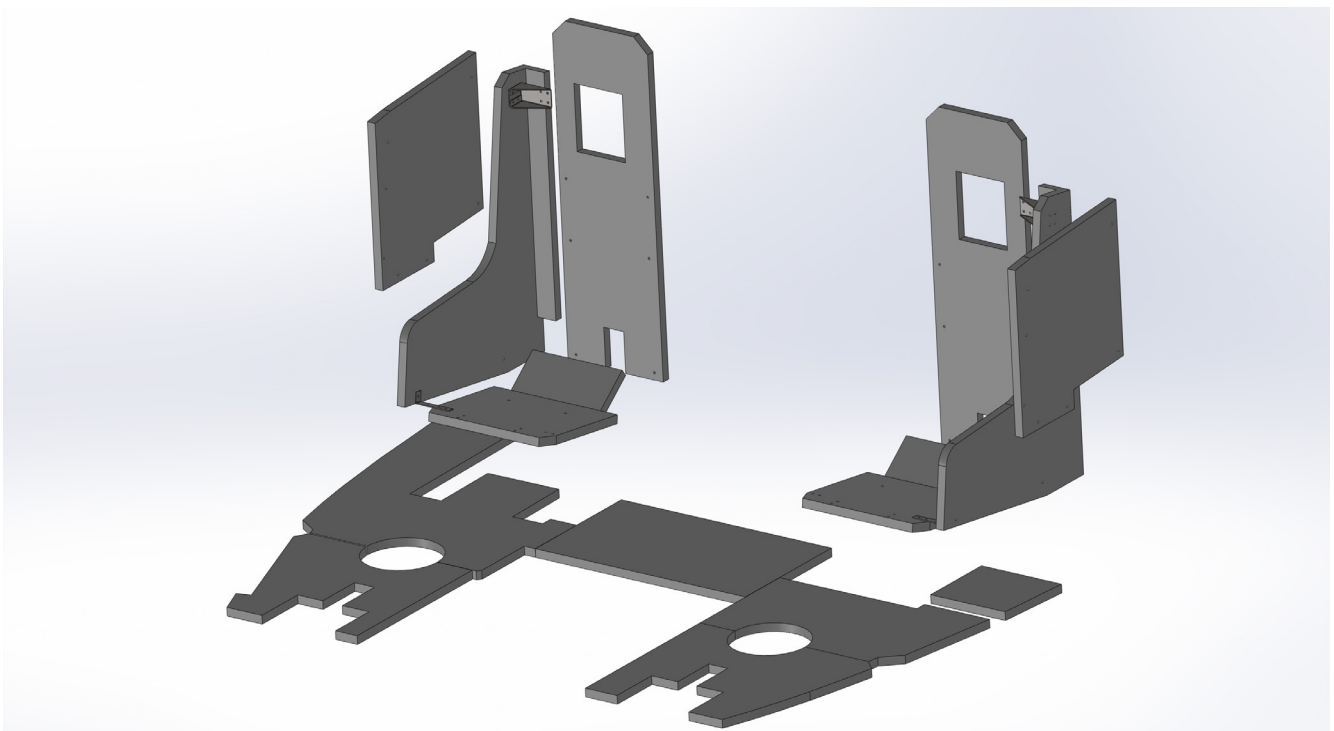


H225 / H215 / AS332 / AS532 / MK1&MK2 SUPER PUMA AND COUGAR

Effective Ballistic Protection for Helicopter Cockpit



➤ RUAG's armor plates are manufactured using state-of-the-art technology. Latest findings from materials research have helped to reduce the weight to a minimum. The lightweight panels installed in the helicopter cockpit protect the crew from arms fire from below. The panels are customized according to customer requirements. The ballistic protection is designed as a retrofit kit adaptable for Puma / Super Puma and Cougar series as well as to mission requirements.

DESCRIPTION

All components installed in the cockpit are designed to meet crash load and fire protection requirements according to EASA CS-29.561 and EASA CS-29.853. On request, the EASA approval can be adapted to the customized protection system. The ballistic protection retrofit kit is installed on the airframe with a VELCRO Hook and Loop system. This allows an easy mounting/dismounting in a very short time with only one person and only a minimum of tools. The floor panels are coated with an anti-skid surface.

Depending on helicopter configuration and customer specific equipment, the retrofit kit can be adapted in terms of form & fit and required protection level. The retrofit kit, stored in transport boxes, can be installed in a modular fashion depending on mission requirements and, in addition, can be easily exchanged within your fleet of helicopters.

YOUR ADVANTAGES

- Protects the helicopter crew against hostile fire from below
- Can be designed for any type of helicopter according to your requirements
- Performance and weight benefit of up to 30 percent compared to most OEM solutions
- Provides the highest level of protection while retaining the full system functionalities of the helicopter
- Easy to install: the cockpit retrofit kit can be mounted/dismounted by just one person within less than half a day
- All material is manufactured according to the latest technologies
- Extremely lightweight and durable
- Resistant against environmental hazards (e.g. humidity, fire resistance) multi impact resistant
- Protection adapted to the interior configuration, no restrictions for existing cabin equipment
- Minimum airframe modifications required
- Convenient transport and logistics
- Interchangeable among the fleet



CONFIGURATIONS

➤ AREAS OF PROTECTION

- Cockpit floor
- Cockpit doors
- Seats of pilot and co-pilot (rear protection, lateral protection from the thigh support over torso to head area and protection of the seat surface)

➤ LEVEL OF PROTECTION

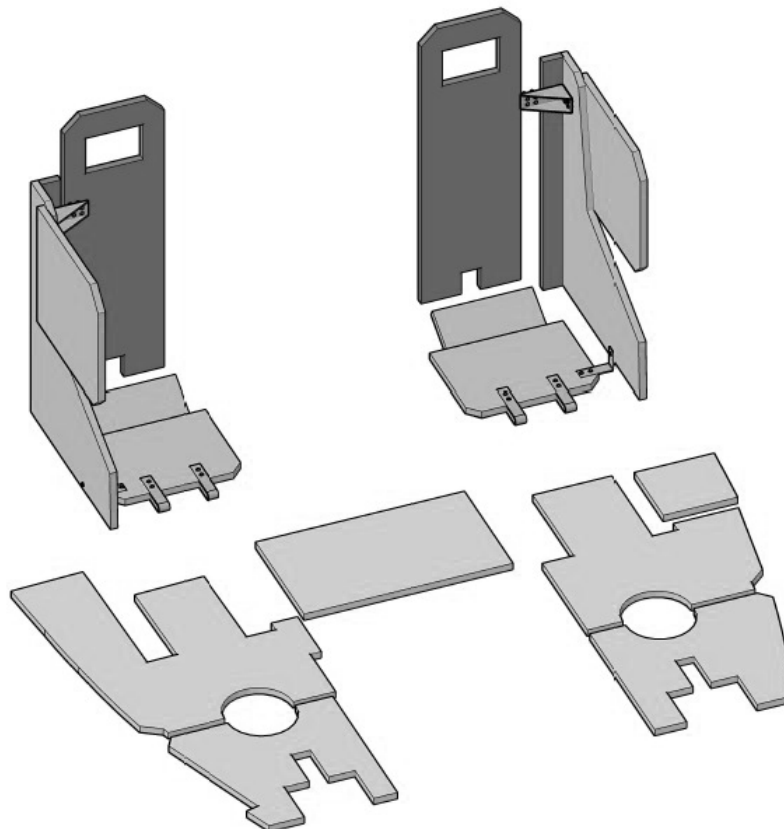
- VPAM 9 according to VPAM test guidelines APR 2006 of 14.05.2009
- 7,62 x 51 FM/PB/HC P80 $V_{\text{target}} 820 \text{ m/s} \pm 10 \text{ m/s}$

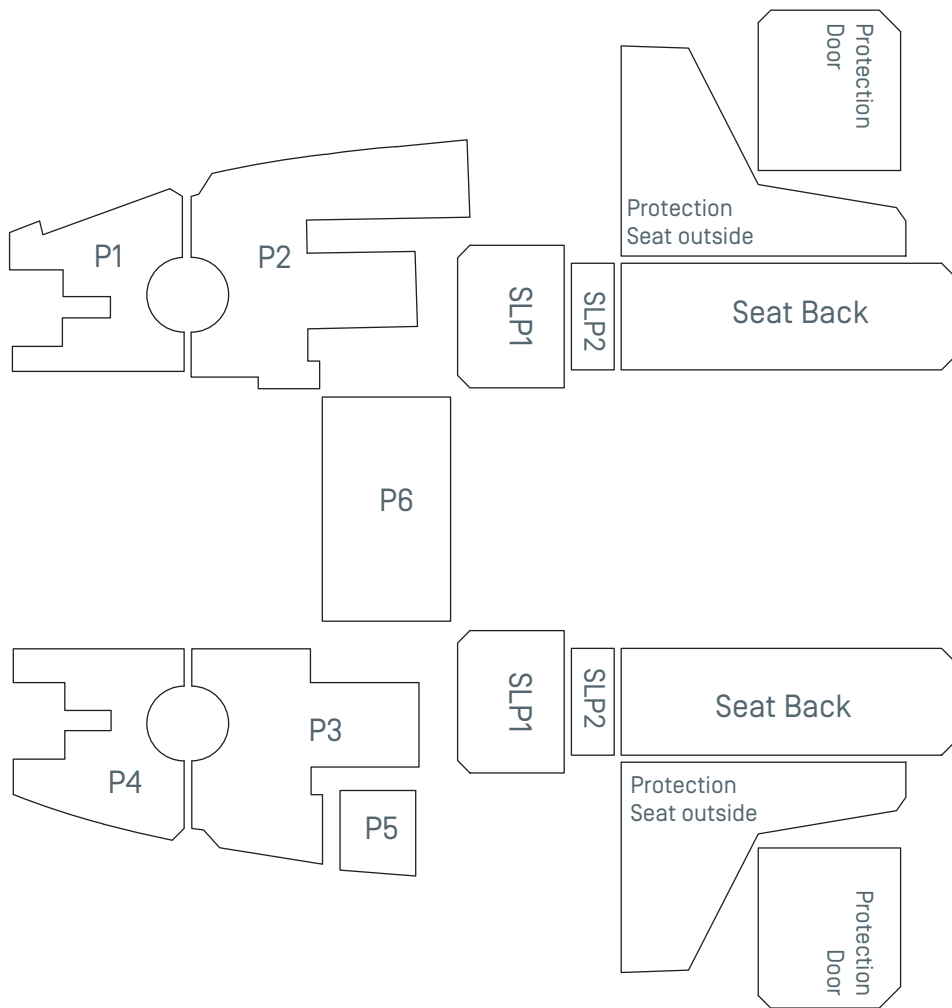
➤ ADDITIONAL INFORMATION

- Plate thickness max. 23 mm for VPAM 9
- Fastening of the protective elements with VELCRO Hook and Loop & Fleece connections
- Installation of the protection system does not interfere with the integrity of the cockpit seat
- Total area of coverage approx. 2.82 m²
- Total weight 91.56 kg [$\pm 1 \text{ kg/m}^2$] for cockpit floor, doors and seats ready for installation, with surface protection incl. fastening elements

➤ SPECIFICATION BALLISTIC PROTECTION FOR COCKPIT FLOOR, DOORS AND SEATS

Cockpit floor	Armor plates (PE laminate)
Cockpit seats	Lightweight armor (aramid fiber), protection according to STANAG 2920
Cockpit doors	Lightweight armor (aramid fiber), protection according to STANAG 2920
Cockpit sidewalls	Lightweight armor (aramid fiber), protection according to STANAG 2920





➤ VPAM 9 PROTECTION LEVEL

No.	Assembly	Fixed Part	kg/piece	Tools	Inst. (mins.)
P1	Floor RH FWD Bottom Plate	-	5,21	No	2
P2	Floor RH AFT Bottom Plate	-	10,85	No	2
P3	Floor LH FWD Bottom Plate	-	8,12	No	2
P4	Floor LH AFT Bottom Plate	-	5,76	No	2
P5	Additional LH AFT Bottom Plate	-	1,72	No	2
P6	Floor MID Bottom Plate	-	7,37	No	2
P7	Seat back protection LH & RH	Yes	7.15 [14.29]	Yes	10 [20]
P8	Seat outside protection LH & RH	Yes	8.52 [17.03]	Yes	10 [20]
P9	Seat lower protection LH & RH	Yes	4.68 [9.35]	Yes	10 [20]
P10	Door protection LH & RH	Yes	5.93 [11.86]	Yes	5 [10]