

All of these crashes involved trucks with
underride guards that **met the 1953 standard.**

1960



1972



1974



1974



1976



1980



1986



Addressing **TRUCK** **UNDERRIDE**

1953 to
present

IHS Insurance Institute for Highway Safety
HLDI Highway Loss Data Institute

TRUCK SAFETY
COALITION

ANNALEAH
& MARY
for
TRUCK
SAFETY



1937 archive photo

Underride has been an issue ever since large trucks and passenger vehicles started sharing the road.

Progress has been sporadic, but recent years have brought some encouraging steps.

National Highway Safety Bureau (precursor to NHTSA) proposes guards with 18-inch max clearance on tractor-trailers and single-unit trucks, predicts side guards will be added after further research.

1969

NTSB urges NHTSA to renew abandoned underride proposal.

1972

1977

IIHS petitions NHTSA for new rear underride standard.

NHTSA issues proposal to upgrade underride protection requirement.

1981

NHTSA issues new standard effective 1998, covering combination tractor-trailers and requiring 22-inch max clearance and 3 quasi-static strength tests.

1996

IIHS real-world crash study shows common failure modes for guards built to U.S. standards, as well as large number of crashes with trucks exempt from standards.

2010

2011

IIHS petitions NHTSA for improvements to standard for rear underride protection.

2010-12

IIHS testing shows guards can fail in 35 mph impacts. Guard on Manac trailer is only one from 8 largest manufacturers to prevent severe underride in 30% overlap test.

December 16
NHTSA proposes adopting Canadian underride guard requirements for combination tractor-trailers.

2015

In advance notice of proposed rulemaking, NHTSA suggests rear underride guards would not be cost-effective on single-unit trucks.



Single-unit truck exempt from NHTSA rear underride guard requirement

April 3

NTSB urges NHTSA to take action to improve underride guards.

May 5

Marianne Karth and Truck Safety Coalition submit a petition for underride rulemaking.

2014

Trailer manufacturers including Vanguard, Wabash and Stoughton voluntarily continue to improve underride guard performance in offset crashes.

2016



March 1

IIHS introduces an award for manufacturers of trailers that pass all three of its 35 mph tests — full width, 50% overlap and 30% overlap — with no underride.

March 30

IIHS tests the AngelWing, a side underride protection device from Airflow Deflector Inc. The AngelWing successfully prevented underride in a 35 mph crash.

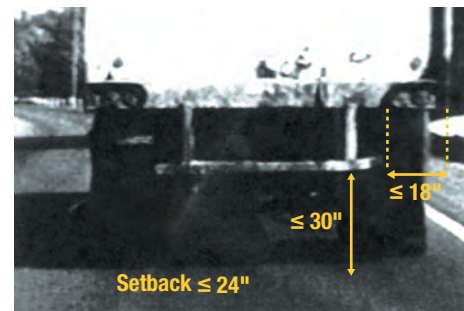
2017

2013

NHTSA releases study "Heavy-vehicle crash data collection and analysis to characterize rear and side underride and front overide in fatal truck crashes."

1953

First federal underride standard requires guards with 30-inch max ground clearance on combination tractor-trailers and single-unit trucks but includes no strength requirements.



1953 federal standard requirements

1967

June 29
Actress Jayne Mansfield dies in rear underride crash near New Orleans.

1971

NTSB recommends NHTSA require energy-absorbing underride and override barriers.

NHTSA abandons 1969 rulemaking.

1976

IIHS crashes Ford Granada into tractor-trailer with improved, prototype guard that prevents underride.

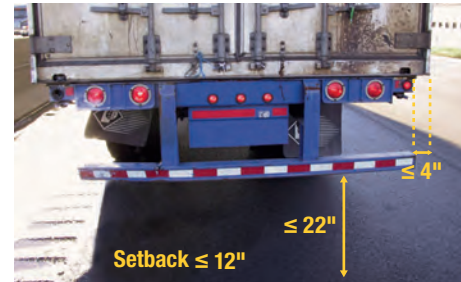


Prototype guard

Same test with federally compliant guard results in severe underride.

1986

IIHS study shows rear guards designed to prevent underride work well on British rigs.



1998 federal standard requirements

2004

Transport Canada issues standard after crash tests show U.S. standard is insufficient. Canadian rule approximately doubles strength requirements.



Canadian guard



NHTSA guard

Failed attachment to trailer



Trailer deck/chassis weakness



Vertical member weakness



Unsupported end bent forward