

○ Improvement of the Fastening Device

(1) Objective

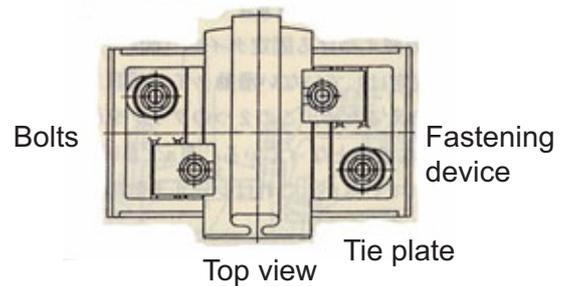
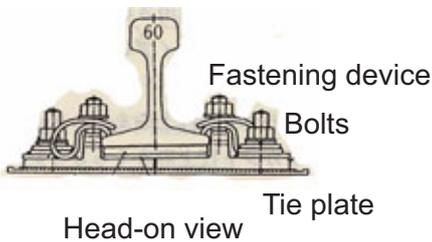
To prevent twisting of the rails or major horizontal shifts so that rolling stock can be guided, even if the rolling stock derails and the fastening device breaks or is damaged.

(2) Summary

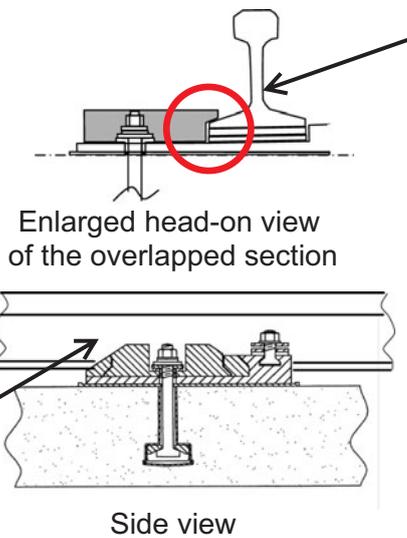
We will improve the current tie plate and attach washers (slide locks) having the following characteristics, in addition to the fastening device.

- Change the shape so that the wheels do not directly touch the bolt head that fixes the tie plate to the slab plate.
- Prevent twisting and shifting of the rail, even if the fastening device breaks, by having the bottom of the rail and the end of the washer overlap.
- Set the end of the washer at an angle to lower the shock of the wheel hitting it.

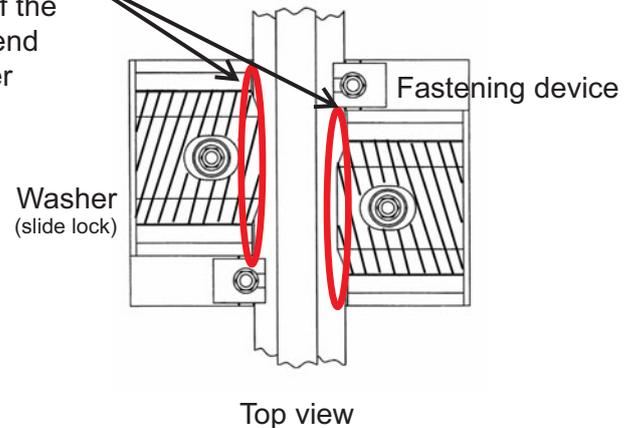
Currently



Improved



Overlap between the bottom of the rail and the end of the washer



Prototype seen from the rail side



Prototype (rail cross section)

We will use the prototype to check the rollover prevention function and antishock performance, and then we plan to make some test installations, with a target date within this fiscal year.