

May 20, 2011

8. Provide the following information regarding the subject bulletin:

- a. A chronology of events related to the issuance of the bulletin, including a detailed description of when and how Toyota first recognized the concerns described in the bulletins, what actions were taken to investigate the concern and all meetings conducted to review the concerns and make the decision to issue the bulletins and each revision thereof;
- b. All 8-D reports or any equivalent technical investigations and final reports associated with TSB-0386-08; and
- c. Copies of all documents related to investigation and review of the concerns addressed by the subject bulletins, including all material presented at all meetings conducted to review the investigation and analysis of field data (e.g., complaints, field reports, and warranty data), the development of the correction, predicted failure rates, and the potential safety consequences.

**Response 8**

Toyota is providing the English versions of the technical investigations and final reports associated with TSB-0386-08 in "Attachment-Response 8-1\_E." For subpart "c", the English versions of the investigation review documents and meeting materials are provided in "Attachment-Response 8-2\_E" through "Attachment-Response 8-11\_E". The original Japanese versions of these documents are being provided in "Attachment-Response 8-1\_J" through "Attachment-Response 8-11\_J."

Please note that much of the information included in "Attachment-Response 8-1" through "Attachment-Response 8-11" is confidential, and a request for confidential treatment has been submitted to the Office of Chief Counsel. Public versions of these attachments are included with this response to your office, provided on CD-ROM stored in the folder "ATT\_1". Please see the Office of Chief Counsel for the confidential version of this document.

12. For MY2006 inverter and converter integrated system architecture, provide the following:

- a. Toyota complete system specification requirements document;
- b. Supplier system specification requirements and software requirements documents;
- c. Toyota system vehicle test requirements document;
- d. Supplier system test requirements document;
- e. System DRBFM and fault tree for inverter/converter in PDF or Microsoft excel;
- f. System DRBFM and fault tree for inverter/converter for MY2009 if modified from MY2006; and
- g. System DV and PV test plan, DV/PV test matrix and final DV and PV test report for MY 2006.

**Response 12**

Toyota is providing the English versions of the system vehicle test requirements documents in

“Attachment-Response 12c-1\_E” and “Attachment-Response 12c-2\_E.” For subpart “g”, the English versions of the inverter system test plans and test reports are provided in “Attachment-Response 12g-1\_E” through “Attachment-Response 12g-4\_E”. The original Japanese versions of these documents are being provided in “Attachment-Response 12c-1\_J”, “Attachment-Response 12c-2\_J”, and “Attachment-Response 12g-1\_J” through “Attachment-Response 12g-4\_J.”

Please note that the information included in “Attachment-Response 12c-1”, “Attachment-Response 12c-2”, and “Attachment-Response 12g-1” through “Attachment-Response 12g-4” is confidential, and a request for confidential treatment has been submitted to the Office of Chief Counsel. Public versions of these attachments are included with this response to your office, provided on CD-ROM stored in the folder “ATT\_1”. Please see the Office of Chief Counsel for the confidential version of this document.

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In the foregoing responses to this Information Request ("IR"), information has been obtained from those departments and employees knowledgeable about the subject matter of this inquiry most likely to have such information in the regular and ordinary course of business. When a particular Request seeks "documents" as defined in the IR, reasonable, good faith searches have been made of corporate records where such documents would ordinarily be expected to be found and to which Toyota would ordinarily refer when looking for such information.

The definitions of "documents" and "Toyota", however, are unreasonably broad, vague, and ambiguous, and Toyota objects to such definitions, because they exceed a reasonable understanding of such terms. For example, "calendars", "travel reports", "contracts" and "personnel records", to name a few, would not normally contain responsive information pertaining to the alleged defect subject of this inquiry. Toyota has also not provided information from electronic files that require extraordinary or expert means to retrieve that are generally unavailable to the computer user.

In addition, Toyota has not provided information from persons or entities over which it does not ordinarily exercise control, such as independent suppliers and contractors. Toyota also objects to the definition of "Toyota" to the extent it purports to include outside counsel. It would be unduly burdensome to require Toyota to request that outside counsel search files for responsive documents. Moreover, it is highly unlikely that outside counsel would possess any non-privileged documents responsive to this IR that are not already being produced by Toyota. In light of the significant burden and cost associated with canvassing outside counsel for potentially responsive documents and the very low probability of identifying any non-privileged document not already being produced, Toyota has not asked its outside counsel to search for responsive documents.

Toyota understands this IR to seek information on vehicles manufactured for sale in the United States and its territories. Also, we understand documents specifically related to the preparation of the responses are not sought.

The source of information used as a basis for the data in each Attachment, including the date the data were updated and retrieved, is identified above as applicable. If a document itself is the source for the requested information and it is provided, no further source identification is provided. If a document, drawing or component is requested, or if no responsive information is available, we assume no further source identification is called for.

Toyota is not providing privileged documents that may be responsive to this Information Request. With regard to claims of privilege, Toyota understands that it is acceptable to the Agency for Toyota to identify

specific categories of privileged documents rather than any specific document within those categories. These categories include: (a) communications between outside counsel and employee's of Toyota's Law Department, other Toyota employees, or employees of parties represented by Toyota in litigation and claims; (b) communications between employees of Toyota's Law Department and other Toyota employees, or employees of parties represented by Toyota in litigation and claims; (c) notes and other work product of outside counsel or of employees of Toyota's Law Department , including work product of employees or consultants done for or at the request of outside counsel or Toyota's law Department. For any privileged documents that are not included in these categories, if any, Toyota will provide a privilege log identifying any such document under separate cover. Toyota is not claiming a legal privilege for any documents provided with this response; however, Toyota does not waive the legal privilege or work-product protection with respect to other documents that may have been prepared in connection with a specific litigation or claim. In addition, Toyota may assert the attorney-client privilege or claim protection under the work-product protection for analyses or other documents that may be prepared in connection with litigation or claims in the future.

Toyota understands that NHTSA will protect any private information about persons that is contained in the Attachments to this response, based on privacy considerations. Such private information includes data such as names, addresses, phone or fax numbers, email addresses, license plate numbers, driver's license numbers and the last 6 digits of a vehicle's VIN.

**CONFIDENTIAL BUSINESS INFORMATION**

Attachment-Response 8-2  
through  
Attachment-Response 8-11

Entire Documents Confidential

Confidential Information Removed

**CONFIDENTIAL BUSINESS INFORMATION**

Attachment-Response 12c-1  
and  
Attachment-Response 12c-2

Entire Documents Confidential

Confidential Information Removed

**CONFIDENTIAL BUSINESS INFORMATION**

Attachment-Response 12g-1  
through  
Attachment-Response 12g-4

Entire Documents Confidential

Confidential Information Removed

PE11-005

TOYOTA

5-20-2011

Attachment-

Response 8-1\_E PAGE 9

Response 8-1\_J PAGE 22



PE11-005

TOYOTA

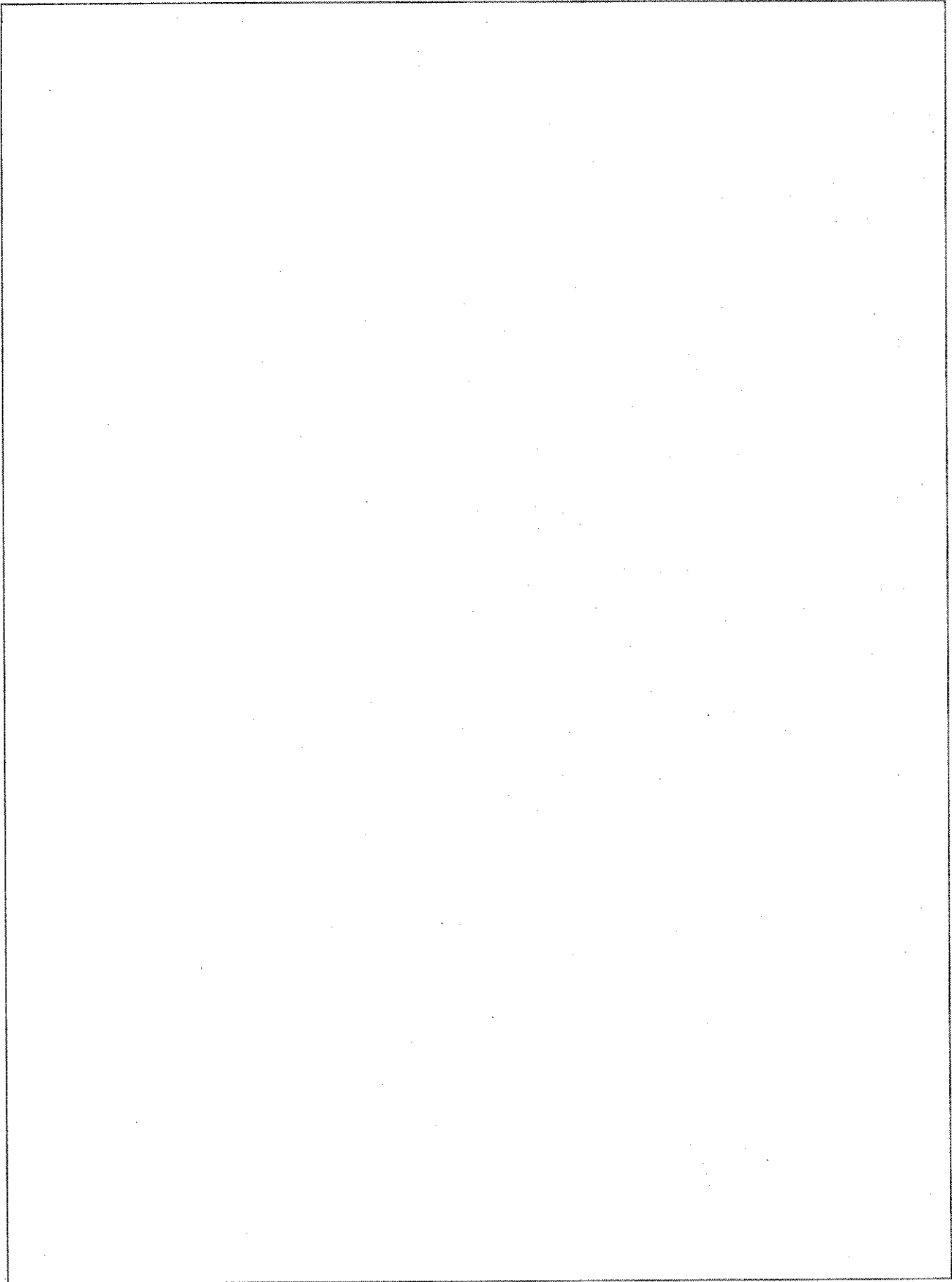
5-20-2011

Attachment-Response 8-1\_E

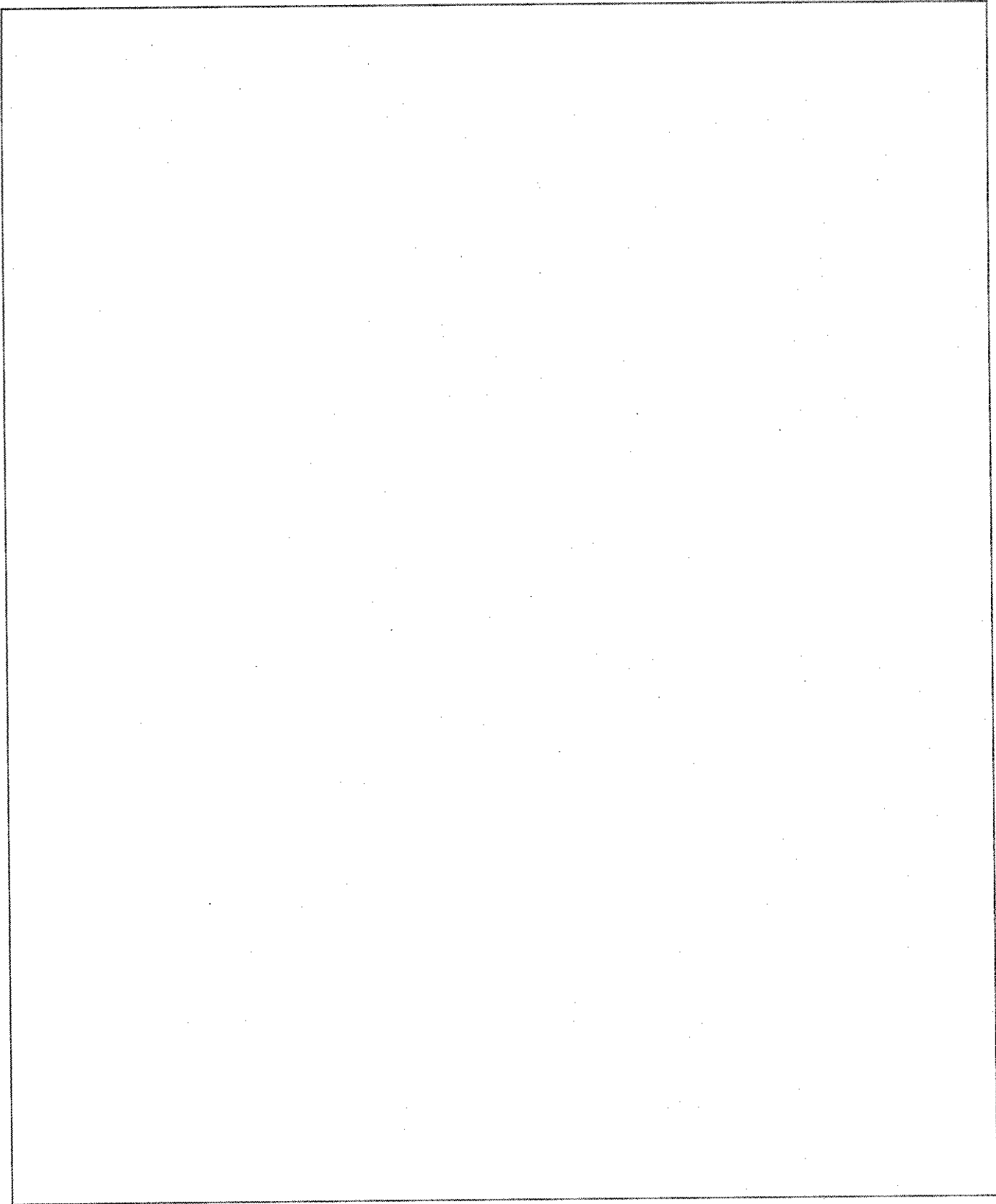
## Field Technical Report

CONFIDENTIAL		Page 1 of 2			
Model code	MHU38WAWXGK	TECS model code			
Condition title	Driving impossible (failure inside the converter with inverter)				
Frame No.	MHU38-0010504	Registration date	May 20, 2005	Dealer	14701
Engine No.	3MZ	Repair date	May 18, 2007	Mileage	43973 km
Transmission No.		Color No.	062	Trim	FB22
Aftermarket parts			Parts supplier		
Build body name			Build body supplier	Body No.	
Customer complaint	<ul style="list-style-type: none"> <li>- Engine stalling occurred (after that, the vehicle could not be driven).</li> <li>= The vehicle was towed by JAF.</li> <li>- When the accelerator was depressed at starting, the vehicle suddenly stopped (without any prior indications).</li> <li>- After the engine was turned off, a rattle sound was heard from the front left.</li> <li>- Although the push switch was pressed, the engine was not stopped.</li> </ul>				Reproducible <input type="checkbox"/> Yes / <input type="checkbox"/> No
<p>&lt;Observed phenomenon&gt;</p> <ul style="list-style-type: none"> <li>- The engine check lamp turned on.</li> <li>- The VSC lamp turned on.</li> <li>- The regenerative brake lamp turned on.</li> <li>- Although the engine could start, the vehicle could not run.</li> <li>- When the power switch was turned off, a howl/growl sound was heard from the HV system (front left).</li> </ul> <p>&lt;Investigation of the cause etc.&gt;</p> <ul style="list-style-type: none"> <li>- Diagnostic inspection</li> <li>HV = P0A78-286 (Motor inverter function abnormality)</li> <li style="padding-left: 20px;">P0A7A-325 (Generator inverter function abnormality)</li> <li style="padding-left: 20px;">P0A94-555 (Step-up converter system)</li> <li>ABS, VSC = C1259, C1310</li> <li>- After the diagnostics were saved and deleted, the inspection was performed again.</li> <li>HV = P0A78</li> <li>ABS, VSC = C1259, C1310</li> <li>- Troubleshooting was performed.</li> <li>- The connection status of the MG ECU connector was inspected.</li> <li style="padding-left: 20px;">→ There was no abnormality.</li> </ul> <p>&lt;Description and effects of the repair&gt;</p> <p>The inverter assembly with converter was replaced. G92000X1 Inverter assembly with converter, G92A048020, 1</p> <p>&lt;User suggestions&gt;</p> <p>Investigation of the cause and countermeasures were required.</p>					
Diagnostic inspection result		Output code <input type="checkbox"/> Yes / <input type="checkbox"/> No P0A78, C1259, C1310			
Part No. of main cause		G92A0-48020			
T code		T1:08 T2:50 W:61			
Parts sent		<input type="checkbox"/> Yes / <input type="checkbox"/> No (Refer to reason column below.)			
Send date		May 30, 2007 (Done / <input type="checkbox"/> Planned)			
Parts sent to		<input type="checkbox"/> Claim Dept. / Cooperative sales / SS shop / Others Parts of Field Technical Report			
Reason of no sending parts		<input type="checkbox"/> No repair parts / Chargeable repair / Parts shortage or coming off / Sent with previous report / Others			
Attachment		<input type="checkbox"/> Yes / <input type="checkbox"/> No			
Information No.		<input type="checkbox"/> Yes / <input type="checkbox"/> No / TBD 0538553			
Issue date		May 23, 2007			
Dealer name		F Nagoya			
Branch office		Takashi			
Responsible		Daisuke Sugiura			

ENTIRE PAGE CONFIDENTIAL BUSINESS INFORMATION



ENTIRE PAGE CONFIDENTIAL BUSINESS INFORMATION

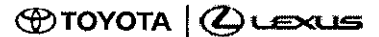


## Field Technical Report

Page 1 of 1

CONFIDENTIAL	Model code	MHU38W-0027365	TECS model code																														
	Condition title	HV system failure																															
	Frame No.	MHU38W-0027365	Registration date	Oct. 14, 2005	Dealer name	03701																											
	Engine No.		Repair date	Jul. 14, 2007	Mileage	44744 km																											
	Transmission No.		Color No.		Trim																												
	Aftermarket parts			Parts supplier																													
	Build body name			Build body supplier	Body No.																												
	Customer complaint	The driving became suddenly impossible.					Reproducible <input type="checkbox"/> Yes / <input type="checkbox"/> No																										
	<p>&lt;Observed phenomenon&gt; [Check results] - Although the system could be activated and the READY lamp was turned on to start the engine, forward/reverse driving became impossible. - The engine, VSC, HV, and 4WD system abnormalities were displayed on the multi information meter.</p> <p>&lt;Investigation for the trouble cause, etc.&gt; [Inspection results] - The diagnostics were inspected. For HV, there were P0A78-286 (Motor inverter function abnormality), P0A7A-324, 325 (Generator inverter function abnormality), and P0A94 (Step-up converter abnormality). For ABS, there were C1259 (HV regenerative system abnormality) and C1310 (HV system abnormality). - After all the diagnostics were deleted and the system was restarted, the trouble was reproduced. Only the diagnostics of P0A78-286 for HV were reentered. - The inspection was performed according to the flow chart of P0A78-286. The connection status of the MGECU was satisfactory. - From the results above, it is determined that the inverter with converter assembly had a failure.</p> <p>&lt;Description and effects of the repair&gt; [Repair result] After the inverter with converter (G92A0-48020) was replaced, the fault was dissolved.</p> <p>&lt;User suggestions&gt; - This case shall be reported as a present failure case.</p>						<table border="1"> <tr> <td>Diagnostic inspection result</td> <td>Output code <input type="checkbox"/> Yes / <input type="checkbox"/> No P0A78, P0A7A, P0A94 C1259, C1310</td> </tr> <tr> <td>Part No. of main cause</td> <td>G92A0-48020</td> </tr> <tr> <td>T code</td> <td>T1:8C T2:74 W:99</td> </tr> <tr> <td>Parts sent</td> <td><input type="checkbox"/> Yes / <input type="checkbox"/> No (Refer to reason column below.)</td> </tr> <tr> <td>Send date</td> <td>Aug. 8, 2007 (Done / <input type="checkbox"/> Planned)</td> </tr> <tr> <td>Parts sent to</td> <td><input type="checkbox"/> Claim Dept / Cooperative sales / SS shop / Others Parts of Field Technical Report</td> </tr> <tr> <td>Reason of no sending parts</td> <td><input type="checkbox"/> No repair parts / Chargeable repair / Parts shortage or coming off / Sent with previous report / Others</td> </tr> <tr> <td>Attachment</td> <td><input type="checkbox"/> Yes / <input type="checkbox"/> No</td> </tr> <tr> <td>Information No.</td> <td><input type="checkbox"/> Yes / <input type="checkbox"/> No / TBD 2480013</td> </tr> <tr> <td>Issue date</td> <td>Jul. 29, 2007</td> </tr> <tr> <td>Dealer name</td> <td>T Kanagawa</td> </tr> <tr> <td>Branch office</td> <td>Hiratsuka</td> </tr> <tr> <td>Responsible</td> <td>Takashi Kodaira</td> </tr> </table>	Diagnostic inspection result	Output code <input type="checkbox"/> Yes / <input type="checkbox"/> No P0A78, P0A7A, P0A94 C1259, C1310	Part No. of main cause	G92A0-48020	T code	T1:8C T2:74 W:99	Parts sent	<input type="checkbox"/> Yes / <input type="checkbox"/> No (Refer to reason column below.)	Send date	Aug. 8, 2007 (Done / <input type="checkbox"/> Planned)	Parts sent to	<input type="checkbox"/> Claim Dept / Cooperative sales / SS shop / Others Parts of Field Technical Report	Reason of no sending parts	<input type="checkbox"/> No repair parts / Chargeable repair / Parts shortage or coming off / Sent with previous report / Others	Attachment	<input type="checkbox"/> Yes / <input type="checkbox"/> No	Information No.	<input type="checkbox"/> Yes / <input type="checkbox"/> No / TBD 2480013	Issue date	Jul. 29, 2007	Dealer name	T Kanagawa	Branch office	Hiratsuka	Responsible	Takashi Kodaira
	Diagnostic inspection result	Output code <input type="checkbox"/> Yes / <input type="checkbox"/> No P0A78, P0A7A, P0A94 C1259, C1310																															
Part No. of main cause	G92A0-48020																																
T code	T1:8C T2:74 W:99																																
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Issue date	Jul. 29, 2007																																
Dealer name	T Kanagawa																																
Branch office	Hiratsuka																																
Responsible	Takashi Kodaira																																

**DEALERSHIP PRODUCT REPORT**



<b>TQCN DOC#</b> PR-64201-2217	<b>Affiliate</b> TMS	<b>Dept.</b> QA-Hybrid	<b>Source</b> MDT/DS	<b>Dealer Code</b> 64201	<b>Ref.</b> 30931-1	<b>Date</b> 8/27/2007
<b>Dealer Name</b> WESTSIDE LEXUS		<b>Dealer City</b> HOUSTON		<b>State</b> TX	<b>Region</b> LSA	
<b>Primary Model</b> RX 400h	<b>Model Year</b> 2006	<b>Production Date</b> 16-MAR-05	<b>Odometer</b> 54400 mi		<b>VIN</b> JTJHW31U16[REDACTED]	
<b>Condition Title</b> MIL Light "ON" Code P0A78 - Drive Motor "A" Inverter Performance						

<b>Repair Date</b> 03-AUG-2007	<b>Optional Ref.</b>	<b>Applicable DTC Code(s)</b> P0A78
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**Condition Description**

Loud pop vehicle lost power and hybrid warning light came on.

**Diagnostic Steps:**

Pulled DTC with Techstream P0A78-286 would not clear.






**Probable Cause**

Inverter malfunction

<b>Part # 1:</b> G92A048020	<b>Part # 2:</b>	<b>Part # 3:</b>	<b>Parts Available on Request:</b> Available upon request	<b>Parts Shipping Destination:</b> CQEC
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**Repair Process**

Replaced inverter.

 400hhybridddtc2nd.zip	  C:\Documents and Settings\nagaib\My D	  C:\Documents and Settings\nagaib\My D
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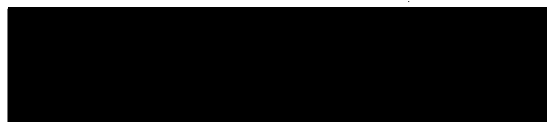
**DEALERSHIP PRODUCT REPORT**



TQCN DOC# <b>PR-64201-2217</b>	Affiliate <b>TMS</b>	Dept. <b>QA-Hybrid</b>	Source <b>MDT/DS</b>	Dealer Code <b>64201</b>	Ref <b>30931-1</b>	Date <b>8/27/2007</b>
Dealer Name <b>WESTSIDE LEXUS</b>		Dealer City <b>HOUSTON</b>		State <b>TX</b>	Region <b>LSA</b>	
Primary Model <b>RX 400h</b>	Model Year <b>2006</b>	Production Date <b>16-MAR-05</b>	Odometer <b>54400 mi</b>	VIN <b>JTJHW31U160 [REDACTED]</b>		
Condition Title <b>MIL Light "ON" Code P0A78 - Drive Motor "A" Inverter Performance</b>						

**Attachment 1: Parts Recovery Control Sheet**

Orig Tracking  
VIN  
Doc No.



Do not type in SHADED fields. If the Final Destination field below is "scrap", properly dispose of the part.

<b>Final Destination:</b> CQEC	SETR#:	CQE Eng:	N/A
<b>Importer: (Applies to TMC Shipments Only)</b> North America EDER Gr., Technical Dept. #1 Overseas Customer Service Technical Div. TOYOTA MOTOR CORPORATION Nisshin Education & Training Center 5-210, SAKAE, NISSHIN, AICH, 470-0113 Japan	Deliver to:  Attn:  Tel:	住所:  宛先:  Tel:	
T-STAR [REDACTED]			
Note: If this FTR contains more than one VIN, create a table in the report containing VIN, production date, and odometer			FOR CUSTOMS USE: Used Parts Value
<b>1</b>	<b>Part # 1:</b> G92A048020 Comments:	<b>Part Description:</b> INVERTER ASSY, HV MOTOR CONTROL	<b>Qty.</b> 1 <b>Used Part Value</b> \$ 1137.00
<b>2</b>	<b>Part # 2:</b> Comments:	<b>Part Description:</b>	<b>Qty.</b> 0 <b>Used Part Value</b> \$ 0.00
<b>3</b>	<b>Part # 3:</b> Comments:	<b>Part Description:</b>	<b>Qty.</b> 0 <b>Used Part Value</b> \$ 0.00
<b>4</b>	<b>Part # 4:</b> Comments:	<b>Part Description:</b>	<b>Qty.</b>  <b>Used Part Value</b> \$ .00
<b>5</b>	<b>Part # 5:</b> Comments:	<b>Part Description:</b>	<b>Qty.</b>  <b>Used Part Value</b> \$ .00
<b>6</b>	<b>Part # 6:</b> Comments:	<b>Part Description:</b>	<b>Qty.</b>  <b>Used Part Value</b> \$ .00
<b>7</b>	<b>Part # 7:</b> Comments:	<b>Part Description:</b>	<b>Qty.</b>  <b>Used Part Value</b> \$ .00

**FIELD TECHNICAL REPORT**



TQCN DOC# <b>FTR-86U326171</b>	Affiliate TMS	Dept. QA-Hybrid	Source FTS	Location TMS-LA	Ref 30931-1	Date 9/19/2007
Problem Area Base Vehicle	Primary Model Highlander HV	Model Year 2006	Production Date 04-Jul-2005	Odometer 59734 mi	VIN (confirm 17 characters): JTEDW21A560 [REDACTED]	
Condition Title Master Warning ON, DTC P0A78 with Info 287 / 284 / 286 Inverter						

**Do not type in YELLOW shaded fields - Input data from Web page or RDM:**

Repair Date 12-SEP-2007	Optional Ref.	Optional Approval
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**Condition Description**

Customer states vehicle will not start and master warning light is ON.

**Diagnostic Steps:**

1. DTC P0A78 (Drive Motor "A" Inverter Performance)  
info 1 = 287, info 2 = 284, info 3 = 286 (see freeze frame data below).
2. DTC C1259 (HV Control System Regenerative Malfunction).
3. DTC C1310 (HV System Malfunction)
4. Follow repair manual diagnostic steps for P0A78.
5. Confirm inverter coolant level is at specifications, confirm no previous collision work.
6. Confirm transaxle fluid level.

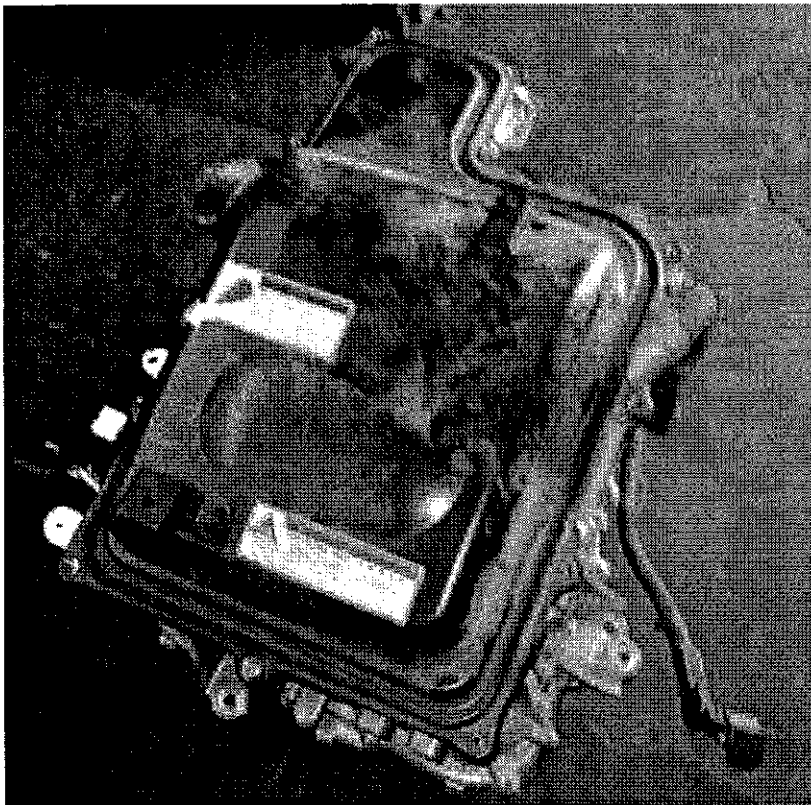
**Probable Cause**

Internal malfunction in inverter assembly.

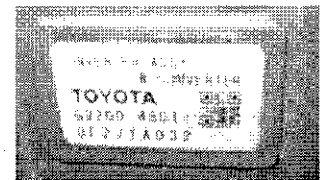
Part # 1: G920048011	Part # 2:	Part # 3:	Parts Disposition: Special request only	Parts Shipping Destination: CQEC
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**Repair Process**

Replace inverter assembly, recheck for any DTC's, and test drive to confirm repair effectiveness.



Above: Inverter assembly removed from vehicle.



Inverter Assy W Converter  
G9200-48011  
0F27YA032

2006 Highlander HV 3MZ-FE  
JTEDW21A560 [REDACTED]  
59734 miles



**FIELD TECHNICAL REPORT**



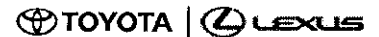
TQCN DOC# <b>FTR-86U326171</b>	Affiliate <b>TMS</b>	Dept. <b>QA-Hybrid</b>	Source <b>FTS</b>	Location <b>TMS-LA</b>	Ref <b>30931-1</b>	Date <b>9/19/2007</b>
Problem Area <b>Base Vehicle</b>	Primary Model <b>Highlander HV</b>	Model Year <b>2006</b>	Production Date <b>04-Jul-2005</b>	Odometer <b>59734 mi</b>	VIN (confirm 17 characters): <b>JTEDW21A560</b>	
Condition Title <b>Master Warning ON, DTC P0A78 with Info 287 / 284 / 286 Inverter</b>						

**HYBRID CONTROL DTC'S (P0A78)**

DTC	Description	Priority	Severity	Icon	Light	Y
P0A78	Drive Motor "A" Inverter Performance	X	X	Icon E		Y

Parameter	Value	Unit
Information1	287	Word
Information2	284	
Information3	286	
Engine Coolant Temp	192	F
Engine Revolution	4608	rpm
Vehicle Spd	29	MPH
Engine Run Time	3489	s
+B	13.75	V
Accel Pedal Pos #1	16.0	%
Accel Pedal Pos #2	31.7	%
Ambient Temperature	81	F
Intake Air Temperature	97	F
DTC Clear Warm Up	255	
DTC Clear Run Distance	34832	mile
DTC Clear Min	57637	Min
Type of ECU	HV ECU	
Calculate Load	78.7	%
Throttle Position	68.9	%
Battery State of Charge	54.5	%
Delta SOC	0.0	%
Batt Pack Current Val	9.22	A
VMF Fan Motor Voltage1	4.8	V
VMF Fan Motor Voltage2	4.4	V
VMF Fan Motor Voltage3	4.4	V
Auxiliary Battery Vol	13.4	V
Charge Control Value	-9.0	KW
Discharge Control Value	36.0	KW
Cooling Fan Mode1	4	
Cooling Fan Mode2	3	
Cooling Fan Mode3	4	
ECU Control Mode	0	
Standby Blower Request	OFF	
Temp of Batt TB1	124.5	F
Temp of Batt TB2	116.2	F
Temp of Batt TB3	109.2	F
Temp of Batt TB4	111.4	F
Temp of Batt TB5	119.8	F
Temp of Batt TB6	120.4	F
Temp of Batt TB7	118.6	F
Temp of Batt TB8	122.9	F
Battery Block Vol -V01	18.83	V
Battery Block Vol -V02	18.77	V
Battery Block Vol -V03	18.70	V
Battery Block Vol -V04	18.70	V
Battery Block Vol -V05	18.64	V
Battery Block Vol -V06	18.73	V
Battery Block Vol -V07	23.03	V
Battery Block Vol -V08	23.00	V
Battery Block Vol -V09	18.54	V
Battery Block Vol -V10	18.57	V
Battery Block Vol -V11	18.64	V
Battery Block Vol -V12	18.67	V
Battery Block Vol -V13	18.73	V
Battery Block Vol -V14	18.67	V
Battery Block Vol -V15	21.27	V
Detail Code 1	287	

**FIELD TECHNICAL REPORT**



TQCN DOC# <b>FTR-86U326171</b>	Affiliate <b>TMS</b>	Dept. <b>QA-Hybrid</b>	Source <b>FTS</b>	Location <b>TMS-LA</b>	Ref <b>30931-1</b>	Date <b>9/19/2007</b>
Problem Area <b>Base Vehicle</b>	Primary Model <b>Highlander HV</b>	Model Year <b>2006</b>	Production Date <b>04-Jul-2005</b>	Odometer <b>59734 mi</b>	VIN (confirm 17 characters): <b>JTEDW21A560</b>	
Condition Title <b>Master Warning ON, DTC P0A78 with Info 287 / 284 / 286 Inverter</b>						

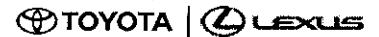
Parameter	Value	Unit
Detail Code 2	284	
Detail Code 3	286	
Detail Code 4	0	
Detail Code 5	0	

**ABS DTCs (C1259, C1310)**

Code	Description	Current	Pending	History	Summary	Freeze Frame
C1259	HV Control System Regenerative Malfunction	X			Icon C	N
C1310	HV System Malfunction	X			Icon C	Y

Parameter	Value	Unit
Detailed Freeze DTC	156	
Elapsed Time after Freeze Trigger	156	msec
Number of IG ON	0	
Elapsed Time	30	sec
Buzzer	OFF	OFF
Stop Light SW	OFF	OFF
Parking Brake SW	OFF	OFF
Reservoir Warning SW	OFF	OFF
Shift Lever Position	P,N	P,N
Operated System	Non	Non
Master Cylinder Sensor	0.47	0.47
M/C Sensor Grade	0	0
Master Cylinder Sensor2	0.47	0.47
Stroke Sensor	0.94	0.94
Stroke Sensor2	3.90	3.47
Accumulator Sensor		
Yaw Rate Sensor	0	0
Steering Angle Sensor	1143	1143
FR W/C Sensor		0.47
FL W/C Sensor		0.47
RR W/C Sensor		0.46
RL W/C Sensor		0.46
Lateral G	-0.39	-0.39
Forward and Rearward G	0.00	0.00
FR Wheel Speed	0	0
FL Wheel Speed	0	0
RR Wheel Speed	0	0
RL Wheel Speed	0	0
Vehicle Speed	0	0
Accelerator Opening Angle %	0.0	0.0
ECB Motor Relay		OFF
ECB Motor Relay2		OFF
ECB Main Relay		ON
ECB Main Relay2		ON
ECB Solenoid (SMC1)		OFF
ECB Solenoid (SMC2)		OFF
ECB Solenoid (SMC2)		OFF
ECB Solenoid (SCSS)		ON
Capacitor Mode		OFF
G1 Voltage Value	13.72	V
G2 Voltage Value	13.58	V
B&1 Voltage Value	13.17	V
B&2 Voltage Value	13.41	V
VM1 Voltage Value	13.01	V
VM2 Voltage Value	12.94	V
H&1 Voltage Value	13.80	V
H&2 Voltage Value	13.88	V
Motor Relay Voltage Value	0.00	V
SLAFL Solenoid Current	0.00	A
SLAFL Solenoid Current	0.00	A
SLARR Solenoid Current	0.00	A
SLARR Solenoid Current	0.00	A
SLARL Solenoid Current	0.00	A
SLARL Solenoid Current	0.00	A
SLRFR Solenoid Current	0.00	A
SLRFR Solenoid Current	0.00	A
SLRRR Solenoid Current	0.00	A
SLRRR Solenoid Current	0.00	A

**FIELD TECHNICAL REPORT**



TQCN DOC# <b>FTR-86U326171</b>	Affiliate TMS	Dept. QA-Hybrid	Source FTS	Location TMS-LA	Ref 30931-1	Date 9/19/2007
Problem Area Base Vehicle	Primary Model Highlander HV	Model Year 2006	Production Date 04-Jul-2005	Odometer 59734 mi	VIN (confirm 17 characters): JTEDW21A560 [REDACTED]	
Condition Title Master Warning ON, DTC P0A78 with Info 287 / 284 / 286 Inverter						

Attachment 1: PRCS

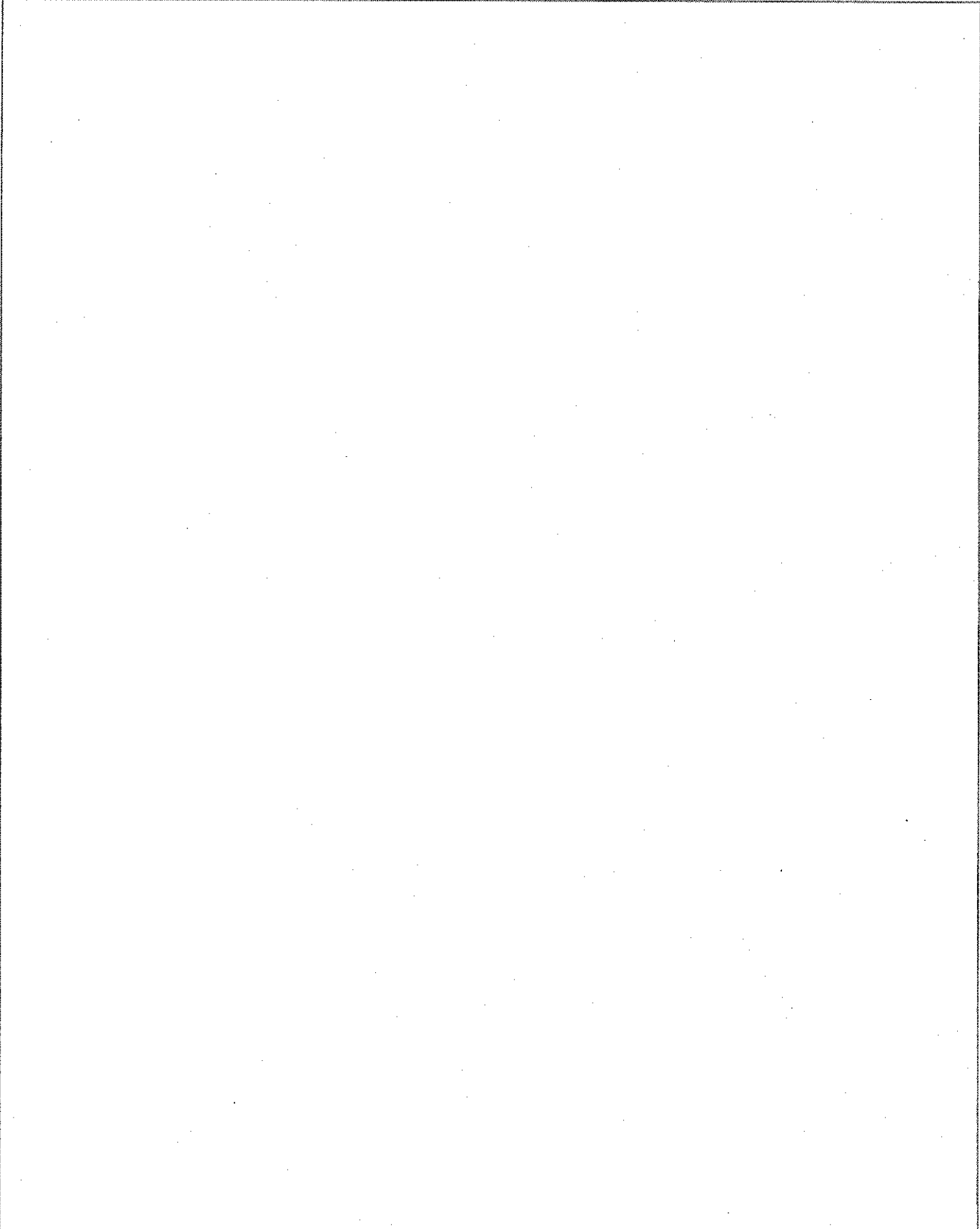
**Attachment 1: Parts Recovery Control Sheet**

Do not type in SHADED fields. If the Final Destination field below is "scrap", properly dispose of the part.

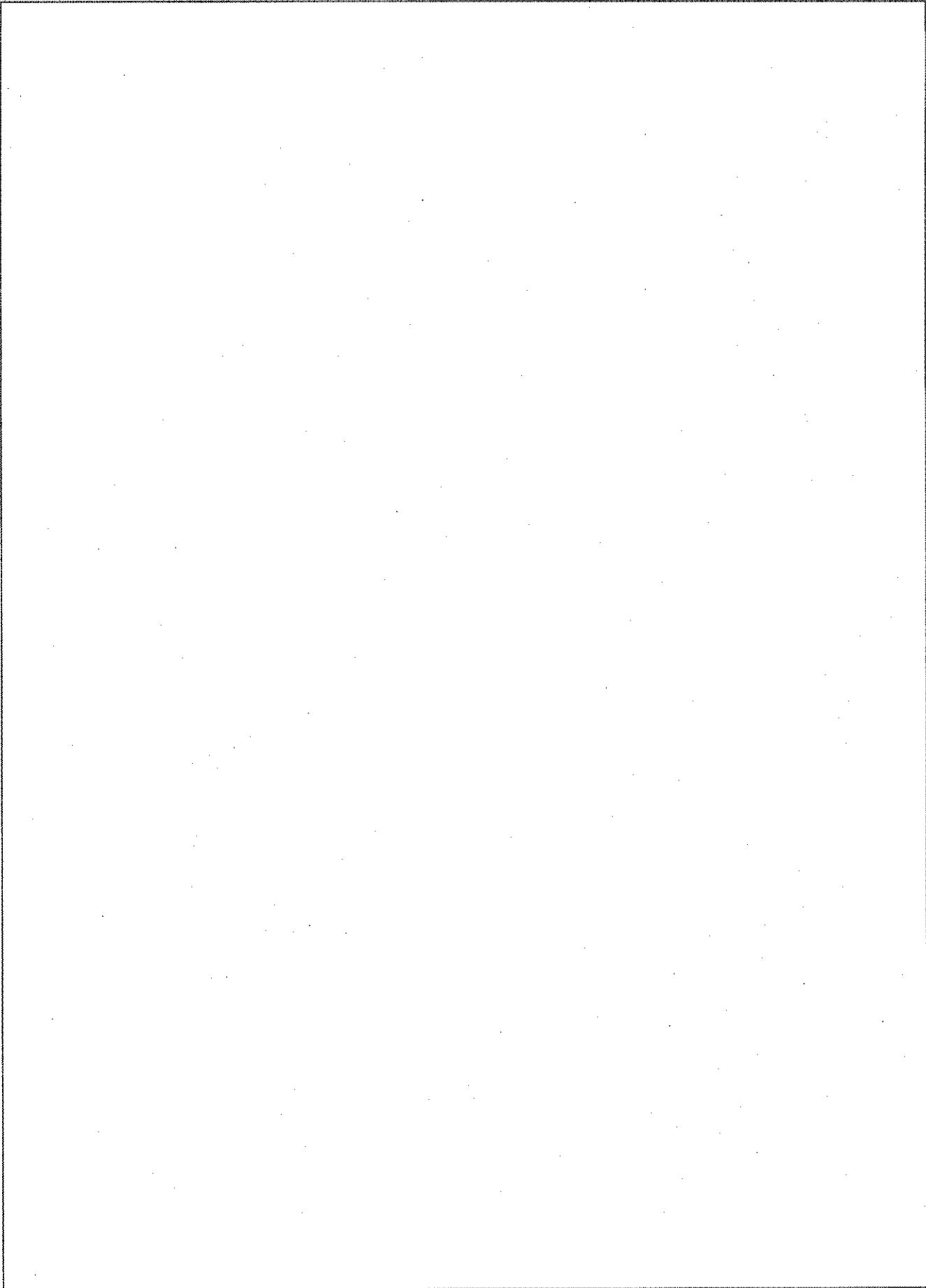
Orig Tracking  
VIN [REDACTED]  
Doc No. [REDACTED]

<b>Final Destination:</b> CQEC		SETR#:	CQE Eng:	N/A
<b>Importer: (Applies to TMC Shipments Only)</b>		Deliver to:	住所:	
Mr. N. Okumura, Chief Expert Quality Div. Warranty Parts Room TOYOTA MOTOR CORPORATION 1 Toyota, Toyota-city, Aichi, 471-8571 Japan		Attn:	宛先:	
		Tel:	Tel:	
T-STAR [REDACTED]				
Note: If this FTR contains more than one VIN, create a table in the report containing VIN, production date, and odometer				FOR CUSTOMS USE: Used Parts Value
1	Part # 1: G920048011	Part Description INVERTER ASSY, W/CONVERTER	Qty. 1	Used Part Value \$ 952 .00
	Comments:			
2	Part # 2:	Part Description	Qty. 0	Used Part Value \$ 0 .00
	Comments:			
3	Part # 3:	Part Description	Qty. 0	Used Part Value \$ 0 .00
	Comments:			
4	Part # 4:	Part Description	Qty. \$	Used Part Value .00
	Comments:			
5	Part # 5:	Part Description	Qty. \$	Used Part Value .00
	Comments:			
6	Part # 6:	Part Description	Qty. \$	Used Part Value .00
	Comments:			
7	Part # 7:	Part Description	Qty. \$	Used Part Value .00
	Comments:			
8	Part # 8:	Part Description	Qty. \$	Used Part Value .00
	Comments:			

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PE11-005

TOYOTA

5-20-2011

Attachment-Response 8-1\_J

# 市場技術速報

型式	MHU38WAWXGK		TECS基本型式	
標 題	走行不能 (インバーター付きコンバーター内部不良)			
フレームNo.	MHU38-0010504	登録日	2005/05/20	販売店
エンジンNo.	3MZ	入庫日	2007/05/18	走行距離
ミッションNo.		カラーNo	062	トリム
後付部品名		部品		
架装物名		架装		ボデー
お客様の指摘	・エンストした (その後走らなくなった) =JAFでけん引 ・発進時にアクセル踏んだら急に止まってしまった (予兆なし) ・エンジン切ると左前からガラガラ鳴るようになった ・プッシュスイッチを押してもエンジンが切れなかった			再現性
				<input checked="" type="checkbox"/> 有 <input type="checkbox"/> 無

<現象確認>

- ・エンジンチェックランプ点灯
- ・VSCランプ点灯
- ・回生ブレーキランプ点灯
- ・エンジン始動するが、走らない
- ・パワースイッチOFFするとHVシステム (左前) からヒューゴロゴロと音がする

<原因究明 他>

- ・ダイアグ点検

HV=POA78-286 (モーターインパター機能異常)  
 POA7A-325 (ジェネレーターインパター機能異常)  
 POA94-555 (昇圧コンパター系統)

ABS, VSC=C1259, C1310

- ・ダイアグ保存し消去後、再度点検

HV=POA78

ABS, VSC=C1259, C1310

- ・トラブルシュート実施
- ・MG ECUコネクター接続状態点検 → 意異常なし

<修理内容および効果>

コンバーター付き インバーター ASSY 取替, G92000X1  
 コンパター インパター ASSY, G92A048020, 1

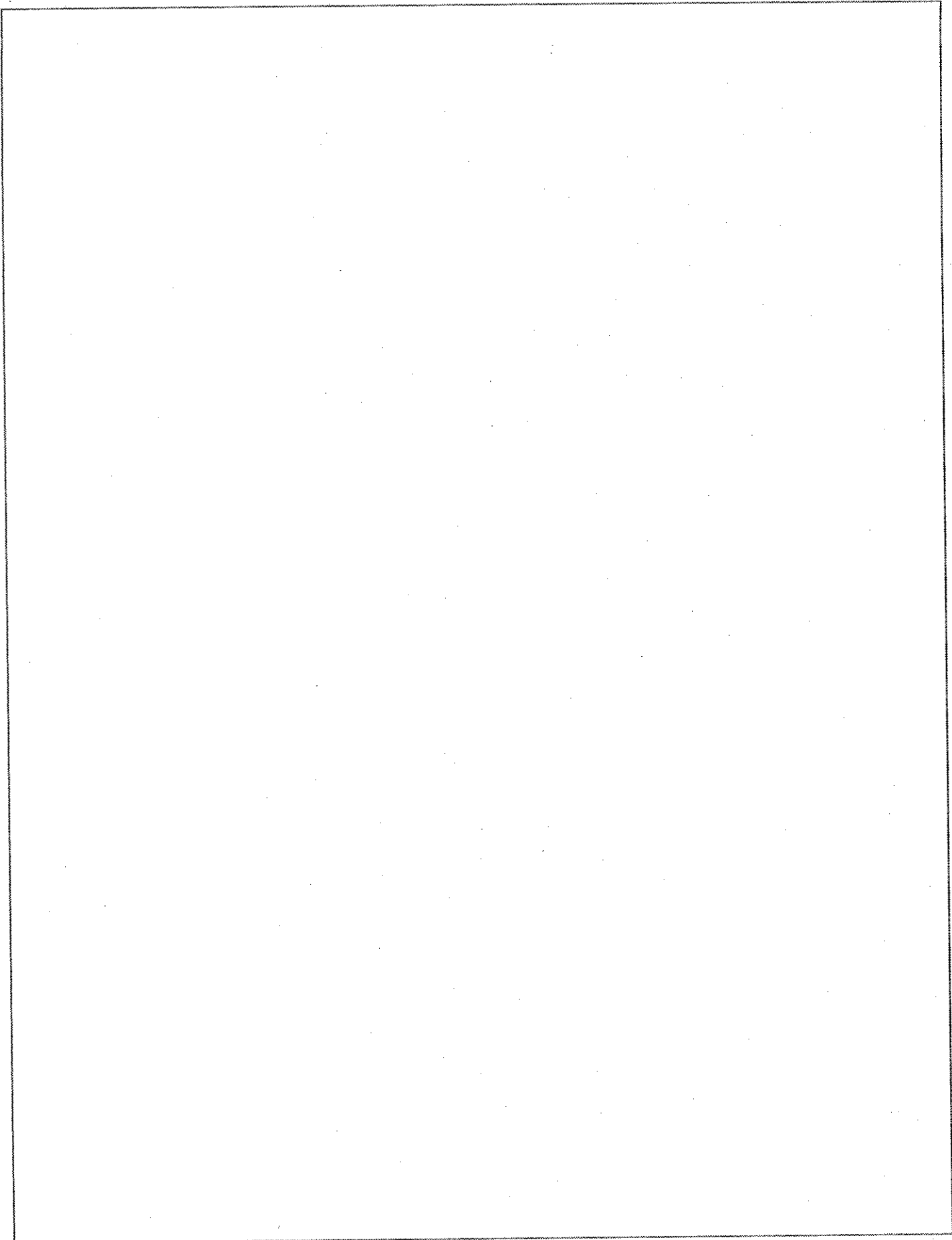
<ご意見、ご要望>

原因究明と対策を望みます。

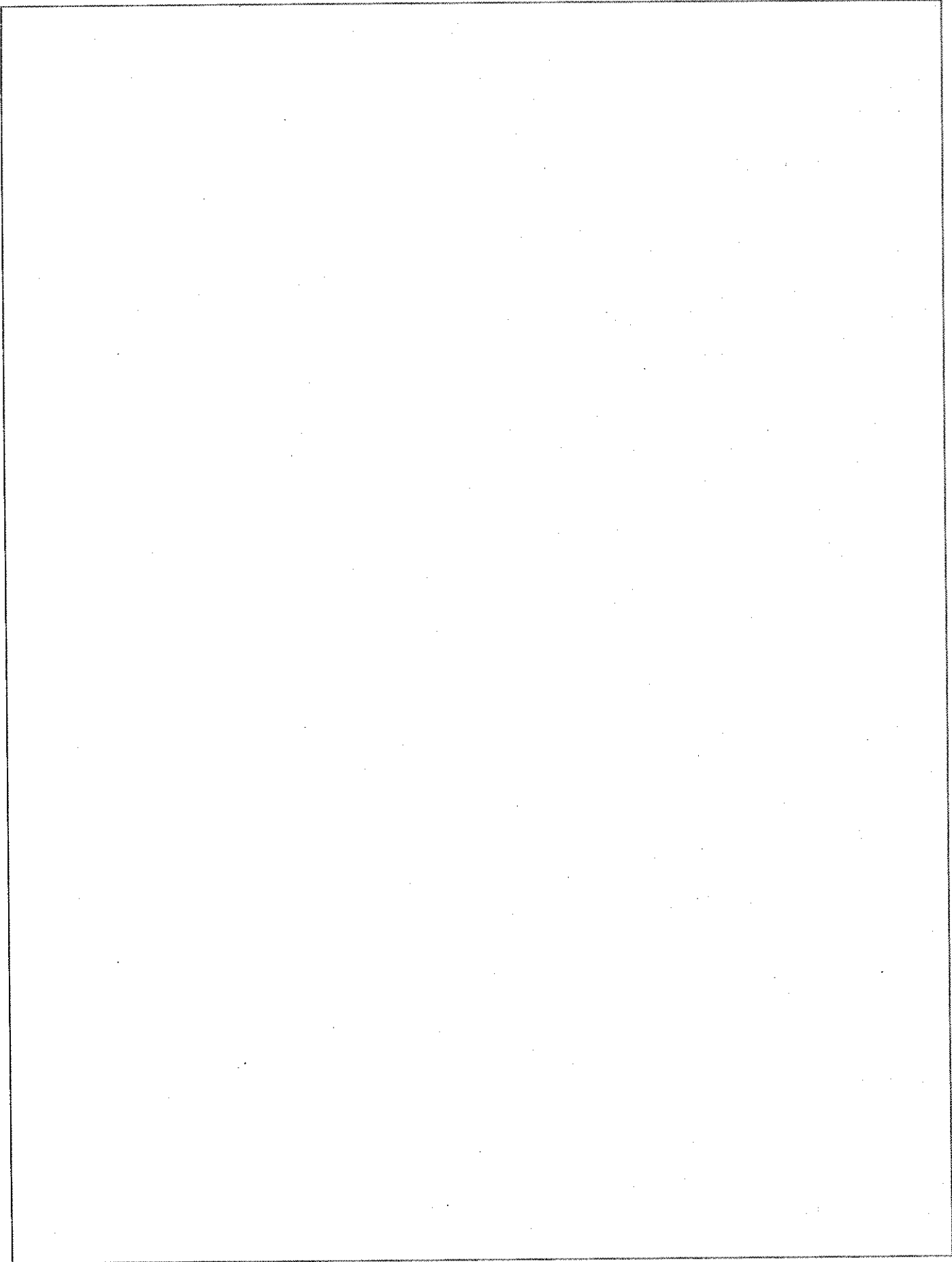
ダイアグ ノース 点検結果	<input checked="" type="checkbox"/> 有 <input type="checkbox"/> 無 POA78, C1259, C1310
主要原因品番	G92A0-48020
Tコード	T1:08 T2:50 W:61
部品送付	<input checked="" type="checkbox"/> 有 <input type="checkbox"/> 無 (下記理由欄参照)
送付日	2007/05/30 <input type="checkbox"/> 済 <input checked="" type="checkbox"/> 予定
部品送付先	<input checked="" type="checkbox"/> クレーム室 <input type="checkbox"/> 共販店 <input type="checkbox"/> SS店 <input type="checkbox"/> その他 市場技術速報部品
部品送付 無し理由	<input type="checkbox"/> 交換部品なし <input type="checkbox"/> 有償修理 <input type="checkbox"/> 部品欠品・脱落 <input type="checkbox"/> 前報で送付 <input type="checkbox"/> その他
市技報添付	<input checked="" type="checkbox"/> 有 <input type="checkbox"/> 無
連絡書No	<input checked="" type="checkbox"/> 有 <input type="checkbox"/> 無 <input type="checkbox"/> 未確定 0538553
発簡日	2007/05/23
販売店名	P名古屋
店舗名	高師
担当者名	杉浦大介

型式= MHU38W-AWXGK	フレームNo.= 0010504	L/O= 050511	登録= 050520
荷姿= 1 CBU	ライン= 31 トヨタ九州	Eng= 3MZ-FE	Eng No.= 0237113
T/M= HP310	車種コード= 309W		
部位コード= L0301	現象コード= 170	重要度= A	添付
【配布先】 処理No.= 20070530-B1648-0			
*広 瀬/企画管	1 車性/G1x		
1 セン/Z V	2 電技/21F		
HVシ/AHV	HVシ/MHV		
HVユ/EV1	HVユ/EV4		
HVユ/EVG	デンパ/デンソ		
トヨタ九州/トヨタ九州			
処理G = 客 品/品解析/EHV			

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# 市場技術速報

全 1 頁中 1 頁

型式	MHU38W-0027365	TECS基本型式			
標題	HVシステム異常				
フレームNo.	MHU38W-0027365	登録日	2005/10/14	販売店	03701
エンジンNo.		入庫日	2007/07/14	走行距離	44744km
ミッションNo.		カラーNo		トリム	
後付部品名		部品メーカー名			
架装物名		架装メーカー名		ホデーNo.	
お客様の指摘	急に走行できなくなった。				再現性 <input checked="" type="checkbox"/> 有 <input type="checkbox"/> 無

<現象確認>

【確認結果】

・システム起動でき、READYランプは点灯しエンジンは掛かるが、前進後退が進まなく走行不能。  
 ・マルチインフォメーターに、エンジン、VSC、HV、4WDシステム異常表示。

<原因究明 他>

【点検結果】

・ダイアグ点検実施。HV、POA78-286（モーターインバーター機能異常）、POA7A-324、325（ジェネレーターインバーター機能異常）、POA94（昇圧コンバーター異常）。ABS、C1259（HV回生異常）、C1310（HV系異常）。  
 ・一度、ALLダイアグ消去してシステムを再起動しても、不具合再現。ダイアグはHV、POA78-286のみ再入力。  
 ・POA78-286のフローチャートに沿って点検を実施。MGECUのコネクタ接続状態良好。  
 ・上記結果より、コンバーターツキインバーターASSY不良と判定。

<修理内容および効果>

【修理結果】

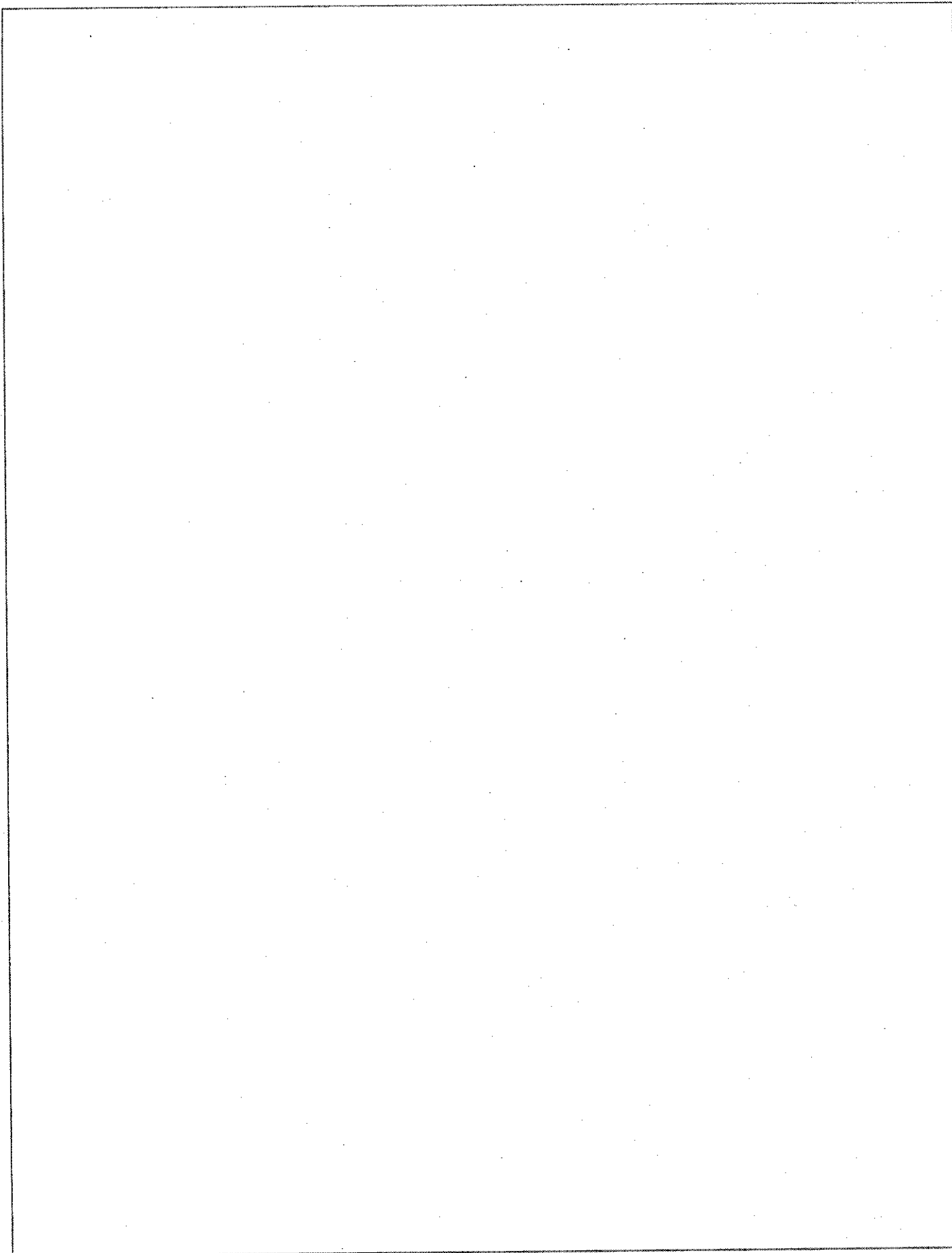
コンバーターツキインバーター（G92A0-48020）交換後、不具合解消。

<ご意見、ご要望>

・現行にて不具合事例として報告します。

ダイアグノース点検結果	<input checked="" type="checkbox"/> 有 <input type="checkbox"/> 無 POA78, POA7A, POA94, C1259, C1310
主原因品番	G92A0-48020
Tコード	T1:8C T2:74 W:99
部品送付	<input checked="" type="checkbox"/> 有 <input type="checkbox"/> 無（下記理由欄参照）
送付日	2007/08/08 <input type="checkbox"/> 済 <input checked="" type="checkbox"/> 予定
部品送付先	<input checked="" type="checkbox"/> クレーム室 <input type="checkbox"/> 共販店 <input type="checkbox"/> SS店 <input type="checkbox"/> その他 市場技術速報部品
部品送付無し理由	<input type="checkbox"/> 交換部品なし <input type="checkbox"/> 有償修理 <input type="checkbox"/> 部品欠品・脱落 <input type="checkbox"/> 前報で送付 <input type="checkbox"/> その他
市技報添付	<input checked="" type="checkbox"/> 有 <input type="checkbox"/> 無
連絡書No	<input checked="" type="checkbox"/> 有 <input type="checkbox"/> 無 <input type="checkbox"/> 未確定 2480013
発簡日	2007/07/29
販売店名	T 神奈川
店舗名	平塚
担当者名	小平 樹嗣

型式= MHU38W-AWXCK	フレームNo.= 0027365	L/O= 050927	登録= 051014
荷姿= 1 CBU	ライン= 31 トヨタ九州	Eng= 3MZ-FE	Eng No.= 0283529
T/M= HP310	小(種)コード= 309W		
部位コード= L0301	現象コード= 8C0	重要度= A	
【配布先】 処理No.= 20070808-95411-0			
*広 瀬/企画	*HVユ/EV 4		
1 車性/G1 x	1 セン/Z V		
2 電技/2 1 F	2 電技/2 3 F		
HVシ/AHV	HVシ/MHV		
HVユ/EVG	デッパ/デッパ		
トヨタ九州/トヨタ九州			
処理G = 客 品/品解析/EHV			



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