

T-28 Pilot Report

Flight: 610
Date: 07181993
Flight Time: 14:54 – 17:09 CDT
Pilot: Dan Custis
Controller: Dennis Musil
Location: Bismarck, ND
Mission: Research flight

Computer Time	Video Time	Comments
14:45		Data system on
14:54		Take-off
15:00		Field mill test on for 1 minute
15:16:03		In-cloud, Pen #1
		Hdg 310°; alt 16 kft
		p-static; out in clear; lgt turb; 1000 ft/min up; very little icing
		Be re-entering in a few seconds
		Lgt turb thru small cell
15:18:56		Out-of-cloud; end Pen #1
15:22:16		In-cloud; Pen #2
		500 ft/min up; p-static
15:24:35		Out-of-cloud; end Pen #2
15:26:20		In-cloud; begin Pen #3
		Hdg 300°; alt 16 kft
		Lgt turb; 1000 ft/min up; coming 20° right; alt 16150 – descend back to 16 kft
		Lgt icing
15:29:24		Out-of-cloud; end Pen #3
15:32:30		In-cloud; begin Pen #4
		Hdg 180°; alt 16 kft
		200 ft/min up; very light turb; lgt icing
15:34:08		
		300 ft/min up; p-static; lgt to mdt turb
		Momentarily out in clear; next cell ahead
		Out in clear for about 20 sec
		1000 ft/min down
15:37:00		Out-of-cloud; end Pen #4
		I have a cloud at 12 o'clock
		Coming to 190°
15:37:31		In-cloud; begin Pen #5
		Hdg 190°; alt 16 kft
		In the clear for ~30 sec
15:38:48		Now back in-cloud
		Lgt icing; lgt turb; 500 ft/min up
15:39:38		
		Mdt turb; mdt icing; mdt turb
15:40:40		Out-of-cloud; Pen #5

15:45:58	In-cloud; begin Pen #6
	Hdg 070°; alt 16 kft
	500 ft/min down; 700 ft/min down
	I'm at the edge of a cell at this time; going back in; still in Pen #6
15:47:22	
	Fairly smooth; lgt icing
15:47:54	Out-of-cloud; end Pen #6
	Next pen will be on a hdg of 190°; alt 16 kft
15:48:23	p-static; still turning; rolling out on 190°; cloud switch has been on in turn
	In-cloud, begin Pen #7
	Steady 190°; 500 ft/min up; still 500 ft/min up; p-static
	300 ft/min up; 500 ft/min up
	Descending back to 16 kft from 16.5 kft
	Momentarily out-of-cloud
15:49:53	Out-of-cloud; end Pen #7
15:50:45	In-cloud; begin Pen #8
	Hdg 190°; alt 16 kft
15:51:08	
	p-static; icing; 400 ft/min down; p-static
	Picking up hvy icing; 1000-1100 ft/min up; 2000 ft/min up
15:52:58	Out-of-cloud; end Pen #8
15:55:14	In-cloud; begin Pen #9
	Hdg 060°
	500 ft/min down; mdt icing;
	1000 ft/min up; 2000 ft/min up; mdt turb; mdt icing
	Mdt turb; 1000 ft/min down; p-static
	Fairly smooth
15:58:10	Out-of-cloud; end Pen #9
16:03:15	In-cloud; begin Pen #10
	Hdg 240°; alt 16 kft
	Lgt turb; lgt icing; 500 ft/min up; p-static
	Coming 20° left to 200°
	p-static; mdt icing
	1000 ft/min up; 1500 ft/min up; 1600 ft/min up; 1600 ft/min up
	Momentarily out but will be back in , in a few seconds; 1500 ft/min (?) while in clear
	Descending back to 16 kft
	Re-entering cloud; mdt turb; still mdt turb; mdt icing; now fairly smooth
16:07:34	Out-of-cloud; end Pen #10
16:13:11	In-cloud; begin Pen #11
	Hdg 320°; mdt icing; p-static
16:14:50	Out-of-cloud; end Pen #11
16:16:34	Steady; hdg 160o for Pen #12
16:16:44	Entering shortly for Pen #12
16:17:20	In-cloud, begin Pen #12

		p-static
16:18:49		Out-of-cloud; end Pen #12
16:24:58		In-cloud, begin Pen #13
		Hdg 340°; alt 16 kft
		1500 ft/min up; p-static; 800 ft/min up; 1000 ft/min up
16:25:51		Out-of-cloud; end Pen #13
16:28:46		In-cloud; begin Pen #14
		Hdg 130°; alt 16 kft; p-static
16:29:45		Out-of-cloud; end Pen #14
16:34:40		In-cloud; begin Pen #15
		Hdg 340°; alt 17 kft
		Light activity; p-static
16:36:45		Out-of-cloud; end Pen #15; wasn't much activity
16:43:46		In-cloud; begin Pen #16
		Hdg 180°
		Lgt turb; mdt precip with icing; 900 ft/min up; 1100 ft/min up
		p-static; mdt turb; ltng; p-static; 1600 ft/min up; still going up; 2000 ft/min up
		Lgt turb; p-static
16:45:40		Out-of-cloud; end Pen #16
		Hdg 320°; then left to 290°
16:50:12		In-cloud; begin Pen #17
		500 ft/min down; lgt turb; lgt precip
		Mdt turb; mdt precip; mdt icing; 1000 ft/min up; 1300 ft/min up
		Mdt turb; mdt icing; 1000 ft/min down; 500 ft/min up
16:54:08		Out-of-cloud; end Pen #17; Had up to 2000 ft/min up and 1000 ft/min down
17:09:30		landed

NOTES

Weather

Relatively small and highly-sheared storms developed west of BIS and moved over the area. Tops below 30 kft.

Maintenance

After flight, propeller anti-ice boots noted to be lifting at inboard edges.

Operations

Performed SF6 tracer experiments in two “feeder” cells, although the storm really was more of a cluster of roughly equivalent cells.