

Media Protocol

Additional guidance for HGV testing

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PREFACE

During the test preparation, vehicle manufacturers are encouraged to liaise with the laboratory and to check that they are satisfied with the way cars are set up for testing. Where a manufacturer feels that a particular item should be altered, they should ask the laboratory staff to make any necessary changes. Manufacturers are forbidden from making changes to any parameter that will influence the test, such as dummy positioning, vehicle setting, laboratory environment etc.

It is the responsibility of the test laboratory to ensure that any requested changes satisfy the requirements of Euro NCAP. Where a disagreement exists between the laboratory and manufacturer, the Euro NCAP secretariat should be informed immediately to pass final judgment. Where the laboratory staff suspect that a manufacturer has interfered with any of the set up, the manufacturer's representative should be warned that they are not allowed to do so themselves. They should also be informed that if another incident occurs, they will be asked to leave the test site.

Where there is a recurrence of the problem, the manufacturer's representative will be told to leave the test site and the Secretary General should be immediately informed. Any such incident may be reported by the Secretary General to the manufacturer and the person concerned may not be allowed to attend further Euro NCAP tests.

NOTES

The photographs in this document were from a test on a right hand drive vehicle. If the VUT is a left hand drive model all the scenarios will be reversed as required. Camera positions are defined by the driver's position. Near sides are opposite for RHD and LHD vehicles for example.

Individual test scenarios have been designed over two pages so they can be printed on both sides of an A4 page, laminated and used for reference on track.

DISCLAIMER: Euro NCAP has taken all reasonable care to ensure that the information published in this protocol is accurate and reflects the technical decisions taken by the organisation. In the unlikely event that this protocol contains a typographical error or any other inaccuracy, Euro NCAP reserves the right to make corrections and determine the assessment and subsequent result of the affected requirement(s).

Euro NCAP

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CONTENTS

SECTION 1	4
1.1 Vehicle markings	4
1.2 Reference Photographs	5
SECTION 2	6
2.1 HCRs – HGV to Car Rear stationary – AEB and ACC	7
2.2 HCRm – HGV to Car Rear moving – AEB	9
2.3 HCRb – HGV to Car Rear braking – AEB and ACC	11
SECTION 3	13
3.1 HPLA – HGV to Pedestrian Longitudinal Adult	14
3.2 HBLA – HGV to Bicycle Longitudinal Adult	16
3.3 HP/B/N/F/A/C – HGV to Pedestrian/Bicyclist crossing	19
3.4 HBTA – HGV to Bicyclist Near side turn across path (AEB)	21
SECTION 4	23
4.1 LKA – Lane Keep Assist	24
4.2 ELK – Emergency Lane Keep (with GVT)	26
SECTION 5	29
5.1 Seat Belt Reminder test (SBR)	30
5.2 SLIF – Speed Limit Information Function (road test)	31
5.3 Direct Vision	32

SECTION 1

1.1 Vehicle markings

		
Figure 1	Figure 2	Figure 3
Driver's side	Front view	Passenger's side

Where no lower door vision window is present then the Euro NCAP logo with the test number directly below should be positioned level on the doors of the vehicle (see Figure 1). The test laboratory information should be placed away from the Euro NCAP Logo. In this case towards the rear of the cab.

Where there is a lower door vision window present this should not be obscured and the Euro NCAP logo and test number should be placed level in a suitable location (Figure 3). The vision window must not be obscured.

Where space for applying the Euro NCAP and test laboratory logos and the test number is limited (e.g. because of limited panel space or additional vision windows) smaller versions of logos are permitted to be used (e.g. those used for passenger car assessment). The Euro NCAP logo should be placed uppermost and displayed as the most prominent logo where possible, with the test number and test laboratory logo positioned lower down in suitable locations. In case of concern regarding sticker location, please contact the secretariat.

A Euro NCAP logo should also be placed on the front of the cab in a visible location (Figure 2) , ideally above the front grille and below the windscreen where possible, otherwise above the windscreen. If space allows then a test number can also be placed directly underneath the logo.

It is not necessary to include scenario or protocol details in the test number since these vary from day to day.

It is also preferable to place a Euro NCAP labelled number plate on the vehicle mounted in the correct place.

Rigid and articulated HGVs should be labelled in the same manner.

1.2 Reference Photographs

 Figure 4 Front view	 Figure 5 Front 3/4 (R) view	 Figure 6 Right Side view	 Figure 7 Rear 3/4 (R) view
 Figure 8 Rear view	 Figure 9 Rear 3/4 (L) view	 Figure 10 Left Side view	 Figure 11 Front 3/4 (L) view
 Figure 12 Braking Robot	 Figure 13 Driver's door view	 Figure 14 Passenger door view	 Figure 15 Steering robot
 Figure 16 View through screen	 Figure 17 VIN label	 Figure 18 Chassis VIN Plate	 Figure 19 Load in vehicle/trailer

All photographs should be supplied as .jpg format high quality (9-10) without cropping or editing (some colour correction is allowed if necessary). The background should be plain without features that draw attention from the VUT. No people should be visible in any of the reference photographs and the background should be generally plain test facility or buildings to not draw attention from the subject.

Reference photos should be taken before testing begins, since any damage will be photographed during testing. Any special characteristics of the vehicle should also be photographed and included with the test report.

SECTION 2

HGV to Car Scenarios

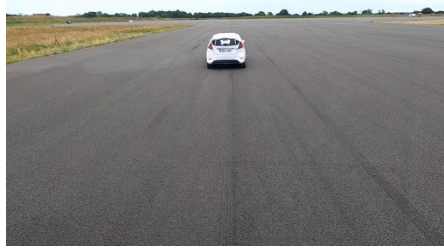
Labelled starting HC

These will include Autonomous Emergency Braking (AEB) HCRs (stationary), HCRm (moving) and HCRb, (braking) tests, and for media purposes, will also encompass similar testing scenarios which evaluate the effect of using Adaptive Cruise Control (ACC) in similar scenarios.

All HGV to car scenarios use a Guided Vehicle Target (GVT) which will be either under remote control or used as a stationary vehicle target.

2.1 HCRs – HGV to Car Rear stationary – AEB and ACC

NOTE: the impact location refers to the position at which the reference point on the rear of the GVT is aligned with the proportion of the width of the VUT, namely 0% is GVT rear centre alignment with the near side of the VUT, 50% is central alignment and 100% is far side alignment.

Camera 1 – Track camera	Camera 2 – Dash camera	Camera 3 – Screen camera
Positioned at 90 degrees to the direction of travel at the impact point, driver's side. Radio microphone to capture audio of warning Start wide with VUT left of frame and zoom as the VUT closes on the target	GoPro or similar. Positioned to capture the warning and record audio of the warning	GoPro or similar. Positioned looking forward and centred with no test equipment in view. Slightly downward facing to capture the best target view. Also records audio
 Figure 20 Start view (Track) RHD	 Figure 21 Start view (Dash)	 Figure 22 Start view (Screen)
 Figure 23 Finishing view (if avoids) Track RHD	 Figure 24 Warning after 5S (if active) Dash	 Figure 25 Finishing view (if avoids) Screen

Drone view for HCRs

 Figure 26	The highest avoid should be filmed a second time, replacing the track camera with a drone view. Leave enough space to see the action. If possible follow the VUT and allow the target to be acquired. Otherwise allow enough space and start slightly to the VUT side of the target on blank track. When the VUT appears, shift towards the target until both are in shot. Ideally end with the static scenario in centre of frame.
Camera view: Drone	

Post production and file naming.

The clips should last from five seconds before the warning to approximately two seconds after the final position of the VUT and target is reached (if stationary, otherwise cut when appropriate). This should normally give a clip length of between ten and twelve seconds. They should be provided as high quality mp4 files using H.264 compression, resolution 1920x1080.

File naming (AEB)

H001-HCRs_AEB_80VUT_100 Screen (example filename)

HGV to Car (static) AEB test VUT Speed 80 km/h, 100 percent overlap - Screen view

Test number	Scenario name	AEB/FCW	VUT Speed	Overlap %	Camera view
H001-	HCRs_	AEB_	80VUT_	100	Screen

File naming (ACC - Adaptive Cruise Control)

H001-HCRs_ACC_60VUT_00GVT_050 Track (example filename)

HGV to car (stationary) ACC test VUT Speed 60 km/h, GVT speed 0 km/h, 50% overlap – Track view

Test number	Scenario name	AEB/ACC	VUT Speed	Overlap %	Camera view
H001-	HCRs_	ACC_	60VUT_	50	Track

2.2 HCRm – HGV to Car Rear moving – AEB

NOTE: the impact location refers to the position at which the reference point on the rear of the GVT is aligned with the proportion of the width of the VUT, namely 0% is GVT rear centre alignment with the near side of the VUT, 50% is central alignment and 100% is far side alignment.

Camera 1 – Track camera Positioned at 90 degrees to the direction of travel at the potential impact point, driver's side. Radio microphone to capture audio of warning Start wide with VUT and GVT in frame. Zoom as the VUT closes on the target	Camera 2 – Dash camera GoPro or similar. Positioned to capture the warning and record audio of the warning	Camera 3 – Screen camera GoPro or similar. Positioned looking forward and centred with no test equipment in view. Slightly downward facing to capture the best target view. Also records audio
 Figure 27 Start view (Track) RHD	 Figure 28 Start view (Dash)	 Figure 29 Start view (Screen)
 Figure 30 Closest view (if avoids) Track RHD	 Figure 31 Warning after 5S (if active) Dash	 Figure 32 Closest view (if avoids) Screen

Drone view for HCRs



Figure 33

The highest avoid should be filmed a second time replacing the track camera with a drone view. Leave enough space to see the action. If possible follow the VUT and allow the target to be acquired (This will depend on VUT speed). Otherwise allow enough space and keep the GVT on the edge of frame and continue as the VUT approaches. Ideally end with the closest approach in centre of frame.

Camera view: Drone

Post production and file naming.

The clips should last from five seconds before the warning to approximately two seconds after the final position of the VUT and target is reached (if static. If not, just cut when appropriate. Often both the VUT and GVT will continue to move out of frame). This should normally give a clip length of between ten and twelve seconds. They should be provided as high quality mp4 files using H.264 compression, resolution 1920x1080.

File naming (AEB)

H001-HCRm_AEB_60VUT_20GVT_100 Screen (example filename)

HGV to Car (moving) AEB test VUT Speed 60 km/h, GVT speed 20 km/h, 100% overlap – Screen view

Test number	Scenario name	AEB/FCW	VUT Speed	GVT Speed	Overlap %	Camera view
H001-	HCRm_	AEB_	60VUT_	20GVT_	100	Screen

File naming (ACC - Adaptive Cruise Control) - ACC is part of the Advanced Driver Assist section

H001- HCRm_ACC_60VUT_20GVT_000 Track (example filename)

HGV to car (moving) ACC test VUT Speed 60 km/h, GVT speed 20 km/h, 0% overlap – Track view

Test number	Scenario name	AEB/ACC	VUT Speed	GVT Speed	Overlap %	Camera view
H001-	HCRm_	ACC_	60VUT_	20GVT_	000	Track

2.3 HCRb – HGV to Car Rear braking – AEB and ACC

NOTE: the impact location refers to the position at which the reference point on the rear of the GVT is aligned with the proportion of the width of the VUT, namely 50% central alignment for all HCRb testing

Camera 1 – Track camera	Camera 2 – Dash camera	Camera 3 – Screen camera
Positioned at 90 degrees to the direction of travel at the impact point, driver's side. Radio microphone to capture audio of warning	GoPro or similar. Positioned to capture the warning and record audio of the warning	GoPro or similar. Positioned looking forward and centred with no test equipment in view. Slightly downward facing to capture the best target view. Also records audio
Start wide and zoom as the VUT closes on the target		
		
Figure 34 Start view (Track) RHD	Figure 35 Start view (Dash)	Figure 36 Start view (Screen)
		
Figure 37 Finishing view (if avoids) Track RHD	Figure 38 Warning after 5S (if active) Dash	Figure 39 Finishing view (if avoids) Screen

Drone view for HCRb

	The highest avoid should be filmed a second time replacing the track camera with a drone view. Leave enough space to see the action. Follow the VUT and target together and stop when braking starts. Ideally end with the target and VUT centred in frame.
Figure 40 Camera view: Drone	

Post production and file naming.

The clips should last from five seconds before the warning to approximately two seconds after the final position of the VUT and target is reached (if static. If not, just cut when appropriate). This should normally give a clip length of between ten and twelve seconds. They should be provided as high quality mp4 files using H.264 compression, resolution 1920x1080.

File naming (AEB)

H001-HCRb_AEB_40_6_50VUT Screen (example filename)

Test number-HGV to Car (braking) AEB test 40 m separation, 6 m/s² braking input VUT/GVT speed 50 km/h – Screen camera view

Test number	Scenario name	AEB/FCW/ACC	Separation distance (m)	Braking input (m/s ²)	VUT Speed	Camera view
H001-	HCRb_	AEB_	40_	6	50	Screen

File naming (ACC – Adaptive Cruise Control) – ACC is part of the Longitudinal Assistance section with the separation distance controlled by the VUT

H001-HCRb_ACC_12_2_50VUT Track (example filename)

Test number-HGV to Car (braking) ACC test -- m separation, 2 m/s² braking input VUT/GVT speed 50 km/h – Trackside camera view

Test number	Scenario name	AEB/FCW/ACC	Separation distance (m)	Braking input (ms ⁻²)	VUT Speed (km/h)	Camera view
H001-	HCRb_	ACC_	--_	2	50VUT_	Track

Note: For HCRb tests, the GVT travels at the same speed as the VUT

SECTION 3

HGV to Vulnerable Road Users (VRU)

Labelled starting HP (Pedestrian) and HB (Bicycle)

These will include autonomous emergency braking AEBP (pedestrian) including adult and child dummies both open and obscured and AEBB (Bicyclist). Some scenarios will include forward collision warning tests (FCW)

All HGV to VRU scenarios will use a guided Euro NCAP Pedestrian Target adult or child (EPTa or EPTc) or Bicyclist target (EBT) which will be under remote control and, in the case of the pedestrian will include articulated leg motion.

3.1 HPLA – HGV to Pedestrian Longitudinal Adult

NOTE: the impact location refers to the position at which the reference point on the EPT is aligned with the proportion of the width of the VUT, namely 25% is alignment with the quartile of the vehicle width from the near side and 50% is central alignment.

Camera 1 – Track camera Positioned at 45 degrees to the direction of travel, driver's side. Radio microphone to capture audio of warning Start wide and zoom as the VUT closes on the target	Camera 2 – Dash camera GoPro or similar. Positioned to capture the warning and record audio of the warning	Camera 3 – Screen camera GoPro or similar. Positioned looking forward and centred with no test equipment in view. Slightly downward facing to capture the best target view. Also records audio
 Figure 41 Start view (Track) RHD	 Figure 42 Start view (Dash)	 Figure 43 Start view (Screen)
 Figure 44 Finishing view (if avoids) Track RHD	 Figure 45 Warning after 5S (if active) Dash	 Figure 46 Finishing view (if avoids) Screen

Drone view for HPLA



Figure 47

The highest avoid should be filmed a second time, replacing the track camera with a drone view. Leave enough space to see the action. If possible follow the VUT and allow the target to be acquired. Otherwise allow enough space and follow the target, allowing the VUT to enter the frame and show the avoid. Filmed at ninety degrees from the path.

Camera view: Drone

Post production and file naming.

The clips should last from five seconds before the warning to approximately two seconds after the final position of the VUT and target are reached. This should normally give a clip length of between ten and twelve seconds. They should be provided as high quality mp4 files using H.264 compression, resolution 1920x1080.

File naming

H001-HPLA50_40VUT Screen (example filename)

Test number-HGV to Pedestrian longitudinal adult 50 % overlap VUT speed 40 km/h – Screen view

Test number	Scenario name	Overlap (XO, 1XO %)	VUT Speed	Camera view
H001-	HPLA	50_	40VUT	Screen

3.2 HBLA – HGV to Bicycle Longitudinal Adult

NOTE: the impact location refers to the position at which the reference point on the EBT is aligned with the proportion of the width of the VUT, namely 25% is alignment with the quartile of the vehicle width from the near side and 50% is central alignment.

Camera 1 – Track camera Positioned at 45 degrees to the direction of travel, driver's side. Radio microphone to capture audio of warning. Start wide and zoom as the VUT closes on the target	Camera 2 – Dash camera GoPro or similar. Positioned to capture the warning and record audio of the warning.	Camera 3 – Screen camera GoPro or similar. Positioned looking forward and centred with no test equipment in view. Slightly downward facing to capture the best target view. Also records audio
 Figure 48 Start view (Track) RHD	 Figure 49 Start view (Dash)	 Figure 50 Start view (Screen)
 Figure 51 Finishing view (if avoids) Track RHD	 Figure 52 Warning after 5S (if active) Dash	 Figure 53 Finishing view (if avoids) Screen

Drone view for HBLA



Figure 54

The highest avoid should be filmed a second time replacing the track camera with a drone view. Leave enough space to see the action. If possible follow the VUT and allow the target to be acquired. Otherwise allow enough space and follow the target, allowing the VUT to enter the frame and show the avoid. Filmed at ninety degrees from the path.

Camera view: Drone

Post production and file naming.

The clips should last from five seconds before the warning to approximately two seconds after the final position of the VUT and target are reached. This should normally give a clip length of between ten and twelve seconds. They should be provided as high quality mp4 files using H.264 compression, resolution 1920x1080.

File naming

H001-HBLA50_40VUT Track (example filename)

Test number-HGV to bicycle longitudinal adult overlap 50% VUT speed 40 km/h – Track view

Test number	Scenario name	Overlap (XO, 1XO %)	VUT Speed	Camera view
H001-	HBLA	50_	40VUT	Track

3.3 HP/B/N/F/A/C – HGV to Pedestrian/Bicyclist crossing

Pedestrian, Bicyclist, Near side, Far side, Adult and child. Some obscured by vehicles.

NOTE: the impact location refers to the position at which the reference point on the EPT or EBT is aligned with the proportion of the width of the VUT, namely 25% is alignment with the quartile of the vehicle width from the near side, 50% is central alignment and 75% is alignment with the quartile of the vehicle width from the far side.

HGV to Pedestrian Near side crossing Child Obscured

Camera 1 – Track camera	Camera 2 – Dash camera	Camera 3 – Screen camera
Positioned at 45 degrees to the impact point, dummy travelling towards camera each time. Also record warning sound with a radio microphone. Start wide with target and VUT in shot and zoom as the VUT closes on the target.	GoPro or similar. Positioned to capture the warning and record audio of the warning.	GoPro or similar. Positioned looking forward and centred with no test equipment in view. Slightly downward facing to capture the best target view. Also records audio.
 Figure 55 Start view (Track) HPNCO RHD	 Figure 56 Start view (Dash)	 Figure 57 Start view (Screen)
 Figure 58 Finishing view (if avoids) Track RHD	 Figure 59 Warning after 5s (if active) Dash	 Figure 60 View at brake point (Screen)

HG V to Pedestrian Near side crossing Adult

		
Figure 61 HPNA Start view (Track) RHD	Figure 62 HPNA View at T0 (Track)	Figure 63 HPNA End view (Track)

HG V to Pedestrian Far side crossing Adult

		
Figure 64 HPFA Start view RHD	Figure 65 HPFA View at T0	Figure 66 HPFA End view no AEB (Track)

Drone view for HPNCO

	The highest avoid should be filmed a second time replacing the track camera with a drone view. Filmed at 90 degrees to the path. Start with the target in frame and follow it to the centre of the defined path as it moves. Alternatively a stationary view taking in all the action is acceptable. This should be centred on the path with the target moving across. This is the same view for all VRU crossing scenarios.
Figure 67 Camera view: Drone	

Post production and file naming.

The clips should last from five seconds before the warning to approximately two seconds after the final position of the VUT and target are reached. This should normally give a clip length of between ten and twelve seconds. They should be provided as high quality mp4 files using H.264 compression, resolution 1920x1080.

File naming

H001-HPNCO50_20VUT Track (example filename)

Euro NCAP

Version 1. — July 2025

*Test number-HGV to Pedestrian, Near side, Child, Obscured, 50% impact location, VUT speed 20 km/h
– Track view.*

Test number	Scenario name	Obscured?	Overlap %	VUT Speed	Camera view
H001-	HPNC	O	50_	20VUT	Track

H001-HPNCO50_20VUT Track (example filename)

*Test number-HGV to Pedestrian, Near side, Child, Obscured, 50% impact location, VUT speed 20 km/h
– Track view.*

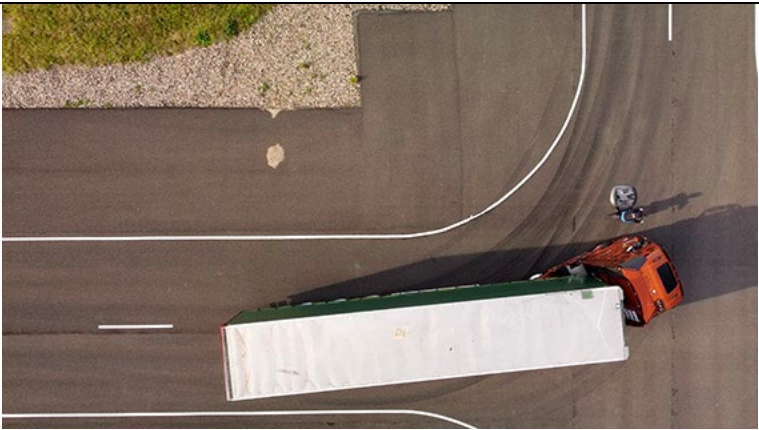
Test number	Scenario name	Obscured?	Overlap %	VUT Speed	Camera view
H001-	HPNC	O	50_	20VUT	Track

3.4 HBTA – HGV to Bicyclist Near side turn across path (AEB)

This is a new test designed specifically for HGVs and tests those systems implemented to prevent HGVs turning into a junction and colliding with a cyclist in the near side blind spot of the vehicle.

HGV to Bicyclist Near side turn across path

Camera 1 – Track camera Positioned at approximately 30 degrees to the impact point, dummy travelling towards camera. Also record warning sound with a radio microphone. Start wide and zoom as the VUT closes on the target.	Camera 2 – Dash camera GoPro or similar. Positioned to capture the warning (normally in or around the mirror) and record any audio of the warning. If the warning is recorded on the dashboard then camera should be adjusted accordingly.	Camera 3 – Outboard camera GoPro or similar. Attached to the trailer or rigid. Looking at the wheels of the truck and wide enough to capture the cyclist in frame as the HGV turns across the path.
 Figure 68 Start view (Track) RHD	 Figure 69 Start view (Mirror)	 Figure 70 Start view (Outboard)
 Figure 71 View at AEB point (Track) RHD	 Figure 72 View at AEB point (Mirror)	 Figure 73 View at brake point (Outboard)

 Figure 74	The drone view should be from directly above the action showing as much of the path as possible. This is trajectory 1 (Borrow From Source) path
Camera view: Drone	

Post production and file naming.

The clips should last from five seconds before the warning (or before AEB initialisation) to approximately two seconds after the final position of the VUT and target are reached. This should normally give a clip length of between ten and twelve seconds. They should be provided as high quality mp4 files using H.264 compression, resolution 1920x1080.

File naming

H001-HBT00_Ne28_AVUT (example filename)

Test number-HGV to Bicyclist turn across path at front corner impact position, Nearside 2.8m lateral distance, Trajectory A for VUT – Track view.

Test number	Scenario name VUT impact point	Position Lateral distance	Trajectory VUT	Camera view
H001-	HBT00_	Ne28_	AVUT	Track

In this scenario, the components are:

00	0.0m front corner impact location	30	3.0m side impact location
Ne28	2.8m lateral distance	Ne43	4.3m lateral distance
Trajectory 1	Borrow From Source		
Trajectory 2	Large Radius Turn		
Trajectory 3	Borrow From Destination		

SECTION 4

Lane Support Systems (LSS)

Labelled starting LKA or ELK

Lane Keep Assist (LKA) systems keep a vehicle in the lane if the driver inadvertently drifts out of the lane. Only active lane keeping systems are assessed.

Emergency Lane Keep (ELK) systems are systems that sense the presence of another vehicle in the blind spot of the HGV and actively steer to prevent a collision when changing lanes. These are common when the HGV is overtaking or changing lanes. These are tested as an intentional lane change with the indicator activated.

For ELK systems the GVT will be used and will run at the same speed as the VUT.

4.1 LKA – Lane Keep Assist

Dashed and solid lines – near side and far side

Camera 1 – Track camera	Camera 2 – Dash camera	Camera 3 – Outboard camera
Positioned in line with the crossing line. Normally zoom is just locked to leave room for the action. A radio microphone will pick up audible warning.	GoPro or similar. Positioned to capture the warning and record audio of the warning	GoPro or similar. Attached to the trailer or rigid. Looking at the line on the track and the wheels as they cross the line (No audio)
		
Figure 75 Start view (Track) RHD	Figure 76 Start view (Dash)	Figure 77 Start view (Outboard)
		
Figure 78 Track view at LKA RHD	Figure 79 Warning after 5S (if active) Dash	Figure 80 View at LKA (outboard)

Drone view for LKA

	The lanes should both be visible in the drone shot. Either a static or reversing shot as the HGV approaches. It should be possible to pre-set the position of the aerial shot once the crossing point is established. Capture before and after line crossing.
Figure 81 Camera view: Drone	

Post production and file naming.

The clips should last from five seconds before crossing the line and hearing the warning until at least five seconds after the HGV has reacted and restored position (or failed to do this). They should be provided as high quality mp4 files using H.264 compression, resolution 1920x1080.

File naming (LKA)

H001-LKA_SOL_02D Dash (example filename)

Test number-Lane Keep Assist._SOLid line 0.2 m/s Steering input - Driver's side Dashboard view

Test number	Scenario name	SOLid/DAShed line	Steering input	Driver/Passenger	Camera view
H001-	LKA_	SOL_	02	D	Dash

H001-LKA_SSL_07P Track (example filename) 2

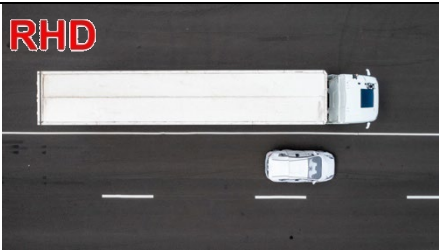
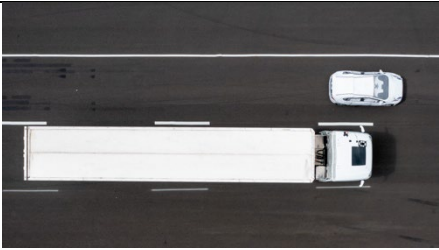
Test number-Lane Keep Assist. DAShed line 0.5 m/s Steering input – Passenger side Track view

Test number	Scenario name	SOLid/DAShed line	Steering input	Driver/Passenger	Camera view
H001-	LKA_	DAS_	05	P	Track

4.2 ELK – Emergency Lane Keep (with GVT)

Camera 1 – Track camera	Camera 2 – Dash camera	Camera 3 – Outboard camera
Positioned in line with the crossing line. Normally zoom is just locked to leave room for the action. A radio microphone will pick up audible warning.	GoPro or similar. Positioned to capture the warning and record audio of the warning.	GoPro or similar. Attached to the trailer or rigid. Looking at the line on the track and the GVT. Here camera positions are shown on the trailer.
		
Figure 82 Start view (Track) RHD	Figure 83 Start view (Dash)	Figure 84 Driver's side position
		
Figure 85 Finishing view Track RHD	Figure 86 Warning after 5S (if active) Dash	Figure 87 Passenger side position

The position of the GVT is different in relation to the cab of the HGV depending on whether the test is near (passenger) side or far (driver) side.

 Figure 88	 Figure 89	Driver's side GVT position RHD Rear of front of cab
 Figure 90	 Figure 91	Passenger side GVT position RHD forward of front of cab

Drone view for ELK with GVT

 Figure 92	The lanes should both be visible in the drone shot. Either a static or reversing as the HGV and GVT approach. It should be possible to pre-set the position of the aerial shot once the test position is established. This case is an intentional overtake since the indicator is operating.
Camera view: Drone (RHD)	

Post production and file naming.

The clips should last from five seconds before crossing the line and hearing the warning until at least five seconds after the HGV has reacted and restored position. They should be provided as high quality MP4 files using H.264 compression, resolution 1920x1080.

File naming (ELK with GVT)

H001-ELK_OVI_03D_72GVT Track.mp4 (example filename)

Test number-Emergency Lane Keep,_Overtake Intentional_0.3 m/s Steering input Driver's side. VUT/GVT speed 72kmh – Trackside view

Test number	Scenario name	Overtake intentional/unintentional	Steering input	Driver/Passenger	GVT /UT Speed	Camera view
H001-	ELK_	OVI_	03	D	72GVT	Track

IMPORTANT NOTE REGARDING FILMING ELK TESTING

The camera must not be set in a position to endanger the operator. It must be at least 30 metres beyond the final stopping position of the GVT. This can be achieved either with a longer lens or alternatively by shooting in 4k resolution and cropping the final video to 1080p. If the camera cannot be placed in this position due to track size restrictions or lack of a suitable objective then it is acceptable to only use drone footage for this scenario .This is an important safety decision. Any warning audio will still be captured by the onboard camera.

SECTION 5

Driver Assistance and Speed Assistance Systems (SAS)

Driver assistance systems are those that keep the driver and other road users safe while driving. They are not specifically targeted at accident prevention and include simple tests, such as a seat belt reminder test, to more complex tests which monitor driver awareness, as well as systems which regulate the speed of the vehicle to recognised speed limits.

The longest test is the speed limit information function (SLIF) test which involves driving for an extended period and testing the vehicle's ability to recognise speed limit information as each sign is passed on the road. These also include conditional signs.

5.1 Seat Belt Reminder test (SBR)

Only one camera is required for this test. Video footage of the dashboard warning.



Figure 93

Dashboard view of seat belt reminder (with audio)

When the driver pulls away (on the test track, not on the public road) with an unfastened seat belt the warning should be both visual and audible.

Two tests are undertaken. One for the driver's seat belt and one for the passenger's seat belt.

Post production and file naming.

The clips should last from the time the vehicle starts to move until at least five seconds after the warning. This should normally give a clip length of between thirty and sixty seconds to capture the initial and final warning cascade. They should be provided as high quality mp4 files using H.264 compression, resolution 1920x1080.

H001-SBR_DR.mp4 (example filename)

Test number-Seat Belt Reminder_Driver's side, Dashboard camera

Test number	Scenario name	Driver/Passenger DR/PA	Camera view
H001-	SBR	DR	Dash

5.2 SLIF – Speed Limit Information Function (road test)

This test is carried out on the road so no driving robots should be present in vehicle. Two views are required, a view through the windscreen which should be able to capture speed limit signs and information signs as they pass, and a view of the dashboard showing the speed information on the display.

 RHD	SLIF screen view showing speed limit signs on the road
 Figure 95	SLIF Dashboard view showing speed limit information as it responds to the road signs (normally after a short pause) Camera note: You may have to underexpose this view by -1EV (1 stop) to make the speed limit information visible

Post Production

 Figure 96	RHD road test (insert on left for LHD). The two cameras are synchronised (using the audio tracks) and then combined to produce a composite image, which allows the engineers to assess the vehicle's performance across the journey. No audio will be necessary with the edited sections, which should be divided into ten minute sections for ease of assessment. Low to medium bitrate MP4 files are acceptable for this test.
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File naming

H001-SLIF 20-30M (example filename)

Test number - Scenario (Speed limit information function) section time (minutes from start)

Euro NCAP

Version 1. — July 2025

5.3 Direct Vision

This is a simple test exclusive to HGVs to illustrate the direct vision the driver has from the driving position. It takes the form of two still photographs with an additional photograph to show the positions of the pedestrian and bicyclist dummies. In the NEAR position they are positioned with the EPTa reference point (P) 1.0 m from the front of the cab aligned with the outer width of the cab and EBT 1.5 m from the side of the cab aligned with the forwardmost part of the vehicle (Figure 99 and Figure 100). FAR positions are: EPTa 2.0 m, EBT 3.0 m.

The camera is positioned at the driver's eye position (as determined in the protocol, see below) and shot using a 17 mm lens on a full frame 35 mm camera (if using M4/3 it will be c.8.5mm focal length) **Test should be performed with vehicle switched on and nearside indicator applied to activate other indirect vision systems on some HGVs.**

	Vision NEAR (RHD) Using the B pillar as reference (left of frame but included) the camera is set level in both directions
	Vision FAR (RHD) An identical framing to the NEAR position, but this time with both dummies placed in the FAR position

	Positioning of the full frame 35mm camera at driver's eye position. Camera is level in both planes and framed using the B pillar as edge of frame (RHD Vehicle)
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Figure 99	Figure 100	Figure 101
Near positions from front	Far positions from front	Cyclist alignment with cab

Definition of the Driver's Eye Point

Three separate eye points are defined. E2 is the forward eye point, E1 is the left-side eyepoint and E3 is the right-side eyepoint.

Each point is defined using the three-dimensional reference system. E2 is defined by an overlap from the accelerator heel point of 1,163.25 mm in the Z axis, and 678 mm rearward in the X axis. The position of E2 in the Y axis is on a vertical plane, parallel to the median longitudinal plane and passing through the centre of the driver's seat. Points E1 and E3 are defined by a 60° rotation, to the left and right respectively, about the P-Point.

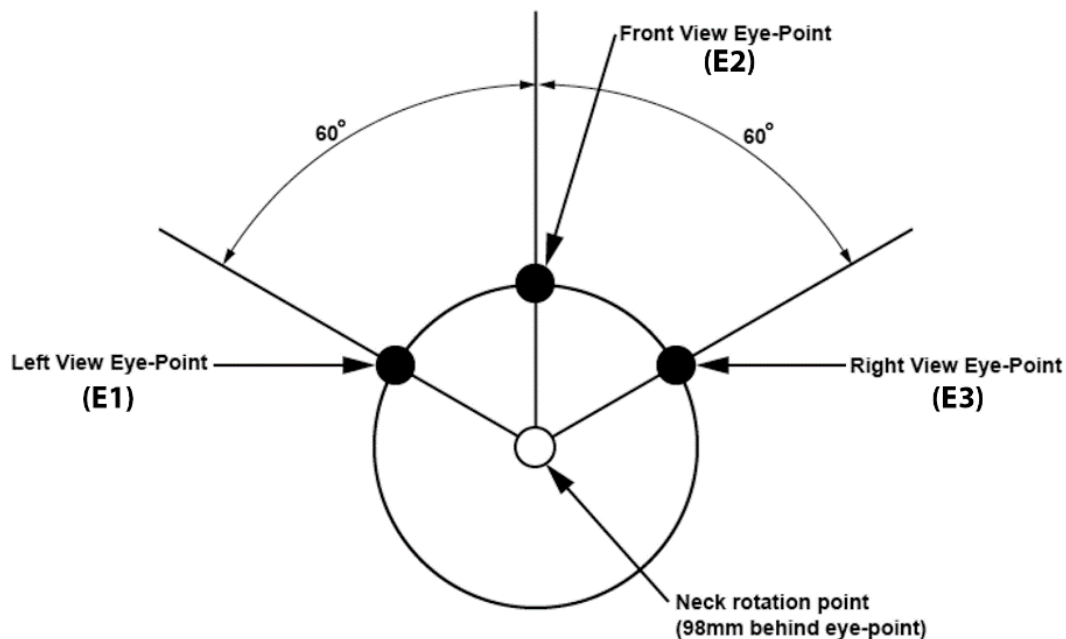


Figure 5-2 Definition of the Driver's eye points for views to the front, left and right