



**THE NETHERLANDS
MILITARY AVIATION REGULATIONS
FOR
Acceptable Means of Compliance to
MAR-OPS X.1160 (b)**

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**MILITARY AVIATION AUTHORITY
THE NETHERLANDS (MAA-NLD)**

Acceptable Means of Compliance (AMC) (version 4.2):

To:

MAR-OPS X.1160 (b) (version 4.0) Limitations on the transport of dangerous goods, (b) Unpacked dangerous goods as part of individual and/or group equipment.

Status:

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AMC to MAR-OPS X.1160 (b), Introduction:

Despite the fact that this article refers to unpacked dangerous goods also packed dangerous goods mentioned in the equipment tables can be affected by this AMC, for example the dangerous goods which cannot satisfy (completely) to the regulations and the minimum requirements regarding labeling and/or documentation.

The MAROPS Subpart R, paragraph X.1160(b) offers the opportunity to use equipment tables when air transport of unpacked dangerous goods is imperative. The aim of the approved tables in which dangerous goods (standard carried by troops for a certain operation) are mentioned as part of individual or group equipment, is to mitigate the risks that can arise during air transport. In this AMC is stated how these risks need to be controlled, noted that the risks are not dispelled but only reduced to an acceptable risk level considering the specific military character of the tasking.

Based on the results of the practical experiences and supplementary tests executed by the Knowledge Centre Weapon-systems & Munitions¹ on the articles mentioned in the individual or group equipment tables, controlling measures are proclaimed according to which the (un)packed dangerous goods must be transported. Only when complied with the generic conditions appointed to the air transport of (un)packed dangerous goods and the specific conditions regarding air transport of (un)packed dangerous goods as added per equipment table, air transport of dangerous goods as part of individual or group equipment is approved. It is the Operators responsibility to inform the designated units (Troops in Fighting Trim (TIFT) or “*frequent user*”) about their required compliance with this AMC.

Generic conditions (controlling measures):

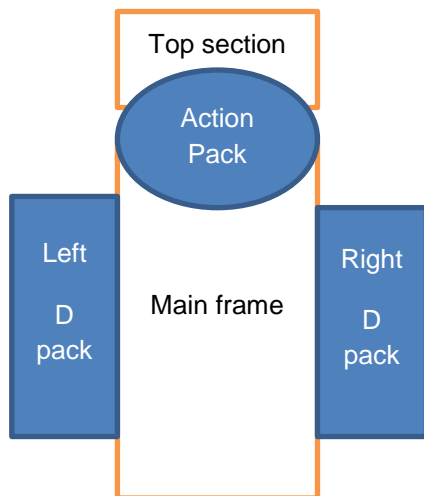
- 1) The air transport takes place with Dutch registered transport helicopters or transport aircraft under responsibility of a Dutch military Operator.
- 2) Permission is received by means of a diplomatic clearance of the state of origin, destination and state(s) of overflight (the flight execution can take place in international level and airspace e.g.: Fort Hood USA and exercises outside the Netherlands), see also MAR-OPS Subpart R Terminology pt. 15 and Guidance material to that article.
- 3) The Operator shall ensure that the individuals of the unit that carry (un)packed dangerous goods during air transport are trained (as a minimum) conform the requirements (including recurrences) stated in the International Civil Aviation Organization Technical Instructions (ICAO-TI), Part 1, Chapter 4 paragraph 4.2.1. in relation to general awareness/familiarization training, function-specific training and safety training and MAR-OPS 1 and MAR-OPS 3 Subpart R . All personnel involved in tactical Troops in Fighting Trim (TIFT) operations, the frequent users, receive appropriate training acceptable to the MAA (see GM MAR-OPS 1.1220(g) Training programs).
- 4) The dangerous goods mentioned in the individual or group equipment tables are unit specific, these tables are attached as appendices to this AMC. The used equipment tables during operations shall initially be stated in the flight task (e.g. ATR or Helquest). The conditions proclaimed in pt. 8 of this paragraph and the specific conditions added to the equipment tables must be complied with.

¹ Project report: nr. 6104.07.4019 version 1.0, “Executing of practical experiences and supplementary testing on behalf of airworthiness requirements of ammunition articles”, document nr. 24188 dated the 9th of October 2013, the additional project report nr. 6104.07.4019 version 1.0, “risk analyze of the petrol burner in plastic (synthetic) or aluminum holder”, document nr. 24236 dated the 9th of January 2014 and the project report : nr. 6103.04.4037 version 1.0, “Safety mechanisms unpacked articles” (carried by TIFT), document nr. 25020 dated the 21st of October 2014 by the Knowledge Centre Weapon-systems & Munitions of the Defense Material Organization (DMO).

- 5) The Operator must substantiate the transport of (un)packed dangerous goods and procedures are secured by means of a risk analyses with an eye for the limited reaction time in case of a fire in an individual backpack or otherwise transported dangerous goods. These procedures are considerations (including the beforehand prescribed and briefed procedures/acts in reaction to possible incidents with dangerous goods) how to secure the risk-freight because of the fact that the first reactions of munitions articles can employ as early as 30 seconds at an average temperature of 200 degrees Celsius (392 degrees Fahrenheit). For tactical flights with fixed wing aircraft an additional risk assessment **must** be made due to the fact that the reaction time and remaining flight time until a (emergency) landing or possible jettison of freight can be substantial longer than when operating with helicopters.
- 6) The Operator is obliged to inform the (to be air transported) unit about the following conditions for air transport:
- a) The individual backpack and other personal gear such as clothing and combat vest as mentioned in the Military Reference Books for the respective branches of services (see Appendices of this AMC) of the *"frequent user"* (member of the mentioned unit on the equipment table). All personal gear is packed with attention for a physical separation (segregation) of batteries, flammable liquids, ammunition small caliber, hand grenades or pyrotechnical articles to prevent mutual interference of dangerous goods mentioned in the ICAO-TI, International Air Transport Association Dangerous Goods Regulations (IATA-DGR) and the MAR-OPS Subpart R. Attention is given to correct **closure** of the backpack, combat vest and clothing compartments, because this reduces the chance of complete ignition of possibly spilled flammable substances. Controlling measures to the backpack are executed in the awaiting area before entering an aircraft (either fixed- or rotary wing).

The arrangement of the backpack as mentioned below, including the position of the dangerous goods, is composed as indicated by the operational user and tested conform Project report: nr. 6104.07.4019 version 1.0 test plan (doc.nr. 24188, version 1.0, dated 9 October 2013).

Schematic illustration of a backpack:



- a. Main Frame lower & mid-section : Clothing & Textile
- b. Main Frame upper part : Batteries (* **see note 1**) & shoe polish
- c. Right hand D pack : Peak one burner and fuel canister
- d. Left hand D pack : Other flammable dangerous goods
- e. Action Pack : Small caliber cartridges
- f. Top section : Other hazard class 1 (including pyrotechnical) articles (***see notes 2 and 3**)

*notes:

- 1) **Batteries:** the carriage of batteries, either **packed** or **unpacked** must conform the controlling measures stated in the ICAO-TI Part 3, Chapter 3, table 3-2 Special provisions, IATA-DGR 4.4 Special provisions, Appendix 1-C (NLD19) to MAR-OPS X.1145 and the detailed controlling measures in the specific conditions added to the equipment tables as mentioned in the appendices A, B, C, D and E of this AMC with regard to the fact that batteries are protected against a short circuit and unintentional activation of equipment is prevented. Due to the fact that the execution of military missions cannot reasonably be fulfilled with batteries charged at or under 30%, the requirement for air transport by TIFT of UN3480 Lithium ion batteries with a maximum State of Charge of 30% is lapsed. However defective or damaged batteries are **forbidden** for air transport.
 - 2) **Packed** hazard class 1 explosive substances and articles with compatibility group B (e.g. detonators and fuzes: “cap blast, fuzes detonating and initiator, delay”) must be mutual segregated from hazard class 1 substances and articles of all compatibility groups (with exception of compatibility group S) according to the segregation table for segregation of compatibility groups of hazard class 1 explosive substances and articles. This segregation table is stated in Appendix 1 to MAR-OPS X.1211 Handling of dangerous cargo – Segregation table hazard class 1 explosive substances and articles. Because of the specific risks of **unpacked** detonators, initiators and fuzes, these **unpacked** explosive substances and articles need segregation also and are for that reason **not** permitted in the backpack when segregation is imperative.
 - 3) Segregation of hazard class 1 articles with compatibility groups E, F and H must be done with consideration of a possible necessity of mutual segregation from compatibility groups B, C, D and G, see also specific conditions added to the equipment tables. For detailed controlling measures see the specific condition added to the equipment tables as mentioned in the appendices A, B, C, D and E of this AMC.
- b) The amount of carried (un)packed dangerous goods is conform the equipment tables as mentioned in the appendices A, B, C, D and E of this AMC but restricted to the amount strictly necessary for execution of the tasking.
- c) When dangerous goods need to be transported **packed** according the group equipment table (liquids and solids) **or** the amount of the, to be transported, either packed or unpacked

dangerous goods goes beyond the amounts approved by the individual equipment table but need to be transported, these dangerous goods shall be transported according the packing instructions mentioned in the ICAO-TI, IATA-DGR or MAR-OPS Subpart R with exception of documentation and labeling of the packages.

If dangerous goods are mentioned specifically as packed in non UN compliant packages they shall be packed in their original good quality (inner) packaging unless otherwise stated in the specific conditions added to the equipment tables in the appendices A, B, C, D and E to this AMC. Consideration is made for minimum obliged requirements such as acceptance checks on closures of package(s) that shall be executed to prevent leakage from the package(s) during transport. For example: cartridges for weapons, normally packed in ammunition boxes, can be transported in the special developed original inner packages of the original, classified and certified outer package in the individual backpack.

- d) All under paragraph 6)c) mentioned dangerous goods shall be stated on the *Air Loading Table (ALT)* or the freight manifest.
 - e) The Operator is obliged to put all conditions in place for foreign NATO or Partnership for Peace (PfP) units when transporting (un)packed dangerous goods with regards to maintaining a safety level as a consequence of the acceptable risk level considering the specific military character of the tasking for Netherlands Ministry of Defense (NLMoD) units. Conditions will be enforced by the controlling measures (generic and specific) stated in this AMC. When the controlling measures from the foreign NATO unit or PfP unit deviate from the by the Director of the Military Aviation Authority (D-MAA) stated generic and specific safety measures, the air transport of (un)packed dangerous goods is not permitted. The foreign unit is obliged to (verifiable) declare to the Operator that it will comply with these measurements. An example of a (verifiable) declaration is mentioned in the GM to MAR-OPS X.1160(b). Operators are free to use other formats as long as all topics in the example are covered and procedures are secured in the Operations manual, acceptable to the MAA.
 - f) For the German Armed Forces, as a result of the Air Manoeuvre Interoperability Seminar (AMIS), six units of the Division Schnelle Kräfte (DSK) are implemented in this AMC by means of their equipment tables and the related general information to these tables (see appendices E-1 up to and including E-6). Despite the fact that the German Armed Forces can be seen as foreign NATO units, the interoperability program between the NLMoD and Germany MoD makes the DSK fully integrated in this AMC. Like the Dutch operators, the German DSK units have to follow the requirements stated in this AMC with regard to the specific conditions (controlling measures), the general information to the equipment tables and the training requirements for TIFT.
- 7) Only “*Troops in Fighting Trim*” (TIFT) are permitted to carry (un)packed dangerous goods according this AMC unless transport is conform MAR-OPS 1.1160(b)(2). TIFT means: troops (units) defined by; insertion (disembarking from a tactical aircraft in a hostile situation and direct contact with the (exercise) enemy is a possibility) or extraction (direct embarking on a tactical aircraft from a hostile environment and direct contact with the (exercise) enemy is a possibility).
- 8) The respective appendix with the equipment table, as well as the generic- and (applicable) specific measurements must be carried with the flight order and the flight crew and the (to be air transported) unit mentioned on the equipment table is informed concerning the content and context about this controlling measures.

- 9) The use of dangerous goods articles mentioned in the individual or group equipment tables on board of an aircraft is only permitted after approval by the Pilot in Command (e.g. the use of fire arms). These instructions do also comply for other hazard classes (e.g. pre-breathe equipment for para troopers) and personal equipment (e.g. telephones and other dangerous goods, like fuel, contained in equipment).
- 10) Wearing of the Smart Vest ESS (Verbeterd Operationeel Soldaat Systeem (VOSS)) by NL units who are mentioned in Appendix A up to and including D is allowed with regard to the following conditions:
- a) the Smart Vest ESS batteries (BT-70838-1/3BE) are tested and comply with the Memo on Battery Protections from Bren-Tronics International Solutions SARL (document March 30, 2016) ;
 - b) the Smart Vest ESS is:
 - i) handled correctly;
 - ii) maintained properly with regard to the batteries and display;
 - iii) not provided by damaged battery packs installed in the Smart Vests which are forbidden for air transport;
 - iv) turned off unless the Pilot in Command approves the use of it during flight;
 - c) carrying of spare batteries is only allowed if they are in compliance with the specific conditions hazard class 9, #1, batteries mentioned in this AMC to X.1160(b).
- 11) Weapons are not fully cocked during flight. As a consequence of actions written down in the Dutch Army manual “Handboek Helikopter Handling” (Handboek LAND-CA-3D-4-42), chapter 6.2.1.5, weapons are unloaded, then half-loaded by installing the cartridge clip and (when possible) put on “safe” (the *Minimi* and *GLA* are unloaded at all times). Cocked weapons are only permitted after approval given by the *Pilot in Command*.
- 12) Operators are obliged to report all occurrence’s, incidents and accidents that occur during the air transport of (un)packed dangerous goods. This includes reporting of any withdrawal from the obligation to follow the rules of the Military Aviation Requirements regarding the air transportation of dangerous goods.
- 13) Only the, per memorandum C-LSK, delivered equipment tables are applicable to these “*Acceptable Means of Compliance*” (AMC), the tables and accompanying measurements are added as appendices A, B, C, D and E to this AMC.
- 14) When transporting (un)packed hazard class 1 explosive substances and articles it is only permitted for **NL units** to transport “regular ammunition”. Regular ammunition is known as explosive substances and articles which are by, or, on behalf of the Dutch Minister of Defense authorized. Authorization is conform the “Voorschrift betreffende typeclassificeren van munitie artikelen” (Voorschrift 9-840) for the purpose of use by Dutch Defense Organizations and therefore it is also evident that articles of hazard class 1, mentioned in the equipment tables are permitted for (un)packed air transport under the conditions that these are tested, inspected or certified conform the STANAG’s 4123, -4375 and the “Instructie Munitie 40-40” (I-MUN-40-40).

For **German DSK units** the transport of hazard class 1 explosive substances and articles is only permitted when the explosive substances and articles are supplied by the German Ministry of Defense and where subject to a thorough type classification. For ICAO-TI and IATA-DGR compliant class 1 explosive substances and articles a classification certificate has been issued, or the class 1 explosive substances and articles are listed in the DEU ammunition supply catalogue. For ICAO-TI and IATA-DGR non-compliant class 1 explosive substances and articles their valid air transport safety code (ATSC) and electromagnetic compatibility (EMC) are listed in the

ammunition supply catalogue or in a central data system of the DEU Bundeswehr. If not listed in the ammunition supply catalogue the electromagnetic compatibility must be confirmed by the authority responsible for the DEU Bundeswehr or the Federal Institute of Materials Research and Testing (BAM).

- 15) When dangerous goods mentioned in the equipment lists of appendices A, B, C, D and E are transported as underslung load (USL) or as internal load, in equipment (e.g. in UN3166 Vehicles, flammable liquid powered or UN3528 Engine, internal combustion, flammable liquid powered), it is mandatory that the requirements which are stated in clearances made by the Office for Internal/External loads (*Bureau Helikopter ladingen, BHL*) for these articles are followed. Also a verifiable recommendation from the Knowledge Centre of Weapons and Munitions (KC W&M) of the Defense Material Organization (DMO) is applicable with regard to the loading instructions when dangerous are transported USL in this equipment.

Appendix bookmark

The following index is an enumeration of appendices (applicable and approved equipment tables, see also paragraph 13) to this AMC. The equipment tables are divided per branch of military service in appendices A, B, C, D and E:

- Appendix A: CLAS (Army)
- Appendix B: CZSK (Naval)
- Appendix C: CLSK (Air)
- Appendix D: KMAR (Military Police)
- Appendix E: DEU DSK (Division Schnelle Kräfte)

The air transport of (un)packed dangerous goods is stipulated by the use of the, in Appendices A up to and including E mentioned, equipment lists. The equipment lists per unit have general statements that are added to each equipment lists for clarification.

For the individual (un)packed dangerous goods, based on the results of the practical experiences and supplementary tests executed by the Knowledge Centre Weapon-systems & Munitions, there are specific controlling measures proclaimed according to which the (un)packed dangerous goods must be (air) transported. Besides compliance with the generic conditions appointed during air transport (see paragraphs 1 up to and including 15 of this AMC), there are considerations to each individual article mentioned on the equipment table. These specific considerations are based on: the hazard of the dangerous goods, the possible effect on other (in the backpack or Ops vest presence) (un)packed dangerous goods, the required storage and segregation.

Specific conditions (controlling measures):

The specific conditions for the air transport of (un)packed dangerous goods are stated below and are mentioned by (possible) presence of hazard classes determined in the respective unit equipment table.

Hazard class 1 articles;

- 1) packed hazard class 1 explosive substances and articles with compatibility group B (e.g. detonators and fuzes: “cap blast, fuzes detonating and initiator, delay”) must be mutual segregated from hazard class 1 substances and articles of all compatibility groups (with exception of compatibility group S). Because of the specific risks of unpacked detonators, initiators and fuzes, these unpacked explosive substances and articles need segregation also and are for that reason not permitted in the backpack when segregation is imperative;
- 2) hazard class 1 explosive substances and articles with compatibility groups E, F or H must be mutually segregated and must also be segregated from class 1 explosive substances and articles with compatibility groups B, C, D and G (with special attention for possible appearing combinations); because of their specific danger, these explosive substances and articles need to be segregated also when transported unpacked in the individual backpack or Ops-vest;
- 3) the air transport of cartridges (ammunition) is permitted when transported in cartridge clips, installed in the weapon or placed in the therefore designed and intended holders on the modular Ops-vest; all remaining cartridges are transported in the special developed original inner packages (inner packages of the original, classified and certified outer package) in the individual backpack;
- 4) the air transport of unpacked hand grenades is permitted when carried in the modular Ops-vest; unintentional activation is prevented by correctly stowing the grenade(s) in their designed holder(s) with special attention for their safety mechanisms;
- 5) the air transport of UN0006 Cartridges for weapons, UN0171 Ammunition, illuminating and UN0245 Ammunition, smoke, white phosphorus, (CTG 120 mm F/M) is permitted with regard to project report: nr. 6104.07.4019 version 1.0, “Executing of practical experiences and supplementary testing on behalf of airworthiness requirements of ammunition articles”, document nr. 24188 dated the 9th of October 2013 of the Knowledge Centre for Weapons and Munitions (KC W&M) of the Defense Material Organisation (DMO), refer to the AMC to MAR-OPS Subpart R, paragraph X.1160(b), article 15;
- 6) the air transport of UN0137 Mines, is permitted when packed according the packing instructions mentioned in Appendix 1-B list of dangerous goods to MAR-OPS X.1145 General – Military special provisions and data in the NC9-65 with exception of documentation and labelling of the packages;
- 7) during transport of UN0018 Ammunition, tear-producing, UN0019 Ammunition, tear-producing and UN0301 Ammunition, tear-producing additional regulations are applicable regarding the appropriate personal protection equipment (PPE) for teargas, as meant in the Supplementary Hazard Warning Sheet (SHWS) with codes Ammunition containing Calcium Phosphide (CP), Chlorobenzylidene Malonic Acid Dinitrile (CS) or Ammunition containing Chloroacetophenone (CN). Appropriate PPE for the frequent user (passenger) is a NBC mask and a filled water bottle as good alternative for an eye-flushing bottle as mentioned in the SHWS with code CP,CS or CN. The Dutch document VS 7-827 (Hand grenades) is also applicable (teargas is poisonous and irritating and may not be used in complete or partial closed spaces); aircrews must, as a consequence of the danger of teargas develop emergency procedures to use in case of a teargas incident, carrying sufficient water (a minimum of 20 liter) on board as a means to flush the eye(s) is recommended when teargas grenades are transported;

Hazard class 2 articles;

- 1) the air transport of cylinders and receptacles used for hazard class 2 substances is permitted when these cylinders and receptacles are designed, constructed, tested and equipped in a way that they can withstand all conditions normally encountered during (un)packed air transport; all effort is to be made to prevent unintentional leakage and for compressed gasses the working pressure is not more than two-third of the testing pressure; when cylinders or receptacles are damaged in a way that the integrity of the pressure holder may be affected, air transportation is not permitted;
- 2) the carriage of UN2037, Receptacles, small, containing gases of Division 2.1, as a replacement of the "Peak One" Burner, the transportation is only permitted when the receptacles are tested according a recognized testing standard, for example: (N)EN, CE or ISO; the receptacles shall not be opened and shall not be connected to a burner during air transport; when carrying empty and non-pressurized receptacles (due to operational or environmental (disposal) reasons), the receptacles shall be treated in a way that eliminates the hazard of the gas residue;
- 3) the air transport of UN1001 Acetylene, dissolved is only permitted when in compliance with MAR-OPS Subpart R, Appendix 1 to MAR-OPS 1.1145 General - Military Special Provisions and the Operator must substantiate the transport; procedures are secured by means of a risk assessment and operational necessity; transport is permitted in packaging with a maximum volume of 16 kilograms/40 liters and UN1001 is transported in an ADR or UN-approved packaging (pressurized container) that complies with the other conditions of ICAO-TI or IATA-DGR, packing instruction 200. The pressurized container has a package orientation label and is transported upright due to the specific risk of dissolved acetylene;
- 4) the air transport of gases of division 2.2 (non-flammable, non-toxic gas) with subsidiary risk 5.1 (oxidizer) together with substances of hazard class 3 (flammable liquids) is permitted when consideration is given for segregation which means that these substances are not in a position that would allow interaction between them in the event of leakage;
- 5) the air transport of UN1072 Oxygen, compressed, more specific the oxygen console "OXCON" and the "PHAOS" oxygen cylinders, is permitted when consideration is given for the additional requirements stated in the AMC to MAR-OPS Subpart R, paragraph X.1160, article 9;

Hazard class 3 articles;

- 1) acceptance checks on closures of packages of flammable liquids, flammable pastes, gel's and shoe polish shall be executed to prevent leakage from the package(s);
- 2) the air transport of a multi-fuel cooking burner is permitted when checked and actions are taken before air transport in the operational awaiting area; the burner shall be un-pressurized and no leakage shall be evident; the burner shall be transported in specially developed, closed transport boxes (aluminum or synthetic) in the closed backpack to reduce entering of oxygen and therefore the chance of (full) ignition of possible leaked fuel;
- 3) the air transport of fuel for a multi-fuel cooking burner is permitted when packed in a UN certified and tested fuel canister; the use of any other fuel canister is forbidden;
- 4) the air transport of UN1203 Gasoline (or with proper shipping name (PSN), Motor spirit or Petrol) in fuel tanks is permitted when transported according packing instruction 950 of the ICAO-TI or IATA-DGR (see also specific condition (controlling measure) of Hazard class 9 articles; UN3166 Vehicle, flammable liquid powered;
- 5) transport of UN3528 Engine, internal combustion, flammable liquid powered and UN3528 Machinery, internal combustion, flammable liquid powered is permitted when; a diesel or petrol (gasoline) engine driven generator, demolition hammer or chainsaw is transported according packing instruction 378 of the ICAO-TI or IATA-DGR (more specific the sub-articles (a)2. and (c));

the fuel amount shall not be more than 25% of a complete filling (when this controlling measure is not practically operational controllable because of the fuel quantity construction of the fuel tank, the fuel quantity is to be estimated and transport can be commenced after serious consideration of above mentioned requirements); the equipment shall be classified and recognizable (not packed in a box pallet or box); the filling cap shall be visible for the loadmaster for the purpose of an acceptance check; it shall be ensured that the “upright” position by means of effective stowing is guaranteed.

Hazard class 4 articles;

- 1) safety matches UN1944 and lighters shall be extracted from the backpack and carried on once person, segregated from other dangerous goods unless the safety matches or lighters are part of a closed meal ration(s); lighters with not absorbed fuel (other than liquefied gas) and so-called “strike anywhere matches” UN1331 are forbidden for air transport with exception of:
 - a. packed transportation conform ICAO-TI or IATA-DGR packing instruction 455 or,
 - b. air transport as meant in packing instruction 955, for “life-saving appliances”: in a cylindrical metal or composite packaging with a screw-type closure and cushioned to prevent movement;
- 2) the air transport of UN2813 water-reactive solid, n.o.s. (“Meals ready to eat, MRE’s”) is permitted when consideration is given for additional packing requirements such as a single packaging that is (as a minimum) leak proof and hermetical sealed (“air and water tight”).

Hazard class 7 articles;

damaged instruments of hazard class 7 are not permitted for air transport.

Hazard class 8 articles;

acceptance checks on closures of packages of corrosive liquids shall be executed to prevent leakage from the package(s).

Hazard class 9 articles;

- 1) batteries;
 - a) the carriage of UN3090 Lithium metal batteries and UN3480 Lithium ion batteries is permitted, carried packed or unpacked; consideration is made for the additional requirements stated in the ICAO-TI and IATA-DGR Special Provisions A154 and A164; batteries are protected against a short circuit and unintentional activation of equipment is prevented; due to the fact that the execution of military missions cannot reasonably be fulfilled with batteries charged at or under 30%, the requirement for air transport by TIFT of UN3480 Lithium ion batteries with a maximum State of Charge of 30% is lapsed;
 - b) batteries recognized as: unserviceable, broken/damaged, and therefore have the potential of a dangerous evolution of heat/ fire or short circuit are considered defective or damaged and are forbidden for air transport (see also the *note 1 batteries, below the generic condition 6 a) in the AMC to MAR-OPS Subpart R, paragraph X.1160(b)).

- 2) transport of UN3166 Vehicle, flammable liquid powered is permitted when;
- a) vehicles equipped with diesel engines are transported according packing instruction 950 of the ICAO-TI and IATA-DGR (more specific the sub-articles (b) and (c)); the (diesel) fuel tanks may be filled to a maximum filling provided that sufficient empty space has been left inside the tank to allow fuel expansion without leakage during flight;
 - b) petrol (gas(oline)) engine driven motorcycles, “quad’s” or fuel tanks used for outboard motors on boats are transported according packing instruction 950 of the ICAO-TI and IATA-DGR (more specific the sub-articles (a) and (c)); it shall be ensured is that the “upright” position by means of effective stowing is guaranteed; the motorcycle or “quad” shall be placed near the ramp of the aircraft to guarantee a maximum possible ventilation; the amount of fuel in the tank may be maximum 75% of a complete filling (with regard to sufficient empty space to allow fuel expansion without leakage during flight) or a part of that amount but not less than 25% (when this controlling measure is not practically operational controllable because of the fuel quantity construction of the fuel tank, the fuel quantity is to be estimated and transport can be commenced after serious consideration of above mentioned requirements); in case of a fuel supply for an outboard motor for a boat, the fuel tank has to be adequate attached to the boat; NLD11 of Appendix 1-D of the MAR-OPS is applicable (this provision also encounters (a) flexible tank(s)).

Final Clauses

This Military Aviation Regulation is known as AMC to MAR-OPS X.1160 (b).

This Military Aviation Regulation shall enter into force from the day after the date of issue on the MAA-NLD internet/intranet.

The Hague, 24 March 2023

The Director of the Military Aviation Authority - The Netherlands

J.P. Apon,

Air Commodore

Appendix A: CLAS unit specific equipment tables

A-1	Eenheid GROEP ALG_001 Individual equipment (<i>Individuele uitrusting</i>)	V3
A-2	ALG_002 Herbevo Klasse I	V3
A-3	ALG_003 Herbevo Klasse III	V3
A-4	ALG_004 Herbevo Klasse V practice / live munition (<i>oefen- / scherpe munitie</i>)	V3
A-5	Eenheid 11/12/13 Infbat LMB AASTL	V3
A-6	Eenheid 11 Bevocie 11 LMB AASTL	V3
A-7	Eenheid 11 GNCie 11 LMB AASLT	V3
A-8	11 GnKCie 11 LMB AASLT	V3
A-9	11 Hrscie 11 LMB AASLT	V3
A-10	11 Stscie 11 LMB AASLT	V3
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A-18	KCT PLOEG ALG	V4
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A-20	OOCL-VUSTCO Operationeel Ondersteuning CLAS / Vuursteun Commando (<i>Groepsuitrusting</i>)	V3
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Appendix B: CZSK² unit specific equipment tables

B-1	1MCG / 11,12 en 13 SQN Individual equipment (<i>Individuele uitrusting</i>)	V2
B-2	1MCG / 11,12 en 13 SQN Group equipment (<i>Groepsuitrusting</i>)	V2
B-3	1MCG / 14 SQN Individual equipment (<i>Individuele uitrusting</i>)	V2
B-4	1MCG / 14 SQN Group equipment (<i>Groepsuitrusting</i>)	V2
B-5	1MCG / 14e AT Individual equipment (<i>Individuele uitrusting</i>)	V2
B-6	1MCG / 14e AT Group equipment (<i>Groepsuitrusting</i>)	V2
B-7	1MCG / 14e AE Individual equipment (<i>Individuele uitrusting</i>)	V2
B-8	1MCG_008 / 14e AE Group equipment (<i>Groepsuitrusting</i>)	V2
B-9	1MCG_009 / 14e VIKING Individual equipment (<i>Individuele uitrusting</i>)	V2
B-10	1MCG / 14e VIKING Group equipment (<i>Groepsuitrusting</i>)	V2
B-11	1MCG / 15 SQN Individual equipment (<i>Individuele uitrusting</i>)	V2
B-12	1MCG / 15 SQN Group equipment (<i>Groepsuitrusting</i>)	V2
B-13	1MCG / 15e JFC Individual equipment (<i>Individuele uitrusting</i>)	V2
B-14	1MCG / 15e JFC Group equipment (<i>Groepsuitrusting</i>)	V2
B-15	1MCG / 15e RS TA Individual equipment (<i>Individuele uitrusting</i>)	V2
B-16	1MCG / 15e RS TA Group equipment (<i>Groepsuitrusting</i>)	V2
B-17	1MCG / 15e RAVEN Individual equipment (<i>Individuele uitrusting</i>)	V2
B-18	1MCG / 15e RAVEN Group equipment (<i>Groepsuitrusting</i>)	V2
B-19	1MCG / 15e 81MM Mortar Group Individual equipment (<i>Individuele uitrusting</i>)	V2
B-20	1MCG / 15e 81MM Mortar Group equipment (<i>Groepsuitrusting</i>)	V2
B-21	1MCG / 15e FST Individual equipment (<i>Individuele uitrusting</i>)	V2
B-22	1MCG / 15e FST Group equipment (<i>Groepsuitrusting</i>)	V2
B-23	1MCG / CSS SQN Individual equipment (<i>Individuele uitrusting</i>)	V2
B-24	1MCG / CSS SQN Group equipment (<i>Groepsuitrusting</i>)	V2
B-25	1MCG / GNK SQN Individual equipment (<i>Individuele uitrusting</i>)	V2
B-27	NLMARSOF_001 Individual equipment (<i>Individuele uitrusting</i>)	V2
B-28	NLMARSOF_002 DDS Group equipment (<i>Groepsuitrusting</i>)	V2

² Equipment table numbers with 1MCG are also read as 2MCG.

B-29 DDG_001 Individual equipment (*Individuele uitrusting*)

V2

B-30 DDG_002 Group equipment (*Groepsuitrusting*)

V2

Appendix C: CLSK unit specific equipment tables

C-1	DHC/MAOT_001 Team Vredes (oefening)	V3
C-2	DHC/MAOT_002 Team Operationeel	V3
C-3	DHC/MAOT_003 Dag- en avonddienst + Mercedes Benz (MB)	V1
C-4	DHC/MAOT_004 Bambi Bucket Operations	V1
C-5	OGRV_001 Air Mobility Protection Team (AMPT) – Operational (<i>Inzet</i>)	V2
C-6	OGRV_002 Air Mobility Protection Team (AMPT) – Exercise (<i>Oefening</i>)	V1
C-7	DHC DART Downed Aircraft Recovery Team	V1

Appendix D: KMAR unit specific equipment tables

D-1 BSB team 4 - 12 persons

V2

Appendix E: Division Schnelle Kräfte (DEU DSK) unit specific equipment tables

E-1	Staff Support Company Airborne Brigade 1	V1
E-2	Airborne Regiment 26/31	V1
E-3	260 Airborne Eng company	V1
E-4	270 Airborne Eng company	V1
E-5	310 Airborne Recce Company	V1
E-6	Attack Helicopter Regiment 36	V1