

KES

Sun Visor

KES D-C837

(EST.) 1989 - 07 - 10

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1. Purpose

This standard aims at securing proper quality by standardizing specifications.

Remark: This standard and a drawing communicate together our requirements.

2. Scope of Application

This standard specifies the sun visor for automobiles (hereinafter referred to as the "sun visor").

3. Report of Evaluation Result

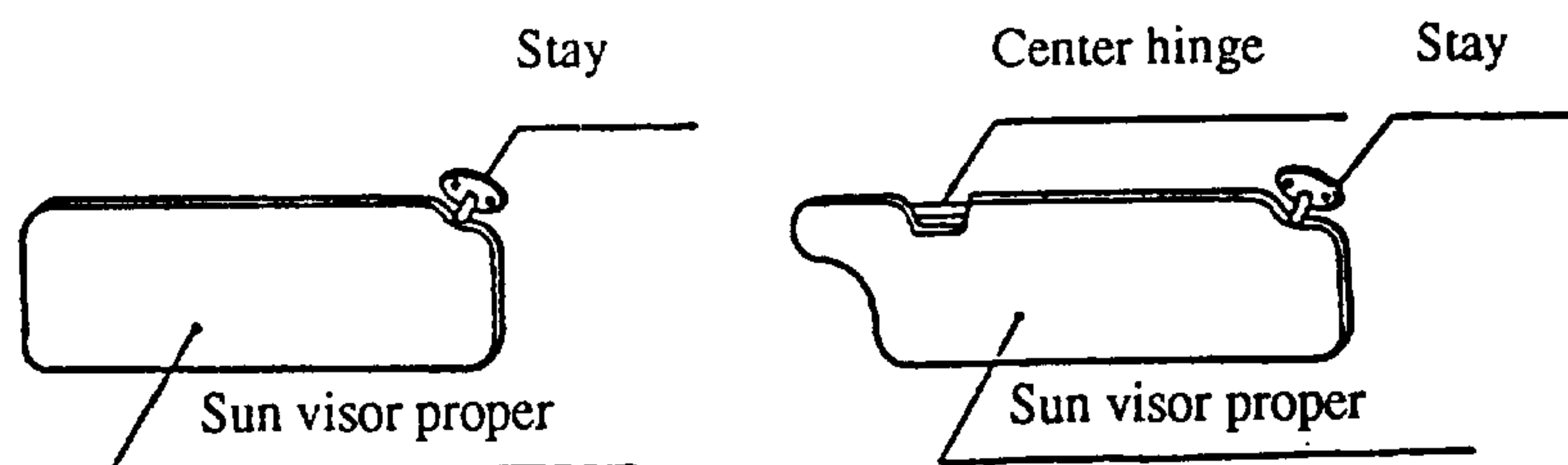
The quality evaluation results of each stage from development to mass production shall be submitted to KIA or MMUC according to the Appendix.

4. Definition of Terminology

(1) Components and kinds of the sun visor

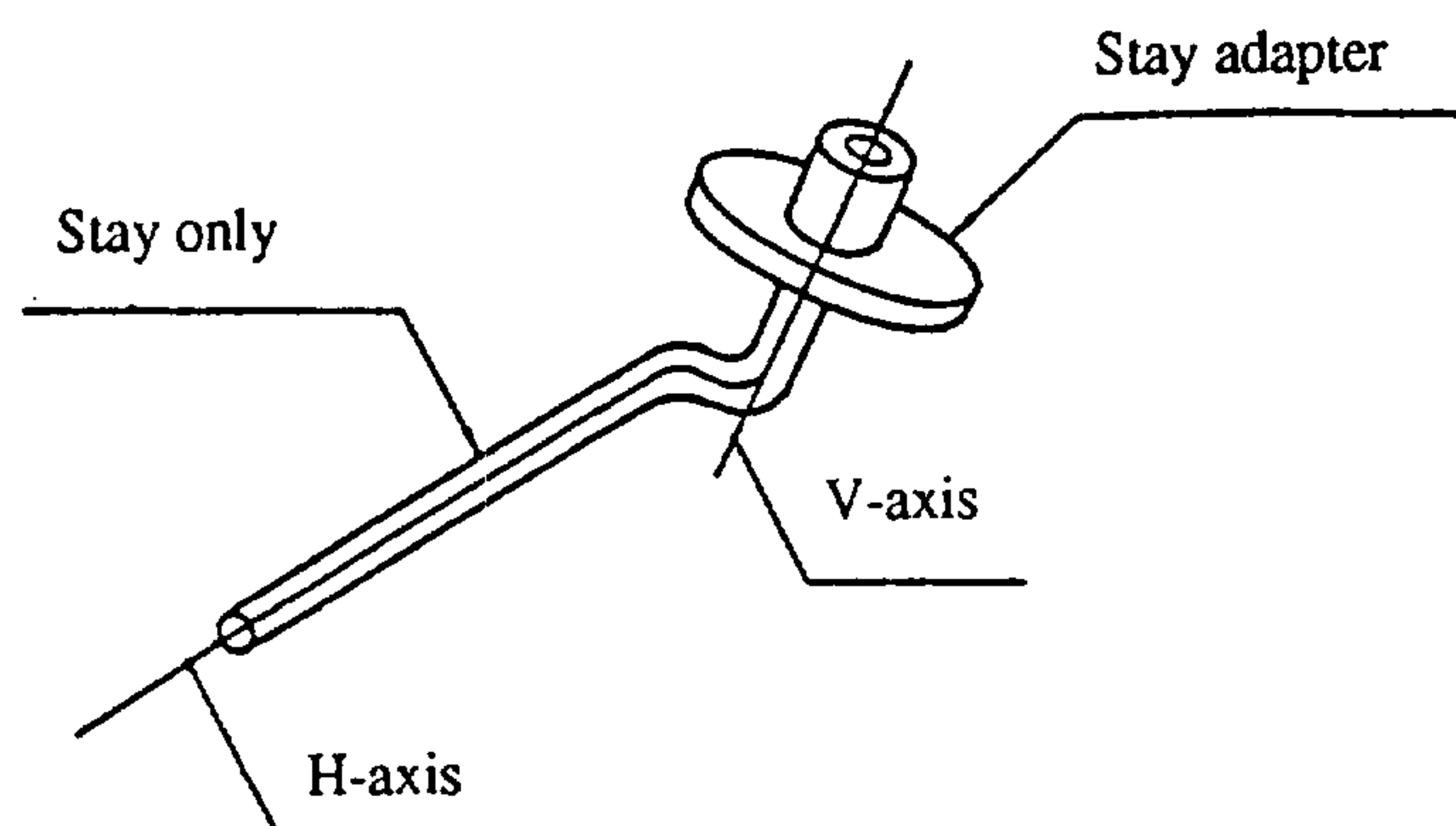
(a) Basic components of the sun visor: The sun visor is composed of the parts indicated in Fig. 1.

Fig. 1 Basic components of the sun visor



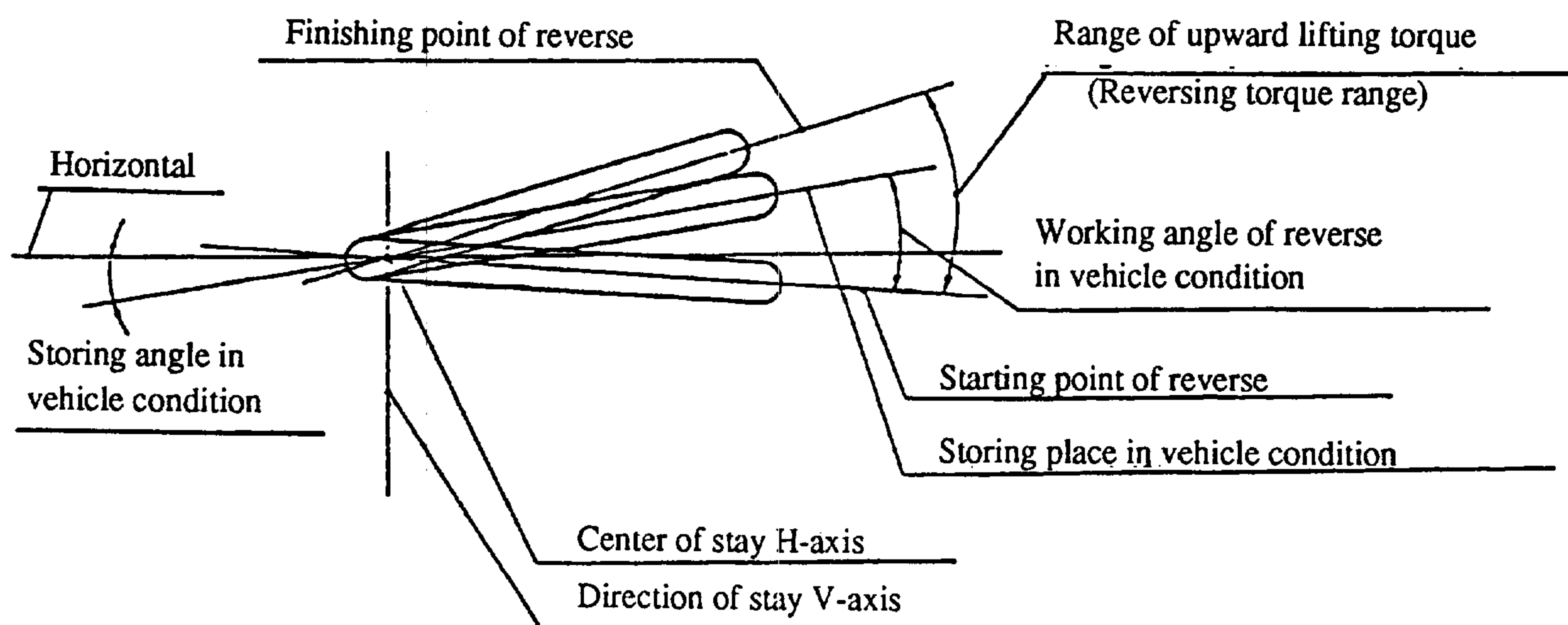
The stay is composed of the stay adapter which is the base in installing the sun visor to a car and the bearing of the rotating axis in the horizontal direction of the sun visor proper, and the stay which is the rotating axis of the sun visor proper. The rotating axis in the horizontal direction of the stay is called V-axis and that in the vertical direction is called H-axis.

Fig. 2 Components of the stay



- (b) Fitting parts of the sun visor: The fitting parts of the sun visor are ticket holder, vanity mirror, lamp, caution label, etc.
- (c) Specially specified sun visor: The following specification differences are established for the countries and destinations where special safety regulations for vehicles have been laid down.
- ① Sun visor for ADR: The sun visor conformed to the specification of ADR No. 11 in Australia
 - ② Sun visor for ECE: The sun visor conformed to the specification of ECE No. 21
 - ③ Sun visor for general use: The sun visor of the basic specification excluding ADR No. 11 and ECE No. 21
- (d) Snap action type sun visor: This means the sun visor of a type with snap action which has a reversing point of working torque near the lower part of storing place for the purpose of preventing the sun visor proper from slipping down out of the storing place of sun visor. For the snap action type sun visor, as shown in Fig. 3, the lower end of the reversing torque range is called starting point of reverse and the upper end of that is called finishing point of reverse. The storing place in vehicle condition is at the lower position of the finishing point of reverse, where the upward lifting torque is applied. The storing angle in vehicle condition is generally indicated by the relative angle between the sun visor ad stay V-axis seeing from the direction of stay H-axis.
- The angle between the storing place in vehicle condition and the starting poing of reverse is called the working angle of reverse in vehicle condition.

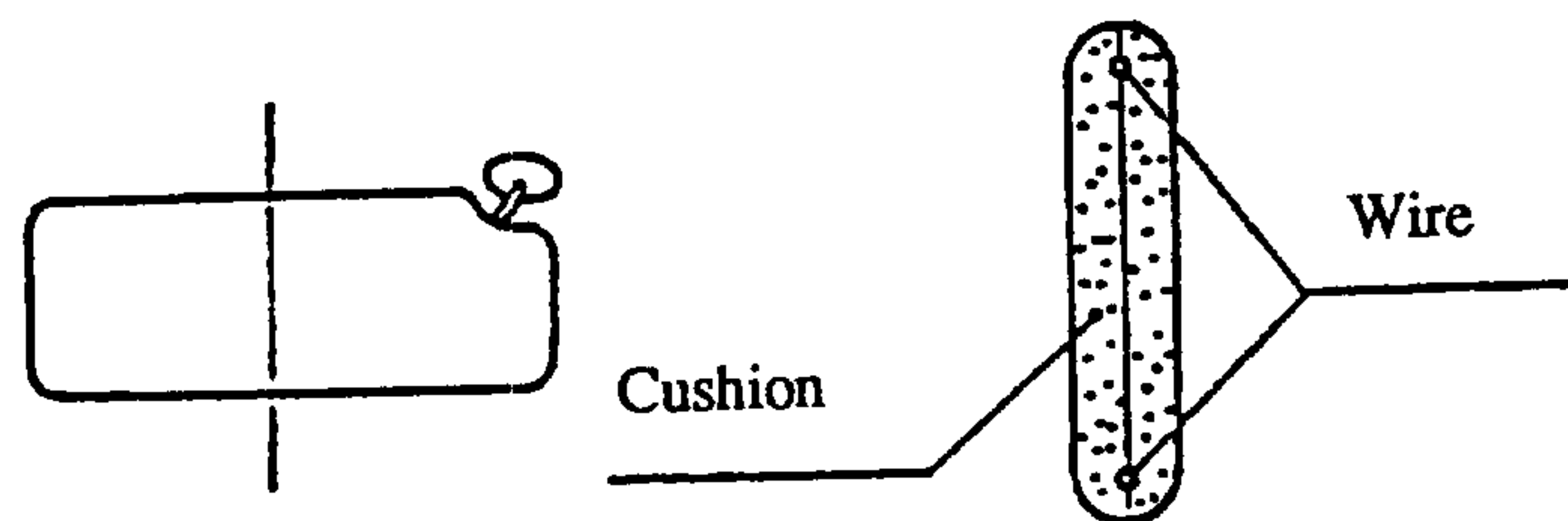
Fig. 3 Diagram of terminology of snap action type sun visor



- (e) Identification label: This means the label on which the part number is printed to make identification control of parts easy in carrying of the parts and putting them in the line production. This label is pasted up on the surface of products to be removed easily by the users.

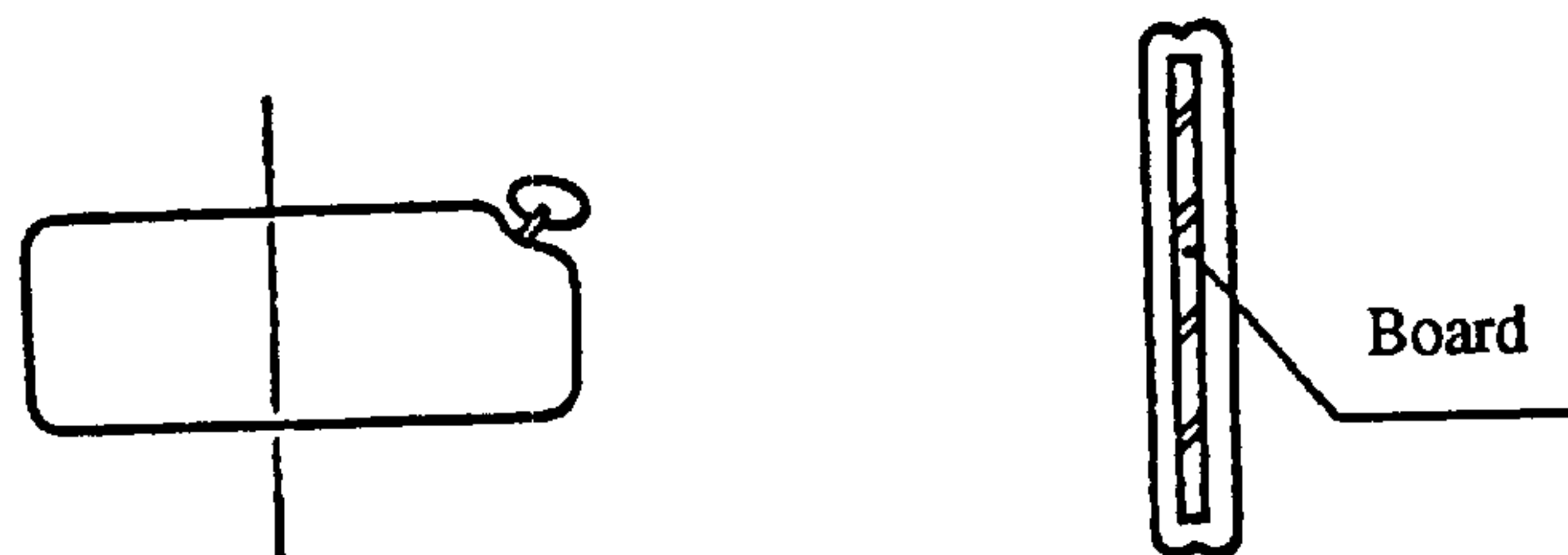
- (f) Basic structure type of sun visor: As the specification differences of the basic structure make difference to the following evaluation standards, the basic structure of sun visor is divided into 2 classes for convenience sake. One is wire core type, and the other is board core type.
- ① Wire core type: This means the structural type of wire core as shown in Fig. 4.

Fig. 4 Diagram of wire core type



- ② Board core type: This means the structural type of board core as shown in Fig. 5.

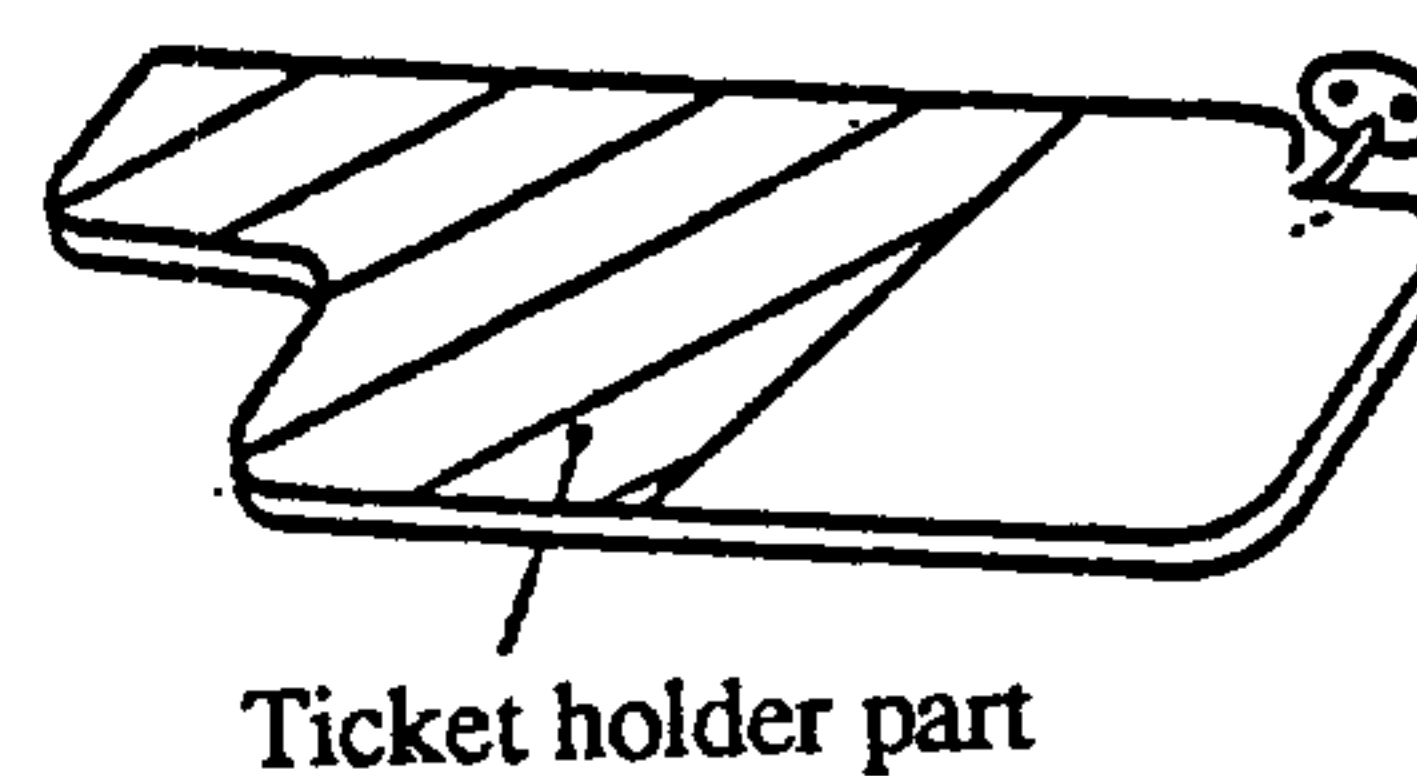
Fig. 5 Diagram of board core type



- (g) The type of ticket holder: As the specification differences of the ticket holder make difference to the following evaluation standards, the type of ticket holder is divided into 2 classes. One is pocket type, the other is band type.

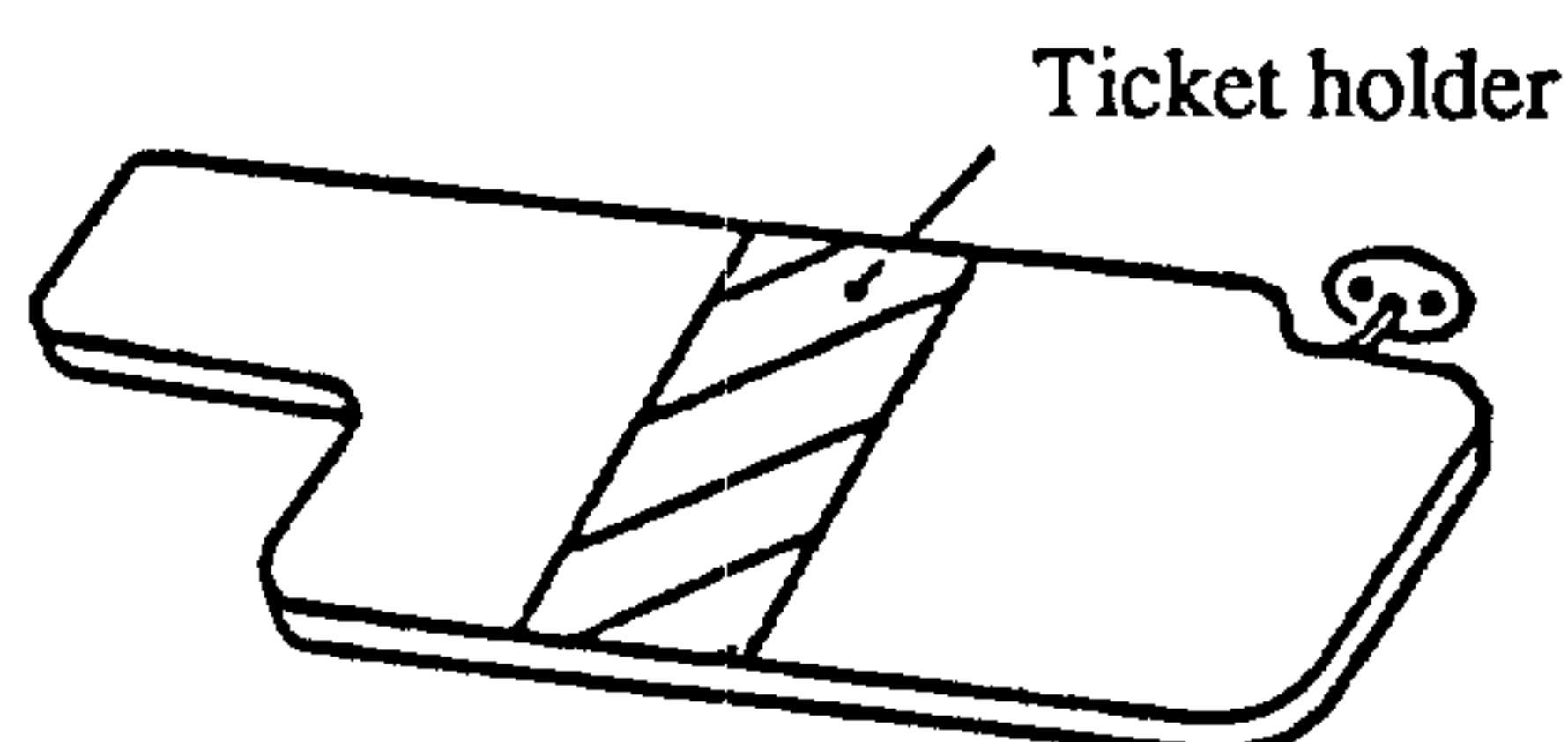
- ① Pocket type: This means the type as shown in Fig. 6.

Fig. 6 Pocket type



- ② Band type: This means the type as shown in Fig. 7.

Fig. 7 Band type



- (h) Noise: This means unexpected sound which does not occur in the static condition but occurs when the sun visor is applied any external force such as vibration or when the sun visor is operated.
- (2) On "Conform to the mentioned items on the released drawing.": The description of "Conform to the mentioned items on the released drawing." which is used in evaluation standard of Table 1 of this standard means that the inspection items and parts are shown on the released drawing. The section that made the released drawing shall show objective items of inspection concretely in the pertinent inspection parts in the drawing.
- (3) The surface to be evaluated of test sample: The surface to be evaluated of test sample shall be the all surface of produced sun visor unless otherwise specified. Visible and touchable parts in the range of normal use such as the back of mirror lid, etc. are included in the surface to be evaluated.

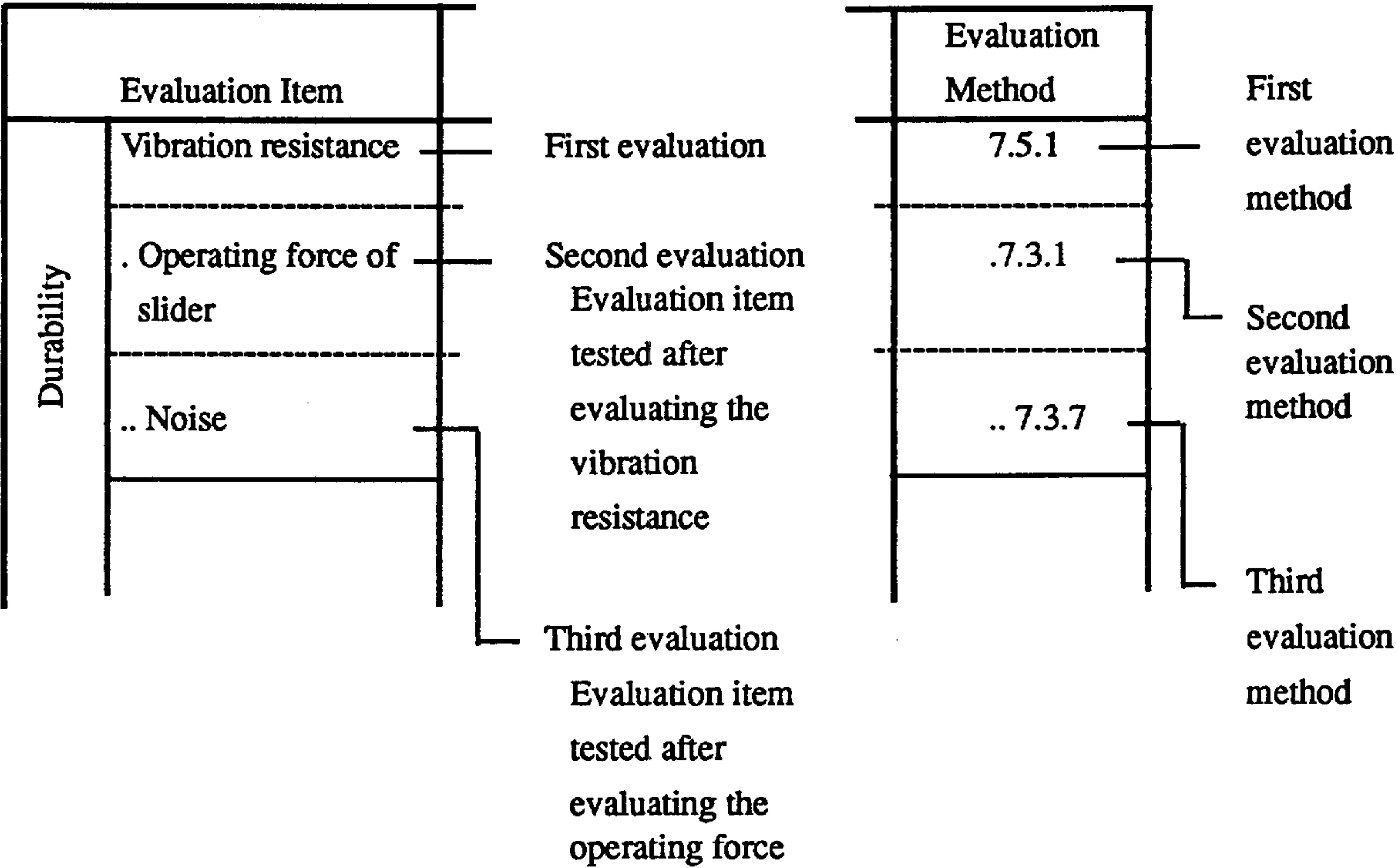
5. Specification Indicated in Drawings

- (1) Part color and material of top cover, etc.
- (2) Kind and range of grain
- (3) Presence of vanity mirror or presence of mirror lid
- (4) Material of vanity mirror
- (5) Presence of ticket holder
- (6) Presence of caution label and its contents
- (7) Necessity or unnecessary of applying special specifications such as a sun visor for ADR, a sun visor for ECE, etc.
- (8) Necessity or unnecessary of applying the flame retardancy
- (9) Storing angle in vehicle condition of snap action type sun visor
- (10) Part No. of center adapter (mating part)
- (11) Indication data in installing conditions of sun visor (set angle θ of stay V-axis)
- (12) Presence of the screw for adjustment
- (13) Surface treatment of metal parts such as stay, screw for adjustment, etc.

6. Evaluation Standard

The evaluation standard of the sun visor shall conform to Table 1.

Remark 1. The way of reading evaluation items and methods in Table 1 shall conform to the following example.



Remark 2. The quality rank shall be represented by A, AR, B or C.

The definitions shall conform to KES Q-A002 (Determination and Procedure of Quality Ranking).

Table 1

Evaluation Item		Evaluation Standard	Quality Rank	Evaluation Method
Appearance	Part color	Conform to the color standard plate supplied by KIA.	B	JIS Z 8723
	Grain	Satisfy the kind of grain and the range of grain indicated in the drawing. Conform to the grain standard plate supplied by KIA.	B	Visual
	Waving	Conform to the minimum acceptable sample (photographs).	B	Visual
	Wrinkling on the surface			
	Lifting, blister and sag			
	Welding separation and spark scar	Nil.	C	
	Fracture and crack			
	Dirt on the surface and adhesion of foreign material			
	Scratch and tearing			
	Burrs and parting step	Conform to the minimum acceptable sample.	B	Visual
	Sink			
	Bending of fitting parts (Deformation)	Conform to the minimum acceptable sample.	B	Visual
	Peeling of caution label, etc.	Nil.	B	Visual
	Blurr of letters of caution label and malprinting	Conform to the minium accepatable sample.	B	Visual
	Color of sewing thread	Conform to the minimum acceptable sample of color.	B	Visual

Table 1 (Continued)

Evaluation Item		Evaluation Standard	Quality Rank	Evaluation Method
Appearance	Parallel difference between the outer circumference and the stitch	2 mm max.	B	Scale
	Weaving of the stitch	1 mm max.	B	7.2.1
	Weaving of mating surface of outer circumference	1 mm max.	B	7.2.2
	Steps of mating part of outer circumference	1.5 mm max.	B	7.2.3
Performance	Holding strength of stay	10 kgf {98 N} min.	B	7.3.1
	Working performance of the sun visor proper	Working torque in the horizontal direction	B	7.3.2 (1)
		Working torque in the vertical direction	B	7.3.2 (2)
		Noise in working	B	7.3.2 (3)
		Wrinkling after working	B	Visual
	Working durability of the sun visor proper	Working torque in the horizontal direction	B	JASO-B404
		Working torque in the vertical direction		

Table 1 (Continued)

Evaluation Item			Evaluation Standard	Quality Rank	Evaluation Method
Performance	Working durability of the sun visor proper	. Noise in working.	Nil.		. 7.3.2 (3)
		.. Wrinkling after working	Conform to the minimum acceptable sample		.. Visual
	Reversing performance of snap action type sun visor	Upward lifting torque in storing	7 kgf • cm {0.69 N • m} min.	B	7.3.3(1)
		Working angle of reverse	8° min.	B	7.3.2(2)
	Mirror	Reflectance	Glass mirror 80% min. Acryl mirror 80% min. Aluminium mirror 65% min.	B	Conform to JIS D 5705
		Distortion	Glass mirror 3% max. Acryl mirror. 6% max. Aluminium mirror 3% max.		
	Working angle of mirror lid		150° min.	B	7.3.4
	Operating force for opening mirror lid		Within 0.1 to 0.6 kgf {0.98 to 5.88 N}.	B	7.3.5
	Opening/shutting durability of mirror lid		No damages.		7.3.6
	Tensile strength of mirror lid		No damages.		7.3.7
	Tensile strength of ticket holder		① No damages at fixed part. ② Residual clearance of aperture shall be 3 mm max.		7.3.8
	Looseness of center hinge pipe		1 mm max.	B	7.3.9
	Attaching/detaching durability of center hinge		No damage nor slipping off.	B	7.3.10

Table 1 (Continued)

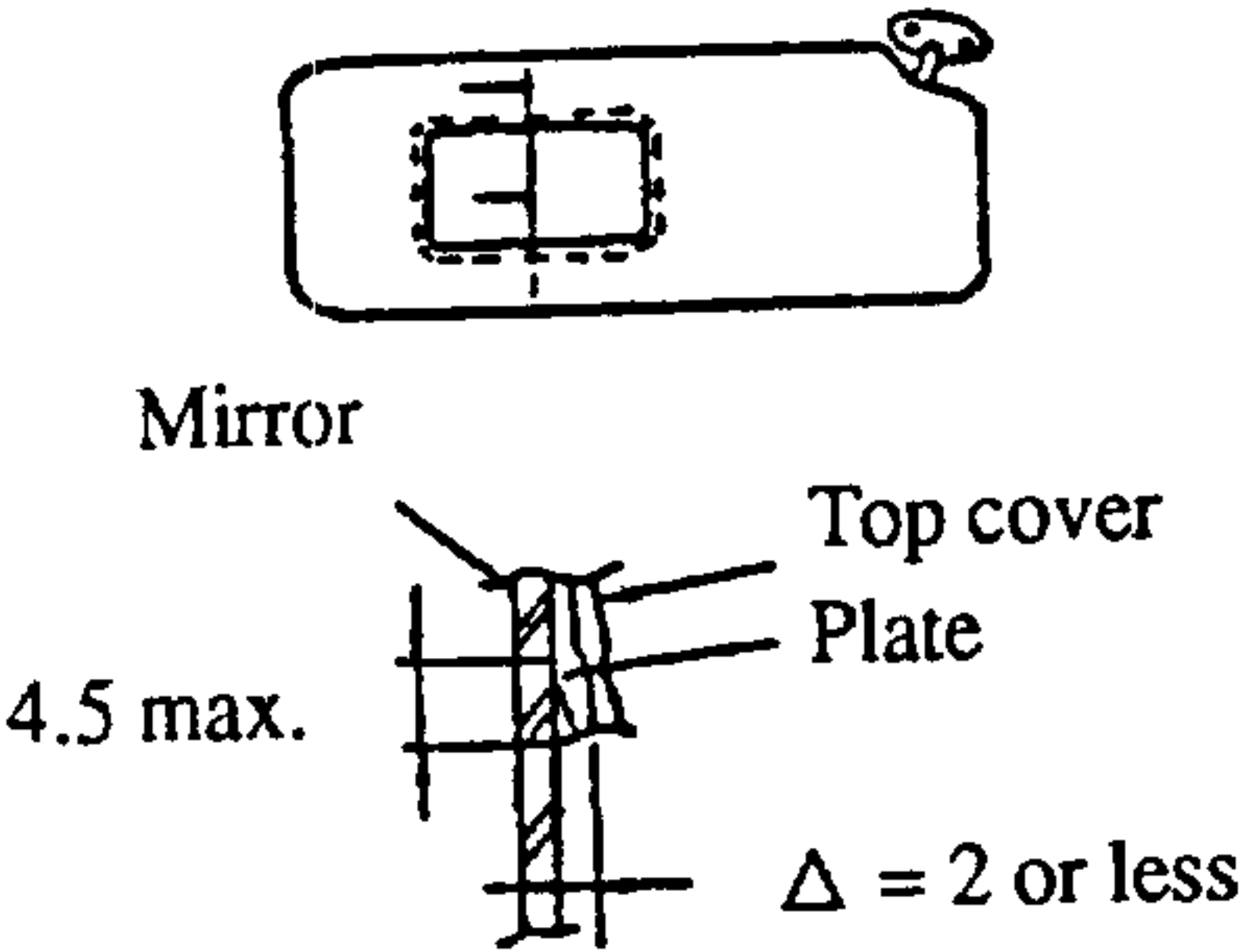
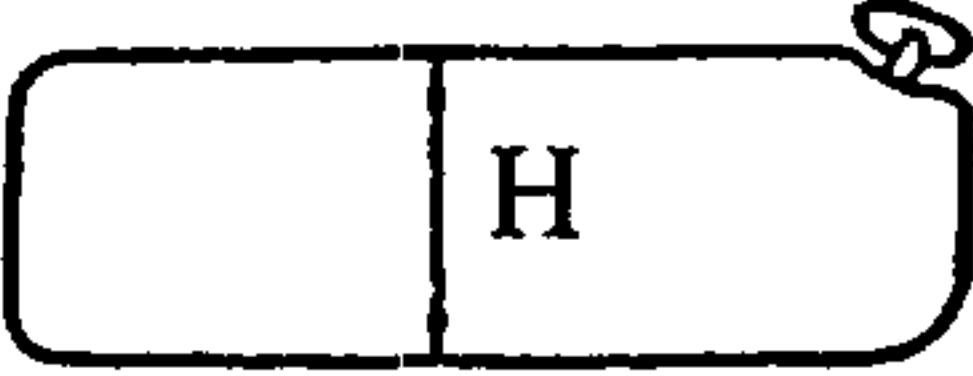
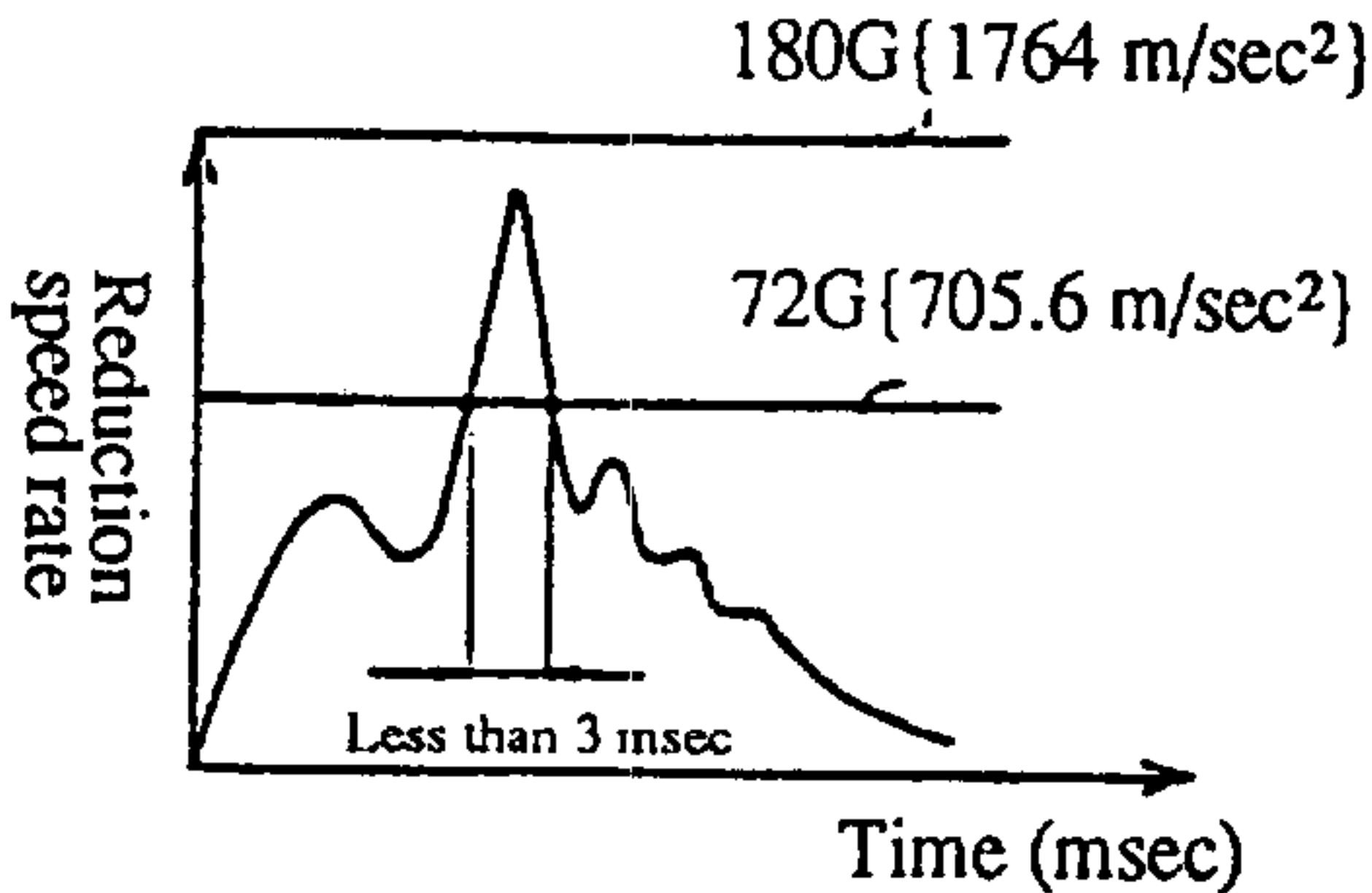
Evaluation Item		Evaluation Standard	Quality Rank	Evaluation Method
Performance	Short period heat resistance	—	—	Conform to Hs-06 of KES D-G008
	. Appearance	Satisfy Hs-06.	B	. KES D-G008
	. Displacement of sag on top cover	Wire core type : 6 mm max. Board core type : 3 mm max.	B	. 7.4.1
	. Sag of ticket holder	3 mm max. from top cover surface.	B	
	. Lifting of outer circumference of mirror	 Mirror Top cover Plate 4.5 max. $\Delta = 2$ or less But : ① The interval of the clearance Δ of 1.5 to 2.0 mm in the above figure shall not continue over 70 mm in length. ② Total length of the interval of 1.5 to 2.0 shall be 150 mm max.	B	. 7.4.1
	Long period heat resistance	—	—	Conform to H ℓ -4 of KES D-G008
	Appearance	Satisfy H ℓ -04.	B	KES D-G008
	. Adhesive mark of identification label	Conform to the minimum acceptable sample.	B	. Visual

Table 1 (Continued)

Evaluation Item		Evaluation Standard	Quality Rank	Evaluation Method
Environmental resistance	. The amount of shrinkage	The amount of shrinkage of H shall be 2 mm max. 	B	. Scale
	.. Thermal shock resistance	—	—	.. Conform to Th, 04, W of KES D-G008
	... Appearance	Satisfy Th, 04, W.	B	... KES D-G008
	 Working torque in the horizontal direction	Within 12 to 35 kgf • cm {1.18 to 3.43 N • m}.	B	7.3.2. (1)
	 Working torque in the vertical direction	Within 10 to 20 kgf • cm {0.98 to 1.96 N • m}.	B	7.3.2 (2)
	Cold resistance	Satisfy Cs-1.	B	KES DG008
	Chemical resistance	Satisfy Cr-I.O	B	KES DG008
	Light fastness	Satisfy Li-O.C.	B	7.4.2
	Humidifying test	Conform to the minimum acceptable sample.	B	7.4.3
Adaptability to regulation	Impact performance	Reduction speed rate of head from: For over 72 G {705.6 m/sec ² }, it shall be less than 3 m/sec. Maximum reduction speed rate: 180 G {1764 m/sec ² } max. 	AR	7.5.1