1. **Definitions:** The Aircraft Rescue Vehicle Technician shall define the terms and phases commonly used in connection with the operation and/or testing of ARFF Vehicles, to include the following:

   a. **Vehicle Chassis:**
   
   (1) Frame
   (2) Axles
   (3) Brake Systems
   (4) Suspension
   (5) Steering
   (6) Transfer Case
   (7) Power Divider
   (8) Wheels and Tires
   (9) Engines
   (10) Transmission
   (11) Electrical Systems
   (12) Fuel System
   (13) Quick Build Up/ Air System
   (14) Torque Converter
   (15) Fluid Coupling
   (16) Tubing-hoses-fittings

   b. **Vehicle Components:**
   
   (1) Body and Cab
   (a) warning lights
   (2) Eductor
   (3) Proportioner
   (4) Foam Agent Pump (not transfer pump)
   (5) Dual Agent Nozzle & Turret
   (6) Built in battery Charger
   (7) Valves and plumbing
   (8) MADAS
   (9) Generators
   (a) Bonding
   (10) Lateral Acceleration Indicator (LAI)
   (b) Passive
   (c) Forced
   (11) Elevated Waterway Nozzles
   (12) Exhaust system
   (13) Pressure relief valves
   (14) Side Slope (SAEJ2180)

   c. **Emissions**
   
   (1) SCR - Selective catalytic reduction
   (2) DEF - Diesel Exhaust Fluid
   (3) DOC -Diesel Oxidation Catalysts
   (4) CCF - Closed Crankcase Filter
   (5) DPF - Diesel Particulate Filter
   (6) Dosing Valve
   (7) Regeneration
   (a) Active
   (b) Passive
   (c) Forced
   (8) Ultra Low Sulfur Diesel Fluid

2. **Principles of operation:** Understand the basic operating principles of the chassis and its components.

   a. **Identify Hydraulic and Air system symbols, such as:**
   
   (1) Hydraulic Pump
   (2) Pressure Protection Valve

   b. **Describe the Function and Application of the following:**
   
   (1) Engine Governors
   (2) All Wheel Drive
   (3) Pump and Roll
   (4) Quick build up air systems
   (5) Steering and Suspension
   (6) Built in battery charger
   (7) Air Mechanical Brakes
   (8) Air-over Hydraulic Brakes
   (9) Dual Agent Nozzle & Turret
   (10) Windshield deluge system
   (11) Winterization system
   (12) Exhaust system
   (13) Pressure relief valves
   (14) Side Slope (SAEJ2180)

3. **Principles of Repair, Maintenance & Troubleshooting:** The Aircraft Rescue Vehicle Technician shall understand the principles of service of Aircraft Rescue and Fire-Fighting Vehicles.

   a. **Identify Service and Preventative Maintenance Activities:**
   
   (1) Types of inspections & procedures
   (2) Purpose of visual inspections
   (3) Maintenance records
   (4) Use of maintenance schedules
   (5) Manufacturers "Accepted Practice" methods
   (6) Procedures
   (7) Vehicle retirement

   b. **Troubleshooting and repair procedures:**
   
   (1) Diagnose common problems
   (2) Interpret schematics/diagrams
   (3) Retrieve and interpret diagnostic codes
   (4) Describe use of diagnostic equipment
   (5) Understand operational test requirements
   (6) Identify "Accepted Practice" repair procedures
   (7) Identify Out-of-Service criteria