

高剛性ハブユニット

High-rigidity Hub Units

50%以上の剛性向上と軽量化を両立

Over 50% Improvement in Rigidity and
Reduction in Unit Weight Simultaneously Achieved

特 長 Features

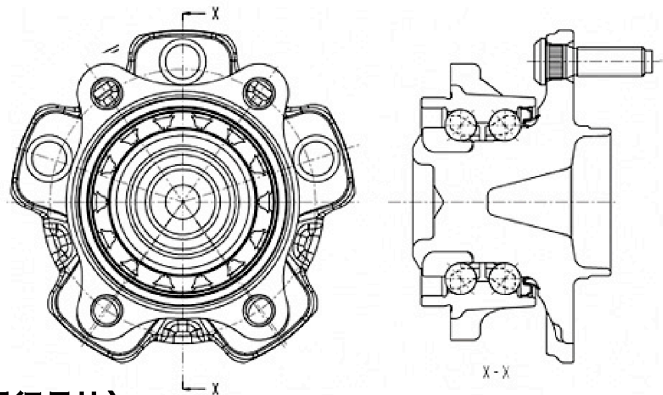
ハブユニットは、自動車の車軸に使われることから、安全を確保するために強度・剛性の向上が必要です。一方、環境保全、省資源のため、自動車の小型・軽量化とともに搭載部品も軽量化が求められています。本開発品では、部品（軸、内輪、外輪、転動体）の寸法諸元を設計パラメータスタディによって見直し、適正化を図り、また、形状最適化CAE解析を形状検討に適用。

タイヤから入力される荷重に対する軸受各部品の剛性寄与度を明らかにし、設計に反映させました。当社が長年培ってきた製品設計技術により、高剛性と軽量化という相反するニーズを実現させることができました。今後は、自動車部品の軽量化ニーズが高まるなか、自動車メーカーでの採用に向け販売活動を行なっていきます。

Hub units are utilized in the axles of automobiles, so it is necessary to focus on increasing strength and rigidity in the pursuit of improving safety. On the other hand, in view of environmental consciousness and reducing the use of resources, there is a demand for reducing the weights of internal components, as well as more compact and lighter vehicles.

In the pursuit of raising the level of optimization at the product development stage, JTEKT studied the design parameters and reviewed the measurement specifications for various parts (e.g., shafts, inner/outer rings and spinning elements). Additionally, a computer-aided engineering (CAE) analysis was utilized to review the shapes of parts for the purpose of optimization. The extent to which each bearing part contributes to rigidity in relation to the load input from the tires was studied and this has been reflected in the design.

Utilizing JTEKT's original design technologies cultivated over many years, it is now possible for the company that realizes the contrasting needs of increasing rigidity and reducing weight. As the need for lighter and stronger automobile parts continues to grow, we will continue our sales activities with the aim of automobile manufacturers adopting of these and other innovative components.



効 果 Effect

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|-----------------------|--|
| ■高剛性
High rigidity | 50%以上向上(現行品比)
Rigidity improved by over 50% (Compared to the conventional JTEKT product) |
| ■長寿命化
Longer life | 約20%以上向上(現行品比)
Product life extended by over 20% (Compared to the conventional JTEKT product) |
| ■軽量化
Light weight | 約4%削減 (現行品比)
Approximately 4% lighter (Compared to the conventional JTEKT product) |