



FLUID, WET DOUBLE CLUTCH TRANSMISSION, FULL-SYNTHETIC

WSS-M2C936-A

1. SCOPE

The material defined by this specification is a wet double clutch transmission fluid composed of a synthetic base fluid and performance enhancing additives.

2. APPLICATION

This specification was originally released for fluid used to provide general lubrication for automatically operated manual transmissions comprising a wet double clutch system. It provides specific frictional characteristics for hydraulic control, and heat transfer.

3. REQUIREMENTS

3.1 STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS

Material suppliers and part producers must conform to the Company's Standard Requirements For Production Materials (WSS-M99P1111-A).

3.2 COLOR (Visual)

Dyed Green

Subsequent batches must be visually consistent with the original sample color.

3.3 MISCIBILITY TEST

Material approved to this specification must be miscible with all other approved materials in all proportions. These blends must also meet all requirements of this specification. Miscibility is checked by mixing the material 50:50 and 10:90 by volume with all other approved materials. Heat all mixtures to 150 +/- 2 °C for one hour and then cool to -40 +/- 2 °C. No visible deposits or separation shall occur (visual check only). Contamination with any other material not meeting this specification is prohibited.

3.4 VISCOSITY

3.4.1	At 100 °C, min (ISO 3104, ASTM D 445)	6.4 mm ² /s
3.4.2	At -26 °C, max (DIN 51398, ASTM D 2983)	2,000 mPa.s
3.4.3	At -40 °C, max (DIN 51398, ASTM D 2983)	7,500 mPa.s

Date	Action	Revisions	Ver 3
2010 03 11	Revised	See Summary of Revisions	M. V. Swain
2008 05 28	Revised	Inserted 3.17.1, 3.17.2, 4, 3.22 & 3.23; Revised the Title, 1, 2, 3.4.2, 3.4.4, 3.8, 3.10.1, 3.10.2, 3.14, 3.15, 3.17 & 3.19; Deleted 3.9 & 3.21	M. V. Swain, FORD
2006 12 06	Revised	Para 3.16 & 3.17; Added 3.21	

**3.4.4 Shear Stability (Kinematic Viscosity)**
(CEC L-45-A-99)

Viscosity loss at 20h, 100 °C, max	3%
Used bearing shear loss after run-in period with reference oil RL 181/6	9 - 13%
Viscosity index, min	150
Viscosity loss at 192h, 100 °C, max	5%

3.5 POUR POINT, max
(ISO 3016) -60 °C**3.6 FLASH POINT, min**
(ISO 2592) 200 °C**3.7 COPPER CORROSION, max**
(ISO 2160)

3 hours room temperature, max	1a
3 hours 150 +/- 2 °C, max	1b

3.8 RUST PROTECTION, 24 hours
(ISO 7120, ASTM D 665 Procedure A) No rust**3.10 ANTI-FOAMING PROPERTIES**
(ASTM D 892/6082)**3.10.1 New oil**

	Foam Tendency at end of 5 min blowing period	Foam Stability at end of 1 min settling period
Sequence 1, max	20 mL	0 mL
Sequence 2, max	30 mL	0 mL
Sequence 3, max	20 mL	0 mL
Sequence 4, max	100 mL	0 mL

(For Sequence 4 use ASTM D 6082, static foam, 150 °C +/- 3 °C; 200 ml air/min)

3.10.2 Used Oil
(CEC-L48-A-00(B), 140°C / 24 hours / 5 liters air per hour)

	Foam Tendency at end of 5 min blowing period	Foam Stability at end of 1 min settling period
Sequence 1, max	20 mL	10 mL
Sequence 2, max	60 mL	10 mL
Sequence 3, max	20 mL	10 mL

