



AIRCRAFT WHEEL AND BRAKE FIRES AND OVERHEAT

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

This instruction establishes procedures and defines responsibilities for personnel responding to aircraft wheel fires or hot brake emergencies, and applies to all organizations on Maxwell Air Force Base.

SUMMARY OF REVISIONS

This instruction updates response procedures to aircraft wheel and brake fires and overheat emergencies and specifies the size of the cordon to be established around emergency aircraft.

1. The senior fire officer on duty must ensure all possible safety precautions are taken to prevent damage to aircraft and injury to personnel during aircraft wheel fire and hot brake emergencies.

2. **Dispatch of Crash Rescue Equipment.** Upon receipt of the emergency, aircraft crash rescue equipment is dispatched by the fire department fire alarm communications center.

3. The senior fire officer coordinates all actions with the pilots, aircraft maintenance, aircraft control tower, and other personnel. All emergency actions are under the control of the senior fire officer and include:

- Fire fighting and rescue operations.
- Aircraft shutdown.
- Aircraft isolation.
- Providing standby equipment.

NOTE: Other operations are under the supervision of the senior aircraft maintenance supervisor and transient alert personnel after coordination with the senior fire officer.

4. Response Procedures.

4.1. All response personnel will report to the senior fire officer upon arrival at the emergency location.

4.2. Hot Brake Emergencies.

4.2.1. Fire vehicles stage a minimum of 300 feet from the emergency aircraft and all personnel are evacuated from the area. No one is allowed into the cordon area without approval from the senior fire officer.

4.2.2. An attempt is made to check the temperature of the brakes with a heat gun. If a heat gun is not available, the brakes are considered hot and allowed to cool for at least 30 minutes. **UNDER NO CIRCUMSTANCES WILL ANYONE ATTEMPT TO PHYSICALLY DETERMINE THE TEMPERATURE OF THE BRAKES.**

4.2.3. The brakes are cooled naturally. Fire extinguishing agents or air blowers must not be used to cool the brakes.

4.2.4. The fire alarm communications center monitors the brake cooling times.

4.3. Wheel and Brake Fires.

4.3.1. Fire vehicles approach a burning wheel assembly from the front or rear; never from the sides.

4.3.2. At least a 300-foot cordon is established around the emergency aircraft. No one is allowed into the cordon area without approval from the senior fire officer.

4.3.3. In extreme cases, the wheel and tire may fail with an explosive force.

4.3.3.1. Some aircraft are equipped with fuse plugs. The fuse plugs are designed to melt when the temperature in the wheel reaches a certain point, allowing the tire air pressure to be safely relieved. The melting temperature of the fuse plugs varies according to the wheel design.

4.3.3.2. If fire is evident and the tire pressure has not been relieved, consideration should be given to deflating the tire by rolling the aircraft over an emergency tire deflator.

4.3.4. The maximum time limit after excessive braking action begins before the wheel and tire assembly becomes extremely dangerous to approach is approximately 12 to 15 minutes. However, if there is flame impinging on the wheel, the time may be reduced to as little as 3 to 5 minutes.

4.3.5. The preferred agent to extinguish wheel fires is dry chemical. If the tires are deflated, any agent is safe to use in short intermittent sprays.

5. Safety Precautions.

5.1. Do not approach wheel assemblies from the side; approach only from the front or rear.

5.2. After clearing the active runway, do not taxi aircraft after excessive use of brakes.

5.3. Do not tow aircraft with suspected hot brakes into a crowded parking area.

5.4. Do not move the emergency aircraft for at least 15 minutes after the brakes have cooled.

5.5. Do not apply a cooling agent directly on the wheel until after the tires are deflated.

5.6. Do not attempt to physically determine wheel or brake temperature with your hand or temperature sticks.

GREGORY W. COKER, Lt Col, USAF
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