

OFFICE OF THE STATE FIRE MARSHAL



AIRPORT FIREFIGHTER

OBJECTIVES

- 12-1.1 Identify the scope & purpose of NFPA 1003
- 12-1.2 Identify state certification requirements of Certified Airport Firefighter
- 12-1.3 Define the following:
 - a. Aircraft accident
 - b. Aircraft incident
 - c. Airport firefighter
 - d. Authority having jurisdiction
 - e. Protective clothing for ARFF

OBJECTIVES

- 12-2.1 Identify the runway & taxiway identification systems
- 12-2.2 Identify the on-field lighting color code/marketing system
- 12-2.3 Identify airport rules & regulations concerning vehicle movement & access
- 12-2.4 Identify the function of the airport control tower

OBJECTIVES

- **12-2.5** List the proper steps used during the aircraft crash notification requirement
- **12-2.6** Identify tower light signals for vehicle movement
- **12-2.7** Identify alert & standby policies
- **12-3.1** Identify the four (4) types of aircraft

OBJECTIVES

- 12-3.2 Identify the structural components used in aircraft construction
- 12-3.3 Identify the construction materials used in aircraft construction
- 12-3.4 Identify the types of engines used on aircraft

OBJECTIVES

- 12-3.5 Given an aircraft type, indicate:
 - a. The location of fuel tanks
 - b. The amount of fuel carried
 - c. The amount of fuel used
- 12-3.6 Given an aircraft type, identify the components of:
 - a. Aircraft oxygen system
 - b. Aircraft hydraulic system
 - c. Aircraft electrical system
 - d. Aircraft anti-icing system

OBJECTIVES

- **12-3.7** Identify the different types of ejection seat systems associated with military aircraft
- **12-3.8** Given an aircraft type, identify the locations of normal doors, emergency exit openings, evacuation slides, and other egress systems on various types of aircraft

OBJECTIVES

- **12-3.9** Given an aircraft type, list the proper shut-down procedure for that aircraft
- **12-3.10** Recognize & define aircraft terminology
- **12-4.1** Identify the Response Duties of an Airport Firefighter
- **12-4.2** Identify Fire Behavior of aircraft fuel in pools

OBJECTIVES

- 12-4.3 Identify physical properties of aircraft fuel
- 12-4.4 Identify fire behavior of aircraft fuels in three-dimensional & atomized states
- 12-4.5 Given a scenario, describe initial operations of ARFF vehicles

OBJECTIVES

- **12-5.1** Identify the extinguishing properties of agents used in aircraft firefighting
- **12-5.2** Identify the compatibility's of extinguishing agents
- **12-5.3** Identify the extinguishing agent used by the local airport

OBJECTIVES

- **12-5.4** Identify the types of eductors used in aircraft firefighting
- **12-5.5** Identify appliances used in aircraft firefighting
- **12-5.6** Identify the different types of nozzles used in aircraft firefighting
- **12-5.7** Given an eductor or appliance, explain its use in supplying extinguishing agents in supply lines & attack lines

OBJECTIVES

- **12-5.8** Describe the methods of application for different extinguishing agents
- **12-5.9** Identify the types of fuels used in different types of aircraft
- **12-6.1** Identify proper firefighting & rescue techniques used during aircraft crash operations

OBJECTIVES

- **12-6.2** Identify tactical considerations for responding to aircraft crashes involving private aircraft
- **12-6.3** Identify tactical considerations for responding to aircraft crashes involving commercial aircraft
- **12-6.4** Identify tactical considerations for responding to aircraft crashes involving military aircraft

OBJECTIVES

- **12-6.5** Identify tactical considerations for responding to aircraft emergencies not involving fire
- **12-6.6** Identify the process of evidence preservation at the scene of an aircraft crash
- **12-6.7** Identify all the safety precautions involved in responding to an aircraft incident involving fire, and non-fire emergencies

OBJECTIVES

- 12-7.1 Identify forcible entry tools
- 12-7.2 Identify the access (entry) areas of various types of military & civilian aircraft
- 12-7.3 Identify the methods of forcible entry used to enter various types of aircraft
- 12-7.4 Identify the difference in forcible entry techniques for pressurized & non-pressurized aircraft

OBJECTIVES

- **12-7.5** Identify the types of aircraft crashes
- **12-7.6** List the difference between aircraft crashes and fires and structural fires
- **12-7.7** List the special problems pertaining to aircraft crashes
- **12-8.1** Identify pre-fire planning for aircraft disasters

OBJECTIVES

- 12-8.2 Identify the communications systems & command post operations by using the I.C.S. System
- 12-8.3 Recognize & utilize local law enforcement agencies
- 12-8.4 Identify the Airport Firefighter's role in local emergency plan

AIRPORT FIREFIGHTER

■ Primary Duties

- Response
- Fire suppression
- Rescue
- Post emergency Ops.

■ Primary Functions

- Fire Suppression
- Rescue

DEFINITIONS

- Aircraft Accident
- Aircraft Incident
- ARFF Protective Clothing
- Authority Having Jurisdiction

PROTECTIVE CLOTHING

- Conventional (Structural) Gear
- Proximity Suits
- Fire Entry Suits

CONVENTIONAL (STRUCTURAL) GEAR

- Helmet
- Coat
- Pants
- Boots
- Gloves
- Hood (Nomex type)
- SCBA

PROXIMITY SUITS

- Provide good heat reflection
- Should not be used for structural fire
- Proximity ensembles
 - Hoods
 - Coat
 - Pants
 - Boots
 - Gloves

FIRE ENTRY SUITS

- Not for use in firefighting

APPLICABLE STANDARDS

- NFPA 1001
- NFPA 1002
- NFPA 1003
- NFPA 1500
- NFPA 1582
- NFPA 472
- NFPA 424
- FAA Regulations
- State Regulations
- Local Regulations

AIRPORT FIREFIGHTER'S DUTIES

- Respond Timely
- Perform Suppression/Rescue Operations
- Perform Standby Operations

RESPONSE AREA - THE AIRPORT

- Fuel Storage Locations
- Emergency Fuel Shut Off
- Fuel Transportation to the Airport
- Spill Drains
- Gate Locations
 - Frangible gates
 - Controlled access areas
 - Staging areas

RESPONSE AREA - THE AIRPORT

- Airport Topography
- ILS Critical Areas

RUNWAY IDENTIFICATION

- By compass degrees - 0-360
- Runway with a compass reading 340 degrees is Runway #34 when approached from the south
- Same runway, when approached from the north has a reading of 160 degrees is Runway # 16

RUNWAY LIGHTING SYSTEMS

■ Blue

- Taxi strips, ramps, dispersal areas, located 100' apart

■ White

- Side of runway, located 200' apart

■ Red

- Obstructions, building, parked aircraft

■ Green

- End of runway, AKA “Threshold lights”, 5 lights, equally spaced apart

■ Amber

- Departure end of runway, located 200' apart

AIRPORT CONTROL TOWER

- Not all airports have towers
 - Depends on size
 - Manning dependents on operational hours

AIRCRAFT CRASH NOTIFICATION SYSTEM

- Aircraft Difficulties
- Emergency Location Transmitter
- E.L.T. Problems
- Notification of A.R.F.F.

AIRCRAFT DIFFICULTIES

- Take-off
- In-flight
- Landing
- Tower lost contact

EMERGENCY LOCATION TRANSMITTER

- Battery operated
- Activates on impact
- Transmits up to 150 miles
- Operates up to 3 days

E.L.T. PROBLEMS

- No tower within 150 miles
- Mountain blocking signals
- Poor maintenance

NOTIFICATION OF A.R.F.F.

- Direct from tower
- Alarms systems

VEHICLE MOVEMENT & ACCESS

- Radio communication with tower on ground control frequency
- Light signals from light gun
 - **Flashing green light** - proceed across & down runway
 - **Steady red light - STOP!** - do not proceed
 - **Flashing red light** - Clear immediately - active runway or landing area
 - **Flashing white light** - return to station

GRID MAPS

- Grid maps are used by the tower to locate aircraft accidents on the airport or surrounding area
- Maps should encompass a 5-15 mile radius of the airport facility

GRID MAPS

■ Purpose

- Identify terrain features
- Identify accessible roads, bridges, landmarks, & buildings
- Used to identify water supply sources
 - Rivers
 - Streams
 - Ponds
- Identify gates
- Identify obstructions

TYPES OF AIRCRAFT

■ General Aviation

- Single engine
- Twin engine
- Jet

■ Commercial Aircraft

- Commuter
 - Twin engine
 - Turbo-prop
 - Jet

TYPES OF AIRCRAFT

■ Commercial Aircraft cont.

- Four Engine

- Passenger
- Cargo

■ Military

- Small aircraft

- Large frame

- Cargo
- Bombers

- Fighters/Fighter bomber

TYPES OF AIRCRAFT

- Helicopter
 - Single rotor
 - Engine rotor

CONSTRUCTION MATERIALS

- Duralumin-used in skin
- Magnesium
 - Landing gear
 - Engine mountings
 - Wheels
 - Skin reinforcement
- Titanium
 - Skin reinforcement
 - Engine parts

CONSTRUCTION MATERIALS

- Plywood
 - Fuselage (Smaller aircraft)
- Plastics
 - Interior components
- Fabric
 - Interior seats
 - Carpet
 - Skin surface on some aircraft

CONSTRUCTION MATERIALS

- Steel
 - Engine
 - Firewall
 - Tubing
 - Frame

AIRCRAFT ENGINES

- Reciprocating or piston
 - Lightweight materials
 - No muffler in exhaust system
- Turbine or jet
 - Components
 - Compressor
 - Burner
 - Turbine

AIRCRAFT ENGINES

- Turbine or jet cont.
 - How it works
 - Air drawn in
 - Compressed & mixed w/fuel
 - Ignited
 - Expelled out rear to produce thrust
 - Turbo prop
 - 80% prop power
 - 20% prop power

AIRCRAFT ENGINES

- Hazards of turbine jets
 - Intake danger zone
 - Jet blast danger zone
 - Noise
 - Re-ignition after shutdown

AIRCRAFT COMPONENTS

- Engine

- Cowling
- Propellers

- Wings

- Flaps
- De-icer boot

AIRCRAFT COMPONENTS

- Fuselage
 - Cockpit
 - Passenger/cargo compartment
 - Baggage compartment
- Empange
 - Tail section
 - Horizontal stabilizers
 - Vertical stabilizers
- Landing gear

AIRCRAFT SYSTEMS

■ Fuels

- Aviation gasoline
 - 100-145 octane
 - Flash point - 50 Degrees F
 - F.R. 1.4 - 7.6% in air
 - Ignition Temperature
 - Flame Spread
 - 700-800 FPM
 - 12 FPS

AIRCRAFT SYSTEMS

■ Fuels cont.

– Jet A or JP-5 (Kerosene)

- Flash point 94-145 Degrees
- F.R. 0.74 - 5.32% in air
- Ignition temperature 40-475 Degrees
- Flame Spread
 - 100 FPM
 - 1.6 FPS

AIRCRAFT SYSTEMS

■ Fuels cont.

– Jet B or JP-4

- Blend of AV gas and Jet A
- Flash point - 10 degrees
- F.R. 1.6-7.63% in air
- Ignition temperature 470-480 Degrees
- Flame spread
 - 700-800 FPM
 - 12 FPS

AIRCRAFT SYSTEMS

■ Fuels cont.

- Fuel capacity
 - Varies with aircraft
 - Single engine
 - 30-50 gallons
 - Twin engine
 - 200-300 gallons
 - Commuter
 - 1000-2000 gallons
 - Commercial (747)
 - 63,000 gallons

■ Fuels cont.

- Fuel tank locations
 - Wings (two styles)
 - Integral wet tank
 - Bladder tank
 - Wing tips
 - Under Fuselage
 - Auxiliary

AIRCRAFT SYSTEMS

■ Fuels cont.

– Fuel lines

- 1/8” to 4” diameter
- Color coded- **RED**

■ Fuels cont.

– Fuel Pump

- 4-40 psi (Large a/c)
- 3-5 psi (Small a/c)

AIRCRAFT SYSTEMS

■ Hydraulic systems

- Operates landing gear, brakes, flaps, rudders, stabilizers
- Types of hydraulic fluid
 - Synthetic - Skydrol
 - Vegetable base
 - Mineral base

AIRCRAFT SYSTEMS

- Hydraulic systems cont.
 - Hydraulic system components
 - Reservoir
 - Pump-moves fluid to accumulator which keeps fluid under pressure
 - Lines/tubing
 - Aluminum
 - Stainless steel
 - Identification
 - Operating pressure

AIRCRAFT SYSTEMS

■ Electrical systems

- Supplies power to engine electrical equipment, hydraulic & fuel pump
- Large aircraft may have as much as 25 miles of wire & cable, and enough electrical power to light a small city

■ Oxygen system (LOX)

- Used on all aircraft intended for high altitudes

AIRCRAFT SYSTEMS

- Oxygen system (LOX) cont.
 - Types of systems
 - Fixed
 - Portable - small bottle
- Anti-icing & de-icing systems
 - Systems disperse ice that may form on critical parts of the aircraft
 - Anti-icing system prevent the formation of ice

AIRCRAFT SYSTEMS

- Anti-icing & de-icing systems
 - De-icing system remove ice already formed
 - Types of systems
 - Alcohol based fluids
 - Electrical
 - Turbine air bleed system

AIRCRAFT SYSTEMS

- Canopy jettison systems (military)
 - Define Jettison
 - Canopies or jettison systems should not be activated unless emergency egress will be required
 - If system is to be activated, specific directions painted on the left side of the aircraft must be followed

AIRCRAFT SYSTEMS

- Canopy jettison systems (military) cont.
 - Reference a military T.O.
 - Systems activation
 - Mechanical
 - Explosive action
 - Canopy - metal framework w/high strength plastic covering

AIRCRAFT SYSTEMS

- Canopy jettison systems (military) cont.
 - Canopy cont.
 - Normal Operation
 - Pneumatic
 - Electric
 - Hydraulic
 - Manual
 - Types
 - Clamshell
 - Sliding type

AIRCRAFT SYSTEMS

- Canopy jettison systems (military)
 - Ejection seats
 - A jettison seat may activate a seat system
 - Extremely dangerous
 - Activation methods
 - Face curtain
 - Activating

RESPONSE DUTIES

- Respond safely
- Respond quickly
- Attack
- Control
- Rescue
- Extinguishment
- Scene preservation

AIRCRAFT FUEL

- In pools
- Three-dimensional
- Atomized

AIRCRAFT FUEL - PHYSICAL PROPERTIES

- Flash points
- Flame speed
- Flammability limits

ARFF VEHICLE OPERATIONS

- Turrets
- Handline

VEHICLE POSITIONING

- Wind
- Terrain
- Wreckage
- Survivors
- Hazardous areas
 - Intake areas
 - Exhaust areas
 - Weaponry
 - Under wings
 - Crew escape/ejection systems
 - Wheel fires

WATER

- Generally not suitable without the addition of some type of extinguishing agent
- Most effective when used as a fog
 - Conserve water
 - Moves burning liquid away from aircraft
 - Cools the fuselage & creates a heat shield for personnel
- Interlocking patterns

DRY CHEMICAL

- Combat hydrocarbon fuel fires
 - Quick knockdown & extinguishment of flammable liquids if applied fast enough & in enough quantity
- No vapor sealing quality
- Back up use with foam

CARBON DIOXIDE

- Nonflammable
- Odorless
- Non-toxic
- Reduces oxygen content

FOAM

- 97% of foam concentrate is water
- Reaction on flammable liquids
 - Smothers
 - Suppresses (air & vapor mix)
 - Separates flame from fuel
 - Cool liquid

FOAM

■ Qualities of foam

- Flow quickly & easily over the surface
- Forms a tight cohesive blanket
- Resist breakdown
 - From the liquid itself
 - From heat
- Retain moisture
- Resist disruption from the wind

FOAM

- Measurement of foam quality
 - 25% life of 25% drainage
 - Burn back time
 - Foam expansion
- Types of foam
 - Protein 3% to 6%
 - Used only on hydrocarbons
 - Gasoline
 - Kerosene
 - Diesel

FOAM

- Types of foam cont.
 - Protein cont.
 - Good drainage time
 - Good burn back time
 - Compatible with some dry chemical agents
 - 5 year shelf life
 - Aqueous film forming foam (AFFF) 3% & 6%
 - Used only on hydrocarbons
 - Gasoline
 - Kerosene
 - Diesel

FOAM

■ Types of foam cont.

– AFFF cont.

- Film flows rapidly onto liquid surface
- Can be used with dry chemicals
- Very poor drainage time
- Very poor burn back time
- Long shelf life - 20 years

FOAM

■ Types of foam

– AFFF/ATC 3% & 6%

- Alcohol concentrate used on both hydrocarbons & polar solvents
- Drainage time only fair
- Good burn back time
- Long shelf life - 20 years

EDUCTORS & APPLIANCES

- Eductors
 - A device with the capability of inducing a controlled quantity of foam concentrate into supply line to the nozzle
- Eductor & nozzle must be compatible
- Typical eductor is 95 GPM, but available up to 250 GPM

EDUCTORS & APPLICANCES

■ Parts of an eductor

- Pick up tube assembly
- Metering valve
- Venturi system (barrel)
- Check valve

■ Appliances

- Air aspirating foam nozzle
- Fog nozzles

■ Placement of eductor

- 1 1/2” hose
 - Maximum of 150’ hose between eductor & nozzle
- 1 3/4” hose
 - Maximum of 200’ hose between eductor & nozzle

EDUCTORS & APPLIANCES

■ Application

- Bounce & roll
- Cascade
- Sweep
- Rain drop (best option in no wind)

■ Foam Production

- Six gallon 6% foam concentrate equals 100 gallons finished foam
- Three gallon 3% foam concentrate equals 100 gallons finished foam

SIZE UP

- Enroute information
 - Type of aircraft
 - Type of emergency
 - Amount of fuel on board
 - Number of souls on board
 - Type of cargo
 - Wind direction

SIZE UP

- First arriving officer's size up considerations of crash site
 - Exact location of site
 - Best route for responding units to take
 - Call for additional help
 - Verify type of aircraft
 - Any survivors
 - Verify wind direction
 - Terrain conditions
 - Exposures
 - Buildings
 - Vehicles

APPROACHING THE SCENE

- Approach slowly & carefully
 - Have firefighters walk in front of vehicle
 - Consider turning off siren
- Survivors & victims
 - May be in crash path
 - May be in approach area
 - May be in grassy areas
 - May be in brush areas
 - May be in trees

APPARATUS & HOSELINES POSITIONING

- Use hand signals
- Apparatus positioning
 - No perfect position
 - Position to be safe & effective
- Emphasis on rescue
 - Close enough for hoselines
 - Upwind
 - Maintain an escape route

APPARATUS & HOSELINE POSITIONING

- Emphasis on rescue cont.
 - Don't block other ARRF vehicles
 - Reposition if necessary
 - Be aware of terrain conditions
- Initial attack lines
 - Fires line between victim & fire
 - Deploy as fast as possible
 - Use foam ASAP

APPARATUS & HOSELINE POSITIONING

- Initial attack lines cont.
 - Deploy back-up lines ASAP
 - Consider a turret blitz
 - Don't put streams in vent holes
 - Maintain a rescue path

RESCUE

- Rescue is the primary objective during aircraft fires
 - Best achieved by fire control & well practiced rescue procedures
- Rescue begins on arrival
 - Normal exits (flight crew)
 - Emergency exits (flight crew)
 - Cargo doors (firefighters)

RESCUE

■ Forcible entry

- Assist in opening normal egress
- Windows
- Avoid cutting into aircraft

■ Ventilation

- Performed prior to entry
- Use existing openings if possible
- PPV best
- Cut only in cut-in areas

RESCUE

- Releasing/removing passengers/victims
 - Set priorities
 - Ambulatory
 - Non-ambulatory
 - Don't remove the dead
 - Removal of passengers
 - Normal seat belt release
 - Cut seat belt
 - Remove victims as cautiously as possible

RESCUE

- Releasing/removing passenger/victims cont.
 - Searching for victims
 - Under seats
 - Luggage areas
 - Rest rooms
- Extinguishment
 - Fire control to speed rescue
 - Complete extinguishment is usually accomplished after evacuation & rescue has been completed

RESCUE

■ Overhaul

- Entire aircraft must be overhauled in both fire & non-fire situations
 - Check entire aircraft

PRESERVATION OF EVIDENCE

- Protecting evidence is the most important step after fire control & rescue
 - Do not allow unauthorized people around wreckage
 - Disturb wreckage as little as possible
 - If possible - photo/video area
 - Do not remove switches in flight deck area
 - Voice/flight recorder should be removed by qualified personnel only
 - Implement security measures as soon as possible
 - Military aircraft

SAFETY

- Aircraft crash with fire
 - Full protective clothing
 - Use foam
 - Back up lines (foam also)
 - Reapply foam as needed
 - Be alert for haz mat or explosives
 - Keep exposed fuel tanks protected from fire

SAFETY

■ Aircraft incident with no fire

- Full protective clothing
- Charged hand lines at all times
- Cover fuel spills with foam
- Stop spread of fuel
- Cut off fuel flow from aircraft
- No smoking
- Do not touch explosives
- Be careful when using rescue tools
- Shut off fuel switches
- Disconnect batteries
- Keep unauthorized people out

ENTRY INTO AIRCRAFT

- Type of aircraft
- Impact force
- Opening doors
 - Normal methods
 - Forcible entry rule of them
- Emergency egress points
 - Pilot's sliding window
 - Cargo door
 - Service/passenger door
 - Exit hatch

FORCIBLE ENTRY TOOLS

- When working around aircraft always be alert for flammable atmosphere
- Wear full PPE including SCBA
- Hand tools
 - Crash axe
 - Serrated axe
 - Harness knife
 - Cable cutter
- Power tools
 - Gasoline powered
 - Hydraulic tools
 - Pneumatic tools

FORCIBLE ENTRY INTO AIRCRAFT

■ Non pressurized aircraft

- Removal of plexiglass
 - Break corner of glass
 - Remove gasket material
 - Push window in

■ Pressurized aircraft

- Cutting through skin
 - Top cut
 - Side cut
 - Fold skin down

TYPES OF CRASHES

■ High impact

- High fatality rate
- Low injury rate
- Activities for FF include
 - Fire control
 - Preservation of evidence
 - Protect/I.D. victims

■ Low impact

- High injury rate
- Low fatality rate
- Activities for FF include
 - Rescue
 - Control

TYPES OF CRASHES

- Cartwheel
 - High fatality rate
 - Low injury rate
 - Activities for FF include
 - Fire control
 - Preservation of evidence
 - Protect/I.D. victims

STRUCTURAL FIRES VS. AIRCRAFT FIRES

■ Time

- Aircraft fuselage will burn through in 90-120 seconds
- There is no place to hide
 - Evacuation must take place in 90-120 seconds & fire is everywhere
- Rescue has priority
 - Fire control must simply cut a path

SPECIAL PROBLEMS

■ Hot brakes

- Allow to cool on its own
 - Peak temperature may not be reached for 15-20 minutes after aircraft stops
- Danger of fire due to the presence of combustible metals
- Danger Areas
 - Side of tires
 - Hot hydraulic fluids

SPECIAL PROBLEMS

■ Helicopter rotors

- Do not approach when rotors are turning
- Front rotors will droop as Rpm's drop
- Rear rotors are invisible at high Rpm's

■ Military aircraft

- Armed?
- Ejection seat
- Ammunition in storage?

PRE-PLANNING FOR AIRCRAFT CRASHES

- Grid maps
 - Must cover at least 5-15 mile radius or airport
 - Can be designated for specific areas
 - Locates all bridges & load limits
 - Locates wooded areas, streams, ditches, marshes, & other natural obstacles
 - Conditions of secondary roads
 - Location of all medical facilities
- Traffic control coordinator

COMMUNICATIONS & COMMAND POST

- Communications system is critical
 - Multi-channeled radios
 - Portable radios
 - Command vehicle equipped with multiple radios & distinctively marked
 - Local police frequency
 - Disaster services
 - Open channels

COMMUNICATIONS & COMMAND POST

■ Command post

– Established ASAP

- Fire department.
- Law enforcement
- Disaster services
- PIO
- Medical liaison
- Utility company
- Airline rep.
- Telephone co. rep.
- Mortuary rep.
- Clergy
- Other (FEMA, NTSB)

LAW ENFORCEMENT AGENCIES

■ Police

- Local
- State
- Military
- Federal

■ Traffic Control

- Routing emergency vehicle traffic
- Control unauthorized vehicles

■ Security

- Crowd control
- Prevent looting of crash site
- Prevent disturbing crash debris
- Control unauthorized media

MANPOWER, VEHICLES, & EQUIPMENT

- Compile a comprehensive list
 - Vehicles & apparatus
 - Command vehicles
 - Pumpers
 - Crash trucks
 - Aerials
 - Rescue trucks
 - Wreckers
 - Ambulance
 - Cranes

MANPOWER, VEHICLES, & EQUIPMENT

- Compile a comprehensive list cont.

- Equipment/supplies

- Special rescue equipment
- Medical supplies
- Radios (base & portable)
- Lighting equip.
- Cellular phones
- Computers
- Camera equipment
- Video equipment
- Portable water
- Toilets

MANPOWER, VEHICLES, & EQUIPMENT

- Compile a comprehensive list cont.
 - Manpower
 - Local firefighters
 - Auxiliary firefighters
 - Mutual aid companies
 - Utility company personnel
 - Law enforcement
 - National Guard/Reserves

MEDICAL SERVICE

- Compile a comprehensive list of all available vehicles capable of transporting victims
- Establish a mobile medical team that can work on site
- Establish a Transportation Coordinator to assist in directing victims to appropriate hospitals/medical facilities

MEDICAL SERVICE

- Set up medical staging area
- Set up an accountability systems for victims
 - Where found, where sent

MORTUARY

- Refer to local/state laws regarding removal of bodies
 - Before body is moved, photograph it, and mark its exact location
 - Tag each body
 - Establish a temporary morgue

PUBLIC RELATIONS - INFORMATION DISPERSAL

- Public Information Officer

NOTIFICATION OF GOVERNMENT AGENCIES

- FAA
- NTSB
- Closest military base
- FBI
- Postal service
- Forest service