



## Aero 35 Red and Yellow

Landing Gear Shock Strut Fluid

### Description

Castrol Aero™ 35 is a high quality, MIL-PRF-6083F based ISO Grade 15 mineral hydraulic fluid, containing antiwear agents and corrosion inhibitors. It also contains a shear stable viscosity index improver, anti-oxidant and an approved EP additive system which reduces martensitic streaking of landing gear outer cylinders and galling of shock strut upper bearings. This formulation is specially designed to reduce the "stick-slip" properties of MIL-PRF-6083F fluids. Aero 35 is available in dyed red (Douglas Aircraft DPM 6177) or straw/yellow (undyed) (Boeing Spec BMS 3-32C, Type I & II).

### Application

Aero 35 is specially designed for use in landing gear shock struts. Additionally, Aero 35 is compatible with approved MIL-PRF- 5606H and MIL-PRF-6083F hydraulic fluids. It is not completely compatible with synthetic gas turbine lubricants nor with phosphate-ester hydraulic fluids. It is compatible with other petroleum-based and synthesized hydrocarbon lubricants, but contamination should be avoided in order to maintain the unique properties of Aero 35. This product is compatible with most seals, hoses, and paints, normally used in shock struts and dispensing equipment connected with this application.

While certain grades of the above materials are fully compatible with Aero 35, it is advisable to confirm acceptability of use with either the material manufacturer or Castrol.

### Specification

Aero 35 Red is formulated in accordance with Douglas Aircraft Specification DPS 3.334, referenced as Douglas stocknumber DPM 6177.

Aero 35 Yellow (undyed) is formulated in accordance with Boeing Specification BMS 3-32C, Type I & II as an alternative to Boeing Service Letters 707-SL-12-2; 727-SL-12-2; 737-SL-12-2; 757-SL-27-15-B. These letters instruct the addition of an EP additive to either the standard or corrosion inhibited mineral based hydraulic fluid for use in their landing gear shock struts.

## Typical Characteristics

Name	Method	Units	Aero 35 Red	Aero 35 Yellow
API Gravity @ 16°C / 60°F	ASTM D287	°API	28.7	28.7
Density of finished oil @ 16°C / 60°F	In-house test	lb/gallon	7.335	7.335
Kinematic Viscosity @ 100°C / 212°F	ISO 3104 / ASTM D445	mm <sup>2</sup> /s	4.8	4.8
Kinematic Viscosity @ 40°C / 104°F	ISO 3104 / ASTM D445	mm <sup>2</sup> /s	13.8	13.8
Kinematic Viscosity @ -40°C / -40°F	ISO 3104 / ASTM D445	mm <sup>2</sup> /s	650	650
Kinematic Viscosity @ -54°C / -65°F	ISO 3104 / ASTM D445	mm <sup>2</sup> /s	3388	3388
Viscosity Index	ISO 2909 / ASTM D2270	-	326	326
Flash Point - open cup method	ISO 2592 / ASTM D92	°C/°F	110 / 230	110 / 230
Fire Point	ISO 2592 / ASTM D92	°C/°F	118 / 245	118 / 245
Pour Point	ISO 3016 / ASTM D97	°C/°F	-65 / -85	-65 / -85
Copper corrosion (72 hrs@121°C/250°F)	ISO 2160 / ASTM D130	Rating	1a	1a
Four Ball Wear test - Wear Scar Diameter (40 kgf / 75°C / 1200 rpm / 1 hr)	ASTM D4172	mm	0.45	0.45
Falex Pin & Vee Block test - Extreme Pressure properties	ASTM D 3233-03 (method A)	Pass	Pass	Pass

Subject to usual manufacturing tolerances.

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