



RELENTLESS RELIABILITY

Test Data

Date: 11-27-07

Subject: POF P-416 / 1000-Round Endurance Test

Rate of Fire: 738RPM

Ammo: Wolf Polyformance 62-Grain FMJ 5.56x45mm

Starting Temps

(All temps measured in Fahrenheit with TLL950LS Geneva Scientific
Infra-Red Thermometer with working range from -32 to +950)

Air Temp: 41°

Chamber: 47°

Bolt Face: 49°

Gas Block: 46°

Muzzle Brake: 43°

Temps taken after continuous 100-round BETA C-Mag dump. Total Rounds 100:

Chamber: 60°

Bolt Face: 56°

Gas Block: 384°

Muzzle Brake: 302°

Temps taken after continuous 100-round BETA C-Mag dump. Total Rounds 200:

Chamber: 85°

Bolt Face: 64°

Gas Block: 498°

Muzzle Brake: 315°

Temps taken after continuous 100-round BETA C-Mag dump. Total Rounds 300:

Chamber: 93°

Bolt Face: 71°

Gas Block: 638°

Muzzle Brake: 507°

Temps taken after continuous 100-round BETA C-Mag dump. Total Rounds 400:

Chamber: 92°

Bolt Face: 80°

Gas Block: 557°

Muzzle Brake: 519°

Temps taken after continuous 100-round BETA C-Mag dump. Total Rounds 500:

Chamber: 105°

Bolt Face: 87°
Gas Block: 602°
Muzzle Brake: 512°

Temps taken after continuous 100-round BETA C-Mag dump. Total Rounds 600:

Chamber: 119°
Bolt Face: 95°
Gas Block: 528°
Muzzle Brake: 552°

Temps taken after continuous 100-round BETA C-Mag dump. Total Rounds 700:

Chamber: 149°
Bolt Face: 104°
Gas Block: 642°
Muzzle Brake: 592°

Temps taken after continuous 100-round BETA C-Mag dump. Total Rounds 800:

Chamber: 125°
Bolt Face: 106°
Gas Block: 697°
Muzzle Brake: 629°

Temps taken after continuous 100-round BETA C-Mag dump. Total Rounds 900:

Chamber: 128°
Bolt Face: 113°
Gas Block: 462°
Muzzle Brake: 610°

Temps taken after continuous 100-round BETA C-Mag dump. Total Rounds 1036:
(The 10th BETA Mag malfunctioned due to a cracked feed tower causing a spread of the feed lips and allowing several rounds to fill the action. The malfunctioning magazine was immediately cleared, and a new, full magazine was inserted and the full 100-rounds were fired without further delay. The malfunctioning magazine correctly fed 36 rounds before malfunctioning, which were not accounted for at the time of the testing making the total rounds fired of the last stage 136 rounds, not 100)

Chamber: 131°
Bolt Face: 122°
Gas Block: 616°
Muzzle Brake: 520°

The test was immediately re-conducted with a standard direct impingement system to measure comparative features. The second test rifle also utilized a 16-inch barrel and employed the same lower receiver for continuity. All variables, including ammo remained exactly the same. The average rate of fire with the second test firearm was 784 rounds per minute. The results of these tests were as follows:

Starting Temps

Air Temp: 39°
Chamber: 42°
Bolt Face: 44°
Gas Block: 42°
Muzzle Brake: 40°

Temps taken after continuous 100-round BETA C-Mag dump. Total Rounds 100:

Chamber: 62°
Bolt Face: 77°
Gas Block: 282°
Muzzle Brake: 302°

Temps taken after continuous 100-round BETA C-Mag dump. Total Rounds 200:

Chamber: 83°
Bolt Face: 125°
Gas Block: 339°
Muzzle Brake: 525°

Temps taken after continuous 100-round BETA C-Mag dump. Total Rounds 264:
(At 64 rounds into the 3rd magazine dump the second test rifle ceased the ability to function
without recharging the rifle.)

Chamber: 115°
Bolt Face: 133°
Gas Block: 320°
Muzzle Brake: 448°