

Owner's Manual & Safety Instructions

Save This Manual Keep this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures. Write the product's serial number in the back of the manual near the assembly diagram (or month and year of purchase if product has no number). Keep this manual and the receipt in a safe and dry place for future reference.

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MADDOXTM

SUPERIOR AUTOMOTIVE TOOLS

MH20B-1

Deluxe Compression Test Kit



Visit our website at: <http://www.harborfreight.com>
Email our technical support at: productsupport@harborfreight.com

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When unpacking, make sure that the product is intact and undamaged. If any parts are missing or broken, please call 1-888-866-5797 as soon as possible.

⚠WARNING

Read this material before using this product. Failure to do so can result in serious injury. **SAVE THIS MANUAL.**

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No portion of this manual or any artwork contained herein may be reproduced in any shape or form without the express written consent of Harbor Freight Tools. Diagrams within this manual may not be drawn proportionally. Due to continuing improvements, actual product may differ slightly from the product described herein. Tools required for assembly and service may not be included.

Specifications

Maximum Working Pressure	300 PSI
Pressure Gauge Scale	0–300 PSI / 0–2000 kPa

IMPORTANT SAFETY INFORMATION

- Block drive wheels before use. Set parking brake and put gear selector in neutral for manual transmission or park for automatic transmission. Risk of sudden vehicle movement!**
- Read vehicle's service manual before use.**
- Keep away from hot or moving engine parts.**
- Use with gasoline engines only. Do not exceed gauge range.**
- Secure connections before use.**
- Inspect before every use; do not use if parts loose or damaged.**
- Wear ANSI-approved safety goggles during use.**
- Use the Tester only in well-ventilated areas.** A running gasoline engine produces carbon monoxide. **Carbon monoxide is a colorless, odorless, gas that can cause serious injury or death.**
- Maintain product labels and nameplates.** These carry important safety information. If unreadable or missing, contact Harbor Freight Tools for a replacement.
- People with pacemakers should consult their physician(s) before use. Electromagnetic fields in close proximity to heart pacemaker could cause pacemaker interference or pacemaker failure. Caution is necessary when near coil, spark plug cables, or distributor of running engine. Engine should be off during distributor adjustment.
- The warnings, precautions, and instructions discussed in this manual cannot cover all possible conditions and situations that may occur. The operator must understand that common sense and caution are factors, which cannot be built into this product, but must be supplied by the operator.

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Operating Instructions



Read the **ENTIRE IMPORTANT SAFETY INFORMATION** section at the beginning of this document before set up or use of this product.

NOTE: Performing a compression test requires the work of *two* individuals; one person to operate the vehicle's ignition switch while the other person operates the Compression Tester.

- WARNING! Avoid carbon monoxide poisoning! Never run a gasoline engine in an enclosed garage or other contained area.** Prepare the engine for compression testing by starting the engine and allowing it to warm up to its normal operating temperature. Then, switch off the ignition.
- Once the engine has been turned off, disconnect ground (negative) battery cable before testing to prevent accidental starting. Disconnect both coil wires from the coil of the engine. Insulate coil wires or route them away from each other and all metal surfaces.
- Before removing the spark plugs, clean the area around the spark plugs using compressed air. It is important to prevent foreign materials from falling into the cylinders once the spark plugs are removed.
- Remove all of the spark plugs. Note the position of the wires so that the correct wire may be replaced on each plug at the end of the job. On engines with two spark plugs per cylinder, remove only one plug per cylinder.
- Determine the correct size Spark Plug Adapter and/or Hose Assembly for the vehicle. Thread Adapter and/or Hose into spark plug hole of cylinder to be tested and hand tighten only.
- Connect the male fitting on the Hose Assembly to the female coupler on the Gauge Hose.
- To use the Triton Connector, thread it onto the end of one of the Hose Assemblies or the Deep Well Connector.
- With the gas pedal pressed all the way down, crank the engine for at least eight revolutions.
- While cranking the engine, observe the Gauge. Record the maximum reading.
- After recording the maximum reading, stop cranking the engine. Release the air pressure in the Gauge by pressing the Air Release Button.
- Remove the Compression Tester from the first engine cylinder. Then repeat Steps 6, 7, 8 and 9 for the remaining engine cylinders.

NOTE: Good engine cylinder compression will be indicated with a high initial reading, and a progressive build-up to the final maximum reading. Poor engine cylinder compression will be indicated with a low initial reading, and a much slower build-up to the final maximum reading. The compression readings for all of the engine cylinders should not vary by more than 10%. Check vehicle service manual for manufacturer's specifications and acceptable pressure ranges.

- When testing is complete, reinstall spark plugs and spark plug wires in proper order. Reconnect ground (negative) battery cable and coil wires.
- Store the Kit in its case in a clean, dry, safe location out of reach of children.

Inspection, Maintenance and Cleaning



Procedures not specifically explained in this manual must be performed only by a qualified technician.

WARNING

TO PREVENT SERIOUS INJURY FROM ACCIDENTAL OPERATION:

Detach the tool from the vehicle being tested before performing any inspection, maintenance, or cleaning procedures.

TO PREVENT SERIOUS INJURY FROM TOOL FAILURE:

Do not use damaged equipment. If abnormal noise or vibration occurs, have the problem corrected before further use.

1. **BEFORE EACH USE**, inspect the general condition of the tool. Check for cracked or broken parts, damaged hoses, loose fittings, misalignment or binding of moving parts, and any other condition that may affect its safe operation.
2. **AFTER USE**, clean external surfaces of the tool when necessary with a clean, damp cloth and mild detergent. Store the Kit in its case in a clean, dry, safe location out of reach of children.

PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS LIST AND DIAGRAM IN THIS DOCUMENT AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER OR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT, OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS, AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

Parts List and Diagram

Parts List

Part	Description
1	Gauge Assembly
2	18mm Spark Plug Adapter
3	12mm Spark Plug Adapter
4	10mm Spark Plug Adapter
5	Ford Triton 16mm Connector

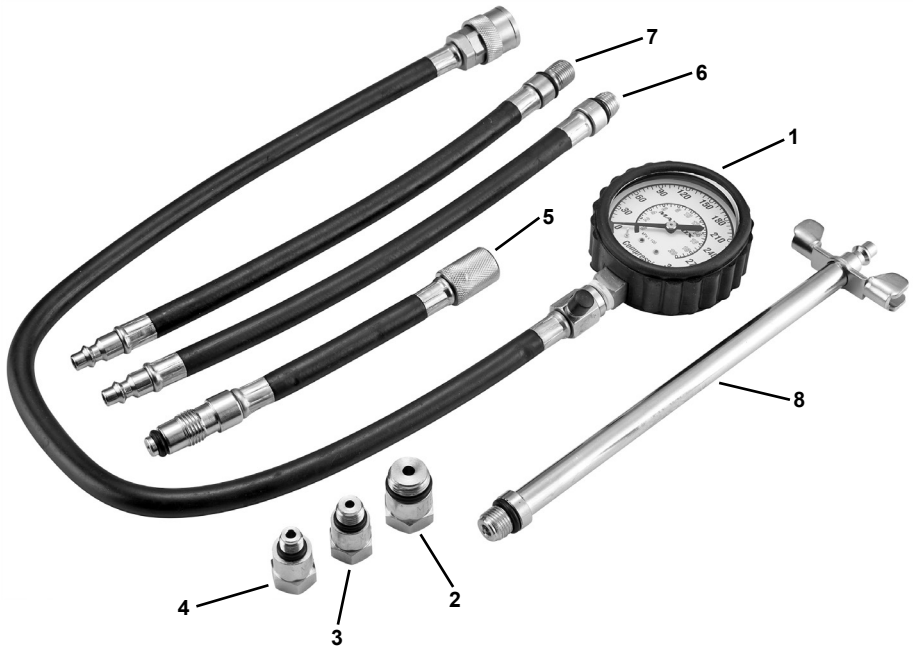
Part	Description
6	Standard 14mm Hose Assembly
7	Long Reach 14mm Hose Assembly
8	Deep Well 14mm Connector
9	Valve Repair Kit (not shown)
10	Case (not shown)

Record Serial Number Here: _____

Note: If product has no serial number, record month and year of purchase instead.

Note: Some parts are listed for illustration purposes only, and are not available individually as replacement parts.

Diagram



Limited 90 Day Warranty

Harbor Freight Tools Co. makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of 90 days from the date of purchase. This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, criminal activity, improper installation, normal wear and tear, or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

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