



FU HWA MIRROR CO.,LTD

688,Sec.7 Chang Lu Road,Lu Kang,Chang Hua, Taiwan

Telephone : 886-4-8651325(703) , Fax: 886-4-8655517

**EXTENSION APPLICATION FOR APPROVAL OF REAR VIEW MIRROR
ACCORDING TO UN REGULATION R81,00 SERIES OF AMENDMENTS**

1. Trade name or mark of the Device : FU
2. Manufacturer's name of the Device : FA-326
Version A : FA-326
Version B : FA-326-6
3. Manufacturer's name and address : FU HWA MIRROR CO.,LTD
688, Sec.7 Chang Lu Road, Lu Kang, Chang
Hua, Taiwan
4. If applicable, name and address of
manufacturer's representative : Not applicable
5. Brief description : MANUAL CONTROL SYSTEM
6. Submitted for approval on (date) : Nov. 6, 2019

We herewith certify that we didn't apply nor receive a certificate for the above mentioned type in any other EEC/ECE member state.

SIGNATURE:

H.Y. Huang

Name:H.Y.Huang

Position: Engineer

Date: Nov. 6, 2019

THIS APPLICATION IS ACCOMPANIED WITH:

-The test report



**THE NETHERLANDS**
(N E D E R L A N D)**COMMUNICATION**Concerning ⁽¹⁾:

- ~~approval granted~~
- approval extended
- ~~approval refused~~
- ~~approval withdrawn~~
- ~~production definitely discontinued~~

of a type of rear-view mirror pursuant to Regulation number 81.

Approval number: E4-81R-000466**Extension number: 01**

1. Trade name or mark of the equipment : FU
2. Equipment type : FA-326
3. Brief description including in particular the following information:
 - 3.1. Main dimensions (of the reflecting surface) : 130 × 79.5 mm
 - 3.2. Nominal radius of curvature (of the reflecting surface) : 1350 mm
4. Manufacturer's name and address : FU HWA MIRROR CO., LTD.
688, Sec. 7, Chang Lu Road, Lu Kang,
Chang Hwa, Taiwan, R.O.C.
5. If applicable, name and address of manufacturer's representative : Not applicable
6. Equipment submitted for approval on : November 6, 2019



7. Technical service responsible for conducting approval tests : TÜV Rheinland Kraftfahrt GmbH
Technologiezentrum Verkehrssicherheit
Typprüfstelle Fahrzeuge/Fahrzeugteile
Postfach 91 09 51
D-51105 Köln
8. Date of report issued by that service : November 28, 2019
9. Number of report issued by that service : 84-R81-01701/19-00
10. Vehicles for which the equipment is designed : Two-wheeled motor vehicles (RSV4)
11. Approval is : ~~Granted/refused/extended/withdrawn~~⁽¹⁾
12. Reason(s) for extension of approval : Addition of version B
13. Place : Zoetermeer
14. Date : 11 December 2019
15. Signature : 
Uwe Löbig 
16. A list of documents contained in the approval file transmitted to the administrative service which has granted approval is annexed to this communication.

⁽¹⁾ Strike out what does not apply.

Type : FA-326
Manufacturer : FU HWA MIRROR CO., LTD.

TEST REPORT

according to ECE-Regulation

**Uniform provisions concerning the approval of seats of rear-view mirrors
of two-wheeled power-driven vehicles with or without side car, with regard
to the mounting of rear-view mirrors on handlebars**

No.: **ECE-R81**

including all amendments until

No.: **00 series of amendments, suppl. 2**

Approval Status	
UN - system type approval	: E4-81R-000466 Ext.01

Structure of report:

0. General information
1. Test object(s) and general test information
2. Test minutes
3. Remark concerning tested object(s)
4. Appendices
5. Statement of conformity



The Test Report shall be reproduced and published in full by the client only. It shall however be reproduced partially with the written permission of the Testing Laboratory only.

Type : FA-326
Manufacturer : FU HWA MIRROR CO., LTD.

0. General information

- 0.1. Trademark or trade name of the mirror : FU
- 0.2. Manufacturer's name for the type of the mirror : FA-326
- 0.3. Name and address of the manufacturer : FU HWA MIRROR CO., LTD.
688, Sec. 7, Chang Lu Road, Lu Kang,
Chang Hua, Taiwan, R.O.C.
- 0.4. Name and address of the manufacturer's authorized representative : Not applicable
- 0.5. No. of information document : FA-326-01
date of issue : October 15, 2014
date of last amendment : November 6, 2019



Type : FA-326
Manufacturer : FU HWA MIRROR CO., LTD.

1. Test object(s) and general test information

1.1. Test object(s)

1.1.1 Identification no. : Without, prototype
Model : FA-326
Remark : Addition of version B: FA-326-6, which is different in the housing without direction indicator.

1.2. General test information

1.2.1 Order issued by : --
(if different from manufacturer)
1.2.2 Test object received on : --
1.2.3 Test date : November 6, 2019
1.2.4 Test site : FU HWA MIRROR CO., LTD., Pu-Yen, Taiwan
1.2.5 Remark : The results of the test refer exclusively to the object(s) mentioned under point 1.1. of this report.



Type : FA-326
Manufacturer : FU HWA MIRROR CO., LTD.

2. Test minutes

- 2.1. Test facilities : The test facilities used are in compliance with the requirements of the Regulation.
- 2.2. Test results : ~~The mirror type has been tested according to the amendments mentioned in appendix 0.~~
- 2.2.3 General requirements : The mirror type complies with the general requirements of the Regulation.
- 2.2.3 Special requirements : The mirror type complies with the special requirements of the Regulation. Test results see Appendix 1.
- 2.2.3 Test data : The mirror type complies with the requirements of the Regulation concerning the impact and bending tests. Test results see Appendix 1.
- 2.3. Variants and components
- Variant(s) : --
- Version(s) : - Version A: FA-326
- Version B: FA-326-6



Type : FA-326
Manufacturer : FU HWA MIRROR CO., LTD.

3. Remark concerning tested object(s)

All versions of the mirror type as stated in the information document are covered with the tested mirror version(s) and test object(s) respectively.

4. Appendices

- 0 List of modifications
- 1 Test minutes
- 2 Information folder no. : FA-326-01 (3 pages)
(excluding drawings)

5. Statement of conformity

The above mentioned information folder and the type described in that comply with the requirements mentioned on page 1.

Engineering Center Shanghai, 2019/11/28
KWU/JYW



Expert Technical Service



Type : FA-326
Manufacturer : FU HWA MIRROR CO., LTD.

List of modifications

Appendix 0

Correction of : --

Modification of : --

Addition of : - Version B

Deletion of : --



Type : FA-326
 Manufacturer : FU HWA MIRROR CO., LTD.

Test minutes

Appendix 1

1.1. Dimensions of reflecting surface

Reflecting surface : 78 cm²
 Required minimum value : 69 cm²

Diameter of circular mirror : -- mm
 Required minimum value : -- mm

Inscribed circle in a non circular mirror : 79 mm
 Required minimum value : 78 mm

The reflecting surface does fit into a rectangle measuring
 120 mm by 200 mm.

1.2. Reflecting surface and coefficient of reflectivity

Radius of curvature

$r_{p1} = (r_1 + r_1') / 2$: 1304 mm

$r_{p2} = (r_2 + r_2') / 2$: 1322 mm

$r_{p3} = (r_3 + r_3') / 2$: 1315 mm

$r = (r_{p1} + r_{p2} + r_{p3}) / 3$: 1314 mm

required minimum value of r : 1000 mm ≤ r ≤ 1500 mm

Maximum difference between any
 of the radii (r_{p1} , r_{p2} , r_{p3}) and r : 10 mm

Allowable maximum difference : 197 mm (0.15 x 1314 mm)

Coefficient of reflection : 62.7 %

Required minimum coefficient : 40 %

Resistance to corrosion and ageing : Manufacturer's statement attached

Recognition of colours : Red, yellow, green, blue, white

Tinting of mirrors : Without



Type : FA-326
Manufacturer : FU HWA MIRROR CO., LTD.

1.3. Impact tests

Impact point according to Test No. 1 : 40° (left side)
angle for raising pendulum and the
vertical

Breakage of mirror : No
~~The fragments of glass still adhere to a surface firmly
attached to the holder, partial separation of the glass from
its backing does not exceed 2.5 mm either side of the
crack.~~

Impact point according to Test No. 2 : 55° (right side)
angle for raising pendulum and the
vertical

Breakage of mirror : No
~~The fragments of glass still adhere to a surface firmly
attached to the holder, partial separation of the glass from
its backing does not exceed 2.5 mm either side of the
crack.~~

1.4. Bending test

: The test load had been applied for one minute.

Breakage of mirror : No



Date: Nov. 6, 2019

FU HWA MIRROR CO., LTD.
688, Sec. 7, Chang Lu Road, Lu Kang,
Chang Hwa, Taiwan, R.O.C.

INFORMATION FOLDER NO. FA-326-01

Page 1/3

1. MANUFACTURER : FU HWA MIRROR CO., LTD.
688, Sec. 7, Chang Lu Road, Lu Kang,
Chang Hwa, Taiwan
2. MANUFACTURER'S AUTHORIZED REPRESENTATIVE : NOT APPLICABLE
3. APPLICABLE REGULATION : ECE-R81, 00 SERIES OF AMENDMENTS
4. DEVICE NAME : REAR-VIEW MIRRORS
5. DEVICE NUMBER : 1.) VERSION A: FA-326
2.) VERSION B: FA-326-6
6. CLASS : L
7. TRADE MARK : FU
8. TYPE IDENTIFICATION : FA-326
9. MOUNTING METHOD
 - 1) MOUNTING LOCATION : IN FRONT OF TWO-WHEELED VEHICLES
 - 2) ORIENTATION ANGLE : REFER TO THE DRAWINGS
 - 3) MONTING METHOD : TWO SCREW
10. CONSTRUCTION OF REFLECTING SURFACE
 - 1) RADIUS OF CURVATURE : $R1350 \pm 150$ mm
 - 2) MIRROR THICKNESS : 1.9 mm
 - 3) MIRROR REFLECTIVE AREA : 78 ± 1.5 cm²
 - 4) MAIN DIMENSIONS : 130.0 ± 0.5 mm $\times$ 79.5 ± 0.5 mm



FU HWA MIRROR CO., LTD.
688, Sec. 7, Chang Lu Road, Lu Kang,
Chang Hwa, Taiwan, R.O.C.

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NO.	PARTS	MATERIAL VERSION A	VERSION# B
1)	HOUSING	PA66+GF	PA66+GF
2)	MIRROR	GLASS (Cr coating)	GLASS (Cr coating)
3)	STAY	ADC12	ADC12
4)	STAY COVER	PA66+GF	PA66+GF
5)	BASE	ADC12	ADC12
6)	COVER	ASA	ASA
7)	WINK ASSY	ABS+PMMA	-----

<u>TYPE</u>	<u>MIRROR CONTROL SYSTEM</u>
VERSION A FA-326	MANUAL CONTROL
VERSION B FA-326-6	MANUAL CONTROL#



Date: Nov. 6, 2019

FU HWA MIRROR CO., LTD.
688, Sec. 7, Chang Lu Road, Lu Kang,
Chang Hwa, Taiwan, R.O.C.

INFORMATION FOLDER NO. FA-326-01

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TO WHOM IT MAY CONCERN

REAR-VIEW MIRROR FOR MOTOR VEHICLES

- RESISTANCE TO CORROSION AND AGING OF THE REFLECTIVE SURFACE.

HEREBY WE DECLARE THAT THE REAR-VIEW MIRROR FOR MOTOR VEHICLES

TYPE: FA-326

- COMPLIES WITH PARAGRAPH 7.2.5. OF ECE R81-00

THE REFLECTING SURFACE RETAINS THE CHARACTERISTICS SPECIFIED IN
PARAGRAPH 7.2.4. OF ECE R81-00, IN SPITE OF PROLONGED EXPOSURE TO ADVERSE
WEATHER CONDITIONS, IN NORMAL CONDITIONS OF USE.

FU HWA MIRROR CO., LTD.

H.Y. Huang

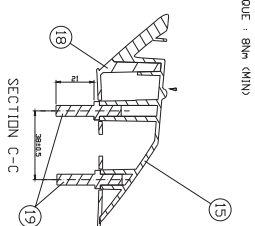
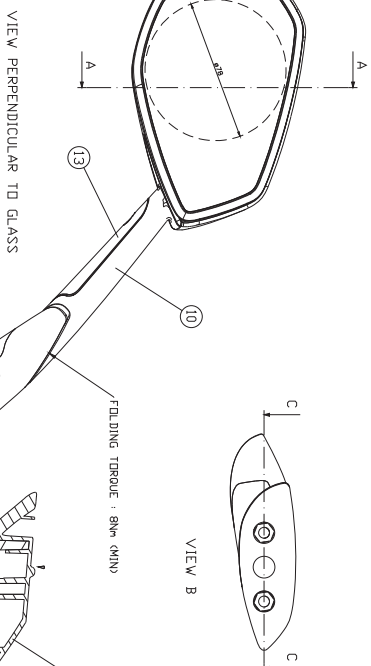
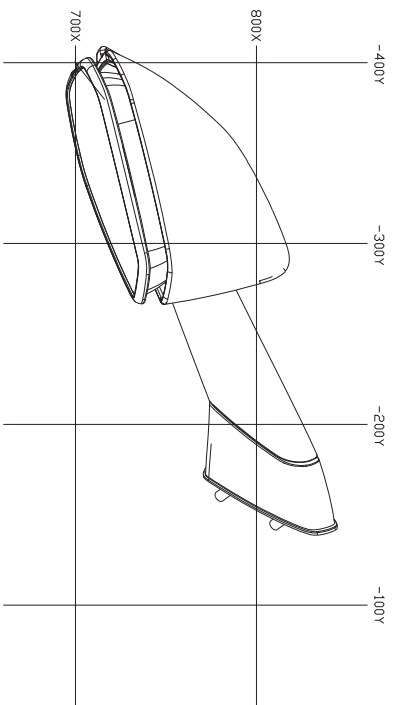
Name: H.Y. Huang

Position: Engineer

Date: Nov. 6, 2019



Version A



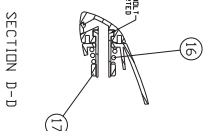
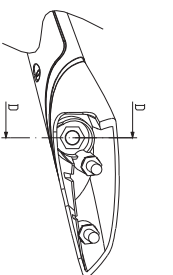
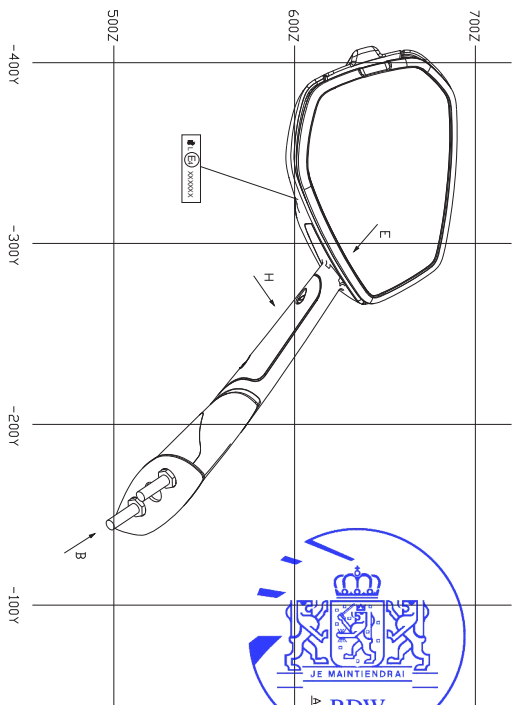
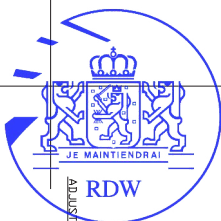
SECTION A-A

SECTION C-C

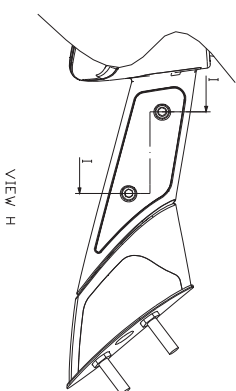
REF	NOM	PART NUMBER	QTY	MATERIAL	REMARK
1	HOUSING	8A3266/L0400	1	PA66GF	
2	FOUNDER D	8A3266/L0700	1	SWRN	
3	REFLECTOR	8A3266/L0700	1	SS	
4	REFLECTOR	8A3266/L0700	1	SS	
5	SPRING A	80928N2400	1	2012	
6	WASHER A	8V934N7200	1	SPCB	
7	SCREW A	8A3266/L0700	1	SWRN	
8	MIRROR	8A3266/L0700	1	GLASS	
9	TAPE	8A3266/L0700	1	PET	
10	STAY	8A3266/L0700	1	ADIC12	
11	SCREW B	8A3266/L0700	1	SWRN	
12	SCREW C	8A3266/L0700	1	SWRN	
13	SCREW D	8A3266/L0700	1	SWRN	
14	SCREW E	8A3266/L0700	1	SWRN	
15	SCREW F	8A3266/L0700	1	SWRN	
16	SCREW G	8A3266/L0700	1	SWRN	
17	SCREW H	8A3266/L0700	1	SWRN	
18	SCREW I	8A3266/L0700	1	SWRN	
19	SCREW J	8A3266/L0700	1	SWRN	
20	SCREW K	8A3266/L0700	1	SWRN	
21	SCREW L	8A3266/L0700	1	SWRN	
22	COVER	8A3266/L0700	1	SS	

WINK ASSY PART LIST

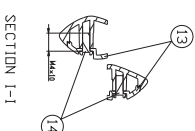
REF	NOM	PART NUMBER	QTY	MATERIAL	REMARK
11	WINK-REFLECTOR	8A3266/L0700	1		
12	WINK-LENS	8A3266/L0700	1		
13	WINK-BASE	8A3266/L0700	1		
14	WINK-ASSY	8A3266/L0700	1		
15	WINK-ASSY	8A3266/L0700	1		



SECTION D-D



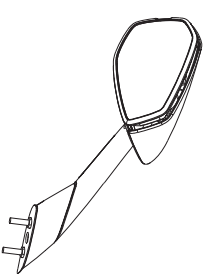
VIEW H



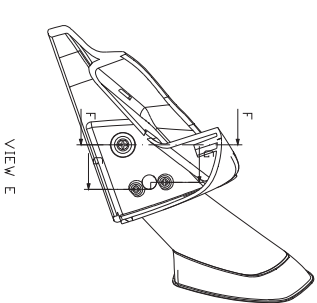
SECTION I-I

VIEW BASE HINGE

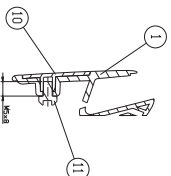
SPECIFICATION	
CURVATURE RADIUS :	R1350±150
REFLECTION FILM :	CP-VACUUM PLATING
REFLECTION RATIO :	400(NM)
DISTORTION RATIO :	35%



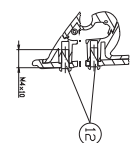
ISOMETRIC VIEW



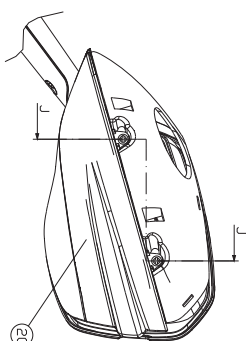
VIEW E



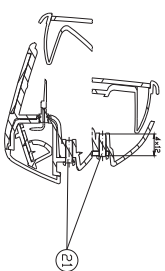
SECTION F-F



SECTION G-G



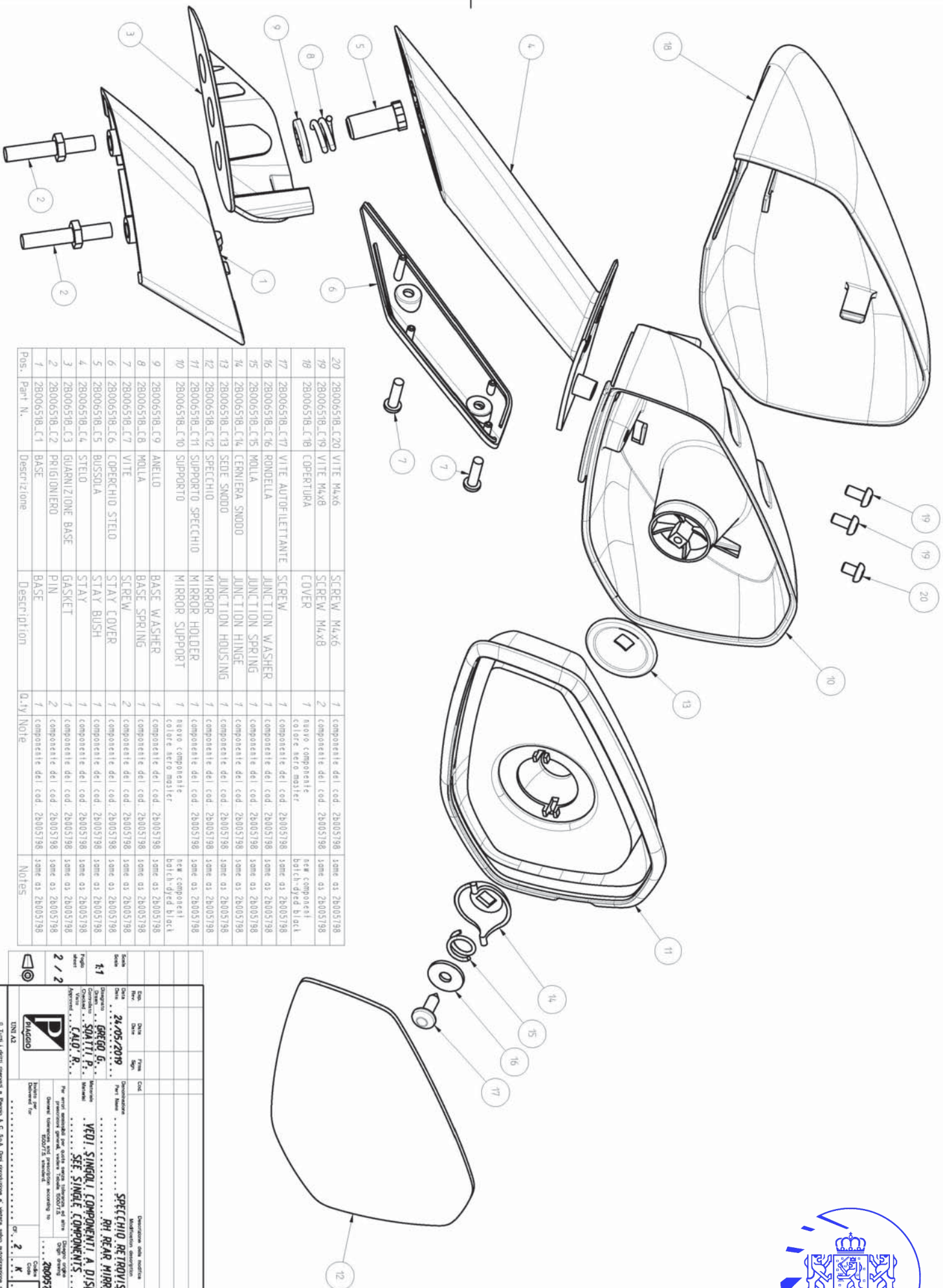
VIEW LOCK SCREW FOR WINK



SECTION J-J

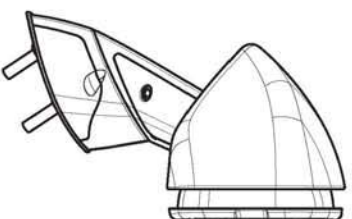
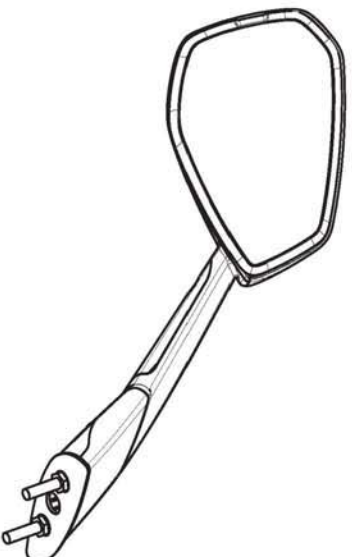
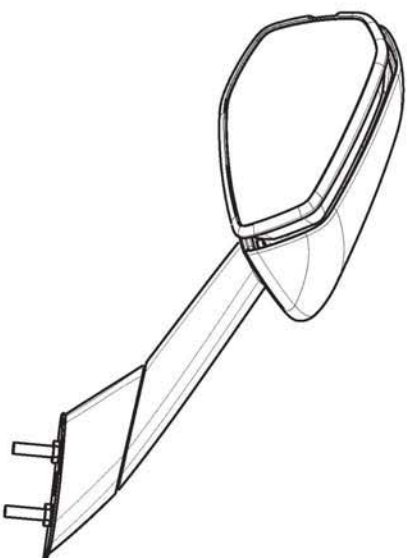
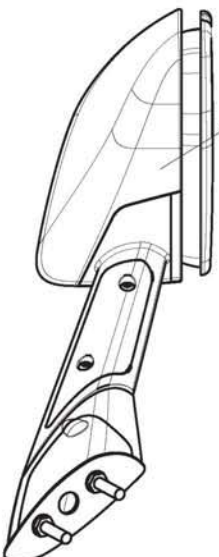
NOTES : 1. LH IS SHOWN. RH IS SYMMETRIC.
2. ALL BY 100mm SPHERE CONTACTABLE RADI
HAVE A RADIUS OF MORE THAN 25mm.

REV	DESCRIPTION	DATE	BY
01	Pre-release	2014.10.27	Chen
02	Release	2014.10.27	Chen
03	Final	2014.10.27	Chen
04	Final	2014.10.27	Chen
05	Final	2014.10.27	Chen
06	Final	2014.10.27	Chen
07	Final	2014.10.27	Chen
08	Final	2014.10.27	Chen
09	Final	2014.10.27	Chen
10	Final	2014.10.27	Chen
11	Final	2014.10.27	Chen
12	Final	2014.10.27	Chen
13	Final	2014.10.27	Chen
14	Final	2014.10.27	Chen
15	Final	2014.10.27	Chen
16	Final	2014.10.27	Chen
17	Final	2014.10.27	Chen
18	Final	2014.10.27	Chen
19	Final	2014.10.27	Chen
20	Final	2014.10.27	Chen
21	Final	2014.10.27	Chen
22	Final	2014.10.27	Chen



20	2B00057B..C20	VITE M4x6	SCREW M4x6	1	componente del cod. 2B005798	same as 2B005798
19	2B00057B..C19	VITE M4x8	SCREW M4x8	2	componente del cod. 2B005798	same as 2B005798
18	2B00057B..C18	COVERPULIA	COVER	1	nuovo componente colore nero mat	new component black-nyed black
17	2B00057B..C17	VITE AUTOLIETTANTE	SCREW	1	componente del cod. 2B005798	same as 2B005798
16	2B00057B..C16	RONDELLA	JUNCTION WASHER	1	componente del cod. 2B005798	same as 2B005798
15	2B00057B..C15	MOLLA	JUNCTION SPRING	1	componente del cod. 2B005798	same as 2B005798
14	2B00057B..C14	CERNIERA SNODO	JUNCTION HINGE	1	componente del cod. 2B005798	same as 2B005798
13	2B00057B..C13	SEDE SNODO	JUNCTION HOUSING	1	componente del cod. 2B005798	same as 2B005798
12	2B00057B..C12	SPECCHIO	MIRROR	1	componente del cod. 2B005798	same as 2B005798
11	2B00057B..C11	SUPPORTO SPECCHIO	MIRROR HOLDER	1	componente del cod. 2B005798	same as 2B005798
10	2B00057B..C10	SUPPORTO	MIRROR SUPPORT	1	nuovo componente colore nero mat	new component black-nyed black
9	2B00057B..C9	ANELLO	BASE WASHER	1	componente del cod. 2B005798	same as 2B005798
8	2B00057B..C8	MOLLA	BASE SPRING	1	componente del cod. 2B005798	same as 2B005798
7	2B00057B..C7	VITE	SCREW	2	componente del cod. 2B005798	same as 2B005798
6	2B00057B..C6	COPRICHIO STELO	STAY COVER	1	componente del cod. 2B005798	same as 2B005798
5	2B00057B..C5	BUSSOLA	STAY BUSH	1	componente del cod. 2B005798	same as 2B005798
4	2B00057B..C4	STELO	STAY	1	componente del cod. 2B005798	same as 2B005798
3	2B00057B..C3	GUARNIZIONE BASE	GASKET	1	componente del cod. 2B005798	same as 2B005798
2	2B00057B..C2	PRIGIONIERO	PIN	1	componente del cod. 2B005798	same as 2B005798
1	2B00057B..C1	BASE	BASE	1	componente del cod. 2B005798	same as 2B005798
Pos. Part N.		Descrizione	Description	Qty	Note	Notes

The dimensions of version B is the same as version A, except the back of the housing



REQUISITI CRITICI CRITICAL REQUIREMENTS (SAFETY, COMPLIANCE, IMPORTANT, PROCESS)			
CLASSIFICAZIONE CLASSIFICATION	REQUISITO REQUIREMENT	NORMA STANDARD	ZONA AREA
COMPLIANCE 1	-Nota relativa all'omologazione secondo normativa FMVSS -Note about compliance to FMVSS legislation		F10 1
IMPORTANT 1	-Nota relativa alla coppia di rotazione dello snodo -Note about joint rotation torque		F10 1
IMPORTANT 2	-Nota relativa alla coppia di rotazione dello snodo -Note about joint rotation torque		F10 1



- IL DISTINGUO RAPPRESENTA IL PARTICOLARE SINISTRO.
- IL DESTRO E' SIMMETRICO
- *lh is shown, RH is symmetric*
- PER TUTTE LE INDICAZIONI MANCANTI VEDERE MOD.CAD
- *For all missing information see CAD model*

- Conforme alla Norma 5331 tipo di progetto 1
- ϵ alla ONU-ECE n° 81
- According to Std. 5331 project type 1
- and to ONU-ECE n° 81

IMPORTANT 1

- Valore limite inferiore della coppia necessaria per il ribaltamento del corpo rispetto al supporto alla prima chiusura= 8 Nm
- Torque lower limit value required to turn the body onto the base at the first movement= 8 Nm

IMPORTANTI 2 - Valore limite inferiore della Coppia necessaria per il ribaltamento del corpo rispetto al supporto dopo 50 cicli= 5 Nm

- *Torque lower limit value required to turn the body onto the base after 50 cycles= 5 Nm*

COMPLIANCE 1 - Conforme alla FEDERAL MOTOR VEHICLE SAFETY STANDARD FMVSS 429 CFR PART. 571 STD.N.111

- *Conforming to FEDERAL MOTOR VEHICLE SAFETY STANDARD FMVSS 429 CFR PART. 571 STD.N.111*

[illegible]

