

MEDIA SCREENING FOR SIZE CONTROL

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"Whole Lotta Shaking Going On"

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The Shot Peener

Establishing and maintaining shaker screen separators for shot sizing can be a challenge. During an impromptu meeting at the 1992 Annual Workshop on Shot Peening, Hugh Roper of PanAbrasive described a scheme to help maintain system performance.

Motor driven eccentric cams are used to shake a screen stack assembly. Proper adjustment of the upper and lower weights will optimize shot throughput. Once the system is properly tuned, its performance can be easily monitored and maintained.

First, you should be sure the screens are in good condition. No broken or frayed mesh, no blinded holes, no tramp material, etc. Be sure the amount of media on the screen is closely controlled, don't over or under feed the system.

Once the system is operating at maximum capacity, you need to measure and record the vertical motion amplitude. This is easily done by observing a small, donut shaped circle placed on the side of the screen casing. The size of the circle will be in the range of 1mm - 10mm depending on your system. Since you probably won't know what size to choose in advance, a decal with a series of ten circles can be used. The decal is placed on the side of the screen casing. When the screen is shaking it will have dominant vertical motion. All of the circles will move vertically and tend to look blurred. At least one of the circles will appear more distinct than the others, and it will

Once you have determined which of the ten circles best displays your amplitude, you can obscure the remaining circles (tape over, etc.).

Later checks of the system should show your (one remaining) circle as a figure 8. If not, then something has changed and you need to investigate the problem.

Typical problems include:

- clogged (blinded) screens
- torn or frayed screens
- too little media
- too much media
- contamination - foreign material
- contamination - oil or water on media
- gravity warp caused by black hole

Suggestion: Place a label next to the test strip for record of adjustment dates and maintenance person's initials to keep track of system performance. A high frequency of adjustments could indicate a problem.

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