

SHOTGUNS - contd.ADHESIVE-FASTENED VENT RIB
(New Item)

R & D reported that the adhesive-fastened Vent Rib had been reviewed informally but had not been presented to the Operations Committee for approval to continue development.

Current Ventilated Ribs are machined partially and then bonded to a shotgun Barrel by either of two methods - gas brazing or projection welding. Subsequently two major problems arise:

1. Both systems cause heat distortion and discoloration requiring further processing to correct and finish.
2. Considerable machining operations must be performed after the bonding which not only requires more complicated fixturing but also means that a relatively expensive assembly will be scrapped if an error in this machining occurs.

Continuously rising labor costs and increasing yearly sales volume for Ventilated Rib Barrels indicated that lower manufacturing costs and improved aesthetics would be realized by processing a "solid" Base Rib design and adhesively bonding it to an essentially finished Barrel.

Subsequently, engineering feasibility and satisfactory economics were established for a new bonding system utilizing the seven-fold increase in contact area realized by a solid base rib design; 1 1/2 sq. in. versus 8 1/2 sq. in.

Brazing filler material is replaced with a Du Pont polyamide material. This along with the increased contact area of the solid base rib results in an actual increase in total bond strength over that of the current brazed post design rib Barrel.

Also as part of this project, a new improved method of matting the assembled rib sighting surface by photo-etch chemical milling was developed. This new rib matting process is compatible with the