

# HALO™

## Rollover Occupant Protection System

MADE BY SAFETY ENGINEERING INTERNATIONAL



# *SAFETY BY DESIGN*



# HALO<sup>TM</sup>

ROLLOVER OCCUPANT PROTECTION SYSTEM



***THE BEST LEVEL OF  
PROTECTION***

*FLEET OF MITSUBISHI L200'S EQUIPPED WITH HALO ROPS MODEL H51 - MEXICO*

# ABOUT SAFETY ENGINEERING INTERNATIONAL

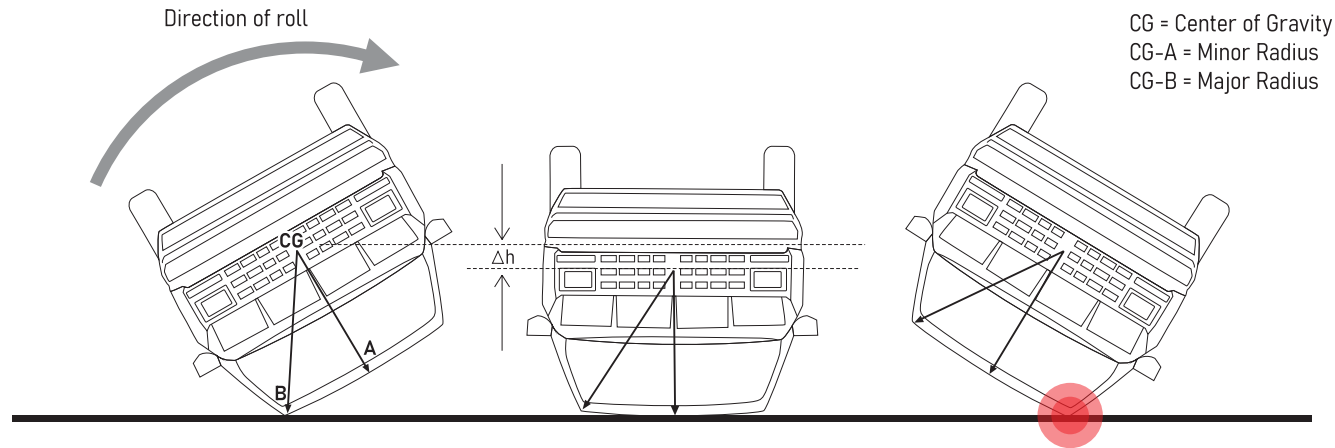
Safety Engineering International (SEI) is a vehicle safety engineering company. Our design engineers have years of experience in rollover accident investigation and dynamic vehicle testing which allows them to gain a better understanding of how injuries occur in rollovers and what precautions can be taken to prevent serious injury. These findings are the building blocks for our High Attenuation Load Offset (HALO) HALO™ Rollover Occupant Protection System (ROPS).

## WORLDWIDE CLIENTS

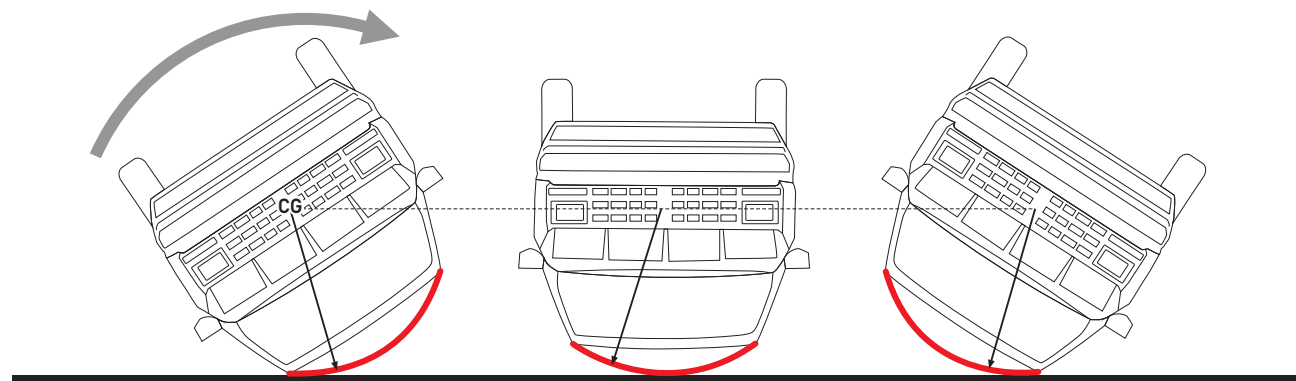


NISSAN NAVARA EQUIPPED WITH HALO ROPS MODEL H19

# HALO™ CHARACTERISTICS



Without HALO, the CG drops to the Minor Radius and can cause the roof to collapse onto the occupants.



With HALO, the CG maintains the Major Radius and prevents the roof to collapse onto the occupants

- Maintains the vehicle's roll radius characteristic allowing the vehicle body to roll smoothly.
- Distributes the roof loads across the roof surface allowing for smooth and even roof structure ground loading.
- Minimizes roof intrusion and speed at the A and B Pillars which keeps the roof up and away from the occupants.

# HALO™ SAVES LIVES

## Finite Element Analysis

Crew Cab Truck Roll Over Simulation

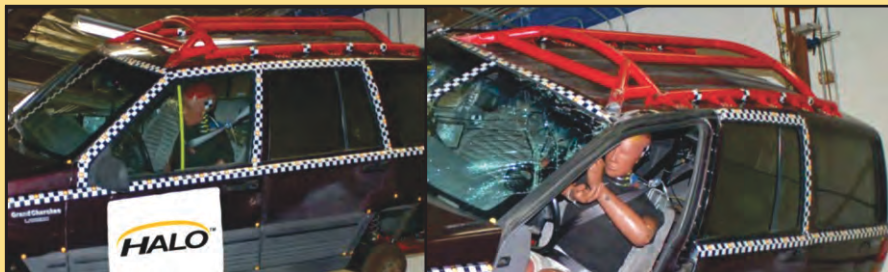


WITHOUT HALO™

WITH HALO™

## Dynamic Prototype Testing

50th Percentile Live Dummy Roll Over

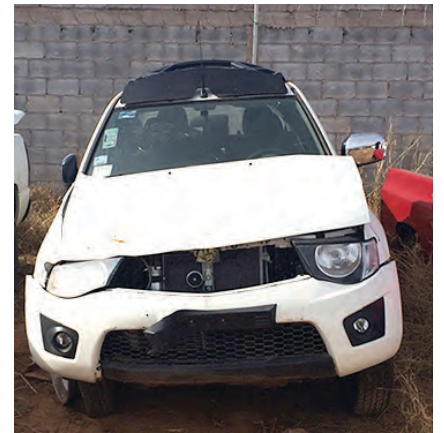


BEFORE

AFTER

## REAL WORLD RESULTS

Thousands of trucks all over the world are equipped with our products protecting lives. In over 80 rollover accidents, there were no injuries to the belted occupants of these vehicles. The HALO™ keeps the occupant survival space intact and your workers safe.



# *OUR MODELS*



# HALO™ MODELS

## DOUBLE CABS

DODGE RAM 1500 (2016 - PRESENT)

FORD F-350 (2018 - PRESENT)

FORD RANGER (2013 - PRESENT)

ISUZU D-MAX (2010 - PRESENT)

MAHINDRA PIK UP (PRESENT)

MAZDA BT-50 (2018 - PRESENT)

MITSUBISHI L200 (2016 - PRESENT)

NISSAN NAVARA (2016 - PRESENT)

NISSAN NP 300 HARDBODY (2010 - 2015)

TOYOTA HILUX (2009 - 2015)

TOYOTA HILUX (2016 - PRESENT)

TOYOTA LANDCRUISER 79 (2014 - PRESENT)

## SINGLE CABS

DODGE RAM 1500 (2016 - PRESENT)

ISUZU D-MAX (2010 - PRESENT)

NISSAN NAVARA (2016 - PRESENT)

TOYOTA HILUX (2010 - 2015)

TOYOTA HILUX (2016 - PRESENT)

TOYOTA LANDCRUISER 79 (2014 - PRESENT)



# HALO™ DOUBLE CAB



HR15D - DODGE RAM 1500 DOUBLE CAB



H16 - TOYOTA HILUX DOUBLE CAB



H51 - MITSUBISHI L200 DOUBLE CAB



H19 - NISSAN NAVARA DOUBLE CAB



# HALO™ SINGLE CAB



H14 - TOYOTA LANDCRUISER 79 SINGLE CAB



H11 - ISUZU DMAX SINGLE CAB



HR15D - DODGE RAM 1500 SINGLE CAB



H17 - TOYOTA HILUX SINGLE CAB

# HALO™ MODELS

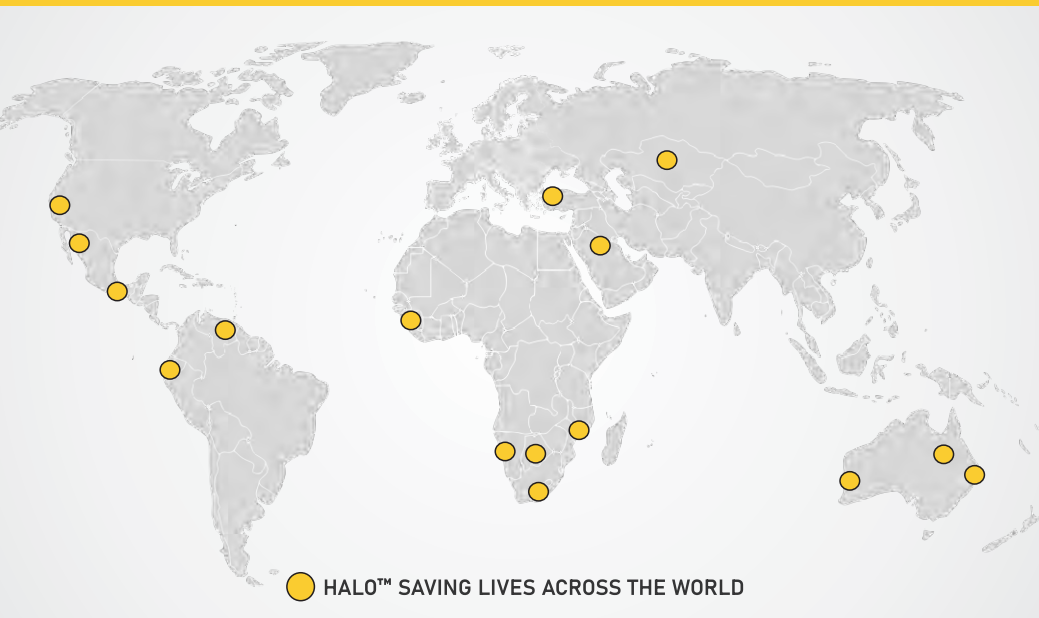
## DOUBLE CAB

PRODUCT	MODEL	YEARS	LENGTH (MM/IN)	WIDTH (MM/IN)	HEIGHT (MM/IN)
H3AKIT	MAZDA BT-50	2018 - PRESENT	1344 / 53	1221 / 48	188 / 7
H6AKIT	TOYOTA HILUX	2009 - 2015	1472 / 58	1168 / 46	224 / 9
H9AKIT	FORD RANGER	2013 - PRESENT	1344 / 53	1221 / 48	188 / 7
H12AKIT	ISUZU DMAX	2010 - 2015	1465 / 58	1180 / 46	239 / 9
H13AKIT	NISSAN NP 300 (HARDBODY)	2010 - 2015	1427 / 56	1163 / 46	218 / 9
H15AKIT	TOYOTA LANDCRUISER 79	2014 - PRESENT	1604 / 63	1261 / 50	179 / 7
H16AKIT	TOYOTA HILUX	2016 - PRESENT	1455 / 57	1138 / 45	239 / 9
H18AKIT	MAHINDRA PIK UP	PRESENT	1395 / 55	1288 / 51	183 / 7
H19AKIT	NISSAN NAVARA	2016 - PRESENT	1344 / 53	1221 / 48	188 / 7
H51AKIT	MITSUBISHI L200	2016 - PRESENT	1369 / 54	1116 / 44	182 / 7
HF35D	FORD F-350	2018 - PRESENT	1495 / 59	1261 / 50	207 / 8
HR15D	RAM 1500	2016 - PRESENT	1422 / 56	1168 / 46	223 / 8

## SINGLE CAB

PRODUCT	MODEL	YEARS	LENGTH (MM/IN)	WIDTH (MM/IN)	HEIGHT (MM/IN)
H11AKIT	ISUZU DMAX	2010 - 2015	894 / 36	1482 / 58	235 / 9
H14AKIT	TOYOTA LANDCRUISER 79	2014 - PRESENT	1016 / 40	1537 / 61	183 / 7
H17AKIT	TOYOTA HILUX	2016 - PRESENT	894 / 35	1161 / 46	227 / 9
H21AKIT	NISSAN NAVARA	2016 - PRESENT	894 / 35	1161 / 46	227 / 9
HR15S	RAM 1500	2016 - PRESENT	1001 / 40	1168 / 46	178 / 7

# HALO™ WORLDWIDE DISTRIBUTORS



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