



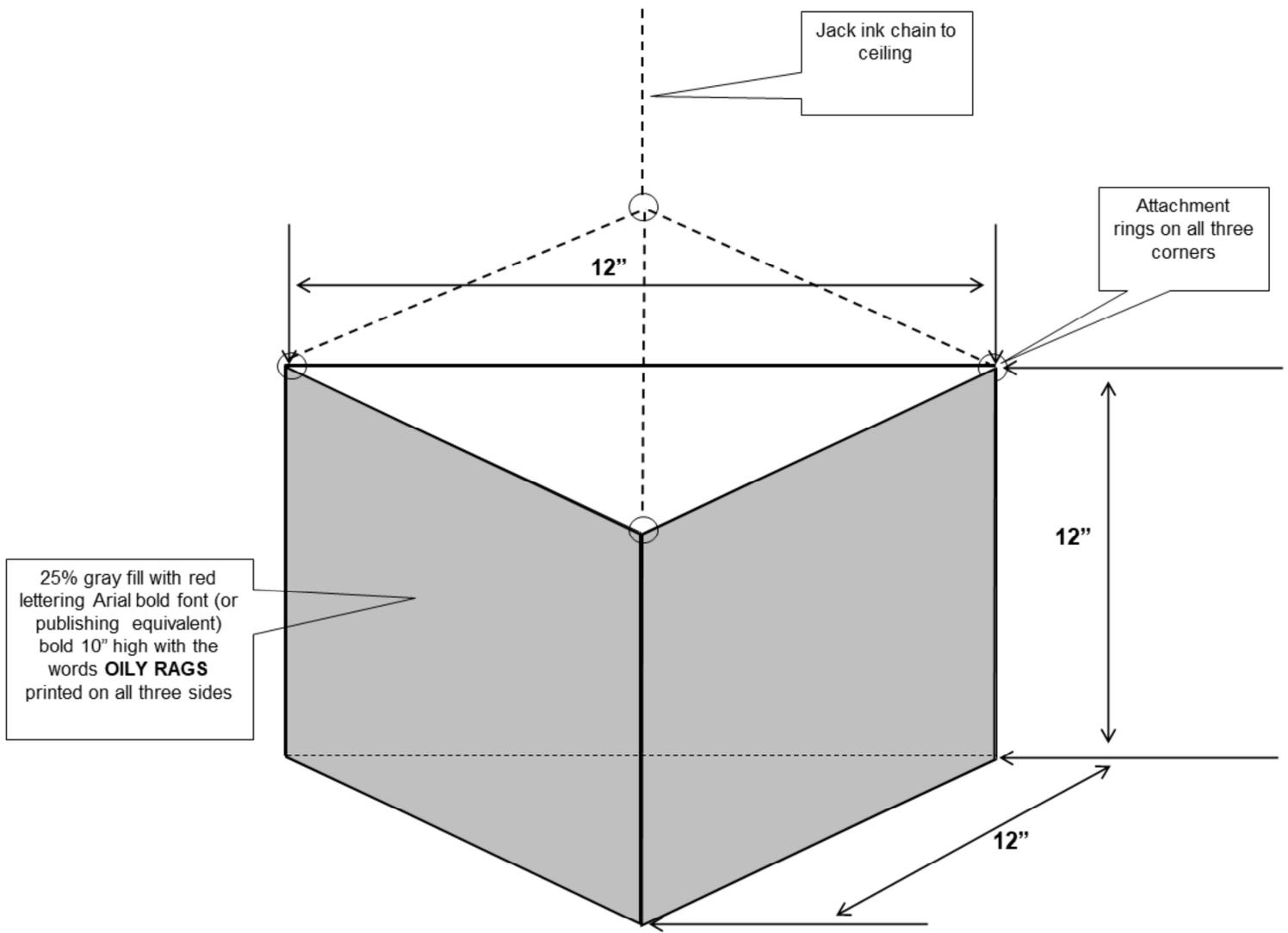
Here is my use of giving items and in this case an equipment spare parts that I was entering into a CMMS XYZ addresses to formalize their locations.



5S visual management... Example of a triangle signboard, done so that it can be seen from any direction.

Triangle Sign Board For Storage Location Indicator

Material: Aluminum



I don't always keep a photographic or diagrammatic record of every single drawing of every single project I've ever worked on. There's been so many over my career years and I'm not always able to retrieve them from the only two employers that I've been laid-off from - with no notice, I can't very well ask if I can download all my projects.



5S visual management... Example of quad angle signboard. This time I made this out of 1/2" inch thick high density fiberboard suspended from the ceiling by 3/8"-16 inch all thread. The idea is to identify every piece of physical asset so that at a glance and from a distance, line of sight any new employee or visitor can find themselves around the plant and in an emergency find their way out quickly...



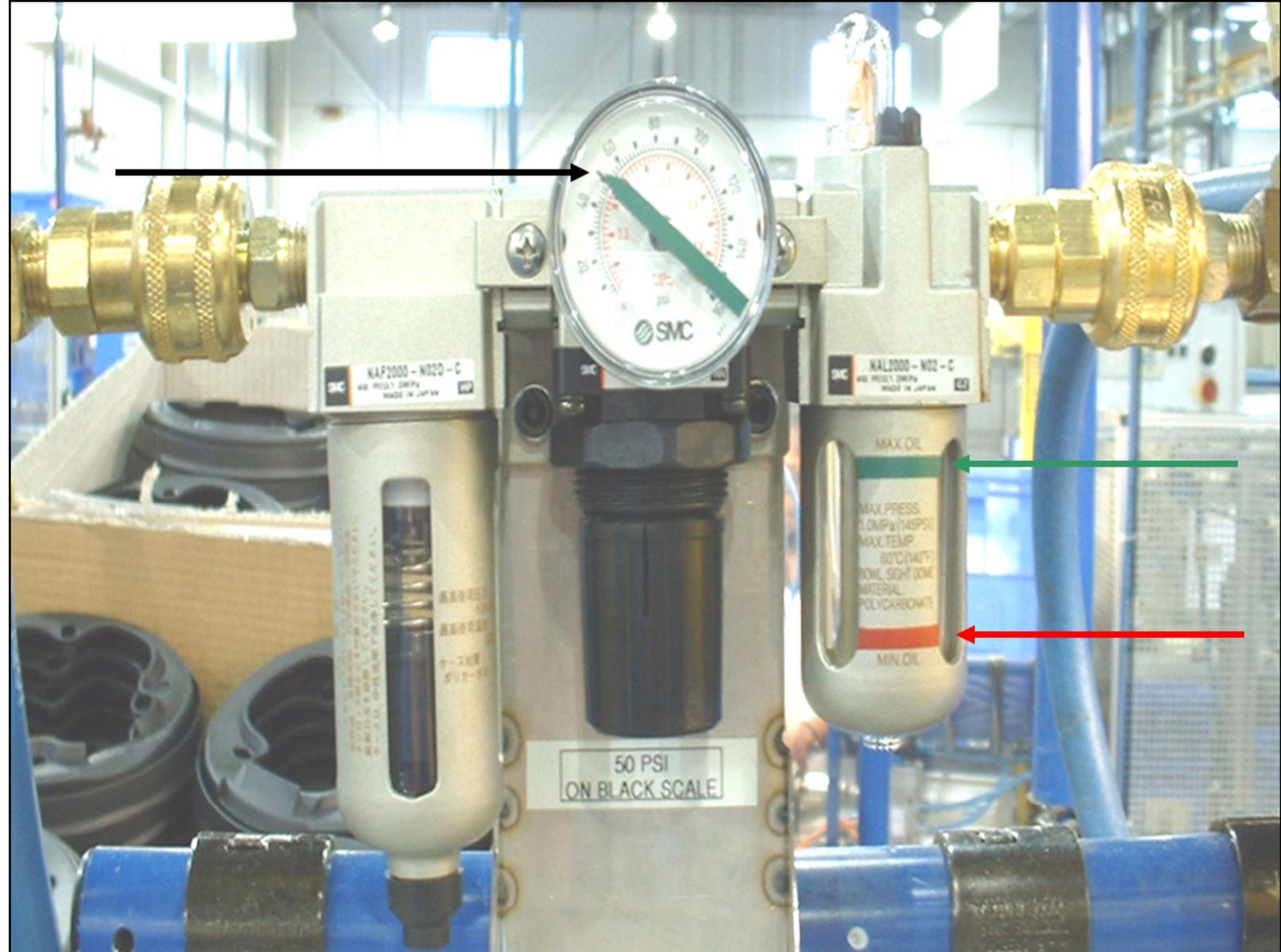
5S visual management... Big or small the use of triangle or quad angle signboards helps reduce searching waste. This picture shows equipment spare parts cabinets using again a triangle signboard to identify the cabinets' as C1, C2, C3, C4 and so on...

To demonstrate the effectiveness of 5S sign boarding in action, when I conducted 5S training I would give one of the participants in the class a spare parts kanban card and ask them to go and get it and bring it back. I would pick someone in the class unfamiliar with the maintenance department layout so as not to influence the outcome.

I gave them the basic instruction of go to **Cabinet 1**, open **Drawer 4** and bring back the spare part that's in **Section 24.5**. I would allow them 3 minutes to do it in. It always worked. I would then have someone else in the class return the same spare part in the same manner. Good way of getting buy in...



Example of location markers using floor tape to mark out the 5S home of a vacuum cleaner. Big or small any mobile item from a forklift truck to a vacuum cleaner, everything has a 5S home...



During the implementation of TPM one of the steps is Autonomous Maintenance for Operators Very basically this is where operators take on more responsibility for the management and preservation of the equipment they operate by conducting simple high frequency cleaning, bolting lubrication and inspection tasks that do not require specialized skills, technical training nor formal qualifications.

Here you see an air supply pressure regulator where I have clearly marked out visual indicators set to a standard. Upper and lower oil levels for the oil bowl, pressure setting and callout specification.

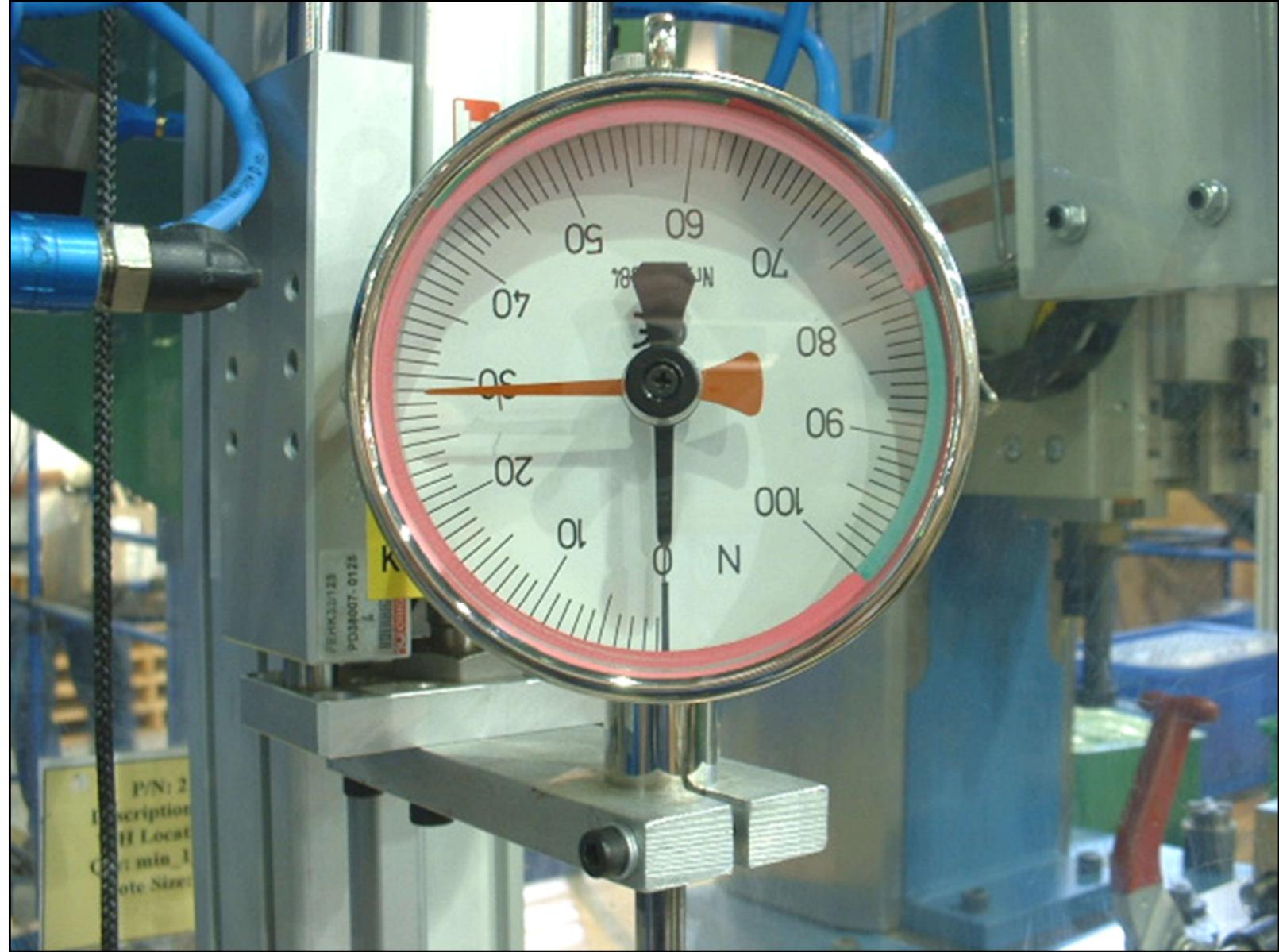


Visual management in action again. This is where I completely revamped a boiler room. None of the pipes were marked with what flowed in them, where it was from and going to and direction. One of the benefits of marking pipes and other pieces of logistical support equipment is speedy diagnosis of problems and is an aid to emergency preparedness programs.

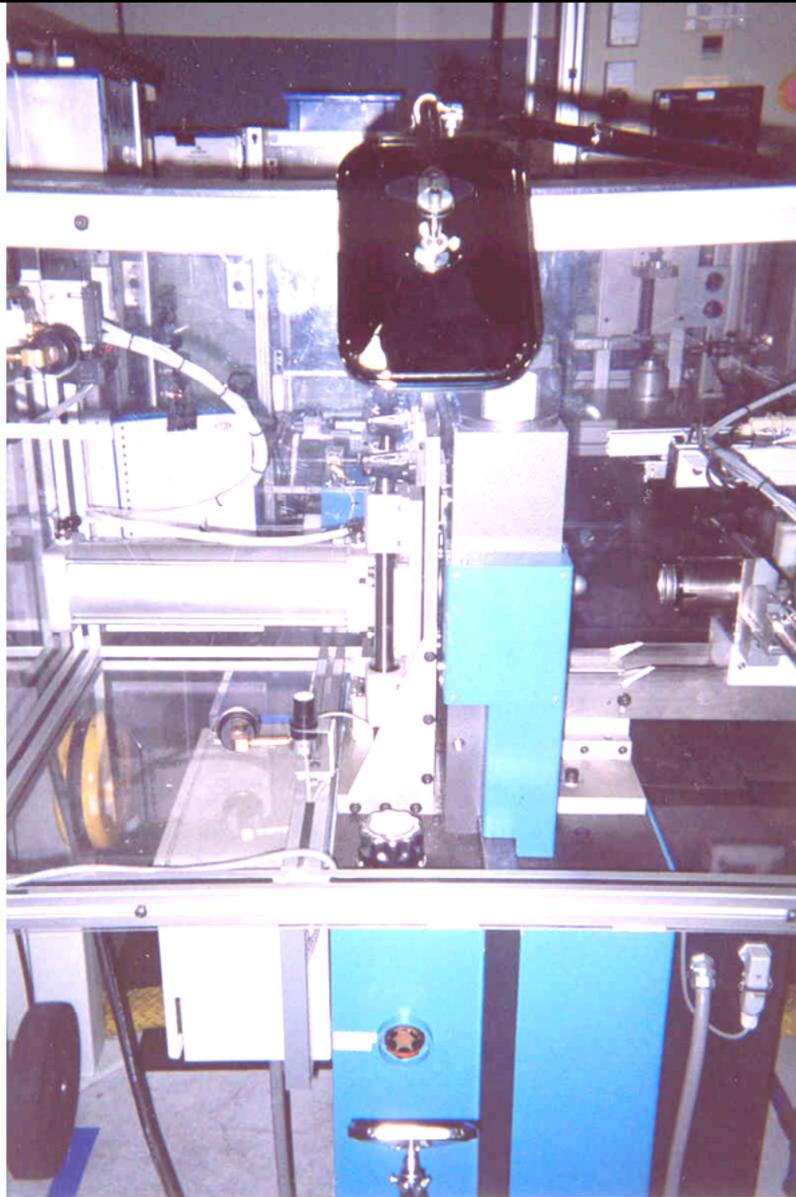
Mechanics, electricians and emergency personnel can quickly trace problems if everything is marked and identified...



Example of my orderly management of equipment manuals



Visual management in use again here where I marked out the limits of a force gauge. In this case you are taking variable data and converting it to attribute. Red band = no go. Green band = go.



Cheap and effective... here I've used two truck mirrors acting as a kind of periscope to check the oil level through a sight glass of a hydraulic oil tank.

This may be considered unnecessary, but this cheap little fix eliminated the need for the operator to walk around the back of the machine to check this oil level each shift as part of a TPM process checklist. In the world of lean every second counts, it's about speed...



Making gauges easier to read by my installing a 90° degrees elbow...



5S... When you have to continuously sort despite sort procedures you have to take it to the next level and that is sort prevention...

There are many ways and means of doing this and here is one example I did to a production process This is a process that makes gas filler necks - as they were called - for a well known luxury car manufacturer. Three different types were produced on this production line: gas, diesel and European gas or if you are from Europe - petrol...

Sometimes the customer would get the wrong parts sent to them or worse still a mixture of the parts Part of the organization and order of the 5S 'Sort' process is trying as much as possible to eliminate the possibility of 'stuff' accumulating on surfaces such as benches, tables and desks. Ideally these factory furniture pieces should be banned from the shop floor.

I've always said that benches, tables and desks will accumulate items or 'stuff' that are not needed for production and clerical operations on top of them, inside them, under them, in the front of them, at the back of them and to the left and right of them. If you are someone that signs off on a purchase order and it has the words, bench, table, desk, cabinet, locker, cupboard and other storage devices, you better give it some serious scrutiny as you are bringing in 'stuff' accumulation traps - just a warning...

Back to the problem: This was part of the problem here, parts of difference types would accumulate on the table you see in the picture, this becomes a potential for the mixing up of components and the customer receiving the wrong or mixed parts.

The answer is on the next slide...



Skeletal framing...I designed and made this from tubular framing and the required fixtures. I designed it so that only what was needed for production and clerical operations could be stored or used there and threw away the flat surfaced 'stuff' accumulation trap bench...

SIDE A

Item Information

Date
 Tagged By
 Item's Description
 Location
 Picture Number

Category

<input type="checkbox"/> Equipment	<input type="checkbox"/> Raw Materials	<input type="checkbox"/> Office Equipment
<input type="checkbox"/> Machine Parts	<input type="checkbox"/> Work-in-Process	<input type="checkbox"/> Office Stationary
<input type="checkbox"/> Tooling	<input type="checkbox"/> Indirect Material	<input type="checkbox"/> Office Furniture
<input type="checkbox"/> Jigs	<input type="checkbox"/> Finished Goods	<input type="checkbox"/> Consumable Materials
<input type="checkbox"/> Gauges	<input type="checkbox"/> Dunnage	<input type="checkbox"/> Unknown Object
<input type="checkbox"/> Instruments	<input type="checkbox"/> Packaging	<input type="checkbox"/> Other - Explain

Size
 Amount
 Count

Reason for Red Tagging

<input type="checkbox"/> Not Required	<input type="checkbox"/> Obsolete	<input type="checkbox"/> Aged Material
<input type="checkbox"/> Defective	<input type="checkbox"/> Excess	<input type="checkbox"/> Unknown Owner
<input type="checkbox"/> Scrap	<input type="checkbox"/> Expired	<input type="checkbox"/> Other - Explain

Suggested Disposition

<input type="checkbox"/> Set in Order	<input type="checkbox"/> Sell	<input type="checkbox"/> Return to Vender
<input type="checkbox"/> Scrap	<input type="checkbox"/> Auction	<input type="checkbox"/> Return to Customer
<input type="checkbox"/> Discard	<input type="checkbox"/> Re-Distribution	<input type="checkbox"/> Owner Claim Disposition
<input type="checkbox"/> Recycle	<input type="checkbox"/> Lease Loan	<input type="checkbox"/> Other - Explain

Comments

SIDE B

Item Owner Information

Owner Name
 Department
 Retention Reason

Final Disposition

<input type="checkbox"/> Set in Order	Disposition Date	<input type="text" value="___/___/___"/>
<input type="checkbox"/> Scrap	Disposition Date	<input type="text" value="___/___/___"/>
<input type="checkbox"/> Discard	Disposition Date	<input type="text" value="___/___/___"/>
<input type="checkbox"/> Recycle	Disposition Date	<input type="text" value="___/___/___"/>
<input type="checkbox"/> Sell	Disposition Date	<input type="text" value="___/___/___"/>
<input type="checkbox"/> Auction	Disposition Date	<input type="text" value="___/___/___"/>
<input type="checkbox"/> Re-Distribution	Disposition Date	<input type="text" value="___/___/___"/>
<input type="checkbox"/> Lease Loan	Disposition Date	<input type="text" value="___/___/___"/>
<input type="checkbox"/> Return to Vender	Disposition Date	<input type="text" value="___/___/___"/>
<input type="checkbox"/> Return to Customer	Disposition Date	<input type="text" value="___/___/___"/>
<input type="checkbox"/> Owner Claim Disposition	Disposition Date	<input type="text" value="___/___/___"/>
<input type="checkbox"/> Other - Explain	Disposition Date	<input type="text" value="___/___/___"/>

My design of a Red Tag to capture all the right information needed for the red tagging portion of the training application exercise SIDE A and later for the final disposition SIDE B.