



Australian Government



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**NAA: MP508/1, 325/703/3084 PART 9**

Series number: MP508/1

Control symbol: 325/703/3084 PART 9

Barcode: 376030

Number of pages: 32

G.S. Specifications Cruiser Tank AC3 and AC\$

325/703/3084

**MOST  
SECRET**

**B**  
TECHNICAL

also  
filled in  
hence,

9

**B**  
TECHNICAL  
A. C. TANKS - C. S.  
SPECIFICATIONS

G. I. Specification ACs

& ACs to be replaced at

later date.

Remainder - 7 destroyed.

9.5. Specifications

AC 3 + ACU

to be replaced at  
later date.

Remainder ~~70~~ destroyed

23/9/43

5 copies this spec. held by

D.A.F.V. (P);

Code refused to return all

copies - refer correspondence

Ac. -

## COMMONWEALTH OF AUSTRALIA

MAFV.RHM.JDB

TELEPHONE: MX 5271 (10 LINES)

TELEGRAPHIC AND CABLE ADDRESS:  
"BATTLECARS," MELBOURNEADDRESS ALL COMMUNICATIONS  
TO THE DIRECTOR

In Reply Please Quote No.

19695

MINISTRY OF MUNITIONS  
DIRECTORATE OF ARMoured  
FIGHTING VEHICLES PRODUCTION

Salmon Street,

Fishermens Bend, Vic.

25th September 1943.

"G" Armoured Corps,  
Victoria Barracks,  
St. Kilda Road,  
MELBOURNE.Attention Captain Jensen.

Prior to despatching extant copies of the GS Specification for Australian Cruiser Tanks Mark III and IV, the writer referred the matter to Mr. Code who desires that this Directorate be notified in writing to return these copies. He also points out that it is imperative to retain at least one copy of each Specification in order that the Directorate's records may be complete.

At present there are five copies in the Directorate.



for "A. R. Code,  
Director,  
Armoured Fighting Vehicles Production.

Saw Major Hillard  
on 27/9 re this.  
Instructed to ignore  
this letter and  
take no further action  
to recover the documents.  
y

P.A.

10  
27/9

G.S. SPECIFICATIONS - TANKS A.C.3 and A.C.4.

D.S.D.

-----  
Copy M.G.O. (D.A.F.V.)  
-----

1. Reference is made to G.A.F.V. minute of 21 May, 43 forwarding copies of G.S. Specifications for A.C.3 and A.C.4. Tanks for approval and distribution. D.A.F.V.(P) has now requested that both specifications be relaxed in the matter of maximum width of both tanks.

2. The specification would need amendment to permit a max width of 111 inches instead of 108 inches.

3. As this dimension does not exceed the loading gauge requirements for railway transportation and is of no consequence in the tactical performance of the tanks it is recommended that the concession referred to in para. 2 be approved.

Colonel,  
"G" A.F.V.

Jun, 43.



TANKS AC. MK.III & MK.IV - G.S. SPECIFICATION.

11374

"G" A.F.V.

--- The attached memo from D.A.F.V.(P) is forwarded for your consideration.

2. It appears that -

(a) D.A.F.V.(P) have exceeded the original specification width by  $1\frac{1}{2}$ " without even making allowance for warping, or overall tolerances.

(b) Manufacturing tolerances may add another  $\frac{1}{2}$ " to this, making a total excess of up to 3" over the original specification.

3. This dimension does not exceed the loading gauge requirements for railway transportation, therefore, this concession will not affect this aspect of the Tank.

4. As the request involves a departure from the original G.S. Specification, your decision on this matter would be appreciated.

*Ally M*  
(O.T.FLIGHT)-Major,  
for Lt.-Col.,  
D.A.F.V.

7 June, '40.

*Direct copy*  
*ALS*

*3/6*

*1a*  
*3/6*

MINISTRY OF MUNITIONS.

27th May, 1943

MEMORANDUM FOR:

The Directorate of Armoured Fighting Vehicles,  
138 Flinders Street, MELBOURNE.

TANKS A.C. MARK III AND MARK IV  
G.S. SPECIFICATION.

The following point is brought for your consideration:-

OVERALL WIDTH:

G.S. Specifications for Tanks A.C. Mark III and Mark IV call for a maximum width of 108". The actual nominal overall width of each of these Tanks has now been determined as  $109\frac{1}{2}$ ", but allowing for tolerances to care for warping in the casting of  $\frac{1}{2}$ " on each side, and an overall tolerance in the width of plus or minus  $\frac{1}{2}$ ", it is possible that the gross width of the vehicle might reach 111".

Summarised the nominal width is  $1\frac{1}{2}$ " over the maximum specified in the G.S. Specification and the gross width might reach 3" over the specified width.

Our object in bringing this point to your notice is to determine whether the maximum width of 108" can be relaxed to the extent of 3" in order to care for all contingencies in the manufacture of either Mark III or Mark IV.

(Sgd.) Mr. Bromley,  
for A.R.CODE - Director,  
Armoured Fighting Vehicles Production.

c.c. Mr. Perrier.

*Bromley*

RECEIVED  
4 JUN AM  
Army Registry

SUBJECT: TANKS AC. MK.III & MK.IV - G.S. SPECIFICATION.

V325-3-468

43

11374

File also 4/6/43

"G" A.F.V.

... The attached memo from D.A.F.V.(P) is forwarded for your consideration.

2. It appears that -

(a) D.A.F.V.(P) have exceeded the original specification width by  $1\frac{1}{2}$ " without even making allowance for warping, or overall tolerances.

(b) Manufacturing tolerances may add another  $\frac{1}{2}$ " to this, making a total excess of up to 3" over the original specification.

3. This dimension does not exceed the loading gauge requirements for railway transportation, therefore, this concession will not affect this aspect of the Tank.

4. As the request involves a departure from the original G.S. Specification, your decision on this matter would be appreciated.

GAFV. 4/6/43

*August*

(O.T.FLIGHT)-Major,  
for Lt.-Col.,  
D.A.F.V.

✓ June, '43.

- 3 JUN 1943

10  
5/6

MINISTRY OF MUNITIONS.

27th May, 1943

MEMORANDUM FOR:

The Directorate of Armoured Fighting Vehicles,  
138 Flinders Street, MELBOURNE.

TANKS A.C. MARK III AND MARK IV  
G.S. SPECIFICATION.

The following point is brought for your consideration:-

OVERALL WIDTH:

G.S. Specifications for Tanks A.C. Mark III and Mark IV call for a maximum width of 108". The actual nominal overall width of each of these Tanks has now been determined as  $109\frac{1}{2}$ ", but allowing for tolerances to care for warping in the casting of  $\frac{1}{2}$ " on each side, and an overall tolerance in the width of plus or minus  $\frac{1}{2}$ ", it is possible that the gross width of the vehicle might reach 111".

Summarised the nominal width is  $1\frac{1}{2}$ " over the maximum specified in the G.S. Specification and the gross width might reach 3" over the specified width.

Our object in bringing this point to your notice is to determine whether the maximum width of 108" can be relaxed to the extent of 3" in order to care for all contingencies in the manufacture of either Mark III or Mark IV.

(Sgd.) Mr. Bromley,  
for A.R. CODE - Director,  
Armoured Fighting Vehicles Production.

c.c. Mr. Perrier.

AFV/HB/JKC.

G.S. SPECIFICATIONS.

D.S.D.

-----

Forwarded herewith are 10 No. Copies of G.S. Specifications for A.C.3 and A.C.4 for your approval and distribution please.

*W.C.*

Colonel,  
"G" A.F.V.

27 May, 43

*These have not yet been distributed  
by D.S.D. on 5/7.*

## COMMONWEALTH OF AUSTRALIA

TELEPHONE: MX 5271 (10 LINES)

TELEGRAPHIC AND CABLE ADDRESS:  
"BATTLECARS," MELBOURNEADDRESS ALL COMMUNICATIONS  
TO THE DIRECTOR

In Reply Please Quote No.

16640

MAFV: ARC:GB

Memorandum to:-

MINISTRY OF MUNITIONS  
DIRECTORATE OF ARMoured  
FIGHTING VEHICLES PRODUCTION

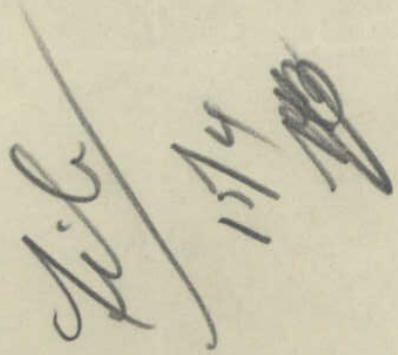
Salmon Street,

Fishermens Bend, Vic.

May 12th 1943

"G" A.F.V.,  
Department of Army,  
Victoria Barracks,  
MELBOURNE.

It is desired formally to acknowledge receipt of five  
copies of the General Staff Specification for Cruiser Tank A.C. Mark III  
and A.C. Mark IV.


A.R. Code,  
Director,Armoured Fighting Vehicles Production.

100  
15/4

## MINUTE PAPER

C.3977/40

51/403/388 J88

SUBJECT: G.S. SPECIFICATIONS - CRUISER TANKS A.C.III &amp; A.C.IV.

CONFIDENTIAL RECORDS

SECRET  
MOST SECRET

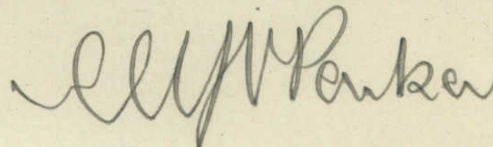
"G" Branch,  
"G" A.F.V.

Returned herewith, are copies of the above G.S. Specifications received in M.G.O.Branch.

2. It would be appreciated if arrangements could be made for stating the origin, signature, and date, of these papers.

3. It is observed that the copies circulated have not included the extra sentences discussed between Capt. Brain and D.A.F.V on 14 April, 1943; modifications shown in pencil on Copy No.1 in each case.

4. Copies No's 1, 13 and 14 returned herewith. It is understood that more copies are in existence in M.G.O.Branch. These will be returned and sent on later.



Lt.-Colonel,  
D.A.F.V.

24 Apr. 43.

1a  
26/4

MINUTE PAPER

MOST SECRET

C.3977/40

SUBJECT: G.S. SPECIFICATIONS.

51/403/388  
SECRET

G (AFV)  
-----

27 APR 43

27/4/43 Receipt is acknowledged of G.S. Specifications for Cruiser Tank (AC3), Cruiser Tank (AC4).

It is noted that the above Specifications include references to the T.S.M.G., which is contrary to the established policy whereby 9 mm S.M.Gs. will be used in operational areas.

It is requested that all future Specifications should be submitted to me for approval and issue.

24 Apr. 43.

*I. H. Miller*  
Colonel,  
Director of Staff Duties.

27/4.



THE ARMY  
DEPARTMENT OF DEFENCE

AFV/ABM/MJM

MINUTE PAPER

MOST

ARMY

SECRET

57-403/388

SECRET

MOST

SECRET

G.S. SPECIFICATIONS.

RECEIVED  
16 APR 43

PPS "G" ADV

D.D.S.D. (E).

16/4/43

1. Attached is a copy of each of the following General Staff Specifications.

Cruiser Tank (A.C.3.)  
" (A.C.4.)

2. Please acknowledge.

*McClellan  
Asst. Dir. AFV  
16 Apr 43  
19 Apr*

*Robertson Maj  
Colonel,  
"G" A.F.V.*

Distribution :

C.G.S.	1 copy
M.G.O.	10 copies
D.S.D.	6 "
D.A.F.V.(P)	5 "

*DDSD(E)*

*16/4/43*

M.G.O RECORDS CONTROL

Carded by *[Signature]* 17/4

Indexed by *[Signature]*

Referred to	Date	Initials
<i>[Signature]</i>	<i>11/4</i>	<i>[Initials]</i>

Chief Auditor  
Defence & Supply

1

Inspector of Adm.  
N.S.W. L of C Area.

	Carded by	
	Indexed by	1
Initials	Referred to	
L.G.A.		
		1
C.F.O.		

9

Chief Auditor  
Defence & Supply

Wa

THE ARMY  
DEPARTMENT OF DEFENCE COORDINATION  
MINUTE PAPER  
AFV/ABM/MJM

57/403/388  
MOST SECRET

~~SECRET~~

SECRET

16/4/43

6875.

SUBJECT:

G.S. SPECIFICATIONS.

M.G.O.

RECEIVED  
16 APR P.M.

1. Attached are 10 copies of each of the following General Staff Specifications.

Cruiser Tank (A.C.3)  
" (A.C.4)

2 copies of each  
retained by Dmode  
19/4.

2. Please acknowledge.

DAFV

Colonel,  
"G" A.F.V.

16 Apr. 43.

Distribution :

C.G.S.	1	copy
D.S.D.	6	copies
D.D.S.D. (E)	1	"
D.A.F.V. (P)	5	"

DM 906

16/4/43

smg 068

-----  
Allied Land Forces XXX

16 April, 1943.


MEMORANDUM for :-

-----  
D.A.F.V. (P)  
FISHERMEN'S BEND.  
-----G.S. SPECIFICATIONS.

.... 1. Attached are five (5) copies of each of the following General Staff Specifications.

Cruiser Tank (A.C.3.)  
" (A.C.4.)

2. Please acknowledge.

  
Colonel,  
"G" A.F.V.  
for Lieutenant-General,  
Chief of the General Staff.

Distribution :

C.G.S.	1 Copy
M.G.O.	10 copies
D.S.D.	6 "
D.D.S.D. (E)	1 copy.

## G.S. SPECIFICATIONS.

M.G.O.  
-----

----- 1. Attached are 10 copies of each of the following General Staff Specifications.

Cruiser Tank (A.C.3)  
" (A.C.4)

2. Please acknowledge.

*Asst. Maj. Gen.*  
Colonel,  
"G" A.F.V.

16 Apr. 43.

Distribution : C.G.S. 1 copy  
D.S.D. 6 copies  
D.D.S.D. (E) 1 "  
D.A.F.V.(P) 5 "

## G.S. SPECIFICATIONS. 9

D.D.S.D. (E).  
----------  
1. Attached is a copy of each of the following General Staff Specifications.Cruiser Tank (A.C.3.)  
" (A.C.4.)

2. Please acknowledge.

16  
Apr. 43.*Arthur Edward May*  
Colonel,  
"G" A.F.V.

<u>Distribution</u> :	C.G.S.	1 copy
	M.G.O.	10 copies
	D.S.D.	6 "
	D.A.F.V.(P)	5 "

## G.S. SPECIFICATIONS.

D.S.D.  
-----

----- 1. Attached are six (6) copies of each of the following General Staff Specifications.

Cruiser tank (A.C.3.)  
" (A.C.4.)

2. Please acknowledge.

*Arthur Edward May*  
Colonel,  
" G" A.F.V.

16 Apr. 43.

Distribution : C.G.S. 1 copy  
M.G.O. 10 copies  
D.D.S.D. (E) 1 copy  
D.A.F.V. (P) 5 copies



2.

## G.S. SPECIFICATIONS.

C.G.S.  
-----

-----  
1. Attached is a copy of each of the following General Staff Specifications.

Cruiser Tank (A.C.3.)  
" (A.C.4.)

2. Please acknowledge.

*Robert Howard Gray*  
Colonel,  
"G" A.F.V.

16 Apr. 43.

Distribution : M.G.O. 10 copies  
D.S.D. 6 "  
D.D.S.D.(E) 1 "  
D.A.F.V.(P) 5 "

AC 3. AC 4

**MOST SECRET**  
SI/403/388.  
GS Specifications

16/4/43

	<u>Sent</u>	<u>Distributed</u>	<u>Returned.</u>
MGO	10.	2 MGD(B) 8 DAFV.	no information investigation 6/7. Destroyed. - 7 destroyed. 1 returned.
C.G.S.	1	} destroyed. per Nankivell	
D.S.D.	6		
DDSD(E)	1	- returned.	
DAFV(P)	5	?	

DAFV(P)  
DAFV  
SOWC.

B/F  
CAPT JENSEN  
7 SEP

MAFV:SEAW:DD.

COMMONWEALTH OF AUSTRALIA

TELEPHONE: MX 5271  
TELEGRAPHIC ADDRESS: "BATTLECARS," MELBOURNE

MINISTRY OF MUNITIONS,

A. F. V. Division,

Salmon Street,  
Fishermens Bend

23rd March 1943.

In reply quote No.

15028

MEMORANDUM TO:

"G" A.F.V.

Subject: G. S. SPECIFICATION,  
TANK A.C. MARK IV.

For your information, I attach herewith memorandum of meeting held on the 20th March to discuss this matter.

Please Attach this  
Section to Your Reply

**D**

*Sawalker*

for Director,  
Armoured Fighting Vehicles Production.

**D**

AFVI

For G.S Specs for  
mine app

G.A.F.V.  
24/3.

MINISTRY OF MUNITIONS.DIRECTORATE OF ARMoured FIGHTING VEHICLES PRODUCTION.

22nd March 1943.

MEMORANDUM OF MEETING held in the office of the Director on the 20th March 1943.

Present: Major Flight, Mr. Code,  
Major Vernon, Mr. Bromley,  
Mr. Perrier,  
Mr. Walker.

SUBJECT: G.S. SPECIFICATION - TANK A.C. MARK IV.

General: The meeting was called to discuss the General Staff Specification for TANK A.C. MARK IV. in a preliminary way, as a prelude to acceptance of this Specification as a basis for production. Details are given hereunder.

Shell Stowage: A minimum of 50 and a maximum of 60 have been specified. In the layout as now proposed, with engine and fuel tank arrangement as for A.C. MARK III., a total of 49 shells is anticipated from preliminary investigation. Endeavour will be made to locate 1 additional shell. With the A.C. MARK IV.(A) layout the requirements can readily be obtained.

Jettison Tank: In lieu of the standard type of jettison tank fitted to A.C. MARKS I. & III., and which will not be practicable on A.C. MARK IV., it was proposed by D.A.F.V.(P) that side containers on mudguards at rear of hull - suitable as holders for fuel or water tanks, should be provided.

Major Flight indicated that this arrangement would require armour reinforcement against 18 m/m. air attack. In view of armour thickness required, this would not be a practicable solution.

Major Flight advised that tests would be made shortly with a tank trailer, and if these were successful the problem of extra fuel would be solved. Mr. Code urged that the trailer should also be used as much as possible for other impedimenta in order to relieve the internal tank stowage position.

NO

M.G. and Small Arms Ammunition:

Proposed Stowage of ammunition is:

.303 Vickers	-	2500 to 4000
Bren	-	900
T.S.M.G.	-	300
Grenades	-	6

Design will work on the above basis, but actual capacity cannot be determined at this stage.

Speed: G.S. Specification calls for a maximum speed of 35 m.p.h.

D.A.F.V.(P) regard this maximum seriously and hold the view that any speed in excess of 30 m.p.h. should not be contemplated; firstly, on account of suspension limitations, secondly, on account of engine limitations, and finally, because with the increase in weight as compared with A.C. MARK I. some reduction in maximum speed as compared with A.C. MARK I. should reasonably be envisaged.

yes

These remarks apply equally to A.C. MARK III. as to A.C. MARK IV.

/Gross Weight:

MINISTRY OF MUNITIONS.  
 DIRECTORATE OF ARMoured FIGHTING VEHICLES PRODUCTION.

22nd March 1943.

MEMORANDUM OF MEETING held 20/3/42.

Gross Weight: The weights of both A.C. MARKS III. & IV. will exceed 30 tons. Major Flight is to discuss this with the Engineering Division of Army in view of the limitation of 30 tons now stipulated.

Driver's Periscope: Army ask for 2 periscopes for driver. D.A.F.V.(P) to investigate how these 2 periscopes could be mounted in A.C. MARK IV. and whether at this stage it is possible in A.C. MARK III., taking account of the number of hulls already cast.

Turret Ring: G.S. Specification calls for 70" minimum diameter. D.A.F.V.(P) suggest this should be stated 70" as a definite dimension.

yes. Majors Flight and Vernon asked why the ring diameter had been increased from 64" to 70"; their query arising from a communication received from London.

## Reasons are:

(1) 70" ring gives more working space and eliminates exceptionally close clearances for gun attachments that would occur with 64" ring, and, at the same time, does not restrict stowage capacity in any way, in fact improves it.

(2) 64" ring was maximum possible without alteration to A.C. MARK I. or MARK III. hulls. By minor alteration to deck of hull in vicinity of turret, a 70" ring has been made possible.

yes. Turret Speed: will be 2 r.p.m. both for A.C. MARKS III. and IV., not 3 r.p.m.

Protection of Inlet Louvres: To provide protection from upward blast for the louvres at side of hull adjacent to turret, a section of the mudguard on either side would be made of 10 m/m. armour plate.

yes. Length of Vehicle: should be specified as "not to exceed 21 ft. 6 ins."

Fire Extinguishing System: Certain data has been received from England by the Army, dealing with modifications to Graviner systems. It is now proposed that bottles should be stored on exterior of vehicle and any fires inside the vehicle dealt with from the outside. The main point is that 80% of fires are ammunition or cordite fires in the working portion of the tank rather than engine fires.

Details of information received are to be provided to D.A.F.V.(P) by Army as soon as possible.

Data on A.C. MARKS III. & IV: Overall dimensions, weights, and other physical characteristics of A.C. MARKS III. and IV. have been prepared by Design Section, D.A.F.V.(P), and copies will be made available to Major Flight.

Distribution: G.A.F.V.,  
 Major Flight,  
 Major Vernon,

Mr. Code,  
 Mr. Bromley,  
 Mr. Perrier,  
 Mr. Walker,  
 Filing System.

*Stad*  
 22/3/43

TANK A.C. MK. IV

M.G.O.  
-----

Reference your minute of 9 Mar. 43 re G.S. Specifications for above Tank.

These specifications, together with Stowage Lists, are now being prepared for both the A.C.III and A.C. IV Tanks. They should be available within a few days.

It will be appreciated that, in view of the stage of production reached with A.C.III and of design with A.C.IV, the data must be based largely on what has already been planned.



Colonel,  
"G" A.F.V.

19 Mar. 43

JB.

DEPARTMENT OF THE ARMY

SECURITY

MINUTE PAPER

G.3977/40

SUBJECT: TANK AC MARK IV.

C.G.S.

---

The attached memorandum received from the Director of Armoured Fighting Vehicles Production, dated 9th March 43, is referred.

---

2. I also attach copy of memorandum I have forwarded to the Director of A.F.V. Production.

DAF.V.

Major-General,  
Master-General of the Ordnance.

13-II/3/43.

12 15/3

# COMMONWEALTH OF AUSTRALIA

MAFV:ARC:NG

TELEPHONE: MX 5271

TELEGRAPHIC ADDRESS: "BATTLECARS," MELBOURNE

MINISTRY OF MUNITIONS.

A. F. V. Division,  
Salmon Street,  
Fishermens Bend

In reply quote No.

9th March, 1943. **14404**

Memorandum:

Major-General L. E. Beavis, O.B.E., D.S.O.,  
Master General of Ordnance,  
Department of Army,  
Wesley College,  
MELBOURNE.

## TANK AC MARK IV

In reference to the meeting in Mr. Lewis' office on Friday afternoon and with further reference to my memorandum No. 13356 of 11th February, 1943, it is desired to advise that we have not yet received the Stowage List, Vehicle Outfit List or General Staff Specification for this vehicle, and I would be pleased if you could expedite the preparation and despatch of this essential information.



A. R. Code,  
Director,

ARMoured FIGHTING VEHICLES PRODUCTION





SECURITY

TELEPHONES :  
MXY 440.  
CENTRAL 7185.

## COMMONWEALTH OF AUSTRALIA.

DEPARTMENT OF THE ARMY  
Allied Land Forces  
South West Pacific Area.  
MELBOURNE, S.C.1.  
13th March, 1943.

No.....

The Director,  
Armoured Fighting Vehicles Production,  
A.F.V. Division,  
Salmon Street,  
FISHERMENS BEND.

TANK AC MARK IV.

With reference to your memo. of 9 Mar 1943, the question of specifications and other information regarding the Tank A.C.Mark IV. will be taken up with the General Staff, with a view to supplying information at an early date.

2. It is anticipated that, when the proposed organisation relating to A.F.V. design activities is approved and established, the system will provide for an efficient and expeditious interchange of required information.

Major-General,  
Master-General of the Ordnance.

Copy to - C.G.S.