

EDS

Engineering
GM DAEWOO Auto & Technology
Standards

COLD START TEST

EDS-T-2237

ISSUED DATE: 1996. 07. 10

REVISED DATE: 2006. 06. 19

VERSION: 2



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1. PURPOSE

Low temperature test of oils to investigate their suitability for rear axle differentials.

2. EQUIPMENT

2.1. Cold room capable of producing at least -30°C (243 K)

2.2. Test stand to hold and drive the rear axle with at least 3,000 min⁻¹ at the drive pinion.

3. PREPARATION

3.1. Assemble the rear axle to drawing specification

3.2. Adjust the turning torque of the drive pinion to the maximum value specified on the drawing.

3.3. Install thermocouples to measure the temperature of the drive pinion bearing outer rings, and the oil sump

3.4. Fill in amount and kind of oil specified in release

3.5. Install the rear axle assembly in the test stand, in vehicle position

3.6. Connect the pickups and measuring instruments required for the test

- . Speed rear axle input
- . Thermocouples to temperature recorder

4. PERFORMANCE

4.1. Rear axle run-in with 2,000 min⁻¹ at the drive pinion for 1 minute.

4.2. Allow the rear axle to soak at -30°C for at least 12 hrs. For this soak the drive pinion must be inclined in driving direction by 5° more than specified in the drawing.

4.3. Install the rear axle in the test stand with the drive pinion inclined as specified in the drawing, and accelerate to a speed of 3,000 min⁻¹ at the drive pinion as fast as possible.

4.4. The test is concluded,

- a) When the temperatures of the bearing outer rings, and the oil sump have stabilized (at a continuous speed of 3,000 min⁻¹),
- b) Or the temperatures of the bearing outer rings, and the oil sump exceed $+200^{\circ}\text{C}$.

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