

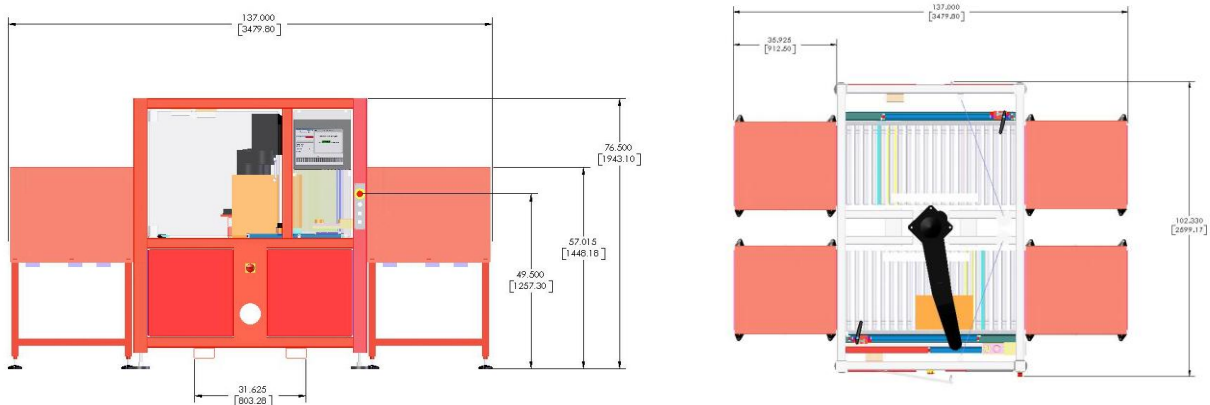
Bottlenecks and Inefficiencies

Manual Case Topping Practices

Problem: One of the challenges associated with returns processing, co-packing and high volume pick lines is the inefficiencies of opening sealed cases of product.

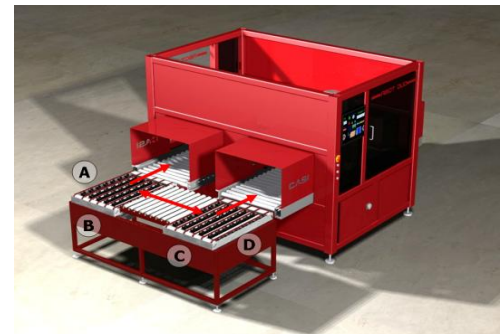
- Manually opening cases with a razor knife is an injury prone activity for operators.
- Razor damage to product inner packs during manual topping is a common problem for case flow replenishment activities.
- Case topping is a requirement for return goods inspection and co-packing operations which is typically allowed to accumulate and then done in mass.
- Case topping for pick line replenishment is a slow and distracting activity that hampers operators who ideally always place the right product in the right place at the right time.

Solution: Implement an automatic case cutting system.



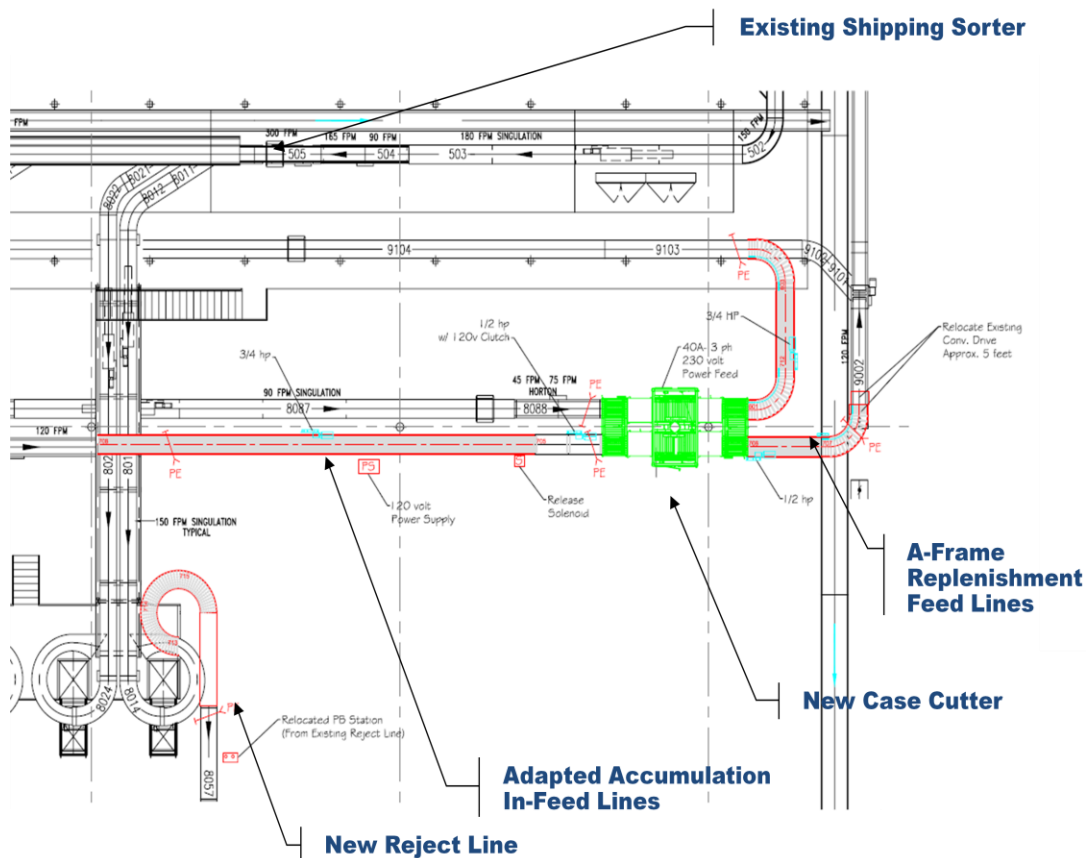
Automatic Case Cutting Robot (two line configuration)

- Automatic Case Cutter considerations:
 - Single or dual line configurations.
 - Powered or gravity infeed case conveyor.
 - Powered or gravity discharge case conveyor.
 - Option for integrated high-speed divert tables for multi-line infeed or outfeed (See A, B, C, D infeed points in 3-D picture on the right).
 - 24VDC conveyor typical at feed, cut, and discharge zones.



HK Planet Problems and Solutions

- Performance Measures:
 - 350 – 1500 cartons per hour depending on manufacturer, consistency of carton size, number of cuts, and single or dual line configuration.
 - Max Case Size: 30”L x 21” W x 19” H (variance between manufacturers)
 - Min Case Size: 4”L x 4”W x 4”H (variance between manufacturers)
- Misc:
 - Variable cut patterns and perforations.
 - Automatic carton barcode reading and sizing options.
 - Cut/no-cut options based on scan logic.
 - Contact points for handshaking with external conveyor equipment control.
 - Blade change out requirement vary by manufacturer



Case Cutter Add-In for Pick Line Replenishment Operations at Procter & Gamble

Links: [More Supporting Information](#)

- [CASI Abot Automatic Box Opener](#)
- [Tri-Phase Automation Case Cutter](#)
- [HMC Case Cutter](#)