The title is not unseemly vanity, but it seems that this is the internet name for the process, so....?(Blush)

This process was developed over quite a few years, and evolved gradually as I tried different things and ways of doing it. Below is a distillation of what WORKS BEST, after trying a variety of techniques.

SPEED COOLING:

The major factor in using this method for high-production casting is the speed-cooling of the sprues, which eliminates both a LOT of waiting time and also stops the smearing of alloy on mould-tops and sprue-plates.

Speed-cooling is accomplished by pressing the top of the sprue against a WET cloth pad for just a couple or three seconds. Wait just until the draw-down dimple in the sprue has stabilized and the sprue has solidified before cooling the sprue. The best method I've found is to use a shallow water-filled dish, maybe 1.5" deep, with a rolled-up cloth pad which bulks up ABOVE the edges of the dish. This keeps the pad WET, and still allows easy access to the pad with the mould. If the pad starts getting hot, just roll it over in the dish to bring up a cooler side. Keep the dish full of water.

If it seems that the mould itself is getting too hot, press its bottom against the pad for a few seconds, too.

Speed-cooling is a large factor in high-production, but other things also impact the process.

FURNACE AND ALLOY MANAGEMENT:

I was using a 10-pound-capacity SAECO pot when this all started, and I now use a 22-pound RCBS furnace. Only bottom-pour furnaces have been used to date, for obvious reasons. The technique should work with larger Lee pots as well, but I don't know about the smaller ones. Capacity has an impact on speed-casting, and here's why:

My RCBS pot has a max temperature of 870 degrees, the pot is set at maximum temperature ALL THE TIME with WW, and my casting is almost entirely with wheelweight alloy. I make 10.5"-long 3-pound ingots in a mould made from 1.5" angle iron. (10.5" fits perfectly in a .50 can for storage) A crosswise row of four or five of these ingots is placed on top of the furnace to preheat, with the front ones directly over the melt. They get HOT, to the point that adding the hottest (frontmost) ingot only drops the pot temp about 30 degrees, and this means that I DO NOT STOP CASTING AFTER ADDING AN INGOT. As ingots are added to the pot, the row is moved forward and cold ingots placed at the rear of the row to begin pre-heating. The pot should be kept AS FULL AS POSSIBLE, which keeps the flow pressure constant to aid bullet consistency, and also keeps its heat-sink function at maximum for fast melting of fresh alloy.

BENCH LAYOUT AND EFFICIENCY:

"Bullets per hour" is the easiest production concept to grasp, in my experience. ANYTHING that takes more time than necessary in casting detracts from the bottom-line production figure, and therefore those who want max production should study their every motion used to produce bullets.
I use only ONE mould at a time, and there's a reason. In timed runs, I found that the extra hand motions involved in setting-down and picking-up the various moulds simply lost too much time. In my current method, the mould is NEVER set down. It gets shifted from hand-to-hand, but never does it sit on anything except briefly on the mould guide for filling. (I'm a left-hander, so attempting to describe all my hand-motions will only confuse the dickens out of everyone.)

Carefully consider where the various items you need are placed. Every time the mallet is put down, for example, it should be PRECISELY where it was placed the last time, so your hands know exactly where to go for it. The sprue receptacle likewise should be carefully placed, so you don't have to stretch for it, or cramp yourself if it's too close-in. Same for the bullet box, if you're using one. EVERYTHING counts for efficiency. If I'm water-dropping the boolits, I want the pail in such a position that NO extra motion is needed to place the mould at the right place above the bucket. A simple swivel motion of the body, the mould is RIGHT THERE in the correct place, drop the boolits...and swivel back to the furnace. I position the bucket on a high stool at my side, which minimizes the splash, and tape a loose cloth over it, drooping it into the water to slow the bullets as they pass through a slit in the cloth.

One added advantage to FAST casting lies in this water-dropping process, because the high casting speed means that temperature variation of the bullets entering the water is minimal. If anything happens to disrupt the rhythm on any one filling of the mould, those bullets go into the sprue can instead of the quenching bucket.

**HOW FAST, and HOW GOOD?????**

Those who've seen me 'performing' this process (NVcurmudgeon, Buckshot, Deputy Al, among others) can testify that I'm really not hurrying. No herky-jerky abrupt gotta-hurry-gotta-HURRY histrionics are necessary.....but the mould gets filled four or five times per minute. In one timed run at my normal rate with a SINGLE-cavity Lee .30 mould, I made 159 good bullets in thirty minutes. This translates to over three hundred per hour from a one-banger mould. It's not unusual to get well over 500 good 'uns in an hour from my Lyman or RCBS two-cav jobs, and 400 'bph' is easy. Lyman four-cavity moulds can give me over 1000 per hour on a good day. Casting heavier bullets takes a bit longer due to longer mould-filling-time than is required by lighter boolits.

Bullets cast with this high-speed method are just as consistent as those I've cast with any other technique. Extreme weight spreads of less than one grain in 200-grain bullets are normal, and my RCBS 416-350s typically show LESS than one grain ES even on large samples of boolits. I only rarely weigh bullets these days, as visual inspection shows me more flaws than weighing....and there are VERY few flaws. I strongly suspect that the high temperatures involved greatly aid in perfect fillout. Dimensions in my fast-cast boolits are also very consistent.

**SAFETY:**

Be aware that water IN the melt, meaning below the surface of the alloy, will create a violent steam explosion and throw molten alloy everywhere. This means that water in the sprues, for instance, is to be avoided at all costs. Pre-heating the ingots reduces the chances of their carrying moisture into the pot, too.

My sprues are dropped into a coffee can, which has sides high enough to prevent any spray or droplets from the cooling dish to reach the interior. I do remelt the sprues as the can gets half-full or so, and have never had a problem. Note once more that the sprue should NOT be knocked into the receptacle until ALL VISIBLE WATER has disappeared from the mould, sprueplate, screws, handles, etc etc etc.! Water ON the melted alloy, such as a stray drop from the quenching bucket, will just sizzle and bounce around until it evaporates. I tested this several times in a controlled situation with scores of water-drops falling directly on the molten alloy.
CONCLUSION:

There you have it! The speed-cooling is certainly the core of the process, but the other things mentioned also contribute to great time savings. The nice thing is that, for almost no increase in actual effort, we can cast vastly-larger quantities of equally-good bullets in a given time frame.

Many folks have tried the speed-cooling in one way or another, but I've no idea how many may have tried the "full-court press" as described above. Personally, I find it highly worthwhile.

Regards from BruceB in Nevada