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E3 E3.16

E3.16 Lawn and Garden Spark Plug Instruction Manual

Brand: E3 | Model: E3.16

1. PRODUCT OVERVIEW

The E3.16 Spark Plug is engineered to deliver superior performance for a wide range of small engine applications, including lawnmowers, chainsaws, generators, and other garden equipment. Its patented DiamondFIRE Technology is designed to optimize combustion, leading to enhanced power, improved fuel efficiency, and reduced emissions.



Figure 1: E3.16 Spark Plug in its retail packaging, highlighting key benefits like quicker starts, more power, fuel savings, and reduced emissions.



Figure 2: A detailed view of the E3.16 Spark Plug, showcasing its unique electrode design and ceramic insulator.



Figure 3: An extreme close-up of the E3.16's patented DiamondFIRE electrode, illustrating the multiple sharp edges designed for optimal spark discharge.

Key Features:

- **Versatile Compatibility:** Designed to fit a wide range of small engine applications, ensuring broad utility.
- **Enhanced Power & Fuel Efficiency:** DiamondFIRE Technology can improve engine power by 4%-12% and reduce fuel consumption by 3%-13%, depending on the engine class.
- **Improved Emission Control:** Contributes to a cleaner environment with up to a 58% reduction in harmful hydrocarbon emissions.
- **Increased Durability:** Minimizes carbon deposits, extending the lifespan of both the spark plug and the engine.
- **Consistent Performance:** The unique electrode design ensures a reliable spark throughout the plug's lifetime.

Product Video:

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Video 1: An informational video from E3 Spark Plugs, demonstrating the benefits and technology behind their DiamondFIRE spark plugs for lawn and garden equipment. This video provides a visual explanation of how the unique electrode design contributes to improved engine performance and longevity.

2. SETUP AND INSTALLATION

Proper installation of your E3.16 spark plug is crucial for optimal performance and engine longevity. Always refer to your engine's specific service manual for detailed instructions and safety precautions.

Safety Precautions:

- Ensure the engine is cool and turned off before beginning any work.
- Disconnect the spark plug wire to prevent accidental starting.
- Wear appropriate safety gear, including gloves and eye protection.

Installation Steps:

1. **Locate the Spark Plug:** Identify the spark plug on your engine. It is typically covered by a rubber boot or cap.
2. **Remove the Old Plug:** Carefully pull the spark plug wire boot off the old spark plug. Use a spark plug wrench or socket to loosen and remove the old plug. Turn counter-clockwise.
3. **Inspect the Old Plug:** Examine the old spark plug for signs of wear, carbon buildup, or oil fouling. This can provide insights into your engine's health.
4. **Install the New E3.16 Plug:** E3 spark plugs are pre-gapped and do not require adjustment. Carefully thread the new E3.16 spark plug into the engine by hand to avoid cross-threading.
5. **Tighten the Plug:** Once hand-tight, use a spark plug wrench to tighten the plug. Refer to your engine manual for specific torque specifications. As a general guideline, for a 14mm plug, tighten approximately 1/2 to 2/3 of a turn past finger tight for new plugs with gaskets, or 1/16 of a turn for plugs without gaskets. Do not overtighten.
6. **Reconnect the Wire:** Firmly push the spark plug wire boot back onto the new E3.16 spark plug until it clicks into place.

3. OPERATING PRINCIPLES

The E3.16 spark plug utilizes its unique DiamondFIRE electrode design to create a more efficient and powerful spark. Unlike traditional J-wire plugs that fire from a single point, the E3 design features multiple sharp edges that encourage the spark to jump to various points. This dynamic spark path offers several operational advantages:

- **Optimized Flame Front:** The open design of the DiamondFIRE electrode exposes the flame front more directly to the piston head, promoting a more complete and rapid combustion of the fuel-air mixture.
- **Reduced Misfires:** The consistent and robust spark minimizes misfires, leading to smoother engine operation and more reliable starting, even in challenging conditions.
- **Improved Throttle Response:** Enhanced combustion efficiency translates to better power delivery and more responsive acceleration.
- **Self-Cleaning Properties:** The design helps to reduce carbon buildup on the electrode, maintaining optimal performance over time.

4. MAINTENANCE

While E3 spark plugs are designed for extended life and consistent performance, periodic inspection is recommended to ensure your engine continues to run at its best. The E3.16 spark plug is engineered to resist carbon buildup, which is a common issue with conventional spark plugs.

Inspection and Replacement:

- **Visual Inspection:** Periodically remove the spark plug and visually inspect the electrode for any signs of damage, excessive wear, or unusual deposits. While E3 plugs are designed to minimize carbon, extreme engine conditions can still affect them.
- **No Gapping Required:** E3 spark plugs are factory-set and do not require gapping. Attempting to gap an E3 plug can damage the electrode and void the warranty.
- **Replacement Interval:** E3 spark plugs are built for durability. Replace your E3.16 spark plug according to your engine manufacturer's recommended service intervals, or if you notice a significant decline in engine performance, fuel efficiency, or an increase in emissions.
- **Cleanliness:** Keep the area around the spark plug clean during installation and inspection to prevent debris from entering the engine cylinder.

5. TROUBLESHOOTING

If you experience issues with your small engine, the spark plug can sometimes be a contributing factor. Here are some common problems and troubleshooting tips related to spark plugs:

Common Issues & Solutions:

Problem	Possible Cause	Solution
Engine Hard to Start	Worn or fouled spark plug; incorrect installation.	Inspect spark plug for wear/deposits. Replace if necessary. Ensure proper installation and connection.
Engine Misfires or Runs Rough	Damaged or fouled spark plug; improper fuel mixture.	Check spark plug condition. Verify fuel quality and mixture. Consult engine manual for fuel requirements.
Reduced Engine Power	Inefficient combustion due to spark plug issues.	Replace spark plug. Ensure other engine components (air filter, carburetor) are clean and functioning.

Problem	Possible Cause	Solution
Excessive Emissions	Incomplete combustion.	Replace spark plug. Check engine tuning and fuel system.

If troubleshooting steps do not resolve the issue, it may indicate a problem beyond the spark plug. In such cases, it is recommended to consult a qualified small engine mechanic.

6. SPECIFICATIONS

The following table provides the technical specifications for the E3.16 Lawn and Garden Spark Plug:

Specification	Value
Model Name	E3 Spark Plugs E3.16 Lawn and Garden Spark Plug w/DiamondFIRE Technology (Pack of 1)
OEM Part Number	E3.16
Brand	E3
Thread Size	14 millimeters
Gap Size	0.03 Inches (Pre-gapped)
Core Material	Copper
Top Material Type	Alloy Steel
Vehicle Service Type	Lawn & Garden Equipment
Item Weight	1.5 Ounces
UPC	894489000169
Cross-Reference	Champion DJ6, DJ6J, DJ6Y, DJ8, RDJ6J, RDJ7J, RDJ7Y, RDJ8J, 5847, 5851; NGK BM6F, BM6FY, BM7F, BPM6F, BPMR6F

7. WARRANTY AND SUPPORT

Warranty Information:

The E3.16 Spark Plug comes with a **limited lifetime warranty**. This warranty covers defects in materials and workmanship under normal use. For specific details regarding the terms and conditions of the warranty, please refer to the official E3 Spark Plugs website or contact their customer service.

Customer Support:

For further assistance, technical support, or warranty claims, please contact E3 Spark Plugs customer service through their official website or the contact information provided on the product packaging. You can also visit the [E3 Store on Amazon](#) for more product information and resources.

