

THE BIGGEST LOSER IN CHINESE MILITARY REFORMS

The PLA Army

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Since 2004, the army officially has been listed in second place for development behind the other services in China's People's Liberation Army (PLA). Accordingly, the army's progress toward its modernization objectives has been slower and perhaps less effective than the more technical services. Nonetheless, because of China's huge landmass and despite undergoing a 55 percent decrease in manpower from 1997 to 2018, the army remains the largest service in the PLA.

China's changing international environment and strategic realities resulted in the 2015 defense white paper's announcement that the "traditional mentality that land outweighs sea must be abandoned, and great importance has to be attached to managing the seas and oceans and protecting maritime rights and interests."¹ This perhaps was the final blow to the army's traditional status of being first among the services.

To contribute to maritime and joint campaigns beyond China's borders, as well as protect China's territorial integrity and sovereignty, over the past decade the army has concentrated on developing "new-type combat forces," including army aviation, light mechanized, special operations, and digitalized (cyber/information/electronic warfare) units. It has restructured

its organization by mostly abandoning the former Soviet model and seeks to make the combined arms battalion the “basic combat unit” capable of independent actions on the battlefield. It has radically refined its training program to make exercises more realistic to develop both modern combined arms and joint capabilities that have never been tested in battle. Still, its forces routinely come in second in their own red-on-blue exercises.

Though it now looks like a modern army with new uniforms and equipment, PLA leadership recognizes major shortcomings in the capabilities of many units and some of its combat leaders and staff officers. With maritime threats now dominating Chinese defense planning, the army’s new capabilities likely will play a supporting role in future joint maritime or aerospace campaigns. As such, for the benefit of all the PLA, second best is good enough for the army at this stage of the force’s development.

Introduction

Between the technological display of the First Gulf War and the series of military exercises during the 1995–1996 Taiwan imbroglio, the senior Chinese military leadership—led by Jiang Zemin, Liu Huaqing, Zhang Zhen, Zhang Wannian, and Chi Haotian—outlined the general parameters for the continued modernization of the PLA, a process begun in the late 1970s. The force was to become smaller but more technologically advanced with a greater focus on threats from the sea. With a new maritime emphasis, naturally the PLA Navy and aerospace forces (air force and Second Artillery) would be strengthened. Nonetheless, as a continental nation, the PLA Army would still be important and continue to be modernized, albeit without the same sense of urgency as the other services.

By the late 1990s, the Chinese Communist Party leadership, Chinese government, and Central Military Commission (CMC) increased the speed and scope of PLA modernization with many years of double-digit annual percentage increases to the defense budget, even as the PLA underwent multiple manpower reductions. When President Jiang announced the 500,000 personnel reduction in 1997, the total size of the PLA was about 3 million,

with an estimated 2.2 million in the army, 265,000 in the navy, 470,000 in the air force, and 90,000 in the Second Artillery, with an official defense budget of less than \$10 billion U.S. dollars.² The army acquired its “biggest loser” status when it was cut by 18.6 percent (amounting to over 400,000 people), while the navy, air force, and Second Artillery suffered only 11.4, 12.6, and 2.9 percent cuts, respectively.³

The 2004 Chinese defense white paper declared that priority of development went first to “the Navy, Air Force and Second Artillery Force, and [to] strengthen [the PLA’s] comprehensive deterrence and warfighting capabilities.”⁴ The 2013 defense white paper announced that “China is a major maritime as well as land country,”⁵ but more ominously for the army, the 2015 white paper stated:

*The traditional mentality that land outweighs sea must be abandoned, and great importance has to be attached to managing the seas and oceans and protecting maritime rights and interests. It is necessary for China to develop a modern maritime military force structure commensurate with its national security and development interests, safeguard its national sovereignty and maritime rights and interests, protect the security of strategic [sea lines of communication] and overseas interests, and participate in international maritime cooperation, so as to provide strategic support for building itself into a maritime power.*⁶

As part of the 300,000-man reduction and the new tranche of reforms announced in late 2015, according to its first commander General Li Zuocheng, the army now accounts for less than half of the 2 million active-duty force (which implies an army numbering less than a million personnel, though no specific figures for any service have yet been announced).⁷ The army likely will see its size, influence, and status diminish further throughout the remainder of the PLA’s three-step modernization strategy, scheduled for completion in 2049.⁸ At the 19th Party Congress in October 2017, Xi Jinping modified the three-step strategy, calling on the PLA to

achieve mechanization by 2020; the modernization of military theory, organization, personnel, and equipment by 2035; and to become a world-class military by the middle of the 21st century.⁹

The PLA's greatest overall challenge will be the shift in collective mindset required to actually become a modern military capable of both land and maritime operations, not simply modifying its organizational structure. Changes of this magnitude are not measured in years, but in decades and generations. Yet with 14 land neighbors and the threat of transnational terrorism and extremism, a capable but smaller army is still essential to protect the Chinese mainland, deter Taiwan independence, and provide support to maritime campaigns or other joint operations beyond China's borders. To accomplish these missions, the army is developing and expanding "new types of combat forces" [*xinxing zuozhan liliang*, 新型作战力量].

This chapter examines the army's new leadership structure, its evolving order of battle, recent training and deployments, new logistics arrangements, and changes in doctrine and the education system. Throughout the chapter, evaluations of PLA capabilities and shortcomings published by its own military media are highlighted. In general, the senior PLA leadership is skeptical of the ability of its operational commanders and units to accomplish successfully the wartime missions they could be assigned and understands that much work remains to be done to improve operational readiness.

The Army's New Headquarters and Leadership

*The overall level of our military power system lags behind the world's military powers. In particular, the Army's modernization is relatively backward. Some problems are rather prominent. It is necessary that we downsize and optimize its structure, innovate its form, and strengthen its functions.*¹⁰

—PLA Army Commander Li Zuocheng

Under the PLA's old organization, the four General Departments served as the national-level army headquarters and something of a joint staff for all

the PLA. The CMC, with its own small staff, exercised command of most operational army units through the four General Departments to the military regions (MRs). Within an MR, group armies (GAs) and some military districts (MDs)—specifically Tibet, Xinjiang, Hainan, and the Beijing Garrison—commanded most operational army units (a few specialized units fell under the General Staff Department). MDs also directly commanded provincial army reserve units and army border defense units through military subdistrict (MSD)/garrison headquarters. MDs further commanded militia units through People’s Armed Forces Departments (PAFDs) found below MSD/garrison level. MRs directed many logistics units through joint logistics subdepartments scattered throughout the country, while the Wuhan Rear Base and Qinghai-Tibet Depot were controlled by the General Logistics Department.

With the dissolution of the four General Departments, many senior army generals saw the scope of their responsibilities and bureaucratic clout diminish considerably with the expansion of the CMC bureaucracy to 15 functional departments, commissions, and offices. For example, General Fang Fenghui, the first chief of the CMC Joint Staff Department (prior to his removal on suspicion of bribery), oversaw a much smaller organization than in his former role as Chief of the General Staff. The leaders of the three other General Departments also saw important elements of their organizations transferred to other parts of the CMC or to army headquarters. Likewise, the newly created Strategic Support Force, commanded by Gao Jin, a former Second Artillery general, assumed responsibility for national-level cyber, electronic warfare, and space operations, which previously were overseen by mostly army officers in the General Staff and General Armament Departments and contributed further to lessening the army’s parochial dominance.

When the four General Departments acted as the army service headquarters, the army, by default, held a higher status than the navy and air force. After the creation of the national-level army service headquarters [*lujun lingdao jigou*, 陆军领导机构] in Beijing with a grade of theater leader,

the army now has a status equal to the other three services, including the upgraded Rocket Force.¹¹ Unlike his service counterparts at the time, the first army commander, General Li Zuocheng, was not made a member of the CMC. At the 19th Party Congress in October 2017, the composition of the new CMC was announced, and none of the service commanders was given a seat on the CMC. Li was named chief of the CMC Joint Staff Department and became a CMC member. General Han Weiguo, previously the Central Theater commander, succeeded Li as commander of the PLA Army; Lieutenant General Liu Lei remained as the army political commissar (PC).¹²

As a service headquarters, the new army headquarters must coordinate with the CMC structure for “construction/army building” purposes as well as with the five theater leader grade joint theater commands (TCs) for operational functions. Therefore, the army headquarters staff organization must be able to interface with both the CMC and TC headquarters structures. The army headquarters staff structure, as currently known through official media reporting, is listed below (over time greater granularity is expected):

Army Discipline Inspection Commission [陆军纪委]

- Discipline and Supervision Bureau [陆军纪委纪律检查局].

Army Staff Department [陆军参谋部]

- Operations Bureau [陆军参谋部作战局]
- Training Bureau [陆军参谋部训练局]
- Arms Bureau [陆军参谋部兵种局]
- Army Aviation Corps Bureau [陆军参谋部航空兵局]
- Administration Bureau [陆军参谋部部队管理局]
- Border and Coastal Defense Bureau [陆军参谋部边海防局]
- Planning and Organization Bureau [陆军参谋部规划与编制局]¹³
- Subordinate Work Bureau [陆军参谋部直属工作局].

Army Political Work Department [陆军政治工作部]

- Organization Bureau [陆军政治工作部组织部]
- Propaganda Bureau [陆军政治工作部宣传部]

- Cadre Bureau [陆军政治工作部干部局]
- Soldier and Civilian Personnel Bureau [陆军政治工作部兵员和文职人员局]
- Art Troupe [陆军政治工作部文工团].

Army Logistics Department [陆军后勤部]

- Procurement and Supply Bureau [陆军后勤部采购供应局]
- Transportation and Delivery Bureau [陆军后勤部运输投送局]
- Health Bureau [陆军后勤部卫生局]
- Finance Bureau [陆军后勤部财务局].

Army Equipment Department [陆军装备部]

- Maintenance and Repair Support Bureau [陆军装备部维修保障局]
- Aviation Equipment Bureau [陆军装备部航空装备局].

While the Army Staff Department and Political Work Department have adopted the names found in the new CMC organization, the Logistics and Equipment Departments probably will not change to current CMC nomenclature as the CMC Equipment Development Department does not appear to be responsible for overseeing equipment repair and maintenance as the General Armament Department was.¹⁴

The establishment of the five joint theater commands required the formation of a new level of command for the army: the TC army headquarters [*zhanqu lujun jiguan*, 战区陆军机关], each of which is a theater deputy leader grade organization. The new TC army headquarters are the same grade as the TC navy headquarters/three fleets and the TC air forces, successors to the former MR air forces.

These TC service headquarters are important links in the chain of command from operational units up to their service headquarters in Beijing (for construction) and to the regional joint TC headquarters (for joint operations). However, instead of streamlining the old command chain from MRs to group armies, the TC army headquarters actually adds a new link, no matter how necessary, in the operational chain of command. The five TC

army headquarters, not the joint TC headquarters themselves, have direct command responsibility for operational army units located in the TC's area of responsibility. Operational units have a single chain of command going only to their TC army headquarters. To facilitate communications up to both TC and army headquarters and down to their subordinate units, a communications support brigade is directly subordinate to each TC army headquarters.¹⁵ The primary relationship of operational army units to the TC army and not the TC is reflected by the fact that all TC army units wear the generic army patch, whereas previously army units assigned to an MR wore the shoulder patch of their specific MR.

TC army commanders and PCs also serve as deputy commanders and deputy PCs for the theater. As seen in table 1, the headquarters for each TC army is located some distance from the TC headquarters (therefore, we can assume the PLA has confidence in its videoconferencing capabilities and/or the TC and TC army headquarters have assigned liaison officers to each other). TC army headquarters have been assigned four main missions, serving as:

- a campaign headquarters [*zhanyi zhihui bu*, 战役指挥部] for combat operations
- a component of the theater joint command post [*zhanqu lianzhi de zucheng bufen*, 战区联指的组成部分]
- a construction headquarters [*jianshe zhihui bu*, 建设指挥部] for routine leadership and management
- an emergency response headquarters [*yingji zhihui bu*, 应急指挥部] for any of the nontraditional security tasks they must conduct.¹⁶

Each newly established TC army headquarters was assigned a commander and PC. As is the normal pattern, most commanders served in a single MR (their primary MR) until promotion to group army commander and potential transfer to another MR/theater. PCs were more likely to have served in more than one MR and in different types of units throughout their career. As Saunders and Wuthnow note in chapter 13, the commander and PC of each TC army headquarters came from different geographic

locations and likely did not know each other well. Over the course of the following year (into 2017), 5 of the 10 new TC army commanders and PCs were transferred out of their assignments. Chinese media did not provide explanations for the reassignments. Perhaps these officers knew from the beginning that they would be placeholders in their new positions, or perhaps the early reporting of their assignments was wrong. A New York-based Web site reported that Northern TC army PC Xu Yuanlin was dismissed for disciplinary reasons, but this has not been confirmed.¹⁷ Table 1 identifies the new leaders and indicates which leaders have been replaced.

TC HQ–Location	TC Army HQ Location	Commander (Primary MR/ Previous MR/TC)	PC (Primary MR/ Previous MR/TC)
Eastern TC–Nanjing	Fuzhou	Qin Weijiang [秦卫江] (Beijing/Nanjing)	Liao Keduo [廖可铎] (Beijing/Beijing)
Southern TC–Guangzhou	Nanning	Zhang Jian [张践] ¹ (Guangzhou/Eastern TC)	Bai Lu [白吕] (Nanjing/Chengdu)
Western TC–Chengdu	Lanzhou	He Weidong [何卫东] ² (Nanjing/Nanjing)	Xu Zhongbo [徐忠波] (Jinan/Jinan)
Northern TC–Shenyang	Jinan	Wang Yinfang [王印芳] ³ (Beijing/Central TC)	Shi Xiao [石晓] ⁴ (Chengdu/Lanzhou)
Central TC–Beijing	Shijiazhuang	Fan Chengcai [范承才] ⁵ (Chengdu/Southern TC)	Zhou Wanzhu [周皖柱] ⁶ (Nanjing/Nanjing)

Key: HQ: headquarters; MR: military region; PC: political commissar; TC: theater command.

¹ Original commander Liu Xiaowu [刘小午] (Guangzhou/Guangzhou).

² Original commander He Qingcheng [何清成] (Lanzhou/Lanzhou).

³ Original commander Li Qiaoming [李桥铭] (Guangzhou/Guangzhou).

⁴ Original political commissar Xu Yuanlin [徐远林] (Jinan/Lanzhou).

⁵ Original commander Shi Luze [史鲁泽] (Beijing/Beijing); Second Commander Zhang Xudong [张旭东] (Shenyang/Northern TC).

⁶ Original political commissar Wu Shezhou [吴社洲] (Guangzhou/Jinan).

Of the original commanders, only Li Qiaoming was assigned to a new theater; the other commanders all had familiarity with their subordinate

group army commanders and PCs and extensive operational knowledge of the conditions in their areas of responsibility. Conversely, all of the PCs were transferred to new theaters from their last assignments. Until evidence emerges that they purchased these new posts or otherwise obtained them through corruption or connections, it seems likely that these leaders were selected for their past performance in operational leadership assignments (primarily as unit commanders, deputy commanders, chiefs of staff and political commissars, and directors of political departments) throughout their careers. None of them served primarily in the local command chain from MSD/garrison to MD (though Qin and Shi had served as MD commanders after rising through group army assignments).

As could be expected, several TC army leaders worked with each other at various points in their careers.¹⁸ Insights into the thinking of several new commanders and PCs can be found in interviews they have given recently or articles they have written. For example, then-army Commander Li Zuocheng and PC Liu Lei wrote in February 2016, “In particular, the modernization condition of the Army remains relatively backward, with the issues of the ‘Two Inabilities’ and ‘Two Large Gaps’¹⁹ existing prominently. This has become a shortcoming that restricts the building of a modern military power system with Chinese characteristics.”²⁰

The solutions they proposed were the same as what Li had previously outlined (as seen in the epigraph that begins this section of the chapter), which, unsurprisingly, are consistent with the current reform agenda. The fact that both critiques identify concerns about the PLA’s operational leadership capabilities is a criticism made frequently in the official media. Liao Keduo, Eastern TC army PC, reiterated many of the same issues in an important August 2016 article, noting that the PLA must find its own way to reform in order to narrow the gap between it and other militaries. The army must solve contradictions and problems that have existed for a long time and *gradually* [*zhubu*, 逐步, a term used frequently by PLA leaders] change from being a “following runner to a side-by-side runner [and] eventually to a lead runner.”²¹

Perhaps the most important and scathing critique of “some” PLA leaders is known as the “Five Cannots” [*wuge buhui*, 五个不会], which has been prominent in the military literature since early 2015. “Some commanders” [*bufen zhihuixuan*, 部分指挥员]:

- cannot judge the situation
- cannot understand the intention of higher authorities
- cannot make operational decisions
- cannot deploy troops
- cannot deal with unexpected situations.²²

Changes in organization, training, and education are aimed at solving leadership problems at all levels of the PLA. Part of the solution is to decrease the responsibilities of theater commanders and their staffs (by relieving them of responsibility for day-to-day administration [construction] requirements) and to assist battalion commanders by increasing the size of their staff.

Unlike the former MR structure, the TCs and TC army headquarters do not control the local headquarters chain of command from MD to MSD/garrison to PAFD, which is responsible for conscription/demobilization as well as command of PLA reserve and militia units. Command of the military districts and below has been assigned to the CMC’s National Defense Mobilization Department, with the significant exception of the Beijing Garrison and Tibet and Xinjiang MDs, which fall under the “management” of the national-level army headquarters.²³ Each of these three organizations is responsible for sensitive regions in China, command substantial combat forces, and have therefore been given the higher organizational grade of theater deputy leader compared to the other MDs that hold army leader grades. The higher grade means that these three headquarters cannot be overseen by the National Defense Mobilization Department, which also is a theater deputy leader grade organization. This arrangement probably means that operational combat units in Beijing, Tibet, and Xinjiang report to the TC army headquarters in the area where they are assigned, who then reports to army headquarters in Beijing.

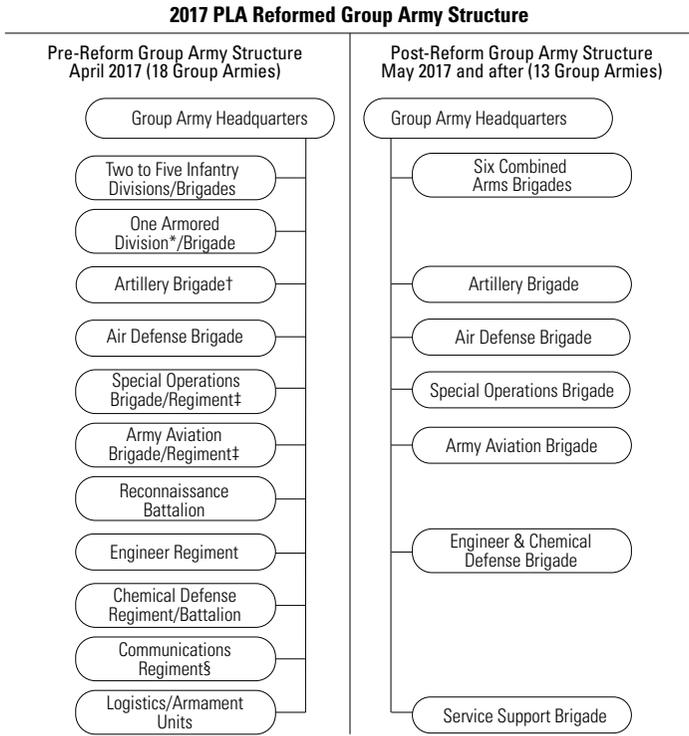
Sheng Bin, director of the CMC National Defense Mobilization Department, has stated that MD headquarters serve in five capacities:

- headquarters/command department for emergencies and combat [*yingji yingzhan de zhihui bu*, 急应战的指挥部]
- military affairs department for the local Party committee [*difang dangwei de junshi bu*, 地方党委的军事部]
- construction department for reserve forces [*houbei liliang de jianshe bu*, 后备力量的建设部]
- conscription department for the government at the provincial level [*tong ji zhengfu de bingyi bu*, 同级政府的兵役部]
- coordination department for military-civilian integration [*junmin ronghe de xietiao bu*, 军民融合的协调部].²⁴

Conspicuously absent from this list of responsibilities is the supervision of border and coastal defense units. It appears that command of the PLA's border and coastal defense units is being shifted to the command of TC army headquarters, with MD headquarters no longer in the chain. One report from Heilongjiang states that border defense units are being transferred to army command and a separate report indicates that coastal defense units in Shantou have been transferred to army command.²⁵ Throughout the country, except in Tibet, Xinjiang, and Inner Mongolia, border defense brigades have been formed from former border defense regiments.²⁶ Some new border defense brigades have been reinforced with new units and equipment and are responsible for areas extending over multiple provinces.²⁷ Consolidating multiple border defense regiments into a single brigade will allow for a reduction in the total number of staff officers required to support the same number of troops.

Both army headquarters in Beijing and TC army headquarters have a Border and Coastal Defense Bureau/Division [*bianhaifang ju/chu*, 边海防局/处] within their respective staff departments that oversee the border and coastal defense units stationed on China's borders. Furthermore, a report has stated that a Guangdong Reserve Division has been transferred to the

Figure. Old and New Group Army Structure



*The 38th Group Army (GA) had an armored division.
 †1st/42 GAs also had a long-range rocket brigade.
 ‡SOF/Army aviation units in some group armies.
 §A few group armies were also assigned an electronic countermeasures brigade or regiment.
 Note: Prior to reform, only two GAs had similar structure.

army, which would be a change from the previous command arrangement where MDs commanded reserve units.²⁸ However, no mobilization staff organizations have been identified (to date) in either army headquarters in Beijing or TC army headquarters to oversee reserve unit activities.

According to unofficial reporting, provincial MD headquarters have been changing their organizational structure to include only commanders, PCs, and their deputies, while losing the former political, logistics, and armaments staff elements.²⁹ This is noteworthy in that several officers named for corruption have come from the MD system, and the reduction in

the MD staff therefore may be an attempt to decrease the number of officers who may succumb to local temptations. Moreover, army officers are no longer the only ones who can command MD headquarters; in April 2017, in a first for the PLA, an air force major general was assigned as commander of Henan MD.³⁰ It is likely that many officers to be demobilized will come from this MD-MSD/garrison-PAFD chain of command.

At this time, this command structure appears to be overly complex and the details of how all these headquarters interact have yet to be explained fully to the outside world. The PLA has given itself until 2020 to work out the kinks in its new command structure.³¹ Further modifications and adjustments are likely.

Army Order of Battle

*Force structure remains irrational; there are too many conventional units and not enough new types of combat forces. The proportion of various arms is not balanced; officers are out of proportion to enlisted personnel. Weapons and equipment are relatively backward.*³²

—Eastern Theater Army Headquarters Political Commissar

MG Liao Keduo

The PLA Army was assessed to number about 1.6 million personnel prior to the 300,000 force reduction. That figure was more than 25 percent smaller than the estimated 2.2 million before the 1997 (500,000-man) and 2003 (200,000-man) force reductions. If, as alleged, the army now numbers less than half of a total PLA force of 2 million, the service indeed has been the biggest loser in personnel strength as a result of current reforms. To reach this bookkeeping milestone of dropping 600,000 personnel from the army's rolls, it is likely the personnel who still wear army uniforms but are assigned to the CMC staff, TC headquarters, Strategic Support Force, and new Joint Logistics Support Force are not counted against army end strength to better balance personnel among the various services and forces. This appears to be the case, as personnel assigned to each of these

new organizations wear their new units' distinctive chest badges and arm patches instead of the generic army badge and patch worn by those in operational army units.

The 2013 defense white paper defined “new types of combat forces” to include “army aviation troops, light mechanized units, and special operations forces [SOF], and . . . digitalized units.” It noted the army is “gradually making its units small, modular, and multifunctional in organization so as to enhance their capabilities for air-ground integrated operations, long-distance maneuvers, rapid assaults, and special operations.”³³ These trends have been clearly evident in the army's changing order of battle for several years.

The 2013 white paper further revealed that 850,000 (over half) of army personnel were assigned to “mobile operational units,” such as the 18 group armies and independent divisions and brigades. In early 2017, the number of operational maneuver army units assigned to group armies and independent units was estimated to include a total of approximately 21 divisions (20 infantry and 1 armored), 65 combat brigades (48 infantry and 17 armored), 12 army aviation units (7 brigades and 5 regiments), and 11 SOF units (9 brigades and 2 regiments). Additionally, some divisions and brigades were assigned smaller SOF units of battalion level or smaller.³⁴ Maneuver units were supported by a variety of artillery, air defense, engineer, chemical defense, and other units. Of the 18 group armies, only 2 had similar compositions of infantry and armored units. All others were uniquely configured, as were the independent combat units assigned to the Beijing Garrison Command, Xinjiang MD, and Tibet MD. The remainder of the army—some 700,000 personnel—therefore included nearly everybody in the four General Departments; MR, MD, MSD/garrison, and county-level PAFD headquarters; border and coastal defense units; and noncombatant personnel assigned to logistics/equipment support units and to the army portion of the PLA system of academies and universities.

A year after the “below-the-neck” reforms [*bozi yixia gaige*, 脖子以下改革] began in April 2017, the number of group armies has been reduced

to 13, their organization standardized and renumbered (from 71 to 83); the number of combat divisions has been cut to 6 (4 in the Xinjiang MD, 1 in the Central TC, and 1 in the Beijing Garrison), and 15 former divisions were transformed to two brigades each; and all combat brigades have been transformed into combined arms brigades [*hecheng lu*, 合成旅], and their number increased to about 82 (including three brigades in Tibet MD and 1 in Hong Kong).

Under the new standardized organization, each group army consists of six combined arms brigades and six supporting brigades, one each artillery, air defense, army aviation (or air assault [*kongzhong tuji lu*, 空中突击旅]), SOF, engineer and chemical defense [*gongbing fanghua lu*, 工兵防化旅], and service support brigade [*qinwu zhuyuan lu*, 勤务支援旅] (see table 2). Based on Chinese media reports, combined arms brigades probably are designated either as heavy (armor or mechanized infantry) or light (light mechanized or mountain) and are assessed to command four combined arms battalions, a reconnaissance battalion, an artillery battalion, an air defense battalion, an engineer and chemical defense battalion, a communications battalion, a combat or service support battalion, and a guard and service company. Xinjiang and

	Stride-2016 [跨越-2016] (Zhurihe)	Firepower-2016 [火力-2016] (Qingtongxia)	Firepower-2016 [火力-2016] (Shandan)
Eastern TC	Part A: 10 th Armored Brigade (1 st GA)	Part A: Artillery Brigade (31 st GA)	Part D: Air Defense Brigade (1 st GA)
Southern TC	Part D: 40 th Mountain Infantry Brigade (14 th GA)	Part E: Artillery Brigade (41 st GA)	Part E: Air Defense Brigade (42 nd GA)
Western TC	Part C: 9 th Armored Brigade (47 th GA)	Part B: Artillery Brigade (21 st GA)	Part A: Air Defense Brigade (47 th GA)
Northern TC	Part B: 77 th Motorized Infantry Brigade (26 th GA)	Part C: Artillery Brigade (39 th GA)	Part B: Air Defense Brigade (26 th GA)
Central TC	Part E: 196 th Motorized Infantry Brigade (65 th GA)	Part D: Artillery Brigade (54 th GA)	Part C: Air Defense Brigade (65 th GA)

Key: GA: group army; TC: theater command.

Tibet MDs continue to have a nonstandard structure in which both MD headquarters directly command combat units and a variety of support units, in many ways similar to a group army structure. In total, these various types of support brigades number about 87 (including those found in Xinjiang and Tibet). New combined arms battalions [*hecheng ying*, 合成营] are formed based on their primary branch (either tank or infantry) with reconnaissance, artillery (firepower), engineer, and support companies or platoons.³⁵

Below-the-neck reforms have resulted in a significant increase in the number and size of new-type combat forces, such as army aviation and SOF units. Currently, each group army and the Xinjiang and Tibet MDs are assigned an army aviation brigade, for a total of 15. To form these new brigades, aircraft and personnel were transferred from the seven former brigades and five regiments and new equipment and people added. It is likely that not all army aviation brigades are at full strength, and new units will require a year or two to reach operational proficiency. Likewise, the previous 9 SOF brigades and 2 regiments have been expanded to a total of 16 SOF brigades by adding additional personnel to existing units and transforming other types of personnel and units to become SOF. Significantly, Xinjiang MD appears to have added a second SOF brigade in 2017 by combining elements of a divisional reconnaissance unit and the previously existing SOF brigade to form a new brigade stationed in Nanjiang.³⁶

The army appears to have transformed one motorized infantry brigade in Shandong and multiple coastal defense units in Fujian and Shandong into four new marine brigades. As a result of the creation of these four new units, when added to the two previously existing marine brigades in the South Sea Fleet, it is likely there are now a total of six marine brigades, with two assigned to/located in each TC navy.³⁷

Over time, additional details of changes to the army's order of battle probably will be discovered through continuing analysis of media reports.

Army Equipment and Battalion Staff Developments

Many military units are still upgrading equipment; the problem of new and old equipment “three generations living under one roof” is relatively prominent.³⁸

The total number of personnel in operational combat and combat support units (for example, infantry, armor, artillery, SOF, army aviation, engineers, electronic/cyber warfare, and chemical defense) is probably about half that of the late 1990s. Today’s smaller force is being equipped with new uniforms and personal equipment, newer tanks, armored fighting vehicles, artillery (both towed and self-propelled), helicopters, unmanned aerial vehicles (UAVs), small arms and crew-served weapons, and other support equipment and electronics. Due to the size of the force and the relatively limited production of new equipment by the Chinese defense industries, equipment modernization has been a long, drawn out process. However, reflecting the army’s lower priority for modernization, all army units do not necessarily receive the best equipment the Chinese defense industries can produce.

Specifically, in 2016 *China Daily* reported that the Type-96B main battle tank—not the more advanced and expensive Type-99 series—has been selected to be the “backbone of China’s tank force,” replacing most older models. This appears to be supported by current inventory numbers suggesting that the second best tank has been judged to be sufficient for the most likely ground contingencies the PLA may encounter in coming decades. The *China Daily* report also stated the PLA had “more than 7,000 tanks in active service, including about 2,000 Type-96s and Type-96As, as well as about 600 Type-99s and Type-99As, so the majority of the PLA armored force is still equipped with tanks made several decades ago.”³⁹ Those 7,000 tanks included five types of main battle tanks (Types 59, 79, 88, 96, 98/99), each with variants and three types of light tanks (Types 62 and 63A and ZTD-05). In 2018, the *Military Balance* counted a total of 6,740+ main battle tanks, with 3,390 of the Type 96/98/99 series, just slightly above

half the total inventory.⁴⁰ Type 96-series tanks account for 37 percent of the force, with Type 98/99 series at 13 percent.

It is not unusual for up to 10 types and variants of a single category of equipment, such as tanks and armored personnel carriers/infantry fighting vehicles, to be found in the army and other services. The large number of variants and types of similar equipment complicates training, maintenance, and repair, especially when units go to the field. The Chinese refer to this condition as “three generations under one roof” [*sandai tongtang*, 三代同堂]. Xi’s goal of achieving modernization of equipment by 2035 probably seeks, in part, to minimize this situation by eliminating weapons and equipment produced from the 1960s to 1980s and increasing the proportion of newer models throughout the entire PLA.

New weapons and technologies allow army units to move faster over more difficult terrain, including bodies of water; shoot farther and faster; and integrate their capabilities with those found in the other services more than ever before. Army commanders now have a variety of means to attack opponents out to 150 kilometers beyond their frontlines, including long-range multiple rocket launchers and artillery, attack helicopters, SOF teams, nonlethal electronic warfare and possibly cyber weapons, and supporting PLA Air Force aircraft and armed UAVs. They are supported by an ever-expanding array of ground, air, and space reconnaissance and surveillance capabilities to locate and identify potential targets. Such new capabilities, however, require new types of staff procedures and decisionmaking to select the appropriate weapons for various targets. These developments, along with massive amounts of data now available from advanced computer and communications technologies, have stressed commanders and staff in units at all levels, especially at battalion-level headquarters.

One of the most important lessons the army has learned in the past decade is that battalion commanders do not have sufficient staff to command and control combined arms operations. Recent reporting indicates that units are adding a deputy battalion commander, a battalion master sergeant [*yingshi guanzhang*, 营士官长], chief of staff [*yingcan mouzhang*,

营参谋长], and four staff officers or noncommissioned officers [*canmou*, 参谋] (NCOs) to assist the battalion commander and political instructor. Though the exact composition of the battalion staff may not yet be finalized, it appears that the following types of staff personnel have been determined as necessary:

- an operations and reconnaissance officer [*zuozen canmou*, 作侦察参谋]
- artillery/firepower and engineering officer [*paogong canmou/huoli canmou*, 炮工参谋/火力参谋]
- information and communications officer [*xinxi tongxin/tongxin canmou*, 信息通信/通信参谋]
- support officer [*zhanqin canmou*, 战勤参谋].⁴¹

No discussion has been found, however, concerning how many assistants each of these staff officers/NCOs would need in order to conduct 24-hour operations for extended periods. Standardizing these changes throughout the army will require formal modification to battalion structure and changes to the professional education and training system to prepare both officers and NCOs for these new responsibilities.

The distribution of staff responsibilities described above was seen in a recent report about a command information system [*zhihui xinxi xitong*, 指挥信息系统] set up in 2016 in the former 20th Group Army. Previously, existing information systems in its various subordinate units, such as infantry, armor, artillery, and air defense, were incompatible, and commands had to be issued separately to the units. To communicate directly with its subordinate units, the headquarters set up a command information system composed of “one network, four chains” [*yiwang silian*, 一网四链]: the command basic network, command and control chain, reconnaissance and intelligence chain, firepower chain, and logistics and equipment support chain.⁴² The four staff functional responsibilities at battalion level would mesh seamlessly into such a system, which would also be found at the intervening division and brigade levels.

Fewer units and personnel mean that it will take fewer new weapons and equipment to modernize the force. Nonetheless, the army is still so

large (more than twice the size of the active-duty U.S. Army) that all units cannot be equipped at the same time. Though the current reforms are geared to solve previously identified problems, new shortcomings are discovered with nearly each deployment of new equipment and in every round of field training.

Recent Training and Other Deployments

Solving the “Five Cannots” and improving command combat capabilities is an urgent task in strengthening training and preparing for war.⁴³

The PLA acknowledges that there is “a large gap between the PLA’s level of training and the requirements of actual combat,” which is a major contradiction in its modernization process.⁴⁴ Increasing the level of realism in all PLA training by reducing formalism and cheating has been a perennial goal for decades and is frequently enunciated by the most senior PLA leaders.⁴⁵ As indicated by this typical assessment found in a 2016 *PLA Daily* staff commentator article, though the force has made some progress, the general level of advanced, integrated joint operations capabilities is lacking and more must be done to overcome the force’s deficiencies: “Through development over the past more than 10 years, substantial progress has been made in our military’s system-of-systems building. Yet, the overall system-of-systems operational capability remains rather weak. In some aspects, defects and weaknesses are still quite obvious.”⁴⁶

As an institution, the PLA correctly identifies the crux of the training problem to be a leadership problem at all levels, especially at battalion level and above. They often use the formula “In training soldiers, train officers [or generals] first” [*lianbing xian lianguan/lianbing xian lianjiang*, 练兵先练官/练兵先练将] to focus on the necessity of training commanders and their staffs to command and control both joint and combined arms operations.⁴⁷ That slogan underscores the problems of “some leaders” in the previously mentioned formulaic assessments known as the Two Inabilities and Five Cannots.

As Zhang Xudong, former commander of the 39th Group Army, wrote in July 2016, the PLA is a latecomer in conducting modern joint operations; its theory and practice are not yet mature.⁴⁸ For the past decade, the PLA has been seeking to push command of joint operations down to division and brigade levels [*bingtuan*, 兵团] and to enable modularized [*mokuaihua*, 模块化], combined arms battalions [*hechengying*, 合成营] to become the “basic combat unit” [*jichu zhanshu danyuan*, 基础战术单元] capable of independent actions on the battlefield.⁴⁹ (Comparatively speaking, other militaries have multiple decades of combat experience in those levels of joint and combined arms operations.)

Conducting operations at battalion level requires major change to the way the majority of army officers have been trained since the 1950s when the Soviet system of command was adopted. Under the now mostly discarded Soviet system (which is still found in the remaining PLA divisions), regiments were the lowest level at which combined arms operations were executed, and regimental headquarters did all the planning and staff work for battalions. With the “brigadization” of the force, which eliminates the regiment from the chain of command down to maneuver battalions, battalions now must be capable of planning operations and conducting them on their own. This has caused anxiety for many battalion commanders who have not been adequately trained to handle such tasks and has resulted in frequent critiques of poor coordination among units from the various arms assigned to combined arms battalions. As commander of the 41st Group Army in 2015 (before becoming commander of the Northern TC army), Li Qiaoming observed that some individual commanders had not studied adequately or were stuck in traditional modes of operations and were not able to utilize the new types of combat forces assigned to them.⁵⁰ As a result, army large unit exercises (above battalion level) emphasize leadership/staff training and evaluation as much as small unit (battalion and below) maneuver, firepower, and support operations.

A principal tool in breaking the PLA’s traditional mode of operational thinking has been the roughly 74 division and brigade transregional exercises

[*kuaqu yanxi*, 跨区域演习] conducted from 2006 to 2016. For most of the past 70 years, army units prepared to conduct operations almost exclusively in the regions where they were located. Units concentrated on fighting potential regional enemies in familiar terrain and climatic conditions. This approach required large standing forces spread throughout the country and minimized the need for military sea and air strategic lift. As the PLA reduced its size and increased its level of weapons technology, the need to develop units that could operate outside the areas in which they were garrisoned and cooperate with forces from the other services became apparent. Most transregional exercises display some degree of joint interoperability; often headquarters or reconnaissance units are transported by air, air force aircraft provide support to ground operations, and some sea movements and amphibious operations have been included, as well as conventional support from Second Artillery/Rocket Force units. The majority of transregional exercises were under army command, but a few have been led by navy or air force headquarters.

The first major, but unnamed, transregional exercise was held in September 2006 when the 190th Mechanized Infantry Brigade/39th GA/Shenyang MR deployed to the Zhurihe Combined Arms Training Base in the Beijing MR. None were held in 2007, but in 2008 Jinan MR held the exercise Sharpening Troops 2008, in which the 58th Light Mechanized Brigade/20th GA traveled to Zhurihe in August, followed by exercise Joint 2008 in September, in which the 138th Motorized Infantry Brigade/26th GA undertook a sea movement from Yantai to a landing area near Dalian, Liaoning.⁵¹

Beginning in 2009, transregional exercises have become the marquee events in the army's annual training cycle, generating massive amounts of domestic media attention. Each exercise has been slightly different, but all involve sequential (but not simultaneous) deployments—using road, rail, military and/or civilian air, and sometimes sea transport—from home base to a distant large training base while undergoing enemy harassment or attack. After organizing for combat at the training base, several days of live-fire drills and confrontation drills between red force (friendly) and blue force (enemy) units ensued. Missions sometimes were changed to test

the adaptability of commanders and staff. Observers evaluated all phases of the exercise using a 1,000-point scale. Some units underwent computer exercises in preparation for these (and other) events.

From 2006 through 2015, roughly 35 infantry and armored divisions and brigades participated in the series of Stride-2009, Mission Action-2010, Mission Action-2013, Stride-2014, and Stride-2015 exercises, which were organized by all seven MR headquarters (see appendix 1 for a chart listing each exercise and the red force unit involved). In 2014, for the first time, artillery and air defense brigades were tested in the series of 10 Firepower-2014 transregional exercises. The Firepower-2015 series sent seven artillery brigades to the Qingtongxia training area and seven air defense brigades to the Shandan training area (see appendix 2 for a chart listing each Firepower exercise and the red force unit involved). In 2015, a total of 29 brigades of all types took part in transregional training, an all-time high for such training. None of the red forces defeated the blue forces in any of the 29 exercises. To date, the only red force identified as having won a transregional brigade-level exercise is the 68th Mechanized Infantry Brigade/16th GA in Stride-2014 Zhurihe D.⁵² Similar to the U.S. Army experience training at the National Training Center, red force units coming in second in most exercises is not unusual.

In 2016, army headquarters in Beijing organized the Stride and Firepower exercise series, which involved one infantry or armored brigade and one artillery and air defense brigade from each of the five new theaters' area of responsibility for a total of 15 exercises.⁵³ In 2017, as below-the-neck reforms were under way, army headquarters organized four of the nine Stride and Firepower exercises.⁵⁴ No sponsor was designated for the other five exercises. The Chinese media only reported on four of these exercises, Stride-2017 Zhurihe (combined arms), Firepower-2017 Qingtongxia (artillery), Firepower-2017 Shandan (air defense), and Sharp Edge-2017 Queshan (the first for SOF units). The reduction in number of transregional exercises probably was related to the disruption caused by the creation of new joint and service headquarters, which were focused

on organizing and training their own newly assigned personnel to perform their duties. If, as expected, transregional joint exercises continue in future years, most probably will be organized and overseen by the various TC headquarters, following the guidance that the “CMC is in overall control, theaters are responsible for operations, and the services are responsible for construction” [*junwei guanzong, zhanqu zhuzhan, junzhong zhujian*, 军委管总, 战区主战, 军种主建].

The 15 transregional exercises held in 2016 specifically were intended to address the leadership problem of the Five Cannots.⁵⁵ These exercises were further targeted to improve SOF, electronic countermeasures, army aviation, and other new-type combat forces capabilities, while operating jointly with air force and Strategic Support Force units.⁵⁶ The units participating in 2016 transregional exercises are identified in table 2. Units from 11 of the then 18 group armies participated.

Reviewing the units involved in the totality of transregional exercises, it is apparent that units from all MRs and theaters participated in mostly equal proportions. Of the over 70 transregional exercises conducted from 2006 to 2016, only the 58th Light Mechanized Infantry Brigade/20th GA and 235th Motorized Infantry Brigade/27th GA are known to have participated in more than one exercise. This implies that no unit or region is considered more important than another and that all units must be prepared to conduct operations outside their home areas.

Another important development is the shift from both divisions and brigades participating from 2006 to 2013 to only brigades in 2014 and the expansion of the exercises to include artillery and air defense brigades. Perhaps even more significant, however, Mission Action–2013C was commanded by the air force in a major step toward jointness in the PLA. This segment of the three-part exercise primarily was an aerial exercise with support from ground-based missile and naval units.⁵⁷ Since that time, both navy and air force headquarters have commanded a handful of other joint exercises.⁵⁸

Units not participating in transregional events conduct a variety of exercises within their home regions, some of which are joint, such as annual

amphibious landing training. Many of these large exercises are named and receive Chinese media attention, but not all are publicized. They follow an annual training plan previously promulgated by MR headquarters, but in the future will probably be a joint effort involving both TC and service headquarters passed down to TC army headquarters for execution. Training plans highlight functions to be emphasized over the year, such as night operations or air support to ground operations, and also must coordinate and deconflict other training and operational events, such as exercises with foreign countries, military competitions, parades, and peacekeeping (PKO) deployments.

Because of the reorganization under way in 2016, some training events were slight aberrations from previous practice. Although the army participated in nearly 20 exercises with foreign militaries in 2016, Chinese participation was relatively small in scale. A few examples include:

- Khan Quest 2016, an international PKO exercise in Mongolia
- Exercise Tropic Twilight–2016, in which the PLA sent seven personnel to a disaster relief exercise in New Zealand
- Exercise Kowari 2016, involving small units from China, the United States, and Australia
- Panda-Kangaroo 2016, with Chinese and Australia forces
- ADMM-Plus, a humanitarian assistance, disaster relief, medical exercise in Thailand involving 18 countries with some 450 to 500 PLA personnel
- Peace Mission 2016, for which the PLA dispatched 270 personnel to an anti-terrorist exercise in Kyrgyzstan.

Perhaps the most important aspect of these exercises was that the Southern TC oversaw the joint deployment to the ADMM-Plus exercise and the Western TC was in charge of Peace Mission 2016.⁵⁹ In 2017, while units were being reorganized, the number of army exercises with foreign militaries was cut to about six.

In previous years, most army exercises with foreign countries focused on anti-terrorist missions—sometimes with a heavy conventional combat role as seen in the Peace Mission series—and humanitarian/disaster relief

operations. Many exercises were relatively small, involving a company-size or smaller element, frequently featuring SOF personnel. The number of army exercises held annually has generally increased from year to year, from 1 in 2002 when the first event was held to 10 or more since 2014, depending on what exercises are included. Although units from all MRs have participated in exercises with foreign militaries, MRs on China's western and southern borders (Lanzhou, Chengdu, and Guangzhou) provided troops most often.

Though the PLA has sent units to international military competitions in previous years, in 2016 the level of their participation was unprecedented. The 14th GA sent 10 personnel to a jungle patrol competition in Brazil, and the 26th GA sent 5 personnel from a SOF brigade to a sniper competition in Kazakhstan.⁶⁰ But the PLA's largest level of participation was at the International Army Games in Russia from July 30 to August 13, involving 1,066 personnel from all services, multiple GAs, and 11 provinces. Army units competed in 17 events including "armor, artillery, air defense, reconnaissance, engineering, chemical defense, special warfare, aviation, airborne and other professional operations, as well as repair, field kitchen, health service and other support."⁶¹ In total, PLA teams competed in 21 events and "won the first place in one contest, the second place in eighteen contests, and the third place in two contests."⁶² The PLA used its own Type-96Bs in the tank competition, while all other participants used Russian-made T-72B3s.⁶³ The PLA team finished second, with one tank losing a road wheel during the competition.⁶⁴ This trend of active participation in international competitions continued in the 2017 training season.

United Nations (UN) Peacekeeping Operations are another significant category of activity that has been exclusively assigned to army units. Like other high-profile events, responsibility for providing troops to UN PKO deployments has been distributed throughout most of the army, though it appears that units from the former Nanjing MR have not been so tasked. For example, units from Shenyang MR's 16th and 39th GAs provided troops to the mission to Mali; units from the Beijing MR and the 27th and 38th GAs have provided units for the missions in Liberia, Congo, and South Sudan;

Lanzhou MR's 21st GA and Xinjiang MD units have also sent units to the Congo; elements from Yunnan and the 13th and 14th GAs have been sent to Lebanon; and all GAs from the former Jinan MR have participated in deployments to Sudan, South Sudan, and Darfur.

The vast majority of units and personnel deployed to UN PKO mission have been engineers and transport and medical specialists. However, in January 2012, the PLA sent a “guard unit” from the 162nd Motorized Infantry Division/54th GA/Jinan MR to South Sudan and a “guard detachment” from the Shenyang MR to Mali in late 2013.⁶⁵ The size of these forces ranged from about a platoon to company size (170 personnel). In late 2014, the army deployed its first infantry battalion to the mission in South Sudan. The 700-strong force was composed of personnel from a motorized infantry brigade in the 26th GA and two companies from a division of the 54th GA.⁶⁶ While press reports called this an “organic infantry battalion,” it was in fact a composite battalion formed from units from two different group armies. The second rotation in 2015 apparently was an organic infantry battalion, this time from the 20th GA.⁶⁷ While PLA infantry battalion commanders usually are majors, it is notable that colonels (two ranks higher than majors) were assigned as commanders of these PKO battalions. This could indicate both the PLA's attitude that these are important missions for which a higher ranking commander is appropriate and a lack of confidence that a major is ready for such responsibilities.

By assigning PKO missions to many units, the army has allowed the responsibility and experience of overseas deployments to be shared by multiple headquarters. This indicates senior leadership trust in the abilities of units from various parts of China to perform these highly visible missions and the desire for many to learn from overseas deployments. Prior to deployment, units undergo specialized preparatory training, which removes them from routine responsibilities for an even longer period than the 8 months to a year that they are deployed. Depending on circumstances, units from any part of the army may also be deployed on domestic disaster relief missions. Though emergencies may interrupt routine training, these deployments provide units

with excellent opportunities for small unit leadership problem-solving and real-world helicopter, communications, and logistics support operations, often in adverse weather and terrain conditions.

New Logistics Arrangements

The traditional support model of our army is weak, with specialties not unified, backward technologies, and scattered resources making it difficult to complete system support tasks based on information systems.⁶⁸

After the establishment of the General Armament Department in 1998, armament (or equipment) departments were added to headquarters organizations throughout the PLA. Among other duties, the Armament Department was in charge of equipment repair and maintenance as well as ammunition supply. The Logistics Department was responsible for finance, supply, fuel, food, uniforms, health care, and housing. However, these responsibilities became intertwined at the lower levels of the operational chain of command. For example, units in the field need to be resupplied with ammunition at the same time they are supplied food, water, and fuel. Transportation units need to be able to repair and perform maintenance on vehicles anywhere when in the field. As a result, small units from both the logistics and equipment systems often would locate themselves in the same general vicinity when in the field, sometimes operating together.

In 2012, PLA leadership acknowledged this reality by merging the Logistics and Armament departments at division and brigade levels into a single Support Department [*baozhang bu*, 保障部] and Support Office [*baozhang chu*, 保障处] at the regimental level. During the 2017 reforms, group armies, TC army headquarters, and the Xinjiang and Tibet MDs also have formed Support departments within their headquarters.⁶⁹ Moreover, each group army has established a service support brigade that is comprised of logistics, maintenance, communications, UAV, and electronic warfare units.⁷⁰

The merger of logistics and armament departments into a single support department is consistent with the division of responsibilities between

the CMC Logistic Support Department and Equipment Development Department. As suggested by its name, Equipment Development focuses primarily on equipment acquisition, research and development, and has transferred its repair and maintenance responsibilities to the services as a part of their “construction” responsibilities.

A major change to the former logistics structure was announced in September 2016 with the creation of the CMC Joint Logistics Support Force [*zhongyang junwei lianqin baozhang budui*, 中央军委联勤保障部队]. The “force” is comprised of the Wuhan Joint Logistics Support Base [*Wuhan lianqin baozhang jidi*, 武汉联勤保障基地] and five joint logistics support centers [*lianqin baozhang zhongxin*, 联勤保障中心] at Wuxi, Guilin, Xining, Shenyang, and Zhengzhou, with one center located in each of the new TCs.⁷¹ It appears the Joint Logistics Support Force has incorporated many of the subordinate elements of the former 20-odd, division leader grade joint logistics sub-departments [*lianqin fenbu*, 联勤分部] into its structure, with their supply bases and depots, hospitals, and transportation units being resubordinated among the Wuhan Joint Logistics Support Base and the five joint logistics support centers, while some logistics units are being transferred to the services.⁷² (See the chapter by Luce and Richter in this volume for analysis of PLA logistics and the creation of the Joint Logistics Support Force.)

The Ministry of National Defense spokesman provided a bit more information about the responsibilities of the new logistics force, noting that “special-purpose materials and equipment are supported by arms and services themselves, [g]eneral-purpose materials and equipment are supported by the joint logistic support force.”⁷³ Such a division of labor existed previously among the former joint logistics and armament systems and the services. A graphic described the Joint Logistics Support Force’s “focus of support” [*zhongdian baozhang*, 重点保障] as finance, housing, uniforms, food, transportation, and hospitals. Therefore, the army and other services must retain their own logistics systems to provide the specific functions that the new Joint Logistics Support Force does not. Exactly how that will be

done has yet to be revealed and is probably the subject of experimentation and eventual further modification.

Changes in Doctrine and the Education System

[Military reform] *must address the shortage of officers who have a deep knowledge of joint combat operations and advanced equipment,* [a researcher in the Human Resources Department at the PLA Xi'an Political Academy] *said. "We have developed and deployed many cutting-edge weapons, including some that are the best in the world, but there are not enough soldiers to use many of those advanced weapons," he said. "In some cases, soldiers lack knowledge and expertise to make the best use of their equipment."*⁷⁴

The changes in PLA command and control, force structure, and logistics system will necessitate adjustments to its operating procedures and methods, what may also be called doctrine. The shift to a more joint, maritime-oriented force will also require changes to the way the PLA educates and trains its officers and NCOs. (See the chapter by Wuthnow and Saunders in this volume for more details.)

An obvious consequence of the 300,000-man reduction is that the number of officers in the PLA will be reduced. One report predicted that half of the total cuts would affect officers.⁷⁵ Accordingly, the number of cadets selected to attend the PLA and People's Armed Police system of academies was reduced in 2016 and 2017 from the 2015 intake. See appendix 3 for the numbers announced from 2005 to 2017. (The manner by which these numbers have been reported has varied over time, sometimes making year-to-year comparisons difficult.) Moreover, in 2017, *PLA Daily* announced that the National Defense Student program, which began around the year 2000, will no longer recruit (and pay) high school graduates or students already in college; instead, the military will select and recruit national defense students from graduates of civilian institutes of higher learning.⁷⁶ This change to the National Defense Student program

suggests that perhaps the system was not producing the results previously expected and that by selecting graduates, rather than freshmen, the PLA can adjust the numbers based on current needs and the students' functional majors as required.

Just as important, the areas of study for the new students will be adjusted to better support the changing force structure. In 2016, the CMC Training Administration Department announced:

Compared with last year, 24 percent fewer students will be admitted to studies related to the army, including the infantry and artillery, while logistic and support departments will see their recruits fall by 45 percent. . . . In comparison, students studying in aviation, missile, and maritime fields will increase by 14 percent. The number of recruits in sectors where there is an urgent need, such as space intelligence, radar and drones, will rise by 16 percent.⁷⁷

These percentages show the army (and logistics forces) coming in second once more to the other services and the Strategic Support Force. Similarly, the number of PLA graduate students will be reduced in 2017, and their fields of study altered to support new requirements, most of which are not in the army:

the number of graduate students will be reduced to 6,000 and that of doctoral students to 1,475, a decrease of 16.7 percent and 19.2 percent year-on-year, respectively. The goals of the enrolment plan in 2017 are to reduce the enrolment of students majoring in science, engineering, and medicine, and to increase the recruitment of those majoring in military-related fields, especially the fields that are closely related to construction of new-type combat forces, including strategic early warning, military aerospace, air defense and anti-missile, information-based operation, and strategic projection.⁷⁸

As the services are rebalanced in the future, the components of the PLA education system will likely continue to be modified to provide appropriate

numbers of graduates for each service and functional specialty, not only for officers but also for NCOs. For example, former academies have been merged or consolidated. Additionally, curricula in all PLA academies and universities can be expected to change to better prepare officers and NCOs for joint and combined arms operations. In particular, courses for staff officers and NCOs from battalion level up must focus on the integration of all the new types of high-technology weapons and support required to conduct maritime and aerospace operations in addition to campaigns on land. Some of this work likely will also be conducted at training bases at various points in a soldier's career after graduation from an academy or university.

In the coming years, both the PLA's education and training systems will have to work in unison to change "Big Army" [*dalujun*, 大陆军] thinking that has dominated the Chinese military for nearly a century. This shift in mindset will not occur quickly and not without pain for many still on active duty. Compared to the "old soldiers," this change will be easier for younger, more junior personnel and those just entering the service. But it is not assured that the international environment and the senior civilian Chinese leadership will be accommodating enough to allow the PLA the time it needs to make all the refinements it deems necessary to develop a modernized education structure to prepare officers and NCOs for advanced system-of-systems operations.

Conclusion

Improving the army's combat strength has become a major focus.

But the modernization level of the Chinese army is inadequate to safeguard national security, and it lags far behind advanced global peers.

The Chinese army is not capable enough of waging modern warfare, and officers lack command skills for modern warfare.⁷⁹

The epigraph is one of the few instances, if not the only example, of the Two Large Gaps and Two Inabilities assessments *in English* carried by the Chinese military media (though it did not include those specific names). These and other self-assessments of the PLA's overall and functional capabilities have

not made it into any of the series of defense white papers intended primarily for foreign consumption. Instead, the countless inward-looking criticisms are directed at the PLA itself in its Chinese-language media. They usually are found after a description of some type of progress the PLA has achieved. But most importantly, they underscore that everyone must work harder before the PLA can join the ranks of advanced militaries.

Despite the new uniforms and equipment and glowing reports in the Chinese media, despite the parades (there is little doubt that the PLA can outperform all foreign competition on the parade ground), despite new cyber, space, and missile capabilities, as much as it looks like a modern force, the PLA has yet to demonstrate that it can operate with the first tier of advanced militaries throughout the world. While true for the PLA as a whole, this judgment applies even more to the army.

Based only on the types of organizational reforms in motion and the open source reporting of the type and content of exercises the PLA conducts, the emphasis on improving leadership and staff abilities and conducting joint and combined arms operations is warranted. For the army, it seems likely that many individual soldiers, squads, platoons, and companies can perform their missions proficiently. (The level of tactical proficiency may vary from unit to unit and be higher in some units in other services.) But putting these units together to operate as combined arms teams at battalion level, acting independently or as part of larger units in joint operations, is an acknowledged shortcoming. The PLA's ultimate objective frequently is referred to in the Chinese literature as "turning strong fingers [small units/service arms] into a hard fist [combined arms/joint operations]."⁸⁰ The below-the-neck reforms that created combined arms brigades and battalions may help in achieving this objective, but without properly educated and trained battalion commanders and staff, it may result in small units from the non-infantry or armored branches assigned to combined arms brigades not being as fully prepared to perform their specific battlefield functions as they would be if they were part of a larger brigade of their own specialty.

Fixing these problems has been a perpetual training objective and requires additional changes in education, unit structure, and doctrine that must be formalized and implemented throughout the entire army, not just in experimental units. While the PLA has begun to address these issues over the past 10 to 15 years, many other militaries have conducted combined arms operations at the battalion level and joint operations employing larger formations in combat for multiple decades, and even they must continue to refine organization, tactics, and procedures based on changing realities.

As the army seeks to address these challenges, it also is attempting to demonstrate that it has a role in the PLA's larger maritime doctrine. Several new types of combat forces can contribute to operations conducted beyond China's landmass: helicopter units are now operating over water or from ships and may conduct attack and reconnaissance missions at sea; SOF units can be delivered to distant targets by a variety of means to conduct raids and reconnaissance; long-range multiple rocket launcher units, air defense, and electronic warfare units can be integrated into multiservice groups to defend China's exclusive economic zones; and army UAVs can be integrated into surveillance operations and perhaps eventually strike missions. Such missions, however, will be conducted as part of joint operations and all levels of army headquarters must be equipped and trained to function within that joint structure.

The tasks described above mainly involve units up to battalion size; getting larger units, especially conventional infantry and armored brigades, to distant battlefields will require strategic air and sea lift from the other services or civilian assets beyond the army's span of control. Once again, lack of strategic lift is an acknowledged PLA shortfall, but one that is beginning to be addressed by adding Y-20 large transport aircraft and a variety of amphibious ships and vessels (for example, Type-071 LPDs and Zubr air-cushioned craft) to the PLA, augmented by civilian aircraft and roll-on/roll-off ships, some of which are now designed to military specifications.

Though senior army leaders have been assigned to the vast majority of new joint command and senior staff positions, the stage has been set for

non-army leaders to move into more of these slots in the future. With Vice Admiral Yuan Yubai's promotion to commander of the Southern TC and air force General Yi Xiaoguang's assignment as Central TC commander, the PLA has achieved a milestone in its modernization program and quest for jointness. Likewise, in the future, more joint exercises must be organized and led by non-army officers and staffs if the PLA is to acquire the joint capabilities necessary to conduct maritime and aerospace campaigns. As all this occurs, the army will lose the dominant role it enjoyed in past decades. The difficulty in changing the PLA's institutional mindset from an army-led land power to an advanced maritime/aerospace joint force capable of operating far beyond China's shores—and the time required to achieve these objectives—should not be underestimated. To accomplish its modernization goals, the army will have to accept its position as the PLA's biggest loser, now and far into the future, or else squander the progress made since China's last major conflict with a foreign enemy.

Appendix 1. Red Units (Inf/Arm Divs/Bdes) in Major Named Transregional Exercises, 2006–2015							
MR (Total Exercises 2006–2015)	2006/2008	Stride-2009	Mission Action-2010	Mission Action-2013	Stride-2014 (Zhurihe/Sanjie)	Stride-2015 (Zhurihe)	Stride-2015 (Taonan/Sanjie/Queshan)
Shenyang (5)	2006: UI exercise, 190 th Mech Inf Bde (39 th GA)	115 th Mech Inf Div (39 th GA)			68 th Mech Inf Bde (16 th GA) Note: the only Red Unit judged to have “won”	119 th Mtr Inf Bde (40 th GA); UI Arm Bde (40 th GA)	
Beijing (5)			188 th Mech Inf Bde (27 th GA)		235 th Mech Inf Bde (27 th GA)	80 th Mtr Inf Bde (27 th GA); 235 th Mtr Inf Bde (27 th GA); UI Arm Bde (65 th GA)	
Lanzhou (5)		61 st (“Red Army”) Div (21 st GA)	139 th Mech Inf Bde (47 th GA)		55 th Mtr Inf Bde (47 th GA)	UI Arm Bde (21 st GA)	Mtr Inf Bde (47 th GA)
Jinan (6)	Sharpening Troops 2008, 58 th Lt Mech Bde (20 th GA); Joint 2008, 138 th Mtr Inf Bde (26 th GA)	162 nd Mtr Inf Div (54 th GA)			58 th Lt Mech Inf Bde (20 th GA)	UI Mech Inf Bde (26 th GA)	UI Arm Bde (54 th GA)
Nanjing (5)				Part A: 86 th Mtr Inf Div (31 st GA)	UI Arm Bde (12 th GA); 34 th Mech Inf Bde (12 th GA)	3rd Mtr Inf Bde (1 st GA)	179 th Mtr Inf (12 th GA)
Guangzhou (5)		121 st Mtr Inf Div (41 st GA)		Part B: 124 th Amph Mech Inf Div (42 nd GA)	122 nd Mech Inf Bde (41 st GA)	UI Arm Bde (41 st GA)	UI Arm Bde (42 nd GA)
Chengdu (4)			149 th Mech Inf Div (13 th GA)		UI Arm Bde (14 th GA)	42 nd Mtr Inf Bde (14 th GA)	52 nd Mnt Inf Bde (Tibet MD)
Total 35	3	4	3	2	8	10	5

Source: Chinese media reports.

Key: Amph: amphibious; Arm: armored; Bde: brigade; Div: division; GA: group army; Inf: infantry; Lt: light; Mech: mechanized; Mtn: mountain; Mtr: motorized; UI: unidentified.

Appendix 2. Units Participating in Artillery and Air Defense Transregional Exercises, 2014–2015		
Firepower-2014 (Total live exercises: 10)	Firepower-2015 (Qingtongxia) (Total live exercises: 7)	Firepower-2015 (Shandan) (Total live exercises: 7)
*Nanjing Part A: Nanjing Artillery Academy and 38 th GA Artillery Brigade	*Nanjing Part A: Nanjing Artillery Academy and 20 th GA Artillery Brigade	
*Zhengzhou: Air Defense Academy and 47 th GA Air Defense Brigade	*Nanjing Part D: Nanjing Artillery Academy and 16 th GA Artillery Brigade	
*Leting: Air Defense Academy and 40 th GA Air Defense Brigade		
Korla Part A: 1 st GA Long-range Rocket Brigade	Qingtongxia Part A: 20 th GA Artillery Brigade	Shandan Part A: 28 th GA Air Defense Brigade
Shandan: Tibet MD Air Defense Brigade	Qingtongxia Part B: 13 th GA Artillery Brigade	Shandan Part B: Xinjiang MD Air Defense Brigade
Taonan Part A: 65 th GA Artillery Brigade	Qingtongxia Part C: 47 th GA Artillery Brigade	Shandan Part C: 13 th GA Air Defense Brigade
Korla Part A: 31 st GA Artillery Brigade (with long-range rockets)	Qingtongxia Part D: 16 th GA Artillery Brigade	Shandan Part D: 54 th GA Air Defense Brigade
Korla Part B: 42 nd GA Long-range Rocket Brigade	Qingtongxia Part E: 1 st GA Artillery Brigade	Shandan Part E: 41 st GA Air Defense Brigade
Taonan Part B: 38 th GA Artillery Brigade	Qingtongxia Part F: 42 nd GA Artillery Brigade	Shandan Part F: 16 th GA Air Defense Brigade
Weibei Part A: 13 th GA Air Defense Brigade	Qingtongxia Part G: 27 th GA Artillery Brigade	Shandan Part G: 31 st GA Air Defense Brigade
Xuanhua: 40 th GA Artillery Brigade		
Weibei Part B: 14 th GA Air Defense Brigade		
Sanjie: 26 th GA Artillery Brigade		

Source: Chinese media reports.

Key: MD: military district; GA: group army.

* Denotes preparatory computer exercise.

Appendix 3. Annual Intake of Students for PLA and PAP Academies					
Year	High School Students for PLA and PAP Academies	High School Students for National Defense Students (PLA + PAP)	PAP Academies and National Defense Students	NCOs/Conscripts into PLA and PAP Academies	Total
2017	12,000			4,800	16,800
2016	14,500	4,700		5,900	25,100
2015	15,700	6,000		5,300	27,000
2014	15,000	5,000	3,800		23,800
2013					
2012	15,000	8,000		6,000	31,000
2011	20,000	8,000		(Not specified, included among the 20,000)	28,000
2010	15,000+2,200=17,200	6,000+850=6,850		4,100	28,150
2009	15,000	7,500		7,190	29,690
2008	10,000	10,000			20,000
2007	10,000	11,000			21,000
2006	10,000	10,000		5,000	25,000
2005	20,000	12,000		5,000	37,000
2004	20,000	8,000			28,000

Source: Chinese media reports.

Notes

¹ *China's Military Strategy* (Beijing: State Council Information Office of the People's Republic of China, May 2015), available at <http://eng.mod.gov.cn/Press/2015-05/26/content_4586805.htm>.

² *The Military Balance 1996/97* (London: International Institute for Strategic Studies, 1996), 179–181. In 2018, China's officially announced defense budget was about 175 billion USD (based on exchange rates). For a useful discussion of the growth of the Chinese defense budget, see Richard A. Bitzinger, "China's New Defense Budget: Money and Manpower," *Asia Times* (Hong Kong), March 11, 2018, available at <www.atimes.com/chinas-new-defense-budget-money-manpower/>.

³ *China's National Defense in 2000* (Beijing: State Council Information Office of the People's Republic of China, October 2000), available at <www.china.org.cn/english/2000/Oct/2791.htm>.

⁴ *China's National Defense in 2004* (Beijing: State Council Information Office of the People's Republic of China, December 2004), available at <www.china.org.cn/e-white/20041227/index.htm>.

⁵ *The Diversified Employment of China's Armed Forces* (Beijing: State Council Information Office of the People's Republic of China, April 16, 2013), available at <www.china.org.cn/government/whitepaper/node_7181425.htm>.

⁶ *China's Military Strategy*. Emphasis added.

⁷ "Xi Reviews Troops in Field for First Time," Ministry of National Defense, July 30, 2017, available at <http://eng.mod.gov.cn/news/2017-07/30/content_4787294.htm>. *The Military Balance 2018* (London: International Institute for Strategic Studies, 2018), 250, estimates army personnel strength to be 975,000.

⁸ Both the 2006 and 2008 Chinese defense white papers described a "three-step development strategy" for defense modernization, which identified "mid-21st century" as the completion date for this process. The mid-21st century, or 2049, is also the 100th anniversary of the founding of the People's Republic of China. The three-step development strategy also provided two interim dates, or milestones: 2010 "to lay a solid foundation" and 2020 to "basically accomplish mechanization and make major progress in informationization."

⁹ "China to Build World-Class Armed Forces by Mid-21st Century," Xinhua, October 18, 2017, available at <www.chinadaily.com.cn/china/2017-10/18/content_33403375.htm>; and "Xi Jinping: Build the People's Army into a World-Class Military" [习近平:把人民军队全面建成世界一流军队], *PLA Daily* [解放军报], October 18, 2017, available at <www.81.cn/jmywyl/2017-10/18/content_7791594.htm>.

¹⁰ Feng Chunmei and Ni Guanghui [冯春梅, 倪光辉], "First Interview with Army Commander Li Zuocheng" [陆军司令员李作成首次接受媒体采访], *People's Daily* [人民日报], January 31, 2016, available at <www.81.cn/jwgz/2016-01/31/content_6882034.htm>.

¹¹ As of September 2016, the People's Liberation Army (PLA) apparently has begun to use the term *theater leader grade* (*zhanqu ji*, 战区级) to replace the former military region (MR) leader grade. See "Military Training Units above the Level of the Deputy War-Level Units in the Army Held in Beijing" [全军副战区级以上单位纪委书记培训班在京举办], *PLA Daily* [解放军报], September 26, 2016, available at <www.81.cn/jfjbmap/content/2016-09/26/content_157464.htm>.

¹² "China Names New Commanders for Army, Air Force in Reshuffle," Reuters, August 31, 2017, available at <www.reuters.com/article/us-china-defence/china-names-new-commanders-for-army-air-force-in-reshuffle-idUSKCN1BC3L1>.

¹³ PLA Navy headquarters has a Planning and Organization Bureau; therefore, it is logical that the army does also.

¹⁴ The names seen above continue to be reported as of March 2018. The Equipment Development Department “is mainly responsible for development and planning, [research and development], testing and authentication, procurement management, and information system construction for the whole military’s equipment.” See “MND Holds Press Conference on CMC Organ Reshuffle,” *China Military Online*, January 12, 2016, available at <http://english.chinamil.com.cn/news-channels/china-military-news/2016-01/12/content_6854444.htm>. Note there is no mention of repair and maintenance in that statement.

¹⁵ The first of these brigades has been identified in the Northern Theater Command (TC). See “Soldiers Operate Mobile Satellite Communication System,” *PLA Daily*, May 31, 2017, available at <http://english.chinamil.com.cn/view/2017-05/31/content_7623013.htm>.

¹⁶ Liu Hongjun [刘洪军], “Strengthening Theater Army’s Innovation and Awareness of Warfighting and Construction” [强化战区陆军主战主建的创新意识], *China Military Online* [中国军网], May 10, 2016, available at <www.81.cn/jfbmap/content/2016-05/10/content_144076.htm>.

¹⁷ Li Ming [黎明], “Chinese Communist Northern Theater PC Xu Yuanlin Removed from Office” [中共北部战区政委徐远林被免职 去向不明], *New Tang Dynasty* [新唐人], July 31, 2016, available at <www.ntdtv.com/xtr/gb/2016/08/01/a1278801.html>.

¹⁸ For example, Li Zuocheng worked with Bai Lu in the Chengdu MR, Liu Lei worked with He Qingcheng in the Lanzhou MR, and Liu Xiaowu served with Li Qiaoming in the 41st Group Army.

¹⁹ The “Two Inabilities” [*liangge nengli bugou*, 两个能力不够] are 1) our military’s ability to fight a modern war is insufficient, and 2) our cadres’, at all levels, abilities to command modern war is insufficient. The “Two Large Gaps” [*liangge chaju henda*, 两个差距很大] refers to gaps between the level of China’s military modernization and 1) the requirements for national security, and 2) the level of the world’s advanced militaries.

²⁰ Li Zuocheng and Liu Lei, “Strive to Build a Strong and Modernized New-Type Army—Study Deeply and Implement Chairman Xi Jinping’s Important Discourse on Army Building” [陆军司令员政委：建设强大的现代化新型陆军努力建设一支强大的现代化新型陆军—深入学习贯彻习近平主席关于陆军建设重要论述], *Qiushi* [求是], February 15, 2016, available at <http://army.81.cn/content/2016-02/15/content_6909160.htm>.

²¹ Liao Keduo [廖可铎], “Promote Effective Army Transformation and Construction” [推进陆军转型建设落地见效], *PLA Daily* [解放军报], August 23, 2016, available at <www.81.cn/jfjbmap/content/2016-08/23/content_154414.htm>.

²² Wang Li and Yu Wei, eds. [王李, 宇薇], “One Extraordinary Assessment” [一次不同凡响的考核], *PLA Daily* [解放军报], January 22, 2015, available at <www.81.cn/20151zjqh/2015-01/22/content_6318223.htm>. Xi has identified the problem as one the PLA must solve.

²³ “MND Holds Press Conference on CMC Organ Reshuffle,” *China Military Online*, January 12, 2016, available at <http://english.chinamil.com.cn/news-channels/china-military-news/2016-01/12/content_6854444.htm>; Wang Jun [王俊], “Beijing Garrison Has Been Transferred from the Former Beijing Military Region Army” [北京卫戍区已由原北京军区转隶陆军], *The Paper* [澎湃新闻], August 16, 2016, available at <www.thepaper.cn/newsDetail_forward_1514876>.

²⁴ Zhang Baoyin [张宝印] et al., “Speed Up the Construction of a New National Defense Mobilization System with Chinese Characteristics” [加快构建具有中国特色的新型国防动员体系], *Xinhua*, March 9, 2016, available at <www.81.cn/jwgz/2016-03/09/content_6951104.htm>.

²⁵ “Jixi Jun Division Border Guard Officers and Men Turned to Donate Money before the Transfer of Education” [鸡西军分区边防部队官兵转隶交前倾情捐资助学], *Bright Picture* [光明图片], available at <<http://pic.gmw.cn/channel-play/12052/5300867/0/0.html>>; Meng Haizhong and Chen Youguang [孟海中, 陈宥光], “The Coastal Defense Forces Belonging to the Shantou Garrison Command in Guangdong Province Transferred Their Troops to the Army in February this Year” [广东省汕头警备区所属海防部队今年2月已转隶移交陆军], *China National Defense Daily* [中国国防报], April 1, 2017, available at <www.thepaper.cn/newsDetail_forward_1653214>.

²⁶ “Northern and Southern TC Armies Forming Border Defense Brigades” [南部战区陆军, 北部战区陆军等均已组建边防旅], *The Paper* [澎湃新闻], May 9, 2017, available at <www.81junzhuan.com/ss/2017-05-09/11521.html>.

²⁷ “Brigade Party Members Carry Backpacks to Meetings” [旅党委委员背着背包来开会], *PLA Daily* [解放军报], January 10, 2018, available at <www.81.cn/jfjbmap/content/2018-01/10/content_196631.htm>.

²⁸ Jing Runqiang [井润强], “Official Disclosure: Guangdong Reserve Division Transferred to the Army” [官方披露: 广东某预备役师部队已转隶陆军], *China National Defense Daily* [中国国防报], April 7, 2017, available at <www.thepaper.cn/newsDetail_forward_1656910>.

²⁹ Ma Hao Liang [馬浩亮], “Four Changes to Provincial Military Districts Leadership Positions Reduced” [省軍區四變化削減領導職務], *Ta Kung Pao* [大公报], April 24, 2017, available at <<http://news.takungpao.com.hk/paper/q/2017/0424/3443954.html>>.

³⁰ Wang Jun [王俊], “Air Force Major General Zhou Li Transferred to Henan Provincial Military District Commander to Succeed Major General Lu Changjian” [空军少将周利调任河南省军区司令员, 接替卢长健少], *The Paper* [澎湃新闻], April 12, 2017, available at <www.thepaper.cn/newsDetail_forward_1660971>.

³¹ The year 2020 is the deadline for the current phase of PLA reforms to be completed.

³² Liao Keduo [廖可铎], “Speed Up Building a Powerful Modernized New-Type Army” [加快建设强大的现代化新型陆军], *PLA Daily* [解放军报], March 29, 2016, available at <www.81.cn/jmywyl/2016-03/29/content_6980905.htm>.

³³ *The Diversified Employment of China's Armed Forces* (Beijing: State Council Information Office of the People's Republic of China, September 9, 2013), available at <www.chinadaily.com.cn/china/China-Military-Watch/2013-09/09/content_16953672.htm>.

³⁴ Order-of-battle details in this and following paragraphs are based on the author's analysis of open Chinese sources; the numbers cited are close to, but not exactly the same as, the numbers found in the *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2016* (Washington, DC: Office of the Secretary of Defense, 2016) and *The Military Balance 2017* (London: International Institute for Strategic Studies, 2017).

³⁵ The discussion of “below-the-neck” reform is based on and updates that found in Dennis J. Blasko, “PLA Army Group Army Reorganization: An Initial Analysis,” October 2017, available at <www.ashtreeanalytics.com/wp-content/uploads/2017/10/PLA-Army-Group-Army-Reorganization-An-Initial-Analysis.pdf>.

³⁶ “Who Said There Is Trust Crisis? I Say Never Leave Any Brother” [你说有信任危机? 我说绝不丢下任何一个兄弟], *PLA Daily* [解放军报], February 6, 2018, available at <www.81.cn/lj/2018-02/06/content_7934749.htm>.

³⁷ “Role Model Helps New Recruits Grow and Improve” [身边榜样助力新兵成长进步], *PLA Daily* [解放军报], September 30, 2017, available at <www.81.cn/jfjbmap/content/2017-09/30/content_189134.htm>. A new marine special operations forces (SOF) brigade with a Dragon Commando unit [*jiaolong tuji dui*, 蛟龙突击队] may also have been formed recently from existing marine assets.

See “Decrypt ‘Operation Red Sea’ Prototype” [解密《红海行动》原型], *Sina.com*, February 20, 2018, available at <<http://mil.news.sina.com.cn/china/2018-02-20/doc-ifyrswmu3697775.shtml>>.

³⁸ “PLA Daily Commentator: Adhere to Training to Prepare for War” [解放军报评论员文章: 坚持练兵备战], *PLA Daily* [解放军报], July 22, 2015, available at <www.81.cn/jmywyl/2015-07/22/content_6595259.htm>.

³⁹ Zhang Tao, ed., “Type-96B Seen as Pillar of Nation’s Tank Force,” *China Daily* (Beijing), August 10, 2016, available at <http://english.chinamil.com.cn/news-channels/china-military-news/2016-08/10/content_7200566.htm>. The numbers cited in this article are roughly consistent with what has been reported by *The Military Balance 2017* and U.S. Department of Defense 2016 report on the Chinese military. The 7,000 figure includes both main battle tanks and light tanks.

⁴⁰ *The Military Balance 2018*, 251.

⁴¹ Zhang Zhaoxing [张照星], “Transformation of Combined Arms Battalion from ‘Accepting Instructions Type’ to ‘Independent Operations Type’” [合成营由“接受指令型”向“独立作战型”转变], *PLA Daily* [解放军报], September 9, 2016, available at <www.81.cn/lj/2016-09/09/content_7249484.htm>; and Wang Renfei and Zhang Xuhang [王任飞, 张旭航], “Combined Infantry Battalion Has Command Post” [合成步兵营有了“中军帐”], *PLA Daily* [解放军报], May 27, 2015, available at <www.81.cn/jwgz/2015-05/27/content_6508696.htm>.

⁴² Yang Xihe and Kang Ke [杨西河, 康克], “20th Group Army Realizes Precision Command by Breaking Information Barriers Between Arms” [第20集团军打破兵种信息壁垒垒实现精确指挥], *PLA Daily* [解放军报], September 25, 2016, available at <http://zb.81.cn/content/2016-09/25/content_7275473.htm>.

⁴³ Ma Sancheng and Sun Libo [马三成, 孙利波], “Western Theater Army Units Hold Command Ability Standards Training” [西部战区陆军部队开展指挥能力达标集训], *PLA Daily* [解放军报], March 23, 2016, available at <www.81.cn/lj/2016-03/23/content_6972534.htm>.

⁴⁴ Yin Hang and Liang Pengfei [尹航, 梁蓬飞], “All Army Symposium on Realistic Military Training Held in Beijing” [全军实战化军事训练座谈会在京召开], *China Military Online* [中国军网], June 25, 2016, available at <http://www.81.cn/jmywyl/2016-06/25/content_7119351.htm>.

⁴⁵ For a recent example of this goal stated in English, see Ouyang, ed., “Symposium Highlights Matching Military Exercises with Real Combat,” *Xinhua*, June 26, 2016, available at <http://english.chinamil.com.cn/news-channels/china-military-news/2016-06/26/content_7120044.htm>.

⁴⁶ Jian Lin [菅琳], ed., “Lay Greater Stress on System-of-Systems Building” [更加注重体系建设], *PLA Daily* [解放军报], July 18, 2016, available at <www.81.cn/theory/2016-07/18/content_7159804.htm>.

⁴⁷ For two examples in 2016, see “For a Strong Military First Train Generals, in Training Soldiers Train Officers First” [强军先强将 练兵先练官], *PLA Daily* [解放军报], January 17, 2016, available at <www.81.cn/jfjbmap/content/2016-01/17/content_135485.htm>; and “With This Type of Locomotive in the Lead, Are the Little Partners Living It?” [有这样的“火车头”领跑,小伙伴们还坐的住吗?], *PLA Daily* [解放军报], April 12, 2016.

⁴⁸ Zhang Xudong [张旭东], “Grasp the ‘Key Links’ of Joint Operations” [抓住联合作战“关节点”], *PLA Daily* [解放军报], July 19, 2016, available at <www.81.cn/jfjbmap/content/2016-07/19/content_150977.htm>.

⁴⁹ Jiang Yukun [姜玉坤], “The Battalion to Become the PLA’s Basic Combat Unit to Carry Out Independent Tasks” [营将作为解放军基础战术单元独立执行作战任务], *Xinhua*, April 25, 2008, available at <<http://mil.news.sina.com.cn/2008-04-25/0632497096.html>>.

⁵⁰ Liao Qiaoming [李桥铭], “Let New-Type Combat Forces Become PLA’s ‘Trump Cards’” [让新型作战力量成为手中“王牌”], *PLA Daily* [解放军报], July 15, 2016, available at <www.81.cn/jlwh/2015-07/15/content_6594358.htm>.

⁵¹ For a description of transregional exercises from 2006 to 2011, see Dennis J. Blasko, “Clarity of Intentions: People’s Liberation Army Transregional Exercises to Defend China’s Borders,” in *Learning by Doing: The PLA Trains at Home and Abroad*, ed. Roy Kamphausen, David Lai, and Travis Tanner (Carlisle Barracks, PA: Strategic Studies Institute, 2012), 171–212.

⁵² Liang Pengfei and Li Yuming [梁鹏飞, 李玉明], “Looking Back at Zhurihe, Seeing the Hardship” [回望朱日和, 忧患之中见担当], *PLA Daily* [解放军报], August 21, 2014, available at <www.81.cn/jfjbmap/content/2014-08/21/content_85240.htm>.

⁵³ Shao Min and Sun Xingwei [邵敏, 孙兴维], “Army Organizes 17 Transregional Exercises from July to September, Seven New Rules to Promote Realistic Confrontation” [陆军7至9月组织17场跨区演习 7条新规推动真打实抗], *PLA Daily* [解放军报], August 4, 2016, available at <www.81.cn/sydbt/2016-08/04/content_7189782.htm>.

⁵⁴ “2017 Army Unit Base Training Begins” [2017年陆军部队基地化训练拉开战幕], *PLA Daily* [解放军报], August 24, 2017, available at <www.81.cn/jmywyl/2017-08/24/content_7730097.htm>.

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