

LOA 1154A

# NATIONAL TRANSPORTATION SAFETY BOARD WASHINGTON, D.C.

ISSUED: February 24, 1981

Forwarded to:

Mr. Charles E. Weithoner  
Acting Administrator  
Federal Aviation Administration  
Washington, D.C. 20591

SAFETY RECOMMENDATION(S)

A-81-18

About 1416 e.s.t. on February 16, 1980, a British Redcoat Air Cargo, Ltd., Bristol Britannia, 253F, crashed in a wooded area near Billerica, Massachusetts, about 7 minutes after takeoff from Logan International Airport in Boston. Of the six crewmembers and two passengers aboard, only the flight engineer survived.

Although weight and balance and center of gravity problems did not contribute to the cause of this accident, the National Transportation Safety Board's investigation revealed apparent lax practices in determining the weight of individual pieces in bulk cargo shipments. These practices appear to involve manufacturer/shippers and freight forwarders, as well as air carriers and flightcrews. The Safety Board believes that this laxness is perpetuated by the absence of regulatory guidelines.

During its investigation, the Safety Board learned that the aircraft loadmaster was told that the 168 pieces had a total weight of 35,574 lbs. The investigation revealed that the actual weight of the cargo was 32,860 lbs—a 2,714-lb error. According to the testimony of the freight forwarder's loaders, the loadmaster estimated the weight of each unit as he selected it for loading. He made selections from cargo located on the ramp while he stood on the aircraft. These random selections involved individual cartons, or skids containing a number of cartons, which were not marked with individual weights. Although a scale was readily available, it was not used to determine the weight of any cartons or skids. No attempt was made by the freight forwarder to cross-check the declared weight by weighing representative pieces. The loadmaster used the declared total weight to compute the weight and balance in accordance with company procedures on the form provided. As far as determining the accuracy of the computed c.g. is concerned, the loadmaster is reported to have checked the nose wheel strut extension for movement several times. This procedure, although better than nothing, cannot be condoned by the Safety Board.

2951-C

AA R-81-3

During the investigation, the loading of another Britannia was observed at the Hopkins International Airport, Cleveland, Ohio. The load consisted of shipments from several sources; for most of the shipments only the total weight was provided, with no weights marked on, or attached to, individual pieces or skids of varying sizes and weights. Because the shipments were about the same weight and volume, the shipments were treated as equal entities and balanced one against the other. However, a part of one shipment consisted of a large, unmarked crate which was not identified on the shipper's waybill. Because of its size, it had to be separated from the rest of the shipment. A discussion ensued between the aircraft loadmaster and the freight forwarder supervisor regarding the placement of the large, unmarked crate in the aircraft. When the Safety Board investigator asked that the crate be weighed, the freight forwarder supervisor stated that he had no scale. When a scale was eventually located, the crate was found to weigh 2,195 lbs. After recalculation, the crate was placed where the ground loader had originally said it should go. The Safety Board is aware of the value of experience; however, it is also aware of what can happen when inexperienced personnel operate according to their own inclinations in the absence of sound, proven procedures.

Although, as noted earlier, weight and balance and center of gravity problems did not contribute to the cause of the crash of the Redcoat Air Cargo, Ltd., Bristol Britannia, the use of trial and error methods in loading creates a great potential for error in bulk loaded aircraft. Especially vulnerable are those operated by supplemental air carriers and commercial operators who do not have their own ground personnel and facilities and who, therefore, have to rely on the freight forwarder or shipper for vital information.

Regulation 14 CFR 121.665 holds each certificate holder responsible for the preparation and accuracy of a load manifest form before each takeoff. Regulation 14 CFR 121.693(a) requires that the load manifest contain, among other items, the total weight of the cargo aboard. There are no Federal Aviation Regulations that require the labeling of individual items according to weight, and there are no regulations to require a freight forwarder to even have a scale available for use whenever the weight of a shipment is unknown or questionable. In fact, there appears to be no regulation that fixes the responsibility of anyone but the certificate holder, and in his case, it is directed to the preparation of a load manifest. In addition, air freight forwarders no longer are required to be certificated by the Civil Aeronautics Board. This requirement was removed when the airline industry was deregulated.

Therefore, the Safety Board is concerned that when a shipment's declared weight is inaccurate, whatever the reason, or when individual items are not marked with their weight, serious weight and balance problems could result and that there are no means, short of refusing the shipment, to compel a shipper to furnish this information or to verify its accuracy.

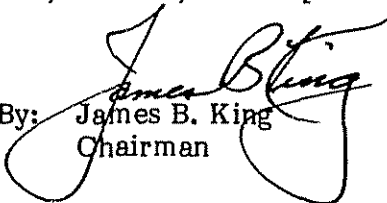
The Safety Board is cognizant of the fact that the FAA does not have jurisdiction over the movement of freight by modes other than aviation; however, the Board believes that the FAA must take a more active role in regulating the movement of freight by air. In that regard, the Safety Board has made the following recommendation to the Department of Transportation:

Determine which agencies have jurisdiction over shippers and freight forwarders, and coordinate joint efforts with those agencies to promulgate guidelines that specify the responsibilities of shippers, freight forwarders, and air carrier certificate holders in determining unit weights in bulk air cargo shipments so as to facilitate compliance with current manifest requirements by air carrier certificate holders. (Class II, Priority Action) (A-81-17)

Therefore, the National Transportation Safety Board recommends that the Federal Aviation Administration:

Promulgate regulations to require that unit pieces in bulk load air cargoes are labeled as to actual weight. (Class II, Priority Action) (A-81-18)

KING, Chairman, DRIVER, Vice Chairman, and McADAMS and BURSLEY, Members, concurred in this recommendation. GOLDMAN, Member, did not participate.

By:  James B. King  
Chairman