

# BMW issues recall for rear wheel problem on R and K bikes

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**ON TUESDAY, MARCH 10, 2015, BMW MOTORRAD SENT** an email to its dealers in the United States. The email alerted service departments across the country that the manufacturer will issue a recall for the rear wheel flange in April. Due to the production cycle of *Owners' News*, we're unable to provide more official information, but BMW riders can direct questions to BMW Motorrad NA customer service by phone (800.831.1117) or email (CustomerRelations@bmwusa.com). By the time you read this, you should have received your recall notice or should receive it soon.

BMW said in its alert email, "During ongoing quality analyses, it was found that in the case of excessive torque applied to the wheel bolts, cracks or damage can occur to the rear wheel flange. Based on these findings the rear wheel flange will be replaced free of charge as a precaution with a more robust part. Vehicles are safe to operate as long as the wheel bolts are properly tightened to the factory specified torque and the flange has no cracking."

Messages left with BMW USA's press office did not generate return calls.

The rear wheel flange is an important part. The original flange, installed on over 43,000 R and K motorcycles built between November 2003 and April 2011, is star-shaped and made of aluminum. It has two circles of five threaded holes; the outer holes (at the ends of the spires) are for mounting the rear brake disc and the inner holes are for mounting the rear wheel.

It is critical that fasteners be torqued to the proper values, and especially so for the components on motorcycles that make them stop and go – wheels, brakes, swing arms, shocks, forks, etc. The proper torque on the wheel bolts is 60 Newton-meters (Nm) or 44 foot-pounds (ft-lb). The proper torque on the brake disc bolts that go into the other side of the flange is a little more complicated; first they go to 12 Nm (8.8 ft-lb), then to their final torque of 30 Nm (22 ft-lb). In addition, whenever removing or installing brake discs, pros recommend you use a star shaped crisscross pattern to avoid warping the discs. (*Refer to Mather, Phil, Haynes Service and Repair Manual: BMW R1200 Twins '04 to '09. Haynes Publishing: Somerset, England, 2009. Pages 5-2, 5-7, 5-9 and 5-10.*)

Unlike the 2014 fuel pump assembly recall, there is no handy kit from Beemer Boneyard for shade tree mechanics to buy and install themselves for a quick, easy fix. This is one of those repairs where you're better off having the work done by

a qualified mechanic, as some special tools and techniques are needed to make sure the removal and installation go smoothly.

The parts list for this repair is relatively short. It's not required that you replace the outer lock ring or rear brake disc mounting screws, but they're cheap. Even if the recall service doesn't include them, I would spring the \$7 for the lock ring and \$8 for the screws. That extra \$15 brings peace of mind. According to an online parts microfiche, the total cost for the parts is under \$190, and if you were paying for the repair, the labor would run somewhere between 1.5 and 2 hours of shop time. The parts for the repair are the same for all the affected bikes.

Lock ring (62X2), 07119905076 (\$6.88)  
 Flange, 33117722831 (\$126.77)  
 Spacer ring, 33118521832 (\$44.22)  
 O-ring (62X2-N-FPM 80), 07119907129 (\$2.76)  
 5x Screw (M8X15,5 ZNS3 MK), 33177709205 (\$1.59 ea.)

**Step 1:** Secure the bike on its centerstand (lash the center stand to the front wheel if necessary) and remove the rear wheel. Always inspect tires and wheels for cracks, dents, punctures and other problems.



Final drive with rear wheel removed.

**Step 2:** Inspect the rear wheel flange to verify if any cracks are present. In the photo RWFlange02, you can clearly see a crack in the part of the flange that attaches to the rear brake disc.

**Step 3:** Remove the rear brake caliper and properly support it so it doesn't put tension on the rear brake line. You should not need to remove the rear ABS sensor from the final drive, but you may need

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to detach the cable from the support connected to the rear brake line.

**Step 4:** Remove the rear brake disc. This is more complicated than it looks, as you can only do one screw at a time and should do so in a crisscross pattern to avoid warping the disc. If you're not going to reuse the screws (and I recommend that you don't), there's no need to clean them.

**Step 5:** Remove the outer lock ring. You'll need a special pair of pliers for this step, one that can both handle lock rings (it will have pins on the ends of its jaws) and that can spread (rather than squeeze) the ends of the lock ring.

**Step 6:** Affix a flange puller to as many wheel mounting points as possible. This is the step that will likely bring a shade tree mechanic to a screeching halt, as few of us possess this tool and fewer of us are likely to buy it just to do this repair once. Your local BMW mechanic, though, has this tool standing by for exactly this task.

**Step 7:** Use a torch to heat the flange. The flange is friction-fit to the wide splined output shaft jutting out from the final drive, but it's so tight that even a puller needs a little help. Heat the aluminum flange until using the puller presents little resistance to removing the flange.

With the flange removed, you can see and feel the difference between the old (aluminum) part and the new (steel) part. In the photo RWFlange07A, you can see that with the spacer ring in place, the mating surfaces of both flanges are the same. The steel flange is thinner, but made in such a way that both the wheel and the rear brake disc will be exactly where they need to be.

**Step 8:** Inspect and clean the final drive output shaft as necessary. If any of the splines are damaged, you may need to replace or rebuild the final drive.



Comparison of old and new flanges.



Visible flange crack.

**Step 9:** Install the spacer ring. Note the pin that must be located in the valley between two splines. The widest part of the spacer ring goes against the final drive, and it should slide on with little or no resistance.

**Step 10:** This part isn't tricky, but you do have to work quickly and methodically. Heat an oven (even a toaster oven) to 250°F (120°C) and put the new flange in the oven for about 30 minutes. Protect your hands, and once the flange gets to about 90°F (32°C), pull it out of the oven and slide it into place on the final drive. Be sure that the outer spires of the star-shaped flange are properly oriented in relation to the final drive.

Heating the flange makes it expand just enough to fit over the output shaft. When it cools, it will shrink back to its normal size and the parts will fit tightly together.

It is critical that the flange seat properly against the spacer ring. The long mating surfaces of the splines will help, but you may need to tap the flange into place with a rubber mallet or use a pipe of sufficient diameter to get the flange into place.

**Step 11:** After the flange cools, verify that everything is straight and true. Install your new lock ring (remember – the tool has to spread, not squeeze).

**Step 12:** Reinstall the brake disc – one screw at a time in a crisscross pattern – and tighten the screws to 12 Nm (8.8 ft-lb) with a torque wrench. After that, and again using a crisscross pattern, tighten all the brake disc screws to 30 Nm (22 ft-lb). The Haynes manual recommends using non-permanent thread lock on the brake disc screws. If you're using new brake disc screws, you won't have to clean off old thread lock, but don't neglect that step if you're reusing your old screws

**Step 13:** Reinstall the rear brake caliper, torquing the mounting bolts to 24 Nm (18 ft-lb).

**Step 14:** Mount the rear wheel and torque the rear wheel bolts to 60 Nm (44 ft-lb). Verify that your rear wheel spins straight and true.

**Step 15:** Go for a short test ride. Upon completing your test ride, check all fasteners and re-torque as necessary.

**Step 16:** Clean up! You're done! Or in the case that you've taken your bike to a BMW shop to have them perform this repair, pay the bill and ride away knowing exactly how the job's been done. ☺