



Strategic missiles 1, Polaris A.2; 2, Polaris A.3; 3, Serb; 4, MSBS; 5, Poseidon; 6, Sawfly; 7, SSBS; 8, Minuteman 30A; 9, Minuteman 30B; 10, Minuteman 30F; 11, Minuteman G; 12, Savage; 13, Sandal; 14, Skean; 15, Scarp; 16, Scrag "Flight" copyright drawings

stage in the R&D programme for Russia's first-generation submarine-launched missile.

Skean First seen in November 1964, this liquid-propellant IRBM is about 75ft long and appears to be an uprated development of the Shyster/Sandal family with a range in the 2,000-mile bracket. It can be identified easily by the absence of tail-fins and has been shown inside silo launchers in officially released Soviet films. It can be assumed to be a standard weapon in the 750-strong Russian IRBM/MRBM force, which is deployed along the western, eastern and southern borders of the USSR, with the greater number on the west.

2 - Tactical Missiles

AUSTRALIA

Ikara This quick-reaction long-range anti-submarine weapon was developed by the Australian Department of Supply and Department of the Navy. In its initial form it is operational on the RAN guided missile destroyers *Brisbane*, *Hobart* and *Perth*, each of which carries two single-round Ikara launchers. RAN anti-submarine frigates of the modified Type 12 class are each being equipped with one launcher. A version

Propulsion	Airframe	Guidance	Control	Usual re-entry vehicle
Two stages: 35,275lb Norma 902; 22,050lb Norma 903 solid-propellant	1, maraging steel; 2, Vascojet 1000	Inertial	Four gimbal nozzles each stage	Nuclear
Three stages: 200,000lb Thiokol M-55 AP/PBAA; 2, Aerojet-General PU/AP; 3, Hercules Nc/Ng/AP	1 & 2, UHT steel; 3, glass	Autonetics inertial	Four gimbal nozzles each stage	Avco Mk 5, IMT
Three stages: same contractors, minor changes in propellant mix	1, UHT steel; 2, titanium; 3, glass	do. with micromodules	do	Avco Mk II, 1 - MT
Three stages: same contractors, change in mix	n.r.	do	do, except stage 2, 1 nozzle - FI	GE Mk 12, 2 + MT
Three stages: 1, Thiokol M-55E; 2 and 3 Aerojet-General	n.r.	do	n.r.	do, with penetration aids
Two stages: 1, 80,000lb Aerojet-General PU/AP; 2, Aerojet-General PU/AP	1, UHT steel; 2, glass	MIT inertial Mk 1, GE - Hughes	First stage four jetelevators, stage 2, four gimbal	Lockheed, O.5MT
As above except second-stage: Hercules Nc/Ng/AP	1 & 2 glass-wound	MIT inertial Mk 2, GE - Hughes	1, four rotate nozzles; 2, 4 + FI	Lockheed
Two stages: 1, Thiokol and Hercules; 2, Hercules; solid	n.r.	MIT inertial, Raytheon	n.r.	n.r.
Two stages: 1, Aerojet-General YLR87-AJ-5, twin; 2, Aerojet YLR91-AJ-5, 100,000lb, both N ₂ O ₄ /Aerozine	Both aluminium	AC Electronics Divn, General Motors Corp/IBM, inertial	Gimbal engines	GE Mk 6, nuclear