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BACKTALK

Letters of interest from readers—for readers

Missing Actuator

Just finished reading "Powered Valve Actuators" (PE 12/24/75, p. 34). It was very interesting and most informative. We were disappointed, however, that our client, Jordan Controls, Inc., of Milwaukee, was not included in your list of actuator suppliers. Jordan manufactures and distributes a complete line of electric actuators, both rotary and linear. Mark McGlinchey, Vice President, Andrews Advertising Inc., Milwaukee, WI.

■ Using the listings in the *PLANT ENGINEERING Directory and Specifications Catalog* as a base, we make strenuous efforts to contact all the manufacturers who may be able to contribute information to a cover article. Jordan Controls is listed in the section on Instruments, Controls and Computers; but not under Piping, Valves, and Fittings—apparently an error on our part.—*Editors*

PVC Plant Shutdowns

In your "Briefing the News" section [PE 1/8/76, p. 15] you state: "This is the first PVC plant to date to choose closing over meeting OSHA standards." The reference is to Uniroyal Chemical's Painesville, OH, facility.

I think that if you will check the industry's records, you will find that when the standard was initially published, the Olin Chemical PVC plant at Assonet, MA, announced it was ending its operations; the reason was that it was not feasible to comply with the OSHA standard. The Good-year Chemical plant at Niagara Falls, NY, also closed after the standard was made public. This was probably the second closing. That would make

Uniroyal the third. H. E. Jewett, Plant Manager, General Tire & Rubber Co., Chemical/Plastics Div., Ashabula, OH.

■ We have checked with both the companies mentioned by Reader Jewett, and find that although the Olin Chemical plant at Assonet closed for other reasons, the Good-year plant at Niagara Falls did in fact shut down because the cost of complying with OSHA regulations could not be justified. Thus, the Uniroyal plant at Painesville was the second such closing, not the first as we reported. We stand corrected.—*Editors*

Casey Jones! Mounted to the Scale...

The author is to be congratulated on the three-part article "Specifying Railroad Track Scales" [PE 10/16/75, p. 144; 12/11/75, p. 128; 1/22/76, p. 123]. Our industry has long needed such a compendium, and he is to be commended for the research and effort put into this series.

We would, however, take some issue with the imputation that "Scales employing load cells are slightly less accurate than mechanical types; accuracies typically range from 0.03 to 0.06 percent when weighing coupled [The article quoted specified *uncoupled* cars. —*Editors*] cars." In-service tests conducted by our company indicate that this is not necessarily the case. Electronic scales, for motion weighing, have built-in advantages. In the end, they provide much more accurate weighing, as a rule. It is impossible to weigh a car when it is not fully scale-borne; it is impossible to weigh if the scale cannot balance and calibrate itself between weighings. Such problems are discovered in

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Techniques for eliminating hydraulic leakage, explained

Costly, potentially hazardous leakage is not an inherent property of hydraulic systems. It can be eliminated by using good design and piping practice, and proper maintenance.

In most cases, leakage occurs in hydraulic systems because of relatively minor factors which can easily be corrected.

Correct sealing is one such factor. A radial lip seal, for example, prevents fluid leakage along a rotating shaft as long as a thin film of lubricant is maintained between the seal lip and rotating shaft. The seal lip must *not* act like a squeegee to wipe the shaft dry. The lip must ride on a thin film of lubricant to be successful. If the film gets too thick, the seal leaks. If it gets too thin, the seal hardens or wears.



Sealing requires an interference fit between shaft and flexible sealing lip. But as seals age and temperatures change, lip pressure falls off. Consequently, a garter or finger spring is used to help maintain constant pressure.

Illustration courtesy of Battelle Research.

Specifying the correct seal elastomer and shaft surface finish is essential in preventing early seal failure and excessive leakage.

Proper hose installation is a nearly-sure guarantee against premature hose failure and loss of system fluid. Allowing extra hose length protects metal parts from undue stress and avoids damage from kinks in the hose.

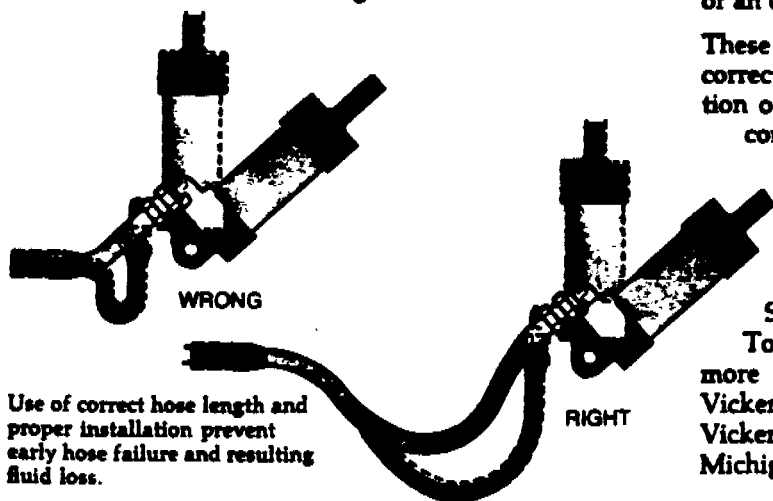
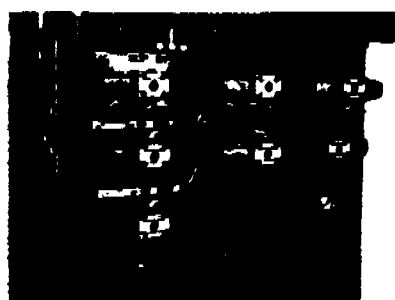


Illustration courtesy of Aeroquip Corp.

Cleanly-designed systems are less prone to leak than systems with complex arrangements of hose and tubing and hard-to-reach components. Each fitting and tube connection is a potential leak source; fewer connections mean fewer leaks. (Hard-to-reach components leak more readily because proper assembly is difficult.) Preferably, all valves should be back-mounted on a readily-accessible plate with permanent pipe connections. Manifolding to eliminate external piping is even more effective.



A clean, well-designed valve installation reduces leakage and maintenance costs.

Threaded joints: The main advantage with tapered threads is that a slight leak can usually be stopped by giving the connector an extra partial turn *if the threads are perfectly machined and properly assembled*. But often they're not, in which case no amount of tightening will correct a leak. Consequently, the present trend is the use of SAE straight threads which seal by means of an external element such as an O-ring.

These are only a few of the many factors involved in correcting hydraulic leakage. For a complete explanation of all the factors and their

corrective methods, write for your copy of a valuable new 18-page book on the subject of controlling hydraulic leakage, published by Sperry Vickers.

To get your free copy, or for more information on Sperry Vickers families of hydraulic components, write Sperry Vickers, a division of Sperry Rand Corporation, Troy, Michigan 48084.



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