1. General

This Cosmetic Inspection Standard describes the inspection criteria and methodology of cosmetic components, visible in vehicle position, i.e. appliqués, pointers, rings, bezels / mask, buttons, lenses, chrome, paint etc, for North American designed products. This standard applies throughout the supplier's manufacturing process and the YNA affiliate manufacturing process.
The Cosmetic Inspection Standard is a supplement to the released drawing of the part, and all requirements herein must be met in addition to all other requirements specified on the drawing.
The drawing requirements supersede this standard, where applicable.

Every supplier is responsible to implement and maintain an efficient Production and Inspection control in order to assure the supplied parts meet or exceed the expectation of Yazaki North America by the criteria expressed on this standard.

2. Definitions

2.1. Surfaces

2.1.1. Class ¨"A¨ surface (High Visibility): A primary surface in direct view when sitting in driver position.

2.1.2. Class ¨B¨ surface (Moderate Visibility): A secondary surface in indirect view in vehicle position. These surfaces are visible with obstructed view when sitting in driver position.

2.1.3. Class ¨C¨ surface (Low Visibility): A surface that is not visible in car position.

2.2. Flaw is defined as contaminant, dimple, pit, bubble, nicks, void, pits, speckles, black specks, gels, lint, fibers, watermarks, stains, rub marks, etc.

2.2.1. Contaminants, Speckles, Black Specks – Dark or non-clear particles other than lint.

2.2.2. Dimples, Gels, Stains, Watermarks – Clear, usually circular pockmarks (including distortion / halo area around the flaw.) Usually can be felt by hand.

2.2.3. Pits – Sand like surface defect that cannot be felt by hand (including distortion / halo area around flaw.)

2.2.4. Bubble, Void -Small round defect filled with air in substrate

2.2.5. Fibers - Debris in the coating that looks similar to a thread or hair.

2.2.6. Lint – A linear type contaminant that does not curl back or deviate from a line more than 45 degrees (including distortion area around defect.)

2.2.7. Rub Mark, Smudge – Visual blemish that does not break the coating surface

2.3. A line is defined as a scratch, scuff, or surface imperfection due to abrasion.

2.3.1. Scratch – Physical break in the coating that can be felt by a fingernail.

2.3.2. Scuff – Physical break in the coating that cannot be felt by a fingernail.

2.3.3. Pinhole – A hole for a pin to go through; tiny aperture. Typically a lack of ink on an applique which is seen when back lit.

Date	Revision	Approved	Checked	Checked	Author
November 30, 2015	1				
April 25, 2008	0				

3. Methodology of Inspection

This section describes the methodology for evaluating cosmetic components visible in when sitting in driver position. The cosmetic components surface should be identified and designated as Class ¨A¨, Class ¨B¨ and Class ¨C¨ according with the viewing angle or position in the vehicle.

3.1. Inspection Process

3.1.1. Inspection Requirements

3.1.1.1. All products shall be inspected via visual examination without the aid of an instrument, such as a magnifying lens, Smartscope, microscope etc., for visual inspection that may alter the methodology, as called out in section 3.1.2, to determine conformance of the part to this standard. A line / dot gage may be used in the event a suspect part is found in order to issue a pass/fail judgment based on the criteria in Section 3.2.

3.1.1.2. The inspector must observe the component surfaces from left to right in a clockwise direction or vice versa.

3.1.1.3. All rejects are to be clearly identified in such a way as to not permanently mark or damage the component.

3.1.1.4. The inspector must wear lint free gloves during the inspection process.

3.1.1.5. The inspector must be trained on this document.

3.1.2. Viewing Conditions / Methodology (Apply to Daylight and Night Time Inspection Conditions)

3.1.2.1. Unaided, normal eyesight (20/20 to 20/30 vision with corrective lenses, as needed) is required.

3.1.2.2. The components must be viewed from a distance of 18 to 24 inches (46 to 61 cm) from the inspector's eyes.

3.1.2.3. Imperfections shall not be visible from driver position at a minimum distance of 46 cm.

3.1.2.4. The surface viewing angle of the part shall be staged at an angle min 19° and max 23° from vertical to replicate in-vehicle position (Figure 1). The exception to this is for cluster assemblies which viewing set up is perpendicular to the appliqué surface (Figure 2). The part shall be viewed such that light is not reflected directly at the inspector. (Avoid light reflections)

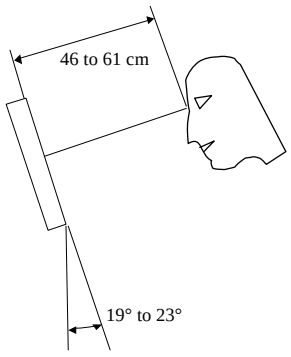


Figure 1

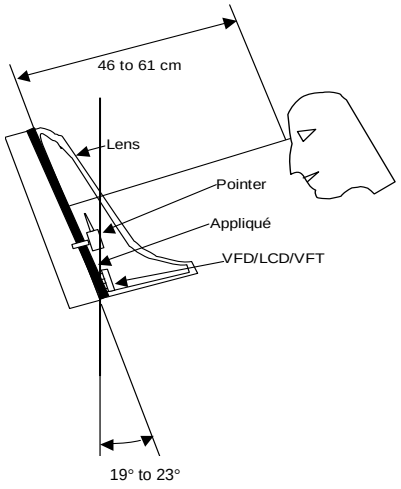


Figure 2

For cluster assemblies, the viewing area is divided into 3 inspection regions (Figure 3-6).

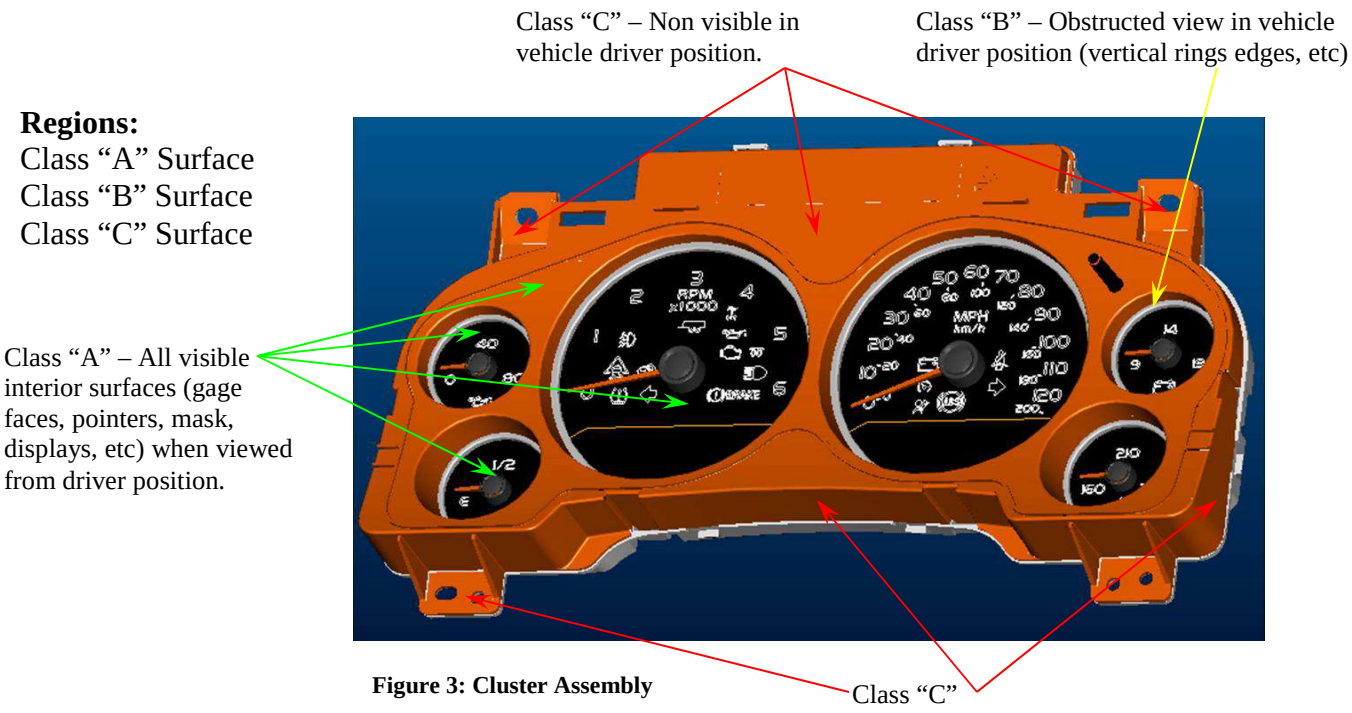


Figure 3: Cluster Assembly

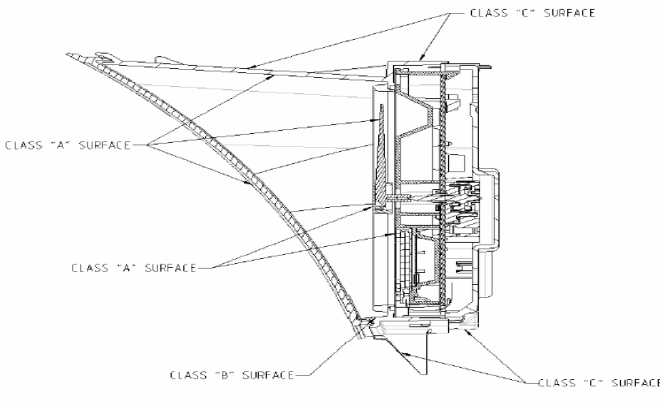


Figure 4. Cluster Assembly Section

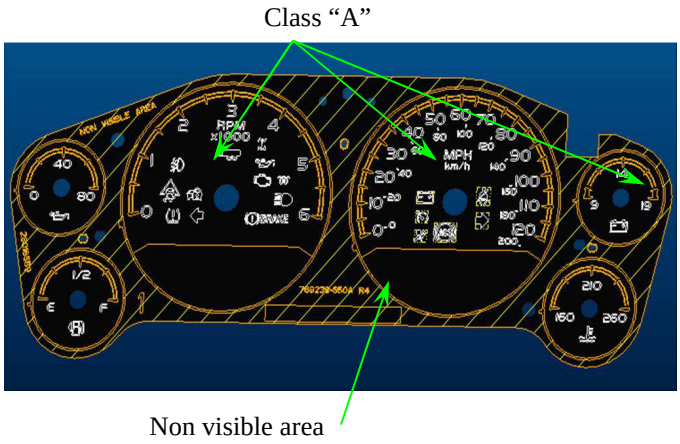


Figure 5. Appliqué

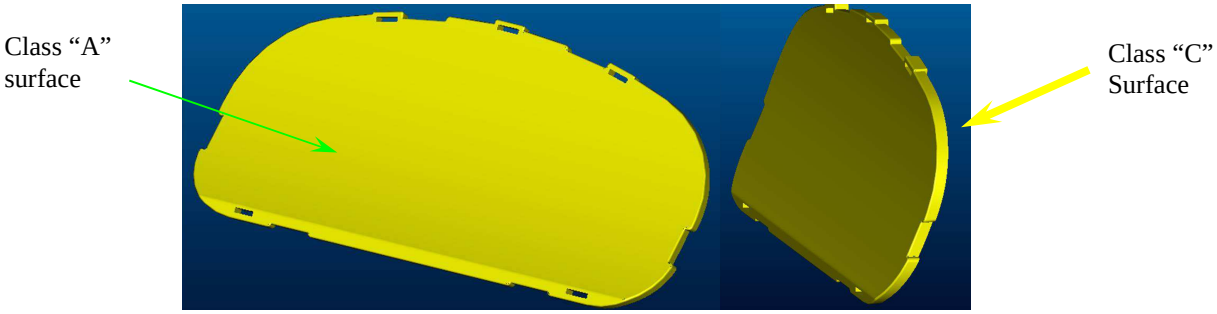


Figure 6. Lens

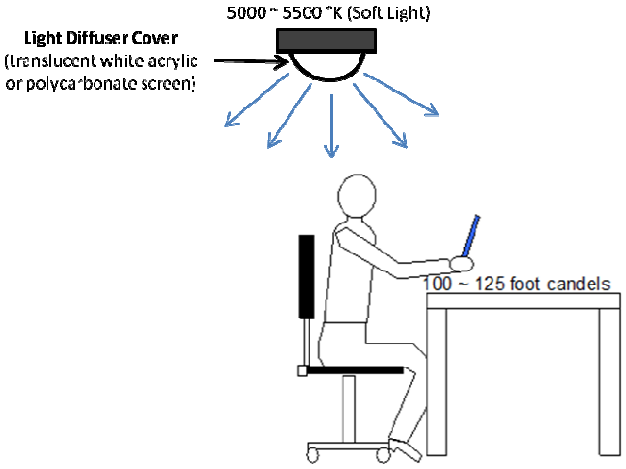
3.1.3. Lighting Conditions

3.1.3.1. Daylight Condition

3.1.3.1.1. Ambient lighting condition should consist of uniform illumination of ¨soft-cool white¨ illumination. (5000-5500ºK)

3.1.3.1.2. Ambient light intensity should be 100 to 125 foot candles at inspection base. (Light intensity must be checked one time per month, minimum)

3.1.3.1.3. The light source should be mounted above the part to be viewed and positioned such that it is not parallel to the surface to be viewed and does not cause light to be reflected directly at the inspector (Figure 7).



3.1.3.2. Night Time Lighting Condition

3.1.3.2.1. The part should be viewed through a viewing hood, tube or in a dark room at a distance of 18 to 24 inches (46 to 61 cm)

3.1.3.2.2. Production clusters / displays must be used for inspecting components with an applied voltage of 13.5 +-0.5 Volts or according to the product specification. Product specification takes precedence over this document.

3.1.3.2.3. Ensure cluster is operating at “Full Bright” according to customer dimming requirement.

3.1.3.2.4. A system to simulate production intent backlight conditions and intensity should be used to inspect appliques, light guides, diffusers, and color filters.

3.2. Acceptance/Rejection Criteria for visual quality areas, as marked on the drawings

Each component must be evaluated per the cosmetic tables that apply to that part. **Note: Only a one line criterion is acceptable per table, however, multiple tables may apply per component. The size criterion will be the determining factor.**

3.2.1. Masks/ Bezels

The following cosmetic surface variations are not permitted, if outside of tables in this section, where applicable for:
Class ¨A¨ Surface.
Class ¨B¨ Surface.

- Ejector pin marks
- Pits, nicks, shrink marks, etc.
- Orange peel on painted / in molded decorated parts
- Color mismatch is not acceptable between parts.
- Flow and weld lines to be established per mutually agreed standard as developed in the ¨Exclusions" in section 3.
- Flash
- Sink Marks
- Evidence of Splay
- Pinholes
- Cut Off or Incomplete Graphics
- Blisters
- Flaking Paint
- Fingerprints
- Scratches
- Sag Lines
- Smudges, Oily or Shiny Spots

Mask Flaw Allowable Size (Does Not Apply To Chrome Areas)			
Size of Flaw	Component Flaw Color	Number Allowed	Distance Between Each Flaw
0.4mm < x ≤ 0.6mm	Silver or White	0	N/A
	All others	Max 1	N/A
0.3mm < x ≤ 0.4mm	Any Color	Max 2	≥ 50mm
0.1mm < x ≤ 0.3mm		Max 3	≥ 50mm
X ≤ 0.1mm		Max 6	≥ 0.5mm and distance between groups of flaws shall be ≥ 100 mm

Table 1. Flaw Allowable Size

Mask Chrome Flaws			
Size of Foreign Material / Flaw	Component Flaw Color	Number Allowed	Distance Between Each Flaw
0.4mm < x ≤ 0.6mm	N/A	Max 1	N/A
0.3mm < x ≤ 0.4mm	N/A	Max 2	≥ 50mm
0.1mm < x ≤ 0.3mm		Max 5	≥ 50mm
X ≤ 0.1mm		Max 6	≥ 0.5mm and distance between groups of contaminants shall be ≥ 100 mm

Table 2. Flaws in Chrome Areas for Masks

Mask Line Width in Chrome Area Only			
Width of Scratch*	Component Flaw Color	Number Allowed	Distance Between Each Flaw
0.3mm < x ≤ 0.4mm	N/A	Max 1	N/A
0.1mm < x ≤ 0.3mm		Max 5	≥ 50mm
X ≤ 0.1mm		Max 6	≥ 0.5mm and distance between groups of contaminants shall be ≥ 100 mm
*Only width is measured. The maximum length allowed is 5mm.			

Table 3. Line Width Allowable Size in Masks and Bezels

Bezel Chrome Flaws			
Size of Foreign Material / Flaw	Component Flaw Color	Number Allowed	Distance Between Each Flaw
0.2mm < x ≤ 0.3mm	N/A	Max 1	N/A
0.1mm < x ≤ 0.2mm	N/A	Max 2	≥ 50mm
X ≤ 0.1mm		Max 6	≥ 0.5mm and distance between groups of contaminants shall be ≥ 100 mm

Table 4. Flaws in Chrome Areas for Bezels

3.2.2. Lens

The following cosmetic surface variations are not permitted if outside of tables in this section, where applicable for:

Class ¨A¨ Surface

- Foreign material (hair, lint, dirt, etc.)
- Blisters
- Fingerprints
- Scratches
- Sag lines
- Smudges, oily or shiny spots
- Knit lines / Weld lines areas which distort visibility)

Lens Flaws			
Size of Foreign Material / Flaw	Component Flaw Color	Number Allowed	Distance Between Each Flaw
0.4mm < x ≤ 0.6mm	Silver, White, or Red	0	N/A
	All others	Max 1	N/A
0.3mm < x ≤ 0.4mm	Any Color	Max 4	≥ 50mm
0.1mm < x ≤ 0.3mm		Max 5	≥ 50mm
X ≤ 0.1mm		Max 6	≥ 0.5mm and distance between groups of contaminants shall be ≥ 100 mm

Table 4. Lens Flaw Allowable Size

Lens Line Pass/Fail Inspection Criteria

Scratch defined as physical break in hard coat and/or deformation/indent on lens surface.
Scratch depth has large impact on visibility and judgment.
Scratch must be visible at defined distance and angle from inspector before pass/fail criteria is applied.

CRITERIA	**SPECIFICATION**
Width ≤ 0.1mm, Length < 15mm	1 per major gage area (dia ~110mm)
OR	
Width ≤ 0.1mm, Length < 10mm	1 per minor gage area (dia ~50mm)
Width > 0.1mm	UNACCEPTABLE
Length > 15mm	UNACCEPTABLE

NOTE: Only (1) scratch per lens is acceptable

Assumption: If a scratch is wider than 0.1mm greater force would have been used to deform a larger surface area.
Therefore wider scratch = greater force → possibly resulting in a deeper, more visible defect. Conclusion: Tight control on width.

Table 5. Lens line inspection criteria

3.2.3. Appliqués

The following cosmetic surface variations are not permitted if outside of tables in this section, where applicable (Tables do not apply to lit graphics and only apply to chrome when noted.):

For Class ¨A¨ Surface

- Sag lines
- Fingerprints
- Blisters
- Flaws
- Oil mark
- Fractures
- Flash / Burr
- Color mismatch is not acceptable between appliqués.
- Nicks

3.2.3.1. Daytime Criteria

Appliqué Flaw Allowable Size (Does Not Apply To Chrome Areas)			
Size of Foreign Material / Flaw	Component Flaw Color	Number Allowed	Distance Between Each Flaw
0.4mm < x ≤ 0.6mm	Silver or White	0	N/A
	All others	Max 1	N/A
0.3mm < x ≤ 0.4mm	Any Color	Max 2	≥ 50mm
0.1mm < x ≤ 0.3mm		Max 3	≥ 50mm
X ≤ 0.1mm		Max 6	≥ 0.5mm and distance between groups of contaminants shall be ≥ 100 mm

Table 6. Flaw Allowable Size for Appliqués

Appliqué Chrome Flaws			
Size of Foreign Material / Flaw	Appliqué Flaw Color	Number Allowed	Distance Between Each Flaw
0.4mm < x ≤ 0.6mm	N/A	0	N/A
	N/A		N/A
0.3mm < x ≤ 0.4mm	N/A	Max 2	≥ 50mm
0.1mm < x ≤ 0.3mm		Max 5	≥ 50mm
X ≤ 0.1mm		Max 6	≥ 0.5mm and distance between groups of contaminants shall be ≥ 100 mm

Table 7. Flaw Allowable Size for Appliqué Chrome

Appliqué Line Width in Chrome Area Only			
Width of Scratch*	Component Flaw Color	Number Allowed	Distance Between Each Flaw
0.3mm < x ≤ 0.4mm	N/A	Max 1	N/A
0.1mm < x ≤ 0.3mm		Max 5	≥ 50mm
X ≤ 0.1mm		Max 6	≥ 0.5mm and distance between groups of contaminants shall be ≥ 100 mm
*Only width is measured. The maximum length allowed is 5mm.			

Table 8. Appliqué Chrome Line Width Allowable Size

3.2.3.2. Night Time Criteria

Appliqué cosmetic variations in the lit areas are permitted as per the specifications below: (Reference section 3.1.3 2.1 and 3.1.3.2.2 for viewing conditions.)

3.2.3.2.1. **VFD window**

3.2.3.2.1.1. If any flaw obscures or distorts more than 50% of a pixel/graphic or 0.30mm^2, which ever is smaller, then the part will be rejected.

3.2.3.2.1.2. If any pinhole creates a bright spot that is larger than 25% of a pixel/graphic or 0.15mm^2, then the part will be rejected. (separated pinhole criteria from dirt – see below)

3.2.3.2.1.3. If contamination creates a shadow that is larger than 50% of a pixel/graphic or 0.30mm^2, whichever is smaller, then the part will be rejected.

3.2.3.2.1.4. Exceptions: if the flaw falls outside of the pixel area and is not noticeable in vehicle position under daytime or nighttime conditions, then the part will be considered acceptable.

3.2.3.2.2. **Tick marks, bands, & numbers in illuminated areas**: (all of Fuel gage, all of temperature gage, all of tachometer gage, all of speedometer gage)

3.2.3.2.3. Single Max allowable flaw of any kind: 0.15mm

3.2.3.2.4. Pinhole: Acceptable if not noticeable in vehicle position; typically 0.15mm dia max allowable pinhole. For non-illuminated areas: 0.03mm dia max. Only one visible pinhole allowed per gage in the non-illuminated area.

3.2.3.2.5. Color mismatch (e.g.: colors outside of customer spec) is not acceptable. The color should be uniform and within spec.

3.2.3.1.1 **Telltales:** (all)

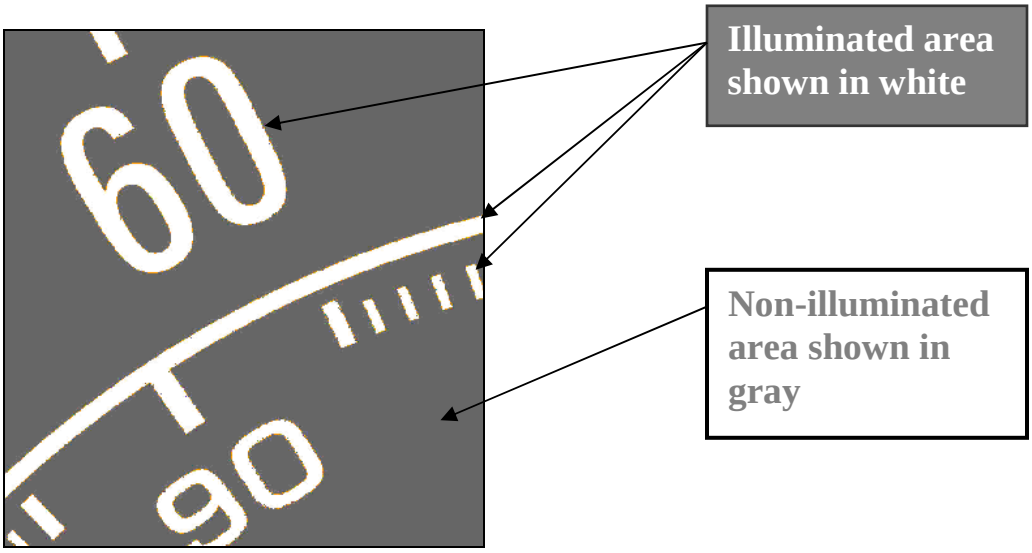
3.2.3.1.1.1 Max allowable flaw: 0.25 mm dia

3.2.3.1.1.2 Max pinhole inside lit area: 0.25 mm dia

3.2.3.1.1.3 Single Max allowable pinhole in non-illuminated areas within telltale boundary: 0.15mm dia

3.2.3.1.1.4 In all other non-illuminated areas: 0.03mm max dia pinhole.

Non-Illuminated Region of the Applique
The non-illuminated region of the applique is the area that is designed to block the available light behind the applique



Displays (LCD/VFD/VFT)
The following cosmetic surface variations are not permitted for:
Class ¨A¨ Surface

- Scratches
- Air bubbles
- Dark spots
- Fingerprints
- Oil mark
- Water spot
- Uneven intensity

3.2.4. Decorative Rings
The following cosmetic surface variations are not permitted outside of Table 9 or 10 where applicable for:
Class ¨A¨ Surface

- Scratches
- Sink mark
- Finger prints
- Oil mark
- Foreign material (lint, hair, dirty)
- Bubbles
- Flash / Burr
- Water spots

Decorative Ring Flaws			
Size of Foreign Material / Flaw	Component Flaw Color	Number Allowed	Distance Between Each Flaw
0.4mm < x ≤ 0.6mm	N/A	Max 1	N/A
0.3mm < x ≤ 0.4mm	N/A	Max 2	≥ 50mm
0.1mm < x ≤ 0.3mm		Max 5	≥ 50mm
X ≤ 0.1mm		Max 6	≥ 0.5mm and distance between groups of contaminants shall be ≥ 100 mm

Table 9. Flaws in Chrome Areas for Rings

Decorative Ring Line Width in Chrome Area Only			
Width of Scratch*	Component Flaw Color	Number Allowed	Distance Between Each Flaw
0.3mm < x ≤ 0.4mm	N/A	Max 1	N/A
0.1mm < x ≤ 0.3mm		Max 5	≥ 50mm
X ≤ 0.1mm		Max 6	≥ 0.5mm and distance between groups of contaminants shall be ≥ 100 mm
*Only width is measured. The maximum length allowed is 5mm.			

Table 10. Line Width Allowable Size in Rings

3.2.5. Light guide

The following cosmetic surface variations are not permitted if outside of tables in this section, where applicable for:

Class ¨A¨ Surface (display visible area)

Class ¨B¨ Surface

- Inclusion/embedded particles/specks
- Pits, nicks, dents
- Flash, burrs
- Foreign material (hair, lint, dirt, dust, etc.)
- Blisters, bubbles
- Fingerprints
- Scratches
- Sag lines
- Smudges, oily or shiny spots
- Knit lines / Weld lines areas which affect illumination
- Flow lines/crazing
- Ejector pin marks
- Sink marks

Light guide Flaws (daytime and nighttime illumination)				
Size of Foreign Material / Flaw	Visibility	Number Allowed (Dark flaw)	Number Allowed (White or transparent flaw)	Distance Between Each Flaw
0.4mm < x ≤ 0.6mm	Class A	0	0	N/A
	All others	Max 1	Max 2	≥ 50mm
0.3mm < x ≤ 0.4mm	Class A	0	Max 1	N/A
	All others	Max 2	Max 3	≥ 0.5mm and distance between groups of contaminants shall be ≥ 50 mm
0.05mm < x ≤ 0.3mm	Class A	0	Max 2	≥ 50mm
	All others	Max 3	Max 4	≥ 0.5mm and distance between groups of contaminants shall be ≥ 50 mm
X ≤ 0.05mm	Class A	Max 1	Max 3	≥ 0.5mm and distance between groups of contaminants shall be ≥ 50 mm
	All others	Max 6	Max 6	≥ 0.5mm and distance between groups of contaminants shall be ≥ 50 mm

Table 11. Light guide Flaw Allowable Size

Light guide Line Pass/Fail Inspection Criteria

Scratch defined as physical break in indent on light guide surface.
Scratch depth has large impact on visibility and judgment.
Scratch must be visible at defined distance and angle from inspector before pass/fail criteria is applied.

CRITERIA	**SPECIFICATION**
Width ≤ 0.05mm, Length ≤ 0.6mm	ACCEPTABLE
Width > 0.05mm	UNACCEPTABLE
Length > 0.6mm	UNACCEPTABLE

Assumption: If a scratch is wider than 0.05mm greater force would have been used to deform a larger surface area.
Therefore wider scratch = greater force → possibly resulting in a deeper, more visible defect. Conclusion: Tight control on width.

Table 12. Light guide line inspection criteria

3.2.6. LCD Optical Diffuser (Surface Coated: Diffusion properties from surface treatment)

The following cosmetic surface variations are not permitted if outside of tables in this section, where applicable for:
Class ¨A¨ Surface (display visible area)
Class ¨B¨ Surface

- Inclusion/embedded particles/specks
- Pits, nicks, dents
- Foreign material (hair, lint, dirt, dust, etc.)
- Blisters, bubbles
- Fingerprints
- Scratches
- Sag lines
- Smudges, oily or shiny spots

Diffuser Surface Coated Type Flaws (daytime and nighttime illumination)				
Size of Foreign Material / Flaw	Contaminant Color	Number Allowed (Dark flaw)	Number Allowed (White or transparent flaw)	Distance Between Each Flaw
x > 0.2mm	All Colors	0	0	N/A
0.1mm < x ≤ 0.2mm	All Colors	Max 1	Max 1	N/A
x < 0.1mm	All Colors	Max 3	Max 3	N/A

Table 11. Diffuser Coated Type Flaw Allowable Size

Diffuser Surface Coated Type Line Pass/Fail Inspection Criteria

Scratch defined as physical break in indent on light guide surface.
Scratch depth has large impact on visibility and judgment.
Scratch must be visible at defined distance and angle from inspector before pass/fail criteria is applied.

CRITERIA	**SPECIFICATION**
Width = Any Measurable Width	Coating Side = Non Allowable
Width< 0.04mm	Acceptable
Length = No Max	

Assumption: If a scratch is wider than 0.05mm greater force would have been used to deform a larger surface area.
Therefore wider scratch = greater force → possibly resulting in a deeper, more visible defect. Conclusion: Tight control on width.

Table 12. Diffuser Surface Coated Type line inspection criteria

3.2.7. LCD Optical Diffuser (Bulk Film: Diffusion properties within thickness of material)

The following cosmetic surface variations are not permitted if outside of tables in this section, where applicable for:
Class ¨A¨ Surface (display visible area)
Class ¨B¨ Surface

- Inclusion/embedded particles/specks
- Pits, nicks, dents
- Foreign material (hair, lint, dirt, dust, etc.)
- Blisters, bubbles
- Fingerprints
- Scratches
- Sag lines
- Smudges, oily or shiny spots

Diffuser Bulk Type Flaws (daytime and nighttime illumination)				
Size of Foreign Material / Flaw	Contaminant Color	Number Allowed (Dark flaw)	Number Allowed (White or transparent flaw)	Distance Between Each Flaw
x > 0.2mm	All Colors	0	2	N/A
0.1mm < x ≤ 0.2mm	All Colors	Max 1	Max 1	N/A
x ≤ 0.1mm	All Colors	Max 3	Max 3	≥ 50mm

Table 11. Diffuser Bulk Type Flaw Allowable Size

Diffuser Bulk Type Line Pass/Fail Inspection Criteria

Scratch defined as physical break in indent on light guide surface.
Scratch depth has large impact on visibility and judgment.
Scratch must be visible at defined distance and angle from inspector before pass/fail criteria is applied.

CRITERIA	**SPECIFICATION**
Width ≤ .5mm	ACCEPTABLE
Width > 0.5mm	UNACCEPTABLE

Assumption: If a scratch is wider than 0.05mm greater force would have been used to deform a larger surface area.
Therefore wider scratch = greater force → possibly resulting in a deeper, more visible defect. Conclusion: Tight control on width.

Table 12. Diffuser Bulk Type line inspection criteria

3.2.8. LCD Color Correction Filter- Screen Printed Type

The following cosmetic surface variations are not permitted if outside of tables in this section, where applicable for:
Class ¨A¨ Surface (display visible area)
Class ¨B¨ Surface

- Inclusion/embedded particles/specks
- Pits, nicks, dents
- Foreign material (hair, lint, dirt, dust, etc.)
- Blisters, bubbles
- Fingerprints
- Scratches
- Sag lines
- Smudges, oily or shiny spots

Color Correction Filter Flaws (daytime and nighttime illumination)				
Size of Foreign Material / Flaw	Contaminant Color	Max Allowable		Distance Between Each Flaw
x > 0.2mm	Any color	Max 0		N/A
0.1mm > x ≤ 0.2mm	Red Color	Max 0		N/A
	All others	Max 1		N/A
X ≤ 0.1mm				
	All Colors	Max 3		

Table 11. Color Correction Filter Flaw Allowable Size

Color Correction Filter Line Pass/Fail Inspection Criteria

Scratch defined as physical break in indent on light guide surface.
Scratch depth has large impact on visibility and judgment.
Scratch must be visible at defined distance and angle from inspector before pass/fail criteria is applied.

CRITERIA	SPECIFICATION
Width ≤ 0.13	
No Length Restriction	ACCEPTABLE
Width > 0.13	UNACCEPTABLE
Any Length	UNACCEPTABLE

Assumption: If a scratch is wider than 0.05mm greater force would have been used to deform a larger surface area.
Therefore wider scratch = greater force → possibly resulting in a deeper, more visible defect. Conclusion: Tight control on width.

Table 12. Diffuser Bulk Type line inspection criteria

3.2.8.1. Pointer (Clear Pointer Blade)

The following cosmetic surface variations are not permitted if outside of tables in this section, where applicable for:
Class ¨A¨ Surface
Class ¨B¨ Surface

- Inclusion/embedded particles/specks
- Pits, nicks, dents
- Pin holes
- Flash, burrs
- Foreign material (hair, lint, dirt, dust, etc.)
- Blisters, bubbles
- Fingerprints
- Scratches
- Sag lines
- Smudges, oily or shiny spots
- Knit lines / Weld lines areas which affect illumination
- Flow lines/crazing
- Ejector pin marks
- Sink marks

Pointer Blade Flaws (daytime and nighttime illumination)				
Size of Foreign Material / Flaw	Visibility	Number Allowed (Dark flaw)	Number Allowed (White or transparent flaw)	Distance Between Each Flaw
0.4mm < x ≤ 0.6mm	Class A	0	0	N/A
	All others	Max 2	Max 2	≥ 30mm
0.3mm < x ≤ 0.4mm	Class A	0	0	N/A
	All others	Max 3	Max 3	≥ 0.5mm and distance between groups of contaminants shall be ≥ 30 mm
0.1mm < x ≤ 0.3mm	Class A	0	Max 1	N/A
	All others	Max 4	Max 4	≥ 0.5mm and distance between groups of contaminants shall be ≥ 30 mm
X ≤ 0.1 mm	Class A	Max 1	Max 2	≥ 0.5mm and distance between groups of contaminants shall be ≥ 30 mm
	All others	Max 6	Max 6	≥ 0.5mm and distance between groups of contaminants shall be ≥ 30 mm

Table 13. Light guide Flaw Allowable Size

Pointer Line Pass/Fail Inspection Criteria

Scratch defined as physical break in indent on light guide surface.
Scratch depth has large impact on visibility and judgment.
Scratch must be visible at defined distance and angle from inspector before pass/fail criteria is applied.

CRITERIA	**SPECIFICATION**
Width ≤ 0.1mm, Length ≤ 0.6mm	ACCEPTABLE
Width > 0.1mm	UNACCEPTABLE
Length > 0.6mm	UNACCEPTABLE

Assumption: If a scratch is wider than 0.1mm greater force would have been used to deform a larger surface area.
Therefore wider scratch = greater force → possibly resulting in a deeper, more visible defect. Conclusion: Tight control on width.

Table 14. Pointer line inspection criteria

4. Exclusions

Exclusions to the Acceptance / Rejection criteria outlined above must be approved by YNA SQD, YNA EIBU, Quality, Program Management, YNA Core Purchasing, applicable Yazaki Affiliate's SQA and QA Departments, and the Supplier in mutual agreement of the deviation from this standard.

The Supplier may develop Accept / Reject limit samples that subsequently the Yazaki Affiliate Supplier Quality Department will approve. The suppliers must make 3 sets of each limit samples unless otherwise specified by the Yazaki Affiliate.

Limit samples shall be distributed to the Supplier and between Yazaki Affiliate's Incoming Inspection and Production Departments.

EIBU Quality (Manager or above)	
Ray Stack	RAY STACK SR. MGR JAN 28, 2016
Signature	Print Name/Title/Date

EIBU Mechanical Engineering (Manager or above) JAN 29 2016	
	B. SCHWEITZER SNR MGR
Signature	Print Name/Title/Date

YIM Quality (Manager or above)	
	Céline Rodriguez/Mgr/Jan 28,2016
Signature	Print Name/Title/Date

Supplier Quality Development (Manager or above)	
	AFSHIN BAGHAEI
Signature	Print Name/Title/Date

01/29/16

5. Bibliography

Revised Standard: 10 October 2015
Date Standard Originally Issued: 05 January 2007
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Engineering EIBU Contact / Phone No. Brian Schweitzer / (734) 983-2514