



**UCT700  
UNIVERSAL  
COOLING SYSTEM  
PRESSURE TESTER**



The UCT700 combines a pressure pump with a standard cooling system cap adapter plus the UCT750 Universal Cooling System Adapter. The pump is compatible with most cooling system adapters and cooling system cap adapters.

The pressure gauge reads up to 30 psi and includes scales to measure pressure in KPa as well as in Bars.



**UCT750  
UNIVERSAL  
COOLING SYSTEM  
ADAPTER KIT**



This universal cooling system adapter kit employs three expanding rubber step cones to seal the neck of an engine cooling system. The cones are sized such that one should work on the system being tested. There may be individual vehicles that have internal neck obstructions that prevent the use of this type of seal, but all types of cooling system necks for late model passenger vehicles were considered in the design of the UCT750.






**IMPORTANT:  
DO NOT OPEN A COOLING SYSTEM WHEN HOT!**

**ALWAYS ALLOW A SYSTEM TO COOL COMPLETELY BEFORE REMOVING THE COOLING SYSTEM CAP. OPENING A HOT SYSTEM MAY CAUSE ANTIFREEZE TO BOIL WITH EXPLOSIVE FORCE, SPEWING THE SOLUTION OVER THE ENGINE, FENDERS, AND PERSONS NEARBY.**

**ALWAYS WEAR SAFETY GLASSES AND WEAR PROTECTIVE CLOTHING.**

# TESTING THE COOLING SYSTEM

## WARNING

-  HOT ANTIFREEZE/COOLANT UNDER PRESSURE.
-  WEAR SAFETY SHIELD AND PROTECTIVE CLOTHING.
-  DO NOT OPEN SYSTEM WHEN HOT.
-  READ AND FOLLOW INSTRUCTIONS. *HOT, PRESSURIZED ANTIFREEZE/COOLANT CAN CAUSE INJURY.*
-  MOVING ENGINE COMPONENTS. KEEP SELF AND TOOLS CLEAR OF MOVING COMPONENTS. MOVING COMPONENTS CAN CAUSE INJURY.

1. Remove the pressure cap from the radiator or service tank. (MAKE SURE SYSTEM IS COOL BEFORE REMOVING THE CAP). After system has cooled, slowly remove the pressure cap so that any remaining pressure may escape via the over flow tube within the filler neck.
  2. Clean face and inside of filler neck. Make sure that the sealing surface is clean and free of dirt and residue.
  3. On most cooling systems the rubber adapter is designed to fit below the overflow tube. Select the closest fitting rubber to the inside diameter of the cooling system neck.
  4. Install the rubber adapter onto the stem of the Main Body. Tighten the adapter until it just barely fits into the cooling system neck.
  5. Install and tighten the adapter until it can no longer be pulled out of the cooling system neck. (Pushing the adapter onto the neck while tightening will aid in proper sealing).
  6. Attach pressure pump to the installed adapter. Pressurize pump slowly. Listen for air leaks while building a low pressure. Check to make sure that adapter has seated properly and is sealed against the cooling system neck.
  7. Continue to pump until the gauge needle indicates the proper test pressure as recommended by the manufacturer's specifications for the system of the particular vehicle. NEVER exceed the recommended pressure as this may damage the cooling system.
  8. With the system under the proper pressure the gauge needle should hold steady for several minutes. During this period check all joints for any slight leaks or seepage and correct. Inspect all of the hoses and replace any that swell excessively.
  9. If the gauge needle falls slowly, a small leak is indicated. Check hoses, clamps, radiator, gasket joints, heater core, etc. Correct any problem area. If all external leaks are eliminated and the needle still falls, an internal leak is indicated. Inspect engine oil and automatic transmission fluid for any signs of coolant.
- NOTE: To minimize the chance of the adapter slipping out of the filler neck make sure both the adapter and filler neck are dry.



Insert Loose



Tighten

# TESTING FOR COMBUSTION OR COMPRESSION LEAKS

## WARNING



HOT ANTIFREEZE/COOLANT UNDER PRESSURE.



WEAR SAFETY SHIELD AND PROTECTIVE CLOTHING.



DO NOT OPEN SYSTEM WHEN HOT.



READ AND FOLLOW INSTRUCTIONS.

*HOT, PRESSURIZED ANTIFREEZE/COOLANT CAN CAUSE INJURY.*



MOVING ENGINE COMPONENTS. KEEP SELF AND TOOLS CLEAR OF MOVING COMPONENTS. MOVING COMPONENTS CAN CAUSE INJURY.

1. With the radiator cap off, and the adapter installed (if needed), start engine and run until coolant is warm (NOT HOT). With the engine running, CAREFULLY install the TESTER HEAD on the filler neck or adapter. Make sure ROTATING LEVER is turned clockwise and that it climbs up and completely over the ramp cams. When the lever drops off the ramp cams the TESTER HEAD is fully engaged and sealed.
2. If the gauge needle shows a fast pressure rise, immediately switch off the engine and release pressure by rotating the ROTATING LEVER clockwise until it begins to climb up on the ramp cams (FIG. A). Continue rotating slowly and watch the gauge needle drop as the pressure is safely released through the overflow tube. Remove the tester. A fast pressure build-up indicates a blown head gasket or a cracked casting. NEVER ALLOW THE PRESSURE TO RISE BEYOND THE SYSTEM RATING.
3. If pressure rises slowly or the gauge needle vibrates, it indicates a combustion or compression leak into the cooling system. To locate the leak, short out one spark plug at a time. The gauge needle vibration will decrease or stop completely when the spark plug of the leaking cylinder is shorted.



FIG. A

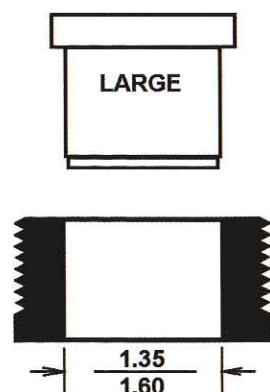
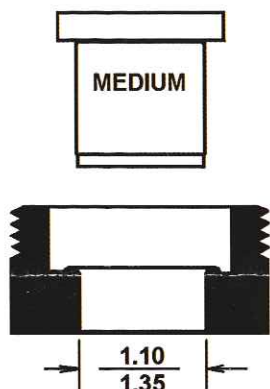
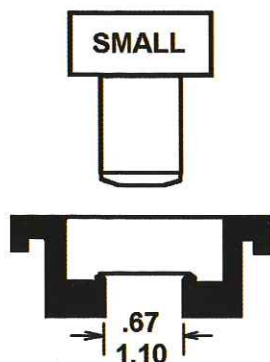
## REMOVING TESTER PUMP FROM THE UNIVERSAL ADAPTER/COOLANT NECK

1. Engine must be off and allowed to cool before any attempt to remove TESTER HEAD is made.
2. With engine off and cool, rotate the ROTATING LEVER clockwise onto the ramp cams. As the lever climbs on the ramp cams (Fig. A) you will see the gauge needle dropping as pressure is being released. When the pressure is completely released, continue to rotate the lever clockwise until it is resting on top of the flats of the ramp cams. Do not rotate beyond the flats as this will re-engage the TESTER HEAD to the filler neck. With the lever on top of the flats, the TESTER HEAD is loose from the filler neck. Rotate the entire TESTER HEAD ASSEMBLY counter-clockwise and remove.
3. Once pump has been removed from the adapter, unscrew the adapter until rubber releases from the coolant neck. After the rubber adapter has been removed check coolant neck for any residual rubber particles and clean as necessary.
4. Install radiator cap.

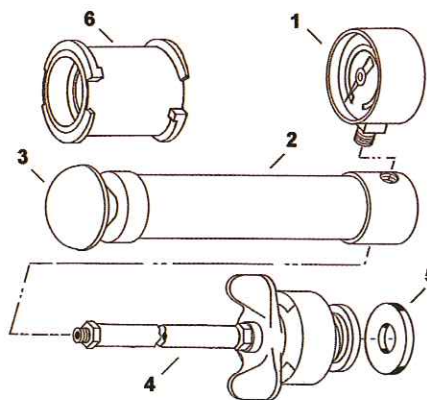
### NOTE:

Always store Universal Adapter with rubber adapters unscrewed such that they are not under tension, as they may become permanently deformed.

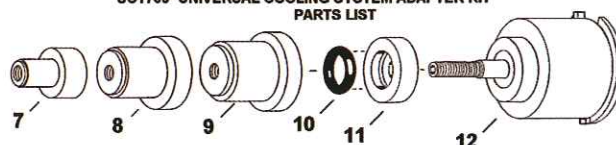
## COOLING SYSTEM ADAPTER GUIDE



## UCT700 UNIVERSAL COOLING SYSTEM TESTER KIT



UCT750 UNIVERSAL COOLING SYSTEM ADAPTER KIT  
PARTS LIST



### UCT700 PARTS LIST

DIAG. #	DESCRIPTION	PART #
1	Gauge	UCT700-1
2	Pump Assy. w/Knob	UCT700-2
3	Knob Only	UCT700-3
4	Tester Head Assy. w/Hose & Seal	UCT700-4
5	Tester Seal Only	UCT700-5
6	Standard Cap Adapter	UCT700-6

#### NOT SHOWN:

—	Plastic Box for UCT700	UCT700-7
—	Pump Assy. (#1-#5)	UCT700-8

### UCT750 PARTS LIST

7	Small Rubber Adapter	UCT750-1
8	Medium Rubber Adapter	UCT750-2
9	Large Rubber Adapter	UCT750-3
10	O-Ring (5/8" O.D. x 7/16" I.D. x 3/32" cross)	UCT750-4
11	O-Ring Washer	UCT750-5
12	Main Body	UCT750-6

#### NOT SHOWN:

—	Plastic Box for UCT750	UCT750-7
---	------------------------	----------

**CAUTION: TO AVOID PERSONAL INJURY AND/OR VEHICLE DAMAGE** – While some precautions are specified in this manual, and should be noted to avoid personal injury or vehicle damage, it is not possible for these cautions to cover all conceivable ways in which service or testing might be done, or all possible hazardous consequences of each way, nor could Mac Tools® possibly know or investigate all such ways. It is therefore the responsibility of anyone using this manual, to satisfy him or herself completely that neither personal safety or vehicle safety will be jeopardized by the service methods selected. Any such injury or damage is entirely the user's responsibility. This device is not to be used in any manner on the human body.