

How To Diagnose Trouble In Outdoor Unit - Toshiba RAS-13SKV-E Service Manual

Indoor/outdoor unit, split type air conditioner

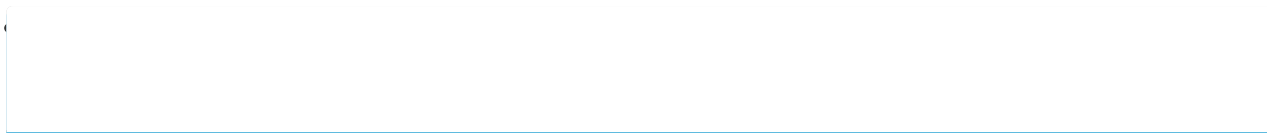
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Troubleshooting

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11-8. How to Diagnose Trouble in Outdoor Unit

11-8-1. Summarized Inner Diagnosis of Inverter Assembly

Diagnosis/Process flowchart

Remove connector
of compressor.

NG

Check 25A fuse
(Part No.F01).

OK

Replace fuse.

capacitor, diode

block (DB01),

Check

NG

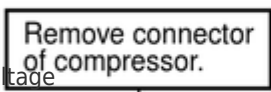
terminal voltage

of electrolytic

11-8. How to Diagnose Trouble in Outdoor Unit

11-8-1. Summarized Inner Diagnosis of Inverter Assembly

Table 11-8-1

Diagnosis/Process flowchart	Item	Contents
	Preparation	Turn "OFF" the power supply breaker, and remove 3P connector which connects inverter and compressor.

capacitor.

OK

capacitor, diode

NO

Does outdoor

fan rotate?

YES

Remove connector

CN300 of outdoor fan

NG

motor, and using a

tester, check resistance

value between every

phases at motor side.

Replace

outdoor

fan motor.

A

Item

Preparation

Check

Check

Check

Check

electrolytic

etc.

Check

electrolytic

(DB01),

etc.

Operation

Measure-

ment

Check

Stop

OK

Check

Measure-

ment

B

Table 11-8-1

Contents

Turn "OFF" the power supply

breaker, and remove 3P

connector which connects

inverter and compressor.

• Check whether 25A fuse

on the control board

assembly is blown or not.

(F01)

Turn on the power breaker,

and operate the air condi-

tioner in COOL mode by time

shortening.

11-8. How to Diagnose Trouble in Outdoor Unit

11-8-1. Summarized Inner Diagnosis of Inverter Assembly

Table 11-8-1

Diagnosis/Process flowchart	Item	Contents
<pre> graph TD A[Remove connector of compressor.] --> B{Check 25A fuse (Part No.F01).} B -- NG --> C[Replace fuse.] C --> D{Check electrolytic capacitor, diode block (DB01), etc.} D -.-> E{Check terminal voltage of electrolytic capacitor.} B -- OK --> E E -- NG --> F{Check electrolytic capacitor, diode (DB01), etc.} F -.-> E E -- OK --> G{Does outdoor fan rotate?} G -- YES --> H[Turn on the power breaker, and operate the air conditioner in COOL mode by time shortening.] G -- NO --> I[Turn on the power breaker, and operate the air conditioner in COOL mode by time shortening.] </pre>	<p>Preparation</p> <p>Check</p> <p>Check</p> <p>Operation</p> <p>Measurement</p>	<p>Turn "OFF" the power supply breaker, and remove 3P connector which connects inverter and compressor.</p> <ul style="list-style-type: none"> Check whether 25A fuse on the control board assembly is blown or not. (F01) <p>Turn on the power breaker, and operate the air conditioner in COOL mode by time shortening.</p> <p>Measure terminal voltage of the electrolytic capacity.</p> <p>500μF:400WV x 3</p>

Measure terminal voltage of the electrolytic capacity.
 500μF:400WV x 3
 760μF:400WV x 3
 After operation, turn off the power breaker after 5 minutes 20 seconds passed, and discharge the electrolytic capacitor by soldering iron.

11-8. How to Diagnose Trouble in Outdoor Unit

11-8-1. Summarized Inner Diagnosis of Inverter Assembly

Table 11-8-1

Diagnosis/Process flowchart	Item	Contents
<pre> graph TD A[Remove connector of compressor.] --> B{Check 25A fuse (Part No.F01).} B -- NG --> C[Replace fuse.] C --> D{Check electrolytic capacitor, diode block (DB01), etc.} B -- OK --> E{Check terminal voltage of electrolytic capacitor.} D -.-> E E -- NG --> F{Check electrolytic capacitor, diode (DB01), etc.} F -.-> E E -- OK --> G{Does outdoor unit rotate?} G -- YES --> H[] G -- NO --> I[] </pre> <p>Remove connector of compressor.</p> <p>Check 25A fuse (Part No.F01). NG → Replace fuse. OK → Check terminal voltage of electrolytic capacitor.</p> <p>Check electrolytic capacitor, diode block (DB01), etc.</p> <p>Check terminal voltage of electrolytic capacitor. NG → Check electrolytic capacitor, diode (DB01), etc. OK → Does outdoor unit rotate?</p> <p>Does outdoor unit rotate? YES → [] NO → []</p>	<p>Preparation</p> <p>Check</p> <p>Check</p> <p>Operation</p> <p>Measurement</p>	<p>Turn "OFF" the power supply breaker, and remove 3P connector which connects inverter and compressor.</p> <ul style="list-style-type: none"> Check whether 25A fuse on the control board assembly is blown or not. (F01) <p>Turn on the power breaker, and operate the air conditioner in COOL mode by time shortening.</p> <p>Measure terminal voltage of the electrolytic capacity.</p> <p>500μF:400WV x 3</p>

R
R
S
Q
S
-
or
-
or short-circuited?
-
Is not frame grounded with
Q
R
S
, or
?

- 87 -
 Summary
 If fuse was blown, be sure to check the electrolytic capacitor and diode block. (DB01)
 • Connect discharge resistance (approx. 1000, 40W) or soldering iron (plug) between +, - terminals of the electrolytic capacitor (760μF) of C14 (with printed CAUTION HIGH VOLTAGE) on P.C. board.
 Discharging position

(Discharging period
 10 seconds or more)
 OK if 760 μ F →

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11-8-1. Summarized Inner Diagnosis of Inverter Assembly

Remove CN300 while
 pushing the part in
 by an arrow because CN300
 is a connector with lock.

Table 11-8-1

Q

-
 → Resistance between
 opened
 phases should be
 approx. 55 to 77 Ω
 → Should be 10M Ω or
 more.
 Plug of
 soldering
 iron

Diagnosis/Process flowchart	Item	Contents
<pre> graph TD A[Remove connector of compressor.] --> B{{Check 25A fuse (Part No.F01).}} B -- NG --> C[] style C fill:none,stroke:none </pre>	Preparation	Turn "OFF" the power supply breaker, and remove 3P connector which connects inverter and compressor.
	Check	<ul style="list-style-type: none"> Check whether 25A fuse on the control board assembly is blown or not

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