FINAL REPORT ON ACCIDENT TO M/S RAJASTHAN AEROSPORTS CLUB PVT. LTD., X AIR-F MICROLIGHT AIRCRAFT VT-UAG AT MEERUT, UTTAR PRADESH ON 12/05/2012

GOVERNMENT OF INDIA
MINISTRY OF CIVIL AVIATION
COMMITTEE OF INQUIRY VT-UAG

INDEX

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1. Aircraft

Type	: X Air-F Microlight Aircraft
Nationality	: Indian
Registration	: VT - UAG

2. Owner : Rajasthan Aerosports Club Pvt. Ltd, Jaipur
3. Operator : Rajasthan Aerosports Club Pvt. Ltd, Jaipur

4. Pilot – in –Command : Microlight Pilot License

Extent of injuries : Nil
No. of Passengers : One
Extent of Injuries : Nil

5. Place of Accident : Dr. B.R. Ambedkar Airstrip, Meerut

6. Geographical Location of Site : Lat: 28°54'18" N,Long:77°40'37"E

7. Date & Time of Accident : 12th May 2012
0440 UTC (Approx.)

8. Last point of Departure : Dr. B.R. Ambedkar Airstrip, Meerut

9. Point of intended landing : Dr. B.R. Ambedkar Airstrip, Meerut

10. Type of operation : Pvt- Recreational Flying

11. Phase of operation : Low-pass

12. Type of Accident : Fatal

(ALL TIMINGS IN THE REPORT ARE IN UTC)

Synopsis

X-Air F microlight aircraft VT-UAG belonging to M/S Rajasthan Aerosports Club Pvt. Ltd was engaged in recreational flying from the Dr. Bhimrao Ambedkar Airstrip, Meerut was involved in an accident while performing a low low-pass on 12.5.2012. The aircraft was under the command of Microlight license pilot and there was a passenger on board the aircraft at the time of accident. The owner of the aircraft was taking photographs at the time of accident from the R/W 11 Left edge. The aircraft was making approach on R/W 11 and was carrying out a low-pass when it veered to the left of runway at about 5 feet height above the ground. The Right undercarriage impacted with the head of owner causing fatal injury to him. The right wheel separated from the aircraft during the impact with the head. The aircraft then made a go around and landed finally on R/W 29. After the aircraft made contact with R/W 29 it veered to the right of runway due missing right undercarriage and came to halt. There was no injury to any of the occupant on board the aircraft. The weather was fine and accident occurred in the day light conditions. The accident was notified to DGCA by a Microlight examiner who was present at the site of accident. The inquiry of the accident was ordered by Govt. Of India, Ministry of Civil Aviation vide their order no. AV15013/05/2012-DG Dated 1.6.2012 under Rule 74 of aircraft Rules,1937 with the following composition:

1. Sh. M.J. Singh, Deputy Director Air Safety, Northeren Region- Head
2. Capt. Pawan Verma, Operational expert member
3. Sh. S.K. Singh, Aerodrome Expert Member.

The accident occurred to aircraft during low-pass over the runway at high speed, veered to left and impacted the owner's head who was standing on the runway causing fatal injury to him and contributory factor to the accident are:

1. Runway Incursion due movement of the persons over active runway.
2. Photography on the runway.
3. Lack of surveillance by the State Govt. Civil Aviation Deptt.

1. Factual Information:

1.1 History of Flight:

On 12.5.2012 the owner of the aircraft was planned to carry out his first solo on X-Air F aircraft VT-UAG, after its successful dual check by the examiner pilot at Dr. B.R. Ambedkar Airstrip, Meerut. As it was the owner's first solo he invited few of his friends and relatives at the airstrip for this very occasion. The examiner pilot who was carrying out his solo check had also called a microlight pilot for the planned joy ride flying. At the site there were about 4-5 persons on the day of accident excluding owner/Examiner/Microlight pilot. The aircraft was parked inside the Pankh Aviation hangar and was taken out by the Pankh Aviation technician at around 0130 UTC . On the day of accident the Examiner pilot reached the airstrip at around 0115 UTC and the owner reached the airstrip little later . The Daily Inspection (DI) of the microlight was done by the Microlight examiner and the refuelling of aircraft done for day's flying before the solo check. The preflight briefing was given by the examiner pilot to the owner for his solo check. After briefing the examiner pilot sat on right seat and the owner sat on left seat and commenced the dual check. During dual check 3 consecutive take-off and landings, practice Engine failure drills were carried out and found owner competent to carry out its first solo. The examiner pilot then got out from the aircraft on dumbel R/W 29 and the owner taken over the controls and aircraft took off at around 0230 UTC. The owner had carried out a circuit and landing which was uneventful on R/W 29 and proceeded to the tarmac after switching off the microlight. The weather was fine with visibility more than 5 kms, no clouds, winds Nil. After Switch off, the owner requested the examiner pilot to give joyrides to his friends/relatives. Dual Controls fitted on the microlight aircraft were not removed before starting joyrides flights. Thereafter the two joyrides were given to his friends which were uneventful and microlight was switched off. At the time of Joyride flying persons were observed standing on the runway sidestrip. Microlight pilot then took over the microlight aircraft and carried out the preflight inspection of the aircraft and checked the fuel which was 21-22 litres. The aircraft took off from R/W 29 at around 0425 UTC with one lady passenger on board. The take-off and climb was normal. After takeoff aircraft turned right and levelled off at 700 feet. Threafter few turns were carried out to show the passenger country side. Thereafter the Microlight pilot started descending

the aircraft in a left turn, aligned the aircraft for an approach to the centre of runway and was performing a low-pass run for R/W 11 aiming to go around. He continued with his approach having ascertained R/W clear and saw some people standing on North shoulder of R/W well away from it. He was also keeping a sharp look on birds some eagles were noticed during approach. As per microlight pilot the winds were cross and he was trying to maintain the runway centreline. As the aircraft came closer to ground the crosswind component reduced and aircraft drifted left of runway centreline which he tried to control. The pilot felt a thud noise from the aircraft and he immediately pulled up the aircraft. He smoothly opened the engine power and found the engine behaviour normal. The controls of the aircraft were also behaving normal and aircraft climed to 250 feet and then pilot decided to land on R/W 29. He aligned the aircraft on R/W 29 and made approach keeping a sharp check on all parameters. As he rounded off over the threshold and reduced power to touch down, he realised that his aircraft right wheel is missing . He immediately applied left stick control and tried to keep the right wing up as long as possible. After landing, the aircraft pulled sharply to the right and came to halt on the right side strip of R/W 29. The aircraft was switched off. After switch off when he came out from the aircraft he found a body lying on the runway. Subsequently he came to know that owner had come on to the runway during his flight and died due to head injury with collision of the aircraft. The police reached the site within 15 minutes and the ambulance came later. The body of owner was found 2 meters inside the R/W from its left edge. At the time of accident the owner was indulged in photography with a camera having capability of still and video photos. The owner at the time of accident was using the camera with telescopic lens. The skull of the owner was opened by the impact and most of his brain was splatterd on the runway. The heart beat was NIL and he died instantaneously after the impact.

Fig showing the rear view of the aircraft with no damage to the aircraft (LH wing) and damage to right wing at the tip due scrapping & aircraft veered to the right.

The accident occurred during day time at around 0440 UTC. The body of the owner after the accident was taken to Govt. Medical college Meerut for the post mortem examination.The broken right undercarriage and the broken camera was taken in the custody by the local police immediately after the accident.

The latitude and longitude of the site are 28° 54’ 18” N and 77° 40’37” E respectively. The weather was reported fine.

1.2 Injuries to Persons:

Injuries	**Crew**	**Passengers**	**Others**
Fatal	Nil	Nil	1
Serious	Nil	Nil	Nil
Minor	Nil	Nil	Nil
None	1	1	Nil

1.3 Damage to Aircraft : Minor

The Right landing gear was broken from its attachment point with the aircraft structure after impact with the owner on ground. Right landing gear strut also damaged. The right wing was damaged during landing due scrapping on the runway & thereafter the aircraft veered to the right.

Fig. showing Right undercarriage which got separated from the aircraft after collision with the person during low-pass exercise.

1.4 Other Damage: Nil.

1.5 Personnel Information:

1.5.1	**Pilot In Command**	**:** Male, Age- 59 Years
	License	: Microlight pilot license
	Date of Birth	: 24.1.1959
	Ratings	: X-Air Microlight
	Date of issue	: 11.11.2003
	Valid till	: 10.11.2013
	Medical	: Class II
	Date of last medical examination	: 6.12.11 and valid till 5.12.2012
	FRTO License issue	: 15.2.2011 valid till 14.2.2021
	Total flying experience	: 1223:35 Hrs.

Microlight flying experience	: 286:57 hrs.
Total flying as PIC on type	: 232:00 hrs.
Flying experience last one year	: 11:25 Hrs
Last six months	: 9: 20 hrs
Last 30 days	: 0:00 Hrs
Last 7 days	: 0:00 Hrs
Last 24 hours	: 0:00 Hrs

The Microlight pilot was a commissioned officer from NDA 1979 batch and joined the Indian Air Force in year 1980 and left the forces as a Squadran leader in year 1994.

As per the records the involved Microlight pilot started flying at Meerut on X-Air F aircraft from 20.4.2001 as Trainee pilot with M/s Alpha Aviation Services Pvt. Ltd, Meerut under the guidance of Examiner pilot. Thereafter on 26.4.2003 the pilot was released for solo flight after about 40 hrs of dual flying by the examiner pilot. He flew for the Alpha Aviation till 17.7.2004. The Microlight pilot then joined the M/s Pankh Aviation Academy Pvt. Ltd and from 19.4.2009 onwards was flying the subject Microlight aircraft till the accident flight with them. Scruitiny of flying log of Microlight pilot had revealed that his most of flying was from Meerut Airstrip from Year 2001 onwards.

1.5.2 Owner

Date of Birth	: 13.9.1975
Height	: 5’9”
License	: Student Pilot License
Date of Issue	: 9.7.2009 Valid 8.7.2014
Endorsement	: X Air F Microlight
Total flying experience	: 12:05 hrs

The owner started his flying training in the month of May 2012 under the guidance of DGCA approved Examiner pilot from 2.5.2012 and done all his flying from Meerut Airstrip. He was released for his first solo flight after 11:05 hrs on the day of accident

after its successful dual check of 35 minutes by the examiner pilot. As per his FTPR (Flying Trainee's Progress Report) records the assessment of the deceased owner was assessed very good on 5.5.2012 after 7:15 hrs of flying. On 12.5.2012 when he was released for solo flying his approach and landing was assessed as an excellent by the examiner pilot.

1.6 Aircraft Information:

X-AIR F Microlight aircraft is a fixed wing ultralight aircraft, two-seater side by side, front engine mounted, high wing, tricycle undercarriage, fitted with conventional 3-axis controls, ailerons, elevator and rudder. Microlight aircraft is fitted with a dual controls. It is powered by a JABIRU 2200 J S/No. 22J789, 4 stroke , 4 Cylinders air-cooled engine with power rating of 85 Bhp. This aircraft is installed with the following Instruments:-

RPM indicator (Tachometer)
Side and Slip Indicator
ASI (Air Speed Indicator)
Electrical Fuel Pump.
Magneto switches.
Altimeter.
Compass
CHT, Oil Temperature
Battery Connection for radio
ICOM-1C-A200 for communication

As per the records the aircraft was manufactured by M/s Raj Hamsa Ultralights Pvt. Ltd. Bangalore vide MSN No. 11691007 in year 2007 and was issued the C of R by DGCA on 11.2.2008 in the name of M/ S Rajasthan Aerosports Club Pvt. Ltd in the Pvt. Category. The maximum certificated take-off mass is not to exceed 450 Kgs. The empty weight of aircraft is 274 Kgs and it has a total fuel capacity of 55 Litres (40 Kgs.) . The forward CG Range of the aircraft is 200 mm forward of datum and the aft CG range is 65 mm forward of datum. The aircraft is having its wing span as 9.4 Meters with total wing

area as 14.5 Sqm. Maximum speed permitted on aircraft is 160 KPH i.e. Vne speed. The Certificate of Registration has mentioned the usual station as Ramsinghpura (Paladi), Jaipur District. The permit to fly No. PFL-88 was issued by DGCA on 11.2.2008 for the training and recreational flying. The Microlight had a total seating capacity for 2 occupants including pilot. The aircraft is fitted with dual controls in the cockpit. As per the CAR section 2, Series F, part XIV pilots are responsible to carry out preflight inspections and next higher inspections upto 10 hours schedule. The higher than 10 hours inspection schedules and overhaul of the aircraft, engine and its components shall be carried out by appropriately licensed AMEs or by persons authorised by the DGCA.

As per the log book records the VT-UAG aircraft had done 204:40 hours since new and the engine had done 211:20 hrs since new till 2.4.2012 when the operator has submitted its permit to fly renewal to DAW, Delhi Region. The operator has also conducted a test flight at Meerut on 2.4.2012 by examiner during which the rate of climb was found to be 3.2 m/s against the required ROC of 3 m/sec for the purpose of renewal of permit to fly. The aircraft was maintained by an approved AME from 2010 September onwards and was found fully airworthy. Last 100 hrs inspection schedule on both engine and airframe was done on the VT-UAG aircraft on 2.4.2012 at Meerut at 204:40 airframe hours. Aircraft documents like airframe,engine, propeller tech log and other records were not available for the investigation due owner's death.

During investigation it was found that M/s Pankh Avaition Pvt. Ltd, Meerut had made an agreement with the M/s Rajasthan Aerosports Club Pvt. Ltd owner for flying their microlight aircraft VT-UAG on 1.4.2010 which was valid till 31.3.2011. As per the agreement the lessee i.e. Pankh Avaition will use their aircraft on payment of flying hour on monthly basis for promotion of aerosports, recreation and flying training as per the various rules and regulations laid down by DGCA, Govt. of India. The said contract also mentions that the aircraft VT-UAG may be positioned and used anywhere in the territory of India where permitted by law and the special rules as laid out in the various CAR,Aircraft Rules 1937 and various DGCA Circulars governing the use of Microlight aircraft in India.The said agreement was executed on Rs.50/- stamp paper and was duly notarised by the deceased owner of VT-UAG and MD, Pankh Aviation. The witness 1

and witness 2 columns are however in the said contract were left blank. There was a letter written by M/S Pankh Aviation on 4.5.2011 and on 15.5.2011 to the deceased owner about expiry of the lease contract. The letter also mentioned that deceased owner was requested to take away their aircraft from Meerut to any suitable place for convenience. **However the aircraft was continued to stay at Meerut without any extention of contract.** Pankh Aviation has also informed that they are in contract with UPCAD from 10.4.2008 to use their strip at Meerut and facilities available there. The agreement with the State Govt is for 30 years to be renewed after every 5 years. The said agreement was valid on the day of accident. As per the contract the Safety Services involving fire, medical, security during training flying was the responsibility of M/s Pankh Aviation. However in case of operations envisaged by any other operator it was mandatory to obtain permission from the concerned District Magistrate and the operator himself had to arrange for the safety/securities facility at its own cost. At the time of accident there was no serviceable aircraft available with M/S Pankh Aviation .

As per the UPCAD there was no agreement of UPCAD and the M/S Rajasthan Aerosports Pvt. Ltd for using the airstrip at Meerut.

As per the security clearance given by the MHA to DGCA vide their letter no. MHA U.O. No. II/20034/16/2007-IS-II Dated 10.5.2007 in respect to deceased Owner stating that there is no objection from the security angle in granting permission for operation of Powered Hang glider/at village Ramsinghpura (Paladi) Tehsil Viratnagar, Distt. Jaipur Coordinates N 27 deg 20’03.5” E 076 05’ 11.8”. It also gives the condition that “ The hang glider shall not be flown over the entire space over territory of Delhi and areas falling within 50 Kms from International Border. The hang glider shall also not be flown over an assembly of persons over the congested areas including cantonment areas,defense installations etc. unless prior permission in writing is obtained from appropriate authorities.

1.7 Meteorological Information:

Since the Meerut Airstrip is uncontrolled airstrip there is no MET facilities exists at the airstrip. There is only one windsock exists at the airstrip which is located near the terminal building towards North of Airfield.

As per the examiner on the day of accident the visibility was 5 Kms with no clouds and winds were 2-3 Kms variable when the flying commenced at around 0200 UTC. At around 0430 UTC since the temperature has gone up and winds have picked up a little and were from South Westerly.

As per the pilot's statement the winds at the time of accident were cross while he was making approach on R/W 11 and when he came closer to ground the crosswind reduced considerably which caused the aircraft to drift to the left of R/W Centreline which he tried to control and correct when suddenly he heard a noise and thereafter he climbed.

1.8 Aids to Navigation:

There is no navigation facility exists at the Airstrip and is not considered a factor to the accident.

1.9 Communications:

There is no communication facility exists at the Airstrip as there is no ATC facility. The flying is however controlled by ATC Air Force Hindon. Prior to start the flying Hindon ATC is informed on telephone and after getting airborne R/T contact is established with the Hindon ATC on 122.7 Mhz.

1.10 Aerodrome Information:

The Dr. B.R Ambedkar Airstrip is owned by Uttar Pradesh Civil Aviation Department and the latitude and longitude of the airstrip are 28°54'18" N and 77°40'37" E respectively. The elevation of the airfield is 732 feet. It has only one R/W 11/29 which is 1500 meters long and 22 meters in width. It is made from bitumen with no PCN values

established. The runway strip of 40 meters on either side of R/W Centreline is not provided. The strip has potential hazard of open drain and boundary wall within runway strip. The extended portion of runway 11 is not clear and graded. The only taxiway is provided at the beginning of R/W 11. The taxiway is 15 meters wide . The taxiway is having palm trees at a cross distance of 8 meters and 12 meters from its centre line. A wind sock is located very close to Apron and may not be free from disturbances . More so wind sock was observed to be non-specific dimensions with sag at its origon which may result in unreliable indications. The wind sock is also not visible from R/W 29 end. There should be no obstacles on the approach and takeoff path for the safety of aircraft operations. In the ideal condition the slope requirement for approach path for non-instrument runway is 3.33% and required up to 2.5 Kms. Any obstruction protruding in the approach/takeoff path surface should severely impact the aircraft operation and impose operational restrictions. There is no survey carried out by the State Govt. even for approach take-off and transitional surfaces and aircraft operator has also not assessed the impact of obstacles in order to ensure the safety of aircraft operations. The rescue and fire services if provided should be made available throughout the hours of aircraft operations and for 15 minutes after the departure At this airport the fire services are made available from Meerut city DM. However on the day of accident no fire services from DM, Meerut were available. The permission to operate the aircraft is lying with M/S Pankh Aviation from the State Govt and as per the agreement the security of operations and crowd control lies with Pankh Aviation. There existed no system for provision of security/crowd control at the time of accident. The deceased owner and his staff entered the airfield without any restriction and reached on runway strip unhindered. The PIC and the DGCA approved examiner at the the time of operations on the day of accident did not ensure the safety of flight operations.

There was no first aid facilty available at the airstrip. As per the witnesses the ambulance reached in about half an hour after the accident.

As per the requirements prior permission from the owner of airstrip i.e UP Govt. should have been obtained by the aircraft operator before operations. The UP Civil Aviation Deptt has informed that no such permission was obtained by the M/s Rajasthan Aero Sports Pvt. Ltd from them. Pankh Aviation, the company who have authorization to

operate from this airfield also violated the conditions of the agreement with UP Govt. by allowing a third party i.e. Rajasthan Aero Sports Pvt. Ltd to operate from the airfield up to 31.3.2011. The Pankh Aviation inspite of the contract expired with Rajasthan Aerosports allowed their aircraft to be kept inside their hangar till the time of accident.

1.11 Flight Recorders:

Not required and hence not installed.

1.12 Wreckage and impact information:

During the accident sortie the height of the aircraft while performing a low pass has practically remained constant and just 1-2 seconds before impact the height was between 5-6 feet and owner being 5' 9" tall was hit by the right undercarriage of the aircraft squarely on the overhead of the owner.

1. As per the ground marks (Blood spillage) the body of owner was found at approximately 950 meters from beginning of R/W 11, two meters inside the left edge of R/W. The aircraft after hitting the owner was pulled up and landed subsequently on R/W 29. After touchdown aircraft veered to the right and stopped at about 535 Meters from R/W 29 beginning and at about 15 feet short from the dead body.

2. In its final position the aircraft was found veered to the right from R/W 29 and entered into the side strip and rested on its right wing due to shearing of right undercarriage . The compass in the cockpit was indicating North.

3. Right undercarriage of the aircraft along with attachment was found in the side strip at about 100 meters from the body on the LH side of R/W 11.

4. Cockpit instruments after landing, bank indicator showing right bank and altimeter showing 120 feet.

As per the statement of passenger , who was inside the aircraft (occupying right seat in the cockpit) at the time of accident, while the aircraft was coming for landing she saw the owner standing near the airstrip. While landing the aircraft came very low and heard a thud and could not figure out what has happened. Plane went out of control and had a very abrupt crash landing in the field near the airstrip.

The damaged memory chip of the broken camera belonging to owner was taken to the photolab for examination. Useful data of the accident day was recovered from the broken chip which gave the facts of the accident. As per the video/photos of the day of accident the photography was going right from the first flight of day. As per the last video just before the accident Microlight aircraft was flown by the Microlight pilot sitting on the left seat in the cockpit and the right seat was occupied by the lady passenger. When the aircraft came over the runway and flying at about 5 feet height over a group of persons and that too at high speed. As per the pilot statement his passenger might have held the elevator control rod during flight distracted him could have caused the accident. Following observations were made from the Video/Photos:

1. One Tata Safari of Black colour was found standing at about 15 feet from the edge of runway during the flying thus infringing on the runway.

2. The pilot while conducting joyride sortie in which accident occurred was performing acrobatic maneuvers in flight with passenger on board.

3. Just before landing the Examiner pilot was observed running on the centre line of runway thereby causing runway incursion.

4. The aircraft during accident sortie was observed to have veered to the left edge and at that time there was movement of persons on the runway from right to left.

5. During the aircraft operations the grass cutting was going on the right edge of runway.

6. At the time of flying on the day of accident movement of the persons was there on the active runway.

7. Aircraft travelled approximately 1000 meters in 22 seconds and the ground speed works out to be 45 meters per second i.e 163 KPH and catering error of 20-25% the ground speed of the aircraft works out to be around 120 KPH.

Fig. Showing the movement of the person from right to leftwhen the aircraft is approaching runway 11

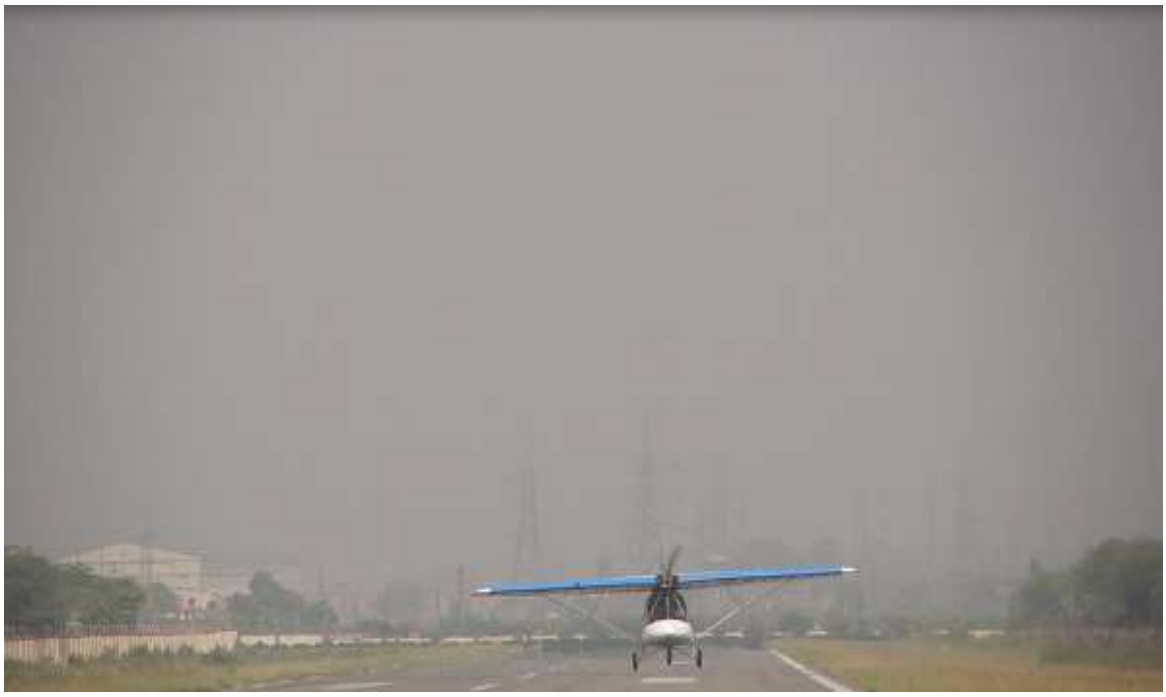

Fig. Showing aircraft is veering to the left while approaching the runway 11

1.13 Medical and Pathological Information:

The owner of the aircraft after attaining head injuries was taken to P.L. Sharma, District Hospital, Meerut for the post mortem (PM) examination. As per the PM report the cause of the death was due to shock and haemorrhage as a result of antemortem injuries.

Fig. Showing Dead Body of Mr. Yogesh Garg lying on Runway

There was no medical examination carried out by the Police authorities on the involved survived pilot subsequent to the accident as required by Air Safety Circular No. 6 of 2010 w.r.t. action required by Police authorities in case of aircraft accidents.

1.14 Fire:

There was no fire.

1.15 Survival Aspects:

On the day of accident there was no fire tender available at the Meerut Airstrip during the aircraft operations. Also there was no ambulance available at the airstrip. There

is no first aid facility availbale at the Airport. Had the owner of the aircraft not entered the active R/W 11 from left sidestrip for taking photogrpahs causing Runway Incursion during flying operations, the accident could have been avoided. More so the persons came for joyrides i.e relative and friends of deceased owner were to be properly briefed on safety precautions during aircraft operations and no persons to be allowed to stand on the runway side strip. The same was not briefed to the persons present on the site by either the examiner pilot or by the microlight pilot. A runway incursion is an incident where an unauthorized aircraft, vehicle or person is on a runway. This adversely affects runway safety, as it creates the risk that an airplane taking off or landing will collide with the object.

1.16 Tests and Research: N/A

1.17 Organizational and Management Information:

M/S Rajasthan Aerosports club Pvt. Ltd. came in existance on 27.2.2007 vide company act with the registar of companies,Jaipur Rajasthan. As per the memorandum of association the registered office of the company will be situated in the State of Rajasthan. The company came into existence with the two persons having shares of company 50% each in the name of Mr. Nikhil Gupta and Mr. Yogesh Garg. The company bought its first Microlight X-Air F from M/S Raj Hamsa on 10.12.2007 and thereafter applied to DGCA for registration of VT-UAG aircraft by both the owners of the company. The permit to fly No. PFL-88 was initially issued by DGCA on 11.2.2008 which mentions at the back of pemit a condition No. 6 the details of which are as under:

"The area of operation of Microlight aircraft for local flying shall be limited to: Ramsinghpura (Paladi) , Jaipur Distt as cleared by security agency".

As per the UP State Civil Aviation Department who is the owner of Meerut Airstrip no permission was given to M/S Rajasthan Aerosports Club Pvt. Ltd for operations from Meerut.

As per the agreement signed by the deceased owner and the MD, Pankh Aviation on 1.4.2010 for leasing out his aircraft to Pankh on per hour basis which was valid till 31.3.2011. On expiry of the agreement two reminders were issued by the Pankh Aviation to the deceased owner to take back their aircraft VT-UAG at any suitable place. However no reply was received by them. As per the records the deceased owner had signed a contract with the Examiner pilot for dry lease on a per hour basis from 7.2.2010 till one year. However the papers for renewal of contract were not found during investigation.

1.18 Additional Information:

As per the CAR Section 4, Series B, Part VI regarding minimum safety requirements for temporary/unlicensed aerodromes has mention of following requirements:

1. When required the aspect of crowd control, security of operation and separation of crowd from flying operations shall also be ensured.
2. Prior permission from owner of airstrip should be obtained by the aircraft operator before operation.
3. First aid facilty as minimum medical requirement may be provided at the aerodrome and also arrangements with locally available medical facilties may be made to deal with the emergencies.
4. The aircraft operator may develop an SOP in case the operations to the aerodrome are not restricted for one time operation.
5. RFFS if provide, should be made available throughout the hours of aircraft operation and for 15 minutes after the departure of the last aircraft or until the aircraft has reached its destination, whichever is earlier.

As per the Govt. of Uttar Pradesh Civil Aviation Department the staff at the Meerut Airstrip is deployed by the local Admin i.e DM Meerut for the maintenance of the airstrip. There were no records for the movement control of Microlight flying at Meerut with the available staff. The register kept at the airstrip was having the data only from 21.2.2012 to 29.2.2012 wherein there were 40 aircraft movements recorded during the assembly

election time in U.P. The data revealed that on the Meerut Airsrtip more than 5700 Kgs aircraft (Cessna 560 XL , Beech Superking 350) has also operated during election flying. **There is no monitoring/surveillance done on the operations by CAD, U.P Govt. at Meerut. No inspection carried out of the airstrip by the CAD, UP Govt. This indicates that the operations at the Meerut Airstrip were uncontrolled as there is no record that how many sorties have been operated by the Microlight aircraft etc.**

U.P state Govt. Civil Aviation Department has also informed that as per the agreement signed with the Pankh Aviation Pvt. Ltd with UP Govt. the safety services involving fire, medical, security during training flying was the responsibility of M/S Pankh Aviation. **However in case of operations envisaged by any other operator it was mandatory to obtain permission from the concerned DM and operator himself had to arrange for the safety/security facilities at his own cost.**

In the present case no clearance from the Local District Authorities obtained for the flying and more so no security and Fire, Medical arrangements were made prior to operations on the day of accident.

Characteristics of X Air aircraft:

All aircraft operated by manual controls are subjected to higher control forces, (forces required to move a specific control, elevator, aileron & rudder) as they approach the Vne. In case of the X –Air (F) the surface area of elevators is very large and it is located directly in the centre of the propeller wash, the prop being driven by a 80 HP Jabiru engine. At high RPMs and at high indicated air speeds the force required to move the elevator can be large and if one flies at the limiting speeds or higher, the controls can be nullified.

However how the aircraft behaves at high RPM and high Airspeeds within ground effect especially the elevator/pitch control is not documented. However as per the practical flying experiences on this aircraft the force required to move elevator becomes

high as one approaches the speed of 110-120 KPH and one is not comfortable letting the the aircraft accelerate any more, specially at low level.

1.19 Useful or Effective Investigation Techniques: Nil

2 Analysis:

2.1 Operation Aspects:

2.1.1 Permision to fly:

The permit to fly No. PFL-88 was issued by DGCA on 11.2.2008 for the training and recreational flying. The permit was last renewed by DGCA on 8.4.2012 and was valid till 7.4.2013. As per the condion No. 6 of the permit:

"The area of operation of Microlight aircraft for local flying shall be limited to: Ramsinghpura (Paladi) , Jaipur Distt as cleared by security agency."

In contrary to the above the microlight was flown at Meerut airstrip by the owner by either making agreements with the Pankh Aviation or with examiner pilot for flying.The aircraft was continuously flown at Meerut and DGCA also has renewed the permit at Meerut in the month of April 2012.

There was no permission sought from the Govt of UP Civil Aviation Department by the owner for flying at Meerut to whom this airport belongs. Govt of UP had only given permission to Pankh Aviation for flying at Meerut but unfortunately there was no aircraft with them for flying.

So there was no permission of flying obtained by the owner from the Govt. of UP for operations at Meerut Airfield.

2.1.2 Aerodrome Factor:

The Meerut aerodrome is uncontrolled aerodrome and is not licensed by DGCA as no schedule operations are conducted from it. The aerodrome belongs to State Govt. Civil Aviation department. The State Govt. also did not monitor the flying operations going at Meerut Aerodrome by the involved unauthorised operator from last one year indicating lack of surveillance by State Govt. CAD deptt.

2.1.3 Safety services and Crowd control:

On the day of accident there was no safety services i.e. no fire tender and ambulance were available at the airport and came only after half an hour after the accident. No first aid was available at the Airport.

As per the CAR Section 4, Series B, Part VI regarding minimum safety requirements for temporary/unlicensed aerodromes the operator or the /pilot in command has to ensure the requirement :

> When required the aspect of crowd control, security of operation and separation of crowd from flying operations shall also be ensured.

However neither operator nor the pilot ensure the safety of aircraft operations as during flying on the day of accident lot of movement of persons on the active runway was observed. Even the examiner pilot who was available at the site of accident kept aside the safety and was seen walking on the centreline of runway just before crash landing. The black colour tata Safari which belong to Examiner pilot was lying just 10 feet from the runway edge thus causing hazard for collision with the aircraft. The examiner pilot blindly ignored all the safety norms by allowing photography on the runway.

So no system exists of safety services and crowd control at the Meerut Airfield when the accident occurred.

2.1.4 Pilot Competency:

The involved pilot was having valid license on type of microlight with his medical valid. The pilot started flying from Meerut Airstrip on 20.4.2001 onwards and was released for solo flight after about 40 hrs of dual flying by the examiner pilot on 26.4.2003. He flew for the Alpha Aviation till 17.7.2004. The Microlight pilot then joined the M/S Pankh Aviation Academy Pvt. Ltd and from 19.4.2009 onwards was flying the subject Microlight aircraft till the accident flight with them. Scrutiny of flying log of Microlight pilot had revealed that his most of flying was from Meerut Airstrip from Year 2001 and onwards. The logbook of both the Micrlolight pilot and examiner indicates that the flying started on VT-UAG from year 2009 onwards.

On the accident day he was flying his first flight of the day and the fifth sortie of the aircraft with one lady passenger. During the sortie he was observed to have performed some acrobatic maneuvers with passenger on board which were dangerous to the flying. When aircraft came over the runway and was flying at about 5 feet height over a group of persons and that too at high speed of 120 KMPH . As per the pilot statement his passenger might have hold the elevator control rod during flight distracted him and could have cause the accident. This statement is not acceptable as he did not mention in his earlier statement and when the photos and videos were shown to him he mentioned of the interference from the passenger. More so he was not vigilant when he came over the runway to make low-pass and failed to keep the aircraft on safe height and distance from the persons who were present on the runway during the flying.

Therefore the role of the pilot cannot be ruled out in the accident.

2.2 Maintenance Factor:

The Microlight aircraft had a valid permit to fly which was last renewed by DGCA on 8.4.2012 and was valid till 7.4.2013. Aircraft was maintained by an approved AME at Meerut by carrying out last 100 hrs inspection on 2..4.2012 and was found fully airworthy. There was no snag on the aircraft reported by the examiner pilot prior to

accident. Also no snag reported by the microlight pilot during the accident sortie. The aircraft was fitted with the dual controls in the cockpit at the time of accident and both the examiner pilot and microlight pilot did not ensure its removal before undertaking the joy ride flights. Aircraft documents like airframe,engine, propeller tech log and other records were not available for the investigation due owner's death.

2.3 Circumstances that lead to the Accident:

The video evidence from the owner camera clearly shows that the photography/videography was going from the runway/sidestrip from the very beginning of first flight of the day of accident. Examiner pilot was also present on the site of accident and was seen on the runway just few minutes before accident sortie. This type of indiscipline is also not accepted from the highly experienced examiner pilot as on such position they are required to maintain proper discipline on the operational areas during flying operations. As per the evidences available in the form of photos/video the movement of persons on the runway was going on during the earlier flights of the day and the Microlight pilot was well aware of the fact. During the accident sortie the Microlight pilot performed a low run from the opposite direction causing confusion about aircraft landing or low-pass to the group of persons standing on the runway including the deceased owner who was doing photography. The owner of the aircraft was not aware of the fact of low-pass exercise or making landing by the pilot during accident sortie as clearly evident from last video of flight.

As per the video the aircraft approached R/W 11 in a fairly steep descending turn to the left for the low-pass microlight pilot flew the aircraft over runway at 5-6 feet height and aircraft was maintaining high ground speed of 120 KPH. At this high speed the control forces become high and it is not comfortable to control the aircraft at this speed. The aircraft during accident sortie was observed to have veered to the left edge and at that time there was movement of persons on the runway from right to left and impacted the owner on his forehead with its right undercarriage who was standing on the runway causing fatal injury. Both the pilot and owner have little time to react and when need

arose to react both failed. The owner did not take any evasive action to avoid the aircraft hitting him due to fact that while doing photography through lens he was not able to make fair judgement of aircraft speed, height and rate of closure and most likely have frozen before impact with the aircraft. The Microlight pilot inspite of aware of the movement of persons on the active runway was not vigilant during the accident sortie as he failed to keep safe height while carrying out low-pass during joy ride which resulted into the accident.

3 Conclusion:

3.1 Findings:

1. The pilot was appropriately licensed and qualified on type with medical valid.
2. The aircraft had a valid permit to fly.
3. No snag on the aircraft reported by the examiner pilot prior to accident. Also no snag reported by the microlight pilot during the accident sortie.
4. The aircraft was continuously flown at Meerut from year 2009 onwards and DGCA also has last renewed the permit at Meerut in the month of April 2012.
5. Dual Controls fitted on the microlight aircraft were not removed before starting joyrides flights and both the examiner pilot and Microlight pilot did not ensure its removal.
6. Aircraft documents like airframe,engine, propeller tech log and other records were not available for the investigation due owner's death.
7. The weather was fine and sun was bright.
8. At the time of flying on the day of accident movement of the persons was there on the active runway.
9. One Tata Safari of Black colour was found standing at about 15 feet from the edge of runway during the flying thus infringing on the runway.
10. The pilot while conducting joyride sortie in which accident occurred was performing acrobatic maneuvers in flight with passenger on board.

11. Just before landing the examiner pilot was observed running on the centre line of runway thereby causing runway incursion.

12. The aircraft during accident sortie was observed to have veered to the left edge and at that time there was movement of persons on the runway from right to left.

13. At the time of low-pass the ground speed of the aircraft works out to be 120 KM PH and was flying at about 5 feet over the runway.

14. During the aircraft operations the grass cutting was going on the right edge of runway.

15. Photography still/ video was going on from the first flight of the day till the accident sortie through the owner's camera.

16. There was no discipline maintained by the examiner and the pilot during the flying for unauthorized movement of persons and for photography.

17. The changing over of passengers for the joy rides was being done from the middle of runway by the examiner pilot.

18. State Govt. did not ensure adequate security and safety measures for the aircraft operations at Meerut Airstrip.

19. None of the safety services i.e. Fire tender and Ambulance were present during the aircraft operations.

20. The area of operations as indicated in the permit to fly was Paladi, Rajasthan but was flying at Meerut by the owner thus violating the conditions of permit.

21. The owner had an lease out agreement per flying hour basis with the Pankh Aviation till March 2011 and was not renewed thereafter.

22. The examiner pilot had lease agreement with the owner for one year from February 2010 till one year for flying the aircraft on per hour basis.

23. State Govt. had given permission of flying at Meerut Airstrip to Pankh Aviation Pvt. Ltd only.

24. Log books of the aircraft could not be checked due to non availability of the same due owner of the aircraft received fatal injuries.

25. The District Authorities at Meerut failed to carry out the post accident drill on the survived crew for presence of Alcohol.

3.2 Probable Cause of the accident:

Aircraft during low-pass flew over the runway at high speed, veered to left and impacted the owner's head who was standing on the runway causing fatal injury to him.

3.3 Contributory Factor:

1. Runway Incursion due movement of the persons over active runway.
2. Photography on the runway.
3. Lack of surveillance by the State Govt. Civil Aviation Deptt.

4 Safety Recommendations:

1. Necessary action be taken by the competent authority as deemed appropriate as per the report.

2. Matter to be taken up with the State Govt. UP Civil Aviation Deptt for proper security/safety measures during the operation hours and to dissiminate the information about carrying out the Post accident drill on the survived crew for medical exam for presence of alcohol.

3. A committee to be formed to look in to the following to avoid such accident as the above & also to make all instructions / rules as clear as possible in association with Aero Club of India (ACI):

    a. Who should be responsible for the area of operations.
    b. Definition of Area of Operations.
    c. Definition of Aerobatics.
    d. How a passenger to be briefed before a flight.

e. Re-look into training manual.

f. Removal of controls from the cockpit on the passenger side for the purpose of joyrides and type of maneovurs can be performed.

g. A clear cut SOP should be in place before undertaking any flight operations at uncontrolled airfields.

Capt. Pavan Varma
Operational expert member

S.K. Singh
Aerodrome Expert Member

M.J. Singh
Deputy Director Air Safety
Northeren Region

Date: 03rd April 2013

Place: New Delhi