

**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 ^A : | | | |

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.

^A 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 ^A | | | | | | | | | | | | |
| Calibration Sequence Passing Tests Only ^B | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Passing Reference Oil Test Average | | | | | | | | | | | | |

^AOnly for non-reference tests.

^BFor 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) |
| Drive Side | Maximum | | | | |
| | Minimum | | | | |
| | Average | | | | |
| Coast Side | 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% | |

L-42
Form 3
Shock Series Operational Summary

| | | |
|----------|------------|---------------|
| Lab: | Stand No.: | Stand Run No: |
| Oilcode: | | |

| Stand Set-up | | | | |
|-----------------------|-----------------------|--------------|-----------------------|--------------|
| | Shock Series 1 | | Shock Series 2 | |
| Parameter | Acceleration | Deceleration | Acceleration | Deceleration |
| Potentiometer Setting | | | | |
| Stand Set-up Version | | | | |

| Gear Loading Data | | | | | | | |
|--------------------------|---------|------------------------|---------------------|-------------------------|------------------------|---------------------|-------------------------|
| Gear Side | | Shock Series 1 | | | Shock Series 2 | | |
| | | 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 | | | | | | |

| Lubricant Temperature Data | | | |
|-----------------------------------|---------------|-------------|---------|
| Phase | Specification | Start Value | Maximum |
| Shock Series 1 | | | |
| Shock Series 2 | | | |

**Form 4
Measurement Summary**

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

| Axle Codes | | | |
|---------------|-----------|--------------|------------|
| Assembly Date | Match No. | Pinion Batch | Ring Batch |
| | | | |

| Contact Pattern Measurements | | | |
|--------------------------------|-------------|------------|-------------|
| | | Drive Side | Coast -Side |
| Length Rating | As Received | | |
| | As Tested | | |
| Flank Rating | 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 | Minimum | Maximum | Average |
| Initial | .004 -.012 in. | | | | | | | | |
| Final | | | | | | | | | |
| Increase | | | | | | | | | |
| Initial Pinion Torque (lbf -in) | | | 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 | |
| | | | | |

L-42
Form 6

Conditioning Phase 1 & 2 – Wheel Speed vs. Time

| | | |
|----------|------------|----------------|
| Lab: | Stand No.: | Stand Run No.: |
| Oilcode: | | |

L-42
Form 7

Conditioning Phase 3 & 4 – Wheel Speed vs. Time

| | | |
|----------|------------|----------------|
| Lab: | Stand No.: | Stand Run No.: |
| Oilcode: | | |

L-42
Form 8

Shock Series 1 – Wheel Speed vs. Time

| | | |
|----------|------------|----------------|
| Lab: | Stand No.: | Stand Run No.: |
| Oilcode: | | |

L-42
Form 9

Shock Series 2 – Wheel Speed vs. Time

| | | |
|----------|------------|----------------|
| Lab: | Stand No.: | Stand Run No.: |
| Oilcode: | | |

L-42
Form 10

Conditioning Phase 1 & 2 – Pinion Torque vs. Time

| | | |
|----------|------------|----------------|
| Lab: | Stand No.: | Stand Run No.: |
| Oilcode: | | |

L-42
Form 11

Conditioning Phase 3 & 4 – Pinion Torque vs. Time

| | | |
|----------|------------|----------------|
| Lab: | Stand No.: | Stand Run No.: |
| Oilcode: | | |

L-42
Form 12

Conditioning Phase 2 – Pinion Torque vs. Time

| | | |
|----------|------------|----------------|
| Lab: | Stand No.: | Stand Run No.: |
| Oilcode: | | |

L-42
Form 13

Conditioning Phase 4 – Pinion Torque vs. Time

| | | |
|----------|------------|----------------|
| Lab: | Stand No.: | Stand Run No.: |
| Oilcode: | | |

L-42
Form 14

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

| | | |
|----------|------------|----------------|
| Lab: | Stand No.: | Stand Run No.: |
| Oilcode: | | |

L-42
Form 15

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

| | | |
|----------|------------|----------------|
| Lab: | Stand No.: | Stand Run No.: |
| Oilcode: | | |

L-42
Form 16

Axle Oil Temperature vs. Time

| | | |
|----------|------------|----------------|
| Lab: | Stand No.: | Stand Run No.: |
| Oilcode: | | |