

Tactical Structure in World War II

France

Leland Ness

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Infantry Armor

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Infantry Tanks

An unfortunate sub-branch of the infantry was that of tanks. These had been used to great effect during the First World War in the infantry support role, particularly the Renault FT light tank. In fact, the French at the time had not developed heavier tanks in the fashion of the British, but had concentrated all their efforts on the cheap, simple FT which could be produced in large numbers and maintained by largely unskilled personnel. As a result, in 1921 the French Army had no fewer than 3,737 of these tanks in service, of which nearly two-thirds (2,109) were the machine gun armed version. Of the remainder, almost all (1,246) had the short 37mm SA18 gun, while 39 were equipped with the short 75mm BS howitzer in a casemate, 188 were unarmed radio versions and 155 were dedicated to training.

As long as Germany remained disarmed and forbidden tanks by the Versailles Treaty there was little impetus to develop new tanks and the little FT remained the backbone of the French armored force until the late 1930s. Trials were carried out with several models but production contracts were few and small. In fact, by mid-1937 the only additions to the infantry's tank force since the First World War were three battalions of D.1 tanks.

The D.1s were capable tanks, but too expensive for the limited defense budget. Thus, the decision was made in 1936 to adopt as standard a modernized version of the FT, known as the R.35. Like the FT the R.35 was slow (12 mph) and had only a two-man crew: a driver and a commander/gunner/loader. The shortcomings of the one-man turret crew have since been much discussed and for good reason. It is simply impossible for one man to efficiently plan the movements of his vehicle, acquire targets, aim and fire the main gun and coaxial machine gun and load the weapons at the same time. The problems were exacerbated for the platoon leaders, who also had to function as unit commanders at the same time, but this aspect has probably been exaggerated somewhat since the tanks lacked radios and the lieutenant's duties were thus effectively limited in any event.

The orders placed starting in 1935 began bearing fruit midway through 1937 when the first 300 R.35s were delivered. These were later supplemented by Hotchkiss tanks and B1 heavy tanks, along with smaller numbers of FCM and D.2 models.

The full history of French tank development is far too long to be told here, but in terms of operational capabilities the infantry's tanks fell into three categories.

The first category was those light infantry tanks that featured some technical improvements to the old FT model, such as slightly increased speed and thicker armor but suffered the same operational limitations. The most numerous was the R.35, of which 1,381 were brought into service by the Army by the end of the 1940 campaign. Also in this category were the Hotchkiss model 1935 and 1939 tanks, slightly faster (20 mph) but of similar design. The infantry accepted 482 of these tanks. In both cases, the main armament was usually the short-barrelled 37mm SA18 of WW I vintage, although some of the tanks carried a longer gun of the same caliber. Also, in both cases, the fuel carried on board gave a nominal range of only about 90 miles.

The second category were those classes of tanks that still suffered from severe shortcomings, but which nevertheless represented improvements over the design philosophy inherited from the FT. The FCM 36 had 50% more range, but the most improved model in this class was the D type, which had a two-man turret and a radio. Unfortunately, the D.1 had an even more limited range than the Renault or Hotchkiss models at 60 miles. In the D.2 model, the range was back up to 90 miles, but only one battalion of these was formed.

The third group was made up of the one truly remarkable tank of the infantry, the B1. This type had a 75mm howitzer in the hull, a powerful 47mm gun in a turret, along with a radio with full-time operator. With heavy armor, the tank's only real weakness was its short range of about 90 miles, or five and a half hours of operation.

As the newer model tanks were brought into the inventory the old FTs were retired. There were still substantial numbers of these in service, however, with eight battalions in France and three more overseas. Most of these were deployed behind the Maginot Line, with the 33rd Battalion assigned to the 9th Army, the 29th and 30th to the 3rd Army, the 11th to the 4th Army, the 31st to the 5th Army, the 18th and 36th to the 8th Army and a special battalion to the Army of the Alps.

Mobilization	Battalion	Tanks	Tanks Ordered
15. December 1934	63	D.1	23. December 1930
15. December 1934	65	D.1	23. December 1930
15. May 1935	67	D.1	16. October 1933
1. June 1937	9	R.35	2. July 1935
1. June 1937	20	R.35	2. July 1935
15. July 1937	22	R.35	2. July 1935
15. July 1937	24	R.35	2. July 1935
1. September 1937	16	R.35	2. July 1935
15. September 1937	3	R.35	2. July 1935
1. October 1937	19	D.2	10. December 1934
1. October 1937	25	R.35	25. September 1936
20. January 1938	37	B1/B1bis	26. December 1934
15. April 1938	2	R.35	25. September 1936
15. April 1938	5	R.35	25. September 1936
15. April 1938	14	R.35	25. September 1936
15. July 1938	10	R.35	25. September 1936
15. July 1938	17	R.35	25. September 1936
15. July 1938	26	H.35	19. July 1937
20. September 1938	1	R.35	3. February 1937
20. September 1938	27	H.35	19. July 1937
30. September 1938	15	B.1bis	8. October 1937
20. January 1939	12	R.35	3. February 1937
1. March 1939	7	FCM 36	5. June 1936
1. March 1939	23	R.35	3. February 1937
15. April 1939	4	FCM 36	5. June 1936
15. April 1939	21	R.35	3. February 1937
30. April 1939	25	H.39	23. June 1937
15. May 1939	39	R.35	16. May 1938
25. May 1939	8	B.1bis	1. May 1937
3. June 1939	62	R.35	16. May 1938
15. June 1939	14	H.39	23. June 1937
15. June 1939	34	R.35	16. May 1938
16. June 1939	35	R.35	16. May 1938
15. August 1939	13	H.39	23. June 1937
25. August 1939	28	B.1bis	1. February 1938
25. August 1939	38	H.39	23. June 1937
15. October 1939	68	R.35	16. May 1938
15. January 1940	42	H.39	15. July 1938
25. January 1940	43	R.35	16. May 1938
15. February 1940	41	B.1bis	1. February 1938
10. March 1940	6	R.35	30. September 1938
1. April 1940	49	B.1bis	31. March 1939
28. April 1940	45	H.39	15. July 1938
15. May 1940	44	R.35	10. October 1938
15. May 1940	46	B.1bis	n/a
15. May 1940	47	B.1bis	n/a
21. May 1940	40	R.35/R.40	29. September 1938
27. May 1940	48	R.35/R.40	5. December 1938

Infantry Tank Battalions Formed 1930-1940

The FT Tank Battalions

The smallest tactical unit of FT tanks was the section of two vehicles, one with a short 37mm gun and the other with an 8mm machine gun. The gun tank was commanded by a sergeant and the MG tank by a corporal. In addition, each tank was assigned three mechanics, one of whom acted as the driver. The two others assisted in the maintenance and repair of these unreliable vehicles. There was no organic transport for these supplemental mechanics, but the range and reliability of the FT were so low

that attached transport was necessary for any moves other than those involved in an infantry attack itself anyway. The FT platoon was made up of two of these sections plus a third cannon-armed tank for the lieutenant and his driver, along with two extra mechanics.

The FT tank company was commanded by a captain and consisted of a headquarters group, three tank platoons, and a trains platoon. The HQ group included two sergeants (a signal sergeant/group leader and a clerk), a telephone squad, two runners, six drivers, and a four-man crew for a cannon-armed tank. The telephone squad was made up of a corporal and five privates and was the sole signal element within the company, which did not have a single radio. In December 1939 a series of amendments to the infantry tank TO&Es were published, and their effect on the FT-equipped company was to add an anti-aircraft section to the HQ group. This section was made up of three 2-man teams, one commanded by a sergeant and the other two by corporals. The sergeant's team rode in a field car equipped with a twin LMG mount while the two other teams each had a sidecar motorcycle similarly equipped. The company trains platoon included five reserve tanks and four trucks: a 3-ton for ammunition, a 2,500-liter fuel truck, a rations/baggage truck, and a 5-ton equipment truck. The ammunition truck carried 1,500 rounds of 37mm ammunition and 18,400 rounds of machine gun ammunition.

Battalion	Tanks	Superior HQ	Notes
TC	FT	Alps	
1	R.35	5 th Army	
2	R.35	5 th Army	later 4 th DCR
3	R.35	2 nd Army	
4	FCM.36	2 nd Army	
5	R.35	3 rd Army	
6	R.35	9 th Army	
7	FCM.36	2 nd Army	
8	B.1bis	2 nd DCR	
9	R.35	7 th Army	
10	R.35	4 th Army	
11	FT	4 th Army	
12	R.35	3 rd Army	
13	H.35	1 st Army	exchanged tanks with 27 th Bn 1939
14	H.39	2 nd DCR	re-equipped from R.35s June 1939
15	B.1bis	2 nd DCR	
16	R.35	8 th Army	
17	R.35	8 th Army	
18	FT	8 th Army	
19	D.2	5 th Army	
20	R.35	4 th Army	
21	R.35	5 th Army	
22	R.35	7 th Army	
23	R.35	3 rd Army	
24	R.35	4 th Army	later 4 th DCR
25	H.39	1 st DCR	
26	H.39	1 st DCR	Re-equipped from H.35s 1939
27	H.39	2 nd DCR	Re-equipped from H.35s 1939
28	B.1bis	1 st DCR	
29	FT	3 rd Army	
30	FT	3 rd Army	
31	FT	5 th Army	
32	R.35	9 th Army	
33	FT	9 th Army	
34	R.35	5 th Army	
35	R.35	1 st Army	
36	FT	8 th Army	
37	B.1/B.1bis	1 st DCR	
38	H.39	1 st Army	exchanged tanks with 26 th Bn 1939
39	R.35	1 st Army	
40	R.35/R.40	n/a	
41	B.1bis	4 th DCR	
42	H.39	3 rd DCR	
43	R.35	3 rd Army	
44	R.35	4 th DCR	
45	H.39	3 rd DCR	
46	B.1bis	4 th DCR	
47	B.1bis	4 th DCR	
48	R.35/R.40	n/a	attached to 2 nd DCR
49	B.1bis	3 rd DCR	
51	2.C	3 rd Army	
61	D.1	Tunisia	
62	R.35	Morocco	
63	R.35	Syria	
64	FT	Algeria	
65	D.1	Tunisia	
66	FT	Morocco	
67	D.1	Tunisia	
68	R.35	Syria	

Infantry Tank Battalions, May 1940

The battalion was supported by its headquarters company, which provided recovery, maintenance, and trains platoons. The recovery platoon was built around three 1-ton trucks carrying personnel, four heavy 4x4 and three tracked recovery tractors, three tank transport trailers, and a shop truck. The maintenance platoon had two 1-ton trucks for personnel transport and two shop trucks. The resupply section of the trains platoon provided six 5-ton trucks and two water trailers while the rations sections had one light and three 3-ton trucks. An anti-aircraft section, similar to that of the tank company, was added to the company HQ in November 1939.

Command of the battalion was exercised through its small HQ group which was built around the battalion commander, his chief of staff (a captain), and four lieutenants: one each for intelligence, technical services, general duties, and medical functions. These were supported by a headquarters platoon which provided four clerks, a six-man telephone team, a five-man medic squad, an enlisted aide for each of the officers, and drivers for the assigned vehicles.

The FTs were designed to move from the start line of an infantry assault to limited objectives ten or fifteen miles further on. They were in no sense maneuver weapons and moving the battalion to the scene of battle required the use of special trucks to carry the slow and unreliable tanks and those personnel (about a third of the battalion) that had no motor transport. For this purpose, several tank transport companies were raised each of which had three 55-man transport platoons. Such a platoon had nine 2-ton trucks to transport personnel and twenty-five tank transporter trucks so that each platoon was capable of lifting a tank company, and the transporter company an FT battalion.

The FT tank battalion was one of the most useless military formations of World War II. The tanks themselves were obsolete, being slow, unreliable, possessed of a very short range of about 35 miles, and protected by thin armor. The FT could be armed with either a low-velocity 37mm gun or a machine gun, but not both. French doctrine of the period credited both weapons with an effective range against point targets of 400 meters and a range for neutralization fire for the MG only of 800 meters.

The battalion was essentially a static formation, something of a paradoxical statement when made regarding a tank battalion. However, the mobility of the FT was so limited that once the unit had been dropped off by the transporter company it was essentially stuck within a radius of about 30-40 miles of that spot until the trucks came back again to pick the tanks back up. Further, there was not a single radio in the entire battalion. Liaison among tanks was thus impossible and the tanks had to rely entirely on the supported infantry for direction. A version of the FT in which the turret was replaced by a casemate with a radio was developed, produced, and provided for in the 1934 tactical instructions but was not included in the 1936 TO&E of the battalion for reasons

that are not at all clear. At least a portion of the radio version FTs were dug in as armored observation posts, only slightly decreasing their mobility.

The Second-Generation Tank Battalions

The successor to the FT was the R.35. The basic concept remained the same, but some technical improvements permitted modest increases in speed and range. The basic tactical unit was the platoon of three tanks. As with the FTs, additional mechanics were assigned to the platoon, but in this case, a light truck was provided to carry them and their tools. A unique feature of French tank units was that the platoon sergeant rode in this truck supervising resupply and the mechanics rather than in a tank.

COMPANY HEADQUARTERS
Field Car No.1: Company Commander (Cpt), Driver (Pvt)
Field Car No.2 Telephone squad leader (Cpl), 2 telephonists (pvt), driver (pvt)
Light Tank: Tank commander (sgt)(may be replaced by company commander), driver/mechanic (pvt)
Two-Ton Truck: company clerk (sgt), motor NCO (cpl), 3 telephonists (pvt), 2 runners (pvt), 2 mechanics (pvt), 3 drivers (pvt)
Motorcycle No.1: signal sergeant (sgt)
Motorcycle No.2 & No.3: messenger (pvt)
FOUR LIGHT TANK PLATOONS, Each
Light Tank No.1: platoon leader (Lt), driver/mechanic (pvt)
Light Tank No.2: tank commander (sgt), driver/mechanic (pvt)
Light Tank No.3: tank commander (cpl), driver/mechanic (pvt)
Half-Ton Truck: platoon sergeant (sgt), 6 mechanics (pvt), 2 drivers (pvt)
Motorcycle: messenger (pvt)
TRAINS PLATOON
Motorcycle: Platoon leader (Lt), driver (pvt)
CROSS-COUNTRY SECTION
Motorcycle No.1: Section leader (sgt), clerk (sgt)
Motorcycle No.2: maintenance sergeant (sgt), electrician/driver (pvt)
Motorcycles No.3-6 each: mechanic (cpl), mechanic/driver (pvt)
Light Resupply Tractors No.1-4, each: resupply NCO (cpl), driver (pvt)
ROAD-BOUND SECTION
One-Ton Truck: clerk/section leader (sgt), 2 tailors (pvt), driver (pvt)
Three Ton Truck No.1 (ammunition): 2 drivers (pvt)
Three-Ton Truck No.2 (fuel): 2 drivers (pvt)
Three-Ton Truck No.3 (rations/baggage) w/ kitchen trailer: chief cook (cpl), 3 cooks (pvt), 2 drivers (pvt)
Changes of 28 December 1939:
delete two drivers in truck of company HQ
Add Anti-Aircraft Section to company headquarters:
Field Car: section leader/machine gunner (sgt), driver (pvt)
Motorcycles No1 & 2, each: team leader/machine gunner (cpl), driver (pvt)
Add to company headquarters: 2 radio operators (1 sgt, 1 pvt), intelligence NCO (sgt)
Trucks in road-bound section of trains platoon re-rated as 5-ton trucks

Infantry Light Tank Company, from July 1936

The standard infantry light tank company, which was the organization used by units equipped with R.35, R.40, H.35, and H.39 tanks, was made up of a headquarters, four tank platoons, and a trains platoon. The light tank company ammunition and fuel trucks carried the same load as in the FT company and initially, the company had the same signal facilities. In November of 1939, however, two radio operators were added to the company HQ. Since none of the Renault or Hotchkiss tanks carried radios these men had to operate a portable set from the back of one of the HQ's field cars. This was far from the optimal signal arrangement for a tank company but was better

than nothing. The 1939 amendment also added an intelligence sergeant and an anti-aircraft section to the company HQ.

	Officers	Sergeants	Corporals	Privates	Anti-Aircraft MGs	FT Tanks (MG)	FT Tanks (37mm)	Model 1935/39 Tanks	Motorcycles	Field Cars	Trucks	Tractors
Tank Battalion (FT.17)												
Battalion Headquarters	6	1	4	29	0	0	0	0	2	3	3	0
Headquarters Company												
Company HQ & Trains	2	6	6	25	3	0	0	0	1	2	6	0
Recovery Platoon	1	4	6	26	0	0	0	0	1	1	4	7
Maintenance Platoon	1	2	3	31	0	0	0	0	1	1	4	0
Battalion Trains Platoon												
Platoon HQ	1	0	0	0	0	0	0	0	0	0	0	0
Resupply Section	0	3	2	16	0	0	0	0	1	1	8	0
Rations Section	0	2	1	7	0	0	0	0	0	0	4	0
Three Tank Companies, each												
Company Headquarters	1	3	3	20	3	0	1	0	2	3	0	0
Three Tank Platoons, each												
Platoon HQ	1	0	0	3	0	0	1	0	0	0	0	0
Two Sections, each	0	1	1	6	0	1	1	0	0	0	0	0
Trains Platoon												
Platoon HQ	1	0	0	0	0	0	0	0	0	0	0	0
Reserve Tank Section	0	6	3	15	0	2	3	0	0	0	0	0
Wheeled Section	0	1	1	11	0	0	0	0	0	0	4	0
Tank Battalion (R-35/39 & H-35/39)												
Battalion Headquarters	7	4	5	31	0	0	0	0	1	3	4	0
Headquarters Company												
Company HQ & Trains	2	5	6	27	3	0	0	0	1	2	6	0
Recovery/Maintenance Platoon	2	7	8	54	0	0	0	0	3	1	12	3
Reserve Tank Section	0	7	6	15	0	0	0	6	0	0	2	0
Trains Platoon												
Platoon HQ	1	0	0	0	0	0	0	0	0	0	0	0
Resupply Section	0	3	2	16	0	0	0	0	1	1	8	0
Rations Section	0	2	1	7	0	0	0	0	0	1	3	0
Three Tank Companies, each												
Company Headquarters	1	6	4	19	3	0	0	1	3	2	1	0
Four Tank Platoons, each	1	2	1	12	0	0	0	3	1	0	1	0
Trains Platoon												
Platoon HQ	1	0	0	0	0	0	0	0	0	0	0	0
Cross-Country Section	0	3	8	9	0	0	0	0	6	0	0	4
Road Section	0	1	1	12	0	0	0	0	0	0	4	0

Separate Infantry Tank Battalions, from 28 December 1939

The HQ company of the light tank battalion was similar to that of the FT battalion but consolidated the recovery and maintenance platoons and added a reserve tank section.

The new recovery/maintenance platoon was provided with four 1-ton trucks for personnel transport, four shop trucks, three tank transporter trucks, a caterpillar tractor with trailer, and three wheeled tractors. The resupply section of the trains platoon was built around six 5-ton and two 1-ton trucks, while the rations section had three 5-ton and one 1-ton trucks. The replacement tank section had six light infantry tanks, each with two crewmen and two mechanics, and two light trucks to carry the mechanics and their tools. The HQ company was also reinforced by an anti-aircraft section of a field car and three motorcycles, identical to that in the tank companies, under a modification to the TO&E of November 1939.

The battalion HQ itself was identical to that of the FT battalion, but a signal lieutenant was added by the November 1939 modification.

Strangely, the battalion HQ had no

radios, even under the 1939 addition, although that same modification added radios to the tank companies. The modern infantry light tank battalion was thus not much more capable of independent action than the old FT battalion, still being reliant primarily on the supported infantry for direction and liaison.

The battalions equipped with D tanks were similar to the standard light infantry tank battalion, but with a few changes to accommodate the fact that the D tanks had radios. The tank company was identical except that a radio operator was added to each tank

crew and a small radio team of a corporal, two privates, and a driver with a light radio truck was added to company HQ.

The battalion HQ and HQ company were also almost identical to those of the standard light infantry tank battalion with additional radios. In addition to the extra radiomen assigned to the D tanks, the battalion HQ had two radio teams, each of a sergeant, a corporal, a private, and a driver with a half-ton radio truck.

The communications net for the D tank battalion was thus configured as follows: Each tank had an ER.52 transceiver, primarily for use in a platoon net. The secondary role of this radio was to establish communications between the platoon leaders and the company commander when these elements were within the 4-6 km range of these sets. The light radio trucks in the company and battalion HQs were each equipped with an ER.51 transceiver with the primary role of maintaining a battalion net and a secondary role of ensuring liaison with the supported infantry and supporting artillery. In addition, each of these radio trucks had an R.15 receiver to monitor the messages of observation aircraft.

The November 1939 modifications to tank TO&Es added anti-aircraft sections of a field car and two motorcycles, identical to those added to the standard light tank battalion, to the D tank battalion in the tank companies and the HQ company.

The Heavy Tank Battalions

The heaviest of the combat-capable tanks held by the infantry were the B tanks. The 1936 TO&E provided for three companies each of three platoons. The platoon was made up of three B tanks along with a light truck and a motorcycle. The company HQ had a tenth tank, two field cars, and two trucks, while the trains platoon had six tractors and four trucks.

The battalion was made up of three such companies plus a HQ and a HQ company. The last-mentioned consisted of a company trains platoon, a repair/recovery platoon, a replacement tanks platoon (3 tanks), and a battalion trains platoon.¹

¹ These are discussed in more detail later.

The Higher Tank Headquarters

During the First World War, the tank battalions had been organized into regiments and this organization continued through most of the inter-war period, with the number of regiments varying as FTs were scrapped and new tanks entered the inventory. By July 1935 there were ten regiments (numbered 501-510) in five brigades (numbered 1-5). Each of these regiments was made up of two tank battalions and a headquarters company with service elements and tank transporter truck units. Shortly before the start of the war two more regiments were added and one brigade HQ was abolished, to yield four brigades each of three battalions. At the outbreak of the war, the regiments were redesignated "groupes de bataillons de chars" and became primarily administrative and training units. The individual battalions, redesignated from the regimental system (i.e., I/509) to a sequential system (i.e., 35th Tank Battalion), were sent to the front to operate independently.

The exceptions to this reorganization were the tank battalions tapped for the new armored divisions. The first officially-sanctioned study on the subject of an armored division was carried out under the direction of General Hering and the results published in July 1936. Three roles were envisioned for an armored division by this study: (1) to stop ("*arreter*") mass enemy armor attacks, (2) to break a strongly organized front, and (3) to intervene in counter-attacks or offensives in conjunction with other divisions. Two weeks later the cabinet of General Colson appended a note pointing out that due to its flexibility, the armored division was also suited to quick-response counter-attacks against enemy armor, a somewhat more aggressive posture than in role (1) of the original study.

Army GHQ studied these papers and in October put forward its formal proposal for two armored divisions, each to consist of a HQ, line elements of 6 tank and 2 infantry battalions, an artillery element of 2 or 3 self-propelled battalions, and 3 battalions of 105mm howitzers, and engineer and service units.

At the request of Prime Minister Daladier the Military Cabinet of the Defense Ministry reviewed the problem as well and put forward its own recommendations in November. These provided for the armored division to be made up of a reconnaissance battalion, 3 battalions of tanks, 3 more of motorized infantry, and 5 battalions of artillery.

Some practical experience with large armored units was clearly necessary, so in February 1937 General Gamelin ordered an experimental armored division formed. This consisted of a reconnaissance battalion, two mixed brigades (each of 3 tank and 2 infantry battalions), 3 howitzer battalions, an anti-tank battalion, and an anti-air battery. Unfortunately, the General also stipulated that the only tanks suitable for use in such a division were the B and D2 models. While this was probably true if one puts on blinders and ignores the tanks developed by the cavalry, the cessation of D2 tank

production in 1937 after one battalion's worth and delays in the start-up of B1 deliveries meant that no division, experimental or otherwise, could be formed before mid-1939.

Nevertheless, in February of 1938 General Martin, inspector-general of tanks, formed an experimental mechanized unit in Nancy to test doctrine. This force was made up of two battalions of B tanks, one of D2s, two of motorized infantry, and one of artillery. Exercises were held throughout the spring and were to culminate in brigade-size maneuvers in the late summer, but in July General Gamelin canceled these final brigade operations. The trials were opposed by the chiefs of the signal and service support branches on the basis that brigade-size maneuvers would require all the active signal and transport assets available to the GHQ and would thus severely compromise mobilization readiness. The obvious lesson to be learned from this was that greater attention would have to be paid to these two aspects of large-unit armor organization, but instead, the general staff chose to "kill the messenger" and simply forbid trials. Not surprisingly, communications and resupply were to prove weak points of the armored divisions when they finally were formed.

Based on these abbreviated maneuvers General Martin filed his report and recommendations in November 1938. He proposed an armored division the line strength of which would be made up of two regiments (demi-brigades) each of two tank battalions and one motorized infantry battalion. The General took strong exception to the GHQ's prior proposal, pointing out that without a reconnaissance battalion and an observation aircraft squadron, the division would not be capable of engaging effectively in counter-attack or exploitation operations. He also recommended the inclusion of an anti-aircraft unit to limit the vulnerability of the division to aerial attacks. Finally, he stressed the importance of radio communications within the division, in contradiction to the long-standing French preference for the more ponderous but secure telephone.

His views, however, were not accepted, and no provision was made in the planned divisions for either reconnaissance or anti-aircraft elements.

The backbone of the armored divisions, all agreed, was to be the new and powerful B tanks. It was planned that each division would have two regiments, each of two battalions of these tanks. By September of 1939, however, only four battalions were available due to production difficulties. Rather than form just one armored division, however, the GHQ decided to dilute the planned divisions somewhat by ordering each to consist of one 2-battalion regiment of B tanks and one of Hotchkiss tanks.

Armored Divisions: Tank Component

The first two armored divisions denominated *Divisions Cuirassee de Reserve* (DCR), were finally activated on 16 January 1940, followed by a third on 20 March. Each of these consisted of one regiment (*demi-brigade*) of B tanks, one of H.39 tanks, a motorized infantry battalion, an artillery regiment, an anti-tank battery, a signal company, a pioneer company, and service troops.

Until April the regiment HQs were simply the former Group HQs pressed into duty, but on 11 April a new set of TO&Es for the regiment HQ and the tank battalions were issued. The HQ detachment for the regiment was made up of the HQ itself, a HQ section, a signal platoon, and a command tank. The HQ was made up of the commander (colonel), a chief of staff (lieutenant-colonel), an operations/intelligence officer (captain), a technical officer (captain), and a signal officer. The signal platoon was built around five radio teams each of a sergeant and two privates in a cross-country radio truck. The HQ also had a tank for the commander, a B.1 in the heavy tank regiment, and one of the very rare radio-equipped H.39s in the light regiment.

The B tank battalion was made up of a headquarters, HQ platoon service company, and three tank companies. The battalion was commanded by a lieutenant colonel supported by a staff consisting of a captain (chief of staff) and five lieutenants (one each for technical, signal, intelligence/route control, medical and general duties). The HQ platoon provided drivers and clerks for the HQ, a signal section with two radio vehicles, and a B tank for command use.

	Officers	NCOs	Other Ranks	Anti-Aircraft MGs	Tanks	Cross-Country					Road		
						Motorcycles	Field Cars	Trucks	Spec. Vehs.	Recovery Tractors	Cars	Light Trucks	Trucks
Demi-Brigade Headquarters	5	0	0	0	0	0	0	0	0	0	0	0	0
Command Section	0	3	30	0	1	4	1	0	0	0	2	2	1
Signal Section	0	6	16	0	0	0	0	0	5	0	0	0	0
Two Battalions, each													
Battalion HQ Group													
Battalion Headquarters	6	0	0	0	0	0	0	0	0	0	0	0	0
HQ Section	0	5	58	0	1		0	3	3	1	4	1	4
Service Company													
Company HQ & Trains	2	5	30	3	0	3	0	0	0	0	2	1	5
Maintenance Platoon	2	9	78	0	0	2	3	0	0	3	0	8	7
Replacement Tanks	3	5	17	0	3	0	0	0	0	0	0	3	0
Resupply Platoon	1	5	29	0	0	1	0	0	0	0	1	2	9
Three Tank Companies, each													
Company Headquarters	1	5	29	3	1	3	1	0	0	0	2	2	0
Three Tank Platoons, each	3	4	19	0	3	1	0	1	0	0	1	0	0
Trains Section													
Trains HQ	1	0	1	0	0	1	0	0	0	0	0	0	0
Cross-Country Section	0	3	19	0	0	2	0	6	0	0	0	0	0
Road Section	0	1	13	0	0	0	0	0	0	0	0	1	4
Demi-Brigade Heavy Tanks (Char B), from April 1940													

The service company provided a maintenance platoon, a replacement tank platoon, and a resupply platoon. The maintenance platoon provided two shops (each with a machine truck and a shop truck), three 5-ton trucks with spare parts, two light trucks for radio repair work (including 5 spare radios), three recovery teams (each with a field car, a tractor, and a tank-transporter trailer) and six light trucks to carry personnel, one of which also towed a welding equipment trailer.

The replacement tank platoon had three B tanks with full crews and two light trucks carrying parts to support these three plus the battalion and brigade HQ tanks. The resupply platoon was divided into a resupply section (with six 5-ton cargo and three 7500-liter tanker trucks) and a rations section (with one 1-ton and three 5-ton trucks).

The company HQ platoon included an anti-aircraft section with a field car and two sidecar motorcycles, each with a twin light MG mount. Also included was a telephone team of a corporal and five privates, but no radios. On the other hand, the maintenance platoon did have two radio-equipped trucks so some degree of liaison could be assured.

The B tank company was made up of a headquarters platoon, three tank platoons, and a trains platoon. The tank platoon had three B.1bis tanks each with its four-man crew, a light truck carrying the platoon sergeant and three mechanics per tank as well as spare parts and tools, and a Mle.37 "Lorraine" armored tractor with trailer carrying additional parts, tools, and ammunition. The platoon also had a sidecar motorcycle for liaison duties. Indicative of the importance the French attached to the B tanks was the fact that the tank commanders were all officers. The provision of an armored supply tractor in each platoon was also significant. Unfortunately, the TO&E specified that these tractors were to be "sans citerne" and were thus not much use in remedying the one great flaw of the B.1, its lack of range.

The B.1 had been designed originally with a 180 hp engine and 400 liters of fuel, sufficient for an estimated eight hours of operations. Modifications to the design of the tank, however, forced the adoption of a more powerful engine that drank fuel at a rate of 70-80 liters per hour, reducing to a little over five hours the amount of time a B.1 could operate before it ran dry of fuel. This figure was, at best, marginal for the infantry support role and inadequate for independent operations.

The fuel load for the tank company consisted of the fuel carried by the tanks themselves (400 liters per tank), the trailers of the resupply tractors in the trains platoon (3,600 liters in six trailers), and a fuel truck in the road-bound section (7,500 liters). This provided a total of about 20 hours of operation for the tanks of the company. At the battalion level, a further three 7,500-liter fuel trucks conveyed fuel from the division base to the battalions. These efforts, however, required a high degree of logistical coordination that simply proved beyond the capabilities of the service support units and was exacerbated by the lack of adequate refueling equipment, an hour being required to refuel each tank, so that a company using all six tractors took two hours to refuel under the best of circumstances.

The company trains platoon also included a maintenance section with three teams, each of a corporal and a private on a sidecar motorcycle. Needless to say, they could

not carry tools or parts with them, and so had to rely on those carried in the tractors and trucks of the tank platoons.

COMPANY HEADQUARTERS PLATOON
1 CPT: Company Commander
1 LT: Platoon leader
Telephone Team
1 CPL: team leader
5 PVT: telephonists
Anti-Aircraft Section
1 SGT: section/team leader
2 CPL: team leaders
3 PVT: driver
<i>one field car with twin AA LMG, two sidecar motorcycles with twin AA LMG</i>
Command Tank
1 SGT: tank commander
2 CPL: radio operator, driver/mechanic
4 PVT: radio operator, 3 mechanics
<i>one B.1bis tank</i>
3 SGT: signal NCO, intelligence sergeant, clerk
1 CPL: driver
11 PVT: 2 runners, 9 drivers
<i>one field car, one 6-wheel cross-country field car, one light radio truck, one light personnel truck</i>
THREE TANK PLATOONS, Each
3 LT: platoon leader, 2 tank commanders
4 SGT: platoon sergeant, 3 driver/mechanics
6 CPL: 3 assistant drivers, 3 radio operators
13 PVT: 9 mechanics, 2 tractor drivers, 1 truck driver, 1 motorcyclist
<i>three B.1bis tanks, one resupply tractor with trailer, one light truck, one sidecar motorcycle</i>
TRAINS PLATOON
1 LT: Platoon leader
1 PVT: motorcyclist
<i>one solo motorcycle</i>
Cross-Country Section
3 SGT: section leader, supply sergeant, chief mechanic
9 CPL: 6 tractor drivers, 3 mechanics
10 PVT: 6 tractor drivers, 4 mechanics
<i>six cross-country resupply tractors, two solo & three sidecar motorcycles</i>
Road-Bound Section
1 SGT: section leader/clerk
1 CPL: cook
12 PVT: 3 cooks, 7 drivers, 1 tailor, 1 shoemaker
<i>four 5-ton trucks (1 ammunition, 1 fuel, 1 baggage, 1 tools/parts), 1 light truck, 1 kitchen trailer, 1 generator trailer</i>

Heavy Tank Company, from 11 April 1940

The radio net of the B tank battalion paralleled that of the D tank battalion but had the more powerful ER.53 radio with its 20 km range as the standard tank transceiver.

The Hotchkiss battalions of the armored division were similar to those deployed independently with only a few modifications. The tank companies and service companies used the same TO&E as previously discussed for the Hotchkiss battalion, including the 1939 amendment that added the radio truck to each tank company and the anti-aircraft section to each company. The main change was to the signal section of the battalion HQ, which now consisted of a telephone squad of a corporal and five privates, and three radio trucks each with a corporal, a private, and a driver. In addition, the battalion's command tank was to be equipped with a radio.

The Armored Division Infantry Component

Aside from the two tank regiments, the remainder of the line strength of the armored division consisted of the armored infantry battalion. Denominated a *bataillon de chasseurs portés*, the battalion was a powerful formation with considerable mobility.

The *chasseurs portés* travelled in Mle.37 "Lorraine" tractors, armored and fully-tracked vehicles with good cross-country mobility. A tractor carried an eleven-man rifle section which was made up of a sergeant, a grenadier with a rifle grenade launcher, an assistant driver, and two squads each of a corporal, a light machine gunner, an assistant gunner, and an ammunition bearer. The rifle section thus had no riflemen per se, but only two Mle.24/29 light machine guns with crews, a grenadier, and NCOs.

The rifle platoon was made up of the platoon leader, platoon sergeant, two runners, a signal observer, a grenadier corporal, and four drivers with the platoon's four armored personnel carriers.

The tactical element of the rifle company HQ consisted of a cross-country field car, a Mle.37 armored personnel carrier, a chenillette, and a cross-country 10-seat personnel truck. The heart of the element was the APC, which mounted radio and acted as the

	Officers	Sergeants	Corporals	Privates	Light MGs	60mm Mortars	81mm Mortars	25mm AT Guns	Armored Cars	Chenillettes	Arm. Personnel Carriers	Cross-Country		Road		Bicycles
												Motorcycles	Field Cars	Trucks	Tractors	
Battalion Headquarters	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Headquarters Company																
Company HQ & Trains	1	9	3	27	0	0	0	0	0	0	1	9	1	0	0	1
Signal/Intelligence Platoon	1	4	6	48	0	0	0	0	0	0	2	1	1	4	0	2
Pioneer Platoon	1	1	3	21	0	0	0	0	0	0	0	0	0	2	0	1
Reconnaissance Platoon																
Motorcycle Scout Section	1	3	4	18	4	0	0	0	0	0	0	13	0	0	0	0
Armored Car Section	1	2	3	20	0	0	0	0	5	0	0	2	0	0	0	1
Service Company																
Company HQ & Trains	1	2	2	9	0	0	0	0	0	0	0	1	0	0	0	1
Resupply Platoon	1	5	4	26	0	0	0	0	0	0	0	2	0	0	0	12
Maintenance Platoon	1	5	4	42	0	0	0	0	0	0	0	5	0	0	3	15
Medical Platoon	0	5	2	28	0	0	0	0	0	0	0	1	0	2	0	2
Heavy Weapons Company																
Company HQ & Trains	1	5	3	27	0	0	0	0	0	0	1	3	1	2	0	1
Four Anti-Tank Platoons, each*	1	4	3	16	0	0	0	3	0	0	0	4	0	4	0	0
Mortar Platoon	1	2	4	32	0	0	4	0	0	2	0	0	0	4	0	0
Three Rifle Companies, each																
Company Headquarters																
HQ Group	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Signal/Intelligence Section	0	1	0	5	0	0	0	0	0	0	0	1	0	0	0	0
Transport & Trains Section	0	3	2	15	0	0	0	0	0	1	1	1	1	1	0	1
Mortar Squad	0	1	1	3	0	1	0	0	0	0	0	0	0	0	0	0
Three Rifle Platoons, each*																
Platoon HQ*	1	1	1	7	0	0	0	0	0	0	4	0	0	0	0	0
Three Sections, each	0	1	2	8	2	0	0	0	0	0	0	0	0	0	0	0

* two platoons commanded by officers, other(s) by sergeants.

Chasseurs Portes Battalion, from April 1940

a

company command post as well as towing an armored trailer carrying the 60mm mortar squad. The chenillette was used for liaison duties and doubled as a small recovery vehicle. The trains element of the company HQ included a field car, two 2-ton trucks (for one fuel, the other for ammunition), and two 3.5-ton trucks (one for rations and baggage and the other for supplies).

This organization, mandated in the March 1940 TO&E differed significantly from that of the earlier, October 1939, table.

The earlier version was less of a defensive machine gun formation and provided more offensive flexibility with a rifle section similar to that of the regular infantry, consisting of a sergeant, a corporal, a four-man light MG team, three riflemen, and a grenadier with a VB launcher. On the other hand, the rifle platoon HQ had only three APCs in 1939, with the HQ elements riding in the section APCs.

For heavy firepower the rifle company, as initially organized in 1939, had had a machine gun platoon of two sections, each with two 4-man MG squads armed with 8mm Hotchkiss machine guns. Each of the sections was provided with an APC, with a third APC allocated for platoon HQ and reserve ammunition. This platoon was dropped in the March 1940 organization in favor of allocating a second LMG to each rifle squad.

The earlier company HQ organization suffered from having no radio or chenillette, but did have three APCs, including one for the mortar squad. The company HQ also included a reserve pool of riflemen who could act as scouts, a company reserve, or a replacement pool. These reserve riflemen, a sergeant, a corporal, and six privates, had a light machine gun and were carried in one of the APCs which was designated to drop its trailer and undertake patrol duties when required. This component of the HQ was also discarded in the 1940 reorganization.

The *chasseurs portés* battalion had three such companies as its line strength, supported by heavy weapons, service, and HQ companies. The heavy weapons company was primarily an anti-tank formation with twelve 25mm AT guns and four 81mm mortars. Each anti-tank squad consisted of a sergeant, a corporal gunner, three gun crew, and a 25mm AT gun. They were grouped into 3-gun platoons with the platoon HQ providing a platoon leader, platoon sergeant, three motorcycle dispatch riders and four cross-country 5-seater trucks with drivers (three for the AT squads and one for HQ and reserve ammunition). The mortar platoon was divided into two 2-gun sections each commanded by a sergeant and used 10-seat cross-country trucks for the mortar squads. In place of the motorcycles at platoon HQ, however, the mortar platoon used two chenillettes with trailers for resupply. For communications, the heavy weapons company had an APC with a radio and two motorcycle dispatch riders as well as the usual optical signal devices.

This organization also represented a considerable break from the earlier 1939 TO&E for the *Chasseurs portés*. Under the former table, the anti-tank platoons were equipped with APCs to tow their weapons, while the mortar platoon had five APCs (one per mortar and one for HQ), all with trailers.

Signal, pioneer, and reconnaissance support for the 1940 battalion were provided by the HQ company. The signal platoon was built around two 6-man telephone teams

(one with an APC, the other with a cross-country truck), two 4-man radio transceiver teams (one with an APC, the other on a cross-country truck), and a 3-man air-to-ground radio receiver team on a cross-country truck. In addition, the platoon had 13 optical signallers and eight drivers as well as a few miscellaneous personnel. The pioneer platoon was divided into three sections, each of a corporal and six privates, but had only two personnel-carrying cross-country trucks and one regular truck for equipment. The reconnaissance platoon was divided into motorcycle and armored car sections, with the senior lieutenant commanding the platoon, but no infantry armored cars appear to have been issued, or indeed built. The motorcycle section was made up of two groups each of two squads, with each 4-man squad having two sidecar motorcycles and a light MG.

Despite its formidable offensive appearance, including the large-scale use of armored personnel carriers, the armored infantry battalion was actually a defensive formation that used its armored vehicles to traverse bullet-swept terrain behind the tanks to hold terrain seized by the armored regiments. Lacking any riflemen at all, the battalion's effectiveness in seizing terrain was questionable, but as a defensive unit strongly supported by organic anti-tank guns, it was quite potent. Given the short range of the B tanks and the need to stop and refuel every four or five hours this role was obviously critical to the division. The only criticism leveled against the battalion organization after the war was that after the March 1940 reorganization, the support weapons were not provided with armored vehicles and thus could not always accompany the line elements. The decision to remove the APCs from the heavy weapons elements appears to have been due to the need to spread these rare vehicles around more thinly to equip the 3rd and 4th DCRs. Despite adding an APC to each rifle platoon for HQ use the March reorganization reduced the number of these vehicles in the rifle company from 15 to 13 through the elimination of the MG platoon and the reduction in the company HQ allotment from 3 to 1. With the further elimination of 17 of these vehicles from the heavy weapons company the number of APCs required for a *Chasseurs portés* battalion fell from 66 to 43.

This limitation notwithstanding, the *Chasseurs portés* battalion remained a powerful unit. Coordination of the battalion was improved by the reorganization through the addition of a radio to each company HQ, where previously only semaphore signaling had been available. The loss of armored vehicles from the heavy weapons company could have been serious, but it does not appear that the *Chasseurs portés* battalions were often used in their intended quasi-offensive roles in any event but were generally committed to purely defensive battles where the lack of APCs was not a major consideration.

Armored Division Fire Support

Fire support for the division was provided by a motorized field artillery regiment with two battalions of 105mm howitzers model 105C. Towed by half-tracked prime movers they were possessed of suitable mobility for the role. Unfortunately, the observer and command and control functions were no more highly developed than in the non-motorized artillery. Each artillery battalion provided an observer/liaison staff that, while large, was limited to one radio and served mainly to preplan fires in conjunction with set-piece attacks. While the B tank units had excellent radio nets and the armored infantry adequate, there is no evidence that these were ever used for artillery observation.

The artillery branch also contributed an anti-tank battery to the DCR structure. This was identical to the battery found in the motorized infantry division and consisted of a battery HQ, four AT platoons, and a trains group. Each platoon had two 47mm mle.37 anti-tank guns towed by light tractors, two light machine guns, and an ER.12 radio. In addition, the platoons shared two trucks each carrying 350 AT mines, and two tractors and two trucks carrying ammunition. The platoons were thus fairly well equipped for independent operation and could function quite well within the limitations imposed by the small numbers of weapons involved.

	Personnel	Heavy Weapons
Division Headquarters		
Heavy Tank Regiment	1,478	
Regiment HQ	60	1 B tank
Two Tank Battalions, each	709	
Battalion HQ	70	1 B tank
Service Company	186	3 twin AA LMG, 3 B tanks
Three Tank Companies, each	151	3 twin AA LMG, 10 B tanks
Light Tank Regiment	1,311	
Regiment HQ	59	1 H tank
Two Tank Battalions, each	626	
Regiment HQ	59	1 H tank
Two Tank Battalions, each	626	
Battalion HQ	65	1 H tank
Service Company	171	3 twin AA LMG, 6 H tanks
Three Tank Companies, each	130	3 twin AA LMG, 13 H tanks
Armored Infantry Battalion	974	
Battalion HQ & Company	183	4 LMG, 3 APCs
Service Company	137	
Heavy Weapons Company	171	12 25mm AT, 4 81mm mort, 1 APC
Three Rifle Companies, each	161	18 LMG, 1 60mm mort, 13 APCs
Artillery Regiment	1,207	
Regiment HQ	131	2 MG
Two Field Artillery Battalions, each	538	
Battalion HQ	90	
Three Batteries, each	103	1 LMG, 2 MG, 4 105mm how
Service Battery	139	1 MG
Anti-Tank Battery	173	8 LMG, 8 47mm AT
Engineer Troops		
Engineer Company	277	
Signal Company	154	
Service Troops		
Transport Company		
Supply Company		
Intendance Group		
Medical Group		

Armored Division, from April 1940

Armored Division Signal Component

The signal element of the division was found in the 154-man engineer signal company, the main subunits of which were a 53-man telephone platoon and a 69-man radio platoon. The telephone platoon was further divided into construction and operating sections, with the former having 29 men and two trucks and the latter 24 men and one truck. The radio platoon consisted of three sections: one operating ER.26ter transceivers, one with ER.30 transceivers, and one with receivers. These provided a total of three ER.26ters in trucks, four ER.30s in trucks and three more in armored vehicles, and three trucks with receivers.

These signal assets were insufficient, even for a small division such as the DCR. Clearly, proper coordination of the division's efforts required the use of the supported infantry's communications net. General Martin's warning that telephones were not suitable for use as primary communications for an armored division seems to have been taken to heart and the telephone detachments reduced to ineffectiveness without, however, a compensating increase in radio assets.

The DCR as a Combat Force

The DCR had a total establishment of 6,400 men with 69 heavy and 92 light tanks. The B tanks were powerful vehicles with a good radio net but were hobbled by a very short range. The H tanks were considerably less capable. Only the battalion and brigade command tanks appear to have had radios. The DCRs received first priority within the infantry for the new production H.39 models which were slightly faster than the older H.35 models and were supposed to have the long barrel 37mm gun. In fact it appears that the majority of the H.39s were not so equipped and in the 2nd DCR, at least, only one tank per platoon had the more powerful gun.

The short range of the tanks of the DCR made it unlikely that these organizations could successfully participate in a war of maneuver. On a fluid battlefield, the advance to contact would have drained the B tanks' fuel and shortly thereafter the Hotchkisses would have run dry as well. This is exactly what happened to the 1st DCR on May 15th when the bulk of its B tanks were caught immobilized for lack of fuel by the 7th Panzer Division and largely destroyed. The effects of this shortcoming might have been ameliorated by a superb logistical organization but it was here that the earlier failure of the General Staff to support division-size maneuvers came home to roost. The support services did not perform well and the combat troops paid the price.

Another problem was the lack of reconnaissance troops. There were no divisional reconnaissance units at all. In theory, the Chasseurs portés battalion included an armored car platoon and a motorcycle platoon, but the armored car platoon did not exist. One platoon was certainly an inadequate scout force for a brigade-size unit, all the more so for the lack of radios in the platoon. The result was that the DCR often blundered into combat without the vaguest idea of what lay ahead.

On 15 May a fourth DCR was formed under the command of Colonel DeGaulle. Not all the elements of a DCR were available at the time, particularly the Hotchkiss tanks, but the pressure of events would not permit delay so substitutions were made, primarily in the form of R.35s for H.39s. At the same time the division was substantially reinforced, both through the addition of infantry units and through a rare example of infantry-cavalry cooperation.

The

	Personnel	Heavy Weapons
Division Headquarters		
6 th (Heavy) Tank Regiment	2,273	
Regiment HQ	60	1 B tank
46 th & 47 th Tank Battalions, each <i>as in B battalions of DCR</i>	709	12 twin AA LMG, 35 B tanks
19 th Tank Battalion		
Battalion HQ	62	
Service Company	175	3 twin AA LMG, 3 D.2 tanks
Three Tank Companies, each	147	3 twin AA LMG, 13 D.2 tanks
345 th Independent Tank Company	147	3 twin AA LMG, 13 D.2 tanks
8 th (Light) Tank Regiment	2,207	
Regiment HQ	59	1 R.35 tank
2 nd , 24 th & 44 th Tank Battalions, each	635	
Battalion HQ	47	
Service Company	177	3 twin AA LMG, 6 R.35 tanks
Three Tank Companies, each	137	3 twin AA LMG, 13 R.35 tanks
74 th Tank Transport Company	223	
3 rd Cuirassiers Cavalry Tank Regiment <i>as tank regiment of DLM</i>	827	44 S.35 & 43 H.39 tanks
10 th Cuirassiers Cavalry Armored Car Regiment	1,034	
Regiment HQ	90	1 AMD
Service Squadron	179	
1 st Sqn/6 th Cuirassiers (att)	115	21 AMR
Two Armored Car Battalions, each <i>as armored car battalion of DLM</i>	325	16 LMG, 1 60mm mort, 22 AMD
7 th Dragons Portés Regiment <i>as Dragons Portés regiment of DLM but less one battalion</i>	2,172	104 LMG, 32 MG, 8 AAMG, 6 60mm & 8 81mm mort, 8 25mm AT
4 th Chasseurs Portés Battalion <i>as chasseurs portés battalion of DCR</i>	974	58 LMG, 3 60mm & 4 81mm mort, 12 25mm AT, 43 APCs
322 nd Artillery Regiment (+)		
Regiment HQ	131	2 MG
Two Field Artillery Battalions, each	538	
Battalion HQ	90	
Three Batteries, each	103	1 LMG, 2 MG, 4 75mm guns
Service Battery	139	1 MG
Five Anti-Tank Batteries (att), each	173	8 LMG, 8 47mm AT
Anti-Air Battery (att)	119	6 25mm AA
Normal Service Troops		

4th Armored Division (nominal strengths), from 15 May 1940

infantry added its sole D2 tank battalion and a separate D2 tank company. These attachments, with their full radio nets, complemented the B tanks of the 6th Demi-Brigade well. They had roughly the same capabilities as the Bs, but were hobbled by the same shortcoming, a serious lack of range.

The cavalry contributed all their mechanized and motorized units after the creation of the DLCs and DLMs. These consisted of a cavalry tank regiment, an armored car regiment (reinforced by an AMR squadron), and a Dragons portés regiment (less one battalion).

The cavalry component rectified some shortcomings of the DCR. It added a sizeable reconnaissance detachment that for the first time permitted the division to reconnoiter in a mobile operation. The Dragons portés regiment added an infantry component that could hold the ground seized by the tanks.

A number of problems remained, however. The light tank regiment was even worse, if possible, than that in the normal DCR due to the use of R.35s in place of H.39s. Nor

was there any increase in the divisional signal facilities. One motor transport company was added to the divisional service troops, but it seems unlikely that the professional competence to utilize the transport troops effectively had suddenly been acquired in the absence of any experience.