

A/C System Troubleshooting Charts

Provided by Denso

Abnormal Noise			
Symptom	Condition	Possible Cause	Remedy
Compressor noisy.	Noise from inside compressor.	<ul style="list-style-type: none"> Bearing worn or damaged. Defective cylinder and/or shaft. 	Disassemble and replace defective parts.
Magnetic clutch noisy.	Rattling noise when magnetic clutch is not engaged.	Bearing worn or damaged.	Replace bearing.
Noise from piping.	Piping not secured.	Piping vibrating. Pulsating noise resonates into body.	Secure piping.
Noise from condenser.	Condenser vibration prominent.	Condenser mounting stay resonating with body.	Secure by inserting rubber between stay and body.
Noise produced by bracket.	Rattles when touched, continuous rattling heard when operating.	<ul style="list-style-type: none"> Bracket cracked or broken. Mounting bolts loose. 	<ul style="list-style-type: none"> Replace. Retighten bolts.
Idler pulley noisy.	<ul style="list-style-type: none"> Clattering noise produced. Rattles when touched. 	<ul style="list-style-type: none"> Bearing broken. Bracket cracked or loose. 	<ul style="list-style-type: none"> Replace. Replace or retighten.
Noisy crankshaft pulley.	Rattles.	Improperly installed.	Replace or retighten.
Belt noisy	<ul style="list-style-type: none"> Belt deflection excessive Belt side surface worn Belt worn 	<ul style="list-style-type: none"> Belt worn Belt center misaligned Worn belt causing belt slipping on pulleys and tensioner 	<ul style="list-style-type: none"> Adjust tension Align center Replace belt
Noisy belt tensioner	Squealing belt and/or rumbling noise	Tensioner bearing or tensioner spring weak	Replace belt and tensioner

Clutch			
Symptom	Condition	Possible Cause	Remedy
No attraction.	Wiring normal.	Coil open.	Replace.
	No attraction even when cooler switch is ON.	Wiring parts open, wiring or connection defective (ground, fuse).	Reconnect or replace open wiring parts.
		Switch parts contact defective, malfunction (thermostat, stabilizer relay, cooler switch).	Repair or replace.
	At switch ON, rotor shows movement, and attracts when pushed.	Rotor to stator clearance too large.	Repair or replace.
Slips.	Clutch slips when rotating.	<ul style="list-style-type: none"> Battery voltage low. Oil on clutch face. Coil layer short. 	<ul style="list-style-type: none"> Recharge battery. Clean off oil. Replace.

Expansion Valve			
Symptom	Condition	Possible Cause	Remedy
Valve outlet not cold.	Temperature difference at outlet and inlet cannot be sensed.	<ul style="list-style-type: none"> Heat sensitizing tube gas leakage. Amount of refrigerant in cycle insufficient. 	<ul style="list-style-type: none"> Replace expansion valve. Repair gas leakage point and charge refrigerant.
Valve inlet cold or frosted.	High pressure piping from receiver outlet feels cold.	Receiver clogged.	Replace.
	Frosts.	Expansion valve inside clogged.	Replace expansion valve and receiver.

Compressor			
Symptom	Condition	Possible Cause	Remedy
Discharge pressure abnormally high.	Radiator fan air suction poor.	<ul style="list-style-type: none"> • Fan belt broken or loose. • Condenser and radiator fins covered with dirt and dust. 	<ul style="list-style-type: none"> • Retighten or replace. • Clean condenser and radiator.
	No bubbles appear in sight glass when condenser is cooled with water.	Excessive refrigerant charged.	Discharge refrigerant to proper amount.
	Pressure at high pressure side abnormally high. Just after stopping compressor, pressure drops quickly to about 28psi.	Air entered in refrigerating cycle.	Discharge refrigerant and after sufficient evacuating, recharge refrigerant.
Suction pressure abnormally high.	Abnormally cold around low pressure hose and low pressure side service valve.	<ul style="list-style-type: none"> • Expansion valve opening too large. • Heat sensitizing tube has poor contact. 	Reinstall or replace.
	Heat load too large.	Outside air temperature abnormally high.	Endeavor to cool the condenser.
	High pressure side pressure high but suction pressure drops when condenser is cooled.	Excessive refrigerant charged.	Discharge refrigerant to proper amount.
	Just after stopping compressor, high and low pressure side pressures become equal.	<ul style="list-style-type: none"> • Blow on out gasket. • High and Low pressure valve broken or foreign object lodged in valve. 	<ul style="list-style-type: none"> • Replace. • Replace valve or remove foreign object.
Discharge pressure abnormally low.	<ul style="list-style-type: none"> • Low pressure side pressure too low. • Low pressure piping not cold. 	<ul style="list-style-type: none"> • Heat sensitizing tube gas leakage. • Expansion valve frozen or defective. 	Replace.
	Large passage of bubbles through sight glass.	Not enough refrigerant.	Charge to proper amount.
	If compressor is stopped, high and low pressure side pressures immediately equalize.	Compressor discharge or suction valve broken. Foreign object stuck in compressor discharge	<ul style="list-style-type: none"> • Repair or replace. • Disassemble and remove.
Suction pressure abnormally low.	Large passage of bubbles through sight glass.	Refrigerant insufficient.	Charge to proper amount.
	High pressure side pressure too low. Low pressure piping not cold.	<ul style="list-style-type: none"> • Heat sensitizing tube gas leakage. • Expansion valve frozen or defective. 	Replace.
	Discharge port temperature low, air not coming out.	Evaporator frosted.	<ul style="list-style-type: none"> • Adjust stabilizer relay. • Operate correctly (blower speed and temperature control combination.)
	Expansion valve frosted.	Expansion valve tends to clog.	Clean (remove moisture) or replace.
	Temperature difference at receiver front and rear pipings. When excessive, receiver rear piping frosts.	Receiver clogged.	Replace.
Discharge and suction pressure both high.	Heavy covering of dirt and dust on condenser fins.	Condenser cooling insufficient.	Wash off dirt and dust to improve air passage.
	No bubbles pass through sight glass when water is poured on condenser.	Refrigerant charged excessively.	Discharge refrigerant to proper quality.
Discharge and suction pressure both low.	Large passage of bubbles through sight glass.	Refrigerant insufficient.	Charge to proper amount.
Gas leakage.	Shaft seal becomes noticeably dirty and gaskets leaking.	Gas leaking from shaft seal.	Replace shaft seal.
	Bolts get stained with oil.	Gas leaking from bolted parts.	Retighten bolts.
	Gasket joints get stained with oil.	Gas leaking from gasket joints.	Replace gasket.
	Leakage from cracked part.	Gas leaking from part.	Replace cracked part.