



**EUROPEAN NEW CAR ASSESSMENT PROGRAMME
(Euro NCAP)**

**CAR SPECIFICATION, SPONSORSHIP,
TESTING AND RETESTING PROTOCOL**

Version 2.3
April 2009

CAR SPECIFICATION, SPONSORSHIP, TESTING AND RETESTING PROTOCOL

1. Introduction

This protocol details Euro NCAP's procedures relating to the specification of cars to be tested, their sponsorship, testing arrangements and the circumstances when re-testing is allowed. It also details how Euro NCAP is dealing with the expansion of the European Union.

2. Specification of Cars to be Tested by Euro NCAP

2.1. Introduction

When Euro NCAP started, it was decided that the greatest effect would be achieved by testing the "best selling variant" of any car model. At that time, few safety features were available as options on new cars. Where safety features were options on some variants and standard on others, it was usual for them to be fitted as standard to all higher specification models. Perhaps as a consequence of Euro NCAP, the situation has changed. Many safety features are now available and, in some cases, they are fitted as standard on the best selling variant, as chosen by Euro NCAP, but offered as options on both higher and lower priced variants. The most common safety features affected are: airbags, airbag disabling switches, head restraints and seat belt reminder systems.

Euro NCAP considers it inappropriate for normal safety equipment to be offered as an option. There are also indications that consumers expect important safety features to be fitted as standard to any new car that they might purchase. Accordingly, Euro NCAP's procedures have changed so that cars selected for testing will be equipped with safety equipment which is fitted as standard across most, and eventually all, of the model range.

2.2 Definitions

"Variant" is defined as a unique combination of body style, engine and equipment grade or specification. An illustration is given in Annex 1.

"Model Range" is defined as all the variants (i.e. all body styles, engine and equipment grades) available across EU27 under a common model name or designation.

"Safety Equipment" is defined as that equipment which is overtly aimed at improving safety. It includes but is not necessarily limited to:-

- Restraint systems, including head restraints, child restraints and anchorages
- Knee and leg protection
- Breakaway pedal arrangements
- Pedestrian friendly devices, unless they are only required for particular engine compartment packages

- Seat belt reminder systems
- Safety marking/labels and switches

It does not include:

- Engine/transmission volume
- Road wheel/tyre size
- Sun roof

“Minimum Percentage” means the lowest proportion of sales, expressed as a percentage, which an item of safety equipment must meet to be included as part of the Basic Level equipment. The values are given in section 2.5.

2.3 Identification of Basic Level Equipment

The manufacturer must complete an “Equipment Matrix”, which will be supplied by the Programme Manager. In the matrix, the manufacturer must identify all items of safety equipment available in the model range and state whether they are standard on all variants or optional on some. Where an item of safety equipment is not standard on all variants, the manufacturer must state whether or not that item

- Is fitted, or is expected to be fitted, as standard equipment in the Minimum Percentage of sales across EU27 for the forthcoming 12 months
- Is available, at least as an option, on all variants in the model range throughout EU27.

The Basic Level safety equipment will comprise those items which meet both of the above criteria above or which are fitted as standard across the model range. Only equipment which is part of the Basic Level will be eligible for assessment and may contribute towards the scoring of the vehicle.

In identifying the Basic Level equipment, the Secretariat may exempt certain low volume variants where the fitting of such safety equipment would be inappropriate. For example, this might include low sales volume variants specially produced for motor sport or other special purposes.

It is Euro NCAP’s expectation that, over time, most manufacturers will respond to this change by fitting all common safety features as standard across their model range. However, Euro NCAP has an ongoing commitment to help promote the fitting of new safety features and it will continue to offer the opportunity for manufacturers to fund additional tests on cars fitted with optional safety equipment. In such cases, the additional safety equipment will be tested on the same variant of car used for the Basic Level assessment. If this is not possible, other changes will be kept to a minimum, to reduce their effect on the assessment.

2.4. Selection of Test Variant

- 2.4.1. The best selling variant will be identified by the Secretariat, based on information supplied by the manufacturer. Where Euro NCAP chooses to test a particular less

common variant, such as “open-top” or “estate car,” the choice will be restricted to the best selling variant of that type. Manufacturers can also sponsor such tests, provided that the car model has already been rated without this constraint.

- 2.4.2. Where the best selling variant is fitted with safety equipment above the Basic Level, the choice of variant will be adjusted to obtain a Basic Level safety specification variant. The aim will be to minimise the extent of the other changes to the car’s specification.

This adjustment might be done in the following order:-

- a) Change in the hand of drive
- b) Increase in trim level
- c) Reduction in trim level
- d) Change in number of side doors
- e) Increase in volume of the engine/transmission unit
- f) Reduction in volume of the engine/transmission unit
- g) Change in body style

Certain exceptions to the minimum standard safety equipment requirement may be necessary, e.g. an open top variant without a curtain airbag or with a substitute combined head/thorax airbag.

NOTE: Manufacturers are currently asked to supply information about the performance of the opposite hand of drive. Where necessary, manufacturers will be asked to provide evidence that the necessary adjustments have not significantly affected the passenger compartment’s intrusion or deceleration pulse.

Where particular hazards are known to be present in certain variants, an attempt will be made to choose a variant fitted with that hazard, e.g. bulky electrical steering mechanisms, posing a threat to the lower legs.

2.5. Testing of non-standard safety equipment

In order to continue to encourage manufacturers to fit new safety equipment, the option will remain for manufacturers to sponsor the additional testing of cars fitted with optional safety equipment. This will allow them to demonstrate the benefits of such safety equipment.

This option does not extend to the testing of the opposite hand of drive.

2.6. Delete options

Euro NCAP has previously allowed a “delete option” for the front passenger airbag. This option is no longer allowed as the capability now exists to allow the airbag to be temporarily or permanently disabled.

2.7. Escalation of Basic Level safety specification

- 2.7.1. For all cars where the publication of results was on or after 1 January 2008, the Basic Level of safety equipment was fitted, as standard, to 80 percent of car sales, or predicted sales, across the model range.

- 2.7.2. For all cars where the publication of results was on or is after 1 January 2009, the Basic Level of safety equipment will have to be fitted, as standard, to 85 percent of car sales, or predicted sales, across the model range.
- 2.7.3. For all cars where the publication of results is expected to be on or after 1 January 2010, the Basic Level of safety equipment will have to be fitted, as standard, to 90 percent of car sales, or predicted sales, across the model range.
- 2.7.4. For all cars where the publication of results is expected to be on or after 1 January 2011, the Basic Level of safety equipment will have to be fitted, as standard, to 95 percent of car sales, or predicted sales, across the model range.
- 2.7.5. For all cars where the publication of results is expected to be on or after 1 January 2012, the Basic Level of safety equipment will have to be fitted, as standard, to 100 percent of car sales, or predicted sales, across the model range.
- 2.8. Publication of safety equipment levels
- 2.8.1. Safety equipment fitted to Basic Level vehicles but not across the full model range will be detailed by Euro NCAP alongside its ratings. Consumers will be encouraged to specify the fitment of such equipment to any car they purchase.
- 2.9. Seats for “Whiplash” testing
- 2.9.1. The manufacturer will be required to advise Euro NCAP of any differences between the driver’s and front passenger’s seats in the Basic Level vehicles.
- 2.9.2. Euro NCAP will choose whether to test the driver’s or front passenger’s seat. Where no significant differences exist, this will be on a random basis. Where there are differences, the seat considered least likely to offer good protection will be chosen.
- 2.9.3. The manufacturer will be asked to supply three seats for testing. On a random basis, Euro NCAP will chose to exchange any one or more of these seats with those supplied with the frontal, side or pole test cars. The manufacturer will be invited to exchange the chosen seats. Where the seat has an active, non-reversible head restraint that requires geometric assessment in the deployed state, a fourth seat will be required.
- 2.9.4. The manufacturer will be required to supply Euro NCAP with details about the full range of seats available for that model of vehicle, identifying any differences that might influence Whiplash protection.
- 2.9.5. Where there is concern that some variants of seat will not offer equivalent Whiplash protection, Euro NCAP may seek further information. This may take the form of reviewing manufacturers’ own data or by testing the seats. Euro NCAP reserves the right to test a seat which offers poorer protection than the one fitted to the test vehicles, and to use the result in its calculation of the overall rating.

- 2.9.6. Secretariat is given discretion to exclude from any consideration certain special seats. Such low sales volume seats might be those specially designed for motor sport or other special purposes.
- 2.9.7. Manufacturers will be allowed to sponsor the testing of other versions of their seats and the whiplash ratings of those seats will also be published.

3. Enlargement of the European Union

3.1. Introduction

Euro NCAP's aim is to improve the safety of the cars sold throughout the whole of the European Union. However, it was recognised that the immediate application of Euro NCAP's selection criteria to the new member states might not be the best way of achieving this aim.

3.2. Application

The following steps have been taken to extend Euro NCAP's requirements:-

- 3.2.1. From the start of 2006, the best selling variant has been chosen on the basis of sales throughout EU25. An exception to this might be made where the best selling variant is only sold in one or more of the new member states.
- 3.2.2. From June 2006, the requirement for safety equipment fitted as standard has related to EU15, provided the following applied. If any variant is sold in any of the new member states, all of this safety equipment must be available, at least as an option, on at least one variant.
- 3.2.3. From June 2007, the requirement for safety equipment fitted as standard will relate to EU15, provided the following applies. All of this safety equipment must be available, at least as an option, on the best-selling variant in any of the new member states, where the best-selling variant is sold. In any of the new states where the best selling variant is not sold but another variant is sold, all of this safety equipment must be available, at least as an option, on at least one variant.
- 3.2.4. From January 2008, the whole of the European Union is considered as a single entity (EU27 and subsequent extension). The escalating Basic Level safety specification will initially provide manufacturers with the opportunity to make available some lower specification cars in the new member states, or where there is demand.

4. Selection of Car Models for Testing by Euro NCAP members

4.1. Introduction

To avoid possible accusations of individual bias, the choice of car models to be sponsored for testing by Euro NCAP shall be made by the Board Members, at the Steering Committee. This procedure will be adopted from 2006, for a trial period of two years, after which it will be reviewed.

4.2. Selection procedure

- 4.2.1. The Secretariat maintains a rolling database of car models available for testing. This database will include expected new models and models already on the market but not yet tested. Information on expected new models will be sought from members, manufacturers and the press, along with the expected launch date. The database will indicate which cars have already been chosen for sponsorship by the manufacturer.
- 4.2.2. The database will be circulated to the Communications Group for them to provide advice on model selection and possible grouping which might encourage media interest. Members of the Communications Group can indicate their views to the Secretariat and to their own Board Members.
- 4.2.3. The database will then be circulated to Members for them to nominate their preferred cars to be tested by Euro NCAP. From the nominations, the Secretariat will create a list of preferred cars for testing. This list will then be agreed by the Members, at the Board of Directors meeting. Where a Member wishes to have another car added to the list, he can make a case for it to be included.
- 4.2.4. Members may then choose the cars that they wish to sponsor from the list.
- 4.2.5. Where a particular group of cars has been identified, the Members can agree to concentrate their testing on a particular category of car. This might be at the request of the Communications Group.
- 4.2.6. Individual Members may only choose to sponsor car models that are on the preferred list.

5. **Sponsorship by Car Manufacturer**

5.1. Introduction

Car manufacturers often wish to sponsor a car so that the results may be published at a preferred time, such as the car's public launch. In some cases, the car has already been selected for testing by a member, with a "hand of drive" which may not be available at the time of the public launch. This procedure has been developed with the aim of avoiding such difficulties.

5.2. New or revised car models

- 5.2.1. Manufacturers may advise the Secretariat of the expected date when a new or revised car model is to be first offered for sale in the European Union. However, this does not require the car manufacturer to keep to this timescale.
- 5.2.2. Prior to 12 months before this date, the manufacturer has exclusive rights to sponsor the testing of that car. Once the formal agreement to sponsor the car is made, it cannot be cancelled.
- 5.2.3. Where a manufacturer chooses to sponsor the testing of a new or revised car model, publication of the test results cannot be delayed beyond 3 months after the car is first

offered for sale in the European Union. This requirement will be waived if the schedule cannot be met, because of a test failure or a failure by Euro NCAP.

- 5.2.4. If the launch date of a revised model is to be delayed by more than 3 months, Euro NCAP may choose to test the current model, if its rating has not already been published.
- 5.2.5. After 12 months prior to the expected date that the car is first to be offered for sale in the European Union, the manufacturer loses the exclusive right to sponsor the car. It then becomes available for Euro NCAP Members to nominate it for sponsorship.
- 5.2.6. Once nominated for sponsorship by a Euro NCAP Member, the manufacturer may take over sponsorship provided they agree to comply with the following requirements: the publication date is not delayed by more than 3 months; the choice of drive (LHD or RHD) and the choice of test laboratory are not changed. The purpose of this facility is to allow the manufacturer to influence the publication date of the results.

5.3. Car models currently offered for sale

- 5.3.1. Where a manufacturer chooses to sponsor a car model already being sold, publication of the results cannot be delayed to be later than 9 months after the date of the formal sponsorship offer. However, manufacturers may engage in informal discussions about sponsorship prior to this. This requirement will be waived if, because of a test failure or a failure on Euro NCAP's part, the schedule cannot be met.
- 5.3.2. A manufacturer may advise Euro NCAP that a car model which has been chosen for sponsorship by Euro NCAP Member is soon to be revised. If so, the manufacturer may request that the revised model be tested.
- 5.3.3. If this is expected to delay publication by more than 3 months, the request will only be accepted if the manufacturer agrees to take over sponsorship of the car. The choice of drive (LHD or RHD) must not be affected.
- 5.3.4. Publication of the results for the revised car model cannot be delayed beyond 9 months of the initial formal request.
- 5.3.5. Euro NCAP reserves the right to test the original car model.

6. **Choice of Hand of Drive (LHD or RHD)**

- 6.1. Where a car, or the required variant, is only to be available in one hand of drive, that hand of drive will be tested.
- 6.2. Where a manufacturer sponsors a new or revised car model, for publication at the time of its launch, and where only one hand of drive is available on that date and for a period of 3 months afterwards, that hand of drive will be tested.

6.3. In all other circumstances, the Secretariat will be responsible for randomly choosing the drive layout for all car models to be tested. Overall, the aim will be to ensure that 20 percent of car models tested will be in RHD configuration.

6.4. The Secretariat will report the proportion of cars tested in LHD and RHD to the Board. The Secretariat will also monitor and report on the influence of the two concessions detailed in 6.1. and 6.2. above.

7. Choice of Test laboratory

7.1. The Secretariat will be responsible for choosing the test laboratory for all cars, in an unbiased way. However, account will be taken of the wishes of Euro NCAP Members, along with operational and cost considerations.

8. Retesting and Updating of Specifications

8.1 Definitions

A “retest” or “retesting” refers to a repeat of one or more parts of a vehicle’s assessment which replaces the original result. The original result is not published by Euro NCAP.

A “re-assessment” is a new assessment by Euro NCAP of a vehicle which has previously been rated. The re-assessed rating is based on all requirements (Minimum Percentage for Basic Level equipment, threshold, balance values etc) applicable at the time of reassessment. Depending on the changes made to the vehicle, it may not be necessary to repeat all aspects of the assessment. The results of a re-assessment are published alongside the original rating.

A “recalculation” is the updating of a car’s rating to a later assessment regime than was originally applied. The recalculated rating is based on all requirements (Minimum Percentage for Basic Level equipment, threshold, balance values etc) applicable at the time of reassessment. Additional tests may or may not be necessary, but the exercise utilises results already obtained and applies the updated requirements to them.

8.2 General

8.2.1. The specification of the cars tested must be the same as for those cars offered for sale at or before the time of publication.

8.2.2. The manufacturer may advise Euro NCAP that a car that is scheduled for testing will have certain safety components changed prior to the expected publication date. Where this happens, the updated components may be fitted to the car, provided the following requirements are met:

- The components are installed to the same standard as used in production.

- The components are manufactured using production procedures. Prototype components are not allowed.
- Where the component has to be certified by an approval authority, such certification has been carried out.

8.2.2.1. Under normal circumstances, once the car has been tested the results will be published. Manufacturers will not be able to propose further modifications leading to a retest.

8.3 Retesting

A re-test may be allowed under the following circumstances:

8.3.1. Tests not meeting the Euro NCAP test protocols

8.3.1.1. Where a test does not meet the Euro NCAP Test Protocol requirements, it will be repeated, unless the failure does not materially affect the rating of the car.

8.3.1.2. Where the failure is the responsibility of the test laboratory, they shall be responsible for carrying out the retest without charge.

8.3.1.3. The responsibility for funding the replacement car and components is that of the test's sponsor.

8.3.2. New or revised car models

8.3.2.1. Where a new or revised car model is tested prior to it being first offered for sale in the European Union, modification and retesting is allowed under the following conditions:

- The manufacturer has identified deficiencies and can satisfy the Secretariat and inspectors that the proposed modifications will significantly improve safety.
- Cars to the specification of the originally tested car have not been sold for use in the European Union.
- Where cars are already in use in the European Union, the manufacturer agrees to modify those cars to the updated specification.

NOTE: Such cars may be those not offered for sale but provided on loan to the press etc.

- The results of the retested cars are available prior to the car being first offered for sale in the European Union.

8.3.3 Cars currently on sale

8.3.3.1 Where, as a result of a Euro NCAP test, a problem is identified with a car within 4 months of being first offered for sale in the European Union, the car may be retested provided the following requirements are complied with:-

- The manufacturer has identified deficiencies and can satisfy the Secretariat and inspectors that the proposed modifications will significantly improve safety.
- The improvement will be incorporated in all production cars by the time Euro NCAP publishes its assessment of the car.
- Publication of the car's assessment is not delayed by more than 3 months.
- By an official recall or by equivalent market action acceptable to the Secretariat, the manufacturer makes provision to update all cars already in use in the European Union. The recall must be specific to the identified problem and must be initiated by the time the assessment is published.
- The manufacturer funds all work related to the retest.

8.3.3.2 Where a re-test is allowed in these circumstances, Euro NCAP will, in its publications, provide information about the problem identified and the manufacturer's actions.

8.4 Reassessment

8.4.1 A car model which has previously been rated may be reassessed if the following conditions are met:

- The result of the car has not been re-calculated in the same calendar year
- The manufacturer can demonstrate that there has been a significant improvement to safety, either through better performance (e.g. improved knee protection or airbag response) or to fitment (e.g. standardisation of ESC)

8.4.2 The result of a reassessment is published alongside the original rating, with a VIN identifying the first car produced to which the new assessment applies.

9. Fitment of Non-standard or Prototype Components

9.1. The fitment of non-standard or prototype components is not allowed.

9.2. Where non-standard or prototype components are found to have been fitted to any of the cars tested, the manufacturer will be asked to sponsor a retest of the standard specification cars. Euro NCAP reserves the right to publish information about the presence of non-standard or prototype components.

9.3. Where the manufacturer does not agree to sponsor testing of the standard specification car, its testing may be sponsored by Euro NCAP and the presence of prototype components will be published.

9.4. Where, in these circumstances, a car of standard specification has been tested, the manufacturer can opt to sponsor the testing of an updated car, fitted with production

components. The results of these tests can be published at the same time or at a later date.

- 9.5. Once a car has been tested, the ratings will be published within the normal time frame.

10. Failure of Safety Equipment

- 10.1. Where there is a failure of safety related equipment, the Secretariat may withhold publication of the test results, pending investigation of the failure. Euro NCAP reserves the right to allow retests in such circumstances.

NOTE: This covers such circumstances where the cause of the problem is still being investigated or where publication might not be in the public interest. In such circumstances, it would be expected that sales of the car in EU27 would be immediately halted.

11. Secretariat Discretion

- 11.1. It is impossible to foresee all eventualities and decisions often have to be made quickly. If the Secretariat needs to waive any of the above requirements, justification for this must be reported to the Euro NCAP Steering Committee. Where appropriate, revisions of the Euro NCAP protocols or procedures may result.

12. Application Dates

- 12.1. The procedure regarding the specifications of cars (Section 2.) has been applied for all cars where the publication of results was on or after 1 January 2008 or as specified in the text.
- 12.2. The procedure for the extension of requirements from EU15 to the whole of the European Union (Section 3.) applied for all cars where the publication of results took place on or after the first of the month given in the relevant paragraph.
- 12.3. The procedure relating to the way in which Euro NCAP members select cars for testing (Section 4.) was phased in during 2006.
- 12.4. The procedure relating to the way manufactures may sponsor cars (Section 5.) has been applied to all cars where the publication of results was on or after 1 January 2008.
- 12.5. The procedure relating to the choice of hand of drive (Section 6.) is being applied from 2006.
- 12.6. The procedure relating to the choice of test laboratory (Section 7.) is being applied from 2006.

12.7. The procedure regarding retesting (Section 8.) has been applied for all cars where the publication of results was after 1 January 2007.

13. Timing

13.1. Retesting

13.1.1. Where a car has been retested (see section 8.1) the rating will, if possible, be published as originally intended. If the original release date cannot be met, the result will be published as soon as possible after the originally-intended launch date.

13.2. Reassessment

13.2.1. The result of a reassessment will be published as part of the normal three-monthly release schedule.

13.3. Recalculation

13.3.1. Only car cars that have not changed and that will be on sale for at least two more years will be eligible for re-calculation. There are two possible situations:

- No additional testing is required if the technical content of Euro NCAP's assessment has not changed. In this case, the requirements (Minimum Percentage for Basic Level equipment, threshold, balance values etc) applicable at the time of reassessment will be used to recalculate the result. Euro NCAP will apply the latest ESC fitment data for a re-calculation.
- If Euro NCAP's technical assessments have changed or new tests have been added, additional tests may need to be done for the recalculation.

13.3.2. Re-calculation of a car result will preclude a reassessment in the same year.

13.3.3. The deadline for recalculation shall be December 1 of the preceding year, allowing time for the Secretariat to schedule additional tests if required.

13.3.4. The results of re-calculations will be released together at the February release only. An exception is made for 2009, during which cars' results may be recalculated at any time, so long as the model in question was assessed by Euro NCAP during 2007 or 2008 and is expected to be on sale in Europe for a further two years.

14. Protocol Amendments

Version 1.0. (May 2006)	Original version.
Version 1.1. (July 2006)	Section 12. expanded and application date for introduction of the retesting procedure added.
Version 2.0. (May 2007)	Amendments to Sections: 2.1., 2.2. and 2.2.2. and addition of 2.5. and 2.6. to accommodate the introduction of Basic Level safety specification.

	<p>Addition of Section 2.7. to cover the selection of seats for whiplash testing.</p> <p>Amendments to 3., 3.1., 3.2.1., 3.2.2. and 3.2.4 to accommodate changes to EU Enlargement.</p> <p>Amendments to 12.1., 12.2. and 12.7 to cover application dates.</p>
Version 2.1. (June 2007)	<p>Amendments to Sections: 2.5.1. to 2.5.5. to clarify that “safety equipment” refers to that fitted as standard.</p>
Version 2.2. (November 2007)	<p>Section 2.1. para. 3, typing error correction, “become” removed.</p> <p>Section 2.2.2. NOTE, typing error correction, “the” added.</p> <p>Section 2.5.5. Addition of Note relating to Airbag Warning Label languages and Child Restraints.</p> <p>Section 2.7. Revised, subject to future amendment.</p> <p>Sections 8.2.1.2 & 3. Removal of “or” between sections.</p> <p>Section 8.2.1.3. Addition of explanatory note</p> <p>Section 8.3.1 Text amended for clarification.</p> <p>Addition of Sections 8.3.4. and 8.3.5.</p> <p>Section 10.1. Addition of explanatory note</p> <p>Section 11.1. Addition of section number</p>
Version 2.3 (April 2009)	<p>Several minor textual changes</p> <p>Inclusion of definitions in section 2 and 8</p> <p>Rearrangement of sections 2 and 8 to improve clarity</p> <p>Addition of new section 13 detailing timing provisions for recalculation and reassessment</p>

Annex 1 Illustration of break-down of model range by variant

	Bodystyle	Engine (auto and man transmission)	Equipment grade	Variant
MODEL RANGE	3 door hatchback	1.2 petrol	Low	V1
			Mid	V2
			High	V3
		1.4 petrol	Low	V4
			Mid	V5
			High	V6
		2.0 petrol	Mid	V7
			High	V8
		2.2 diesel	Low	V9
			Mid	V10
			High	V11
	5 door hatchback	1.2 petrol	Low	V12
			Mid	V13
			High	V14
		1.4 petrol	Low	V15
			Mid	V16
			High	V17
		2.0 petrol	Mid	V18
			High	V19
		2.2 diesel	Low	V20
			Mid	V21
			High	V22
	5 door estate	1.4 petrol	Low	V23
			Mid	V24
			High	V25
		2.0 petrol	Mid	V26
			High	V27
		2.2 diesel	Low	V28
			Mid	V29
			High	V30