

VLBA ACQUISITION MEMO #220

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Subject: Dummy headstack post for improved tracking symmetry

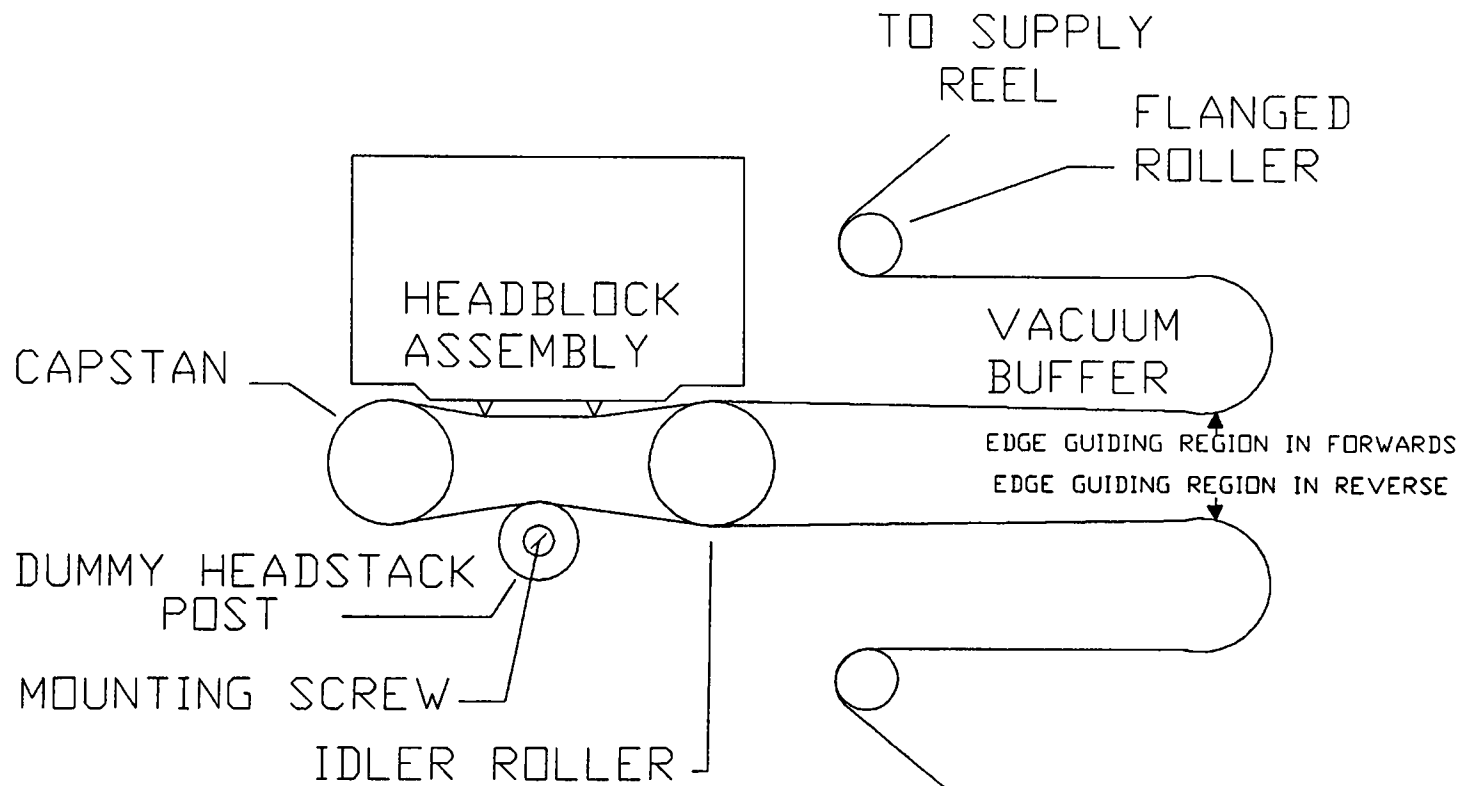
Introduction

The VLBA transports and many MKIII A transports presently have only one headblock assembly (normally in the upper location) and no dummy assembly to complete the tape path symmetry. In the reverse direction the lack of a dummy assembly results in a marginal wrap angle on the rotating idler. Inadequate wrap on the idler in the lower tape path can result in poor tracking in the reverse direction and a large forward/reverse offset.

Dummy headstack post

We have designed a single cylindrical post to act as a dummy headstack assembly. This is simpler and less expensive than using a Honeywell dummy headblock assembly. The post produces a symmetrical wrap angle on the rotating idler and makes tracking performance equal in each direction.

The forward/reverse offset should be zero in a symmetrical system without misalignments. We have measured the tracking shift for misalignment of the post and find that there is a sensitivity to up/down tilt with a coefficient of $0.06 \mu\text{m}/\text{arcsecond}$. Figure 1 shows the new tape path with post.



NOTES: 1) POST MOUNTS WITH
SCREW TO EXISTING
TAPPED HOLE IN
PRECISION PLATE

Figure 1. New tape path with dummy headstack post