

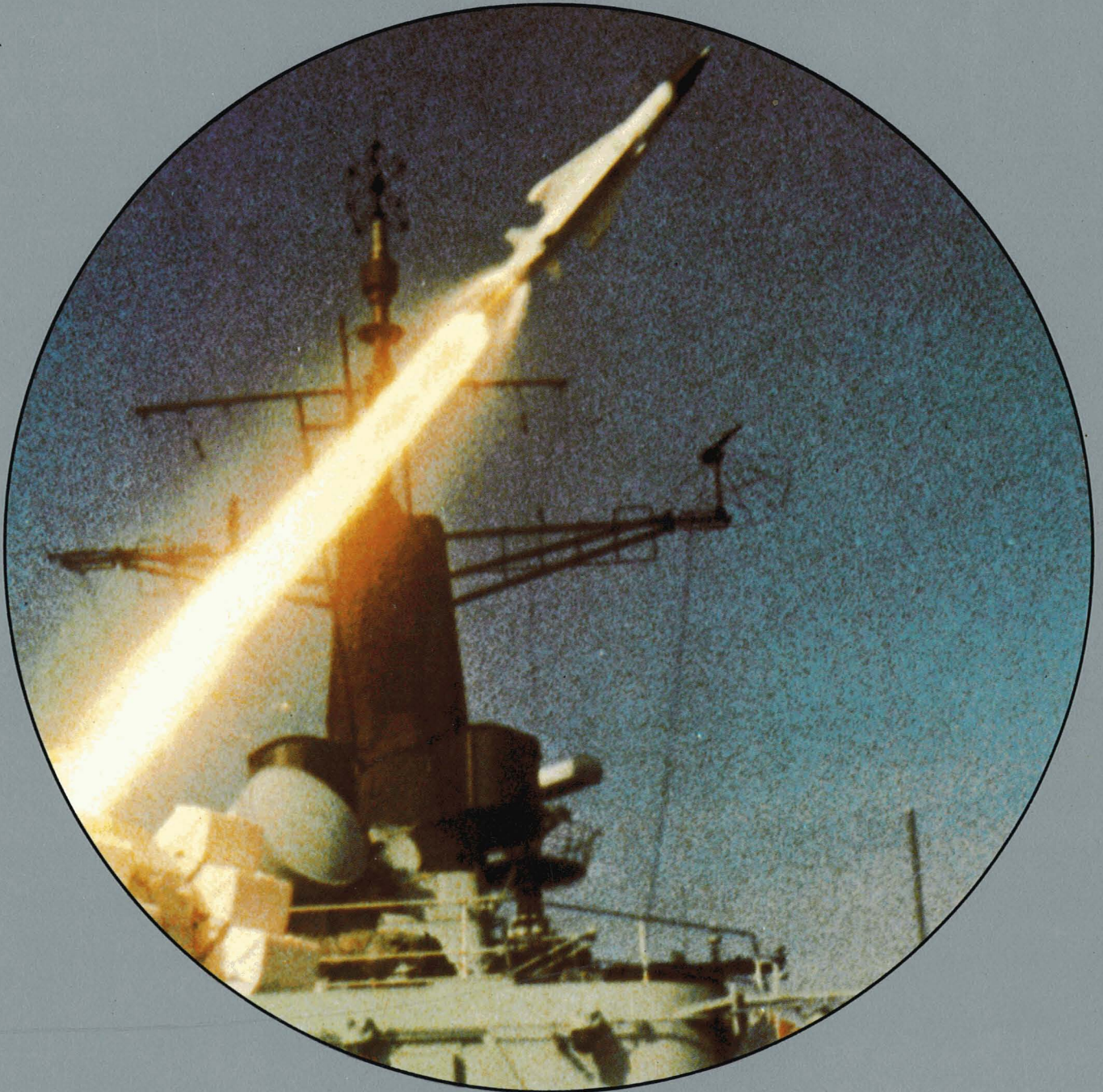
WAsc 2014
WAI 502

Rocket Propellant
& Motor Systems

EO Explosives
Division Bishton

ROCKET PROPELLANT and MOTOR SYSTEMS

WASC 2014
VAI 502



ROYAL ORDNANCE

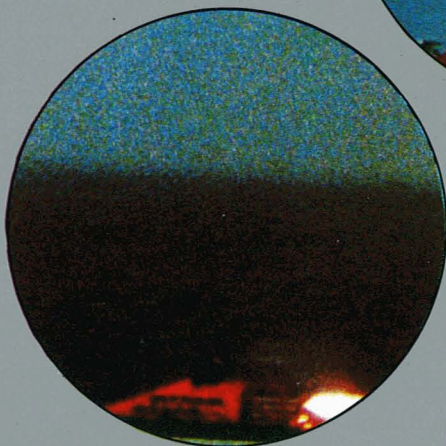
Defence systems, sub-systems and components

**Explosives Division
Bishopton**

The Pursuit of Excellence

Current and future generations of high technology guided weapon systems demand an increasing degree of safety and regularity in performance from propelling charges.

Rocket charges are manufactured at BISHOPTON to the highest standards to enable missile designers develop improved systems. For many years high confidence has been demonstrated in smokeless double base propellants, and new propellant



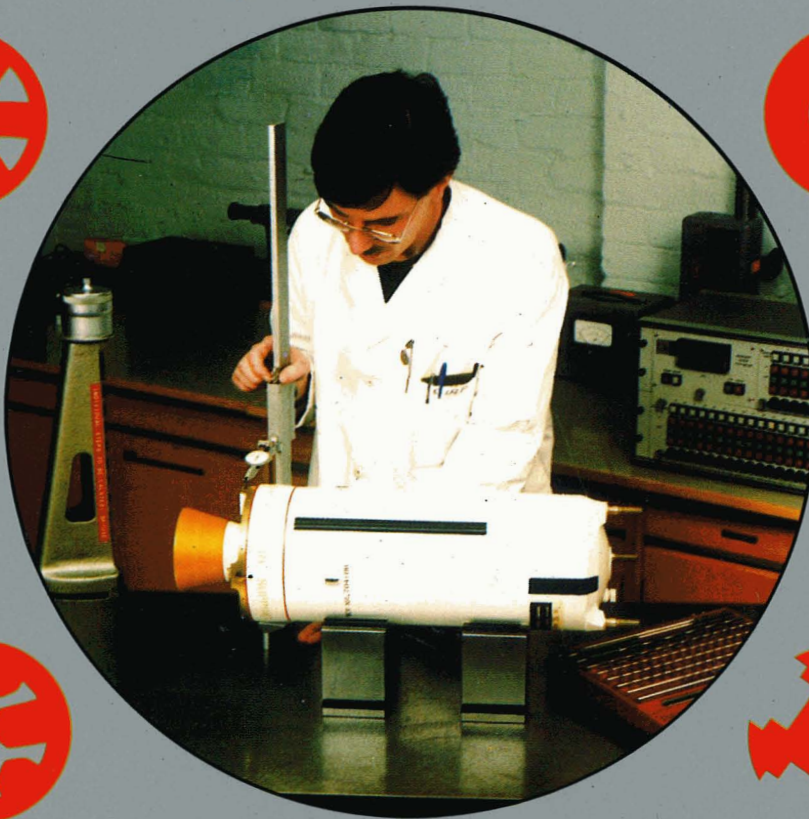
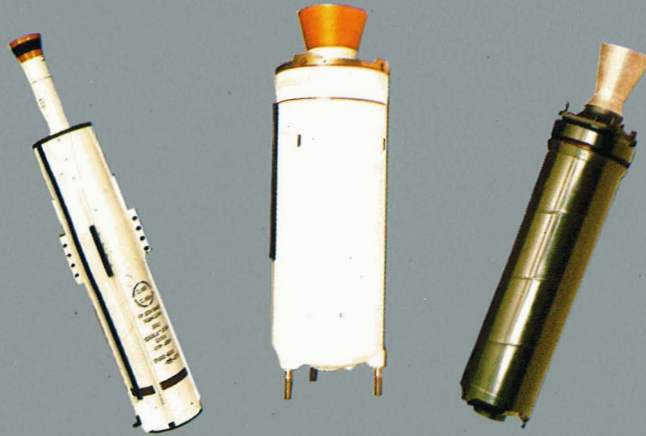
Martin-Baker
Ejector Seats

formulations are constantly being introduced with faster burning rates, higher energy and low flash levels.

This enables a specific composition to be adopted when a new application or performance criterion arises to defeat new targets in a continuously changing environment.

Similar propellant charges are also employed in the area of unguided weapon and civil applications where high performance is less critical but reliability and safety are of paramount importance.

ROCKET MOTORS



CHARGES

PROPELLANT

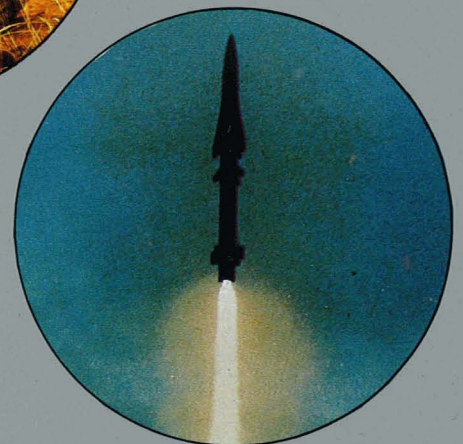
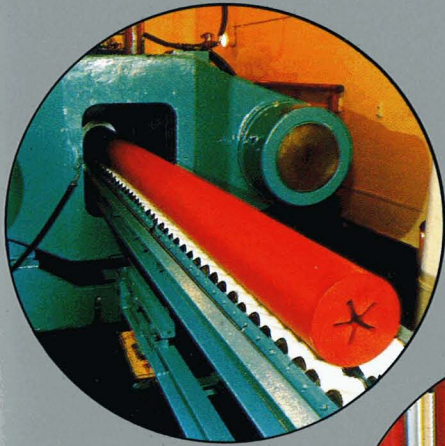
GAS GENERATORS



BISHOPTON is approved to Defence Standard 05-21 and operates a comprehensive quality control and assessment system in rocket motor manufacture including non-destructive testing (x-ray, ultrasonic) and static proof firing of assembled motors.

Propellant Manufacture and Motor Filling

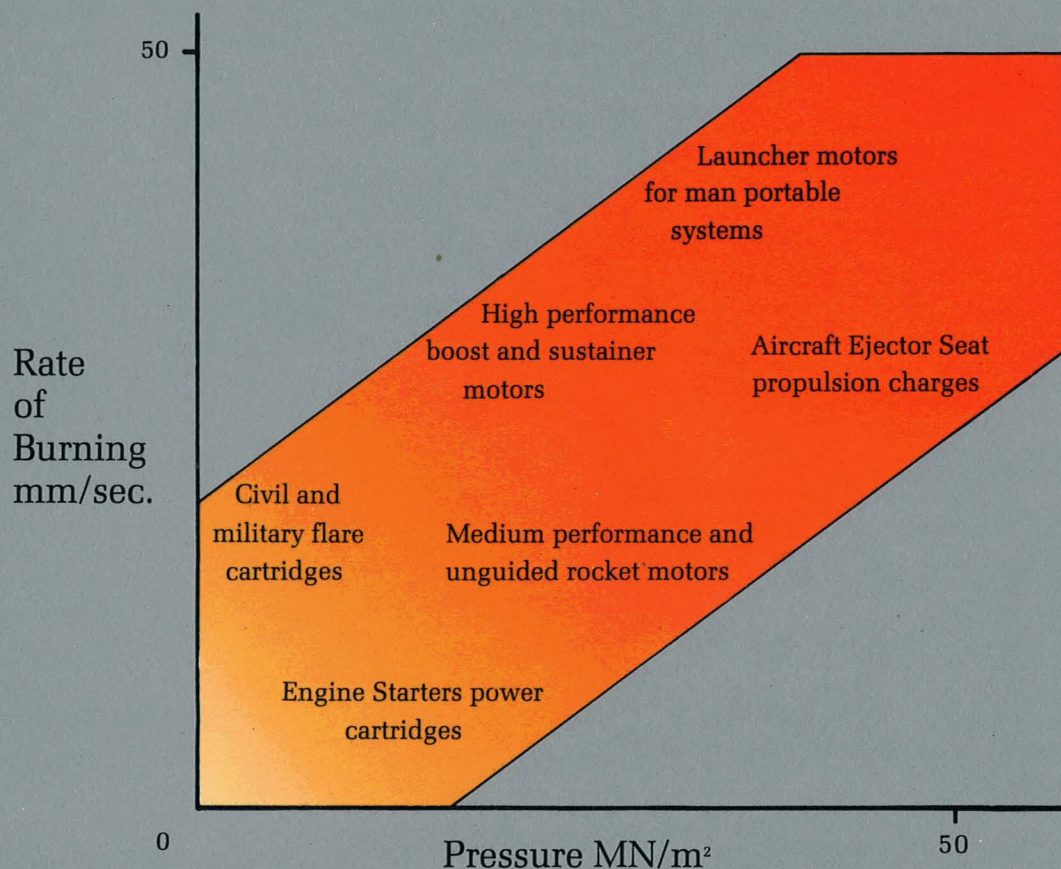
The Rocket Propellant manufacturing facility within BISHOPTON has the capacity to extrude charges from a comprehensive range of double base propellant formulations including high energy propellants containing nitramines. Particular emphasis is placed on EXTRUDED DOUBLE BASE (E.D.B.) propellant which is manufactured on versatile equipment enabling charges to be extruded to a wide range of



geometric shapes up to 350 mm in diameter.

E.D.B. propellant formulations are manufactured to precisely controlled dimensional tolerances for fast burning and safety critical applications. Charges are extruded, machined and inhibited prior to assembly into rocket motors for Sea Wolf, Sea Skua, Javelin and Blowpipe guided missiles.

Application of Extruded Double Base Propellants



Using well proven technology, a comprehensive range of propellant charges is available, to meet the diverse ballistic requirements in both civil and military fields for power cartridges and gas generators through to rocket motors for sub-sonic and supersonic anti-armour, anti-aircraft and anti-missile weapon systems.

MILITARY APPLICATIONS:

Giant Viper

Sea Skua

Red Top

Blowpipe

Sea Wolf

Midge Surveillance Drone

Javelin

Ejector Seats

Corvus BBC Rocket

CIVIL APPLICATIONS:

Coastguard rocket

Pyrotechnic flares



Sales and Technical
Enquiries to:

The Director
Royal Ordnance
Explosives Division
Bishopton
Renfrewshire
Scotland PA7 5NJ

Telex: 77134

Telephone: 0505 862261