

## How Car Engine Work

So you like cars but do you know how they work? Can you tell us what engines are and why they work the way they do? If you can't, don't worry, you'll know the answer in a matter of minutes! This educational resource is composed of valuable information that little learners like you can easily understand and remember. Grab a copy today!

Giving new meaning to the term "fast food" Rest-stop grade F meat patty? Nah. Nuggets of reconstituted poultry bits? Pass. Deep-fried fish discuss? No, really, thanks all the same. It's time to bid farewell to the roadside meal as you know it. Nearly twenty years ago, Chris Maynard and Bill Scheller opened the world's eyes to the beautym of car-engine gastronomy in the original *Manifold Destiny*. And now that another generation of both drivers and eaters has emerged, the cult classic is due for an overhaul. In this shiny, spanking-new edition, learn how to make s'mores in your Scion, poach fish in your Pontiac, even bust out a gourmet snack from under the hood of your Escalade. With step-by-step diagrams, crowd-pleasing recipes, and thorough instructions, now you can turn your car into a kitchen without ever crossing any golden arches. Hilarious, bizarre, and ultimately (seriously!) useful, *Manifold Destiny* is and always will be an unparalleled original. So, slap a ham steak under the hood of your car, hit the gas, and drive until you reach delicious -- which is in approximately fifty miles, depending on traffic.

The light-duty vehicle fleet is expected to undergo substantial technological changes over the next several decades. New powertrain designs, alternative fuels, advanced materials and significant changes to the vehicle body are being driven by increasingly stringent fuel economy and greenhouse gas emission standards. By the end of the next decade, cars and light-duty trucks will be more fuel efficient, weigh less, emit less air pollutants, have more safety features, and will be more expensive to purchase relative to current vehicles. Though the gasoline-powered spark ignition engine will continue to be the dominant powertrain configuration even through 2030, such vehicles will be equipped with advanced technologies, materials, electronics and controls, and aerodynamics. And by 2030, the deployment of alternative methods to propel and fuel vehicles and alternative modes of transportation, including autonomous vehicles, will be well underway. What are these new technologies - how will they work, and will some technologies be more effective than others? Written to inform The United States Department of Transportation's National Highway Traffic Safety Administration (NHTSA) and Environmental Protection Agency (EPA) Corporate Average Fuel Economy (CAFE) and greenhouse gas (GHG) emission standards, this new report from the National Research Council is a technical evaluation of costs, benefits, and implementation issues of fuel reduction technologies for next-generation light-duty vehicles. *Cost, Effectiveness, and Deployment of Fuel Economy Technologies for Light-Duty Vehicles* estimates the cost, potential efficiency improvements, and barriers to commercial deployment of technologies that might be employed from 2020 to 2030. This report describes these promising technologies and makes recommendations for their inclusion on the list of technologies applicable for the 2017-2025 CAFE standards.

The efficient flow of air through an engine is instrumental for producing maximum power. To maximize performance, engine builders seek to understand how air flows through components and ultimately through the entire engine. Engine builders use this knowledge and apply specific practices and principles to unlock horsepower within an engine; this applies to all engine types, including V-8s, V-6s, and imported 4-cylinder engines. Former Hot Rod magazine editor and founder of Westech Performance Group John Baechtel explains airflow dynamics through an engine in layman's terms so you can easily absorb it and apply it. The principles of airflow are explained; specifically, the physics of air and how it flows through major engine components, including the intake, heads, cylinders, and exhaust system. The most efficient and least restricted path through an engine is the key to high performance. To get to this higher level, the author explains atmospheric pressure, air density, and brake specific fuel consumption so you understand the properties of fuel for tuning. Baechtel covers the primary factors for optimizing the airflow path. This includes the fundamentals of air motion, air velocity, and boundary layers; obstructions; and pressure changes. Flowing air through the heads and the combustion chamber is key and is comprehensively explained. Also comprehensively explored is the exhaust system's airflow, in particular primary tube size and length, collector function, and scavenging. Chapters also include flowbench testing, evaluating flow numbers, and using airflow software. In the simplest terms, an engine is an air pump. Whether you're a professional engine builder or a serious amateur engine builder, you must understand engine airflow dynamics and must apply these principles if you want to optimize performance. If you want to achieve ultimate engine performance, you need this book.

Perfect coloring book for car engine lovers! Multiple kinds of patterns to coloring. Suitable coloring designs for children and adults. Car Engine Coloring Book is an excellent free time activity for the whole family! A perfect gift for all who love cars! Features: Total of 21 patterns for coloring 8.5 x 11 inches, 44-page book Simple designs to more complex coloring patterns Various combinations of commercially available technologies could greatly reduce fuel consumption in passenger cars, sport-utility vehicles, minivans, and other light-duty vehicles without compromising vehicle performance or safety. *Assessment of Technologies for Improving Light Duty Vehicle Fuel Economy* estimates the potential fuel savings and costs to consumers of available technology combinations for three types of engines: spark-ignition gasoline, compression-ignition diesel, and hybrid. According to its estimates, adopting the full combination of improved technologies in medium and large cars and pickup trucks with spark-ignition engines could reduce fuel consumption by 29 percent at an additional cost of \$2,200 to the consumer. Replacing spark-ignition engines with diesel engines and components would yield fuel savings of about 37 percent at an added cost of approximately \$5,900 per vehicle, and replacing spark-ignition engines with hybrid engines and components would reduce fuel consumption by 43 percent at an increase of \$6,000 per vehicle. The book focuses on fuel consumption--the amount of fuel consumed in a given driving distance--because energy savings are directly related to the amount of fuel used. In contrast, fuel economy measures how far a vehicle will travel with a gallon of fuel. Because fuel consumption data indicate money saved on fuel purchases and reductions in carbon dioxide emissions, the book finds that vehicle stickers should provide consumers with fuel consumption data in addition to fuel economy information.

Multi-time author and well-regarded performance engine builder/designer John Baechtel has assembled the relevant mathematics and packaged it all together in a book designed for automotive enthusiasts. This book walks readers through the complete engine, showcasing the methodology required to define each specific parameter, and how to translate the engineering math to hard measurements reflected in various engine parts. Designing the engine to work as a system of related components is no small task, but the ease with which Baechtel escorts the

reader through the process makes this book perfect for both the budding engine enthusiast and the professional builder.

If you like cars, but you don't know how they work, then This educational resource contains valuable information destined to those who are passionate about cars. You can easily understand and remember the process and every detail. It tackles: A descriptions about the main car parts Aiming to simplify the mechanical operations inside the vehicle, it's supported with simple 3D or real models...to enhance, visualize and associate the car parts with description in a practical way, and how each part works with the rest. After this, a four stroke engine detailed and well explained will inform you about all what you need to know, we make sure that you will easily grasp the whole process.

This leader's guide introduces the Alert Program (AP) to occupational therapists, parents, teachers, and other professionals. AP promotes awareness of how we regulate our arousal states and encourages the use of sensorimotor strategies to manage our levels of alertness. Knowledge of self-regulation and a repertoire of strategies enhance our abilities to learn, interact with others, and work or play within our environment in addition to building self-esteem, self-confidence, and self-monitoring skills. It presents a strong awareness of sensory integration.

The car is one of the most fascinating devices a person can have. Cars are also one of the most popular devices, with a typical American family owning two cars. A car contains dozens of different technologies. Everything from the engine to the tires is its own universe of plan and designing. This book explains most of the complexities of our cars. What you will learn from this book includes the following -How Car Heating And Ventilation Systems Work. -How Automatic Transmissions Work. -How A Torque Converter Works. -How The Braking System Works. -The Engine: How Energy Is Created. -How A Fuel Pump Works. -How A Mechanical Pump Works. -How An Electric Pump Works. -How The Ignition System Works. -How Manual Transmissions (Gearboxes) Work. -How An Engine Cooling System Works. -How The Fan Helps. -How The Steering System Works. -The Engine - How It Drives Its Ancillary Parts. -How The Engine Is Lubricated. -How The Oil Is Pumped. -How A Car Clutch Works. -The Engine: How The Valves Open And Close. -How A Fuel Injection System Works. -How Do Diesel Engines Work. -And many more to unveil... Scroll up and tap the BUY NOW button to get this guide.

In July 2010, the National Research Council (NRC) appointed the Committee to Review the 21st Century Truck Partnership, Phase 2, to conduct an independent review of the 21st Century Truck Partnership (21CTP). The 21CTP is a cooperative research and development (R&D) partnership including four federal agencies-the U.S. Department of Energy (DOE), U.S. Department of Transportation (DOT), U.S. Department of Defense (DOD), and the U.S. Environmental Protection Agency (EPA)-and 15 industrial partners. The purpose of this Partnership is to reduce fuel consumption and emissions, increase heavy-duty vehicle safety, and support research, development, and demonstration to initiate commercially viable products and systems. This is the NRC's second report on the topic and it includes the committee's review of the Partnership as a whole, its major areas of focus, 21CTP's management and priority setting, efficient operations, and the new SuperTruck program.

Describes the systems and parts of gasoline-powered, diesel, electric, hybrid, and alternative propulsion automobiles.

Internal Combustion Engines covers the trends in passenger car engine design and technology. This book is organized into seven chapters that focus on the importance of the in-cylinder fluid mechanics as the controlling parameter of combustion. After briefly dealing with a historical overview of the various phases of automotive industry, the book goes on discussing the underlying principles of operation of the gasoline, diesel, and turbocharged engines; the consequences in terms of performance, economy, and pollutant emission; and of the means available for further development and improvement. A chapter focuses on the automotive fuels of the various types of engines. Recent developments in both the experimental and computational fronts and the application of available research methods on engine design, as well as the trends in engine technology, are presented in the concluding chapters. This book is an ideal compact reference for automotive researchers and engineers and graduate engineering students. Model engineers have been making models of internal combustion engines since the invention of the real thing, but it has always been surrounded by a mystique, and a perceived difficulty that has put many people off. This book shows how any competent model engineer can make a working model petrol engine.

This text, by a leading authority in the field, presents a fundamental and factual development of the science and engineering underlying the design of combustion engines and turbines. An extensive illustration program supports the concepts and theories discussed.

Auto Repair For Dummies, 2nd Edition (9781119543619) was previously published as Auto Repair For Dummies, 2nd Edition (9780764599026). While this version features a new Dummies cover and design, the content is the same as the prior release and should not be considered a new or updated product. The top-selling auto repair guide--400,000 copies sold--now extensively reorganized and updated Forty-eight percent of U.S. households perform at least some automobile maintenance on their own, with women now accounting for one third of this \$34 billion automotive do-it-yourself market. For new or would-be do-it-yourself mechanics, this illustrated how-to guide has long been a must and now it's even better. A complete reorganization now puts relevant repair and maintenance information directly after each automotive system overview, making it much easier to find hands-on fix-it instructions. Author Deanna Sclar has updated systems and repair information throughout, eliminating discussions of carburetors and adding coverage of hybrid and alternative fuel vehicles. She's also revised schedules for tune-ups and oil changes, included driving tips that can save on maintenance and repair costs, and added new advice on troubleshooting problems and determining when to call in a professional mechanic. For anyone who wants to save money on car repairs and maintenance, this book is the place to start. Deanna Sclar (Long Beach, CA), an acclaimed auto repair expert and consumer advocate, has contributed to the Los Angeles Times and has been interviewed on the Today show, NBC Nightly News, and other television programs.

Get Peak Performance from Two-Stroke Engines Do you spend more time trying to start your weed trimmer than you do enjoying your backyard? With this how-to guide, you can win the battle with the temperamental two-stroke engine. Written by long-time mechanic and bestselling author Paul Dempsey, Two-Stroke Engine Repair & Maintenance shows you how to fix the engines that power garden equipment, construction tools, portable pumps, mopeds, generators, trolling motors, and more. Detailed drawings, schematics, and photographs along with step-by-step instructions make it easy to get the job done quickly. Save time and money when you learn how to: Troubleshoot the engine to determine the source of the problem Repair magnetos and solid-state systems--both analog and digital ignition modules Adjust and repair float-type, diaphragm, and variable venturi carburetors Fabricate a crankcase pressure tester Fix rewind starters of all types Overhaul engines--replace crankshaft seals, main bearings, pistons, and rings Work with centrifugal clutches, V-belts, chains, and torque converters

Let's get a little technical when we discuss how electric motors work. In every switch and twitch, physics is at work. We won't bore you with terms you cannot comprehend because we created this book to be age-appropriate for fourth graders. Trace actions and see pictures for easier comprehension. Would you like to create your own electric motors too?

How Cars Work is a completely illustrated primer describing the 250 most important car parts and how they work. This mini test book includes wonderfully simple line drawings and clear language to describe all the automotive systems as well as a glossary, index, and a test after each chapter. How Cars Work provides the basic vocabulary and mechanical knowledge to help a reader talk intelligently with mechanics understand shop manuals, and diagnosis car problems. Tom Newton guides the reader with a one topic per page format that delivers information in bite size chunks, just right for teenage boys.

How Cars Work was the most stolen book at Kennedy High School in Richmond California! Teachers like our title and so do librarians. The History channel, Modern Marvels-2000, Actuality Productions, Inc is

using How Cars Work to train staff for a documentary on automobiles.

Most vehicles run on fossil fuels, and this presents a major emissions problem as demand for fuel continues to increase. Alternative Fuels and Advanced Vehicle Technologies gives an overview of key developments in advanced fuels and vehicle technologies to improve the energy efficiency and environmental impact of the automotive sector. Part I considers the role of alternative fuels such as electricity, alcohol, and hydrogen fuel cells, as well as advanced additives and oils, in environmentally sustainable transport. Part II explores methods of revising engine and vehicle design to improve environmental performance and fuel economy. It contains chapters on improvements in design, aerodynamics, combustion, and transmission. Finally, Part III outlines developments in electric and hybrid vehicle technologies, and provides an overview of the benefits and limitations of these vehicles in terms of their environmental impact, safety, cost, and design practicalities. Alternative Fuels and Advanced Vehicle Technologies is a standard reference for professionals, engineers, and researchers in the automotive sector, as well as vehicle manufacturers, fuel system developers, and academics with an interest in this field. Provides a broad-ranging review of recent research into advanced fuels and vehicle technologies that will be instrumental in improving the energy efficiency and environmental impact of the automotive sector Reviews the development of alternative fuels, more efficient engines, and powertrain technologies, as well as hybrid and electric vehicle technologies

You need an interest in tooling around under the hood to figure out how my car works. Except for replacing my air filters or changing the oil now and then, if I ever had a problem with my car, I'd just take it in to the mechanic and when he came out to explain what was wrong, I nodded politely and pretended like I knew what he was talking about. This book will give you: Get Rid Of Rats In Car Engine: What Are The Parts Of A Car Engine? Car Engine: What Are The Types Of Engines? Powerful Car Engine: How Does The Car Engine Work?

Exploded and Cut Away Diagrams of Internal Combustion Engines to Color. Learn How a Internal Combustion Engine works while you color Great way for the kids to learn. All types of engines, some more complex then others, Domestic and foreign Combustion engines. Nineteen pictures to color. Have fun enjoy learn, Thank You

Now in its fourth edition, Introduction to Internal Combustion Engines remains the indispensable text to guide you through automotive or mechanical engineering, both at university and beyond. Thoroughly updated, clear, comprehensive and well-illustrated, with a wealth of worked examples and problems, its combination of theory and applied practice is sure to help you understand internal combustion engines, from thermodynamics and combustion to fluid mechanics and materials science. Introduction to Internal Combustion Engines: - Is ideal for students who are following specialist options in internal combustion engines, and also for students at earlier stages in their courses - especially with regard to laboratory work - Will be useful to practising engineers for an overview of the subject, or when they are working on particular aspects of internal combustion engines that are new to them - Is fully updated including new material on direct injection spark engines, supercharging and renewable fuels - Offers a wealth of worked examples and end-of-chapter questions to test your knowledge - Has a solutions manual available online for lecturers at [www.palgrave.com/engineering/stone](http://www.palgrave.com/engineering/stone)

Don't be satisfied with just watching your child play with cars. Encourage him/her to understand those little engines better through this picture book. Here, we will be detailing even the tiniest parts of the car engine and how each part works with the rest. This will surely be an exciting book to read. Go ahead and grab a copy now.

Illustrated techniques; for classics, musclecars, hot rods, powerboats or all out race cars.

Excerpt from The Motor Car: A Practical Manual for the Use of Students and Motor Car Owners; With Notes on the Internal Combustion Engine and Its Fuel The information given in this book was originally delivered by the Author in the form of lectures at the Crystal Palace School of Practical Engineering, the Royal United Service Institution, and the Royal Automobile Club. There appeared to be some demand for a practical work on these lines, so his notes have been enlarged for publication. The Author decided to commence at the beginning of the subject, and to explain the evolution which had to take place in internal combustion work before the modern motor car could become a commercial possibility. The fundamental principles governing the action of the engine are discussed under the heading of Gas Engines the action of these larger and somewhat cruder machines is more easy to grasp. About the Publisher Forgotten Books publishes hundreds of thousands of rare and classic books. Find more at [www.forgottenbooks.com](http://www.forgottenbooks.com) This book is a reproduction of an important historical work. Forgotten Books uses state-of-the-art technology to digitally reconstruct the work, preserving the original format whilst repairing imperfections present in the aged copy. In rare cases, an imperfection in the original, such as a blemish or missing page, may be replicated in our edition. We do, however, repair the vast majority of imperfections successfully; any imperfections that remain are intentionally left to preserve the state of such historical works.

The photos in this edition are black and white. There comes a time in every automobile's life when the engine just doesn't perform as it should anymore. It may be burning oil, it may be leaking, the compression may be so low that it only starts on cold days, or maybe it just isn't very efficient anymore. When all of this happens, you have to decide whether to just dump the car and replace it, or add some new life to your old car by rebuilding the engine. Rebuilding the engine in any used car, much less a classic, seems like a much more attractive option when you can save a lot of money by doing it yourself. Sometimes the savings are the difference between keeping your car or letting it go. If you want to keep you car running strong and lasting for years, this is the book for you. A part of CarTech's Workbench Series, "How to Rebuild Any Automotive Engine" covers the basics of any engine rebuild in more than 400 photos of step-by-step instruction. Subjects covered include preparation and tool requirements, engine removal, engine disassembly, machine work and clean-up, short-block assembly, final engine assembly, installation, start-up, and break in. Also visited are the options of purchasing crate engines, remanufactured engines, and performance upgrades. This book applies to all cars on the road that feature an internal combustion engine. Spend a little on this book and save hundreds of dollars down the road.

Vroom! How Does A Car Engine Work for KidsSpeedy Publishing LLC

This book highlights the important need for more efficient and environmentally sound combustion technologies that utilise renewable fuels to be continuously developed and

adopted. The central theme here is two-fold: internal combustion engines and fuel solutions for combustion systems. Internal combustion engines remain as the main propulsion system used for ground transportation, and the number of successful developments achieved in recent years is as varied as the new design concepts introduced. It is therefore timely that key advances in engine technologies are organised appropriately so that the fundamental processes, applications, insights and identification of future development can be consolidated. In the future and across the developed and emerging markets of the world, the range of fuels used will significantly increase as biofuels, new fossil fuel feedstock and processing methods, as well as variations in fuel standards continue to influence all combustion technologies used now and in coming streams. This presents a challenge requiring better understanding of how the fuel mix influences the combustion processes in various systems. The book allows extremes of the theme to be covered in a simple yet progressive way.

This machine is destined to completely revolutionize cylinder diesel engine up through large low speed t- engine engineering and replace everything that exists. stroke diesel engines. An appendix lists the most (From Rudolf Diesel's letter of October 2, 1892 to the important standards and regulations for diesel engines. publisher Julius Springer. ) Further development of diesel engines as economiz- Although Diesel's stated goal has never been fully ing, clean, powerful and convenient drives for road and achievable of course, the diesel engine indeed revolu- nonroad use has proceeded quite dynamically in the tionized drive systems. This handbook documents the last twenty years in particular. In light of limited oil current state of diesel engine engineering and technol- reserves and the discussion of predicted climate ogy. The impetus to publish a Handbook of Diesel change, development work continues to concentrate Engines grew out of ruminations on Rudolf Diesel's on reducing fuel consumption and utilizing alternative transformation of his idea for a rational heat engine fuels while keeping exhaust as clean as possible as well into reality more than 100 years ago. Once the patent as further increasing diesel engine power density and was filed in 1892 and work on his engine commenced enhancing operating performance.

An updated edition of the classic reference on the dynamics of road and off-road vehicles As we enter a new millennium, the vehicle industry faces greater challenges than ever before as it strives to meet the increasing demand for safer, environmentally friendlier, more energy efficient, and lower emissions products. Theory of Ground Vehicles, Third Edition gives aspiring and practicing engineers a fundamental understanding of the critical factors affecting the performance, handling, and ride essential to the development and design of ground vehicles that meet these requirements. As in previous editions, this book focuses on applying engineering principles to the analysis of vehicle behavior. A large number of practical examples and problems are included throughout to help readers bridge the gap between theory and practice. Covering a wide range of topics concerning the dynamics of road and off-road vehicles, this Third Edition is filled with up-to-date information, including: \* The Magic Formula for characterizing pneumatic tire behavior from test data for vehicle handling simulations \* Computer-aided methods for performance and design evaluation of off-road vehicles, based on the author's own research \* Updated data on road vehicle transmissions and operating fuel economy \* Fundamentals of road vehicle stability control \* Optimization of the performance of four-wheel-drive off-road vehicles and experimental substantiation, based on the author's own investigations \* A new theory on skid-steering of tracked vehicles, developed by the author.

Man up and discover the practical and inspirational information all men should know! While it's definitely more than just monster trucks, grilling, and six-pack abs, true manliness is hard to define. The words macho and manly are not synonymous. Taking lessons from classic gentlemen such as Benjamin Franklin and Theodore Roosevelt, authors Brett and Kate McKay have created a collection of the most useful advice every man needs to know to live life to its full potential. This book contains a wealth of information that ranges from survival skills to social skills to advice on how to improve your character. Whether you are braving the wilds with your friends, courting your girlfriend, or raising a family, inside you'll find practical information and inspiration for every area of life. You'll learn the basics all modern men should know, including how to: -Shave like your grandpa -Be a perfect houseguest -Fight like a gentleman using the art of bartitsu -Help a friend with a problem -Give a man hug -Perform a fireman's carry -Ask for a woman's hand in marriage -Raise resilient kids -Predict the weather like a frontiersman -Start a fire without matches -Give a dynamic speech -Live a well-balanced life So jump in today and gain the skills and knowledge you need to be a real man in the 21st century.

If you like cars, but you don't know how they work, then This educational resource contains valuable information destined to those who are passionate about cars. You can easily understand and remember the process and every detail. It tackles: A descriptions about the main car parts Aiming to simplify the mechanical operations inside the vehicle, it's supported with simple 3D or real models...to enhance, visualize and associate the car parts with description in a practical way, and how each part works with the rest. After this, a four stroke engine detailed and well explained will inform you about all what you need to know, we make sure that you will easily grasp the whole process. All books under this author's name have approximately same content.

Considerable international concerns exist about global climate change and its relationship to the growing use of fossil fuels. Carbon dioxide is released by chemical reactions that are employed to extract energy from fuels, and any regulatory policy limiting the amount of CO<sub>2</sub> that could be released from sequestered sources or from energy-generating reactions will require substantial involvement of the chemical sciences and technology R&D community. Much of the public debate has been focused on the question of whether global climate change is occurring and, if so, whether it is anthropogenic, but these questions were outside the scope of the workshop, which instead focused on the question of how to respond to a possible national policy of carbon management. Previous discussion of the latter topic has focused on technological, economic, and ecological aspects and on earth science challenges, but the fundamental science has received little attention. This workshop was designed to gather information that could inform the Chemical Sciences

Roundtable in its discussions of possible roles that the chemical sciences community might play in identifying and addressing underlying chemical questions.

In 1988, IARC classified diesel exhaust as probably carcinogenic to humans (Group 2A). An Advisory Group which reviews and recommends future priorities for the IARC Monographs Program had recommended diesel exhaust as a high priority for re-evaluation since 1998. There has been mounting concern about the cancer-causing potential of diesel exhaust, particularly based on findings in epidemiological studies of workers exposed in various settings. This was re-emphasized by the publication in March 2012 of the results of a large US National Cancer Institute/National Institute for Occupational Safety and Health study of occupational exposure to such emissions in underground miners, which showed an increased risk of death from lung cancer in exposed workers. The scientific evidence was reviewed thoroughly by the Working Group and overall it was concluded that there was sufficient evidence in humans for the carcinogenicity of diesel exhaust. The Working Group found that diesel exhaust is a cause of lung cancer (sufficient evidence) and also noted a positive association (limited evidence) with an increased risk of bladder cancer (Group 1). The Working Group concluded that gasoline exhaust was possibly carcinogenic to humans (Group 2B), a finding unchanged from the previous evaluation in 1989.

[Copyright: 7096dcf7b1bc64559392df6ec2c30dd9](#)