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Test Report: Large Bus Construction

Legislation

UNECE Regulation 107.07 to Supplement 0

Test Details

Location of Test: VCA Midland Centre, Watling St., Nuneaton, CV10 OUA, United Kingdom
 Date of Test: 15 May 2012
 VCA Representative(s): Brent Waddington / Richard Pegg
 Manufacturer's Representative(s): Stuart Taylor
 Reason for Test Report: Test report to ensure compliance with Paragraphs 7.6.10.8 & 7.6.10.9 of Regulation 107 as amended.

Manufacturer Details

Name and Address: WSH Taylor Engineering T/A Stayco
 Unit 36-39 Radway Industrial Park
 Radway Green,
 Crewe Cheshire CW2 5PR, United Kingdom
 Type: Z*600H, ZM600i & ZM450i Single step
 Commercial Description: Manual or Electric step
 Category: Separate Technical Unit

Conclusion

The above mentioned STU was tested in accordance with Paragraphs 7.6.10.8 & 7.6.10.9 of ECE Regulation 107.07 and was found to comply in all respects

Signature:



Name: Richard Pegg
 Position: Type Approval Engineer
 Date: 20 July 2017

List of Annexes

Annex	No of Pages	Subject
I	01	Manufacturer's brochure.
II		





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Worst Case Rationale

Re-Issue of original report VSN255138
 ZM600H Single Manual step mounted as a Separate Technical Unit to a test rig by means of four M6 fastenings at the front of the step and two M8 fasteners to the rear of the step. The test involved loading the step via a calibrated load cell with a 100mm diameter disc at the centre of the extended step with a force of 136 kg and measuring the deflection.
 Additional models covered by Test: ZE600H Electric powered version.
 Reason: Identical in construction structurally as manual version tested.

Additional models covered by Test: ZM600i and ZM450i.
 Reason: Identical in construction except side plates of main frame have less overhang from step mounting point to tread fulcrum point giving a stiffer frame. Narrower width model (ZM450i) will be stiffer.

Note: Include information on variants and versions this report covers, as applicable

Tests Required

Yes, NA, See Report... / Approval... / Annex...

Deflection test:

Yes

Manufacturer's Documentation

Manufacturer's documentation is complete and reflects the agreed specification for the vehicle tested, and covers all variants and versions agreed in the worst case rationale.

Yes

Facility and Equipment Checks

Calibration certificates checked and valid, recorded in the following table:

Yes

Equipment	Serial / Certificate No.	Calibration due*
Side guard test rig load cell	165096/1075184	19/10/2011
DTI Gauge	For indication purposes only	
Radius Gauge	For indication purposes only	

*Specify calibrated date + (interval) or calibration due date.





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Test Requirements	Complies Yes / NA
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Technical Requirements for Retractable Steps

Ann 3, 7.6.10.8.	The corners of retractable steps facing forwards or rearwards shall be rounded to a radius of not less than 5 mm; the edges shall be rounded to a radius of not less than 2.5 mm;	Yes
Ann 3, 7.6.10.9.	When the passenger door is open, the retractable step shall be securely held in the extended position. When a mass of 136 kg is placed in the centre of a single step or a mass of 272 kg is placed in the centre of a double step the deflection at any point on the step, measured relative to the body of vehicle, shall not exceed 10 mm.	Yes

Remarks

Step model	Load (kg)	Deflection (mm)
ZM600H	140.8	4.7

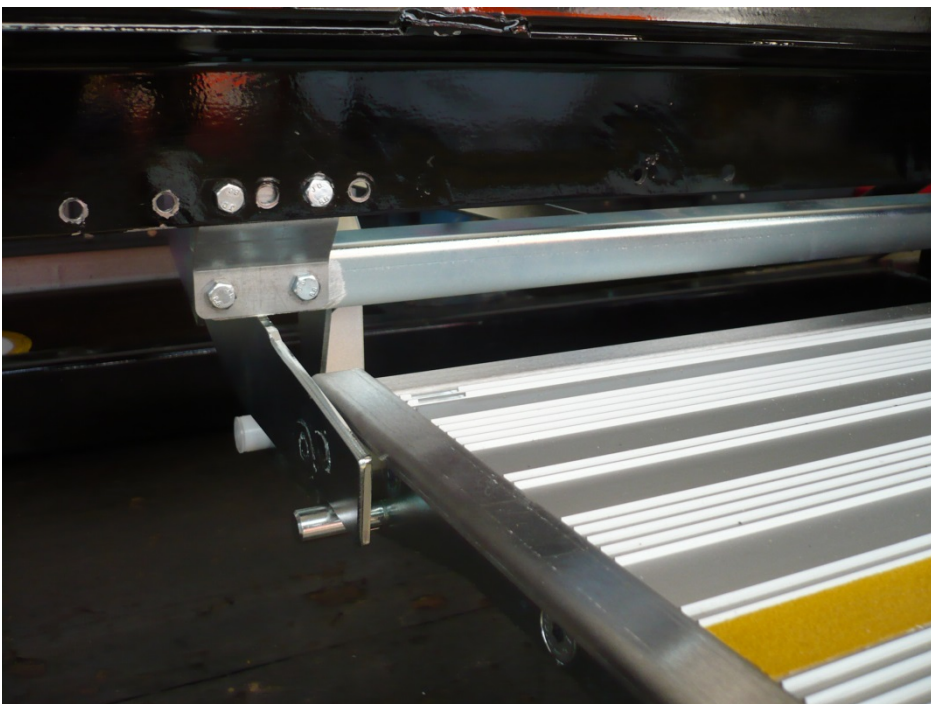
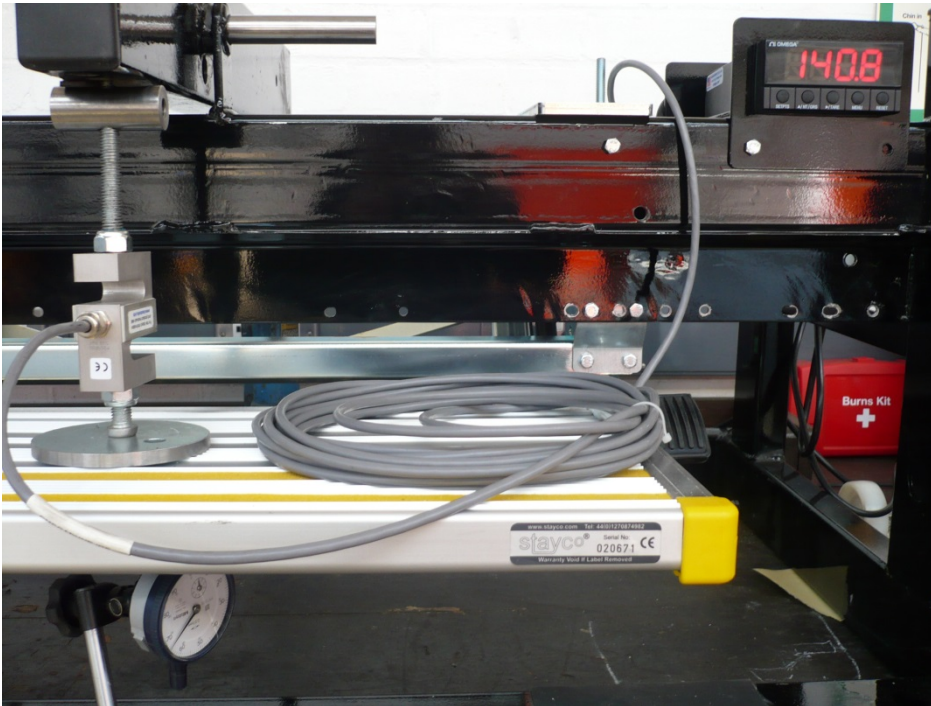
Note: VCA apply measurement uncertainty to calibrated items but not test results.





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ZM600H





ZM/E600H MANUAL/ELECTRIC FRAME STEP



ZM600H fitted to Hyundai I800 van



ZE600H fitted to Iveco van with n/s fuel tank

The ZM600H has been specifically designed to fit vehicles that have limited space under the nearside door in which to fit a frame type step. They are ideal for the Iveco van with or without a nearside fitted fuel tank and the Hyundai I800 van. The step incorporates an extruded aluminium tread with stainless steel surrounds, yellow grip strips and corner pieces that create a smart and clean appearance.

Step operation:

The ZM600H manual frame steps are deployed by a damped gas spring which is activated by depressing the release foot pedal at the side of the tread. The step is simply stowed by pushing the tread fully in by foot. The steps are supplied with a fitted limit switch, warning buzzer and a dash warning light.

The ZE600H electric frame steps are powered by a Stayco all metal geared electric motor fitted with magnetic limit switches for greater tolerance to dirt and cold. They can be driver operated or automatically operated with the opening and closing of the side door.

Dimensions:

Tread size deployed	270mm x 630mm
Tread deployment movement	195mm
Maximum projection of frame below sill height	52mm
Frame depth behind sill lip	295mm
Maximum tread projection out from sill lip	118mm
Overall width of frame and pedal	716mm

Weight: 11kgs

Standard Equipment: Extruded Anodised Aluminium ribbed tread profile
Nylon yellow corner mouldings non slip yellow strips
Stainless steel tread edge trim and tread depth extension
Damped gas spring / Stayco electric motor
BZP Steel Frame
Nylon pivot bearings
Rubber pedal cover (manual version)
Limit Switch (manual version)

Options: Vehicle Mounting Kits for Hyundai I800 and Iveco vehicles
Wire Loom kit (electric version)

Warranty: 2 years subject to annual service

Complies with all current legislative requirements. CE marked. VCA Test Report

The Company has a policy of continual improvement and reserves the right to change the product specifications without notice

