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NTN Expands Mass-production of Needle Roller Bearings with Solid Grease for Motorcycle Swing Arm Pivot Shafts.

Sales increase especially for European and American manufactures with its original solid grease eliminating the need to grease supply.

NTN Corporation (hereafter, NTN) expands the mass-production of needle roller bearings with NTN's original solid grease for motorcycle swing arm pivot shafts. The sales increase especially for motorcycle manufacturers in Europe and America as features of adopted NTN's original solid grease are highly evaluated: realizing maintenance free operation, improving handling during assembly into motorcycles, and high temperature resistance that matches the diversification of motorcycle designs.

Swing arm pivot shafts in motorcycles are one of the rear suspension components that connect the wheel (journal) and body (frame), allowing it to pivot vertically around the connection with the frame. While pivoting, they absorb shocks from the road, wheel vibrations and support suspension loads to ensure a safe and comfortable riding experience.

Bearings of the connection point of the frame are required to have a high load capacity with small size. Drawn cup*¹ needle roller bearings (type with full complement rollers*²) are often used in this part. However, they require to be greased periodically to maintain performance and this requires grease nipples to be installed on the housing or journal. Additionally, there is an issue that the rollers can easily drop from the bearings during assembling.

The needle roller bearings, of which NTN is expanding mass-production, adopt NTN's original solid grease*³ as a lubricant.



Bearings with solid grease resist grease leakage even in applications where strong vibrations, centrifugal force, moisture, etc. are present, eliminating greasing and installation of greasing nipples. It eliminates the need to grease the bearings when assembling therefore, the installation of grease nipples is not required. As it retains the rollers in position during assembly, the rollers do not drop during assembling, making it easier to handle the bearings.

With recent diversification of motorcycle designs, the swing arm pivot shafts tend to be hot as the positions of the muffler and swing arm pivot shaft



become close to each other in motorcycle models. NTN offers a variety of the needle roller bearings with solid grease that can cope with such high temperature in addition to features of maintenance free and improved handling. It has been evaluated in the medium and large sized motorcycle sector by European and American motorcycle manufacturers which mainly manufactures motorcycle models for hobby.

NTN will continue to contribute to improving safety and comfort ride of motorcycles by providing this product, while developing and proposing products that meet the various needs of customers by utilizing our tribology experience accumulated over 100 years.

1. Needle roller bearing with outer ring formed by precision drawing (pressed machining). It features lightweight and compact realized by thin outer ring.
2. Needle roller bearing without retainer to support rollers. As there is no retainer, more rollers can be assembled therefore, higher load capacity can be obtained over bearings with a retainer.
3. Composed of lubricating grease and plastic resin that undergoes heating and cooling treatment. During operation, temperature rise or centrifugal force cause a gradual release of the lubricant into the bearing.

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