

*Fitting Instructions for the Honda
CRF250/300L/Rally Level 1 and Level
2 Fork Cartridge Kit*



NOTE: BEFORE COMMENCING WORK ON THE CONVERSION, TAKE TIME TO READ THE INSTRUCTIONS FULLY BEFORE COMMENCING WORK. ALL WORK CAN BE CARRIED OUT BY A COMPETENT MECHANIC, BUT IF YOU ARE UNSURE, PLEASE CONTACT US OR A MECHANICAL PROFESSIONAL.

KEEP ALL PARTS THAT ARE REMOVED, AS IT IS POSSIBLE TO REMOVE OUR KITS AND RETURN THE BIKE TO STANDARD, IF REQUIRED

Put motorcycle on a suitable centre stand so the bike is stable, and the front wheel raised from the floor.


1. Undo both RH leg front axle pinch bolts using 10mm spanner.

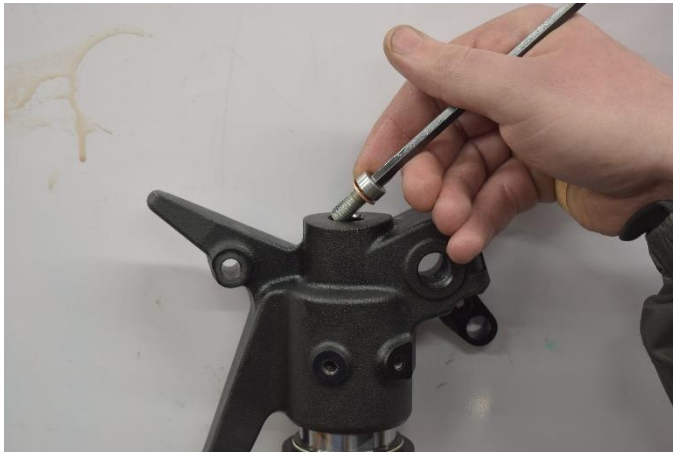
2. Undo front spindle with 14mm hex driver and remove front wheel

3. Undo and remove all 3 lower fork guard screws from left fork leg using 6mm allen key.

4. LEFT LEG. Undo and remove m6 screw that secured front abs sensor to the lower left leg using 8mm socket.

5. Gently compress the barbed tabs on the back of the abs sensor cable clip and remove clip.

	<p>6. Undo and remove both front caliper bolts using 12mm socket.</p>
	<p>7. Undo both m6 upper pinch bolts on the triple clamps using 10mm spanner or socket. Gently undo both fork caps by half a turn, using 30mm spanner.</p>
	<p>8. Hold lower fork leg and undo both of the M6 pinch bolts on the lower triple, remove fork leg.</p>
	<p>9. Repeat steps 8-9 on the right fork leg.</p>
	<p>LEFT LEG OPERATION</p> <p>Note: The left fork leg contains only the OEM cartridge and does not have a fork spring as standard.</p>
	<p>1. Invert fork leg and clean the recess and head of the M8 cap head bolt in the lower fork leg. It is important to use an airline or like fully ensure no dirt is left inside the head of the bolt.</p>



2. Using a 6mm allen key, unscrew and remove the M8 cap head bolt from the lower fork leg casting.

NOTE: Sometimes this is not possible, as the cartridge spins with the screw. If this happens compress the fork fully and then try unscrewing again.

If this fails, then unscrew the fork cap fully using 30mm spanner. Remove oil from the leg and compress the leg. Pull hard on the fork cap and damper rod whilst unscrewing M8 bolt with a 6mm Allen key.



3. Remove the complete cartridge and fork cap assembly and discard. Then invert complete leg and allow to fully drain of old oil.



4. Remove 8mm copper washer from the M8 cap head bolt and clean off any previous Loctite residue from threads and washer.

5. Refit copper washer to M8 bolt, then apply blue 258 Loctite or like the threads.

IF YOU ARE CHANGING FORK SEALS, PLEASE REFER TO FORK SEAL GUIDE BEFORE CONTINUING FURTHER.



6. Take new fork cartridge, unscrew and remove fork cap along with 3 plastic (two thin & 1 thick) preload washers.

Take care you have removed all 3, as sometimes they can suction inside the recess on the fork cap.

NOTE: LEVEL 1 FORK CARTRIDGE HAS 2 LOWER WASHERS, LEVEL 2 FORK CATRRIDGE HAS 1 LOWER WASHER.

NOTE: DO NOT REMOVE THE LOWEST PLASTIC WASHER(S), THIS IS TO STAY ON THE TOP OF THE CARTRIDGE.

The Lower washers have a larger internal diameter than the upper preload washers, so they can fit over the aluminium cartridge guide



7. With damper rod fully extended, grasp by hand and screw down the plastic spring guide until the threads bottom. There should be around 18mm of thread exposed above the spring guide nut.

The thin aluminium needle should sit above the damper rod by around 6mm.

8. Slide new fork spring over the spring guide and ensure it is seated on the plastic washer(s) that sits on top of the cartridge.

NOTE: FOR LEVEL 2 FORKS BOTH SPRINGS ARE THE SAME LENGTH. WHEN FITTING LEVEL 1 USE THE SHORTER 390MM LONG SPRING IN THE LEFT LEG (CARTRIDGE LEG)



9. Using the 6mm pin tool that is supplied with the multi tool (tools are stored inside the unscrewable cap on the multi tool) ,or a 6mm allen key, insert it into the hole towards the top of the spring guide. Then holding the tool rotate the spring clockwise. This will lift the damper rod assembly up until the top of the spring is below the hexagon spanner flats on the upper spring guide nut.



10. Hold the fork preload cap by hand, and with a 4mm allen key gently unscrew the centre damping screw. Turn anti clockwise until the stop is felt then slowly turn clockwise until the first “click” is felt.



11. Using the 22mm preload adjuster spanner, hold the fork cap outer and undo the hexagonal preload adjuster anti clockwise until it stops.

Then slowly turn clockwise until the first “click” is felt.



12. Replace the 3 plastic preload washers and the fork cap by hand. Then using a 17mm spanner on the spring guide nut and a 22mm ring spanner on the centre preload adjuster nut on fork cap, then tighten the two parts together securely.



13. Insert the whole new cartridge into the fork and hand tighten the new fork cap into the leg using the pin spanner provided.

NOTE: DO NOT TIGHTEN USING THE 22MM INTERNAL HEXAGON ON THE CAP.



14. Invert the fork and compress gently until the M8 threaded hole is visible through the recess in the lower fork casting. Lift the fork lower up around 3-4" and begin slowly filling with oil.

IT MAY BE NECESSARY TO FORCE THE OIL THROUGH THE CARTRIDGE BY LIFTING THE LOWER FORK UP 3-4", FILLING WITH OIL AND COVERING THE HOLE WITH YOUR THUMB BEFORE SLOWLY COMPRESSING THE FORK. THIS WILL PRESSURISE THE OIL INTO THE CARTRIDGE AND FORCE THE AIR OUT.

NOTE: BECAUSE THIS CREATES A SMALL AMOUNT OF PRESSURE, PLEASE BE VERY CAREFUL THAT OIL IS NOT EXPELLED AND CAUSES HARM. TO COUNTER ACT THE PRESSURE SIMPLY RAISE THE FORK LOWER A LITTLE BEFORE RELEASING THE PRESSURE.



15. The left leg with cartridge fitted will need 500ml of 5W fully synthetic fork oil to achieve the correct air gap of 100mm. However, this is when fitting a new cartridge that is void of any oil. When servicing the forks later it is generally impossible to completely empty the unit of oil and therefore, we suggest filling with 450ml in this case.



16. Slowly pour the oil through the 8mm hole, about 100ml at a time whilst gently moving the fork lower up and down to help bleed air from the system.

17. Repeat this until nearly all of the oil is filled. It may be necessary to force the remaining oil through the cartridge by lifting the lower fork up 3-4", filling with oil and covering the hole with your thumb before slowly compressing the fork. This will pressurise the oil into the cartridge and force and air out.

NOTE: BECAUSE THIS CREATES A SMALL AMOUNT OF PRESSURE, PLEASE BE VERY CAREFUL THAT OIL IS NOT EXPELLED AND CAUSES HARM. TO COUNTER ACT THE PRESSURE SIMPLY RAISE THE FORK LOWER A LITTLE BEFORE RELEASING THE PRESSURE.



18. Once all the oil has been filled, refit the M8 cap head bolt through the lower fork casting into the cartridge. To make this easier you can gently clamp the fork casting when fitting the bolt.

Fully tighten M8 screw using 6mm allen key

19. Turn fork leg the correct way up then compresses by hand to check for free operation.

RIGHT LEG OPERATION

The right leg contains on the single compression spring underneath the fork cap and top out spring assembly



1. Undo fork cap with 30mm spanner, then invert leg and remove fork oil into a container.



2. Undo locknut under fork cap and remove fork cap using 30mm spanner on the cap, and a 14mm spanner on the lower lock nut under the cap.



3. Invert fork leg and remove wiper seal with plastic knife or flat screwdriver.



4. Use a small pick or screwdriver to remove wire clip from inside fork tube.



5. Hold the lower fork tube in one hand, and the allow upper in the other. Using a firm sliding action separate the two parts. The lower tube assembly will come out with the fork seal, metal washer and both DU bushes.



6. Clamp lower tube vertically, and place aluminium drill jig guide over damper rod and slide down onto top of the fork tube. This will place the drill hole in the correct position to drill a 1.5mm hole in the tube in order to push the clip out. Position the drill jig so that the hole in the jig is about 5-6mm from either end of the circlip. This will make it easier remove the clip from the tube recess.



7. Insert large aluminium tool over the damper rod (smaller end first). This will fit snugly inside the drill jig, and with downward pressure on it you can push the metal washer down around 2-3mm.



8. Whilst pushing down with the long tool, use the 1.5mm drill provided to gently drill through the fork tube. It is very important to hold everything securely and only push the drill very gently. The tube wall is quite thin, so take care not to push the drill further than needed, as it could snap the drill.



9. Once the hole is drilled, remove both long tool and drill guide. It should be possible to replace the long tool alone and push down the tapered metal washer.

Using a small rod or the drill bit, gently push through the hole you drilled to push out the wire clip and remove, discard old cap.



10. Remove damper rod with the top-out spring assembly, then tip out the fork spring. There is also a white plastic spacer in the bottom of the tube. This often needs gently tapping out, so invert the tube and tap gently on a soft surface to avoid damage to the open end of the tube.

Discard top out spring assembly and fork spring.

DO NO DISCARD WHITE PLASTIC SPACER

IF YOU ARE CHANGING FORK SEALS, PLEASE REFER TO FORK SEAL GUIDE BEFORE CONTINUING FURTHER. IF NOT CHANGING THE FORK SEALS THE REFIT LOWER LEG AND OEM SEAL AND BUSHINGS AS PER INSTRUCTIONS BELOW.



11. Hold the gold upper tube upside down then insert the whole lower leg about halfway into to the gold tube. Ensure smaller DU bush and steel washer drop into location before using fork seal driver to firmly seat the bush and washer into the fork outer.



12. Once fully seated, slide in the fork seal by hand as far as it will go. Then gently drive it the remaining distance using the fork seal driver. When the fork seal is seated fully, it should be possible to see and access the groove for the wire retaining clip.



13. Taking care, insert the wire retaining clip into the recess making sure it is well seated and secure. This is very important and should be checked twice.



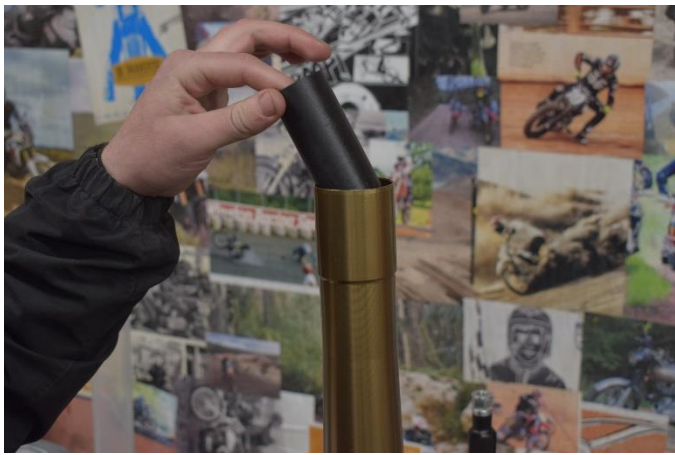
14. Slide wiper seal into fork upper and tap gently with a rubber mallet or soft driver around the edges to ensure it is correctly seated.

NOTE: DO NOT HAMMER NEAR THE INTERNAL LIP OF SEAL

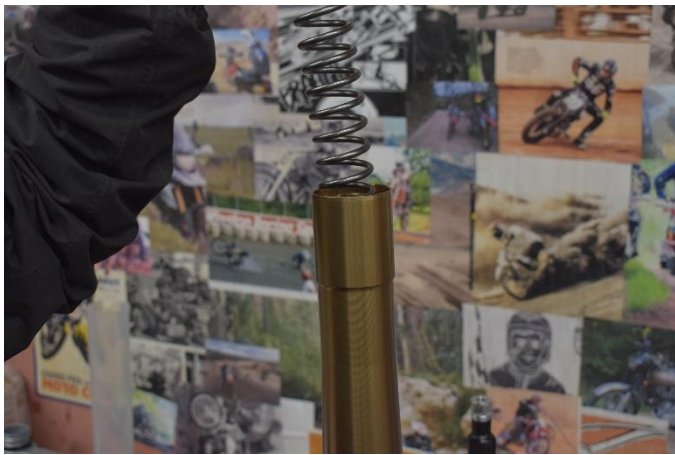
COMPRESS AND EXTEND FORK LEG GENTLY, TO CHECK FOR FREE MOMENT. DO NOT EXTEND FORK LEG MORE THAN OEM OPENING STROKE. THERE SHOULD NEVER BE MORE THAN 270MM OF CHROME LEG SHOWING.



15. Compress leg fully, then insert white OEM plastic spacer.



16. After white spacer insert black spacer provided.



17. Slide in fork spring (435mm length), then fill the leg with 400ml of 5w fork oil.

Drop in new steel washer on top of the seated spring.



18. Slide in complete preload adjuster assembly with new metal washer and circlip attached.



19. Push down the fork cap to compress fork spring, then gently push metal washer below the circlip to seat it. Using a set of circlip pliers, close the circlip and seat it into its groove.

IT IS VERY IMPORTANT THIS NEW CIRCLIP IS SECURED IN THE GROOVE SECURELY. ENSURE THE GAP BETWEEN THE EARS OF THE CIRCLIP IS WHERE THE HOLE WAS DRILLED IN THE TUBE. THAT WAY THERE IS LESS RISK OF ANY BURR CONFLICTING WITH THE CIRCLIP.



20. Using the 22mm preload spanner supplier, hold the fork cap out and turn the centre hexagon ant clockwise until it stops. Then slowly turn clockwise until the first "click" is felt.



21. Pull up fork tube outer to meet fork cap, then screw in new fork cap to the fork outer using the pin spanner provided. **DO NOT USE 22MM SPANNER ON CENTER HEXAGON PIECE TO TIGHTEN.**

22. Tighten cap by hand using pin spanner, then compress leg to check for free movement.

FORK SEAL CHANGE GUIDE



1. Remove wiper seal using plastic knife or flat screwdriver.



2. Use a small screwdriver or pick to remove wire clip from inside the fork tube.



3. Hold the lower fork tube in one hand, and the alloy upper in the other. With a firm sliding motion, separate the two parts. The lower tube assembly will come out with the fork seal, metal washer and both DU bushes.



4. Clamp the lower tube vertically in a vice using soft jaws or fork vice. Gently expand the top bush by using a screwdriver in the gap. Once expanded from the recess it can be carefully removed upwards from the tube.



5. Slide off the lower DU bush, metal washer, fork seal, metal clip and wiper seat. Discard OEM fork seal and wiper seal when changing to SFK seals.



6. Use 43mm plastic cover or similar and lightly coat with new fork oil to prevent damage to fork seals.

It is also possible to use a clean, small plastic bag to act as a protective cover on the top of the fork tube.

7. **ONLY ON RH LEG.** Slide on new travel check O ring (one O Ring is supplied in each kit



8. Slide on wiper seal.
NOTE: TAPERED END FACES TOWARDS LOWER FORK CASTING.



9. SLIDE ON WIRE RETAINING CLIP



10. Slide on fork seal, ensuring it is facing the correct way. Slide on metal washer, then remove plastic fork cover from end of tube.



11. Carefully slide on smaller DU bush.



12. Spring open larger DU bush and slide down into recess until it "clicks" into the machined groove.



13. Hold the gold upper tube upside down then insert the whole lower leg about halfway into to the gold tube. Ensure smaller DU bush and steel washer drop into location before using fork seal driver to firmly seat the bush and washer into the fork outer.



14. Once fully seated, slide in the fork seal by hand as far as it will go. Then gently drive it the remaining distance using the fork seal driver. When the fork seal is seated fully, it should be possible to see and access the groove for the wire retaining clip.



15. Taking care, insert the wire retaining clip into the recess making sure it is well seated and secure. This is very important and should be checked twice.



16. Slide wiper seal into fork upper and tap gently with a rubber mallet or soft driver around the edges to ensure it is correctly seated.

NOTE: DO NOT HAMMER NEAR THE INTERNAL LIP OF SEAL

	17. Compress and extend fork leg gently, to check for free moment. DO NOT EXTEND FORK LEG MORE THAN OEM OPENING STROKE. THERE SHOULD NEVER BE MORE THAN 270MM OF CHROME LEG SHOWING.
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RE-FITTING FORK LEGS INTO MOTORCYCLE

Left Leg:

1. Slide fork leg up into triples, ensure top of gold outer tube is level with top of triple face, then gently tighten both lower triple M6 screws with 10mm spanner. Torque to 15Nm or 12ft/lb.
2. Tighten fork cap fully, using pin spanner provided by hand, then tighten both M6 pinch screws on upper triple with 10mm spanner, torque to 21Nm or 16ft/lb.
3. Re-fit ABS sensor, and tighten M6 screw using 8mm socket, torque to 9Nm or 7ft/lb, apply Loctite beforehand to screw. Ensure the cable runs around the outside of the fork leg and replace plastic clip into hole on fork leg lower casting arm.
4. Slide fork guard onto lower axle casting, make sure the ABS sensor cable goes above the mounting screws in the recess provided. Re-fit all 3 M6 mounting screws, with Loctite applied, and torque to 5ft/lb or 7Nm.

Right Leg:

1. Slide fork leg up into triples, ensure top of gold outer tube is level with top of triple face, then gently tighten both lower triple M6 screws with 10mm spanner. Torque to 15Nm or 12ft/lb.
2. Tighten fork cap fully, using pin spanner provided, then tighten both M6 pinch screws on upper triple with 10mm spanner, torque to 16ft/lb or 21Nm.
3. Slide fork guard onto lower axle casting, re-fit all 3 M6 mounting screws, with Loctite applied, and torque to 5ft/lb or 7Nm.
4. Replace front wheel, insert axle from right and tighten fully using 14mm hex driver, or our Rally Raid tool.
5. Fit brake caliper to left leg, using M8 bolts with Loctite applied, torque to 22ft/lb or 30Nm.
6. Remove bike from stand, pump front brake to apply brake then, sitting on bike, compress the forks up and down a few times to align the right axle clamp on axle, then tighten both right axle M6 pinch bolts to 16ft/lb or 22Nm.

TO ADJUST FORK SPRING PRELOAD:

Use 22mm spanner provided on centre nut on each fork leg, rotating the nut clockwise adds preload (compresses the spring), there are a maximum of 10 turns, to give up to 10mm of preload adjustment. Start with zero pre-load (fully anti-clockwise) and ride motorcycle a couple of hours to bed in the springs before adjusting the sag.

TO ADJUST FORK DAMPING:

Use a 4mm allen key, or the 4mm bit in the multi-tool provided, and turn the adjuster, in the centre of the left leg **ONLY**, clockwise to increase damping. This is a compression damping adjuster only, the rebound is fixed. To set initial damping, rotate adjuster screw fully anti-clockwise, then screw in clockwise six clicks (1 turn).

There are twenty clicks of adjustment available, if you require more compression damping, adjust 2-3 clicks at time to give a noticeable feel.