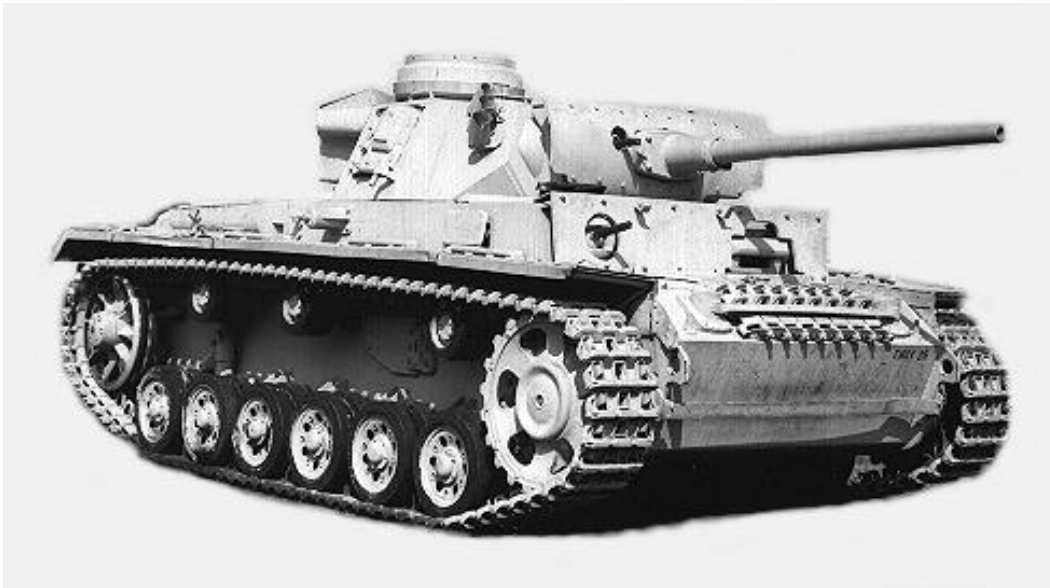


The Book of Tanks

**A Wargamer's Portable Guide to Tanks, Self-Propelled
Guns, Armoured Cars, and Personnel Carriers from
World War I to the 1990's**



**By David L. Ferris
ArmourSoft**



The Book of Tanks

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Introduction

This book is designed to be a handy, portable, comprehensive, concise guide covering tanks and other fighting vehicles used from the First World War to around the end of the 20th Century. Wargamers (people who play recreational games using metal or plastic miniatures, cardboard counters and paper maps, or computers to simulate historical situations) are the intended audience of this book so the information is laid out with them in mind. The data is presented in "real world" format rather than in game terms, and so should be useful as a reference for any set of wargame rules, from any publisher or manufacturer, as well as for non-gamers.

The format allows the reader to print out as many hardcopies of the book as required and place them in binders, to be easily carried to local game club sessions or game conventions. Updates may be downloaded and printed out as soon as they appear, at no extra expense to the reader aside from the time spent downloading and the cost of making a hardcopy.

Like many projects of this nature, *The Book of Tanks* was written for one important reason: I needed something like it for my own personal use. Gamers and other hobbyists had expressed an interest in owning a copy, so the choice to place it online for free downloading was an obvious one.

Originally *The Book of Tanks* (TBOT) was intended to be the data book to be included with the *Tankbase* computer-assist wargaming project, analogous to *The Book of Ships* included with *Shipbase III*. By 1995, *Tankbase* was put on indefinite hold and I considered publishing TBOT as a stand-alone title, probably through a mainstream publisher. By 1999 I was saying nuts to that, and just decided to give the thing away for free over the Net. No deadlines, far fewer headaches, and I didn't have to worry about some unknown editor screwing up the captions. If anyone is going to screw up the captions, it's going to be me!

My intention was not to list every single sub-type, variation, or experimental prototype vehicle ever produced or dreamed of; such a volume would be interesting, but not portable. My goal in TBOT was to list all the vehicles likely to be encountered in a wargame, plus a number of the more interesting designs. Astute readers will note that there are currently no wargaming miniatures available for several of the vehicle types listed in this book. These vehicles are listed here because there *may* one day be miniature models made of them, and for those who wish to create their own conversions.

Note that the coverage in this book is concentrated mostly on WWII and earlier. Many vehicles after 1945 are included, but coverage thins out rapidly after the mid-1980's. This is because not as much information is available on the newer vehicles (note that the bibliography lists mostly sources from the 1960's through the mid-1980's) and even if I could get my hands on the data, most of it is classified, so I wouldn't share it anyway. The armour data for many of the post-1945 vehicles presented here are my best guesses, and this is noted in the vehicle entries.

Most of the research used in the production of this book took place between 1989 and 1995. The sources used often disagree with each other on major and minor points of information. In these situations, I went with the information I felt was more reliable, tempered with my own measurements taken from the genuine vehicles at tank museums whose photos grace the pages of this book. Because of all these disparate references, I cannot claim that the information provided in *The Book of Tanks* is absolutely and definitively accurate. I will only claim that this information is the best I have available, in my own opinion, as of this writing.

If you have comments, suggestions, corrections, or just want to chat about tank stuff, I am generally available online. There are now far too many game-related discussion areas on the Internet for me to visit on a regular basis, but I can be reached via e-mail and through the ArmourSoft web site. The web site, as of April 2002, is at <http://www.irvania.com> and my e-mail address is comments@irvania.com. I am happy to discuss the validity of any of this data, but please be prepared to cite sources and references. Old episodes

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of **Combat**, Sergeant Rock comic books, or anything written by Sven Hassel are not considered acceptable research materials.

Credits:

Research, text, compilation, and layout by: David L. Ferris
Additional research and technical advice: Jim O'Neil

All photography by the author. Most of the photos were taken at the museums at Aberdeen Proving Grounds in Maryland and Fort Knox in Kentucky. Some photos were taken at memorials, monuments, small museums and National Guard armouries scattered throughout the USA, and some of the photos were taken at the Duxford Air Museum in Cambridge, UK.

Photo retouching was done using Paint Shop Pro 5.0 and Adobe Photoshop 3.0 on Windows 3.11 and Windows 95 machines.

The Book of Tanks was originally written and laid out in Ami Pro 3.0 in 1996. This edition was compiled and laid out in Microsoft Word 97.

Example of tank entry:

The top line lists the name of the vehicle, its nation of origin, and the year it was introduced into service. In the case of prototype vehicles that were never accepted into service, the year of manufacture is listed.

Gun: The vehicle's cannon armament. This is generally known by a number followed by "mm", which is the width of the projectile in millimeters. British WWII guns were classified by the weight of the projectile in pounds, e.g., "2-Pounder". The letter "L" followed by a number indicates the gun's calibre, which is its length divided by the diameter of the projectile. The longer a gun is (the higher the "L" number is), the higher its muzzle velocity, which increases its range, accuracy, and hitting power.

Weight: The weight of the vehicle in US tons.

MG: The number and type of machineguns carried. This number often varied in practice as the crews would tend to mount whatever extra weapons they could scrounge, using whatever means were available.

P26/40	Italy	1943
Gun: 75mm L34	Weight: 26 tons	
MG: 1 or 2 x 8mm		
Speed: 22 mph	Crew: 4	
UpHullFr: 50/45°	TurFr: 50/15°	
LowHullFr: 50/45°	GunMant: 50/30°	
HullSide: 45/25°	TurSide: 45/15°	
LowHull: 40/0°	TurRear: 45/15°	
HullRoof: 20/85°	TurRoof: 20/90°	
HullRear: 40/45°		
Notes: Italy's only heavy tank design of WWII. Only about 21 built.		



Nose-on view of the British A12 Matilda Infantry Tank Mark II parked at Aberdeen. Note the many angles making up the front of the tank. In the entries in this book, I used the armour thicknesses and angles I felt provided an aggregate value for the surface area noted.

Speed: The maximum road speed of the vehicle, in miles per hour. In practice this would vary from vehicle to vehicle, as one tank in a platoon would inevitably be a bit faster or slower than the others.

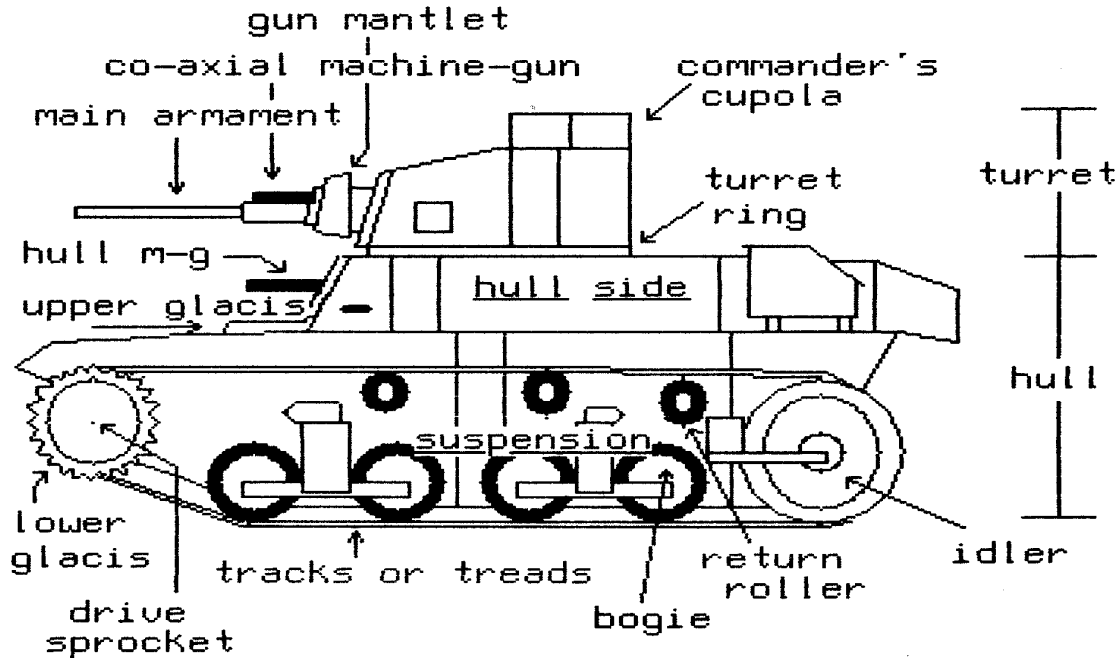
Crew: The number of men it normally took to operate the vehicle.

Armour Thickness and Angle: The armour characteristics are listed as the thickness of the plate in millimeters, followed by a slash, followed by the angle of the plate in degrees. Note that in this book, 0° is straight up and down, perpendicular to the ground, and 90° is laying flat, parallel to the ground.

Notes: Brief comments about the vehicle's configuration, manufacture, or service history.

Variants: Common and/or interesting sub-types are listed.

Parts of a Tank



One of my early attempts at computer graphics. This illustration is from the original *Treads & Turrets* documentation from 1983. I drew this "freehand" on a TRS-80 Color Computer I with a whopping 32K of memory. That's 32 kilobytes, not 32 megabytes. I don't remember the name of the graphics application, but it was one of the early paint programs. This was drawn using a joystick, as this was before it was common for computers to have mice.

Bibliography

Part 1: The "Must Have" List: These books should be on the shelves of every gamer interested in tank warfare. These are all good single-volume sources, so if you only have room for a few books on tanks, this is a good list to start with.

Part 1a: Recently published, recently reprinted, other otherwise generally easy to find

Peter Chamberlain, Chris Ellis. *Pictorial History of Tanks of the World 1915-45*, Fakenham Press Limited, 1972. This is usually the first book I pick up when looking up a tank type. Not a lot of specific information on any given vehicle, but a good overall view of everything.

Peter Chamberlain, Chris Ellis. *British and American Tanks of World War II*, Arco Publishing Company, 1969. Still the definitive work on the subject. I often wish that there were books like this one covering all the other nations.

Peter Chamberlain, Hilary Doyle. *Encyclopedia of German Tanks of World War Two*, Arms & Armour Press, 1978. Very extensive listings for German vehicles, including self-propelled guns and personnel carriers.

Tim Bean, Will Fowler. *Russian Tanks of World War II, Stalin's Armored Might*, MBI Publishing Company, 2002. Lots of photos and drawings of inter-war designs and light tanks that are seldom covered in other books on Russian armour. The title is a bit misleading as the coverage actually extends from the 1917 Renault FT through WWII and a short section up to the T-90.

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Part 1b: Rare, out of print, or otherwise not so easy to find

Duncan Crow, Robert J. Icks. *Encyclopedia of Tanks*, Barrie & Jenkins, 1975. A rare volume, but invaluable. Only short entries for each tank type, but it does a good job of listing the sub-types and variants.

F.M. von Senger und Etterlin. *German Tanks of World War II*, Arms & Armour Press, 1969. Comprehensive listings, many useful charts and diagrams.

John Milsom. *Russian Tanks 1900-1970*, Galahad Books, 1970. This is a fairly rare book but it covers the subject matter well and is well worth hunting down.

Aberdeen Proving Grounds staff. *Tank Data Proving Ground Series*, WE Publishing Inc. Photos of the vehicles at the museum, back when they were in much better condition. Measurements and data taken directly from the real thing, plus some good archive photos and some very interesting period drawings.

Tank Data, no date, author, or editor listed.

Tank Data 2, 1969. Edited by E.J. Hoffschmidt and W.H. Tantum IV.

Tank Data 3, 1972. By Harold E. Johnson..

F. Heigl. *Taschenbuch der Tanks*, J. F. Lehmanns Verlag, 1935. This three-volume set is rare and expensive, but well worth it for the information contained therein. I don't know if an English translation exists. My copy is a 1971 reprint of the 1935 edition, but the original 1921 edition can be found on the used book market. Ich habe Teil I und II, nicht habe Teil III.

Part 2: The "Overview" Books: I call this type of source "overview books" because they cover a big swath of tanky subject matter, either the entire history of tanks (up to the date of publication), a particular war, or a particular nation.

Christopher F. Foss, chief author and consultant. *The Illustrated Encyclopedia of the World's Tanks and Fighting Vehicles*, Salamander Books Ltd., 1977.

Christopher F. Foss, general editor. *The Encyclopedia of Tanks and Armored Fighting Vehicles*, Thunder Bay Press, 2002. Very good coverage. Short capsule entries for each vehicle, good photos and some familiar artwork. A bit more expensive than the other books in this section but well worth it. Some annoying technical errors, like the photo of the Aberdeen Type 97 Shinhoto Chi-Ha medium tank in the entry for the Type 97 Te-Ke light tank.

Ian V. Hogg. *The Greenhill Armoured Fighting Vehicles Data Book*, Greenhill Books, 2000. Also very good coverage with short capsule entries for each vehicle, but not very many pictures. Data is displayed in worldwide alphabetical order, rather than the usual sorting-by-date and/or sorted by nation.

Roger Ford. *The World's Great Tanks From 1916 to the Present Day*, Barnes & Noble Books, 1997.

F.M. von Senger und Etterlin. *The World's Armoured Fighting Vehicles*, Doubleday and Company Inc., 1962. A bit out-of-date information on many important vehicles that were being developed in the late 1950's and early 1960's (Chieftain, M60, M113) but still a very useful book for post-WWII designs. Photos, illustrations, and data on many prototypes that never entered service, many of which are rarely mentioned in later books.

Peter Gudgin. *Armoured Firepower, the Development of Tank Armament 1939-45*, Sutton Publishing Ltd., 1997. This book contains some factual errors but describes a number of systems not generally covered by other sources, e.g., target acquisition doctrine and the design of gun mountings.

Simon Dunstan. *Modern Tanks and AFVs*, Afterlife Publishing Ltd., 2002.

Phillip Trehwhitt. *Armored Fighting Vehicles*, Brown Packaging Books, Ltd., 1999.

David Miller. *The Illustrated Directory of Tanks of the World*, Salamander Books, Ltd., 2001.

The Book of Tanks
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David Miller. *The Great Book of Tanks*, Salamander Books Ltd., 2002. A surprisingly high number of factual errors and misidentified vehicles in this book. I like the title though. A good selection of pictures.

Ray Bonds, editor. *Modern Tanks and Fighting Vehicles*, Salamander Books Ltd., 1980.

David Miller, Christopher F. Foss. *Modern Land Combat*, Salamander Books Ltd., 1987.

Col. Walter J. Boyne, consultant. *Weapons of Desert Storm*, Publications International Ltd., 1991.

Jacques Sicard et François Vauvillier. *Les Chasseurs D'Afrique*, Histoire & Collections, 1999. Très bon couverture les français chasseurs d'Afrique de 1831 à 1998, avec beaucoup de chars.

Steve Crawford. *Tanks of World War II*, MBI Publishing Co., 2000. If you're looking for one single volume inexpensive reference for WWII tanks, this would be a good candidate.

Jean Restayn. *Tanks of World War Two*, Histoire & Collections, 1996. My copy is an English translation of the original French. An entire book of color plates with brief commentary, looks a lot like the color plate pages in the Squadron/Signal books. Perfect for researching paint schemes and vehicle markings. Unfortunately doesn't cover Pacific Theatre or late-war Soviet vehicles.

Tony Cullen, Christopher F. Foss, editors. *Jane's Armour and Artillery, 17th Edition, 1996-1997*, Jane's Information Group, 1996.

Kenneth Macksey, John H. Batchelor. *Tank, A History of the Armoured Fighting Vehicle*, Ballantine Books, 1971. Very dated.

Various authors. *Land Power*, Exeter Books, 1979. Also very dated.

Eric Morris. *Tanks*, Octopus Books Limited, 1975. Coffee table book. One of the first tank books in my collection.

Roger Ford. *The Gatefold Book of Tanks*, Barnes & Noble Books, 1998. Very nice fold-out illustrations, some interesting photos.

Richard Chasemore, Ian Harvey. *Look Inside Cross-Sections: Tanks*, Dorling Kindersley Ltd., 1996. I really like this one but I can't put my finger on why.

Hans Halberstadt. *Inside the Great Tanks*, Crowood Press Ltd., 1998. Lots of color photos of really clean, freshly painted vehicles.

Chris Bishop, editor. *The Encyclopedia of Weapons of World War II*, Orbis Publishing Ltd., 1998. Some good coverage of tank stuff but by no means exhaustive.

Liliane and Fred Funcken. *Arms and Uniforms: The Second World War, Volumes 1-4*, English Edition: Ward Lock Ltd., 1976. The vehicle data in this four-volume set is not as reliable as most of the other sources listed in this bibliography, but the color plates are very useful as painting guides and the uniform information is invaluable. These books are rare and expensive, but well worth the investment if you are a scale modeller or miniature painter.

Duncan Crow, Robert J. Icks. *Encyclopedia of Armoured Cars*, Chartwell Books Inc., 1976. Companion volume to Crow & Icks *Encyclopedia of Tanks*. The most comprehensive book on the subject that I've ever seen.

Charles K. Kliment and Vladimir Francev. *Czechoslovak Armored Fighting Vehicles, 1916-1948*, Schiffer Publishing Ltd., 1997.

Nicola Pignato. *I Mezzi Corazzati Italiani 1939-1945*, Storia Militare, 1996. The edition I have is entirely in Italian, but the information is well laid-out and easy to read.

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Wolfgang Fleischer. *Russian Tanks and Armoured Vehicles, 1917-1945*, Schiffer Publishing Ltd., 1999.
Fred Koch. *Russian Tanks and Armoured Vehicles, 1946-Present*, Schiffer Publishing Ltd., 1999.

Eric Grove. *Russian Armour 1941-1943*, Almark Publishing Co. Ltd., 1976.

Dr. Matthew Huges & Dr. Chris Mann. *The T-34 Russian Battle Tank*, MBI Publishing Co., 1999. This is more of an "overview" type book than a "nitty-gritty" type. Lots of good internal and external photos and line drawings.

Thomas Berndt. *American Tanks of World War II*, MBI Publishing Company, 1994. Lots of nice photos of restored vehicles.

Wolfgang Fleischer. *An Illustrated Guide to German Panzers, 1935-1945*, Schiffer Publishing Ltd., 2002. Contains a lot of photos I hadn't seen before. Interesting information on the German maintenance system and how few tanks were usually available at any given time. Quotes from German unit commanders will shock many gamers as to actual division strength versus "paper" Order of Battle strength.

Michael Green, Thomas Anderson, and Frank Schulz. *German Tanks of World War II in Color*, MBI Publishing Company, 2000. Great color photos of museum displays and vehicles restored to their original condition. Some sad photos of tanks that have not been properly cared for and have deteriorated over the decades.

Philip Warner. *Panzer*, Arthur Barker Limited, 1976. Coffee table book.

Part 3: The "Nitty-Gritty" Books: The following sources are more in-depth than the overview books, so probably won't be of interest unless you're really interested in the specific subject matter. Many of these are pretty expensive as well.

The R. P. Hunnicutt Series from Feist Publications, Inc.: These volumes tell you just about everything you need to know about the vehicles described. I would have included this series on the "Must Have" list above, were they not so expensive and hard to find. It took me several years to collect the entire set.

Patton: A History of the American Main Battle Tank volume I, 1984.

Firepower: A History of the American Heavy Tank, 1988.

Abrams: A History of the American Main Battle Tank volume II, 1990.

Stuart: A History of the American Light Tank, Part I, 1992.

Sherman: A History of the American Medium Tank, 1994.

Sheridan: A History of the American Light Tank, Part 2, 1995.

Pershing: A History of the Medium Tank T20 Series, 1996.

Bradley: A History of American Fighting and Support Vehicles, 1999.

Half-Track: A History of American Semi-Track Vehicles, 2001.

Armored Car: A History of American Wheeled Combat Vehicles, 2002.

The Thomas L. Jentz Series from Schiffer Publishing Ltd.: Jentz has authored an extensive series of excellent books concentrating mostly on German WWII armour.

Tank Combat in North Africa, the Opening Rounds, 1998.

Panzer Truppen, Volumes 1 and 2, 1996.

Germany's Tiger Tanks Series: VK45.05 to Tiger II, 1997. Co-authored with Hilary L. Doyle.

Germany's Tiger Tanks Series: Tiger I & II: Combat Tactics, 1997. Good stuff.

Germany's Tiger Tanks Series: Tigers at the Front, 2001. Mostly photos.

Germany's Panzers in World War II from Pz.Kpfw.I to Tiger II, 2001. Co-authored with Hilary L. Doyle. Great book! Entries for all the "ausf's", including lots of armour thickness and gun penetration data. This book is one of my new favourites.

The Spielberger German Armor & Military Vehicles Series from Schiffer Publishing Ltd.: Not as much detail as the Hunnicutt series, but plenty of excellent photos, drawings, and data.

Volume I, Panther & Its Variants, 1993.

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Volume II, Sturmgeschütz & Its Variants, 1993.

Volume III, Panzer III & Its Variants, 1993.

Volume IV, Panzer IV & Its Variants, 1993.

David Fletcher. *Mr. Churchill's Tank, the British Infantry Tank Mark IV*, Schiffer Publishing Ltd., 1999.
Very good volume covering the entire history of the Churchill, plus a bit on the earlier British infantry tanks.

Part 4: Monograph Series, Magazines, and Similar "Booklet" Format Sources

The Profile Series, Profile Publications Ltd.: Two excellent sets of pamphlets on individual vehicle types and series of vehicles. Perhaps more useful to scale modellers than to wargamers, but well worth the price. Published between 1967 and 1974. There were 24 issues in the first series, sometimes known as the "red cover editions". The second series was much more widespread, at least 64 issues having been published. The following were used in researching *The Book of Tanks*:

B.T. White. *AFV 1, Churchill, B.I.T. Mk IV*.

Chris Ellis and Peter Chamberlain. *AFV 4, Light Tanks M1-M5*.

B.T. White. *AFV 6, Valentine Mk III*.

Chris Ellis and Peter Chamberlain. *AFV 7, Medium Tanks Marks A-D*.

Major James Bingham. *AFV 8, Crusader – Cruiser Mark VI*.

Major-General N.W. Duncan. *AFV 9, Early Armoured Cars*.

Chris Ellis and Peter Chamberlain. *AFV 10, Panzerkampfwagen V Panther*.

Chris Ellis and Peter Chamberlain. *AFV 11, M3 Medium (Lee/Grant)*.

Major-General N.W. Duncan. *AFV 12, Mediums Marks I-III*.

Chris Ellis and Peter Chamberlain. *AFV 13, Ram and Sexton*.

Peter Chamberlain and Duncan Crow. *AFV 14, Carriers*.

Major-General N.W. Duncan. *AFV 15, Panzerkampfwagen I & II*.

Colonel Robert J. Icks. *AFV 16, Landing Vehicles Tracked*.

Major Michael Norman. *AFV 17, Russian KV and IS*.

Peter Chamberlain and Chris Ellis. *AFV 20, Churchill and Sherman Specials*.

B.T. White. *AFV 21, Armoured Cars*, 1970.

Major James Bingham. *AFV 25, Cromwell and Comet*, 1971.

Colonel Robert J. Icks. *AFV 26, Hellcat, Long Tom and Priest*, 1971.

R.M. Ogorkiewicz. *AFV 34, Scorpion Reconnaissance Tank*, 1971.

Major Michael Norman. *AFV 38, Conqueror Heavy Gun Tank*, 1972.

R.M. Ogorkiewicz. *AFV 39, Panhard Armoured Cars*, 1972.

Colonel Robert J. Icks. *AFV 40, U.S. Armored Cars*, 1972.

R.M. Ogorkiewicz. *AFV 42, Modern Swedish Light Armoured Vehicles*, 1972.

R.M. Ogorkiewicz. *AFV 44, Ferrets and Fox*, 1972.

R.M. Ogorkiewicz. *AFV 45, Vickers Battle Tank*, 1973.

Colonel Robert J. Icks. *AFV 46, Light Tanks M22 Locust and M24 Chaffee*, 1972.

J.M. Brereton and Major Michael Norman. *AFV 47, Russian T34*, 1972.

Lt.General Tomio Hara. *AFV 49, Japanese Medium Tanks*, 1972.

R.M. Ogorkiewicz. *AFV 50, Swiss Battle Tanks*, 1972.

Christopher F. Foss. *AFV 51, Abbot FV433 Self-Propelled Gun*, 1972.

Colonel Robert J. Icks. *AFV 52, M47 Patton*, 1972.

Christopher F. Foss. *AFV 53, The FV 432 Series*, 1973.

R.M. Ogorkiewicz. *AFV 56, Missile Armed Armoured Vehicles*, 1973.

Walter Spielberger, Peter Chamberlain, and Hilary L. Doyle. *AFV 57, Schützenpanzerwagen SdKfz 251, SdKfz 250*, 1973.

Major James Bingham. *AFV 58, French Infantry Tanks: Park I (Chars 2C, D and B)*, 1973.

Christopher F. Foss. *AFV 62, Commando, Twister and High Mobility Vehicles*, 1973.

Major-General N.W. Duncan. *AFV 64, Armoured Personnel Carriers – A Survey*, 1974.

Some of the Profile volumes were collected in hardcover or softcover compilations:

Various authors. *Armour in Profile*, Profile Publications Ltd., 1968. Hardbound collection of the 24 "red cover" first series profiles.

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Various authors. *Armored Fighting Vehicles of Germany*, Arco Publishing Company, 1978.
Duncan Crow, editor. *Modern Battle Tanks*, Arco Publishing Company, 1978.

The “Ospreys”, Osprey Publishing Ltd.: There are so many volumes in these two series, the “Old” Vanguard and the New Vanguard Series, that the thought of collecting them all overwhelmed me. They’re excellent books but for some reason I only bought one until just recently. I’m now slowly picking them up, one or two here and there. At this rate I’ll own the entire series in about forty-five years.

Steven J. Zaloga, James Grandsen. *Soviet Heavy Tanks*, Vanguard 24 , 1981.

Steven J. Zaloga. *The M2 Bradley Infantry Fighting Vehicle*, Vanguard 43 , 1986.

Bryan Perrett, Peter Sarson, Mike Chappell. *Churchill Infantry Tank 1941-1951*, New Vanguard 4, 1993.

Tom Jentz, Hilary Doyle, Peter Sarson. *Tiger I Heavy Tank 1942-1945*, New Vanguard 5, 1993.

David Fletcher, Peter Sarson. *Matilda Infantry Tank 1938-1945*, New Vanguard 8, 1994.

Chris Foss, Simon Dunstan, Peter Sarson. *Scorpion Reconnaissance Vehicle 1972-1994*, New Vanguard 13, 1995.

Tom Jentz, Hilary Doyle, Peter Sarson. *Flammpanzer German Flamethrowers 1941-1945*, New Vanguard 15, 1995.

Michael Jerchel, Peter Sarson. *Flammpanzer German Flamethrowers 1941-1945*, New Vanguard 16, 1995.

Hilary Doyle, Tom Jentz, Mike Badrocke. *Panther Variants 1942-1945*, New Vanguard 22, 1998.

Steven J. Zaloga, Jim Laurier, *The M47 and M48 Patton Tanks*, New Vanguard 31, 1999.

Steven J. Zaloga, Tony Bryan, Jim Laurier, *M26/M46 Pershing Tank 1943-1953*, New Vanguard 35, 2000.

Mark Healy, *Kursk 1943*, Campaign 16, 1993.

The Arco “WW2 Fact File” Series, Arco Publishing Company: A handy and inexpensive series, although the entries are often incomplete and the data sometimes contradicts more reliable sources.

Peter Chamberlain, John Milsom. *Allied Combat Tanks*, 1978.

Peter Chamberlain, Chris Ellis. *Axis Combat Tanks*, 1977.

Peter Chamberlain, John Milsom. *Self-Propelled Anti-Tank and Anti-Aircraft Guns*, 1975.

Peter Chamberlain, Terry Gander. *Anti-Tank Weapons*, 1974.

The Bellona Print Series, Bellona Publications, Ltd.: Another outstanding series of pamphlets, somewhat more rare than the Profiles. Excellent multi-view drawings and armour layout information.

Peter Chamberlain, John Milsom. *Allied Combat Tanks*, 1978.

Series 1 through 19, 1964 to 1969.

Series 20, 1970.

Series 21, 1967.

Series 22, 1970.

Series 23, 1970.

Series 24, 1970.

Series 25, 1970.

Series 28, 1971.

Series 31, 1972.

Series 34, 1972.

The Schiffer Military History Series, Schiffer Publishing Company: Reminiscent of the old Squadron/Signal “In Action” series. Most of the series covers German WWII topics.

Michael Sawodny. *Unusual Panzers*, 1994.

Michael Sawodny. *German Armored Rarities 1935-1945*, 1998.

Michael Scheibert. *The Secret Beginnings of Germany’s Panzer Troops*, 1999.

Troy D. Thiel. *The M26 Pershing and Variants*, 2002.

P. Touzin and C. Gurtner. *French Armoured Fighting Vehicles No.1, Char d’Assaut Battle Tanks*, Bellona Publications Ltd., 1970. Capsule entries covering all French light, medium, and heavy tanks from the Schneider through the AMX-30.

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P. Chamberlain and H.L. Doyle. *German Army Semi-Tracks 1939-45, Part 1. Prime Movers and Self Propelled Carriages*, Bellona Publications Ltd., 1971. Very good "capsule" coverage of German halftrack artillery tractors and gun carriages, including a number of types that are usually left out of other sources.

P. Chamberlain and H.L. Doyle. *German Army S.P. Weapons 1939-45, Part 2. Foreign-Built Fully Tracked Chassis*, Bellona Publications Ltd., 1971. Typical good quality Bellona stuff, covering Hetzers and Marders and Semoventes and all that stuff.

The Squadron/Signal Series, from Squadron/Signal Publishing Co.: Intended more for scale modellers than for wargamers, these books nevertheless contain lots of useful information and good photographs.

Terence Wise. *D-Day to Berlin*, 1979.

Bruce Culver, Bill Murphy. *Panzer Colors*, 1976.

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Martin Windrow. *Tank and AFV Crew Uniforms Since 1916*, 1979.

Steven J. Zaloga and James Grandsen. *The Eastern Front*, 1983.

The Aero Armor Series, Aero Publishing Inc.:

Heinz J. Nowarra, Uwe Feist, Edward T. Maloney. *Volume 1, The Tiger Tanks*, 1966.

Uwe Feist, Heinz J. Nowarra. *Volume 2, The German Panzers from Mark I to Mark V "Panther"*, 1966.

Walter J. Spielberger, Uwe Feist. *Volume 3, Sturmartillerie from Assault Guns to Hunting Panther*, 1967.

Walter J. Spielberger, Uwe Feist. *Volume 4, Sturmartillerie, Self-Propelled Guns and Flak Tanks*, 1967.

Walter J. Spielberger, Uwe Feist. *Volume 5, Strassenpanzer, The German Scout Cars*, 1968.

Walter J. Spielberger, Uwe Feist. *Volume 6, Armor on the Eastern Front*, 1968.

Walter J. Spielberger, Uwe Feist. *Volume 7, Halbkettenfahrzeuge, German Halftrack Vehicles*, 1968.

Walter J. Spielberger, Uwe Feist. *Volume 8, Armor in the Western Desert*, 1968.

Walter J. Spielberger, Uwe Feist. *Volume 9, Sonderpanzer, German Special Purpose Vehicles*, 1968.

Walter J. Spielberger, Uwe Feist. *Volume 10, Militärfahrzeuge, German Softskinned Vehicles of WW2*, 1970.

Uwe Feist. *Volume 11, Aero Armor-Series*, 1979.

Walter J. Spielberger, Uwe Feist. *Panzerkampfwagen IV, "Workhorse" of the German Panzertruppe*, 1977.

Walter J. Spielberger, Uwe Feist. *Panzerkampfwagen V Panther*, 1977.

Walter J. Spielberger, Uwe Feist. *Panzerkampfwagen VI Tiger I and II "Königstiger"*, 1977.

John M. Brereton and Uwe Feist. *Russian Tanks, Evolution and Development 1915-1968*, 1970.

Uwe Feist. *Journal Military Panorama No. 1*, 1969.

The Almark Series, from Almark Publishing Co. Ltd.: Another series of small, inexpensive books intended primarily for scale modelling.

Kenneth M. Jones. *No. 2 British North Africa*, 1977.

Kenneth M. Jones. *No. 3 German Eastern Front*, 1978.

Purnell's History of the World Wars Series:

Peter Chamberlain, Chris Ellis, John Batchelor. *German Fighting Vehicles 1939-1945*, 1975.

Andrew Kershaw, editor. *The Tank Story*, 1972. My very first tank book. Somebody gave it to me around 1974.

The War Data Series, Eshel Dramit Ltd., edited by Lt. Col. D. Eshel: This series, along with the *Born in Battle* magazines from the same publisher, contain a lot of interesting photographs and illustrations. The data however should be taken with a grain or two of salt, particularly when it involves the then-new equipment.

War Data Number 10, Israel's New Merkava, 1981.

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War Data Number 12, Soviet A.P.C. BTR40, 50, 60, 152, BRDM, BMP, BMD, 1981.

War Data Number 14, Main Battle Tanks Chieftain, T-62, M-60, AMX-30, 1981.

AFV-G2 Magazine, many issues.

Tankette, the Miniature Armoured Fighting Vehicle Association (MAFVA) Magazine, many issues.

Thomas L. Jentz. *Panzerkampfwagen Maus*, Darlington Productions Inc., 1997.

Janusz Magnuski. *Samochod Pancerny Wz.34*, Wydawnictwo Ministerstwa Obrony Narodowej, 1979. This is from a series of Polish-language booklets similar to the Profiles in format.

Frank Chadwick. *Desert Shield Fact Book*, Game Designers' Workshop, 1991.

Part 5: "Pocket"/"Recognition Guide" Books: Small-format booklets with capsule entries for each vehicle. Inevitably they don't have an entry for the specific vehicle you're looking for if it isn't one of the main types, but if you work with a stack of four or five of these books you'll usually find at least one entry.

Christopher F. Foss. *Jane's Pocket Book 4: Modern Tanks and Armoured Fighting Vehicles*, MacDonald and Jane's Publishers Ltd., 1974.

Charles Messenger. *The New Observer's Book of Tanks & Other Armoured Vehicles*, Frederick Warne (Publishers) Ltd., 1981.

Bob Lewis, editor. *Concise Color Guides: Modern Fighting Vehicles*, Longmeadow Press, 1988.

Terry J. Gander. *Collins/Jane's Tanks of World War II*, HarperCollins Publishers, 1995.

Chris Foss. *Collins/Jane's Modern Tanks*, HarperCollins Publishers, 1995.

Heinz J. Nowarra. *German Tanks 1914-1968*, Arco Publishing Company, 1968. Very dated.

George Bradford, Len Morgan. *50 Famous Tanks*, Arco Publishing Company, 1967. Very dated.

George Bradford. *Great Tank Battles of WWII*, Arco Publishing Company, 1970.

Part 6: Recommended Autobiographies and Histories

Major Robert Crisp. *Brazen Chariots*, Bantam Books edition, 1978. The classic. Crisp's autobiographical experiences as a tank commander in North Africa. If you read nothing else in this bibliography, read this one.

Major Robert Crisp. *The Gods Were Neutral*, Ballantine Books edition, 1960. Crisp describes his first combat experience as part of the unsuccessful British excursion in Greece in 1941.

Ralph Zumbro. *Tank Sergeant*, Presidio Press, 1986. The author's experiences as an M-48 commander in Viet Nam.

Ralph Zumbro. *Tank Aces*, Pocket Books, 1997. Collected experiences of tank crewmen and cavalymen from WWII through Desert Storm. The combat recollections are pretty good, the editorialized political sections in between are not so good.

Michael D. Mahler. *Ringed in Steel*, Presidio Press, 1986. ACAV operations in Viet Nam.

Belton Y. Cooper. *Death Traps*, Presidio Press, 1998.

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Dmitriy Loza, translated and by James F. Gebhardt. *Commanding the Red Army's Sherman Tanks*, University of Nebraska Press, 1996.

Dmitriy Loza, translated and by James F. Gebhardt. *Fighting for the Soviet Motherland*, University of Nebraska Press, 1998.

Major-General F. W. von Mellenthin. *Panzer Battles*, Cassell & Co. Ltd., 1955.

Kenneth Macksey. *Tank Warfare*, Rupert Hart-Davis Ltd., 1971.

Bryan Cooper. *The Ironclads of Cambrai, The First Great Tank Battle*, Rupert Cassell Military Paperbacks, 2002. Reprint of a 1967 Souvenir Press edition.

Patrick Wright. *Tank*, Penguin Putnam Inc., 2002.

Part 7: Web Pages

There are some outstanding web pages out there covering all sorts of tank-related stuff. These sites sometimes come and go faster than I can keep track of them, so I will not attempt to list them here. I try to maintain a fairly up-to-date list of armour-related links at my web site (www.irvania.com).

The Book of Judges 1:19. Mention the word "tank" and most people think of an awesomely powerful, seemingly unstoppable weapon. Tanks (often referred to loosely as "armor") may be defined as tracked, armored fighting vehicles armed with a high-velocity, flat-trajectory main gun designed for direct-fire engagement. This distinguishes them from artillery, which primarily employs indirect fire. The section that lists the major tanks is an important part of this book. It includes statistical information and illustrations of major tank designs from World War I to the present. It lists such vital information as weight, speed, armor, armament, crew size, battle characteristics, and performance, and "if known" the number manufactured.