About 2 years ago I saw for the first time a beautifully well made firework-item, called the “Steigender Pyrokreisel”, which was manufactured by VEB Pyrotechnik Silberhütte in the Harz mountains of former East Germany. I was very much impressed by the high quality of materials used and the workmanship for a firework item that was sold to the public (minimum age 16 years) for the New Years Eve celebrations.

Also intriguing was the similarity between this item and the spin stabilized motors (34mm 0 x 60mm L) of Russian 40 mm parachute illumination / reconnaissance flare rockets. Meanwhile I saw the same hand launched Russian rocket projectors with a red distress signal parachute flare for use on marine vessels at the 1994 PGI Convention.

I guess that the “Steigender Pyrokreisel” was manufactured on the same presses as the military rocketmotors and so the military machinery was turned into some really beautiful use. Technically the “Pyrokreisel” is a very interesting development of a combination of a spinnstabilized rocket with a comet and a crotsette.

The rising “Pyrokreisel” is a, on relative thrust based, rising- and around its long axis rotating, pyroproduct. 3 Seconds after igniting the fuse, the effect-propelling-charge ‘pushes’ (slowly, compared to a rocket) the “Pyrokreisel”, with a beautiful wide red tail, to a height of about 40m. At the highest point of its trajectory the flashcharge explodes, disintegrating the case and parts of the upper effect charge, which is blown outwards as burning red stars.

At the moment I have no laboratory facility at my free disposal, so I have not been able to make a qualitative- and quantitative examination of the effect propellant compositions 1 & 2 (see drawings on the next page).
Factory Specifications:

- Al tube Ø35/35mm H, mass: 13 gr / Al 99.5%
- Cardboardpresseild: Ø 28.5 X 0.7mm
- Flashpowder (probably Ba(NO3) / Al turnings)
- Thermit protection cardboardtube Ø 32.2 X 50mm h, mass: 7gr
- Output/ignition (German: Abfeuerung)
- Effectscomps 1 & 2.
- Ignitioncomp (German: Anfeuerung)
- Fuse Ø 3.5 X 25mm
two end dunked in NC based ignition comp.
- Nozzleplate Ø 33 X 8mm mass: ca. 8gr

The following drawing and specifications were prepared by Mr. Weber of Austria after his examination of the item.

- Al tube 0.7mm wall
- Cardboardtube cal. 28mm / 2.5mm wall
- Cardboardpresseild
- 4gr flashpowder
- Pressed in comp.: about 23.2gr
- Corned BP 2-4mm
- 1. comp.
- 2. comp.
- Corned BP 2-4mm

- Rickfordtype
- Fireworksfuse

- Bskelit type
- Plasticplate 32.5 Ø
- Central, vertical nozzlehole 6.5mm Ø
- 3 X 120° offset, slanted, tangential-parallel nozzleholes 4mm Ø
- 3 X 120° offset support legs