

# Air Power Australia Analyses APA-2005-03: China's Rise as a Regional Superpower

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# 1 China as a Regional Superpower

The rapid economic growth and industrialisation of the People's Republic of China over the last decade presents Australia with a new strategic reality during this decade - the emergence of China as a regional economic and military superpower.

This requires some fundamental changes in how Australia thinks about the region and its position in the Pacific Rim and Asian political, military and cultural context. Australia can no longer focus on South East Asia as its principal strategic concern within the region. An intellectually rigorous policy must exist in relation to Australia's relationship with China, and China's future relationships across the region. Not to define such a policy will expose Australia to all of the unwanted byproducts of a shifting balance of economic and military power across the region.

China's consistently growing economy has produced a wide range of side-effects, which will continue as time progresses. Many of these will impact China's behaviour on the regional and global stage.

The long term interests of an increasingly urbanised and industrialised China will focus on securing the required resources to sustain its economy and its capacity to develop markets for its products and, thereby, create wealth.

With inadequate domestic energy and raw materials resources, China will become increasingly dependent upon imports to sustain itself. With around four times the population size of the United States, China's consumption of energy will have an enormous impact on global energy resources, as per capita energy consumption progressively grows to the levels seen in leading Western nations. A byproduct of this dependency will be an increasing political effort to secure energy supplies, supported by military measures if required.

Raw materials to feed an industrial manufacturing economy will be subjected to similar pressures as China's economy grows further, affecting global prices, but also creating another key strategic vulnerability which China will aim to address over time.

China must compete in a global market to sell its products. Like Japan and South Korea, during their periods of peak industrial growth, China has an advantage in significantly lower production labour costs, in a large part due to the absence of trade unions and genuine open market policies. It is likely that low labour costs will not be sustainable over time, presenting China with the need to protect markets from competition by other nations pursuing large scale industrialisation, such as India.

Much of China's global and regional agenda over coming decades will be focussed on securing defacto control of energy and raw materials resources, and markets for industrial products. China's behaviour on the global stage in recent times represents a precursor to a future environment where much of China's foreign policy and defence policy will be aimed at securing its economic position.

## 2 China's Military Buildup

Increasing national wealth has resulted in China pursuing the single largest sustained arms buying spree observed since the Soviet buildup in the last decade of the Cold War. Unlike the Soviet buildup which effectively bankrupted a moribund economy, China's buildup is sustainable as it is funded using surplus revenue. Unless a sustained downturn occurs in China's economic growth and annual output, we can expect to observe the buildup of the People's Liberation Army to continue unabated for at least two decades.

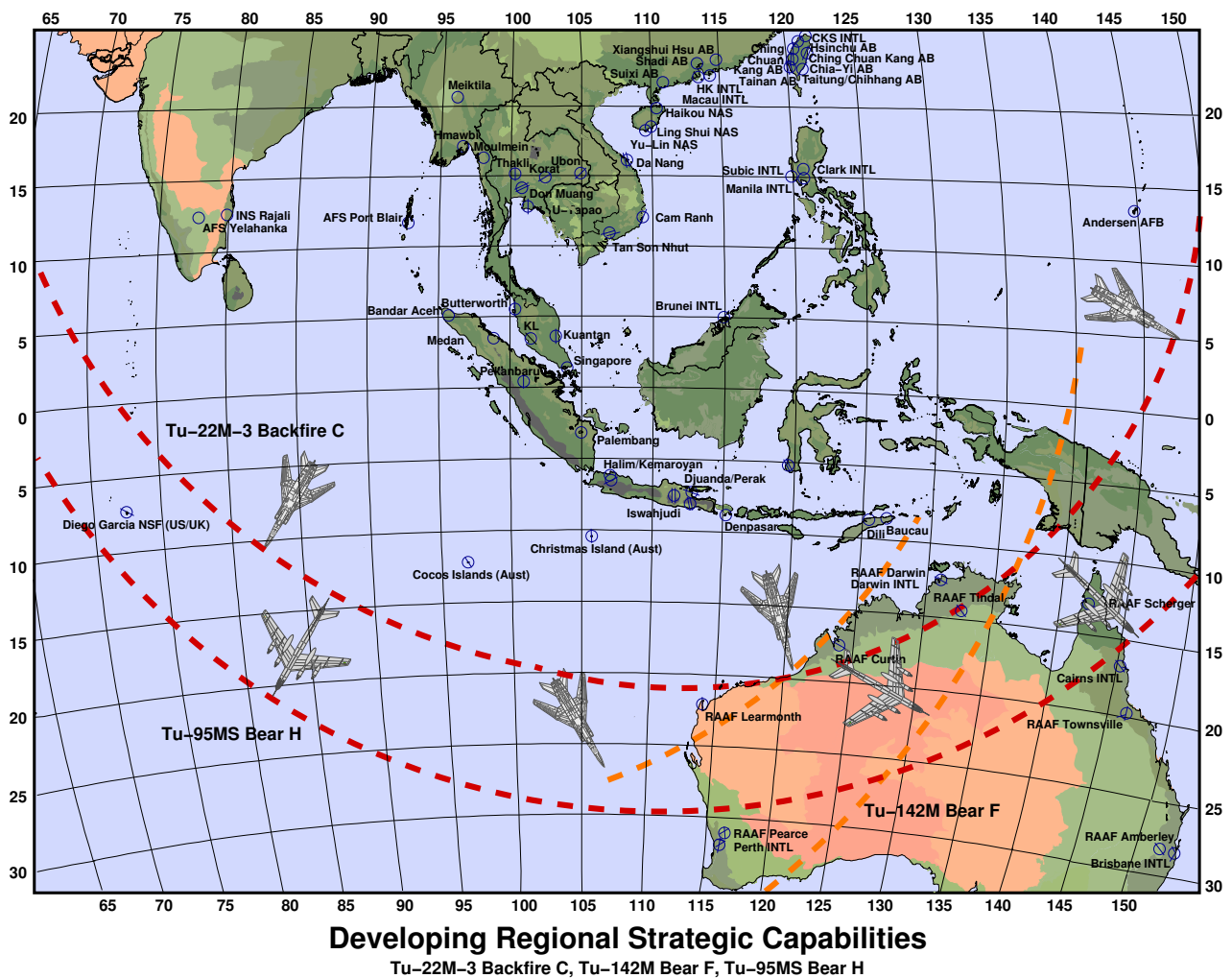


Figure 1: The now certain deployment of strategic bombers by the PLA-AF will fundamentally alter the strategic balance in the near region. This map illustrates the coverage footprint of the Tu-95MS Bear H and Tu-22M-3 Backfire C flown from southern China and Myanmar basing. The footprint of Indian deployments of like types is included for comparison (C. Kopp).

China's investment in large quantities of very modern military hardware is often described as 'modernisation'. This is a half-truth, which obscures the deep transformation taking place in the character of China's military capabilities, and its strategic reach.

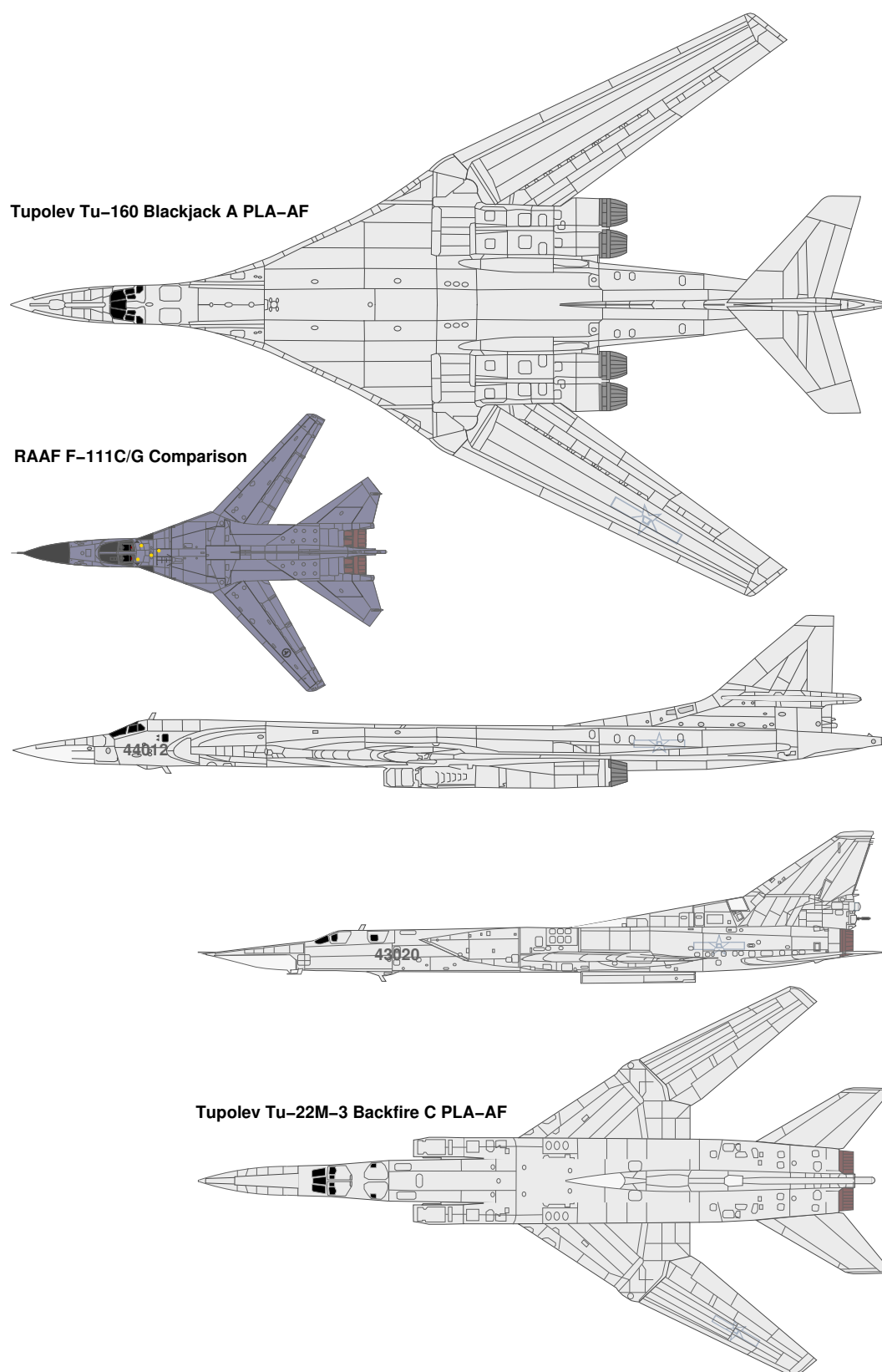


Figure 2: Relative size comparison of the Tu-160 Blackjack A and Tu-22M-3 Backfire C strategic bombers against the RAAF's F-111. The Tu-160 carries up to twelve long range cruise missiles, the Tu-22M3 has the capacity to carry eight such weapons. The F-111 could carry four, the Joint Strike Fighter only two (C. Kopp).

China has been buying out wholesale the 'crown jewels' of advanced post-Soviet Russian military technology (refer Annex B, C for detailed data).

Until the 1990s China's military capabilities were focussed on defeating an invading force from abroad, and mostly comprised reverse engineered early Soviet systems with very limited reach. The PLA of two decades ago was designed to deter invasion and occupation by foreign powers, with the Soviet Union seen as a key threat.

The PLA of the future is being architected to project Chinese power across the Asia-Pacific-Indian region. The future PLA's strength will be centred in cruise missile armed long range strategic bombers and submarines, long range fighters supported by aerial refuelling aircraft, airborne early warning and control aircraft, and modern surface warships, rather than the large land armies of previous decades. This is the most profound change in China's military capabilities ever observed, and rivals the changes observed in the Soviet Union after 1945.

To appreciate the extent of these changes it is necessary to make some detailed comparisons.

1. China is operating and further expanding a fleet of Russian designed Sukhoi Su-27/30 long range fighters, to numbers close to that of the Soviet Sukhoi Su-27 fleet, and the current US fleet of equivalent F-15 fighters.
2. China is negotiating with Russia to acquire surplus Tupolev Tu-22M3, Tu-95MS and possibly new build Tu-160 strategic bombers, the very same systems which were the backbone of Soviet strategic power projection capabilities during the 1980s.
3. China is manufacturing an indigenous long range cruise missile similar to the US RGM-109 Tomahawk, and has acquired samples of the Russian Kh-55 Granat or 'Tomahawk-ski' air launched long range cruise missile for reverse engineering.
4. China has restarted production of the indigenous Xian H-6 Badger bomber aircraft, in a new configuration designed to carry four long range cruise missiles such as the Kh-55. This aircraft compares closely to the long retired UK V-bombers, but will be armed with modern technology cruise missiles.
5. China is negotiating the buy of Russian Ilyushin Il-78MK aerial refuelling tankers to extend the reach and combat persistence of its air force. This aircraft is competitive against the US KC-135 tanker.
6. China is introducing new Type 093 nuclear attack submarines, providing a global capacity to interdict shipping lanes or deliver cruise missiles.

The large scale importing, licensing and reverse engineering of Russian sourced post-Soviet era weapons and delivery systems will provide China with regional reach and punch, comparable to that of the Soviet Union during the late 1980s, but often employing later generation technologies or techniques.

It is important to observe that many of these technologies are Russian analogues of technologies central to current planning for the future ADF 'system of systems', based on Network Centric Warfare. Possession of such technologies by China effectively nullifies the asymmetric technological advantage senior Defence officials in Australia argue to justify numerous high risk decisions made in planning for the ADF.

China's possession of strategic bombers and long range cruise missiles will provide a means of effectively bypassing the planned US National Missile Defense (NMD) system, which is designed to defeat ballistic missiles. Unlike Inter Continental Ballistic Missiles (ICBM) and Intermediate Range Ballistic Missiles (IRBM) which can be detected early after launch, cruise missiles provide a very difficult to detect and difficult to defeat first strike capability, at regional or strategic distances.

The use of long range cruise missiles to bypass the US National Missile Defence system is not a new concept. Three years ago Russian analyst Alexander Mozgovi canvassed this idea in some depth, in the Rosoboronexport house journal 'Military Parade'. He argued that "Low-visibility and low-flying cruise missiles can foil the U.S. efforts to develop the NMD".

China's ongoing political campaign to lift the EU embargo on military technology exports to China has a very clear strategic aim. This aim is to close the technological gap between many Russian sourced weapons and systems, and US manufactured weapons and systems used by US allies and the US in Asia. China has little need to source military aircraft, warships or smart weapons from the EU, as it can source equivalents from Russia at lower cost. What the EU can offer are advanced radar and optical sensors, militarised computers, digital networking equipment, secure and jam resistant communications, and other high technology niche products which are a half generation ahead of Russian equivalents. In addition, the EU provides a tool for pressuring Russia to make available to China any remaining products currently withheld from export.

The intense opposition by the US to EU military technology exports into the Chinese market reflects a growing concern in the US about the long term strategic impact of China acquiring numerical and technological parity against US and allied military forces in Asia. Russia's opposition to EU military exports into the Chinese market reflects fear of losing a defacto monopoly export market, and fear of the military advantage to be gained by China by combining Russian platforms with EU systems.

It is often argued that China's military buildup is intended to coerce Taiwan into reunification, and deter a US defence of Taiwan. This view is not supported by fact, as the scale and strategic reach of capabilities being developed by China is well in excess of what would be required to defeat Taiwan and make a US defence of Taiwan prohibitively expensive. China's long term aim is clearly to become the dominant military power in Asia, displacing the US from this position.

Achieving a dominant position in Asia would allow China to add a coercive element to its extant policy of using 'soft power' - economic and monetary - to exert influence over regional nations. Unlike the

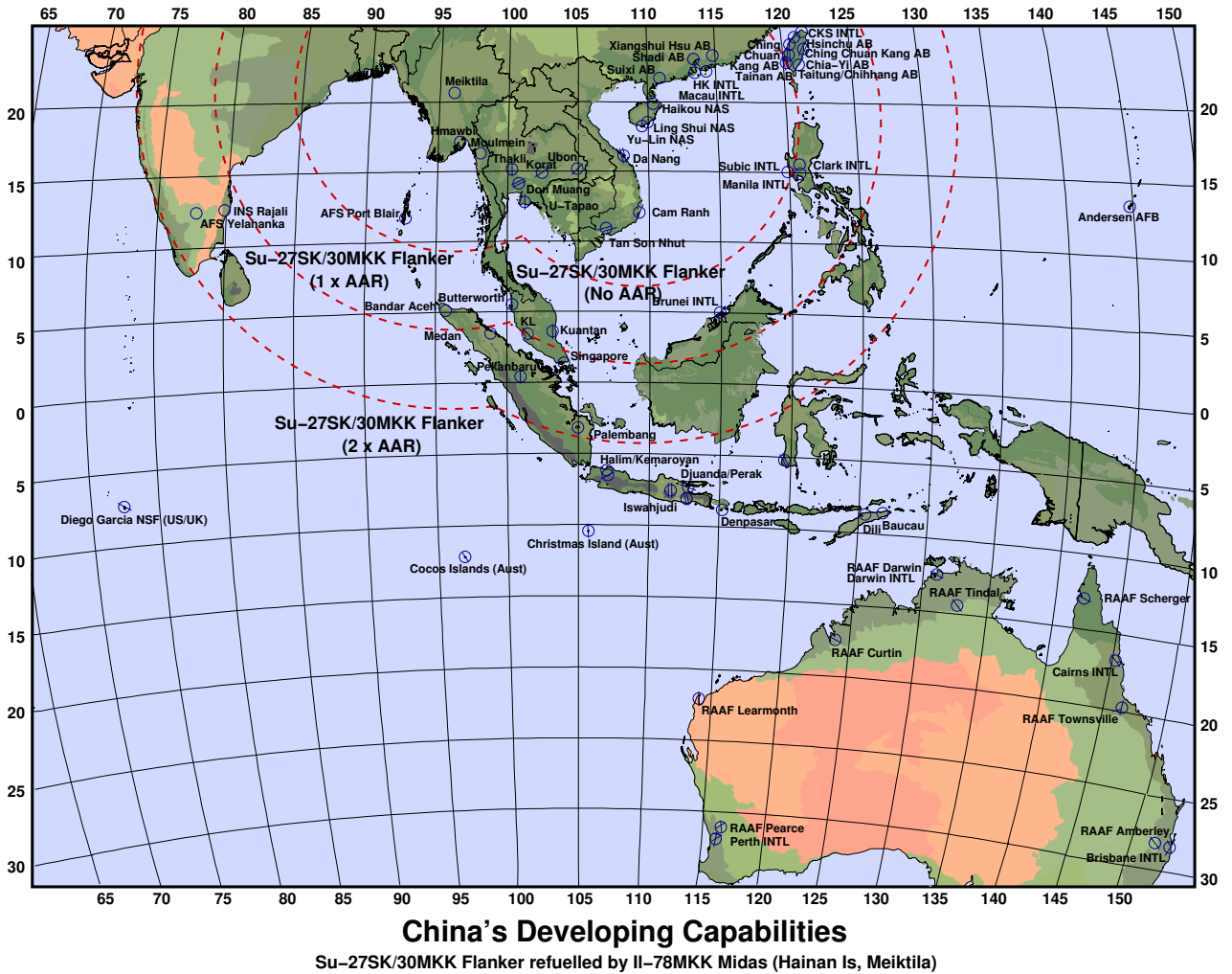


Figure 3: The acquisition of long range Su-27/30 fighters and supporting II-78MKK aerial refuelling tankers provides the PLA-AF with unprecedented reach across the near region (C. Kopp).

Soviet Union, which relied mostly on military coercion and export of Marxist revolutionary warfare ideology to propagate its influence, China uses 'soft power' very effectively to achieve its strategic aims.

China has a long history of using military power for coercive purposes. The invasion of northern India during the early 1960s and Vietnam during the late 1970s, and ongoing efforts to intimidate Taiwan illustrate a consistent pattern of conduct. Where an opportunity exists to do so without sanction, China has repeatedly used military force to achieve its policy aims.

It is important to observe that China's philosophy of using military power has differed fundamentally from the Soviet model, insofar as the Soviets never hesitated to use force to expand their empire. China occupied and absorbed Tibet more than four decades ago, and has since employed military power mostly to intimidate.

The recent introduction of legislation authorising the use of military force against Taiwan represents an important policy change, as it legislates the acquisition of territory by military invasion rather than political means. This represents a break with over two decades of policy which emphasised 'soft power' over military power as a means of achieving policy aims.

It is unclear at this time what criteria China's leadership might apply to invoke the legislation authorising the use of force against Taiwan. China has yet to clarify what would constitute a trigger for military operations directed at Taiwan, or indeed the scale of such operations.

Within the next decade China will acquire, with or without access to EU military technology, the ability to apply coercive military power against India, Japan, South Korea, Vietnam, Singapore, Malaysia, Indonesia and Australia.

This opens up alternatives not available via the use of 'soft power', to directly influence foreign policy, economic policy and bilateral economic trade relationships with all of these nations. China acquires the capability to 'finlandise' much of Asia and thus deny these nations to the US as basing or staging areas in any future dispute between the US and China. Denying basing to the US within a radius of 500 to 1,000 nautical miles of Chinese territory significantly reduces military options available to the US in dealing with China, and is thus of high strategic value to China. Concomitant to this, China gains longer term opportunities to deny these nations to the US as markets, and as suppliers of raw materials or niche products.

China's developing dual pronged strategy of using 'soft power' and military power reflects a good understanding of how the US exerts influence on the global stage, and in many respects emulates the US model very effectively. As China's strategic aims are mostly regional rather than global, China can focus smaller resources than the US could with much greater effect in Asia.

To date China's effort in using 'soft power' to sow discord between the US and its allies have been remarkably successful, exploiting existing divisions or disagreements over foreign policy and economic policy. Recent statements by China concerning the future of the ANZUS alliance are part of a broader global campaign to disrupt US alliances and isolate the US globally. There can be no doubt that China's efforts to displace the US as the leading power in Asia will intensify in coming years.

The extent to which the US can frustrate China's longer term strategic ambitions in Asia is an open question. The US is suffering the effects of strategic overstretch in attempting to pursue the War on Terror, and occupation of Iraq, with often lukewarm or partly committed allies. Much of the US military modernisation program planned for the next two decades is now seriously threatened by severe budgetary cuts. With the US facing block obsolescence and age related wearout in many key military equipment fleets, especially combat aircraft, the prospects are that US power projection capabilities will significantly decline over the next decade, without major near term modernisation investments.

### 3 Future Australian Policy Toward China

Australia at this time does not have a coherent policy for dealing with China's emergence as a regional economic and military superpower.

Australia's foreign policy displays distinct dichotomies between the active pursuit of an increased dependency by China upon Australian exports, and recent comments on Taiwan and EU military exports to China. It is not clear that the deeper strategic issues involved have been understood.

Australia's defence policy, articulated in the Defence 2000 White Paper and subsequent updates, either predates the most recent phase in China's military growth, or is pre-occupied with protecting a number of post White Paper planning decisions in air force capabilities. These decisions, made on advice from senior Defence officials, were demonstrated in evidence to the Joint Standing Committee on Foreign Affairs, Defence and Trade, to be seriously and dangerously flawed.

Australia cannot afford to maintain its current course in foreign policy and defence policy without seeing its future strategic position in the Pacific Rim significantly eroded over the coming two decades.

There is little doubt that over the last twelve months Australia has been caught in the strategic competition between China and the US. As China's economy grows and its military strength grows, it will intensify its effort to displace the US in Asia and the US will inevitably respond to retain its strategic position.

China has used 'soft power' repeatedly in attempts to drive a wedge into the ANZUS alliance, and such conduct can be expected to continue and intensify over time as it is part of a broader long term strategic effort directed against the US in Asia and globally.

China's recent campaign to pressure Japan presents a good example of the multi-pronged application of national power. Provocative military deployments, penetration of Japanese territorial boundaries by submarines, violent staged 'public' protests directed at the Beijing embassy and other measures have been applied.

A major economic issue for Australia is the risk of dumping by Chinese manufacturers in the Australian market. Anti-dumping legislation is a slow mechanism which in practice has little effect on the behaviour of foreign industries - by the time such legislation can be invoked effectively, irreversible damage is usually done. Moreover, threats to withdraw business from export industries trading with China could add significant complexities to any effort at enforcing anti-dumping legislation against Chinese industries.

If we postulate a future Chinese foreign policy intended to propagate Chinese influence at the expense of the US, and the EU, then dumping becomes a potential foreign policy tool to damage regional economies and make them dependent upon Chinese export products as substitutes for domestic production.



Another significant risk Australia faces is the potential for pressure to be applied in large export deals for energy and raw materials, to secure pricing well below world market prices. Coordinated tactics by China could present Australia with the dilemma of some domestic industry sectors lobbying the executive government to sacrifice other domestic industry sectors to gain additional business in China. The result is that Australian industry is disadvantaged longer term in its return on investment, and profitability.

China's banking system is also experiencing some difficulty, and it remains unclear whether reforms can correct fundamental conflicts of interest arising between the Communist political system and a capitalist market economy. While the prospect of a return to collective ownership following the Soviet NEP model is unlikely, future problems similar to those observed in other Asian economies are likely. There is a significant risk that future problems within the Chinese banking system could impact China's capacity to pay for large scale imports, especially in the case of long term energy and raw material supply contracts. Australian suppliers locked into such contracts could suffer severely.

Another ongoing issue has been the protection of intellectual property rights. China has a poor record in doing so, with Chinese manufacturers often reverse engineering or cloning attractive products in the market. This has been true of a wide range of product categories. Given the weakness of the Chinese legal system, opportunities for manufacturers to deal with Chinese companies which violate copyrights or patents via legal means may be very limited. As with difficulties arising in the Chinese banking system, fundamental dichotomies between the Communist political system and the capitalist market economy may present long term obstacles to viable reforms being introduced.

The issue of economic gains to be had in committing to larger volumes of trade with China must be weighed very carefully against the strategic costs to be incurred. Should Australia develop too great a dependency on China's economy, it becomes directly open to economic coercion in negotiating future trade, and in foreign policy on the regional and global stage, as well as becoming exposed to possible upheavals in the Chinese economy. Australia should not allow China to become a monopsonistic client or monopolistic supplier in any specific industry sector of large economic or strategic importance.

China's developing ability to project long range strategic striking power across the region, and into Australia's north, will in time provide the option of coercing Australia on the economic and foreign policy fronts, should a future Chinese leadership opt to exercise this option.

Australia's current force structure planning for the ADF is not geared around deterring, let alone dealing with any such contingency. Of all of the components of China's military power, air power has seen the most dramatic growth in reach, technological sophistication and supporting industry investment over the last decade. There is little doubt that China is emulating US strategic policy of recent decades, prioritising investment in air power over land warfare and naval forces.

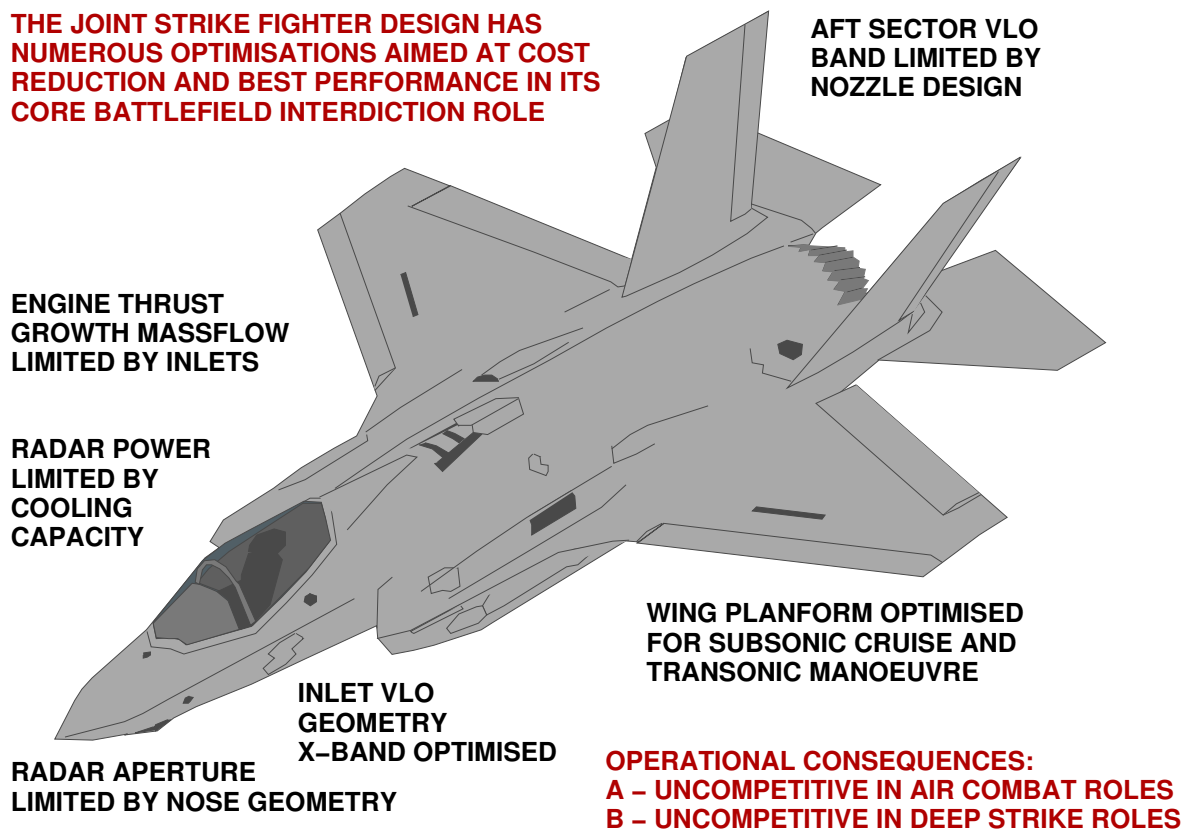
Australia must reprioritise its future investment in ADF force structure if it is to have any impact at all in maintaining Australia's strategic position relative to China. With the prospect of a reduced future capacity by the US to intervene in this region on Australia's behalf - assuming it chooses to do so - Australia's ability to discourage China from exercising a coercive military option against

Australia will be largely dependent on the future capabilities of the ADF, especially the RAAF.

China's best option in the coercive application of military power against lesser regional nations, including Australia, will lie in the use of strategic bombers and submarines to deliver or threaten the delivery of cruise missiles against high value military and economic targets, and population centres. Even the threat of such attacks would result in severe economic losses through the shutdown of vulnerable industries and the high operational tempo required of defence forces attempting to block such attacks. Given the long range of such cruise missiles, in most instances such strikes could be delivered with virtual impunity.

### JOINT STRIKE FIGHTER – DESIGN GROWTH LIMITATIONS

**THE JOINT STRIKE FIGHTER DESIGN HAS NUMEROUS OPTIMISATIONS AIMED AT COST REDUCTION AND BEST PERFORMANCE IN ITS CORE BATTLEFIELD INTERDICTION ROLE**



### THESE DESIGN LIMITATIONS CANNOT BE CHANGED BY UPGRADES

Figure 4: *The Joint Strike Fighter was designed primarily to support ground forces on the battlefield, and is not suitable for the developing regional environment. As its limitations are inherent to the design, they cannot be altered by incremental upgrades (C. Kopp).*

Deterrence against long range cruise missile attacks can take two basic forms. The first is counter-attacking the basing used to launch such attacks using long range strike aircraft, the second is the engagement and destruction of the expensive delivery vehicles used, such as strategic bombers or submarines. Unless Australia develops strong military capabilities in these two specific areas, China will have the option of coercive application of military power against Australia with little cost

incurred.

Australian defence policy and force structure planning must be reoriented to deny any option of strategic coercion by China, should a future Chinese leadership opt to pursue this path. This reorientation must be structured around the capability to deter or defeat the use of China's developing strategic strike capabilities against targets of strategic interest to Australia. For a deterrent posture to be credible, the ADF must have credible capabilities to defeat China's developing strategic strike forces, either by counterforce strikes against basing or the destruction of long range aerial or submarine delivery systems, or both.



Figure 5: *The only current production fighter which will be competitive in a region dominated by China is the US built F/A-22A Raptor. This fighter outperforms the Joint Strike Fighter on all cardinal parameters and cannot be matched by growth variants of Russian Sukhoi fighters. The F/A-22A has unique capabilities including supersonic cruise and all aspect stealth capability (US Air Force).*

In assessing current ADF planning relative to the risks arising from China's military restructuring, of most concern are current plans for the RAAF.



Figure 6: *The F-111 currently provides around 50% of the RAAF's striking power, measured with various metrics. The aircraft is exceptionally well suited to the carriage of cruise missiles such as the JASSM/JASSM-ER and is currently being fitted with the Mil-Std-1760 capability, originally intended to support these weapons (via F-111.net).*

1. The Joint Strike Fighter, optimised to support troops on the battlefield, is not suitable for this type of strategic environment, unlike the larger and more capable F/A-22A multirole fighter, which has been ignored to date.
2. Eight or nine Wedgetail Airborne Early Warning and Control aircraft will be required, rather than the six currently on order.
3. Several times more aerial refuelling capacity will be required over that provided by the five A330-200MRTT tankers recently ordered.
4. A long range strike aircraft with a good capability to carry long range cruise missiles will be required, the existing F-111 being ideal for this purpose, despite current plans to retire this aircraft decades ahead of its US contemporaries.
5. Antisubmarine warfare optimised warships with strong capabilities to defend against supersonic cruise missiles are far more relevant in this environment than the planned Air Warfare Destroyers.

It is important to stress that developing such military capabilities does not amount to developing an offensive policy against China, but rather a policy of denying China opportunities to use coercive force against Australia, should a future Chinese leadership opt to change policy in dealing with Australia. As such it is a measured response to the unprecedented changes we are now observing in China's strategic strike force. The development of such military capabilities in the ADF does not preclude their use on the global stage, supporting US led coalition campaigns, indeed many of these capabilities have been actively sought by the US from allies.

Should Australia opt to continue with current Defence planning, especially for the RAAF, Australia will open up the option of strategic coercion to a future Chinese leadership, and do so during a period when the US will be less able to exercise power in this region on Australia's behalf. The consequence of such a situation arising will be a loss of independence in foreign policy as Australia will become increasingly dependent on decisions made in Washington and Beijing, and lose the option of making its own choices.

Current Defence planning remains predicated on the assumption that the region will be benign for coming decades. This assumption disregards the unprecedented growth seen in China's military capabilities, but also disregards the inevitable growth in military capabilities of lesser regional nations, as these react to China's growth. Australia's unilateral pursuit of reduced long term military capabilities, in an environment where all other nations are growing their capabilities, creates a range of unwanted future opportunities for other regional players, at the expense of Australia's interests.

There is no evidence to demonstrate that the advice tendered to Government by Defence on the risks arising from regional capability growth was supported by intellectually rigorous analysis. Therefore this advice, and its rationale, are not sustainable. Defence had access to a wide range of analytical materials detailing regional capability growth, as early as 1998. Refer the Joint Standing Committee on Foreign Affairs, Defence and Trade, *Review of the Defence Annual Report, 2002-2003*.

Australia's long term strategic relevance in the region will depend strongly on Asia's perceptions of Australia's strength, and thus its capacity to play an important role in the regional strategic context. If Australia is to earn the respect it deserves in Asia, it must be seen to have military capabilities which are both important and relevant to the region.



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## 5 Annex B - Developing PLA-AF and PLA-N Capabilities

The following material was compiled from publicly available sources and reflects the best currently available unclassified intelligence.



### Additional Resources

**Regional Capabilities:** <http://www.ausairpower.net/region.html>

**Regional Strategy:** <http://www.ausairpower.net/strategy.html>

**Weapons Capabilities:** <http://www.ausairpower.net/weps.html>

**Defence Policy:** <http://www.ausairpower.net/policy.html>

**F-111:** <http://www.ausairpower.net/pig.html>

**F/A-18A Hornet:** <http://www.ausairpower.net/bug.html>

**Joint Strike Fighter:** <http://www.ausairpower.net/jsf.html>

**F/A-22A Raptor:** <http://www.ausairpower.net/raptor.html>



Figure 7: The KNAAPO/Shenyang J-11 is an imported or licence built Russian Su-27SK/UBK long range multirole fighter, broadly equivalent to the US F-15C Eagle. Licence production was recently suspended while negotiations continue for the latter 100 Chinese built models to be delivered in a later configuration, likely the Su-27SMK with precision weapons capabilities. Direct imported Su-27SK/UBK numbers are usually cited at 76 aircraft to date. It is not known whether the Saturn AL-41F supersonic cruise engine is being discussed for the second tranche J-11 build, the AL-41F having entered production last year. Current planning sees around 300 Su-27/J-11 in service by 2015 (PLA).



Figure 8: *The KNAAPO/Sukhoi Su-30MKK and Su-30MK2 are an imported Russian KNAAPO Su-30MK long range strike fighter, broadly equivalent to the US F-15E Strike Eagle. Around 76 Su-30MKK have been delivered with larger numbers likely in the future, the possibility of licence builds has been reported. To date 28 Su-30MK2 have been ordered, with more expected (PLA).*



- (1) 48 aircraft currently in service comprising mix of Su-27SK and Su-27UBK (ITAR-TASS)
- (2) Reported follow on order of 55 Su-27SK and Su-27UBK (ITAR-TASS 1997)
- (3) Currently under negotiation, reported to be 55 examples of single seat Su-30MK variant
- (4) Speculative

**Projected PLA-AF Flanker Variant Deployments**

Figure 9: This 1998 projection of KNAAPO/Sukhoi Su-27SK/J-11 and Su-30MKK numbers proved optimistic. Since then additional orders for the Su-30MKK were placed, and the PLA-N Naval Air Arm ordered a further batch of modified Su-30MK2 aircraft to supplement the small fleet of indigenous JH-7 fighters, to perform anti-shipping strike roles. Current totals and orders stand at 380 aircraft, or 63% of the US F-15C/E fleet strength (C. Kopp).





Figure 10: Sukhoi's Su-34 Fullback strike fighter entered initial production last year. This aircraft sits in capability terms between the F-15E strike fighter and the F-111. The PLA is known to have been interested in acquiring this aircraft (Sukhoi bureau).



Figure 11: The Chengdu J-10 is an indigenous Chinese agile multirole fighter and is broadly equivalent to the F-16C, Rafale, Eurofighter Typhoon and defunct Israeli Lavi. It is expected to enter production this year (PLA).





Figure 12: China was reported to have ordered several examples of the Russian A-50E AWACS in the wake of the aborted deal to source the better Israeli A-50I Phalcon variant. Since then photographs have emerged of an indigenous conversion, based in concept on the Israeli A-50I. The images illustrate the use of a phased array radar, similar in technology to the new RAAF Wedgetail - the A-50I radar offered by Israel to China was a variant of the radar offered to Australia for the AIR 5077 bid (via Internet).



Figure 13: *Russia's latest Tu-160 Blackjack A strategic bomber, similar to the US B-1B Lance, is being publicly canvassed as an export to the PRC. Deliveries to the PLA-AF would require restarting production in Russia as the Russian Air Force stock is not large enough to provide a surplus (RuAF).*

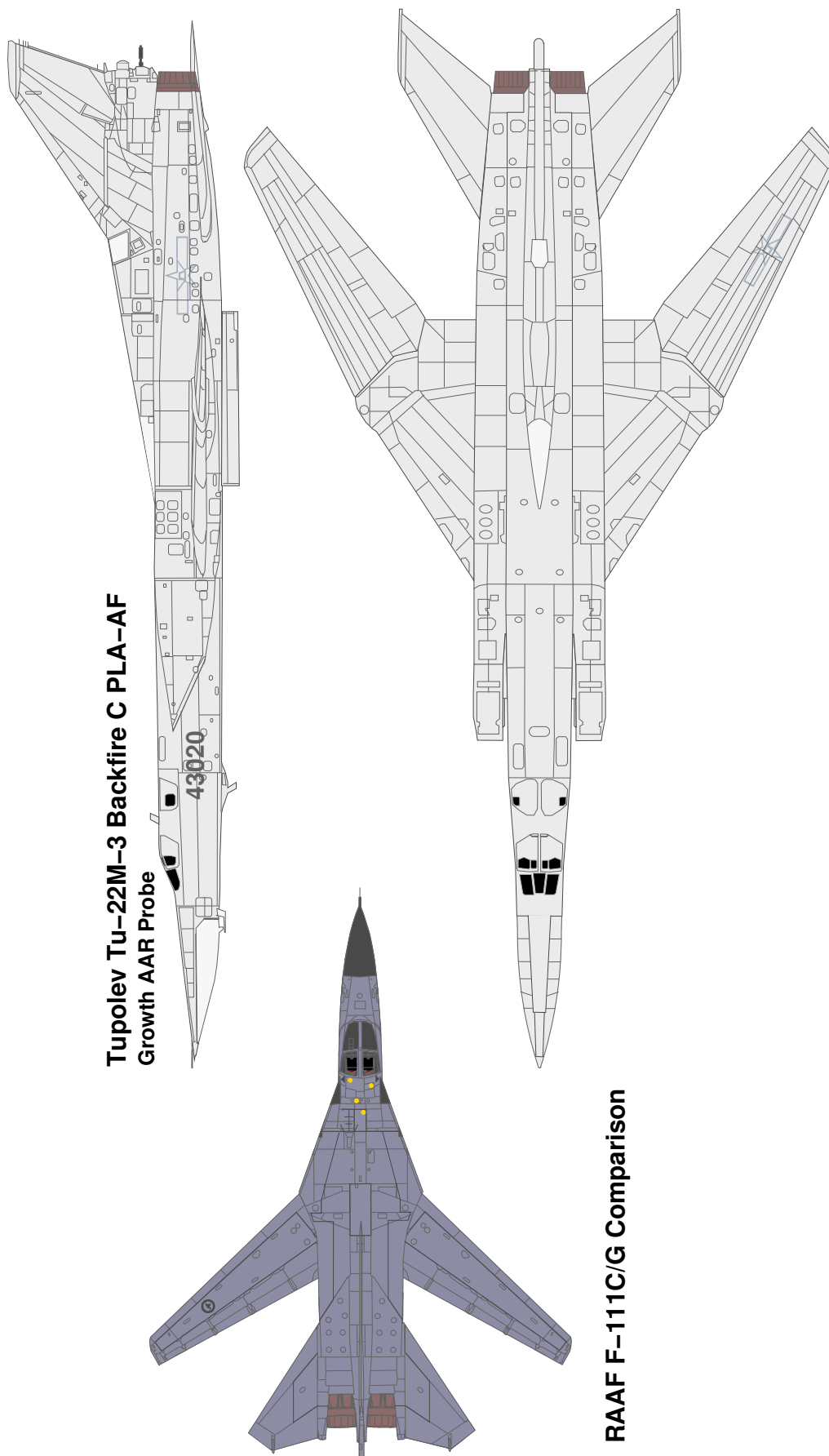




Figure 14: *The Tu-95MS Bear H cruise missile carrier has been publicly offered to the PLA by Russia. A direct equivalent to the US B-52H, these long range aircraft remained in production until 1993, making the Russian fleet 'young' in accrued airframe hours (US DoD/RuAF).*



Figure 15: *During the 1990s China made repeated attempts to persuade the Russians to supply the Tu-22M3 Backfire C supersonic strategic bomber, of which around 250 were built during the Cold War. The publicly stated intent to acquire this aircraft now coincides with an export drive by Russia to supply them. Russian sources claim up to forty aircraft could be available for export, in lieu of mothball storage. The aircraft remained in production until the early 1990s, as a result of which much of the fleet has very low accrued airframe hours (RuMoD).*



**Tupolev Tu-22M-3 Backfire C PLA-AF  
Growth AAR Probe**

**RAAF F-111C/G Comparison**

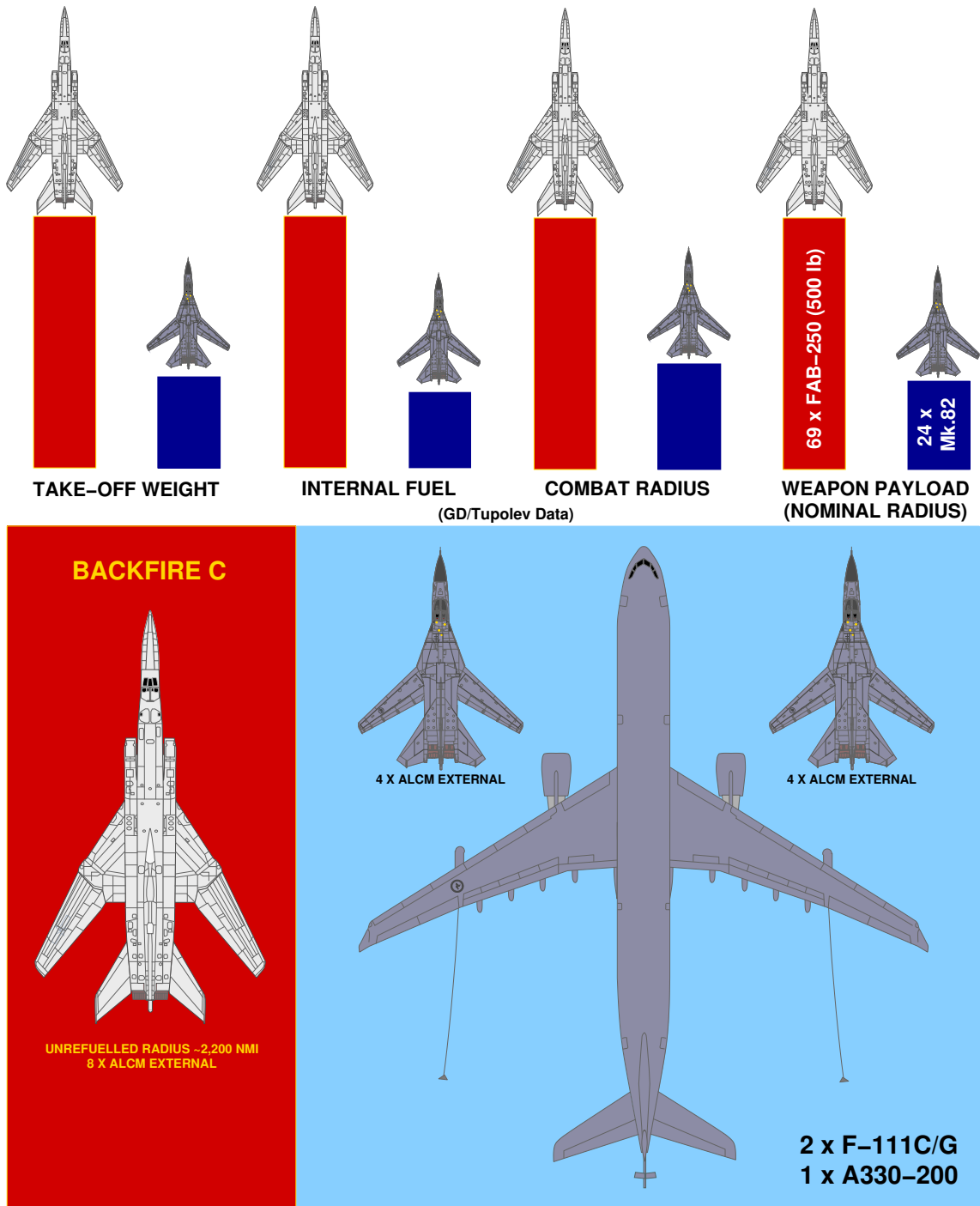


Figure 16: The strategic weight of the Tu-22M3 can be easily appreciated by parametric comparison against the RAAF’s F-111s. A single cruise missile armed Backfire delivers the punch of a pair of F-111s supported by an A330-200 tanker, or four JSFs supported by multiple A330-200 tankers (C. Kopp).

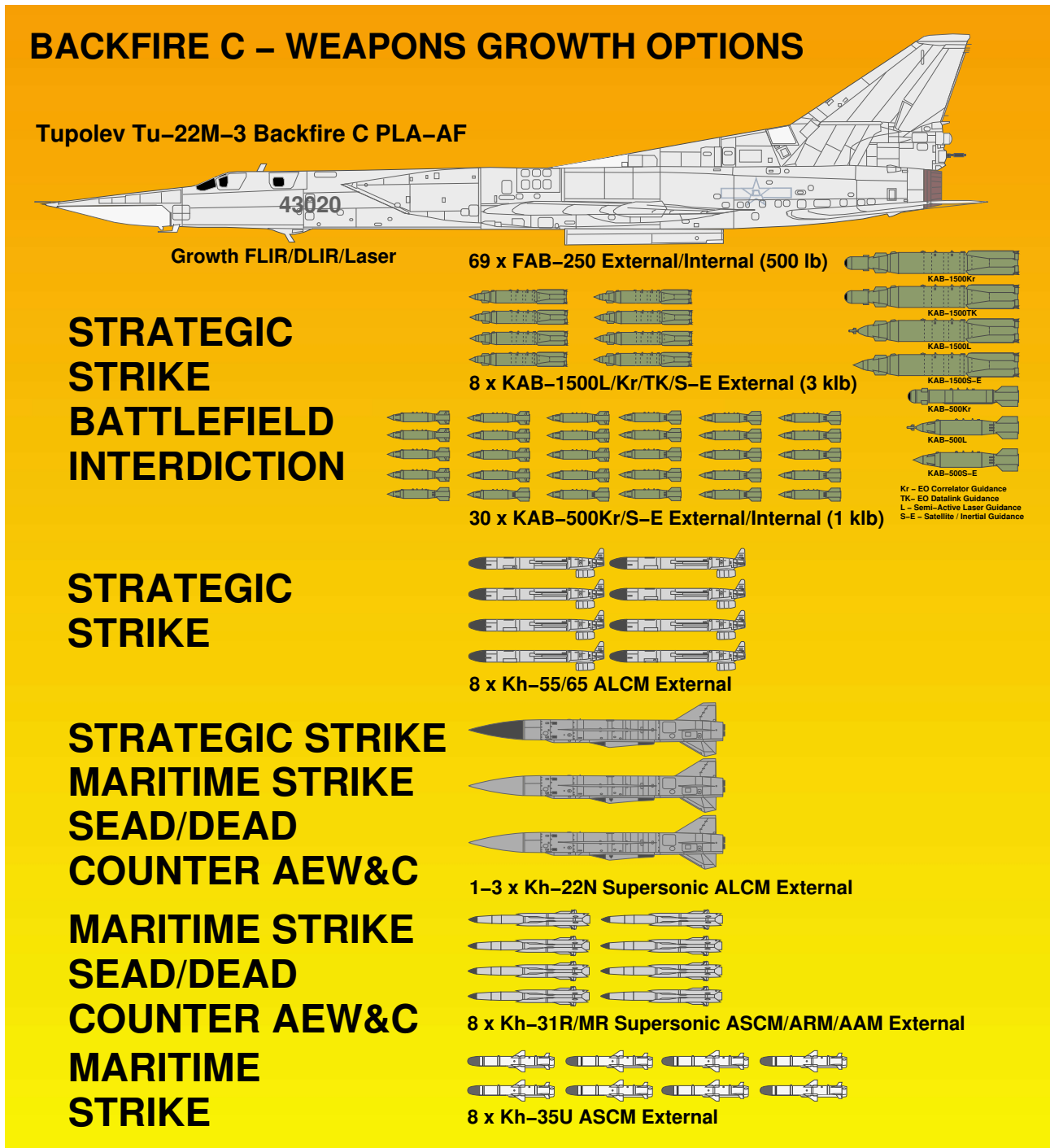


Figure 17: A wide range of weapons options exist for upgrades of the Tu-22M3 Backfire C (C. Kopp).





Figure 18: The Xian H-6 is a reverse engineered Russian Tu-16 Badger, broadly equivalent to the 1960s RAF V-bombers. Production was resumed last year, involving a new H-6H cruise missile carrier variant, tentatively designated the H-6M. Around 150 Badgers are in service, mostly built between 1972 and 1992 (Xian).



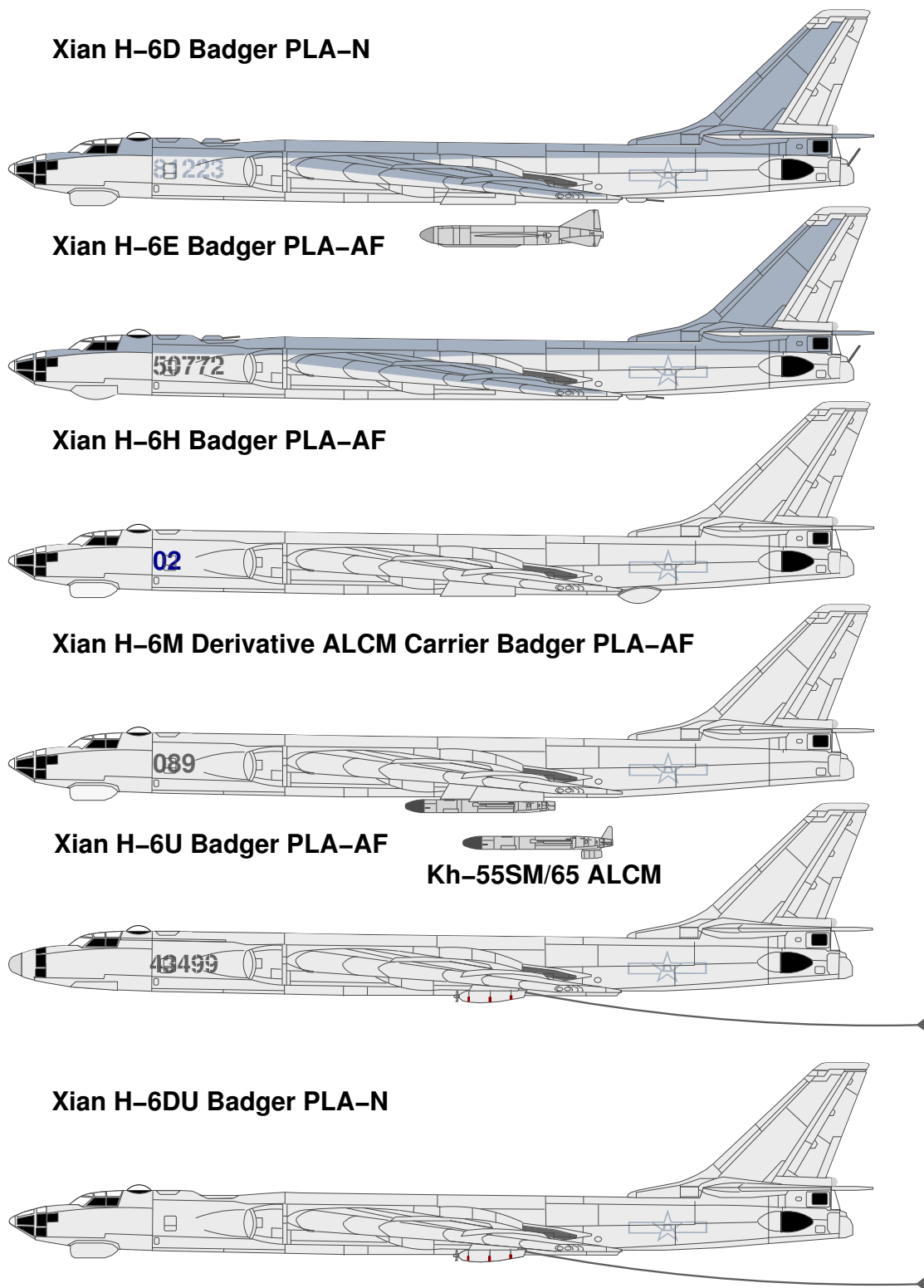


Figure 19: A wide range of H-6 variants exist. In the long term it is expected that cruise missile carrier and aerial refuelling variants will dominate the fleet (C. Kopp).

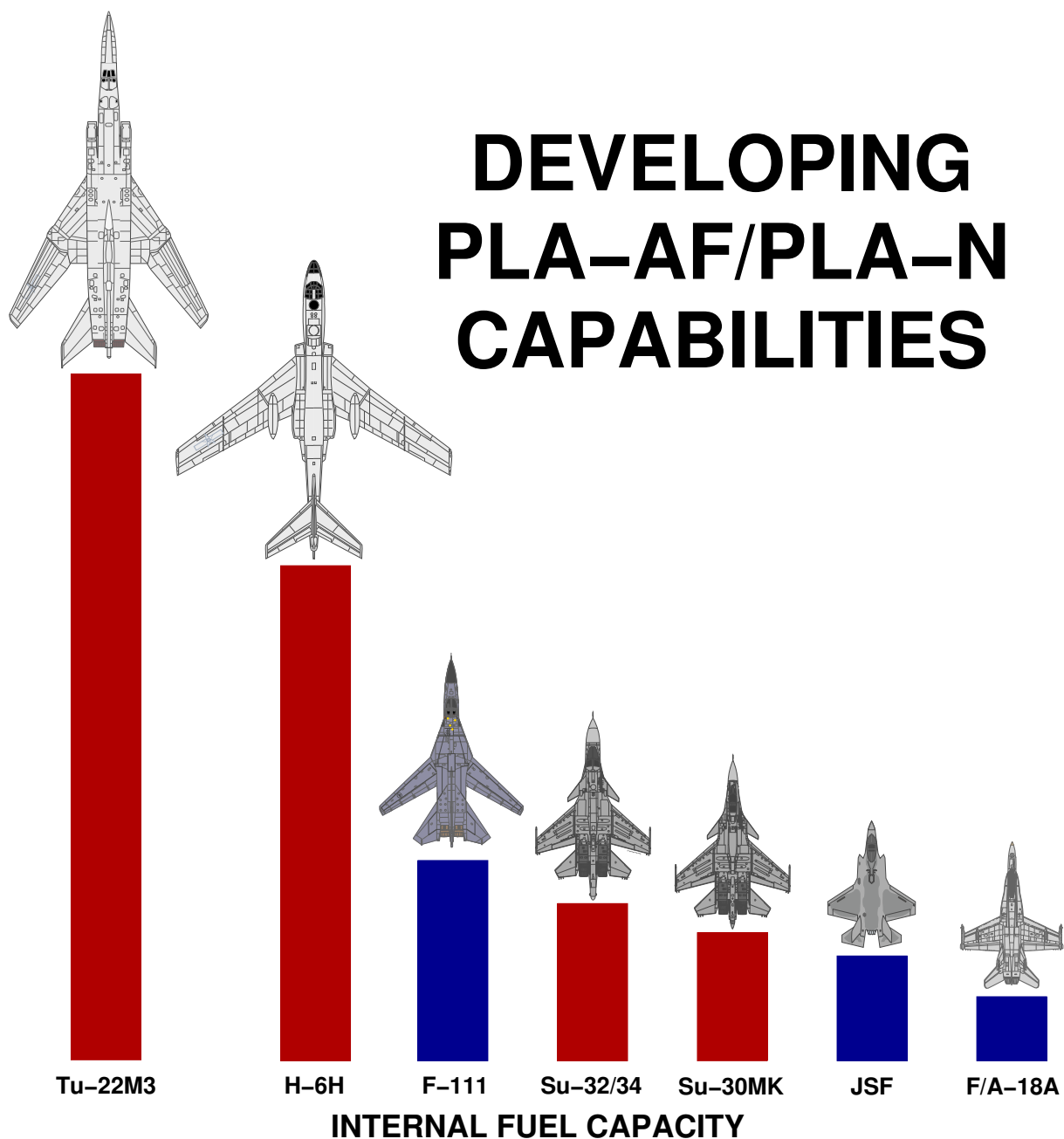
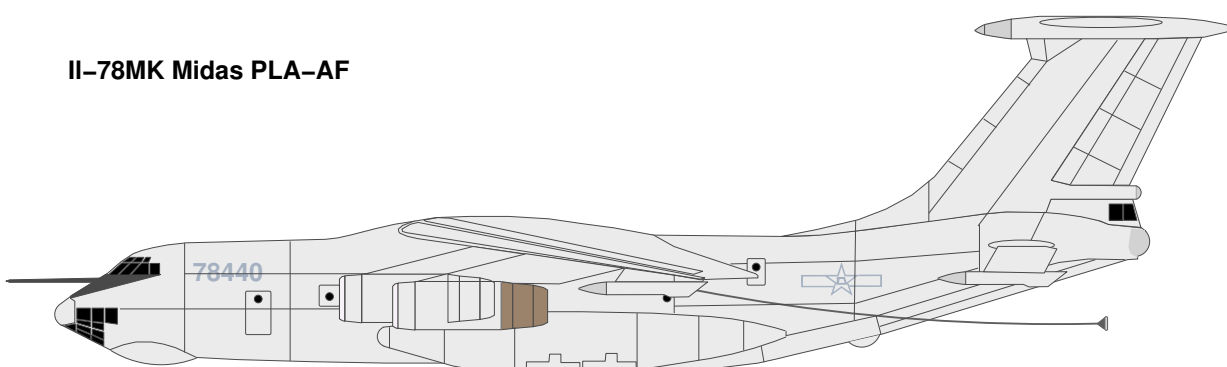


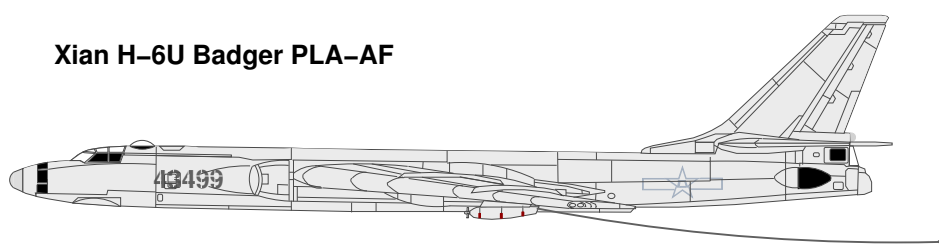
Figure 20: Comparison of internal fuel capacity for a range of combat aircraft. Internal fuel capacity is a measure of effective range and persistence in combat (C. Kopp).



**Il-78MK Midas PLA-AF**



**Xian H-6U Badger PLA-AF**



**Xian H-6DU Badger PLA-N**

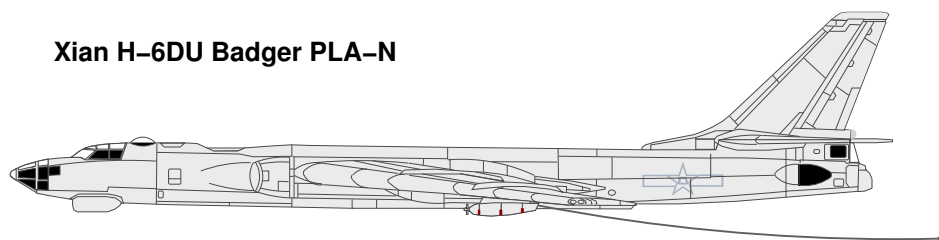


Figure 21: The PLA is reported to be negotiating the buy of an initial batch of six Russian Il-78MK Midas tankers, based on the Il-76 Candid airlifter already flown by the PLA-AF. This aircraft compares closely in offload performance to the US KC-135 Stratotanker (RuMoD/C. Kopp).



Figure 22: The Il-78MK Midas tanker uses a variant of the UPAZ-1A Sakhalin aerial refuelling pod, which has also been cleared for buddy refuelling on some variants of the Su-27 fighter (RuMOD).





Figure 23: *The Xian H-6 is the basis of China's indigenous aerial refuelling tanker program. Development was reported to be initially a collaboration with Flight Refuelling Limited in the UK during the 1980s. With the questionable usefulness of the Badger as a conventional strike aircraft, it is likely many more will be converted to tankers, especially given the low age of much of the Badger fleet. As a tanker the Badger compares closely to the now retired RAF Victor K.2 (PLA).*



Figure 24: China continues to manufacture and operate a range of legacy types. The Q-5 is an indigenous evolution of the Russian MiG-19 Farmer and is broadly equivalent to the A-4 Skyhawk. Around 600 are in service. The J-7 is an indigenous evolution of the Russian MiG-21 Fishbed and is broadly equivalent to the Northrop F-5 series, but faster and more agile. Around 700 are in service (PLA).





Figure 25: *The J-8-II Finback B is an indigenous Chinese multirole fighter and is broadly equivalent to the Russian Su-15/21 series and RAF Tornado ADV/IDS. The lower image depicts a J-8-II armed with PL-8 missiles, reversed engineered from the Israeli Python 3 (PLA).*



Figure 26: The Xian JH-7 is an indigenous Chinese strike fighter and is broadly equivalent to the RAF Tornado IDS. Around 20 serve with the PLA Naval Air Arm, with the PLA-AF recently taking first deliveries of the enhanced JH-7A variant (PLA).





Figure 27: The PLA acquired a pair of 8,000 tonne Type 956E Sovremennyi class destroyers (Hangzhou, Fuzhou), and subsequently ordered another pair. Armed with the supersonic 3M81 Moskit (SS-N-22 Sunburn) cruise missile, these are the most heavily armed warships in the region. In size and capabilities they compare closely to the DDG-51 Arleigh Burke class destroyer (RuMoD).

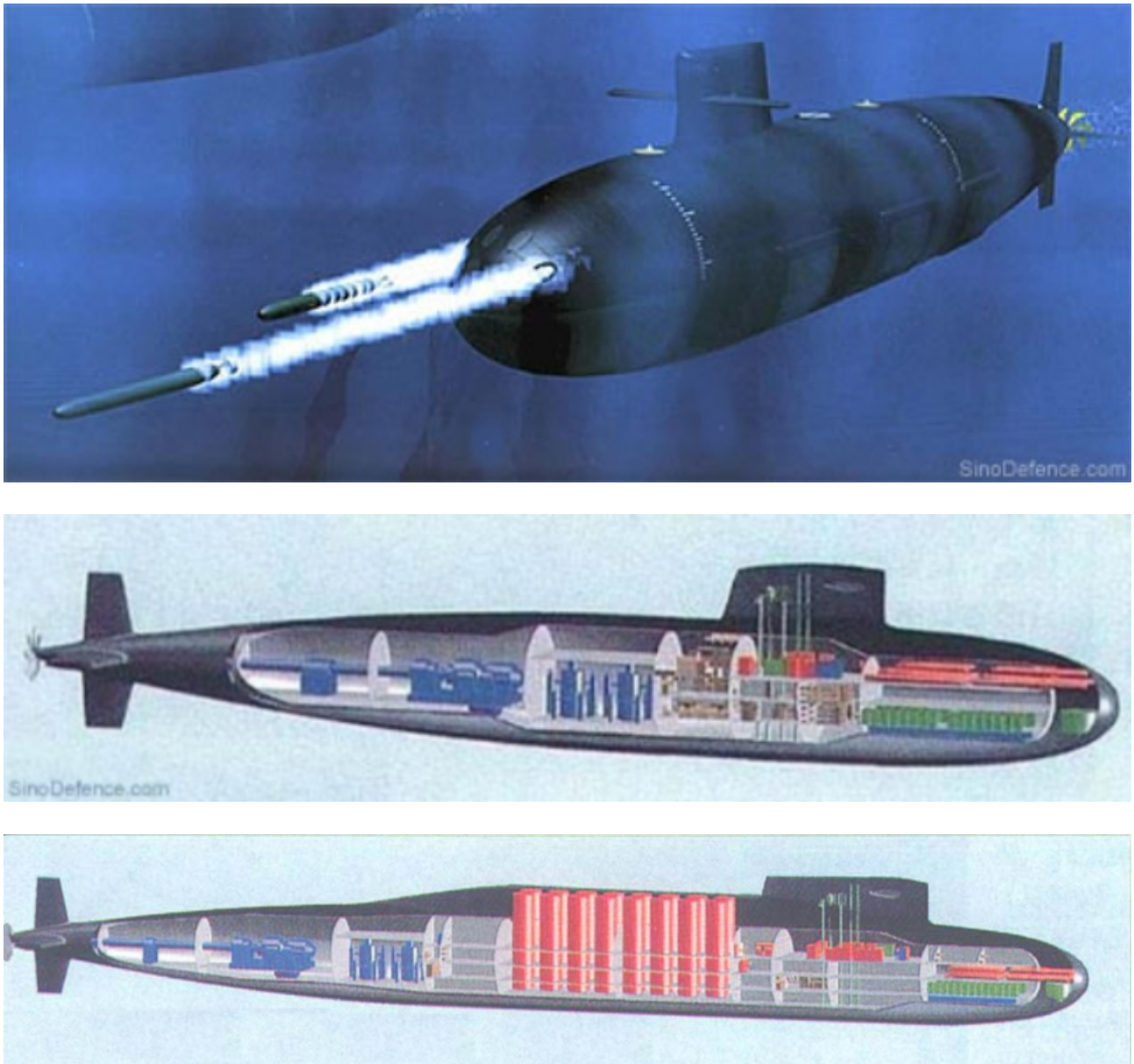


Figure 28: The PLA-N is deploying a new generation of indigenous nuclear powered submarines. The Type 093 is an attack submarine expected to also carry long range cruise missiles, the Type 094 a ballistic missile submarine, to be armed with sixteen JL-2 SLBMs (CSS-NX-4) with MIRV delivery systems (via Internet).





Figure 29: *The PLA acquired a pair of Project 877EKM Kilo diesel-electric submarines, followed by a pair of enlarged Project 636 Kilo boats, armed with the 3M-54 series cruise missile. More recently another eight Project 636 Kilo boats were ordered. These low signature boats are considered difficult to defeat (Rosvooruzheniye).*

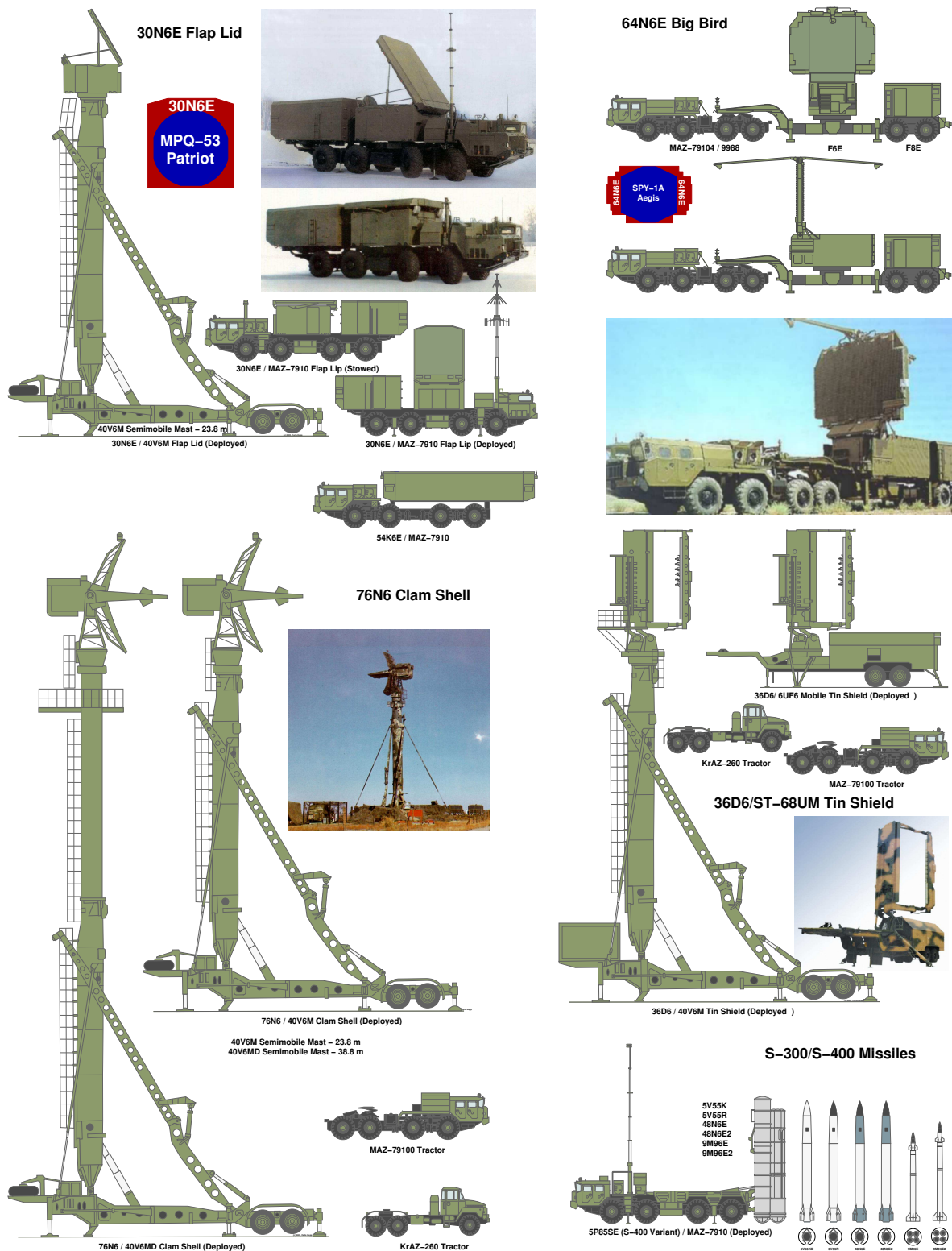


Figure 30: The PLA is the sole significant export client for the S-300PMU (SA-10/20 Grumble) family of SAM systems, with twelve or more batteries reported in service. Last August an additional four to eight batteries were ordered. The SA-10 is a Russian analogue to the US Patriot system, although the 64N6 acquisition radar in later models best compares to the SPY-1 Aegis system. It is not known when the improved S-400 system will be ordered (Almaz, LEMZ, C. Kopp).





Figure 31: *The PLA uses the SA-10 as a replacement for the obsolete S-75 system, reversed engineered by Chinese industry as the HQ-2, and available in semimobile variants and full mobile variants. US sources claim that a licenced SA-10 variant, the HQ-9, is being manufactured in China. The HQ-9 is the basis of the FT2000 anti-radiation missile, designed to destroy Airborne Early Warning and Control aircraft (PLA).*

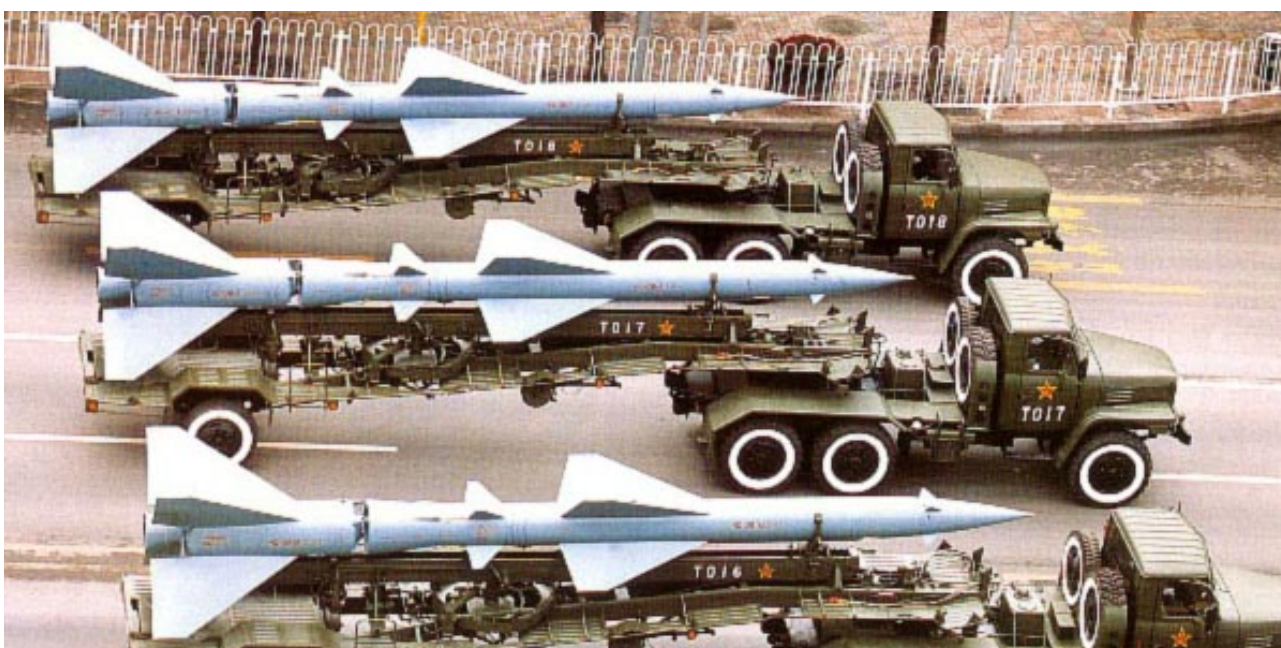


Figure 32: The PLA continues to operate variants of the legacy HQ-2 (SA-2 Guideline) series strategic SAM system. Unlike the semi-mobile Soviet original, the PLA employs a large number of fully mobile HQ-2 Transporter Erector Launchers making this variant significantly more survivable against defence suppression aircraft (PLA).



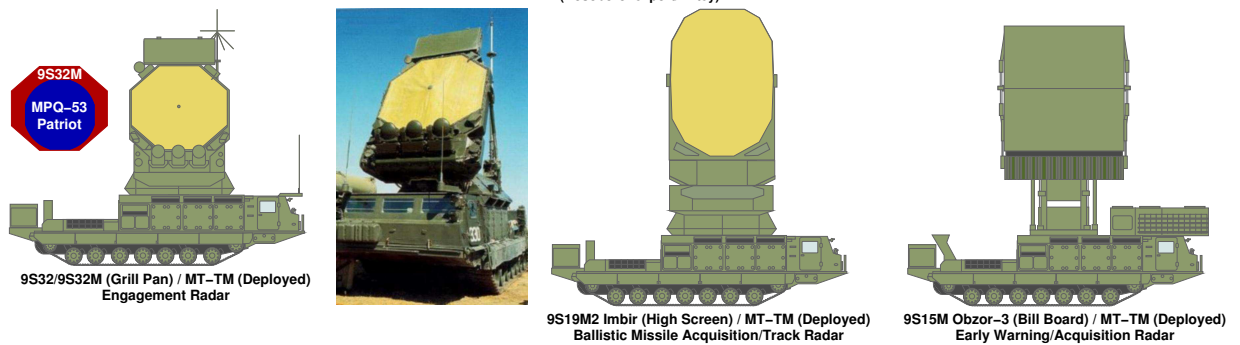
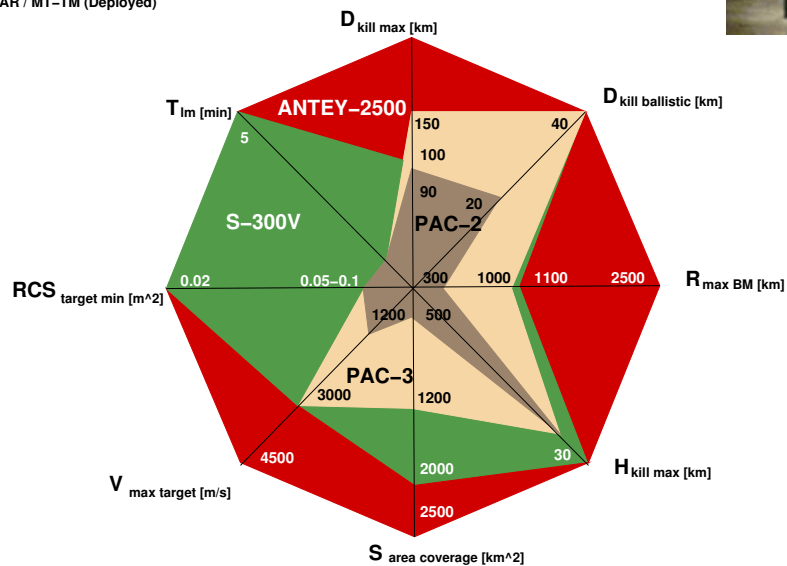


Figure 33: US sources claim that the PLA is interested in acquiring the S-300VM (SA-12 Gladiator/Giant) long range SAM/ABM system (Rosoboronexport/C. Kopp).



Figure 34: *The PLA acquired several batteries of the Tor M1 (SA-15 Gauntlet) point defence SAM during the 1990s. With phased array capability, this system is difficult to jam (Rosoboronexport).*

## 6 Annex C - Developing PLA Guided Weapons Capabilities

The following material was compiled from publicly available sources and reflects the best currently available unclassified intelligence.





Figure 35: The Raduga Kh-55 Granat or 'Tomahawk-ski' (AS-15 Kent) cruise missile was developed as an equivalent to the US AGM-86 carried by the B-52H and the US RGM-109 Tomahawk carried by submarines, and arms the Tu-95MS and Tu-160 strategic bombers. Numerous reports claim the PLA illegally acquired Kh-55 rounds from the Ukraine five years ago, and legally purchased tooling for the non-nuclear Kh-65 variant of this missile. The lower image shows the improved Kh-55SM with conformal fuel tanks, providing a range of up to 1,600 nautical miles (RuMoD).





Figure 36: The PLA has had a long running program aimed at developing indigenous long range cruise missiles for submarine and air launched applications. The upper image depicts a submarine launched cruise missile very similar to the US RGM-109 Tomahawk, believed to be of the HN-1/HN-2/HN-3 series, the lower image a H-6M Badger prototype carrying four missile shapes resembling the Kh-55/65 series (PLA).



Figure 37: Raduga Kh-41/3M-80/3M-82 Moskit (Upper). This supersonic sea skimming anti-ship cruise missile has been exported to the PLA in its ship-launched variant. The missile is on offer as the air launched Kh-41 for the Su-30MK fighter. There is no Western equivalent to the Moskit (Rosvooruzheniye). OKB-52 3K-55/3M-55 Yakhont (Lower). This supersonic sea skimming anti-ship cruise missile has been licenced to India for domestic manufacture. It has been reported as the armament for latter 956E series destroyers to be supplied to the PLA-N. There is no Western equivalent to the Yakhont/Brahmos (Rosvooruzheniye/NIC).





Figure 38: Novator 3M-54 Alfa/Club. This family of subsonic and supersonic sea skimming anti-ship cruise missiles has been exported to the PLA. The Club suite includes the subsonic 3M-54E1 anti-ship and 3M-14E land attack missiles which resemble a shortened Tomahawk, and the supersonic 3M-54E anti-ship missile. The Club is available in ship-launch, submarine-launch and air-launch variants, the submarine-launch variant is now in service. The land attack 3M-14E recently entered production. There is no direct Western equivalent to the 3M-54E (Rosvooruzheniye/NIC).

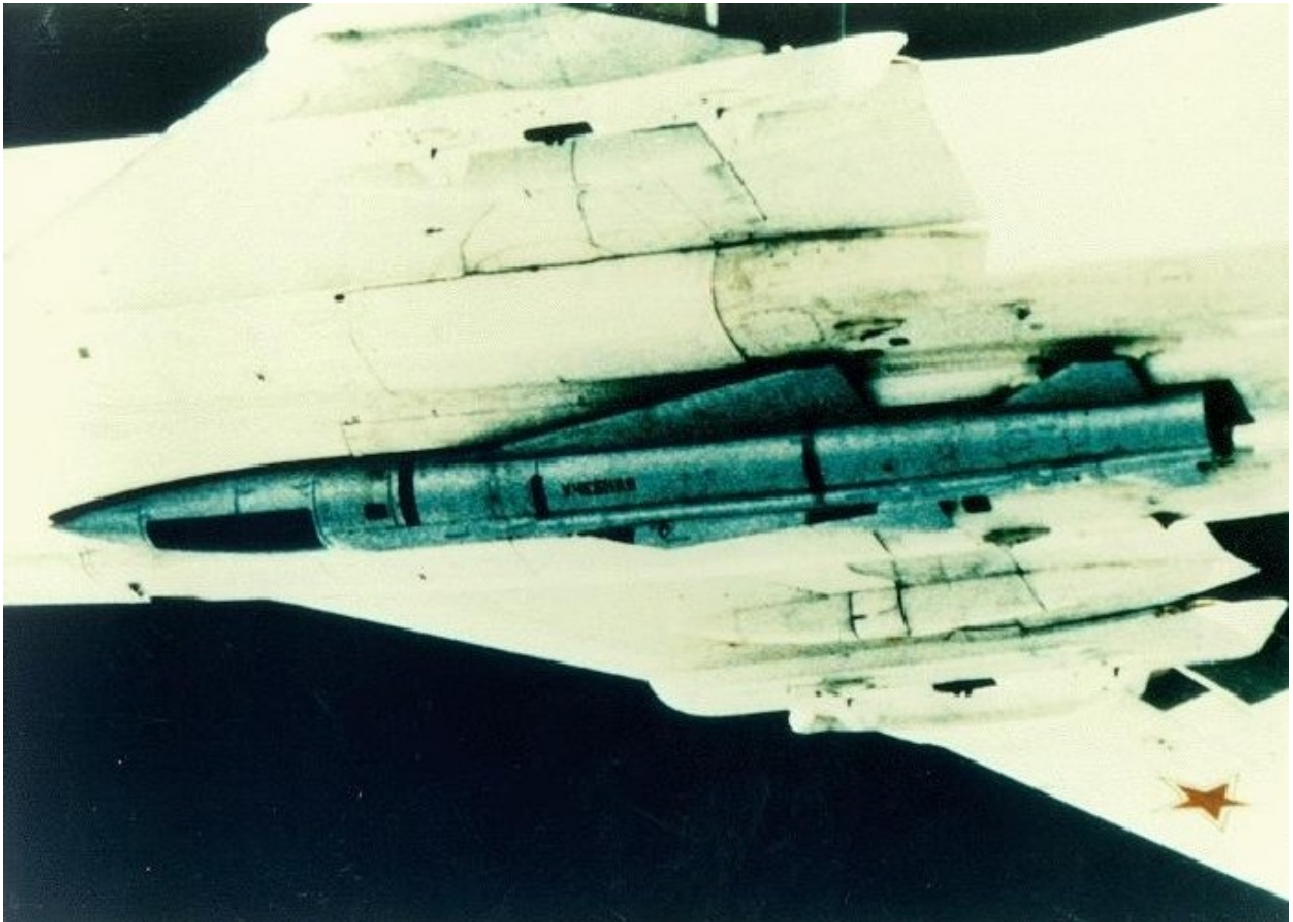
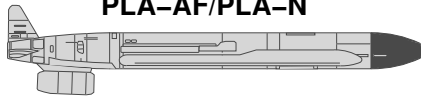
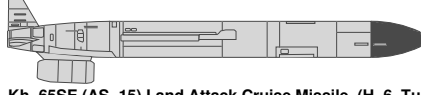


Figure 39: *Kh-22M Burya*. The *Kh-22* series of supersonic cruise missiles was developed during the 1960s and is equivalent to the RAF's former *Blue Steel* missile carried by the V-bomber fleet. This Mach 3 missile is the primary weapon of the *Tu-22M-3 Backfire C* bomber, available in anti-shiping and land attack variants. Reports claim a mid life upgrade has been designed. As it employs identical liquid propellants to the PLA's *Silkworm/Kraken*, introduction of this missile presents no difficulties for the PLA (US DoD, RuMoD).

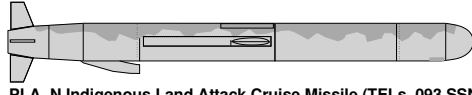
**Subsonic Cruise Missile Types  
PLA-AF/PLA-N**



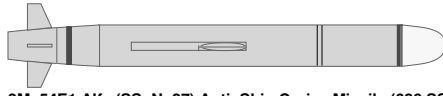
Kh-55SM (AS-15) Land Attack Cruise Missile (H-6, Tu-95, Tu-22M)



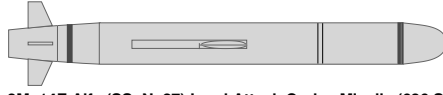
Kh-65SE (AS-15) Land Attack Cruise Missile (H-6, Tu-95, Tu-22M)



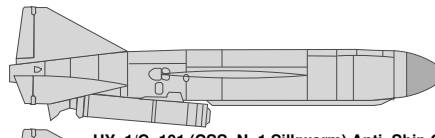
PLA-N Indigenous Land Attack Cruise Missile (TELS, 093 SSN)



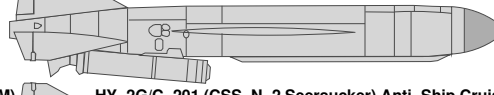
3M-54E1 Alfa (SS-N-27) Anti-Ship Cruise Missile (636 SSK)



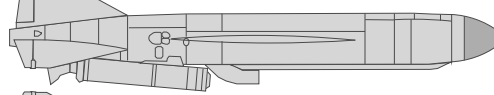
3M-14E Alfa (SS-N-27) Land Attack Cruise Missile (636 SSK)



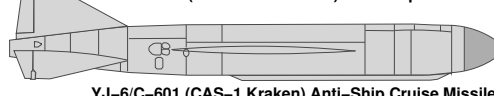
HY-1/C-101 (CSS-N-1 Silkworm) Anti-Ship Cruise Missile



HY-2G/C-201 (CSS-N-2 Seersucker) Anti-Ship Cruise Missile



HY-4/C-401 (CSS-C-7 Sadsack) Anti-Ship Cruise Missile

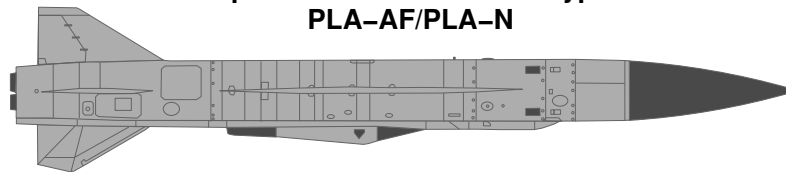


YJ-6/C-601 (CAS-1 Kraken) Anti-Ship Cruise Missile (H-6)

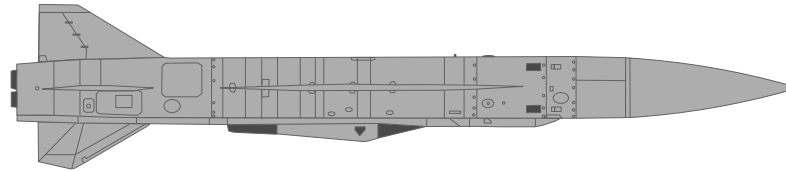


YJ-61/C-611 (CAS-1 Kraken) Anti-Ship Cruise Missile (H-6)

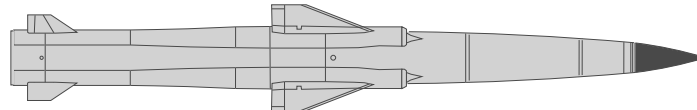
**Supersonic Cruise Missile Types  
PLA-AF/PLA-N**



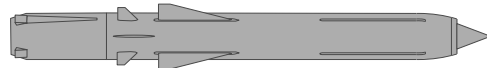
Kh-22N Burya (AS-4 Kitchen) Anti-Ship Cruise Missile (Tu-22M3)



Kh-22N Burya (AS-4 Kitchen) Land Attack Cruise Missile (Tu-22M3)



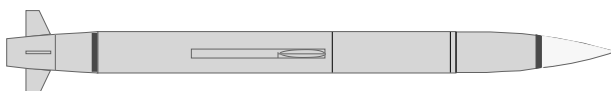
3M-81/Kh-41 Moskit (SS-N-22 Sunburn) Mach 2.2 Anti-Ship Cruise Missile (956E DDG)



3M-55 Yakhont (SS-N-26) Mach 2.5 Anti-Shiping Cruise Missile (956E DDG)



Kh-61 Yakhont (SS-N-26) Mach 2.5 Anti-Shiping Cruise Missile



3M-54E Alfa/Club (SS-N-27) Mach 2.9 Anti-Ship Cruise Missile (636 SSK)

Figure 40: Comparison of cruise missile types operated or being acquired by the PLA. The greatest strategic impact will arise from the deployment of 'Tomahawk-like' long range weapons, examples being the Kh-55 series and indigenous copies of the Tomahawk. China's manufacturing capacity will permit large warstocks to be built up over time (C. Kopp).



Figure 41: *The supersonic ramjet Kh-31P was originally designed as an anti-radar missile to suppress NATO air defences. Since the end of the Cold War it has evolved an extended range variant, the Kh-31MP, and an anti-ship variant equipped with a radar seeker, the Kh-31A/MA. It has no equivalent in the Western inventory. The PLA is reported to have licenced this weapon (RuMoD).*

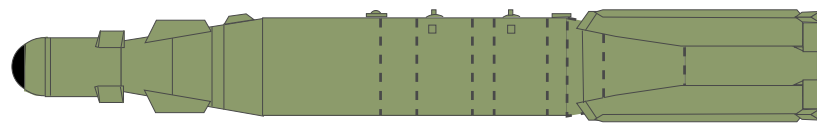




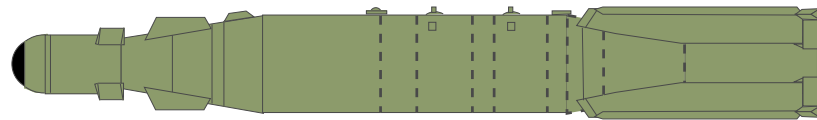
Figure 42: The Kh-59M/D series stand-off weapon is a direct equivalent to the AGM-142 missile now being integrated on the RAAF's F-111C, and carried by the US B-52H (Upper). Evolved from an anti-radar missile, it is now available with an optical seeker. The PLA-N is reported to have ordered an anti-ship variant equipped with a radar seeker, designated the Kh-59MK2 (-). Dubbed the 'Kharpunski' the Kh-35U Uran is the Russian equivalent to the US RGM-84/AGM-84 Harpoon carried by the F-111C and RAN warships (Lower). The missile is available in surface launched and air launched versions (Rosvooruzheniye).



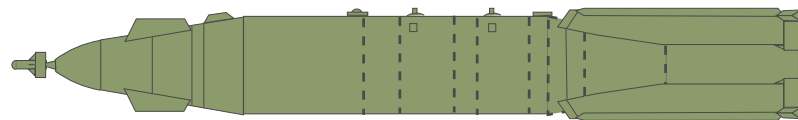
Figure 43: Russia is actively marketing smart bombs for the Sukhoi fleets supplied to the PLA. These images depict the laser and television guided KAB-1500 (1500 kg) series and KAB-500 (500 kg) series guided bombs, available in bunker busting and standard explosive variants. These weapons are broadly equivalent to the US Raytheon GBU-10, GBU-24 carried by RAAF F-111s, and the Boeing GBU-15 which was carried by the F-111 during the 1980s (Rosvooruzheniye).



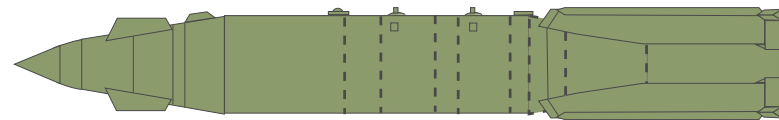
**KAB-1500Kr EO Correlator Guidance**



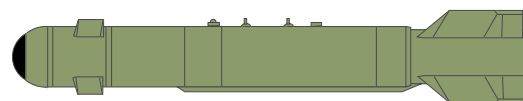
**KAB-1500TK EO Datalink Guidance**



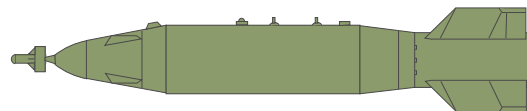
**KAB-1500L Semi-Active Laser Guidance**



**KAB-1500S-E Satellite / Inertial Guidance**

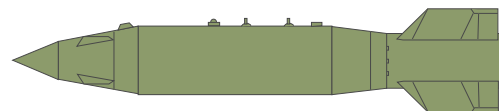


**KAB-500Kr EO Correlator Guidance**



**KAB-500L Semi-Active Laser Guidance**

(c) 2005, Carlo Kopp



**KAB-500S-E Satellite / Inertial Guidance**

Figure 44: The Russian KAB-500 and KAB-1500 series precision guided bombs share numerous design features with the US Raytheon GBU-10/16 Paveway and Rockwell GBU-8/15 families of smart bombs. The KAB guidance kits are available for 500 kg and 1,500 kg warheads. Guidance kits include laser seekers, electro-optical TV seekers, either with radio datalink or fire-and-forget image correlator support. The latest variant is the satellite / inertial S-E kit, similar in function to the US Joint Direct Attack Munition used in Afghanistan and Iraq. China is known to have acquired the laser guided and electro-optical TV guided variants for use on the Su-30MKK fighter (C. Kopp).

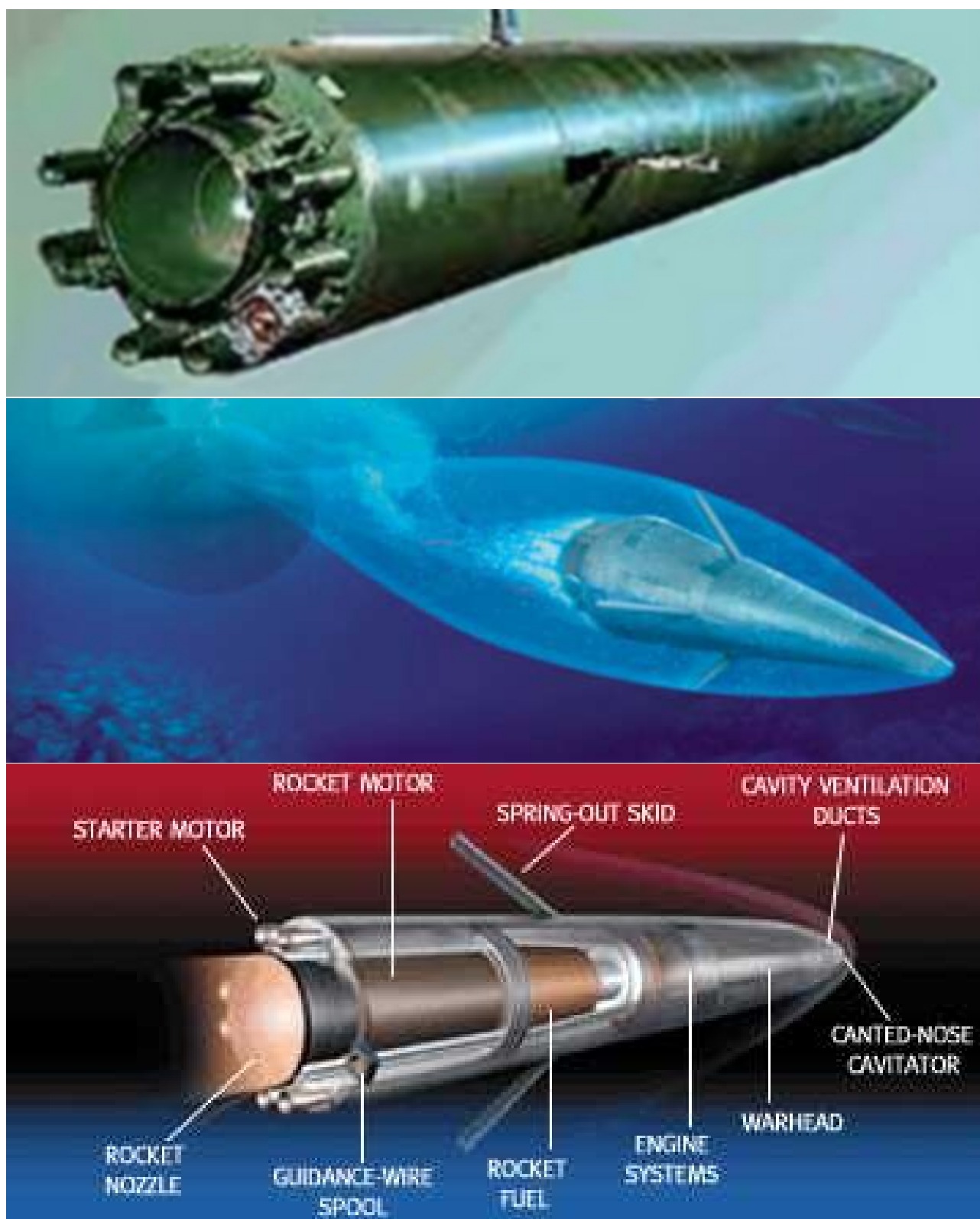
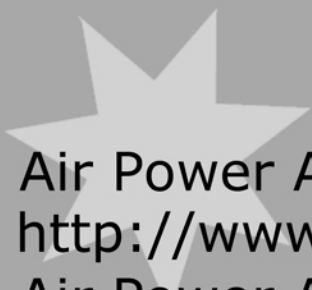


Figure 45: The PLA acquired the Russian Region VA-111 Shkval-E (Squall) rocket propelled super-cavitating wire guided torpedo for use on its submarine fleet. The VA-111 is the fastest torpedo in existence, it generates a surrounding gas bubble to reduce drag unlike conventional torpedoes (military.cz).



End of Submission





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