High Energy AC Line PSU for SSY1 (SG-SP3)

Notes:

1. Usable flashlamp energy range is about 160 to 360 J (300 to 450 V on C1/C2)
2. Cycle time is 20 seconds minimum at 160 J, 45 seconds at 360 J.
3. Expected laser output should exceed 1 Gillette: Able to blow hole in razor blade with only one shot.
4. L1 is 55 turns, #14, 5 layers, 3 inch diameter, 1.25 inches long.
5. D3 and D4 provide reverse protection of C1/C2 and FL1, respectively.
6. Capacitor bank is extremely lethal. Bleeder relay will discharge it to safe level in about 10 seconds once power is removed or case is opened.

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Alternative Front-End 1: line-connected tripler eliminates T2.

Alternative Fron-End 2: Dual primary/secondary isolation transformer replaces T1, T2.

Simplified Alternatives in Capacitor Charger