

The Armoured Gun System Programme

The Armoured Gun System programme of the 1980s was intended to provide a replacement for the M551 Sheridan in the 3/73rd of the 82nd Airborne and the TOW-equipped HMMWVs of the 2nd Armoured Cavalry Regiment. With the competition opening in 1988, a number of companies entered. Cadillac Gage offered the Stingray Light Tank with a traditional four man crew (there was also an entry of the same turret on the M551 Sheridan hull) FMC offered the Close Combat Vehicle Light (CCVL) with an autoloader and 3 man crew and Teledyne offered the experimental crew in hull two man Expeditionary Tank.

The Stingray was a conventional light tank with a low recoil version of the British L7 105mm gun that was used on the M60 and M1 tanks. It was first produced in 1984 although the first sale was not until 1988 when Thailand bought 100 which were delivered from 1988 to 1990. During the trials it performed reasonably well. The variant on the Sheridan hull was also reasonably successful but the turret and was still a little heavy for the hull and the army was prejudiced against the Sheridan which it felt was a failure (this may well have been in the reasonable expectation that when it came before funding committees it would be killed as an upgrade to a failure).



Illustration 1: Stingray during the trials.



Illustration 2: Expeditionary Light Tank undergoing trials 1989

The Expeditionary Light Tank was the only tank that did not use the 105mm lightened gun. Instead it used the 75mm ARES automatic cannon. Interestingly it anticipated the use of mines and IEDs against light armour, having a double hull floor (in game terms this can be treated as spaced armour). Crew survivability was enhanced by the creation of an armoured crew compartment in the hull. Doubts were expressed however about the firepower of the vehicle, the 75mm cannon could take on T55s (just) but against more modern tanks it was only capable of penetrations from side shots.

The CCVL was the eventual winner of the competition in 1991 with what was given the name the XM8 Bufford. By 1992 six trial versions were available and handed over to the Army. The Army was less than happy with these however, problems occurred with the autoloader (although this was later found to be due to faulty software rather than any design fault). The base version of the Bufford was air dropable, the uparmoured level II version was air portable but the level III



Illustration 3: M8 Buffords offloading in Germany. Note the factory fresh plain green paint scheme.

uparmoured version could not be carried by a C130. Critics were complaining that this limited the utility (ignoring the option of uparmouring in theatre). Costs were also increasing. As the programme floundered Congress ordered the competition reopened in mid 1993.

In late 1992, Taiwan had placed an order for the XM8 Bufford to replace its M24s and M41s. Production of this had started when the competition was reopened. Taiwan was unwilling to proceed if the US abandoned the vehicle and the sale went into limbo. FMC confident the problem was solved decided to proceed with low volume production. In 1995 with the outbreak of the Sino-Soviet War, Taiwan again renewed its interest. FMC started to ramp up

production and the first batch were shipped. The second batch however were taken into US service as a limited type standard. More were ordered but production was limited as production was focussed on the M2/M3 Bradley. A number were shipped to Europe where they were intended to be used as armoured support for the M3 Bradley in cavalry units. The numbers sent however are unknown as the records were destroyed. Estimates range from fifty to more than a thousand, although most agree they would probably be about six hundred. A plan to replace the M551 Sheridans of the 173rd Airborne Brigade were never implemented as the unit had already deployed to Kenya via Egypt and it was too difficult to deploy them there (plus there was little need of the extra tank killing power). The commander of the 4/373rd Armour (formed by expanding D Coy 16th Armour), Lt Col James Dodgers commented in his memoirs that he was actually glad this had never happened as the 155mm beehive round was perfect for use in Africa in close combat and when there were long ranges the Shillelagh missile was more than capable of beating the local opposition.

When Congress ordered the re-opening of the competition “suggesting” that an off the shelf package was bought, the number of competitors increased. Cadillac Gage did not re-enter the Stingray (which was being improved into the never finished Stingray II) but did enter the option of fitting the turret (which was being manufactured for a number of it's other vehicles) on the Sheridan hull. FMC confidently re-entered the XM8 claiming that all the problems had now been corrected. Teledyne re-entered the Expeditionary Tank, renaming it the LAV75, using a new range of ammunition to increase the penetration of the main gun (it also offered a low cost version using the Sheridan hull). New entrants were Thyssen-



Illustration 4: ARES Cannon on Sheridan hull

Henschel who entered the TH301 (which had been developed from the Marder for the Argentinians as the TAM). This was another 105mm armed design and the German Army was just adopting the latest versions to replace the Leopard Is in the recce units. The UK's Alvis entered the Scorpion 90, an upgraded version of the vehicle in use with the British Army (although they were phasing out the 76mm gun armed version in favour of the 30mm Sabre and Scimitar, the first using the replaced Scorpion hulls).

The trials were still continuing when the Sino-Soviet War broke out, although Thyssen-Henschel had withdrawn believing the “not developed here” syndrome would result it it not winning (the US had also expressed concern that with the German Army order the rate of delivery would be too low). As a result the trials were never completed and a number of vehicles were adopted to varying degrees.

The M551 was pulled out of storage and issued as replacements for the 82nd Airborne Division and 173rd Airborne Brigade. Plans to expand their armour capability was however limited as many of the vehicles had been allowed to decay in storage. Most (but not all) were upgraded to the M551A1 standard with a laser range finder (this had actually been the first US vehicle to receive one as the low velocity shell required accurate ranging at long range due to the high drop rate). Some were upgraded to M551A1(TTS) standard with improved night vision. The sophisticated electronics in many however were often in a poor state and a crash programme to fit Stingray turrets was followed despite the problems found in the earlier trials.



Illustration 5: Photographic proof that the M551A1 was used in the United States was finally found when this picture taken by a Californian citizen surfaced.



Illustration 6: M551E3 in action against Division Cuba. Unfortunately it has proved impossible to identify the unit.

its capability verses more modern Soviet armour as it was felt that it was the most survivable design and it had the best transport capability. Production could also be set up without interfering with M2/M3 production.

The 9th (Motorised) Division were the first to receive it for its assault gun battalions. Light divisions then started to receive it for the newly raised divisional tank battalions.

These were given a limited standard as the M551E3. All were used in the United States and were encountered by the Soviets in both Texas and Canada. In mid 1997 a similar programme using surplus LAV75 hulls created from turrets left over from the creation of the M990 anti-aircraft gun and the M917 ADATS. These were known as the LAV75E1(105) Manta (presumably in reference to the Stingray).

The LAV75 was ordered even though there were doubts about



Illustration 7: LAV75 of the 9th Motorised, Iran, Spring 1998



Illustration 8: LAV75 leaving a repair depot. Interestingly it has the side skirts normally only found on the E1 or E2.

When the LAV75 saw combat it was found that the main gun was not as effective as had been hoped and the newer T86 and T90 were virtually immune to it. As a result the LAV75E1 Mantra (details above) was rushed to them. There were however not enough Stingray turrets to meet demand so AAI developed a version of the turret capable of mounting the same low recoil 105mm gun (known as the M68A2 in US service). This became known as the LAV75E2 (105) Eagle-ray (continuing the naming tradition). Despite problems with the autoloader this was issued to

supplement the 75mm gun armed version. By 2000 approximately a third of LAV75 unit strengths are LAV75E1 or E2s. How these are allocated depends on the unit. The 9th Infantry (Motorised) has equipped each troop with 2 LAV75s and 1 LAV75E1/E2. Other units have kept separate troops or even squadrons in order to ease logistics. The LAV75 and all its variants continued in service well into the 2030s as a light armoured unit for rapidly deployable troops. Post 2004 no National guard units (with the exception of round out brigades used the LAV75 series). There has been much debate as to why the LAV75 was referred to as a LAV and not given an M series number. It appears that there was an M series number issued, the M64 but the first trials units were given to a unit equipped with LAV25s (the USMC designation) so just were called LAV75s for ease. The name just stuck.

After discussions with the UK government it was agreed that Alvis would dedicate most of its production facilities to the British Army. A small number however would be produced for US Air Force Security units based in the UK. Most were actually the Scimitar with a 30mm cannon but a few were the Scorpion 90. These were all turned over to the British government when the US

withdrew in November 2000.



Illustration 9: 3-112 Armoured Stingrays retiring from Mexican M4s after inflicting heavy losses.

The Stingray was ordered by Pakistan in 1994 as a replacement for the Type 63 used for reconnaissance work. In November 1995 the US Government offers further Stingrays at a reduced price in order to sweeten the deal where embargoed F16s will be released to China. These were never delivered with the start of the war and in early 1997 these are issued to a number of units as replacements. In addition a number of units were issued them in lieu of MBTs (the best known being the 4-34 Armoured of the 8th Division (Mechanised). Many retained their Pakistani paint schemes and often unit markings (although US stars and similar we

usually added. Appreciated for the power of the main gun on a light vehicle (being capable of taking on the older Soviet tanks head on at long range) and their mobility they were very weakly armoured and as a result were never popular with their crews. They were despised by the 3-112th Armoured in Texas where they were up against Soviet T72s. The battalion soon nicknamed itself the 3-112th Unarmoured. Used correctly as light armour they were effective but their appearance tended to get the unit commanders (and it must

"We we gutted when the new tanks were issued and we got the Stingray, the 1-68 and the 3-77 got Abrams – ok they only had the 105 gun – we had that - the big difference was they had armour to hide behind, we didn't even feel safe from small arms! Ours we called Swiss Cheese..."

Private Sarah Lewis

4-34 Armoured quoted in "Anything Can Happen in the Next Half Hour" by Jose Franks, Cooper Press 2018

be admitted some of the crews) believing they were tanks with predictable results. The M9 Stingray was removed from service after the war although examples may be seen at Fort Knox and Fort Bliss.



Illustration 10: Sgt. O'Dell sketched by a member of his unit. His tank Swan Song is behind him.

"I'll never forget what I saw in Texas, we were in a column when a T72 came round the bend ahead, it got off the first shot with it's main gun. The sabot went through the mantlet of the lead tank, through the turret, out of the back of the turret and through the mantlet of the Stingray behind it! That T72 actually killed two tanks with one shot! We fired our smoke grenades and high tailed out it pretty fast I can tell you."

Sergeant Harry O'Dell 3-112 Armoured Unpublished memoir "My War in Texas"