



CRV7 ROCKET WEAPON SYSTEM

ROTARY WING

What It Takes to be the Best



The CRV7 Rocket Weapon System (RWS) is the leading 2.75" (70 mm) unguided rocket weapon system, offering longer range, fastest time to target, and superior accuracy to both fixed wing and rotary wing users. Sold to 13 countries around the world, the CRV7 system includes rocket motors, launchers, and warheads of various models depending upon mission objectives. Extremely cost effective, CRV7 has a demonstrated reliability of over 99%.

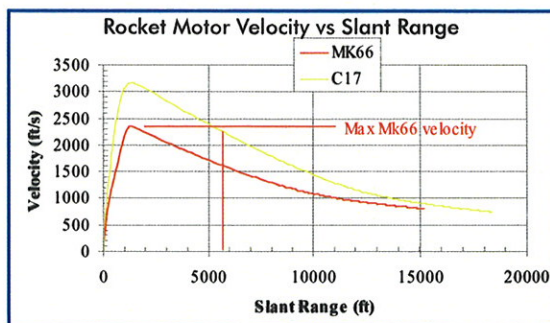
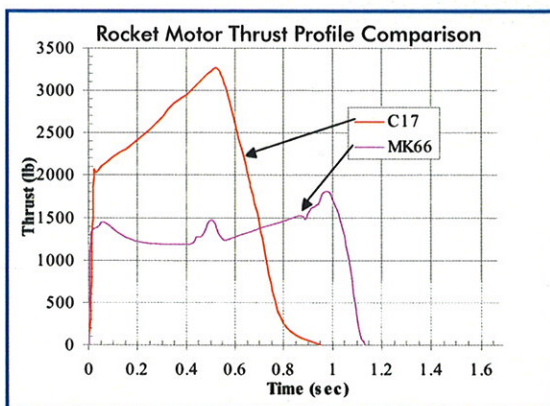
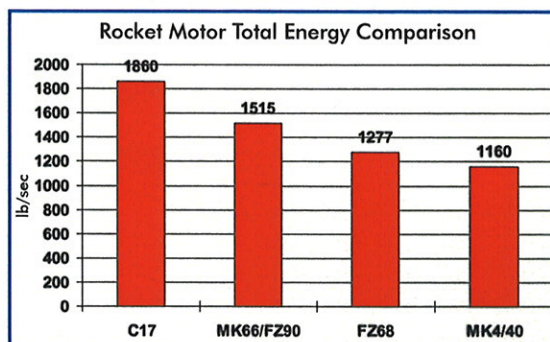
PERFORMANCE ADVANTAGES

Superior Accuracy

The CRV7 C17 motor is the only 2.75" rocket motor developed specially for the turbulent operating environment of a helicopter. The rocket velocity departing the launcher is >20% faster than competing rocket motors and the spin rate is optimized throughout the rocket flight to ensure dynamic stability and accuracy. Spin rate is generated by the vanes in the rocket motor nozzle initially, and then by specially designed wrap-around fins during rocket flight. A 40% increase in accuracy was measured during Apache helicopter firings comparing C17 to competing systems. Ground launch trials have demonstrated this accuracy improvement also. A ripple of three C17 rockets were more effective than a ripple of seven rockets from a competing system. Not only will a CRV7 C17 get to the target faster, the probability of hit is significantly higher.

Fastest to the Target (Penetration Capability)

A 10 lb warhead with a C17 rocket motor reaches a range of 9,000 ft (2,742 m) at least two seconds faster than competing rocket motors - an eternity for a helicopter crew performing a defence suppression role. The high impulse of the CRV7 C17 rocket motor also provides superior kinetic energy for the effective functioning of penetrator warheads against armoured targets.



Longest Range

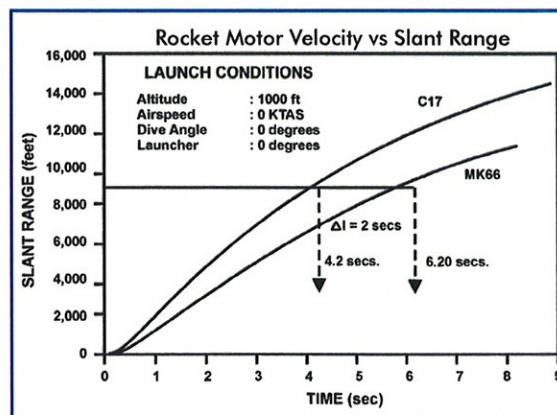
The C17 rocket motor was designed for helicopter or ground launch with a motor burnout range comparable to competing systems. The C17 motor achieves a velocity at least 36% greater than other motors (based on tests with a 10 lb/4.54 kg warhead). This energy serves to propel the rocket to a greater maximum range of at least two additional km, depending on the warhead flight characteristics.

Safest to Use

The composite propellant and the design of the CRV7 C17 motor allows for storage and operation in climatic conditions from arctic to desert conditions (-54° to +71° C).

CRV7 motors are most compliant with Insensitive Munitions (IM) criteria, MIL-STD-2105.

The Head End Permanent Igniter (HEPI) features an integrated RF filter, providing protection against Hazards of Electromagnetic Radiation to Ordnance (HERO) and Electrostatic Discharge (ESD). The HEPI igniter is retained inside the head end of the motor for the duration of flight, minimizing ejecta from the motors and the possibility of damage to the



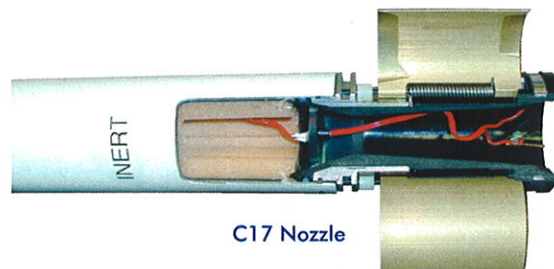
C17 Rocket Motor

CRV7 RWS FOR ROTARY WING PLATFORMS

Motors

C17 (RLU-5004/B) Rocket Motor

The C17 rocket motor is designed to provide optimum performance with a variety of warheads when launched from rotary wing aircraft. At ambient temperature, the C17 rocket motor has a typical ignition time of 15 milliseconds and a typical action time of 0.93 seconds. Use of non-aluminized propellant results in reduced smoke and thermal signatures.



C17 Nozzle

Warheads

WTU-5001/B Practice

WTU-5001A/B Hardened Rod Practice

These 10 lb warheads are used as a training substitute for a variety of explosive-filled 2.75 inch rocket warheads. The WTU-5001/B consists of an 8 lb soft steel rod encased in a nylon/glass fibre shell. The WTU-5001A/B features a steel rod with superior penetration characteristics and may be used as a kinetic energy penetrator in an anti-armour role.

General Purpose Flechette

The General Purpose Flechette (GPF) warhead contains 80 tungsten flechettes weighing 280 grains (18 grams) each. Each flechette is capable of penetrating light armour (1.5 inches RHA). The warhead functions at motor burnout causing the flechettes to be expelled from the canister. The flechettes fly individually (do not tumble) to the target area to maximize hit probability.

RA-79 MOD A1 High Explosive Incendiary Semi-Armour Piercing

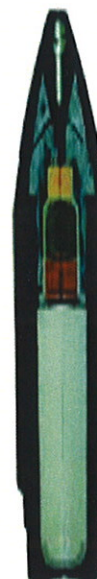
The RA-79 High Explosive Incendiary Semi-Armour Piercing (HEISAP) warhead was developed primarily for the anti-ship role. The warhead uses the kinetic energy of the rocket motor for hull penetration and a fixed time delay fuze to function the warhead inside the ship. The high explosive fill and the incendiary charge result in thousands of high velocity fragments with a pyrophoric effect. The warhead is also very effective as a general purpose high explosive warhead where penetration into a target is required before warhead functioning.



WTU-5001/B
WTU-5001A/B



GPF



RA-79

M151 High Explosive Point Detonating

The M151 High Explosive Point Detonating (HEPD) warhead with the M423 PD nose-mounted fuze is designed for antipersonnel applications. The 8.7 lb (unfuzed) warhead containing 2.3 lb of Composition B-4 high explosive detonates upon impact, creating thousands of small, high velocity fragments.

M257 Illumination

M278 Illumination

The M278 Illumination warhead with the M442 fuze is designed for battlefield illumination. It illuminates approximately one square mile with one million candlepower of light for 120 seconds. The M278 operates in an identical manner but it emits illumination at the near-IR spectrum.



M151 HEPD
(M423 Fuze)



M257
(M442 Fuze)



Launchers

M260 (7 Tube) Light Weight Launcher

M261 (19 Tube) Light Weight Launcher

The M260 and M261 launchers significantly increase system capabilities while decreasing system weight and minimizing the manoeuvrability and endurance problems encountered with some other launchers. These aluminum launchers are inexpensive, durable, and provide compatibility with remote set fuzes, and C17, MK66, and MK40 rocket motors.

Accessories

Rocket Protection Device

Designed for the M261 Light Weight Launcher (LWL), the Rocket Protection Device (RPD) provides protection to the loaded launcher while on the ground and in flight. The RPD streamlines airflow around the launcher, reducing drag at higher airspeeds and reducing the potential of engine ingestion of rocket exhaust gas on some helicopters. It also improves the reliability of warheads with remote set fuzes by protecting the umbilical cords from rocket exhaust.

Test Kits / Tools

- Rammer staff assembly
- BOR-CAP Cleaning Kit
- Drum-type plastic bristle brush and pusher
- Multimeter or ohmmeter

HELICOPTER PLATFORMS

The CRV7 RWS has been fired from the following rotary wing platforms:

- Apache AH-64D
- Apache AH-64A
- WAH-64
- CH136 Kiowa (OH-58A)
- UH-1H
- Super Lynx 300
- Rooivalk

ENGINEERING SERVICES

Systems Design and Development

- Design Authority (advice on system application, anomaly investigation, quality assurance, test and evaluation planning)
- New product development
- System improvements for launchers, fairings, warheads, and rocket motors
- Motor, warhead, and launcher compatibility testing and verification
- Platform airworthiness support
- Provision of ballistic data for weapons management system software
- Coordination of live fire demonstrations
- Kinematic modeling



M260 Light Weight Launcher



M261 Light Weight Launcher with RPD

Logistics Support

- Maintenance and revision of customer data (manuals, engineering memorandum, safety notices)
- Provision of spares
- Test equipment
- Maintenance planning assistance
- Configuration management
- Pilot orientation training
- Ground crew training

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