engine ey 15 Handbook

engine ey 15: An In-Depth Overview of the Engine EY 15

The Engine EY 15 is a noteworthy power unit within the automotive and industrial engine markets, recognized for its compact design, reliability, and versatile applications. As a small yet robust engine, the EY 15 has garnered attention among mechanics, hobbyists, and industrial operators alike. This article aims to provide a comprehensive overview of the Engine EY 15, exploring its technical specifications, history, applications, maintenance tips, and advantages. Whether you are considering this engine for a project or seeking to deepen your understanding, this guide offers valuable insights into the Engine EY 15.

History and Development of the Engine EY 15

Origins and Manufacturer

The Engine EY 15 originated from the manufacturing lineage of reputable engine producers who specialized in small-displacement engines for various applications. While specific details about its initial development can vary depending on the manufacturer, it is generally associated with brands focusing on reliable, lightweight engines suitable for lawn equipment, small machinery, and auxiliary power units.

Design Philosophy

Designed with simplicity and durability in mind, the EY 15 was developed to meet the needs of users requiring dependable power in compact sizes. Its development emphasized ease of maintenance, fuel efficiency, and consistent performance under diverse operational conditions.

Technical Specifications of the Engine EY 15

Engine Type and Configuration

- Type: Single-cylinder, 4-stroke
- Cooling System: Air-cooled
- Cylinder Capacity: Approximately 149cc (hence the ?15? designation, often reflecting the engine's approximate horsepower or model number, depending on the manufacturer)
- Power Output: Typically around 3 to 4 horsepower (varies by model and application)
- Ignition System: Magneto or CDI-based ignition

- Starting Method: Recoil start (pull-start) or electric start in some variants

Physical Dimensions and Weight

- Dimensions: Compact, generally around 350mm x 300mm x 250mm
- Weight: Ranges from 12kg to 20kg depending on configuration

Fuel and Lubrication

- Fuel Type: Unleaded gasoline (often 87 octane)
- Fuel Tank Capacity: Around 0.6 to 1 liter
- Lubrication: SAE 10W-30 or similar engine oil, with capacities of approximately 0.6 liters

Applications of the Engine EY 15

Industrial Uses

The EY 15 engine is commonly used in various industrial applications due to its durability:

- Generators: Powering small to medium portable generators
- Water Pumps: Driving centrifugal or reciprocating water pumps
- Compactors: As the power source for vibration plates and tampers
- Construction Equipment: Small concrete mixers, saws, and other machinery

Agricultural and Lawn Equipment

- Lawnmowers: Particularly in ride-on or larger commercial mowers
- Leaf Blowers and Vacuums: Small handheld or backpack units
- Tillers and Cultivators: Small-scale farming implements

Hobbyist and Custom Projects

- Go-Karts: As the main power unit
- Custom Machinery: DIY projects requiring small, reliable engines
- Model Engineering: For hobby engines and prototypes

Advantages of the Engine EY 15

- **Reliability:** Known for consistent performance over extended periods.
- **Ease of Maintenance:** Simple design allows for straightforward servicing and repairs.
- **Cost-Effectiveness:** Affordable purchase and maintenance costs make it attractive for budget-conscious users.
- **Versatility:** Suitable for a wide range of applications, from industrial to hobbyist projects.
- **Compact Size and Light Weight:** Easy to install and transport, ideal for portable equipment.

Maintenance and Troubleshooting of the Engine EY 15

Regular Maintenance Tasks

- Oil Changes: Every 25-50 hours of operation; use recommended SAE 10W-30 oil.
- Air Filter Replacement: Check regularly; clean or replace as needed to ensure proper airflow.
- Spark Plug Inspection: Clean or replace every 100 hours to maintain efficient ignition.
- Fuel System Checks: Ensure fuel lines are free of cracks or leaks; use fresh fuel to prevent carburetor clogging.
- Cooling Fins Cleaning: Keep cooling fins clean to prevent overheating.

Common Troubleshooting Issues

- Engine Won't Start

- Check fuel supply and quality
- Inspect spark plug and ignition system
- Ensure recoil or electric start mechanism functions

- Loss of Power

- Clean or replace air filter
- Check for carburetor clogs
- Inspect spark plug condition

- Overheating

- Remove debris from cooling fins
- Avoid overloading the engine
- Verify proper lubrication

- Unusual Vibrations or Noises

- Tighten mounting bolts
- Inspect internal components for wear or damage
- Ensure proper alignment of connected equipment

Comparison with Similar Engines

Engine EY 15 vs. Other Small Engines

Feature	Engine EY 15	Competitor Engine A	Competitor Engine B
Displacement	~149cc	150cc	140cc
Power	3.5 HP	4 HP	3 HP
Cooling	Air-cooled	Air-cooled	Liquid-cooled
Start Type	Recoil	Electric & recoil	Recoil
Weight	~15kg	17kg	14kg
Applications	Generators, pumps, tillers	Similar	Similar

Note: The specific features vary depending on the manufacturer and model year; always check manufacturer specifications for precise comparison.

Future Trends and Developments Related to the Engine EY 15

Eco-Friendly Innovations

Manufacturers are increasingly focusing on enhancing engine efficiency and reducing emissions. The EY 15 models are expected to incorporate:

- Advanced Carburetion Systems: For cleaner combustion
- Catalytic Converters: To meet stricter emission standards
- Fuel Efficiency Improvements: To extend operational time

Integration with Modern Technologies

Emerging trends include:

- Smart Monitoring: Sensors that provide real-time performance data
- Electric Start Upgrades: For increased convenience
- Hybrid Systems: Combining small internal combustion engines with electric power for better efficiency

Conclusion

The Engine EY 15 stands out as a reliable, versatile, and economical power source suitable for a broad spectrum of applications. Its simple design, ease of maintenance, and consistent performance make it a preferred choice among hobbyists, small-scale farmers, and industrial operators. As technological advancements continue to evolve, the EY 15 and similar engines are poised to incorporate greener technologies and smarter features, ensuring their relevance in the future. Whether for powering small equipment or engaging in creative projects, the Engine EY 15 exemplifies the enduring value of well-engineered small engines.

Note: For specific technical details, maintenance procedures, or application guidance, always consult the manufacturer?s manual or authorized service providers.

Engine EY 15: A Comprehensive Overview of the Innovative Powertrain

Engine EY 15 has garnered considerable attention within the automotive and engineering communities due to its innovative design, performance capabilities, and potential applications. As the automotive industry continues to evolve with a focus on efficiency, sustainability, and advanced technology, engine models like the EY 15 exemplify the strides being made toward more refined and adaptable powertrains. This article delves into the technical intricacies, design philosophy, operational advantages, and future prospects of the Engine EY 15, offering readers a thorough understanding of this significant development.

Introduction to the Engine EY 15

The Engine EY 15 is a compact, high-performance internal combustion engine developed primarily for light-duty vehicles, including compact cars, motorcycles, and small commercial units. Rooted in innovative engineering principles, the EY 15 aims to balance power output with fuel efficiency, environmental compliance, and ease of manufacturing. Its design integrates modern materials, advanced combustion techniques, and modular architecture to meet the demands of contemporary mobility.

Originally introduced by a consortium of automotive manufacturers and research institutions, the EY 15 represents a strategic move toward more sustainable internal combustion engines that can complement electrification efforts while maintaining versatility and affordability.

Technical Specifications of the EY 15

Understanding the technical specifications of the EY 15 provides insight into its capabilities and potential applications. The key parameters include:

- Displacement: 1.5 liters (hence the '15' in the name)
- Configuration: Inline-4 cylinder
- Valvetrain: Double overhead camshaft (DOHC) with variable valve timing
- Fuel System: Multi-point fuel injection (MPI)
- Compression Ratio: 11.5:1
- Maximum Power Output: Approximately 110 horsepower at 6,000 rpm
- Maximum Torque: 140 Nm at 4,000 rpm
- Fuel Economy: Estimated 16-20 km/l (kilometers per liter), depending on tuning and vehicle application
- Emission Standards Compliance: Euro 6/VI standards

These specifications position the EY 15 as a competitive option in the small engine segment, emphasizing efficiency without sacrificing performance.

Design Philosophy and Engineering Innovations

The development of the EY 15 was driven by a core design philosophy: to create an engine that is lightweight, efficient, and adaptable. Several engineering innovations underpin this philosophy:

- Modular Architecture

The EY 15's engine block adopts a modular design that simplifies manufacturing and allows for easy customization. This modularity enables manufacturers to adapt the engine for various models, from compact cars to small commercial vehicles, by adjusting components like intake manifolds, turbochargers, or fuel injection systems.

- Advanced Combustion Techniques

The engine employs a combination of direct and multi-point fuel injection strategies to optimize combustion efficiency. Variable valve timing further enhances performance across different RPM ranges, reducing emissions and improving fuel economy.

- Lightweight Materials

Utilizing lightweight alloys and high-strength plastics in non-critical components reduces overall engine weight. This not only improves vehicle handling and acceleration but also contributes to lower emissions and fuel consumption.

- Turbocharging and Intercooling Options

While naturally aspirated versions are common, the EY 15 can be equipped with a small turbocharger and intercooler system, boosting power output without significantly increasing fuel consumption or emissions.

- Integrated Cooling and Lubrication Systems

Efficient cooling channels and advanced lubrication reduce wear and extend engine lifespan, ensuring reliability in demanding conditions.

Performance and Efficiency Analysis

The EY 15's performance metrics reveal a balanced focus on power delivery and fuel economy. Its inline-4 configuration provides smooth operation and reduces vibration, which enhances driving comfort and reduces maintenance costs. The variable valve timing system adapts to driving conditions, optimizing intake and exhaust processes for maximum efficiency.

Fuel Economy and Environmental Impact

With an estimated range of 16-20 km/l, the EY 15 demonstrates impressive fuel economy for its class. Its compliance with Euro 6/VI standards means it emits significantly lower levels of nitrogen oxides (NOx), particulate matter, and hydrocarbons, aligning with global efforts to reduce vehicular pollution.

Power Delivery and Driving Experience

110 horsepower and 140 Nm torque enable small vehicles powered by the EY 15 to accelerate confidently and handle urban driving with ease. The engine's responsiveness, combined with its lightweight design, results in nimble maneuverability and a satisfying driving experience.

Reliability and Durability

Engineers have prioritized durability through the use of corrosion-resistant components, high-quality lubricants, and precision manufacturing. Field tests indicate a lifespan compatible with industry standards, with routine maintenance ensuring long-term reliability.

Applications and Market Position

The versatility of the EY 15 makes it suitable for a broad spectrum of vehicles and markets:

- Compact Cars

Major automakers utilize the EY 15 in their subcompact and city car models, capitalizing on its efficiency and compact size to appeal to urban dwellers seeking economical transportation.

- Motorcycles and Light Commercial Vehicles

The engine's modular design allows adaptation for motorcycles and small vans, providing power and efficiency in lightweight applications.

- Hybrid and Alternative Powertrain Systems

Innovative integrations of the EY 15 with hybrid systems are under development, aiming to combine internal combustion and electric propulsion for enhanced efficiency.

- Emerging Markets

Given its affordability and compliance with stringent emission standards, the EY 15 is positioned as a suitable powertrain for emerging markets where cost and environmental considerations are paramount.

Market Positioning

While competing with other 1.5-liter engines from manufacturers like Toyota, Honda, and Hyundai, the EY 15 distinguishes itself through its modularity, advanced combustion features, and adaptability, making it a flexible choice for diverse vehicle platforms.

Future Developments and Prospects

The automotive industry?s shift toward electrification does not diminish the relevance of internal combustion engines like the EY 15. Instead, continuous improvements and hybrid integrations are expected to extend its relevance.

- Hybridization and Electrification

Research is underway to incorporate mild-hybrid technology with the EY 15, utilizing small electric motors and regenerative braking to improve efficiency further and reduce emissions.

- Alternative Fuels

Developments in biofuels and synthetic fuels could see the EY 15 adapted for alternative fuel use, aligning with global efforts to reduce reliance on fossil fuels.

- Autonomous and Connected Vehicles

The engine's electronic control systems are compatible with advanced vehicle management systems, facilitating integration into autonomous and connected vehicle platforms.

- Sustainability and Recycling

Manufacturers are exploring eco-friendly materials for engine components and recyclable lubricants to enhance the engine?s sustainability profile.

Final Thoughts

The **Engine EY 15** exemplifies a strategic approach to modern internal combustion engine design?balancing performance, efficiency, and adaptability. Its modular architecture, advanced combustion technology, and environmental compliance position it as a viable powertrain for current and future vehicle applications. While the automotive industry navigates the transition toward electrification, innovations like the EY 15 demonstrate that internal combustion engines remain relevant, especially when optimized to meet stringent standards and diverse market needs.

As manufacturers continue to refine and adapt the EY 15, its role in sustainable, efficient mobility solutions will likely expand, offering a bridge to a more environmentally friendly transportation landscape. Whether powering a city car, a motorcycle, or a commercial vehicle, the EY 15?s blend of engineering excellence and practical design makes it a noteworthy development in the evolving realm of automotive powertrains.

bmw m42 engine number location

BMW M42 engine number location is a common query among car enthusiasts, restorers, and mechanics working on classic BMW models. Knowing where to find the engine number on the BMW M42 is essential for tasks such as verifying authenticity, sourcing parts, registering the vehicle, or performing detailed maintenance. The M42 engine, produced in the late 1980s and early 1990s, is a 1.8-liter inline-4 engine renowned for its reliability and smooth performance. In this article, we will explore the exact location of the BMW M42 engine number, how to identify it, and tips for reading and recording this vital information.

Understanding the BMW M42 Engine

Before diving into the specifics of the engine number location, it?s helpful to understand what the BMW M42 engine is and its significance in BMW history.

Overview of the BMW M42

The BMW M42 was introduced in 1989 as a successor to the M40 engine. It featured double overhead camshafts (DOHC), electronic fuel injection, and an aluminum cylinder head, making it a modern and efficient engine for its time. It powered several BMW models, including the E30 316i and 318i.

Importance of the Engine Number

The engine number (also known as the engine serial number or engine ID) is a unique identifier

stamped onto the engine block. It helps verify the engine's originality, production details, and authenticity, especially important for classic car collectors and restorers.

Locating the BMW M42 Engine Number

The engine number on the BMW M42 is typically stamped directly onto the engine block. Its precise location is crucial for accurate identification.

Primary Location of the Engine Number

The most common and accessible location to find the BMW M42 engine number is on the engine block, specifically:

- **On the timing cover side:** Usually on the front of the engine block, near the timing chain cover.
- **Near the cylinder head:** Sometimes stamped on the surface just below or adjacent to the intake manifold.
- **On the engine block surface:** Close to the oil filter housing or on the cylinder block's side.

How to Locate the Engine Number on Your BMW M42

Follow these step-by-step instructions:

- **Ensure safety:** Turn off the engine, remove the key, and allow the engine to cool to prevent burns or injuries.
- **Open the hood:** Access the top of the engine compartment for better visibility.
- **Locate the timing cover:** The timing chain cover is at the front of the engine, directly accessible when the hood is open.
- **Inspect the area:** Look for a stamped or engraved series of characters on the flat surface of the timing cover or nearby engine block area.
- **Clean the surface if necessary:** Use a clean cloth or brush to remove dirt or grease that may obscure the stamping.
- **Identify the engine number:** The engine number will typically be a sequence of letters and numbers, often starting with a letter indicating the model or engine type.

Additional Locations and Tips for Finding the Engine Number

While the primary location is on the timing cover, some models or manufacturing variations may have the engine number stamped elsewhere.

Other Possible Locations

Depending on the specific BMW M42 model and production year, the engine number may also be found:

- On the side of the engine block near the oil filter housing
- On the rear of the engine block, accessible from underneath or through the wheel well
- Stamped onto the cylinder head or intake manifold area

Tips for Accurate Reading

To ensure you correctly identify the engine number:

- Use a flashlight if needed to illuminate darker areas.
- Clean the surface thoroughly to remove dirt, grime, or paint that may hide the stamping.
- Compare the stamped number with documentation or vehicle registration papers for verification.
- If the stampings are difficult to read, use a mirror or take a high-resolution photograph for better clarity.

Understanding the Engine Number Format

The BMW M42 engine number typically contains a sequence of characters providing information such as production date, factory, and serial sequence.

Common Format and Meaning

While formats can vary, a typical engine number might look like: *0 261 200 123* or similar, with specific segments indicating:

- Factory code
- Production year and month
- Serial sequence number

Knowing how to interpret the engine number can be useful when verifying engine originality or sourcing parts.

Why Knowing the BMW M42 Engine Number Matters

Understanding the location and significance of the engine number offers multiple benefits:

Verification of Authenticity

Ensuring that the engine matches the vehicle's documentation and original specifications.

Facilitating Repairs and Maintenance

Accurate identification helps sourcing the correct parts and understanding the engine's production details.

Resale and Valuation

A verifiable engine number adds credibility and value during resale.

Historical Records and Restoration

Maintaining accurate records for restoration projects or historical documentation.

Conclusion

The **BMW M42 engine number location** is primarily on the front of the engine block, near the timing chain cover. Properly locating and reading the engine number is essential for verifying engine authenticity, sourcing correct parts, and maintaining your vehicle's history. By following the step-by-step guide outlined above, you can confidently identify the engine number on your BMW M42 engine. Remember to always handle engine components carefully, ensure the engine is cool, and keep documentation handy for comparison. Whether you're restoring a classic BMW or performing routine maintenance, knowing where to find your engine?s unique identifier is a fundamental step toward proper vehicle care and preservation.

BMW M42 Engine Number Location: A Comprehensive Guide

The BMW M42 engine holds a special place in automotive history as one of the company's notable four-cylinder powerplants introduced in the late 1980s. Renowned for its reliability, performance, and engineering sophistication, the M42 has become a popular choice among enthusiasts and restorers. For those working on vintage BMW models, whether for maintenance, restoration, or resale purposes, locating the engine number accurately is crucial. This article provides an in-depth overview of the BMW M42 engine number location, offering practical insights for mechanics, hobbyists, and collectors alike.

Understanding the BMW M42 Engine

Before diving into the specifics of the engine number location, it's essential to grasp the context of the BMW M42 engine itself.

What is the BMW M42?

The BMW M42 is a four-cylinder inline engine produced from 1989 to 1996. It was designed as a successor to the BMW M40 engine and was used primarily in the E30 3 Series models, including the 318i and 318is. The M42 is notable for its dual overhead camshaft (DOHC) configuration, electronic fuel injection, and lightweight construction, making it a favorite among enthusiasts looking for a balance of performance and efficiency.

Key Specifications:

- Displacement: 1.8 liters (1796 cc)
- Power Output: Approximately 138 horsepower
- Configuration: Inline 4-cylinder
- Fuel System: Bosch LE-Jetronic fuel injection
- Bore x Stroke: 84 mm x 81 mm

Significance of the Engine Number

The engine number serves as a unique identifier for each engine produced. It is vital for several reasons:

- Verification of authenticity: Ensures the engine is genuine and matches the vehicle's documentation.
- Maintenance and repair: Facilitates ordering the correct parts specific to that engine.
- Resale and valuation: Helps establish the engine's originality and history.
- Theft prevention: Assists authorities in tracking stolen engines.

Knowing the precise location of the engine number is fundamental for accurate identification.

BMW M42 Engine Number Location: The Key Areas

The engine number on the BMW M42 is typically stamped or engraved in specific locations. Depending on the vehicle's age, manufacturing plant, and model year, the exact position may vary slightly. However, the most common and reliable locations are detailed below.

Primary Location: The Timing Cover Area

The most accessible and consistent location for the M42 engine number is on the timing cover, also known as the front engine block.

Details:

- Position: On the front of the engine block, just above the crank pulley and below the cylinder head.
- Appearance: The number is usually stamped or engraved directly into the metal surface, often on a flat section of the timing cover.
- Procedure to access: It may require removing a plastic cover or components such as the fan or belts for clear visibility.

Visual Indicators:

- The engine number is often a combination of letters and digits, such as "M42 1234567."
- It is stamped deeply enough to withstand cleaning and engine wear processes.

Secondary Location: The Engine Block Side

In some models or production years, the engine number can also be found on the left side of the engine block, near the timing chain cover.

Details:

- Position: Visible when looking directly at the side of the engine, typically on the engine block's flat surface.
- Appearance: Engraved or stamped into the metal surface, sometimes covered with a thin layer of paint or grime.
- Access: Might require removing or cleaning surrounding components for a clear view.

Note: This location is less common but is still worth checking, especially in older or earlier production models.

How to Locate the M42 Engine Number: Step-by-Step Guide

For enthusiasts and mechanics, here is a practical step-by-step process to locate the engine number on an M42 engine:

- Ensure Safety and Access

- Turn off the engine and allow it to cool.
- Disconnect the battery if necessary.
- Remove the hood for unobstructed access to the engine bay.

- Identify the Timing Cover

- Locate the front of the engine, where the timing chain and belt are housed.
- The timing cover is usually a plastic or metal cover just above the crank pulley.

- Clear the Area

- Remove any plastic covers, belts, or accessories blocking the view.
- Use a clean cloth or brush to remove dirt, grease, or debris around the area.

- Locate the Stamp or Engraving

- Look for a series of characters stamped into the metal surface.
- The number is often located on a flat, visible section of the timing cover.

- Record the Number

- Use a camera or note down the number for future reference.
- Confirm that the number matches the vehicle?s documentation.

Additional Tips for Accurate Identification

- Clean the Surface: If the engine number is obscured by dirt or grime, gently clean the area with a degreaser or brake cleaner.
- Use Proper Lighting: A flashlight can help illuminate the stamping area for easier reading.

- Consult the Owner?s Manual: Some manuals provide specific guidance on engine number locations.
- Seek Professional Help: If unsure or unable to locate the number, a qualified mechanic or BMW specialist can assist.

Common Challenges and Solutions

Challenge 1: Obscured or Faded Number

- Solution: Carefully clean the area, avoiding damage to the stamping.

Challenge 2: Damaged or Illegible Stampings

- Solution: Consult a professional for possible re-stamping or verification through other VIN data.

Challenge 3: Variations in Location

- Solution: Cross-reference with the vehicle?s production year and model to narrow down the search area.

Importance of the Engine Number for Collectors and Restorers

For enthusiasts restoring classic BMWs, the engine number is not just a technical detail but a vital part of the vehicle's history. Authenticity can significantly influence a car?s value, especially if the engine matches the original specifications.

- Matching Numbers: Ensures the engine is original to the vehicle.
- Registration and Documentation: Necessary for legal registration or verification.
- Historical Research: Helps trace the engine?s manufacturing details and service history.

Final Thoughts

Locating the BMW M42 engine number is a straightforward but essential task for anyone involved with these classic engines. Primarily situated on the front timing cover, the engine number provides critical identification data that can aid in maintenance, restoration, and verification processes. By following the outlined steps and tips, enthusiasts and mechanics can confidently find and record the engine number, ensuring their BMW M42 remains a well-documented and cherished part of

automotive history.

Whether you're restoring a vintage BMW, verifying an engine?s authenticity, or preparing for maintenance, knowing the precise location of the M42 engine number is an invaluable piece of knowledge that supports all your automotive endeavors.

QuestionAnswer Where is the engine number located on a BMW M42 engine? The engine number on a BMW M42 is typically located on the engine block, near the timing cover or on the cylinder head, often stamped into the metal surface. How can I identify the engine number on my BMW M42? You can identify the engine number by inspecting the side of the engine block, usually on the cylinder head or the timing cover area, where it is stamped or engraved. Is the BMW M42 engine number the same as the VIN? No, the engine number is different from the VIN. The engine number is specific to the engine itself and is used for identification and registration purposes. Can I find the BMW M42 engine number in the vehicle's registration documents? Typically, the vehicle registration documents list the VIN rather than the engine number. To find the engine number, you need to inspect the engine physically. What tools do I need to locate the BMW M42 engine number? You may need a flashlight and a mirror to see into tight spots, along with a clean cloth to wipe away dirt for a clear view of the stamped engine number. Why is it important to know the location of the BMW M42 engine number? Knowing the engine number is important for identification, maintenance, verifying authenticity, and when ordering parts or registering the vehicle. Are there any visual differences in the engine number location between different BMW M42 models? While the general location remains consistent, minor differences may exist depending on the model year or specific vehicle setup, so consulting a repair manual can help. How do I verify that the engine number on my BMW M42 is genuine? Compare the stamped engine number with official records or documentation from BMW. Also, ensure the stamping appears authentic and not tampered with. Can I find the BMW M42 engine number online or through a database? Some BMW enthusiast forums or official BMW databases may help you verify engine numbers, but physical inspection of the engine is the most reliable method.

Related keywords: BMW M42 engine number, M42 engine identification, BMW engine number location, M42 engine code, BMW engine serial number, M42 engine specs, BMW engine stamping, M42 engine markings, BMW engine identification guide, M42 engine details

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