

Table of Contents

REF: Oiling & Lubrication - Sub-22P	1
1977-Present Gerotor Oil Pump Capacities	1

[Go To Technical Menu](#)

REF: Oiling & Lubrication - Sub-22P

1977-Present Gerotor Oil Pump Capacities

1977-Up Sportster Oil Pump Volume in (US) Gallons per Minute (GPM)											
Year Model Oil Pump →	1977-1985		1986-1990		1991-1997		1998-2006		2007-Present		Oil Pump RPM ↓
Engine RPM ↓	Feed Gears	Return Gears	Feed Gears	Return Gears	Feed Gears	Return Gears	Feed Gears	Return Gears	Feed Gears	Return Gears	
1000	.121	.346	.185	.346	.185	.346	.185	.485	.180	.782	500
1500	.182	.519	.277	.519	.277	.519	.277	.727	.269	1.173	750
2000	.242	.692	.370	.692	.370	.692	.370	.970	.359	1.564	1000
2500	.303	.866	.462	.866	.462	.866	.462	1.212	.449	1.955	1250
3000	.364	1.039	.555	1.039	.555	1.039	.555	1.454	.539	2.346	1500
3500	.424	1.212	.647	1.212	.647	1.212	.647	1.697	.629	2.737	1750
4000	.485	1.385	.740	1.385	.740	1.385	.740	1.940	.719	3.128	2000
4500	.545	1.558	.832	1.558	.832	1.558	.832	2.182	.808	3.519	2250
5000	.606	1.732	.925	1.732	.925	1.732	.925	2.424	.898	3.910	2500
5500	.667	1.905	1.017	1.905	1.017	1.905	1.017	2.667	.988	4.301	2750
6000	.727	2.078	1.110	2.078	1.110	2.078	1.110	2.909	1.078	4.692	3000
6500	.788	2.251	1.202	2.251	1.202	2.251	1.202	3.152	1.132	5.083	3250
7000	.845	2.424	1.294	2.424	1.294	2.424	1.294	3.394	1.257	5.474	3500
7500	.909	2.597	1.387	2.597	1.387	2.597	1.387	3.636	1.347	5.865	3750

The chart above is based on testing done by, Hippysmack, of the XLFORUM ¹⁾. Overall oil pump volume was calculated by measuring the volume of one tooth cavity in used oil pumps and calculating volume against RPM. The figures take into account that the oil pump turns 1/2 the speed of the engine. [Click Here](#) for the full testing and procedure used in the Sportsterpedia. **NOTE:** The figures in the chart represent 100% pump efficiency and DO NOT take into account any amount of internal pump leakage. Internal leakage (or slippage) is an inherent condition of these pumps and WILL affect total volume output. Real world GPM will be lower than what is listed above.

Figures used for chart:

Volume (ci³) of 1 tooth cavity x volume (ci³) of 8 teeth (per 1 pump revolution) x RPM / 231 = GPM

Note: Pump speed is on the right side of the chart (do not calculate engine speed).

Engine speed is given above but not used for calculations.

- 1977-1985 Feed Gerotor Volume per 1 pump revolution: $0.056 \text{ ci}^3 \times \text{RPM} / 231$
- 1986-2006 Feed Gerotor Volume per 1 pump revolution: $0.0854332417326252 \text{ ci}^3 \times \text{RPM} / 231$
- 2007-Present Feed Gerotor Volume per 1 pump revolution: $0.0829922919688359 \text{ ci}^3 \times \text{RPM} / 231$
- 1977-1997 Return Gerotor Volume per 1 pump revolution: $0.16 \text{ ci}^3 \times \text{RPM} / 231$
- 1998-2006 Return Gerotor Volume per 1 pump revolution: $0.224 \text{ ci}^3 \times \text{RPM} / 231$
- 2007-Present Return Gerotor Volume per 1 pump revolution: $0.3612605650408151 \text{ ci}^3 \times \text{RPM} / 231$

Go To Technical Menu

1)

<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-general-discussion-and-problems/203901-sportster-oil-pressure-and-dynamics?t=2081199>

From:

<http://sportsterpedia.com/> - **Sportsterpedia**

Permanent link:

<http://sportsterpedia.com/doku.php/techtalk:ref:oil22p>

Last update: **2024/01/19 15:05**

