

This readme file contains:

- (1) Scenario Notes for each Scenario.
- (2) Designers' Notes.
- (3) General Strategic and Tactical Notes.
- (4) Campaign Notes.

SCENARIO NOTES

The discussion of scenarios appears in the order they appear in the scenario screen. After the name of each scenario is the number of turns in the scenario, the minimum objectives required for an Axis victory, and some playing tips from playtesters (use them at your own risk!). For each scenario, the Allied victory conditions are simply to prevent the Axis from achieving theirs.

There are scenarios to suit a variety of historical interests or tactical tastes. We suggest you try the tutorial first to gain familiarity with the game system, then try other scenarios. If you want a stiff siege, try Sevastopol. For the classic encirclement battle, refight Kiev. If mobile steppe tank warfare is your interest, play Kharkov. Play Kursk for a mass armor assault, Budapest for a head-on slugging match, Crete for heavy airborne action, Crete, Norway, Sealion or North Africa for a naval battle, El Alamein or Torch for a duel in the desert, Anvil, Anzio or Norway for mountain warfare, D-Day for a major amphibious operation, Cobra for a fight against hopeless odds, and the Low Countries or Barbarossa for the classic blitzkriegs of the war.

1. POLAND--10 turns; Axis: take all objectives.

AXIS: See the Tutorial.

ALLIES: The Polish tanks are your strongest units. The TK3 is good against soft targets such as infantry and artillery while the 7TP is strong against hard targets and is formidable against the weaker German tank units. Use your tanks to stall the Axis advance at the Warta River as long as possible, and note that flank attacks on the Germans from Posen south can often divert enemy strength. Sometimes you can even hold Kalisz, but it is likely to be costly and risky.

2. WARSAW--20 turns; Axis: take all objectives.

AXIS: First, seize control of the air with a fighter. Once you control the skies, your air force can bomb and strafe the Allies with impunity. Second, you have air transport available--use it. Third, consider raising a pioniere or bridging engineer unit, if you can afford it, to let you cross the Vistula at will and help storming fortifications. Finally, keep pressing forward at all of your objectives--don't wait until Warsaw falls to go after the other objectives.

ALLIES: You have the advantage of being on the defense with powerful fortifications to protect you. Unfortunately, your air force is outclassed and your artillery is outranged. Keep your artillery behind the lines where it is protected from direct attack and can offer defensive fire support for defensive positions held by infantry or antitank guns or spoil an attack by bombarding the enemy moving adjacent to your units.

Garrison the objectives strongly. Keep armored reserves for counterattacks, bearing in mind the discussion about Polish armor for the Poland scenario. Use your air force defensively--you can shoot up the enemy bombers but are outmatched by their fighters. Your bombers are as good as the German bombers, but you will need to escort a bomber with a fighter.

3. NORWAY--25 turns; Axis: take all objectives.

AXIS: This is a big jump up in difficulty from Warsaw since it includes a lot of rugged terrain land, air and naval elements, each important to victory. Your southern landing group should concentrate on securing the Oslo region while a small detachment takes Stavanger and then springboards up the coast, city by city, with naval help. These initial successes will gain you two important airfields. Press on up the Lagen River valley through Lillehammer to Trondheim to link up with the northern landing group. Sending a force by the overland route up the Glomma Valley is slow (they will need at least half-tracks) but, in combination with paradrops further north, can divert Allied forces from the defense of Trondheim and perhaps gain a base of attack from which you can attack Namsos from the east.

The fate of the northern group depends a great deal on the outcome of the naval battle. Infantry and unarmored artillery cannot long survive heavy shore bombardment, so an attack on

Trondheim will be limited until the Axis fleet can consolidate off Bergen and then draw off Allied seapower. Sometimes the Axis can even win the naval war and provide shore bombardment support along the coast, but while the issue is in doubt the northern force can capture Molde and nearby cities while waiting for reinforcements from the southern landing group.

The air war is extremely important--you start with a slight edge which you have to turn into air superiority. The Norwegian air force is easy prey, but the British fighters are as good as yours and will be serious trouble for you if you let them gain an edge on you in experience. In particular, don't let them learn their trade by target practice on unescorted Axis bombers and air transports. You may consider requisitioning a level bomber with a good naval attack rating to help the German Navy in the Norwegian Sea. The navy has a tough job, especially until the northern and southern task forces can unite to face the Allied fleet that steams to the defense of Trondheim. The first thing to remember, however, is to screen your troop transports from Allied naval attack if you want them to survive to fight on Norwegian soil. Your U-boats, particularly if supported by destroyers, can pose a serious threat to the rear of the Allied fleet.

ALLIES: You can win this one if you can successfully block and delay the Axis advance at a few key chokepoints. You may be able to stop the Axis on the beaches in the north, but in the Oslo region you need to sell yourself dearly. Entrenched troops in Hamar and Elverum that can hang on when driven out into the nearby mountains can tie down a large number of Germans for some time. The constricted Lagen River valley around Lillehammer is another good defensive position, particularly if you can hold your own in the air and get your bombers through against enemy units floundering in the river hexes. The next defensive position you can fall back to is Trondheim itself, and this is the strongest--your likeliest chance of winning is by holding it permanently. If Trondheim falls, you can still force the Axis to a slow pace as they move up on Namsos. Steinkjer can prove to be a thorn in the enemy's side.

Air power should be concentrated in the Trondheim-Namsos area and backed up by good air defenses to keep the Axis bombers at bay. This may mean that Axis paratroops can slip past you, so be sure to place at least a Norwegian unit as a garrison in each important city to prevent a threat from springing up in your rear. Keep your air units, especially the precious British

fighters, alive and try to gain an experience edge on the Luftwaffe.

Your fleet is initially superior in the Norwegian Sea until the rest of the German Navy arrives from the southern coast. You should always try to catch unwary Axis transports at sea and sink them, but you will probably wind up fighting their escorts. Then you face the choice of trying to defeat and pursue the Axis fleet or staying close inshore and supporting your ground forces in the Trondheim area. Make sure to screen your capital ships with your escorts, since a U-boat can cause a lot of damage if it penetrates your defenses.

4. LOW COUNTRIES--30 turns; Axis: take all objectives.

AXIS: The heart of blitzkrieg is punching through the enemy line and striking deep beyond it, with second-echelon forces following behind to mop up. Lead with recon and tank units followed by half-track mounted infantry and artillery that are better able to withstand enemy shooting than truck-mounted troops. An important advantage of striking deep is that the enemy will have to reinforce his rear areas rather than strengthen his forward positions, and you won't give him time to entrench very strongly. You may also get the chance to smash vulnerable support units and surprise enemy antitank guns or other units while they are mounted on trucks.

You have a number of lines of advance to choose from. At least a small battlegroup should advance through Luxembourg to Sedan and ultimately past Maubeuge towards Abbeville, while a large one must advance from south of Liege to Namur. Then you may thrust toward Maubeuge or Brussels, divide and attack both, or strike in between them directly on Lille and rely on mop-up forces to secure these two objective cities. A third line of advance is from Maastricht towards Brussels, sometimes continuing towards Lille and merging with the central thrust and sometimes striking a northerly course to Ostend. Combined arms tactics will be necessary to counter the strongly entrenched Allies and their strong heavy tanks. Bypass enemy pillboxes and forts if possible--they can't move so can't do any harm once you move on.

Seize air superiority and keep it. Your Stukas will need to be free to support your ground troops against tough entrenchments and enemy armor, while your fighters and level bombers should hone their skills against soft targets once the Allied air force

is eliminated.

ALLIES: The first goal is to slow the enemy down. Unfortunately, there is little you can do to stop the German onslaught in the defensively favorable Ardennes. Liege is also ultimately doomed, but at Sedan, Namur, and generally along the line of the Meuse you can at least delay the crossing for a few turns while building your defenses. Meanwhile, your combined-arms garrisons can dig in at Maubeuge, Brussels and Lille, with a final defensive position using the favorable terrain around Calais. Garrison your rear area cities and airfields with infantry against enemy paratroops or air-transportable forces, and don't waste your armor forces in piecemeal and head-on resistance to the Germans. Group them at least in pairs and keep them alive to divert the enemy forces from attacks on your cities and to counterattack when the enemy makes a mistake. Your heavy tanks are better than the Axis armor.

You can make the most of an inferior air force by using your fighter force cautiously to pick off exposed enemy bombers rather than facing the Axis head-on. Air defense units will be valuable in making the Germans pay a price for bombing your cities, and in weakening the enemy air units to facilitate your fighter attacks. Keeping an air force as a threat in being will also encourage the enemy to use fighters to escort bombers rather than allowing them to attack separately or go after your bomber missions. Your bombers could also be held back and sent out together with the fighters in a mass wave that will stretch the German fighter force.

5. FRANCE--26 turns; Axis: take all objectives.

AXIS: Let's do the "blitzkrieg" again. Break through the French defense line at one or more points and keep moving. Using 3 battlegroups is a natural organization for this battle: one driving down the coast to Le Havre and Caen, then southeast to Le Mans, a large battlegroup fighting through to Paris and then splitting to attack Le Mans via Chartres and Tours via Orleans, and a third battlegroup pushing to Montargis and taking Reims and Troyes en route. An alternate plan is to breakthrough in force on the Ham-Reims front through Thierry while pinning along the rest of the front. After driving to Paris behind the French troops to the north, the force splits into 3 battlegroups heading to Caen and Le Havre on the coast, to Le Mans and Tours via Chartres, and to Orleans and Montargis.

Whatever route you take, speed is essential and you should apply the blitzkrieg lessons learned in the Low Countries: keep pushing forward, control the air, and watch out for those French heavy tanks!

ALLIES: If you are lucky, the Germans will attack all along the line and slowly force you back. It is more likely, though, that some will get past you and you will have to retreat to get into action again. Paris is the key to your defense--the fortifications, woods and river all contribute to its defensive strength. Tours and Le Mans are not as good, but you should build up their defenses as your final chances to stop the Axis juggernaut. If the Axis forces break through the front, try to get your army on the Somme back to help defend Paris. Use your excellent heavy tanks in groups to counterattack and disrupt the Axis advance--concentrate on soft targets rather than wasting effort on the German armor. Your air force is heavily outnumbered--try to take out the Axis bombers and consider spending prestige on ground troops and air defenses for your key strongholds rather than on new aircraft.

6, 38 & 11.. SEALION 40, PLUS & 43--15 turns; Axis: take all objectives.

AXIS: In all the Sealion scenarios, naval action is relatively peripheral compared with airpower, which is essential to ensure adequate close air support on the ground and ensure that your paratroops get through to and take their objectives via the air. Your naval forces can help with some bombardment early on, after which their main task is to engage the Allied fleet and keep it from interfering with the land battles, particularly around London. Your U-boats can wreak havoc on the Allied capital ships if the Allied escorts can be cleared away.

Your time is limited, so you should attempt to seize all your objectives concurrently rather than in sequence. The least diversion could be fatal. Once you have secured a beachhead, divide your forces into 4 battlegroups. The first battlegroup, landing in the east, is to take Canterbury and then assist with artillery in the attack on London from the east, but its main thrust actually passes by London across the Thames and heads toward Norwich, supported by the nearby naval task force. A bridging unit can be quite useful. The second battlegroup will assault London from the south, and is weighted towards artillery and infantry units but will include some tanks to help deal with

Allied armor.

The third and fourth battlegroups are smaller and advance on Birmingham and Bristol respectively, although initially they advance jointly on Winchester, Newbury and Oxford before splitting. The third battlegroup can be aided by advance airborne landings near Birmingham, or the parachute forces can be used to seize Peterborough or Harwich and then Norwich, in which case the first battlegroup encircles London from the north rather than continuing north to Norwich.

Sealion Plus is easier because the presence of the Italian fleet speeds the destruction of the Allied navy, while in Sealion 43 the Allies are much better prepared and the fight will be tougher.

ALLIES: While it is best to catch the Axis ground troops in their transports with your air or naval forces or force them to surrender on the beaches, this is a risky strategy and it is likely that they will obtain secure footholds from Dover to Portsmouth regardless of your efforts. Concentrate any early attacks on artillery, pioneers and engineers--the most essential troops for the Axis attack on London. Your overall strategy will be to use the enormous fortress of London and its garrison to block their direct advance, while using additional forces to keep them from slipping around it. Holding onto London till turn 12 isn't worth much if the Germans are already in the Midlands. Your strongest defense line once the Axis have secured a lodgment on English soil will run from London along the Thames to Newby and Winchester. While you hold the enemy advance on this line for several turns, you will be able to dig in blocking forces and garrisons to defend the approaches to Bristol and, especially, Birmingham. Don't forget the air defenses!

Your air force is relatively good, and in 1943 the American air force can play a significant role if it survives long enough to catch up in experience. Contest Axis air superiority whenever feasible, but early on try to pick off or hunt down the troublesome Axis paratroops to keep your rear areas secure..

Since the key battles will be inland, the Axis navy will play a small part. Your navy can initially either try to win naval superiority or instead concentrate on supporting your defense line with shore bombardment. The choice involves a tradeoff and

either option can pay off.

7. NORTH AFRICA--23 turns; Axis: take all objectives.

AXIS: Blitzkrieg is again the watchword--thrust forward not only along the coast but across the desert by the trails headed to Mechili and Bir Hacheim. Start softening up Tobruk as early as you can, but don't let it delay you long since you need to keep pushing your forward elements east and face the choice of slogging through the defended coastal area or marching across the desert. It's a long way to Mersa Matruh. You can use the Italians to scout ahead, but they lack the equipment to assault the strong British positions and work best mopping up bypassed enemy units.

Pay attention to logistics in the desert--once you run out of ammo and fuel, it will take a lot of time to come back up to par and you don't have much time to spare. Enemy airpower can pound you as you struggle across the desert, so use your air force to help get your troops into attack positions but keep them busy bombing and strafing while doing so. Your fleet, aided by air power, can beat the Brits and help with shore bombardment later in the battle when you will need it most as your struggle out of the desert to confront heavily entrenched defenses.

ALLIES: A good combination of stiff defense and mobile defense will keep the Axis moving forward in very short steps along the coast. If you force the Allies to a crawl along the coast, they will have to risk the desert, where skillful use of your level bomber force can stop them by destroying the ammo and fuel of key units. Armored counterattacks from the coast into the desert will also make it hard for the Axis to press forward while their flanks are vulnerable.

Preserve your air force, building up as much experience as possible, and let the air defense units carry a lot of the weight.. The Axis will need airpower most late in the battle, and it is crucial that you still have at least some fighter strength left at that time to counter theirs. Your naval forces should defend your land forces from interference by the Axis fleet. Again, saving some reserves for the late stages of the battle could prove useful.

8. MIDDLE EAST--26 turns; Axis: take all objectives.

AXIS: This is a race--airpower plays a big role in

reconnaissance, softening up obstacles and in ensuring your parachute and air-transportable forces can get deep into the enemy's rear area. The biggest risk is always running into enemy air defenses and then getting jumped by their fighters. You've been warned! Furthermore, don't waste your SIGs' ammo, since they are slow to reload. Keep them near the forefront of the advance and use them when you really need a strong artillery strike against a city.

Your initial organization should start with two battlegroups. While the navy and air force win the battle in the Mediterranean, the smaller battlegroup will storm through Haifa up to Beirut. The stronger battlegroup strikes through Jerusalem and Damascus and then heads on to Baghdad for the final battle. Since the desert routes are narrow and it is hard to fully deploy, quality counts for more than quantity in this spearhead. You may want to spare some troops to advance directly east across the desert to link up with your paratroops and perhaps pick up a city on the way. Try to secure an airfield in Iraq as early as you can so you can base your air force there.

ALLIES: The Baghdad position is your ultimate stronghold and well-protected by the Tigris River and flanking deserts--the rest of the Allied army is only there to make sure the Axis get to Baghdad without the 4 to 7 turns they will need to deploy and take it. So don't rush your entrenched troops forward towards the enemy--dig in and make them dig you out to get past, fortifying Damascus, Anah and Baghdad for multiple lines of defense once the Axis take Jerusalem. Defense in depth is a sound strategy in this scenario, coupled with counterattacks if the Axis overextend themselves. For example, if they bypass your cities without adequately screening them, surprise counterattacks to retake lost cities could be successful and divert a large number of Axis troops.

You may want to ensure at least part of your air force survives until the enemy is moving on Baghdad, when his planes will have to fly back a long way to refuel and you may be able to gain local superiority. The disadvantage is that the Axis air force will have gained significantly more experience than yours while fighting its way across the Middle East. Because the Axis needs airfields, make sure yours are guarded against airborne attacks.

9. EL ALAMEIN--26 turns; Axis: take all objectives.

AXIS: It's a long, long way to Cairo. Press Tobruk while stretching the front to Bir Hacheim in order to force a breakthrough. Send tracked vehicles south of the escarpment across the desert as well as advancing along the coast. Drop detachments off at enemy centers of resistance to keep them from being reinforced but keep the spearheads moving. Once you break through the defile at El Alamein, send your main forces to Cairo down both main roads and a small battlegroup east to take Alexandria.

Using your air force to protect your ground troops is vital in the desert--especially when they are mounted in trucks. Taking airfields for your air force should be a high priority.

ALLIES: Delay at Bir Hacheim and Tobruk as long as you can, then retreat step by step, making the Axis pay for each step. Make your stand between the Qattara Depression and El Alamein--make sure to have infantry and antitank units start digging in early on so they will be ready when the Axis spearheads arrive. Use your air force to pound the enemy in the desert, particularly if they try to circle around the El Alamein position to the south.

10. CAUCASUS--30 turns; Axis: take all objectives.

AXIS: Air power is key--use fighters to cut down the enemy air force and tactical bombers to weaken enemy armor in their defensive positions. The battle is divided into northern and southern theaters. Although the terrain is more open in the north, it is in the south that you must make the greatest advances, and taking too long to punch through the mountains can cost you the chance of decisive victory.

In the south, send one battlegroup past Tbilisi directly on Grozny and another battlegroup up the road to Mozdok to take Grozny in the rear. After linking up at Grozny, the Caucasus army group can strike through Blagdernoe and Elista to link up with the northern army group at Stalingrad, taking other cities such as Ilinka, Kotelnikovo, and Jutovo en route.

The northern army group is divided into two battlegroups by the Donets River. The battlegroup north of the Donets should drive on Stalingrad between the Donets and Don Rivers, while the southern battlegroup storms Rostov on the coast and then turns east to Stalingrad.

ALLIES: Air defense, artillery and tanks are your defensive mainstays in this scenario. Conserve your air force for the long haul--working with the help of air defense units, you may be able to pick off damaged Axis bombers. Overall strategy differs between the north and the south. In the open plains of the northern theater, use your cities as defensive bastions that bleed the enemy dry as they advance. In the south, your best defensive position is in the Caucasus mountains, and you will need to devote enough reinforcements to the southern forces to ensure that the Germans don't force you back into open country.

11. SEALION (43)--see 6. SEALION(40).

12. TORCH--24 turns; Axis: hold Tunis + 2 objectives.

AXIS: The Vichy French in North Africa have surrendered to the Allies and both sides are racing to pick up the pieces. The Americans are mostly inexperienced, but they have good equipment and outnumber you, especially in the air. Due to air inferiority, you must coordinate your air units carefully and use them selectively when it counts.

The obvious strategy is to use detachments to delay the Americans while you take up a defensive position on the east bank of the Medjerda River with air defense and artillery support. Your armored forces can concentrate further south around Gafsa to strike west and then north through the valleys east of Biskra. Time correctly, this force can hit the Allied support units in the flank, cause serious damage and derail the Allied offensive along the Medjerda.

ALLIES: With the advantages of air and naval superiority, you can afford straightforward hammering against the Axis defenses to blood your troops and eventually drive the Axis into the sea. Note that the Afrika Korps units are veterans, however, and that the Tigers they field here are extremely tough.

13. HUSKY--21 turns; Axis: hold 2 objectives.

AXIS: The Allies are ashore in Sicily and Italy is next. Husky--the invasion of Sicily and Italy by the Allies--is the first of the Western fight or flight battles: this means that your main option is whether to fight to hold your initial position or fall back to a more defensible location. This

series of battles is about holding on grimly against an enemy that, at least in quantity if not in quality, has an advantage on land, sea and air. In Husky, the flight option is to pull back to Italy and try to set up a tough defensive line, preferably based on the inland cities out of the reach of naval bombardment such as Foggia and Totenza with infantry and antitank units entrenched and heavily bolstered by air defense units and artillery.

The fight option is to hold in both Sicily and Italy (hard to do) or defend one and give up the other--pulling out of Sicily is the usual choice. Instead of fleeing from enemy landings, you try to drive them into the sea and keep hammering them with your limited but concentrated strength.

Either way, you need to counter the overwhelming Allied air threat and you need to get more heavy tanks to help pick off weak Allied units.

ALLIES: This scenario is an exercise in overwhelming the enemy by multiple amphibious invasions. Although your troops are less experienced, in all other respects you have advantages that you can turn into victory objectives taken. You can land anywhere you please on the Sicilian and Italian coasts and support your forces with air and naval bombardment. But don't delay in Sicily before getting serious about conquering Italy, and don't ignore the Axis air force.

14. ANZIO--14 turns; Axis: hold Rome plus 2 objectives.

AXIS: Although still at an overall disadvantage, at Anzio, south of Rome, you can strike back at the Allies by driving their landing forces back into the sea. Since the Allied battleships will soon open fire, attack immediately while you can. Except perhaps at Lanciano, nowhere else on the Gustav Line, from Formia to Lanciano, can you attack.

Guard Rome and Pescara carefully--with Anzio taken, you may be able to hold off the Allied onslaught. Consider placing garrisons in rear area cities to deal with infiltrators or paratroops. Use your air power sparingly so you will have it available as a threat to the Allied bombers.

ALLIES: Use your combination of strength and mobility to press the enemy and push through gaps. Using naval power, you can unhinge the line at Formia and roll it up to Cassino, then march

on Rome. Meanwhile, your battleships keep the Axis at bay in the Anzio area.

15. D-DAY (OVERLORD)--15 Turns; Axis: Hold 2 Objectives.

AXIS: This is the second Western fight or flight scenario--you must defend three French cities for fifteen turns, while trying to keep your units alive. Your good quality reserves are well behind the line, subject to Allied air attack as they move up toward the coast. It is unlikely that you can stop the enemy on the beaches or drive him back into the sea--a better chance of winning may be to concentrate heavy combined arms defenses around the victory objectives you are supposed to defend, or at least 2 of the 3. Note that you can disband bypassed fortifications to allow you to build new units.

ALLIES: Air, land and sea, your overwhelming might has descended on the Norman coast. Avoid any serious mistakes, and you should easily win the battle.

16. ANVIL--23 turns; Axis: hold 2 objectives.

AXIS: Heavy losses are to be expected as your forces are put to the test, so save prestige for replacements. Rugged terrain and experienced units are your only assets and hope of staying alive against the Franco-American onslaught, and your safest strategic goal is a marginal victory based on holding Grenoble and St. Vallier at the end of the battle. Don't let your units stand and die on the coast--get them into successive defense lines based on the cities and rivers in the hills and mountains. Holding on to airfields early on, however, will help you by forcing the Allied air units to return to their distant bases to refuel.

ALLIES: A lot of tough terrain and a few tough Germans await you in southern France. Although the ground is ideal for defense, recon and ground attacks by your air force will help neutralize this defensive advantage. Securing an airfield on the mainland is a high priority to avoid having to fly south to refuel.

There are really only two main routes north: one east of the Rhone and another through Sisteron, where a number of routes from the coast converge. The mountainous trails further east can be easily blocked and will support an advance on only a one-unit frontage. Move quickly, because Grenoble and St.

Vallier are each tough defensive positions to be cracked.

17. ARDENNES (THE BULGE)--32 turns; Axis: take all objectives but Brussels.

AXIS: Bad weather is a key factor but a mixed blessing in this famous battle. It freezes rivers and protects you from Allied airpower, but your key spearhead units will consume fuel at a disturbingly high rate. The terrain is rugged but has numerous roads, an interesting challenge for both sides. You need to strike quickly before Allied reinforcements can intervene, so force breakthroughs and let the rear-echelon units mop up isolated enemy left behind you as you advance.

The easiest route in the north is through Malmedy and Spa, but this leaves a dangerously large Allied force on your northern flank. The main battlegroup must fight through and take Liege before it can be reinforced, then sweep down upon Namur from the north before linking up with the southern battlegroup and continuing around the Dyle River through Nivelles to Brussels. The southern battlegroup must take Bastogne ("Nuts!") and Rochefort before joining up for the final push from Namur.

ALLIES: Bad weather, bad terrain and good defensive tactics will fatally slow the German advance through the Ardennes and allow reinforcements to swing the tide of battle. Smashing Axis airpower early on is a priority so you can attack their ground units on the march with impunity.

Delay the enemy at Bastogne and in the northern towns as much as possible, while using your remaining front line troops to harass the flank and rear of the advancing Germans. This may give you the time you need to prepare an appropriate reception for the enemy at Liege and Rochefort.

18. COBRA--25 turns; Axis: hold 3 objectives.

AXIS: The Allies need to break out and race across France to their objectives, while you need to stop or delay them despite serious inferiority across the board. An overall offensive must be ruled out--your only good attacks will be against unwary mounted infantry, artillery and the like as they spread out in their advance across France. Even holding the line won't work for long. A better course is to pull back to fortify and entrench in your objectives as strongly as you can and trade space for what little time the Allies will let you have, but

don't expose your moving troops to Allied air attack while mounted up if you can help it. Good luck!

ALLIES: Despite your superior strength, you can't ignore the time factor. You need to explode across France in several directions to take all the victory objectives you need. One battlegroup moves south to storm Nantes, another crosses the Seine and moves to Amiens, while the third strikes southeast to Paris and Orleans. Your first wave should ignore isolated Axis infantry not directly in their path and leave these for the second-line units to mop up.

19. MARKET-GARDEN--16 turns; Axis: take Arnhem.

AXIS: As Arnhem is the most important objective on the map, smashing the Allied defensive perimeter there is your number one priority. Try to close in on Oosterbeek quickly to keep the Allies from raising new units there and drive the paratroopers out of Arnhem.

You need to pick an overall defense line, preferably all securely behind a river--it is unlikely that you will be able to drive the Allies around Nijmegen back across the Meuse, but the Waal is a practical defense line and the Rhine serves in the last resort. Your forces in the west need to slow the Allied advance sufficiently for you to consolidate the Arnhem area and relieve your garrison in Nijmegen. The small force at Gembert is likely to be engulfed if it directly challenges the enemy, but it may be able to worry the enemy's flank and draw off some of his forces. Alternatively, it could move back quickly to help in the attack on the Allies around Nijmegen. Your battlegroup at Nijmegen needs armor to help defeat the paratroops and artillery, so raising a unit in the area may be necessary.

Your small airforce must be nimble enough to avoid getting wiped out--air defense units are the key to deflecting some of that Allied airpower from vulnerable targets, but be aware that the Allied aircraft are increasingly resistant to damage.

ALLIES: With airpower and reinforcements of armor, antitank guns, artillery and luck, you may be able to hold the Arnhem-Oosterbeek perimeter and permanently tie up the Germans on the east bank of the Rhine. Taking and holding Nijmegen is easier because the force balance is more favorable, but you will need the main army to come up quickly to fully secure the

Nijmegen area and push on to Arnhem. Don't let too much ground strength be diverted against weakly-defended secondary objectives. Your massive air force should be able to take care of any particularly strong resistance in the western part of the battlefield.

20. BERLIN WEST--13 turns; Axis: hold Berlin & 5 other objectives.

AXIS: To hold 5 objectives and Berlin at the battle's end you will need to make a stand at the Rhine while the forces near Berlin move up as reinforcements. You will need strong artillery, air and air defense cover to counter the Allied onslaught, using your armor for local counterattacks to cripple the vulnerable enemy infantry the Allies will need to dig you out of your defenses.

Although a defensive strategy with purely local counterattacks can win the battle, you may also try strategic counter-offensives to keep the Allies off balance and win valuable time. Your heavy tanks remain powerful units if adequately protected from air attack--armored thrusts south from Holland and across the Rhine near Karlsruhe and Stuttgart when the enemy weakens his forces in those areas can draw off enemy forces from the crucial central sector of the Rhine for several turns. You may even be able to wreak havoc among the artillery in the enemy rear areas or seize an objective.

21. BALKANS--25 turns; Axis: take all objectives.

AXIS: You have numerous allied Italian and Bulgarian units available to you, but your Germans will still have to do the toughest fighting. Yugoslavian resistance will be crushed by an advance into Yugoslavia from all sides, but, unless you switch forces towards Greece as early as practicable and make the necessary air and naval support available, you could find yourself unable to secure Greece by your deadline. To avoid this, the German troops in the eastern battlegroups should shift towards Greece as early as possible, letting your Bulgarian troops mop up resistance further north. You may even initially only screen Kragujevac to allow the troops nearby to head directly for the ultimately decisive theater.

ALLIES: Heavily reinforce all objective cities. You have serious air inferiority and need to take care of your air force if you want planes available when you need them to defend

Greece.

To the extent you have the strength to score "kills," pick on the Italians, especially early on at the Albanian front, and the Bulgarians when they arrive at your fortifications near Thessaloniki. Use your Matilda IIs and air defense units wisely, and note that Yugoslav infantry are inexpensive and very useful for harassing Axis rear areas so long as they survive.

22. CRETE--13 turns; Axis: take all objectives.

AXIS: Your first priority is to get the paratroops safely landed on the island and to screen your naval transports from hostile warships. Although sometimes the Axis fleet can win the naval battle, particularly if air power is diverted to help it, it is more likely that the result will be a draw or the fleet will sacrifice itself to get the ground troops ashore on Crete. Although spreading out the landings is desirable, it may not be practical or safe if the Allied naval threat is severe. The paratroops will usually land and attack isolated cities in groups supported by air power while the regular army lands and fights its way east from the west end of the island. Speed is important.

ALLIES: Sinking naval transport is your first priority, and you second is to sink the Axis fleet so it is you rather than they who can provide shore bombardment. Build up your air force to keep the German air units occupied and prevent them from influencing the land battle. When the Axis troops land, see if you can hit them effectively on the beaches, but don't sacrifice high entrenchment levels for this purpose.

23. BARBAROSSA--23 turns; Axis: take all objectives.

AXIS: This is a race to Smolensk and little time can be wasted. Focus on speed and rely on quality. Once across the Bug and Narew Rivers, move full speed east. The northern battlegroup can quickly take Grodno and the airfield, but should push on east rather than turning south to help against Volkovysk. It should drive forward to Vilna and then Postavy before joining with the southern battlegroup to thrust to Smolensk.

The southern battlegroup is large and it has more work to do. The front-line Soviet units need to be gotten rid of, but keep in mind the need to push forward rather than chasing after

crippled enemy units. The first big battle should be at Volkovysk and include Soviet armor reinforcements--some of their tanks are powerful, and should be weakened by air strikes before you venture to attack them with your armor. After taking Volkovysk, the southern battlegroup will push on to Minsk, letting rear-echelon units clean up around Baranovichi. The attack on Minsk should not delay the continuing march on Smolensk, which will develop into a joint attack by both battlegroups between the Dvina and Dniepr Rivers.

ALLIES: Don't try to hold at the initial lines for long--fall back to the bad terrain west of Vilna in the north and west of Volkovysk in the south. Save your mobile units by pulling them back to the Vilna-Lide-Baranovichi line while fortifying Minsk and Smolensk. Letting your KV-2 dig in between the Dvina and the Dniepr is a good idea, particularly if it is supported with more of a defense line.

Because of the nature of the terrain, you will often have the chance to infiltrate units behind German lines, or to launch limited counterattacks from peripheral cities such as Pinsk. Cavalry is useful in this role. Your air force is outclassed but may be able to overcome the Germans by massing against single air units. Your well-armored heavy tanks can by themselves block or slow the enemy advance for a turn or two, so use them for that purpose but pull them out before they are destroyed.

24. KIEV--28 turns; Axis: take all objectives.

AXIS: Fortunately, you will be able to achieve decisive air superiority in this battle. So soften up the Soviets around Kiev with airpower, secure Zhitomir and Boguslav with garrisons, and put pressure on the Red Army massed around Kiev. Update your older equipment in preparation for a tough fight around Kiev. Your northern force (on the left-hand side of this map) should split into two battlegroups, one attacking through Konotop to Rumnyr and then fanning out to take Lokhvitsa, Mirgorod and Priluki while the other moves through Gorodnya to cross the Seym River at Chernigov and take Kiev in the rear. Your forces in the south (on the right of the map) should tie down the Soviets facing them and gain what ground they can. The decisive final battle of this encirclement will be, as it was historically, around Kiev.

ALLIES: Your forces are widely spread out--while you need to garrison the important cities, you will need to concentrate your better combat units at decisive points to contest the Axis assault. The Seym River line near Konotop and near Chernigov is a solid defensive position if adequately supported with armor, and you should be able to delay the Axis for some time. In the Kiev area, you could use the strength of your massive army to entrench or launch a counteroffensive against the Germans nearby.

The Axis troops are more experienced than yours--giving your troops some experience before the Axis close in from all sides is a good idea. Your air force, unfortunately, is outmatched and you will need to rely on air defenses to provide protection from Axis bombing and strafing.

25, 27, 31, & 35. MOSCOW 1941, 1942, 1943 & Early Moscow(41)--22, 23, 21, & 24 turns; Axis: take all objectives.

AXIS: These scenarios differ in terms of the extent of the Soviet defenses and Axis deployments, but the objectives remain consistent. You want to break through enemy defense lines quickly and use these corridors to push forward to your objectives. One approach divides the Axis forces into 5 battlegroups: (1) in the north, either pushing toward Nelidova or screening off this sector and passing south of the forests to reinforce the attack on Rzhev and then Mozhaysk; (2) forces around Smolensk which clear out the area between the rivers before taking Rzhev and Mozhaysk, supporting the attack on Vyazma, and attacking Moscow from the west; (3) troops deployed north of Roslavl which advance through Vyazma and Obninsk to attack Moscow from the south and southwest, perhaps even moving troops to take Moscow in the rear; (4) units south of Roslavl, which take Kirov and then Kaluga, then proceeding to support the attack on Tula to the south, Obninsk to the north, or Moscow to the northeast; and (5) the southern battlegroup, which drives east toward Tula and usually will not have the time to participate in action near Moscow.

ALLIES: Most of your units entrenched in fortifications or rugged terrain should stay there--don't move heavily entrenched units without good cause. Retreat only as a result of combat, at which time the unit should move to safety and obtain replacements. Artillery and air defense units at objective cities will make the Axis assault more cautiously and gain time, while patrolling armor should be used to challenge attempts to

encircle or bring up infantry to storm Soviet-held cities. Try to make the Axis disperse their spearheads to attack your defenses and respond to your counterstrokes. Conserve at least part of your air force to contest the skies over Moscow and hope for bad weather.

26. SEVASTOPOL--17 turns; Axis: take all objectives.

AXIS: Airpower is key in order to hit the Soviet artillery, which otherwise will inflict heavy losses on your infantry as it attacks city and fortification hexes.

The way to deal with fortified lines is to force a single breach several hexes wide, pass your forces through, and force the enemy to retreat or come out to fight you. To shorten your front and capture a vital objective, taking Bartenevka must be your first objective. It can be done quickly with relatively few units. Crossing the fortified lines and the Alma River is the next goal, which could be most safely done on a broad front between Inkerman and Novyi Shuli. Once that is done, the armored forces can swing south around Sevastopol past Nikoaevka, destroying Soviet units in the open ground, while the infantry (especially the pionieres) and artillery begin the city fight for Sevastopol on as broad a front as possible in order to speed the victory.

ALLIES: While losing Bartenovka is inevitable if the Axis really want to take it, otherwise you must yield no ground. Stop the enemy in the river hexes and attack them while they are there with heavy armor. Except for units entrenching in Sevastopol's victory hexes and adjacent hexes, mobilize your rear area troops to come forward and defend the front lines.

27. MOSCOW(42)--see 25. MOSCOW(41).

28. STALINGRAD--31 turns; Axis: take all objectives.

AXIS: Your strategy will be three pincers converging on Stalingrad. The first battlegroup, north of the Donets, can capture Rossosh and Voronezh and then drive along the Don to Stalingrad. The second battlegroup, immediately south of the Donets, should attack toward Millerovo and then Stalingrad, while the third battlegroup, consisting of the more southerly units, should converge on Rostov and then storm up the Don to Stalingrad. Air superiority, as always, is important to protect your own forces and soften up Soviet entrenchments.

ALLIES: Make the Axis pay for the ground they take by focusing on garrisoning your cities with strong defenses, including artillery and air defenses and tanks posted nearby to counterattack vulnerable enemy units.

29. KHARKOV--22 turns; Axis: take all objectives.

AXIS: This is a highly fluid battle in its early stages as your counteroffensive gains as much ground as possible before the Soviets can consolidate. You need to hurry to recapture Kharkov and especially Belgorod from the enemy. Strategic plans can differ. According to one plan, the westernmost battlegroup advances on the axis Pereshchepino-Krasnograd-Lyubotin and ultimately attacks Kharkov from the west and northwest, the battlegroup at Pavlograd and that at Krasnoarmeyskoye converge on Krasnopavlovka and then drive up to Kharkov from the south, the fourth battlegroup moves through Izyum to attack Kharkov from the southeast, and the fifth battlegroup drives through Kupyansk to Belgorod, which may already have been secured by parachutists taking advantage of bad weather to escape detection by Soviet aircraft..

ALLIES: Your great winter offensive overextended itself and now you are paying the price. You cannot hold your advanced positions, but a precipitate retreat lets the Axis roll forward too freely. Concentrate in defensible positions near Pereshchepino and Krasnopavlovka. Izyum and Kharkov itself are good defensive positions. Use your heavy tanks aggressively in the battle.

30. KURSK--20 turns; Axis: hold one objective.

AXIS: Your bombers will play a key role in the attack towards Kursk so preserve their strength and knock out enemy fighters to help gain air superiority early on. Your northern battlegroup will break through the strong Soviet defenses between Novosil and Kromry and then have free scope to continue on to Maloarkhangelsk and ultimately attack Kursk from the north. At the same time, the southern battlegroup will break through the defenses around Prokhorovka on its way to Kursk and Lgov from the south.

Artillery and air bombardment will be necessary to dislodge the stubborn Russians from their entrenchments, so keep your supporting units close by. You need to capture your objectives

with reasonable speed to preempt a Soviet counterattack, and near the city of Rylsk you need to be sure that no Allied counterattack develops. Reinforce this city and knock out as much of the Soviet artillery in that sector as you can.

ALLIES: Back up your heavily entrenched line with as much artillery as possible, screened by other units from both ground and air attacks. Artillery can cripple advancing infantry intending to attack your defense works. Play your air force carefully, and use air defense units to provide ground forces, especially artillery, with protection.

Your goal is to hold while the Axis batter themselves against your fortifications. With luck you can hold Prokhorovka in the south, but you are likely to lose ground in the more open northern sector before reinforcements arrive in strength..

31. MOSCOW(43)--see 25. MOSCOW(41).

32. BYELORUSSIA--23 turns; Axis: hold Warsaw.

AXIS: This is familiar ground: Barbarossa in reverse. You start with decent entrenchments and should make the most of them before falling back behind the Dniepr-Dvina river line to a new defensive position. Airpower is once again important, and with skill and luck, your superior aircraft will enable you to win air superiority against the enemy fighters and destroy their bomber force.

Begin by bringing the small armored group at Minsk forward to Borisov to help keep the partisans at bay. The front line is precarious. Mogilev will hold out for some time, but Vitebsk is doomed--the main question is whether to stand and fight or fall back. While a forward "stand or die" defense would let you hold on to those prestigious cities for a while, the "big step back" strategy in due course can also pay off by relieving the pressure on your line and forcing the Soviets to either separate their armor from their infantry and support units or to bring them forward in vulnerable trucks susceptible to air, artillery and armored attack. Spend what time you have entrenching defenders in Minsk and other rear-area cities. If you get driven back too quickly, Warsaw is a strong defensive position where you can consolidate for a last stand.

ALLIES: Mogilev will be tricky to take by a frontal assault, but elsewhere you can push the Axis hard. Storm Vitebsk and try

to drive the Axis center and left wing into the river. Use your partisans to take Borisov if possible, otherwise keep them in the woods but position them where they can interfere with Axis movement between the woods.

Once you force a gap, remember the lessons of blitzkrieg you learned from the Germans the hard way--when a gap opens, push forward relentlessly and bypass isolated points of resistance. One northern and one southern thrust is a standard plan. You will need to use trucks to move quickly enough forward, but be aware of the risks involved--in particular, watch out for the Tigers and Panthers prowling the Byelorussian countryside.

33. BUDAPEST--20 turns; Axis: take all objectives.

AXIS: This is set up as a head-on fight, but you can turn it into an encirclement battle if you can turn the Allied line at the city of Slofok on Lake Balaton. Open a corridor past the Soviet left wing and do an end-run to the city of Simontornya. From there, your strike force can send a detachment to take Dunafoldvar and Solt which will then push west along the far bank of the Danube while the bulk of this battlegroup cuts behind the Soviet line to attack towards Rackeve. When the Soviets leave their entrenchments to mass to defend Aba, they lose their defensive advantage and you can close in on them from both sides for a crushing victory. The downside of this strategy is that the flanking force can become bogged down or the forces left behind might not be sufficient to hold the line.

ALLIES: Start by putting a garrison in Slofok and concentrate on taking the city of Tatabanya first. Since the German left wing is weak, this should happen quickly and open a gap in the line through which the Allies can push troops headed for Zirc and Gyor. The added prestige you earn from these successes may be enough to add additional strength before turning back north to attack the Germans near Szekesfehervar.

Your heavy tanks remain a strong point you should plan around. Unfortunately, your air force is not so good, but LA-7's and Yak 9's can counter the enemy's bombers and thus force him to escort his bombers.

34. BERLIN EAST--13 turns; Axis: hold Berlin & 5 other objectives.

AXIS: You need to hold Berlin and 5 other objectives, but

Berlin is crucial so keep the Soviets on the other side of the Oder as long as you can. Counterattacks through gaps in the Red lines toward the rear objectives can draw off enemy forces (and you may get lucky and take objectives).

ALLIES: You have superior strength but limited time. The Germans are spread fairly thin except around Berlin, so you can make good time seizing the other objectives. But don't let so many units chase after other objectives that you wind up attacking Berlin too late, and make sure the Germans don't slip past your lines to seize objectives in your rear areas.

35. BERLIN--13 turns; Axis: hold Berlin.

AXIS: Berlin is crucial. You will have to defend firmly against the Soviets in the east, but in the west you have enough space for an elastic defense--trade space for time. There are many defensive obstacles on the road to Berlin, so use successive strongpoints to slow the advance of the western Allies while conserving your strength so it will last through the battle. Remember that bad weather gives you more freedom of movement because Allied airpower is ineffective.

ALLIES: With superior forces consisting of veteran troops on both fronts, you should press the Germans relentlessly and drive on Berlin. Rear-echelon units can mop up isolated German defenders not already pulverized by airpower, and your air superiority will ensure that even small detachments can capture secondary objectives.

36. WASHINGTON--22 turns; Axis: take all objectives.

AXIS: This is the final battle--you will need to use everything you have to storm Washington and win decisively. Your paratroops and air force should carry the attack behind enemy lines, seizing ill-defended cities and airfields and attacking vulnerable support units. Your veterans have more experience than the enemy troops, although the Allies are numerically strong.

You may want to advance on Washington using a 4-pronged attack. The westernmost landing group lands near and captures Port Tobacco, then moves to Potomac Heights and divides into two groups: one crosses the Potomac River to capture South Arlington and then strike Washington from the southwest while the other follows the east bank of the Potomac to Anacostia to join the

attack on Washington from the southeast. The landing group at Lexington Park takes that city and then thrusts up the main road through Brandywine to attack Washington from the east. The forces moving up the Potomac may be able to help this battlegroup advance by turning the flank of the defenses at Brandywine. The last landing group steams up Chesapeake Bay to a landing site near West River or Annapolis and drive west towards a position northeast of Washington from which they can attack the city directly or encircle it.

Whatever your plan, Washington is a big city and make sure to allocate enough time for your troops to arrive there and fight their way through it, hex by hex.

ALLIES: If you can gain air superiority, you can slow the Germans enough to save the capital. Protect your British aircraft since you can't build any more. In the air, knocking out the enemy paratroops can save you a lot of headaches when they drop behind your lines. Your land strategy should be defense in depth--move units not defending towns or cities south to make defensive stands at Brandywine, Port Tobacco and Owings. If you can slow the Germans enough, they will not have the time to push their panzers down Pennsylvania Avenue.

37. EARLY MOSCOW--24 turns; see 25. MOSCOW 41.

38. SEALION PLUS--see 6. SEALION(40).

END OF SCENARIO LIST

DESIGNERS' NOTES

PANZER GENERAL was conceived as a easy-to-play but challenging-to-master tactical/operational wargame in which the player, taking the role of a general, leads an increasingly experienced combined arms force all the way through World War 2 in Europe.

We wanted a realistic feel without burdening the player: if the player did something that made sense historically, it would work in the game, but the player wouldn't have to handle a lot mechanically. This meant a highly intuitive and user-friendly

interface with all the complexity handled by the computer.

World War 2 saw the rapid evolution of military technology, and this was an important reality to model in the game. Hundreds of different types of equipment are represented, and players have the ability to replace unit equipment with (presumably more advanced) alternative equipment. Upgrading unit equipment is an important part of the campaign game.

Different types of units and equipment had very different tactical roles, and this is represented by using a common system of unit values but dividing units into various types with different capabilities according to their historical usage and effectiveness. For example, anti-tank guns look very much like tanks with a lower ground defense value, but the rule that tanks will almost always get to shoot first if an anti-tank gun attacks them rather than vice versa helps encourage (but does not require) their use defensively as was the case historically. Because of this limitation, they cost much less for an equivalent main gun.

Combined arms coordination was central to World War 2 tactics, and we represented it by giving each unit a turn in which it can move and shoot, with the tactical subtlety lying in the sequence and of attacks involved in a particular local engagement. Entrenchment levels are a key concept in the game: units able to dig into a prepared position are tougher to root out. The concept of "rugged defense" represents ambush or the ability to open fire with surprise at close range, conditions which favor the defender and can devastate an attacker. Rugged defense really helps infantry, particularly well-entrenched infantry.

Repeated attacks on such a unit, however, will disrupt an entrenched unit, force it out of good tactical positions and give the attacker intelligence useful for further attacks. In the game, the way to attack a strongly entrenched unit is with a combination of aerial and artillery preparatory bombardment, followed by ground attacks by one or more units. Entrenching takes time unless a unit begins a scenario entrenched. Some units can take more advantage of ground and therefore can entrench more quickly than others in the game. Moving units have a zero entrenchment level, but gain the base entrenchment level of the particular terrain they end in when they stop.

GENERAL STRATEGIC AND TACTICAL NOTES

REQUISITIONING UNITS FROM HQ

The prestige cost of units only roughly correlates with their effectiveness, so examine combat values closely before calling HQ to send you new or replacement equipment.

Some of these values can easily be overlooked. Maximum fuel capacity and especially maximum ammo capacity need to be carefully examined, and are more of a constraint if the unit is advancing than if stationary on defense--remember that a unit can easily use up several rounds of ammo in a turn if repeatedly attacked (or if providing defensive fire in support of adjacent units that are being attacked).

Close defense is another statistic that you can regret you overlooked if the unit runs into infantry in the woods and city hexes common on most battlefields, because you defend using your close defense rather than ground defense value.

Also be sure to check the Unit Equipment Tables to see what kind of enemy equipment you are likely to come up against. Start by comparing your attack values and defense values against each other to see who has more destructive potential in a fair fight. Then compare initiative values to see who's more likely to shoot first, bearing in mind that unit experience can count for as much as 3 initiative levels. Experience tends to be very important in fighter combat, where initiative values don't differ much and where attack values are high relative to defense values--the better pilot often gets in a devastating first shot. It is less important in early-war tank warfare, where attack values tend to be relatively lower compared with defense values.

TERRAIN

Careful attention to terrain is well worth it. Rivers are probably the most significant obstacle and make excellent positions to defend behind. Bridging units are very helpful in terrain with many rivers but few roads or bridges. Cities, besides being victory objectives and prestigious to capture and hold, are the next most significant obstacle because of the

strength they offer the defense--important advantages in cities, swamps and mountains are that the effect of the opposing equipments' initiative difference is minimized (because of the close range combat involved) and entrenchment and experience levels become key. Cities, woods and mountains also allow defending and attacking infantry to shoot against the close defense number of the enemy unit as mentioned above (except that infantry attacking against infantry who succeed in putting up a rugged defense shoot at the defender's ground defense value).

Entrenchment levels are a feature of units, not terrain, but affect combat much as terrain does--they make a devastating rugged defense more likely. Entrenchment levels can be reduced by attacking or bombarding a ground unit.

WEATHER

Bad weather generally helps the defender and helps the side with air inferiority because of the inability of air units to attack and their reduced scouting ability during bad weather. Interludes of bad weather are good times to resupply and rebuild units or make them overstrength while waiting for the weather to clear.

DON'T LET YOUR UNITS DIE

Don't let your units fight until destroyed--if you can pull them out with even 1 strength point left, they can be rebuilt more cheaply per strength point than buying a new unit (even if using elite replacements) and get to keep their experience as a bonus. This represents the importance of veteran cadres to the performance of new recruits.

The importance of preserving units has many tactical implications. One is to ensure that units which risk heavy losses shoot before moving so they can retreat to safety if grievously weakened. The corollary of this principle is, of course, to mercilessly wipe out crippled enemy units to keep the enemy from rebuilding them.

COMBINED ARMS

There are many aspects to combined arms tactics, but this is the most important: Armor is the king of open ground and infantry is the king of restricted terrain. If you consistently violate this rule, you'll be lucky to end the war as a Panzer Private.

As in the childhood game of scissors-paper-stone, every World War 2 troop type had a relative advantage over some other types and a relative disadvantage compared with others. Tanks can roll over infantry in the open but be stopped dead by them in bad terrain or entrenchments. Artillery can slaughter infantry but be slaughtered by tanks. Anti-tank guns can defend well against attacking armor but fare poorly against infantry. Air defense and anti-air units are poor against ground units but a major threat to aircraft, which avoid them but can freely strike anything else moving on the ground (except later in the war, when other ground unit acquire their own organic air attack values and can shoot back).

Combined arms tactics involve using a variety of unit types in close cooperation, each attacking the enemy where it has an advantage and being screened by the other arms where it has a disadvantage. On the advance in open ground, for example, tanks and tank destroyers would lead, with self-propelled artillery and air defense units and infantry mounted in half-tracks or trucks "tucked in" behind them where the enemy cannot attack them without first forcing the armor out of the way. Recon units might be in or immediately behind the front line to use their superior spotting range to scout ahead.

Although an army consisting solely of tanks might be able to win a battle (at least, a defensive battle), it is likely to lose badly to a balanced force of equal size. Both in the overall army and in the battlegroups assigned to spearhead particular attacks or defend particular sectors, the subtle skill of using combined arms is one of the most important talents of the Panzer General. There are many aspects to combined arms, as you will learn as you play, but a stereotypical example follows.

Attack on a Prepared Position: To avoid ambushes and wasting time by sending troops to inappropriate locations, you begin by scouting to uncover enemy positions. This can involve sending aircraft along a path crossing over the terrain you are

interested in or pushing a recon unit to the limit of what is currently visible (or one hex short of that, if you want to be careful). Absent either of these, you use a unit somewhat to the rear of your front line whose full move would take it ahead of your line but to a hex that is still visible. When it arrives there, it spots additional hexes and further units from the rear can leapfrog forward, increasing the spotted area.

Suppose the enemy is spotted, heavily entrenched in a victory objective city directly ahead of you, with artillery positioned behind the city and infantry or armor to either side. You decide you can't successfully bypass it and turn back to take it later. Your priorities are to eliminate the supporting artillery, clear away the nearby enemy units, and weaken the unit defending the city. A typical sequence of events could be:

- fighter attacks city to weaken entrenchments
- tac bomber attacks artillery to inflict losses--getting rid of the enemy artillery is key to preventing heavy losses to your infantry
- tank attacks enemy tank/tank destroyer or tank attacks infantry on other side of city (don't attack with infantry yet since strong surviving enemy artillery will chew it up)
- artillery moves into range of city and deploys
- first wave infantry moves adjacent to city in front of friendly artillery
- enemy turn--can't resupply, build, or successfully attack even your infantry because of your artillery support; can't attack your infantry with air power since your fighter will intercept; his artillery will try to harass you, though.
- your turn: fighter over city attacks and moves to adjacent hex,
- if enemy tank or infantry on flanks gone, armor or tank destroyer passes forward to attack enemy artillery while tactical bomber moves over city to attack it
- friendly arty bombards city
- first assault wave attacks city, retires away if the enemy survives (pionieres and engineers are more likely to win

immediately since they ignore enemy entrenchments and prevent an enemy rugged defense)

- second wave moves adjacent to city, attacks and probably wins
- fresh troops from the rear occupy city.

Make sure you pay attention to the estimated combat results displayed for you by your staff on the bottom of your screen as you plot your attacks, although actual combat results will vary. The only important variable the estimate leaves out is the risk of facing a rugged defense.

THE OFFENSIVE

To win a major victory, you must not only win--you must win early. In the campaign game, the difference between a major and minor victory is important to your future. Usually, a major victory is won by taking your objectives especially early. If you take them too late--usually about 2/3 of the way through offensive battles--the best you can do is a marginal victory. On defense, how many objectives you hold at the end of the battle is the key. Tenacity and endurance count. Avoiding friendly losses and inflicting losses on the enemy don't count for determining victory and defeat, although, particularly in the campaign game, both of these goals help you improve your core army and thereby help in future battles. Since only victory objectives count, you must avoid being led astray by diversions.

Part of staying focused on objectives is making and implementing a plan and keeping your forces organized accordingly. Check the strategic map to see where victory objectives are and the best routes to them, preferably routes that pass by a number of them. Paths that threaten multiple objectives are preferable because the enemy must build and deploy units to defend them all, thus leaving the target you wish to strike weaker before your blow.

The tutorial speaks in terms of battlegroups because thinking in terms of battlegroups tasked with driving to specific objectives is one good way of keeping on track and avoiding time-wasting distractions. To win in PANZER GENERAL, time is

the one thing you cannot afford to waste. Offensives tend to become dissipated and diffuse over the entire enemy front rather than just the critical sector. Units tend to wander across the battlefield in the pursuit of temporary and often irrelevant tactical advantages such as picking off weakened units. The result is that a decisive victory can become a minor victory or a loss.

Attacking on a broad front is an unwise dissipation of strength except in fluid "pursuit" battles such as Kharkov where you are chasing or racing past the enemy to your objectives. Single, narrow spearheads are too limiting, but a single, broad spearhead is an effective way to punch through strong defense lines into more favorable ground beyond, while multiple spearheads work well in intermediate situations with widely-spread objectives. Lines of advance threatening multiple objectives force the enemy to disperse to protect them all, weakening him everywhere, while converging on an objective from several directions lets you direct the most combat strength against it.

Force balance is essential on the offensive because of the varied nature of the terrain and enemy forces. Any force that will attack woods or towns needs infantry..... If you have air inferiority, consider an AA unit or two and self-propelled air defense units to provide some deterrent to and protection against enemy aircraft. This works best if you have at least a small fighter force to pick off weakened enemy aircraft after they attack.

THE DEFENSIVE

On defense, build multiple lines of defense--get ATGs and infantry, which entrench more quickly, focusing wherever possible on defending river lines and putting infantry in cities, mountains and forests. Artillery sited behind towns to provide defensive support is especially useful.

Active defense is the strongest form of defense--it was a very effective practice to launch local counter-attacks immediately to neutralize any enemy penetrations and before the enemy could settle into a captured position.

Combined arms on the defense is the converse of combined arms

on the offensive--an ideal defensive position consists of infantry in bad terrain immediately supported to the rear by artillery and air defense units, with armored and infantry reserves to counterattack breakthroughs in open and close terrain, respectively, and, ideally, fighters to shoot down enemy tactical bombers and tactical bombers to weaken enemy artillery and the attacking units they support. If you can keep the fighters in the air over your lines, they can intercept attacks on adjacent ground or bomber units (unless first attacked by the enemy themselves).

You will usually have air inferiority, at least initially, when on defense. Sometimes your skill can turn the tables, but more often you will be swamped by enemy airpower and must take recourse to air-defense units.

One thing to note, particularly important on defense, is that units that cannot retreat surrender instead--if a unit is particularly likely to be beaten, try to leave room for it to fall back. The disadvantage of this, of course, is that it makes it harder to put artillery and air defense units in direct support of the unit.

THE AIR WAR

The air war is a subsidiary but critical part of the war. Air units cannot take or hold terrain--only land units can do that--but they can prove a major help or hindrance depending on whose units are flying overhead. The ideal is air supremacy (such as the Allies enjoyed in the Gulf War in 1990), which means unopposed control of the air, but your minimum goal (unless seriously inferior in the air) is air superiority, which means that you generally have the advantage in the air and can range freely over enemy lines to launch ground attacks. If you achieve air supremacy, keep your air units constantly busy launching attacks on ground units to increase their experience levels. With air supremacy, your soft targets are also safe from air attack and your air force can provide valuable reconnaissance of the enemy's dispositions while he cannot see yours.

With air inferiority, your soft targets, especially trucks, artillery, and pioniere or engineer units, get hammered. Your fighter and anti-air units should concentrate on enemy bombers,

since the fighters can do only minimal damage to your ground units. Your air defenses can provide some shelter from enemy attack for your air units.

Fighter/bomber coordination was a major doctrinal issue on both sides during the war in Europe. notably in the aerial Battle of Britain in 1940 and the air war against Germany from 1943 on: should the fighters be tied to close escort of the bombers or range free to hunt down enemy fighters before they can approach?

From the aerial defender's point of view, should his interceptors target the attacking bombers or the escorting fighters? to attack escorted bombers, first attack the fighters to weaken or destroy them. If successful, this reduces the effect of, or prevents intercepting attacks on the bombers.

Air defense units work the same way--though they are best attacked by ground units, good tactical bombers and pilots can take them out or severely weaken them from the air. Sometimes the attacker escapes without loss by shooting first to devastating effect, but considerable losses to the attacker are more typical. When coordinating air units, remember that different aircraft move at different speeds--don't leave your bombers accidentally unescorted because the fighters have moved too far.

It's usually helpful to move the slowest units first if they can safely do so.

Strategic bombers can inflict prestige losses on the enemy by bombing victory objectives, destroy airfields, bomb other enemy-held cities into neutral status (i.e., "neutralize" them so the enemy can't build there or gain prestige from holding them), or bomb units, destroying strength, ammo and fuel and suppressing them for the entire turn. Veteran and crack strategic bomber crews are very effective. Note also that "heavy" and "medium" level bombers are inherently more effective than "light" level bombers, but that the relative difference narrows considerably with experience. Level bombers all have the same hard and soft attack values, so the real combat difference is revealed by other values, including their air attack and air defense values. Bombers with high naval attack values can also be extremely useful against ships.

THE NAVAL WAR

Most scenarios don't include naval warfare, but naval units play an important role in almost all the scenarios in which they

appear. They are expendable, and should be used to defeat the enemy navy and then support the ground forces with bombardment, or at least prevent the enemy fleet from bombarding your forces.

Note that bombardment is much more effective against soft targets than hard targets.

In naval battles, keep the scissors-paper-stone interaction of destroyers, subs and capital ships in mind. Since capital ships can't fight back against subs, an escort screen is essential against this threat.

QUALITY: EXPERIENCE

In addition to getting a chance of shooting first, experienced units lose fewer casualties and inflict more casualties than would otherwise be the case. Units gain experience by fighting and gain the most by destroying enemy with better experience or equipment or at least forcing them to retreat. Building up units to overstrength status is very popular with some playtesters because their combination of numbers and quality can smash some enemy units with a single attack. Building up to overstrength takes time, however, and artillery and air bombardment against you have the annoying effect of cutting these units back down to size.

CAMPAIGN NOTES

FORCE BALANCE

Playtesters have found that a range of approaches work, but there are a number of consistent factors. The largest parts of core groups tend to be tanks, infantry, and aircraft. Tank strength is typically from 25-50% of the core group, generally increasing over the war. Infantry strength is typically from 20-30% and slowly declining on a battlefield where only veteran infantry can effectively defend themselves. Some players use paratroops, others don't. The proportion of engineers and pioneers (who are very costly in terms of prestige) to other infantry also varies widely.

Air strength varies the most of the "big three" types of forces, from a couple of fighters up to over 30%, with the "big wing" proponents using one or two level bombers and the rest split in varying proportions between fighters and tactical bombers. Some players prefer the greater ground attack ability of dedicated tactical bombers while others prefer the added anti-air capabilities of fighter bombers, particularly when facing strong enemy air opposition. Aircraft first become available in Warsaw (although the first fighter-bomber is not available until Norway).

Some players' core groups include up to 10% each of artillery and anti-tank units, while others use none or rely on auxiliary forces. Self-propelled artillery is more useful on the advance, but towed artillery, if entrenched and protected against air and ground attack, suffices on the defense or for slow-moving attacks such as those through mountainous or other unfavorable terrain. Artillery, like pioneers and engineers, are magnets for enemy air attacks--so use of these troop types necessitates a strong air force or air defense. Few playtesters used more than a single anti-aircraft unit or more than a few air-defense units in their core groups for the 1939 campaign, largely because they are not necessary if you control the air as the Axis tend to do in the early war. Air defense units are also often available as auxiliaries. Even players de-emphasizing airpower found a small fighter force useful for picking off isolated enemy bombers, forcing the enemy to escort his bombers, and for reconnaissance. The main alternative to air reconnaissance (other than turning "Hidden Units" off) is Recon units. Players who use them usually use no more than one per spearhead for scouting purposes. Late in the war, they have to be used more carefully in the face of increasingly powerful enemy units.

Though the force percentages can vary significantly, each approach strikes a particular combined arms balance between the types of units the player uses together to achieve victory on the battlefield. Some choices limit others--for example, an army with a powerful air force will have little need for air defense and can afford to deploy a lot of expensive artillery and engineers, which, however, are no more than vulnerable targets if the enemy rules the skies. Auxiliary units available to you will often help deal with key gaps in your force mix for particular scenarios--e.g., air defense in the Low Countries, naval, air and paratroop units in Norway and Crete, and pillboxes for D-Day (hope your career takes a more successful

track!).

AUXILIARIES VS. CORE UNITS

There is a tension in the campaign game between getting experience for your units and letting the auxiliaries take the bulk of the punishment. Use only auxiliaries for scouting into unexplored territory (because of the risk of ambush), and for those occasional sacrificial attacks needed to soften up a tough enemy target. Topping them off with elite replacements is rarely worth it. Remember that HQ will provide you with elite replacements for your core units once the battle is over, so in the late stages it is a good idea to build up full-strength units to over-strength while leaving crippled ones for HQ to top off.

You are not penalized for losing auxiliary units (though the enemy does gain prestige for killing them). One implication of the enemy's ability to gain prestige from destroying your units is that it is better to disband a unit in a hopeless position than leave it alive for the enemy to destroy for the prestige on their turn. Another implication is that it is ok to use up as many auxiliary units as necessary to win your battles. Let your core units be "glory hounds," finishing off units already weakened by the auxiliaries and gaining the prestige. You'll need all the prestige and experience gain your units can get.

UPGRADING AND ELITE REPLACEMENTS

Players' styles differ significantly on when to spend prestige to upgrade a unit's equipment and when to give it elite rather than regular replacements. These are important decisions, and there is a trade-off between the two and between these and raising new units because you rarely have enough prestige to do everything you want.

UPGRADING: The upgrade issue is rather easier--you can't afford to allow your technology to become obsolete, but you can't afford to upgrade every time new technology becomes available. Some units never upgrade--pioniere and engineer units never get any better than their initial values. Infantry is typically upgraded in type once in 1943, although some

players change the type of infantry as necessary or wait until Wehrmacht infantry gain experience before upgrading them to paratroops, pionieres or engineers. Infantry, particularly the slower-moving heavy weapons, pioniere, and engineer units, also get half-tracks or at least trucks as soon as possible.

Aircraft are typically upgraded one to three times the course of the war, sometimes more, while tanks can easily be upgraded three to five times (many players will be surprised by how feeble the German tanks that won the early blitzkriegs really were--they won through superior skill, as must you as a Panzer General).

Naturally, experienced units receive the best equipment--they can use it most effectively and it increases their survivability. As you play, you will probably develop a preferred upgrade path that fits your force balance and tactics.

Sometimes you will have parallel upgrade paths: before the development of the all-purpose Panther and Tiger, German tanks tend to fall into the anti-armor (Pz III) and anti-infantry (Pz IV) categories, each with a separate natural upgrade path. You may also wish to experiment with different alternative approaches to force structure.

ELITE REPLACEMENTS: This is where player preferences seem to vary widely. One playtester who emphasized armor and minimized air power won by largely ignoring attrition from enemy air power, but his units often had to fight at strengths of as little as 5. If harassed by constant air attack, building units overstrength is not worth the time. In contrast, most players felt strongly about the value of overstrength units and their ability to overwhelm their opponents in combat or take heavy losses and remain effective. Units can be made overstrength only if highly experienced, so these players made using prestige for elite replacements a priority (sometimes even making selected auxiliary units overstrength). These players differed, however, on their priorities. Some players placed a high priority on enhancing their artillery because it can stay overstrength for a long time and preserve its destructiveness through the war, while others neglected their artillery, using its therefore less effective firepower mainly to weaken entrenchment levels or shoot at vulnerable soft targets. Some cultivated their strategic bomber force, while others neglected it. Some used paratroops as expendable units while others used veteran paratroops to secure objectives deep within enemy lines. Some put priority on enhancing front-line tank and fighter units, while others would rely on constant combat to bring these

units back up to snuff and put first priority on building up second-line units less able to gain constantly in experience through combat (e.g., artillery tend to be particularly slow to improve).

1939 CAMPAIGN

Your two goals from the start are, first, to win, second, to win quickly, and, third, to minimize your losses, particularly avoiding destruction of core units, and maximize the experience gained by your core units. Your army starts as an infantry force with mostly weak tanks. Priorities in the Polish scenarios are (1) gaining as much experience as possible for your units, (2) upgrading and adding tanks, and (3) building a small air force that can gain experience in air combat and ground attacks in the Battle of Warsaw before proceeding to the more deadly aerial combat awaiting it over Norway and western Europe.

You must try to score major successes quickly early on to have a chance of invading England in 1940 and ending the war on the western front. If you fail to do so, you will have further chances to win the war against England if you triumph in the deserts of Africa, or you may choose to fight on the very different eastern front against the Soviets. When choosing which front to fight on, bear in mind that the Soviets have numerous but less powerful aircraft and infantry but tougher armor, meaning, in particular, that the challenge in the air will be somewhat less serious in the east than in the west. The difference between these two fronts may affect how you choose to structure and develop your core army group of units.

1941 WEST

Careful planning and large fuel and ammo capacity are helpful in the desert, where supply is seriously reduced except along the coast, roads, trails and in cities. Since the best routes to your objectives tend to be narrow ones, lead off with strong, experienced armor. Due to the open nature of desert warfare and the difficulty of obtaining supplies for ground units, air power

becomes more important.

1943 WEST

You start on the defensive in excellent defensive terrain--Italy. Throwing the enemy back into the sea is great if it works--otherwise, sound defensive tactics and trading space for time will be necessary. Air defense units and anti-tank guns will be of more value than in other campaigns, a small, crack fighter force will help your air defenses punish the allied air units, and detachments of Tigers or Panthers will be able to launch sharp counter-attacks against exposed enemy units. Artillery is useful on defense, but needs protection.

1941 & 1943 EAST

If you are good and fast, your blitzkrieg can knock out the Soviets in two scenarios (Smolensk and Moscow in '41; Kharkov and Moscow in '43). If not, it could be a long war against increasingly experienced and powerful Red Army forces. To deal with the formidable enemy armor, use only elite replacements for your armor units and use tactical bombing to weaken the enemy armor to help your attacks. This makes air superiority important; fortunately, the Russians, at least in 1941, are not that good and you can keep an edge. If you are ultimately forced onto the defensive, the dreaded 88 ATG, heavy weapons infantry, and supporting artillery will make the Russians pay for every city they capture.

Rulebook Errata - In some cases unit values may be different than stated in the rulebook. We went to print before these numbers could be adjusted.

Global change - Ground units' (with the exception of some heavy artillery) Naval attack factors have been in most cases reduced to 1.