

## **Accident Board Findings**

1. The flight crew was properly certificated and qualified for the flight.
2. The aircraft was certificated, maintained, and dispatched in accordance with Federal Aviation Regulations and approved company procedures.
3. Except for the failure of the piston rod on the right main landing gear retract cylinder assembly, with the resulting damage to the landing gear position indicating system switch, there was no evidence of a failure or malfunction of the aircraft's structure, powerplants, flight controls, or systems.
4. The aircraft departed Denver with the required fuel aboard of 2 hrs. 26 min. for the en route flight and with the required 14 CFR and company contingency fuel aboard of about 1 hr.
5. The aircraft began holding about 17:12 at 5,000 ft. with its gear down; this was about 2 hrs. 24 min. after it departed Denver.
6. The landing delay covered a period of about 1 hr. 2 min.
7. All of the aircraft's engines flamed out because of fuel exhaustion about 18:15 - 1 hr. 3 min. after it entered into hold and 3 hrs. 27 min. after it departed Denver.
8. Fuel exhaustion was predictable. The crew failed to equate the fuel remaining with time and distance from the airport
9. No pertinent malfunctions were found during examinations of the fuel-quantity measuring system.
10. A new digital fuel-quantity indicating system was installed on this aircraft on May 12, 1978. This was in accordance with a DC-8 UAL fleet wide retrofit program.
11. Evidence indicates that the fuel-quantity indicating system accurately indicated fuel quantity to the crew.
12. The fuel gauges are readily visible to the Captain and the second officer.
13. The Captain failed to make decisive timely decisions.
14. The Captain failed to relate time, distance from the airport, and the aircraft's fuel state as his attention was directed completely toward the diagnosis of the gear problem and the preparation of the passengers for an emergency landing. The gear problem had a disorganizing effect on the Captain's performance.
15. Neither the first officer nor the flight engineer conveyed any concern about the fuel exhaustion to the Captain until the accident.