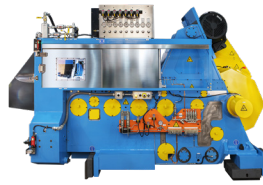


# Improved Redraw and Ram Guidance System

for the Stolle Ragsdale Bodymaker



**Stolle Ragsdale  
Bodymaker**  
Technical Update 2204-1

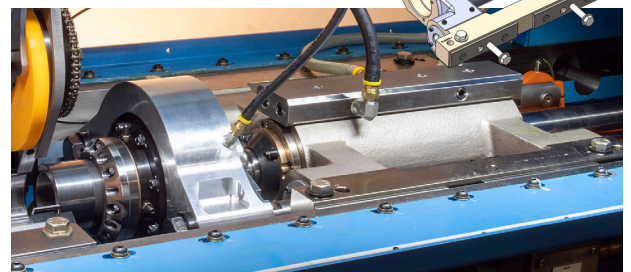
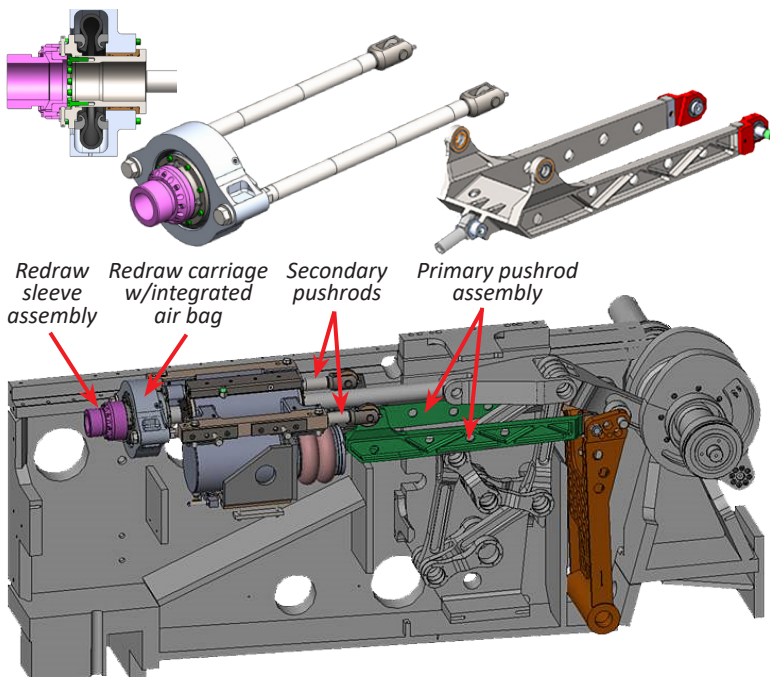
Stolle Machinery has developed an improved redraw and ram guidance system for the Ragsdale Bodymaker. This patent-pending system will replace the current redraw system and fluid bearing ram on the machine. The new system has been designed to be retrofittable to all Ragsdale drive systems – Diamond Linkage, Steel Parallel Motion Assembly (PMA), and the Lightweight PMA (aluminum).

The improved redraw system replaces the current Ragsdale redraw carriage assembly with a Standun-style pushrod carriage assembly. The pushrod has been redesigned as a two-piece system with a one-piece cast steel primary pushrod that's more robust than the current design. Based on the Standun design, two secondary pushrods have been added that are guided by PEEK bushings integrated in the ram guidance casting. The pushrod bushings use toolpack coolant for lubrication and cooling. These secondary pushrods replace the previous Danly posts, and the redraw carriage is fixed to these rods creating a more rigid system that provides better metal control and allows quicker and easier alignments. The redraw carriage uses the current redraw sleeve assembly, reducing the number of new parts required.

The current redraw air cylinder assembly has been replaced with a more robust airbag system which functions well at the top machine speed the Ragsdale is capable of running, based on the stroke of the machine and current cam generation. The airbag system allows the

hold-down pressure to easily be set at the pneumatic panel by controlling the pressure on the airbag within the redraw carriage. This allows for finite pressure adjustments versus the current design with more complicated die spring pressure adjustments. The ability to make these adjustments on the pneumatic panel allows the operator to confirm the hold down pressure and repeat it across a line of bodymakers.

To accommodate the improved redraw system, the ram guidance system – the IFBR, its barrel, and welded frame – have been replaced with a one-piece casting. This casting incorporates the four PEEK bushings that support the two secondary redraw pushrods, as well as a removable ram guidance housing that contains larger PEEK composite bushings that are cooled and lubricated by coolant. This simpler ram guidance system allows for faster ram diameter changes to support swing lines that run a variety of can sizes. When ram diameter changes are required, the bushing housings can be changed quickly with only a minimal alignment check required to confirm ram alignment.



Ram/pushrod guidance casting with coolant-lubricated bushings

A major benefit of the redesigned redraw and ram guidance systems is that all the heavy oils can be removed from the front of the machine, resulting in a reduction of an average of 1 USG / 4 LTR of oil per day due to the coolant-fed PEEK bushings. Removing the heavy oils from the front end of the Ragsdale allows for easier separation of the oil and the coolant, and reduces the total oil consumption of the machine.

For more information on the improved redraw and ram guidance systems for the Stolle Ragsdale Bodymaker, contact Mark Leaf at +1 303-708-5103 or mark.leaf@stollemachinery.com, or Paul Henderson at +1 303-513-5309 or paul.henderson@stollemachinery.com



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