

BENCHMARK BRIEFINGS

kardexremstar

SITE

National Oilwell Varco - Rosenberg
Rosenberg, TX

APPLICATION

Manufacture and Service Downhole Drilling Motors for Oil & Gas

EQUIPMENT

Two Shuttle® VLMs with Inventory Management Software and Pick-To-Light Technology

SUMMARY

Two Shuttle Vertical Lift Modules Reduce 82% Floor Space, Increase Productivity by 64% and Improve Inventory Control



The Shuttle VLMs have sped up the process, filling 70 work orders per day, a 64% increase in productivity!

National Oilwell Varco's Inventory Center Drills Down Floor Space and Increases Picking Productivity

Since 1841, National Oilwell Varco (NOV) has been dedicated to providing quality and reliable products that work efficiently to drill targeted locations for the oil and gas industry. The NOV facility in Rosenberg, TX manufactures and services downhole drilling motors which are then transported to oil drilling rigs throughout the region.

With over 10,000 SKUs on hand to support manufacturing, the inventory center was nearing capacity and struggling to provide lot tracking information. Taking advantage of a facility relocation, NOV replaced the standard rack and shelving in the inventory center with 2 Shuttle Vertical Lift Modules (VLMs) integrated with pick to light technology and inventory management software from Kardex Remstar. As a result, NOV reduced the size of the inventory center by 82% in the new building, is filling orders 64% faster and can easily provide lot tracking when necessary.

Automation Frees Up Space For Manufacturing

Previously, racking lined the floor throughout the inventory center, making it difficult and time consuming to find the right components to fill a work order. NOV consolidated 1,800 square feet of inventory in racking into two Shuttle VLMs, oc-

cupying only 320 square feet of floor space. Reducing the inventory center floor space required by 82% allowed more room for manufacturing and production in the new facility.

Productivity Is Pumping

The inventory center is responsible for picking and replenishing work orders for manufacturing. Walking up and down the aisles of shelving was a time consuming process. "It was very involved," says Dennis Moore, Inventory Clerk, "and required lots of walking and searching just to find one part that you needed."

The VLMs deliver the parts directly to the worker, eliminating walk and search time. This previously wasted time is now spent picking components for work orders. In the old system, three workers were able to fill 25 work orders. The Shuttle VLMs have sped up the process, filling 70 work orders per day, a 64% increase in productivity!

Inventory & Lot Control

With parts being stored in open bins, everyone had access to inventory. "Nothing was locked up and it was a free-for-all,"



"Inventory counts are more accurate and mispicks are rare," says Moore.

says Moore, "Anyone could go pick anything they wanted, without a way to keep track of it." The inventory center was responsible for managing and documenting the inventory manually, and that did not always happen. Now with the Shuttle VLMs, all of the inventory is stored in one location and access is limited.

Using the inventory management software, each storage and retrieval transaction is recorded. Further, the operator is directed using pick to light technology to the exact location within the tray to pick or put the part, reducing human picking errors. "Inventory counts are more accurate and mispicks are rare," says Moore.

The inventory management software is integrated with their ERP system (JD Edwards) to provide the traceability. NOV can now trace the component lot number used in each of their finished drilling motors. If in the event the drill motor malfunctions, NOV can quickly determine what other drilling motor have that same lot number to prevent any potential downtime on other rigs.

More Efficient Fulfillment

The work order originates with the mechanic, who brings a printed excel sheet to select the parts they need for a given work order. The mechanic now brings the work order to the VLM area for picking. The VLM operator enters the required part numbers into the inventory management software to start the picking process. The VLM retrieves the tray and a TIC

(transaction information center) pinpoints the exact location of the required part using pick to light technology.

Trays are delivered to an ergonomic height via an extractor that runs up and down the center of the machine. Operating on the goods to person principle, the operator can now pull the appropriate parts for the work order without having to spend time walking up and down racks searching, bending down and reaching overhead to retrieve the part. Once all parts for the work order have been picked, the inventory clerk delivers the order to the holding table for the mechanic to retrieve.

With the two VLMs, NOV is pulling on average 55 orders per day and 15 orders during the overnight shift. The majority of the work orders are pulled during the day shift in the morning while replenishment occurs overnight. Due to the additional space inside the VLMs, NOV was able to increase inventory on hand by 50%.

Multiplying Success

The Rosenberg facility is not the first NOV location to reap the benefits of automation. NOV has utilized this equipment at other facilities in the area and plans to continue this success in other locations in the future.

The Shuttle VLMs have allowed NOV to increase productivity to meet the demands of their growing industry. The inventory control and tracking abilities enables them to maintain their promise of providing reliable products to their customers.



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