

KES

Test of Rigidity for Front Axle

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1. Scope of Application

This standard determines test of rigidity for front axle used for suspension axle type for vehicle.

2. Purpose

As one of the evaluations for vehicle's control, stability, and endurance, it is to standardize the test of rigidity for front axle by suspension axle type.

3. Terminology

- (1) Front Axle : Main body of front axle with auxiliary parts installed.
- (2) Load : Load on front axle
- (3) Test Load : Load on front axle for test. Symbol P .
- (4) Standard Load : Front axle tire reaction force or yielding axle weight with maximum load.
Symbol W .
- (5) Load Index : Standard load (W) divided by test load (P). Symbol n

4. Evaluation Standard

Development object and relative comparison values shall be the evaluation standard.

5. Preparation for Test

5.1 Test Types

- (1) Up and down direction rigidity test : Applying the load z on figure 1.
- (2) Front and back direction rigidity test : Applying the load $X1$ (Braking load), $X2$ (Load when sequence crashing).
- (3) Left and right direction rigidity test : Applying the load $Y1$ or $Y2$.

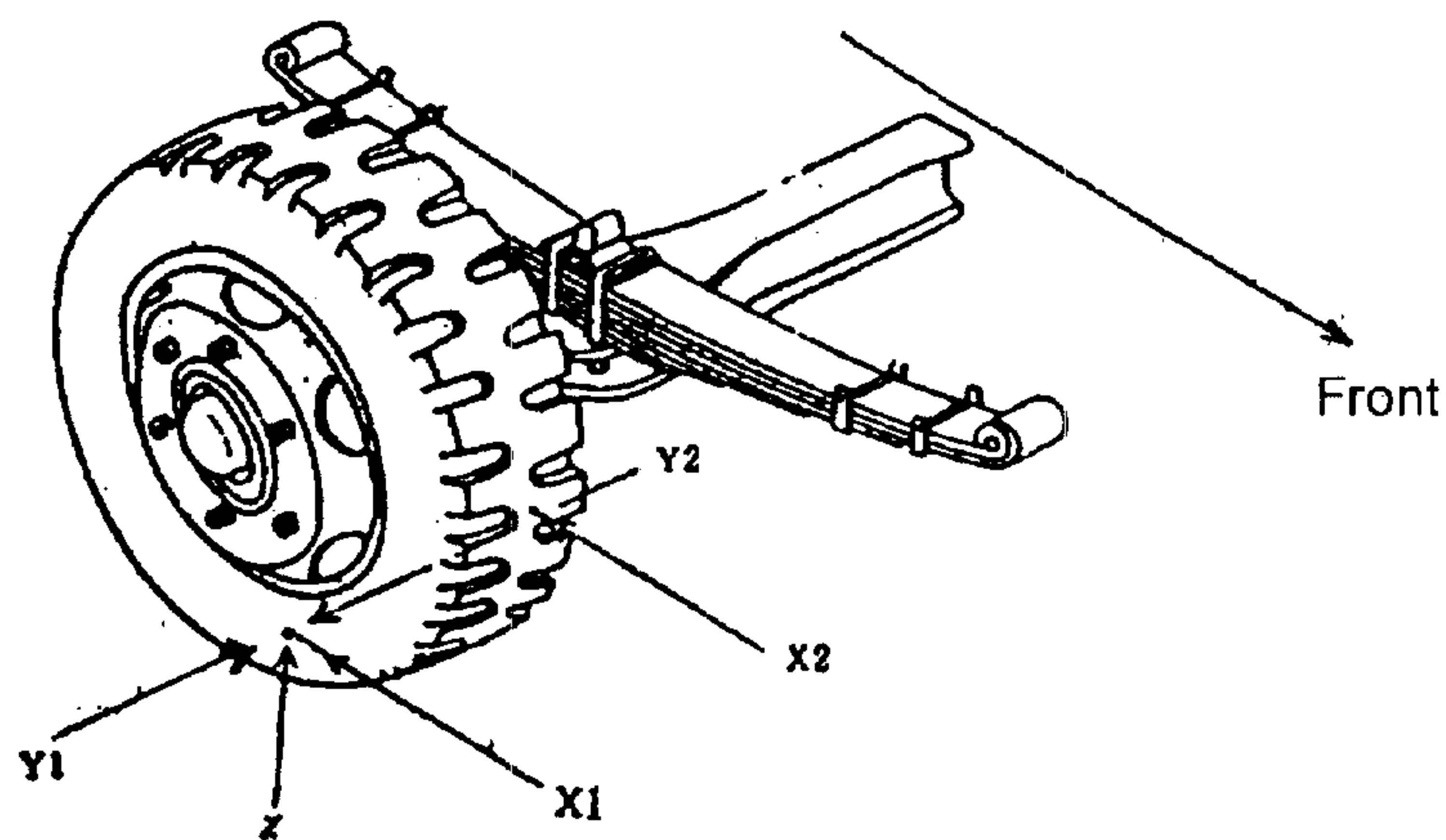


Figure 1

5.2 Preparation of Sample: Sample shall be a main body of front axle with knuckle king pin as figure 2 shows, and it is the rule to install the needed measuring spot auxiliary parts in order to measure the bending along with the auxiliary parts such as knuckle arm, tie rod arm, tie rod, and hub, etc.

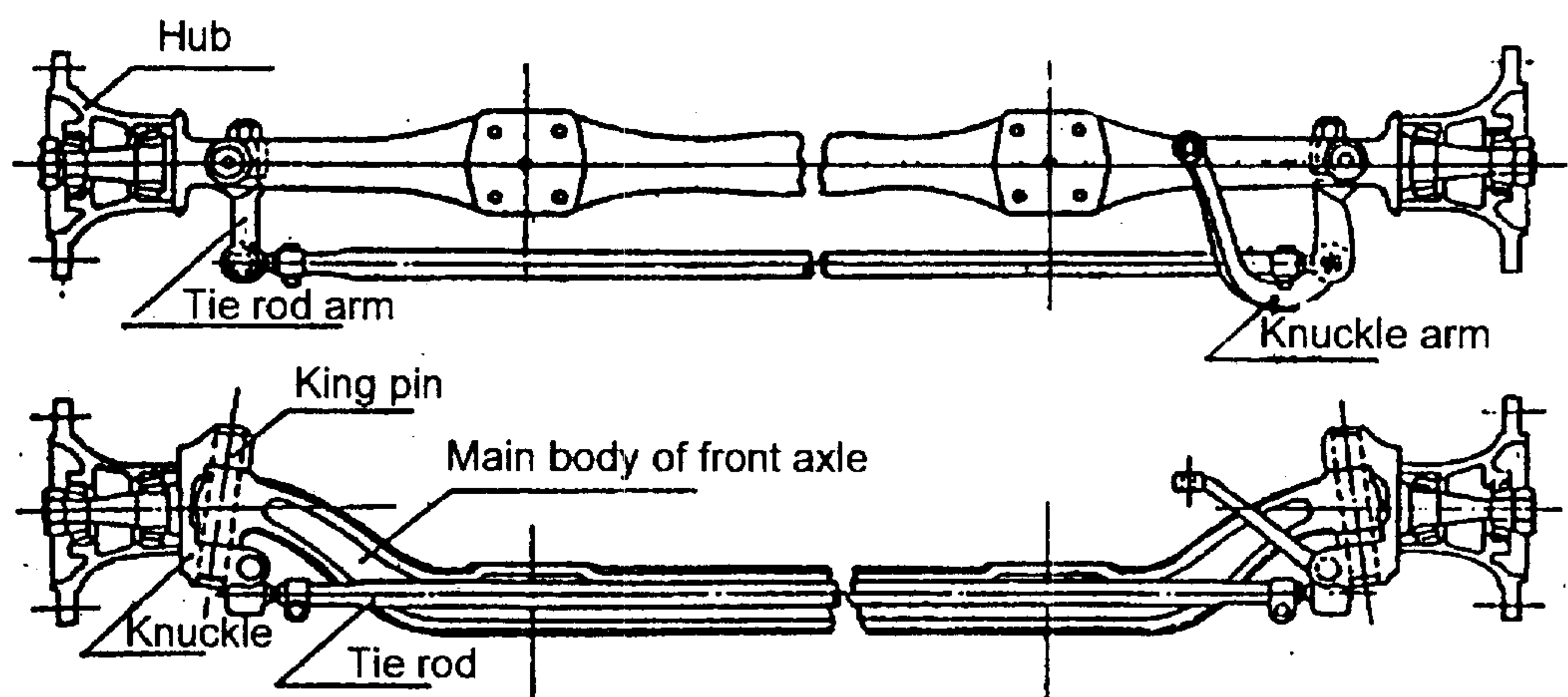


Figure 2

6. Testing Method

6.1 Up and down direction rigidity test

(1) Supporting Method of Front Axle