New production washer versus rebuild of old unit

A custom-built parts washer takes from 14 to 22 weeks to build and costs a significant amount of money. When a manufacturing company needs a new parts washer, but is unable or unwilling to purchase a brand new machine there is an alternative. If a company is operating under a tight budget or working within a short timeframe, then a new unit is not an option. In either of these cases, modifying an existing washer may be appropriate.

Case 1

An example of when it is appropriate to rebuild a parts washer can be seen through the experience of an automotive transmission component supplier. The company was to begin production on a new part, which was similar in size and weight to their previous part; however it had a different configuration.

Due to budget constraints, the manufacturer was unable to purchase a new washer for this job. Therefore, an alternative had to be found. They decided to modify the washer used for the previous component to fit the new part.

Since the size and weight of the parts were the same, the drive motor, the conveyor frame as well as the entrance and exit envelopes did not need to be changed. To accommodate the new configuration, the fixtures on the conveyor were modified to hold the new part in the proper orientation to address the cleaning requirements. The old spray manifold configuration was redesigned to direct fluid at the critical areas of the new part. The blow off air manifolds were replaced with cones and air knives that were designed specifically for the new part as well.

The money saved by rebuilding allowed further upgrades to be made to the machine. The washer had used steam to heat the wash fluid. This required extensive and difficult to perform maintenance. This method of heat was replaced with a new electric heating system.

The old machine contained an air blower that was outdated and barely adequate for the job. It was located in a difficult to reach spot, making maintenance difficult. The blower was removed, replaced with a similar sized unit that featured better performance, and installed in an easier to access location. This was possible due to the removal of the steam heat system, which opened up room for the new blower.

Solution particulate filters, sound guarding and an oil removal system were also installed. The small, hard to read gauges used on the old machine were replaced with new gauges that featured larger faces.

When operators from the company inspected the machine before it was to arrive, they were pleased much of the machine remained familiar. They were even more pleased to find areas of the machine that had previously given them problems had been modified to be more accommodating. Best of all, the program manager found his company was able to modify this washer for 25% of the cost of a new washer.

Case 2

In another scenario, a supplier needed a washer for only a 3 month period. They did not have the resources to purchase a new washer if it were only to be used for such a short time. They decided to purchase a 2-stage washer with a continuous flow drive

motor to power an 18-inch wide conveyor belt on e-bay. During the cleaning process development testing, however, several deficiencies emerged with the washer as it pertained to their job.

The part was not clean to the required specification level established by the customer. The slow conveyor speed did not keep up with the production rate demanded by the job. Finally, the part was not dry enough upon exit and rusting was now a concern.

To solve these problems, the machine was redesigned. The conveyor and manifold plumbing were removed, and then replaced with a fixtured chain drive. This drive indexed into position and stopped the part for 8 seconds at 8 different spots in the washer. By stopping under specially configured nozzles, the part was thoroughly cleaned and dried by the time it exited the washer. The machine was successful.

Case 3

A screw machine shop wished to begin washing parts under contract. The shop operated on a tight budget however, and did not want to buy a custom machine. They bought an older machine from another shop and decided to have it remodeled.

The shop owner developed two separate lists and had a reputable washer company give him line item pricing for each modification and upgrading task that could be performed on the washer. One list consisted of items that were necessary to make the washer functional. The second list contained items that would help him maintain and wash parts more effectively.

The washer was outfitted with a new wash pump, nozzles, electrical components, and the gas train used to heat the water was rebuilt.

After five contract washing jobs, the shop had reclaimed the investment it made in the new washer.

While new washers are more advanced technologically, operatie more efficiently, and are smaller than older models, they are not always feasible. In these cases, there are a variety of options available to each manufacturer to make sure he can still get his parts clean.