

OFFICE OF CIVILIAN DEFENSE
CIVIL AIR PATROL

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CRASH PROCEDURE

1. General

A standard Crash Procedure should be adopted by Civil Air Patrol Squadrons, especially when performing cooperative missions with Army, Navy or any other agency which may base them on an airport away from home and where the usual facilities available at home would not exist on their temporary Air Base.

2. Text

The text material to be used in this course of instruction is presented in the following pages.

3. Distribution

Copies of this directive will be distributed on the basis of four copies per Headquarters.

4. Requirement

All members of the Civil Air Patrol are required to take this course. Engineering Officers will conduct special sectional training in the Engineering Sections for all personnel assigned to emergency Crash Crews.

5. Instruction Procedure

The text is intended as a guide and should be amplified or modified as considered necessary for practical usage within each Squadron. Crash drills will prove valuable after study of the text has been completed. It is recommended that frequent crash drills be practiced.

By Command of Major General CURRY:



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CRASH PROCEDURE

1. In the event of a crash on the airport, cool, quick, intelligent action is of utmost importance if lives are to be saved. This objective will be most effectively attained through a specially trained, properly equipped Crash Crew. Each member of the crew should have a definite assignment of duty in order that he may proceed to his assigned task without confusion or delay in waiting for instruction.

2. Organization

The first step should be the organization of the Crash Crew and the delegation of authority so that one person will be in a position to make quick decisions and give necessary orders and all others will understand who is in charge. It is suggested that the Engineering Officer be in charge of the Crash Crew and be responsible for its training. The Line Chief should be second in charge and other Crew Chiefs designated as alternates so that in the event of a crash immediate action will take place. The Crash Crew should be made up of men who are on the line or around the hangar. Two automobiles or trucks should be designated as crash vehicles and drivers should be assigned to each. There should be at least one member, who is experienced in first aid and who has completed the First Aid Course, assigned to each vehicle. All members of the Crash Crew who have not completed the First Aid Course will do so as soon as possible. There should be assigned to each crash vehicle one Fire Fighter who thoroughly understands extinguishing gasoline and oil fires. There should ^{also} be assigned to each crash vehicle one experienced metal worker and helper. Duties of the various members of the Crash Vehicle Crew are discussed in detail in another paragraph.

3. Preparation

It is important to have emergency telephone numbers posted conspicuously in the hangars, Operations Offices and in other prominent places. This is particularly important at a new location. Suitable placards should be prepared listing -

Emergency Telephone Numbers

Fire Department	Hospital
Police Department	Doctor
Sheriff's Office	Coast Guard
Army Operations	Navy Crash Boat

Alarm: There should be a suitable alarm signal which will be sounded in the event of a crash. An automobile siren or a steel wagon tire and iron bar will do.

4. Fire Extinguishing - Flammable Liquid Fires

a. The usual method of extinguishing flammable liquid fires (gasoline, organic solvents and light fuel oils) requires the use of an

agent which will have a blanketing effect on the fire. Oxygen is excluded from the burning material by forming a layer of non-inflammable gas or foam between the material and the air. Foam, carbon dioxide, and carbon tetrachloride are satisfactory for this purpose. Water should not be used on this type of fire except in the absence of the mentioned types of extinguishers. If it is used, it should be applied as a spray. A stream of water causes the burning liquid to spatter, thereby spreading the fire, while fine sprays tend to cool the liquid surface and exclude the air.

b. Foam type extinguishers may be obtained in sizes which vary from $2\frac{1}{2}$ to 40 gallons. The amount of foam which may be produced is about 10 times the rated volume capacity. Foam streams should not be played into burning liquids, for the foam then emerges covered with the blazing liquid. The foam should drop gently on the surface of the liquid in order to form a smothering blanket.

c. The carbon dioxide type commonly comes in sizes containing 2 to 20 pounds of the liquid which is under pressure. One pound of the liquid carbon dioxide will expand into a gas, occupying 8.6 cubic feet, on release under normal conditions.

d. Carbon tetrachloride extinguishers are available in sizes varying from one quart to three gallons. The streams of both this and the carbon dioxide type should be directed at the base of the flames.

e. For service at airports, crash trucks are generally equipped with four special 50 pound cylinders of carbon dioxide and a tank holding 250 gallons of the foam solution.

5. Crash Equipment

The following equipment is desirable for the contents of a Crash Kit. If all of this equipment cannot be secured, any portion will be helpful. It is recommended that the crash cars be parked near the hangar apron and marked with red flags and that while standing on duty a Crash Kit be stored in each car.

Contents of Crash Kit

One extra-heavy grappling hook (triple hook) with 50 feet of strong wire cable or heavy chain attached to hook. The free end of the cable or chain should be designed for quick attachment to the draw bar, rear axle or bumper of a truck or automobile.

- | | |
|---|---|
| 1 Fire axe, 5" cut | 1 Hunting knife |
| 2 Wrecking bars, one with goose neck and one off-set. Both 3/4" x 30" | 1 Linesman's pliers, 8" side cutting |
| 1 Bolt-cutter 5/8" capacity | 1 Blacksmith's sledge, cross peen 6 lbs. |
| 1 Cold chisel 3/4" cutting edge | 1 Hunter's hatchet 3-5/8" cutting edge |
| 1 Pipe cutter | 1 Pair hand tinner's snips, straight edge, 4" cut |
| 2 Hand flash lights | 2 24" 15-point hand hack saws |
| 1 Flood-type searchlight | 1 Hack-saw frame 8"-12" frame with 12 10" hack-saw blades, 32 point |
| 1 Machinist's hammer, ball peen, 20 oz. | |

First Aid Kit

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|--------------------------------------|-----------------------|
| 3 5-oz. Tubes Tannoid
- for Burns | 2 Wire Splint |
| 2 4" Bandage-Compress | 2 4" x 6 yd. Bandage |
| 2 Triangular Bandage | 2 Gauze Compress |
| 1 Tourniquet & Forceps | 1 5" Bandage Scissors |
| | 1 Army type stretcher |

6. Procedure

No standard procedure can be prescribed. If fire breaks out in a crash it is important to remove the crew before fire reaches the tanks. There is also hazard to the rescue crew on account of possible tank explosion. In many instances twisted longerons may block escape from the plane and it may be necessary to saw or chop portions of metal work to release occupants of the plane. Where fire has broken out, grappling hooks may be used effectively to jerk out a door or a seat, or to pull open the airplane structure. Where two planes are locked together in a collision and one of the planes is burning, the crash hooks may be used effectively to snatch the planes apart before both become involved in the fire. In some cases it may be effective to fasten the crash hooks to opposite sides of the fuselage and have the two automobiles or crash vehicles pull the fuselage apart. Practical mechanics in the Squadron may devise their own method of procedure and teamwork. Every man in the Crash Crew must know his job and the use of the tools assigned to him.

7. Crash Crews

Organization of Crash Crews may be modeled after the following plan, which may be supplemented according to the individual plan of the Crash Officer. This crew is intended to man two Crash Vehicles.

Crash Crew

- | | |
|----------------|----------------|
| 4 First Aid | 2 Driver |
| 2 Fire Fighter | 4 Metal Worker |

7. Crash Crews

Coolness and precision are important and confusion must be avoided. When the Crash Vehicles arrive at the crash, the Fire Fighters should go into action immediately or stand ready with their fighting apparatus and not attempt to do some other jobs. The Drivers should remain seated in their vehicles ready to back into position when needed. The First Aid Men, with the help of the Metal Workers, extricate the occupants of the plane, administer first aid and handle the stretchers.