

TM12666 - 135G Excavator R134a Air Conditioning System Test

R134a Air Conditioning System Test

-: Specifications

SPECIFICATIONS	
Engine Speed Dial	Fast Idle
Auto-Idle Switch	A/I OFF
Power Mode Button	PWR (power) Mode
Temperature Control/Mode Switch	Maximum Cooling
Blower Motor Speed Switch	High Speed

-: Service Equipment And Tools

SERVICE EQUIPMENT AND TOOLS
JT02045 R134a Deluxe Recovery/Recycling and Charging Station
JT02167A Prism Pro Refrigerant Identification Instrument
Thermometer



CAUTION:

Avoid personal injury due to exposure to liquid refrigerant. Liquid refrigerant will freeze eyes or skin on contact. Wear goggles, gloves, and protective clothing.

See Refrigerant Cautions and Proper Handling . (Group 9031-25.)

IMPORTANT:

Use correct refrigerant recovery, recycling, and charging stations. Do not mix refrigerant, hoses, fittings, components, or refrigerant oils to avoid air conditioning system contamination. Identify refrigerant before recovering, recycling, and charging system.

1. Prepare machine for service. [See Park and Prepare for Service Safely](#) . (Group 9000-01).
2. Clean the cooling package compartment access door, and fins of hydraulic oil cooler, radiator, condenser, and evaporator to ensure proper air flow.
3. Clean and inspect cab fresh air filter. Replace if necessary. [See Clean Cab Fresh Air and Cab Recirculating Air Filters](#) . (Operator's Manual.)
4. Identify refrigerant type using JT02167A Prism Pro Refrigerant Identification Instrument.
5. **NOTE:**

Follow manufacturer's instructions when operating refrigerant recovery, recycling, and charging station.

Connect JT02045 R134a Deluxe Recovery, Recycling, and Charging Station. [See R134a Refrigerant Recovery, Recycling.](#)

[and Charging Station Installation Procedure](#) . (Group 1830.)

6. Open both low and high pressure valves on refrigerant recovery, recycling, and charging station.
7. Open cab door and windows.
8. Start engine and run at specification.

Item	Measurement	Specification
R134a Air Conditioning System Test		
Engine Speed Dial	Position	Fast Idle
Auto-Idle Switch	Position	A/I OFF
Power Mode Button	Setting	PWR (power) Mode

9. Press the blower motor speed switch to turn the air conditioner on. [See Cab Heater and Air Conditioner](#) . (Operator's Manual.)
10. Turn the temperature control/mode switch to maximum cooling position.
11. Turn blower motor speed switch to high.
12. Run machine for at least 5 minutes.
13. Measure and record air temperature at condenser air inlet and at air ducts in cab.
14. Observe low side pressure and high side pressure on gauges.
15. Compare pressures and air duct temperature readings to specifications shown.

-: Low And High Pressures At Various Temperatures

Ambient Air Temperature	Expected Air Duct Temperature	Low Side Pressure	High Side Pressure
19—21°C 67—70°F	9—13°C 48—56°F	108—131 kPa 1.08—1.31 bar 16—19 psi	1127—1364 kPa 11.27—13.64 bar 163—198 psi
22—24°C 72—76°F	9—13°C 48—55°F	112—135 kPa 1.12—1.35 bar 16—20 psi	1200—1452 kPa 12.00—14.52 bar 174—211 psi
25—26°C 77—79°F	10—14°C 50—57°F	120—146 kPa 1.20—1.46 bar 17—21 psi	1366—1654 kPa 13.66—16.54 bar 198—240 psi
27—29°C 81—85°F	12—16°C 53—60°F	131—159 kPa 1.31—1.59 bar 19—23 psi	1427—1727 kPa 14.27—17.27 bar 207—250 psi
30—32°C 86—90°F	13—17°C 55—63°F	149—181 kPa 1.49—1.81 bar 22—26 psi	1572—1903 kPa 15.72—19.03 bar 228—276 psi
33—35°C 92—95°F	15—19°C 59—67°F	165—200 kPa 1.65—2.00 bar 24—29 psi	1705—2064 kPa 17.05—20.64 bar 247—299 psi
36—38°C	17—22°C	180—218 kPa 1.80—2.18 bar	1833—2219 kPa 18.33—22.19 bar

97—101°F	63—72°F	17—24 psi	221—324 psi
39—40°C 103—104°F	20—24°C 68—75°F	194—234 kPa 1.94—2.34 bar 28—34 psi	1955—2366 kPa 19.55—23.66 bar 283—343 psi
41—43°C 106—110°F	21—26°C 70—79°F	204—247 kPa 2.04—2.47 bar 30—36 psi	2054—2486 kPa 20.54—24.86 bar 298—360 psi

16. If measurements do not meet specifications, diagnose malfunction. [See Operating Pressure Diagnostic Chart](#) . (Group 9031-25.)