

U.S. GENERAL[®]

DIESEL ENGINE COMPRESSION TESTER SET

Model 93039

OPERATING INSTRUCTIONS



3491 Mission Oaks Blvd., Camarillo, CA 93011
Visit our Web site at <http://www.harborfreight.com>

**TO PREVENT SERIOUS INJURY,
READ AND UNDERSTAND ALL WARNINGS
AND INSTRUCTIONS BEFORE USE.**

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For technical questions and replacement parts, please call 1-800-444-3353.

SPECIFICATIONS TABLE

Item	Description
Material	Carbon Steel, Hardened Tips, High Pressure Hose
Finish	Chrome Plated Gauge, Black Oxide/Zinc Adapters
Weight	5.2 Pounds

SAVE THIS MANUAL

You will need this manual for the safety warnings and precautions, applications instructions, inspection, maintenance, and cleaning procedures. Keep your invoice with this manual. Write the invoice number on the inside of the front cover. Keep this manual and invoice in a safe and dry place for future reference.

GENERAL SAFETY WARNINGS AND PRECAUTIONS






1. **KEEP WORK AREA CLEAN AND DRY.** Cluttered, damp or wet work areas invite injuries.
2. **KEEP CHILDREN AWAY FROM WORK AREA.** Do not allow children to handle this product.
3. **STORE IDLE EQUIPMENT.** When not in use, tools and equipment should be stored in a dry location to inhibit rust. Always lock up tools and equipment and keep out of reach of children.
4. **DO NOT USE THIS PRODUCT IF UNDER THE INFLUENCE OF ALCOHOL OR DRUGS.** Read warning labels on prescriptions to determine if your judgment or reflexes are impaired while taking drugs. If there is any doubt, do not attempt to use this product.
5. **USE EYE PROTECTION.** Wear ANSI approved safety impact goggles when using this product.
6. **DRESS SAFELY.** Nonskid footwear or safety shoes should be used when working with this product. Do not wear loose clothing or jewelry as they can become caught in moving parts. Wear a protective hair covering to prevent long hair from becoming caught in moving parts.
7. **INDUSTRIAL APPLICATIONS MUST FOLLOW OSHA REQUIREMENTS.**
8. **DO NOT OVERREACH.** Keep proper footing and balance at all times to prevent tripping, falling, back injury, etcetera.
9. **STAY ALERT.** Watch what you are doing at all times. Use common sense. Do not use this product when you are tired or distracted from the job at hand.
10. **CHECK FOR DAMAGED PARTS.** Before using this product, carefully check that it will operate properly and perform its intended function. Check for damaged parts and any other conditions that may affect the operation of this product. Replace or repair damaged or worn parts immediately.

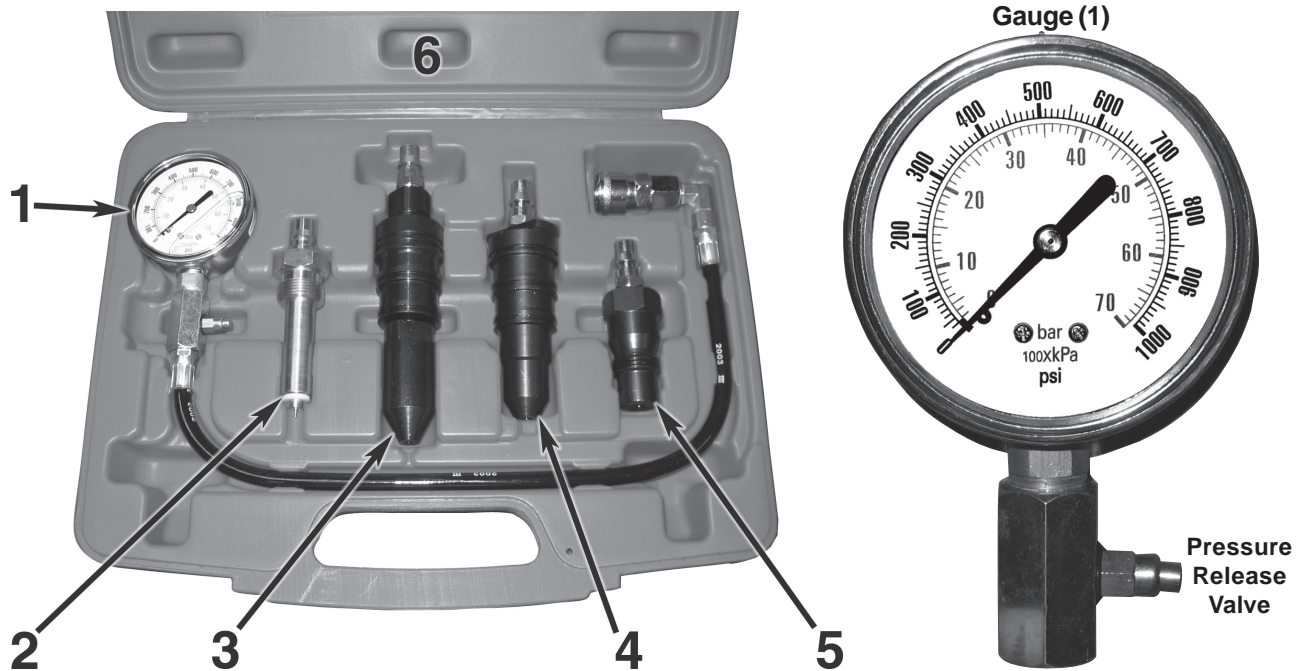
11. **REPLACEMENT PARTS AND ACCESSORIES.** When servicing, use only identical replacement parts. Only use accessories intended for use with this product. Approved accessories are available from Harbor Freight Tools.
12. **MAINTAIN THIS PRODUCT WITH CARE.** Keep this tool clean and dry for better and safer performance.
13. **MAINTENANCE:** For your safety, service and maintenance should be performed regularly by a qualified technician.
14. **USE THE RIGHT PRODUCT FOR THE RIGHT JOB.** There are certain applications for which this product was designed. Do not use small equipment, tools or attachment to do the work of larger industrial equipment, tools or attachments. Do not use this product for a purpose for which it was not intended. **NOT FOR OXYGEN SERVICE USE.**
15. **PRIOR TO USING THIS PRODUCT, READ AND ADHERE TO ALL INSTRUCTIONS AND SAFETY PRECAUTIONS AS OUTLINED IN THE VEHICLE MANUFACTURER'S MANUAL AND ENGINE DIAGNOSTIC/REPAIR MANUALS.**
16. **ALWAYS RELEASE THE PRESSURE PROPERLY USING THE PRESSURE RELEASE VALVE (see page 4) BEFORE DISCONNECTING THE ADAPTER.**
17. **USE EXTREME CARE AROUND HOT OR MOVING ENGINE PARTS.**
18. **DO NOT EXCEED THE MAXIMUM PRESSURE CAPACITY OF THIS TOOL (1,000 PSI /70 BAR).** Exceeding the maximum pressure capacity could cause serious personal injury and/or property damage.
19. **USE THE COMPRESSION TESTER ONLY IN WELL VENTILATED AREAS.** A running engine produces carbon monoxide. **Carbon monoxide is a colorless, odorless, gas that, if inhaled, can cause serious injury or death.**
20. **WHEN WARMING UP AN ENGINE IN PREPARATION FOR COMPRESSION TESTING, MAKE SURE THE VEHICLE'S TRANSMISSION IS PLACED IN "PARK", (OR NEUTRAL FOR A MANUAL TRANSMISSION) AND THE EMERGENCY BRAKE IS APPLIED.**
21. **WARNING:** The brass components of this product contain lead, a chemical known to the State of California to cause cancer and birth defects (or other reproductive harm). (California Health & Safety Code § 25249.5 *et seq.*)

UNPACKING

When unpacking, check to make sure the parts listed on the next page of this manual are included. If any parts are missing or broken, please call Harbor Freight Tools at the number shown on the cover of this manual as soon as possible.

PARTS LIST / ASSEMBLY DIAGRAM

Part	Diagram	Description	Engine Applications
1		Gauge Assembly (Includes Gauge, Hose, and Coupler)	-
2		Fuel Injector Adapter	Cummins® 2.9 L, 3.9 L, 5.9 L
3		Fuel Injector Adapter	These 5.5" Bore Cummins® Engines: NH (855 Cubic Inches), V-6, V-8, V-12, & 903 V-8 Cylindrical PTB
4		Fuel Injector Adapter	Cummins® V-185, V-210, V-225, V-555, VT-255, VT-555
5		Fuel Injector Adapter	Cummins® 6 BT, 4.02" Bore, 5.9 L
6	-	Carrying Case	-



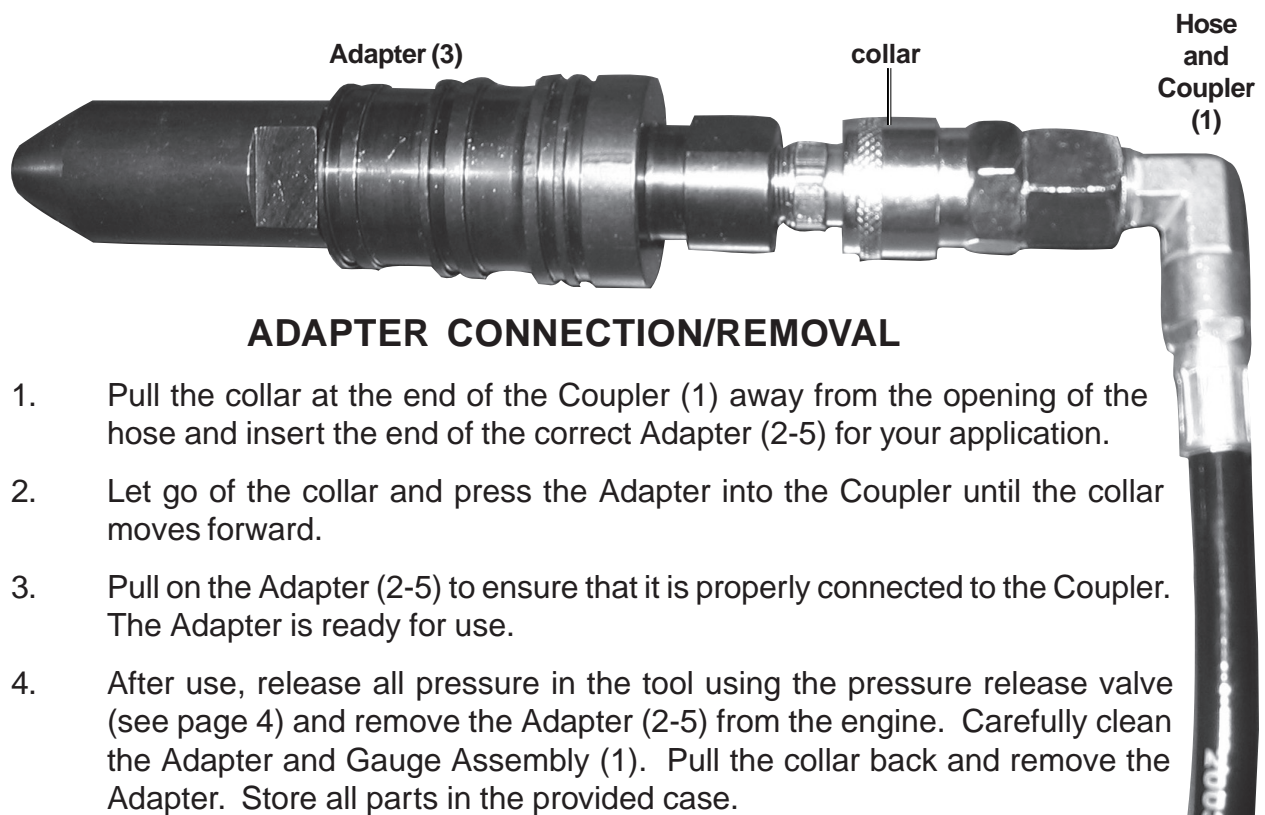
NOTE: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER NOR 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.

PRODUCT OVERVIEW

The Engine Compression Test Set measures cylinder pressure on diesel-equipped cars and trucks. The Gauge (1) features a release valve, 16" of high pressure hose, a dial reading from 0-1,000 PSI, a 0-70 bar, and a quick coupler for convenient connection to the Adapters (2-5).



ADAPTER CONNECTION/REMOVAL

1. Pull the collar at the end of the Coupler (1) away from the opening of the hose and insert the end of the correct Adapter (2-5) for your application.
2. Let go of the collar and press the Adapter into the Coupler until the collar moves forward.
3. Pull on the Adapter (2-5) to ensure that it is properly connected to the Coupler. The Adapter is ready for use.
4. After use, release all pressure in the tool using the pressure release valve (see page 4) and remove the Adapter (2-5) from the engine. Carefully clean the Adapter and Gauge Assembly (1). Pull the collar back and remove the Adapter. Store all parts in the provided case.

TESTING PROCEDURES

Due to the variations in engine design and testing procedure, it is beyond the scope of this manual to cover all possible testing procedures.

ALWAYS REFER TO AND CAREFULLY ADHERE TO THE APPROPRIATE ENGINE MANUFACTURER'S INSTRUCTIONS FOR USING THIS KIT.

INSPECTION, MAINTENANCE, AND CLEANING

1. **Before each use**, inspect the general condition of the Compression Tester. Check for broken, cracked, or bent parts, loose or missing parts, and any condition that may affect the proper operation of the product. If a problem occurs, have the problem corrected before further use.
Do not use damaged equipment.
2. When cleaning, use a clean cloth with a mild detergent. Do not use solvents, as damage to the Compression Tester may result. Do not immerse the Gauge (1) in any liquid. Then, store the Compression Tester inside the case in a safe, dry location out of reach of children.
3. **WARNING! All maintenance, service, or repairs not listed in this manual are only to be attempted by a qualified service technician.**

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