

**Report Forms  
L-42**

Version:  
Conducted For:

	V = Valid
	I = Invalid
	N = Results Cannot Be Interpreted (See Comment Section)

	NR = Non-Reference Test Oil
	RO = Reference Oil Result

Test Number			
Test Stand:		Stand Run Number:	
Date Completed:		EOT Time:	
Oil Code:			
Formulation/Stand Code:			
Alternate Codes:			
Test Version <sup>A</sup> :			

<p>In my opinion this test _____ been conducted in a valid manner in accordance with the latest draft of L-42 procedure and the appropriate amendments through the information letter system. The remarks included in this report describe the anomalies associated with this test.</p>
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<sup>A</sup> Standard or Canadian

Submitted By:

\_\_\_\_\_

Testing Laboratory

\_\_\_\_\_

Signature

\_\_\_\_\_

Typed Name

\_\_\_\_\_

Title

\_\_\_\_\_

Section

**L-42  
Form 1  
Test Result Summary**

Lab:	Stand No.:	Stand Run No.:	TMC Oil Code (reference only):
Oil Code:			Lab Oil Code:

Test Date Started	Test Date Completed	Drive Side Scoring (%)		Coast Side Scoring (%)			Coast Side Torque (lbf-ft)	
		EOT Pinion	EOT Ring	EOT Pinion	EOT Ring	Shock Series 1 Ring	Shock Series 1 (Average)	Shock Series 2 (Average)
Conditioning 2 Test Time:		Conditioning 4 Test Time:			End of Test Time:		Total Test Minutes:	
Ring Batch:		Pinion Batch:			Latest Information Letter Run Against:			

Stand Reference Oil Test History In Chronological Order												
	Test Date Started	Test Date Completed	Stand Run No.	CMIR No.	TMC Oil No.	Drive Side Scoring (%)		Coast Side Scoring (%)			Coast Side Torque (lbf-ft)	
						EOT Pinion	EOT Ring	EOT Pinion	EOT Ring	Shock Series 1 Ring	Shock Series 1 (Average)	Shock Series 2 (Average)
Discrimination <sup>A</sup>												
Calibration Sequence Passing Tests Only <sup>B</sup>												
<b>Passing Reference Oil Test Average</b>												

<sup>A</sup>Only for non-reference tests.

<sup>B</sup>For non-reference and discrimination tests only.

**L-42**  
**Form 2**  
**Conditioning Phase Operational Data Summary**

Lab:	Stand No.:	Stand Run No.:
Oil Code:		

Operational Data				
	Conditioning 1		Conditioning 3	
	Wheel Speed (r/min)	Torques (lbf-ft)	Wheel Speed (r/min)	Torques (lbf-ft)
Maximum				
Minimum				
Average				

Operational Data					
		Conditioning 2		Conditioning 4	
		Wheel Speed (r/min)	Torques (lbf-ft)	Wheel Speed (r/min)	Torques (lbf-ft)
<b>Drive Side</b>	Maximum				
	Minimum				
	Average				
<b>Coast Side</b>	Maximum				
	Minimum				
	Average				

Lubricant Temperature Data				
Phase	Specification	Average	Minimum	Maximum
Gear Conditioning (After reaching 215 °F)	225 ± 10 °F			

Percent Deviation						
Parameter	Entire Conditioning Phase		Conditioning Phase 1		Conditioning Phase 3	
	Limits	% Out	Limits	% Out	Limits	% Out
Axle Oil Temp.	5.0%					
Axle r/min			5.0%		5.0%	
Pinion Torque			5.0%		5.0%	

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**Form 3**  
**Shock Series Operational Summary**

Lab:	Stand No.:	Stand Run No:
Oilcode:		

<b>Stand Set-up</b>				
	<b>Shock Series 1</b>		<b>Shock Series 2</b>	
Parameter	Acceleration	Deceleration	Acceleration	Deceleration
Potentiometer Setting				
Stand Set-up Version				

<b>Gear Loading Data</b>							
<b>Gear Side</b>		<b>Shock Series 1</b>			<b>Shock Series 2</b>		
		Wheel Speed (r/min)	Torques (lbf-ft)	Cycle Time (Seconds)	Wheel Speed (r/min)	Torques (lbf-ft)	Cycle Time (Seconds)
Drive	Maximum						
	Minimum						
	Average						
Coast	Maximum						
	Minimum						
	Average						

<b>Lubricant Temperature Data</b>			
Phase	Specification	Start Value	Maximum
Shock Series 1			
Shock Series 2			

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Form 4  
Measurement Summary**

Lab:	Stand No.:	Stand Run No.:
Oil Code:		

Axle Codes				
Assembly Date	Match No.	Serial Number	Pinion Batch	Ring Batch

Contact Pattern Measurements			
		Drive Side	Coast -Side
<b>Length Rating</b>	As Received		
	As Tested		
<b>Flank Rating</b>	As Received		
	As Tested		
Contact Pattern Rater Initials			

Test Axle Build Data									
Backlash (in.)	Mfg. Specification	Mfg. Measurement	Laboratory's Position Measurements						
			1	2	3	4	Min	Max	Avg.
Initial	.004 -.012 in.								
Final									
Increase									
<b>Initial Pinion Torque (lbf -in)</b>			Break						
			Turn						

Inspection	Ring% Scoring		Pinion % Scoring	
	Drive Side	Coast Side	Drive Side	Coast Side
Inspection 1				
Inspection 2				
EOT				
EOT Rating Date			EOT Rater Initials	





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**Form 6**

**Conditioning Phase 1 & 2 – Wheel Speed vs. Time**

Lab:	Stand No.:	Stand Run No.:
Oilcode:		



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**Form 7**

**Conditioning Phase 3 & 4 – Wheel Speed vs. Time**

Lab:	Stand No.:	Stand Run No.:
Oilcode:		

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**Form 8**

**Shock Series 1 – Wheel Speed vs. Time**

Lab:	Stand No.:	Stand Run No.:
Oilcode:		

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**Form 9**

**Shock Series 2 – Wheel Speed vs. Time**

Lab:	Stand No.:	Stand Run No.:
Oilcode:		

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**Form 10**

**Conditioning Phase 1 & 2 – Pinion Torque vs. Time**

Lab:	Stand No.:	Stand Run No.:
Oilcode:		

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**Form 11**

**Conditioning Phase 3 & 4 – Pinion Torque vs. Time**

Lab:	Stand No.:	Stand Run No.:
Oilcode:		

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**Form 12**

**Conditioning Phase 2 – Pinion Torque vs. Time**

Lab:	Stand No.:	Stand Run No.:
Oilcode:		

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**Form 13**

**Conditioning Phase 4 – Pinion Torque vs. Time**

Lab:	Stand No.:	Stand Run No.:
Oilcode:		

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**Form 14**

**Shock Series 1 – Pinion Torque vs. Time (5 shocks)**

Lab:	Stand No.:	Stand Run No.:
Oilcode:		



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**Form 15**

**Shock Series 2 – Pinion Torque vs. Time (10 shocks)**

Lab:	Stand No.:	Stand Run No.:
Oilcode:		

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**Form 16**

**Axle Oil Temperature vs. Time**

Lab:	Stand No.:	Stand Run No.:
Oilcode:		