

Orion Motor Tech FBA-MFK202200

Orion Motor Tech Engine Compression Tester Kit (Pro Set)

Instruction Manual for Model FBA-MFK202200

1. INTRODUCTION AND OVERVIEW

This manual provides detailed instructions for the safe and effective use of your Orion Motor Tech Engine Compression Tester Kit (Pro Set). This 9-piece kit is designed for checking the cylinder condition of gasoline engines, offering essential tools including a pressure gauge, a spark plug tester, and various adapters.

The kit is suitable for a wide range of vehicles and equipment, including cars, trucks, ATVs, UTVs, motorcycles, and lawnmowers, facilitating accurate engine diagnostics.



Image 1: Orion Motor Tech Engine Compression Tester Kit (Pro Set) components in storage case.

2. WHAT'S IN THE BOX

Your Orion Motor Tech Engine Compression Tester Kit (Pro Set) includes the following components:

- Pressure Gauge (with quick-release valve)
- Push-On Connector (straight)
- Push-On Connector (angled)
- 4 Threaded Adapters (10mm, 12mm, 14mm, 18mm)
- Flexible Extension Hose (16.9 inches)
- Spark Plug Tester
- Storage Case



Image 2: Complete contents of the kit.

3. SETUP AND ASSEMBLY

Before performing any tests, ensure the engine is cool and the ignition is off. Always wear appropriate safety gear, including gloves and eye protection.

1. **Prepare the Engine:** Remove all spark plugs from the engine. Disconnect the ignition system to prevent accidental starting.
2. **Select Adapter:** Identify the correct threaded adapter that matches the spark plug hole of the cylinder you intend to test. If a direct threaded connection is not feasible, use the appropriate push-on connector

(straight or angled) with the flexible extension hose.

3. **Assemble Gauge:** Connect the selected adapter or push-on connector to the flexible extension hose, and then connect the hose to the pressure gauge. Ensure all connections are secure to prevent pressure leaks.



CUSTOM OPERATION

Flexible Setup Cover All Your Diagnostic Needs



Use with
Straight Connector



Use with
Angled Connector



Use with **Extension Hose
& Right Adapter**

Image 3: Various connection methods for the compression gauge.


4. OPERATING INSTRUCTIONS

4.1 Performing a Compression Test

1. **Insert Tester:** Thread the assembled compression tester into the spark plug hole of the cylinder to be

tested. Hand-tighten only; do not overtighten. For push-on connectors, firmly press the rubber cone into the spark plug hole.

2. **Crank Engine:** Have an assistant crank the engine for 5-7 compression strokes (or until the gauge needle stops rising). Ensure the throttle is wide open during cranking for accurate readings.
3. **Read Pressure:** Note the reading on the pressure gauge. The gauge features triple calibrated readings (PSI, Bar, kg/cm²) for versatility.
4. **Release Pressure:** Press the pressure release valve on the gauge to reset it to zero.
5. **Repeat for All Cylinders:** Repeat the process for all remaining cylinders. Compare the readings to the manufacturer's specifications for your engine. Consistent readings across cylinders are generally more important than absolute values.



**PROFESSIONAL
CYLINDER PRESSURE GAUGE KIT**

Easily Diagnose Engine Issues
with Accurate Compression Tests

DURABLE
Aluminum Alloy

**TIME
&
EFFORT**
Saving

4.2 Using the Spark Plug Tester

The included spark plug tester helps diagnose ignition system issues by visually confirming spark presence and intensity.

1. **Disconnect Spark Plug Wire:** Remove the spark plug wire from the spark plug.
2. **Connect Tester:** Insert the metal end of the spark plug tester into the spark plug boot. Connect the other end of the tester to a good engine ground (e.g., a metal part of the engine block).
3. **Crank Engine:** Crank the engine and observe the tester. A visible spark inside the tester indicates the ignition system is producing a spark. The color and intensity of the spark can provide further diagnostic clues.



Image 5: Spark plug tester in use.

5. MAINTENANCE

Proper maintenance ensures the longevity and accuracy of your compression tester kit.

- **Cleaning:** After each use, wipe down all components with a clean, dry cloth. Avoid using harsh chemicals that could damage the rubber or metal parts.
- **Storage:** Store the kit in its original protective case in a dry, cool place, away from direct sunlight and extreme temperatures.
- **O-Rings:** Periodically inspect the O-rings on the adapters and hoses for wear or damage. Replace them

if necessary to maintain a proper seal during testing. The brass core construction is designed for resilience against wear and corrosion.



Image 6: Key features including push-on connectors, O-rings, and pressure release valve.

6. TROUBLESHOOTING

If you encounter issues during testing, consider the following:

- **Inaccurate Readings:** Ensure all connections are tight and free of leaks. Check the O-rings for wear. The gauge features an adjustable dial for easy calibration to ensure accurate results.
- **No Reading:** Verify the tester is correctly seated in the spark plug hole. Ensure the engine is cranking

sufficiently.

- **Low Compression:** Low compression across all cylinders may indicate general engine wear. Low compression in a single cylinder could point to issues like a faulty valve, worn piston rings, or a blown head gasket.
- **No Spark (Spark Plug Tester):** If the spark plug tester shows no spark, check the ignition coil, spark plug wire, and other ignition system components.

7. SPECIFICATIONS

Feature	Detail
Brand	Orion Motor Tech
Model Number	FBA-MFK202200
Product Dimensions	11.61 x 8.66 x 3.15 inches
Item Weight	2.43 Pounds (1.1 Kilograms)
Material	Aluminum, Metal, Rubber (Brass Core)
Gauge Readings	Triple calibrated (PSI, Bar, kg/cm ²)
Adapters Included	10mm, 12mm, 14mm, 18mm

ACCURATE DIAGNOSTICS

Sturdy Gauge Offers Precise Readings & Lasting Service

Triple Readings

- ✓ 50–300 psi
- ✓ 3–20 Bar
- ✓ 3–21 kg/cm²



Image 7: Close-up of the pressure gauge with triple readings.

8. WARRANTY AND SUPPORT

For warranty information, technical support, or any questions regarding your Orion Motor Tech Engine Compression Tester Kit, please refer to the contact information provided with your product packaging or visit the official Orion Motor Tech website. Keep your purchase receipt for warranty claims.

9. PRODUCT VIDEOS

Currently, there are no official product videos from the seller specifically demonstrating the Orion Motor Tech

Engine Compression Tester Kit (Pro Set) available for embedding. Videos from other creators or for different products have been excluded to maintain relevance and accuracy for this manual.