

TECHNICAL INFORMATION COMMUNICATION



Quality and Continuous Improvement

Number: TIC2021-0014

Date: 1/11/2022

Title: Furnace Motor Coast Down Noise

Product Category: Cooling Products

Products Affected

HD44SE125		HD52SE124	
58TNA070C171116	880TA48070C17A-A	58TN0A135C241122	880TA66135C24A-B
58TNA070C171216	880TA48070C17A-B	58TN0A135C241222	881TA66135C24A-A
58TN1A070C171116	881TA48070C17A-A	58TN1A135C241122	880TA66135C24A-A
58TN1A070C171216	881TA48070C17A-B	59CU5A080C211120	880TA66135C24A-B
59TN6B060C171114	986TC42060C17A-A	59TN6B120C241122	935CA60080C21A-A
59TN6B080C171114	986TC42080C17A-A		986TC66120C24A-A

Technical Information

Reports from the field in early 2020 claimed that occasionally a furnace with a variable speed motor HD44SE125 experienced a harmonic coast down noise when shutting off. The root cause of the noise is due to an elevated vibration that is present at very low frequencies that would excite a resonance response within the entire system. On startup the frequency range is quickly traversed, but on coast down it takes longer to go through that frequency range and the resonance can be excited. The resonance frequency is dependent on the entire system and this is why it was only reported on a small subset of the motors.

The supplier starting internal investigations to the root cause and implemented a production process improvement that concluded in eliminating the noise on shut down. This change started in mid-2020 and completed by November 2020. Renewed Testing in 2021 has confirmed the noise has been eliminated on shut down for both the ½ hp and 1 hp motors that had this improvement.

Affected part numbers are: HD44SE125 and HD52SE124

Improvement serial numbers begin with: K20V (Nov) date code or later.

All RC replacement stock HD44SE125 prior to the date code of K20V has been reprogrammed to engage a motor stop brake internal to the software. The stock motors will be marked with a GREEN DOT STICKER on the packaging and the motor label to help identify it as improved.

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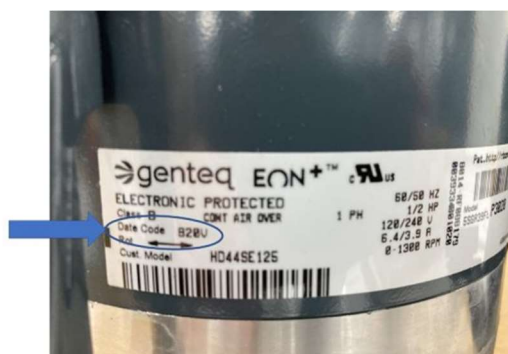
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How to identify the motor date code:

DATE CODE	MONTH
A	JAN
B	FEB
C	MAR
D	APR
E	MAY
F	JUN
G	JUL
H	AUG
I	SEP
J	OCT
K	NOV
L	DEC

The Date Code below indicates
it has a serial number:
B20V
Feb of 2020 build date.



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	MODEL #	HP	SERIAL #	COMMENT
PRODUCTION	HD44SE125	1/2	K20V and AFTER	Factory stock confirmed to be all after the correction date code.
	HD44SE125	1/2	J20V and PRIOR	Factory worked through stock early 2021, if unit experiences shut down noise and motor serial is J20V or prior the recommendation is to order a new motor from RC stock and obtain a new motor.
	HD52SE124	1	K20V and AFTER	Supplier change implemented, no field reports have been reported to date.
	HD52SE124	1	J20V and PRIOR	Supplier change NOT implemented, no field reports have been reported to date.
RC/FAST STOCK	HD44SE125	1/2	J20V and PRIOR	Reprogrammed motors implement a shut down brake, motor and box label will have a green dot.
	HD44SE125	1/2	K20V and AFTER	Production change was made, no coast down noise is expected.
	HD52SE124	1	J20V and PRIOR	Field reports have not indicated any shut down noises so no changes have been made to these motors in stock.
	HD52SE124	1	K20V and AFTER	Production change was made, no coast down noise is expected.
FIELD SUPPLY	HD44SE125	1/2		If prior to K20V serial and noise noted on shut down recommend replacing with motor after the K20V serial correction.
	HD44SE124	1		No field reports noted as of Sep 2021, recommend contacting field support engineer and submitting an FRS report should a coast down noise be reported on this model after the K20V serial date code.

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