

High-Speed Thread Inspection

Performing thread inspection on large numbers of parts can be difficult and exhausting for the operator, and gets worse for production quantities.



The Rotary Thread Inspection Tool Kit comes with taper lock extensions for gauge tapers 0, 1, 2, and 3. It also has length limit collars for thread gauge sizes of 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", and 5/8".

The Van Wert, Ohio division of [Eaton Corporation](#) [1] provides production capabilities for a lot of companies, one of them being Caterpillar. For a recent project that required one hundred percent inspection, the Eaton team was forced to consider their options. The end product was a hose assembly for which Eaton personnel had to check the fittings on the end of the hose to assure that they passed inspection.

Standard operation meant that they would have to bring every unit through the QC area, but that was impractical. Another option was to train production workers to perform the operation on the floor. To maintain the desired production rate, additional workers would have to be employed on the line.

The company had recently purchased an automatic Rotary Thread Gage Inspection Tool from [Multimatic Products](#) [2]. The tool was designed to eliminate operator hand and arm fatigue and repetitive motion injuries. With a need for continued use on the production floor, the inspection supervisor at Eaton decided to use the new tool in production.

The manual is easy to understand and quick to implement, which meant that no training was necessary to get started. Plus, since the device is motor operated and reverses automatically, it does not necessarily require visual confirmation. One person could easily keep up with the production speeds set up by the assembly operation.

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The Rotary Thread Gage Inspection Tool is a portable, twelve-ounce device that is ergonomically designed for repetitive industrial use. It comes with a high-performance, rechargeable lithium battery, which allows it to be used for long periods of time. As mentioned above, the Thread Inspection Tool is an automatic device, which uses an integrated motor design to alleviate manual hand turning.

Once the device is engaged by the operator, a specialized motor device rotates the thread gage. When the thread gage moves to a predetermined set depth or length to be checked, the patented device will flash a green LED light and automatically reverse itself to exit the threaded hole.

At the end of a complete cycle, the threaded part has passed inspection. If the cycle is not completed and the threaded part remains on the thread gage, then the part is not to specification and is rejected.

The internal threads of the hose fittings being inspected on the assembly line are standard 9/16-18 threads of about a half-inch deep. Adjusting the tool for inspection operations is quick and easy.

Although the Rotary Thread Gage Inspection Tool allows for users to change to other standard or specially designed taper lock style thread plug gages, and has the capability to adjust to various depth of thread to be checked, the Caterpillar job didn't require either.

This relieved Eaton the need for a simple, quick-training session on how to facilitate such changes. By using the tool, the Eaton personnel on the floor were able to perform their duties at between twenty and thirty percent faster than if they had used a manual thread inspection tool. Plus, there would be fewer physical demands and possible ergonomic injuries.

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For more information visit www.multimaticproducts.com [2] and www.eaton.com [1].

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Links:

[1] <http://www.eaton.com/>

[2] <http://www.multimaticproducts.com/>