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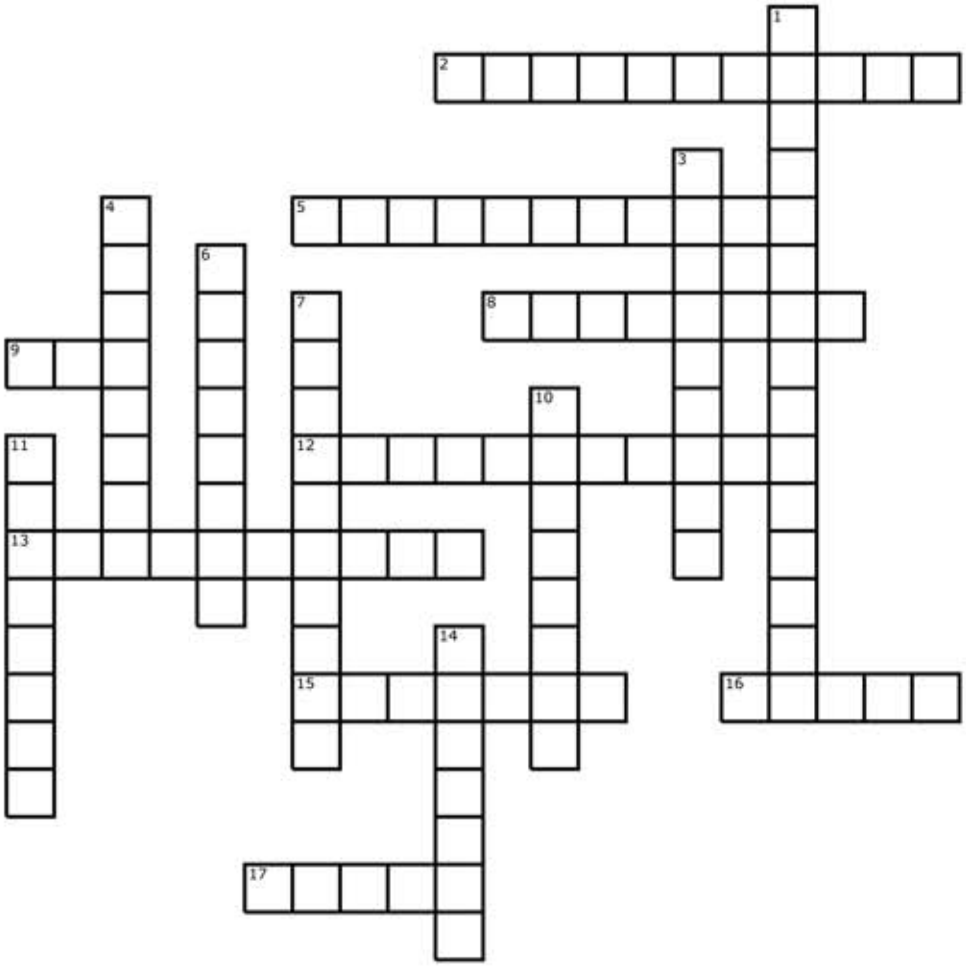
"What to Do When Your Motion System Throws You a Curve"

by Mechanical Design Engineer Leslie Lui

This crossword is based on the article titled "What to Do When Your Motion System Throws You a Curve" which was featured on the front cover of the June 2011 edition of Design World. To complete the crossword, check out pg. 50 or view the digital copy at http://bit.ly/DWpg50



ACROSS

2. This article is about " " applications.
5. Traditional ways of accommodating " " guide and actuator designs include conveyor systems and slewing rings.
8. Guide-wheel ring and " " slides come in many profile sizes to accommodate wheels of various sizes and load capacities.
9. The article is written by Mechanical Design Engineer, Leslie " "
12. Guide-wheel based ring and track systems can be a compact and accurate solution for curvilinear motion applications, offering better " " accuracy than comparable linear conveyor systems.
13. Guide-wheel based ring and track systems can simplify the design process and outperform other types of " " guide and actuator systems.
15. External factors such as uneven mounting surfaces and " " expansion can also change the preload in guide wheel-based rotary systems.
16. At the " " of guide-wheel based ring and track systems are vee groove bearing guide wheels and vee edge slides.
17. " "-wheel based ring and track systems are more compact and offer better positioning accuracy and more options for cargo carrying positions than alternative conveyor systems for curvilinear applications.

DOWN

1. While guide-wheel based track rotary systems and slewing rings can have similar ease of assembly, the former can be easier to service due to the components being " ".
3. " " curvilinear guide or actuator systems can be more difficult than designing linear ones.
4. However, in a guide-wheel based ring and track system, payload can be securely mounted at any " " relative to the carriage.
6. The relatively large size of support structures for conveyor systems also makes them the most difficult and expensive to " " and reconfigure.
7. It's also possible in some applications to replace damaged " " in guide-wheel based track systems without disassembling any other components.
10. Carriages can follow straight or " " paths through the use of straight and ring slide segments, or complex, curvilinear paths through a combination of straight and ring slide segments.
11. Guide-wheel based ring and track systems can require less space, support structure, and maintenance than other " " systems.
14. Overhead " " systems consist of curvilinear path track systems mounted high above the floor, with wheeled carriages that hang their payload underneath.