



WAI Alternator Failure Analysis Report

480 Stateline Road E. Southaven, MS. 38611

Technical Services Department

QRS Number	Part Number	Unit Code	Technician
32701	11231N	OZ19F1	Bryce Wilks

Reason for Analysis:

Item is not putting out enough charge.
Defective. does not work properly..

Scope of Analysis Actions to be Conducted:

1. Review item for visual damage
2. Review item for mechanical damage
3. Perform electrical and mechanical functional testing
4. Perform Teardown and Root Cause Analysis review
5. Review for Specification Conformance

Equipment Used to Perform the Analysis

- Mitutoyo Co-8 Absolute Digimatic
- DV ALT 98 Computer Controlled Unit Function Tester
- Transpo VRC1000 / VRC 2010 Regulator Test
- Slaughter Model 1305 Hi Pot Hi voltage insulation
- Transpo Model RT-401 Rotor Analyzer
- Rotex Model 06-6500 High Power /Avalanche Diode Tester
- Transpo Model ST-501 Stator Analyzer
- Hewlett Packard 973A DVOM
- Sony Cyber Shot Digital ASC-W530
- Magnifier LTS E78751

Technique of Test/ Review

- Computer controlled load testing
- Teardown Analysis

Findings:

Visual: The units from stock are in new condition.

Mechanical: No mechanical issues found with any of the units from stock.

Test: The units passed testing without any drop in output. The units were tested in cold and hot conditions.

Conclusion: The units produced appropriate output during testing. This issue couldn't be duplicated.



Model: 11231N

QZ19F1

Volt: 12V



PO0204824000300010

Model: 11231N

OZ19F1

Volts: 12V

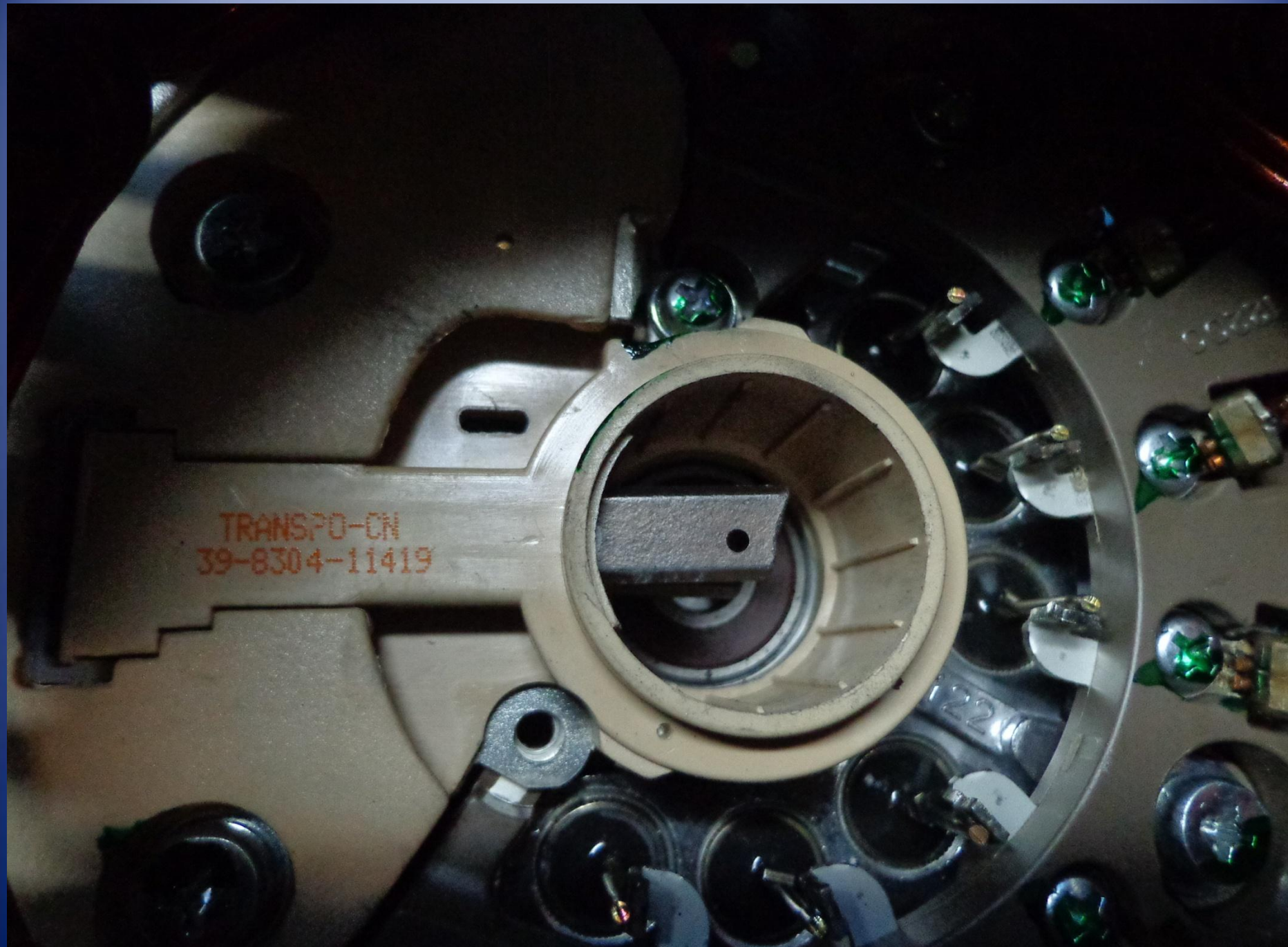


PO0204824000300010



0Z 19F1

TRANSPO-CN
39-8304-11419







T-98 Computerized Test Report

PASS

9/4/2019 14:09

11231N

5340

12V, 115A, NEG

al voltage regulator,
SOME PARAMETERS DO NOT APPLY.

Plug Code
0

Terminals / Application: Universal-J plug with 5 wires (JBT-Series) Field is protected by "in-line" Fuse

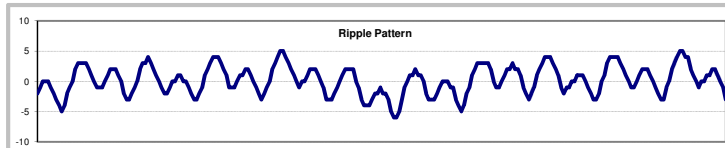
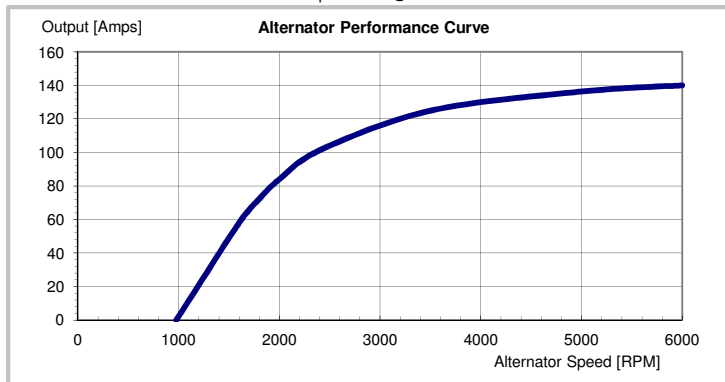
Test Results Table:

Maximum Alternator Output:	Amps	140
Maximum Output Power:	Watts	1793
Voltage Set Point	Volts	-
Leakage Current	mAmps	2.03
Ripple Current	Amps	11
Alternator Turn On Speed	RPM	1223
Regulator Activation Speed	RPM	-
Secondary Regulation	Volts	-
Tachometer Frequency	Hz	-
Stator Voltage	Volts	-
Field Current	Amps	4.84
Lamp Style	-	-
Lamp Type	-	-
LRC Delay	Sec.	-
Feedback (Full Load)	Volts	-
Feedback (Minimum Load)	Volts	-
Maximum Vacuum Generated	Kps	0.00
Maximum Air Leakage	%	0.00
Regulator Voltage (at Computer Control Function Test)	Volts	-

Output Current Table:

Output Current at 1600 RPM	Amps	58
Output Current at 1800 RPM	Amps	72
Output Current at 2000 RPM	Amps	84
Output Current at 2400 RPM	Amps	101
Output Current at 3500 RPM	Amps	125
Output Current at 5000 RPM	Amps	136
Output Current at 6000 RPM	Amps	140
Output Current at 0 RPM	Amps	0

Output tested @ 12.8 V



Batch:

Operator:

Remark:

Tech Tip:

V21



T-98 Computerized Test Report

PASS

9/4/2019 14:11

11231N

5341

12V, 115A, NEG

al voltage regulator,
SOME PARAMETERS DO NOT APPLY.

Plug Code
0

Terminals / Application: Universal-J plug with 5 wires (JBT-Series) Field is protected by "in-line" Fuse

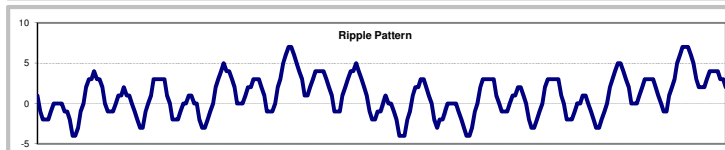
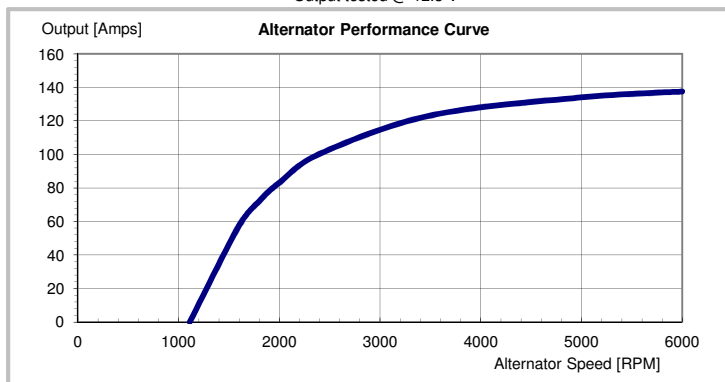
Test Results Table:

Maximum Alternator Output:	Amps	138
Maximum Output Power:	Watts	1757
Voltage Set Point	Volts	-
Leakage Current	mAmps	2.15
Ripple Current	Amps	11
Alternator Turn On Speed	RPM	1218
Regulator Activation Speed	RPM	-
Secondary Regulation	Volts	-
Tachometer Frequency	Hz	-
Stator Voltage	Volts	-
Field Current	Amps	4.72
Lamp Style	-	-
Lamp Type	-	-
LRC Delay	Sec.	-
Feedback (Full Load)	Volts	-
Feedback (Minimum Load)	Volts	-
Maximum Vacuum Generated	Kps	0.00
Maximum Air Leakage	%	0.00
Regulator Voltage (at Computer Control Function Test)	Volts	-

Output Current Table:

Output Current at 1600 RPM	Amps	58
Output Current at 1800 RPM	Amps	72
Output Current at 2000 RPM	Amps	83
Output Current at 2400 RPM	Amps	100
Output Current at 3500 RPM	Amps	123
Output Current at 5000 RPM	Amps	134
Output Current at 6000 RPM	Amps	138
Output Current at 0 RPM	Amps	0

Output tested @ 12.8 V



Batch:

Operator:

Remark:

Tech Tip:

V21