Aviation Investigation Final Report

Location:	RIALTO, California	**Accident Number:**	LAX00LA181
Date & Time:	May 1, 2000, 16:45 Local	**Registration:**	N5395S
Aircraft:	Hughes 269C	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 Minor
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The helicopter landed hard and rolled over during a practice autorotation. The CFI was providing dual instruction to his student, a CFI candidate. The student was handling all of the controls, and he intended to perform a 180-degree full touchdown autorotation. During the maneuver, the CFI observed that his student had allowed the airspeed to decrease and the main rotor rpm to become low. The CFI called the low rotor rpm situation to his student's attention. However, the student did not take decisive corrective action by initiating a power recovery in sufficient time to avoid the resultant low rotor rpm flare and hard touchdown. No mechanical malfunctions were noted.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The student's misjudged altitude and failure to maintain rotor rpm while practicing an autorotation, and, the instructor's delayed remedial corrective action and inadequate supervision of the flight.

Findings

Occurrence #1: HARD LANDING
Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings
1. AUTOROTATION - INITIATED - DUAL STUDENT

2. (C) ALTITUDE - MISJUDGED - DUAL STUDENT
3. (C) ROTOR RPM - NOT MAINTAINED - DUAL STUDENT
4. (C) REMEDIAL ACTION - DELAYED - PILOT IN COMMAND(CFI)
5. (C) SUPERVISION - INADEQUATE - PILOT IN COMMAND(CFI)

Occurrence #2: ROLL OVER
Phase of Operation: LANDING - FLARE/TOUCHDOWN

Factual Information

On May 1, 2000, about 1645 hours Pacific daylight time, a Hughes 269C, N5395S, operated by Western Operations, Inc., landed hard at the (uncontrolled) Rialto Municipal Airport, Rialto, California. The helicopter was substantially damaged, and the commercial certificated flight instructor (CFI) and the student sustained minor injuries. Visual meteorological conditions prevailed, and no flight plan was filed. The instructional flight was performed under 14 CFR Part 91, and it originated from Rialto about 1600.

The CFI indicated to the National Transportation Safety Board investigator that he was providing dual instruction to the student, and the student was handling all of the engine and flight controls. The CFI was providing training to the student who was a CFI candidate. The accident occurred during a practice, 180-degree full touchdown autorotation, when the helicopter's airspeed decreased and the main rotor rpm became too low. The CFI indicated that he observed the low rpm indication and called it to the attention of his student, but the student did not take decisive corrective action by promptly initiating a power recovery to avoid the resultant low rotor rpm flare and hard touchdown. No mechanical malfunctions were noted.

The student reported to the Safety Board investigator that he holds an airline transport pilot certificate with both airplane and rotorcraft ratings. He also holds a CFI certificate for airplanes. The purpose of the flight was to receive instruction in furtherance of a rotorcraft instructor's certificate. The student indicated that he commenced the practice full touchdown autorotation from 2,000 feet mean sea level (about 545 above ground level), and abeam the desired taxiway touchdown point. He stated that, "As I rolled out on final at 300 feet (agl) I was low." The student indicated that although he had initiated a power recovery, the helicopter impacted the ground hard. He also stated that no mechanical malfunctions occurred during the flight.

Pilot Information

Certificate:	Commercial; Flight instructor	**Age:**	67,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	Helicopter	**Toxicology Performed:**	No
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	April 27, 2000
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	
Flight Time:	17000 hours (Total, all aircraft), 2000 hours (Total, this make and model), 75 hours (Last 90 days, all aircraft), 33 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Hughes	**Registration:**	N5395S
Model/Series:	269C 269C	**Aircraft Category:**	Helicopter
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	100885
Landing Gear Type:	Skid	**Seats:**	3
Date/Type of Last Inspection:	100 hour	**Certified Max Gross Wt.:**	2050 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	Lycoming
ELT:	Not installed	**Engine Model/Series:**	HIO-360-D1A
Registered Owner:	METRO AIR SERVICES, INC.	**Rated Power:**	190 Horsepower
Operator:	WESTERN OPERATIONS, INC.	**Operating Certificate(s) Held:**	None
Operator Does Business As:		**Operator Designator Code:**	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	ONT ,944 ft msl	**Distance from Accident Site:**	11 Nautical Miles
Observation Time:	16:53 Local	**Direction from Accident Site:**	220°
Lowest Cloud Condition:	Unknown	**Visibility**	10 miles
Lowest Ceiling:	Broken / 25000 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	13 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	240°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29 inches Hg	**Temperature/Dew Point:**	86°C / 57°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	(L67)	**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	None
Departure Time:	16:00 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	RIALTO MUNICIPAL L67	**Runway Surface Type:**	Asphalt
Airport Elevation:	1455 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	0	**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	Simulated forced landing

Wreckage and Impact Information

Crew Injuries:	2 Minor	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Minor	**Latitude, Longitude:**	34.099025,-117.379089(est)

Administrative Information

Investigator In Charge (IIC):	Pollack, Wayne
Additional Participating Persons:	DENNIS PARR; RIVERSIDE , CA
Original Publish Date:	October 9, 2001
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=49094