

Annex A – TERMS OF REFERENCE (TOR)

Task Group on Test Methodology for Protection of Vehicle Occupants against Anti-Vehicular Landmine Effects HFM-090/TG-25

A.1 ORIGIN

A.1.1 Background

The threat to military vehicles and their crew from landmines is of urgent and great importance to NATO countries. Currently, NATO STANAG 4569 addresses the anti-vehicular (AV) landmine problem with respect to establishing standards for protection levels for logistic and light armoured vehicles. However, STANAG 4569 does not state how to achieve a particular protection level. Therefore, the creation of a HFM-TG on test methodology for protection of vehicle occupants against anti-vehicular landmine effects is required to establish common NATO landmine test procedures and common injury criteria.

A.1.2 Justification (Relevance to NATO)

Individual nations or consortia of nations conducted most of the recent development work in anti-vehicular mine protection (AVP). It is recognised that there is a lack of common international procedures to evaluate and assess the performance of AVP systems. A team of subject experts confirmed this during the HFM ET-007 meeting held in Brussels, 22-24 February 2000. The meeting also identified the advantages that would be achieved from pooling knowledge and experience from the participating nations; developing a common and quantitative understanding of the physics of AV mine blast and the resulting injury mechanisms to the human would benefit all participants. It should guide the development of more effective strategies to mitigate the effects of AV mine blast and lead to future AVP system improvements.

A.2 OBJECTIVES

A.2.1 General Goals

- Describe blast mine effects resulting human physical injuries based on various countries experiences with mine incidents and tests;
- Propose injury assessment criteria and tolerance levels for occupant injuries during AV mine strike tests;
- Describe test methods and equipment to assess occupant injuries during AV mine strike tests; and
- Produce a comprehensive technical report.

A.2.2 Expected Deliverables

- Annual progress reports;
- Technical report on the physics of AV mine blast effects on occupants and resulting human injuries;
- Guidelines of procedures, equipment and injury assessment criteria for testing AVP systems; and
- Final administrative report of the activities and results of the Task Group.

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The duration of the Task Group will be 3 years. See table with the planned meetings.

Table A-1: Time Schedule

2002				2003				2004			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	1 st meeting (FRA)			2 nd meeting (NLD)		3 rd meeting (USA)		4 th meeting (Europe)		5 th meeting (CAN)	Final report

A.3 RESOURCES

A.3.1 Membership

Team leader: P.J.C. Leerdam (NLD).

Participating NATO nations: CAN, USA, DEU, FRA, NLD.

Participating PfP-nations: SWE.

The Task Group members will require expertise in the following areas:

- Medical aspects of shock and acceleration injuries and their consequences;
- Explosive effects related to AV mines;
- Material performance against AV mine blast;
- Protective measures and equipment; and
- Test methods and instrumentation.

A.3.2 National and/or NATO Resources Needed

Most of the participating nations already have national programs to develop and test AVPs. The Task Group members need to obtain permission for the release of national test data and experience to the Task Group. Each nation is responsible for its own travel. Invitation of the Task Group members to relevant national AVP tests should be considered.

A.4 SECURITY LEVEL

NATO Unclassified or NATO Restricted.

A.5 PARTICIPATION BY PARTNER NATIONS

Partners are invited.

A.6 LIAISON

- Coordination/collaboration will be established with the proposed TG on protection of dismounted soldiers from anti-personnel landmines. The two TG share some aspects of mine blast protection and close coordination will allow TG members to gain a broader perspective on the subject;
- NL volunteers to act as a central collation and distribution point for TG information/data; and
- In addition to the initial meeting in Brussels, it is expected to hold five additional meetings during the duration of the TG, three meetings will take place in Europe and two in North America.

