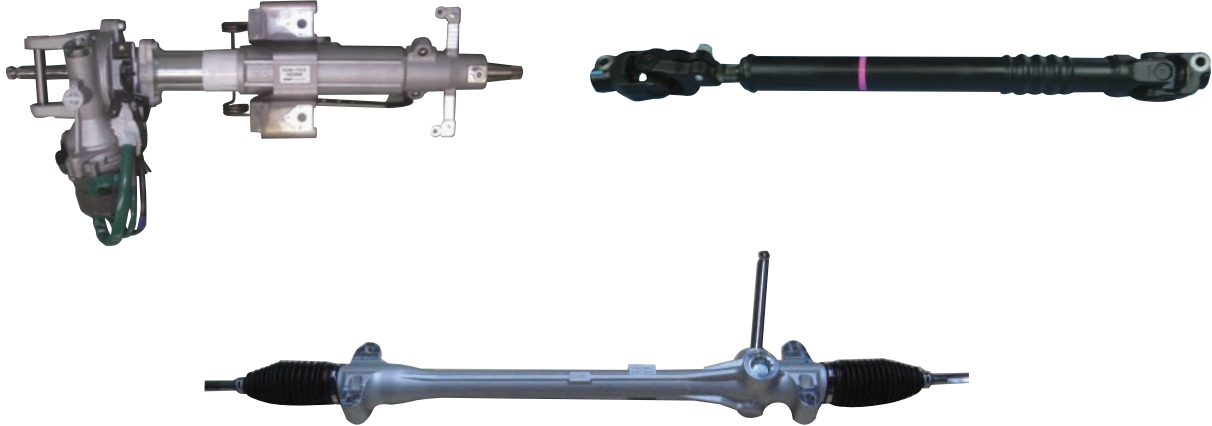


Column Type Electric Power Steering System for Super Sports Cars

For super sports cars, we have developed a new column-type electric power steering system that addresses their need for improved steering feeling and weight reduction. Its features are introduced as follows.



Features

1. Column

① Improved steering feeling:

To secure quietness, in the reduction gear portion where friction tends to increase, we used special grease that has an excellent silencing effect. We've made it possible to reduce rattle noise, even when the engaging clearance between the worm and worm wheel widens, thus we have achieved both greater quietness and reduced friction.

We changed the fastening method for column-to-steering wheel from nut to bolt fastening and have achieved the high rigidity that is required for super sports cars.

② Weight reduction:

We changed the tube material from conventional iron to aluminum. (weight reduced about 40%)
Instead of welding, we integrated the mounting portions of the key lock unit and switches.

2. Intermediate shaft

① Improved steering feeling:

By using rattle-free joints (no play in the rotational direction), we have improved steering feeling in the minute steering zone.

② Weight reduction:

By using a hollow thin-walled tube, we have achieved high rigidity and weight reduction. (weight reduced about 10%)

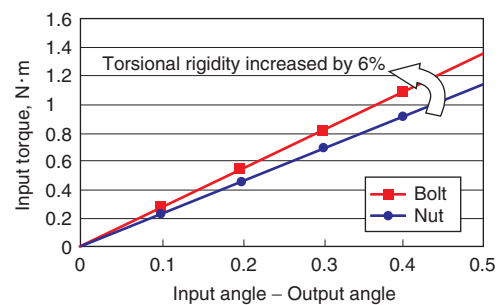
3. Manual steering gear

① Improved steering feeling:

By reducing the crossed axes angle between pinion and rack to half the angle of conventional steering, we have improved direct feeling.

② Weight reduction:

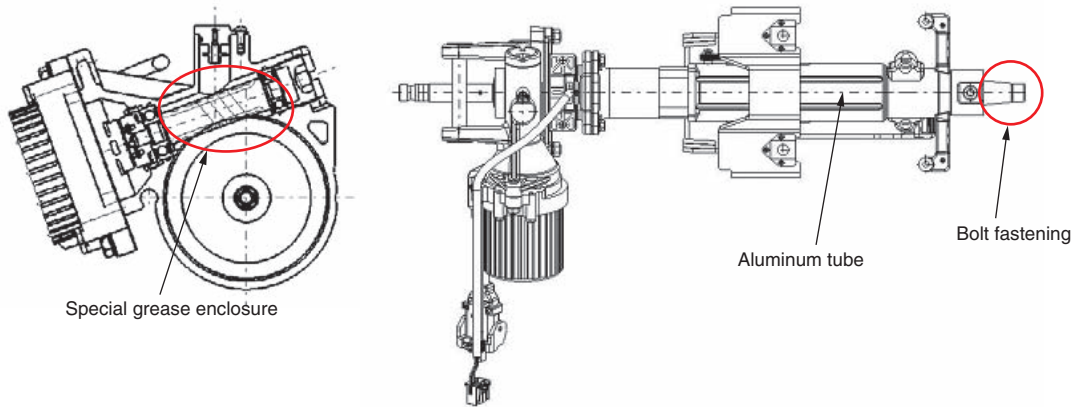
By making the rack hollow, we have achieved weight reduction. (weight reduced about 20%)



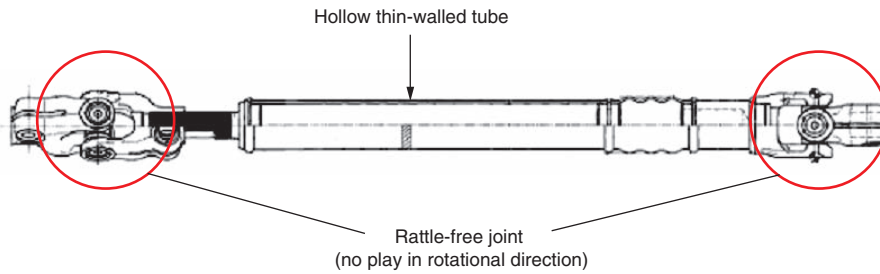
Wheel fastening (bolt vs nut)

Structure

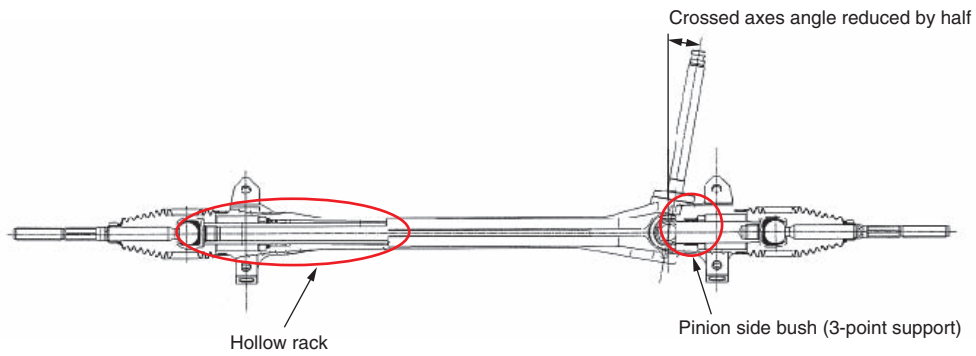
1. Column



2. Intermediate shaft



3. Manual steering gear



(Central JAPAN Technical Center, Steering System Operations Headquarters)

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