



Mantrac Group:

Leading the World in Heavy Equipment Hose Assembly and Maintenance Tracking

Unatrac is a Caterpillar (CAT) dealer conglomerate with many Mantrac dealerships across ten countries and three continents. They distribute and support the full range of CAT heavy equipment products. One of the many services offered by many of Unatrac's Mantrac dealerships to their clients are the custom manufacturing of hose assemblies required for all heavy equipment. Hose assemblies are used frequently for heavy equipment hydraulics, brake lines, etc. and are made up of the hose itself, couplings and often times various types of adapters, seals, caps, plugs, etc. They not only make standard Caterpillar hose assemblies, but due to their manufacturing capabilities and complete line of stocked parts, they can even manufacture replacement hoses for a myriad of other heavy equipment brands.



Client:

Mantrac Group

Challenge:

Tracking hose assembly life-cycle to improve inventory management, preventative maintenance and more

Solution:

Using mobile apps and barcodes to collect good data and provide ample data visibility

Krinkle has supplied advanced tracking software to Mantrac for a number of years. Their mobile tracking system, Krinkle Rebuild Tracker®, was successfully deployed across Mantrac's service area, to track every stage of the main component (e.g. engines, differentials, etc.) rebuild process. During this time, Mantrac was able to see firsthand, the flexibility and potential of Krinkle Rebuild Tracker®'s underlying, enterprise-class, mobile software platform. This led them to inquire about configuring a new, mission-critical mobile app to improve their hose assembly manufacturing process.

Hose Assembly Manufacturing

Traditionally, this process begins with receiving a purchase order from a heavy equipment owner for a number of hose assemblies (sometimes numerous assemblies of the same type, sometimes completely different types of hose assemblies). A shop technician then reviews the request on a piece of paper (the purchase order) and begins assembling piles of parts for that order (pulled from inventory). Once these piles of parts are assembled into completed hose assemblies, the technician then records onto paper what parts he pulled, how many of each, and what assemblies he completed. Needless to say, this manual, paper-based process created many issues such as being cumbersome and prone to human error and lacking look-back capability, data analysis and inventory management capabilities.

Mantrac wanted to gain meaningful data insights into their hose assembly manufacturing process while also reducing the burden on their technicians to collect the critical data. Their goals were to improve the quality of data their technicians collected, reduce their burden of data collection, track the quality and speed of service of their individual shops and gain financially valuable insights into their operations. Additionally, Mantrac wanted to track the exact parts used during hose assembly manufacturing so they could know how many parts were left in a shop's inventory to help them make predictions about when and how many new parts should be ordered. They also wanted to have a better understanding of how much time and money it costs to build different types of hose assemblies so that they could price them more appropriately.

It became clear to Mantrac, as the project progressed and was being useful in the field, that a little more development could actually give them insight into what machines were owned by which customers and what the “life cycle” of their hoses truly were at specific sites and in specific fleets. To do this, they needed to know how many hours a type of hose assembly typically lasts in a specific compartment or piece of heavy equipment. This level of data would greatly improve the quality of their proactive preventative maintenance programs and standardize their excellence in service. These requirements, combined with Mantrac’s trust in Krinkle to deliver what they wanted on time and on budget, led them to deploy Krinkle Hose Tracker®.

An Enterprise-Class Mobile Tracking App

Krinkle Hose Tracker® is an enterprise-class mobile app and reporting tool that quickly and easily tracks the entire hose assembly lifecycle, from the initial build through to future heavy equipment/fleet inspections. The system works by allowing manufacturers to easily attach barcodes to hoses during the building stage. These barcodes are then scanned with a mobile device by shop technicians, who are then guided through inputting information from the purchase order like the hose assembly characteristics (parts used), the client submitting the purchase order, the compartment the hose assembly is being built for and more! Once a hose assembly is connected to the purchase order, shop technicians don’t have to repeat inputting data for the same hose assembly type. For example, if a dealership receives a purchase order for ten of the same type of hose assembly, the shop technicians only need to input data (e.g. parts used, client, machine, compartment, etc.) for the first hose. The app then remembers the previous data inputs and automatically fills them in for the following hose assemblies.

Krinkle Hose Tracker® can even work completely offline if it needs to. On one hand, it can import a dealer’s entire client database (fully encrypted!) to the mobile device so the system can work at the most remote locations when internet connectivity is only occasionally available. On the other hand, when proper connectivity to a network is available, it can perform real-time client lookups instantly.

The server side of the system also holds the entire parts catalog (tens of thousands of different parts), so when parts numbers are scanned in or entered during the build process, the system can relate them to the specific part, its details and its cost, without burdening the worker. This dramatically reduces prep time in the parts warehouse and human error in the data collection process. The mobile app guides shop technicians to simply scan or enter a part # and quantity for the entire purchase order, instead of having to manually input each part or write it down on paper (which has no further data value to the business). This also means that as parts are used during hose assembly manufacturing, the used parts can be reflected onto the dealership's inventory and give management estimates for when and how many new parts need to be ordered.

Finally, Krinkle Hose Tracker® allows shop technicians to capture photos and take signatures (from customers and technicians) straight from their mobile devices. This provides excellent proof of work that will be greatly appreciated by clients and upper management alike. Together, these features allowed Mantrac to gain meaningful business insights into their hose assembly, sales and customer tracking processes.

Results of Adoption

Mantrac has seen significant improvements in workflow efficiency and data visibility since deploying Krinkle Hose Tracker®. Now that they have the data visibility into this portion of the hose assembly life cycle, Mantrac is moving into the proactive fleet inspection world to get even further ahead of their client's needs by reducing machine downtime even more.

Get In Touch

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For a great caterpillar partner for your fleet of machines across Africa, the Middle East and Russia, please contact Unatrac at www.unatrac.com or the Mantrac Group at www.MantracGroup.com

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