Over the 2009-2011 period, I’ve developed a downhaul system that sits inside the luff sleeve of an RS:X sail. It has the following potential advantages over a traditional outside downhaul system:
- doesn’t chafe the sail
- most ropes and pulleys are out of the way
- fairly easy to rig, as the downhaul can be left on the mast permanently
- smoother airflow over the part of the sail where the outside downhaul would be

If you want to try a similar system yourself, the following pictures show how it’s done. This setup is for 4cm adjustment at the sail tack. 5cm adjustment can also be used if desired, by moving the main tie-on point higher up (but it must be tied beneath the camber though, so it doesn’t interfere with it).
Pulley 200 from bottom of mast
Pulley 100 from bottom of mast
Pulley cleat 1020 from bottom of mast
Tied 450 from bottom of mast
Tied 1270 from bottom of mast
Boom clamps over rope here

Put electrical tape over the hitches to stop them slipping. Can then leave on mast permanently.
Rig the same way as an outside downhaul system.

Done.