

AEROSHELL SSF AND LGF

AeroShell Shock Strut Fluid (SSF) and AeroShell Landing Gear Fluid (LGF) are mineral hydraulic fluids (MIL-PRF-6083 and MIL-PRF-5606 respectively) to which additional additives have been added to improve the extreme pressure characteristics and the fluid's natural lubricity. The lubricity agent provides a stable thin film layer to the metal surfaces at mild operating conditions. When severe conditions exist (landing/touchdown), the extreme pressure additive supplies the load carrying needed at the metal-to-metal surfaces to prevent the occurrence of such phenomena as "ladder cracking" and "slip stiction" of the piston component of the landing gear.

AeroShell SSF is AeroShell Fluid 71 plus additives.

AeroShell LGF is AeroShell Fluid 41 plus additives.

APPLICATIONS

AeroShell SSF is recommended for all normal applications whilst the better low temperature properties of AeroShell LGF make it particularly suitable in areas of low temperature operations.

AeroShell SSF and AeroShell LGF are compatible with each other as well as with AeroShell Fluids 4, 41 and 71.

AeroShell SSF and LGF are straw yellow in colour.

SPECIFICATIONS

U.S.	–
British	–
French	–
Russian	–
NATO Code	–
Joint Service Designation	–
Boeing	Approved BMS 3-32A (AeroShell SSF is approved to Type I and AeroShell LGF is approved to Type II)
McDonnell Douglas	Approved DPM-6177

AeroShell SSF and LGF are not covered by any military specification.

EQUIPMENT MANUFACTURERS APPROVALS

AeroShell SSF and LGF are approved for use in the shock struts of the following aircraft:

Boeing	707/720, 727, 737, 747 (except those using BMS 3-11 fluids), 757, 767 and 777
Lockheed	L1011 Tristar
McDonnell Douglas	DC-8, DC-9, DC-10, MD-80, MD-11
Airbus	CML Code 02-004A (SSF)

For use in the landing gear shock struts of other aircraft, operators must check with the respective manufacturer first.

PROPERTIES	SSF TYPICAL	LGF TYPICAL
Base hydraulic fluid specification	MIL-PRF-6083F	MIL-PRF-5606H
Kinematic viscosity mm ² /s		
@ 40°C	14.5	14.5
@ -40°C	560	423
@ -54°C	2640	1780
Flashpoint °C	108	110
Neutralisation Number mgKOH/g	2.6	2.4
Evaporation %		
SSF 22 hrs @ 99°C	65	–
LGF 6 hrs @ 71°C	–	18.0

Table continued

PROPERTIES	SSF TYPICAL	LGF TYPICAL
Relative density @ 15.6/15.6°C	0.882	0.874
Pourpoint °C	-62	Below -68
Foaming		
Seq I Foam/Collapse time sec	30/30	45
Seq II Foam/Collapse time sec	20/10	-
Seq III Foam/Collapse time sec	30/30	-
Corrosion – Oxidation Stability (121°C/168 hrs)		
Metal Weight Change mg/cm ²		
Copper	+0.002	-0.06
Aluminium	0	-0.005
Steel	0	-0.02
Magnesium	+0.002	+0.01
Cadmium	0	+0.01
Fluid Properties		
Change in viscosity %	+15	+10.5
Change in Acid Number mgKOH/g	+0.5	+0.05
Insolubles	1.0mg/100ml	Clear
4-ball wear, scar diam. mm	0.43	0.43
Colour	Yellow	Yellow

TYPICAL TEMPERATURE/VISCOSITY CURVE OF AEROSHELL HYDRAULIC FLUIDS

