

KES

Glove Lid Assembly

KES D – C229

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1. Scope of Application

This specification shall specify the parts of the glove lid for cars.

2. Purpose

The purpose of this specification shall be for making sure of proper quality through the standardization of specification.

3. Report of Evaluation Results

The evaluation results of quality at each step from the development step to the mass production shall be presented to KIA according to the instruction of the appended document.

4. Definition

(1) Stopper

The part that prevents the glove lid moving when the glove lid is open.

(2) Stopper Rubber

The part that is attached to the end part of the stopper system.

(3) Shock-Absorbing Rubber

The part that is attached to the lid or the box so as to absorb the gap and the noise of the lid when closing the glove lid.

(4) Hinge

The part that serves as the axis of rotation of the lid when opening and closing the glove lid.

(5) Lock

The part that prevents the knob opening operation or the hook moving to opening direction.

(6) Glove Assembling

The situation that the parts of the glove box are assembled.

(7) Glove Lid Outer

The parts of the glove lid that is exposed on the outer surface when the lid is closed.

(8) Glove Lid Inner

The parts of the glove lid that attached to the inner side of the part of the glove lid outer.

5. Specification marked on Drawing

(1) Assembled Situation

(2) Indication of the painted color or material coloring, and indication of the color of parts.

(3) Indication of the limits of painting in case of painted color.

(4) The Sort, the limits and the depth in case of grain.

(5) The code of the required condition of KES D-G008

(6) The opening angle of the glove lid.

(7) The shape of the stopper

(8) The compression tolerance or location on the instrument panel of the shock-absorber rubber.

(9) The location and shape (Part number) of the strike.

(10) The shape (Part number) of the lock.

(11) The stroke of the knob.

6. Evaluation Standard

The evaluation standard for the glove lid shall be followed Table 1.

Remark 1 : The reading method for the evaluation item and the evaluation standard in Table

1 shall be according to the following sample.

Evaluation item			Evaluation method	
Durability	Resistance to vibration	1st Evaluation	7.5.1	1 st Evaluation method
	• Operational force of slide	2nd Evaluation (Evaluation item carried out after vibration durability evaluation)	• 7.3.1	2 nd Evaluation method
	.. Noise	3rd Evaluation (Evaluation item carried out after operating force evaluation)	.. 7.3.7	3 rd Evaluation method

Remark 2 : The quality grade shall be expressed as A, AR, B or C.

The definition of the quality grade shall be followed to KMS Q410001

(Application Guide for Determining Quality Grade).

Table 1

Evaluation item			Evaluation standard	Quality rank	Evaluation method
Performance	Operating Force of Hook		$0.25 \pm 0.05\text{kgf}$ { $2.45 \pm 0.49\text{N}$ }	B	7.2.1
	Operating Force of Knob	Only Glove Lid Parts	$0.5 \pm 0.1\text{kgf}$ { $4.9 \pm 0.98\text{N}$ }	B	7.2.2
		Condition equipped to Car	$0.75 \pm 0.25\text{kgf}$ { $7.35 \pm 2.45\text{N}$ }		
	Locking Force of Lid		$1.1 \pm 0.4\text{kgf}$ { $10.78 \pm 3.29\text{N}$ }	B	7.2.3
	Performance of Lock		① The lid shall not be opened.	AR	7.2.4
			② The lock shall not be damaged.	B	
	Looseness of Lid		Max. 0.5mm	B	7.2.5
	Looseness of Knob		Max. 0.5mm	B	7.2.6
	Noise		Max. 20Db	B	7.2.7
	Leather		Satisfy the requirement of MES PA 60350 (Crash pad)	B	
	Pad		Satisfy the requirement of MES PA 60350 (Crash pad)	B	
	Pad Hardness of Lid		Same with the hardness indicated on the specification drawing.	B	7.2.8

Table 1 (continued)

Evaluation item			Evaluation standard		Quality rank	Evaluation method
Strength and rigidity	Rigidity of Lid	Grade A	Max. 20mm		B	7.3.1
		Grade B	Max. 35mm			
	Surface Rigidity of Lid		Max 3mm		B	7.3.2
	Heavy Payload Strength of Lid	Opening Direction	1. The stopper shall not be slipped out. 2. The parts of the hinge shall not be damaged.		B	7.3.3
		Horizontal Direction				
	●Locking Force of Lid		1.1±0.4kgf {10.78±3.29N}		B	●7.2.3
	●●Noise		Max. 20dB		B	●●7.2.7
	Heavy Payload Strength of Knob	Slid Type	No damage or crack.		B	7.3.4
		Pull Type	No damage or crack		B	7.3.5
	Operating Force of Knob	Only Part of Glove Lid	0.5±0.1kgf {4.9±0.98N}		B	●7.2.2
		Condition equipped to Car	0.75±0.25kgf {7.35±2.45N}			
	●●Noise		Max. 20dB		B	7.2.7
	Impact Payload Strength of Knob		No crack of lid, damage of hinge and slip-out of stopper. Not bad latch.		B	7.3.6
Durability	Operating Durability of Lid		No default like the followings.	Damage and crack of hinge, looseness of small screw, deformation of lid, bad latch, and deformation and slip-out of stopper	B	7.4.1
			No default like the followings.	Scratch, peeling and discoloration of top leather		
	●Operating Force of Hook		0.25±0.05kgf {2.45±0.49N}		B	●7.2.1

Table 1 (continued)

Evaluation item			Evaluation standard		Quality rank	Evaluation method
Durability	•Operating Force of Knob	Only Part of Glove Lid	0.5 ± 0.1kgf {4.9 ± 0.98N}		B	•7.2.2
		Condition equipped to Car	0.75 ± 0.25kgf {7.35 ± 2.45N}			
	•Locking Force of Lid		1. 1 ± 0.4kgf {10.78 ± 3.29N}		B	•7.2.3
	•Performance of Lock		① The lid shall not be opened.		AR	•7.2.4
			② The lock shall not be damaged.		B	
	•Looseness of Lid		Max. 0.5mm		B	•7.2.5
	•Looseness of Knob		Max. 0.5mm		B	•7.2.6
	•Noise		Max. 20dB		B	•7.2.7
Vibration durability	Vibration Durability of Glove Lid Parts		No default like the followings.	Damage and crack of hinge, looseness of small screw, deformation of lid, bad latch, deformation and slip-out of stopper, and opening of lid	B	7.5.1
			No default like the followings.	Scratch, peeling and discoloration of top leather		
	•Operating Force of Hook		0.25 ± 0.05kgf {2.45 ± 0.49N}		B	•7.2.1
	•Operating Force of Knob	Only Glove Lid Parts	0.5 ± 0.1kgf {4.9 ± 0.98N}		B	•7.2.2
		Condition equipped to Car	0.75 ± 0.25kgf {7.35 ± 2.45N}			
	•Locking Force of Lid		1. 1 ± 0.4kgf {10.78 ± 3.29N}		B	•7.2.3
	•Performance of Lock		① The lid shall not be opened.		AR	•7.2.4
			② The lock shall not be damaged.		B	
	•Looseness of Lid		Max. 0.5mm		B	•7.2.5
	•Looseness of Knob		Max. 0.5mm		B	•7.2.6
	•Noise		Max. 20dB		B	•7.2.7

Table 1 (continued)

Evaluation item		Evaluation standard	Quality rank	Evaluation method
Environmental resistance		Satisfy with the rule of KES D-G008 (Quality Standard and Test Method for Plastic Parts for Inner and Outer Decoration)		
	Short-Run Heat Resistance	Satisfy with the indication of specification drawing.	B	KES D-G008
	•Operating Force of Hook	0.25 ± 0.05kgf {2.45 ± 0.49N}	B	•7.2.1
	•Operating Force of Knob	Only Glove Lid Parts	B	•7.2.2
		Condition equipped to Car		
	•Locking Force of Lid	1. 1 ± 0.4kgf {10.78 ± 3.29N}	B	•7.2.3
	•Performance of Lock	① The lid shall not be opened.	AR	•7.2.4
		② The lock shall not be damaged.	B	
	•Looseness of Lid	Max. 0.5mm	B	•7.2.5
	•Looseness of Knob	Max. 0.5mm	B	•7.2.6
	•Noise	Max. 20dB	B	•7.2.7
	Long-Run Heat Resistance	Satisfy with the indication of specification drawing.	B	KES D-G008
	•Operating Force of Hook	0.25 ± 0.05kgf {2.45 ± 0.49N}	B	•7.2.1
	•Operating Force of Knob	Only Glove Lid Parts	B	•7.2.2
		Condition equipped to Car		
	•Locking Force of Lid	1. 1 ± 0.4kgf {10.78 ± 3.29N}	B	•7.2.3
	•Performance of Lock	① The lid shall not be opened.	AR	•7.2.4
		② The lock shall not be damaged.	B	
	•Looseness of Lid	Max. 0.5mm	B	•7.2.5
	•Looseness of Knob	Max. 0.5mm	B	•7.2.6
	•Noise	Max. 20dB	B	•7.2.7

Table 1 (continued)

Evaluation item		Evaluation standard	Quality rank	Evaluation method
Environmental resistance	Heat Impact Resistance	Satisfy with the indication of specification drawing.	B	KES D-G008
	•Operating Force of Hook	0.25 ± 0.05kgf {2.45 ± 0.49N}	B	•7.2.1
	•Operating Force of Knob	Only Glove Lid Parts 0.5 ± 0.1kgf {4.9 ± 0.98N}	B	•7.2.2
		Condition equipped to Car 0.75 ± 0.25kgf {7.35 ± 2.45N}		
	•Locking Force of Lid	1. 1 ± 0.4kgf {10.78 ± 3.29N}	B	•7.2.3
	•Performance of Lock	① The lid shall not be opened.	AR	•7.2.4
		② The lock shall not be damaged.	B	
	•Looseness of Lid	Max. 0.5mm	B	•7.2.5
	•Looseness of Knob	Max. 0.5mm	B	•7.2.6
	•Noise	Max. 20dB	B	•7.2.7
	Cold Resistance	Satisfy with the indication of specification drawing.	B	KES D-G008
	Liquid Resistance	Cr-I. O		
	Light Resistance	Li-O. B		
	Burning Resistance	KES C-H001	AR	KES C-H001
Appearance	Rugged of steel of part touched by hand and parting end	Max 3mm	B	7.6.1
	Weld mark, flow mark, contraction ,and rise and fall on surface	Check with approved sample.	B	Naked eye
	Painted Color	Same with the painting color indicated on specification drawing.	B	Naked eye
	Painting	Satisfy with KES B-R001, TA2	B	KES T-M010
	Material Coloring	Same color indicated on specification drawing.	B	Naked eye
	Grain	Same with the sort, range and depth indicated on the specification drawing.	B	Naked eye

7. Evaluation Method

7.1 Evaluation Condition

7.1.1 Standard Condition for Test Place

As long as there's not specifically clear statements, the standard ambient condition shall be 20 °C, 5th grade (20 + 15 °C) of the standard temperature condition and 65 %, 20th grade (65 + 20 %) of the standard humidity condition, specified in KS A 0006 (Standard Condition for Test Place)

7.1.2 Installation of Test Piece

The vertical and horizontal installation condition and the height shall be according to the marking on the specification drawing. As long as there's not specifically clear statement, the installation condition shall be the car condition for the test bench equivalent to cutting tool and the fixing instrument.

7.1.3 Controlling the condition of the test piece

The test piece shall be usable after 24 hours since manufactured. As long as there's not specifically clear statement, the test piece shall be tested after standing more than 1 hour at the condition of standard temperature and humidity. When the temperature is designated, the test piece shall be tested after standing more than 1 hour at the designated temperature condition.

7.2 Performance

7.2.1 Operation of Hook (in case of look proper for separated installation)

- (a) Install the push-pull gauge like Figure 1.
- (b) Pull the push-pull gauge at velocity of 2 ± 0.5 mm/s to the opening direction.
- (c) Continue the operation (b) to the distance of -1 ± 0.5 mm from the stroke marked on the drawing.

(d) After the operation (c), measure the maximum value of the push-pull gauge.

(e) Repeat the operations from (a) to (d) three times so as to determine the average value.

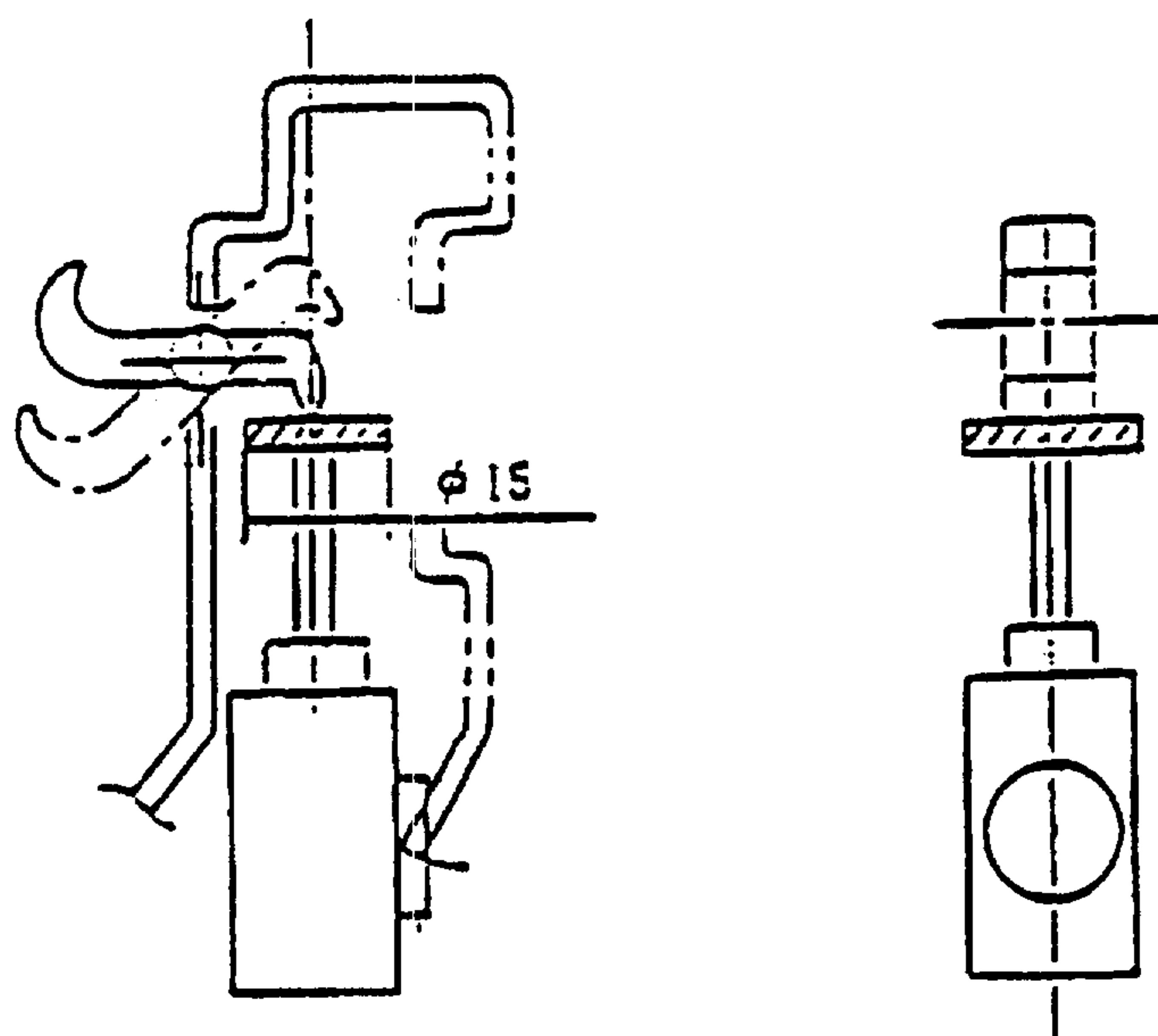


Figure 1

7.2.2 Operating Force of Knob

(1) Pull Type

(a) Install the lock in released condition and the push-pull gauge like Figure 2.

(b) Pull the push-pull gauge at velocity of 2 ± 0.5 mm/s to the opening direction.

(c) Continue the operation (b) to the distance of -1 ± 0.5 mm from the stroke marked on the drawing.

(d) After the operation (c), measure the maximum value of the push-pull gauge.

(e) Repeat the operations from (a) to (d) three times so as to determine the average value.