MEMORANDUM: 02-018

DATE: April 15, 2002

TO: Don Bartlett, Chairman, L-37 Surveillance Panel

FROM: Donald Lind

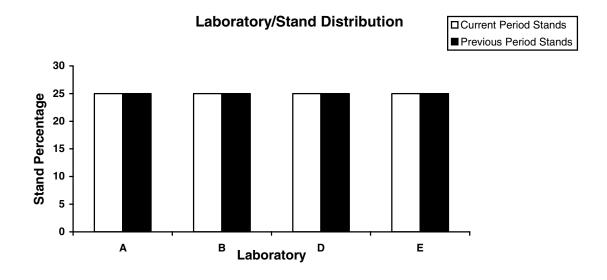
SUBJECT: L-37 Reference Test Status from October 1, 2001 through March 31, 2002

The following is a summary of the L-37 reference oil tests that were reported to the Test Monitoring Center during the period October 1, 2001 through March 31, 2002.

# Lab/Stand Distribution

	Reporting Data	Calibrated as of 3/31/02
Number of Laboratories	4	3
Number of Stands	4	3

The following chart shows the laboratory/stand distribution:



The following summarizes the status of the reference oil tests reported to the TMC:

	TMC Validity Codes	Number of Tests
Operationally and Statistically Acceptable	AC	13
Failed Acceptance Criteria	OC	2
Operationally Invalid (Lab Judgment)	LC	0
Not Acceptable For Intended Purpose	MC	0
Aborted	XC	0
Total		15

#### Lubrited Hardware

There were eight operationally valid reference tests conducted on lubrited hardware, four on gear batch V1L303/P4L514A and four on gear batch V1L686/P4L626A. Two of the tests conducted on gear batch V1L303/P4L514A were operationally and statistically acceptable and two tests failed the acceptance criteria. All four tests conducted on gear batch V1L686/P4L626A were operationally and statistically acceptable.

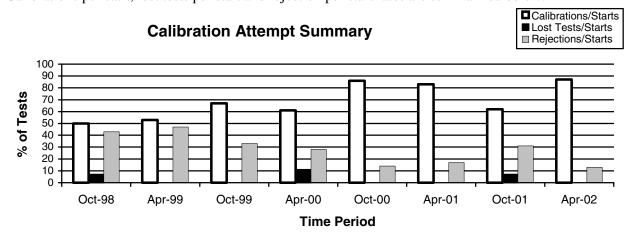
# Non-lubrited Hardware

There were seven operationally valid reference tests conducted on non-lubrited hardware, one on gear batch V1L303/P4L514A and six on gear batch V1L686/P4L626A. The one test conducted on gear batch V1L303/P4L514A was operationally and statistically acceptable. The six tests on gear batch V1L686/P4L626A were operationally and statistically acceptable.

#### **Additional Tests**

There were four tests conducted on lubrited hardware, gear batch V1L686/P4L626A, to analyze the new alternative lubriting process this report period.

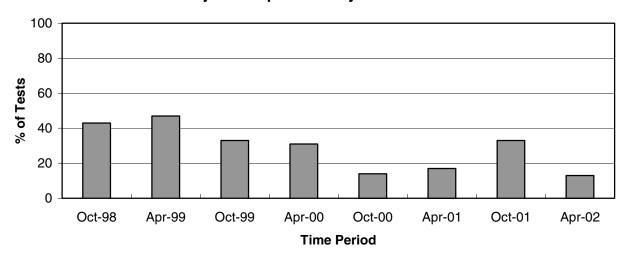
Calibrations per start, lost tests per start and rejection per start rates are summarized below:



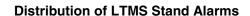
The calibration per start rate has increased when compared to the previous period. The lost tests per start rate and the rejected tests per start rate have decreased with respect to the previous period.

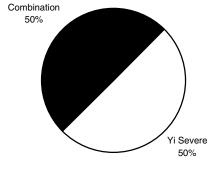
The operationally valid statistically rejected test rate, as shown below, indicates a decrease with respect to the previous period.



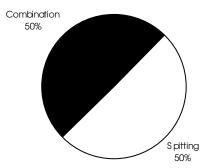


A detailed list of reasons tests failed the acceptance criteria is shown in Table 1. The following charts summarize these reasons with a breakdown by parameter of the failed tests.





# Distribution of Stand Alarms by Parameter



No LTMS deviations were written this period. There have been no LTMS deviations written in previous report periods.

# Severity and Precision

The mean  $\Delta$ /s by gear batch, overall mean  $\Delta$ /s, and shift in merits for the operationally and statistically valid calibration tests reported this period are tabulated below for lubrited and non-lubrited hardware.

	LUBRITED HARDWARE									
Parameter	Gear Batch	N	Δ/s	s <sup>D</sup>	Overall Δ/s	Overall Shift In Merits				
	V1L686/P4L626A	4	-0.44	0.55						
Ridging	V1L303/P4L514A	4	0.54	0.56	0.05	0.04 <sup>A,C</sup>				
	V1L686/P4L626A	4	0.29	0.33						
Rippling	V1L303/P4L514A	4	-1.61	0.24	-0.66	-0.53 <sup>A,C</sup>				
	V1L686/P4L626A	4	-0.30	0.16						
Pitt/Spall	V1L303/P4L514A	4	1.00	1.11	0.35	0.26 B, C				
	V1L686/P4L626A	4	0.17	0.83						
Wear	V1L303/P4L514A	4	0.27	0.00	0.22	0.26 <sup>C</sup>				

A Level for determining shift in merits (8.0)

	NON-LUBRITED HARDWARE								
Parameter	Gear Batch	N	Δ/s	s <sup>D</sup>	Overall Δ/s	Overall Shift In Merits			
	V1L686/P4L626A	6	-0.05	1.20					
Ridging	V1L303/P4L514A	1	0.74		0.06	0.05 <sup>A, C</sup>			
	V1L686/P4L626A	6	-0.63	0.39					
Rippling	V1L303/P4L514A	1	-0.28		-0.58	-0.96 <sup>A,C</sup>			
	V1L686/P4L626A	6	1.09	0.58					
Pitt/Spall	V1L303/P4L514A	1	0.89		1.06	0.34 B, C			
	V1L686/P4L626A	6	0.74	0.30					
Wear	V1L303/P4L514A	1	-0.24		0.60	0.46 <sup>C</sup>			

A Level for determining shift in merits (8.0)

<sup>&</sup>lt;sup>B</sup> Level for determining shift in merits (9.3)

<sup>&</sup>lt;sup>C</sup> Used SA standard deviation as published in the LTMS document for determining shift in merits

<sup>&</sup>lt;sup>D</sup> A straight standard deviation was used. The number of tests conducted this report period was too small to calculate an accurate pooled standard deviation.

<sup>&</sup>lt;sup>B</sup> Level for determining shift in merits (9.3)

Used SA standard deviation as published in the LTMS document for determining shift in merits

<sup>&</sup>lt;sup>D</sup> A straight standard deviation was used. The number of tests conducted this report period was too small to calculate an accurate pooled standard deviation.

Shown below are tables of the mean  $\Delta$ /s by gear batch and hardware for all laboratories reporting data this report period.

	Mean Δ/s (LUBRITED HARDWARE)											
Lab	Lab Ridging				Rippling		Pitt/Spall			Wear		
	V1L686 C1L426/ V1L303/ V1L686 C1L426/ V1L303/ V1L686 C1				C1L426/	V1L303/	V1L686	C1L426/	V1L303/			
	P4L626A	P4L404A	P4L514A	P4L626A	P4L404A	P4L514A	P4L626A	P4L404A	P4L514A	P4L626A	P4L404A	P4L514A
Α			0.54			-1.61			1.00			0.27
В	-0.49			0.29			-0.34			-0.33		
D	-1.06			0.00			-0.14			0.18		
Е	0.28			0.57			-0.37			1.18		

	Mean Δ/s (NON-LUBRITED HARDWARE)											
Lab	Lab Ridging			Rippling		Pitt/Spall		Wear				
	V1L686	C1L426/	C1L426/ V1L303/ V1L686 C1L426/ V1L303/ V1L686 C1L426/ V1L303/				V1L686	C1L426/	V1L303/			
	P4L626A	P4L626A   P4L415A   P4L514A   P4L626A   P4L415A   P4L514A   P4L626A   P4L415A   P4L514A				P4L626A	P4L415A	P4L514A				
Α	-0.03			-0.80			0.86			0.88		
В	-0.75			0.01			1.37			0.14		
D	-0.09			-0.80			1.02			0.88		
Е	0.66		0.74	-0.57		-0.28	1.37		0.89	0.81		-0.24

## **Industry Control Charts**

# Lubrited

Figures 1 through 4 are the lubrited industry control charts for pinion Wear, Rippling, Ridging, and Pitting/Spalling, respectively. Severity and precision EWMA charts for pinion Wear, Ridging and Pitting/Spalling were in control this report period. Pinion Rippling triggered one severe severity EWMA warning alarm and one severe severity EWMA action alarm. The alarms were triggered by lab A.

## Non-lubrited

Figures 5 through 8 are the non-lubrited industry control charts for Pinion Wear, Rippling, Ridging, Pitting/Spalling, respectively. Severity and precision EWMA charts for pinion Wear, Ridging and Rippling were in control this report period. Pinion Pitting/Spalling triggered two mild severity EWMA warning alarms. The alarms were triggered on gear batch V1L686/P4L626A.

# TMC Lab Visits

There were two lab visits with no discrepancies to report this report period.

## **Information Letters**

There were two information letters issued during this period. Information Letter 02-01, Sequence Number 24 was issued on February 6, 2002 and Information Letter 02-02, Sequence Number 25 was issued on February 19, 2002. Items changed with these information letters are documented in the L-37 timeline (Table 2).

## Reference Oil Status

The following is a listing of reference oils with the expected number of tests remaining at the Test Monitoring Center and at the testing laboratories. L-37 reference oils are shipped in quantities of one gallon per test.

Oil	Number of Tests Remaining							
	Lab A	Lab A Lab B Lab D Lab E TMC						
127	5	4	5	5	27			
128-1	8	7	8	7	106			
128-2	4	5	5	5	256			
151-2	4	0	4	3	*			
151-3	7	6	7	6	**			

<sup>\* 0</sup> Gallons (Multiple test area usage)

#### DML/dml

#### Attachments

c: L-37 Surveillance Panel

ftp://ftp. astmtmc.cmu.edu/docs/gear/137/semiannual reports/137-04-2002.pdf

J. L. Zalar

F. M. Farber

Distribution: email

<sup>\*\* 527</sup> Gallons (Multiple test area usage)

# Listing of Tables and Figures Included as Part of This Report to the L-37 Surveillance Panel

Table 1 Summarizes the Reasons for Failed Tests

Table 2 is the L-37 Industry Timeline

Figure 1 is the Industry Control Chart for Pinion Wear (Lubrited Hardware)

Figure 2 is the Industry Control Chart for Pinion Rippling (Lubrited Hardware)

Figure 3 is the Industry Control Chart for Pinion Ridging (Lubrited Hardware)

Figure 4 is the Industry Control Chart for Pinion Pitting/Spalling (Lubrited Hardware)

Figure 5 is the Industry Control Chart for Pinion Wear (Non-Lubrited Hardware)

Figure 6 is the Industry Control Chart for Pinion Rippling (Non-Lubrited Hardware)

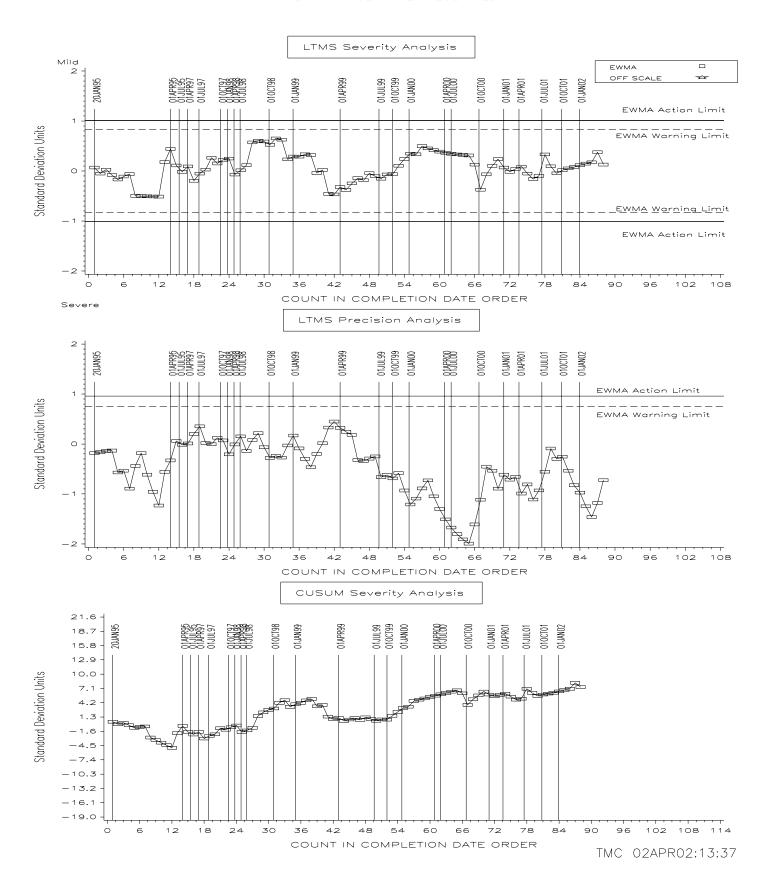
Figure 7 is the Industry Control Chart for Pinion Ridging (Non-Lubrited Hardware)

Figure 8 is the Industry Control Chart for Pinion Pitting/Spalling (Non-Lubrited Hardware)

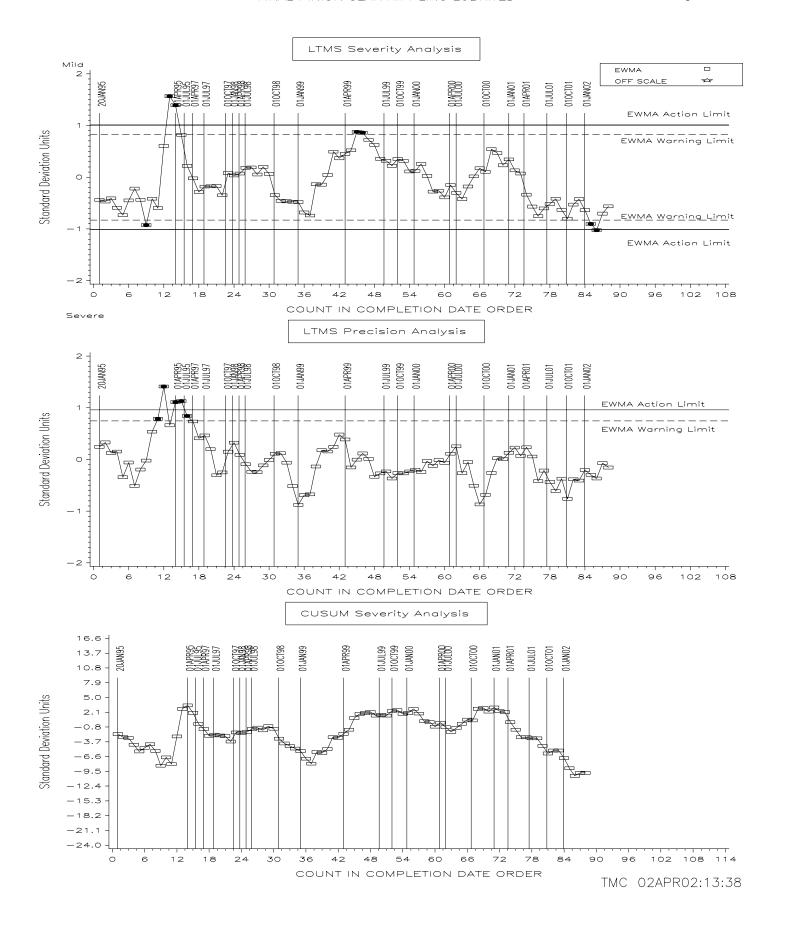
Table 1
Summary of Reasons for Rejected Tests

Reasons	No. of
	Tests
Stand Shewhart Severity Alarm (Pinion Wear and Pitting/Spalling)	1
Stand Shewhart Severity Alarm (Pinion Pitting/Spalling)	1

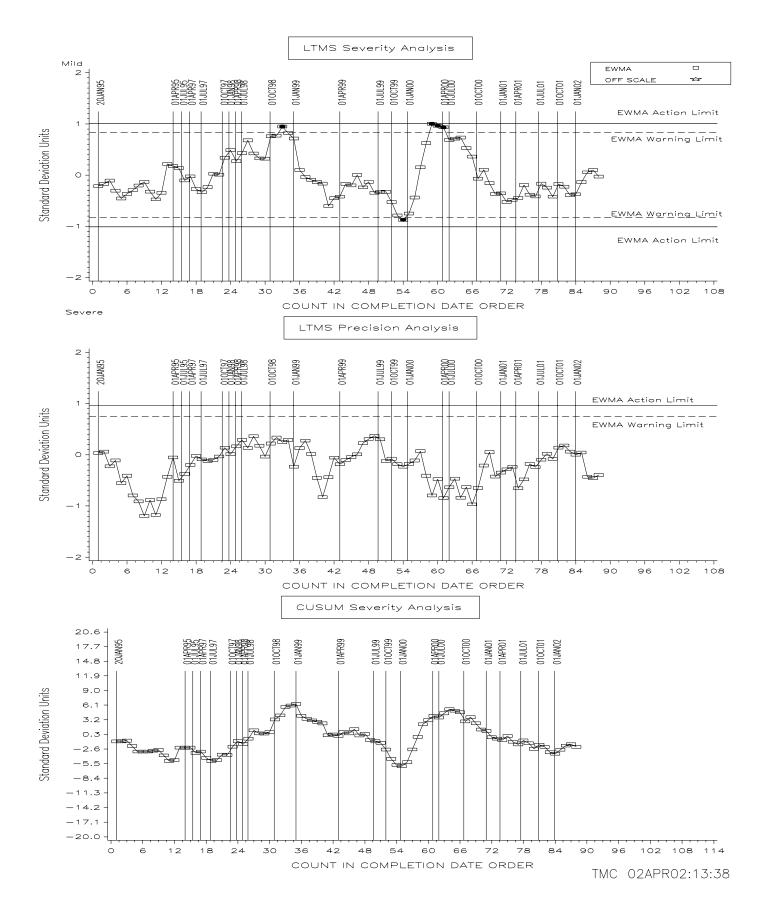
Effective   Topic		L-37 Timeline	
1993121   Report Forms and Dictionary Version 19931209   1	Effective	Topic	IL#
19940104   Data Reporting Response Time   2			
19940104   Data Reporting Response Time   2			
19940428   Report Forms and Dictionary Version 19940422			
19940428   Report Forms and Dictionary Version 19940707   5			
19940728   Report Forms and Dictionary Version 19940707   5			
19950820   Rating Scale Revision   6     19950820   Report Form 5 Wording Change   6     19950820   Report Forms and Dictionary Version 19950424   6     19960309   Rating Revisions of the Rating Scale   96-1     19960315   Rating Revisions of the Rating Scale   96-2     19960316   TMC Address   96-2     19960317   Revised Wording of Rating Scale   96-3     19960318   Revised Wording of Rating Scale   96-3     19960319   Revised Wording of Rating Scale   96-3     19960317   Rating Revisions to the Wear Step Area   96-4     19970825   Revised Reference Testing Frequency and Number of Tests for Stands Out of Calibration > 6     19980309   Revised Reference Testing Frequency and Number of Tests for Stands Out of Calibration > 6     19980309   Revised Alternate Rating Method For Drive Side Pinion Gear Pitting Values On Gear Set C11426/P41.415A     19980309   Revised Alternate Rating Method For Drive Side Pinion Gear Pitting Values On Gear Set C11426/P41.415A     19980309   Revisions to Stand Calibration Requirements   98-2     19980309   Restrictions On Reference Oil Analysis   98-2     19980309   Report Forms and Dictionary Version 19980203   98-3     19980309   Report Forms and Dictionary Version 19980203   98-3     19980300   Report Forms and Dictionary Version 19980203   98-3     19980300   Deviation Percentage Calculation Clarification   98-4     19980310   Report Forms and Dictionary Version 19980203   98-4     19980310   Deviation Percentage Calculation Clarification   98-5     1999010   Developed Reference Oil Test Targets by Gear Batch (Canidathered For All Test Starting 19950101)     1999010   Developed Reference Oil Test Targets by Gear Batch (Canidathered For All Test Starting 19950101)     1999010   Developed Reference Oil Test Starting 19950101     1999010   Order Reference Oi		,	
19950820   Report Form 5 Wording Change   6   19950820   Report Forms and Dictionary Version 19950424   6   6   19960305   Rating Revisions of the Rating Scale   96-1   19960305   Rating Revisions affecting Spalling and Pitting   96-2   199600116   TMC Address   96-3   19960603   Report Forms and Dictionary Version 19960425   96-3   19960603   Revised Wording of Rating Scale   96-3   19970825   Revised Reference Testing Frequency and Number of Tests for Stands Out of Calibration > 6 months   19980309   Report Forms and Dictionary Version 19971223   98-1   19980309   Revised Alternate Rating Method For Drive Side Pinion Gear Pitting Values On Gear Set C11.426/P44.415A   98-1   19980309   Revisions to Stand Calibrations   98-1   19980309   Revisions to Stand Calibration Requirements   98-2   19980309   Reporting of Non-standard Tests to the TMC   98-2   19980309   Reporting of Non-standard Tests to the TMC   98-2   19980301   Report Forms and Dictionary Version 19980203   98-3   19980603   Deviation Percentage Calculation Clarification   98-4   19980901   Combining of Pitting and Spalling Ratings   98-4   19980116   Numerical Rating Precision Clarafication   98-5   19990117   Numerical Rating Precision Clarafication   98-5   19990118   Obveloped Reference Oil Test Targets by Gear Batch (Grandfathered For All Test Starting 19950101 )   19990119   Deletion of Section A8.3.5   99-1   19990120   Revisions to Precision and Bias Statement   99-2   19990728   Cover Plate Thermocouple Location   99-3   19900130   Report Forms and Dictionary Version 199014664   19900140   Revision Profession Califications   00-1, Sequence No. 20   20001010   Revision Report Forms and Dictionary Version Profession Comments   01-2, Sequence No. 22   20011011   Revised Report Forms and Data Dictionary   02-1, Sequence No. 24   20021011   Revised Re		· · · · · · · · · · · · · · · · · · ·	
19950820   Report Forms and Dictionary Version 19950424   6   19960309   Rating Revisions of the Rating Scale   96-1   19960116   TMC Address   96-2   19960116   TMC Address   96-2   19960030   Report Forms and Dictionary Version 19960425   96-3   19960603   Revised Wording of Rating Scale   96-3   19960603   Revised Wording of Rating Scale   96-3   19960601   Rating Revisions to the Wear Step Area   96-4   19970825   Revised Reference Testing Frequency and Number of Tests for Stands Out of Calibration > 6 months   19980309   Report Forms and Dictionary Version 19971223   98-1   19980309   Revised Alternate Rating Method For Drive Side Pinion Gear Pitting Values   On Gear Set C114286/P41415A   19980309   Revised Alternate Rating Method For Drive Side Pinion Gear Pitting Values   On Gear Set C114286/P41415A   19980309   Revised Note of Calibration Requirements   98-2   19980309   Restrictions On Reference Oil Analysis   98-2   19980309   Restrictions On Reference Oil Analysis   98-2   19980309   Restrictions On Reference Oil Analysis   98-2   19980309   Reporting Of Non-standard Tests to the TMC   98-2   19980300   Deviation Percentage Calculation Clarification   98-3   19980301   Report Forms and Dictionary Version 19980203   99-3   19980401   Combining of Pitting and Spalling Ratings   98-4   19980401   Combining of Pitting and Spalling Ratings   98-4   19990110   Developed Reference Oil Test Targets by Gear Batch (Grandfathered For All Test Starting 19950101 ) 19990113   Deletion of Section A8.3.5   99-1   1999013   Deletion of Section A8.3.5   99-1   1999013   Deletion of Section A8.3.5   99-1   1999014   Developed Reference Oil Test Starting 19950101 ) 1999015   Revisions to Precision and Bias Statement   99-2   20000613   Root/Tip Polishing Comment for V1L686/P4L626A Non-lubrited Gears   00-1, Sequence No. 20   200010101   CRC Reference Photography of Gear Distress Photographs   00-2, Sequence No. 21   20011015   Root Forms   10-4   10-4   10-4   10-4   10-4   10-4   10-4   10-4   10-4   10-4   10-4   10			6
19960309   Rating Revisions of the Rating Scale   96-1   19960325   Rating Revisions affecting Spalling and Pitting   96-2   19960103   Report Forms and Dictionary Version 19960425   96-3   19960303   Revised Wording of Rating Scale   96-3   1996031   Revised Wording of Rating Scale   96-3   1996031   Rating Revisions to the Wear Step Area   96-4   19970825   Revised Reference Testing Frequency and Number of Tests for Stands Out of Calloration > 6 months   19980309   Revised Alternate Rating Method For Drive Side Pinion Gear Pitting Values   07   19980309   Revised Alternate Rating Method For Drive Side Pinion Gear Pitting Values   08-1   19980309   Revised Alternate Rating Method For Drive Side Pinion Gear Pitting Values   08-1   19980309   Revisions to Stand Calibration Requirements   98-1   19980309   Revisions to Stand Calibration Requirements   98-2   19980309   Restrictions On Reference Oil Analysis   98-2   19980309   Reporting of Non-standard Tests to the TMC   98-2   19980309   Reporting of Non-standard Tests to the TMC   98-2   19980309   LTMS Implementation   98-3   19980401   Developed Reference Oil Test Targets by Gear Batch (Combining of Pitting and Spalling Ratings   98-4   19980110   Developed Reference Oil Test Targets by Gear Batch (Cranditahered For All Test Starting 19950101)   19990113   Deletion of Section A8.3.5   19990115   Developed Reference Oil Test Targets by Gear Batch (Cranditahered For All Test Starting 19950101)   19990115   Developed Reference Oil Test Starting 19950101)   19990116   Revisions to Precision and Bias Statement   99-2   19990728   Cover Plate Thermocouple Location   99-3   19000161   Rovi Foreision and Bias Statement   99-2   19990712   Cover Plate Thermocouple Location   99-3   1900017   CRC Reference Photography of Gear Distress Photographs   00-1, Sequence No. 20   20001010   CRC Reference Foreouple Revision Store Procision and Bias Statement   99-2   20001010   CRC Reference Photography of Gear Distress Photographs   00-2, Sequence No. 21   20010101   CRC Ref		, , , , , , , , , , , , , , , , , , , ,	
19960325   Rating Revisions affecting Spalling and Pitting   96-2	<u> </u>	· ·	
19960116 TMC Address         96-2           19960603 Report Forms and Dictionary Version 19960425         96-3           19960603 Revised Wording of Rating Scale         96-3           19960317 Rating Revisions to the Wear Step Area         96-4           1997025 Revised Reference Testing Frequency and Number of Tests for Stands Out of Calibration > 6 months         97-1           19980309 Revised Alternate Rating Method For Drive Side Pinion Gear Pitting Values On Gear Set C1L426/P4L415A         98-1           19980309 Revisions to Stand Calibration Requirements         98-1           19980309 Revisions to Stand Calibration Requirements         98-2           19980309 Report Forms and Dictionary Version 19980203         98-2           19980309 Restrictions On Reference Oil Analysis         98-2           19980309 Reporting of Non-standard Tests to the TMC         98-2           19980309 Reporting of Non-standard Tests to the TMC         98-2           19980301 Report Forms and Dictionary Version 19980203         98-3           19980901 Combining of Pitting and Spalling Ratings         98-4           1998011 Numerical Rating Precision Clarafication         98-5           1999011 Developed Reference Oil Test Targets by Gear Batch (Grandfathered For All Test Starting 19950101)         99-1           1999013 Jedition of Exclusion Zone for Determining the Pitting/Spalling Result on Non-lubrited Hardware, Gear Batch V1L303/P4L514A (Grandfathere		<u> </u>	96-1
19960603         Report Forms and Dictionary Version 19960425         96-3           19960603         Revised Wording of Rating Scale         96-3           19960317         Rating Revisors to the Wear Step Area         96-4           19970825         Revised Reference Testing Frequency and Number of Tests for Stands Out of Calibration > 6 months         97-1           19980309         Report Forms and Dictionary Version 19971223         98-1           19980309         Revised Alternate Rating Method For Drive Side Pinion Gear Pitting Values On Gear Set CTL426/P44-415A         98-1           19980309         Test Reporting Clarifications         98-1           19980309         Fest Reporting Clarifications         98-2           19980309         Restrictions On Reference Oil Analysis         98-2           19980309         Reporting of Non-standard Tests to the TMC         98-2           19980300         Reporting of Non-standard Tests to the TMC         98-2           19980301         Report Forms and Dictionary Version 19980203         98-3           19980603         Deviation Percentage Calculation Clarification         98-4           19980901         Combining of Pitting and Spalling Ratings         98-4           19990101         Developed Reference Oil Test Targets by Gear Batch (Grandfathered For All Test Starting 19950101)         99-1			96-2
19960603         Revised Wording of Rating Scale         96-3           19960317         Rating Revisions to the Wear Step Area         96-4           19970826         Revised Reference Testing Frequency and Number of Tests for Stands Out of Calibration > 6 months         97-1           19980309         Report Forms and Dictionary Version 19971223         98-1           19980309         Revised Alternate Rating Method For Drive Side Pinion Gear Pitting Values         On Gear Set C1L426/P4L415A           19980309         Revisions to Stand Calibration Requirements         98-2           19980309         Revisions to Stand Calibration Requirements         98-2           19980309         Reporting of Non-standard Tests to the TMC         98-2           19980309         Inmplementation         98-2           19980301         Report Forms and Dictionary Version 19980203         98-3           19980603         Deviation Percentage Calculation Clarification         98-4           19980116         Numerical Rating Precision Clarification         98-4           19990117         Developed Reference Oil Test Targets by Gear Batch (Grandfathered For All Test Starting 19950101)         99-1           19990113         Detection of Section A8.3.5         99-1           1999050         Revisions to Precision and Bias Statement         99-2           1999072			96-2
19960317   Rating Revisions to the Wear Step Area   19970825   Revised Reference Testing Frequency and Number of Tests for Stands Out of Calibration > 6 months   19980309   Report Forms and Dictionary Version 19971223   98-1   19980309   Revised Alternate Rating Method For Drive Side Pinion Gear Pitting Values   On Gear Set C1L426/P4L415A   19980309   Revised Alternate Rating Method For Drive Side Pinion Gear Pitting Values   On Gear Set C1L426/P4L415A   19980309   Revisions to Stand Calibration Requirements   98-1   19980309   Restrictions On Reference Oil Analysis   98-2   19980309   Restrictions On Reference Oil Analysis   98-2   19980309   Restrictions On Reference Oil Analysis   98-2   19980309   Reporting of Non-standard Tests to the TMC   98-2   19980309   LTMS Implementation   98-3   19980603   Deviation Percentage Calculation Clarification   98-4   19980910   Report Forms and Dictionary Version 19980203   98-3   19980603   Deviation Percentage Calculation Clarification   98-4   1998091   Poevoloped Reference Oil Test Targets by Gear Batch (Grandfathered For All Test Starting 19950101)   19990101   Developed Reference Oil Test Targets by Gear Batch (Grandfathered For All Test Starting 19950101)   19990113   Addition of Exclusion Zone for Determining the Pitting/Spalling Result on Non-lubrited Hardware, Gear Batch V1L303/P4L514A   19990113   Deletion of Section A8.3.5   99-1   19990510   Revisions to Precision and Bias Statement   99-2   19990728   Cover Plate Thermocouple Location   99-3   19090610   1909			96-3
19970825	19960603	Revised Wording of Rating Scale	96-3
Calibration > 6 months         98-1           19980309         Report Forms and Dictionary Version 19971223         98-1           19980309         Revised Alternate Rating Method For Drive Side Pinion Gear Pitting Values On Gear Set C1L426/P4L415A         98-1           19980309         Test Reporting Clarifications         98-1           19980309         Revisions to Stand Calibration Requirements         98-2           19980309         Restrictions On Reference Oil Analysis         98-2           19980309         Reporting of Non-standard Tests to the TMC         98-2           19980310         Report Forms and Dictionary Version 19980203         98-2           19980310         Peport Forms and Dictionary Version 19980203         98-3           19980501         Combining of Pitting and Spalling Ratings         98-4           19980901         Developed Reference Oil Test Targets by Gear Batch (Grandfathered For All Test Starting 19950101)         98-5           19990113         Addition of Exclusion Zone for Determining the Pitting/Spalling Result on Non-lubrited Hardware, Gear Batch V1L303/P4L514A         99-1           19990120         Pepote Reference oil 128-1 Targets (18 Tests), Gear Batch V1L303/P4L514A         99-1           19990510         Revisions to Precision and Bias Statement         99-2           19990720         Cover Plate Thermocouple Location         99-		·	96-4
19980309   Revised Alternate Rating Method For Drive Side Pinion Gear Pitting Values	19970825	Revised Reference Testing Frequency and Number of Tests for Stands Out of	97-1
19980309	10000000		00.1
Gear Set C1L426/P4L415A     19980309   Test Reporting Clarifications   98-1     19980309   Revisions to Stand Calibration Requirements   98-2     19980309   Restrictions On Reference Oil Analysis   98-2     19980309   Reporting of Non-standard Tests to the TMC   98-2     19980309   LTMS Implementation   98-2     19980301   Report Forms and Dictionary Version 19980203   98-3     19980603   Deviation Percentage Calculation Clarification   98-4     19980901   Combining of Pitting and Spalling Ratings   98-4     19980116   Numerical Rating Precision Clarafication   98-5     19990101   Developed Reference Oil Test Targets by Gear Batch (Grandfathered For All Test Starting 19950101)     19990113   Addition of Exclusion Zone for Determining the Pitting/Spalling Result on Non-lubrited Hardware, Gear Batch V1L303/P4L514A (Grandfathered For All Test Starting 19950101)     19990500   Updated Reference oil 128-1 Targets (18 Tests), Gear Batch V1L303/P4L514A (Grandfathered For All Test Starting 19950101)     19990728   Cover Plate Thermocouple Location   99-2     19990728   Cover Plate Thermocouple Location   99-3     20000613   Root/Tip Polishing Comment for V1L686/P4L626A Non-lubrited Gears   00-1, Sequence No. 20     20001001   CRC Reference Photography of Gear Distress Photographs   00-2, Sequence No. 21     20011015   Correction Factor for V1L686/P4L626A Lubrited Gears   01-1, Sequence No. 23     20011010   Revised Report Forms   01-2, Sequence No. 23     20011011   Revised Report Forms   01-2, Sequence No. 24     20020211   Revised Report Forms and Data Dictionary   02-1, Sequence No. 24     20020211   Revised Report Forms and Data Dictionary   02-1, Sequence No. 24     20020211   Revised Report Forms and Data Dictionary   02-1, Sequence No. 24     20020211   Revised Report Forms and Data Dictionary   02-1, Sequence No. 24     20020211   Revised Report Forms and Data Dictionary   02-1, Sequence No. 24     20020211   Revised Report Forms and Data Dictionary   02-1, Sequence No. 24     20020211   Revised Report Forms		, ,	
19980309         Revisions to Stand Calibration Requirements         98-2           19980309         Restrictions On Reference Oil Analysis         98-2           19980309         Reporting of Non-standard Tests to the TMC         98-2           19980309         LTMS Implementation         98-2           19980310         Report Forms and Dictionary Version 19980203         98-3           19980603         Deviation Percentage Calculation Clarification         98-4           19980110         Combining of Pitting and Spalling Ratings         98-4           19980111         Numerical Rating Precision Clarafication         98-5           19990101         Developed Reference Oil Test Targets by Gear Batch (Grandfathered For All Test Starting 19950101)         99-1           19990113         Addition of Exclusion Zone for Determining the Pitting/Spalling Result on Non-lubrited Hardware, Gear Batch V1L303/P4L514A         99-1           19990130         Updated Reference oil 128-1 Targets (18 Tests), Gear Batch V1L303/P4L514A (Grandfathered For All Test Starting 19950101)         99-1           19990510         Revisions to Precision and Bias Statement         99-2           19990728         Cover Plate Thermocouple Location         99-3           20000613         Root/Tip Polishing Comment for V1L686/P4L626A Non-lubrited Gears         00-1, Sequence No. 20           20001010	19980309		98-1
19980309         Restrictions On Reference Oil Analysis         98-2           19980309         Reporting of Non-standard Tests to the TMC         98-2           19980309         LTMS Implementation         98-2           19980310         Report Forms and Dictionary Version 19980203         98-3           19980603         Deviation Percentage Calculation Clarification         98-4           19980910         Combining of Pitting and Spalling Ratings         98-4           19981116         Numerical Rating Precision Clarafication         98-5           19990101         Developed Reference Oil Test Targets by Gear Batch (Grandfathered For All Test Starting 19950101)         99-1           19990113         Addition of Exclusion Zone for Determining the Pitting/Spalling Result on Non-lubrited Hardware, Gear Batch V1L303/P4L514A         99-1           19990113         Deletion of Section A8.3.5         99-1           19990503         Updated Reference oil 128-1 Targets (18 Tests), Gear Batch V1L303/P4L514A (Grandfathered For All Test Starting 19950101)         99-2           19990728         Cover Plate Thermocouple Location         99-3           20000613         Root/Tip Polishing Comment for V1L686/P4L626A Non-lubrited Gears         00-1, Sequence No. 20           20001001         CRC Reference Photography of Gear Distress Photographs         00-2, Sequence No. 21           20001101	19980309	Test Reporting Clarifications	98-1
19980309         Reporting of Non-standard Tests to the TMC         98-2           19980309         LTMS Implementation         98-2           19980310         Report Forms and Dictionary Version 19980203         98-3           19980603         Deviation Percentage Calculation Clarification         98-4           19980901         Combining of Pitting and Spalling Ratings         98-4           19980116         Numerical Rating Precision Clarafication         98-5           19990101         Developed Reference Oil Test Targets by Gear Batch (Grandfathered For All Test Starting 19950101)         99-1           19990113         Addition of Exclusion Zone for Determining the Pitting/Spalling Result on Non-lubrited Hardware, Gear Batch V1L303/P4L514A         99-1           19990113         Deletion of Section A8.3.5         99-1           19990503         Updated Reference oil 128-1 Targets (18 Tests), Gear Batch V1L303/P4L514A (Grandfathered For All Test Starting 19950101)         99-2           19990510         Revisions to Precision and Bias Statement         99-2           19990728         Cover Plate Thermocouple Location         99-3           20000613         Root/Tip Polishing Comment for V1L686/P4L626A Non-lubrited Gears         00-1, Sequence No. 20           20001010         CRC Reference Photography of Gear Distress Photographs         00-2, Sequence No. 21           20011101 </td <td>19980309</td> <td>Revisions to Stand Calibration Requirements</td> <td>98-2</td>	19980309	Revisions to Stand Calibration Requirements	98-2
19980309         LTMS Implementation         98-2           19980310         Report Forms and Dictionary Version 19980203         98-3           19980603         Deviation Percentage Calculation Clarification         98-4           19980901         Combining of Pitting and Spalling Ratings         98-4           19981116         Numerical Rating Precision Clarafication         98-5           19990101         Developed Reference Oil Test Targets by Gear Batch (Grandfathered For All Test Starting 19950101)         99-1           19990113         Addition of Exclusion Zone for Determining the Pitting/Spalling Result on Non-lubrited Hardware, Gear Batch V1L303/P4L514A         99-1           19990503         Updated Reference oil 128-1 Targets (18 Tests), Gear Batch V1L303/P4L514A (Grandfathered For All Test Starting 19950101)         99-1           19990510         Revisions to Precision and Bias Statement         99-2           19990728         Cover Plate Thermocouple Location         99-3           20000613         Root/Tip Polishing Comment for V1L686/P4L626A Non-lubrited Gears         00-1, Sequence No. 20           20001061         Pitting/Spalling Table A9.1 Clarifications         00-1, Sequence No. 20           20001061         Correction Factor for V1L686/P4L626A Lubrited Gears         01-1, Sequence No. 21           20011105         Correction Factor for V1L686/P4L626A Lubrited Gears         01-2, Sequen	19980309	Restrictions On Reference Oil Analysis	98-2
19980310Report Forms and Dictionary Version 1998020398-319980603Deviation Percentage Calculation Clarification98-419980901Combining of Pitting and Spalling Ratings98-419981116Numerical Rating Precision Clarafication98-519990101Developed Reference Oil Test Targets by Gear Batch (Grandfathered For All Test Starting 19950101)99-119990113Addition of Exclusion Zone for Determining the Pitting/Spalling Result on Non-lubrited Hardware, Gear Batch V1L303/P4L514A99-119990113Deletion of Section A8.3.599-119990503Updated Reference oil 128-1 Targets (18 Tests), Gear Batch V1L303/P4L514A (Grandfathered For All Test Starting 19950101)99-219990510Revisions to Precision and Bias Statement99-219990728Cover Plate Thermocouple Location99-320000613Root/Tip Polishing Comment for V1L686/P4L626A Non-lubrited Gears00-1, Sequence No. 2020001001CRC Reference Photography of Gear Distress Photographs00-2, Sequence No. 2120011105Correction Factor for V1L686/P4L626A Lubrited Gears01-1, Sequence No. 22200110612Ring Correction Factor for V1L686/P4L626A Lubrited Gears01-2, Sequence No. 2320011101Revised Report Forms01-2, Sequence No. 2320011101Revised Report Forms01-2, Sequence No. 2420020211Revised Report Forms and Data Dictionary02-1, Sequence No. 24	19980309	Reporting of Non-standard Tests to the TMC	98-2
19980603 Deviation Percentage Calculation Clarification 19980901 Combining of Pitting and Spalling Ratings 19981116 Numerical Rating Precision Clarafication 19981116 Numerical Rating Precision Clarafication 19990101 Developed Reference Oil Test Targets by Gear Batch (Grandfathered For All Test Starting 19950101) 19990113 Addition of Exclusion Zone for Determining the Pitting/Spalling Result on Non-lubrited Hardware, Gear Batch V1L303/P4L514A 19990113 Deletion of Section A8.3.5 199-1 19990503 Updated Reference oil 128-1 Targets (18 Tests), Gear Batch V1L303/P4L514A (Grandfathered For All Test Starting 19950101) 19990510 Revisions to Precision and Bias Statement 19990728 Cover Plate Thermocouple Location 19990728 Cover Plate Thermocouple Location 19000613 Root/Tip Polishing Comment for V1L686/P4L626A Non-lubrited Gears 100-1, Sequence No. 20 10000613 Pitting/Spalling Table A9.1 Clarifications 10001001 CRC Reference Photography of Gear Distress Photographs 10001015 Correction Factor for V1L686/P4L626A Lubrited Gears 101-1, Sequence No. 21 1001115 Correction Factor for V1L686/P4L626A Lubrited Gears 101-2, Sequence No. 23 1001101 Revised Report Forms 101-2, Sequence No. 23 10011101 Revised Report Forms 101-2, Sequence No. 23 10020101 CRC Rating Manual 21 102-1, Sequence No. 24 10020211 Revised Report Forms and Data Dictionary 102-1, Sequence No. 24	19980309	LTMS Implementation	98-2
19980901         Combining of Pitting and Spalling Ratings         98-4           19981116         Numerical Rating Precision Clarafication         98-5           19990101         Developed Reference Oil Test Targets by Gear Batch (Grandfathered For All Test Starting 19950101)         99-1           19990113         Addition of Exclusion Zone for Determining the Pitting/Spalling Result on Non-lubrited Hardware, Gear Batch V1L303/P4L514A         99-1           19990113         Deletion of Section A8.3.5         99-1           19990503         Updated Reference oil 128-1 Targets (18 Tests), Gear Batch V1L303/P4L514A (Grandfathered For All Test Starting 19950101)         99-2           19990728         Cover Plate Thermocouple Location         99-3           20000613         Root/Tip Polishing Comment for V1L686/P4L626A Non-lubrited Gears         00-1, Sequence No. 20           200010613         Pitting/Spalling Table A9.1 Clarifications         00-1, Sequence No. 21           20011015         Correction Factor for V1L686/P4L626A Lubrited Gears         01-1, Sequence No. 22           20010612         Ring Correction Factor for V1L686/P4L626A Lubrited Gears         01-2, Sequence No. 23           20011101         Revised Report Forms         01-2, Sequence No. 23           20021101         Revised Report Forms         01-2, Sequence No. 24           20020211         Revised Report Forms and Data Dictionary <td< td=""><td>19980310</td><td>Report Forms and Dictionary Version 19980203</td><td>98-3</td></td<>	19980310	Report Forms and Dictionary Version 19980203	98-3
19981116Numerical Rating Precision Clarafication98-519990101Developed Reference Oil Test Targets by Gear Batch (Grandfathered For All Test Starting 19950101)99-119990113Addition of Exclusion Zone for Determining the Pitting/Spalling Result on Non-lubrited Hardware, Gear Batch V1L303/P4L514A99-119990113Deletion of Section A8.3.599-119990503Updated Reference oil 128-1 Targets (18 Tests), Gear Batch V1L303/P4L514A (Grandfathered For All Test Starting 19950101)99-219990728Cover Plate Thermocouple Location99-320000613Root/Tip Polishing Comment for V1L686/P4L626A Non-lubrited Gears00-1, Sequence No. 2020000613Pitting/Spalling Table A9.1 Clarifications00-1, Sequence No. 2020001001CRC Reference Photography of Gear Distress Photographs00-2, Sequence No. 212001115Correction Factor for V1L686/P4L626A Lubrited Gears01-1, Sequence No. 2220010612Ring Correction Factor for V1L686/P4L626A Lubrited Gears01-2, Sequence No. 2320011101Addition of Annex 12 Addressing Distress Rating Exclusion Comments01-2, Sequence No. 2320011101Revised Report Forms01-2, Sequence No. 2420020211Revised Report Forms and Data Dictionary02-1, Sequence No. 24	19980603	Deviation Percentage Calculation Clarification	98-4
19990101 Developed Reference Oil Test Targets by Gear Batch (Grandfathered For All Test Starting 19950101) 19990113 Addition of Exclusion Zone for Determining the Pitting/Spalling Result on Non-lubrited Hardware, Gear Batch V1L303/P4L514A 19990113 Deletion of Section A8.3.5 19990503 Updated Reference oil 128-1 Targets (18 Tests), Gear Batch V1L303/P4L514A (Grandfathered For All Test Starting 19950101) 19990510 Revisions to Precision and Bias Statement 19990728 Cover Plate Thermocouple Location 19990728 Cover Plate Thermocouple Location 19000613 Root/Tip Polishing Comment for V1L686/P4L626A Non-lubrited Gears 100117 Polishing Table A9.1 Clarifications 100118 CRC Reference Photography of Gear Distress Photographs 100119 CRC Reference Photography of Gear Distress Photographs 100119 Correction Factor for V1L686/P4L626A Lubrited Gears 101-1, Sequence No. 22 1001110 Revised Report Forms 101-2, Sequence No. 23 1001110 Revised Report Forms 101-2, Sequence No. 23 10020101 CRC Rating Manual 21 102-1, Sequence No. 24 10020211 Revised Report Forms and Data Dictionary 102-1, Sequence No. 24	19980901	Combining of Pitting and Spalling Ratings	98-4
( Grandfathered For All Test Starting 19950101 )  19990113 Addition of Exclusion Zone for Determining the Pitting/Spalling Result on Non-lubrited Hardware, Gear Batch V1L303/P4L514A  19990113 Deletion of Section A8.3.5 99-1  19990503 Updated Reference oil 128-1 Targets (18 Tests), Gear Batch V1L303/P4L514A (Grandfathered For All Test Starting 19950101)  19990510 Revisions to Precision and Bias Statement 99-2  19990728 Cover Plate Thermocouple Location 99-3  20000613 Root/Tip Polishing Comment for V1L686/P4L626A Non-lubrited Gears 00-1, Sequence No. 20  2000101 CRC Reference Photography of Gear Distress Photographs 00-2, Sequence No. 21  2001115 Correction Factor for V1L686/P4L626A Lubrited Gears 01-1, Sequence No. 22  20010612 Ring Correction Factor for V1L686/P4L626A Lubrited Gears 01-2, Sequence No. 23  20011101 Addition of Annex 12 Addressing Distress Rating Exclusion Comments 01-2, Sequence No. 23  20011101 Revised Report Forms 01-2, Sequence No. 24  2002011 Revised Report Forms and Data Dictionary 02-1, Sequence No. 24	19981116	Numerical Rating Precision Clarafication	98-5
19990113Addition of Exclusion Zone for Determining the Pitting/Spalling Result on Non-lubrited Hardware, Gear Batch V1L303/P4L514A99-119990113Deletion of Section A8.3.599-119990503Updated Reference oil 128-1 Targets (18 Tests), Gear Batch V1L303/P4L514A ( Grandfathered For All Test Starting 19950101 )99-219990510Revisions to Precision and Bias Statement99-219990728Cover Plate Thermocouple Location99-320000613Root/Tip Polishing Comment for V1L686/P4L626A Non-lubrited Gears00-1, Sequence No. 2020001001CRC Reference Photography of Gear Distress Photographs00-2, Sequence No. 2120001115Correction Factor for V1L686/P4L626A Lubrited Gears01-1, Sequence No. 2220010612Ring Correction Factor for V1L686/P4L626A Lubrited Gears01-2, Sequence No. 2320011101Addition of Annex 12 Addressing Distress Rating Exclusion Comments01-2, Sequence No. 2320011101Revised Report Forms01-2, Sequence No. 2420020211Revised Report Forms and Data Dictionary02-1, Sequence No. 24	19990101		
19990113Deletion of Section A8.3.599-119990503Updated Reference oil 128-1 Targets (18 Tests), Gear Batch V1L303/P4L514A (Grandfathered For All Test Starting 19950101)99-219990510Revisions to Precision and Bias Statement99-219990728Cover Plate Thermocouple Location99-320000613Root/Tip Polishing Comment for V1L686/P4L626A Non-lubrited Gears00-1, Sequence No. 202000103Pitting/Spalling Table A9.1 Clarifications00-1, Sequence No. 2020001001CRC Reference Photography of Gear Distress Photographs00-2, Sequence No. 2120001115Correction Factor for V1L686/P4L626A Lubrited Gears01-1, Sequence No. 2220010612Ring Correction Factor for V1L686/P4L626A Lubrited Gears01-2, Sequence No. 2320011101Addition of Annex 12 Addressing Distress Rating Exclusion Comments01-2, Sequence No. 2320011101Revised Report Forms01-2, Sequence No. 2320020101CRC Rating Manual 2102-1, Sequence No. 2420020211Revised Report Forms and Data Dictionary02-1, Sequence No. 24	19990113	Addition of Exclusion Zone for Determining the Pitting/Spalling Result on	99-1
19990503 Updated Reference oil 128-1 Targets (18 Tests), Gear Batch V1L303/P4L514A (Grandfathered For All Test Starting 19950101)  19990510 Revisions to Precision and Bias Statement  19990728 Cover Plate Thermocouple Location  20000613 Root/Tip Polishing Comment for V1L686/P4L626A Non-lubrited Gears  20000613 Pitting/Spalling Table A9.1 Clarifications  20001001 CRC Reference Photography of Gear Distress Photographs  20001115 Correction Factor for V1L686/P4L626A Lubrited Gears  20010612 Ring Correction Factor for V1L686/P4L626A Lubrited Gears  2001101 Addition of Annex 12 Addressing Distress Rating Exclusion Comments  20011101 Revised Report Forms  20020101 CRC Rating Manual 21  20020211 Revised Report Forms and Data Dictionary  20210101 Sequence No. 24	19990113		99-1
(Grandfathered For All Test Starting 19950101)99-219990510Revisions to Precision and Bias Statement99-219990728Cover Plate Thermocouple Location99-320000613Root/Tip Polishing Comment for V1L686/P4L626A Non-lubrited Gears00-1, Sequence No. 2020000613Pitting/Spalling Table A9.1 Clarifications00-1, Sequence No. 2020001001CRC Reference Photography of Gear Distress Photographs00-2, Sequence No. 2120001115Correction Factor for V1L686/P4L626A Lubrited Gears01-1, Sequence No. 2220010612Ring Correction Factor for V1L686/P4L626A Lubrited Gears01-2, Sequence No. 2320011101Addition of Annex 12 Addressing Distress Rating Exclusion Comments01-2, Sequence No. 2320011101Revised Report Forms01-2, Sequence No. 2420020101CRC Rating Manual 2102-1, Sequence No. 2420020211Revised Report Forms and Data Dictionary02-1, Sequence No. 24			00 1
19990728Cover Plate Thermocouple Location99-320000613Root/Tip Polishing Comment for V1L686/P4L626A Non-lubrited Gears00-1, Sequence No. 2020000613Pitting/Spalling Table A9.1 Clarifications00-1, Sequence No. 2020001001CRC Reference Photography of Gear Distress Photographs00-2, Sequence No. 2120001115Correction Factor for V1L686/P4L626A Lubrited Gears01-1, Sequence No. 2220010612Ring Correction Factor for V1L686/P4L626A Lubrited Gears01-2, Sequence No. 2320011101Addition of Annex 12 Addressing Distress Rating Exclusion Comments01-2, Sequence No. 2320011101Revised Report Forms01-2, Sequence No. 2420020101CRC Rating Manual 2102-1, Sequence No. 2420020211Revised Report Forms and Data Dictionary02-1, Sequence No. 24	19990505		
20000613Root/Tip Polishing Comment for V1L686/P4L626A Non-lubrited Gears00-1, Sequence No. 2020000613Pitting/Spalling Table A9.1 Clarifications00-1, Sequence No. 2020001001CRC Reference Photography of Gear Distress Photographs00-2, Sequence No. 2120001115Correction Factor for V1L686/P4L626A Lubrited Gears01-1, Sequence No. 2220010612Ring Correction Factor for V1L686/P4L626A Lubrited Gears01-2, Sequence No. 2320011101Addition of Annex 12 Addressing Distress Rating Exclusion Comments01-2, Sequence No. 2320011101Revised Report Forms01-2, Sequence No. 2320020101CRC Rating Manual 2102-1, Sequence No. 2420020211Revised Report Forms and Data Dictionary02-1, Sequence No. 24	19990510	Revisions to Precision and Bias Statement	99-2
20000613Pitting/Spalling Table A9.1 Clarifications00-1, Sequence No. 2020001001CRC Reference Photography of Gear Distress Photographs00-2, Sequence No. 2120001115Correction Factor for V1L686/P4L626A Lubrited Gears01-1, Sequence No. 2220010612Ring Correction Factor for V1L686/P4L626A Lubrited Gears01-2, Sequence No. 2320011101Addition of Annex 12 Addressing Distress Rating Exclusion Comments01-2, Sequence No. 2320011101Revised Report Forms01-2, Sequence No. 2320020101CRC Rating Manual 2102-1, Sequence No. 2420020211Revised Report Forms and Data Dictionary02-1, Sequence No. 24	19990728	Cover Plate Thermocouple Location	99-3
20001001CRC Reference Photography of Gear Distress Photographs00-2, Sequence No. 2120001115Correction Factor for V1L686/P4L626A Lubrited Gears01-1, Sequence No. 2220010612Ring Correction Factor for V1L686/P4L626A Lubrited Gears01-2, Sequence No. 2320011101Addition of Annex 12 Addressing Distress Rating Exclusion Comments01-2, Sequence No. 2320011101Revised Report Forms01-2, Sequence No. 2320020101CRC Rating Manual 2102-1, Sequence No. 2420020211Revised Report Forms and Data Dictionary02-1, Sequence No. 24	20000613	Root/Tip Polishing Comment for V1L686/P4L626A Non-lubrited Gears	00-1, Sequence No. 20
20001115Correction Factor for V1L686/P4L626A Lubrited Gears01-1, Sequence No. 2220010612Ring Correction Factor for V1L686/P4L626A Lubrited Gears01-2, Sequence No. 2320011101Addition of Annex 12 Addressing Distress Rating Exclusion Comments01-2, Sequence No. 2320011101Revised Report Forms01-2, Sequence No. 2320020101CRC Rating Manual 2102-1, Sequence No. 2420020211Revised Report Forms and Data Dictionary02-1, Sequence No. 24	20000613	Pitting/Spalling Table A9.1 Clarifications	00-1, Sequence No. 20
20010612Ring Correction Factor for V1L686/P4L626A Lubrited Gears01-2, Sequence No. 2320011101Addition of Annex 12 Addressing Distress Rating Exclusion Comments01-2, Sequence No. 2320011101Revised Report Forms01-2, Sequence No. 2320020101CRC Rating Manual 2102-1, Sequence No. 2420020211Revised Report Forms and Data Dictionary02-1, Sequence No. 24	20001001	CRC Reference Photography of Gear Distress Photographs	00-2, Sequence No. 21
20011101Addition of Annex 12 Addressing Distress Rating Exclusion Comments01-2, Sequence No. 2320011101Revised Report Forms01-2, Sequence No. 2320020101CRC Rating Manual 2102-1, Sequence No. 2420020211Revised Report Forms and Data Dictionary02-1, Sequence No. 24	20001115	Correction Factor for V1L686/P4L626A Lubrited Gears	01-1, Sequence No. 22
20011101Revised Report Forms01-2, Sequence No. 2320020101CRC Rating Manual 2102-1, Sequence No. 2420020211Revised Report Forms and Data Dictionary02-1, Sequence No. 24	20010612	Ring Correction Factor for V1L686/P4L626A Lubrited Gears	01-2, Sequence No. 23
20011101Revised Report Forms01-2, Sequence No. 2320020101CRC Rating Manual 2102-1, Sequence No. 2420020211Revised Report Forms and Data Dictionary02-1, Sequence No. 24	20011101	Addition of Annex 12 Addressing Distress Rating Exclusion Comments	01-2, Sequence No. 23
20020101CRC Rating Manual 2102-1, Sequence No. 2420020211Revised Report Forms and Data Dictionary02-1, Sequence No. 24	20011101	Revised Report Forms	01-2, Sequence No. 23
20020211 Revised Report Forms and Data Dictionary 02-1, Sequence No. 24		'	•
		· · · · · · · · · · · · · · · · · · ·	•
		·	02-2, Sequence No. 25



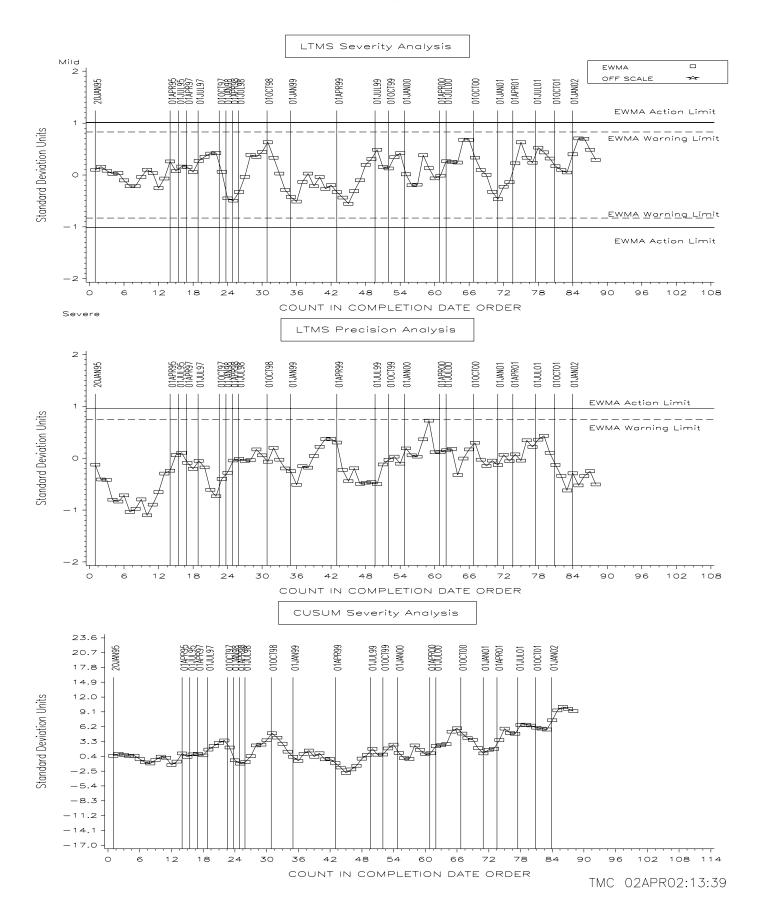
## FINAL PINION GEAR RIPPLING LUBRITED



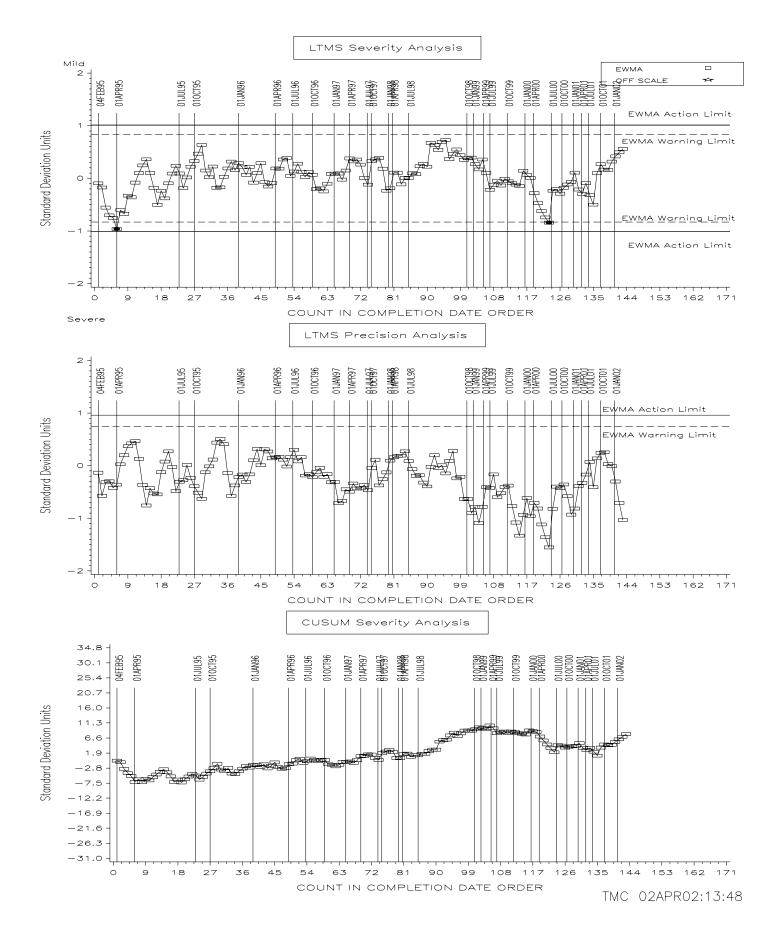
## FINAL PINION GEAR RIDGING LUBRITED



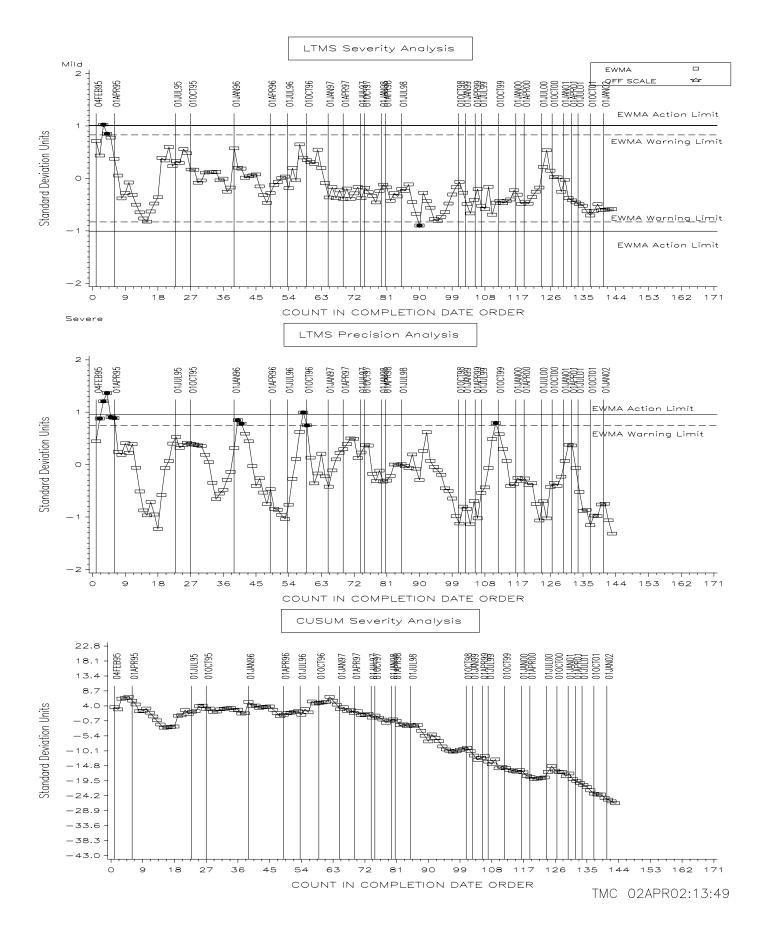
## FINAL PINION GEAR PITTING/SPALLING LUBRITED



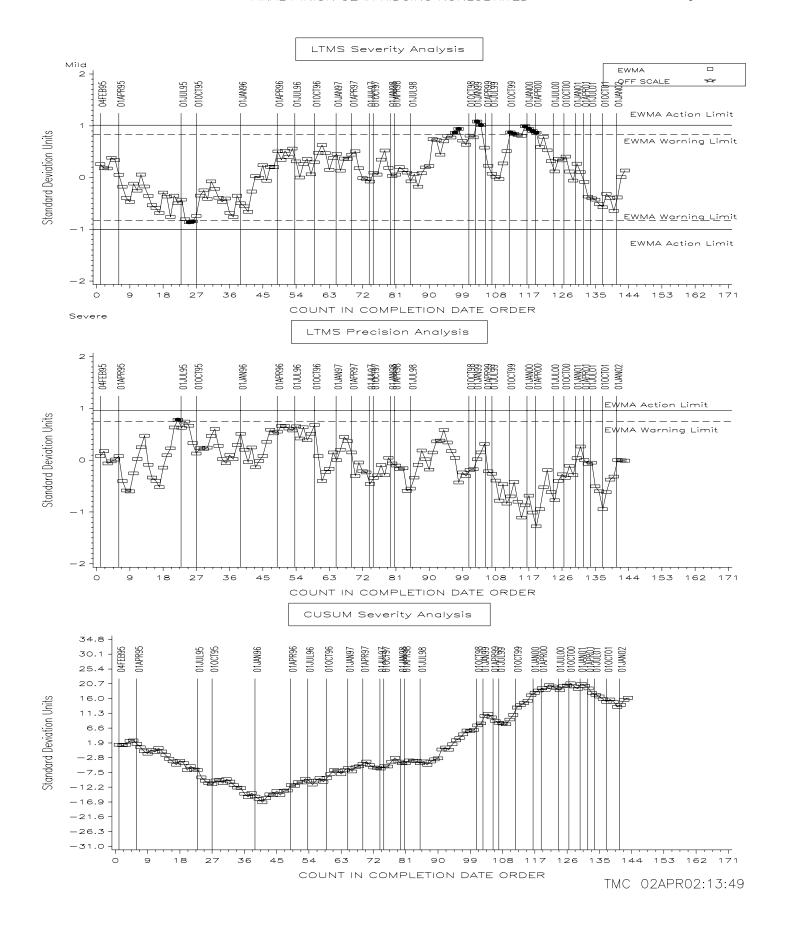
# FINAL PINION GEAR WEAR NONLUBRITED



## FINAL PINION GEAR RIPPLING NONLUBRITED



## FINAL PINION GEAR RIDGING NONLUBRITED



# FINAL PINION GEAR PITTING/SPALLING NONLUBRITED

