

JUN 4 2018

Chicago, IL [REDACTED]

CL-11103268-6552

Triumph Motorcycles America Ltd.
385 Walt Sanders Memorial Drive, Suite 100
Newnan, GA 30265

June 4, 2018

Dear Sir or Madam:

I am writing to report a potential safety defect affecting my 2012 Triumph Tiger 800 motorcycle, VIN SMTE05BFXCJ [REDACTED] which I discovered on May 13, 2018, and diagnosed on June 2, 2018. This is a motorcycle with about 34,000 miles service time, with all maintenance done substantially according to the manufacturer's schedule and with no history of serious mechanical difficulty.

This defect concerns the transmission's gear change mechanism. I had been riding this motorcycle normally when the gearshift pedal dropped out of its normal resting position and to the bottom of its stroke. On inspection, I found that the lever moved freely between the downshift and upshift positions, rather than centering itself mid-stroke as normal. Disassembly of the mechanism revealed that the pin that normally connects the gear shifting shaft to its return spring had sheared at its attachment point to the crank, and was trapped between the ends of the return spring. This released the shaft from the return spring, allowing the pedal to fall to the bottom of its travel. The affected parts are circled on the enclosed copy of Triumph's assembly diagram.

The surface of the fracture is generally flat and level with the surface of the pin's crank, with a single raised ridge along its center. This ridge is radial to the shaft. There are no obvious signs of fatigue on the fracture surface, although I'm not able to do a very detailed inspection, nor to take useful photographs of the parts. However, under hand magnification, there appears to be a fine crack originating from inside the crank and extending irregularly out to the fracture. This crack is on the side of the pin that would bear on the return spring in the counterclockwise direction, looking from the clutch side of the engine.

I suspect that the way in which this part is assembled by the factory is responsible for its failure. It appears that the pin is put into its hole in the crank and then flared with a cone-shaped tool to secure it, in much the same way as the master link in the drive chain is riveted during installation. My suspicion is that the pin was flared too far for its diameter and the thickness of the crank, weakening the joint and making it prone to cracking. If this is the case, then I would expect the problem to repeat. In fact, there have been a number of anecdotes online about this very problem; see, for example, <https://www.tiger800.co.uk/index.php/topic.9167.70.html>.

The safety concern that arises from all this is that a loss of the spring return on the gearshift mechanism presents a risk of loss of control. If the shifter does not return to center on its own after a downshift, it will not be possible to downshift again until the lever is manually raised to center. This would be an obvious problem going from third gear or above and slowing for a stop, since it makes selecting neutral much more difficult than would be expected. It also potentially would put an affected motorcycle out of compliance with FMVSS No. 123, which governs motorcycle controls.

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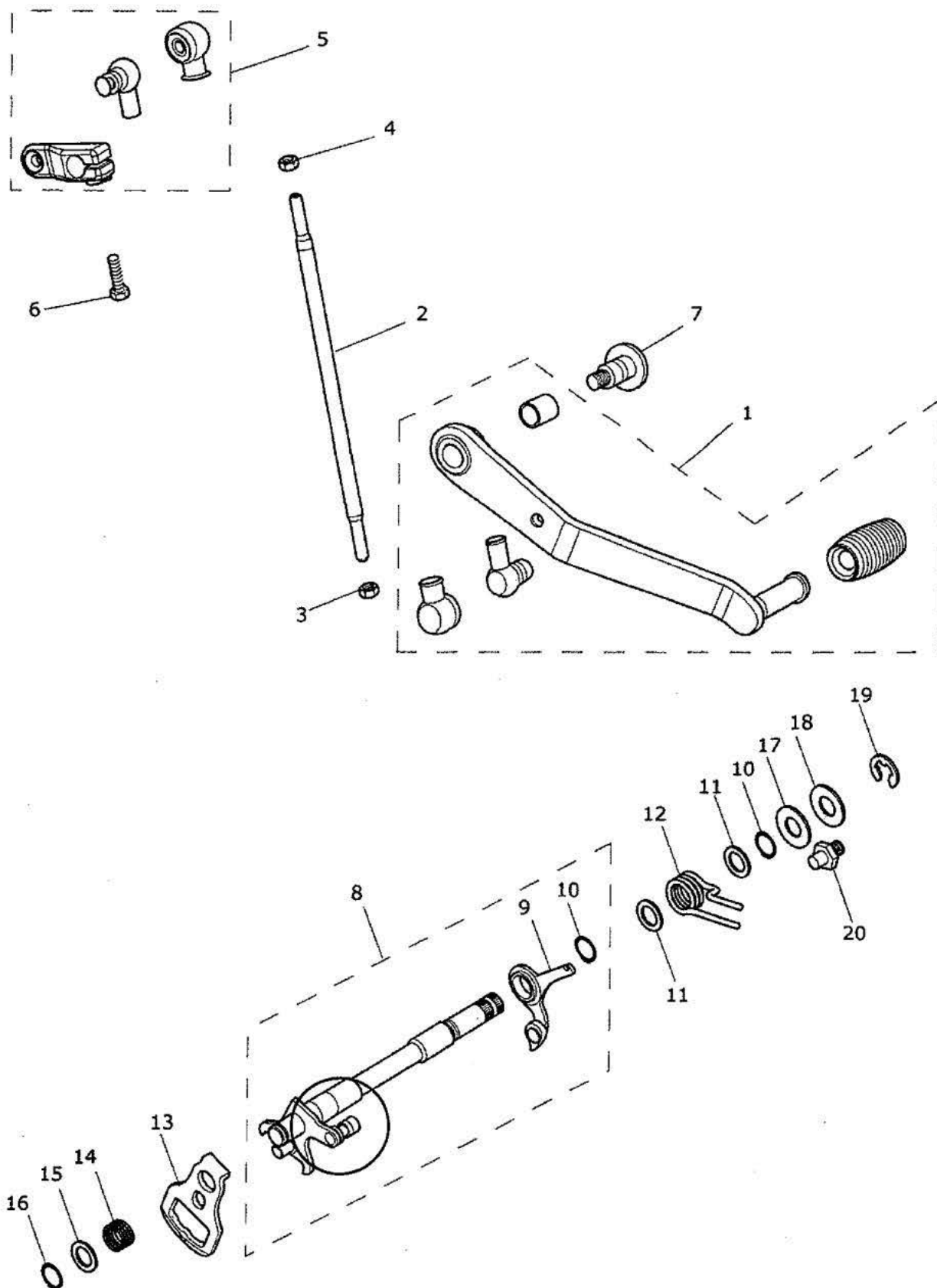
I have kept the broken parts and would be happy to send them for your inspection once I have completed repairs to my motorcycle if you would find that useful in diagnosing the problem. Otherwise, if this represents a more pervasive safety problem, I am hopeful that this information will help to get it resolved quickly and efficiently. If you have any questions about this letter, please write back, or you may reach me by phone at [REDACTED]

Yours truly,

[REDACTED]

enclosure

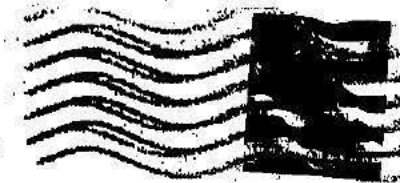
cc: National Highway Traffic Safety Administration



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