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AIRCRAFT CROSS-SERVICING

Edition A Version 1

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NORTH ATLANTIC TREATY ORGANIZATION

ALLIED AIRCRAFT CROSS-SERVICING PUBLICATION

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NORTH ATLANTIC TREATY ORGANIZATION (NATO)

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NATO LETTER OF PROMULGATION

16 April 2020

1. The enclosed Allied Publication AASSEP-13, Edition A, Version 1, AIRCRAFT CROSS-SERVICING, which has been approved by the nations in the Military Committee Air Standardization Board (MCASB), is promulgated herewith. The agreement of nations to use this publication is recorded in STANAG 3430.

2. AASSEP-13, Edition A, Version 1, is effective upon receipt.

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4. This publication shall be handled in accordance with C-M(2002)60.

Dieter Schmaglowski
Deputy Director NSO
Branch Head P&C

Zoltán GULYÁS
Brigadier General, HUNAF
Director, NATO Standardization Office

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RECORD OF RESERVATIONS

CHAPTER	RECORD OF RESERVATION BY NATIONS

Note: The reservations listed on this page include only those that were recorded at time of promulgation and may not be complete. Refer to the NATO Standardization Document Database for the complete list of existing reservations.

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RECORD OF SPECIFIC RESERVATIONS

[nation]	[detail of reservation]
EST	Estonian Air Force does not have all the capabilities defined in the STANAG at the moment. E.g. points which we aren't able to fulfill at the moment: 2-D-1 (D.2), 1-E-1, 1-E-2, 1-E-3, 1-E-4. The reservations are going to change in time in accordance with the developments in the Ämari Air Base.
FRA	France's participation will be limited to "Basic cross-servicing".
GBR	GBR considers that ACO Directive 80-53 requires update to ensure coherence with STANAG 3430 and its associated AASSEP. Any significant changes resulting from such an update may necessitate a change in GBR's ratification response. GBR will look to further develop its ACS capability in line with any change in OASCR within resource and operational limitations.
GRC	Not all the STANAGs referenced in the subject STANAG have been ratified and/or implemented by hte Hellenic Air Force (HAF).
HUN	Hungary can only assure STAGE C cross servicing at the air bases, STAGE A and STAGE B cross servicing will be subject of bilateral agreements.
MNE	In Montenegrin Air Force only Basic cross servicing is possible, so Misssion cross servicing is not possible because of lack of misssion equipment and necessary storage for mission equipment.
Note: The reservations listed on this page include only those that were recorded at time of promulgation and may not be complete. Refer to the NATO Standardization Document Database for the complete list of existing reservations.	

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CHAPTER 1 INTRODUCTION

1.1. PURPOSE

The primary intent of the Aircraft Cross-Servicing (ACS) Programme is to be a force enabler for operational commanders by proving flexible and affordable means of achieving rapid regeneration of available[1] manned aircraft[2]. The secondary aim is to provide a solution for reducing the logistic footprint and to maximize interoperability.[3] This document[4] encompasses all aspects that nations should consider to provide the required level of servicing for the cross-servicing stage agreed by involved nations/units. This document replaces the ACS related STANAG's (3430, 3812 & 7028).

1.2. CONCEPT

The concept of the ACS Programme is based on interoperability in the servicing of aircraft, support equipment and procedures. In order to maximize the effectiveness of the Programme other related standards should be applied. This Programme is established with two stages: Basic and Mission cross-servicing. Detailed information on the minimum services to be provided for both stages is listed in Annex B. The services as described in this STANAG should not be contradictory to the current services in use, unless decided otherwise between the involved nations.

1.2.1. Basic cross-servicing

1. Servicing that is provided to enable an aircraft to continue its mission to its final destination. This stage encompasses ground crew personnel in servicing that aircraft and a Host Base[5] capable to provide the adequate support regarding infrastructure, reception and launch of the aircraft, turnaround of the aircraft, resupply, force protection and emergencies handling (crash & rescue, firefighting, hydrazine). Additional services, such as repacking and installation of drag chutes should be listed but are optional in this stage.

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[1] The A/C is able to continue its mission to is final destination (Basic Cross-Servicing) or flown in another mission (Mission Cross-Servicing).

[2] Although the Operational Requirements might only be limited to Tactical fighter A/C the ACS is open for all type of A/C. Due to responsibility issues only manned A/C can be cross-serviced

[3] NATO encourages ACS agreements between nations even if there is no formal NATO requirement.

[4] Except for integrating all ACS related STANAG's, the major difference is mainly: the former ACS Stage C has been replaced by Basic ACS + optional services from the former Stage A; and former ACS Stage B has been replaced by Mission ACS, more details are available in Annex G.

[5] A Host Base is the airbase providing ACS to those aircraft not assigned to it (the visiting aircraft).

NOTE: The aircraft should be considered armed[6], therefore ground crew needs to be qualified with applicable safety procedures.

2. Basic Cross-Servicing includes tasks and necessary equipment to receive and launch the aircraft. Some tasks are performed while the aircrew is inside the aircraft and until the shutdown of the engine, such as marshalling (including chokes and ladders) and removal/installation of safety devices (weapons, systems, chaff and flares). Other tasks are to be performed by the aircrew with support of the ground crew, such as refueling, replenishing of fluids and gases, turnaround of the aircraft. Compatible aerospace ground equipment (AGE)[7], is required to support those tasks.

3. The responsibility for Basic Cross-Servicing performed belongs to the aircrew.

4. As per national deviation, nations can also assign responsibility for Basic Cross-Servicing to ground crew if proper training is accomplished and records are kept. In this case, preparations can also be carried out for next mission rather than only to continue the mission to their final destination.

1.2.2. Mission cross-servicing[8]

1. Mission Cross-Servicing is the servicing provided to enable an aircraft to be flown in another mission from a Host Base with or without change of weapons configuration. This stage encompasses all necessary support equipment and installations to plan another mission, including the ones depicted for Basic Cross-Servicing.

2. Mission Cross-Servicing includes all Basic Cross-Servicing tasks plus the loading of weapons, data storage, and the replenishment of chaff and flares. This includes the processing of and interpretation of any data from the previous mission.

NOTE: Operational tasks such as debriefing, re-tasking, mission planning and briefing are an integrated part of Mission Cross-Servicing.

[6] Armed: A/C configured with weapons and/or chaff/flares

[7] Aerospace Ground Equipment: Equipment needed to carry out servicing and maintenance of an aircraft and its associated mission systems.

[8] Although Mission Aircraft Cross-Servicing is defined in this STANAG, the operational requirements and enabling conditions are under evaluation, therefore, further developments will be included on subsequent reviews of this standard.

1.3. GENERAL

A lexicon is listed in Annex A.

1.3.1. Programme management

SHAPE conducts the Strategic Management and the promulgation of the ACS Programme policy. HQ AIRCOM has the delegated tasking authority over the ACS Programme and is responsible for the management of the ACS Programme, including the formulation and coordination of the ACS policy.

1.3.2. Applicable stage

Basic cross-servicing is the stage to be activated, so all the procedures are detailed within this scope. Mission cross-servicing, although referred in some parts of this standard is not completely defined as it is going through a full revision.

1.3.3. Applicable aircraft

Aircraft referred to in this standard includes those operated by NATO nations and are manned, fixed wing aircraft.

1.3.4. Applicable airbases

For this standard the term airbases includes military airfields and NAVAL air stations for which an Operational ACS Requirements (OACSR) has been defined.

1.3.5. Identical aircraft

An aircraft can be declared as an identical aircraft for ACS according to the procedures in Annex C. This declaration means that the aircraft not only is from the same type and version, but also that the procedures to conduct ACS basic cross-servicing tasks are the same. This implies that ground crew training (agreement details in Annex D) may be waived if agreed by implicated nations.

1.3.6. Similar aircraft

1. When an aircraft of same type cannot be declared as identical aircraft for ACS according to the procedures in Annex C due to differences in aircraft configuration and/or procedures required for ACS, the aircraft can be declared as a similar aircraft for ACS if those differences are minor.

2. When an aircraft has been declared similar for ACS purposes, training should be based on the differences and only a simplified guide should be provided to highlight them.

1.3.7. Visiting aircraft

An aircraft, which is cross serviced by a Host Base.

1.3.8. ACS Capability

A capability of an airbase to meet its assigned and agreed OACSR is expressed in one of the three following ways:

1. Fulfilled: Basic Cross-Servicing: A fulfilled Basic ACS capability for A/C exists, when the Host Base can cross-service the visiting aircraft with no limitations, for the defined OACSR, which have been agreed to by both nations and supported by AIRCOM.

2. Limited: Basic Cross-Servicing: A limited ACS capability for A/C exists when the Host Base can cross service the visiting aircraft although some deficiencies exist[9].

3. Not Capable: Basic Cross-Servicing: No ACS capability exists when the Host Base cannot cross service the visiting aircraft.

NOTE: There is no declaration for Mission Cross-Servicing as it is not going to be reactivated for now.

1.3.9. Host base

The base, which provides ACS to those visiting aircraft not assigned to it.

1.3.10. Sending unit

The unit, which provides the visiting aircraft to be cross-serviced at a Host Base.

1.3.11. Sponsor base

An airbase that has no assigned OACSR but fulfils the conditions required to support ACS except for ACS teams, regarding infrastructure and emergency services. A Sponsor Base would require always a Sponsor Unit to completely support a Sending Unit for a training event.

[9] Deficiencies could be inability to support the appropriate number of aircraft simultaneously or within the required time period.

1.3.12. Sponsor Unit

A Sending Unit which is designated to provide ACS teams and support equipment to a Sponsor Base for other Sending Units staged in that airbase. This is likely to happen when the airbase is not assigned with an OACSR but there's a training possibility with another deployed unit.

1.3.13. Reimbursement

When the reimbursement is agreed by the two involved nations (Annex E), the procedures are covered in STANAGs 2034 and 3113.

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CHAPTER 2 ACS CAPABILITY DEVELOPMENT

2.1. OPERATIONAL REQUIREMENTS

The requirement of a NATO commander for an airbase which is planned to have aircraft under their operation control triggers the establishment of an ACS capability. These requirements, designated Operational Aircraft Cross-Servicing Requirements (OACSR), although established by a NATO Commander, should go through a validation process with nations concerned, in order to ensure the sustainability of the Programme.

2.2. RESPONSIBILITIES

In the development of ACS Capability in support to a designated OACSR, the responsibilities assigned to a Host/Sponsor Base and/or a Sending/Sponsor Unit, as applicable, are defined as follows:

1. Host/Sponsor Base

    a. Agree on the support equipment as indicated in Annex E.

    b. Host Nation shall be able to store any materiel, consumables, prepositioned AGE, data, and documentation/manuals as agreed between the involved nations.

2. Sending/Sponsor Unit

    a. Establish the training content and qualification standards required in support of ACS in accordance with appendix 1 to Annex D. Amendments/updates to the training content and qualification standards shall be made as required.

    b. Develop, in accordance with appendix 2 to Annex D, and distribute to other nations the required number of current ACS guides and checklists for their types of aircraft for which OACSRs have been established. Amendments/updates to these documents shall be distributed as required to maintain currency.

    c. If applicable, develop the Multimedia Based Training (MBT) package to enable remote training by the units. Amendments/updates to the package shall be distributed as required.

d. Agree on the support equipment as indicated in Annex E. Sending unit is responsible for providing the non-standard or specific equipment and consumables that are required to carry out the cross-servicing of their own aircraft at Host Nation airbases if such materiel and consumables are not readily obtainable from, or cannot be easily manufactured locally by the Host Nation. Where there is a requirement to preposition AGE, Host Nation will be provided with the necessary technical and safety data for that equipment. The sending unit is responsible for providing all related necessary updates/changes.

NOTE: Where aircraft systems or AGE connectors do not comply with NATO STANAGs (f.e. STANAG 3208 and 3209), the sending units shall make adapters available which do conform to the appropriate NATO STANAG.

2.3. SUPPORTING REQUIREMENTS

2.3.1. Training Content and Standards

1. The Sending Nation/Unit is responsible to prepare the training content and establish standards to be achieved by personnel required to handle or cross service its aircraft.

2. The syllabus is to be based on the appropriate ACS guide/checklist and related publications. Also, they are to state the required performance standards.

3. Each syllabus is to include instruction and practice on servicing tasks, use of relevant publications.

4. The guidelines instructions provided in Annex D, are to be considered as the minimum reference to follow if no additional requirement is provided by sending nation.

2.3.2. Support Equipment and Consumables

In order to support ACS activity specific equipment and consumables is required that might not be in the inventory of the Host Base. The specific equipment should be provided by Sending Unit, unless agreed otherwise between the Sending unit and the Host Base. The agreement (Annex E) will also include provisions for inventory control, maintenance schedules, use and disposal of the equipment. All the information pertaining the inventory, maintenance requirements and condition should be exchange between the involved organizations. Detailed instructions follow how to manage those items.

1. Inventory control

a. All support equipment/consumables need to be identified and agreed by involved nations/units and should be listed in the agreements (template in Annex E).

b. The Host Base should control the availability and conditions of all supporting items listed in Annex E.

c. If one of the conditions agreed upon cannot be accomplished or maintained by the Host Base, the involved sending unit should be advised and the agreement should be reviewed and reflected in the yearly update of SH-OPS-60.

d. The equipment should be identified with NSNs and/or P/N. In addition, for consumables, it should have NATO codes for contents, date of fill, and batch number.

2. Storage and maintenance

AGE, specific equipment and consumables should be kept under storage conditions agreed by the both nations. If nothing is specified by the sending nation, the equipment should be in a storage building, desirably in a dedicated area for ACS to be easily tracked and made available when needed. For AGE which requires maintenance, the records of the inspections/repairs should be made available when required either by sending nation or NATO evaluation.

3. Quality Control

The quality control of the products used for servicing should comply with the following requirements, unless specified otherwise by involved nations:

a. **Liquid and gaseous oxygen**. STANAG 7106 should be the reference standard for quality check and for the supply/manufacture of adapters. The results of the batch test should be made available by the supplier.

b. **Lubricants**. Depending upon the handling equipment used to replenish the aircraft, it should make sure that it’s cleaned in accordance with STANAG 3510, 3595 and 3624 and that it’s not contaminating the a/c systems. The lubricant’s life expiry should be checked before use.

c. **Fuel**. The fuel should be tested at least for each resupply in accordance with STANAG 3149 and 3747. A sample check at the supply trucks or pantographs is also recommended.

2.3.3. Other support capabilities

All the infrastructure and available services should be assessed to ensure that the proper support is in place for an airbase selected with an OACSR.

1. Infrastructure

The minimum infrastructure requirements[10] are related with air operating surfaces (runway, taxiways, maintenance apron) and, for fighter aircraft, arresting system. Additional infrastructure such as maintenance hangar, parking apron and/or protective aircraft shelter (PAS), should be assessed but not as an essential element.

2. Services

a. Force Protection (FP) is an essential element to be provided to visiting aircraft. For more information on FP, see STANAG 7217.

b. The firefighting & crash and rescue teams should be familiarized with the visiting aircraft, especially for A/C that contain hazardous elements. The airbases should be prepared and equipped to handle the related emergencies.

[10] Minimum military requirements for infrastructure can be established in MC 0445/1 Bi-SC 85-5 Criteria and Standards for Airfields, 15 March 2011

CHAPTER 3 IMPLEMENTATION PROCEDURES

3.1. GENERAL

1. For operational, engineering and safety reasons it is necessary for Host Nation personnel employed to ACS to have undergone appropriate training and to be qualified according to the agreed performance standards.

2. National regulations pertaining to aircraft maintenance may require qualification procedures for tasks included as part of Basic ACS.

3. In this chapter all required activities to get full ACS capability are included.

4. Training requirements for Similar or Identical A/C might be simplified.

3.2. RESPONSIBILITIES

In the implementation of ACS Programme in support to a designated OACSR, the responsibilities are assigned and defined as follows:

1. Host/Sponsor Base

   a. Ensure that ACS teams receive the necessary training on the Sending Nation's aircraft in accordance with Annex D.

   b. Maximize ACS teams training opportunities for Host Base or other Sending Units at a Sponsor Base, by including them in deployment plans and live exercises or other related events.

   c. Include ACS in Exercise Planning Conferences.

   d. Provide the personnel required to exercise their agreed OACSRs to meet the agreed training and standards.

   e. Ensure that the airbase achieves and maintains a capability to meet the agreed assigned OACSR under all conditions.

   f. Maintain records of individual ground crew training and training status.

   g. When required, provide aircraft and crew shelter for weather and physical protection, respectively, during ACS (PAS priorities to be determined by the local Operational Commander).

h. Provide to the ACS Programme Manager in AIRCOM, all the requested information as described in Chapter 4.

2. Sending/Sponsor Unit

a. Provide the necessary training for ACS teams of the Host/Sponsor Base on the Sending Nation's aircraft in accordance with Annex D.

b. Include ACS in Exercise Planning Conferences.

c. Provide the aircraft and personnel required to exercise their agreed OACSRs to meet the agreed training and standards.

d. Provide to the ACS Programme Manager in AIRCOM, all the requested information as described in Chapter 4.

3. AIRCOM

a. Promote and monitor ACS training and exercise programme for ground crew training to achieve and/or maintain the required operational capability at the selected airbases. ACO Directive 80-53 provides coordinating instructions for NATO commands and nations to include training opportunities on exercises.

b. Manage the ACS Programme.

c. At least once a year, organize an ACS Conference with the Nations to discuss the programme and gather information for the next "ACS requirements and capabilities status report" (SH-OPS-60).

d. Once a year, draft and propose to SHAPE a new edition of SH-OPS-60.

4. SHAPE

a. Distribute SH-OPS-60 after AIRCOM proposal.

3.3. TRAINING FOR ACS TEAMS

1. Given the technical and safety considerations inherent in ACS, the provision of the requisite skills and knowledge to Host Base ground and aircrew is an essential element of the Programme. This should be accomplished through a system of: initial training, proficiency training/checks, and maintenance of qualification records. This training shall include practical hands-on training and theoretical training as appropriate for each service element.

2. The terms for training/proficiency requirements should be agreed bilaterally by nations of Sending and Host unit, in accordance with Appendix 1 to Annex D.

3. The involvement of ground and aircrews from Sending and Host units in the establishment of the training requirements and process ensures that mutually acceptable performance standards are maintained.

3.3.1. Initial Training

1. Initial training may be given at any location mutually agreed between the Host and Sending Nations as a specific event, but it might also happen during a combined event. HQ AIRCOM will liaise in featuring ACS training in NATO exercises and other flight courses or meetings. Guidelines on the preparation of the initial training are at Annex D.

2. The involved nations should agree with the form of classroom training.
The initial trainings should be designed to lead on to hands-on practical training which, ideally, should follow soon afterwards the initial training. Individuals take this training at least one-time and a possible refreshment on the airframe as decided between the involved nations.

3. Practical training is to be arranged to meet the Sending Nation's requirements for Host Nation personnel to perform OASCRs. The principle aim of the practical training should be to instruct personnel on safety aspects of aircraft handling, cross-servicing in accordance with the relevant checklist, weapons hazards and safety precautions. The full sequence should be practiced, from receiving to flight servicing and relaunch the aircraft. Special attention should be given to emergencies handling in a case the ACS ground crew is needed in support to the crash and firefighting teams. Individuals take this training at least one-time and a possible refreshment on the airframe as decided between the involved nations.

3.3.2. Proficiency Training/Checks

1. To validate ACS training, a proficiency check is to be successfully completed. It is carried out under conditions specified by the ACS Instructor but requires at least:

a. The ability to carry out the work in accordance with the relevant Technical Instructions (TI) and the use of the correct tools, AGE and materiel in the proper manner.

b. The competence to carry out all aspects of the servicing.

c. The awareness of their actions and responsibilities should they discover a problem during the servicing.

d. The ability to complete all related documentation.

2. On successful completion of a proficiency check the individuals concerned are considered able to undertake ACS duties.

3. A revalidation check is used if a validity period defined by nations has lapsed or been withdrawn. If no validity period is defined a revalidation check must be done after 24 months for identical A/C or 12 months for any other A/C. If personnel do not meet the agreed standards on the second attempt they must successfully complete initial training before performing another revalidation check.

3.3.3 ACS Instructor

1. Sending Nations ACS Instructors are technically qualified supervisors authorized by their own National authority, the Sending Nation of the aircraft, to conduct initial training (when bilaterally agreed) and to verify the proficiency of host base ground crew personnel.

2. Sending Nations may train Host Nation supervisor technicians to act as the Host Base ACS Instructors for Host base ACS crews required to undertake ACS. It is responsibility of the Host Base ACS Instructors to prepare the necessary translations to make sure that ground crews fully understand the content.

3. If no validity period is defined between the involved nations an annual training is conducted by the Sending Nation to renew the knowledge and skills of the Host base ACS Instructors and related crews. The minimum training standard required by ACS Instructors is to enable them to train ACS crews to perform ACS and to enable them to understand the pilot's responsibilities during ACS.

3.3.4. ACS Certificate issuing and maintenance

1. A record of ACS training is kept on the ACS Certificate (Annex F).[11] Personnel will be de-qualified if training is not completed or if their performance falls below bilaterally agreed standards.

2. After completion of the initial training, the Sending Unit, which conducted the course, will submit a "Training Report Message" to the Host Nation/Unit Point of Contact (POC). The information in the message should include the nation and unit receiving training together with the list of participants, and their respective successful/unsuccessful completion of the training. Additional comments should be added in case of unsuccessful training, as well as other relevant facts.

[11] Former Stage C qualifications remain valid and are equivalent to Basic ACS. Expiration date of these qualifications will be as per Basic ACS.

3.4. VALIDATION OF HOST BASE CAPABILITIES

1. The Host base should provide the required capabilities within the standards depicted and agreed with sending unit. Annex E provide guidelines for that agreement which should be the reference document for evaluations.

2. The evaluation of ACS capability can be conducted by Tactical Evaluation (TACEVAL) teams or by the Sending Nation in an ACS airbase, either by performing a risk assessment during a survey visit or during a live exercise (LIVEX).

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CHAPTER 4 INFORMATION MANAGEMENT

4.1. RESPONSIBILITIES

NATO Commands, Agencies and Nations are the active contributors to keep the Programme updated.

4.1.1. NATO Commands

1. SHAPE is the sponsor of the ACS Programme whose management is delegated to AIRCOM.

2. AIRCOM will formulate OACSR in close coordination with SHAPE, to be validated with nations. It is also responsible to develop procedures to meet the OACSRs and monitor the Programme through the analysis of Key Performance Indicators (KPI) and report this performance to SHAPE.

4.1.2. Nations

1. Nations should provide all the information required for the management of the Programme as detailed in 4.3.1.

2. Correspondence between nations is expected from early validation of OACSR, to capability development and implementation of ACS Programme. Also, the use of an ACS airbase should be included in the Prior Permission Request (PPR) as a reference of an ACS support requirement. Except for emergencies a mandatory warning call period of at least 24 hours is applicable.

3. Nations are responsible for maintaining records of individual ground crew training.

4.2. ACS INFORMATION MANAGEMENT SYSTEM

1. The ACS Information management system, supported by AIRCOM, consists on the tools and procedures to support the management of all information that should be available for nations to implement ACS capability of the Programme.

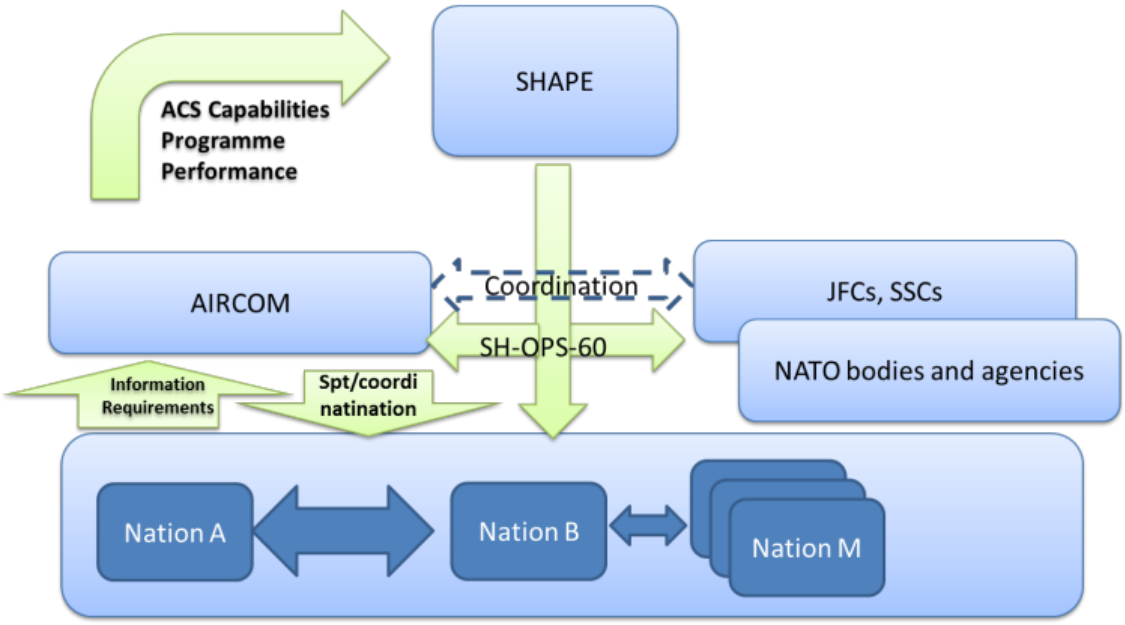
2. The management of the information is mainly done via the classified and unclassified network, which are available for the participants in the ACS Programme (NATO bodies, agencies and nations) and includes:

a. Support to interface with the network, by providing access to participants and uploading the latest information provided by them.

b. Inform nations with OACSR about possible training opportunities, exercises or other events and to provide respective coordinating instructions.

c. Provide relevant requirements/updates to the appropriate agencies on standardization of aircraft and AGE, assemblies and components to facilitate ACS.

d. Collecting metrics to produce KPI.



4.3. INFORMATION REQUIREMENTS

1. The information required to be provided by the nations to AIRCOM is detailed in ACO Directive 80-53, and includes:

a. The ACS capability of each airbase related to the assigned OACSRs, indicating if it is fulfilled, limited or not capable, including related caveats. Should be updated whenever there is a change but at least once a year.

b. National Point of Contact for ACS and respective points of contact on each of their units where OACSRs have been identified.

c. The required and updated documentation and training material as defined in this standard to develop and maintain ACS capability for which an OACSR exists.

d. Timely information about the intent to conduct ACS training events during NATO LIVEX as well as stating it in the relevant IPC and MPC.

e. List of aircraft, which are considered identical for ACS purposes (Annex C).

f. List of ACS capabilities which are not related to the NATO OACSR.

g. All information shall be sent to HQ AIRCOM via e-mail (acs@airn.nato.int)

2. AIRCOM reports annually to SHAPE and nations the status of the programme (*ACS Programme Status Report*) and the ACS –*Operational Requirements and Capabilities*.

3. SHAPE will publish and distribute to nations the ACO Aircraft Cross-Servicing Requirements and Capabilities, a document updated once a year, which catalogues the OACSRs and provides a status report of each base's capabilities and limitations in meeting its OACSRs. It provides information to AIRCOM involved in the execution of operational plans.

4.4. RECORD KEEPING

The ACS Record will always be issued at the training location to record details of the number of training sessions received by the individual in the "ACS Record" form. This record will be done by the authority providing the training.

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ANNEX A LEXICON

A.1. TERMS AND DEFINITIONS

1. ACO Aircraft Cross-Servicing Programme: A programme designed to develop, train and execute ACS. This provides NATO Air Command with flexible means of achieving rapid deployment, operation and regeneration of A/C through interoperability.

2. ACS Capability: An airbase's capability to meet its assigned Operational ACS Requirements (OACSR) is expressed in one of the five following ways:

a. Fulfilled – Basic/Mission Cross-Servicing: A fulfilled BASIC ACS capability for A/C exists, when the Host Base can completely cross-service the visiting aircraft with no limitations, for the defined OACSR, which has been agreed to by both nations and supported by AIRCOM.

b. Limited – Basic/Mission Cross-Servicing: A limited ACS capability for A/C exists when the Host Base can cross service the visiting aircraft although some deficiencies exist[12].

c. Not Capable: Basic/Mission Cross-Servicing: No ACS capability exists when the Host Base cannot cross service the visiting aircraft.

3. ACS Teams: Assigned ground crew personnel and respective ACS Instructors form a unit which are capable of supporting ACS OACSR.

4. Aircraft (A/C): An aircraft referred to in this standard are manned, fixed wing aircraft. It is envisioned the majority of the A/C will be fighter A/C. However other types of A/C are not excluded.

5. Aircraft Cross-Servicing (ACS): Services performed on an aircraft by an organisation other than that to which the aircraft is assigned, according to an established operational aircraft cross-servicing requirement, and for which there may be a charge. ACS has been divided into two levels: Basic and Mission Cross-Servicing.

6. Aircraft Handling: Work performed on an aircraft apart from Marshalling, Repairs, and Servicing.

12 Deficiencies could be inability to support the appropriate number of aircraft simultaneously or within the required time period.

7. Aircraft Marshaller[13]: A person trained to direct by visual or other means the movement of aircraft on the ground into or out of landing, parking or hovering points.

8. Aircraft Marshalling Area[14]: An area in which aircraft may form up before take-off or assemble after landing.

9. Aircraft Transient Servicing[15]:: Services performed on an aircraft by an organisation other than that to which the aircraft is assigned and for which there may be a financial charge. This activity is separate from the established aircraft cross-servicing Programme and requires that the transient aircrew supervises the correct application of ground crew procedures.

10. Evaluation[16]: The structured process of examining activities, capabilities and performance against defined standards or criteria.

11. Ground Support Equipment: Equipment needed to carry out servicing and maintenance of an aircraft and its associated mission systems.

12. Host Base/Nation: The base/nation, which provides ACS to those aircraft not assigned to it (visiting aircraft).

13. Operational Aircraft Cross-Servicing Requirement (OACSR): A military requirement established by a NATO Air Component Commander (AIRCOM) for a designated aerodrome or ship to provide Basic or Mission ACS to an aircraft not assigned to that base/aerodrome or ship.

14. Reinforcement Aircraft: An aircraft type which is normally not in the European theatre and for which regular hands-on ACS ground crew training is not possible.

15. Sending Base/Nation: The base/nation, which provides the aircraft to be cross-serviced at a Host Base/Nation.

16. Sponsor Base: A base of the Sending Nation which is designated to provide expertise and equipment support to a particular Host Base for a particular aircraft type of the Sending Nation.

[13] Definition in accordance with AAP-6
[14] Definition in accordance with AAP-6
[15] Definition in accordance with AAP-6
[16] Definition in accordance with AAP-6

17. Status Report: ACO Aircraft Cross-Servicing Requirements and Capabilities (SH-OPS-60): A document, updated regularly and re-edited once a year, which catalogues the OACSRs and provides a status report of each base's capabilities and limitations in meeting its OACSRs. It provides information to AIRCOM involved in the execution of operational plans.

18. Validation[17]: The confirmation of the capabilities and performance of organizations, individuals, materiel or systems to meet defined standards or criteria, through the provision of objective evidence.

19. Visiting Aircraft: An aircraft, which is cross serviced by a Host Base.

[17] Definition in accordance with AAP-6

A.2. ABBREVIATIONS

A/C	Aircraft
ACO	Allied Command Operations
ACS	Aircraft Cross-Servicing
AGE	Aerospace Ground Equipment
JFC	Joint Force Command
KPI	Key Performance Indicator
LIVEX	Live Exercises
IPC	Initial Planning Conference
MBT	Multimedia Based Training
MPC	Main Planning Conference
OACSR	Operational Aircraft Cross-Servicing Requirements
PAS	Protected Aircraft Shelter
POC	Point of Contact
PPR	Prior Permission Request
SSC	Single Service Command
SH-OPS-60 status report	ACO Aircraft Cross-Servicing Requirements and Capabilities
TACEVAL	Tactical evaluation
TI	Technical Instructions

ANNEX B MINIMUM SERVICES REQUIRED FOR AIRCRAFT CROSS-SERVICING

B.1. GENERAL

The following is applicable to ACS in general:

1. Aircrew has to:

   a. Ensure that all ACS actions have been completed by supervising the responsible crew chief, by inspection and by pre-flight pilot's check.

   b. Brief ground crew on duties and signals expected / desired in pre-departure activities.

   c. Sign the appropriate acceptance document(s) on completion of the ACS.

   d. Sign the appropriate vouchers for services not provided free of charge, if applicable.

2. Safety pins will be carried in aircraft on all flights for all items which require pinning after flight, regardless of any bilateral agreements to preposition safety pins at Host Bases.

3. Items, which are not normally carried on aircraft, namely AGE, specific equipment and replenishment materiel are available in sufficient quantities to meet projected OACSRs.

B.2. BASIC AIRCRAFT CROSS-SERVICING

1. Unless otherwise decided and described in the Letter of Agreement (Annex E) by the involved nations, the following items are to be provided by those airbases, which have been assigned Basic OACSR:

   a. Fuel, oil and lubricants in such quantities as to ensure an adequate supply for Basic ACS of aircraft to enable them to continue their mission to their final destination.

   b. Equipment for replenishing gaseous and liquid systems (STANAG 3510, 3595).

   c. Engine starting accessoiries.

d. Equipment for towing and manoeuvring aircraft, including placing in aircraft shelters (STANAG 3278).

e. Trained ground crews to perform Basic ACS.

f. External power.

g. Adapters (STANAG 3208), to permit use of available equipment, for specified types of aircraft.

h. Aircraft and crew shelter for physical protection during ACS (PAS priorities to be determined by the local Operational Commander) for identical and similar aircraft.

i. Adequate operational support facilities to allow the aircrew to continue its mission.

2. The following items are to be provided by the Sending Nations

a. Appropriate, fully maintained documentation for Basic ACS.

ANNEX C IDENTICAL AND SIMILAR AIRCRAFT ASSESMENT FOR AIRCRAFT CROSS-SERVICING

C.1. GENERAL

1. Among nations flying variants of the same aircraft, technicians may already possess the necessary knowledge and skills to cross-service one another's aircraft. Therefore declaring aircraft identical for cross-servicing purposes would facilitate implementation of ACS by reducing training requirements.

2. The assessment for identical/similar aircraft is applicable to variants of the same type of aircraft.

3. A template to the agreement is provided in the appendix 1 to this Annex and each agreement is only applicable between two nations.

4. The process can be initiated by nations with assigned OACSR in order to simplify training requirements. Notwithstanding this, nations with no assigned OACSR may follow this procedure to simplify ACS bilaterally agreed.

5. The same or a similar procedure will be used when the two variants of aircraft to be declared identical/similar are from a single nation.

C.2. SURVEY AND ASSESSMENT

Both nations shall exchange all necessary documentation at least two months before the physical survey. For the survey, both variants of the aircraft are brought together at an airbase, agreed on by both nations. Competent national authorities will compare both variants of the aircraft.

C.2.1. Survey

To support in the survey the following topics provide guidance for that evaluation:

1. Generic:
   a. Inspection points.
   b. Access panel locations.
   c. Safety procedures.
   d. Cockpit access.
   e. Emergency access and crew evacuation.
   f. Fire-fighting.

h. Documentation.
i. Locally Manufactured Items.

2. Aircraft Handling, Launching & Recovery – Equipment and Procedures

3. Replenishment and Flight Servicing – Equipment and Procedures

4. Weapon/Reconnaissance Systems:
   a. Safety devices.
   b. Pre-post-flight safety procedures.
   c. Pre-flight arming procedures.
   d. Management of failed ammunition.

C.2.2 Assessment

The designated national authorities should coordinate technical, servicing procedures and safety studies during this phase. The following should be considered:

1. Aircraft systems must be of the same type so that technicians qualified on one nation's aircraft can perform ACS on a variant after one-time identical aircraft training. Periodic refresher training will be required if warranted by aircraft, servicing procedures, or AGE differences. In such a case, the responsibilities for periodic training will be as for ACS annual training (see Annex E).

2. The differences between the two variants' systems likely to be encountered during ACS must not present a personnel or flight safety hazard.

3. ACS checklists for variants should be the same whenever possible, allowing for national technical writing differences. Variations should be limited to minor notes, cautions or supplements.

C.3. AGREEMENT

1. Before the end of the third month following the survey, both nations inform the ACS Information Centre whether they can declare the two variants identical for cross-servicing and the level and periodicity of the required training. Caveats and significant differences should be forwarded as well.

2. The HQ AIRCOM ACS Programme Manager incorporates the result in their appropriate document. Through the periodic review of the OACSR, both nations and ACS Information Centre can update or eventually cancel the agreement.

C.4. AIRCRAFT MODIFICATIONS

1. As soon as one of the nations involved modifies its A/C, the nations involved should reassess the A/C variant according to the procedure above. During the reassessment the ACS agreement will be put on hold.

2. Involved nations should inform HQ AIRCOM about any modification in their A/C.

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APPENDIX 1 to
ANNEX C to
AASSEP-13

Letter of Agreement

Between

Nation A and Nation B

1. Introduction

The aim of this Annex is to establish procedures for declaring aircraft identical/ similar for cross-servicing purposes.

2. Objective and scope
3. Concept
4. Terminations and amendments
5. Validity

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ANNEX D GUIDELINES FOR THE PREPARATION OF AIRCRAFT CROSS-SERVICING INITIALTRAINING

D.1. GENERAL INFORMATION

The ACS training is supported on the following elements:

1. Requirements to be agreed by involved nations. Appendix 1 to this Annex provides the aspects that should be defined for training completion.

2. The supporting documentation for ACS training and activity consists of guides and checklists. Appendix 2 to this Annex provides guidelines for their development.

3. The Appendix 3 to this Annex provides guidelines in the development of the MBT package, if no additional standards are agreed.

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APPENDIX 1 to
ANNEX D to
AASSEP-13

TRAINING AND STANDARDS FOR ACS TEAMS

D.1.1. Training Objectives

Prepare ACS team to perform the tasks for Basic Cross-Servicing as referenced in AACSP-3430, to the assigned aircraft in the OACSR. This syllabus addresses the initial training requirements, including the theoretical and the practical elements. Upon completion of theoretical training, the applicant will be able to:

1. Provide a simple description of the whole subject, using common words and examples, using typical terms and identify safety precautions related to the airframe, its systems, power plant and weapons.

2. Identify, use and understand relevant documentation in support to ACS activity.

3. Recall the safety precautions to be observed when working on or near the aircraft, power plant, systems and armaments.

4. Describe aircraft launch and recovery, particularly access, power availability and sources.

5. Identify and use special tooling and test equipment used with the aircraft.

D.1.2. Privileges

1. Technician/crew chief:

    a. Perform ACS tasks for the assigned stage.

2. ACS Instructor:

    a. Provide training for their ACS teams.

D.1.3. Basic knowledge requirements

He/she is able to read, write and communicate to an understandable level in the language(s) in which the technical documentation and procedures necessary to support the service are written.

D.1.4. Basic experience requirements

The basic experience requirements should be decided between the involved nations.

D.1.5. Training content

The training provided should include instruction and practice of the cross-servicing tasks specified in the appropriate guide/checklist, use of publications and the completion of aircraft engineering documentation as required at the stage of ACS being trained for:

1. Familiarization with aircraft:
   a. Inspection points.
   b. Access panel locations.
   c. Safety procedures.
   d. Documentation.
   e. Powered and non-powered AGE.
   f. Locally Manufactured Items.
2. Aircraft Handling, Launching & Recovery – Equipment and Procedures.
3. Replenishment and Flight Servicing – Equipment and Procedures.
4. Weapon/Reconnaissance Systems:
   a. Safety devices.
   b. Pre-post-flight safety procedures.
   c. Pre-flight arming procedures.
   d. Management of failed ammunition.
5. Emergencies:
   a. Emergency access and crew evacuation.
   b. Fire-fighting.
   c. Procedures to handle hazardous material incidents.

D.1.6. Qualification requirements

D.1.6.1. The theoretical training should be followed by with a final examination. The details of the examination should be agreed upon by the nations involved.

D.1.6.2. Practical training

The attendant should complete the following sequence:

1. Observing all the procedures and tasks the required stage encompasses, performed by the crew chief.

2. Assisting the crew chief in all the procedures and tasks for the required stage.

2. Performing alone the procedures and tasks included in the required stage.

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D.2. PREPARATION AND ARRANGEMENT OF CROSS-SERVICING GUIDES

1. An Aircraft Cross-Servicing (ACS) guide is for use by the airbase, which has either been assigned an Operational Aircraft Cross-Servicing Requirement (OACSR) for that aircraft, or is part of a national ACS requirement. The guide is to contain the minimum general servicing and safety information necessary to permit the airbase personnel to follow the correct procedure to Cross-Service that aircraft at the required Stage without reference to other more detailed national publications. It is to contain as many illustrations as possible and should be constructed of loose-leaf laminated heavy paper; the pages are not to exceed A4 or P4 paper dimensions.

2. Whereas the guide is the Basic technical reference for ACS, supplemental checklists are required in loose-leaf flip card format for flight line use. As these checklists are intended to be carried in the pocket of work coveralls, their pages are not to exceed 148 x 210-mm (A5). Illustrations are to be included wherever practicable. For Basic Cross-Servicing a flight servicing checklist is detailing, in sequential order, the flight servicing and replenishment actions are to be provided.

3. Checklists are intended to be a practical supplement to ACS guides and should be cross-referenced in the appropriate section of the guide. Separate checklists need not be developed if national checklists are suitable for cross-servicing flight line use. For example, weapon load checklists normally contain the minimum sequence of actions essential to ensure correct functioning and safety. Hence, they should not be altered and would be used for ACS in their usual form. On the other hand, national servicing checklists often include special checks of detailed technical procedures not appropriate to Cross-Servicing. In such cases, an abbreviated ACS checklist, which eliminates unnecessary steps and allows that for limited user experience is required.

4. The guide and checklists are to be produced in English or French. Where the nation assigned the OACSR requires the guide and its checklists to be translated into a language different from that in which it was produced, that nation is responsible for such translation and for ensuring its subsequent amendment. Prior to release to ACS crews, translated versions must be approved by the nation, which produced the ACS guide or checklist in the original language. Where a translated version of a guide and its supplements has been produced, copies are to be made available on a bilateral basis to other nations, as required.

5. Updates of guides and checklist are to be produced as soon as the national reference documents change. The HQ AIRCOM shall maintain a list of valid version numbers of the ACS guides and checklists. Changes in the list will be forwarded to the POC’s of the nations.

6. The ACS guide is to be divided into the following main parts and arranged in the order shown:
Title/cover page.
Amendment record page.
Table of contents.
Section I - Leading Particulars.
Section II - Aircraft Handling, Launching and Recovery.
Section III - Flight Line Servicing.
Section IV - Locally Manufactured Equipment.

D.2.1. Title/Cover Page

The title/cover page is to be provided and arranged as follows:

(Publication Number)
(Edition Number) (Date)
CROSS-SERVICING GUIDE FOR (TYPE, MARK OR MODEL) AIRCRAFT
This cross-servicing guide is provided in compliance with STANAG 3430, by
(Title of National Issuing Entity)
(Title and address of National Sponsor)

D.2.2. Amendment Record Page

The amendment record page is to contain as a minimum: Columns for amendment/change number; authority for amendment; and date of amendment.

D.2.3. Table of Contents

A general table of contents for the entire guide is to be provided. When a section or part does not apply the section/part number and title followed by the words "Not Applicable" are to be used. Similarly, where the content of a section/part is contained in another publication, the section part number and title followed by the words "As Detailed in (reference and title of publication)" are to be used. Each section is to begin on a right hand page and is to be completed such that it can be used with minimum reference to other sections.

D.2.4. Section I – Leading Particulars

Section I is to detail the leading particulars for the aircraft and provide the general supporting information necessary to turn around the aircraft. The following parts are to be included:

a. General Description and Function of the Aircraft: A brief description of the aircraft and its function is to be provided and is to detail any relevant information

to distinguish between different marks or models covered by the guide. In particular, it is to include:

(1) A three view (top, front and side) line drawing of the aircraft, showing principal overall dimensions and required clearances in SI (metric) units or UK/US equivalents.
(2) A table detailing the leading particulars of the aircraft and its systems.
(3) An illustration portraying danger areas such as engine intake and exhaust, areas swept by rotors, and gun/rocket/chaff/flare trajectories.
(4) An illustration portraying the permissible walkways on the aircraft.
(5) An illustration, accompanied by safety measures where needed, portraying the maintenance accesses and openings which are applicable to ACS.
(6) An illustration portraying the internal arrangement for emergency shut-off of fuel and electrical circuits.
(7) A reference should be made to the relevant aircraft servicing and safety/hazard points, including their marking (STANAG 3109).

b. Lethal Warnings and Safety Precautions. The Lethal Warnings and Safety Precautions part is to summarise the information necessary to acquaint personnel with the avoidable hazards associated with the aircraft. These instructions are to include hidden hazards such as interrelated system functions, seat and canopy ejection systems, and other cartridge initiated devices. This information is not to replace specific precautions and warnings which are to be included wherever applicable throughout the guide or its supplements.

c. Servicing Notes. The servicing notes are to summarise the general information required to undertake cross-servicing tasks on the aircraft. It is to include a glossary of the specialist terms used in the guide or its supplements.

d. Armament Installations. The additional information necessary to undertake ACS of an armed aircraft is to be detailed in this part. The availability of standard armament handling equipment should be fully considered. Supporting illustrations are to be provided where appropriate.

D.2.5. Section II Aircraft Handling, Launching and Recovery

Section II is to provide the information necessary to handle the aircraft on the ground, and to launch and recover it from an airbase where appropriate. Supporting illustrations are to be provided wherever practicable. The following parts are to be included:

a. Handling Equipment. The equipment and tools necessary to conduct ACS are to be listed in the ACS guide and in the appropriate checklists. The lists are to be designed to permit the assembly of equipment prior to the arrival of the aircraft. Each item is to be identified by a short descriptive title and a reference number (NATO Stock Number (NSN) and/or manufacturer's Part Number (P/N)). Wherever the ACS guide specifies the use of an item of equipment for a

particular task, the item is to be referred to in the text and illustrations by its reference numbers. Equipment which has to be manufactured by the Host Nation is to be identified and cross-referenced to the applicable drawing in Section V. Any equipment normally carried in the aircraft, including safety devices, is also to be listed together with its purpose and location.

b. Pilot to Ground Crew Communication. The procedures and requirements for establishing pilot to ground crew communication are to be detailed.

c. Methods of Grounding/Earthing. The procedures and requirements for grounding/earthing the aircraft are to be detailed in accordance with STANAG 3632 and 3682.

d. External Electrical Power. Instructions for the connection and application of external electrical power to the aircraft are to be detailed. Requirements for voltage and frequency regulation, current type and magnitude, phase and power factor, for both maintenance and engine starting are to be included, together with any necessary precautions.

e. External Pneumatic Power. Instructions for the connection and application of external pneumatic power to the aircraft are to be detailed. Requirements for nominal pressure, flow, temperature and engine start times are to be included.

f. External Air Conditioning. Instructions for the connection and application of external air conditioning to the aircraft are to be detailed. Requirements for air mass flow, temperature, pressure, filtration, maximum permissible moisture content and dehumidification following cooling are to be included.

g. Towing or Winching. This paragraph is to detail the procedures and equipment for towing or winching the aircraft. The maximum force to be applied during towing or winching is to be specified to enable the correct shear pins to be fitted, as necessary. Any specific instructions necessary for positioning the aircraft in a Protective Aircraft Shelter (PAS) are also to be included.

h. Folding Procedures. The procedures for folding the nose, wing, fin or rotor blades are to be provided as appropriate. Details of any additional precautions necessary when external stores are fitted are to be included.

i. Safety Devices, Blanks and Covers. The procedures and requirements for fitting safety devices, blanks, covers and gust locks are to be provided.

j. Cockpit Access. The procedures for gaining access to the cockpit are to be detailed.

k. Emergency Access and Crew Evacuation. The procedures for gaining emergency access are to be included. Details of crew harness release mechanisms are to be provided.

l. Engine Starting. Sufficient information is to be provided to enable the ground crew to assist the pilot, as necessary, in starting the aircraft engine(s).

m. Fire-Fighting. Information to facilitate NATO standard fire-fighting techniques is to be provided. It should include the location of all combustible and hazardous materiel.

n. De-icing. General procedures for de-icing are to be specified together with any restrictions on fluid application. Critical surfaces should be identified.

o. Control of Access. Procedures for providing restricted areas for visiting aircraft shall be in accordance with AJP-2.2 (STANAG 2192).

p. Ground Marshalling. Aircraft marshalling signals shall be in accordance with STANAG 3117.

D.2.6. Section III - Flight Line Servicing

Section III is to detail the specific maintenance actions to be undertaken to satisfactorily complete Basic ACS. Supporting illustrations are to be provided wherever practicable. The following parts are to be included:

a. Post-Flight Safety-Procedures. The procedures to be followed immediately after landing to make an armed aircraft safe are to be detailed (e.g. pins or de-arming handles).

b. Consumable Materiel. A list of consumable materiel with acceptable and emergency alternatives is to be provided. This list is to be in tabular form. The materiel are to be identified by the appropriate NATO code numbers and important specifications are to be included.

c. Replenishment and Drain Points. All replenishment and drain points are to be identified. NATO symbols and NATO code numbers are to be included where appropriate.

d. Replenishment Connectors. Details of the type of replenishment connector, coupling or fitting are to be provided and cross-referenced to the appropriate replenishment point(s).

e. Capacity of Systems. Details of the capacities of the systems liable to require replenishment are to be provided in SI (metric) units or UK/US equivalents.

f. Methods of Replenishment/Emptying. The preferred methods of replenishment/emptying, and any alternative methods, are to be described.

g. Access and ACS Procedures. The methods for gaining access and undertaking ACS procedures are to be described. Any actions required immediately after landing are to be clearly identified. Mandatory entries required in the aircraft maintenance form are to be specified.

h. ACS in a PAS. Details of any additional or amended procedures that are necessary when the aircraft is replenished or cross-serviced in a PAS are to be provided.

i. Drag Chute Procedures (when applicable). Drag chute packing and installation procedures are to be included.

j. Pre-flight Arming Procedures. The procedures for arming the aircraft immediately prior to flight are to be detailed.

D.2.7. Section IV - Locally Manufactured Equipment[18]

Section IV is to contain a list and drawings of all items, which may have to be manufactured by the Host Nation. The drawings are to include sufficient information regarding the materiel used to enable suitable alternatives to be selected, as necessary.

[18] Only applicable to Aerospace Ground Equipment

ANNEX E SUPPORT EQUIPMENT AND CONSUMABLES

E.1. GENERAL INFORMATION

During the development of the required capabilities to support ACS, all supporting aspects should be analyzed and agreed. Appendix 1 provides a checklist in support of the survey.

E.2. AGREEMENT

A letter of agreement establishing the required support by involved parties is recommended. A possible format can be as follows:

Letter of Agreement

Between

Nation A/Unit X *and* *Nation B/Unit Y*

1. *Objective and scope*
   The aim of this Annex is to establish the list of required support equipment and consumables, supply source and procedures to track availability and condition.

2. *Supporting requirements*
   Make reference to the attaches fulfilled and agreed checklist (appendix 1) and any other observation relevant.
3. *Terminations and amendments*
4. *Validity*

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APPENDIX 1 to
ANNEX E to
AASSEP-13

CHECKLIST FOR SUPPORT EQUIPMENT AND CONSUMABLES

1. General Support

Vehicles and drivers:

a. Tow vehicle and drivers for aircraft towing.
b. Refuelling vehicles, including drivers for aircraft refuelling operations.
c. Drivers and vehicles to shuttle aircrew to/from mission aircraft, as required.

2. Support Equipment

Item	Reference/ Specification	Compatibility	Amount	Storage requirements	Provided by HN/Reimbursement (STANAG 2034)/ Sending Unit	Maintenance		
						Inspection/ maintenance Schedule	Applicable references	Responsible (HN/SN)
Chokes								
Ladders								
Safety pins, blankets, covers.								
Tow Bar								
Air Starting Unit								
APU								
External Pneumatic Power								

3. Replenishing carts/trailers

Item	Reference/ Specification	Compatibility	Amount	Storage requirements	Provided by HN/Reimbursement (STANAG 2034)/ Sending Unit	Maintenance		
						Inspection/ maintenance Schedule	Applicable references	Responsible (HN/SN)
Engine Oil								
Gearbox Oil								
Liquid oxygen								
Nitrogen								
Hydraulic fluid								

4. Consumables

Item	**Specification** Commercial Ref/ NATO code/date of fill/ batch number[19]	**Compatibility**	**Amount**	**Storage requirements**	**Provided by HN/Reimbursement (STANAG 2034)/ Sending Unit**	**Method(s) of replenishment and draining**	**Maintenance Requirements**		
							Quality Control (what/ periodicity)	Applicable references	**Responsible (HN/SN)**
Fuel									
Engine Oil									
Gearbox Oil									
Liquid oxygen									
De-icing /anti-icing									
Nitrogen									

[19] Use NATO codes according to related STANAG 1135 for Fuel and lubricants

5. Procedures

a. Pilot to ground electronic communications.
b. Grounding/earthing.
c. Towing/winching.
d. ACS in PAS.
e. Drag chute replacement/folding.
f. De-icing/anti-icing procedures.

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ANNEX F ACS CERTIFICATE

APPENDICES:

1. Record of Aircraft Cross-Servicing Training.

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APPENDIX 1 to
ANNEX F to
AASSEP-13

AIRCRAFT CROSS-SERVICING TRAINING AND INSTRUCTIONS FOR USE

F-1.1 GENERAL

1. The purpose of this Appendix is to provide instruction for the use and maintenance of the Aircraft Cross-Servicing (ACS) Record.

2. When a technician is selected to perform ACS activities, the ACS structure/cell or equivalent will authorize an ACS Record to be opened. The Host Base maintains the record for each technician selected to perform ACS. The organization providing the training must provide the ACS Record The ACS Record must accompany the technician to the training location, when it is not the individual's home unit (e.g. annual training, or when participating in other NATO exercises, courses, or operations).

F-1.2 INSTRUCTION FOR USE

The form is to be used for both ACS Instructor and ground crew trained to undertake ACS activities. The details to be entered in each block of the ACS form are detailed on its reverse side. The format of details to be entered is self-explanatory. When required, dates are to be entered in the format YY/MM/DD (Year/Month/Day).

APPENDIX 1 to
ANNEX F to
AASSEP-13

AIRCRAFT CROSS-SERVICING (ACS) RECORD

GROUND CREW and/or ACS INSTRUCTOR | RECORD FOR IDENTICAL AND NON-IDENTICAL AIRCRAFT

1. RANK	2. NAME (LAST)	3. INITIALS	4. ID-number	5. NATION	6. TRADE	7. STAGE	8. REMARKS
					ACFT ☐ WPNS ☐	B ☐ M ☐	

9. TRAINED ON NATIONAL A/C TYPE	10. VALID UNTIL	11. AUTHORISED BY: (name, initials, rank)	12. FUNCTION	13. SIGNATURE	14. DATE

(1) AIRCRAFT TRAINING | TRAINED BY

15. A/C TYPE & ROLE	16. STAGE	17. ID	18. CODE	19. NATION	20. BASE	21. DATE	22. VALID UNTIL	23. NAME	24. INITIALS	25. RANK	26. NATION	27. BASE	28. SIGNATURE

APPENDIX 1 to
ANNEX F to
AASSEP-13

WEAPONS SAFETY TRAINING				TRAINED BY					
16A: WEAPONS TYPE	18. CODE	21. DATE	22. VALID UNTIL	23. NAME	24. INITIALS	25. RANK	26. NATION	27. BASE	28. SIGNATURE

TYPE	17. ID
NOT IDENTICAL	0
IDENTICAL	1

ACS Instructor	18. CODE
INITIAL TRAINING	01
INITIAL RE-TRAINING	02

TRAINING GROUND CREW	18. CODE
INITIAL (TRAINING)	11
PROFICIENCY (RECERT)	12
REVALIDATION (REVAL)	13

INSTRUCTION GROUND CREW	18. COD
FAMILIARISATION	21
RE-TRAINING SESSION IN THE FUTURE	22

1.	Rank of person to be trained
2.	Name of trainee
3.	Initials of trainee
4.	ID-number of trainee
5.	Nationality of trainee
6.	Trade specialisation (job) of trainee
7.	Stage Basic or Mission i.a.w. AD 80-53
8.	Additional remarks
9.	Home Nation aircraft on which the trainee is trained
10.	Validity date for training
11.	Authorised by his national responsible authority
12.	Function of the responsible authority
13.	Signature of the responsible authority
14.	Date signed
15.	Aircraft type and role (F-16A CWI etc.)

16	Stage possibilities: B = Basic M = Mission
16A	Weapons type (i.e. AIM9L/M, AMRAAM etc.).
17	ID is a code (as specified below) to describe the similarity of the aircraft used for training
18.	Training code (as specified below) is for the types of training received
19.	Home Nation of aircraft used for training
20.	Home Base of aircraft used for training
21.	Date for training
22.	Valid until (period for ID = 0 as authorised in AD 80-53) (period for ID = 1 or 2 as bilateral agreed or i.a.w. AD 80-53)
23.	Name of ACS Instructor
24.	Initials of ACS Instructor
25.	Rank of ACS Instructor
26.	Nationality of ACS Instructor
27.	Home Base of ACS Instructor
28.	Signature of ACS Instructor

ANNEX G DIFFERENCE BETWEEN THE OLD AND NEW STANAG EDITION

G.1. GENERAL

Although the change between the former and this edition of the STANAG looks to be a major on, the majority of the changes are mainly related to update the standards with new definitions and aligning with the current situation within NATO. This Annex gives an overview of the main differences.

1. Basic ACS: Used to be Stage C.

2. Mission ACS: Not yet defined in this edition of the STANAG, is replacing Stage A and B.

3. Several items belonging to Stage A are now part of Basic ACS like Sheltering of crew and A/C and certain adapters.

4. Aircraft Captain changed to Aircrew.

5. Aircrew is now supervising responsible crew chief instead of checking signatures of responsible crew chief.

6. “Certified” changed on several places to either “Trained” or “Qualified”.

7. References to other standards are added.

8. More items are now up to the involved nation to decide otherwise than defined in the STANAG.

ASSEP-13(A)(1)