How titan armoured vehicle launch bridge can benefit indonesian army engineers

Government, Army



AN ESSAY ON HOW TITAN ARMOURED VEHICLE LAUNCH BRIDGE CAN BENEFIT INDONESIAN ARMY ENGINEERS By Captain Yaenurendra Hasmoro Aryo Putro INTRODUCTION 1. Several characteristics of Indonesia's environments eem to be considerable in determining the role of Indonesian Army Engineers (IAEs). Firstly, terrain that is predominantly seashore area with lots of volcanoes on every big island. Secondly, the large number of rivers in Indonesia including around 500 both large and small.

Thirdly, the high risk of natural disasters caused by 128 active volcanoes and the location of its islands ' on the edges of the Pacific, Eurasian and Australian tectonic plates'. Those three characteristics combine to give irregular but frequent supporting tasks for IAEs whether in calm normal situations or chaotic post-disaster evacuation ones. Many of these requirements need to be met only with bridging efforts. Hence, it is logical to deduce that Indonesian military engineers need a strong, yet rapid capability in bridging.

One of the options is to possess a quantity of Titan Armoured Vehicle Launch Bridge (Titan AVLB). 2. This essay will briefly nominate the prerequisite of utilizing Titan AVLB as one of the main bridging vehicle in IAEs. CURRENT BRIDGING CAPABILITIES 3. The main task with which IAEs are burdened is to support the manoeuvre of infantries in the battlefield including to facilitate either river/lake or other gap crossing . Even, in the peace time IAEs frequently play a role in supporting low leveldevelopment of the countryas well as to contribute to rehabilitation efforts in disasters. To carry out this particular function, IAEs are equipped with three kinds of bridging systems: Bailey bridge, Acrow panel bridge, and pontoon bridge. Most of the combat engineer Battalions are resourced with Bailey bridges. Only a small number of battalions have the resources of Acrow panel bridges. Meanwhile, pontoon bridges can be found only in the training centre. Whilst those structures have been used effectively in many situations, nevertheless, there are several short-falls. The mentioned bridging structures are all heavyweight ones. For example, it needs more than 34 tonnes of materials to construct a triple-single Bailey ridge which can only connect 22 metres gap. The next problem is in transporting such a heavy materials. Another difficulty is with the time consumed and man power required to erect these bridge structures. The process of launching either a Bailey or Acrow panel bridges would previously take up to 1 platoon of soldiers to push the panels one by one. Nowadays, powerful heavy equipment (dozer, crane, etc) can be employed. Also, whilst the heavyweight problem is not the case for pontoon bridges, nevertheless, time and manpower are still complexities. 4.

Facing this set of disadvantages, it seems that there has been little research published on the effort to substitute or at least strengthen the bridging capability of IAEs. Even in the training centre, other options of alternative bridge system are not yet introduced. SUITABILITY OF THE TITAN ARMOURED VEHICLE LAUNCH BRIDGE (AVLB) 5. AVLB is an armoured vehicle equipped with a set of folded bridge ps that can be launched and retrieved mechanically. There are various types of AVLB used by several countries. The focus in this essay will be on the Titan AVLB which is a most recent type.

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. The Royal United Kingdom Engineers (RE) is one of the national institutions using Titan AVLB. The RE explain that the Titan AVLB is modified from the ' Challenger 2 Main Battle Tank (MBT) chassis'. This kind of bridge was drafted to connect up to 60 metres of space by laying an assortment of three close support bridges. The AVLB operates in improved ' ground manoeuvre formations' which will enable dealing with an assortment of earth terrain. The other important thing is the short time required to lay the bridges. This vehicle can launch bridge no. 10 (26 metres) in two minutes.

It can also carry and lay two of no. 12 bridge (13. 5 metres) in 90 seconds. 7. Pictures and specification of the Titan AVLB are shown below. Titan Armoured Vehicle Launcher Bridge (AVLB) Specifications Weight (Estimated)62, 500kg CarriesCarries BR-90 Close Support Bridges: No. 10 (length 26 m, p 21-24. 5 m); No. 11 (length 16 m, p 14. 5m); & No. 12 (length 13. 5 m, p 12 m) Road Speed59kmh Road Range450kms Enginecomprises Perkins CV12 diesel engine, David Brown TN54 enhanced low-loss gearbox and the OMANI cooling group: Auxiliary Power Unit (APU) is also fitted Engine Power1, 200bhp

Crew3 Armament1 x 7. 62mm machine gun, Stowage for crew man-portable Light Anti-Tank Weapons, Fitted with NBC protection system. THE ADVANTAGES FOR IAEs 8. the capabilities and the specifications of the Titan AVLB are clearly apparent in the above table and explanation. The obvious deduction is that several advantages will be appreciated by anyone who utilizes this vehicle. I am optimistic that after graduating from the Capability andTechnologyManagement Course (CTMC), I may be able and to access and to conduct further detailed research on this matter.

Nevertheless, at the moment even given the limited scope of this paper, it is clear at least there are three advantages to discuss in term of benefits for IAEs by utilizing Titan AVLB. 9. One good point to start with is the ability of this vehicle to move by itself. The 62. 5 tonnes of weight can not be considered as light, however, since the vehicle can move easily and relatively fast, weight is no longer a problem. Even the transportation problem presented with Bailey, Acrow panel, and pontoon bridges is eliminated by this vehicle.

This beneficial fact negates the requirement to use another vehicle and subsequently saving some amount of fuel and costs. 10. The second benefits can be identified is the minimum use of manpower. It is explicitly written in the specifications that this magnificent vehicle can be manned by only three personnel. For this reason, human resources in a company of engineers for instance, can be managed more efficiently and can undertake more parallel tasks. Particularly in a disaster relief, military personnel are vital to be involved in both evacuation and rehabilitation efforts. 1. The last but not least, the perfect integration of this equipment's ability to operate on almost all terrain along with its rapid launching and retrieving, will be very valuable in providing assistance during periods of disaster relief especially when the permanent bridge facilities may have collapsed or are not in order. Subsequently, evacuation could be undertaken faster, more lives could be saved. In addition, the quick launch of the bridges will also assist the

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government as well as other concerned parties in conducting the rehabilitation process. CONCLUSION 2. The Titan AVLB is a heavy duty engineering vehicle which can move by itself, carrying a set of bridges which are ready to be launched within minutes, and operated by not more than 3 personnel. Its combination of advantageous capabilities is highly suited for IAEs in order to meet the challenges presented by the Indonesian environment, both in normal daily situations and post-disaster evacuation and rehabilitation periods. BIBLIOGRAPHY ' Armoured Vehicle Launch Bridge', Wikipedia, 6 November 2010 at 22: 51, viewed on 21 November 2010, < http://en. wikipedia. rg/wiki/Armoured vehicle-launched bridge> Central Intelligence Agency, 'The World Factbook", in Central Intelligence Agency, Oct 05, 2009 10: 49 AM, viewed on 21 November 2010, . Partnership for Disaster Reduction South-East Asia Phase 4, ' Monitoring and Reporting Progress on Community-Based Disaster Risk Reduction in Indonesia', in Asian Disaster Preparedness Center, April 2008, viewed on 21 November 2010, The Royal Engineers, ' Titan Armoured Vehicle Launcher Bridge (AVLB)', The British Army, viewed 19 November 2010, < http://www. armedforces. co. uk/army/listings/l0062. html>