

# FITTING CONWAYS HONDA CLUTCH TO BURMAN GEARBOX

*Modified instructions from the Oz Vincent Review*

1. **Prepare the clutch basket to accept lock wire** – you need to drill one small hole in each strengthening web – see photo
2. **Prepare the new clutch top hat bolt for lock wire** – you will need to drill 2 holes, across the flats, directly opposite each other – again see the photo
3. Prepare the supplied clutch friction plates for use by soaking them in motorcycle gearbox oil, such as Motul Transoil SAE 10W30, for 24 hours. Under no circumstances use ATF (Automatic Transmission Fluid) for this, or subsequently in the primary drive case.



4. Drain primary chain-case oil.
5. Remove L/hand footrest hanger, primary chain-case cover and ESA if you do not have a split link chain. If you do it is not necessary to remove the ESA.
6. Remove primary chain and Burman clutch.
7. Take off bearing track and inner thick washer from gearbox main-shaft.
8. Wash out any contamination and oil from chain-case & cover.
9. Fit new thick washer supplied over main-shaft. Note: This washer is relieved on one side to give clearance for the clutch bearing. **Fit it with the recess outwards towards the clutch.**
10. Make sure the inner basket of the new clutch is pushed fully home into the outer basket.
11. Fit chain over clutch sprocket and engine sprocket and fit clutch and ESA onto their shafts or refit chain spring link.
12. The splines of the new clutch are longer than those of the old clutch. This gives better engagement and longer life but might cause a tight fit. Use a hide mallet to VERY gently tap

- the centre onto the shaft. Take care NOT use excessive force which may damage the very thin retainer for the circlip of the main-shaft bearing on the kick-start end of the shaft.
13. If the Clutch is very tight use a Swiss File to relieve the Clutch Splines (NOT the main shaft!) until a tight sliding fit is achieved.
  14. If the splines on your main-shaft are worn it does not matter because the new clutch centre will engage good unworn splines behind the worn ones.
  15. Fit the Top Hat nut provided after ensuring that the grub screw locker is below the surface of the nut. Now use the rear brake adjusters – tighten both of them up as much as you can by hand – do not use any tools – and you will find that there is more than adequate locking to allow for locking and tightening of the clutch centre nut. DO NOT try locking the drive spindle by putting something through the rear wheel spokes – you WILL end up with one or more bent spokes – you have been warned!
  16. Fully tighten centre nut (1 5/16" or 33mm socket), there is NO NEED to use Loctite as the lock wire will secure the nut. Do not tighten the locking grub screw just yet.
  17. Once you have tightened the clutch centre nut check that the clutch basket rotates freely on its bearing. If there is any drag you have possibly put the thick spacer on (see item 10) around the wrong way. Remove the nut and clutch basket assembly then refit the thick washer so that only the raised centre of the washer is pressed up against the bearing.
  18. If the ESA was removed, re-fit the spring dimpled plate (PD5) over the outer end of splined cam sleeve (PD4) with the dimples facing outwards away from the springs. This has proved to reduce spring breakage.
  19. Fit the whole ESA unit over the main-shaft with the splined shaft protruding through the dimpled plate and do up the nut fully against the locked rear wheel. This method of fitting the plate will ensure that the splines engage the sleeve easily and correctly.
  - 20. Please check that the sprocket of your new clutch is in line with the engine sprocket when both are done up tight. If it does NOT line up you will need to correct the misalignment by fitting suitable spacer(s) as needed.**
  21. After you have confirmed the alignment of the drive and clutch sprockets, Fit lock wire to the clutch centre – use both holes (you made) in the Top Hat nut so ensuring the balance is maintained – see photo. Now screw in locking grub screw (which is 2BA or 3/16"BSF, not metric), Loctite may be used, but only on the grub screw.
  22. Fit the clutch plates alternately starting and finishing with a friction plate. (some clutches have a loose thick steel plate first that may or may not be retained by a very thin circlip. Others have a cast alloy plate integral with the centre hub)
  23. Before fitting the pressure plate remove the old clutch push rod. If it is one piece, cut approximately in the middle with a hacksaw. File or grind cut end flat and heat over a gas ring to cherry red and plunge in cold water to harden.
  24. Grease shortened push rod and refit to shaft. Push in new section of rod provided, hardened end first.
  25. Remove cable inspection cap on Kick-starter cover and check that the clutch cable is allowing operating arm to go fully out into kick-start cover. If it is not check that the operating arm adjustment under the cover retained by 2 1/4" W screws on the kick-start cover is set midway of its adjustment, then adjust cable or shorten outer to allow arm to sit correctly.
  26. Estimate the length of push rod required to touch pressure plate and cut with hacksaw. Flatten end of rod and re-check length before hardening. Only when you are sure you have it right harden the cut end of new rod, grease and fit.
  27. If you cut too much off the push rod a ¼ inch x ¼ inch roller can be inserted between the cut ends of the push rods and re-measure and cut again. If a roller is not available a section of the discarded rod can be fashioned and hardened for the purpose.
  28. Finally fit pressure plate, springs washers and 10mm bolts. Fully tighten bolts & adjust cable to give a small amount of slack at the lever.
  29. Now utilising the kick start cover inspection cap, make sure that at the point of clutch

disengagement/engagement that the clutch cable is at a right angle to the clutch operating arm (inside the kick start cover). This is essential for a light clutch operation. If it is NOT at a right angle you need to adjust the position of the operating arm. The operating arm adjustment under the cover retained by 2 1/4" W screws on the kick-start cover.

30. It may now be necessary to adjust your clutch cable to give the desired action and free play at the hand lever. If you cannot get sufficient adjustment then you may need to make a change to the length of the clutch pushrod.
  31. Once happy with the clutch operating cable and the clutch hand lever operation it is time to Check and adjust primary chain and rear chain followed by a final test of the clutch operation. If you are happy with it, re-fit primary cover and footrest hanger.
  32. **Motorcycle specific Gearbox Oil, such as MOTUL Transoil 10W30 should be used in the chain case.** Do NOT use ATF (Automatic Transmission Fluid).
  33. If after initial 'bedding down' of the clutch plates the clutch has become sticky and does not easily disengage as easily as it did when first fitted it will be necessary to remove the plates and wash them off in a degreasing solvent and re-fit them. The problem should not then re-occur.
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The Conways Clutch Kit for Comet uses a clutch from a:

- Honda CB360 G/T 1974-1976
- Honda CJ360 T 1976-1977

EBC Brakes are able to supply suitable clutch parts if needed: [www.ebcbrakes.com](http://www.ebcbrakes.com)

The EBC Friction plate set is EBC part # CK1132

The EBC Clutch Spring Kit is part # CSK082.

EBC can also supply a special tool used to allow positive holding of the clutch basket and center allowing removal or refit of the clutch basket center securing nut.. It is EBC part # CT009

The Plain Metal drive plates are Honda part # 22321-357-0 10

Barnett Clutches in the USA also can supply replacement parts suitable for the Honda clutch used in this conversion. [www.barnettclutches.com](http://www.barnettclutches.com)

The plain metal drive plates are Barnett part # 401-35-047002

The friction plates are Barnett part # 301-48-10001

The clutch springs are Barnett part # 501-66-04010

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My web site: <https://ovr270.wixsite.com/ozvincentreview>