

Helicopter Engineering with London's Air Ambulance

London's Air Ambulance uses MD902 Explorer Helicopters. These have been specially engineered and modified to meet the performance requirements of saving lives across the capital. They are piloted by two pilots and carry an advanced trauma doctor and paramedic as well as all the equipment needed for specialist trauma treatments. One MD902 Explorer can be ready to launch in 4 minutes and can fly to any location in London in under 10 minutes.

Download the **HELIMED APP** to try flying the helicopter yourself



Captain Dave Rolfe
Pilot

Activity 1

Look at the design features labelled in the photographs, and match the letter to the appropriate description in the table.



G-LNDN SPECIFICATIONS, Model: MD902 Explorer, Hull No: 68, Max all up weight: 2834 kg.

Engines: 2 Pratt and Whitney 207e, Top speed: 140 knots, Mission ready endurance: 1 hour from the Helipad (130 miles)

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Design Features

A	Two engines for safety
	Skids for landing on soft surfaces, made of steel for durability
	Rotorless tail, for safer flying in urban environments
	Flame retardant, reflective, high visibility nomex suit with adjustable zipped boots
	Lightweight body of aluminium, carbon fibre composite and polymers
	Modified interior with medical grade floor for cleanliness, stretcher and 176kg of portable life-saving equipment and medicines.
	Pitot tubes on the nose to measure speed in knots and air temperature

Activity 2

Look at each design feature of London's Air Ambulance uniform. Give three reasons why the uniform could be classed as personal protective equipment (PPE)

- 1 _____
- 2 _____
- 3 _____

Activity 3

Composites are manufactured materials made of two different materials that when joined, have enhanced properties. Carbon fibre is used for the helicopter's blades, as it is lightweight and tough. Research two more composite materials and their common uses.

Material	Use