TOYOTA
SCION
Technical Service BULLETIN
March 28, 2005

Title:
RADIATOR CAP INSPECTION
Models:
All Toyota & Scion Models

TSB

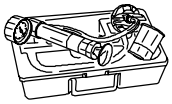
Introduction

The procedure for inspecting the radiator cap has been revised. Please refer to the following procedures when inspecting the radiator cap on all Toyota and Scion models.

Applicable Vehicles

- **All Toyota and Scion models.**

Required Equipment

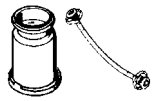
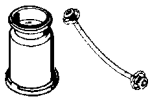
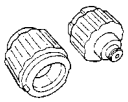
MANUFACTURER	EQUIPMENT	QTY
Snap–On/Sun SVTS262A (or equivalent)	Cooling System Tester (Radiator Cap Tester) 	1

NOTE:
Additional Toyota Approved Dealer Equipment may be ordered by calling Toyota Approved Dealer Equipment at 1–800–368–6787.

Warranty Information

OP CODE	DESCRIPTION	TIME	OFP	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

Required SSTs

ITEM NO.	SPECIAL SERVICE TOOLS (SSTs)	PART NUMBER	QTY	DRW**
1	**Radiator Cap Test Set*** 	09230–00030–01	1	8
2	**Radiator Cap Test Set (Small)*** 	09230–00020–01	1	8
3	**Cooling System/Reservoir Cap Pressure Test Adapter Kit*** 	09230–00050–01	1	8

* Essential SSTs.

** Refers to drawer number in SST Storage System.

NOTE:

Additional SSTs may be ordered by calling SPX/OTC at 1-800-933-8335.

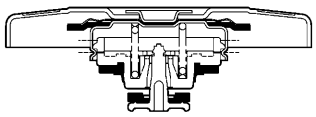
Radiator Cap Identification Procedure

1. Use the illustration below to identify the vehicle's radiator cap type and kPa rating.
2. Proceed to the required inspection procedure for the radiator cap and kPa rating.

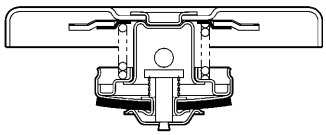
Radiator Cap Identification

kPa Rating

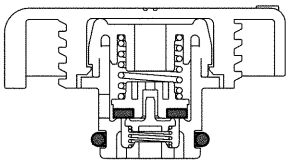
N–Cap



Compact Cap

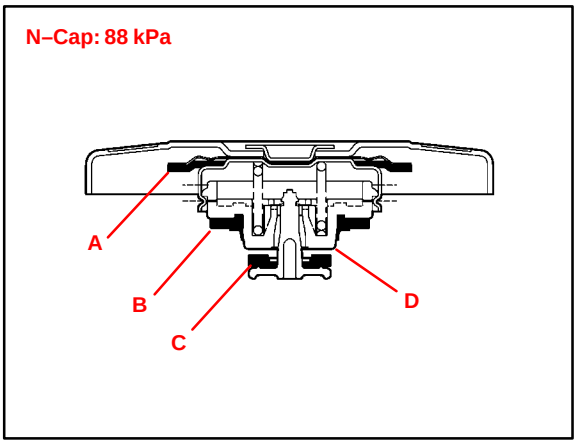


Plastic Cap



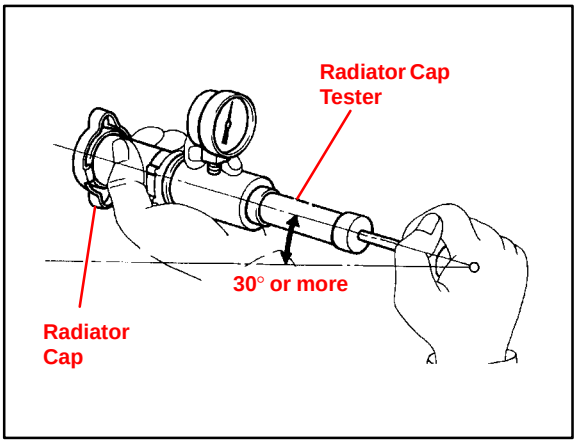
Radiator Cap Inspection Procedure

Type: N–cap, 88 kPa



1. Remove coolant and any foreign material on rubber points "A," "B," and "C."
2. Check that points "A," "B," and "C" are not deformed, cracked, or swollen.
3. Check that points "C" and "D" are not stuck together.
4. Apply engine coolant to points "B" and "C" before using the radiator cap tester.
   - Radiator Cap Tester: Snap–On/Sun P/N SVTS262A (or equivalent)
5. Before installing the radiator cap tester, use the applicable radiator cap adaptor provided in the following SST kits in conjunction with the radiator cap tester:
   - SST P/N 09230–00030–01 (09231–10080–01) or 09230–00020–01 (09231–10060–01) or 09230–00050–01 (09231–10110–01
6. When using the radiator cap tester, tilt it more than 30 degrees.
7. Pump the radiator cap tester several times, and check the maximum pressure.

   Pumping speed: 1 pump/second



HINT:

Stop pumping when the valve opens and read the gauge. The gauge must be within the standard values listed below when the pressure valve opens. The cap is considered OK when the pressure holds steady or falls very slowly, but holds within the standard values listed below for one minute.

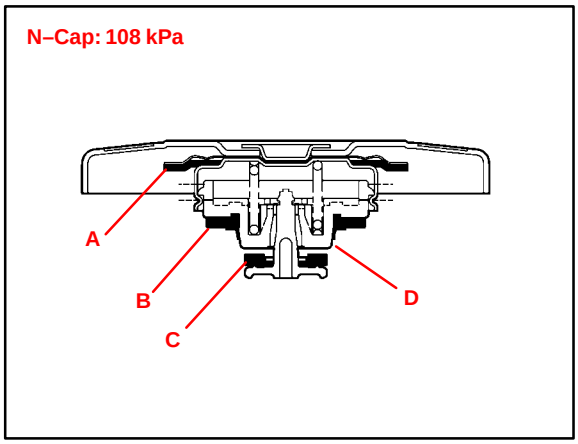
Specification:

VALVE OPENING PRESSURE	SPECIFIED CONDITION
Standard value (for brand–new cap)	74.0 to 103.0 kPa (0.75 to 1.05 kgf/cm^2, 10.7 to 14.9 psi)
Minimum standard value (for in–service cap)	59 kPa (0.60 kgf/cm^2, 8.53 psi)

If the maximum pressure is less than the minimum standard value, replace the radiator cap sub–assembly.

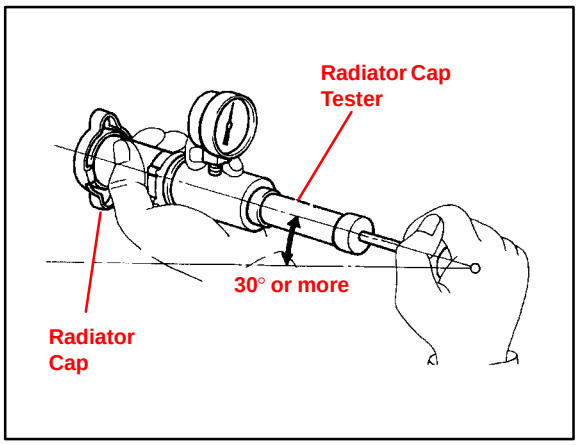
Radiator Cap Inspection Procedure (Continued)

Type: N–cap, 108 kPa



1. Remove coolant and any foreign material on rubber points "A," "B," and "C."
2. Check that points "A," "B," and "C" are not deformed, cracked, or swollen.
3. Check that points "C" and "D" are not stuck together.
4. Apply engine coolant to points "B" and "C" before using the radiator cap tester.
   - Radiator Cap Tester: Snap–On/Sun P/N SVTS262A (or equivalent)
5. Before installing the radiator cap tester, use the applicable radiator cap adaptor provided in the following SST kits in conjunction with the radiator cap tester:
   - SST P/N 09230–00030–01 (09231–10080–01) or 09230–00020–01 (09231–10060–01) or 09230–00050–01 (09231–10110–01
6. When using the radiator cap tester, tilt it more than 30 degrees.
7. Pump the radiator cap tester several times, and check the maximum pressure.

   Pumping speed: 1 pump/second



HINT:

Stop pumping when the valve opens and read the gauge. The gauge must be within the standard values listed below when the pressure valve opens. The cap is considered OK when the pressure holds steady or falls very slowly, but holds within the standard values listed below for one minute.

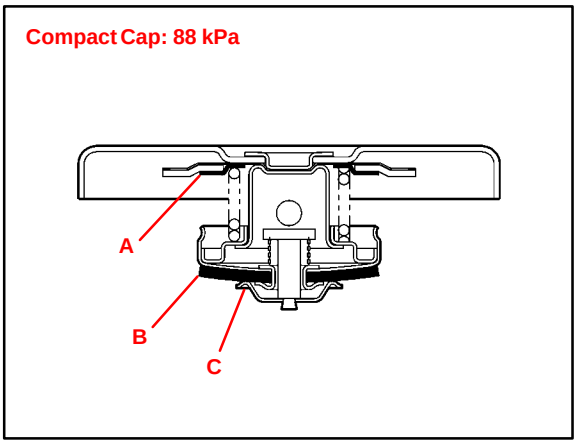
Specification:

VALVE OPENING PRESSURE	SPECIFIED CONDITION
Standard value (for brand–new cap)	93.3 to 122.7 kPa (0.95 to 1.25 kgf/cm^2, 13.5 to 17.8 psi)
Minimum standard value (for in–service cap)	78.5 kPa (0.80 kgf/cm^2, 11.38 psi)

If the maximum pressure is less than the minimum standard value, replace the radiator cap sub–assembly.

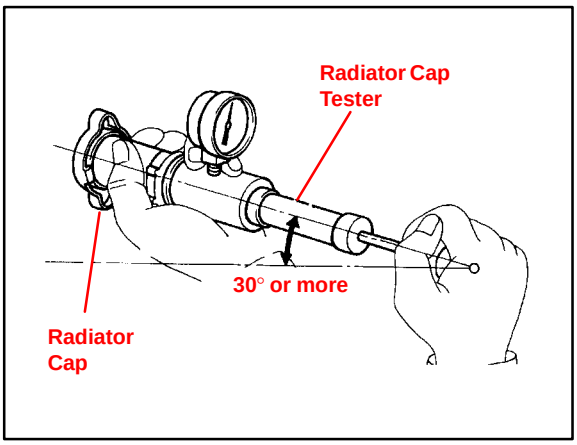
Radiator Cap Inspection Procedure (Continued)

Type: Compact Cap, 88 kPa



1. Remove coolant and any foreign material on rubber points "A," "B," and "C."
2. Check that points "A" and "B" are not deformed, cracked, or swollen.
3. Check that points "B" and "C" are not stuck together.
4. Apply engine coolant to point "B" before using the radiator cap tester.
   - Radiator Cap Tester: Snap–On/Sun P/N SVTS262A (or equivalent)
5. Before installing the radiator cap tester, use the applicable radiator cap adaptor provided in the following SST kits in conjunction with the radiator cap tester:
   - SST P/N 09230–00030–01 (09231–10080–01) or 09230–00020–01 (09231–10060–01) or 09230–00050–01 (09231–10110–01
6. When using the radiator cap tester, tilt it more than 30 degrees.
7. Pump the radiator cap tester several times, and check the maximum pressure.

   Pumping speed: 1 pump/second



HINT:

Stop pumping when the valve opens and read the gauge. The gauge must be within the standard values listed below when the pressure valve opens. The cap is considered OK when the pressure holds steady or falls very slowly, but holds within the standard values listed below for one minute.

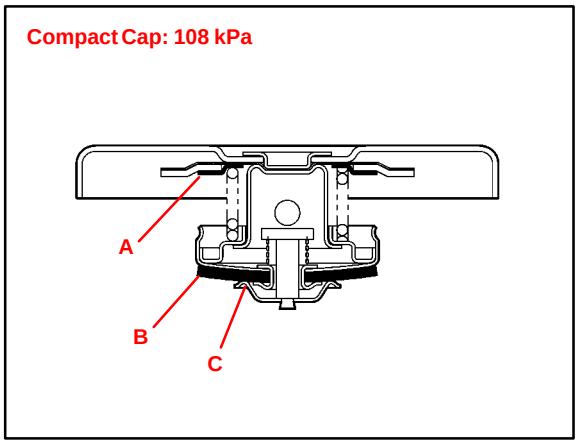
Specification:

VALVE OPENING PRESSURE	SPECIFIED CONDITION
Standard value (for brand–new cap)	74.0 to 103.0 kPa (0.75 to 1.05 kgf/cm^2, 10.7 to 14.9 psi)
Minimum standard value (for in–service cap)	59 kPa (0.60 kgf/cm^2, 8.53 psi)

If the maximum pressure is less than the minimum standard value, replace the radiator cap sub–assembly.

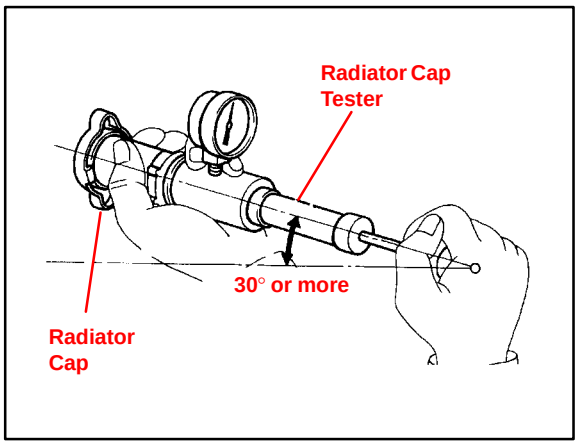
Radiator Cap Inspection Procedure (Continued)

Type: Compact Cap, 108 kPa



1. Remove coolant and any foreign material on rubber points "A," "B," and "C."
2. Check that points "A" and "B" are not deformed, cracked, or swollen.
3. Check that points "B" and "C" are not stuck together.
4. Apply engine coolant to point "B" before using the radiator cap tester.
   - Radiator Cap Tester: Snap–On/Sun P/N SVTS262A (or equivalent)
5. Before installing the radiator cap tester, use the applicable radiator cap adaptor provided in the following SST kits in conjunction with the radiator cap tester:
   - SST P/N 09230–00030–01 (09231–10080–01) or 09230–00020–01 (09231–10060–01) or 09230–00050–01 (09231–10110–01
6. When using the radiator cap tester, tilt it more than 30 degrees.
7. Pump the radiator cap tester several times, and check the maximum pressure.

   Pumping speed: 1 pump/second



HINT:

Stop pumping when the valve opens and read the gauge. The gauge must be within the standard values listed below when the pressure valve opens. The cap is considered OK when the pressure holds steady or falls very slowly, but holds within the standard values listed below for one minute.

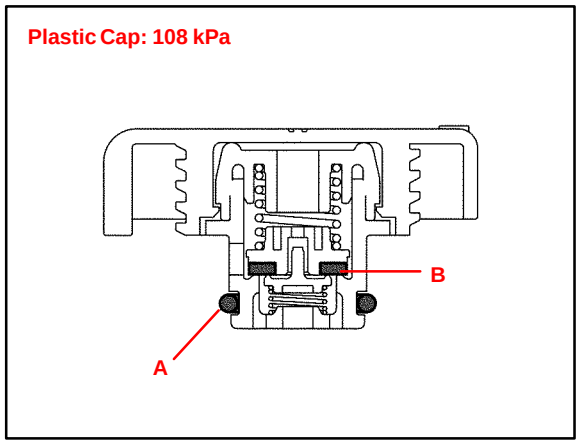
Specification:

VALVE OPENING PRESSURE	SPECIFIED CONDITION
Standard value (for brand–new cap)	93.3 to 122.7 kPa (0.95 to 1.25 kgf/cm^2, 13.5 to 17.8 psi)
Minimum standard value (for in–service cap)	78.5 kPa (0.80 kgf/cm^2, 11.38 psi)

If the maximum pressure is less than the minimum standard value, replace the radiator cap sub–assembly.

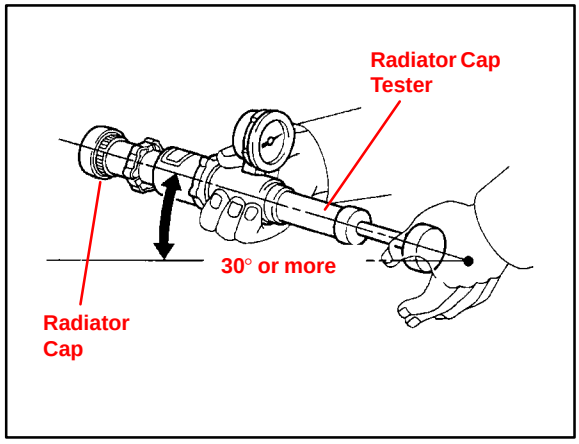
Radiator Cap Inspection Procedure (Continued)

Type: Plastic Cap, 108 kPa



1. Remove coolant and any foreign material on O–ring "A."
2. Check that O–ring "A" is not deformed, cracked, or swollen.
3. Apply engine coolant to O–ring "A" and rubber point "B" before using the radiator cap tester.
   - Radiator Cap Tester: Snap–On/Sun P/N SVTS262A (or equivalent)
4. Before installing the radiator cap tester, use the applicable radiator cap adaptor provided in the following SST kits in conjunction with the radiator cap tester:
   - SST P/N 09230–00030–01 (09231–10080–01) or 09230–00020–01 (09231–10060–01) or 09230–00050–01 (09231–10110–01
5. When using the radiator cap tester, tilt it more than 30 degrees.
6. Pump the radiator cap tester several times, and check the maximum pressure.

   Pumping speed: 1 pump/second



HINT:

Stop pumping when the valve opens and read the gauge. The gauge must be within the standard values listed below when the pressure valve opens. The cap is considered OK when the pressure holds steady or falls very slowly, but holds within the standard values listed below for one minute.

Specification:

VALVE OPENING PRESSURE	SPECIFIED CONDITION
Standard value (for brand–new cap)	93.3 to 122.7 kPa (0.95 to 1.25 kgf/cm^2, 13.5 to 17.8 psi)
Minimum standard value (for in–service cap)	78.5 kPa (0.80 kgf/cm^2, 11.38 psi)

If the maximum pressure is less than the minimum standard value, replace the radiator cap sub–assembly.