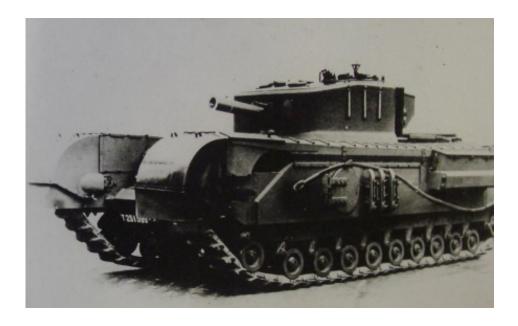
The Churchill Infantry Tank (A.22)



A Mk I Churchill



A Mk IV Churchill



A Mk VI Churchill

The development of the Churchill can be dated back to the A20, this vehicle looked similar to the Churchill and it's armament consisted of a 2pdr in the turret and a 2pdr in the hull, two prototypes were built by Harland and Wolf in June 1940. The project was then taken over by Vauxhall who were required to have the vehicle in production within a year, the resulting vehicle was the A22, known as the Churchill and the first vehicles were produced in June 1941. Due to the fact that the vehicles were ordered off the drawing board and Vauxhall did not have the time to rectify issues the first Churchills had a series of defects when they were issued to units.

The Churchill's armour was extremely thick for the period, over 100mm thick at the front and 76mm sides on the Mk I which would have posed a very difficult target for any German tank or anti-tank gunner. The hull consisted of machineable armour on a milled steel frame, this allowed production to be easier, the turret was usually cast although in later versions it was also machineable armour. The machineable armour + milled steel armour configuration offered slightly less ballistic resistance to a single machineable plate but the milled steel plate offered better protection against non penetrating rounds. The biggest change in armour came in the Mk VII version when frontal armour was increased to up to 152mm and sides 95mm, Mk III - VI

versions also had additional armour added to the front and sides of the tank.

The Armament on the Mk I consisted of a 2pdr in the turret and a 3" Howitzer in the hull, this allowed the vehicle to fire both Armour Piercing and High Explosive shells but the position of the 3" Howitzer in the hull restricted it's movement and was removed in the Mk II version to be replaced by a Besa 7.92 machine gun. It was obvious in 1940 that the 2pdr was becoming obsolete but production of the 6pdr was delayed until mid 1941, investigations into how to up gun British tanks to carry the new 6pdr were carried out and by February the first 6pdr armed Mk III tanks were produced - the first British tanks to carry a 6pdr gun. Later the 6pdr was changed to a 75mm so the vehicles could fire a more efficient HE shell at the loss of some penetration ability.

Churchill tanks first saw action at Dieppe where MkI, II, and III tanks were used. Performance was not great as they struggled to get off the beach - it must be remember that all tanks would have probably suffered the same fate. A number of vehicles were sent to North Africa where performance was much better, the tanks thick armour and ability to climb extremely steep hills was put to good use. In fact it was the Churchill's performance in Tunisia that kept the tanks in production as the project had been scheduled to end in 1943.

Name		Churchill I		Churchill II		Churchill III	
Type							
Production Date	Jun	e 1941			Feb	oruary 1942	
Total Production	303		112	8	671		
Crew	5		5		5		<u> 5</u>
(In turret)	3		3		3		5 3
	0.41		0.41	111	0.41	4 11	
Length	24'-		24'-		24'-		9' 8'
Width	9'-5'		9'-5'		9'-5		9'
Height	8'-2'		8'-2'		8'-2	,, 	8'
NA			00.5		00.5		
Weight	38.5		38.5		38.5		38
Ground pressure	13.1		13.1		13.1		13
Ground clearance	21"		21"		21"		2
Track type	Boy	Section Soude		Section Spude		Section Spudded	В
No per track	70	Section Space	70	Section Space	70	Section Spadded	
		=	434		434		70
Weight of one Track	434))		<u> </u>	43
Track width	22"		22"		22"		22
Engine	Vau	xhaul Vauxha	ul <mark>Va</mark>	auxhaul Vauxh	naul		

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D II D/Tan	0.45	0.45	0.45	
B.H.P/Ton	8.45	8.45	8.45	8.
Max road speed	17.3	17.3	17.3	
Average road speed	16.4	16.4	16.4	16
Gear box type		H4 Constant Mesh		H
Gears	4 Forward 1 Revers	e Forward 1 Rever	Forward 1 Reverse	4
				$\dashv \vdash$
Fuel consumption (road) – M		0.81	0.81	0.
Fuel consumption (cross cou	• •	0.4	0.4	0.
Petrol capacity	150	150	150	1
Auxiliary capacity	-	-	-	_ -
Radius of action (road)	123	123	123	12
Radius of action (cross count		60.5	60.5	60
Trench Crossing	6'-9"	6'-9"	6'-9"	6'
Vertical obstacle	4'	4'	4'	4'
Fording height	3'	3'	3'	4' 3' 34
Gradient	34	34	34	34
Main Armament	2 Pounder 2 Poun	der 6 Pounder 6	<u>Pounder</u>	
Ammunition			85	8 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Secondary Armament	Besa 7.92	Besa 7.92	2xBesa 7.92	2
Ammunition			7875	78
Tertiary Armament	3" How	-	-	<u> </u>
Transverse type	Hand & Electric	Hand & Electric	Hand & Electric	H
Max elevation	20	20	20	20
Max depression	15	15	12.5	12
Turret Ring Size	54.25	54.25	54.25	54
Optics	No.30 No.30 No	. <u>39 No.39</u>		
Armour				
Lower Hull Nose	76.2(I.T.80)+12.7(N	156.2(I.T.80)+12.7(N	/\$ 6.2(I.T.80)+12.7(MS)	70
Upper Hull Nose	38.1(I.T.80)	38.1(I.T.80)	38.1(I.T.80)	38
Hull Front	88.9(I.T.80)+12.7(N	/ 8 8.9(I.T.80)+12.7(N	8 8.9(I.T.80)+12.7(MS)	88
Hull Sides Upper	50.8(I.T.80)+12.5(N	/5 0.8(I.T.80)+12.5(N	/5 0.8(I.T.80)+12.5(MS)	50
Hull Sides Lower	, , ,	, , ,	6 3.5(I.T.80)+12.5(MS)	6
Hull Rear Lower	25.4(I.T.80	25.4(I.T.80	25.4(I.T.80	2
Hull Rear Upper	50.8(I.T.80)	50.8(I.T.80)	50.8(I.T.80)	50
Hull Roof (Front)	19.05(I.T.80)	19.05(I.T.80)	19.05(I.T.80)	19
Engine Deck	15.88(I.T.80)	15.88(I.T.80)	15.88(I.T.80)	1
Hull Floor Front (Hull front fo	` '	19.05(I.T.80)	19.05(I.T.80)	19
Hull Floor Rear	15.88(I.T.80)	15.88(I.T.80)	15.88(I.T.80)	1:
	/	/		٦Ë
Turret Front	101.6(I.T.90)	101.6(I.T.90)	88.9(I.T.80)	88
Turret Roof (Front)	28.58(I.T.90)	28.58(I.T.90)	19.05(I.T.80)	34
Turret Roof (Rear)	28.58(I.T.90)	28.58(I.T.90)	19.05(I.T.80)	34
. 3.7.00 (1.1041)	_5.55(55)	_5.55(1.1.55)		

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Turret Sides Turret Rear	88.9(I.T.90)	88.9(I.T.90)	76.2(I.T.80)	76
	88.9(I.T.90)	88.9(I.T.90)	76.2(I.T.80)	76
Appliqué Armour			31.75(I.T.80) Turret Front 20(I.T.80) Turret Sides Hull sides (From turret rear fo	20 Fi

Name	Churchill VI	Ch	nurchill VII	Churchill VIII
Туре				
Production Date		December 19	43	
Crew	5	5	5	
(In turret)	3	3	3	3
Length	24'-1"	24'-2"		24'-2"
Width	9'-5"	9'-5"		9'-5"
Height	8'-2"	8'-7"	8	3'-7"
Weight	38.5	39.5		39.5
Ground pressure	13.1	13.45		3.45
Ground clearance	21"	21"	2	21"
Track type	Box Section Spudded	Webbed & Stu		Webbed & Studded
No per track	70	72		72
Weight of one Track	4345	3790		3790
Track width	22"	22"	2	22"
Engine	 <u>Vauxhaul</u> <u>Vauxhaul</u> <u>V</u>	/auxhaul		
B.H.P/Ton	8.45	8.6	8	3.6
Max road speed	17.3	13.5		3.5
Average road speed	16.4	13.5		13.5
Gear box type	H4 Constant Mesh	H41 Constant Mesh		H41 Constant Mesh
Gears	4 Forward 1 Reverse	4 Forward 1 R	everse 4	Forward 1 Reverse
Fuel consumption (road	10-8MPG	0.95		0.95
Fuel consumption (cros	\$0¢huntry)	0.31		0.31
Petrol capacity	150	130		30
Auxiliary capacity	-	-		<u> </u>
Radius of action (road)	123	142	1	42
riadido or adilorr (road)] [][· ·

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Radius of action (cross	© Co La try)	46	46
Trench Crossing	6'-9"	6'-9"	6'-9"
Vertical obstacle	4'	4'	4'
Fording height	3'	3'	3'
Gradient	34	34	34
Main Armament	75mm	75mm	95mm
Ammunition			
Secondary Armament	2xBesa 7.92	2xBesa 7.92	2xBesa 7.92
Ammunition			
Tertiary Armament	-	-	-
Transverse type	Hand & Electric	Hand & Electric	Hand & Electric
Max elevation	20	20	20
Max depression	12.5	12.5	12.5
Turret Ring Size	54.25	54.25	54.25
Optics	No.50 x 3 No.50	No.48 x 3	
Armour			
Lower Hull Nose	76.2(I.T.80)+12.7(MS)	139.7(I.T.80)	139.7(I.T.80)
Upper Hull Nose	38.1(I.T.80)	57.15(I.T.80)	57.15(I.T.80)
Hull Front	88.9(I.T.80)+12.7(MS)	152.4(I.T.80)	152.4(I.T.80)
Hull Sides Upper	50.8(I.T.80)+12.5(MS)	95.25(I.T.80)	95.25(I.T.80)
Hull Sides Lower	63.5(I.T.80)+12.5(MS)	82.55(I.T.80)	82.55(I.T.80)
Hull Rear Lower	25.4(I.T.80	25.4(I.T.80)	25.4(I.T.80)
Hull Rear Upper	50.8(I.T.80)	50.8(I.T.80)	50.8(I.T.80)
Hull Roof (Front)	19.05(I.T.80)	19.05(I.T.80)	19.05(I.T.80)
Engine Deck	15.88(I.T.80)	15.88(I.T.80)	15.88(I.T.80)
Hull Floor Front (Hull fr		25.4(I.T.80)	25.4(I.T.80)
Hull Floor Rear	15.88(I.T.80)	19.05(I.T.80)	19.05(I.T.80)
Turret Front	88.9(I.T.90)	152.4(I.T.90)	152.4(I.T.90)
Turret Roof (Front)	19.05(I.T.80)	20(I.T.80)	20(I.T.80)
Turret Roof (Rear)	19.05(I.T.80)	20(I.T.80)	20(I.T.80)
Turret Sides	76.2(I.T.90)	95.25(I.T.90)	95.25(I.T.90)
Turret Rear	76.2(I.T.90)	95.25(I.T.90)	95.25(I.T.90)
Appliqué Armour	20(I.T.80)		
	Turret Sides		
	Hull sides (From turret i	ear forward)	

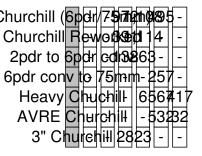
Production of Churchill Tanks by year (UK Only)

19494934344d of May) Churchill (270860-|-|-

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Sources - AVIA 46 188, AVIA 22 456-514, WO 194