

Occurrence Report

AE838

State reporting	Taiwan Island	Date entered	2011/10/7
Reporting org.	Taiwan (ASC)	Report last modified	2014/7/9 PM 04:28:14
State file number	ASC-AIR-01-09-001	Report status	Closed

Headline Runway Excursion when landing at TPE Airport, Mandarin Airlines AE838, B18603, B737-800

Occurrence class	Serious incident	Occurrence category	RE: Runway excursion
Local date	2000/10/31 PM 09:50:00	UTC date	2000/10/31 PM 01:50:00
State/area of occurrence	Taiwan Island	Latitude of occ	25:04 North
Location of occ	RCTP Airport	Longitude of occ	121:14 East

Aircraft Involved

Manufacturer/model	BOEING - 737-800	Aircraft registration	B-18603
Call sign	MANDARIN	Operator	Taiwan - Mandarin Airlines - (to be coded)
Flight phase	Landing		

TAIWAN ISLAND, ASC-AIR-01-09-001**Filing information**

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When

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Where

State/area of occurrence	Taiwan Island	Latitude of occ	25:04 North
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Classification

Occurrence class	Serious incident	Occurrence category	RE: Runway excursion
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Severity

Damage aircraft	None	Damage aerodrome	Minor
Third party damage	No	Injury level	None

Injury totals

	Fatal	Serious	Minor	None	Unknown	Total
Total on ground	0	0	0	0	0	0
Total on aircraft	0	0	0	124	0	124
Grand total	0	0	0	124	0	124

ATM relation

ATM contribution	None	Effect on ATM service	No effect
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NARRATIVE (ENGLISH)

On October 31, 2000, Flight AE 838 wet leased by Mandarin Airlines from China Airlines, aircraft type B737-809, registration B-18603 departed from Yangon Airport, Burmese to Taipei Chiang Kai-shek International Airport (hereinafter called CKS Airport), the aircraft carried 124 passengers and crewmembers. At 21:32 Taipei time, AE 838 contacted Taipei Approach Control. Northern Taiwan was affected by the fringe circumfluence of Xangsane Typhoon and the northeast monsoon and there was strong wind and heavy rain in CKS Airport. At 2147:05, the aircraft conducted an ILS approach on 05L in CKS Airport. At 2150:12, the nose wheel touched down, two seconds later, two main wheels veered off the runway to the right grass at 2,439 feet and returned to the runway at 4,119 feet. The nose wheel was never off the runway. Later the captain reported to the Tower Local Control (LC) that the aircraft might run over some right side runway edge lights. LC responded "Roger" without further instructions. Twelve seconds later, the aircraft contacted Ground and Ground instructed the aircraft followed N7 taxiway to A10 apron. Findings 1. The flight crew possessed qualified licenses. 2. The

NARRATIVE (ENGLISH)

aircraft had executed all airworthiness directives and obtained an airworthiness certificate. 3. No abnormal records in the Technical Log Book, weight and balance was within limits. 4. The first officer conducted takeoff, cruise and descent of AE 838 from YanGon to CKS Airports, the approach and landing was conducted by the captain. 5. The weather in northern Taiwan was affected by Xangsane Typhoon; there was strong wind and heavy rain in CKS Airport. Air Navigation and Weather Services (ANWS) once issued CB significant weather report, strong wind and Typhoon alert for CKS Airport. 6. When the aircraft was landed, wind speed was 21 knots, maximum gust 34 knots, the weather condition was conformed to the landing limitation of B737-800 of China Airlines. 7. The timing of which the pilot disengaged Autopilot was too late causing a greater included angle between the adjusted track and the runway centerline. 8. The pilot conducted the approach in strong gust and crosswind, 7 to 4 seconds before touchdown, ailerons were greatly manipulated leading a bank to the downwind side, and maximum bank was 8.8 degrees. The crosswind and landing technique did not comply with the operation manual. 9. The two main wheels of the aircraft touched down simultaneously 30 feet right of the centerline at 1,771 feet on Runway 05L of CKS Airport, veered right off the runway at 2,439 feet and returned to the runway at 4,119 feet. Nose wheels never went off the runway. 10. Before landing, the pilot maneuvered the aircraft by a wide range horizontally, plus the affects of strong gust, crosswind and wet runway, the aircraft continued veering to the right after touchdown, eventually it veered off the runway due to unable to correct in time. 11. It was unable to prove the effectiveness of the deceleration of the aircraft and the possibility of dynamic hydroplaning. 12. The wind direction/speed parameters of the FDR were recorded every 4 seconds, more accurate data was not available to find out the rate of change of wind direction and speed. 13. The aircraft reported to the Tower of the likelihood of running over several runway edge lights, the duty LC acknowledged without further action. 14. The aircraft suffered no substantial damage, no casualties; two Runway 05L edge lights were crushed. 15. If the pilot could honestly file in the first crew report, and if Mandarin Airline could report immediately, then Aviation Safety Council might have the chance to obtain the original FDR data. 16. The agreement of notification responsibility of China Airlines and Mandarin Airlines could not comply with article 7 of "Regulation for Aircraft Accident or Serious Incident Investigation", causing situations that were not conformed to the regulation. 17. The anemometer of CKS Airport meteorology station can reveal instant wind direction and speed; however the recorded data merely had an average value of one minute, insufficient for the needs of investigation and analysis. Findings related to the probable causes 1. The pilot maneuvered the aircraft horizontally by a wide range before touchdown which reduced the crab angle, leading to the reduction of headwind component in strong gusts, plus the heavy rain and the wet runway, the aircraft continued veering to the right after touchdown, finally it was too late to correct and veered off the runway. 2. During the last phase of the approach, the pilot maneuvered with large banks at low altitude, and failed to determine a reject landing, hence losing the opportunity of avoiding the accident. 3. The timing for the pilot to disengage Autopilot was too late, and under the circumstances of insufficient reaction time and correcting distance, causing too much of an included angle between the track and runway centerline, plus the strong gust, crosswind and wet runway leading the aircraft to veer off the runway after

NARRATIVE (ENGLISH)

touchdown.

EVENTS**Runway excursion to the side , during Landing roll. {Occurrence}**

Crosswind : Strong
 Horizontal gusts : Strong
 Runway surface condition generally : Wet
 Flight crew's decision to land : Inappropriate
 Flight crew's operation of autoflight system : Inappropriate; Improper timing
 Flight crew's control of the aircraft's lateral movements (roll) : Improper operation
Flight crew., Human reaction time-skill/ability level : Lack (of)
Flight crew., Personal experience : Insufficient

WEATHER**General weather conditions**

Weather conditions	IMC	Light conditions	Night/dark
Weather relevant	Yes	Wind speed	34.989 kt
Speed measured at	Surface	Visibility	600 m

Clouds

Cloud amount	Few clouds (1/8-2/8)	Height of cloud base	196.85 ft
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Temperature

Air temperature	22 C	Dew point	22 C
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Precipitation and other weather phenomena

	Precipitation intensity	Precipitation type	Characteristics
	Heavy	Rain	Showers

Weather reports

	Report validity	Content wx report
SIGMET	Valid	

BOEING - 737-800, B-18603**Aircraft identification**

Manufacturer/model	BOEING - 737-800	State of registry	Taiwan Island
Year built	1998	Aircraft registration	B-18603
Aircraft serial number	29103	Call sign	MANDARIN
		Flight number	AE838

Aircraft Operation

Operator	Taiwan - Mandarin Airlines - (to be coded)	Operation type	Commercial Air Transport - Scheduled revenue ops - International - Passenger
Operator type		ICAO information	

Aircraft description

Aircraft category	Fixed wing	Wake turb. category	Medium
Propulsion type	Turbofan	Mass group	27 001 to 272 000 Kg
Number of engines	2	Maximum take-off mass	78245 kg
Landing gear type	Tricycle, retractable	GNSS installed	No
EFIS	Yes, full		

Aircraft status

Total cycles a/c	3268	Maintenance docs.	Current
Aircraft total time	5438 Hour(s)	Airworthiness cert.	Valid

NARRATIVE

民國89年10月31日，中華航空公司濕租予華信航空公司之AE838班機，機型B737-800，登記號碼B-18603。由緬甸仰光機場（Rangoon, Burma）飛往台北中正機場，該機載有駕駛員2人，空服員4人，乘客116人，額外組員2人，合計124人。依據飛航記錄資料，1005 UTC時，即當地（仰光）時間1635時，AE838自仰光機場起飛，由副駕駛員擔任操控駕駛。1332 UTC時，即當地（台北）時間2132時（以下時間皆以此時區表示），開始與台北近場台無線電通訊聯絡，當時台灣北部地區正受到象神颱風外圍環流及東北季風影響，天氣大雨。2147：05時，該機在中正機場05L跑道儀器降落系統（Instrument Landing System, ILS）中，下降高度通過1,700呎時，改由正駕駛擔任操控駕駛，航機保持自動駕駛與自動油門，使用襟翼30度，進場速度160浬/時，自動煞車選在位置「2」；高度400呎時目視跑道；無線電高度表72呎時，解除自動駕駛。塔台頒發落地許可時告知相關資料：「使用05L跑道，風向010度，風速21浬/時，陣風34浬/時，高度表撥定值1002百帕」。

2150:11時，在05L跑道1,771呎處，左、右機身主輪同時觸地，該機磁航向為042度。1秒鐘後，在跑道2,001呎處，鼻輪觸地，磁航向為040度。鼻輪觸地2秒鐘後，在跑道2,439呎處，兩機身主輪滑出跑道，磁航向為038度。在跑道4,119呎處，兩機身主輪再度進入跑道，磁航向為040度，鼻輪未曾偏出跑道道面。

隨後正駕駛員向機場管制席報告，稱可能撞擊了一些跑道右邊燈，該席回答「Roger」後未做其他指示；機長靜待12秒鐘後，隨即連絡地面管制席，地面席指示其經由N7滑行道滑行至A10停機坪。

HISTORY OF FLIGHT**Itinerary**

Last departure point	Myanmar - VYYY (RGN): Yangon/Intl	Flight phase	Landing
Planned destination	Taiwan - RCTP (TPE): Taipei/Taiwan Taoyuan International Airport - (to be coded)	Duration of flight	300 Minute(s)
		Occ. on ground	No

Speed and altitude at first event

Speed (first event)	159.827 kt	True airspeed	
Type of speed	Indicated airspeed		

Landing

Type of landing	Regular landing	Automatic landing	No
Electronic landing aids	ILS complete	Landing location.	

Approach

Visual approach type		A/c app for prec app
VASI used		Precision app. cat.
Approach RVR status		Instr. approach type
Approach stabilized	No	Approach errors
Instr. landing proc.		

Person at controls

Person at controls	Pilot-in-command
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INJURIES**Injuries**

	Fatal	Serious	Minor	None	Unknown	Total
Pilot			0		0	1
Co-pilot			0		0	1
Cabin crew			0		0	0
Other flight crew			0		0	3
Crew Total	0	0	0	8	0	8
Passengers	0	0	0	116	0	116
Other on Aircraft	0	0	0	0	0	0
Unknown	0	0	0	0	0	0
Total	0	0	0	124	0	124

Injury types

	Fatal injuries	Non-fatal injuries	Unknown
Burns			
Drowning			
Fumes/gases			
Impact			
Shock exposure			
Other reasons	1		
Unknown			

Autopsy

Persons autopsied	Flight crew
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AIRCRAFT RECORDINGS**Cockpit voice recorder**

CVR location	Rear fuselage	CVR recovery	Recovered
CVR Recording medium	Solid state	Underwater locator (CVR)	
Number of channels	4	CVR Reason for data loss	None/not applicable
CVR Recording duration	120 Minute(s)	CVR Recording quality	Good
Hot microphone	yes		

Flight data recorder

FDR location	Rear fuselage	FDR recovery	Recovered
FDR Recording medium	Solid state	Underwater locator (FDR)	
Number of parameters	360	Reason for data loss	
FDR Recorder type	Digital FDR	FDR data recovery	Completely recovered
		FDR Data usefulness	Useful

FLIGHT CREW**PILOT-IN-COMMAND****Flight crew member**

Age	46 Year(s)	Category	Pilot-in-command
Gender - Crew Member	Male		

Flight crew rest/duty

Duty last 24 hours	4 Hour(s)	Rest before duty	24 Hour(s)
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Flight crew experience

	Last 24 hours	Last 90 days	Total
This Aircraft type	4 Hour(s)	167 Hour(s)	1590 Hour(s)
All types	4 Hour(s)	167 Hour(s)	11008 Hour(s)

Flight crew licences

License type	Ratings	Validity	Registry State issued	Instructor rating	Instrument rating
Aeroplane pilot - Airline transport pilot	Held required rating		Yes		

CO-PILOT**Flight crew member**

Age	35 Year(s)	Category	Co-pilot
Gender - Crew Member	Male		

Flight crew rest/duty

Duty last 24 hours	4 Hour(s)	Rest before duty	44 Hour(s)
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Flight crew experience

	Last 24 hours	Last 90 days	Total
This Aircraft type	4 Hour(s)	120 Hour(s)	567 Hour(s)
All types	4 Hour(s)	120 Hour(s)	1893 Hour(s)

Flight crew licences

License type	Ratings	Validity	Registry State issued	Instructor rating	Instrument rating
Aeroplane pilot - Airline transport pilot	Held required rating		Yes		

AERODROME

Aerodrome identification

Aerodrome type	Land	Aerodrome latitude	25:04 North
Location indicator	Taiwan - RCTP (TPE): Taipei/Taiwan Taoyuan International Airport - (to be coded)	Aerodrome longitude	121:14 East
Aerodrome status	Public aerodrome	Elevation above MSL	108.268 ft

RECOMMENDATIONS

Recommendations

Recommendations	Personnel - Study/review Personnel - Training Other - Air Traffic Services Other - Meteorological services Personnel - Proficiency check Procedures - Study/review Procedures - Compliance
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MANAGEMENT

Occurrence report

Report identification	AE838	Report last modified	2014/7/9 PM 04:28:14
Report moderator		Report status	Closed
Report source	Accident/Incident investigation	Reporting form type	ICAO - Final Report
Date report created	2011/10/7 PM 02:31:09		