Sino-Vietnamese

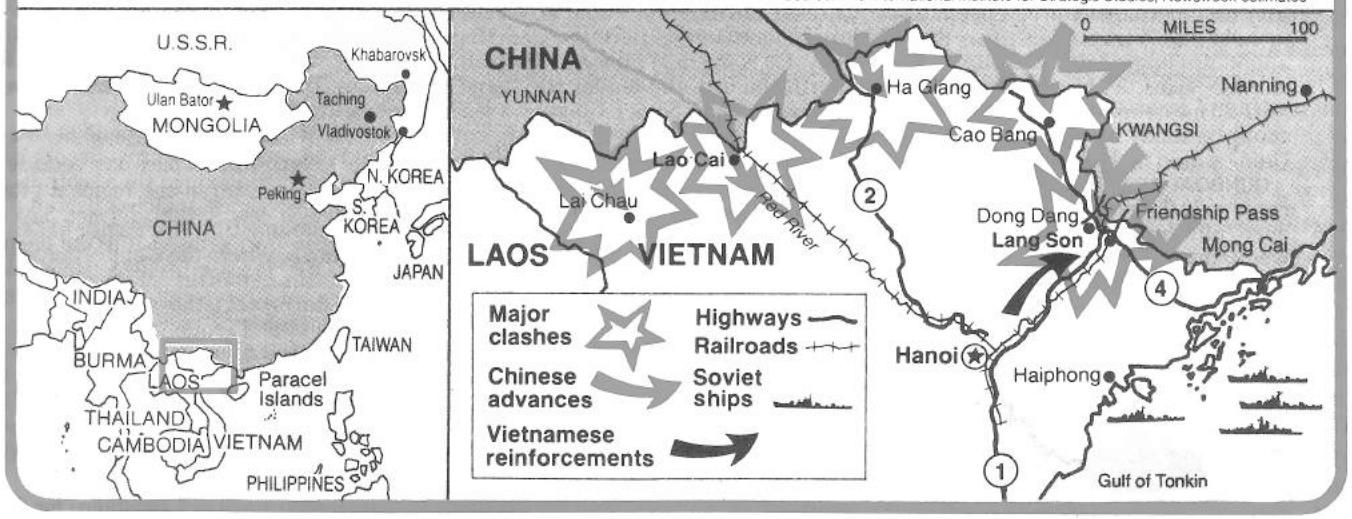
BY G. JACOBS

Communist vs. Communist

Peking's troops outnumber those of Hanoi and Moscow, but China's foes have superior weapons. The Soviet Union could reinforce its troops from bases in Europe, China from bases facing Taiwan and Vietnam from units in Cambodia.

		Troops	Tanks	Warplanes	Major Ships	Submarines	Patrol Craft
Soviet Far Eastern forces		650,000	12,000	1,600	65	70	620
Chinese forces	In Soviet border area	1.4 million	4,700	3,500	23	75	600
	On Vietnam front	250,000	1,200	700			
Vietnam forces in the north		150,000	300	300	2	0	75

Source: The International Institute for Strategic Studies, Newsweek estimates



CHINA'S OBJECTIVES

The war which the People's Republic of China (PRC) fought with the Socialist Republic of Vietnam (SRV) during February-March 1979, should be analyzed by Western military personnel from both the political intents and the actual military performance of the opposing sides. Politically, the limited war must be viewed within the regional context of the Sino-Vietnamese and Sino-Soviet struggles. Additionally, the dispute was fueled by Sino-Vietnamese "local" disputes — in themselves probably enough to have at least created some local military action by China. From the events of February-March it is apparent that certain specific "military objectives" were to be obtained by the Chinese. Chinese and Vietnamese border tensions increasingly rose to world attention in late-1978. Two major events focussed world and Chinese attention. On November 3rd, Hanoi announced a Soviet-Vietnamese treaty (Hanoi political moderates of a "neutral" policy having "lost out"). Vietnam then jointed COMECON. From this action stemmed Hanoi's subsequent move to expel ethnic Chinese from the border areas. Hanoi had also been making strong assertive claims to the Xisha/Nansha (Paracel/Sprately) Islands.

Second major event was the SRV invasion of Kampuchea in a move to extend Hanoi's authority over an increasingly unstable Kampuchea and to create an Indo-China regional system under Hanoi's direct control. Militarily, Cambodia's Pol Pot regime had not been easy to support from China. Vietnam's invasion was going well, and according to Hanoi's assessments at the time, China would not go to war to save the degenerate and increasingly unstable Pol Pot regime.

CHINA MOVES

China's "final" decision to go forth with a threatened "punishment" theme against Vietnam must have taken place during the

General Yang Dezhi

War 1979

Vice Chairman Deng Xiaoping

week of February 9-16th. A PRC Central Committee meeting was held on February 14th; and this gathering probably gave Party approval to previously resolved military operational plans of the Military Affairs Commission (MAC)/Central Military Commission (CMC).[1]

The Chinese must have determined that the Soviet Union's reaction would be limited. "Far Eastern Economic Review", February 23rd 1979 issue reported signs of Chinese re-organization within Xingiang, Shenyang, Peking, and Lanzhou Military Regions (MR)[2] (all facing Mongolia and the USSR). This probably was as much a re-organization of districts and personalities, as it was a "cover" for upcoming military operations. On February 20th the Chinese announced rotation of General Li Desheng to Commander-in-Chief, Northern Front. More important, General Yang Dezhi took command of Kunming MR, replacing General Yang Dezhi. Three days before, Peking's Daily carried an attack on the SRV, noting its "strongest protest" against the February. 8-12th border incidents. This same Chinese terminology was used exactly five months before the short Sino-Indian border conflict in 1962.

Considering the extent of the Chinese operations, it appears the initial operational planning dates from October, 1978. The initial efforts involved some military re-deployments and hight-ended military security; and was followed by diplomatic "inquiries" throughout January. These included: Vice Premier Li's Xiannian visit to Africa, and Vice Chairman Deng Xiaoping's visit to the United States being most notable. Chinese re-inforcements into South China (Kunming and Kuangzhou MR's) were evident by mid-January. "FEER" also reported a new military District (MD) has been formed in Western Yunnan (adjacent Burma), and provision of a third "MD" for the Xiangiang MR.[3] China had terminated rail service to Hanoi on December 22nd; following Chinese claims of Vietnamese border troops disrupting rail line repair efforts by the Chinese on the border.

Initially re-deployed Chinese "armies" included the 11th and 14th Army (Kunming MR) and the 42nd Army (Kuangchou MR), [4] in early-January 1979. Other deployments followed, including the 55th Army from Eastern or Central China. A re-deployed 13th Army (Chengdu MR) and, two other Chinese armies were reported to the north of Vietnam and Laos.[5]

Based on various Western press reports, Chinese and Vietnamese statements, it would appear China fielded approximately 290-300,000 troops for the "initial" invasion. The average Chinese "army" is composed of 44,000 troops,[6] and traditionally understrength to their TOE/manpower tables (about 70% in peace-time). A conclusion is reached that other main force "armies" were redeployed to the borders adjacent North Vietnam. Thus two other "armies" were redeployed from distant MR's — probably Wuhan and Nanching. Historically, the Chinese have transferred at least one (to three) "armies" from the industrial Wuhan MR — during Korea, 1950; Tibet-India, 1962; Northeast — Ussuri, 1969.

One Chinese "army" unit initially was stationed along North Vietnam's border (at Nanning). If the three "East and Central" MR's normally have two "armies" each, plus an attached organic Armoured Division, it is likely that one additional "army" was redeployed from one (or two) of these regions. It is also possible another "army" could have been removed from nearby Chengdu MR — opposite the Sino-Indian border. Thus, the following nine "armies" probably participated: — Kunming MR — 11th, 13th, 14th Armies, — Guangzhou MR — 41st, 42nd, 55th Armies, Wuhan MR — 54th (?), plus possibly the 15th Army — Chengdu MR — 13th Army. Seven Chinese "armies" participated in the initial invasion, and an additional two probably joined later. That China's People's Militia or Border Defence (BD) units participated initially is not too likely — for one, by the above analysis, the number of "main force" armies essentially matches the number of forces reported-as part of the Chinese forces. Additionally, such Chinese "BD" units are generally very lightly armed and would not have made a good match against experienced SRV "main force" division's.

VIETNAMESE DEFENCE

Very little information has come out of Hanoi, on the forces involved. [7]Northern Vietnam's geography of rivers, mountains, and sparsely located rail and main roads would suggest a divisioning of three Military Regions (MR I Northwest, MR II Viet Bac, MRIII Left Bank). There are five Vietnamese provinces immediately adjacent the Chinese border (Lai Chau, Hoang Lien Son, Ha Tuyen, Cai Lang, and Quang Ninh). Terrain in this region "funnels" most road traffic along four main north and northeast-southern "routes" (No. 4 — along the Red and Song Chay Rivers; No. 2 along the Song Lo River; No. 3 — from Cao Bang South; and "IA" — Lang Son — south). A major strategic east-west lateral route (No. 4) crosses the north-south routes; generally 20-50 KM inside the border.

The Vietnamese began re-inforcing their border as early as the summer of 1978. By October, Hanoi was accusing Beijing of armed intrusions, including a November 1, 1979 "incident" north of Cao Bang (south of the Chinese city of Jingxi, Kuangzhou MR). After the November 3rd announced SRV-USSR 25-year Treaty of Friendship was announced, it would appear Hanoi began re-inforcing its far northern borders. This included AAA, artillery, anti-tank guns, and company level armour (using mostly older model T-34/85's of the People Militia). [8] At some point before the end of the year, Hanoi also "recalled" some "main force" divisions from the South. While the Vietnamese claim no "main force" divisions fought the Chinese, this remains highly unlikely. It is most difficult to estimate a Vietnamese ground order of battle. Based on International Institute for Strategic Studies (IISS) information, [9]the local "People's Militia" numbers about 1.5 million; built around 25 Infantry Divisions — including 35 Artillery Regimets, 40 AAA regiments, 15 Independent Infantry Regiments, 20 SAM Regiments, plus supporting smaller units. Additionally, this author estimates 30,000 Frontier Border Forces provide "local" units for patrol along the Chinese, Laos, and Kampuchean frontiers. From the above, and with a view that large numbers of "main force" divisions were dedicated to the invasion of Kampuchean and in local "security" roles in southern Vietnam and Laos; this author estimates that the Vietnamese probably had the following ground forces within 75 KM of the Chinese border:

— ***"Main Force" Divisions — 5 or 6; about 55-60,000 troops; stationed thusly: 2 or 3 in the Upper Red River Valley, south of Lao Cai, 1 division each at Cao Bang; Lang Son; and Mong Cai,***

— ***Militia forces — 35-40,000***
— ***Frontier Border forces — 10-15,000***

The above estimates do not include other ground forces that would have been in the Yen Bai — Hanoi — Haiphong Delta region, as a "strategic" reserve, and part of headquarters (Headquarters Armoured Command, etc.,)

Vietnamese air units are stationed primarily at Yen Bai, Hoa Lac, Kep, and Phuc Yen. Other airfields that are also available

for dispersal included; I light bomber sq. — 10 IL - 28 BEAGLE'S (Phuc Yen Afld); 4 strike fighter sq's — est. 30 SU-7B FITTER (1 sq.), and 50-60 MIG-17F's (4 sqs/Yen Bai, Kep, Kien An, Phuc Yen). Local "air defense" probably consisted of 40-50 MIG-21 F/PF (3 sqs/Yen Bai, Phuc Yen) and 20-30 MIG-19SF/F-6 (2 sqs/Yen Bai). After the war began, Hanoi released a photo of a dozen ex-South Vietnamese Air Force Northrop F-5's, deployed northward, at Hoa Lac or Gia Lam airfield's. It is believed the Soviet Union transferred after the November 1979 treaty the 30 SU-7B FITTER's. The naval forces of the two countries apparently did not figure into the conflict, as no reports of any engagements have emerged in Hanoi or Peking's news media. However, Soviet naval responses to the conflict were evident, including a naval task force composed of a SVERDLOV CLCP, a KRESTA II GG, a KASHIN DDG, and supportive vessels. All reportedly operated throughout the East China Sea region, stationing from the Vietnamese port of Da Nang. In response to Hanoi's aid requirements, Soviet seaborne arms deliveries doubled in the first half of 1979 (compared to 1978).[10]

CHINESE DOCTRINE

Southeastern China presents a wide variety of terrain types, which placed only minor constraints on the PLA in the southern advance into Vietnam. Mountainous jungle terrain prevails, characterized by dense first and second-growth jungle, rugged high hills, few terraced or cultivated areas, scattered small towns and villages, numerous small streams, few main roads or rail lines, and a scattering of unimproved roads and trails.

The PLA, essentially is a foot soldier army; and proved capable of moving with relative ease. The lack of Chinese heavy vehicles and artillery made movement over foot trails or through jungle growth area relatively easy. Under such conditions, light artillery, mortars, and RPG weapons have decided advantages. The Chinese (and Vietnamese) are masters at mountainous jungle terrain combat; though such operations have a decided "levelling"effect on operations and limits the untility of artillery, tanks, and non-"real time" aerial reconnaissance.

Such an environment also places heavy burdens on commands in maintaining "control" over one's forces, because of the natural restrictions on movement and communications imposed by terrain. It may have been this very reason that reports told of a lull in operations around the beginning of the Chinese "second phase" of operations (Feb. 20-26). This might also have been the result of "rotation" at division level, unanticipated Vietnamese resistance, and the consquential need to adjust tactics; or a combination of all the above. It should be remembered this was the first major "army-level" co-ordinated operation in seven years for Chinese senior "army-level" commanders.

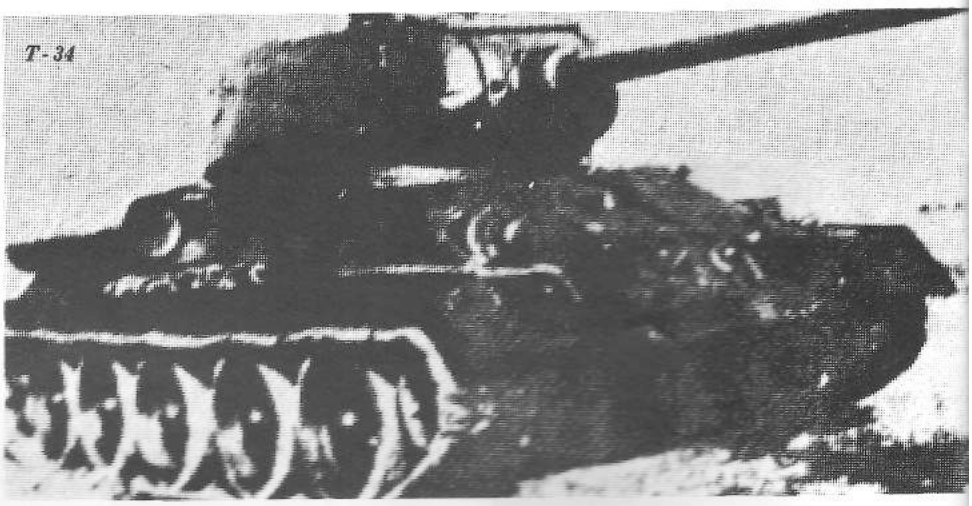
Logistically, the Chinese apparently did quite well, considering the demands of moving upwards of 300,000 troops into South China. A key to this must be found within the support provided by the Chinese railway system; and in particular, the TOE of Chinese units. A Chinese "army" at 44,000 troops, plus equipment would require each "army" to have transported 22,500 - 25,000 metric tons. Such a figure would required 75 "trains" (at 50 freight cars per train). Each PLA "army" possesses approximately 2,400 vehicles (and animals); which would have required about 1,100 freight cars; plus the requirement for an additional 43-45 passenger "trains" (averaging 1,000 troops per train). "Average" daily Chinese re-supply requirements were in the area of 150 - 200 tons, per infantry division (or 750-800) tons per day, per "army"). Despite probable shortages of qualified, lower eschelon logistics officers in the PLA; over-all performance seems to have met the two week long war adequately.

Chinese "assault" doctrine, where possible, calls for division-level operations in sectors of 8-12 KM wide; while the actual "assault" effort will vary between 1—4 KM per division. Due to South China's terrain, there is little reason to believe that such tactics (most of the time) could not have been followed against the Vietnamese. The fact that most Vietnamese "first priority" border towns are within 15 KM probably re-inforced use of this doctrine.

Regimental assaults were most often the assault unit level used; as Chinese doctrine prescribes that when a "division" level unit advances in a "column", the advance "point" will be based on a combined arms unit — organized around the basic infantry regiment. Division-level "parallel column" assaults probably were unlikely; given the high hills, karst, and mountain passes which dominate northern Vietnam above the Hanoi/Haip hong Delta region.

The basic Chinese "Infantry Regiment" (see Table #3) is not as endowed with heavy firepower and sophisticated equipment as their Western or Soviet counterparts. It must be realized the PLA is still a foot soldier army and equipment is not plentiful. This is evident, in both PLA organisational manpower and TOE tables. As Table #3 indicates, 75/82 MM recoilless rifles provide the normal heavy firepower of a PLA regimental unit (in an Infantry Division). As infantry battalions (682 personnel), three rifle companys each have but nine (9) 40 MM Type 56 (RPG-2) RPG's, with an 82 MM mortar unit (6 weapons), and a Weapons/Machine Gun Company in support (with 57 MM Type 36 recoilless rifles). This is not strong "weapons support" in the European sense.[11] For a regimental unit, Chinese 75 MM Type 56 and 82 MM Type 65 recoilless rifles are well made, and have improved mobility, safety and maintenance, without a degrading of performance, when compared with their United States and Soviet counterparts (from which they were copied).[12] "Effective up to 650 meters, the Type 56 can penetrate 75 MM armour at this range. A larger weapon, the 82 MM Type 65 RR, is a highly improved version of the Soviet 82 MM B-10. Reported to be only one-third the weight of a "B-10" (est. 30 KG/44 lbs.), it has both a HEAT round and an anti-personnel round. The type 65's mobility is good (a "twin-wheel" is available), though light weight may force a "cooling off" period after 4 or 5 rounds are fired (due to barrel heat). At "regimental" level, the Chinese at least could count on normally defeating any armoured vehicles inVietnam at likely engagement ranges.[13] The Chinese have often successfully used minor trails to move large bodies of troops in "outflanking" movements. When it is possible to do this, they will usually sacrifice "depth" to gain a "wide-frontal" attack.

Chinese doctrinal use of their armoured vehicles would have them used in the following manner; (a) "Divisional" Recon — light tank's, Type 62 or 63, some M-1967 APC's-up to 30-50 KM from the "front"; (b) "Regimental" Recon — M-1967 APC, motorcycle, with sidecar — up to 10 KM from front (c) "Battalion/Company" Recon — Medium tank, Type 59 (or more likely in South China, the light tank, Type 62). In the Chinese units of South China, the Type 63 light tank is organic to all infantry and armoured divisions, and is the only amphibious tank found in the PLA in large numbers. It would be highly vulnerable to Vietnamese anti-tank weapons — as its front hull armour is only 14 MM @ 80° angle (the 85 MM gun turret has about 25 MM armour). While Vietnam


T-34

Chinese artillery sets Cam Dueng ablaze: As Vietnam held its own, Peking dropped the first hints of a cease fire

Fresh Chinese troops in Canton

Vietnamese refugees ferry across a river

Rebuilding the Capital: A batch of homegrown economic trouble that won't go away

Vietnamese female gun crew

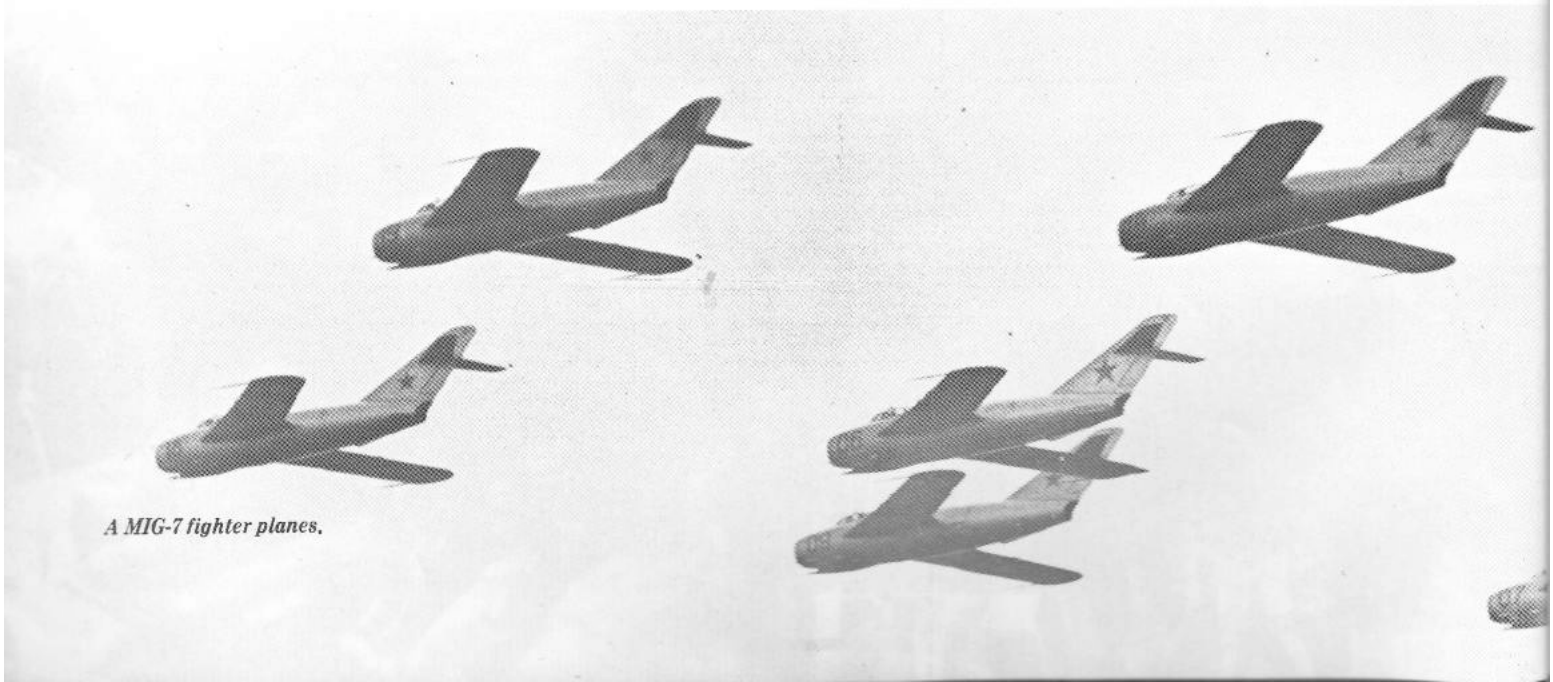
Vietnamese evacuation near border: "Face-saving" withdrawal

A Vietnamese artillery position near Lao Cai: The invaders plodded forward, but Hanoi avoided a set-piece battle

claimed very high numbers of Chinese tanks lost, little credibility can be placed in these claims — due to the sparcity of Chinese armoured vehicles available within their infantry units and the restricted employment possible under prevailing terrain features. While major rivers would not be a direct threat to successful operations, they do have the tendency to "channel" operation and force a few major river crossings. Chinese water-crossing equipment includes ex-Soviet "DLP" (light bridge), N2P-45 (medium bridge), and TZ-1 (footbridge) types. This was probably adequate, as most river crossings would have been of small streams. Additionally, all Chinese (and Vietnamese) tanks can wade streams to a depth of 1.2 meters. As evident in the over-all rate of the Chinese advance (see ":Chinese Military Objectives", Table # 1), it would appear that terrain was not a critical hinderance to their operations (through it probably added measurably to their casualties).

AIR OPERATIONS

Air operations between the Chinese and Vietnamese air forces was only light; and confined mostly to Chinese air reconnaissance operations. From the Chinese perspective, for an "all-out" air offensive, it would have probably resulted in an undesired (or un-necessary) expansion of the conflict. The PRC Air Force[14] was able to deploy 750 - 900 aircraft on major airfields in South China. Additionally, Chinese aircraft assets, while plentiful, are generally ill-suited to the demands that their "offensive" use would have demanded - i.e. moderate levels of "air interdiction" into the Hanoi/Haiphong region, and "accurate" close air support (CAS) missions (which PRCAF types are not capable of providing). The IL-28 BEAGLE could have operated against Vietnamese airfields and industrial targets (360 NM from Pie Tun/Yunnan to Phuc Yen Afld). The IL-28's normal bombing altitute and speed (34,000 ft. @ 410 KTS) would have made them "unacceptably" vulnerable to SAM's and Vietnamese Air Force MIG-17 and MIG-21 interceptors, however. In "CAS" type missions, the Chinese have no aircraft comparable to United States A-7 or A-10 types. What air operations that were undertaken, were limited to Shenyang F-6 reconnaissance missions (to Hanoi and Haiphong), and specific target strikes (bridges, ec) by Shenyang F-4 and F-6's "in-and-around" the Vietnamese provincial and border towns. However, for Vietnam, with limited numbers of aircraft to commit to an "all out" counter-air offensive; such an "all out" alternative was unlikely either (despite Hanoi press reports to the contrary). As long as Hanoi and Haiphong remained "unthreatened", Hanoi's leadership traditionally has preferred to "hold back" its small air component. Historically, one can see this tactic used in the Vietnam War with the United States. As long as United States air strikes were within the Route Package Area's 1, 2, 3 (south of the 20° parallel), few air enagagement efforts were made — mostly "hit and run" tactics by two to four aircraft. No Chinese effort was made to interrupt Soviet airlift operations into Hanoi either. Hanoi relied on its limited rail system (running north to south) to a great degree to relocate ground units back into northern Vietnam; as opposed to reliance on its small air transport component (only a fraction of the 42 ex-United States C-130A/E's left in South Vietnam are serviceable). Soviet AN-12's were providing airlift service throughout Indo-China during and after the conflict, on behalf of Hanoi. During the conflict, Soviet airlift operations into Hanoi were flown by AN-22/COCK, AN-



A MIG-7 fighter planes.

12/CUB, and IL-76/CANDID. This special airlift included over 50 fights (35 AN-22, 15 AN-21, 6-10 IL-76), with payloads of 35 M. tons (AN-22), 24 M tons (IL-76), and 12 M tons (AN-12)[15] over the ranges required. The Soviets flew in an estimated 1,500 M. tons of critically needed military supplies (weapons, ammunition etc).

CONCLUSIONS

The Chinese apparently set specific, limited goals to be obtained, both political and military. For example; from the Chinese, there are no indications in their own pronouncements ("punishment" theme) that the city of Hanoi or the Red River Delta might ever have been an "objective". Quite the contrary, especially in view of the number of Chinese troops committed to prosecutions of the war; much greater numbers would have been required if the Hanoi/Haiphong Delta were an objective.

The "military" goals were generally accomplished, i.e. capture of provincial and border towns; seizure and control of Route No. 4 (east-west) main road; some "diversion" of Vietnamese forces from their invasion of Kampuchea — and therefore, "delaying" the overthrow of the Pol Pot regime and the immediate defeat of his guerrilla forces. And, "testing" of their own PLA forces in a "major", co-ordinated ground operation. In light of what Chinese military personnel were telling Western journalists, including one set of comments from a ranking Chinese general; comments that could be summarized as follows:

- The war was fought primarily for "political reasons",
- More military accomplishments could have been achieved; but were limited to specific goals which were adhered to,
- The significance for the PLA cannot be under-estimated, as it has been since the Korean War days that such a large military operation has been attempted,
- Chinese casualties were heavy, as expected if one is to be the attacker against "prepared positions", and that the PLA needs more training (and experience-?) in modern techniques of combat,
- The lessons learned in the war only enhance the need for Chinese military and economic modernization. After the conflicts conclusion, a new PLA senior command position was announced (April 19th); that of assistant to the General Staff. The new position is headed by a Liu Kai,[16] and is important because of the General Staff's responsibility to carry out the decisions of the Military Affairs Commission. The new position may have been directly related to the conflict (and, to Deng Xiaoping's preoccupation with China's modernization program). In the process, Vietnam (according to Chinese sources). suffered 30,000 plus casualties (killed, wounded, or captured).[17] While the Chinese action apparently delayed and partially weakened the Vietnamese "offensive" into Kampuchea; the Chinese action ultimately did not provide the "total disruption" that some analyst may have though was an intended Chinese goal.

In military terms, it appears that each side made both strategic and tactical errors, that proved costly to each. Vietnam undoubtedly underestimated Chinese willingness to carryout the Chinese "punishment" theme. As such, probably few "main force" divisions were available to resist the initial invasion and the brunt of the ground fighting was born by Vietnamese border ("local force") troops, undoubtedly resulting in higher Vietnamese casualties. Reports about the Soviet airlift would indicate that the Vietnamese Air Force (VAF) is woefully short of tactical airlift ability, and that the ex-United States equipment maybe of little use to the VAF.

For China, recent interest in Western Europe[18] about buying European-made sophisticated weapons maybe as much politically motivated as military necessity — heightened by the recent Sino-Viet War. Certainly the conflict pointed to Chinese strengths, as well as weaknesses. These "weaknesses" would include lack of a modern main battle tank; insufficient long range artillery (outranged by Soviet 122 MM/D-30 howitzers, ex-U.S. 175 MM/M-107 and Soviet 130 MM/M1946 guns when against Chinese 122MM type 60 and 130 MM type 59-1 guns); and, lack of a modern air force component to support the PLA under all conditions. As a consequence, the PLA probably paid a price of 12-15,000 casualties-though only a small portion of its available military manpower - China would have not had to pay such a high price if its weapons and technology were more advanced.

The most serious mistake by Vietnam was directly related to their failing to take China seriously. On the day of the Chinese offensive, Minister Pham Van Dong and Army Chief of Staff General Van Tien Dung were in Kampuchea. In their failure to respect the Chinese threat, serious losses occurred to "local force" border units, losses which were probably abnormally high in view of the lack of adequately prepared defensive positions. In view of the Chinese intention to teach Vietnam a "lesson", despite Vietnamese statements to the countrary, Hanoi's political and military leadership must now be fully aware of China's "ability" to invade — and now China's "willingness" to be take military action in the future.□

A soldier is hit as Vietnamese militiamen rush past in Dong Dang

FOOTNOTES

1 See Harvey W. Nelsen, **The Chinese Military System, An Organizational Study of the Chinese Peoples Liberation Army,** (Boulder, Colo., Westview Press, 1979), Chapter 3 for a discussion of the Chinese high command. The "MAC" was the prevailing term for this body of military policy-makers in the 1960's. Nelson's reference "CMC" comes from his research in Taiwan during the 1970's and is the prevailing term used by the Nationalist Chinese.

2 "Far Eastern Economic Review", (Hong Kong), February 23, 1979 pp 31-2; hereafter, "FEER".

3 op cit, page 32.

4 The 42nd Army (as reported to this author) was stationed in the Canton/Kuangchou region prior to the war; with units most often involved in preventing Hong Kong-bound refugees from entering the British Crown Colony illegally. Not believed to be related to the Northeastern 42nd Army which entered Korea during October 15-30, 1950. No other units except a reported 54th Army (Fuchou or Wuhan MR) took part in the Sino-Viet War, that also traced similiar numbered linkage to early-Korean War "armies".

5 Units may have been the 11th, 12th and 14th Armies. These notionally numbered designations go back to the Sino-Indian War of 1962. The 15th Army despatched from Wuhan MR, while the 54th Army from the nearby Chengdu MR, were transfered to the Tibet Region at the time of the October 1962 crises. See **Chung Kung Chun Jen-Chih** (CH) — Mao's Generals), Hong Kong, 1968, page 399.

As for Chinese "Mobility" of it's artillery supportive forces, the PRC prefer the indigenously produced CA-30 2.5 ton, 6 x 6 prime mover for all of it's medium and heavy artillery pieces. This must partly be based on the CA-30's cab-controlled, central tire inflation system and it's decent off-road performance with "cross-country" tires. However, the CA-30 continues in insufficient supply, and often Soviet and European type 4 x 2 medium trucks must be used. Various prime-movers shown in Table IV have the following estimated "Towed" load (maximum) capabilities; CA-30, 3,600 KG; ZIL 151/-157, 3,600 KG; CA-10/ZIL-164, 4,500 KG. The Chinese designed NJ-230, 2 Ton 4 x 4 truck, while found in Chinese artillery unit TOE'S, is not considered an adequate prime-mover.

6 Various sources use from 39,000 to over 45,000 . I am using figures given in **Handbook on the Chinese Armed Forces;** DDI-2680-32-76, Defense Intelligence Agency (Washington, D.C. 1976). As for Chinese "mobility" of it's artillery-supportive forces, the PRC prefers the indigenously produced CA-30 2.5 ton, 6 x 6 prime mover for all of it's medium and heavy artillery pieces. This must partly be based on the CA-30's cab-controlled, central tire inflation system and it's decent off-road performance with "cross-country" tires. However, the CA-30 continues in insufficient supply, and often Soviet and European type 4 x 2 medium trucks must be used. Various prime-movers shown in Table IV have the following estimated "towed" load (maximum) capabilities; CA-30, 3,600 KG; ZIL 151/-157, 3,600 KG; CA-10/ZIL-164, 4,500 KG. The Chinese designed NJ-230, 2 Ton 4 x 4 truck, while found in Chinese artillery unit TOE'S, is not considered an adequate prime-mover.

7 The exception, as far as this author is aware, came on October 4, 1979. A long Vietnamese-language political statement against China was issued. Covering the years 1954-79, the Vietnamese claimed a Chinese "two-front" assault was launced (one from Pol Pot's Kampuchea, the other from the North). The claim was made that the Chinese had "mobilized" 600,000 troops, including several "army corps" and independent divisions, technical weapon units with nearly 800 tanks and armoured vehicles, about one thousand artillery pieces and hundreds of aircraft of various types. SRV Foreign Military, on SRV-PRC Relations (Hanoi), October 4, 1979.

8 Some captured Vietnamese T-34's were shown by the Chinese after the war to Western traveller's in South China.

9 Reprinted in Far Eastern Economic Review, **Asia 1979 Yearbook** Hong Kong, 1979, pp. 32-33.

10 **Jane's Fighting Ships, 1979-80,** Ed., Capt. John Moore, page 770. Note: Neither side claims any naval engagements; therefore, the author has not discussed the respective naval forces. It is probable Vietnam attempted to maximize use of it's ex-U.S. landing ships to bring re-inforcements "north", including captured U.S. equipment (175MM/M107's, etc.). One Soviet "arms carrier", **MS Zoya Kosmode Myanskaya,** delivered 20 MIG-17, 14 MIG-21, and 6 MI-8 helicopter crates as deck cargo in one delivery alone. After the conflict, two SHERSHEN class PTF's were delivered to Vietnam.

11 Note comparison with a French Light Infantry Battalion having five Rifle Company's; each with nine 89 MM STRIM F.1 and three ENTAC ATGM's launchers, plus a Weapons/Command Company with an additional fifteen STRIM's or 75 MM recoilless rifles.

12 "Upgraded" Chinese Type 52; which is a direct copy of the U.S. M-20 gun. The Chinese HEAT round has slightly improved penetration — compared to U.S. M310 round. U.S. "rounds" are still interchangeable with Chinese rounds. Blueprints originally came from captured Nationalist Chinese drawings provided by the United States.

13 Estimated at 750 — 1,000 meters.

14 A useful recent survey of the PRCAF was contained in "Air International", (London), Vol. 16, No. 6, June 1979, pp. 273-277, 306-308

15 See Peter Borgart, "The Soviet Transport Air Forces", in "International Defense Review", No. 6/1979, pp. 945-950.

16 Liu Kai was previously Deputy Chief of Staff, Shenyang MR-an important political responsibility increase from his prior third-level MR position assignment.

17 The largest post-conflict POW exchange occurred on June 5th, at which time 487 Vietnamese and 55 Chinese were release. This was the third exchange, and according to the Red Cross announced total release of 1,638 Vietnamese and 237 Chinese, a possible indicator of the small number of prisoners taken by each side (from Chinese statements, 2,300 Vietnamese captured).

18 See "International Defense Review" (Geneva), No. 9/1979, pp. 1467-1468, and "IDR", No. 1/1980, page 26.

CHINESE MILITARY OBJECTIVES

(Major Operational Segments)

TABLE 1

FEBRUARY 17, 18, 19	Chinese forces cross border "Primary" Objective — Break-up of Vietnamese border force units; seizure of border towns; and, "clear" Vietnamese "defensive" positions (mostly artillery) along main roads to allow Chinese re-inforcements to assemble for forthcoming assault of major towns. "Tactical Objective"-ground units; probably 3-5 KM depth penetrations; with regimental and divisional assaults along major 'passes' and main road routes leading south. "Frontages" probably restricted to 500M-1KM along main road assault areas; but, open to 2-4 KM where terrain allowed wider passability. "Limited" air support by Mig-17F and Mig-19 aircraft. Some 150-200 mile reconnaissance missions flown to Haiphong and Hanoi area (recce Mig-19's reportedly used), to monitor SRV "reactions" and Soviet initial airlift operations.
FEBRUARY 20 — 26	"Primary" Objectives — Capture of Vietnamese Northern Provincial capitals and main towns within 15-30 KM "zone" from Chinese border (inc. Lao Kay, Bac Quang, Ho Giong, Cao Bang, That Khe, and Mong Cai). "Tactical" Objectives — Provide "mopping up" operations against "positions — of — resistance" remaining along main and secondary invasion routes; particularily within 15 KM of border and within border towns. Adjustment and/or reinforcement and replacement of initial assault regiments/inc. possibly division level units. "Limited" air support and tactical reconnaissances of Hanoi/ Haiphong Delta region (for monitoring Soviet airlift flights to Hanoi).
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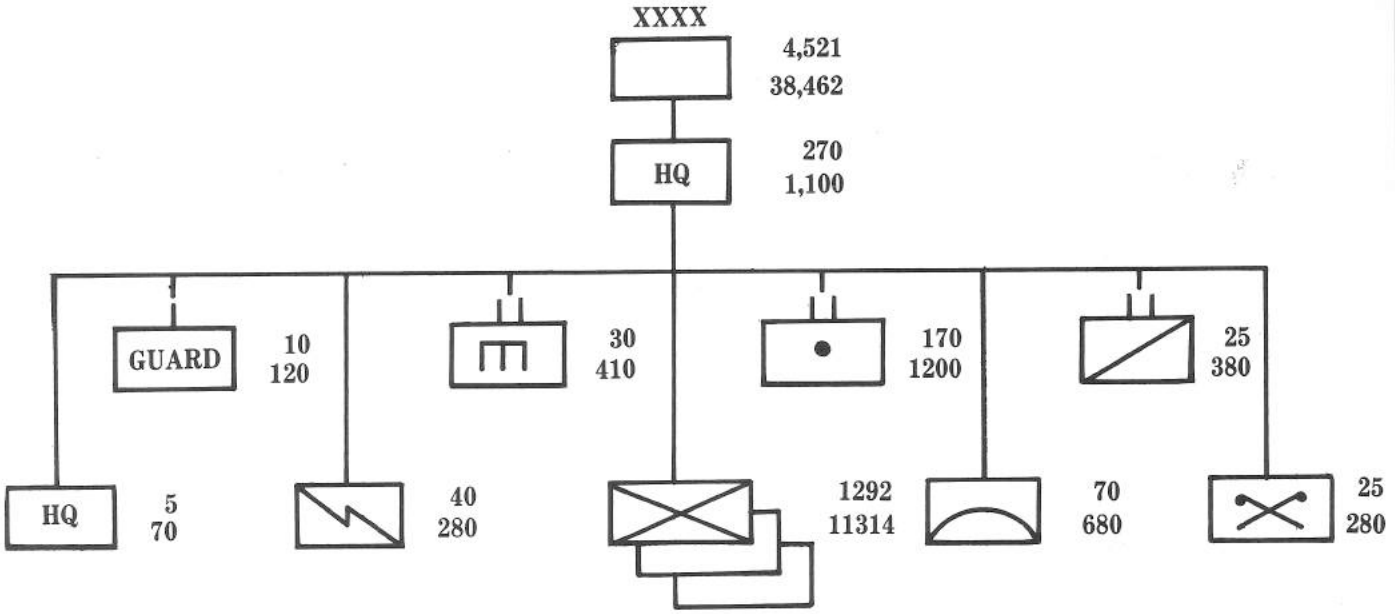
FEBRUARY 27 — MARCH 1	"Primary" Objectives — Capture of remaining cities, probably inc. Cao Bang, Lang Son, and Lai Cai — all of which apparently were "taken", partially lost, and had to be "re-taken" again. Initial seizure of "uncontrolled " portions of east-west lateral, Route No. 4. Apparently a major "objective" of Chinese forces (but, not apparent until after the Chinese negotiotion offer of March 1st). "Tactical" Objectives — unchanged; but, probably also included specific efforts to "isolate" and cut supply routes to those cities not already in Chinese control. Coastal city and port of Mong Cai (shipping point for SRV iron ore) never was reported captured by either side.
MARCH 1 — 5*	"Primary" Objective — (Political) Initial Chinese offer to negotiate formally over "contested" border area's (announced March 1st). "Consolidation" of provincial and major cities, complete control of Route No. 4. "Tactical" Objectives — capture and "control" of city of Lang Son (provincial capital) considered a major "victory" to hold this city against (apparently) repeated Vietnamese attempts to re-capture. Begin "retrograde, operations; incl — withdrawal of useful economic item's (equipment) and recovery of military material salvagable. *Fighting may have continued after this date; but it appears "objective's" were attained by then. Report's of Vietnamese long-range artillery use in attempts to "dislodge" the Chinese continued for another two weeks. China announced "withdrawal" was "completed" March 16, 1979.

PEOPLE'S REPUBLIC OF CHINA

TABLE II

ORGANIZATION OF AN "ARMY"



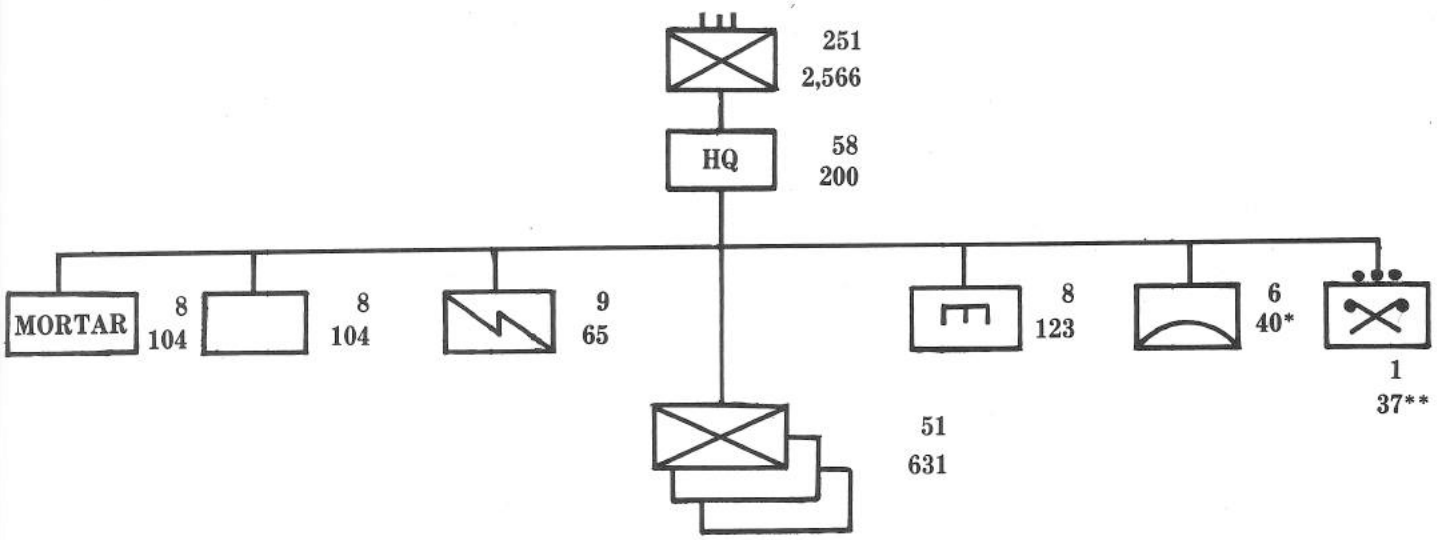
Source: Handbook on the Chinese Armed Forces; (Washington, DC), DDI-2680-32-76 (Defence Intelligence Agency), July 1976.

PEOPLE'S REPUBLIC OF CHINA

TABLE III

ORGANIZATION, INFANTRY REGIMENT,

INFANTRY DIVISION



** SOME REGIMENTS MAY HAVE AN AAMG PLATOON*

*** NOT ORGANIC TO EVERY REGIMENT*

Source: Handbook on the Chinese Armed Forces, (Washington, DC), DDI-2680-32-76 (Defence Intelligence Agency), July 1976.

TABLE VI

CHINESE AND VIETNAMESE "DIVISION-LEVEL" EQUIPMENT

CHINESE — LOCATED UNIT or LEVEL/VEHICLE TYPE	AMMO TYPES	RANGE (m)	PENETRATION* (mm) ANGLE OF OBLIQUITY 0°	45°
85mm Gun/Arty Regt	AP/C	1,000	120	75
Med Tank Type 62;		500	140	85
Light/Amph Tank, Type 60/63 Med Tank; T-34/85 (also, Vietnamese use)				
75mm Gun/Type 54/Arty Regt/	AP	1,000	60-75	35-40
Med Tank T-34/76 (D-56T) (also, Vietnamese use).	HVAP	500		
57mm AT Gun, Type 55/Anti-Tank Co.	AP	1,000	90-110	50
(possible Viet. "People Militia" use)	HVAP	500	120-140	65
82mm RCL Gun, Type 65	HEAT	to 600	360	250
75mm RR, Type 52/56	HEAT	to 500	175	90-100
VIETNAMESE				
100mm Gun (D-10T)	HEAT	1,000*	300	200
Med. Tank T-54/-55	HVAP	500	330	220
(also Chinese use)				

** Heat round effective out to max. range; est. penetration 400mm @ 1,000m.; 300mm @ 500 m.*

** All penetration data are author's estimates; compiled from a variety of Chinese and Soviet publications and Western sources on armoured vehicle weapons.*

TABLE V

CHINESE ARMY VEHICLES — "MOBILITY" CONSIDERATIONS

VEHICLE	Vehicle Weight (Tons)	HP/Ton Ratio	Road Speed/Max	Operating Range (KM) (1)
Tanks —				
T-54/Type 59 (Medium)	36[2]	14	50	400
Type 62 (Light)	21	15 (est)	45 (est)	500 (est)
PT-76/Type 60/63 (Light)	14/18	17	45	260
T-34/85 (Medium)	32	13.3	53	300
APC — Model M1967	10	(UNK)	45 (est)	350/400 (est)
BTR-60PA	10	36	80	500
BTR-152/Type 56	9	12	65	650
Trucks — CA-30	2 1/2	(UNK)	60 (est)	650
ZIL/-151/157	4	15 (est)	60-65	600/430 [3]
CA-10Z/ZIL-164	4	(UNK)	70-75	415

(1) Chinese, Vietnamese (and Soviet) tanks have "external" auxillary fuel tank attachment points, which if used, provide the average vehicle with an added 200 KM range.

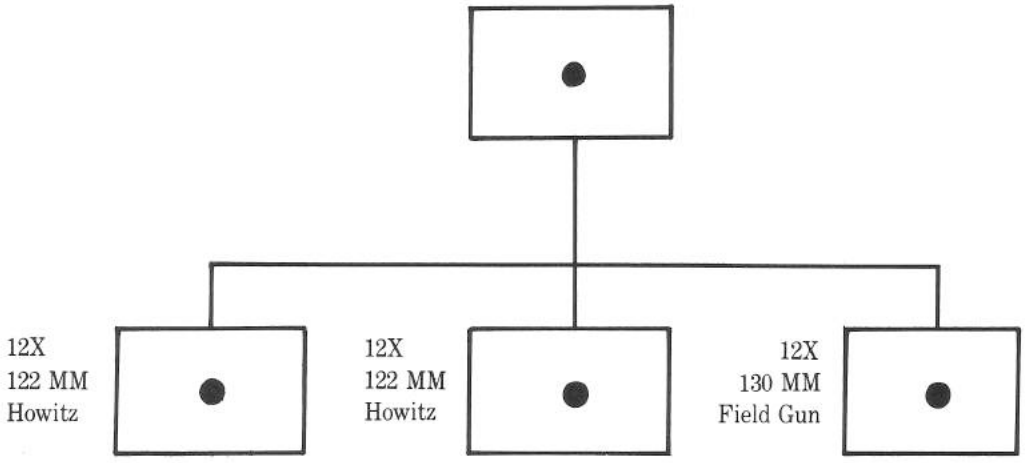
(2) Type 59 rated same weight as T-54 in "Handbook on Chinese Armed Forces"; but, this author feels this is inaccurate.

(3) Also reported as 430 KM, which seems low; although "-157" is 170 KG heavier, with fuel capacity of 215 liters ("-151" has 300 liters).

TABLE IV

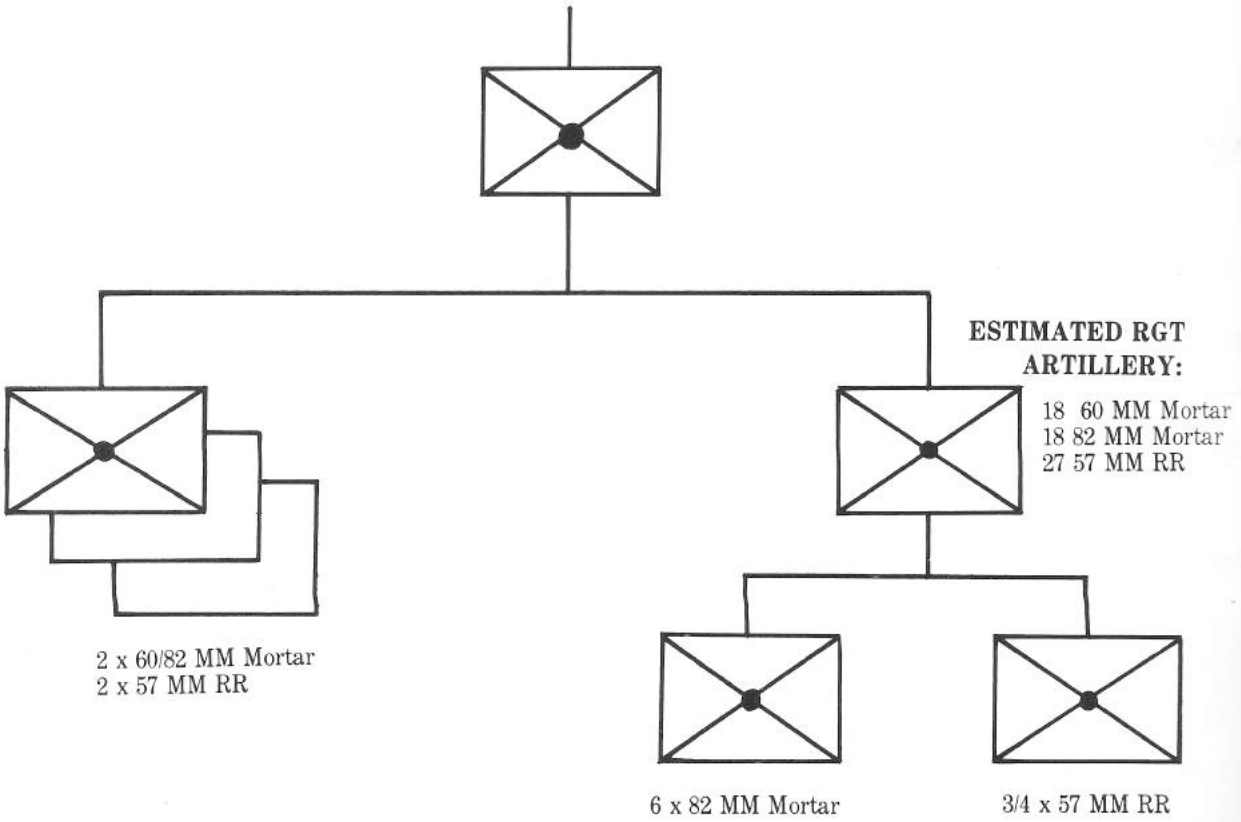
VIETNAMESE ARMY

ORGANIZATION, ARTILLERY REGIMENT, INFANTRY DIVISION



OR

Alternately, it is believed some Vietnamese regular divisions use two battalions of field guns, with either Soviet 130 MM or ex-U.S. type field artillery guns.



CHINESE AND VIETNAMESE AIRCRAFT

AIRCRAFT	Combat Radium (NM)	Mission Role	Combat Ceiling	MAX Speed (KTS/KM/HR)	
MIG-21C/Shenyang F-7 Intercept (Clear Air)	370	2AAM-2 ATOLL (IR) 1 — 30 MM Channon	18,500 M	650/1203 1,150/2130	Sea Level 12,000 M
Ground Attack	375/410	(less missiles) 2 x 16 shot 57 MM rockets or 2 x 240 MM or 2 x 550 KG Bombs			
(Chinese & Vietnamese A.F.)					
MIG-19SF/Shenyang F-6BIS FARMER					
Intercept (Clear Air)	460	2AAM-2 ATOLL (IR) 2-30 MM Cannon	17,900 M	845/1360 KM	10,000 M
Ground Attack	430	Above + 2 x 16 Shot 57 MM rockets or 2 x 1,100 KG Bombs			
Reconnaissance	685	Cannon, plus long range drop tanks and Internal Camera's			
(Chinese & Vietnamese A.F.)					

CHINESE AND VIETNAMESE AIRCRAFT

(Combat Types Only)

AIRCRAFT	Combat Radius (NM)	Armament	Combat Ceiling	MAX Speed (KTS/KM/HR)
IL-28/Shenyang B-5 [1]	550	12 100 KG Bombs (6,600 Ib normal)	12,300 M	497/800 S.L. 560/1043 14,800
BEAGLE (Chinese & Viet A.F.)		2-23 MM Cannon (Nose) 2-23 MM Cannon (Tail)		

AIRCRAFT	Combat Radius (NM)	Armament	Combat Ceiling (All Missions)	MAX Speed (KTS/KM/HR)
MIG-17C/F-Shenyang F-4 Intercept	440	1-37 MM Cannon + 2-23 MM Cannon or 3-23 MM Cannon	15,700 M.	570/1056 S.L. 711/1145 3,000M 550/1,109 12,000M
Ground Attack	340	Above +		
(Chinese & Vietnamese A.F.)		4 x 8 Shot 57MM Rockets or 2 x 250 KG Bombs		
Northrop F-5E		2-AIM-9B*	16,000 M.	660/1,222 S.L.
Intercept	305	2-20MM M39 Cannon		825/1,528 10,000 M.
Ground Attack (Vietnamese A.F. Only)	255/270	(Max. -1,700 KG Bombs)		

** Vietnamese difficulty of supply and maintenance of existing stocks may have encouraged substitution of Soviet AAM-2 ATOLL (IR) missiles.*

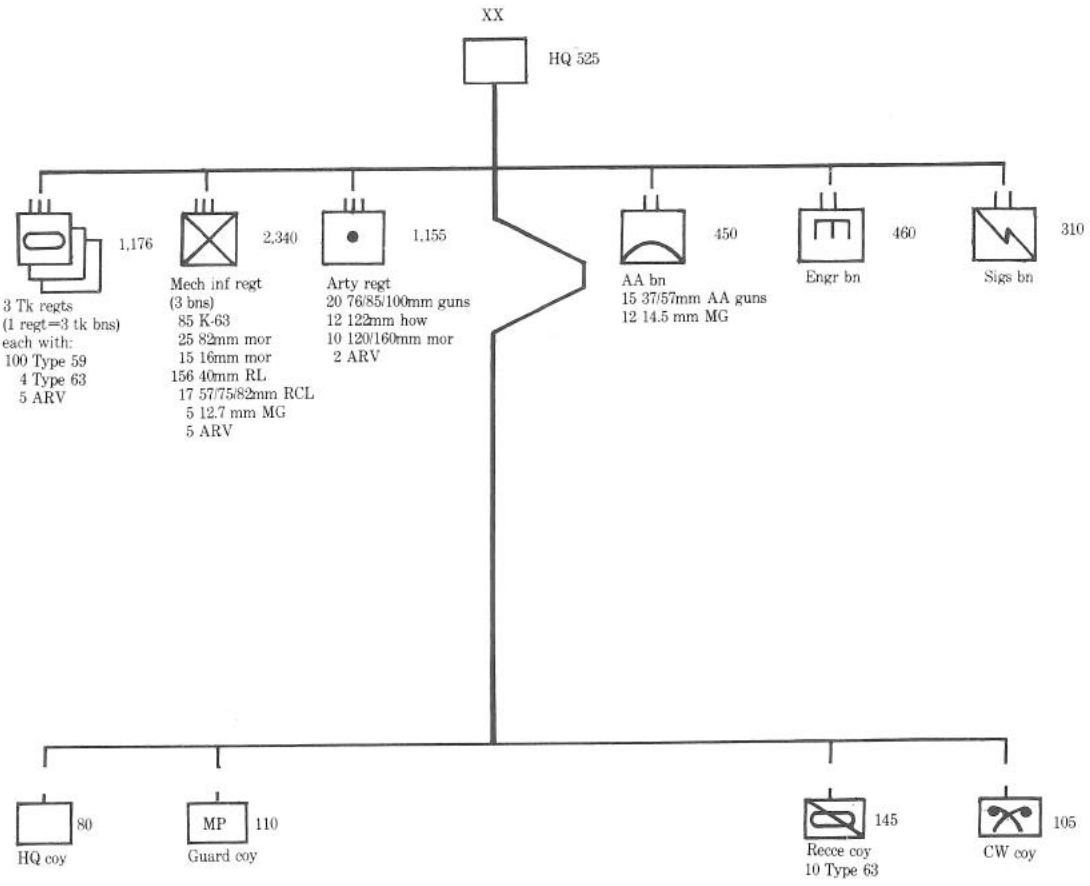
TABLE VII

AIRCRAFT	Combat Radius (NM)	Armament	Combat Ceiling	Max Speed (KTS/KM/HR)	
MIG-21D/F FISHBED					
Intercept (Limited A/W)	490	2 AAM-2 ATOLL (IR) or 2 AAM-1 Alkali (Beam Rider)	18,000 M.	595/1,102 1,150/2,130	Sea Level 12,000 M.
Ground Attack	350-425	1-23 MM (POD) (less missiles), & 2 x 16 shot 57 MM Rockets or 2 x 240 MM Rocket or 2 x 550 KG Bombs			

(1) Excellent photo of 3 PRC Air Force IL-28's, dropping 100 KG bombs, shown in "Aviation Week and Space Technology", Vol. III, No. 16 (October 15, 1979).

NORTHROP TWO-PLACE F-5F FIGHTER

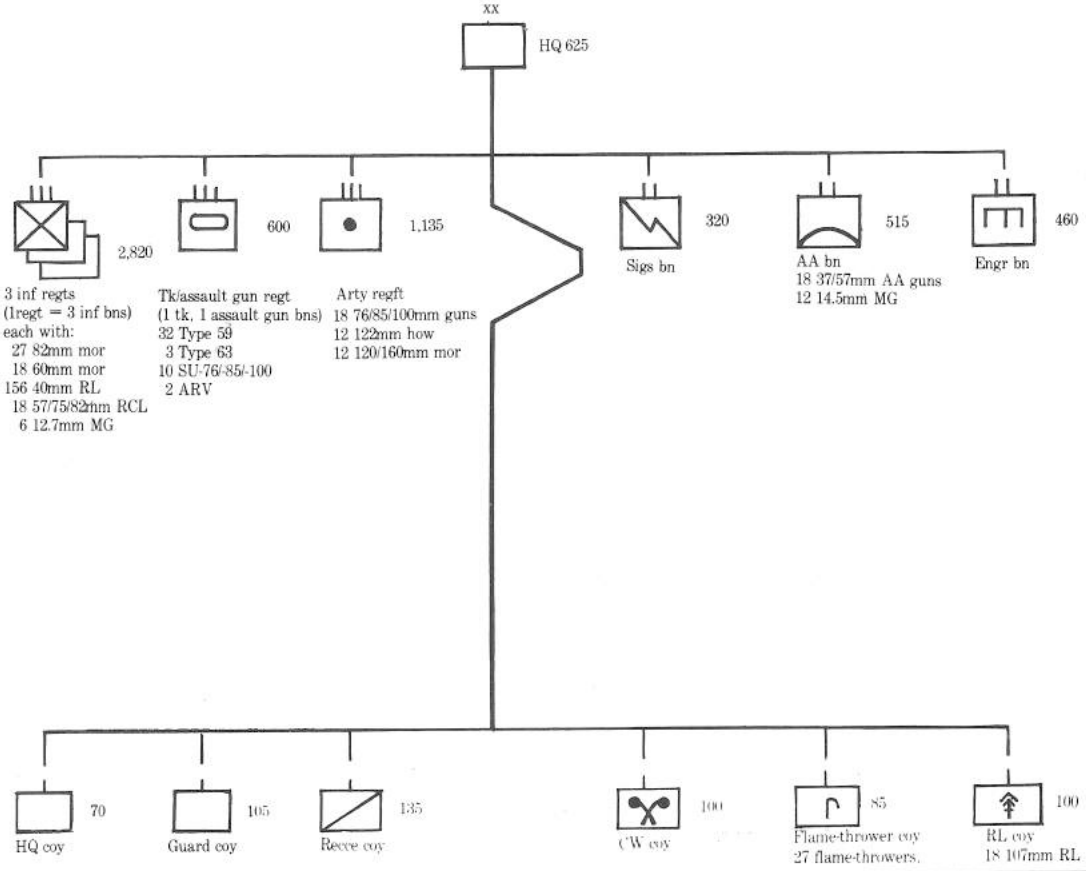
ORGANIZATION OF CHINESE (PRC) ARMOURED DIVISION



Manpower	9,208
Type 59 med tks	301
Types 62/63 lt tks	22
K-63 APC	85
75mm/85mm/100mm guns	20
122mm how	12
120mm/160mm mor	10
82mm mor	25
60mm mor	15
40mm RL	156+
57mm/75mm/82mm RCL	17
37mm/57mm AA guns	15
14.5mm MG	12
12.7mm MG	5
ARV	15

ARV = armoured recovery vehicle
CW = chemical warfare
MG = machine guns

ORGANIZATION OF CHINESE (PRC) INFANTRY DIVISION



Manpower	12,710
Type 59 med tks	32
Types 62/63 lt tks	3
SU-76/-85/-100 SP guns	10
76mm/85mm/100mm guns	18
122mm how	12
120mm/160mm mor	12
82mm mor	81
60mm mor	54
107mm RL	18
40mm RL	520
57mm/75mm/82mm RCL	54
37mm/57mm AA guns	18
14.5mm MG	12
12.7mm MG	18
ARV	2

ARV = amoured recovery vehicle
CW = chemical warfare
MG = machine gun

Source: International Institute for Strategic Studies, London

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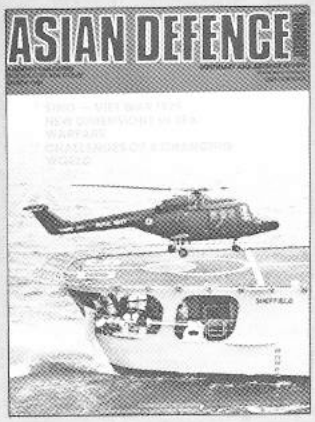

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