



BellHawk Data Sheet BellHawk Pick Module

Pick Orders

Pick Orders are orders to move materials from one location to another. BellHawk can generate pick orders from:

1. Ship Orders – to pick and pack materials for shipment to a customer
2. Work Orders – to pick materials needed for a specific work order operation and to move them to the production location.
3. Material Move Tickets – to pick and move materials to a location where they are ready for use or to backup storage

Pick orders are normally issued from within BellHawk but can also be imported from an ERP or similar system.

The BellHawk Pick module provides two alternate methods for picking:

1. Self-Directed mode
2. System-Directed mode

In Self-Directed, the Pick order is used to generate a barcoded picking sheet for a material handler, as shown here.



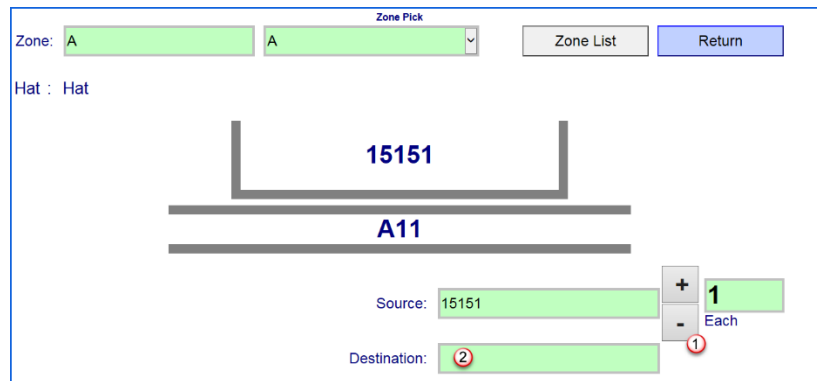
The material handler can then pick materials in an order that makes the most sense to them based on their knowledge of the warehouse. If needed, the materials handler can use their mobile device to look up where the materials are located, in a FIFO or expiration date order, so they can pick the oldest materials first.

As they pick each line-item on the pick order, material handlers scan the line item barcode and the LPN tracking barcode on the container or part being picked or, if picking untagged material

at a location, the location barcode. This will record the materials or parts as having been picked and will also warn the material handler if the wrong materials are being picked.

With System-Directed picking, by contrast, BellHawk determines what parts to pick from which locations based on the Pick Order and the location of the materials in stock. It then arranges the picking sequence by zones so that the person doing the picking will be able to pick all the parts in one zone before proceeding to the next zone, in an efficient picking sequence.

Within each zone, the user is presented with a display of which barcoded location and possibly bin from which they are to pick the parts, along with the quantity of parts to pick from that bin/shelf location.



From this screen, the user scans the Source bin/shelf location and then the barcode on the destination container, such as basket, box, or pallet to confirm the transfer. The system confirms that the Source contains the correct parts and that the Destination contains only parts for the Pick Order selected at the beginning of the zone picking process. Otherwise the user is given an error message on their mobile display and has to repeat the picking process for the part.

The system then displays the next item to be picked in the zone unless all the parts that can be picked are picked within the zone, when the system automatically moves on to the next zone and displays the first part to be picked from that zone.

This is a very efficient process requiring the minimum of data entry actions. It is continued until there are no more parts available to be picked, when zone picking is declared complete.

If, unexpectedly, there is insufficient inventory at the location, the user decrements the quantity on the screen to reflect the quantity actually picked, before scanning the destination. The BellHawk then records the actual quantity picked and adjusts the quantity in the bin/location to zero.

Whenever a user is moving from one zone to another, the System-Directed Picking algorithm checks the available inventory against the Pick Order and may adjust its recommended pick list for the next zone to reflect inventory changes. These changes may be due to multiple pickers working at the same time, replenishment of inventory, or unexpected inventory errors.

The quantity of parts picked are recorded on the original pick order so that, if less parts are picked than were specified on the Pick Order, this will be visible to material managers. Also, this enables Pick Orders to be regenerated to just pick the missing parts.

When Pick Orders are created from work orders, the pick lists that are generated do not include parts that are marked as being auto-reduced from silos and floor locations. This is to focus operations on efficiently picking the needed parts and bring them to the appropriate work centers.

Locations within a warehouse or stock room are assigned to zones, which contain a cluster of locations that are physically close to each other. Zones are sorted alphabetically. This enables a reasonably efficient picking order, without the need to maintain a geometric map of the warehouse, which is often very difficult in an industrial warehouse, especially with the ad-hoc use of floor locations for inventory storage.

At the same time, BellHawk enables pickers to become self-directed, when needed, choosing which zone to move to next. This solves the problem of multiple pickers waiting to enter the same picking zone at the same time.

System-Directed Picking is optimal where multiple parts are to be picked from bins and shelves in close proximity. Self-Directed picking, is more typically more efficient when a small number of parts is to be picked from widely separated locations as then the pickers can make use of their own knowledge of where parts are stored rather than rely on BellHawk's Kit Picking algorithm to direct them.

System-Directed Picking works best where parts are stored in bins, which have different colors. In this case BellHawk can be setup to display the color of the bin from which to pick the part, as an aid to picking accuracy.



Self-Directed Picking typically works “out-of-the-box” without any customization, as it relies on the knowledge of experienced materials handlers.

While System-Directed Picking also works “out-of-the-box”, it is typically modified, using BellHawk as a platform, to meet the specific picking and packing needs of each client, as it needs to embed the specific knowledge of rules about how the organization wishes to do its picking..

The BellHawk Pick module can be integrated with technologies such as voice-directed-picking, weighing scales, RFID, and automatic picking robots. Here the BellHawk platform integrates these technologies with materials tracking and traceability in the Global supply chain.

The BellHawk Pick module is also designed to work with finger-mounted barcode scanners for efficient hands-free picking of a wide range of parts and materials.

