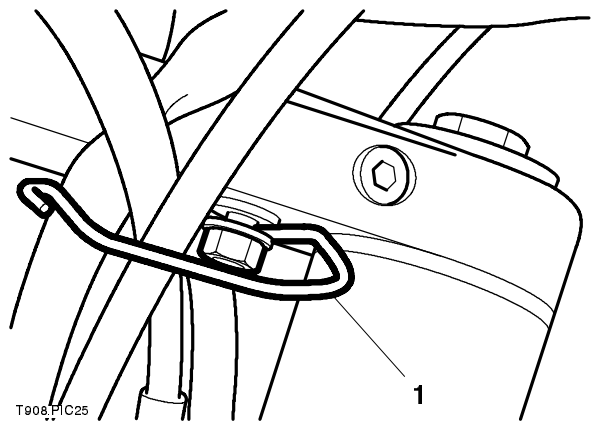
## 1. Top yoke clamp bolt

14. Loosen the fork's top cap.



## 1. Top cap

15. Slacken the bottom yoke clamp bolt and slide the right hand fork out of the yokes. Take care to not damage the cables in the wire guide.



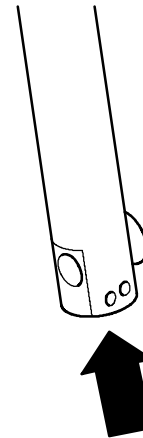
## 1. Cable guide

### NOTE:

- The upper fork shrouds will remain situated between the upper and lower yokes.

16. Slide the right hand lower fork shroud up the fork and withdraw from the top.

17. Slacken the damper rod bolt a few turns.



### Damper rod bolt location

18. Secure the fork inner tube upright in a soft jawed vice.

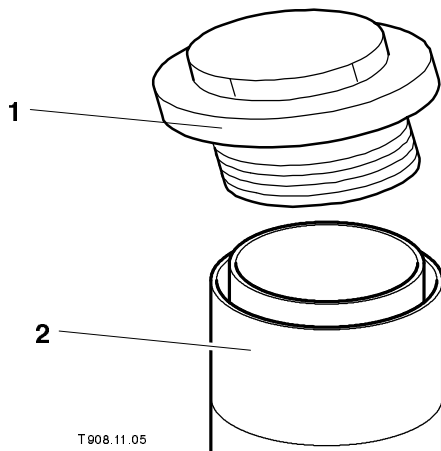
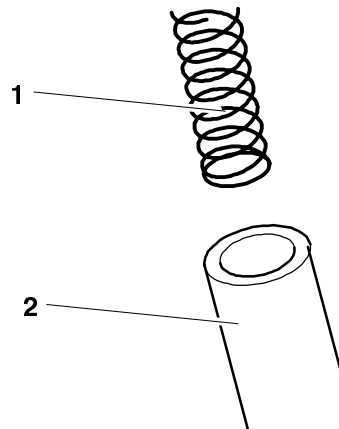


**CAUTION:** When securing the fork in a vice, take great care not to overtighten the vice as this will cause the fork tube to distort beyond repair.

19. Carefully unscrew the top cap from the inner tube.

21. Lift out the spring.

**!** **WARNING:** The top cap is under pressure from the fork spring. As the last few threads of the cap are unscrewed, keep the cap pushed firmly into the tube to prevent it being forcibly expelled as the threads release. To prevent injury, always wear eye, face and hand protection when removing the top cap.



T908.11.05

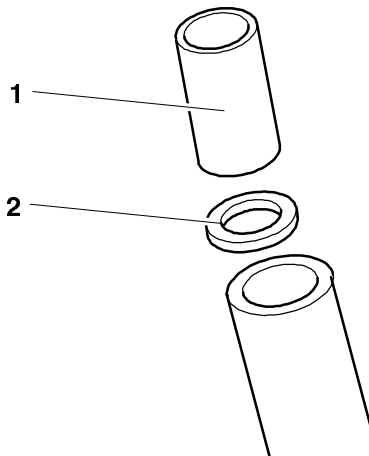
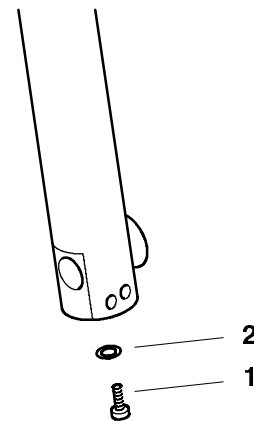
- 1. Spring
- 2. Inner tube

22. Invert the fork and pour out the fork oil into a suitable container. Pump the fork assembly to remove all oil.

23. Remove the damper rod bolt and sealing washer from the base of the outer tube. Discard the sealing washer.

- 1. Top cap
- 2. Inner tube

20. Remove the spacer and spring seat.



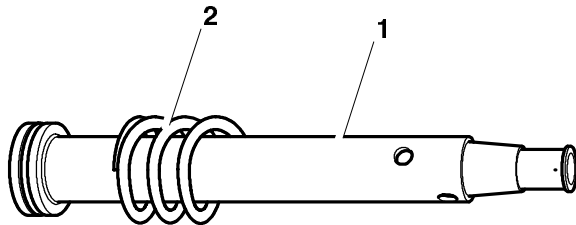
- 1. Damper rod bolt
- 2. Sealing washer

- 1. Spacer
- 2. Spring seat

# Brake Upgrade Kit Fitting Instructions – Bonneville America

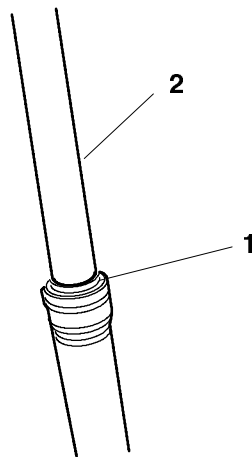


24. Invert the fork and tip out the damper rod and rebound spring.



- 1. Damper rod
- 2. Rebound spring

25. Ease the dust seal out of position and slide it off the inner tube.



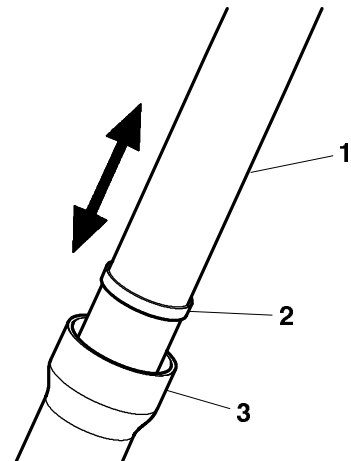
- 1. Dust seal
- 2. Inner tube

26. Carefully ease the circlip out from the top of the outer tube

**NOTE:**

- Keep the fork fully compressed whilst removing the circlip. Any accidental damage to the inner tube will then be confined to the area which is normally above the oil seal.

27. Compress the fork then pull the inner tube sharply out of the outer tube. Repeat this procedure until the top bush is forced out of position and the inner and outer tube can be separated.



- 1. Inner tube
- 2. Top bush
- 3. Outer tube

28. Invert the outer tube and tip out the damper rod seat.

**NOTE:**

- The outer tube will not be refitted but should be retained for future re-use if the brake upgrade kit is ever removed.

29. Slide the oil seal, washer and top bush off from the top of the inner tube. Discard the oil seal and top bush. Retain the washer for refitment.



**CAUTION:** Do not attempt to remove the lower bush from the inner tube.



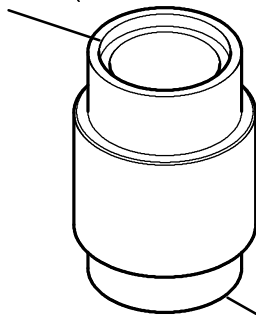
**WARNING:** The front forks comprise many precision machined parts. Total cleanliness must be observed at all times and, assembly must take place in a dirt/dust-free environment.

Dirt ingress may cause damage to the fork parts, leading to incorrect operation, instability, loss of control or an accident.

**NOTE:**

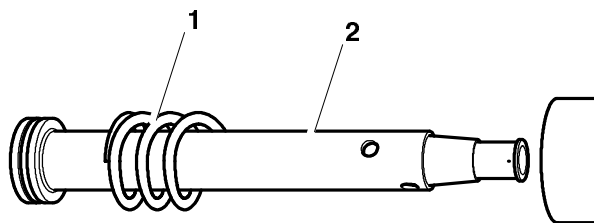
- During assembly of the fork, tool 3880080-T0301 will be used extensively. In the text, reference to a plain end and a chamfered end will be made. This describes the the two ends of the tool as shown in the diagram below.

Chamfered end (with internal recess)



Plain end

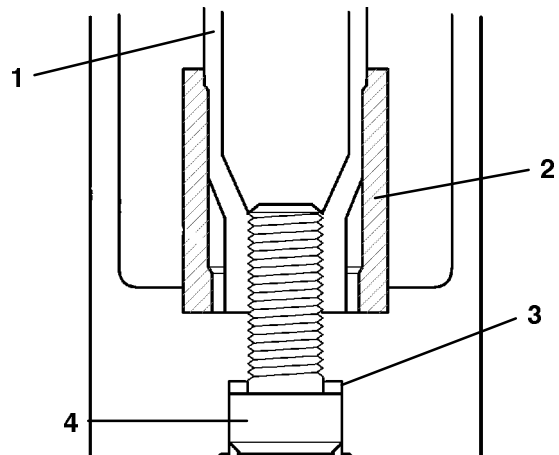
30. Lubricate the damper rod piston ring and lower bush with clean fork oil. Also lubricate the top bush supplied with the kit using clean fork oil.
31. Fit the rebound spring to the damper rod then insert the assembly into the inner tube.



T908.11.13

1. Rebound spring
2. Damper rod

32. Fit the seat securely to the end of the damper rod then insert the inner tube assembly into the right hand outer tube supplied with the kit.
33. Fit the sealing washer supplied with the kit to the damper rod bolt then apply locking compound (Three Bond 1342) to the bolt threads.
34. Ensure the damper rod and seat are correctly located in the outer tube then fit the damper rod bolt, tightening it to **43 Nm**.

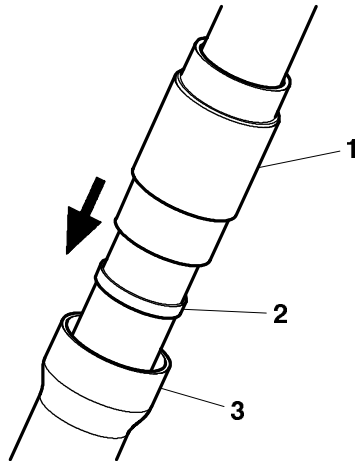


1. Damper rod
2. Seat
3. Sealing washer
4. Bolt

35. Slide the top bush supplied with the kit along the inner tube and locate it in the outer tube. Drift the bush into position using the plain end of tool 3880080-T0301.

**NOTE:**

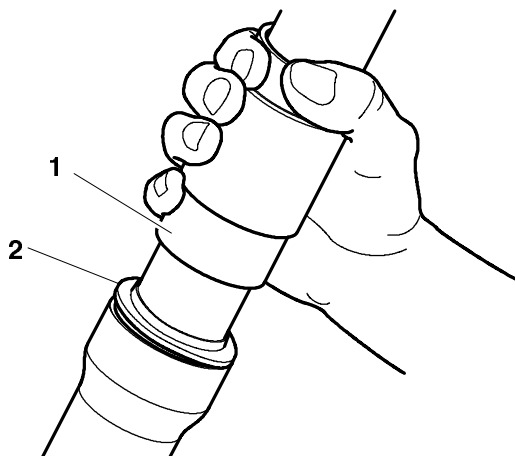
- Keep the fork fully compressed whilst installing the bush, oil seal and circlip. Any accidental damage to the inner tube will then be confined to the area which is normally above the oil seal.



11.11-2

- 1. Tool 3880080-T0301
- 2. Top bush
- 3. Outer tube

36. Slide the washer along the inner tube and locate it in the outer tube.
37. Lubricate the lip of the oil seal supplied with the kit with fork oil. Ensure the seal is the correct way around then ease it onto the inner tube. Drift the seal into position in the outer tube using the plain end of tool 3880080-T0301.



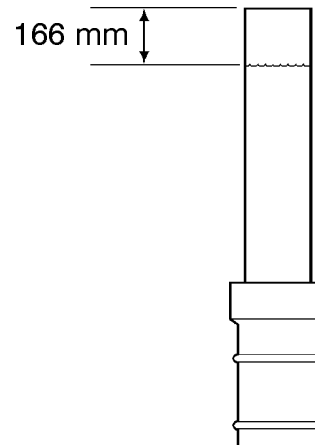
11.11-3

- 1. Tool 3880080-T0301
- 2. Dust seal

38. Secure the oil seal in position with the circlip, ensuring it is correctly located in its groove.
39. Fit the dust seal supplied with the kit onto the inner tube and drift it into position in the outer tube using the chamfered end of tool 3880080-T0301.
40. Upright the fork and fill it with Kayaba G10 fork oil until the oil level is slightly above the recommended level shown below. The fork oil capacity is 548 cc.



**WARNING:** Any variation from the figures quoted could result in an unsafe riding condition leading to loss of control and an accident.



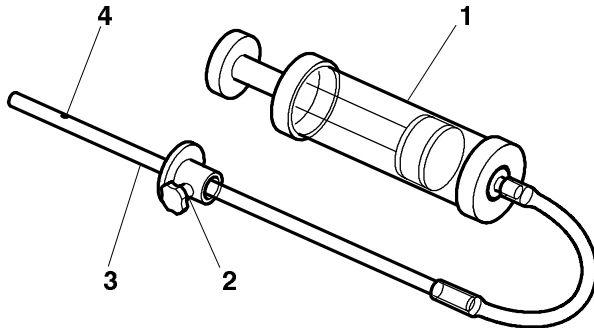
**Fork oil level (fork fully compressed)**

41. Pump the fork assembly several times to expel any trapped air then fully compress the fork and support it in an upright position. Leave the fork for a few minutes to allow the oil level to stabilise.

# Brake Upgrade Kit Fitting Instructions – Bonneville America



42. Set the scale on tool 3880160-T0301 to the specified level.

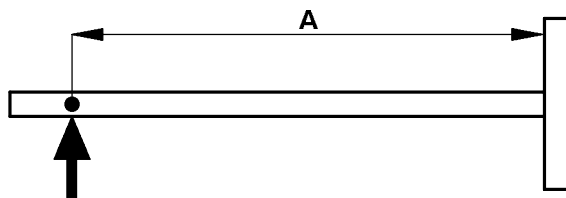


11.07-1

- 1. Tool 3880160-T0301
- 2. Adjuster plate
- 3. Scale area
- 4. Hole (zero position)

**NOTE:**

- Zero level on the tool is set at the small exit hole in the side of the scale tube, NOT AT THE END TIP. Do not attempt to block this side hole as this will cause the final fluid level to be incorrect.



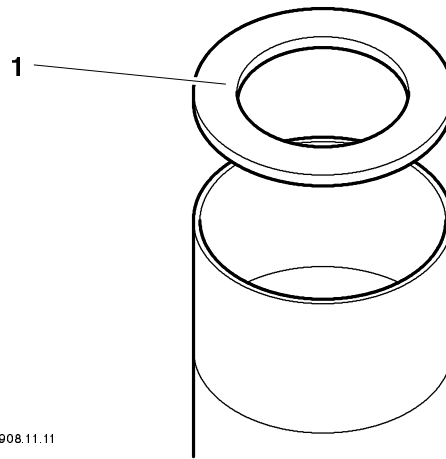
**Zero level measured from oil hole  
Set dimension 'A' to the required oil level**

TEC11.07-2

43. Insert the scale end of the tool into the fork inner tube.
44. Hold the tool adjuster plate level with the upper surface of the fork inner tube and draw fluid into the syringe until fluid flow ceases (empty the syringe if the body becomes full before fluid flow stops).
45. The fluid level in the fork is now set to the height set on the tool scale. Check the tool scale setting and repeat the process if incorrectly set.

46. Extend the inner tube and insert the fork spring.

47. Fit the spring seat and spacer.



T008.11.11

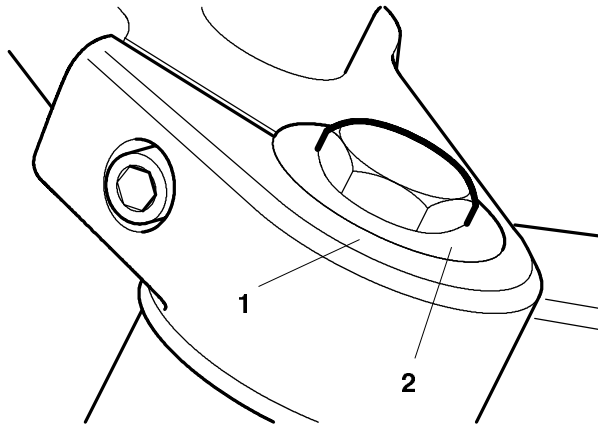
1. Spring seat

48. Lubricate the O-ring with a smear of fork oil then screw the top cap fully into the inner tube.

**! WARNING: Keep the top cap under pressure until you are sure it is fully engaged with the inner tube threads. To prevent injury, always wear eye, face and hand protection when refitting the top cap.**

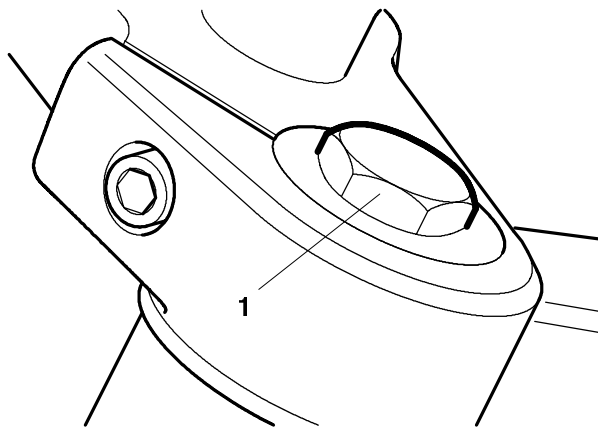
49. Position the right hand lower fork shroud over the right hand fork resting it on the mudguard mounting lugs.
50. Slide the right hand fork into the yokes ensuring the right hand upper fork shroud remains in position.

51. Position the right hand fork so its inner tube upper surface is flush to the upper surface of the top yoke then tighten the bottom yoke clamp bolt to **27 Nm**.



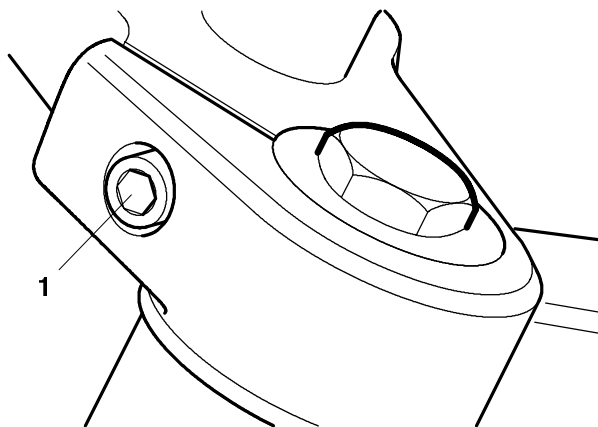
1. Upper yoke top surface  
2. Fork inner tube

52. Tighten the right hand fork top cap to **23 Nm**.



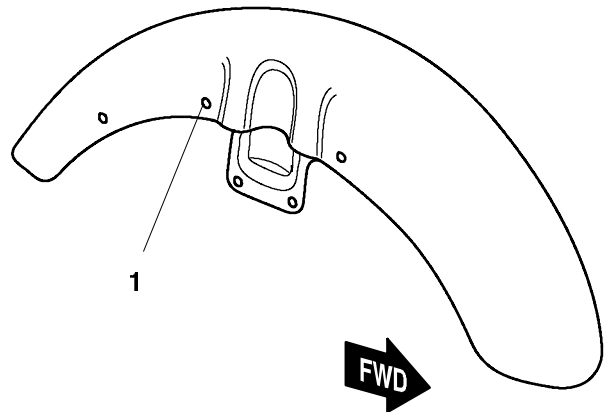
1. Top cap

53. Tighten the top yoke clamp bolt to **20 Nm**.



1. Top yoke clamp bolt

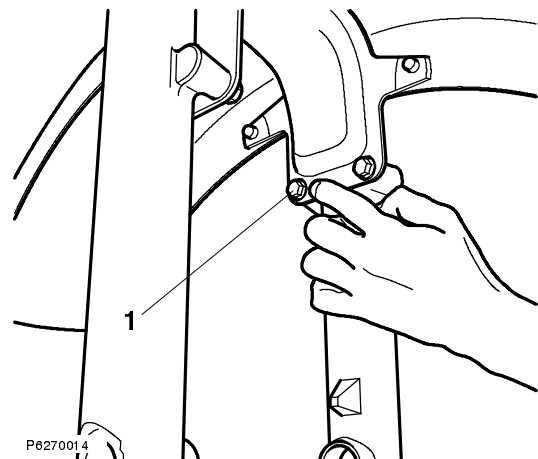
54. Position the template supplied with the kit to the front mudguard. Ensure that the template large arrow points towards the front of the mudguard and that the template reference holes align to the left hand and right hand rear mounting holes shown below.



1. Rear mounting hole (right hand shown)

55. Mark the centres of the two holes shown on the template. Drill an 8.2 mm diameter hole in each of the marked locations.

56. Manoeuvre the mudguard into position. Fit the left hand brake hose bracket and 'P' clip beneath the head of the left hand rear fixing.



1. Left hand brake hose bracket and 'P' clip fixing point

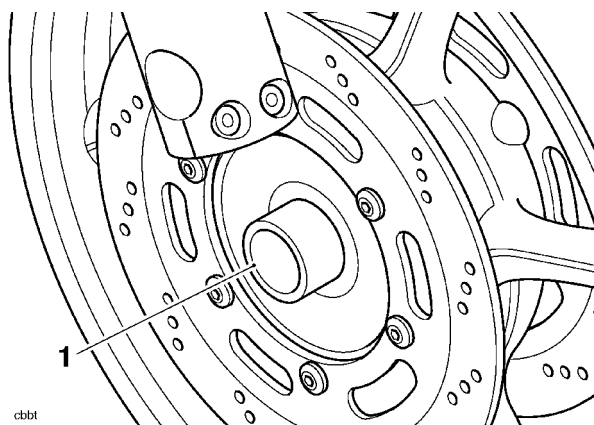
57. Fit the right hand brake hose bracket and 'P' clip supplied with the kit beneath the head of the right hand rear fixing. Fit the remaining two bolts.

58. Tighten the bolts securing the mudguard to the forks to **12 Nm**.

## Brake Upgrade Kit Fitting Instructions – Bonneville America

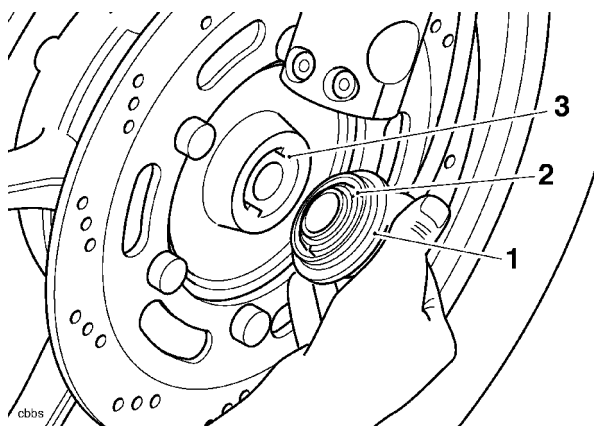


59. Lubricate the lips of the wheel bearing seals with a smear of multi-purpose grease.
60. Thoroughly clean both sides of both the brake discs.
61. Position the wheel between the forks and fit the spacer to right side of the wheel.



### 1. Spacer

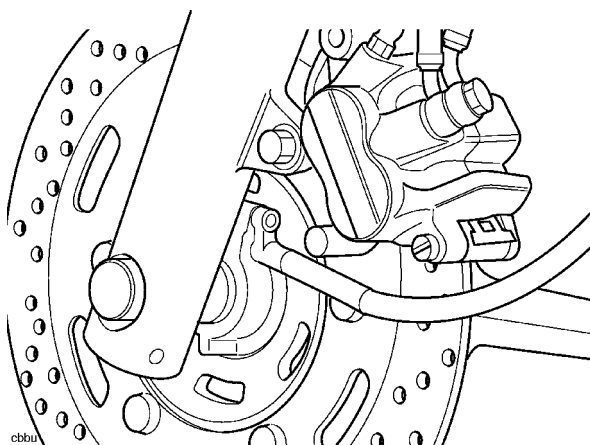
62. Align the speedometer drive gear cut-outs with the driveplate tabs and fit the drive to the right side of the wheel.



1. Speedometer drive
2. Drive cut-outs
3. Driveplate tabs

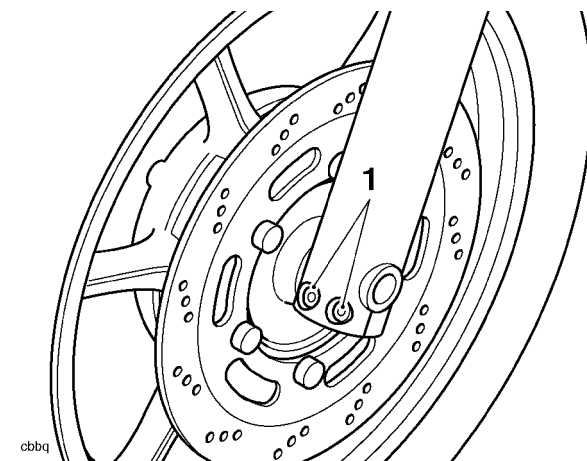
63. Align the wheel to the fitted position and insert the spindle from the left-hand side.
64. On the right-hand side, fit the bolt to the spindle and tighten to **60 Nm**.

65. Slide the displaced left hand caliper onto the disc, ensure the pads pass either side, and fit the mounting bolts. Hand tighten the mounting bolts.
66. Lower the motorcycle to the ground and park on the side stand.
67. Ensure the speedometer drive is positioned as shown below.



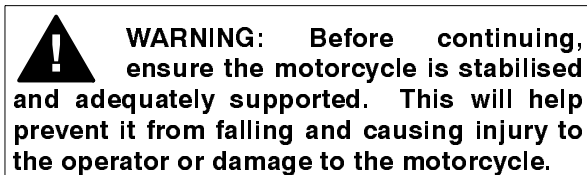
### Speedometer drive position

68. Pump the front forks a few times then tighten the spindle clamp bolt to **20 Nm**.



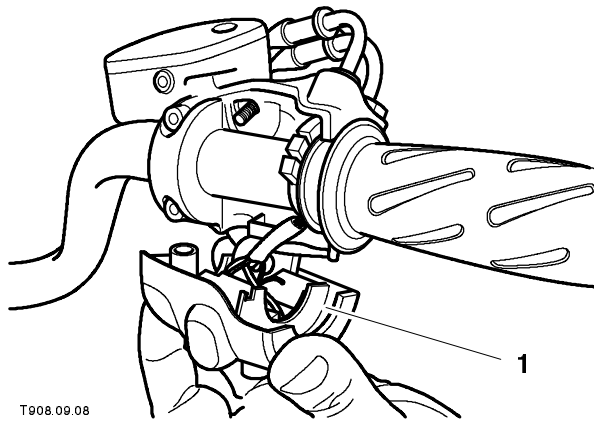
### 1. Spindle clamp bolts

69. Park the motorcycle on the side stand.



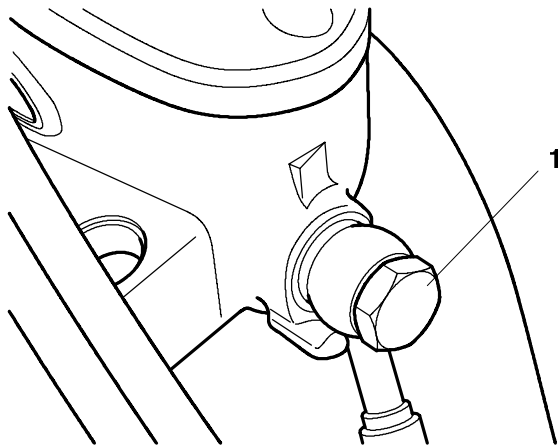
70. Remove the mirror.

71. Undo the screws and free the right-hand switchgear assembly from the master cylinder.



### 1. Right-hand switchgear assembly

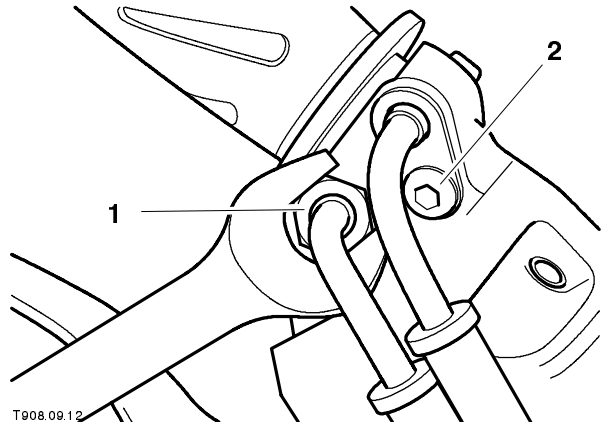
72. Disconnect the wiring from the front brake light switch.
73. Position a cloth beneath the hose to catch any spilt fluid then unscrew the banjo bolt and disconnect the brake hose from the master cylinder. Discard the sealing washers and keep the hose upright to minimise fluid loss.



### 1. Banjo bolt

74. Slacken the reservoir cover screws.

75. Slacken the nut and screw securing the throttle cables to the master cylinder.



### 1. Closing cable nut

### 2. Opening cable screw

76. Undo the screws and remove the master cylinder mounting clamp.
77. Free the throttle cables from the twistgrip and free the master cylinder from the handlebars.

### NOTE:

- **Keep the master cylinder upright to prevent fluid spillage.**
- **If necessary, free the throttle cables from the carburettor bracket to gain the necessary freeplay to allow them to be disconnected from the twistgrip.**

78. Remove the screw and slacken the nut then detach the throttle cables from the master cylinder.

79. Remove the master cylinder then lift off the reservoir cover and diaphragm and empty its contents into a suitable container.

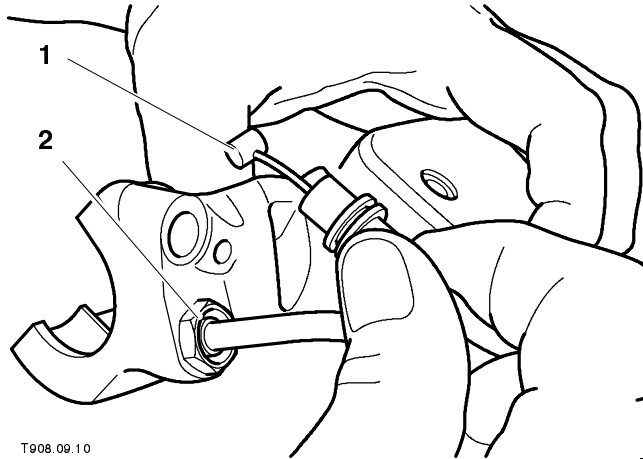
### NOTE:

- **The master cylinder assembly will not be refitted but should be retained for future re-use if the brake upgrade kit is ever removed.**

# Brake Upgrade Kit Fitting Instructions – Bonneville America



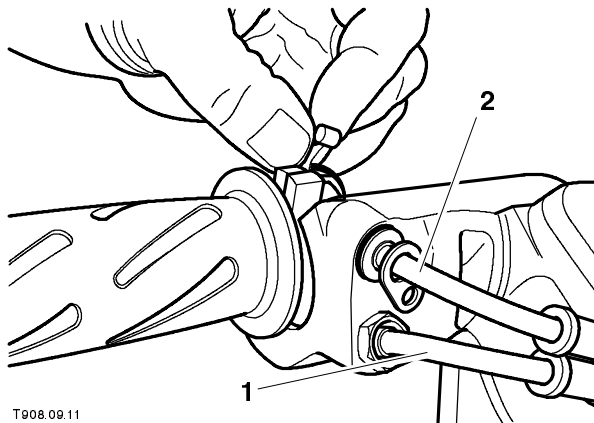
80. Fit the throttle cables to the master cylinder assembly supplied with the kit, tightening the retaining screw/nut securely.



T908.09.10

1. Opening cable
2. Closing cable

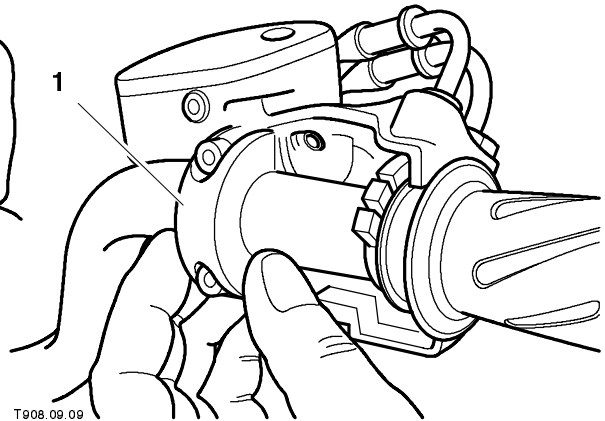
81. Connect the cables to the twistgrip then seat the master cylinder on the handlebars.



T908.09.11

1. Closing cable
2. Opening cable

82. Fit the mounting clamp and bolts. Align the clamp lower split with the punch mark on the handlebar then evenly tighten the clamp bolts to **15 Nm**.



T908.09.09

1. Master cylinder mounting clamp

83. Fit the switchgear assembly to the master cylinder, tightening the screws to **6 Nm**.

#### NOTE:

- **Tuck the indicator wiring and connector into the recess in the front half of the switchgear.**

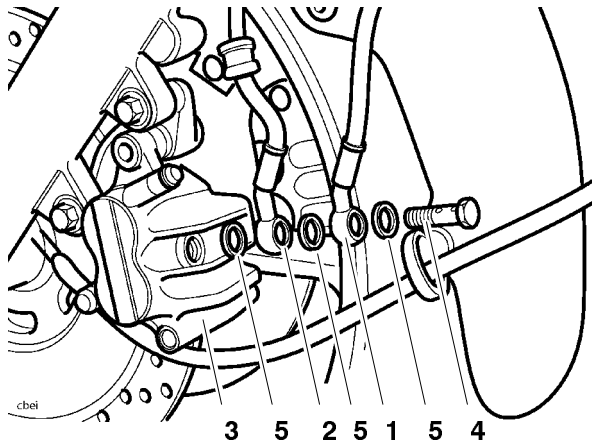
84. Position an M10 washer supplied with the kit on each side of the brake hose end fitting then secure the hose to the master cylinder using the banjo bolt from the discarded master cylinder. Tighten the banjo bolt to **25 Nm**.

85. Unscrew the banjo bolt and disconnect the front brake hose from the left hand caliper. Place the hose end in a suitable container to collect any remaining brake fluid and discard the sealing washers. Retain the banjo bolt.

## Brake Upgrade Kit Fitting Instructions – Bonneville America

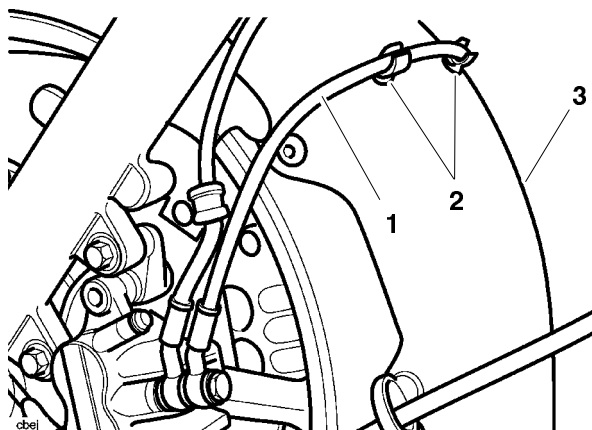


86. Refer to the illustration below. Position the bridging hose supplied with the kit and the existing front brake hose to the left hand caliper. Secure both hoses to the left hand caliper using the banjo bolt and three of the M10 washers supplied with the kit. Tighten the banjo bolt to **25 Nm**.



- 1. Bridging hose
- 2. Front brake hose
- 3. Left hand caliper
- 4. Banjo bolt
- 5. M10 washer

87. Route the bridging hose over the top of the front mudguard and engage in the two clips as shown below.

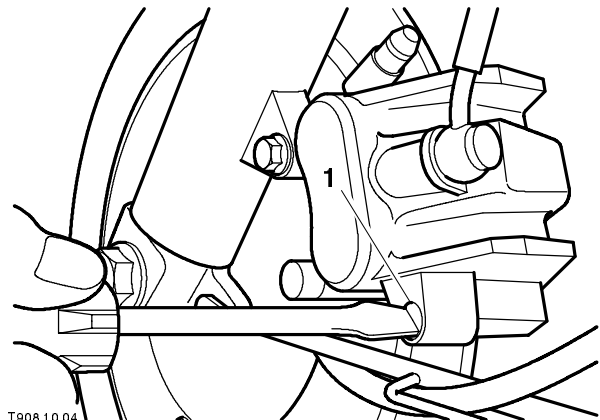


- 1. Bridging hose
- 2. Front mudguard
- 3. Clip

88. Slide the right hand caliper assembly supplied with the kit onto the right hand disc ensuring that the pads pass either side of the disc. Mount the right hand caliper assembly to the fork outer tube using the two M8 x 40 hex head bolts supplied with the kit. Tighten the mounting bolts to **28 Nm**.

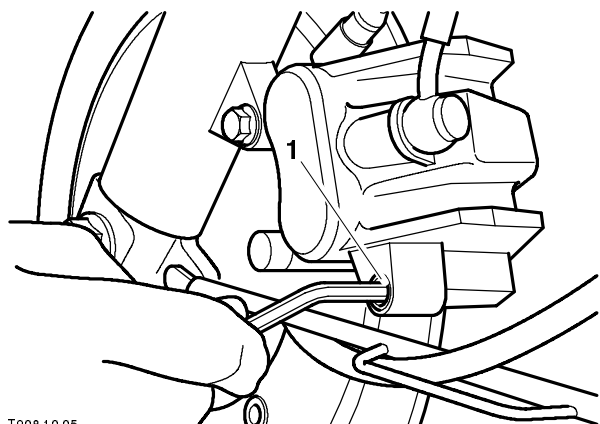
89. Position the two remaining M10 washers supplied with the kit on each side of the bridging hose end fitting then secure the hose to the right hand caliper using the banjo bolt previously removed from the left hand caliper. Tighten the banjo bolt to **25 Nm**.

90. Unscrew the pad retaining pin plug from the left hand caliper.



- 1. Pad retaining pin plug

91. Loosen the pad retaining pin.



- 1. Pad retaining pin

92. Remove the hand tight caliper mounting bolts and slide the left hand caliper off the disc.



**CAUTION: Do not allow the caliper to hang on its brake hose while detached from the fork as this could damage the brake hose.**

**To prevent brake hose damage, always support the caliper while it is detached from the fork.**

93. Remove the pad retaining pin. Remove and discard the pads from the left hand caliper. Take care not to lose the pad retainer from the mounting bracket or the anti-rattle spring from the caliper body.
94. Check the pad retainer, anti-rattle spring and retaining pin. Renew any component which shows signs of damage or corrosion.
95. Check the caliper body slides easily on the mounting bracket pins and check there is no sign of leakage from the piston seals. Rectify any problems before installing the pads supplied with the kit.
96. Push the pistons fully back into the caliper body.
97. Ensure the pad retainer is correctly fitted to the mounting bracket and the anti-rattle spring is securely clipped onto the caliper body.
98. Lubricate the pad retaining pin with a thin smear of proprietary high-temperature brake grease.



**WARNING: Do not apply more than a minimum coating of grease to the pad retaining pin. Excess grease may contaminate the brake pads, hydraulic seals and disc causing reduced braking efficiency which may lead to loss of control and an accident.**

99. Fit the pads supplied with the kit to the left hand caliper with their friction material surfaces facing each other. Locate the pad upper ends in the mounting bracket retainer then align them with the caliper body and insert the retaining pin.

100. Slide the left hand caliper onto the disc, ensure the pads pass either side, and fit the mounting bolts. Tighten the mounting bolts to **28 Nm**.

101. Tighten the pad retaining pin to **18 Nm**.

102. Fit the pad retaining pin plug to the caliper and tighten to **3 Nm**.

103. Bleed each front caliper in turn as follows. Remove the dust cap from the brake caliper bleed nipple.

104. Attach a transparent tube to the bleed nipple.

105. Place the other end of the tube in a container partially filled with new brake fluid. Keep the tube end below the level of fluid.

106. Turn the handlebars to bring the fluid reservoir to a level position.

107. Undo the screws and remove the cap and rubber diaphragm from the reservoir, taking care not to spill any fluid.

108. Top the fluid level upto the upper level mark using new DOT 4 fluid.



**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 which has been previously opened.**

**Always check for fluid leakage around hydraulic fittings and for damage to hoses. Rectify faults as necessary before riding.**

**A dangerous riding condition leading to an accident could result if this warning is ignored.**

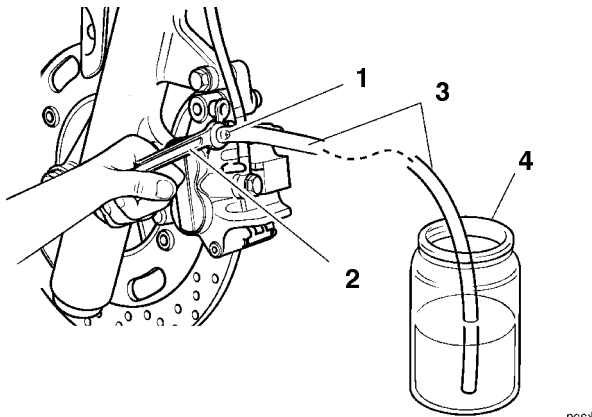


**CAUTION: To prevent body damage, do not spill brake fluid onto any area of the bodywork.**

## NOTE:

- Ensure the fluid level is kept above the lower level mark at all times during bleeding. If the level is allowed to fall below the lower mark, air may enter the system and the bleeding operation will have to be restarted.

109. Hold the brake lever in gently then loosen the bleed nipple until fluid is expelled from the nipple.



1. Bleed Nipple
2. Spanner
3. Bleed Tube
4. Container

110. Slowly pump the brake lever a few times then hold the lever in and tighten the bleed nipple.

111. Repeat steps 109 and 110 until no more air is visible in the fluid exiting the bleed nipple.

112. Repeat steps 103 to 111 for the other front brake caliper.

113. Check the operation of the brake lever. If the lever feels soft, or there is excessive lever travel before the brake is applied, there is still air in the system. Repeat the bleeding procedure.

114. When the brake operation is correct, disconnect the tube. Tighten the bleed nipple to **5 Nm** and refit the dust cap.

115. Fill the reservoir to the upper level with new DOT 4 fluid.



**WARNING:** Use only D.O.T. 4 specification brake fluid as listed in the general information section of this manual. The use of brake fluids other than those D.O.T. 4 fluids listed in the general information section may reduce the efficiency of the braking system leading to an accident.

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

116. Wipe clean the rubber diaphragm and seat it correctly in the top of the reservoir. Fit the cap to the reservoir and securely tighten its retaining screws.

117. Check the throttle cable operation and adjust the cable freeplay as described in section 9.



**WARNING:** Operation of the motorcycle with an incorrectly adjusted, incorrectly routed or damaged throttle cable could interfere with the operation of the brakes, clutch or the throttle itself. Any of these conditions could result in loss of control of the motorcycle and an accident.



**WARNING:** Move the handlebars to left and right full lock while checking that cables and harnesses do not bind. A cable or harness which binds will restrict the steering and may cause loss of control and an accident.

118. Install the rear view mirror tightening its screw to **10 Nm**.

119. Operate the front brake several times to realign the brake pads.

120. Check the operation of the brake and carry out a thorough leak check before riding the motorcycle.