Introduction

In high ambient temperature areas, some 2004 – 2005 model year Scion xB owners may feel that the A/C system does not blow cold enough air. This procedure provides a method to improve this condition.

NOTE:
Refer to TSB No. AC002–04, “A/C Not Cold Enough,” for instructions to adjust the air mix cable.

Applicable Vehicles


<table>
<thead>
<tr>
<th>APPLICABLE VIN RANGE</th>
<th>REQUIRED INSTALLATION</th>
<th>WARRANTY OP CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start of Production to JTLKT3#4*50190681</td>
<td>Air Conditioner Accessory Assembly and Air Conditioner Additional Kit</td>
<td>AC4003</td>
</tr>
<tr>
<td>JTLKT3#4*50190681 to Present</td>
<td>Air Conditioner Additional Kit ONLY</td>
<td>AC4005</td>
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Warranty Information

<table>
<thead>
<tr>
<th>OP CODE</th>
<th>DESCRIPTION</th>
<th>TIME</th>
<th>OFP</th>
<th>T1</th>
<th>T2</th>
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<tbody>
<tr>
<td>AC4003</td>
<td>Installation of BOTH Air Conditioner Accessory Assembly and Air Conditioner Additional Kit</td>
<td>5.0</td>
<td>88310–52250</td>
<td>7A</td>
<td>99</td>
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<td>AC4005</td>
<td>Installation of Air Conditioner Additional Kit ONLY</td>
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<td></td>
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</table>

Applicable Warranty**:

This repair is covered under the Toyota Comprehensive Warranty. This warranty is in effect for 36 months or 36,000 miles, whichever occurs first, from the vehicle’s in-service date.

** Warranty application is limited to correction of a problem based upon a customer’s specific complaint.
## Parts Information

<table>
<thead>
<tr>
<th>PREVIOUS PART NUMBER</th>
<th>CURRENT PART NUMBER</th>
<th>PART NAME</th>
<th>QTY</th>
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<tbody>
<tr>
<td>N/A</td>
<td>88840–52130</td>
<td>Accessory Assembly, Air Conditioner</td>
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<tr>
<td>N/A</td>
<td>88840–52140</td>
<td>Additional Kit, Air Conditioner</td>
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## Required SSTs

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>SPECIAL SERVICE TOOLS (SSTs)</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>09870–00005–01* (or equivalent)</td>
<td>A/C Line Disconnect Kit</td>
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<tr>
<td>09870–00025</td>
<td>High Side A/C Line Disconnect Tool (included in A/C Line Disconnect Kit)</td>
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</tbody>
</table>

* Essential SST.

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

## Required Equipment

<table>
<thead>
<tr>
<th>MANUFACTURER</th>
<th>EQUIPMENT</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robinair 342000 (or equivalent)</td>
<td>R–134a Refrigerant Recovery/Recycling Machine</td>
<td>1</td>
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</table>

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

<table>
<thead>
<tr>
<th>PART NAME</th>
<th>QTY</th>
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<tr>
<td>Compressor Assembly, w/Magnet</td>
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<tr>
<td>Plate, Bracket</td>
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<tr>
<td>Cover Sub-Assembly</td>
<td>1</td>
</tr>
<tr>
<td>Thermistor Assembly</td>
<td>1</td>
</tr>
<tr>
<td>Tube &amp; Accessory Assembly, Air Conditioner</td>
<td>1</td>
</tr>
<tr>
<td>Hose, Discharge</td>
<td>1</td>
</tr>
<tr>
<td>Condenser Assembly</td>
<td>1</td>
</tr>
<tr>
<td>Packing</td>
<td>1</td>
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</table>

### Components

- **Piping Clamp**
- **Suction Hose Sub-assembly**
- **Liquid Tube Sub-assembly A**
- **Cooler Refrigerant Discharge Hose No. 1**
Components (Continued)
Components

(Continued)

:C: Non-reusable Part

: Compressor Oil ND-OIL 8 (or equivalent)
PREPARATION:
Start the engine, turn the AC system on and let the engine idle for approximately 3 minutes. This will ensure that the compressor oil is circulated through the system. After the 3 minute idle, there will be 30 cc of oil in the compressor, 20 cc in the condenser/pipes/tubes, and 10 cc in the evaporator for a system total of 60 cc. In this procedure you will remove and replace the condenser, discharge tube and the compressor, which will remove 50 cc of oil from the system making it unnecessary to drain any oil from the new compressor.

1. Discharge Refrigerant From Refrigeration System.
   - Equipment:
     Robinair R-134a Refrigerant Recovery/Recycling Machine (P/N 342000)

2. Remove Radiator Grille.
   A. Remove the 3 clips and radiator grille.

3. Remove Front Fender Liner LH.
   A. Remove the 2 screws.
   B. Partially remove the fender liner.

HINT:
Do not remove the fender liner completely but partially so that the bumper cover can be removed.

4. Remove Front Fender Liner RH.

HINT:
Use the same procedures for the RH and LH sides.

5. Remove Front Bumper Cover.
   A. Put protective tape under the front fender.
   B. Remove the clip and 2 bolts from the upper side of the bumper cover.
   C. Using a screwdriver, disengage the 2 claws and remove the 2 bolts, 6 screws and bumper cover.

HINT:
Tape the screwdriver tip before use.
6. Remove Radiator Support Seal.  
   A. Remove the 2 clamps and the radiator support seal.

7. Remove Low Pitched Horn Assembly.

8. Remove Radiator Support Opening Cover.  
   A. Remove the 2 clips and radiator support opening cover.

   A. Remove the bolt and disconnect the cooler refrigerant discharge hose No. 1 from the receiver/condenser assembly.

10. Disconnect Liquid Tube Sub–assembly A.  
     (The location might be different from the illustration.)  
     A. Remove the liquid tube sub–assembly A from the receiver/condenser assembly.
11. Remove Receiver/Condenser Assembly.
   A. Remove the 2 bolts and the receiver/condenser assembly.

12. Remove Liquid Tube Sub-assembly A.
   A. Install the SST to the piping clamp.
      • SST 09870–00025

   **HINT:**
   Confirm the direction of the piping clamp claw and SST referring to the illustration on the caution label.

   B. Push down on the SST and release the clamp lock.

   **NOTE:**
   Be careful not to deform the tube when pushing down on the SST.

   C. Pull the SST slightly and push the release lever, and then remove the piping clamp with the SST.

   D. Disconnect connector.

   E. Remove the bolt and separate the bracket.

   F. Remove the liquid tube sub-assembly A.

   **NOTE:**
   • Do not use tools, such as a screwdriver, to remove the tube.
   • Seal the open fittings immediately to keep moisture and foreign material out of the system.
13. Remove Cooler Refrigerant Discharge Hose No. 1.
   A. Remove the bolt and disconnect the cooler refrigerant discharge hose No. 1 from the compressor assembly.
   B. Remove the cooler refrigerant discharge hose No. 1.

   A. Remove the bolt and disconnect the suction hose sub-assembly from the compressor assembly.
   
   **NOTE:**
   Seal the open fittings immediately to keep moisture and foreign material out of the system.

15. Remove Fan and Generator Belt.
16. Remove Engine Under Cover RH.
17. Remove Compressor Assembly.
   A. Disconnect the connector.
   B. Remove the 4 bolts and the compressor assembly.
18. Install New Compressor Assembly.
   A. Install the new compressor assembly with the 4 bolts.
      Torque: 25 N·m
      (255 kgf·cm, 18 ft·lbf)
   
   **NOTE:**
   Tighten the bolts in the order shown in the illustration to install the compressor assembly.

   B. Connect the connector.

19. Install Suction Hose Sub–assembly.
   A. Remove the attached vinyl tape from the hose.
   B. Apply a sufficient amount of compressor oil to a new O–ring and the fitting surface of the compressor assembly.
      **Compressor oil: ND–OIL 8 (or equivalent)**
   C. Install the O–ring on the suction hose sub–assembly.
   D. Install the suction hose sub–assembly on the compressor assembly with the bolt.
      Torque: 9.8 N·m
      (100 kgf·cm, 87 in·lbf)

20. Install New Cooler Refrigerant Discharge Hose No. 1.
   A. Remove the attached cap from the hose.
   B. Apply a sufficient amount of compressor oil to a new O–ring and the fitting surface of the compressor assembly.
      **Compressor oil: ND–OIL 8 (or equivalent)**
   C. Install the O–ring on the cooler refrigerant discharge hose No. 1.
   D. Install the cooler refrigerant discharge hose No. 1 on the compressor assembly with the bolt.
      Torque: 9.8 N·m (100 kgf·cm, 87 in·lbf)
21. Install Fan and Generator Belt.

22. Install Engine Under Cover RH.

23. Install New Receiver/Condenser Assembly.
   A. Install the receiver/condenser assembly with the 2 bolts.
   Torque: 9.8 N•m
   (100 kgf•cm, 87 in.•lb)

   A. Attach the packing to the position shown in the illustration.
   (When the packing has not been attached).

**HINT:**
Clean the areas where the packing will be attached.
B. Install the radiator support opening cover with 2 clips.

**HINT:**
Insert the clips from the back side of the cover (in the opposite direction when removing the cover).

**NOTE:**
Prevent the packing from coming unstuck when installing the radiator support opening cover.
25. Install Liquid Tube Sub-assembly A.
   A. Remove the attached cap from the tube.
   B. Lubricate 2 new O-rings with compressor oil and install them to the hose.
      Compressor oil: ND-OIL 8 (or equivalent)
   C. Install the liquid tube sub-assembly A and piping clamp.

   **HINT:**
   After connection, check the engagement of the piping clamp.

   A. Remove the attached cap from the tube.
   B. Sufficiently apply compressor oil to a new O-ring and hose joint.
      Compressor oil: ND-OIL 8 (or equivalent)
   C. Install the cooler refrigerant discharge hose No. 1 to the receiver/condenser assembly with the bolt.
      Torque: 5.4 N•m
      (55 kgf•cm, 48 in•lbf)

27. Connect Liquid Tube Sub-assembly A.
   A. Remove the attached cap from the tube.
   B. Lubricate 2 new O-rings with compressor oil and install them to the hose.
      Compressor oil: ND-OIL 8 (or equivalent)
   C. Install the liquid tube sub-assembly to the receiver/condenser assembly with the bolt.
      Torque: 5.4 N•m
      (55 kgf•cm, 48 in•lbf)
   A. Install the hood lock support sub-assembly with the 2 bolts.
      Torque: 5.0 N•m
      (51 kgf•cm, 44 in.-lbf)
   B. Install the clip.

29. Install Hood Lock Assembly.
   A. Install the hood lock assembly with the 3 bolts.

30. Install High Pitched Horn Assembly.

31. Install Low Pitched Horn Assembly.

32. Install Front Bumper Cover.

33. Install Front Spoiler Pad RH.

34. Install Front Spoiler Pad LH.

35. Install Radiator Grille.

36. Charge Refrigerant.
   • Equipment:
     Robinair R-134a Refrigerant
     Recovery/Recycling Machine
     (P/N 342000)
   Specified amount: 380 ±30 g (13.4 ±1.1 oz.)

37. Remove Instrument Panel.
   A. Refer to the Technical Information System (TIS), 2004 model year
      Scion xB Repair Manual:
      Instrument Panel/Meter:
      Instrument Panel Sub-assy, for
      the procedures for removing the
      instrument panel sub-assembly.
      Stop at section 16e.
38. Replace Cooler Thermistor No. 1.
   A. Disengage the 2 claws.

   **HINT:**
   Claws can be damaged but be careful not to damage the case.

   B. Remove the connector.
   C. Replace the cooler thermistor No. 1 with a new one.

   **NOTE:**
   If vehicle requires installation of both kits, skip step 39 and go to step 40.

40. Install Air Conditioner Accessory Assembly.
### TYPE OF HEATER RADIATOR ASSEMBLY

<table>
<thead>
<tr>
<th>TYPE OF HEATER RADIATOR ASSEMBLY</th>
<th>SWITCH BASE?</th>
<th>INSTALLATION PROCEDURE</th>
</tr>
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<tbody>
<tr>
<td>A</td>
<td>Yes</td>
<td>A (pages 18–21)</td>
</tr>
<tr>
<td>Other Than Type A</td>
<td>No</td>
<td>B (pages 22–27)</td>
</tr>
</tbody>
</table>

Please select the appropriate installation procedure from the above chart.
Air Conditioner Accessory Assembly: Components

Defroster Nozzle Assembly
Air Conditioning Blower Assembly
Cooler Wiring No. 2
Air Conditioning Amplifier Assembly
Heater Radiator Assembly
1. Remove Defroster Nozzle Assembly.
   A. Remove the clip.
   B. Disengage the 2 claws and remove the defroster nozzle assembly.

2. Remove Air Conditioning Amplifier Assembly.
   A. Disconnect the connector.
   B. Remove the 2 screws and air conditioning amplifier assembly.

   NOTE:
   Do not remove the air conditioning amplifier bracket, as the air conditioning amplifier and bracket will be reused.

3. Remove Cooler Wiring No. 2.
   A. Remove the 5 screws and the cooler wiring No. 2.

   NOTE:
   - Remove the brackets from the connector and reinstall them to the heater radiator assembly, as the brackets will be reused.
   - Cut the wire harness in the switch area, and remove the cooler wiring No. 2 from the heater unit.
4. Install New Max Cool Switch and Max Hot Switch.
   A. Remove the 2 screws and the new max cool switch from the bracket.
   B. Remove the connector from the bracket.
   C. Install the new max hot switch on the heater radiator assembly with the 2 original screws.
   D. Install the new max cool switch with one new screw.
   E. Install the connector to the switch base as illustrated.

HINT:
Only one screw is used to secure the max cool switch.

5. Install New Cooler Wiring No. 2.
   A. Route the foot defrost switch around the back side of the defroster nozzle, and install it with the 2 screws.
B. Place the new cooler wiring No. 2 as shown in the illustration.
C. Connect the connector.

6. Install Air Conditioning Amplifier.
   A. Reinstall the air conditioning amplifier assembly removed in step 2.
   B. Connect the connector.

7. Check Operation.
   A. Install the instrument cluster finish panel sub–assembly.
   B. Remove the glove compartment door assembly.
   C. Reconnect the battery, and then turn the ignition switch ON.
   D. Set up the following:
      • Fresh Mode
      • Blower Low
      • Face
E. Check the door inside the blower motor cover when the temperature control knob is in the MAX COOL position.

**The door should be OPEN.**

F. Move the temperature control knob from the MAX COOL position towards the MAX HOT direction by 3 to 4 notches, and then check the door inside the blower motor cover.

**The door should be CLOSED.**

G. Remove the instrument cluster finish panel sub-assembly.

H. Turn the ignition switch OFF, and then disconnect the battery.

**NOTE:**
Confirm the adjustment of air mix cable by referring to TSB No. AC002–04, “A/C Not Cold Enough.”

1. Remove Defroster Nozzle Assembly.
   A. Remove the clip.
   B. Disengage the 2 claws and remove the defroster nozzle assembly.

2. Remove Air Conditioning Amplifier Assembly.
   A. Disconnect the connector.
   B. Remove the 2 screws and air conditioning amplifier assembly.

   NOTE:
   Remove the air conditioning amplifier bracket, as only the air conditioning amplifier will be reused.

3. Remove Air Mix Damper Control Cable Sub-assembly.
   A. Disconnect the outer cable.
   B. Disconnect the inner cable and remove the air mix damper control cable sub-assembly.
4. Remove Cooler Wiring No. 2.
   A. Remove the 5 screws and the cooler wiring No. 2.

   **NOTE:**
   - Remove the brackets from the connector and reinstall them to the heater radiator assembly, as the brackets will be reused.
   - Cut the wire harness in the switch area, and remove the cooler wiring No. 2 from the heater unit.

5. Replace Air Mix Link.
   A. Remove the 2 screws, and remove the air mix main link, air mix sub link, and air mix link shaft.

   **HINT:**
   There are 3 kinds of air mix links. Refer to “Type of Heater Radiator Assembly” on page 15.

   B. Install the new air mix main link.
   C. Install the new air mix sub link.
   D. Tighten the 2 screws.
   E. Install the new air mix link shaft.

   **HINT:**
   After installing the air mix link shaft, check that the links move smoothly.
6. Install Air Conditioner Accessory Assembly.
   A. Install the air conditioner accessory assembly with the 4 screws.

   **NOTE:**
   - Check that the top ends of the air mix door lever and the max cool switch lever are almost flush.
   - If the top ends of the air mix door lever and the max cool switch lever are not flush, adjust the height by bending the air conditioner accessory assembly bracket.
7. Install New Cooler Wiring No. 2.
   A. Route the foot defrost switch around the backside of the defroster nozzle, and install it with the 2 screws.
   B. Place the new cooler wiring No. 2 as shown in the illustration.
   
   **NOTE:**
   Fit the wire harness into the boss area indicated with the arrows.
   C. Connect the connector.

8. Install Air Conditioning Amplifier.
   A. Install the air conditioning amplifier assembly removed in step 2.
   B. Connect the connector.
9. Install Air Mix Damper Control Cable Sub–assembly.

**HINT:**
Adjust the air mix cable by referring to TSB No. AC002–04, “A/C Not Cold Enough.”

10. Check Operation.
A. Install the instrument cluster finish panel sub–assembly.
B. Remove the glove compartment door assembly.
C. Reconnect the battery, and then turn the ignition switch ON.
D. Set up the following:
   - Fresh Mode
   - Blower Low
   - Face
E. Check the door inside the blower motor cover when the temperature control knob is in the MAX COOL position.
   **The door should be OPEN.**
F. Move the temperature control knob from the MAX COOL position towards the MAX HOT direction by 3 to 4 notches, and then check the door inside the blower motor cover.
   **The door should be CLOSED.**

**HINT:**
Move the temperature control knob to the MAX COOL position and then loosen the 2 screws indicated in the illustration. Move the air conditioner accessory assembly bracket to adjust the MAX COOL switch position so the door inside the blower motor cover is open. Tighten the 2 screws once the desired position is achieved.

G. Remove the instrument cluster finish panel sub–assembly.
H. Turn the ignition switch OFF, and then disconnect the battery.


13. Inspect Leakage of Refrigerant.