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SOVIET MILITARY POWER

1983

SOVIET MILITARY POWER

First Edition

September 1981

SOVIET MILITARY POWER

Second Edition

March 1983

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The illustrations of new Soviet weapons systems introducing each chapter are derived from various US sources; while not precise in every detail, they are as authentic as possible.

PREFACE

“There is nothing hypothetical about the Soviet military machine. Its expansion, modernization, and contribution to projection of power beyond Soviet boundaries are obvious. A clear understanding of Soviet Armed Forces, their doctrine, their capabilities, their strengths, and their weaknesses is essential to the shaping and maintenance of effective US and Allied armed forces.”

Those words from *Soviet Military Power*, published in September 1981, provide a fitting point of departure for this updated second edition. *Soviet Military Power 1983* reports on the size, capabilities, and deployment of the Soviet Armed Forces—and documents the improvements and the R&D which are shaping the increased capabilities of the Soviet Strategic Rocket Forces, the Air Defense Forces, the Ground Forces, the Air Forces, and the Navy—forces numbering more than 4.9 million men.

Since late 1981:

- The USSR has begun test flights of two new land-based Intercontinental Ballistic Missiles, while continuing modernization of the deployed SS-17, SS-18, and SS-19 ICBM force.
- The USSR has begun test flights of a new generation of strategic, manned bombers—the BLACKJACK bomber, larger than the US B-1.
- The USSR has begun test flights of a new generation of ground-, sea- and air-launched cruise missiles, missiles with nuclear capability with ranges in excess of 1,600 kilometers, significantly expanding the flexibility of Soviet strategic options.
- The first of the USSR's 25,000-ton TYPHOON-Class strategic ballistic missile submarines has test fired its MIRVed, nuclear-warhead, 8,300-kilometer-range, submarine-launched ballistic missiles. A second TYPHOON has been launched.
- Modernization and forward deployment of increasing numbers of Soviet intermediate nuclear forces—land, sea, and air—have proceeded at an unparalleled pace.
- More than 330 mobile launchers for the SS-20—a Longer-Range Intermediate-Range Nuclear Force (LRINF) missile with three nuclear warheads and reloads for each launcher—are now arrayed against Western Europe, the Middle East, parts of Africa, and most of Asia, including China and Japan.
- Su-24/FENCER ground-attack aircraft have been forward-deployed to nations of Eastern Europe and to border bases in Asia, extending the combat radius of these new nuclear-capable aircraft to include Japan and most of NATO Europe.
- The USSR has introduced additional nuclear-capable weapons systems to its forward-deployed divisions in Eastern Europe. The new SS-21 mobile, short-range ballistic missile system is operational in Eastern Europe as is the 152-mm self-propelled gun, adding to Soviet conventional, chemical, and nuclear war-fighting options.
- The USSR's T-80 main battle tank, in development in 1981, is in the field with Soviet Tank Divisions in both the USSR and Eastern Europe, adding to the extended combat capabilities of the more than 190 Soviet ground force divisions.
- In 1981, two Soviet KIEV-Class aircraft carriers were operational. Now, three units are on the high seas; a fourth unit has been launched; and development continues on a newer, larger class of aircraft carriers.

- In shipyards on the Baltic and Black Seas, series production continues on four new classes of surface warships—a new generation of nuclear- and conventionally powered Soviet cruisers and guided missile destroyers enhancing the Soviet Navy's air defense, antisubmarine warfare, and cruise-missile, surface-strike capabilities.

- Five Soviet shipyards have continued to produce new attack submarines for the world's largest submarine force. In 1980, the first of the new, extremely large OSCAR-Class guided missile submarines was launched, a submarine capable of firing up to 24 long-range antiship cruise missiles while submerged. That lead unit is now on sea trials, and a second unit has been launched.

- The USSR's military-related space program has grown in manned missions, more reconnaissance/surveillance/targeting satellites and antisatellite space systems.

- The USSR's combat operations have continued to expand in Afghanistan, and now involve more than 105,000 Soviet troops with some of the newest Soviet weapons.

- From Indochina to the Caribbean, the USSR has continued to expand its global military presence. To cite just one example, a Soviet Navy task force operated in the Caribbean and Gulf of Mexico from November 1982 to February 1983.

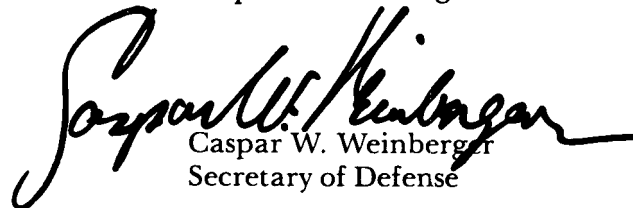
- Expansion of the USSR's technology and industrial production base has matched the growth and deployment of its armed forces, reflecting a top priority investment in defense production aided by continuing acquisition of Western technology.

- Despite economic difficulties, the USSR allocates an estimated 15 percent of GNP to its military buildup, an increase from the 12-to-14 percent reported in 1981, which in turn represents a continuance of the trend of the last 21 years.

To place this modernization and growth of the USSR's Armed Forces in perspective, *Soviet Military Power 1983* includes substantial data on US and Allied forces enhancement as well as some comparative US-USSR and NATO-Warsaw Pact tables. Comprehensive information on US forces, of course, is regularly made available to the public in such publications as the Secretary of Defense's *Annual Report* and the *Military Posture Statement* of the Chairman of the Joint Chiefs of Staff. Ours is a free society; the Soviet Union is not. The updated facts presented in this report leave no doubt as to the USSR's dedication to achieving military superiority in all fields.

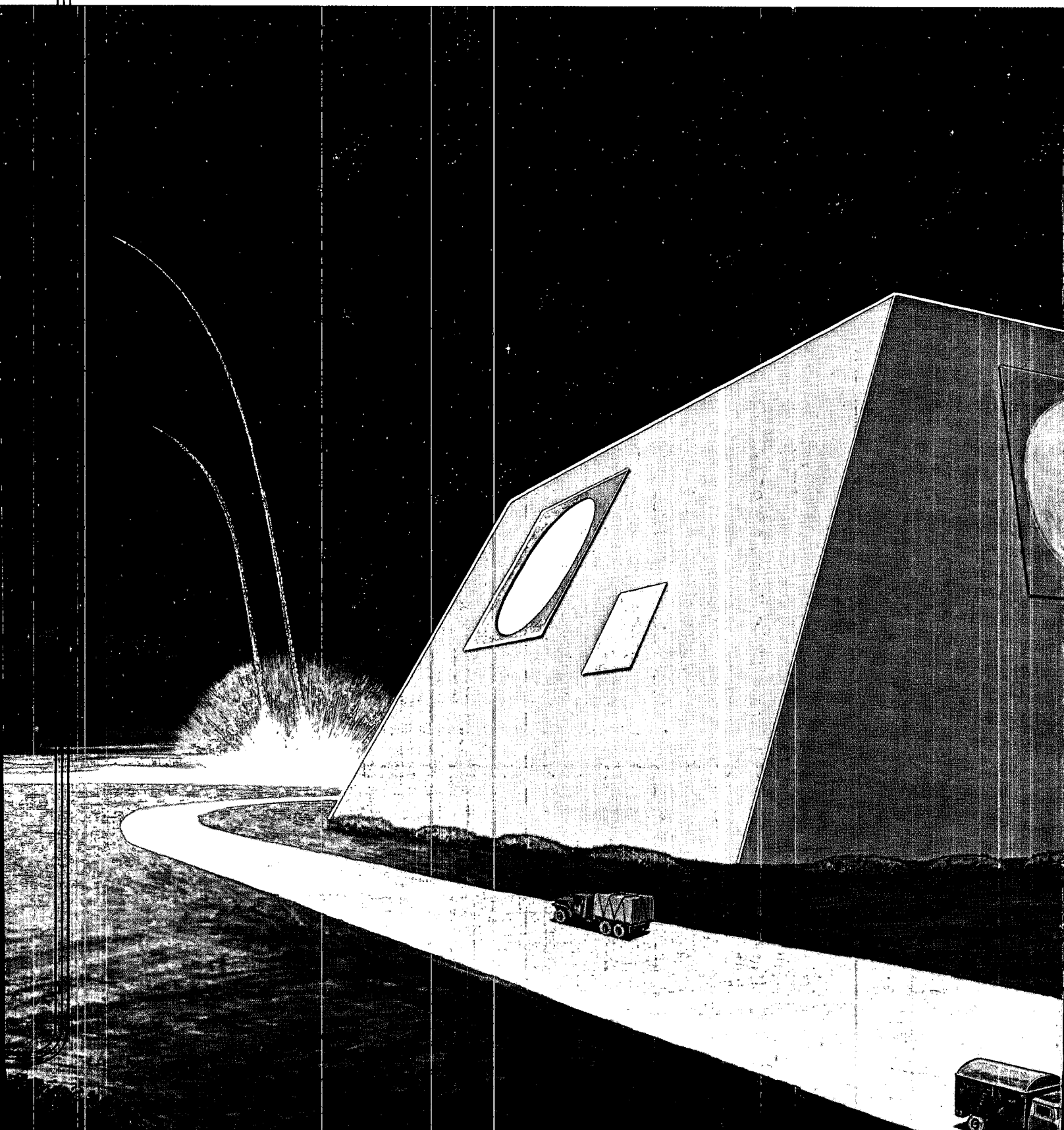
It is our duty to have a full awareness of Soviet military growth, modernization and capabilities and to shape our defense forces and our deterrent capabilities accordingly. We can do no less if we are to provide fully and wisely for our security, and that of our Allies. Ours is a formidable task, made more difficult by a decade of our neglect coupled with two decades of massive Soviet increases. But, we and our Allies can accomplish the task if we have the will, the courage, and the resolution possessed in ample measure by our predecessors who won our freedom, and who have kept it for us all. This is at once our most precious heritage and our most solemn responsibility to posterity.

March 1983

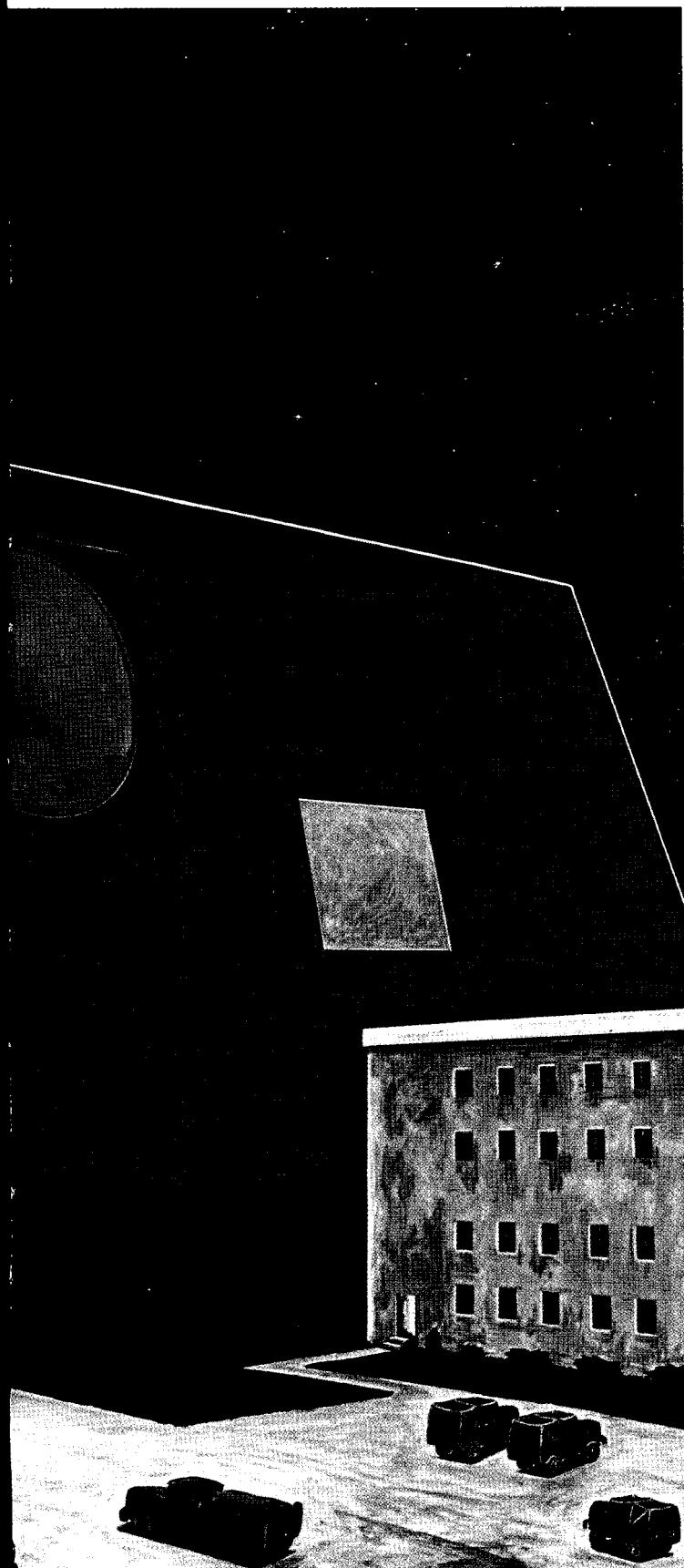


Caspar W. Weinberger
Secretary of Defense

I SOVIET MILITARY POW



ER



The continuing growth and modernization of the Soviet military have enabled the Soviet Union to structure and posture its forces for offensive use on short notice. Consequently, the need for the fullest possible information on the mission, capabilities and deployment of the Soviet Union's Armed Forces is today greater than ever before.

In the nuclear area, the Soviets continue to build far greater numbers of missiles and warheads than are necessary for a credible deterrent capability. Soviet conventional forces have increased offensive capabilities, and the Soviets have demonstrated detailed plans for the offensive use of these forces. Soviet tactical air and missile forces continue to acquire advanced weapons systems and support systems designed for the conduct of large-scale air offensives. Soviet ground force modernization, deployment and training permit rapid and sustained forward movement from peacetime locations to objectives well beyond Soviet/Warsaw Pact borders. At the same time, it is clear from Soviet strategic planning and operations that its naval ships and aircraft are committed to denying opposing navies use of adjacent seas and conducting strikes against enemy land targets.

In September 1981, *Soviet Military Power* was published to make available to people everywhere a factual report on the magnitude of the Soviet military buildup and the changing character of Soviet military objectives. That first report:

- examined the Soviet and non-Soviet Warsaw Pact military industrial base, the

The new Pushkino Antiballistic Missile Radar—part of the continuing modernization of Soviet military power—provides 360° strategic defense coverage from the phased array radars in its four-sided structure 120 feet high and 500 feet wide. Silo-launched interceptor missiles contribute to this improved ABM defense of Moscow.

world's largest in facilities and physical size;

- described the organization of Soviet Armed Forces, the USSR's strategic command structure, command and control, logistic support and combat doctrine;
- described the Soviet conventional and nuclear land, sea and air forces designated for theater operations;
- reviewed the increasing capabilities of Soviet strategic forces, including the SS-17, SS-18, and SS-19 ICBMs, and the continuing modernization of the submarine-launched ballistic missile force;
- described the research and development effort behind the USSR's drive for modern military technology;
- reported on the USSR's projection of military power around the world; and
- summarized the challenge posed to the United States and its Allies by the Soviet Armed Forces.

Two fundamentally important considerations have now led to this updated report, *Soviet Military Power 1983*. First, the USSR during the past year has pushed ahead with force modernization, expansion and forward deployment on a scale even larger than before. Second, the American people and free people everywhere have continued to seek the most recent information on Soviet military developments, as well as information comparing the forces of the Warsaw Pact with forces of the United States and other NATO nations to permit a fuller appreciation of the magnitude of the Soviet force buildup. Such comparative data are included in this report.

The chart, "Soviet Military Forces," on pages 8 and 9 summarizes the size and composition of the USSR's strategic nuclear forces, ground forces, air forces, air defense forces, and naval forces. Each chapter in this report develops a

different aspect of the current dimensions of Soviet military power.

The US-USSR and NATO-Warsaw Pact charts and tables in the chapters that follow help to depict the shift in the military balance. These charts are not all-inclusive. Comprehensive information on US forces is regularly made available to the people of the United States and throughout the world in such publications as the Secretary of Defense's *Annual Report* and the *Military Posture Statement* of the Chairman of the Joint Chiefs of Staff. The Soviet Union does not make such information available. Thus, the focus of *Soviet Military Power 1983* is on the Soviet Union's Armed Forces.

Weapons production, for example, is an indicator of the shifting balance over the past decade. The Soviets have manufactured approximately 2,000 ICBMs; 54,000 tanks and other armored vehicles; 6,000 tactical combat aircraft; 85 surface warships and 61 attack submarines—with much of this stockpile of material comparable in quality to US counterpart systems. US production over the same period has been considerably less—approximately 350 ICBMs, 11,000 tanks and other armored vehicles, 3,000 tactical combat aircraft, 72 surface warships and 27 attack submarines.

In 1982, the North Atlantic Treaty Organization published *NATO and the Warsaw Pact—Force Comparisons*, a publication carrying the conviction and authority of all the NATO nations that participate in the integrated military structure of the Alliance. In his foreword, NATO Secretary General Joseph M.A.H. Luns stated:

"The numerical balance of forces has moved slowly but steadily in favor of the Warsaw Pact over the past two decades. During this period the members of the North Atlantic Alliance have lost much of the technological edge which permitted NATO to

rely on the view that quality could compensate for quantity. It is clear that the trend is dangerous. Nevertheless, the overall deterrent continues to safeguard peace."

NATO-Warsaw Pact comparative data from this report—data that address the totality of Soviet/Pact forces that could be brought to bear against NATO in the event of war—are presented in the concluding section of Chapter III of this document.

The illustrations opening Chapters I and II—the new ABM radar in the Moscow area and the new strategic BLACKJACK bomber—dramatize the continuing upgrade of Soviet strategic force capabilities. Chapter II examines Soviet strategic force developments in detail. The third and fourth generations of Soviet ICBMs currently deployed and under development continue to emphasize the missile force improvements of more than a decade—greatly improved nuclear-warhead accuracy; multiple, independently targetable re-entry vehicles (MIRVs); reliability and survivability. At least two new solid-propellant ICBMs are under development; flight testing began in 1982 and 1983.

New, long-range, air-launched cruise missiles currently under development and the strategic BLACKJACK bomber will significantly enhance the USSR's strategic offensive capabilities. The BLACKJACK is a variable-geometry-wing—swing-wing—aircraft similar to, but larger than, the US B-1 bomber. It will be capable of long-range subsonic cruise with supersonic high-altitude dash and subsonic/transonic low-level penetration. This new bomber will likely be a multiple-role aircraft that can deliver both free-fall bombs and air-launched cruise missiles to intercontinental range. It is particularly significant given the weakness of North American air defense.

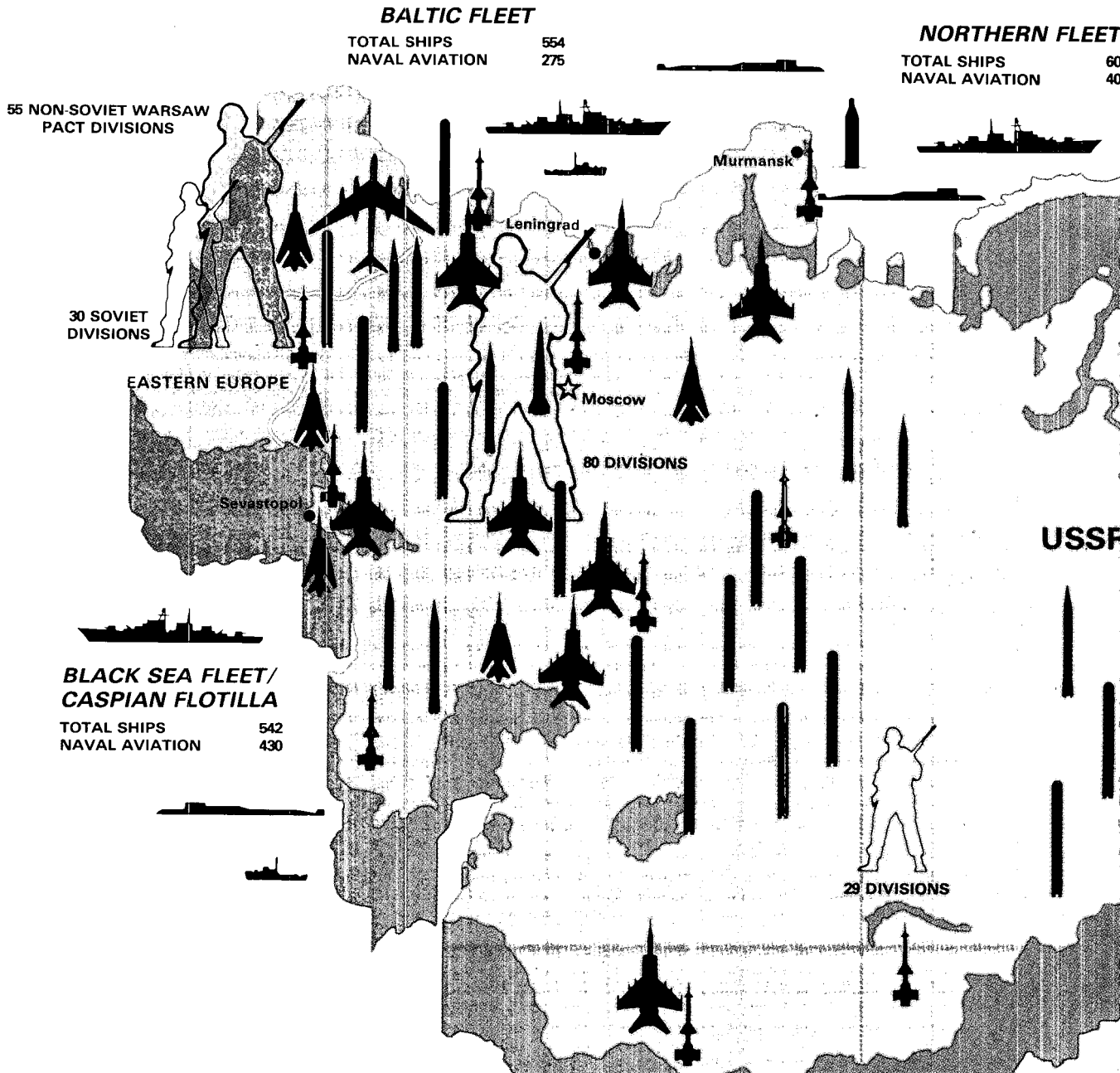
At the same time, the Soviets have steadily

modernized their sea-based strategic force. A second TYPHOON-Class nuclear-powered ballistic missile submarine (SSBN) has been launched at the Severodvinsk Shipyard, while the first TYPHOON is now with the Northern Fleet. Armed with 20 launchers for the MIRV-ed SS-NX-20 solid-fueled submarine-launched ballistic missile (SLBM), the first submarine of its class should be fully operational by the end of 1983. Moreover, the 8,300 kilometer range of the SS-NX-20 places all of NATO Europe, North America and Asia well within TYPHOON's reach, even when operating in home waters.

As detailed in Chapter II, the USSR's strategic defense force is the most massive in the world. It includes active defenses such as modern interceptor aircraft, surface-to-air missiles (SAMs) and ballistic missile defense (BMD) systems; and passive defenses such as surveillance and warning systems, hardened bunkers, electronic countermeasures (ECM) and civil defense.

In the first edition of *Soviet Military Power*, more than 180 Soviet Ground Force divisions and some 250 SS-20 LRINF missile launchers in the field were identified. Today there are over 190 Soviet Ground Force divisions and more than 330 SS-20 missile launchers positioned for delivery of nuclear warheads against Western Europe, the Middle East, parts of Africa, and most of Asia including China and Japan. Chapter III presents an updated review of the full array of Soviet nuclear and conventional theater forces and their readiness for deployment in the three theaters of operations—the Western, Southern and Far Eastern Theaters. These forces, opposite NATO and arrayed against the nations of Southwest Asia and East Asia, have been further strengthened during 1982 by the addition of new SS-20 launchers, and by the forward deployment of additional nuclear-capable weapons systems such as the long-range

SOVIET



BALTIC FLEET
 TOTAL SHIPS 554
 NAVAL AVIATION 275

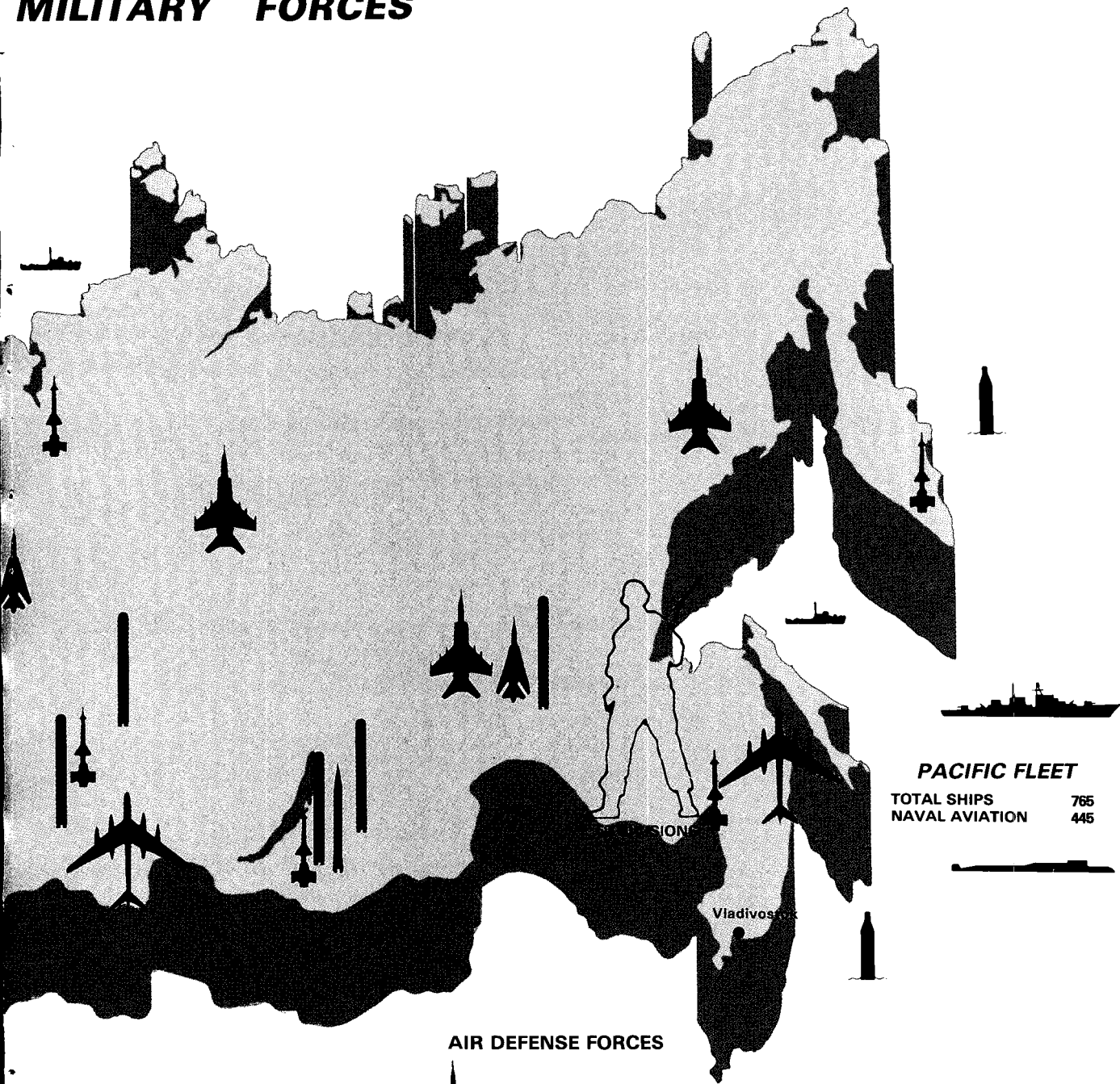
NORTHERN FLEET
 TOTAL SHIPS 600
 NAVAL AVIATION 400

**BLACK SEA FLEET/
 CASPIAN FLOTILLA**
 TOTAL SHIPS 542
 NAVAL AVIATION 430

STRATEGIC NUCLEAR FORCES

ICBMs	LRINF	SLBMs	STRATEGIC BOMBERS	TACTICAL AVIATION
SS-11 550		SS-N-6	BACKFIRE * 100	TACTICAL AIRCRAFT 6,200
SS-13 60		SS-N-8	BISON 45	
SS-17 150	SS-4 232	SS-N-17	BEAR 100	
SS-18 308	SS-5 16	SS-N-18	BADGER/BLINDER 455	
SS-19 330	SS-20 333	SS-NX-20	* 200+, including Soviet Naval Aviation	
		950+		

MILITARY FORCES



PACIFIC FLEET

TOTAL SHIPS	765
NAVAL AVIATION	445

AIR DEFENSE FORCES



INTERCEPTORS 1,200



ABM LAUNCHERS 32



SAM LAUNCHERS 9,600+

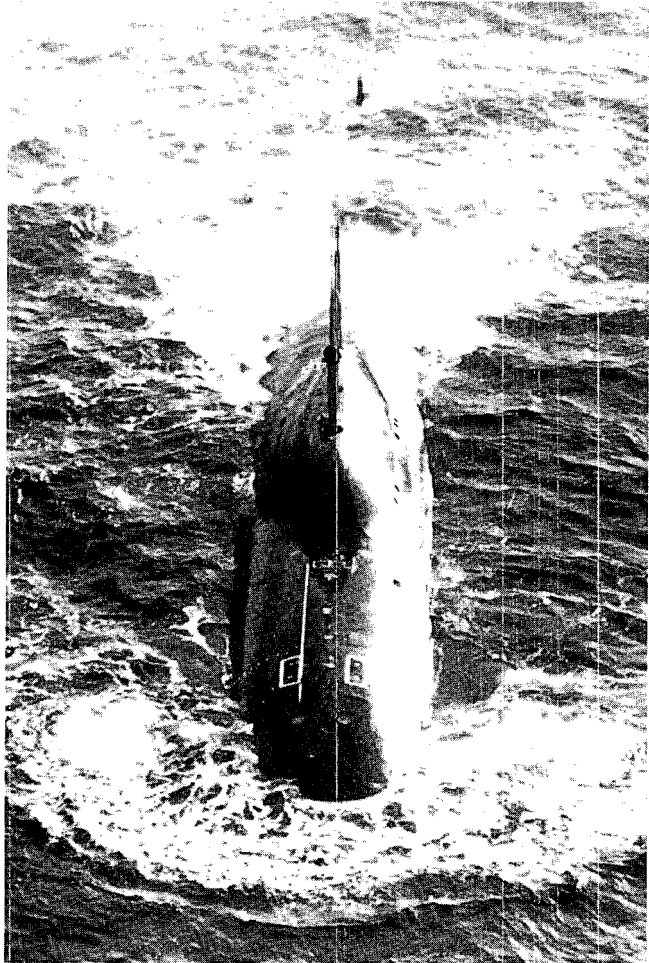
GROUND FORCES

MOTORIZED RIFLE DIVISIONS	134
TANK DIVISIONS	50
AIRBORNE DIVISIONS	7

NAVAL FORCES



SURFACE COMBATANTS	1,324
SUBMARINES	367
AUXILIARIES	770
NAVAL AVIATION	1,555



The Soviet Navy's nuclear-powered, deep-diving, titanium-hulled ALFA-Class torpedo attack submarine is the world's fastest, with submerged speeds of over 40 knots.

FENCER ground attack aircraft, the SS-21 short-range ballistic missile system and the 152-mm nuclear-capable, self-propelled gun. In little more than a year, Soviet forces in combat in Afghanistan have grown from 85,000 to more than 105,000. The weapon systems being used in Afghanistan are among the most modern available to the Soviet Armed Forces, including the formidable Su-25/FROGFOOT ground attack aircraft. New attack submarines, surface ships and naval aircraft further strengthen not

only the USSR's theater military capabilities, but also its capability to conduct aggressive sea control and sea denial operations on the world's oceans.

Chapter IV, Soviet Space Systems, examines the serious threat posed by the USSR's increasing use of space for military purposes. The majority of Soviet space programs has been specifically designed to support terrestrial military operations. However, the long-term development of an antisatellite system has extended Soviet military use of space from support operations to a direct space warfare capability. The relative scope of the overall military program is demonstrated by a launch rate that is four-to-five times that of the United States, and by an annual payload weight placed into orbit: 660,000 pounds—ten times that of the United States.

Chapter V reports on the magnitude of production and the cost of supporting the USSR's continuing military buildup. It reviews the technology and industrial resources of the USSR's defense industrial base; the effort being dedicated to research, design and test programs and the commitment to training needed scientific and engineering manpower. It summarizes the results of this effort in terms of the steady delivery of new and modernized weapon systems to Soviet forces, and in terms of future weapon systems that will be available to the forces. It examines the intensity with which the USSR pursues the acquisition of Western technology, and the overall impact of its military program on the Soviet economy. The USSR's current military capabilities reflect the achievements of a Research and Development (R&D) and industrial base that has grown steadily since the late 1950s when top priority was accorded military R&D and production. Soviet defense continues to receive regular and large infusions of capital investment allocations, legally and illegally ac-

quired foreign technology and equipment and the most highly qualified science and engineering graduates. In return, the defense industrial establishment is justifying its preferential treatment by producing a steady succession of new and improved weapon systems for the Soviet arsenal. These continuing efforts reflect the current high-priority Soviet intent and commitment to the development and production of future weapons.

The cumulative dollar costs of Soviet investment for the decade were 80 percent higher than US investment outlays. The estimated dollar costs for the Soviets were more than twice the US outlays in the mid-1970s, but, because of the slower growth of Soviet programs and growth in US costs, this margin had decreased somewhat by 1981. The slower growth of Soviet programs during the period was due to the cyclical nature of Soviet military production. The large Soviet research and development effort, coupled with observed expansion in military production facilities, suggests that the dollar costs of Soviet military procurement may soon resume their historical growth. The estimated dollar costs for Soviet RDT&E were 70 percent greater than US RDT&E outlays for the period as a whole, and were more than twice as great in 1981. The dollar operating costs for Soviet activities were about 25 percent higher both for the period and in 1981.

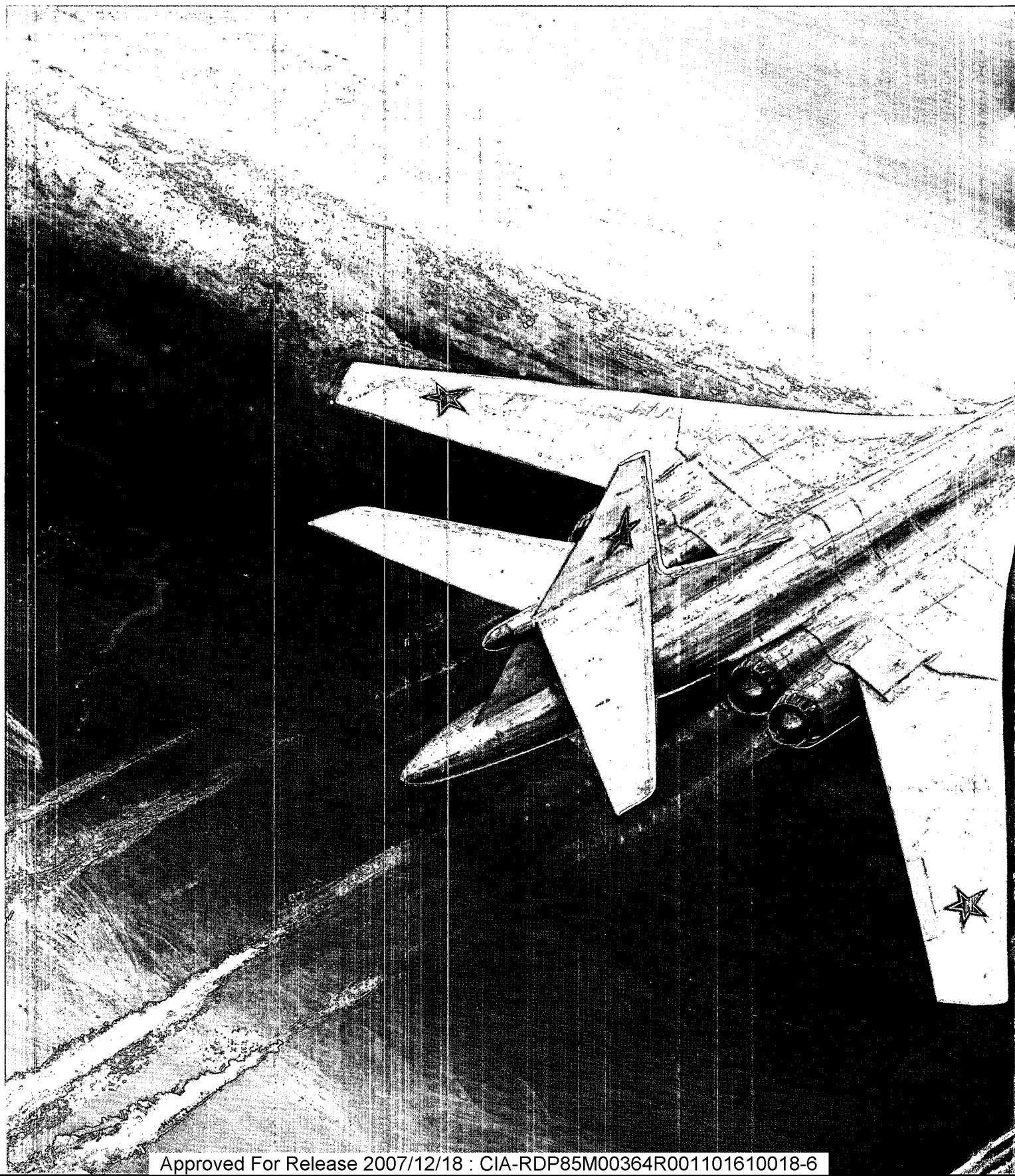
The illustration at the opening of Chapter VI, of a KIEV-Class aircraft carrier riding in a Japanese-built floating drydock now serving with the Soviet Pacific Fleet, symbolizes the continuing growth of the Soviet Navy, and the mounting capability of the USSR to project military power wherever required in the world. Chapter VI provides a detailed examination of the USSR's multi-tiered approach to power projection ranging from Soviet "active measures," to the use of arms sales and military advisors, the use of proxy forces, and the deployment of military forces beyond the Soviet border.

Over the past decade, the growing capability of Soviet armed forces to project power to great distances has helped the USSR to sustain and consolidate many new military outposts. This geographic expansion of Soviet influence has important military implications. The basing facilities now available to Soviet maritime forces in Cuba, Vietnam, South Yemen, Angola, Ethiopia, and elsewhere greatly extend the reach and the staying power of Soviet naval and air forces. While the Soviets' peacetime use of these bases might not translate automatically to wartime access, the potential for such access places added burden on US and Allied forces.

This expanding access to basing facilities remote from the Soviet periphery provides new possibilities for long-range projection of Soviet power. The Soviets have traditionally maintained their naval infantry and airborne forces at high levels of readiness. Since 1972, naval infantry and airborne unit training, equipment, and deployments have also been matched by comparable enhancements to Soviet airlift, sealift, and mobility infrastructure. The trend of Soviet geographic expansion is especially apparent if one recognizes that most of the Soviet Union's new military outposts are in countries that once supported the Western alliance system by providing transit rights or other facilities. Central America and the Caribbean are now clearly the target of a concerted Soviet-inspired penetration effort. Further spread of Soviet military outposts throughout the world increasingly threatens the lifelines of the Western alliances and makes it even more difficult and costly to defend essential national interests.

In Chapter VII, *Soviet Military Power 1983* assesses the challenge posed by the continued growth and modernization of the USSR's Armed Forces, and summarizes the nature of the response which the United States and its Allies must sustain to deter Soviet aggression.

II STRATEGIC FORCES





The buildup of Soviet strategic forces continues. The following introductory paragraphs outline the long-standing policies and objectives behind Soviet strategic nuclear force development and provide the backdrop for Soviet activities since the First Edition of *Soviet Military Power* was published.

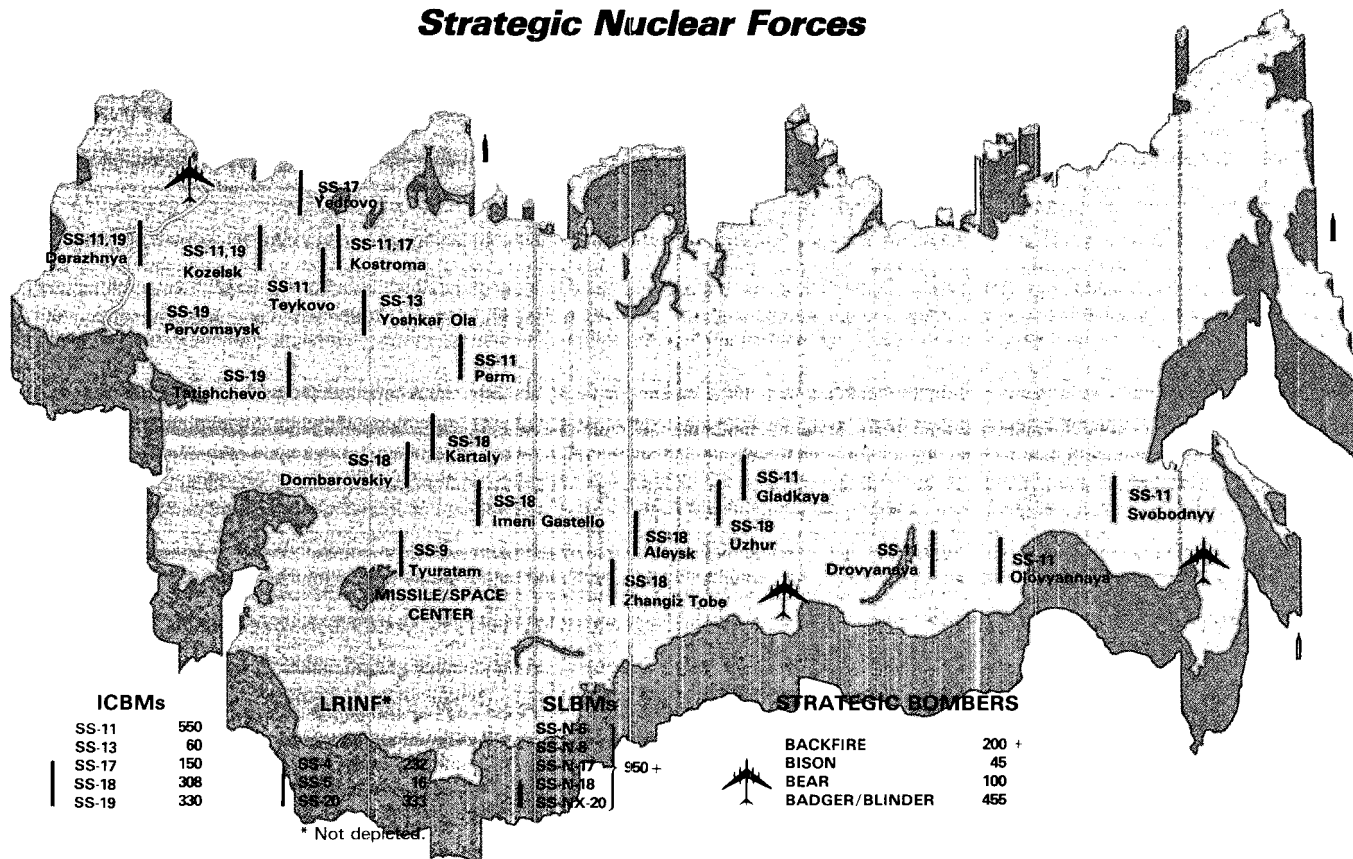
Soviet leaders since Khrushchev's time have followed a consistent policy for nuclear development. Their main objective is to capitalize, in peacetime, on the coercive leverage inherent in powerful nuclear forces, to induce paralysis and create disarray in the free societies. In wartime, they regard employment of those forces as the key to their survival and winning.

The Soviet policy calls for forces which are designed to destroy Western nuclear forces on the ground and in flight to their targets, and for the capacity to survive should nuclear weapons reach the Soviet homeland. The overall missions encompass the likelihood that intercontinental nuclear war would evolve from a general East-West conflict across the face of Eurasia. These missions are: protect the homeland, support the land war in Eurasia and eliminate the United States' capability to conduct or support warfare beyond its own shores.

Protection of the homeland is the most difficult mission. The strengths and weaknesses of Western forces determine the tasks of the offensive and defensive forces assigned to it. Hence, it is closely linked to Western weapons development programs. Because of this, the Soviets attach great importance to working hard to keep Western modernization programs to a minimum during peacetime.

With the flight-testing of the new BLACKJACK A swing-wing bomber during the past year, the USSR is nearing production of a new-generation, strategic manned bomber to add to Soviet offensive power provided by new generations of land-based and sea-based strategic ballistic missile nuclear forces.

Strategic Nuclear Forces



Protection of the homeland in a nuclear war would involve:

- disruption and destruction of the enemy's nuclear-associated command, control and communications,
- destruction or neutralization of as many of the West's nuclear weapons as possible on the ground or at sea before they can be launched,
- interception and destruction of surviving weapons—aircraft and missiles—before they can reach targets,
- protection of the party, state, and industrial infrastructure and the essential working population against those weapons that reach their targets.

The forces and programs in place or under

active development designed to accomplish these tasks include:

- hard-target-capable ICBMs and LRINF missiles,
- bombers capable of penetrating US defensive systems and SLBMs which can be postured for short flight times,
- antisubmarine forces capable of attacking US SSBNs,
- air and missile defenses, including early warning satellites and radars, interceptor aircraft, surface-to-air missiles, ABM radars and interceptors, and some anti-aircraft artillery,
- passive defense forces, including civil defense forces, and troops and equipment devoted to confusing incoming aircraft,

- hardened facilities numbering in the thousands, command vehicles, and evacuation plans designed to protect party, military, governmental, and industrial staffs, essential workers and, to the extent possible, the general population.

Supporting a land war in Eurasia and eliminating the United States' capability to fight beyond its own shores require a capability to employ intercontinental forces useful over a variety of ranges and the destruction of:

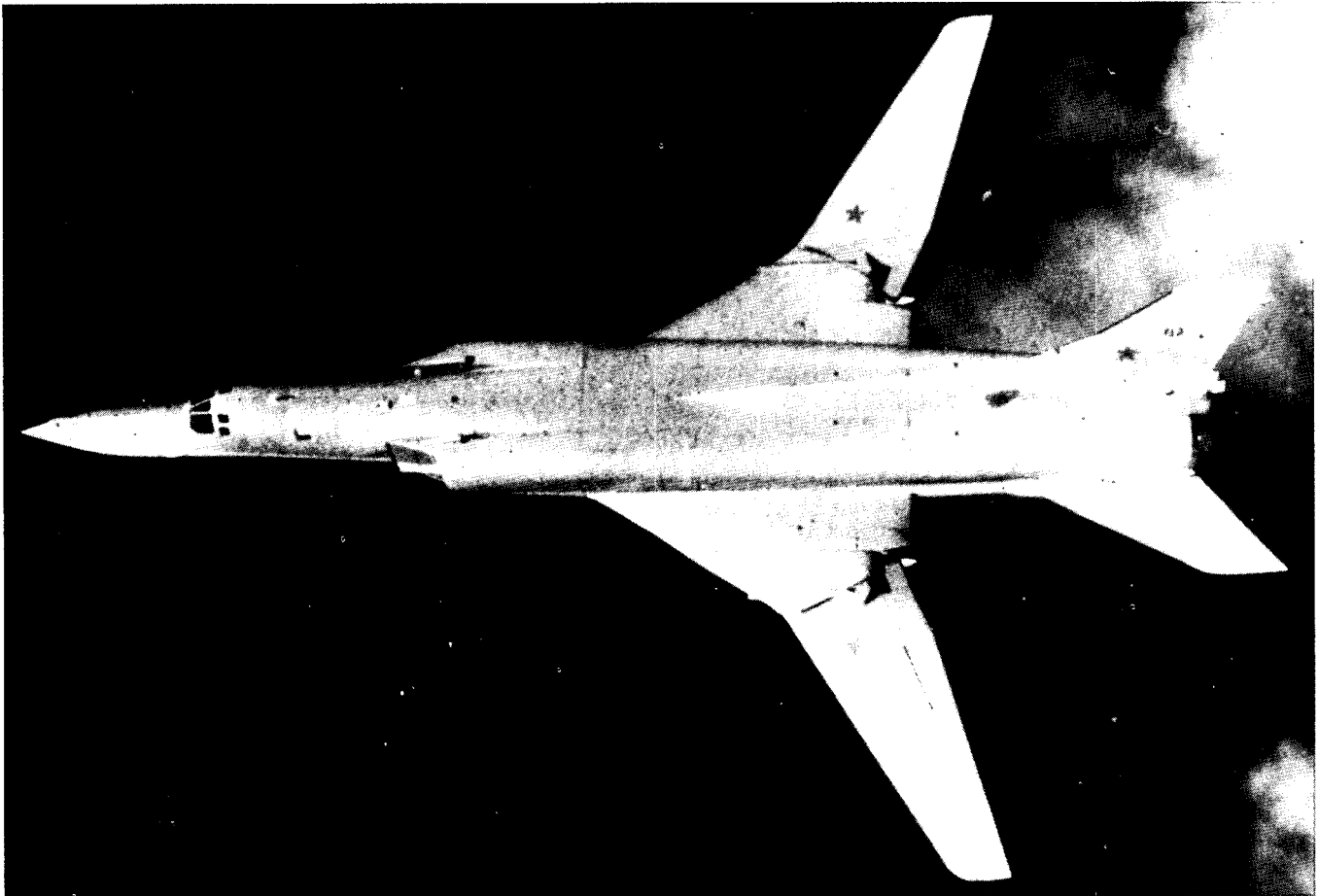
- other military-associated command and control,

- war-supporting industries, arsenals and major military facilities,

- ports and airfields in the United States and those along sea and air routes to European and Asian theaters of war, and

- satellite and ground-based surveillance sensors and facilities and communications.

Offensive forces (ICBMs, LRINF, SLBMs, and bombers) and antisatellite weapons are generally assigned these tasks although some special operations troops could be used, es-



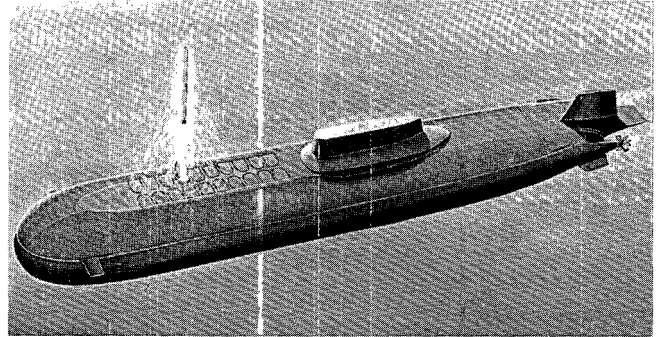
The BACKFIRE Bomber, Capable of Nuclear Strike, Conventional Attack, Anti-shiping, and Reconnaissance Missions.

pecially in Eurasia. These tasks are generally less demanding than those for the first mission.

Soviet intercontinental forces are designed to fulfill their missions under the best and worst of circumstances. In the Soviet view, the most favorable circumstance is a first or preemptive strike; the least favorable is a follow-on strike after nuclear weapons have hit the USSR. In between is the launch-under-attack circumstance: that is, executing offensive forces after weapons aimed at the USSR have been launched but before they hit their targets. The Soviets have wide-ranging programs designed to provide nuclear forces able to operate under each of these circumstances. Moreover, the Soviets appear to believe that nuclear war might last for weeks, even months, and have factored this into their force development.

- In a first or preemptive strike, the essentials are effective coordination of the strike and sound intelligence of the West's intentions. Soviet nuclear forces practice almost constantly, emphasizing command and control under various conditions. During wartime, the main mission of Soviet intelligence is to determine the West's nuclear attack intentions.

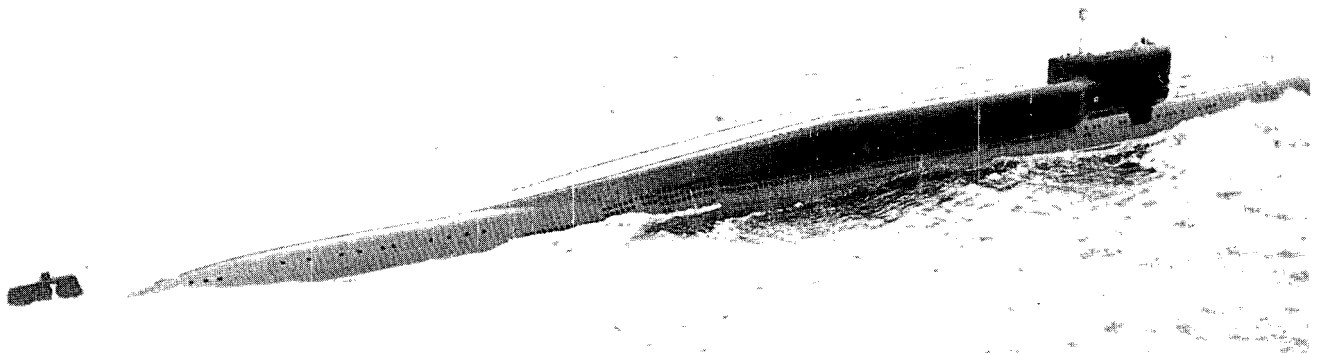
- The Soviets practice launching weap-



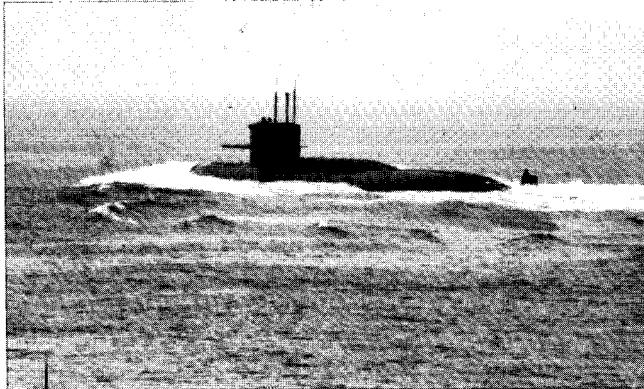
25,000-ton TYPHOON-Class SSBN firing SS-NX-20 missile.

ons under the stringent time constraints that would prevail under hypothetical launch-under-attack circumstances. They have established a satellite-based ICBM launch detection system, have built an over-the-horizon radar missile launch detection system to back up the satellites, and have large phased-array radars ringing the USSR.

- Follow-on strikes stress the survivability of the command, control and communications systems and that of the weapons themselves. The Soviets have invested heavily in providing this survivability. The SS-17, SS-18, and SS-19 ICBMs are housed in the world's hardest silos. Silo deployment has been adopted for ABMs



DELTA III-Class SSBN

**YANKEE-Class SSBN**

as well. The SS-20 LRINF missile is mobile, and a mobile strategic SAM is being developed. The launch control facilities for offensive missiles are housed in very hard silos or on off-road vehicles. Communications are redundant and hardened. Higher commands have multiple hardened facilities and mobile command vehicles and aircraft available for their use. Bombers have alert procedures and dispersal airfields. Ballistic missile submarines can be placed in tunnels near their home ports, submerged in deep fjords just off their piers, dispersed and protected by Soviet surface and submarine forces.

- The Soviet belief that war might be protracted requires the survivability needed for follow-on strikes, along with war reserves, protection for people and equipment, and the capacity to reload launchers. For their ICBM, LRINF and air defense forces, the Soviets have stocked extra missiles, propellants, and warheads throughout the USSR. ICBM silo launchers can be reloaded in a matter of days, and provision has been made for the decontamination of those launchers. Plans for the survival of necessary equipment

and personnel have been developed and practiced. Resupply ships are available to reload Soviet SSBNs in protected waters.

Despite these comprehensive warfighting objectives and ambitious development and deployment programs over the years, the Soviets are continuing to modernize all aspects of their strategic forces.

Much of what the Soviets have done since September 1981 involves the consummation of programs begun in the 1970s and offers the first signs of new programs designed to help remedy weaknesses still remaining and to allow them to attain their own objectives in the face of prospective Western programs.

Older programs:

- replacement of older missiles with SS-19 Mod 3 and SS-18 Mod 4 MIRVed ICBMs, the world's most lethal ICBMs,

- construction of DELTA III SSBNs, fitted with 16 SS-N-18 MIRVed SLBMs, with YANKEE and HOTEL SSBNs dismantled in compensation,

- continuation of the SS-NX-20 MIRVed SLBM testing program (The TYPHOON/SS-NX-20 weapon system will become operational in 1983.),

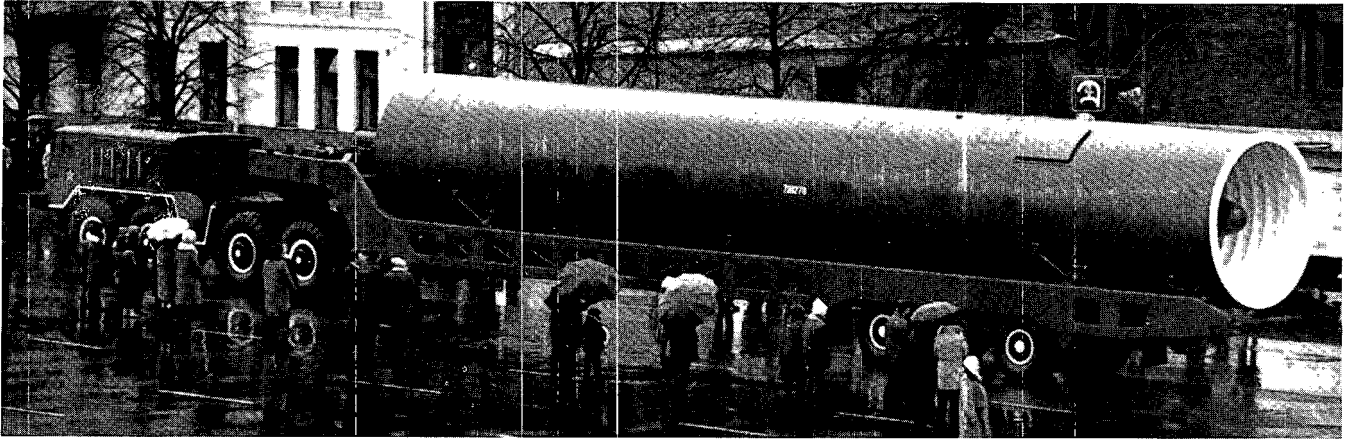
- continued production of BACKFIRE bombers,

- further deployment of the SA-10 low-altitude SAM around Moscow and throughout the USSR,

- initial production of the Il-76/MAINSTAY airborne warning and control systems (AWACS),

- continued development of a high-speed ABM interceptor and a modified version of the older GALOSH ABM interceptor,

- additional construction of large phased-array radars around the periphery of the USSR,



SS-11 ICBM

- continued construction of hardened shelters and command posts for passive defense.

New programs since 1981:

- first tests of a new solid-propellant ICBM similar in size and payload to the US MX,
- the first test of a new small solid-propellant ICBM, which could be deployed on mobile transporters,
- preparations to begin testing other new ICBMs, probably in 1983,
- development of a series of long-range cruise missiles intended for ground, air and sea launch platforms,
- preparations to begin testing another new SLBM, probably in 1983,
- the first flight tests of the new BLACKJACK strategic bomber,
- new ABM deployment around Moscow to include a new, very large phased-array radar and deployment of new ABM interceptors,
- testing of high-energy laser systems for land-based and sea-based air defense,
- Testing of a mobile version of the SA-10 SAM,
- the initial deployment of the FOX-

HOUND interceptor which can identify and track targets flying far beneath it and fire air-to-air missiles against those targets,

- testing of two additional new air defense interceptor aircraft.

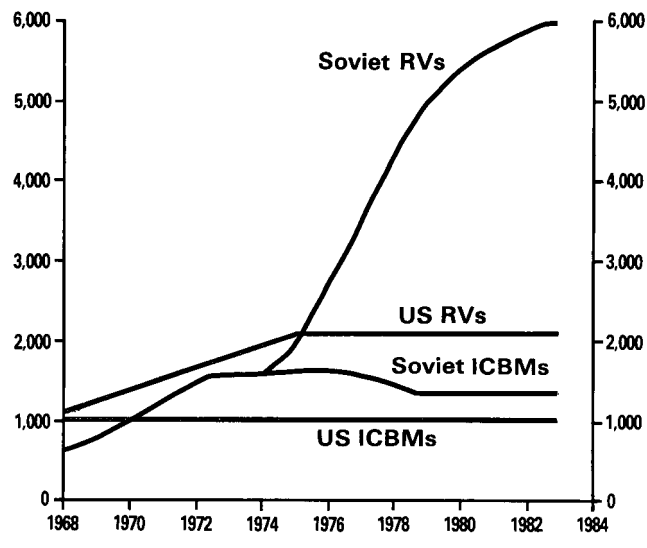
While these efforts have continued, the Soviet leadership has also been directing an active measures campaign to support and amplify ongoing anti-nuclear movements in the West, in order to influence, delay, or frustrate Western nuclear program developments. Using this two-pronged approach, Moscow seeks a new gain in relative capability despite the drive of Western governments to redress the imbalance which has developed over the past decade.

INTERCONTINENTAL ATTACK

Since the late 1950s, the Soviets have developed and deployed nuclear attack forces having two fundamental capabilities: strikes against enemy nuclear arsenals and command and control systems and support of land warfare in Eurasia. While the character, composition, and technical sophistication of the forces have changed over the years, the missions have not. The development of capabilities to satisfy the missions has been done with patience and pur-

pose derived from a realization that not all goals can be achieved at once. ICBMs have the mission to attack the ICBM force of the United States and other hardened targets. ICBMs and SLBMs are earmarked for strikes against communications, command and control systems and against the defense infrastructure of the United States. Some ICBMs and SLBMs may have been designated as strategic reserves. All of the forces must operate in a variety of environments. Bombers have become a supplementary force for ICBMs and SLBMs. Finally, the majority of the systems have been designed to be capable for use not only at intercontinental ranges against the United States but also at shorter ranges against targets throughout Europe and Asia.

US and Soviet ICBM Launcher and Reentry Vehicle (RV) Deployment 1968-1983



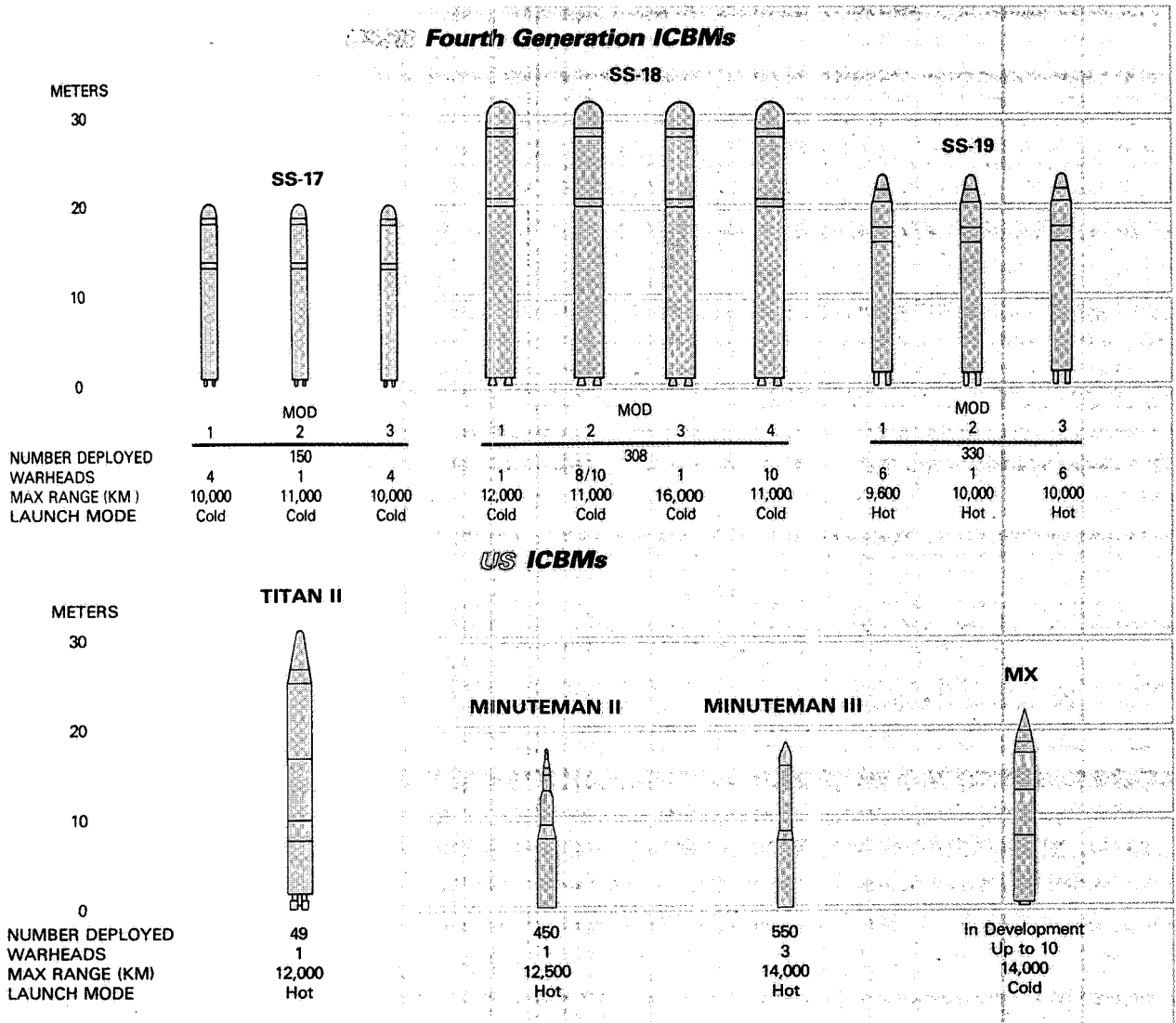
ICBMs: The Soviet ICBM force has been developed and deployed in four successive generations, each representing significant advances. The Soviet ICBM force currently consists of 550 SS-11s, 60 SS-13s, 150 SS-17s, 308

SS-18s, and 330 SS-19s. These missiles carry some 6,000 nuclear warheads. Presently, the great majority of the 17s, 18s and 19s are equipped with MIRVs. By the mid-1980s the Soviets are expected to complete their current ICBM modernization programs for fourth-generation systems. At that time, they will have 520 SS-11s, 60 SS-13s, 150 SS-17s, 308 SS-18s, and 360 SS-19s. When this deployment is finished, the force will have some 6,400 warheads.

ICBM improvements may be measured in terms of quantity, quality and survivability.

Quantitative Improvements: Deployment of the Soviets' first (SS-6) and second (SS-7 and SS-8) generation ICBMs began in the late 1950s and early 1960s. By 1966, deployment of third generation missiles (SS-9, SS-11, and SS-13) was underway. With this generation, the Soviets rapidly increased the number of ICBMs deployed. ICBM deployment reached its peak in the mid-1970s at approximately 1,600 launchers. After this, the number of launchers gradually decreased to the current level of approximately 1,400 as the Soviets removed their less-capable second generation missiles from the force. (The first generation was phased out in the 1960s.) From 1975 to the present, however, there has been a dramatic increase in the number of deliverable nuclear warheads as the MIRVed versions of the fourth generation ICBMs (SS-17, SS-18, and SS-19) have been deployed. Since these missiles can carry up to 10 reentry vehicles (RVs), the number of deployed ICBM nuclear warheads has increased by a factor of four, notwithstanding the reduction in the number of SALT-accountable launchers.

Qualitative Improvements: The dramatic growth in nuclear warheads observed after 1975 could not have been possible without major qualitative improvements. The first two generations of Soviet ICBMs were inaccurate, carried relatively small payloads and required lengthy



launch procedures. To make up for these deficiencies, reentry vehicles were fitted with high-yield nuclear weapons. With the third generation, both accuracy and payload capability were improved to some degree. However, it was not until the fourth generation that the technology became available to the Soviets allowing greater throw weight and greatly improved accuracy so that high-yield MIRVs could be carried by operational missiles. The most accurate versions of the SS-18 and SS-19

are capable of destroying hard targets. Together, these systems have the capability to destroy most of the 1,000 US MINUTEMAN ICBMs, using only a portion of the warheads available. The Soviets follow an incremental improvement policy in the development of their forces. They improve those components of a weapon system that need improving and retain those portions that are satisfactory. In this manner, they have greatly improved the reliability and capability of their current ICBM force.

Survivability Improvements: One of the most important improvements made in the ICBM force has been in the area of survivability. Most of the first- and second-generation ICBMs were deployed on above-ground launchers with no real protection for the launcher or the missile. During the deployment of the second-generation missiles the Soviets began to deploy missiles at sites containing three underground silo launchers. Third-generation missiles were deployed in hardened, underground, single-silo sites. By using hardened and widely-dispersed launchers the Soviets increased the ICBM force survivability. The fourth-generation ICBMs were placed in launchers that, for the most part, had been converted from third-generation silos. In the process of conversion, the hardness of the launchers was considerably increased to improve missile and launcher survivability, upgraded communications facilities were added, and silo-based launch control facilities were built. The Soviets have also undertaken several programs to modernize and upgrade launchers for their third-generation ICBMs. The result is that the current Soviet ICBM force is vastly more survivable than was the case a decade ago.

ICBM Reload Capability: The Soviets have contingency plans for reloading and refiring ICBMs from launchers that already have been used to fire an initial round. The cold-launch technique employed by the SS-17 and SS-18 lends itself to such a reload capability. Additionally, all currently deployed liquid-propellant ICBMs—SS-11, SS-17, SS-18 and SS-19—are contained in a launch canister within the silo. This and the silo design minimize damage to the launcher during the initial firing and give the Soviets the capability to reload each of these launchers. The Soviets probably cannot refurbish and reload silo launchers in a period less than a few days; nevertheless, they believe that this capability is of significant value because

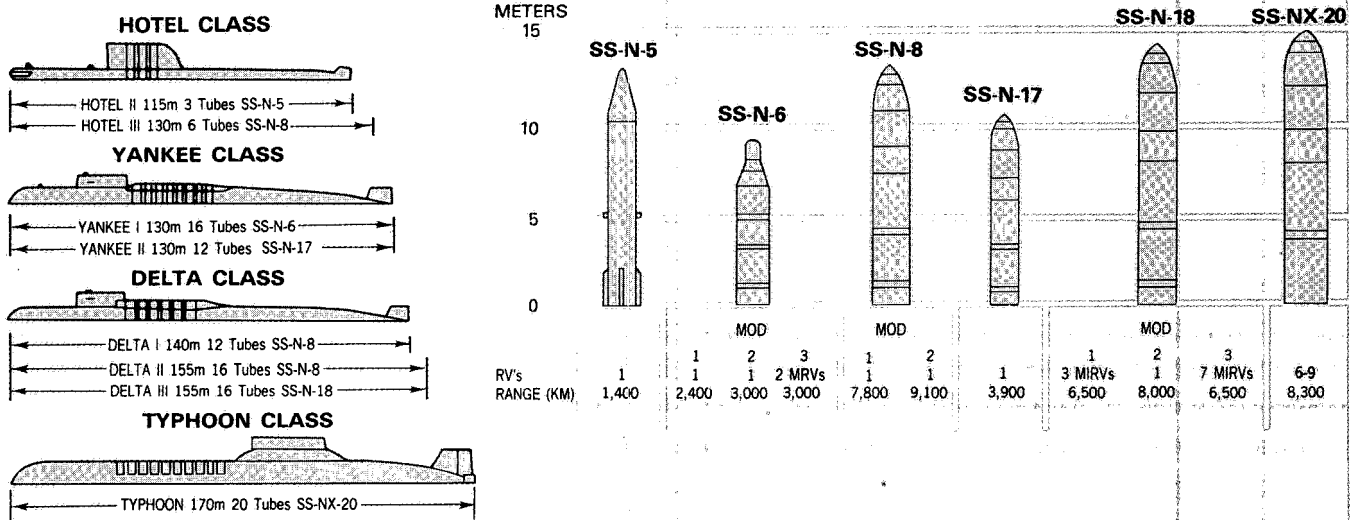
they anticipate that a nuclear war might be protracted. The Soviets have made provisions for the delivery of reserve missiles, warheads and propellants to ICBM complexes for reload purposes. None of these extra missiles or warheads are counted under SALT agreements. Only the launchers are counted.

New ICBMs Under Development: Soviet ICBMs will continue to emphasize the force improvements that have been observed since the early 1960s: accuracy, MIRVing, reliability, and survivability. Two new solid-propellant ICBMs are currently being developed. One of these is about the size of the US MX intended for silo deployment; the other is a smaller missile, which will probably be designed for deployment on mobile launchers similar to those used with the SS-20. Because of their capability for dispersal, mobile missiles are highly survivable. Furthermore, they have an inherent reload capability, which is also a significant force improvement. Testing programs for one or two additional ICBMs, probably based on the SS-18 and SS-19, are expected to begin in 1983.

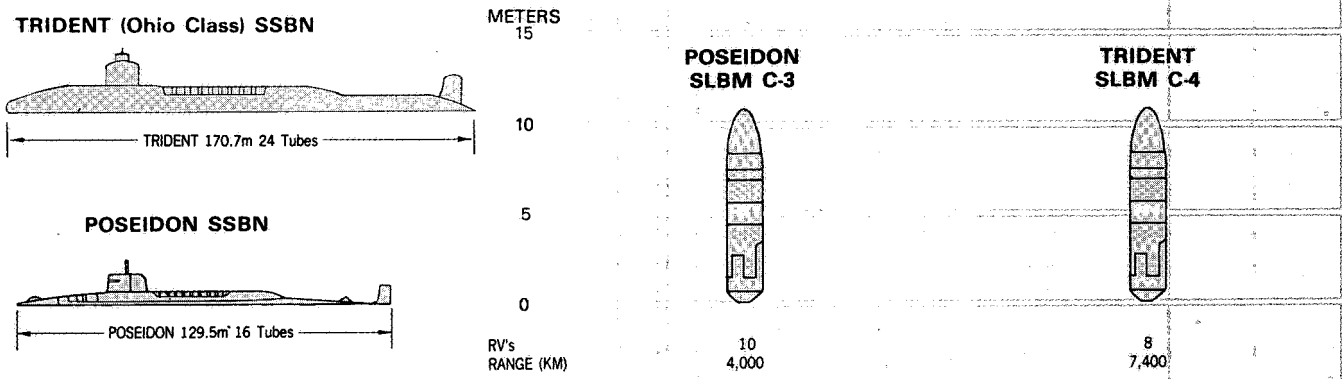
SSBNs/SLBMs: Over the last two years the Soviets have continued to modernize their submarine launched ballistic missile (SLBM) force. A second TYPHOON-Class nuclear-powered ballistic missile submarine (SSBN) has been launched at the Severodvinsk Shipyard; the first TYPHOON completed its sea trials and has moved to port facilities on the north coast of the Kola Peninsula. Armed with 20 launchers for the MIRVed SS-NX-20 solid-fueled SLBM, the first submarine of this class will be fully operational by the end of 1983. The range of the SS-NX-20, 8,300 kilometers, places all of NATO Europe, North America and Asia within TYPHOON's reach.

While the TYPHOON SSBN production program is still relatively new, the Soviets' earlier

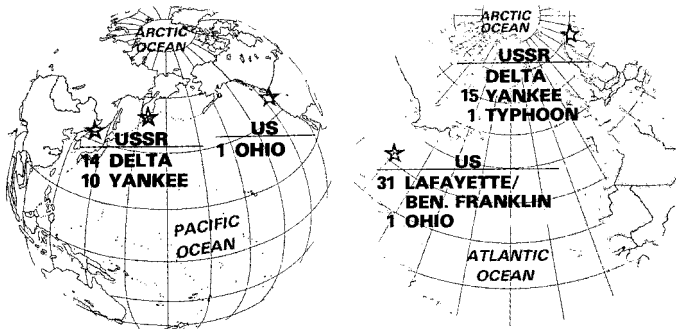
USSR Nuclear Ballistic Missile Submarines and Missiles



US Nuclear Ballistic Missile Submarines and Missiles



Modern SSBN Deployments



DELTA-III program is nearing completion. Thus far, 14 of these SSBNs have been launched; a few more will probably be built. Each carries 16 liquid-fueled MIRVed SS-N-18 SLBMs.

Like the TYPHOON, the missiles on the DELTA-III, as well as the DELTA I and II, can reach targets in almost all of North America from home waters. By contrast, only the TRIDENT C-4 has similar range capabilities. However, the bulk of US SLBMs is much less capable in terms of range, accuracy and yield. Therefore, the quantitative US advantage

shown in the chart below should not mislead.

With the addition of each new SSBN, the Soviet Navy has dismantled older submarines in order to remain within the number of launchers (950) and number of hulls (62) allowed under provisions of the SALT-I Agreement, as extended. The addition to the force of some 200 reentry vehicles (RVs) on each TYPHOON, however, greatly eclipses the temporary reduction caused by the dismantlement of one YANKEE-Class SSBN (48 RVs) and of two

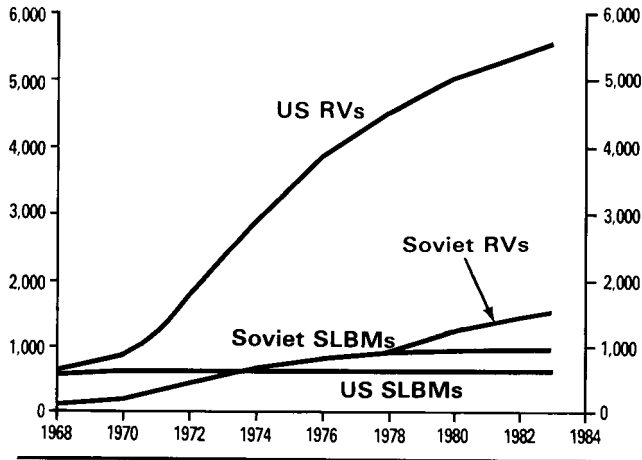
HOTEL-II Class SSBNs (6 RVs) in compensation for a newly constructed TYPHOON. The acquisition of each new SSBN equipped with SS-N-18/SS-NX-20 SLBMs not only introduces more RVs but also allows the Soviets greater flexibility in the use of their new submarines. Older SSBNs with shorter-ranged SLBMs have to conduct lengthy transits in order to come within range of targets in North America.

Future developments in Soviet SLBMs will most likely center on improved RV accuracy to complement their estimated large nuclear yields and on the fielding of solid-fueled SLBMs as replacements for older liquid-fueled versions. A new SLBM, possibly intended to replace the SS-N-18, probably will begin testing in 1983.

Apart from its SLBMs, the Soviet Navy will soon be the recipient of a sea-launched cruise missile (SLCM) that is currently under development, the SS-NX-21. With an estimated maximum range on the order of 3,000 kilometers, its mission is primarily nuclear strike, and its size is compatible with submarine torpedo tubes.

Bombers: The manned bomber has relinquished primary responsibility for nuclear attack to missiles, but the Soviets still view it as a

US and Soviet SLBM Launcher and Reentry Vehicle (RV) Deployment 1968-1983



USSR and US Long-Range Strike Aircraft*					
METERS	USSR			US	
60			BLACKJACK		
45	Tu-95 BEAR	BACKFIRE B		B-1B	B-52
30					
15					
0					
UNREFUELED COMBAT RADIUS (KM)	8,300	5,500	7,300	7,500	8,000
MAX SPEED (KTS)	500	1,100	1,200	795	580

* BISON, BADGER, BLINDER, FB-111a not shown.

viable component of their nuclear forces. The manned bomber provides them flexibility and diversity in their nuclear attack forces not available with ballistic missiles. Moreover, the Soviets clearly are prepared to use bombers in a variety of roles, to include conventional strikes in the European and Asian theaters, antiship operations, reconnaissance and nuclear operations in a protracted conflict.

Continuing Soviet interest in the manned bomber is evidenced by the number of programs underway to upgrade the aging force, including the development of a new strategic bomber and long-range air-launched cruise missiles. Moreover, sweeping organizational changes in the command structure of the Soviet air forces are in part intended better to integrate bombers into all types of air operations.

Deployment Trends: The current strategic bomber force consists of almost 900 strike and support aircraft. The overall size of the force has remained relatively constant in recent years, although modernization of the BACKFIRE and upgrades in weapons have improved the quality. Three-fourths of the bombers are positioned opposite NATO, while the remainder are based along the Chinese border. BADGER, BLINDER, and BACKFIRE make up the bulk of the force and would carry out missions primarily against Europe and Asia. BEAR and BISON could perform similar missions as well, but are reserved mainly for strategic maritime or intercontinental operations.

Long-Range Bombers: The Tu-95/BEAR is the primary intercontinental air threat to the United States. Capable of delivering free-fall bombs or air-to-surface missiles, under optimum conditions this aircraft can cover virtually all US targets on a two-way mission. Introduced in the mid-1950s, it is both the largest and longest-range Soviet bomber currently operational. The range and flexibility of some models

can be further increased with mid-air refueling. Six variants of the BEAR have been produced: three for strike missions, two for reconnaissance, and one for antisubmarine warfare. The antisubmarine warfare variant has continued in production in 1982.

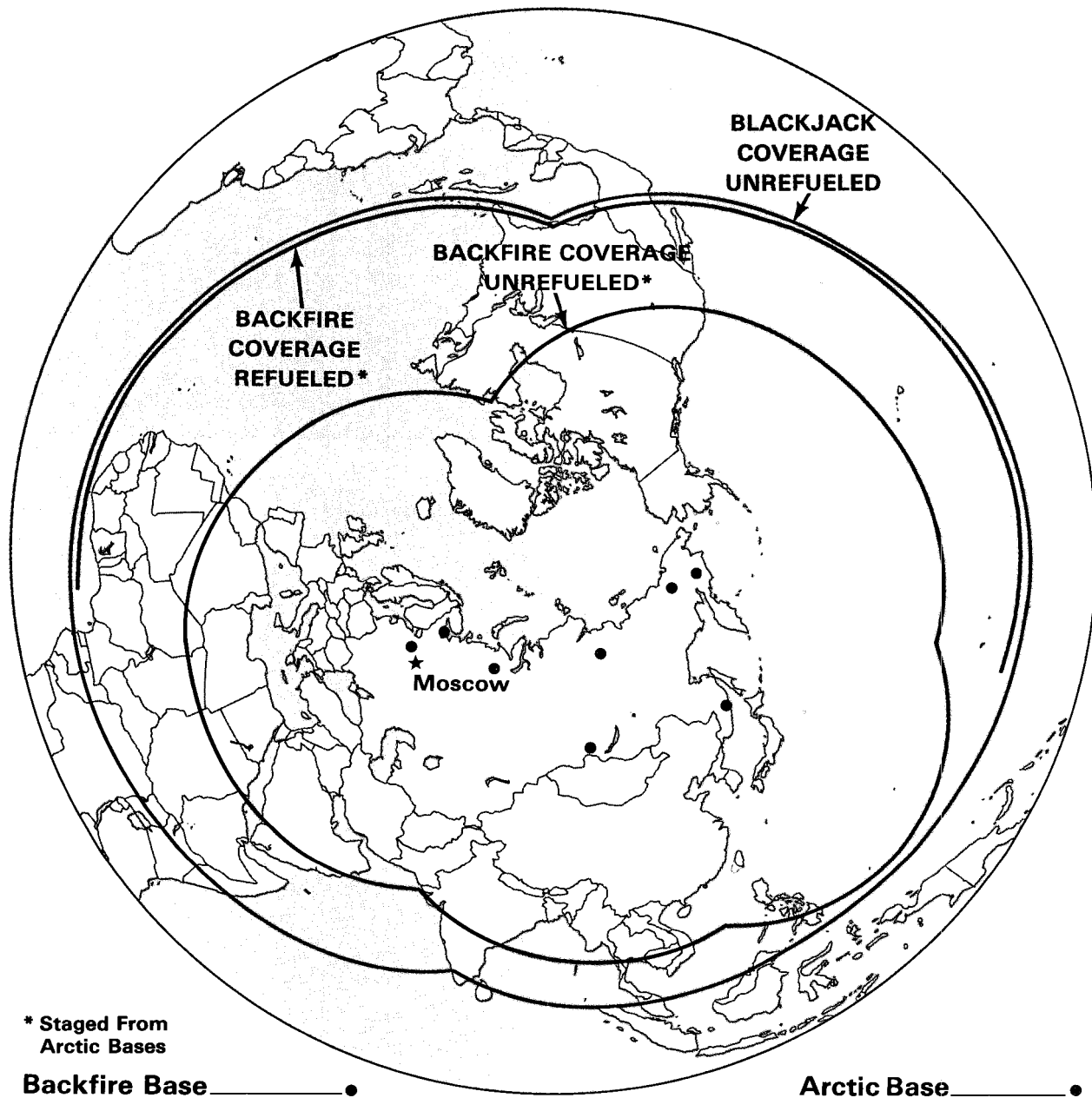
Complementing the BEAR in intercontinental operations, the M-type/BISON is a four-engine, swept-wing, turbojet-powered bomber capable of delivering free-fall bombs. About 45 are still configured as bombers, while some 30 have been modified as air refueling tankers.

The Tupolev BACKFIRE is the latest addition to the currently operational strategic bomber forces. Introduced in 1974, some 100 are deployed with the Soviet Air Force, with a like number assigned to Soviet Naval Aviation. Production of the BACKFIRE continues at a rate of 30 per year. Most are based in the western USSR, although over the last few years the Soviets have deployed a sizable number in the Far East.

The BACKFIRE is a long-range aircraft capable of performing nuclear strike, conventional attack, antiship, and reconnaissance missions. Its low-level penetration features make it a much more survivable system than its predecessors. Carrying either bombs or AS-4/KITCHEN air-to-surface missiles, it is a versatile strike aircraft, currently intended for theater attack in Europe and Asia but also capable of intercontinental missions against the United States. The BACKFIRE can be equipped with probes to permit inflight refueling, which would further increase its range and flexibility.

Intermediate-Range Bombers: The over 600 Tu-16/BADGER and Tu-22/BLINDER strike and support aircraft represent a significant capability for use in theater attack. The BADGER is by far the most numerous aircraft in the force. The ten variants of this twin-jet, subsonic aircraft have expanded its mission beyond

Blackjack and Backfire Coverage from Soviet Bases (2-Way Missions)



standard bombing to include electronic countermeasures, air-to-surface missile delivery, reconnaissance, and refueling. The swept-

wing, supersonic BLINDER has been deployed in free-fall bomber, air-to-surface missile carrier, reconnaissance and trainer versions. The

BADGER and BLINDER, in conjunction with BACKFIRE, form a potent force for air operations against NATO and the nations of Asia.

New Bomber Developments: Until the introduction of the BACKFIRE, the most glaring weakness in the Soviet bomber force was the age of the aircraft. However, as early as the middle 1980s, major improvements are expected which will give new life to the force and significantly enhance Soviet long-range bomber and cruise missile attack capability.

A new strategic bomber, designated the BLACKJACK A by NATO, is currently under development. The BLACKJACK is a large, variable-geometry-wing aircraft. It will be capable of long-range subsonic cruise with supersonic high-altitude dash and subsonic/transonic low-

level penetration. This new bomber is likely to be a multiple-role aircraft that could deliver both free-fall bombs and air-launched cruise missiles to intercontinental range. The BLACKJACK could be introduced to the operational force as early as 1986 or 1987.

The Soviets are developing at least one long-range air-launched cruise missile (ALCM) with a range of some 3,000 kilometers. Carried by the BACKFIRE, the BLACKJACK and possibly the BEAR, it would provide the Soviets with greatly improved capabilities for low-level and standoff attack in both theater and intercontinental operations. ALCMs could be in the operational force by the mid-1980s.

A new aerial refueling tanker based on the Il-76/CANDID has been under development for several years. If operationally deployed, the new tanker could support either tactical or strategic aircraft and would significantly improve the ability of Soviet aircraft to conduct longer-range operations.

US Strategic Deterrent Forces: By mid-1983, US strategic deterrent forces will consist of:

- 1,000 MINUTEMAN ICBMs
- 43 TITAN ICBMs
- 241 B-52G/H model bombers
- 56 FB-111 bombers
- 496 POSEIDON (C-3 and C-4) Fleet

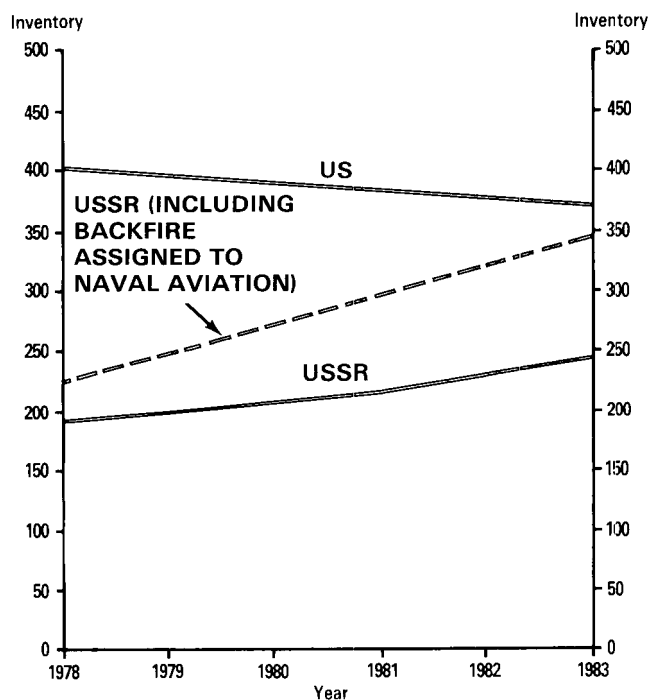
Ballistic Launchers

- 72 TRIDENT Fleet Ballistic

Launchers

The US force structure dates from the 1960s. The TITAN ICBMs and the B-52D-model bombers are being retired in view of their age and declining military effectiveness. The B-52D is scheduled for retirement this year and the TITANs by 1987. The aging B-52G/H bombers will not be capable of effectively penetrating the Soviet air defenses in the mid-1980s. The MINUTEMAN force is increasingly vulnerable to a Soviet ICBM attack.

US and USSR Intercontinental-Capable Bombers¹



¹ US data include B-52, FB-111a ; Soviet data include Soviet Air Force, BEAR, BISON, and BACKFIRE.

To redress the imbalances and US force vulnerabilities which have resulted from the Soviet drive for strategic superiority, the United States has initiated a comprehensive and integrated strategic modernization program. In the area of US strategic retaliatory forces this program includes:

- Deployment of more survivable and effective command, control, and communications systems,
- Development of the new TRIDENT-Class submarine-launched ballistic missile and continued procurement of TRIDENT-Class submarines,
- Procurement of 100 B-1B bombers in the near-term and deployment of the Advanced Technology Bomber (ATB) for the 1990s. Similarly, selected B-52 bombers are being modernized and the air-launched cruise missiles (ALCM) introduced into the force,
- Deployment of the new PEACE-KEEPER (MX) land-based missile as soon as possible.

Other Nuclear Forces: China maintains its own long-range nuclear force, which is not part of any alliance. In planning for theater operations, the Soviets take this force into account.

Nuclear forces in Europe include four United Kingdom submarines carrying 64 POLARIS A-3 missiles. The POLARIS missiles themselves are being modified to upgrade warhead survivability and effectiveness on target. Plans call for replacement of the POLARIS SLBM, but this program is not scheduled until the 1990s. France also maintains both land-based intermediate-range nuclear forces and submarines with ballistic missiles.

STRATEGIC DEFENSE FORCES

Since the end of World War II, the Soviets have built and maintained the world's largest

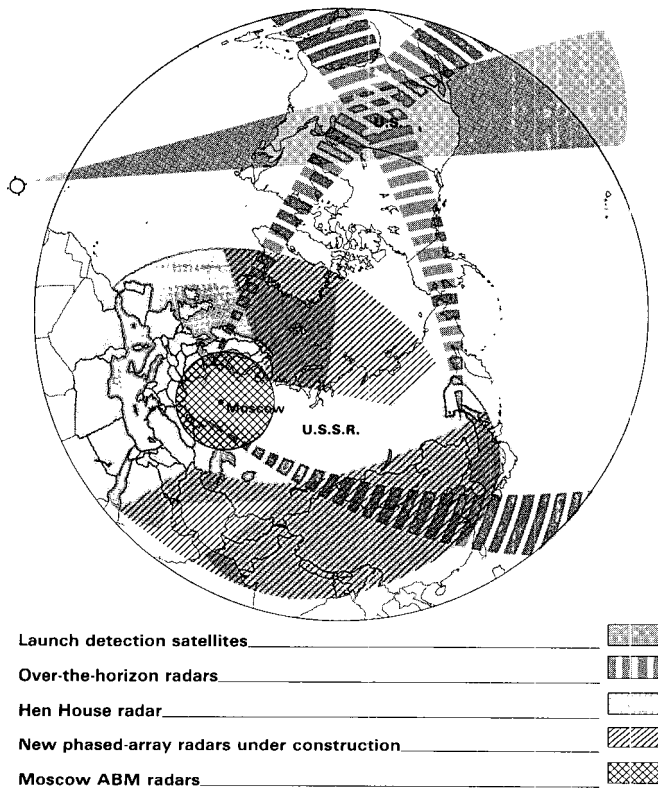
strategic defense force. It includes active defenses such as interceptor aircraft, surface-to-air missiles (SAMs) and antiballistic missile (ABM) and passive defenses such as surveillance and warning systems, hardening, electronic countermeasures (ECM), and civil defense. When combined with the strong counterforce orientation of Soviet strategic offensive forces, these efforts point to a strategic concept of layered, in-depth defense of the homeland.

Early Warning: The Soviets have about 7,000 radars throughout the USSR dedicated to detecting and supporting the engagement of enemy aircraft. The Soviets have steadily improved their ability to overcome the many difficulties associated with providing air warning for such a large country. The chief improvements are the continued development of an Airborne Warning and Control System (AWACS) aboard the II-76/CANDID airframe, which could begin deployment soon, and the deployment of many new types of ground-based air warning radars and control systems.

For detecting and tracking ballistic missiles, the Soviets have a redundant system of sensors. The first layer is the large over-the-horizon (OTH) radars that can detect the launch of US and Chinese ICBMs. These have been supplemented recently by a launch detection satellite system. The second layer is the network of HEN HOUSE radars near the borders of the USSR. The Soviets have made a major commitment to improving this network by building new phased-array radars on the borders. These large radars, about the size of a football field set on edge, take years to complete. When finished, they will close gaps in HEN HOUSE radar coverage and provide Soviet leaders with better information about the size and objectives of any enemy missile attacks.

Ballistic Missile Defense: In conjunction with ballistic missile detection and tracking systems,

Coverage of Ballistic Missile Detection and Tracking Systems



the Soviets maintain at Moscow the world's only operational antiballistic missile (ABM) system. The Moscow defenses currently include battle management radars and four launch complexes containing engagement radars and ABM-1B/GALOSH interceptor missiles. The system cannot presently cope with a massive attack, however, and the Soviets have continued to pursue extensive ABM research and development programs, including a rapidly deployable ABM system and improvements for the Moscow defenses.

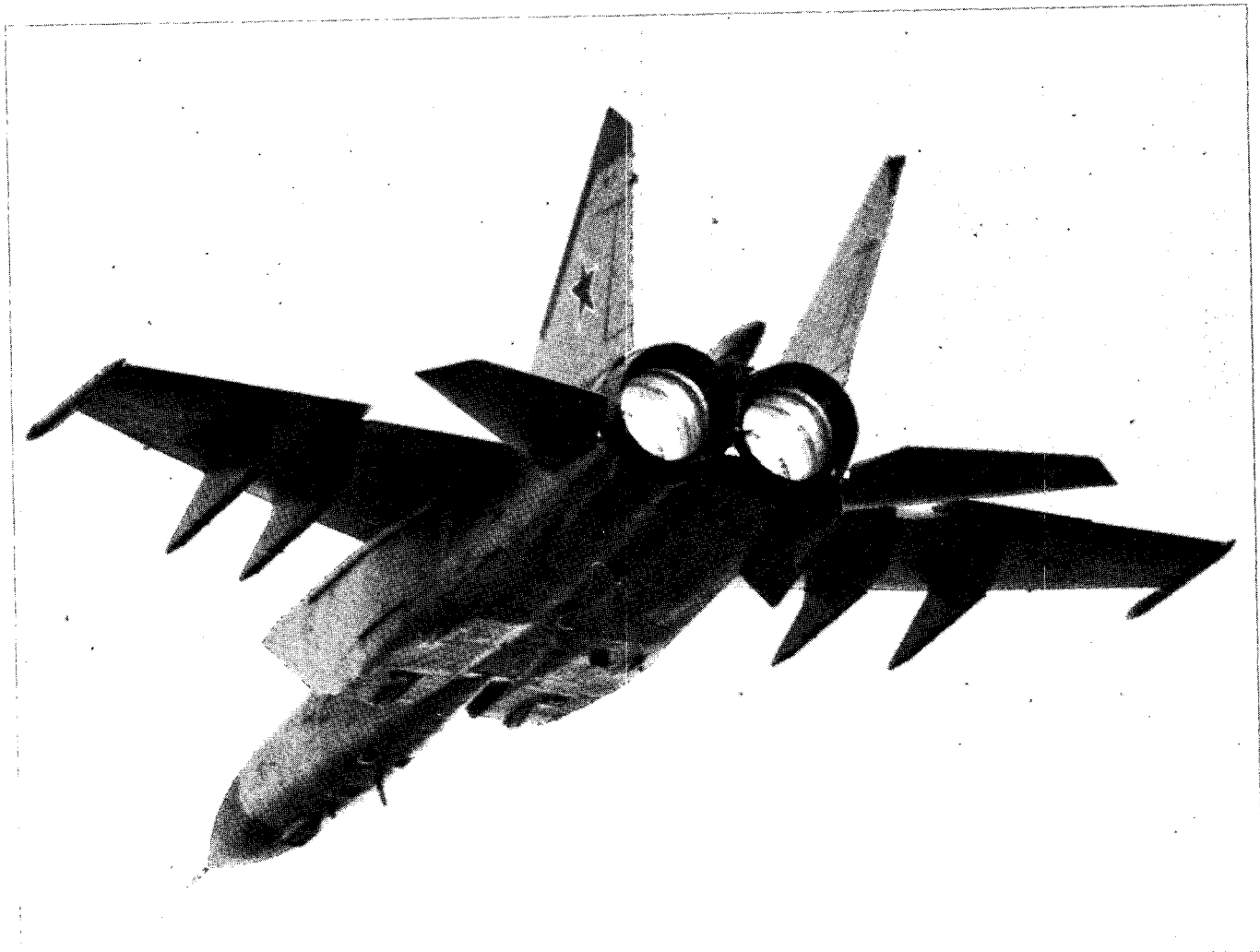
Some of these ABM developmental programs are coming to fruition, as the Soviets are in the process of upgrading the Moscow ABM defenses. They are building additional ABM sites and are retrofitting sites with new silo launch-

ers. To support these launch sites, the Soviets are building the new ABM radar in the Moscow area shown in the illustration opening Chapter I of this report. It is a phased-array radar with 360 degree coverage, somewhat like the Missile Site Radar from the now defunct US SAFE-GUARD ABM system, although the Moscow radar is about twice as large. These improvements to the Moscow defenses, which could be completed by the mid-1980s, are allowed by the 1972 ABM Treaty as long as the number of launchers does not exceed 100.

Air Defense: Soviet air defenses are the most massive in the world. They include an extensive variety of aircraft and missile weapon systems with mutually supporting capabilities. Heaviest concentrations are in the European USSR and the military/industrial areas east of the Urals. Qualitatively improved weapon systems are being developed and will continue to be introduced into the force.

The Soviet air defense system should not be confused with those employed by client states using some Soviet equipment. No Soviet client state has been provided with anything comparable to the highly integrated Soviet air defense system. Examples of the failure of air defenses in those states when faced with attacks by first-line aircraft should not be used to judge Soviet air defense capabilities.

Aircraft: Evolutionary changes continue in the interceptor force. Approximately 600 modern, strategic air defense interceptors with at least some ability to engage low-altitude targets now make up half of the force. The Soviets have been converting FOXBAT A aircraft, originally designed to counter high-altitude threats, to FOXBAT E, giving them limited low-altitude capabilities somewhat comparable to FLOGGER. The Soviets have begun deployment of the FOXHOUND A, their first interceptor with a true look-down/shoot-down capability. Two



MiG-25/FOXBAT E Interceptor.

more look-down/shoot-down fighters are currently in development and should enter service soon. As these three types of aircraft replace or augment older types, the Soviet capability to defend against low-altitude aircraft, including cruise missiles, will increase.

SAMs: As in the interceptor force, improvements in the Soviet surface-to-air missile (SAM) force are continuing. Again, the primary emphasis appears to be a counter to low-altitude targets. Newer systems demonstrate longer range, particularly at low altitude; improved

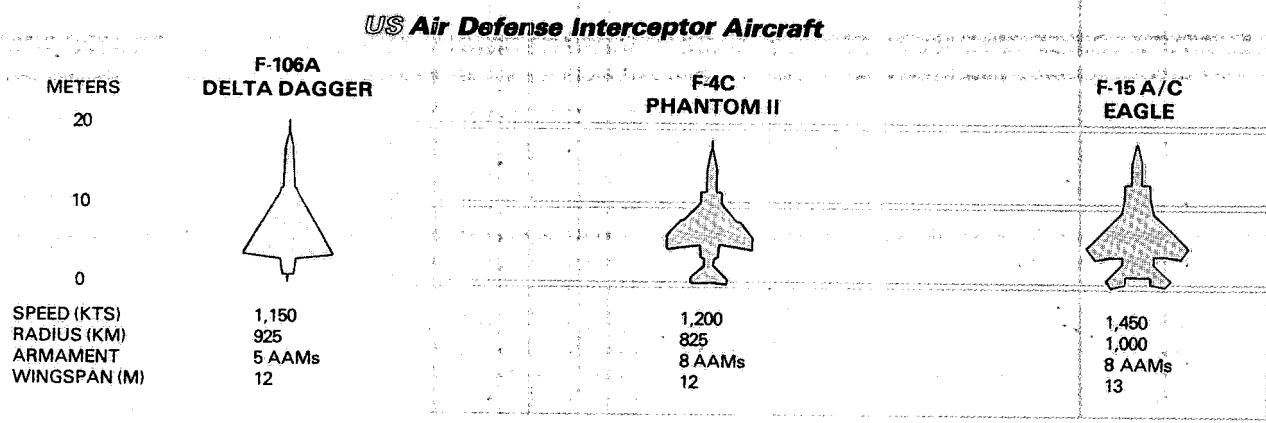
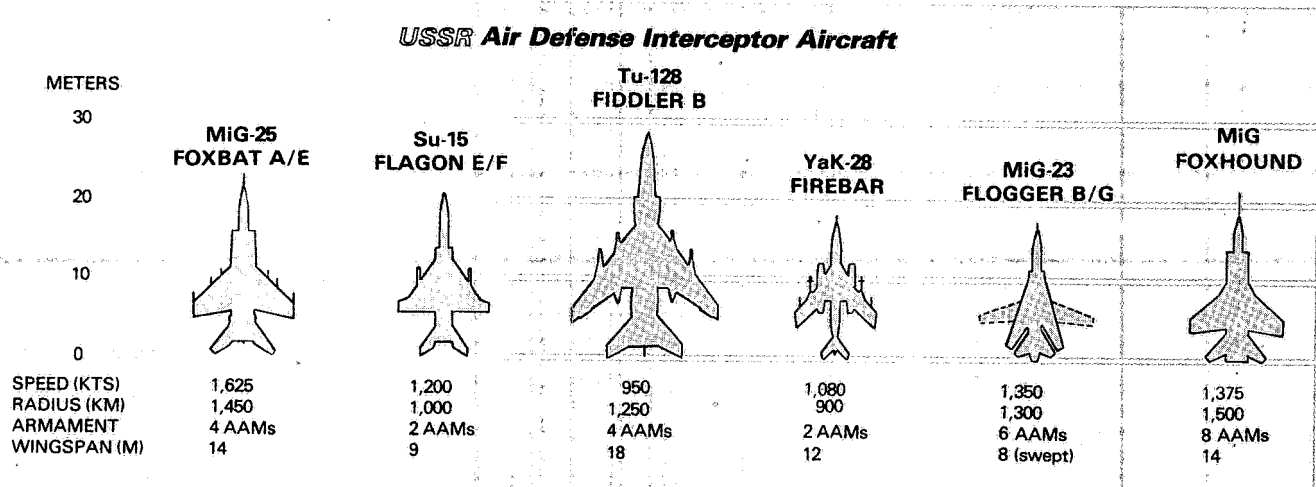
mobility; increased target handling capability and increased firepower. Deployment of the SA-10 system, which can engage multiple aircraft and possibly cruise missiles at any altitude, has steadily increased. In addition to deployment around the USSR, the system is replacing the 30-year-old SA-1s around Moscow. Development of a mobile SA-10 is underway.

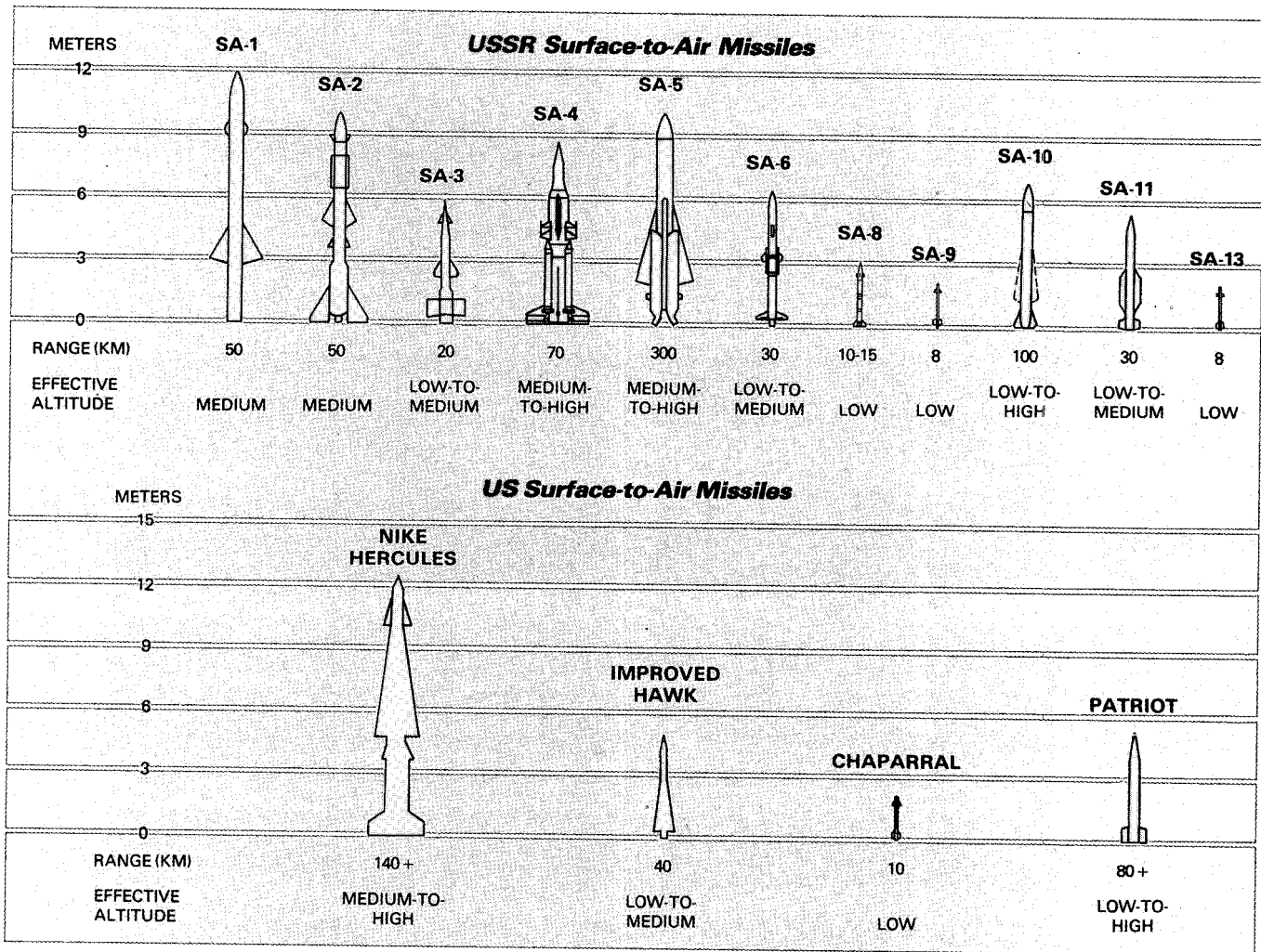
Passive Defense: The Soviet Ministry of Defense controls the nationwide civil defense programs of the USSR. The Chief of Civil Defense is a Deputy Minister of Defense and general of

the army. Full-time civil defense staffs exist at each echelon of the Soviet administrative structure. Civil defense staffs also exist at significant industrial, utility and other installations. In wartime, the civil defense administrative structure, assimilated into an integrated command system, would play a significant role in maintenance of the government and the economy. This goal is supported by the protection provided leadership through deep, hard, urban sheltering and an extensive network of hardened relocation sites outside the cities, with redundant communications systems. The program also provides for continuity of support for the economy in wartime through the protection of

the essential workforce by sheltering at work and by the dispersal of off-shift workers to areas away from worksites. Although much urban shelter space is available for the use of general urban populations, their protection is to be achieved primarily through mass evacuation of cities. In peacetime, more than 150,000 people work full-time in the civil defense program. In wartime, the numbers could swell to 16 million. The program costs the equivalent of \$3 billion annually.

US Defense Forces: The United States deploys fewer than 120 ground and AWACS air defense radars, no SAMs for defense of North America and less than 300 interceptors (most 1950s vin-



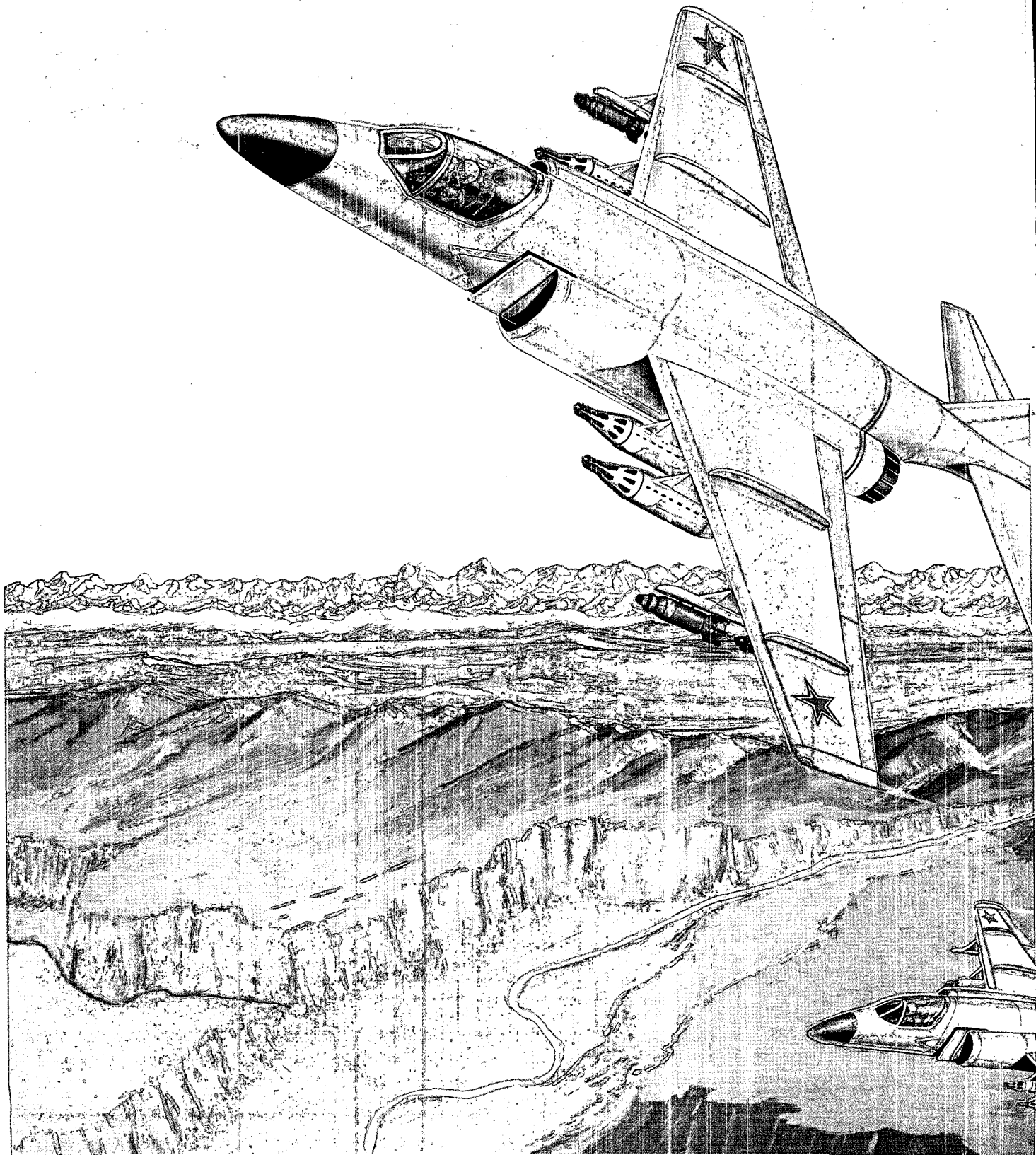


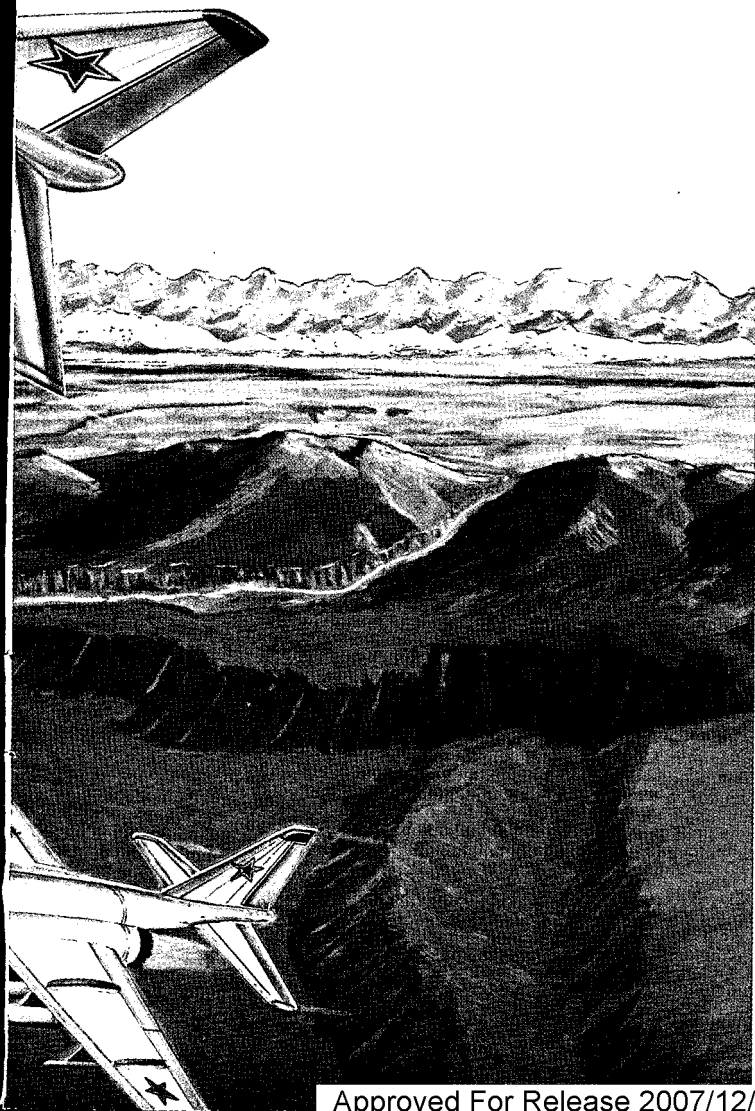
tage). Moreover, the US has had no ballistic missile defense (BMD) capability since 1976, when the single SAFEGUARD site was closed. The US currently has almost no civil defense capability.

The US strategic modernization program addresses some of the major deficiencies in strategic defense, the most critical being lack of adequate air defense. Programmed initiatives to improve long-range surveillance include modern microwave radars for the DEW Line and over-the-horizon-back-scatter (OTH-B) radars looking east, west, and south. The US

and Canada have developed a North American Air Defense Master Plan. At least six additional AWACS aircraft will be procured to augment current forces available for surveillance and command and control for the air defense of North America. In all, five squadrons of F-15 interceptors will replace the 1958-vintage F-106. The strategic modernization program also provides for the vigorous pursuit of research and development on BMD.

III THEATER FORCES





In 1981, *Soviet Military Power* described Soviet theater forces by category. *Soviet Military Power 1983* examines these forces as regionally deployed. For military purposes, the Soviets have divided Eurasia into three theaters: Western, Southern, and Far Eastern. Each theater has its own political and economic significance that determines Soviet military goals and objectives in the area and the strategy employed to achieve them.

The forces positioned for operations against NATO continue to be given the highest priority in receiving the newest and most capable systems. For example, since 1981 the Soviets have produced 4,500 tanks, including the T-80 deployed to forces opposite NATO. At the same time they have introduced new ground-attack aircraft and armored fighting vehicles into Afghanistan and are modernizing their forces in the Far East. This strengthening of forces is intended to enable the Soviets to achieve their political/military objectives as rapidly as possible with the most modern and capable theater forces, either through intimidation or direct military action.

A Renewed Concept for Combined Arms Combat: Capitalizing on their improved and modernized forces, the Soviets have reintroduced the World War II Mobile Group concept in the form of Operational Maneuver Groups (OMGs). OMGs are task-organized, self-sustaining, tank-heavy raiding forces constituting division- and corps-size formations at army and front levels, respectively. Organized for commitment from the outset, OMGs would be ex-

The new Su-25/FROGFOOT ground attack aircraft, armed with 30-mm gun, rockets, bombs and missiles, is deployed to forward bases in Afghanistan to provide close air support to the more than 105,000 Soviet troops engaged in intensive ground combat operations in Afghanistan.

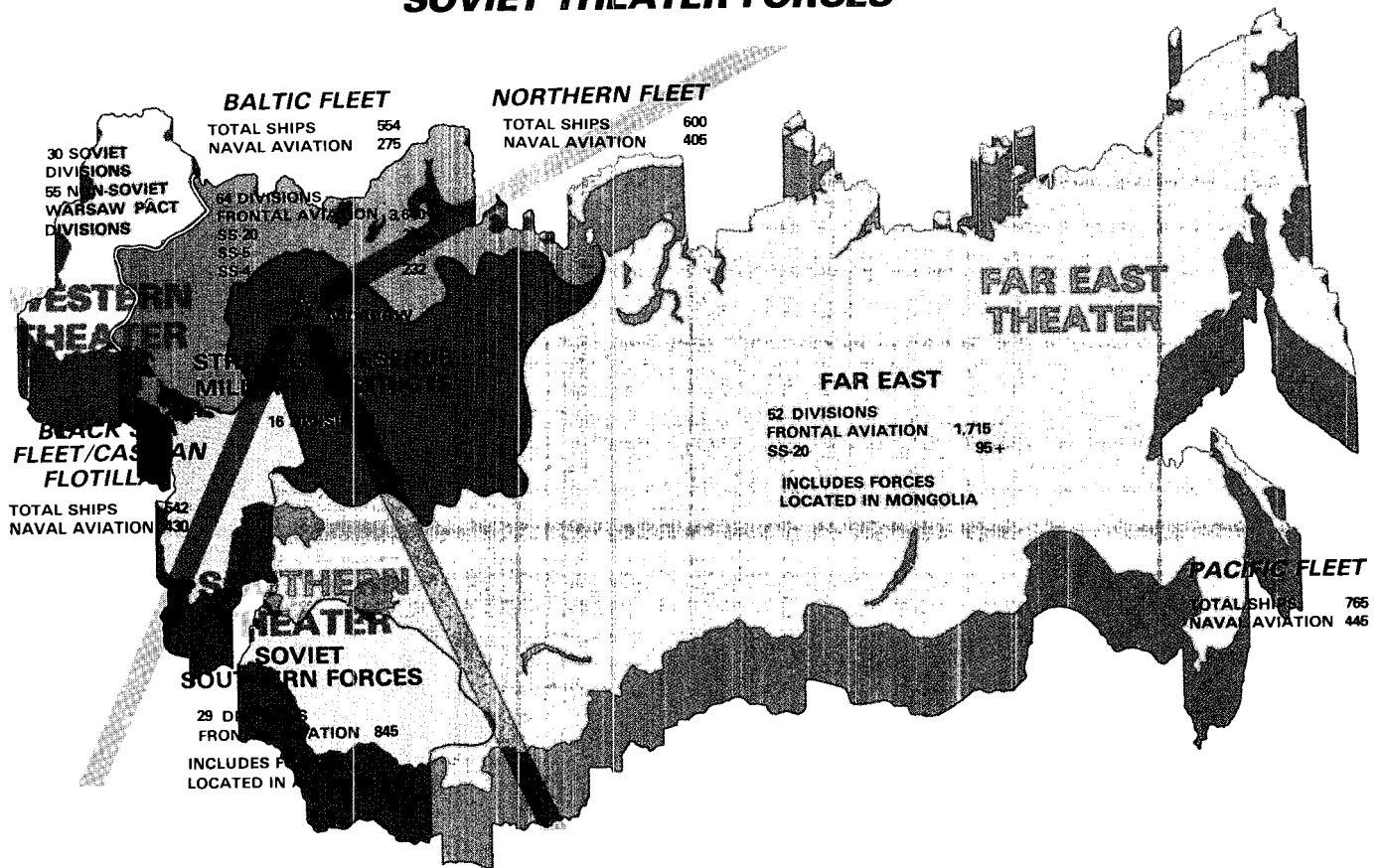
pected to penetrate the enemy rear areas quickly and independently of the main body of forces.

The Soviets believe that successful OMG operations could severely disrupt the NATO rear area, thereby increasing the likelihood of maintaining a rapid advance without early resort to nuclear warfare. Operationally, the OMG would facilitate commitment of reinforcements by securing terrain over which additional Soviet forces must pass while hindering NATO's efforts to reinforce its forces. Additionally, although the OMG concept has been developed for conventional offensive operations, it is also well-suited for exploitation of nuclear strikes.

SOVIET THEATERS

The Western Theater encompasses all of Europe. Because it contains those nations that possess a substantial portion of the world's wealth, technology, industrial capacity, and military power, it is the focal point of Soviet strategic planning. The Soviet goal in the Western Theater is to weaken the Atlantic Alliance to the point that it is no longer a viable military entity. In wartime, the primary Soviet objective would be to seize the initiative quickly and defeat NATO forces before they could be substantially mobilized or reinforced. To manage military operations against NATO, the Soviets subdivide the Western Theater into sev-

SOVIET THEATER FORCES



eral Theaters of Military Operations (TVDs)—continental, oceanic and intercontinental—in which designated forces operate to achieve specific military objectives derived from political goals.

The Southern Theater encompasses Southwest Asia, to include the Arabian Peninsula. In this theater, Syria, Iraq, Iran and Afghanistan are of particular importance because of their proximity to the Soviet border and their location near Persian Gulf oil reserves. Moscow's long-range aim in the region is to establish itself as the dominant power at the expense of the West. To further this aim, the Soviets' policy is to modernize and strengthen their military capabilities, promote dependence upon the USSR, expand ties with sympathetic pro-Soviet elements, orchestrate anti-Western propaganda and obtain access to strategic port and air facilities in the nations of the Indian Ocean basin.

The Far Eastern Theater encompasses China, Japan, Korea and Southeast Asia. The Soviets' political goals are to improve relations with the PRC at the expense of US/PRC ties, to prevent

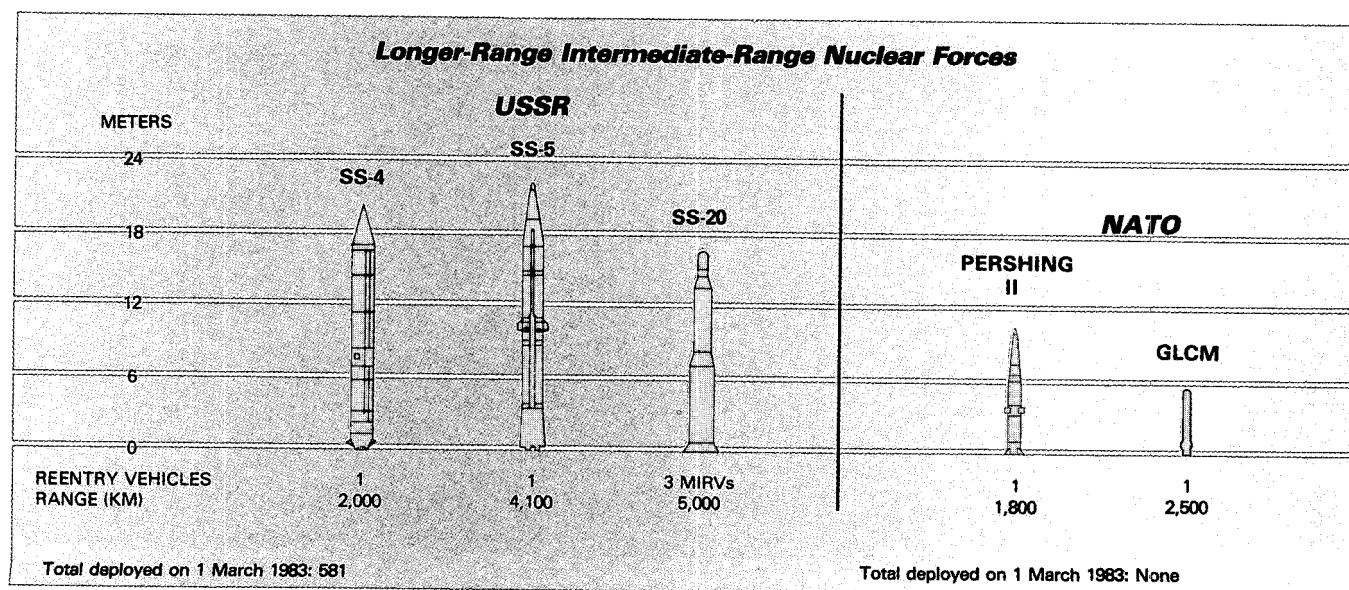
Japan from increasing its contribution to Western security, to unify Korea under communist rule, and to expand Soviet influence in Southeast Asia. In the event of war, the Soviets would strive to control western and northeastern China, to preclude Japanese participation in a war in Asia and to defeat US and South Korean forces in Korea.

THE WESTERN THEATER

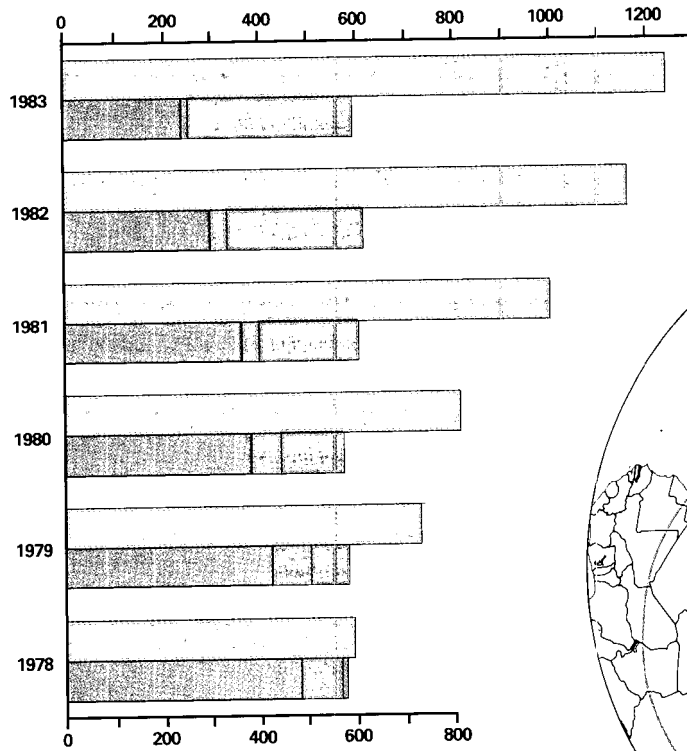
Soviet forces in the Western Theater are those that pose the most direct threat to NATO and encompass all forces located primarily in the Western USSR and Eastern Europe. Soviet forces from other areas of the USSR can, of course, be shifted to combat against NATO.

The following review of the Soviet force modernization program for the Western Theater will show that the Soviets are balancing their conventional and nuclear forces to be able to fight a range of conflicts.

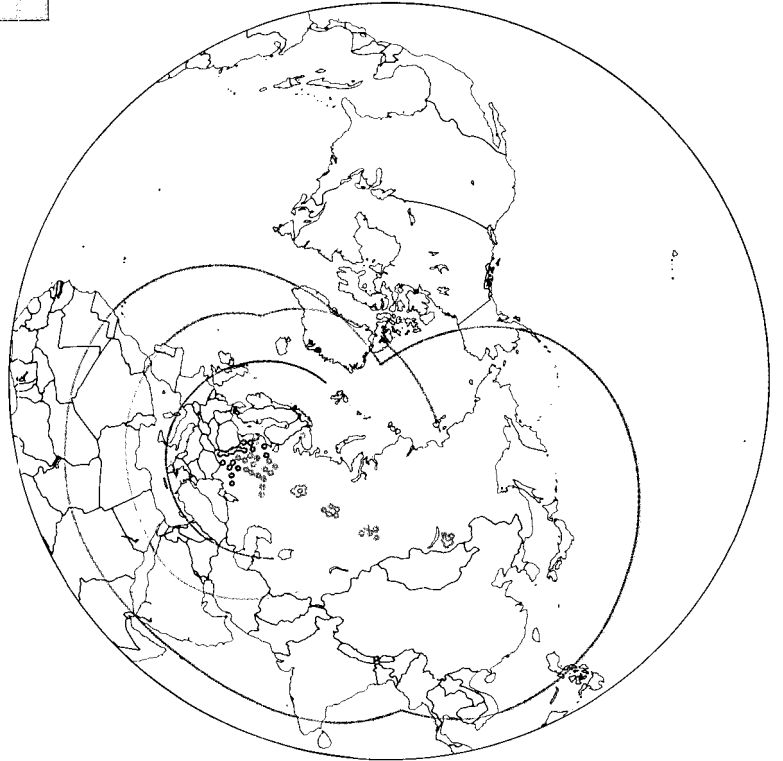
Soviet Intermediate-Range Nuclear Force (INF) Missiles: The Soviets will employ these systems to achieve strategic objectives within the theater. Since late 1977, the nuclear striking



Longer-Range Intermediate-Range Nuclear Force Deployments



Deployment and Target Coverage 1983



Deployment 1978

LEGEND	
REENTRY VEHICLES	BASES
SS-4	○ SS-4
SS-5	○ SS-5
SS-20	○ SS-20

power of the Soviet Long-Range INF missiles has more than doubled, even though the total number of launchers has decreased. This marked increase in force capability is due to deployment of the SS-20 missile with its three,

multiple, independently targetable reentry vehicles (MIRVs).

Today's LRINF missiles, consisting of 248 older SS-4 and SS-5 launchers, and more than 330 mobile SS-20s, can deliver an initial salvo of

some 1,250 nuclear warheads. Of the total number of launchers, more than two-thirds are presently located within range of NATO, and nearly one-fourth of them have been deployed since 1981. The accuracy and reaction time of the SS-20 provide a marked improvement over the older systems. In addition, the mobility of the SS-20 greatly enhances survivability. Furthermore, each SS-20 unit is assessed to be equipped with refire missiles—one per launcher—and each refire missile also carries three warheads.

Ground Forces: The full impact of improvements to Soviet ground forces opposite NATO must be viewed in the context of the total ground forces available. Out of the total of over 190 active divisions in the Soviet force, 94 are located opposite the Central and Northern regions of NATO. Another twenty divisions are located in the Transcaucasus and North Caucasus Military Districts; these divisions could likely be committed against Turkey or Southwest Asia. Some 16 additional divisions that can be allocated to combat operations in Europe constitute the Strategic Reserve and are centrally located. The six Warsaw Pact Allies of the Soviet Union have a total of 55 active divisions. In 1982, the NATO Allies in their force comparison counted a total of 173 USSR/Warsaw Pact divisions which could be mobilized against NATO. Today, that number has risen.

Since 1978, the Soviets have made major quantitative and qualitative advances in their ground forces. While technological improvements to hardware continue unabated throughout the Soviet force, priority is given to the forces opposite NATO, enabling them to conduct rapid offensive operations, characterized by shock action, massive firepower and high mobility. These recent improvements in Western Theater ground forces are highlighted in the areas of surface-to-air, surface-to-surface

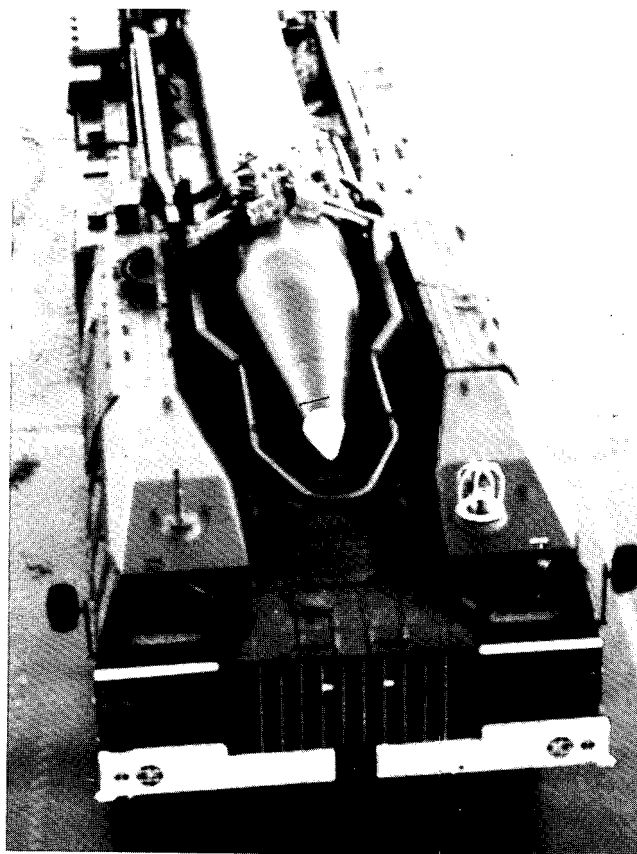
missiles, tanks, artillery and helicopters.

Surface-to-Surface Missiles: Complementing the formidable array of intermediate and medium range systems, the Soviets are continuing to upgrade their tactical nuclear-capable surface-to-surface missile force.

- The SS-21 is replacing the FROG-7 in the Western Theater. The SS-21 has a



SS-21 Transporter-Erector-Launcher



SCUD B Tactical Nuclear Missile

range of about 120 kilometers, 50 kilometers greater than the FROG-7, and it is more accurate, thus enabling greater targeting flexibility and deeper strikes.

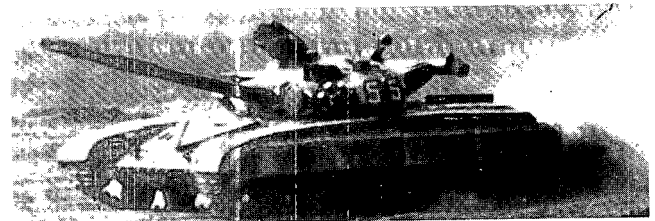
- The SCUD, normally deployed in brigades at army and *front* level, is being replaced by the SS-23; a tactical surface-to-surface missile with improved accuracy and a range of 500 kilometers, versus the SCUD's 300 kilometers.

- Soviet SS-12/SCALEBOARD missiles, with a range of about 900 kilometers, are expected to be replaced by the SS-22 of similar range but greater accuracy.



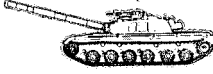


Tactical Air Defense: The Soviets have developed a massive, layered air defense for their ground forces to provide air superiority over the battlefield. They have integrated frontal aviation, radioelectronic combat, SAMs and associated radars and anti-aircraft artillery into an unparalleled tactical air defense system. Soviet tactical SAMs—SA-4, SA-6, SA-8, SA-9, SA-11, and SA-13—shown on page 31 are mobile and are a functional part of ground force units at several levels of command. The ZSU-23-4 supplements the SAMs and interceptors described below. These defenses will continue to be modernized in the future. Of particular note is the development of a new SAM with enhanced low-altitude capabilities and with the poten-

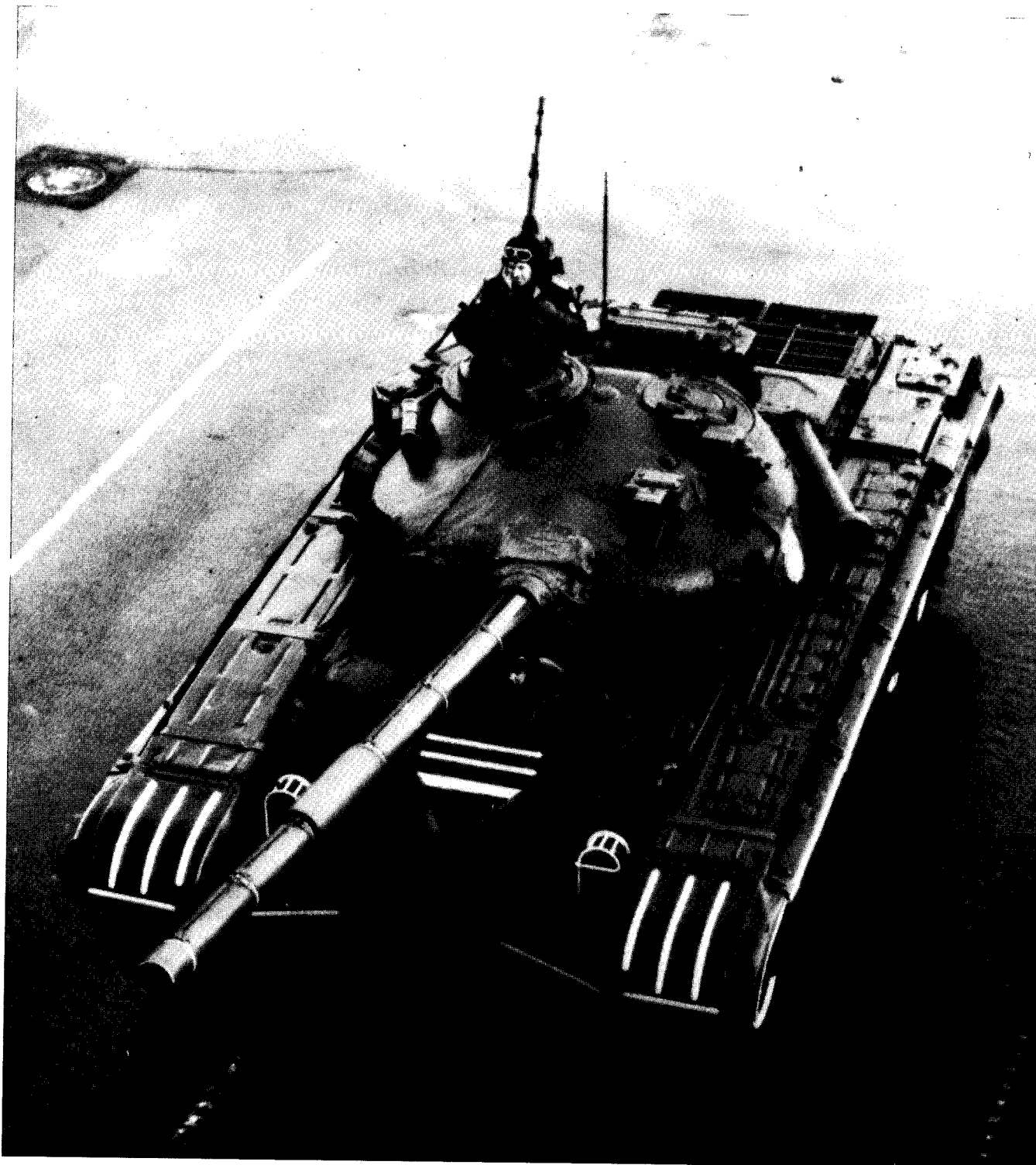
tial to defend against tactical ballistic missiles.

Tanks: The Soviet tank force has been undergoing a major upgrade since the mid-1960s when the first truly modern post-World War II tank, the T-64, was introduced. The first model of the T-64 was followed by at least one improved version, the T-64A, and several known variants of the T-72. The most modern Soviet tank, the T-80, featuring collective nuclear/biological/chemical protection, enhanced firepower and survivability, is in production, and at least several hundred have been deployed to the Soviet Groups of Forces in Eastern Europe. A dramatic shift in the proportion of these modern tanks, as part of the total Soviet inventory opposite NATO, has occurred. The impact on the most critical area—the one opposite the NATO center—is particularly significant. In this area T-64/72/80 tanks make up about 50 percent of the total, and continued deployment of the T-80 will increase the proportion of modern main battle tanks.



T-64A Main Battle Tank

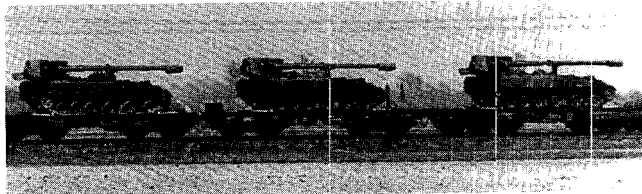
Main Battle Tanks					
	T-54/55	T-62	T-64	T-72	T-80
					
WEIGHT (TONS)	36	37	35	41	42
SPEED (KM/HR)	50	50	50	60	60
MAIN ARMAMENT	100-mm TANK GUN	115-mm SMOOTHBORE	125-mm SMOOTHBORE	125-mm SMOOTHBORE	125-mm SMOOTHBORE
MUZZLE VELOCITY (MPS)	1,400	1,600	1,750	1,750	1,750



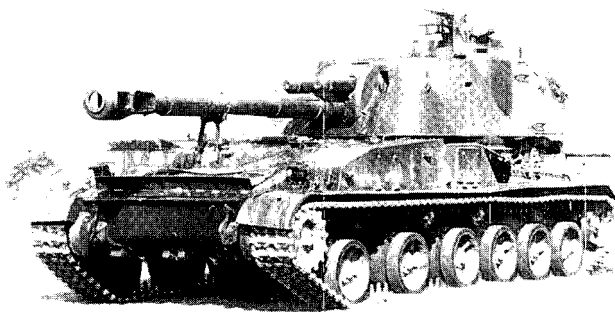
T-80 Main Battle Tank

Artillery: The Soviets are pursuing a comprehensive program of upgrading and expanding the artillery fire support available to ground forces. Several new artillery pieces, some of which are nuclear capable, and one new multiple rocket launcher are being introduced. Simultaneously, an ongoing divisional reorganization has resulted in increases in the towed and self-propelled gun firepower of artillery assets. The addition of artillery battalions to tank regiments is intended to make tank and motorized rifle divisions fully capable combined arms forces. The multi-faceted reorganization has resulted in a 30 percent increase in the combined tube artillery, multiple rocket launcher and heavy mortar assets since 1978.

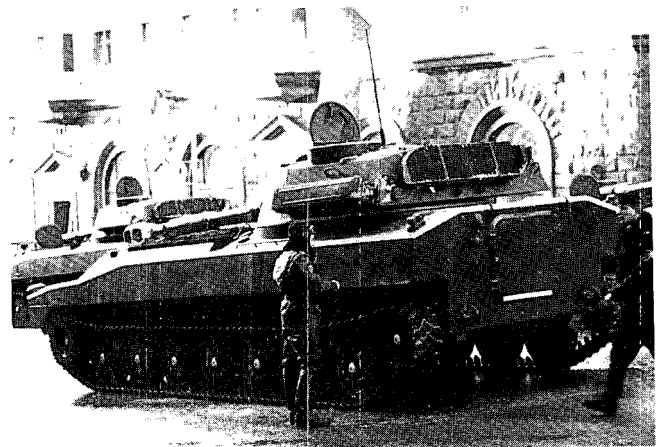
In addition to the increase in numbers, several developments illustrate Soviet emphasis on technologically improving the artillery force. Two new 152-mm guns, one self-propelled and one towed, have been fielded since 1978, and both are deployed with Soviet forces in Eastern Europe. They are nuclear capable and replace older pieces which were not nuclear capable.



152-mm Self-Propelled Guns



152-mm Self-Propelled Howitzer



122-mm Self-Propelled Howitzer

As an additional complement to surface-to-surface missiles, the Soviets are continuing deployment of nuclear-capable heavy artillery brigades armed with the mobile 240-mm self-propelled mortar and the 203-mm self-propelled gun. The recent deployment of the 203-mm gun outside the USSR, coupled with the appearance of the new 152-mm guns, indicates the importance Soviet doctrine places on the capability to deliver low-yield nuclear strikes relatively close to Soviet forces.

A new 220-mm multiple rocket launcher has been deployed opposite NATO since 1978. Each mobile launcher has 16 tubes and can fire chemical as well as conventional high explosive munitions.

The Soviets are also increasing the strength of their artillery units. For example, army level artillery regiments are being expanded to brigades—involving an increase of 30 to 80 percent of their previous strength.

Helicopters: While other Soviet weapon systems and assets have been upgraded substantially, the attack helicopter force has been approximately doubled in size and technologically upgraded. The total attack force opposite NATO has grown from 400 helicopters in 1978 to a current level of 800. Many of the attack



Mi-8/HIP E Attack Helicopter

helicopters are now divisional assets due to a general reorganization of air assets and the creation of Army Aviation.

The establishment of Army Aviation represents the most dramatic change regarding helicopters and further reflects Soviet emphasis on creating well balanced combined arms forces at many organizational levels. Inclusion of six Mi-24/HIND attack helicopters in divisional helicopter squadrons is a tangible manifestation of this combined arms capability, comparable to the previously mentioned establishment of artillery battalions in tank regiments.

Most attack helicopters opposite NATO are the heavily armed Mi-24/HIND D/E and Mi-8/HIP E. All three aircraft are armed with 57-mm unguided rockets, which are effective

against personnel and lightly armored targets, and anti-tank guided missiles (ATGMs). The ATGMs and rocket pods can be replaced with a mix of up to 750 kilograms of chemical or conventional bombs on each wing. Other armament on the HIND D/E is a multi-barrel

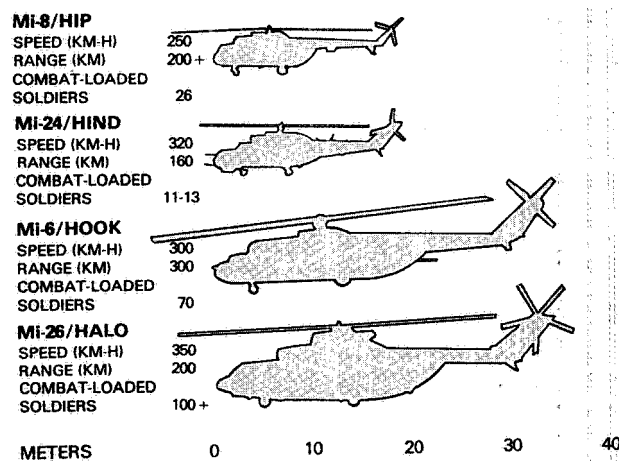


Mi-26/HALO A Heavy-Lift Helicopter

12.7-mm turreted nose gun; the HIP E has a single-barrel 12.7-mm gun.

Soviet emphasis on a heavy-lift helicopter transport capability is reflected in the development and recent appearance of the Mi-26/HALO. It is the world's largest helicopter, capable of carrying internally two airborne infantry combat vehicles or about 100 combat-loaded troops.

Combat and Support Helicopters

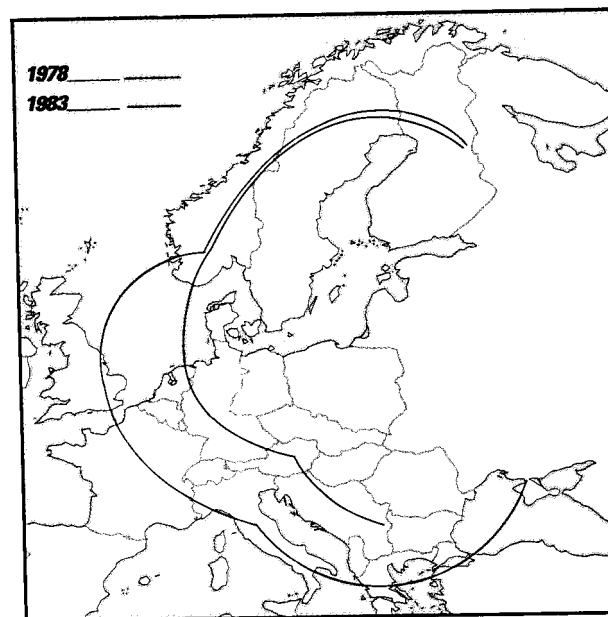


Frontal Aviation: Frontal Aviation has been the focus of comprehensive modernization and reorganization programs. The most impressive changes have occurred in the last five years, and are a result of the new Soviet emphasis on offensive capabilities. These changes, in the areas of equipment, training, tactics, and organization, have not occurred spontaneously, but are the result of careful, long-range planning to increase frontal aviation capabilities against NATO.

Since 1978, the Soviets have introduced two new fighters and three new versions of reconnaissance/ground attack aircraft. These aircraft have increased range, improved avionics, and better altitude and all-weather capabilities than previous Soviet models.

Soviet Ground Attack Aircraft (Capabilities Against NATO)

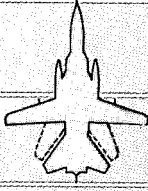
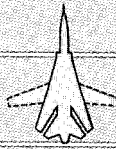
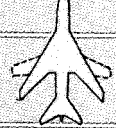
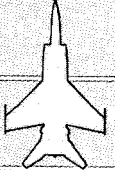
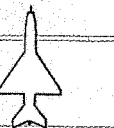


(NATO-Lo-Lo-High Profile)



- The FENCER A/C, FLOGGER J and FITTER H have had a particularly profound impact on Soviet offensive capabilities. The FENCER with its all-weather, low-altitude penetration capability manifestly increases Soviet ability to carry out deep strikes into NATO territory with little advance warning.

- The Su-25/FROGFOOT ground attack aircraft, currently in use in Afghanistan, may eventually be deployed in the Western Theater. Its role there would continue to be close air support to the ground forces.

- The MiG-29/FULCRUM and the Su-27/FLANKER fighters, currently being tested, are twin-engine jets with improved range, thrust-to-weight ratios and maneuverability. They represent a concerted effort by the Soviets to close the technology gap with the West.

Frontal Aviation Aircraft							
METERS	Su-24 FENCER A	MIG-23 FLOGGER B/G	MIG-27 FLOGGER D/J	Su-17 FITTER D/H	MIG-25 FOXBAT B/D	MIG-21 FISHBED L	Su-25 FROGFOOT
22							
11							
0							
SPEED (KTS)	1,250	1,350	980	1,200	1,625	1,205	475
RADIUS (KM)	1,800	1,300	1,200	700	900	900	556
ARMAMENT	2,500 KG Bombs	6 AAMs	3,000 KG Bombs	3,000 KG Bombs	—	4 AAMs	4,000 KG
WINGSPAN (M)	10 (swept)	8 (swept)	8 (swept)	10 (swept)	13	7	15

Changes have also occurred in tactics and training that are less visible than equipment upgrades, but have a potentially far greater effect on frontal aviation effectiveness. Soviet doctrine places great emphasis on achieving air superiority from the very outset. To implement doctrine, the Soviets have recently made significant changes in their air combat tactics and training programs. Pilot independence and initiative are now stressed. The continual technological upgrading of equipment and increasing proficiency in combat employment of that equipment have resulted in greatly increased Soviet aviation capabilities in the Western Theater, particularly the ability to strike into the NATO rear area.

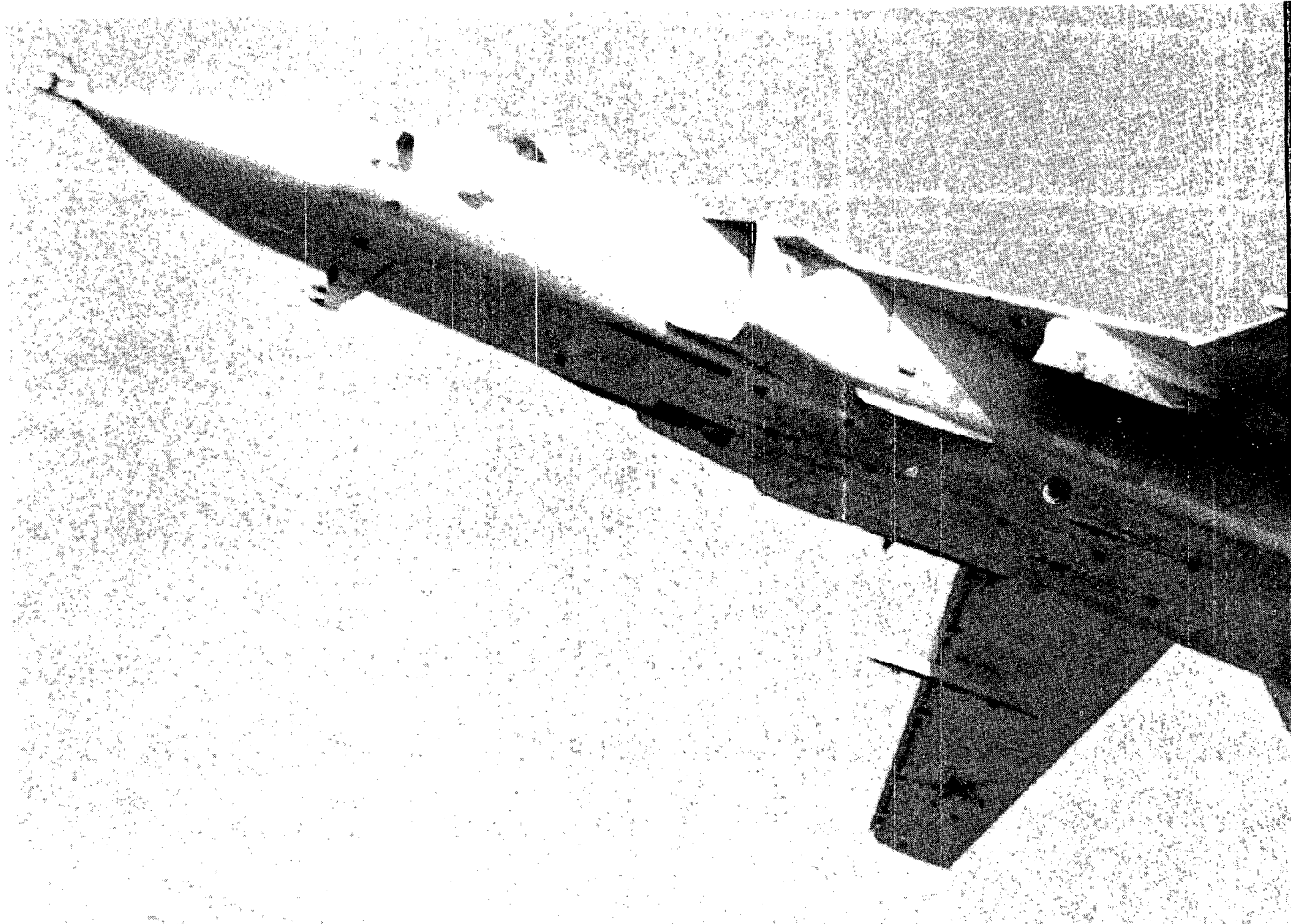
Improvements in tactics and training are aimed toward maximizing performance of a new generation of Soviet aircraft that will have better penetration capabilities. Two new fighter aircraft, the FLANKER and the FULCRUM, are expected to become operational in the mid-1980s and will probably be widely deployed in the Western Theater by the late 1980s. These aircraft will be supersonic, all-weather counter-air fighters with look-down/shoot-down weapon systems and beyond-visual-range (BVR) air-to-

air missiles. They may have a secondary ground attack role; in particular, the FULCRUM may have a true dual role capability similar to that of the US F-16 and F-18.

BACKFIRE Bomber: Used in a theater role, the BACKFIRE has a greater combat range and payload capability than the Soviet BADGER and BLINDER medium bombers. It also has better capability to penetrate modern air defenses in that it can fly at high subsonic speeds at low altitude. The BACKFIRE's capabilities will continually improve during its expected in-service life.

Reorganization of Air Forces: A recent major reorganization of the command structure for Soviet air and air defense forces will significantly improve Soviet air warfare capabilities. The new structure provides the Soviets with a peacetime organization that closely approximates their anticipated wartime structure for the employment of air power. This will allow a more rapid transition to a wartime posture and will enhance operational flexibility and coordination through centralized control of air assets at front and theater levels.

Soviet Navy: The Soviet Navy surface ships, submarines and aircraft arrayed against NATO are in the Northern Fleet, the Baltic Fleet and

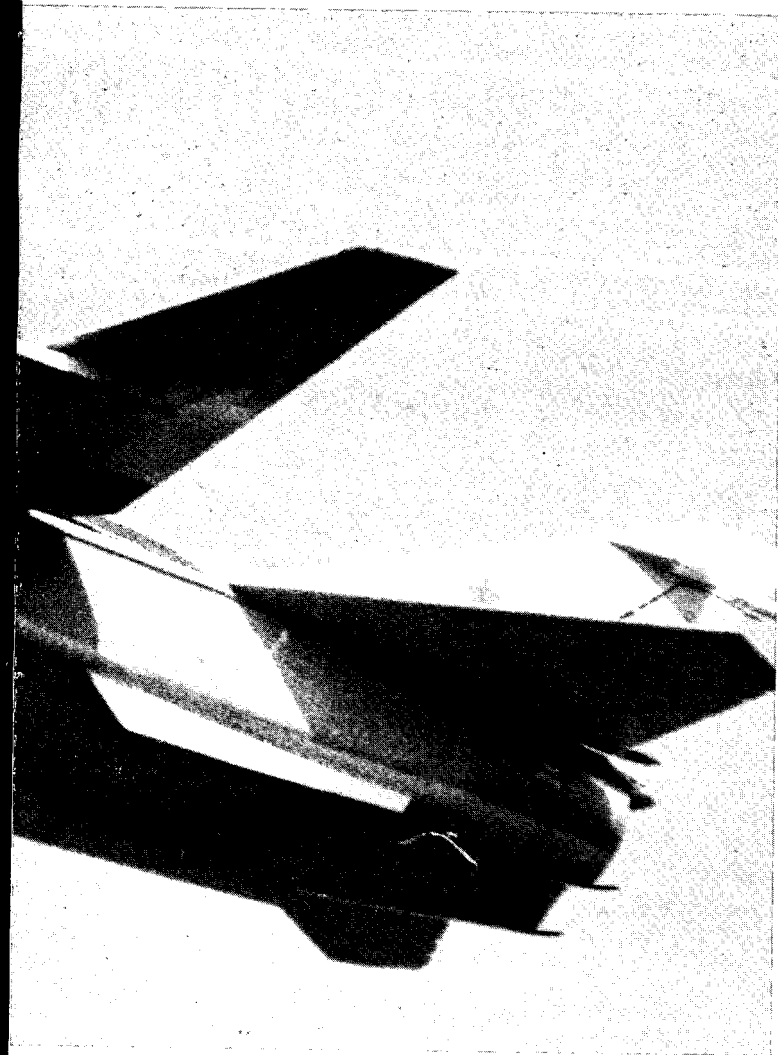


Su-24/FENCER Fighter/Bomber

the Black Sea Fleet. Improvements in these forces during the course of the past five years have encompassed all aspects of naval warfare and have involved numerous individual weapon systems. The principal missions of Soviet surface combatants, attack submarines and Soviet naval aviation include the protection of the seaborne approaches to the Soviet Union and Warsaw Pact Allies and the isolation of NATO forces from reinforcement and resupply.

In addition to submarines and major surface

combatants, Soviet construction programs have produced minor combatants well suited to theater level combat operations. Since 1978, units of four new classes of ocean and coastal patrol craft have entered service, including guided-missile patrol combatants, missile-equipped hydrofoil patrol craft, torpedo-equipped patrol hydrofoils and antisubmarine warfare patrol combatants. In addition to providing modern platforms with significant offensive firepower to supplant or replace obsolescent



units, all of these minor combatants demonstrate improved air defense capabilities.

A major responsibility of the Soviet Navy is support to Warsaw Pact ground forces to include defense of their maritime flanks and the conduct of amphibious warfare operations.

Soviet Naval Infantry units assigned to the Northern, Baltic, and Black Sea Fleets have undergone a major reorganization, resulting in an increase in organic firepower. These units have received self-propelled howitzers and addi-

tional multiple rocket launchers, antitank weapons and medium tanks.

Chemical Warfare: Soviet ground forces are the world's best equipped for the employment of chemical munitions. The forces are also capable of operating effectively in toxic environments.

Soviet doctrine calls for the use of toxic chemical warfare agents in both offensive and defensive situations. They are to be used in close coordination with high explosive and nuclear strikes.

This reflects the Soviet assessment that chemical operations have a distinct advantage over nuclear weapons in limiting structural damage. Soviet doctrine indicates that nonpersistent chemical agents would be used prior to front-line combat engagements. Persistent CW agents would be used in the deep rear and along troop flanks to protect advancing echelons.

There are over 80,000 chemical defense personnel in the Soviet Ground Forces. This number would significantly increase during periods of war. In addition, the navy and the air forces have personnel who perform chemical defense duties.

Radioelectronic Combat: In Soviet doctrine, radioelectronic combat (REC), is designed to systematically disrupt vital NATO command and control at critical times during a battle. The Soviets plan to accomplish this disruption of control through the integrated use of physical destruction, electronic jamming, and deception, while concurrently providing protection of their own command, control and communications (C³) systems.

To implement their REC doctrine, the Soviets have developed an impressive capability and continue to field new systems for intelligence collection, and electronic countermeasures, as well as physical destruction of enemy assets.

Transport Aviation: Soviet Military Trans-

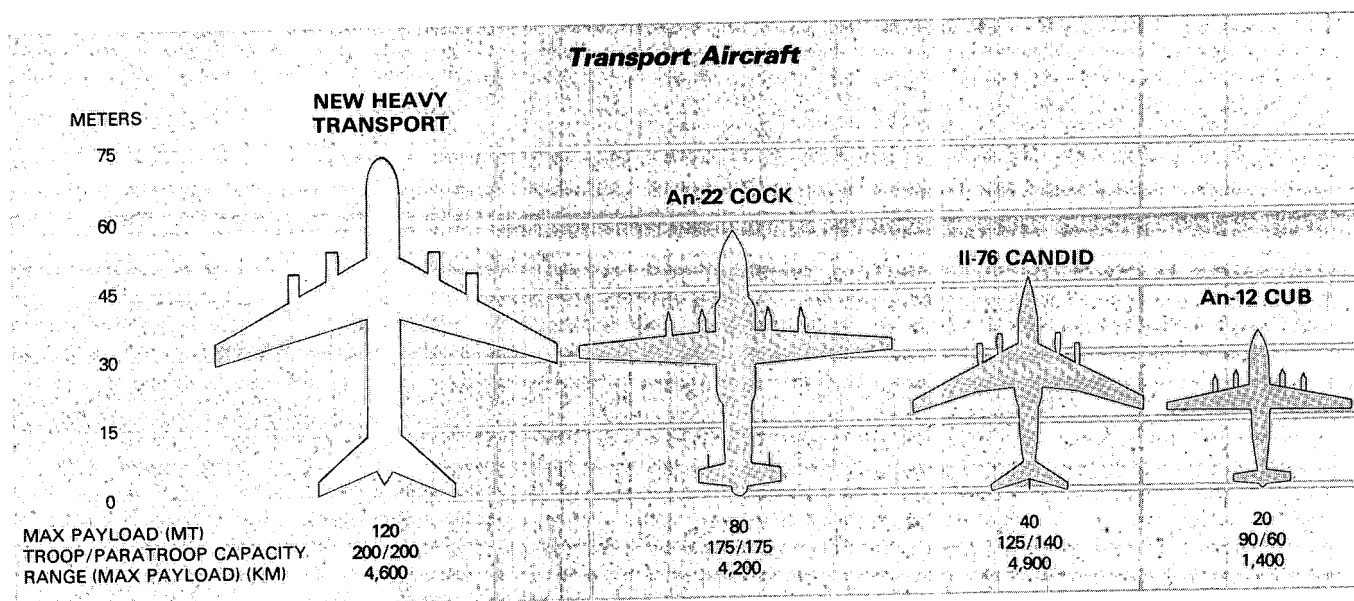
port Aviation (VTA) is responsible for providing airlift for Soviet airborne forces and air assault brigades as well as the air logistics system for the armed forces as a whole. VTA continues to modernize its air transport inventory. The number of An-22/COCK long-range heavy lift turboprop transports has remained constant in recent years. The medium-range An-12/CUB turboprop transport is being replaced by the Il-76/CANDID long-range jet transport at the rate of about 30 aircraft per year. The CANDID can carry twice the CUB's maximum payload about three and one-half times as far. While the overall VTA inventory has declined by about 60 transports in the last five years, its carrying capacity, measured in ton-kilometers, has risen almost 50 percent.

The Soviets are also developing a new long-range heavy-lift transport comparable to the US C-5A, which should enter service in the mid-to-late 1980s. When available in significant numbers, it will enhance VTA's capability to carry outsized, very heavy loads. It will increase the airlift potential in support of power-projection goals and provide greater wartime capacity to

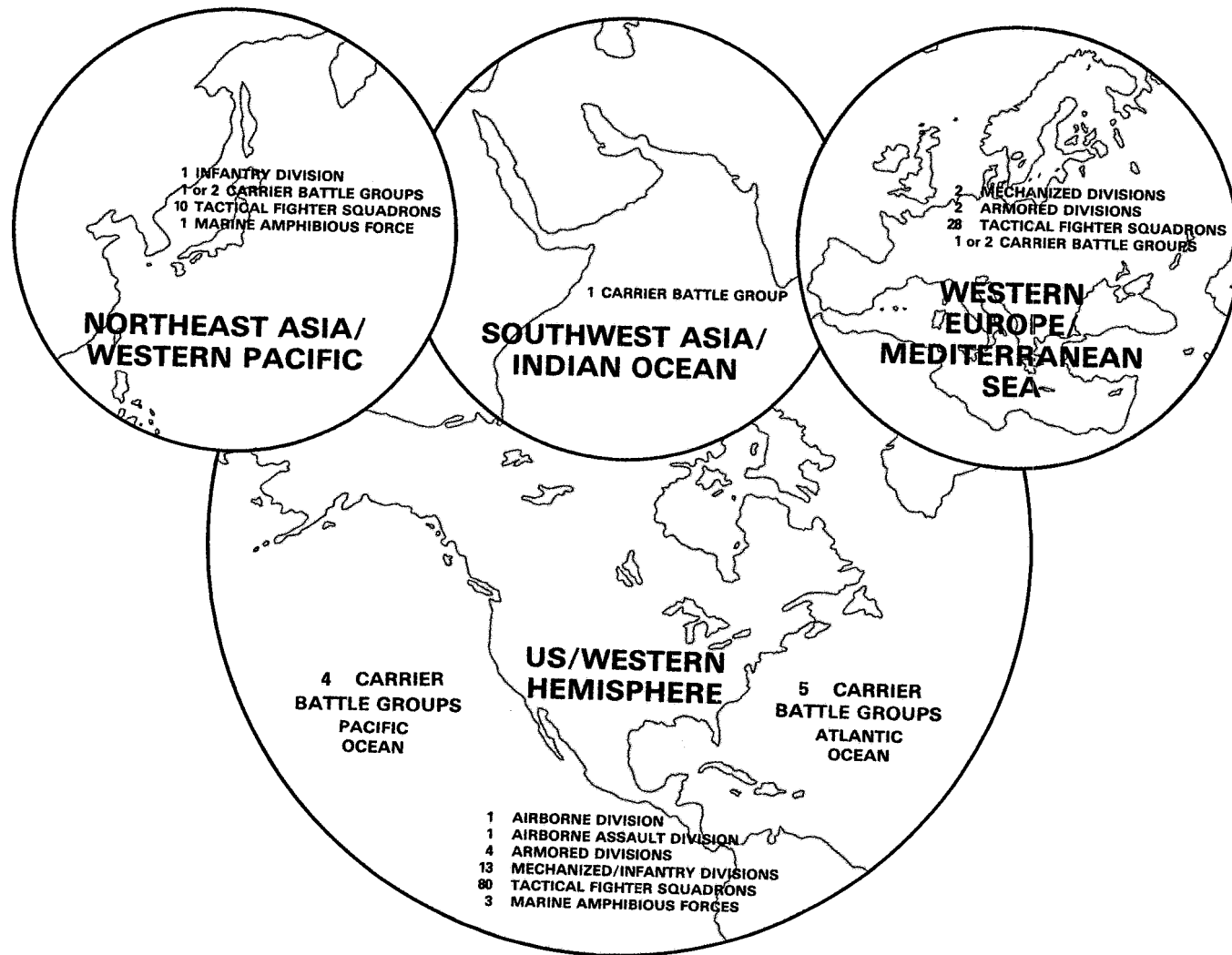
lift airborne combat divisions in time of war.

US and Allied Force Improvements: US and NATO allied forces have also been strengthened in recent years, but at a less rapid and impressive rate than the Warsaw Pact's. For the 1980s, the goal is to accelerate NATO's rapid reinforcement capabilities, to modernize US and allied forces significantly, and to achieve greater readiness and sustainability. NATO's longer-range intermediate range nuclear forces also are to be upgraded in the near future.

US ground and tactical air forces, in particular, are programmed for major modernization over the next few years. An accelerated procurement effort will introduce larger numbers of new tanks, combat aircraft and other systems. The Army is receiving the new M-1 tank and Bradley fighting vehicles and will be receiving the Multiple Launch Rocket System, improved anti-tank weapons, modern helicopters and air defense weapons. The result will be US forces that are more combat effective, more ready and better configured for their NATO missions. For example, the M60A3 tank, first introduced into Western Europe in



US Forces for Theater Warfare



1979, constitutes about 30 percent of the 5,000 US tanks now in Europe. Although, it features many technological improvements over earlier M60s, it still lacks laminated armor and is equipped with the NATO standard 105-mm gun. The M-1 tank has many technological improvements, including improved armor and fire control; eventually it will mount the 120-mm smoothbore gun.

US tactical air forces retain a qualitative advantage over those of the Soviet Union both in

aircraft and weapons and—more important—in personnel and training. The US F-14, F-15, F-16, and F-18 today are among the best air superiority aircraft in the world. They began entering service during the later 1970s, and new variants of the F-15 now are deployed as well. The F-15C/D first joined US Air Forces Europe (USAFE) in 1981; the F-16A/B also joined in 1981.

The US tactical air forces' ordnance today is believed to be better than that available to the