



Service Information System

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 Model: NO EQUIPMENT SELECTED
 Configuration: NO EQUIPMENT SELECTED

Technical Analysis

Technical Analysis 1 (TA1) Visual Inspection for Gas Engine Generator Sets {0372, 1000, 7000, 753S, 7565}

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Technical Analysis 1 (TA1) Visual Inspection for Gas Engine Generator Sets {0372, 1000, 7000, 753S, 7565}

SMCS - 0372; 1000; 7000; 753S; 7565

Generator Set

G3520E (S/N: GZG1-UP; GZH1-UP)

Introduction

Inspections are the most basic form of condition monitoring. They are easy to do and surprisingly effective at helping you spot equipment health issues. Proactive monitoring and analysis of equipment information will allow Dealers to intervene before problems occur.

Note: Before adjusting product settings to comply with listed baseline TA1 values, consult SIS for the latest specification values.

Table 1

Serial Number:		Inspector:		Temperature:	
Model:		Work Order:		Time:	
Engine S/N:		SMU:		Date:	
Manufacture:				Unit Location:	

Note: Review Machine & S.O.S. History and check for Active Service Letters prior to inspection.

Status of the Machine⁽¹⁾

The status recommendation of your Gas Engine Generator Set is:

⁽¹⁾ N = Normal, D = Down Engine, M = Monitor/Needs Attention

Creating an Electronic Copy

Use the following procedure to create an editable electronic copy from SIS web.

1. Click format to print.
2. Save the document as an HTML format.
3. Open the document with Microsoft Word.

Visual Inspection

1.0 Prepare Gas Engine Generator Set for Inspection

Table 2

Sl.No.	Status ⁽¹⁾	Description	Comments
1.1		Prepare the Gas Engine Generator Set for the inspection	
1.2		Download fault codes - ECM data	
		Logged fault codes - ECM data	
		Active fault codes - ECM data	
		Record ECM type and serial number	
1.3		Observe engine exhaust colors	
1.4		Listen for unusual noises (engine & driven equipment)	

⁽¹⁾ N = Normal, M = Monitor, A = Action, Blank = Not Applicable

2.0 Basic Engine - Inspection

Table 3

Sl.No.	Status ⁽¹⁾	Description	Comments
2.1		Check engine oil level	

2.2		Engine oil pan	
2.3		Crankcase breathers and piping	
2.4		Oil Filters, filter bases, cooler, and lines	
2.5		Oil level regulator (if equipped)	
2.6		Engine mounts, isolators, supports, and rails	
2.7		Engine/driven equipment coupling	
2.8		Flywheel housing	
2.9		Starter motors (Air or Electric)	
2.10		Air starter lubricator (if equipped)	
2.11		Prelube pump (if equipped)	
2.12		Front housing and covers	
2.13		Crankshaft vibration damper	
2.14		Cylinder heads	
2.15		Rocker boxes and valve covers	
2.16		Pulleys, belts (alternator and accessory)	
2.17		Inspect gauge panel	
2.18		Inspect engine wiring	
2.19		Inspect battery terminals, connections, and cables	
2.20		Inspect guards on driven equipment (if equipped)	
2.21		Record oil type being used	

⁽¹⁾ N = Normal, M = Monitor, A = Action, Blank = Not Applicable

3.0 Cooling System - Inspection

Table 4

Sl.No.	Status⁽¹⁾	Description	Comments
3.1		Check coolant level	
3.2		Radiator cap	
3.3		Pressure relief valve	
3.4		Radiator cores - Check for Debris	

3.5		Water pumps	
3.6		Water hoses	
3.7		Belt guards	
3.8		Belt tensioner	
3.9		Fan drive	
3.10		Fan belt	
3.11		Screen guard	
3.12		Jacket water heater (if equipped)	

⁽¹⁾ N = Normal, M = Monitor, A = Action, Blank = Not Applicable

4.0 Air Inlet and Exhaust System Inspection

Table 5

Sl.No.	Status⁽¹⁾	Description	Comments
4.1		Air cleaner elements and housings	
4.2		Air restriction indicator	
4.3		Air Inlet and exhaust lines	
4.4		Air Inlet shutoff	
4.5		Exhaust manifolds	
4.6		Muffler, exhaust stack, and exhaust flexible coupling	
4.7		Turbochargers	
4.8		Wastegates	
4.9		Aftercooler cores	
4.10		Aftercooler housings	

⁽¹⁾ N = Normal, M = Monitor, A = Action, Blank = Not Applicable

5.0 Fuel System Inspection

Table 6

Sl.No.	Status⁽¹⁾	Description	Comments
5.1		Throttle & Actuator Linkage	
5.2		Gas Regulator	

5.3		Gas Filter	
5.4		Carburetors	
5.5		Gas Shut-off valve	
5.6		Gas Lines	

⁽¹⁾ N = Normal, M = Monitor, A = Action, Blank = Not Applicable

6.0 Generator Inspection

Table 7

Sl.No.	Status⁽¹⁾	Description	Comments
6.1		Generator	
6.2		Generator set vibration isolators	
6.3		Generator coupling guard	
6.4		Generator coupling	
6.5		Generator leads	

⁽¹⁾ N = Normal, M = Monitor, A = Action, Blank = Not Applicable

7.0 Site Conditions

Table 8

Sl.No.	Status⁽¹⁾	Description	Comments
7.1		Ambient Temperature	
		NORMAL: -18 to 32°C (0 to 90°F)	
		MONITOR: 32 to 46°C (90 to 115°F) or -18° to -29°C (0 to -20°F)	
		ACTION: Above 46° C (115° F) or Below -29° C (-20° F)	
7.2		Altitude	
		NORMAL: 0 to 1524 m (0 to 5000 ft)	
		MONITOR: 1524 to 3048 m (5000 to 10000 ft)	
		ACTION: Above 3048 m (10000 ft)	
7.3		Haul Road Grade	
		NORMAL: Flat	

		MONITOR: Mild	
		ACTION: Steep	
7.4		Haul Road Condition	
		NORMAL: Positive Banking, Gradual Turns, Good Erosion Control	
		ACTION: Negative Banking, Sharp Turns, Poor Erosion Control	
7.5		Humidity	
		NORMAL: Below 25%	
		MONITOR: 25 to 60%	
		ACTION: Above 60%	
7.6		Air Quality	
		NORMAL: No Dust	
		MONITOR: Light Dust	
		ACTION: Heavy Dust	
7.7		Underfoot Condition	
		NORMAL: Dry Flat Surface	
		MONITOR: Moderate Grades, Mixture of Muddy / Dry Surfaces	
		ACTION: Steep Grades, Muddy, Snow, Ice	
7.8		Machine Utilization	
		NORMAL: 0 to 10 Hours	
		ACTION: Above 10 hours	
7.9		Equipment Role	
		NORMAL: Utility	
		MONITOR: Support	
		ACTION: Production	
7.10		Working Material	
		NORMAL: Uncompacted, Low Abrasion	
		MONITOR: Moderately Compacted, Moderate Abrasion	

ACTION: High Abrasion, Compacted, Dense**Maintenance Practices****7.11****NORMAL: Excellent****MONITOR: Good****ACTION: Poor****7.12****Primary Industries**⁽¹⁾ N = Normal, M = Monitor, A = Action, Blank = Not ApplicableCopyright 1993 - 2015 Caterpillar Inc.All Rights Reserved.Private Network For SIS Licensees.

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