



I often had operators of machines ask me if I had a drop cord I could get for them so they could vacuum clean their machines. A couple of times I asked these operators how long he/she had been looking for a drop cord, 15 minutes with one occasion and 25 minutes on another. Sometimes they skipped the cleaning in frustration of not being able to find a drop cord and the machine was not cleaned - which I would discover as a finding during TPM audits...

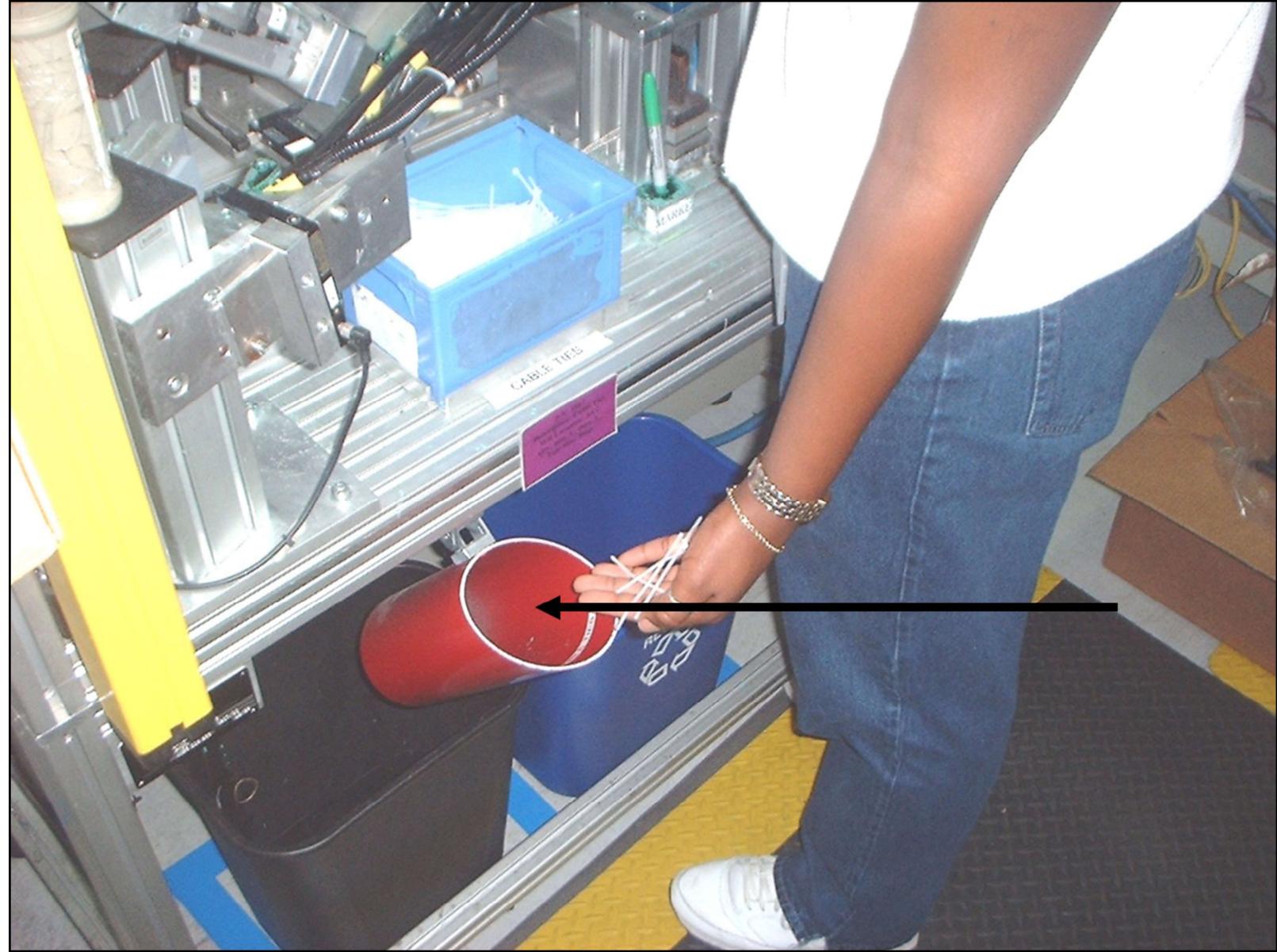
5S thinking to the rescue... motion economy, I installed on all machines retractable extension reel cords. To obviate their use for anything other than vacuum cleaner use I installed twist lock receptacles on the reels and plugs on the vacuum cleaners - which I cut the cord to 12 inches long to do away with having to coil the cord after use...



5S cleaning... finding ways to make the cleaning process easier to carry out. Inspired by toll road stations and those coin funnels I made and installed this waste chute funnel at a product detailing work station in which several small cable ties were installed and the excess length cut off.

This use of a funnel and tube capturing the waste of the cable ties cuttings made the whole cleaning a snap at the end of the shift...

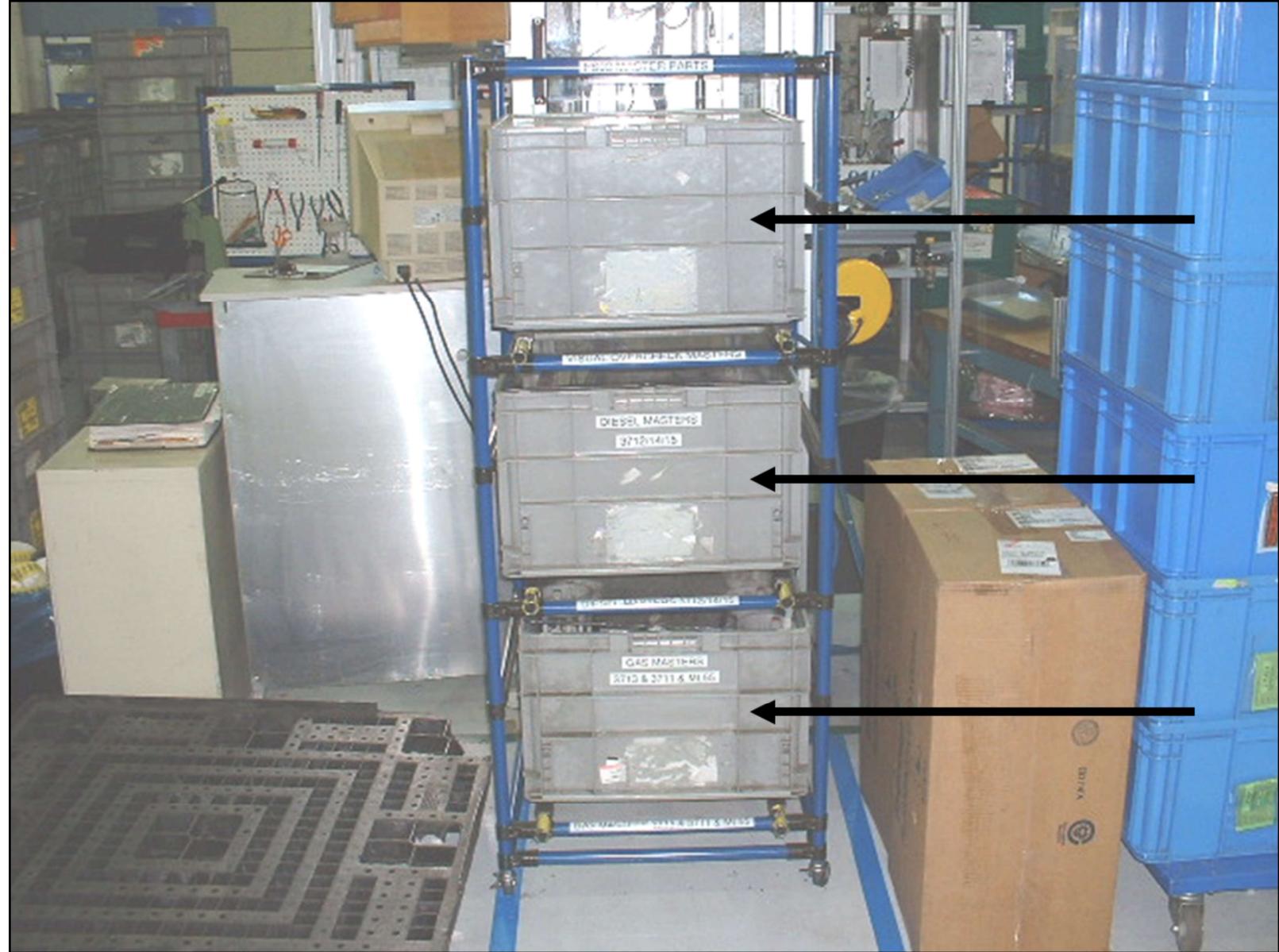
No money fun - I used a disused section of an electrical conduit for the chute and an disused injection molding hopper filler for the funnel.



Same again here...



And again, small sustained continuous improvements every day...



5S and organization... This picture shows a tote rack that I designed and made to store master test parts.



5S and organization... putting finished goods parts in totes, in plastic bags to prevent contamination, that's - good...

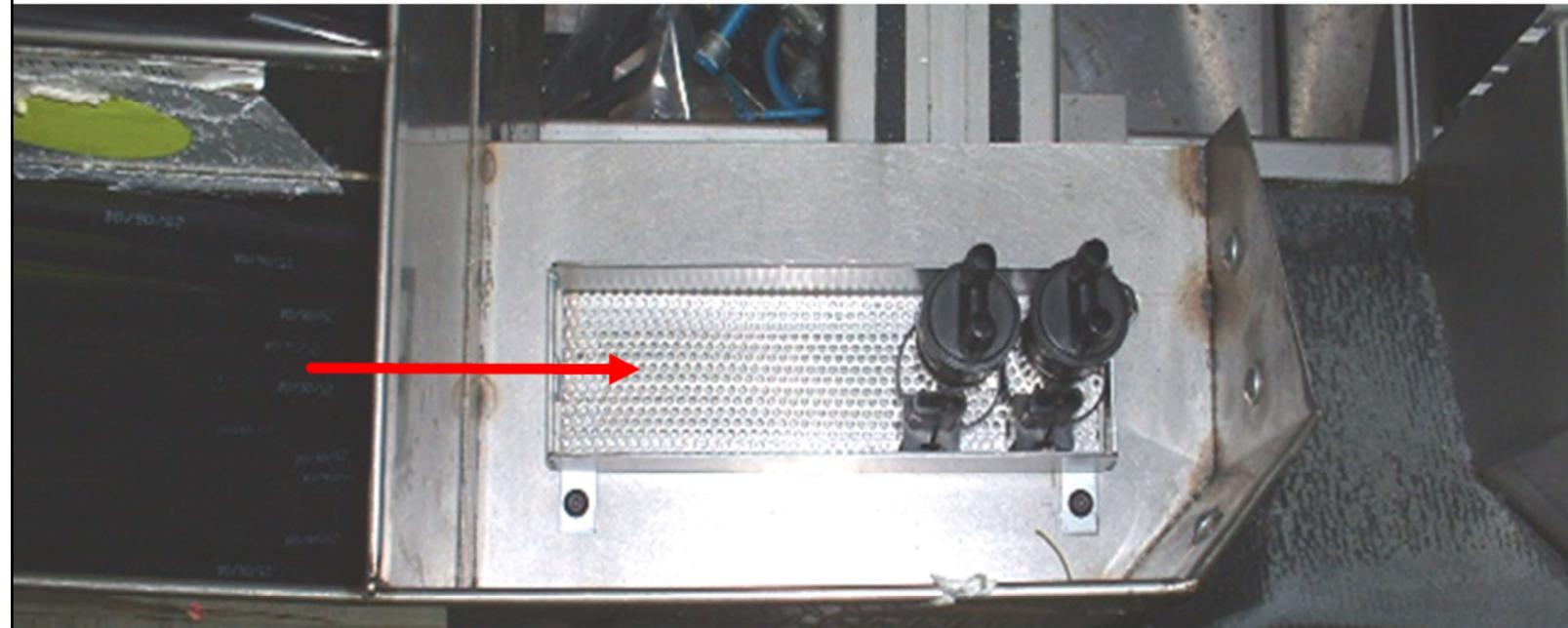


5S and organization... putting finished goods parts in totes, in plastic bags to prevent contamination with a fitted lid on the tote, that's - better...

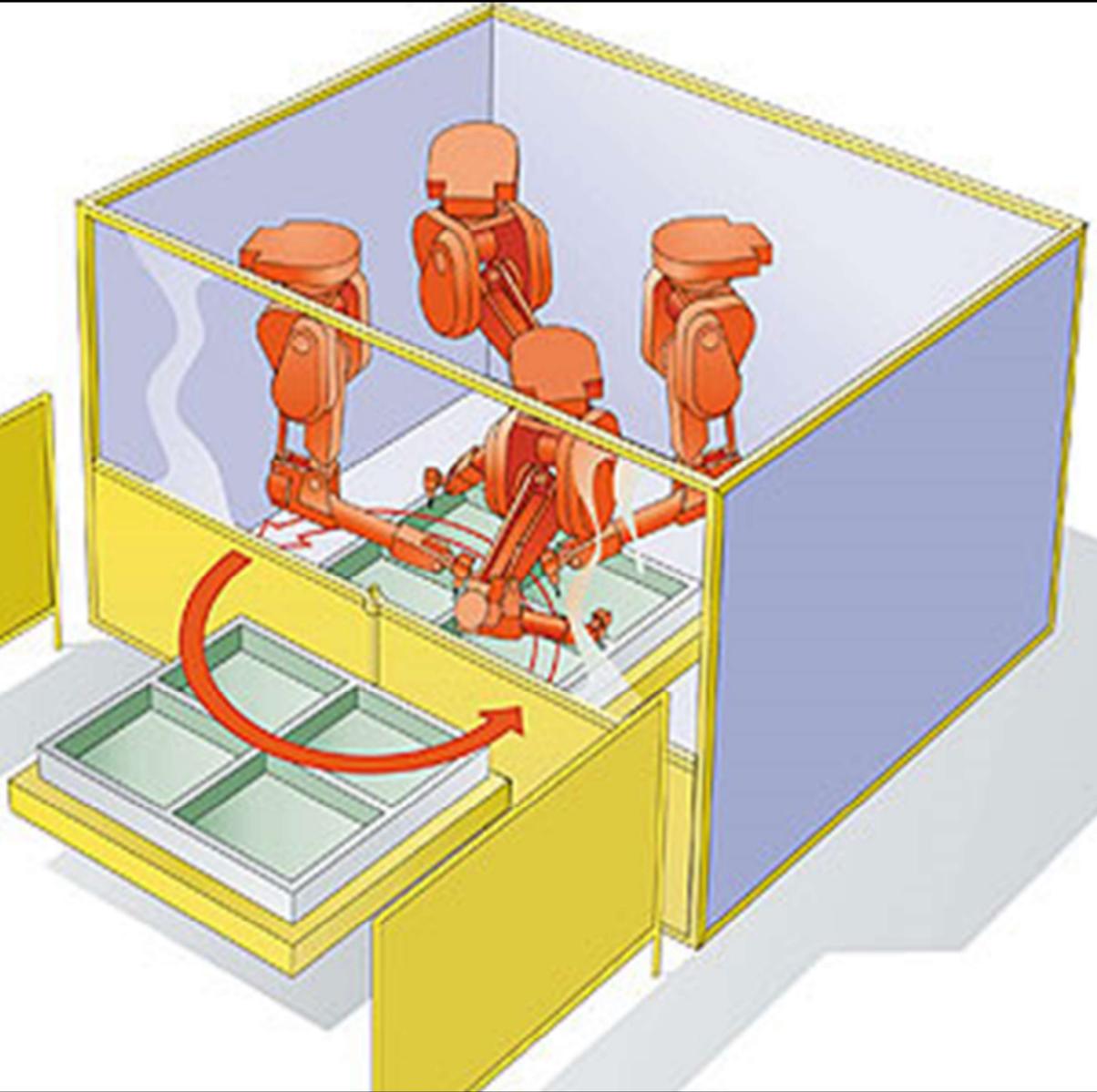


5S and organization... putting finished goods parts in totes, in plastic bags to prevent contamination with a fitted 'clear' lid on the tote for visual management, that's - best...

I remember someone asking me "Why do you get keep changing things?" I said "Because of continuous improvement..."



5S and contamination control using a perforated stainless steel plate in a holding container to prevent dirt, dust and debris build up.



One of my former employers made automobile carpets for two well known luxury car manufacturers Part of the carpet making process involved trimming the edges and cutting the carpets to shape. The technology used to cut the carpets was high pressure water jets.

The system of process involved a turntable that had mounted on to it two jig tools that the carpets would be placed on and then the turntable would rotate 180 degrees into the sealed water jet cutting booth. As one carpet was being cut and trimmed the carpet that had just been processed was removed and another carpet to be cut and trimmed was then placed on the turntable jig tool in readiness for processing - this was done internal to the operation.

In order for the carpet to be place on and removed from the turntable jig tool with not too much physical exertion for the people loading and unloading carpets it was designed to tilt down to a 45° degrees angle. This did make the job a little less labor intensive.

However, where one ergonomic problem was made less painful for the operators, another problem was created. The jig tool would tilt down outside of the water retention tray – see next picture slide...



Residual water left trapped inside the nooks and crannies of the inter-webbing underside of the jig tool would drip down on to the floor right in the area of where the operators loaded and unloaded the carpets. A constant puddle of water was on the floor. This was not only a slipping safety hazard, but it was also a tripping hazard as the operators would throw boxes of rags on the floor in an effort to soak up the water, several times people slipped or tripped - plus it was unsightly, the cost of rags and it was a hassle to clean up at the end of the shift...

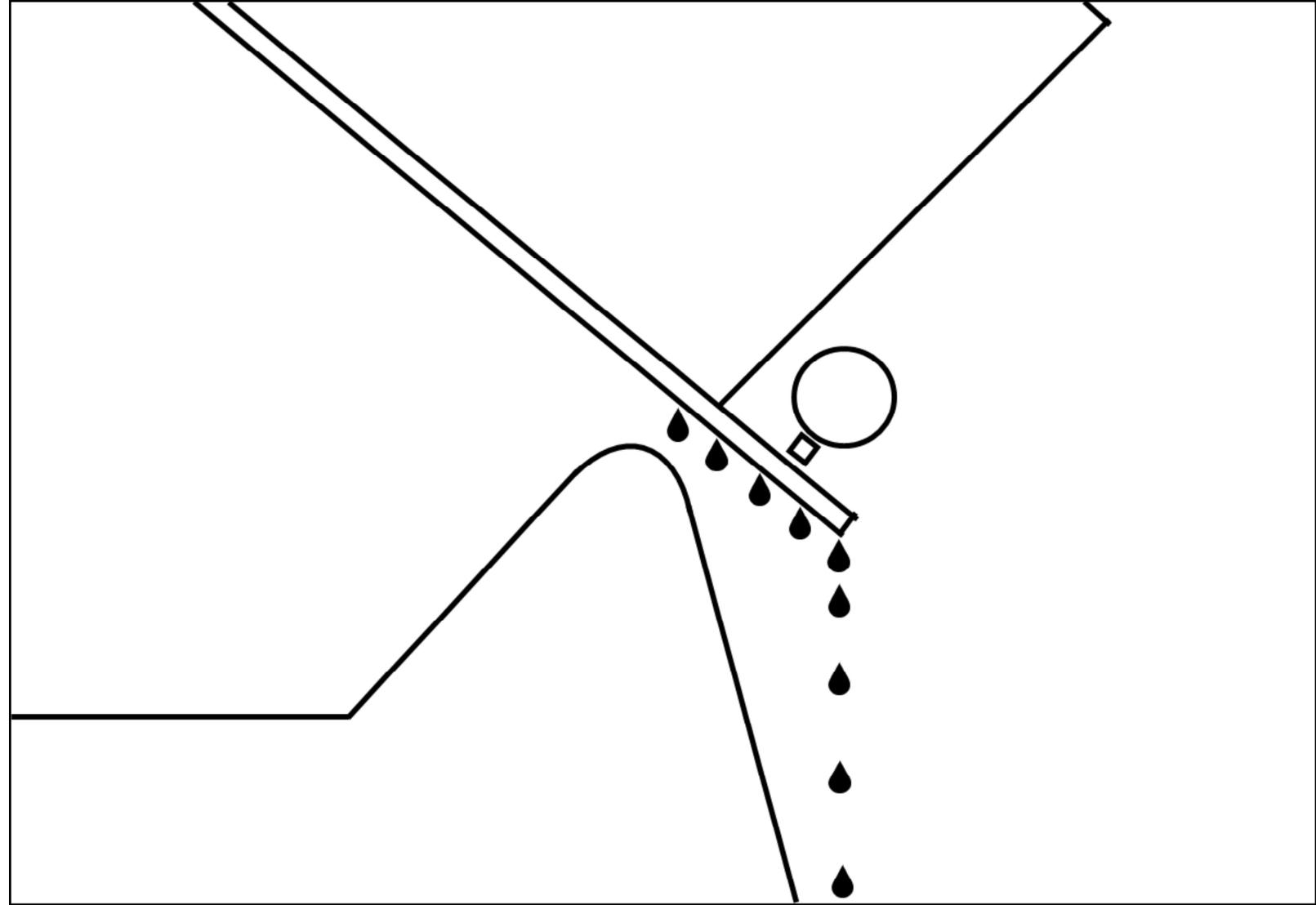
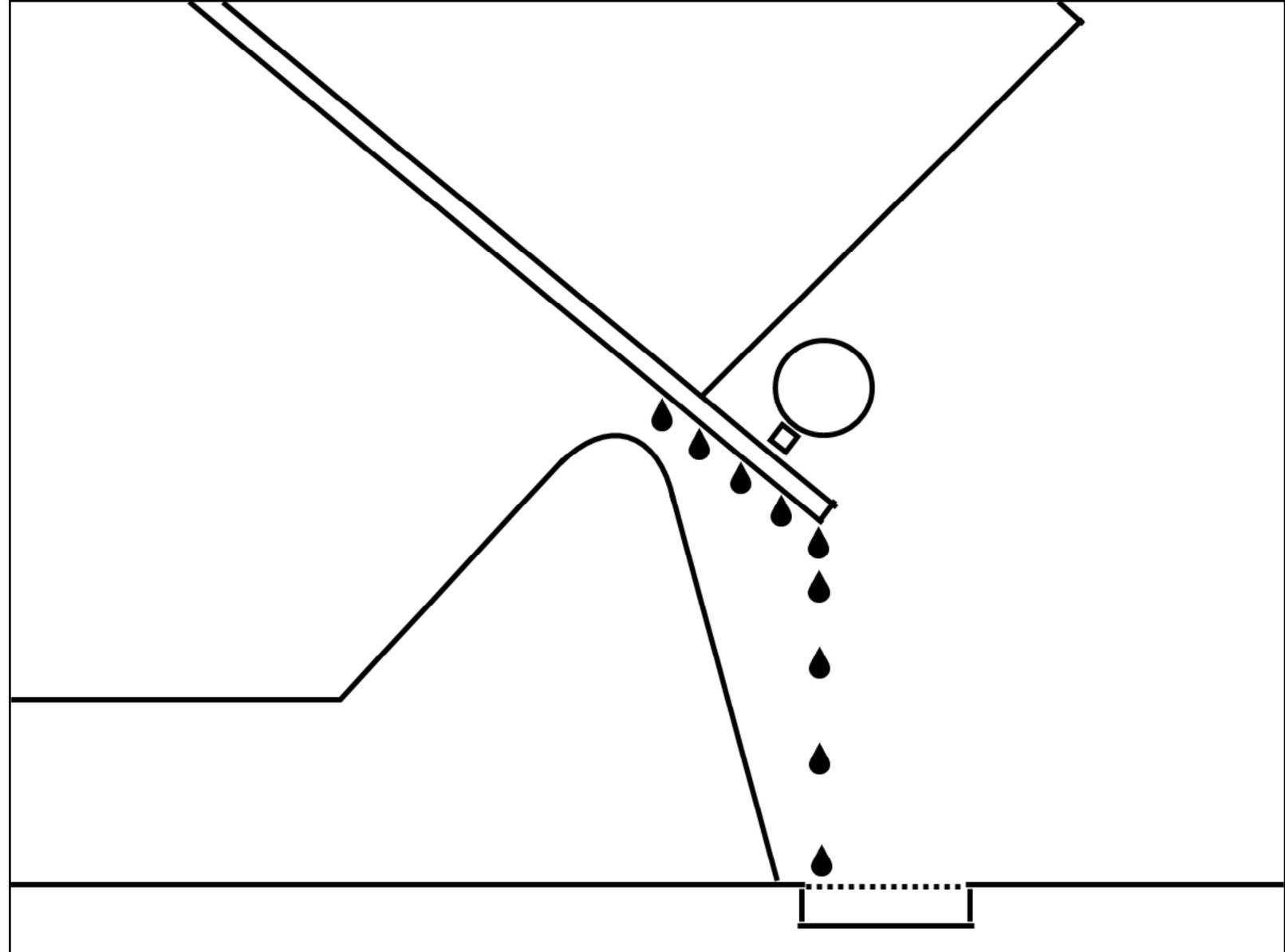
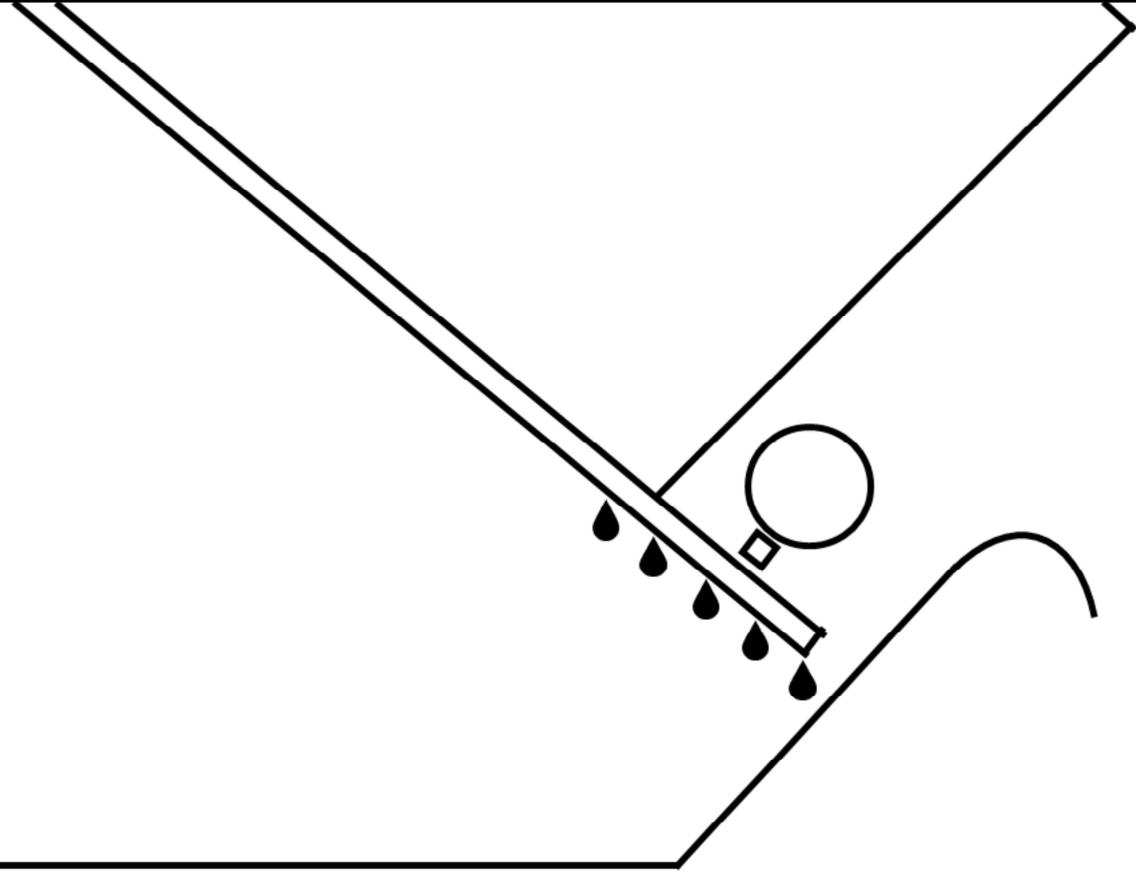


Diagram illustrating the water dripping outside the water retention tray on to the floor.



As I mentioned in previous 5S slides you either have to attack the source of the 'Shine' problem, be it dirt, dust, debris generated by people, process excess or environmental or you have to find ways to control the result.

My first idea was to cut a drain in the concrete floor with a grate placed in it, but this does not address the underlying source of the problem that the excess water dripping from the jig tools should drain in the water retention tray.



It was a fundamental design flaw that measures were not taking to allow for the tilting of the turntable jig tool. I contacted the manufacturer of the water jet cutting booth asking them if a wider water retention tray was available, none where.

I had to re-design by modification the water retention tray myself to successfully eliminate this problem. I designed a 10ft feet long by 5ft feet wide 1/8" gauge 316 stainless steel extension piece to extend the width of the water retention tray.

I had a local fabrication shop make the extension pieces and then we cut out a section of the existing fiberglass water retention tray and installed the stainless steel extension, popped riveted it in place and sealed it up with caulking.

I did this to all 4 water jet cutting processes - Problem eliminated...



Stainless steel water retention tray extension shown installed.