

Applicant : Redtronic Ltd., Elland HX5 9BX, United Kingdom
Type / Part No. : Tornado LED Beacon (single point suction) / TR12SCBC

Test Report

Durability confirmation of a magnetic beacon for high-speed and emergency braking tests.



Automotive part : Beacon (single point suction)
Type : Tornado LED beacon (single point suction)
Brand name : Tornado
Manufacturer : REDTRONIC
Applicant : Redtronic Limited
Unit 1-9 Wellington Business Park
Quebec Street
Elland
West Yorkshire
HX5 9BX
United Kingdom
Year of manufacture : n.a.

Test Report:

201740954 – Tornado Suction



Applicant : Redtronic Ltd., Elland HX5 9BX, United Kingdom
Type / Part No. : Tornado LED Beacon (single point suction) / TR12SCBC

I Scope

Testing the durability of a Tornado LED beacon (single point suction) brand name "Tornado". In cooperation with the applicant the durability was tested by a high-speed and emergency braking test.

Preliminary remark

The test included the data acquisition for masses and dimensions, the dynamic high-speed und braking tests.

The test comprised no checkup for the electronic components.

Applicant : Redtronic Limited
Unit 1-9 Wellington Business Park
Quebec Street
Elland
West Yorkshire
HX5 9BX
United Kingdom

II Technical Details of the appraised beacon

Technical documents (mounting informations) : n.a.
Automotive part : Beacon (magnetic)
Type : Tornado
Serial-No. : 182913
Weight : 872 g
Dimensions
Diameter (outside) : 154 mm
Width : n.a.
Height : 98 mm
Max. distance between magnetic foets (centre, lateral) : n.a.
Min. distance between magnetic foets (centre, lateral) : n.a.
Distance between magnetic foets (centre, longitudinal) : n.a.

Test Report:
201740954 – Tornado Suction



Applicant : Redtronic Ltd., Elland HX5 9BX, United Kingdom
Type / Part No. : Tornado LED Beacon (single point suction) / TR12SCBC

Number of suction foots : 1
Diameter suction foots : 118 mm
Height suction foots : 50 mm
Manufacturer single point suction : No information
Remark : The usage of the suction foot has to be done according to the specifications of the service manual.

III **Test protocol**

1 **Test conditions**

1.1 Test vehicle

1.1.1 Name of manufacturer : Volkswagen
1.1.2 Type / Engine code : AU / CHHB
1.1.3 Trade name : Golf GTI
1.1.4 Vehicle class : M1

1.2 Measuring and testing equipment : Measuring and evaluation system
Speed sensor
Deceleration sensor
Scale
Measuring tape

1.3 Further requirements

1.3.1 Weather conditions : Cloudy
1.3.2 Air temperature (°C) : 14
1.3.3 Wind velocity (m/s) : < 3,0
1.3.4 Date of test : 12.04.2017
1.3.5 Test area : DEKRA Test Oval, 01998 Klettwitz, Germany

2 **Mounting and preparation**

The Redtronic beacon type "Tornado" was mounted at a dry and clean roof of the test vehicle. Easy installation with single suction system. Afterwards was checked the tight fit by trying to move the test sample on the roof.

Test Report:

201740954 – Tornado Suction



Applicant : Redtronic Ltd., Elland HX5 9BX, United Kingdom
Type / Part No. : Tornado LED Beacon (single point suction) / TR12SCBC

3 Highspeed test

Test run	Tested speed [km/h]	Position Beacon
1	236,0	OK
2	235,6	OK
3	233,9	OK
4	236,2	OK

4 Braking test

The Braking test was made from different test speeds with an emergency brake!

Test run	Test speed [km/h]	Measured brake performance [m/s ²]	Brake pedal force applied to control[N]	Position Beacon
1	100	> 10	< 500	OK
2	150			OK
3	230			OK

5 Remarks

None

Test Report:

201740954 – Tornado Suction



Applicant : Redtronic Ltd., Elland HX5 9BX, United Kingdom
Type / Part No. : Tornado LED Beacon (single point suction) / TR12SCBC

IV Statement

The result of the test is, that the durability of the suction beacon "Tornado" can be confirmed. The beacon was tested up to a speed of 235 kph and a deceleration rate of more than 10,00 m/s² (this is equivalent to an emergency brake). There was no movement of the beacon on the roof after the tests recognizable.

For the customers is an instruction manual necessary! With mounting instructions of the beacon, that is has to be fixed by dry and clean conditions on a roof. Further the connection between the single suction and the roof has to be checked continuously.

The Test Report comprises the pages 1 to 9. (including annex)
The Test Report shall be reproduced and published in full only and by the client only. It shall be reproduced partially with the written permission of the Test Laboratory only.

TECHNICAL SERVICE

designated by

designation body – KBA-P 00006-95

Type Approval Division – RDW-99050017

NSAI – National Standards Authority of Ireland – Technical Service No. 91

accredited by

Deutsche Akkreditierungsstelle GmbH

Federal Republic of Germany

Test Laboratory D-PL-11060-01-00

Inspection Body D-IS-11060-01-00

Klettwitz, 27.04.2017

R. Kölling



Dipl.-Ing.(FH) Rene Kölling
Specialist

Test Report:

201740954 – Tornado Suction

Annex: Foto Documentation



Applicant : Redtronic Ltd., Elland HX5 9BX, United Kingdom
Type / Part No. : Tornado LED Beacon (single point suction) / TR12SCBC

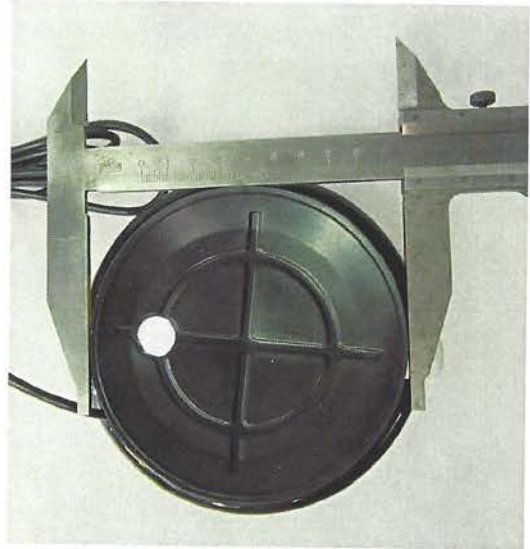
Tornado LED Beacon (front view, top view)



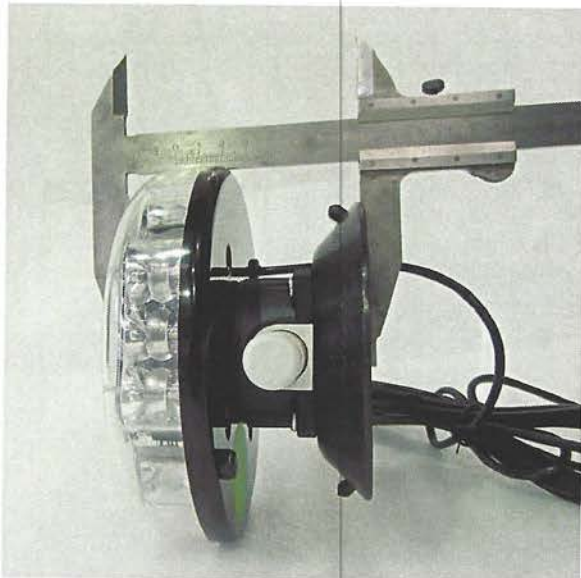
Details



Measuring diameter (outside)



Measuring diameter single suction



Measuring height (complete)



Serial No.

Test Vehicle





Measuring and testing equipment



Measuring device



GPS Mouse

Positioning test samples



Position before testing



Position after testing