

BLADE-TMA is full-scale crash tested at the Texas Transportation Institute (TTI) according to the Manual for Assessing Safety Hardware (MASH), which supersedes the 20-year-old NCHRP-350.

BLADE-TMA



TECHNICAL SPECIFICATIONS

- Fully crash tested and approved according to MASH 2016 TL-3 (3-50 | 3-51 | 3-52 | 3-53)
- Fully crash tested and approved according to the UK optional 110K test (TD49/07)
- Standard operation from the truck using a wired in-cab controller
- Equipped with 175 A or 350 A plug supplying full system power from the vehicle's 12 Vdc or 24 Vdc electrical system
- Complete hydraulic and electronics units enclosed in a sealed protective housing
- Two hydraulic rams for reliable raising and lowering of the crash cushion
- Integrated under-ride protection built into steel framework
- Galvanised steel structure
- Aluminium crash cushion can be finished in any desired RAL colour(s)
- Delivered with official crash test certifications and CE marking / EMC compliant
- Geo fencing by Mobilityplanner (optional): visibility in Waze, Flitsmeister, Apple Maps, Here

THE BLADE-TMA MASH 2016 TL-3

The BLADE-TMA delivers the highest safety level achievable in its class. All ride-down values remained well within the preferred MASH limits, with a longitudinal ride-down of 15.0G and a maximum of 20.49G. In addition, the BLADE-TMA successfully passed the UK optional 70 mph / 110 kph (TD49/07) test, ensuring proven reliability even at higher operating speeds.

THE ENGINEERING BEHIND THE BLADE-TMA

The patented BLADE-TMA absorbs impact energy through an innovative system of composite aluminium welded profiles. The attenuator features 12 internal blades that react in a precisely engineered sequence during impact:

- The first four blades cut through the aluminium H-beams, initiating controlled deformation.
- After unlocking, the next eight blades continue to cut through the welded tubes, progressively dissipating energy.
- Finally, the remaining lightweight aluminium components bend away safely, directing forces away from the vehicle and occupants.

This unique blade-cutting principle is the foundation of the patent and ensures predictable, repeatable crash performance with minimal vehicle damage.

WHY MASH MATTERS FOR TMAs

The MASH 2016 standard sets stricter criteria for Truck Mounted Attenuators (TMAs) to keep up with modern vehicle changes. Cars and light trucks have grown larger, and bumper heights have increased since 1993, making previous highway safety designs inadequate.

For TMAs, this means testing requires bigger and heavier vehicles, stricter shadow vehicle criteria, and evaluation of both upper and lower truck weights. Ballast must be fixed, the arrow board and TMA construction must be tested together, and previously optional offset angle tests are now mandatory.

These updates ensure highway safety equipment effectively protects all road users in today's traffic.

Table of contents and dimensions	
Transport height	3940 mm / 12 ft 11 in
Installation length, excluding bracket	5890 mm / 19 ft 4 in
Width	2300 mm / 7 ft 6,7 in
Level system	± 4 degrees
Hood to road	12"± 1"
Weight complete installation	Approx. 1043 kg / 2300 lbs

Note: all these dimensions are approximately, no rights can be derived.

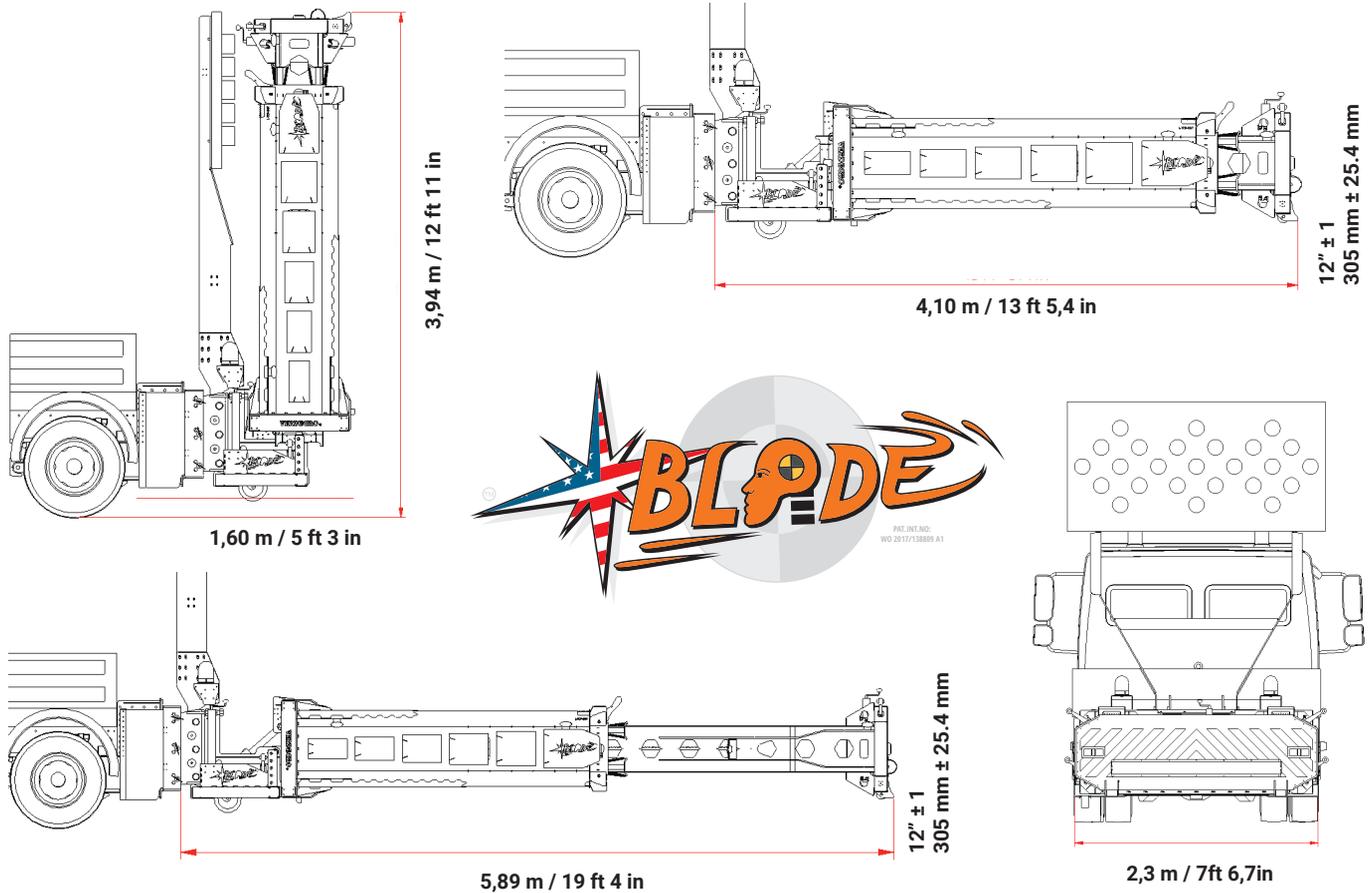
THIS IS WHY YOU WANT THE BLADE-TMA MASH 2016 TL-3

- **Maximum Safety:** Protects and redirects vehicles away from the "coffin corner" at the rear of the truck. FHWA eligible and DOT approved. Optional Dr. Airbrake system instantly locks brakes on impact.
- **Tested & Reliable:** Proven on trucks from 7262 kg up to 18,000 kg (16,010–40,000 lbs). Patented, innovative design absorbs energy even in the retracted position.
- **Quick Deployment:** Fully deploys in 20 seconds, even while driving up to 50 mph / 80 kph. Hydraulic powerpack is fully integrated within the attenuator.
- **Easy Installation & Flexibility:** Ships fully assembled. Optional crash-tested truck bracket allows fast installation without welding or fabrication (MASH compliant). Attenuator and arrow board can be swapped to another truck in 10 minutes.
- **Cost-Effective:** Modular design reduces repair costs and allows easy parts replacement. Optional arrow board mounts directly on top.
- **Smart Design:** Vertical, open design saves truck bed space and keeps it free for its intended use, reduces wind resistance, and minimizes vibration.
- **Universal Fit:** Usable on all box trucks. No bracket installation on the truck body or flatbed is required.
- **Patented Design:** This design is protected by patents in Europe (EP3414397), the United States (US9739328), China (201780012010-9), and Hong Kong (1259882).

BLADE-TMA ACCESSORIES:

- Quick connect: easily swap for attenuator and arrow board + level system (standard)
- Multi-truck bracket incl. fenders (optional)
- Arrow board bracket (optional)
- Jockey wheels (optional)
- Reflective foil chevrons according to country specifications (optional)

BLADE-TMA MASH TL-3

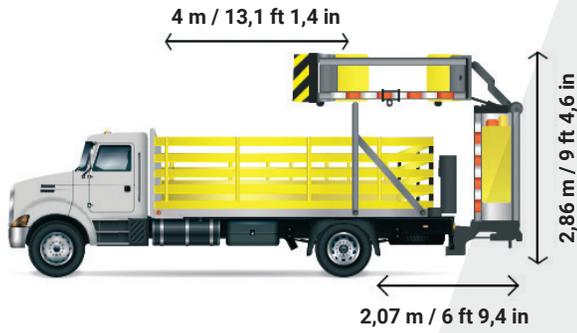


Comparison MASH TMA results

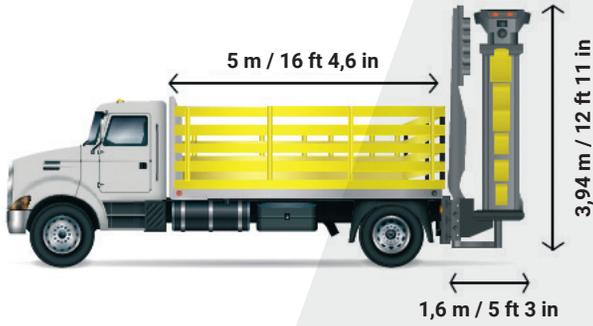
		MASH Test 3-50*	MASH Test 3-51*	MASH Test 3-52*	MASH Test 3-53*
Max. G-force by MASH	Preferred:	15.0G	15.0G	15.0G	15.0G
	Max:	20.49G	20.49G	20.49G	20.49G
BLADE-TMA G-force (ride down)		12.0G	15.0G	13.8G	11.5G
Other MASH available TMA G-force (ride down)		19.2G	20.1G	18.6G	12.5G
Roll-ahead BLADE-TMA					4420mm
Roll-ahead other MASH TMA					5121mm
BLADE-TMA G-force reduction compared to another brand!		± 37,5%	± 24,9%	± 25,8%	± 8%

* FHWA Website

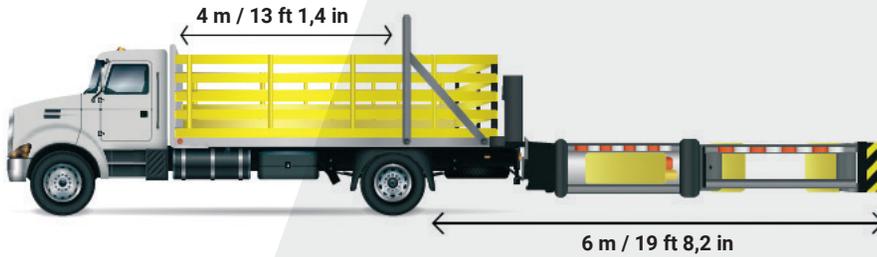
ATTENUATOR TRUCK BENEFITS



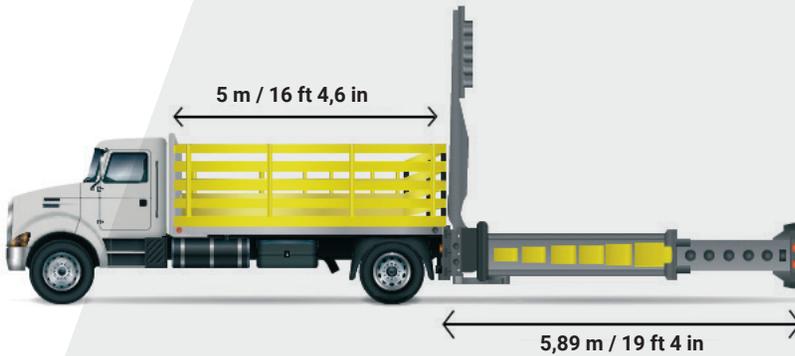
OTHER TMA



BLADE-TMA

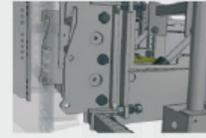


OTHER TMA



BLADE-TMA

ACCESSORIES



Quick connect + level system (standard)



Truck bracket



Arrow board bracket



Jockey wheels



Reflective foil chevrons according to country specifications



**INCLUDING
THE CABIN
CONTROL UNIT**

PROUDLY TESTED IN THE U.S.A.

The first and only TMA with all crash test movies shown public



Test Report No. 690902-VER1-4
Test Report Date: January 2017

MASH-16 TL-3 Evaluation of the Verdegro BLADE TMA
by
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Research Specialist IV



Contract No.: 1606275
Test No.: 690902-VER1/VER2/VER3/VER4
Test Date: 2016-12-12/12-13/12-14/12-15

Sponsored by
Verdegro Holding BV

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THE 39 CRASH TESTS

