

NO.9 NOISE WHILE OPERATING A/C SYSTEM

B3E070301038W11

9	Noise while operating A/C system.
DESCRIPTION	• Noise from magnetic clutch, A/C compressor, hose or refrigerant line.
POSSIBLE CAUSE	• Magnetic clutch operation noise (Step 4) • A/C compressor slippage noise (Steps 14-17) • Hose or refrigerant line interference noise (Step 18)

Diagnostic procedure

STEP	INSPECTION		ACTION
1	INSPECT A/C COMPRESSOR SLIPPAGE NOISE • Is there a squeaking or whirling sound (A/C compressor slippage noise)?	Yes	Go to Step 12.
		No	Go to the next step.
2	INSPECT A/C COMPRESSOR INTERFERENCE NOISE • Is there a rattling or vibrating sound (interference noise)?	Yes	Go to Step 16.
		No	Go to the next step.
3	INSPECT MAGNETIC CLUTCH OPERATION NOISE • Is there a clicking sound (magnetic clutch operation noise)?	Yes	Adjust the clearance between the pressure plate of magnetic clutch and A/C compressor pulley, then go to Step 17. (See MAGNETIC CLUTCH ADJUSTMENT.)
		No	Condition is normal. (Recheck malfunction symptoms.) Go to the next step.
4	INSPECT IDLE SPEED • Inspect idle speed. (See ENGINE TUNE-UP [ZJ, Z6].) (See ENGINE TUNE-UP [LF].) • Is it normal?	Yes	Go to the next step.
		No	Follow the repair instruction described in section 01-40, then go to Step 17.
5	INSPECT REFRIGERANT AMOUNT • Inspect refrigerant amount. • Is it normal?	Yes	Go to Step 8.
		No	Go to the next step.
6	INSPECT REFRIGERANT LINES • Inspect the refrigerant lines. - Is the piping free of damage and cracks? - Are the piping connections free of oil grime? (Visual inspection) - Are piping connections free of gas leakage? - Are the piping installation points on the condenser free of gas leakage?	Yes	Go to the next step.

	<ul style="list-style-type: none"> - Are the piping installation points on the receiver/drier free of gas leakage? - Are the piping installation points on the A/C compressor free of gas leakage? - Are the piping installation points on the A/C unit free of gas leakage? - Perform gas leakage inspection using a gas leak tester. 	No	<p>If the piping or A/C component (s) is damaged or cracked, replace them, then go to Step 17.</p> <p>If there is gas leakage, repair or replace connection and replace the condenser*, then go to Step 17.</p>
	• Are the above items normal?		
7	INSPECT EVAPORATOR PIPING CONNECTIONS IN A/C UNIT FOR GAS LEAKAGE <ul style="list-style-type: none"> • Are the piping connections for the evaporator in the A/C unit free of gas leakage? 	Yes	Adjust refrigerant amount to the specified level, then go to Step 17.
		No	<p>If the piping is damaged or cracked, replace it them, then go to Step 17.</p> <p>If there is gas leakage, repair or replace the connecting parts and replace the condenser*, then go to Step 17.</p>
8	INSPECT TO SEE WHETHER MALFUNCTION IS IN COMPRESSOR OIL OR ELSEWHERE <ul style="list-style-type: none"> • Add 20 ml {20 cc, 0.8 fl oz} of compressor oil. • Is noise heard when racing the engine? 	Yes	Go to the next step.
		No	Troubleshooting completed. Explain repair to customer.
9	INSPECT TO SEE WHETHER MALFUNCTION IS IN A/C COMPRESSOR OR ELSEWHERE <ul style="list-style-type: none"> • Drain compressor oil. • Is it contaminated with metal particles? 	Yes	Go to the next step.
		No	Replace the A/C compressor, then go to Step 17.
10	INSPECT TO SEE WHETHER MALFUNCTION IS SOMEWHERE IN A/C SYSTEM OR ELSEWHERE <ul style="list-style-type: none"> • Is compressor oil whitish and mixed with water? 	Yes	Replace entire A/C system (excluding heater), then go to Step 17.
		No	Go to the next step.
11	INSPECT A/C COMPRESSOR OIL <ul style="list-style-type: none"> • Is compressor oil darker than normal and contaminated with aluminum chips? 	Yes	Replace the A/C compressor and condenser, then go to Step 17. (Since the A/C compressor may be worn and receiver/drier may be clogged, replacement of the receiver/drier is necessary.)
		No	Condition is normal. Recheck malfunction symptoms.
12	INSPECT TO SEE WHETHER MALFUNCTION IS IN A/C COMPRESSOR OR ELSEWHERE <ul style="list-style-type: none"> • Is noise heard immediately after the A/C compressor is stopped? 	Yes	Replace the A/C compressor, then go to Step 17. (A/C compressor discharge valve left open)
		No	Go to the next step.
13	INSPECT DRIVE BELT <ul style="list-style-type: none"> • Inspect drive belt. <p>(See DRIVE BELT INSPECTION [ZJ, Z6])</p>	Yes	Go to the next step.

	(See DRIVE BELT INSPECTION [LF]) • Is it normal?	No	Adjust or replace drive belt, then go to Step 17.
14	INSPECT DRIVE BELT CONDITION • Is the drive belt worn? • Does it have foreign material imbedded in it, or have oil on it?	Yes	Remove obstruction, remove oil, or replace the drive belt, then go to Step 17.
		No	Go to the next step.
15	INSPECT MAGNETIC CLUTCH • Inspect the magnetic clutch. (See MAGNETIC CLUTCH INSPECTION [Z6, ZJ] .) (See MAGNETIC CLUTCH INSPECTION [LF] .) • Is it normal?	Yes	Replace the A/C compressor (excluding the pressure plate, A/C compressor pulley, and stator), then go to Step 17.
		No	Replace the magnetic clutch, then go to Step 17.
16	INSPECT TO SEE WHETHER MALFUNCTION IS IN A/C COMPRESSOR OR REFRIGERANT LINE • Is noise emitted from the A/C compressor?	Yes	Visually inspect the A/C compressor, replace appropriate parts if necessary, then go to the next step.
		No	If noise is due to refrigerant lines, repair detached or missing clips, tighten loose bolts, then go to the next step.
17	VERIFY THAT MALFUNCTION SYMPTOM OCCURS AFTER REPAIR • Has A/C compressor noise stopped?	Yes	Troubleshooting completed. Explain repairs to customer.
		No	Recheck malfunction symptoms, then repeat from Step 1 if malfunction recurs.

* : If there is gas leakage, air enters into the A/C system. The desiccant within the receiver/drier absorbs the moisture from the air and becomes saturated. If the A/C system is used in this condition, the inside of the A/C compressor will begin to rust due to this moisture, which may cause lock up or noise to occur. Therefore, replacement of the receiver/drier is necessary.