The pictures show a 777 Wing Body Join mechanic using a drill motor with a countersink cage tool supported by the zeroG arm attached to an Exovest. The Exovest is a newly designed camera vest made by Steadicam. The zeroG arm is a completely mechanical system and can be tuned to apply upward force on the end effector. The 777 Wing Body Join job entails countersinking well over 1000 holes in the leading edge composite close-out panels. The work is performed overhead and is very stressful on the shoulder due to the upward forces required. There have been four shoulder injuries attributed to this job in the past year. Most of those required surgery. In addition to the health and safety benefits, there are productivity and quality gains as well. The job was performed in half of the normal time and since there is uniform upward force on the drill motor, the defect rates are predicted to be lower. This project is currently in "shop trials" within BR&T.

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