

**DEXRON® Anti-Shudder Durability Test
Report Form
Form 1
Version**

| Formulation Code | | | | | | | |
|------------------|-------------|--------------|-------|--------|-------|-----|------------|
| Formulation Code | | | | | | | |
| SID | SponsorCode | Modification | Blend | Method | Count | Lab | Instrument |
| | | | | | | | |

| Blended Sample Testing Information ^A | | | |
|---|--|------------------|--|
| Candidate Percentage | | Other Percentage | |
| Other Fluid ID | | | |

^A If not a Blended Sample then report 100% Candidate Percentage, 0% Other Percentage, and “None” for Blend Fluid ID.

| Test Identification | | | |
|--------------------------|--|------------|--|
| Sponsor | | | |
| Sponsor In-House Number | | | |
| Lab In-House Number | | | |
| Alternate Code | | | |
| Test Number ^B | | | |
| Instrument | | Run Number | |
| Start Date | | Start Time | |
| EOT Date | | EOT Time | |

^B Test Number = Instrument – Runs since last reference test – Total Runs on Instrument

| Test Validity Statement | |
|--|--|
| This test has been conducted in a valid manner – YES or NO | |
| | |
| *Test | |
| Signature | |
| Typed Name | |
| Title | |

**DEXRON® Anti-Shudder Durability Test
Pass/Fail Results
Form 2**

| | |
|------------------|--|
| Formulation Code | |
| Test Number | |

| PASS/FAIL RESULTS | |
|---|---------------|
| PARAMETER | RESULT |
| First ASD Test Block with five consecutive points with negative $d\mu/dV$ results | |
| Temperature Setpoint at time of failure | |

| Test Operation & Hardware Information | |
|---|--|
| Total ASD Test Blocks | |
| Total Test Cycles | |
| Total Test Hours | |
| Friction Plate Batch | |
| Steel Plate Batch | |
| Assembled Clutch Pack Clearance, mm ($0.7 \pm 0.13\text{mm}$) | |

| Test Comments |
|----------------------|
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**DEXRON® Anti-Shudder Durability Test
Clutch Plate Ratings & Thickness Measurements
Form 3**

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|------------------|--|
| Formulation Code | |
| Test Number | |

Friction Plate Condition Rating

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Steel Plates Condition Rating

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Clutch Plate Rating Information

| | |
|-------------|--|
| Rater | |
| Rating Date | |

Clutch Plate Thickness Measurements

| <i>All measurements taken at the mean diameter of the plate</i> | | | | | |
|---|---|----------------------------------|---------------------|-----------|----------------------|
| Plate | | Location of Tooth (Clockwise) | Plate Thickness, mm | | Thickness Change, mm |
| | | | Pre-Test | Post-Test | |
| Friction | 2 | Top | | | |
| | | 90 | | | |
| | | 180 | | | |
| | | 270 | | | |
| | | Average | | | |
| Steel | 1 | Top | | | |
| | | 90 | | | |
| | | 180 | | | |
| | | 270 | | | |
| | | Average | | | |
| Steel | 3 | Top | | | |
| | | 90 | | | |
| | | 180 | | | |
| | | 270 | | | |
| | | Average | | | |

Clutch Plate Thickness Measurement Information

| Test Condition | Measurement Date | Operator |
|----------------|------------------|----------|
| Pre-Test | | |
| Post-Test | | |

**DEXRON® Anti-Shudder Durability Test
Steel Plate Roughness Measurements & Copper Coupon Rating
Form 4**

| | |
|------------------|--|
| Formulation Code | |
| Test Number | |

Steel Plates Roughness Measurements

| <i>All measurements taken at the mean diameter of the plate, on the engaged face only</i> | | | | | | | |
|---|----------|-----------------------|-----------|---|-----------|----------------------------------|-----------|
| Plate | Location | Roughness Average, Ra | | Average Maximum Height of the Profile, Rz | | Profile Bearing Length Ratio, tp | |
| | | Pre-Test | Post-Test | Pre-Test | Post-Test | Pre-Test | Post-Test |
| 1 | Top | | | | | | |
| | 90 | | | | | | |
| | 180 | | | | | | |
| | 270 | | | | | | |
| | Average | | | | | | |
| 3 | Top | | | | | | |
| | 90 | | | | | | |
| | 180 | | | | | | |
| | 270 | | | | | | |
| | Average | | | | | | |

Steel Plates Roughness Measurement Information

| | | |
|----------------|------------------|----------|
| Test Condition | Measurement Date | Operator |
| Pre-Test | | |
| Post-Test | | |

Copper Coupon^A Rating

| | |
|----------------------------------|--|
| Rate using ASTM Test Method D130 | |
|----------------------------------|--|

^ASee Section 4.1.4.13 of GMW18620.

**DEXRON® Anti-Shudder Durability Test
Fluid Characteristics
Form 5**

| | |
|------------------|--|
| Formulation Code | |
| Test Number | |

| ICP Elemental Analysis (D5185), ppm^A | | |
|--|-----------|-------------|
| Element | New Fluid | End of Test |
| Aluminum (Al) | | |
| Antimony (Sb) | | |
| Barium (Ba) | | |
| Boron (B) | | |
| Cadmium (Cd) | | |
| Calcium (Ca) | | |
| Chromium (Cr) | | |
| Copper (Cu) | | |
| Iron (Fe) | | |
| Lead (Pb) | | |
| Magnesium (Mg) | | |
| Manganese (Mn) | | |
| Molybdenum (Mo) | | |
| Nickel (Ni) | | |
| Phosphorus (P) | | |
| Potassium (K) | | |
| Silicon (Si) | | |
| Silver (Ag) | | |
| Sodium (Na) | | |
| Sulfur (S) | | |
| Tin (Sn) | | |
| Titanium (Ti) | | |
| Vanadium (V) | | |
| Zinc (Zn) | | |

^AReport 0 for values below the measurement threshold of the instrument. Do not use less than (“<”) symbol.

| Test Fluid Water Content Measurements (Both Test Methods are Required) | | | |
|---|--------------------------------|--------|---------------------|
| Test Method | Measured Item | Unit | Result ^B |
| ASTM D6304 | Water Content | mass % | |
| ASTM D6304 | D6304 Procedure Used (A, B, C) | | |
| ASTM D7546 | Water Content | mass % | |
| ASTM D7546 | D7546 Procedure Used (A, B) | | |

^BReport 0 for values below the measurement threshold of the instrument. Do not use the less than (“<”) symbol.

**DEXRON® Anti-Shudder Durability Test
Test Downtime Summary
Form 6**

| | |
|------------------|--|
| Formulation Code | |
| Test Number | |

| Number of Downtime Occurrences | | | |
|--------------------------------|-----------------------|-----------------------|-------|
| Test Hours | Airflow? ^A | Downtime | Notes |
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| | | Total Downtime | |

^AWas Airflow continued to the head during the downtime? (Y or N) See Section 4.3.2 of GMW18620.

DEXRON® Anti-Shudder Durability Test
dμ/dV Plot - 60°C Ramp Cycles
Form 15

| | |
|------------------|--|
| Formulation Code | |
| Test Number | |

DEXRON® Anti-Shudder Durability Test
dμ/dV Plot - 80°C Ramp Cycles
Form 16

| | |
|------------------|--|
| Formulation Code | |
| Test Number | |

DEXRON® Anti-Shudder Durability Test
dμ/dV Plot - 118°C Ramp Cycles
Form 17

| | |
|------------------|--|
| Formulation Code | |
| Test Number | |

DEXRON® Anti-Shudder Durability Test
Dynamic $d\mu/dV$ Plot
Form 18

| | |
|------------------|--|
| Formulation Code | |
| Test Number | |

DEXRON® Anti-Shudder Durability Test
Static $d\mu/dV$ Plot
Form 19

| | |
|------------------|--|
| Formulation Code | |
| Test Number | |

DEXRON® Anti-Shudder Durability Test
 μ_0/μ_d , Stop Time, Mid Dynamic, & Low Speed Friction Coefficient Plot
Form 20

| | |
|------------------|--|
| Formulation Code | |
| Test Number | |

DEXRON® Anti-Shudder Durability Test
0.25 Second Static Coefficient Plot
Form 21

| | |
|------------------|--|
| Formulation Code | |
| Test Number | |

DEXRON® Anti-Shudder Durability Test
Average Plate Temperature Plot - 60°C Ramp Cycles
Form 22

| | |
|------------------|--|
| Formulation Code | |
| Test Number | |

DEXRON® Anti-Shudder Durability Test
Average Plate Temperature Plot - 80°C Ramp Cycles
Form 23

| | |
|------------------|--|
| Formulation Code | |
| Test Number | |

DEXRON® Anti-Shudder Durability Test
Average Plate Temperature Plot - 118°C Ramp Cycles
Form 24

| | |
|------------------|--|
| Formulation Code | |
| Test Number | |

DEXRON® Anti-Shudder Durability Test
Continuous Slip Plot – Constant Cycles
Form 25

| | |
|------------------|--|
| Formulation Code | |
| Test Number | |