

The Modernization of Austria's Mechanized Forces

by Walter A. Hamburger

Shortly after this article was accepted, Walter Hamburger passed away, according to colleagues at his Vienna law firm.

Until the collapse of the Soviet Union, Austria stood between two large military blocs, NATO and the Warsaw Pact, a situation that did not seem without danger to the country. But during those years, the Social Democratic Party leading the coalition government was convinced that there would be no war in Europe soon, and that conclusion, along with the fact that Austria was a neutral country, resulted in her army getting the smallest military budget (less than 1 percent of the GNP) in Europe.

One result was that the military could not buy much in the way of heavy weapons. Instead, something called the small-unit defense concept was developed. Key zones were identified, avenues of approach that any aggressor would have to pass through, and these zones were fortified. Old Centurion tanks were bought at scrap prices and the turrets, with their excellent 105mm guns, were mounted in concrete bunkers. In this way, the nation obtained a large number of antitank bunkers, well displaced in the terrain, for the scrap price of some worn-out MBTs.

When the Eastern Bloc fell apart at the end of the '80s, Austria's geopolitical situation changed. The possibility arose that the four independent states that came into being along her borders might become involved in warlike disputes. In fact, such an event occurred much sooner than expected. In 1991, the Yugoslav war of secession brought fighting to Austria's southern borders. Serbian grenades hit Austrian territory, and airplanes overflew Austria as far as Graz, a provincial capital. These flights, which stopped when Austrian interceptor planes appeared, were partly for reconnaissance purposes, but some were attempts to attack Slovenian positions along the Austrian border from behind.

As a consequence, the Austrian General Staff developed a reorganization

plan for the armed forces. On the one hand, it focused on antitank and anti-aircraft defense. It also shifted the Army's focus toward defense of Austrian territory closer to the nation's borders. It was designed to allow the Army to be in a position to react faster, which also meant that troops would need greater flexibility and mobility. Given this new defense concept, the chronic lack of modern heavy weapons had to be addressed, and the purchase of such arms became an urgent priority.

Fortunately, Austria was in the market for heavy weapons at the same time many of the Cold War combatants were greatly reducing the size of their armies, so surplus arms were available at very low prices. The decision was made to purchase these surplus weapon systems and upgrade them, partially with modifications manufactured in Austria. This would allow a great improvement in capability at a low cost, and also help to lower the rate of unemployment.

First, 112 M109A2 and A3 self-propelled howitzers were purchased from a downsizing British Army of the Rhine. These, together with M109s which were already in the Austrian artillery arsenal, will now be brought to the Austrian M109A5 ÖE standard. These refits include new Austrian hydraulic rams and primer magazines, which allow the rate of fire to be doubled, new barrels that extend the firing range to about 30 km, and navigation upgrades that will allow the howitzer crews to set up in their firing positions autonomously. In addition, the modified howitzers will be able to carry a larger quantity of ammunition and will be equipped with a reinforced hydraulic system, as well as being able to provide higher electrical and engine output. Before the offer relating to the British howitzers became known, 54 M109s had been ordered in the U.S.; these will also be modified to the A5 ÖE type.

Austria is now testing a battle area radar and artillery reconnaissance and firing system. These systems will be able to detect and distinguish mobile targets on the battlefield, day and night, in any

weather conditions. They will be able to detect the firing of artillery, heavy mortars, and rocket launchers up to a battlefield depth of 15 km with a precision of 100 m in azimuth and 10 m in range, as well as being able to control friendly artillery fire.

The M109A5 ÖE navigation system will enable each individual gun crew to determine the coordinates of its firing position, transmit them by radio to the computer, and act independently. The systems will make the guns almost "semi-autonomous," and thus minimize reaction times by speeding position reference and surveying.

The electronic artillery fire control system consists of an artillery computer, a data input-output unit for the observers, and a data input-output unit for the guns. With this system, it will no longer be necessary to transmit the full wording of firing orders or requirements by radio or wire from the artillery to the computer. Fire control decisions can be transmitted by pushing a button. This shows how much the transmission of firing orders is accelerated by the introduction of this system.

As a result of the purchase of the various models of the M109 howitzers and their modernization, it was possible to take all towed artillery pieces, most of them World War II models, out of service. Thus the Austrian artillery is to be equipped with refitted, but very up-to-date, armored self-propelled 155mm howitzers at a very reasonable price. The Swiss Army has joined Austria in this artillery upgrade project, and since both countries have a relatively large number of these systems, almost 500 of the armored self-propelled 155mm howitzers of the latest standard will exist in Central Europe in the near future.

While a recently planned modernization and reinforcement of air defense is on the drawing boards, acquisition has now been postponed for one to two years. Instead, money will be spent on armored vehicle acquisition, a package of 585 vehicles. It includes new armored vehicles of Austrian design and refits, in Austria, of second-hand foreign tanks,



Austria is buying 114 used German Leopard IIs, above, from the Dutch Army.

About 90 Jaguar antitank missile carriers, at right, came from the German Army. They are built on the Marder chassis and mount the HOT K3S antitank guided missile.



The Ascod tracked IFV, above, is a joint Austrian-Spanish collaboration. Its turret mounts a 30mm Mauser dual-feed automatic cannon.

Also entering the Austrian inventory has been the Bofors BILL antitank guided missile, which is capable of shaped-charge top attack of vehicles hidden in defilade positions.



again to create employment opportunities. The cheaply-purchased surplus vehicles will be brought up to the latest standard, a great step forward for the Austrian Army.

The armored vehicle acquisitions include about 90 Jaguar missile-armed tank destroyers that will be purchased from the German Army to replace Austria's Kürassier cannon-armed tank destroyers used by the antitank defense companies in the armored infantry battalions. The Jaguars are equipped with launchers for the HOT/K3S, a 4000m-range missile which has a tandem warhead able to penetrate 1300mm of RHA, even if the target is equipped with additional reactive armor. With these systems, the Austrian Federal Army will have, for the first time, antitank weapons of the most modern type and long range. Eight missiles are stored in a drum magazine and can be reloaded automatically. The missile's hit probability is greater than 94 percent and the rate of fire is also remarkable. The Kürassiers will be used to reinforce the antitank defense units of the rifle brigades, with each brigade getting 16 of these systems. The fighting power of the Kürassiers will also be considerably increased by a refitting program.

To strengthen and modernize its armored forces, Austria is getting 114 Leopard IIs from the Dutch Army. These MBTs, which are one of the most modern, replace M60A3s. With their 120mm gun, low silhouette, and powerful engine, the Leopard IIs have a fighting capacity three times higher than that of the M60A3s with which the Austrian army has been equipped until now. The Austrian Leopard IIs will also undergo a refitting which might be similar to the upgrades done by the German Army. After this, the Leopard IIs will be like new, but at a low price, and will constitute a considerable reinforcement of Austrian mechanized troops.

As a first installment for hardening the rifle brigades, an order was placed some time ago for 68 wheeled armored personnel carriers. These Pandur APCs, which will be used by Austria's UN peacekeeping forces, are being built by the Austrian Steyr company. When the delivery of this Pandur lot is completed, production will begin on the 269 Pandurs which will be part of the Army's armored vehicle upgrade package. Beyond



The Pandur armored car, in the reconnaissance version, above, and in the armored personnel carrier role, at right.



that, another buy of 200 Pandurs is expected.

The Pandur's three, equally spaced axles effectively spread its ground pressure, and the two pairs of front wheels are steerable, to permit tighter turns while allowing the driver to continue steering even if one of the front wheels is damaged. The independent wheel suspension results in extremely good cross-country mobility and allows a low silhouette, with the top of the hull reaching only 1.81 m with a road clearance of 42 cm.

A built-in control unit allows adjustment of tire pressure, even during action, to permit selection of the optimum ground pressure in any type of terrain. All wheels are provided with "run-flat" tires which permit continuation of the mission for another 50 km, even if the tires are damaged. Extremely good springs and shock absorbers allow high speed both on the road (100 km/h) and across rough terrain. The armor protects against armor-piercing ammunition of 7.62mm caliber, as well as against fragments of 155mm shells. Protection can be increased across the frontal arc against 12.7mm and 14.5mm ammunition.

The 269 Pandurs will be in several variants, 224 armored personnel carriers equipped with 12.7mm machine guns, and 45 armored reconnaissance vehicles with two-man turrets carrying 30mm Mauser machine cannons with dual-belt feeding. Later additions will include carriers for battlefield surveillance and between 30 and 40 vehicles armed with HOT 4000 missiles as tank destroyers. Kuwait decided to purchase the Pandur after testing it in the desert, but the provisions of Austrian law do not permit the delivery of war materiel to areas of tension, so these APCs are to be assembled by a U.S. subsidiary of the Austrian

Steyr company and will be armed with 30mm Bushmaster machine cannons. Moreover, the Belgian Army ordered quite a number of Pandurs, and Slovenia will also build them under license for her army.

The last item in the armor acquisition package is the Ascod tracked armored infantry fighting vehicle, which was designed and built by the Austrian Steyr company in cooperation with the Spanish Empresa Nacional Santa Barbara, with the predominant share of the components being manufactured in Austria. The Spanish Army has already ordered a number of these vehicles. The Ascod is equipped with the same two-man turret, mounting a Mauser 30mm machine cannon as well as a coaxial 7.62mm machine gun, as the Pandur. Because of the seven track rollers, the pressure on the ground is only 64.9 kPa. The road speed of the IFV Ascod is 70 km/h. It seems that at least some Ascods per unit will be equipped with long-range antitank rockets. At critical points, the armor will withstand 3 cm projectiles.

What appears remarkable and what makes the Ascod one of the best IFVs is that its engine power is almost the same as that of the M60A3 MBT, but with only half of its weight (M-60 471 kW and a weight of 50.2 t, compared with 441 kW and 27.3 t of the Ascod which, moreover, has an automatic six-speed gearbox. The electrically-traversed two-man turret of this IFV is equipped with a thermal sight for the commander and the gunner and a laser rangefinder. The 30mm Mauser machine cannon is stabilized and has a rate of fire of 800 rounds per minute. Both high explosive and subcaliber projectiles feed alternatively from the left or right, with the latter able to penetrate RHA steel of 120 mm from a distance of 1 km.

In addition to acquiring the armor systems, Austria will also substantially strengthen its antitank defenses within infantry brigades, a decision spurred by the changing geopolitical situation in Austria's neighborhood. The number of Swedish Bofors "Bill" antitank missiles, top-attack weapons with a 2000m range, is to be increased by new purchases so that each brigade will receive 30 systems. At the same time, they will replace the 106mm recoilless rifle systems, which will be taken out of service. Also envisaged is the future purchase of a large number of light antitank rockets, probably of the Panzerfaust 3 type, capable of substantially better performance and the ability to be fired from indoors.

How carefully the Austrian Army handles its limited budget is shown by the fact that it did not buy the M578 armored recovery vehicles along with the M109 howitzers from the British Rhine Army because these were apparently too expensive or in a bad condition. Rather, 30 of these vehicles were acquired at a scrap price from the Dutch Army and brought to an almost new condition by the Austrian military repair workshops.

With this acquisition plan completed, Austria's armored forces and antitank troops will enter the beginning of the new century meeting a new and higher standard.

Walter A. Hamburger was a native of Austria and had a degree in Electrical Engineering. As a student of military history, he wrote numerous articles for, among others, the British Army Review, and two booklets with the titles "Österreichs Wehr - und Sicherheitspolitik im Visier" (A critical look at Austria's defense and security policy) and "40 Jahre Österreichisches Bundesheer" (40 years of the Austrian Federal Army).