

Facts about the NCT	
Role of the RSA	<p>The NCT is operated by Applus who are responsible for delivering the service to a high standard of integrity and with a strong customer focus. It has the checks and balances, processes, quality management systems, accreditations, training, integrity measures etc. It is also built in a way that it is transparent and can be questioned and where variations/issues arise they can be dealt with. Our role is to supervise the delivery of the contract by Applus on behalf of the State, to support that contractor and, indeed, when questions arise, to be in a position to do something about it.</p>
Quality of Testing	<p>NCTS has the processes, quality management systems, accreditations, training, integrity measures etc. in place to provide a very controlled system operated by qualified technicians. It is regarded internationally as an example of best practice in vehicle testing. The consistency of testing is achieved primarily by a professional and well-trained workforce operating modern and well-maintained test equipment and applying their expertise to the assessment of each vehicle in a fair and consistent manner.</p> <p>However, in recognition that the equipment used for testing is subject to operating tolerances, and that vehicle inspectors are required to use their experience and expertise, both NCTS and the RSA have also put in place additional measures to help provide assurance regarding the quality of testing.</p> <p>The Contractor operates to externally accredited quality systems and training programmes, while the Authority also includes measures such as regular independent observations of vehicle testers, data analyses focused on a range of 'risk factors', test equipment consistency programmes and mystery shopper programmes. Where any issues are identified, these are discussed with the contractor and arrangements put in place for their correction and follow-up.</p> <p>Consistency of testing</p> <p>There are several checks and balances to ensure the accuracy of the test and a minimum consistent standard of testing. In a system where 1.5m cars are tested every year, there are going to be issues to be addressed and risks to be managed. Where issues arise there is a transparent process in place including mechanisms for reporting them to NCTS and/or having them independently investigated. Any customer has the right to lodge a complaint with NCTS or make an appeal to the Independent Appeals Board run by the AA and these will be fully investigated. Full details are available at Complaints and Appeals Process The NCTS also has a confidential whistle-blower phone-line (01) 6309319 and email integrity@ncts.ie details are available at Integrity.</p>
Suspension testing at NCT	<p>The suspension test at the NCT meets and exceeds EU requirements. Ireland is one of only 5 Member States who exceed the EU minimum requirements by conducting a suspension performance test (balance test) as well as a visual inspection. The suspension balance test used in the NCT is designed as a test of the suspension across the axle and the equipment is operating and reporting correctly, within specification when measuring the balance. The European specification within the framework of the general inspection has shown that, where there is a significant difference between the right and left side, the car is not safe to drive. Vehicle testing in Ireland has on that basis integrated the axle balance test as much as it can into its periodic testing regime, based on approved and agreed methods of testing.</p>

	<p>RTÉ has suggested that there are inadequacies in the NCT to pick up circumstances where both suspension units would wear to the same extent that no imbalance would be detected and the vehicle would pass this part of the test. A circumstance of this nature would be very rare in occurrence and should be known to the car owner and their mechanic because it would affect the handling of the car.</p> <p>In order to determine the damping efficiency of a vehicle at the test under these circumstances, the effectiveness of the suspension at each individual wheel would need to be quantified. Today within Europe, there is no agreement on a single method for testing suspension performance of this nature. This is because measurement of suspension performance without dismantling (which is not permitted in periodic testing) is a highly complex problem owing to measurements being influenced by many specific vehicle design factors. So there is no defined standard principle to measure suspension performance against. Work is ongoing for the past number of years to devise methods which give an indication of the efficiency of the individual shock absorber.</p> <p>Since last year, Belgium has introduced testing based on the minimum phase shift method which is more relative to the performance of the shock absorber. This method of testing is in its experimental stage and is yet to be deployed by any other Member State. This testing is based on a differing test bench principle than that employed in Ireland today. Because test benches are measuring different parameters, the comparability of results between varying methods are very limited. Each method can produce different performance ratings for the same suspension as different test benches are measuring differing parameters. To attempt to overcome this problem, the European Garage Equipment Association (EGEA) are currently leading the development of suspension test methods based on a single method that can be implemented for all test bench principles. The RSA is keeping fully abreast of developments in this area and is committed to ensuring that the NCT develops in line with the best approved and proven practices and technologies within Europe.</p>
<p>Report by the Transport Research Laboratory (TRL)</p>	<p>The RSA has provided RTÉ with a report completed by the independent forensic investigation unit of the Transport Research Laboratory (TRL) in the UK which confirms the RSA’s view that the suspension in test in Ireland meets all European periodic testing requirements for suspension and is one of the few Member States which performs a damping efficiency related test using special equipment. The report also explicitly states that Ireland in fact, exceeds the EU minimum requirements for suspension and is employing the most available and approved technology in doing so.</p> <p>The TRL report does not agree with RTÉ’s assessors finding.</p>
<p>Suspension test readings above 80 as measured at NCTS are indicators that a car’s shocks are defective and dangerous</p>	<p>The NCT measurement cannot be interpreted in this way because the test is a balance test of the entire suspension and does not measure individual shocks.</p>

	<p>The RSA carried out suspension performance tests with shock absorbers presented in a variety of states of repair, including used, new and defective condition (with no damping oil present). The tests were carried out under the supervision of the RSA's independent technical services agency AA and cars with suspensions system with significantly higher readings than 80 have been tested and found to have roadworthy shocks.</p> <p>Defective shocks will affect a cars handling on the road and the condition of your shocks should be checked regularly by a mechanic through at regular service.</p> <p>The Transport Research have also been made aware of the tests carried out and have advised the RSA that it is their view that readings of this nature are unremarkable. In tests with no oil in the shock absorbers, readings were in excess of 200mm, supporting the view that the condition of a vehicle presented at its NCT with readings in the order of 94/96Mm would not prompt further inspection. The TRL Report may be viewed here</p> <p>Every car model's suspension design is unique and measurement of suspension performance without dismantling (which is not permitted at NCT) is a highly complex problem owing to measurements being influenced by many factors such as tyre stiffness (e.g. run-flat tyres) and wheel-load. It is not possible to provide a generic limit for what would indicate defective/dangerous shock absorbers. Specified values would need to be provided by manufacturers to allow the tester compare the test results against a benchmark and ascertain whether adequate suspension performance was presented. The suspension test used in the NCT is designed to compare the left/right readings to indicate any imbalance and is fully in line with European guidelines.</p>
<p>Detection of corrosion, issues with brake discs at the NCT</p>	<p>The NCT, similar to all periodic vehicle inspections across the EU, is a periodic check test that the vehicle meets basic requirements without any dismantling of the vehicle. It checks, at a point in time, that the components required to be tested, where visible and accessible, meet a basic standard. It cannot be a warranty and this is clearly stated on the NCT certificate.</p> <p>Corrosion</p> <p>Corrosion is classified in three stages, namely surface, advanced and extensive. Surface rust, whilst not desirable, is not a reason for failure. If it progresses to advanced and extensive corrosion then the vehicle will be failed. Corrosion is treated differently depending on the area it is affecting. The secondary components will only fail the NCT if they are considered to have advanced corrosion. Secondary structure is any part of the vehicle that does not affect the structural integrity of the vehicle such as a wing or quarter panel. Any primary structure affected by advance or extensive corrosion will fail the NCT as any weakness in the primary structure of the vehicle could affect the integrity of the vehicle. Because it is not practical to lay down limits of wear and tolerance, it has been determined that Vehicle Inspectors are expected to use their experience and judgement in making an assessment of the condition of components.</p>

Not all areas of the vehicle are accessible for visual inspection without some dismantling, for which the test does not provide. However, where rust is visually identifiable, the rust is checked using thumb pressure or by tapping with a Corrosion Assessment Tool. The NCT manual was amended in 2014 to incorporate these specific test methods. Underbody sealant acts as a barrier to protect the vehicle from external factors such as corrosion. It is important to note that if this coating is applied to a vehicle that already has rusted areas, this will mask the appearance and consequently the identification of rust. On this basis, it is impossible for an inspector to determine if a failure is applicable or not. Equally, for some vehicles, the component corrodes from the inside out and no evidence of rust may be visible externally at the time of inspection. Corrosion can be a challenge to detect where a vehicle owner wants to conceal it. Unscrupulous sellers may weld items to a corroded area in an attempt to mask evidence of corrosion.

As the underbody element of the test is purely a visual assessment, in many cases it can be impossible for an inspector to determine if corrosion is present or not. Therefore, it is extremely important that when purchasing a second hand vehicle a full inspection should be carried out by a qualified engineer to ensure that the vehicle has been well maintained and is in sound structural and mechanical condition. In 2015, more than 21,000 cars failed on corrosion and of those, 15,400 related to primary structure corrosion.

Brake Discs

The brake test conducted at NCTS is fully in line with EU requirements and the practice in other EU Member States. Brake discs are examined under Item 52 of the NCT Manual and in 2015 24,518 (3.2%) vehicles failed under this item. Of these, more than 5,000 were disc related. Brake lines and hoses are one of the highest fail items at NCT and during 2015, there were 85,907 (11.2%) fail results relating to this item.

The NCTS has explained that in order to physically measure the thickness of a brake disc, the wheel would need to be dismantled and the disc measured in line with manufacturer specifications. It is not practical to remove the wheel for each vehicle and physically measure the brake discs against manufacturer's specifications at the NCT. Each manufacturer has individual tolerances so a set thickness cannot be used to implement a standard inspection. Some brake disc manufacturers have wear indicators which makes it possible for Vehicle Inspectors to determine visually whether the limit for the performance of this disc has been reached. However this is not present on all cars. Type Approval Regulations do not require a wear indicator to be machined into the disc during the manufacture of the vehicle. There is a minimum braking efficiency which the service brake and the park brake must provide. If these values are not met and the imbalance tolerance exceeded, then the vehicle will fail the test.

Where brake discs are visible, the NCT Vehicle Inspector will visually check for fractures, damage and security. Excessively worn brake discs will fail the NCT based on visual inspection by the vehicle inspector. In some circumstances, however, the brake disc components are not visible to the Vehicle Inspector, for instance, where a car is equipped with detailed alloy wheel designs. In such cases, any issue with the brake discs will be found by the mechanic during regular maintenance and service and the owner will be advised when to replace them.

<p>So if I am buying a used car with a valid NCT, I cannot rely on the NCT?</p>	<p>Similar to all periodic vehicle inspections across the EU, the NCT is a test at a point in time that checks basic safety features in a vehicle. It complies with and, in many aspects, exceeds the EU minimum standard of testing. However, as stated on the NCT certificate itself, it is not a warranty, nor is it intended to be.</p> <p>It will not tell a car owner or prospective purchaser if components are almost worn. The NCT is not responsible for owners and sellers of cars who swap parts around before or after its NCT and unfortunately, some people do this. In the individual cases raised by RTÉ, it appears that the cars had been sold on at some point subsequent to the NCT.</p> <p>These cases illustrate why it is so important to have a vehicle independently inspected prior to purchase, a message that the RSA actively promoted towards the end of last year and again this year. The NCT simply does not replace or purport to replace the regular maintenance that an owner needs a mechanic to carry out on cars, or diminish an individual's responsibility for ensuring their vehicle is roadworthy.</p> <p>The NCT's role is as a hugely important preventative road safety measure. By way of illustration, when the NCT was first introduced, over 4% of vehicles failed with a dangerous defect. Since then there has been a phenomenal increase in the number and age of cars on our roads. In today's terms, that would be 60,000 dangerously defective vehicles on our roads if we didn't have the NCT. Today that figure is 6,000. So what we have is an NCT that is a balance – some people complain it is too onerous, others that it is not onerous enough. What it is, is a check that a vehicle meets a minimum condition of roadworthiness. What it is not, is a diagnostic of a condition of a vehicle.</p> <p>In short, if you are buying a vehicle without a guarantee from a reputable dealer, you should have it independently checked by a qualified mechanic.</p>
<p>The Commercial Vehicle Test v the NCT</p>	<p>Both tests have several common features and they both meet and exceed the EU standards. They also have some differences with the Commercial Vehicle Test having a number of additional test items. This reflects the fact that commercial vehicles (including some Light Goods Vehicles) carry heavier loads and operate at higher weights. RSA Vehicle Inspectors inspect approx. 18,000 Heavy Commercial Vehicles (HCVs) every year at the roadside and where issues are commonly identified, these are reviewed and sometimes incorporated in to the Commercial Vehicle Test. One example is insufficient contact between the brake pad and brake disc which may result in brake fade which is caused by a build-up of heat due to prolonged braking. Typically this occurs on a large fully-loaded vehicle when descending a long steep incline. The issue of brake fade is really only relevant in large goods vehicles and to some extent large vans that are under full load. Brake fade would not be particularly relevant to a car as the same issues of heat build-up are not applicable due to lower weights.</p>

	<p>So a test item appropriate to a commercial vehicle is not necessarily relevant to the NCT. Nevertheless, the NCT is reviewed frequently to ensure it is up to date with test requirements and developments and this includes a comparison to the Commercial Vehicle Test.</p>
<p>Why are there variations in pass/fail rates? Does this mean the test is inconsistent?</p>	<p>The focus at the NCTS is not on getting a common pass rate/fail items, but on ensuring that each test is done correctly. The pass rates across the majority of test centres are within 6% of the national average. This is not considered excessive and is in line with international experience because there are many reasons that can account for differing fail rates between test centres including:</p> <ul style="list-style-type: none"> • The age-mix of vehicles tested in one location compared with another (for example, 4 year old vehicles have an average pass rate of 77%, whereas 10+ year old vehicles have an average pass rate of 38%). The age mix therefore affects the overall pass rate. • The mileage that a car has undergone also has a marked effect on pass rates, with larger mileage vehicles more prone to failure. This particularly affects some rural locations. For example, in 2013, 2014, 2015 the NCT centre at in Clifden had the highest fail rate in the country. Odometer readings on cars in Clifden were between 15,000 and 25,000 higher than the centres with the lowest fail rate in those years. • The prevalence of particular makes and models of vehicles tested makes a marked difference to pass rates. For example the pass rate for some makes is as high as 59% nationally. This is very different to the pass rate for another leading brand at 39%. Local differences in vehicle types will affect the pass rate. • Differing profiles of use of vehicles and impacts of the different environments e.g. rural, coastal, urban. • Differences in the condition of the roads in a particular locality, which can lead to the prevalence of particular failure items such as brakes or suspension components, for example. <p>The NCTS reviews test results on an ongoing basis without implying a need to conform to pass rate quotas. In doing so, their Quality and Standards team regularly assesses whether or not there is a training issue or any changes needed to the testing approach.</p> <p>Example of variation in top fail items – Brake Lines</p> <p>Brake lines are subject to a comprehensive visual and under pressure check as set out in the test manual. Again there are several factors which influence the deterioration of brake lines. From analysis of test results, we know that one of the main reasons for the difference between failure rates for brakes is in the mileage that the cars have done. Greenhills and Deansgrange are centres with some of the lowest average annual mileages in the country and some of the lowest fail rates on brake lines, while cars tested in places such as Longford, Cavan and Carrick-on-Shannon show some of the largest travel distances and have higher brake line fail rates. Northpoint tests a very similar range of vehicles to Deansgrange and with a similar age profile, but, has a higher brake line fail rate. However, vehicles tested in Northpoint have, on average, around 9-10,000 more km on the clock.</p>

