



Technical Service Bulletin

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HDZAA Spec F Performance Updates	

HDZAA Spec F Performance Updates

Warranty Statement

The information in this document has no effect on present warranty coverage or repair practices, nor does it authorize TRP or Campaign actions.

Contents

Product Affected

- HDZAA spec F

Issue

Temperature Sensitivity

As ambient temperature increases, rated generator set engine power decreases approximately 6% for every 5.5°C (10°F) above 25 °C (77 °F). It may be necessary to run fewer appliances at higher temperatures. **See Resolution section below for recommendations when operating in high ambient temperature environments.**

Pre-Spec F Ratings:

- Power @ 25 °C is 3.2 kW
- De-rate: 1% Power decrease for every 5.5 °C increase above 25 °C.
- Engine start rating at or above -29 °C (-20 °F)

Note: Attempting to start below this temperature may require multiple start attempts.

Spec F Ratings:

- Power @ 25 °C is 3.2 kW
- De-rate: 6% Power decrease for every 5.5 °C increase above 25 °C.
- Engine start rating at or above 0 °C (32 °F)

Note: Attempting to start below this temperature may require multiple start attempts.

Fuel Requirements

B7 Bio-Diesel fuel that meets industry specifications and quality is suitable for use with this generator set. **B20 and higher Bio-Diesel blends are not suitable with this generator set.**

- Fuel filter replacement frequency has also been increased and requires changing every 250 hours. **See updated maintenance schedule below.**
- Use of non-suitable fuel may cause unsatisfactory engine starting and performance.
- Use of non-suitable fuel will further increase the replacement frequency of the fuel filter to 150 hours.

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MAINTENANCE TASK	FREQUENCY						Page
	After First 20 Hrs	Every 8 Hrs	Every Month	Every 250 Hrs	Every 500 Hrs	Every 1000 Hrs	
General Inspection		•					3-2
Check Engine Oil Level		•					3-3
Check Battery & Battery Connections ¹			•				3-2
Change Engine Oil ^{1, 2, 3}	•			•			3-4
Replace Engine Air Filter ^{2, 3}					•		3-6
Replace Fuel Filter ³					•		3-8
Adjust Engine Valve Lash ⁴						•	4-6
Clean the Oil Filter						•	3-5
Check Fuel Injector Pressure ^{4, 5}						•	4-6
1. Perform more often when operating in hot weather. 2. Perform more often when operating in dusty conditions. 3. Perform at least once a year. 4. Must be performed by trained and experienced personnel (authorized Cummins service representatives). 5. EPA requirement.							

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Figure 1, Pre-Spec F Maintenance Table

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MAINTENANCE TASK	FREQUENCY						Page
	After First 20 Hrs	Every 8 Hrs	Every Month	Every 250 Hrs	Every 500 Hrs	Every 1000 Hrs	
General Inspection		•					3-2
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Figure 2, Spec F Maintenance Table

Verification/Confirmation

Ask customer the below questions based on customer complaint to understand operating conditions.

Overload symptom

- Are customer loads exceeding the recommendations below in the **resolution** section?
 - If yes, customer loads need to be reduced.
 - If no, further troubleshooting for overload is required, see service manual.
- Does customer air conditioning utilize a soft start feature?
 - If yes, further troubleshooting for overload is required, see service manual.
 - If no, recommend use of soft start device.

No start/Rough running symptom

- Is customer using suitable fuel?
 - If yes, further troubleshooting for rough running is required, see service manual.
 - If no, confirm last fuel filter change is under 150 hours or within last year. Recommend using suitable fuel to avoid undesirable engine performance.
- Is customer attempting to start unit below rated temperature?
 - If yes, unit may require multiple starts or fail to start.
 - If no, further troubleshooting for no start is required, see service manual.
- Is customer attempting to operate in high ambient temperature (40 °C+)?
 - If yes, unit is susceptible to undesirable performance due to increased de-rate.
 - If no, further troubleshooting is required, see service manual.

Resolution

Below are recommendations to mitigate performance issues for the spec F HDZAA generator. Due to the power de-rate, the below recommendations are even more important during operation in elevated ambient temperatures.

Recommendations to mitigate performance issues:

- Park vehicle in a way that provides maximum ground clearance below generator set.
- Use DC Appliances wherever possible. Refrigerator, TV, House Lights, etc..
- Do not use A/Cs with more than 45 A of inrush current and ~12 A of steady state current (Genset Source).
- A/Cs with inbuilt soft start or remote soft start is highly recommended.
- Do not use microwaves with more than ~13 A of peak current.
- Battery charging control with load settings (25%, 50%, 75%, 100%) is highly preferred.
- Recommended maximum power draw from the Genset to battery charging at high ambient – 700 Watts.
- High amperage appliances require the A/C to be turned off while in use (Curling irons, Hair straightener, Hair dryer, etc.).

Document History

Date	Details
2021-5-21	Module Created

Last Modified: 25-May-2021
