

NOTE: The information contained in this document is intended for use by trained, professional technicians with the knowledge, tools, and equipment to properly and safely perform diagnoses and repairs. It informs service technicians about conditions that may occur in some vehicles, or provides information that could assist in proper vehicle diagnosis, service, or repair, and does not indicate that a defect is present. DO NOT assume that a symptom or condition, or a described cause of a symptom or condition, affects any particular vehicle or that a described repair applies to any particular vehicle. There can be multiple causes resulting in the same symptoms or conditions, and trained professional service technicians must use their diagnostic skills to make evaluations on a case-by-case basis.

SUBJECT:

Engine Failure Diagnosis Form and Guide

POTENTIALLY AFFECTED MODELS:

2012 and newer FEC52, FEC72, FEC92, and FGB72 Canter Vehicles

DESCRIPTION:

In order to optimize the efficiency of engine failure diagnosis, MFTA has revised the procedures of the Engine Failure Diagnosis Worksheet (Pub. No. EFDW14-A).

Attached is a brief summary and explanation of the information required when completing the worksheet.

For details of warranty claim preparation and labor operation codes, please refer to Warranty Update Bulletin 17-003.



Please initial and route to the following personnel before filing.

Service Mgr.		Warranty Mgr.		Service Technicians - Initial in boxes below.									
Shop Foreman		Parts Mgr.											

This Service Information Bulletin is supplied for information purposes only and is not an authorization for any repairs.



Servicing Dealer Information

Dealer Code: _____ Order Type:
 Warranty
 Customer Pay
 Dealer Name: _____

Engine Failure Diagnosis Worksheet

Vehicle Identification Number	Dealer Repair Order #	MFTA Claim #	TAR #	Customer Name

Mileage	Failure Date	Failed Engine Part #	Failed Engine Serial #
	____ / ____ / ____		

Customer Complaint

Technician's Findings

When contacting the TSC to perform initial engine diagnosis, full maintenance records must be provided as proof that the engine was maintained properly, along with a Quick Test and Flight Recording, if the replacement engine is to be considered for warranty reimbursement.

Initial Diagnosis

1. Perform a Quick Test and Flight Recording. Uploaded to TSC along with maintenance records
2. At what speed did the failure occur? Startup Idle Low Speed High Speed
3. Does the vehicle start? Yes No
4. Perform a visual external inspection of the engine.
 Are there any holes or cracks in the cylinder block? If yes, provide photos. Yes No

If there are holes or cracks, stop here and contact your PSM.

Additional Diagnosis

5. Drain and inspect the engine oil.
 Engine oil level? Full Low Overfull
 Engine oil condition? OK Burnt Metal Coolant present
6. Remove the oil pan.
 Connecting rod bearings damaged? If yes, provide photos. Yes No
 Visual indication of piston ring to bore seizure? If yes, provide photos. Yes No
 Visual internal cylinder block damage? If yes, provide photos. Yes No
7. Remove the upper timing case cover.
 Are the timing chains broken? Yes No
8. Do the #4 injector and #4 glow plug come out? Yes No

Stop here and contact your PSM with these findings for further instructions.

Confirming the Repair

9. Road test and perform a datalogger.
 The TSC will review the datalogger and advise if any other repairs may be needed. Uploaded to TSC

Final Repair Determination

Authorizing NSM: _____

Engine Failure Diagnosis Worksheet Guide

IMPORTANT! When an engine failure is to be considered for warranty reimbursement, this worksheet **must** be filled in completely and accurately. All requested documents, including any photos showing damage, must be provided.


Following the steps outlined in the Engine Failure Diagnosis Worksheet will ensure that engine failure diagnosis can be performed more consistently and quickly, resulting in minimal down time for customers. This guide is intended to assist in completing the worksheet with all required information.

When a vehicle comes in with an engine failure, a Technical Assistance Request (TAR) should be opened with the Technical Support Center (TSC) via Fusonet. Note the TAR number with other basic information requested in this section of the worksheet.

Servicing Dealer Information

Dealer Code: _____ Order Type:
 Warranty
 Customer Pay

Dealer Name: _____



Engine Failure Diagnosis Worksheet

Vehicle Identification Number	Dealer Repair Order #	MFTA Claim #	TAR #	Customer Name
Mileage	Failure Date	Failed Engine Part #	Failed Engine Serial #	
	____/____/____			
Customer Complaint				

The next section of the worksheet lists the initial steps of engine failure diagnosis. As noted, full maintenance records, a quick test, and a flight recording **must** be provided for warranty consideration. This information will be uploaded to the TAR using the TSC. Once that information has been uploaded, perform the remaining steps of initial diagnosis. If any cracks or holes are found in the cylinder block during the visual inspection, take photos of the damage found and upload them to the TAR. Then stop here and contact your Product Support Manager (PSM) for further instructions. If no cracks or holes are found, continue to the "Additional Diagnosis" section.

Technician's Findings

When contacting the TSC to perform initial engine diagnosis, full maintenance records must be provided as proof that the engine was maintained properly, along with a Quick Test and Flight Recording, if the replacement engine is to be considered for warranty reimbursement.

Initial Diagnosis

<p>1. Perform a Quick Test and Flight Recording.</p> <p>2. At what speed did the failure occur?</p> <p>3. Does the vehicle start?</p> <p>4. Perform a visual external inspection of the engine. Are there any holes or cracks in the cylinder block? If yes, provide photos.</p>	<p><input type="checkbox"/> Uploaded to TSC along with maintenance records</p> <p><input type="checkbox"/> Startup <input type="checkbox"/> Idle <input type="checkbox"/> Low Speed <input type="checkbox"/> High Speed</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
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If there are holes or cracks, stop here and contact your PSM.

Engine Failure Diagnosis Worksheet Guide

Proceed through the next steps of diagnosis as described. Once the oil pan has been removed, if any damage is found at this point, take photos of the damage and upload them to the TAR. Continue through the remaining diagnostic steps and then contact your PSM for further instructions.

IMPORTANT! When attempting to remove the #4 injector and #4 glow plug in step 8, if they do not come out after the initial attempts, DO NOT continue to attempt removal. Contact your PSM at this point. The labor operation code for this work has a predetermined flat rate time assigned to it. No additional time will be reimbursed through warranty for this operation.

Additional Diagnosis

5. Drain and inspect the engine oil.

Engine oil level?

Engine oil condition?

Full Low Overfull

OK Burnt Metal Coolant present

6. Remove the oil pan.

Connecting rod bearings damaged? If yes, provide photos.

Visual indication of piston ring to bore seizure? If yes, provide photos.

Visual internal cylinder block damage? If yes, provide photos.

Yes No

Yes No

Yes No

7. Remove the upper timing case cover.

Are the timing chains broken?

Yes No

8. Do the #4 injector and #4 glow plug come out?

Yes No

Stop here and contact your PSM with these findings for further instructions.

After receiving the repair recommendation from the PSM or TSC and the repair has been made, the vehicle must be road tested while a data logger is performed using the Xentry Diagnostics. Upload the data logger file to the TAR. The TSC will review the file and advise if further repairs need to be made before the vehicle is released. Record the repair details in the "Final Repair Determination" section, and then upload this worksheet to the TAR so that it may be closed.

Confirming the Repair

9. Road test and perform a data logger.

The TSC will review the data logger and advise if any other repairs may be needed. Uploaded to TSC

Final Repair Determination

Authorizing NSM: _____

EFDW14-A

