



## ATD-5573 (CLT-2)

# Cylinder Leakage Tester Instructions

### Features / Benefits

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- Pin Points Problems shown by compression test or cylinder balance test.
- Uses shop air to determine leakage source and the amount of leakage measured in a percentage of loss.
- If tester is equipped with a pressure gauge, this gauge monitors inlet pressure to ensure accurate testing.
- Leak down gauge measures the percentage of compression leakage.

### How It Works

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1. Regulated shop air is supplied to each cylinder and the gauge measures the rate of leakage
2. Remove oil dipstick and radiator cap and disconnect one end of the PVC hose. If your car has a carburetor remove the air cleaner and open throttle all the way. If fuel injected, remove air cleaner or throttle body hose to listen at the throttle body.
3. To locate source, listen at these places:
  - A) Oil dipstick tube.....for bad rings, cylinder leakage
  - B) Radiator filler.....for cylinder wall cracks
  - C) Adjacent port.....for head gasket leakage
  - D) Tail pipe.....for exhaust valve leakage
  - E) Carburetor air horn.....for intake valve leakage
  - F) Fuel injection throttle body .....for intake valve leakage

## How To Use Tester

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**WARNING-** Be certain vehicle is in “park” or “neutral” and hands are clear of the engine compartment as engine rotation may occur while using this tool.

**IMPORTANT-** Be sure that the regulator knob is turned **FULLY** counter clockwise before connecting to shop air. Over pressurized gauges are **NOT** guaranteed.

1. Run engine until it reaches normal operating temperature.
2. Remove oil dipstick and radiator cap and disconnect one end of the PVC hose. If your car has a carburetor remove the air cleaner and open throttle all the way. If fuel injected, remove air cleaner or throttle body hose to listen at the throttle body.
3. Remove all of the spark plugs and position the cylinder being tested to approximate top dead center (TDC) on the compression stroke so both valves are closed. Rotate engine only in proper engine rotational direction. Here a few tips to help position the cylinder correctly:
  - a) The ignition rotor points to cylinder coming up on compression.
  - b) Piston is at approximately TDC when reluctor teeth align with stationary core.
  - c) A whistle such as the ATD-5544 (Star TU-17) or the Star TU-18 that whistles on the compression stroke and stops at approximately TDC can be quickly coupled to the cylinder hose of your tester.
4. Turn the regulator knob fully counter clockwise then connect shop air (45-150 PSI max) to the regulator without the cylinder hose connected. Turn regulator clockwise until % gauge reads zero at the end of the yellow set band.
5. Screw the cylinder hose into the spark plug hole and then connect the coupler plug onto the quick coupler socket of the tester. The amount of leakage will now show on the gauge as a percentage loss. Locate the source of the leakage if it is excessive.
6. Test the rest of the cylinders and compare leakage to determine which cylinders are bad and why.

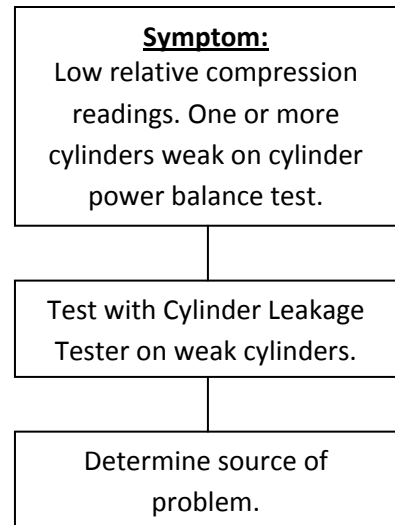
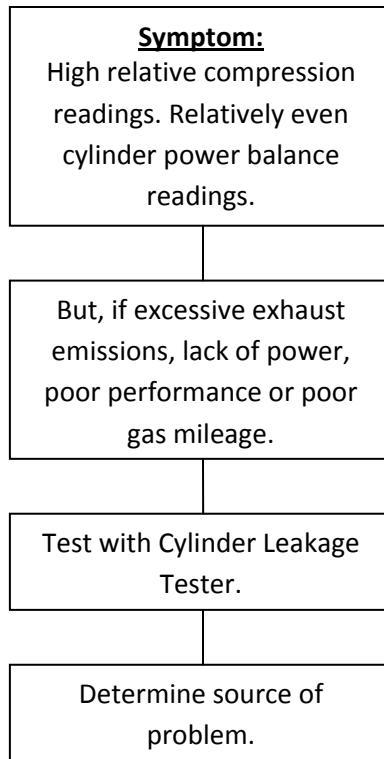
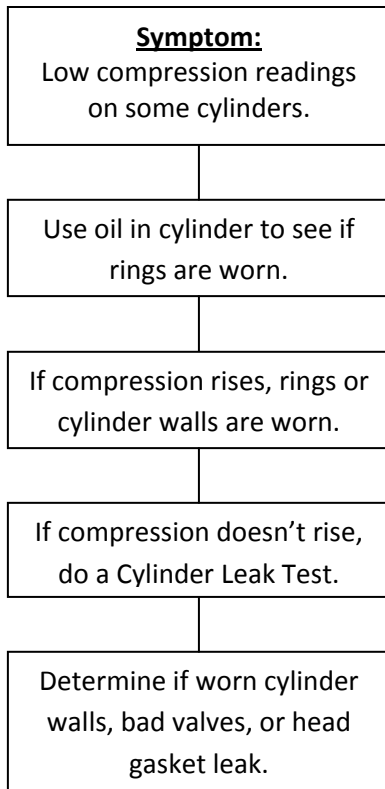
## HELPFUL HINTS

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- If 100% or excessive leakage shows on the percentage gauge, the cylinder may not be at TDC on the compression stroke. Check to make sure that the cylinder is correctly positioned to have the valves closed.
- If rings are broken or cylinder walls are scored, excessive leakage will show.
- Like in comparison testing, it is important that all cylinders have fairly uniform readings. Differences of 15 – 30% indicate excessive leaking. Large engines tend to leak more than small ones.
- There will always be leakage past the rings even in a new engine.
- If leakage is excessive on a vehicle with relatively low mileage, piston rings may be stuck. Treat the engine with a quality tune-up, oil for a period of time and re-test before disassembling the engine.
- The lower the pitch of the leakage sound, the greater the leakage.
- Good listening devices include a length of hose or a mechanics stethoscope with the probe removed.
- Gauge readings may easily vary 10% or more when making repeat tests on the same cylinder(s). The piston position and the temperature of the engine can cause readings to vary.
- If a car has multiple problems, such as bad rings and burned valves, the tester may only show the most serious of the problems.
- Try to position just before TDC for uniform results.

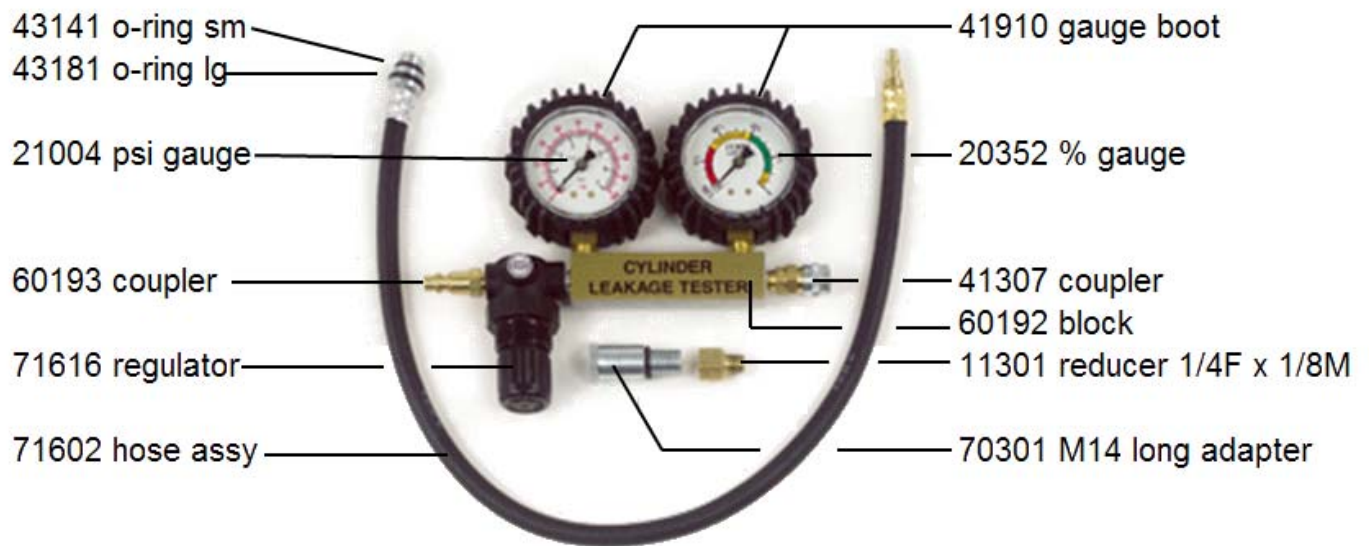
## Symptom Flowcharts

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# ATD-5573



- 042-96002-0003 CLT-2 in Pl. Box
- 042-42443 Instruction sheet
- 042-52010 Plastic case - no logo
- 042-56238 Label - STAR For\_CLT-2
- 042-56240 .5 dia. CIRCLE LABEL
- 042-71614 MANIFOLD ASSEMBLY includes:

- 41307 Quick coupler 1/8 MNPT
- 60192 Double block body w/orifice
- 60193 QC plug w/ 1/8 MNPT
- 71603 % Gauge 2 1/2" & boot
- 71604 PSI gauge and boot
- 71616 Regulator