

Report Forms  
**L-33**  
**VERSION 20020503**

CONDUCTED FOR

*TSTSPON1*

*TSTSPON2*

|                 |   |
|-----------------|---|
| <i>LABVALID</i> | V = VALID   |
|                 | I = INVALID   |
|                 | N = RESULTS CANNOT BE INTERPRETED (See Comment Section) |

|               |                             |
|---------------|-----------------------------|
| <i>TSTOIL</i> | NR = Non-Reference Test Oil |
|               | RO = Reference Oil Result   |

|                                     |                               |  |                 |
|-------------------------------------|-------------------------------|--|-----------------|
| Test Number                         |                               |  |                 |
| Motoring Stand <i>MSTAND</i>        | Storage Box #: <i>SBOXNUM</i> | Storage Box Run Number: <i>SBOXRUN</i> |                 |
| Date Completed: <i>DTCOMP</i>       |                               | EOT Time: <i>EOTTIME</i>               |                 |
| Oil Code : <i>OILCODE</i>           |                               |  |                 |
| Formulation/Stand Code: <i>FORM</i> |                               |  |                 |
| Alternate Codes:                    | <i>ALTCODE1</i>               | <i>ALTCODE2</i>                        | <i>ALTCODE3</i> |

In my opinion this test *OPVALID* been conducted in a valid manner in accordance with the STP 512A ASTM Test Method and the appropriate amendments through the information letter system. The remarks included in this report describe the anomalies associated with this test.

SUBMITTED BY: \_\_\_\_\_ *SUBLAB*  
 Testing Laboratory

\_\_\_\_\_  
*SUBSIGIM*  
 Signature

\_\_\_\_\_  
*SUBNAME*  
 Typed Name

\_\_\_\_\_  
*SUBTITLE*  
 Title

\_\_\_\_\_  
*SUBSECT*  
 Section

**L-33  
FORM 1**

**TEST RESULT SUMMARY**

| OIL TEST                                      |                |                  |                   |
|---|----------------|------------------|-------------------|
| LAB   | MOTORING STAND | STORAGE BOX #    | STORAGE BOX RUN # |
| LAB   | MSTAND         | SBOXNUM          | SBOXRUN           |
| START DATE                                    | DATE COMPLETED | END OF TEST TIME | TEST LENGTH       |
| DTSTRT  | DTCOMP         | EOTIME           | TESTLEN           |
| TMC OIL CODE                                  | OILCODE        |                  | VISCOSITY GRADE   |
| IND   | OILCODE        |                  | SAE VISC          |
| LABORATORY OIL CODE:                          |                | LABOCODE         |                   |
| FORMULATION STAND CODE:                       |                | FORM             |                   |
| LATEST INFORMATION LETTER TEST WAS RUN UNDER: |                | INFOLETN         |                   |
| GEAR VERSION:                                 |                | GEARVER          |                   |
| PINION BATCH:                                 |                | RING BATCH:      | RINGBAT           |

| Last Reference Oil Calibrating Storage Box Information - Fill Out For Non-reference Oil Tests Only |               |                        |                    |
|--|---------------|------------------------|--------------------|
| MOTORING STAND: MSTAND   | STORAGE BOX # | LRSBOXNM               | TMC OIL CODE:LRIND |
| DATE COMPLETED: LRDTCOMP   |               | GEAR VERSION: LRGERVER |                    |
| PINION BATCH: LRPINBAT   |               | RING BATCH: LRRNGBAT   |                    |

| RUST/CORROSION PASS/FAIL PARAMETERS        |          |          |                          |
|--|----------|----------|--------------------------|
|  | FINAL    | AREA 4   | Lowest of Areas 1-3,5-10 |
| Orginal Merit Results                      | RUST     | AREA4    | LOWMERIT                 |
| Transformed Results <sup>A</sup>           | TRUST    |          |                          |
| Correction Factor <sup>A</sup>             | RUSTCF   |          |                          |
| Corrected Transformed Results <sup>A</sup> | TRUSTCR  |          |                          |
| Severity Adjustments <sup>A</sup>          | RUSTSA   |          |                          |
| Final Transformed Results <sup>A</sup>     | TRUSTFNL |          |                          |
| Final Merit Results                        | RUSTFNL  | AREA4FNL | LOWMFNL                  |

<sup>A</sup> AT THE PRESENT TIME THERE ARE NO TRANSFORMATIONS( I.E. MULTIPLY ORIGINAL RESULT \* 1.0), NO CORRECTION FACTORS OR SEVERITY ADJUSTMENTS

**L-33  
FORM 2**

**RATING SUMMARY**

|          |                |                     |                |
|----------|----------------|---------------------|----------------|
| LAB      | <i>LAB</i>     | MOTORING STAND      | <i>MSTAND</i>  |
| OIL CODE | <i>OILCODE</i> | STORAGE BOX NO.     | <i>SBOXNUM</i> |
|          |                | STORAGE BOX RUN NO. | <i>SBOXRUN</i> |

|   |                   |                  |                          |
|---|-------------------|------------------|--------------------------|
| <b>RATER'S INITIALS (AFTER TEST)</b>  |                   | <i>RINITI</i>    |                          |
| <b>RUST/CORROSION</b>   |                   |                  |                          |
| LOCATION  |                   |                  |                          |
| DIFFERENTIAL CASE:  | RUST <sup>A</sup> | WEIGHTING FACTOR | WEIGHTED RUST            |
| 1. At Pinion Contact  | <i>RCDCPINC</i>   | * .06            | <i>RCPINWGT</i>          |
| 2. Diff. Gear Contact   | <i>RCDCDFGC</i>   | * .16            | <i>RCGRCWGT</i>          |
| 3. Diff. Gears (Side)   | <i>RCDCDFGS</i>   | * .11            | <i>RCGRSWGT</i>          |
| 4. Axle Hsg. Cover  | <i>RCDCAXHC</i>   | * .34            | <i>RCAXHWGT</i>          |
| 5. Drive Gear (Ring)  | <i>RCDCDGR</i>    | * .05            | <i>RCDGRWGT</i>          |
| 6. Drive Pinion   | <i>RCDCDPIN</i>   | * .05            | <i>RCDPNWGT</i>          |
| <b>BEARING:</b>   |                   |                  |                          |
| 7. Drive Pinion Roller  | <i>RCBDPNR</i>    | * .06            | <i>RCBPRWGT</i>          |
| 8. Drive Pinion Cups  | <i>RCBDPNC</i>    | * .07            | <i>RCBPCWGT</i>          |
| 9. Diff. Case Roller  | <i>RCBDFCR</i>    | * .03            | <i>RCBCRWGT</i>          |
| 10. Diff. Case Cups   | <i>RCBDFCC</i>    | * .07            | <i>RCBCCWGT</i>          |
| Final Rust/Corrosion Merit Rating   |                   |                  | <i>RUST</i> <sup>B</sup> |
| <sup>A</sup> Rust Level (Enter 10, 9, 8, 5 or 0):<br>None = 10<br>Trace = 9 = not more than six spots of 1mm in diameter or less<br>Light = 8 = in excess of specifications for Trace rating and up to 1% of considered surface<br>Moderate = 5 = in excess of specification for Light rating and up to 5% of considered surface<br>Heavy = 0 = covering more than 5% of considered surface |                   |                  |                          |
| <sup>B</sup> Caution: The Final Merit rating for non-reference oil tests are not to be judged against category pass/fail limits.  |                   |                  |                          |

|   |
|---|
| REMARKS: Note presence, location and amount of additional deposit-stain, sludge, etc.<br><br><i>REMK1</i><br><i>REMK2</i><br><i>REMK3</i><br><i>REMK4</i><br><i>REMK5</i><br><i>REMK6</i> |
|---|

**L-33  
FORM 3**

**OPERATIONAL VALIDITY SUMMARY**

|                     |                                |
|---------------------|--------------------------------|
| LAB      LAB        | MOTORING STAND      M STAND    |
| OIL CODE    OILCODE | STORAGE BOX NO.      SBOXNUM   |
|                     | STORAGE BOX RUN NO.    SBOXRUN |

|                     |              |
|---------------------|--------------|
| OPERATOR'S INITIALS | <i>OINIT</i> |
|---------------------|--------------|

|                        |       |                |                     |
|------------------------|-------|----------------|---------------------|
| TURNING TORQUES:       |       |                |                     |
| Pinion, lbf-in.        | Break | <i>TPINBRK</i> | Turn <i>TPINTRN</i> |
| Full Assembly, lbf-in. | Break | <i>TASSBRK</i> | Turn <i>TASSTRN</i> |

|                |       |                 |                        |
|----------------|-------|-----------------|------------------------|
| WARM-UP:       |       |                 |                        |
| Time (h)       | Start | <i>WUTIMEST</i> | Finish <i>WUTIMEFN</i> |
| Temperature °F | Start | <i>WUTEMPST</i> | Finish <i>WUTEMPFN</i> |

|                     |                      |                      |                        |
|---------------------|----------------------|----------------------|------------------------|
| MOTORING PHASE:     |                      |                      |                        |
| Time (h)            | Start                | <i>MPTIMEST</i>      | Finish <i>MPTIMEFN</i> |
| Pinion Speed, r/min | Avg. <i>MPPSAVG</i>  | Max. <i>MPPSMAX</i>  | Min. <i>MPPSMIN</i>    |
| Oil Temperature, °F | Avg. <i>MPOTEMPA</i> | Max. <i>MPOTEMPX</i> | Min. <i>MPOTEMPI</i>   |

|                     |                      |                      |                        |
|---------------------|----------------------|----------------------|------------------------|
| STORAGE PHASE:      |                      |                      |                        |
| Time (h)            | Start                | <i>SPTIMEST</i>      | Finish <i>SPTIMEFN</i> |
| Oil Temperature, °F | Avg. <i>SPOTEMPA</i> | Max. <i>SPOTEMPX</i> | Min. <i>SPOTEMPI</i>   |

| PERCENT DEVIATION    |                    |                    |                             |                    |                    |                             |
|----------------------|--------------------|--------------------|-----------------------------|--------------------|--------------------|-----------------------------|
| CONTROLLED PARAMETER | MOTORING PHASE     |                    |                             | STORAGE PHASE      |                    |                             |
|                      | Allowable<br>% Out | This Test<br>% Out | Actual<br>Time Out<br>min:s | Allowable<br>% Out | This Test<br>% Out | Actual<br>Time Out<br>min:s |
| OIL TEMPERATURE      | 5                  | TEMPBPOT           | ATOBTEMP                    | 4                  | TEMPOUT            | ATOTEMP                     |

**L-33  
FORM 4**  
**PRE TEST RATING<sup>A</sup>**

|                  |                             |
|------------------|-----------------------------|
| LAB LAB          | MOTORING STAND MSTAND       |
| OIL CODE OILCODE | STORAGE BOX NO. SBOXNUM     |
|                  | STORAGE BOX RUN NO. SBOXRUN |

**Match No.:**       MATCHNO       **Date:**       DATEDATE       **Rated By:**       RINIT2      

**Differential Case**

**Area 1. At Pinion Contact:**       RDCPINC1        
      RDCPINC2      

**Area 2. At Differential Gear Contact:**       RDCDFGC1        
      RDCDFGC2        
      RDCDFGC3        
      RDCDFGC4      

**Area 3. Differential Gears (Side Gears):**       RDCDFGS1        
      RDCDFGS2      

**Area 4. Axle Housing Cover:**       RDCAXHC1        
      RDCAXHC2      

**Area 5. Drive Gears (Ring):**       RDCDGR1        
      RDCDGR2      

**Area 6. Drive Pinion:**       RDCDPIN1        
      RDCDPIN2      

**Area 7. Drive Pinion Rollers:**       RBDPNR1        
      RBDPNR2      

**Area 8. Drive Pinion Cups:**       RBDPNC1        
      RBDPNC2      

**Area 9. Differential Case Rollers:**       RBDFCR1        
      RBDFCR2      

**Area 10. Differential Case Cups:**       RBDFCC1        
      RBDFCC2      

**<sup>A</sup>** AFTER ABRASIVE BLASTING

