

# Air Midwest Flight 5481, Charlotte, NC Board Meeting

**Robert L. Swaim**

National Resource Specialist  
Aircraft Systems Engineering



National Transportation Safety Board

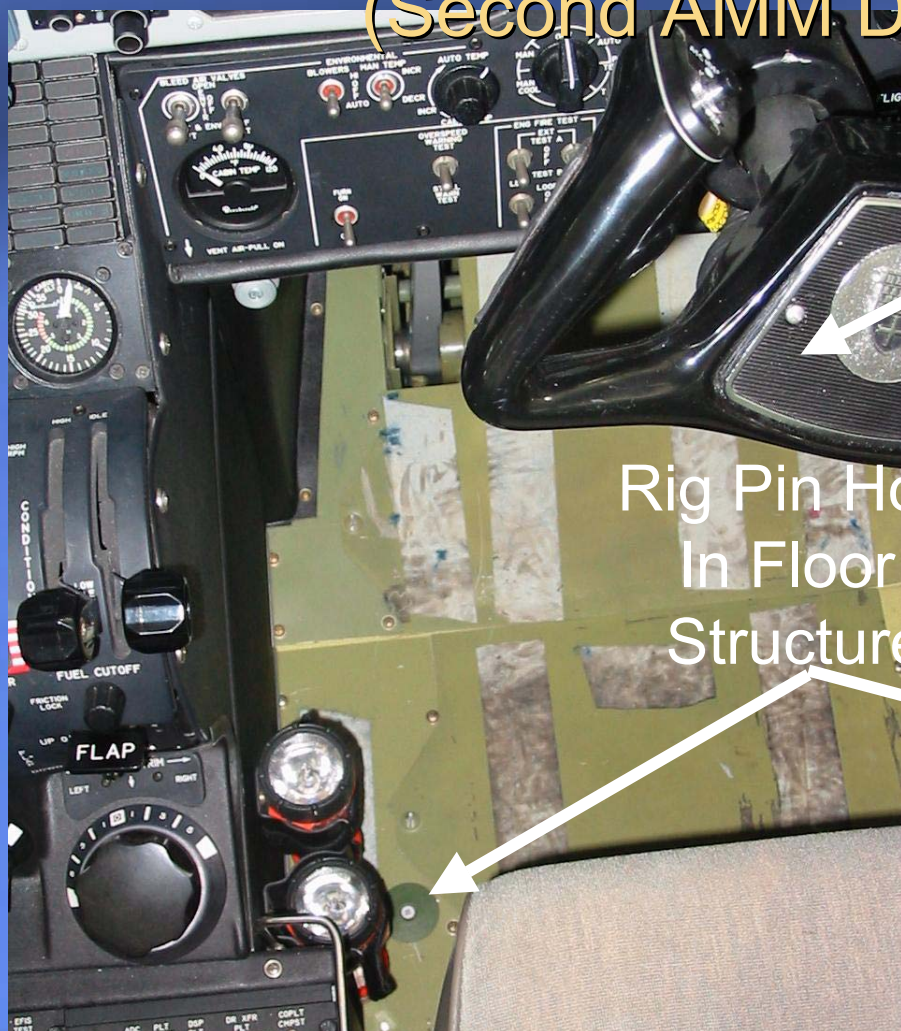
# Aft Rig Pin Installed in Ground Tests

(First AMM Deviation)



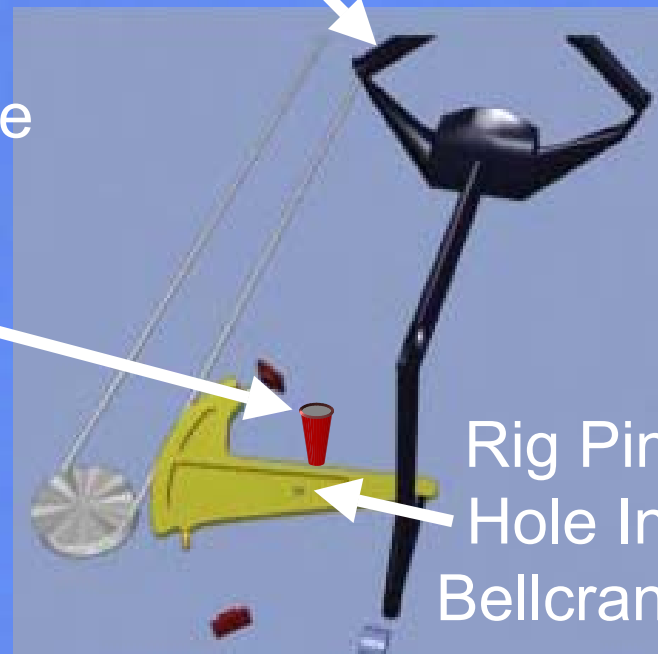
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# Forward Rig Pin May Miss Bellcrank (Second AMM Deviation)



Control Yoke

Rig Pin Hole  
In Floor  
Structure



Rig Pin  
Hole In  
Bellcrank

(View from aft)

(View from forward)



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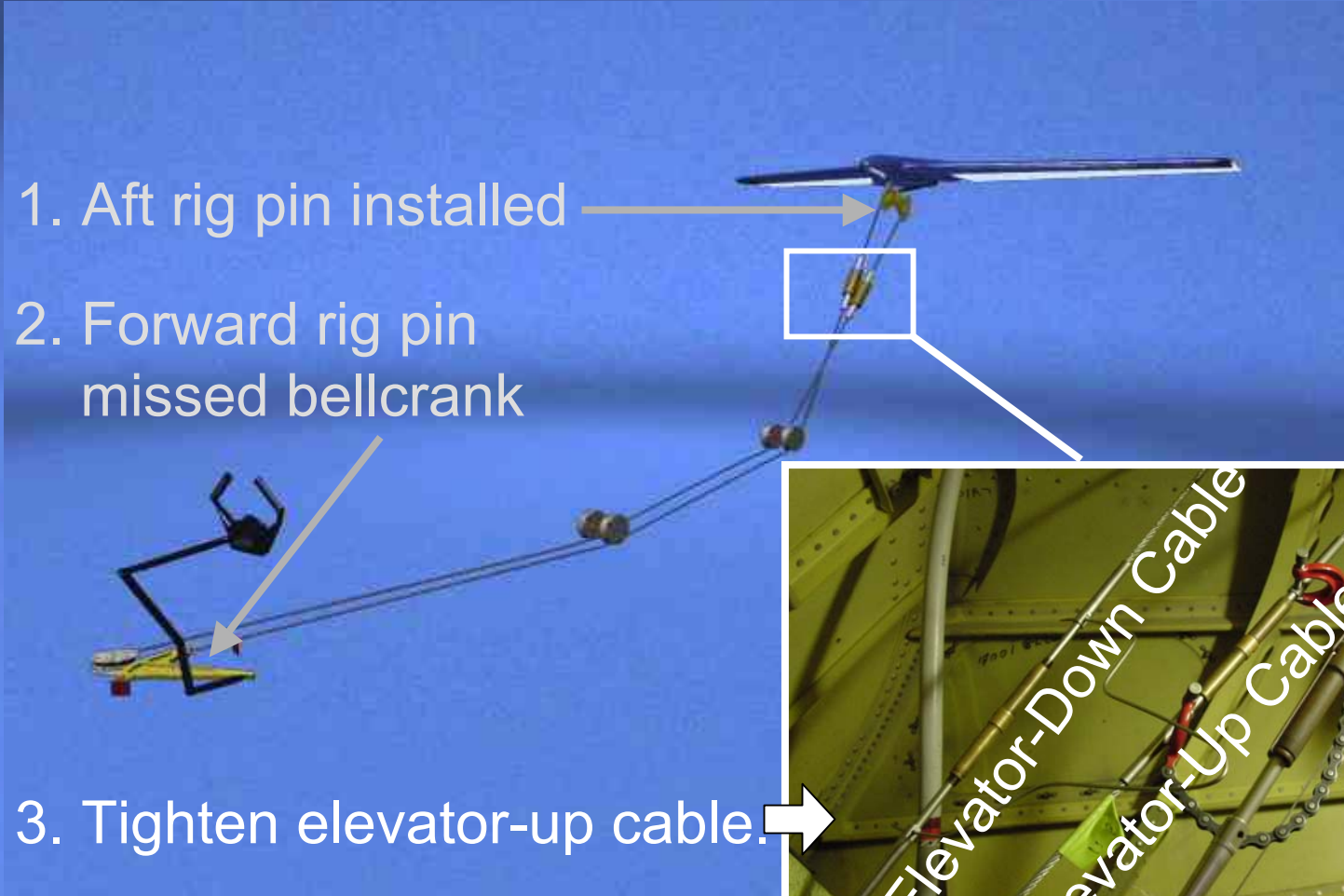
# Tighten Control Cables

(Third AMM Deviation)

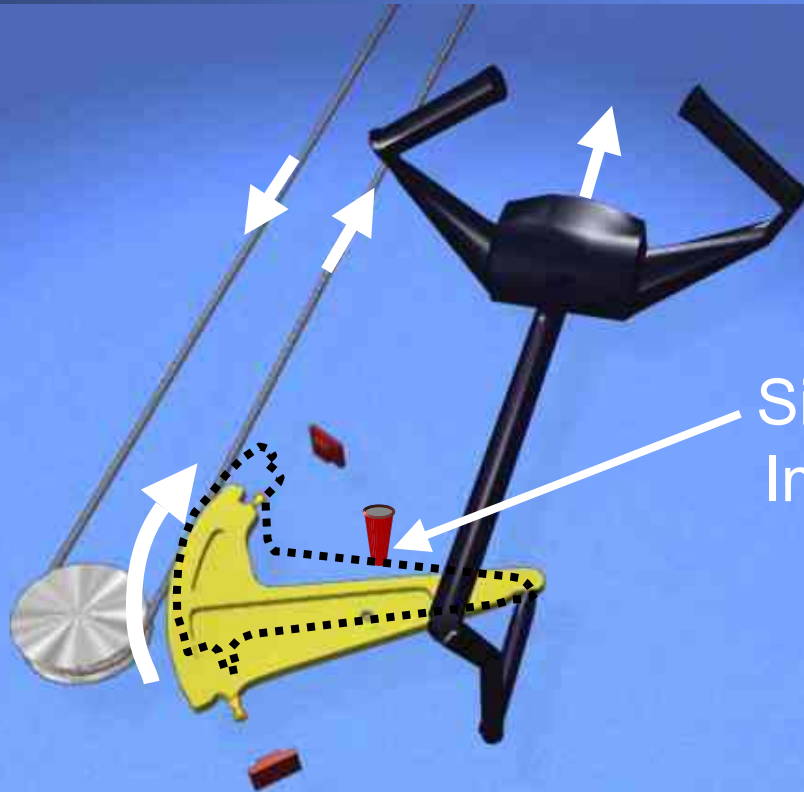
1. Aft rig pin installed

2. Forward rig pin missed bellcrank

3. Tighten elevator-up cable.



# Tightening Elevator-Down Cable Moved Forward Bellcrank Aft

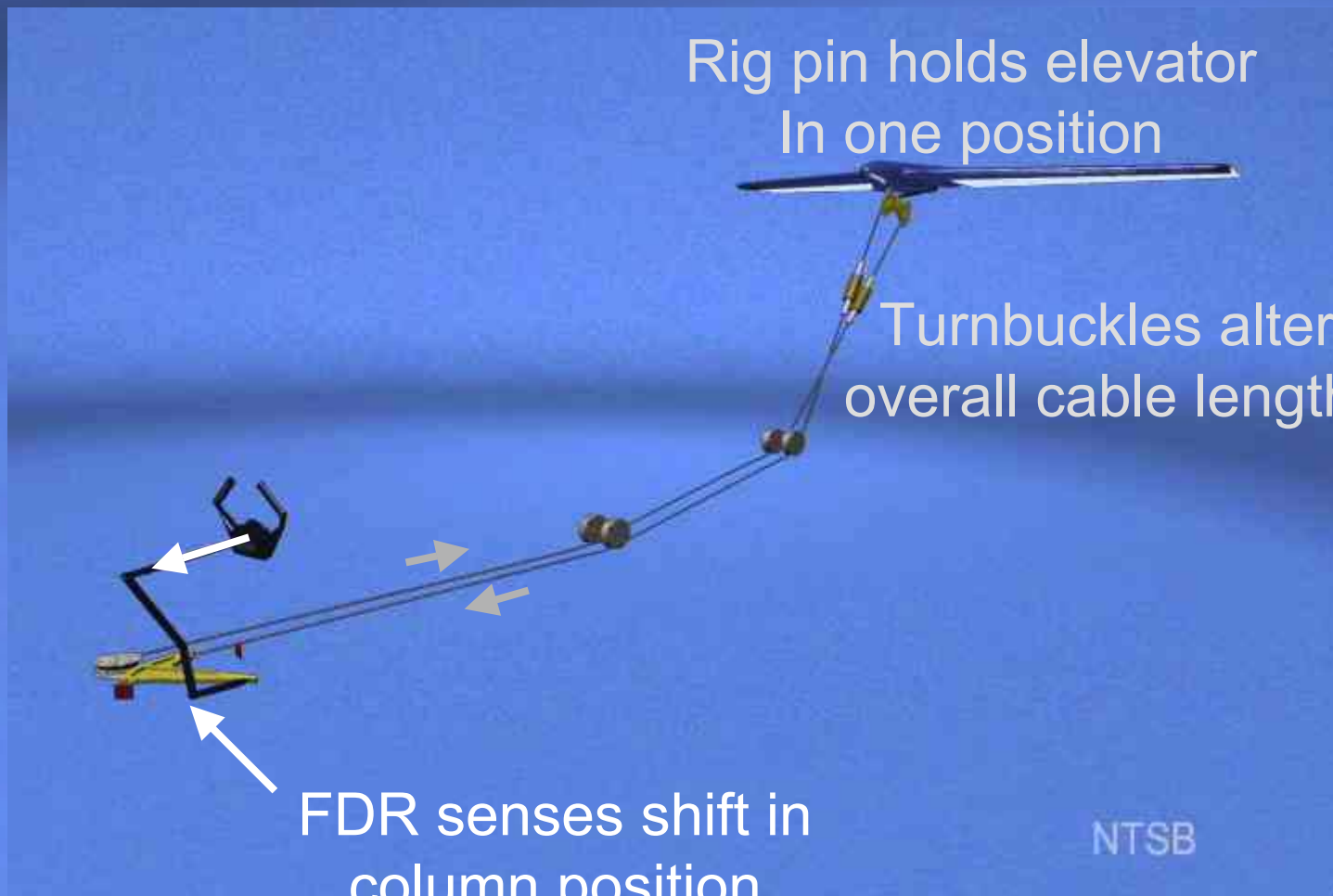


Side of Bellcrank Stopped At  
Improperly Installed Rig Pin.

(Pin should be inserted  
in bellcrank hole.)



# Cable Misrig Alterred Relation Between FDR Sensor and Elevator



# Colgan Accident



# CommutAir Incident



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# Functional Inspections Should Be Required for Critical Maintenance



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# Pitch Trim Cable Drum Illustration

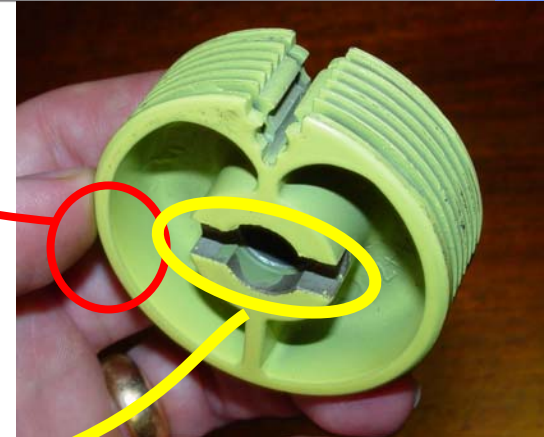
## Colgan Air Flight 9446 Investigation

RIGHT HAND THREADS CABLE FROM THE PEDESTAL  
TAB CONTROL DRUM TO THE LEFT HAND THREADS  
CABLE OF THE ACTUATOR DRUM

CABLE LOCK  
PIN

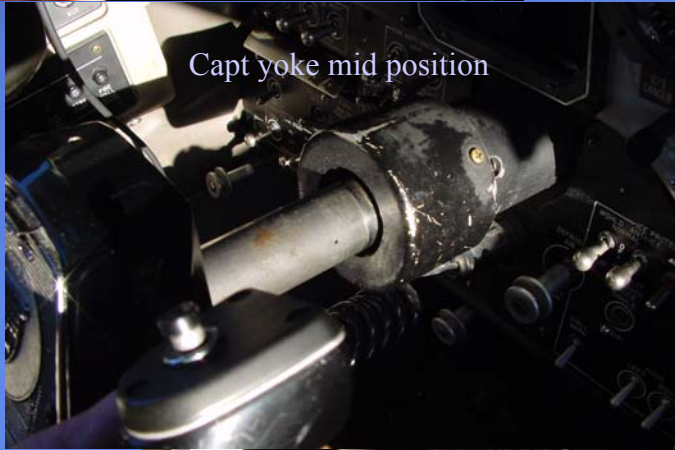
FORWARD  
AS INSTALLED

LEFT HAND THREADS CABLE FROM THE PEDESTAL TAB  
CONTROL DRUM TO THE RIGHT HAND THREADS  
CABLE OF THE ACTUATOR DRUM





Capt yoke full aft



Capt yoke mid position



Capt yoke full fwd

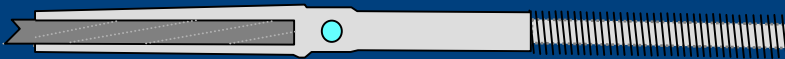
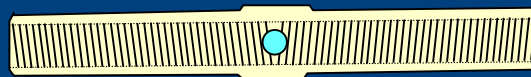
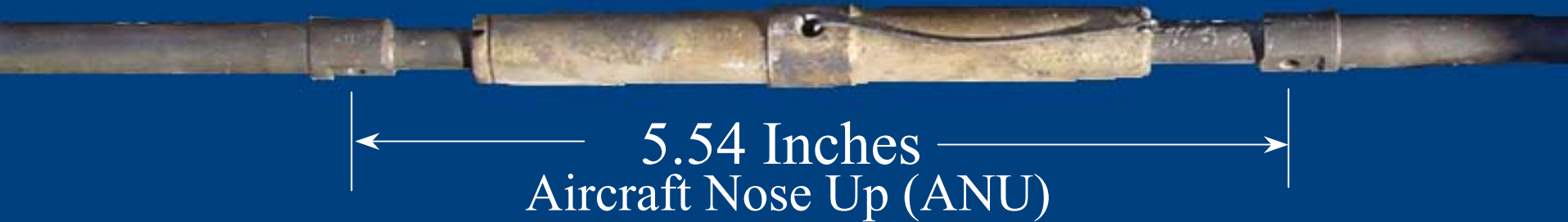


Fwd bellcrank access



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# Pitch Control Turnbuckles Found In Wreckage



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