

**The Military Permit To Fly (MPTF) (Development) Template**

**Notes on presentation of the MPTF text**

1. The MPTF<sup>1</sup> template reflects the layout of a Release To Service (RTS) document in terms of the parts and sections into which it is sub-divided.
2. In the MPTF template, the following conventions are used:
  - a. All normal text, including headings, will be used as shown.
  - b. Italic text within brackets thus {example} is used to show where text appropriate to a specific MPTF is required and must be deleted or replaced before issue of the final document.

c. *Italic text presented within shaded boxes, as this example, provides guidance on the required content.*

d. Where normal text is shown within double-line boxes, as this example, mandatory content is defined, but the presentation is not specified.

- e. Where a table is shaded and italic text is used, as below, this indicates that it is an example of an acceptable format.

<i>Mod No</i>	<i>Description</i>	<i>Affects MPTF or not fully integrated into Air System Document Set (ADS)</i>	<i>MPTF Reference</i>	<i>Review Date</i>

**Classification**

3. The Classification of an Air System MPTF should be in line with the guidance provided within JSP 440 The Defence Manual of Security, Part 4 - Section 1: Classification Policy<sup>2</sup>. If information of a higher classification than OFFICIAL – SENSITIVE must be included in the MPTF, rather than in another part of the ADS (such as the Tactics Manual), or a classified part of the Aircrew Manual, this will be presented as a separate ‘Classified Supplement’ to the MPTF. In these circumstances, both the main and supplementary parts of the MPTF have their own Preliminary Pages and MPTF Statement. The supplement uses the same numbering system for Parts and sub-sections as the main, but to keep it to the minimum number of pages, the supplement need only include those Parts and sub-sections that are directly relevant.

**Configuration Control**

4. All pages in the MPTF (including the Preliminary Pages and any blank pages) must show their Issue and Amendment status.
5. If a ‘Classified Supplement’ is used it will need to be under separate configuration control, ie with its own Issue and Amendment Status. The Type Airworthiness Authority (TAA)<sup>3</sup> must ensure that the main MPTF and any supplement are always coherent cross-referenced to the Issue and Amendment status of the other.

**Electronic Formats**

6. The MPTF may be provided in electronic format<sup>4</sup>.

<sup>1</sup> For simplicity, the MPTF(Development) will be referred to as the MPTF throughout this template.

<sup>2</sup> It is likely that most Air System MPTF documents will be marked OFFICIAL - SENSITIVE.

<sup>3</sup> Where the Air System is non-UK MOD-owned, Type Airworthiness (TAA) management regulatory responsibility by either the TAA or Type Airworthiness Manager (TAM) needs to be agreed within the Sponsor’s approved model; refer to RA 1162 – Air Safety Governance Arrangements for Civilian Operated (Development) and (In-Service) Air Systems, or refer to RA 1163 – Air Safety Governance Arrangements for Special Case Flying Air Systems. Dependent on the agreed delegation of TAA responsibilities TAM may be read in place of TAA as appropriate throughout this RA.

<sup>4</sup> Refer to RA 1310 – Air System Document Set.

**Recording of Modifications**

7. Air System modifications will be recorded by the TAA in the ADS under their configuration control. The MPTF is not the repository of all modification embodied on the Air System, however some modifications need to be identified to Aircrew. A modification affects the MPTF when it is necessary to identify different limitations and / or procedures for the pre-mod and / or post-mod conditions of the Air System or equipment. Those modifications affecting the MPTF should be recorded in Part A.6 utilizing Modifications Part A 6.2. Modifications may be listed numerically or by system (Engines, airframe avionic, etc).

**Definition of Terms**

*It is important to the use of the MPTF and the overall Airworthiness of the Air System, that there is a clear and common understanding of the terms used within the MPTF. Therefore, every MPTF will have a section dealing with the definition of terms.  
 Many of the terms used within an MPTF are common to all Air Systems, and hence must be defined in all MPTF. The following must be included in all MPTF:*

Term	Definition
Airworthiness	The ability of an Air System or other airborne equipment or system to be operated in flight and on the ground without significant Hazard to Aircrew, ground crew, Passengers or to third parties; it is a technical attribute of materiel throughout its lifecycle.
TAA-approved Design Standard	The TAA-approved Design Standard is the standard to which the MPTF applies. The TAA has the discretion to use a reference design standard that is other than the Design Organization's (DO) Configuration Status Record (CSR). The TAA must be satisfied that there is a Safety Assessment for this reference design standard and that configuration control procedures are equivalent to those required for a CSR.
CAUTION	A 'CAUTION' is inserted when the consequence of not respecting a limitation might be damage to the Air System or equipment.
Installation only	'Installation only' means that the equipment may be fitted but must not be operated in flight. It must be isolated in accordance with (iaw) a defined scheme unless it has been shown that inadvertent operation represents a tolerable Hazard.
Note	A Note is inserted to clarify the reason for a limitation.
Operational Emergency Clearance (OEC)	Not Used.
Prohibited	'Prohibited' means that operation in the manner described, or of the equipment specified (as appropriate), is prohibited because the associated Risk is unacceptable. The Risk may be judged unacceptable because it is either too high or because there is insufficient knowledge to determine the likelihood of encountering a severe Hazard.

Switch-on only	'Switch-on only' means that it is understood that operation of the equipment does not interfere with the proper operation of any other equipment or system fitted to the Air System. The equipment may be fitted and may be operated in flight within the limitations defined (which may therefore restrict such operation to specific phases of flight and parts of the flight envelope) but cannot be relied upon to function correctly (which may include incorrect functioning of any failure indications). The Air System must not be operated in any way that places any reliance whatsoever on the proper functioning of this equipment.
WARNING	A 'WARNING' is inserted when the consequence of not respecting a limitation might be death and / or injury.

*In addition to these there may be other terms that are specific to the Air System type; these should all be clearly defined.*

**Presentation of WARNINGS, CAUTIONS and Notes**

*The convention used for presenting **WARNINGS, CAUTIONS**<sup>5</sup> and Notes within the MPTF needs to be explained. The appropriate statement will be selected from the following:*

The **WARNINGS, CAUTIONS** and Notes are placed as close as practicable to the relevant limitation / procedure.

*or*

The **WARNINGS, CAUTIONS** and Notes are called out and numbered within each sub-section and placed at the end of the relevant sub-section within each Part.

*or*

The **WARNINGS, CAUTIONS** and Notes are called out and numbered within each Part and placed at the end of the relevant Part.

<sup>5</sup> **WARNINGS** and **CAUTIONS** are written in upper case and bold.



**Part A – Airworthiness and Document Management**

**A.1 MPTF Statements**

All MPTF statements must use a common standard of wording.

**Security Classification**      Reference: .....

This permit is issued iaw MPTF Procedure

Air System:	Version / Mark:
Serial No(s):	Registration Number:
Design Configuration:	
Contract or Loan Agreement No:	
Subject of Contract:	
Engine Type:	

Permission is hereby given for flights, within the conditions of Part B of this permit, from an approved location, for the purpose of flight by an authorized pilot, as permitted by the said reference current amendment.

The design of the Air System is represented by the Configuration Status Record (CSR). The identification and issue number of the applicable CSR is shown in Part A 6.1 of this permit.

Note: This permit authorizes the Air System to be released to a competent Operator to fly. The final decision to fly rests with the Aviation Duty Holder (ADH) or Accountable Manager (Military Flying) (AM(MF)) when satisfied that the Risk to Life is As Low As Reasonably Practicable (ALARP) and Tolerable.

<b>For the Applicant</b>	<i>(Insert name of Organization)</i>
Date                                          Signed	<i>(Authorized Signatory)</i> Name
<b>Design Organization (if not the Applicant):</b>	<i>(Insert name of Organization)</i>
Date                                          Signed	<i>(Authorized Signatory)</i> Name
Design Approved Organization Scheme (DAOS) Approval Reference No.	
<b>Operator</b>	<i>(Insert name of Organization)</i>
Date                                          Signed	<i>(Authorized Signatory)</i> Name
Contractor Flying Approved Organization Scheme (CFAOS) Approval Reference No. (where appropriate)	
<b>For the TAA or the privileged DO</b>	<i>(Insert name of Delivery Team or Organization)</i>
Date                                          Signed	<i>(Authorized Signatory)</i> Name

**Valid Until Date:** .....



Note: Changes affecting the limitations in Part B or C must be identified in the Amendment Statement in the form of Annex B, or re-issue of this permit.

Amendment Record Sheet

Reference .....

A/L No.	Amendment Statement Ref.	Design or Flight Limitations and Parts affected	Incorporated by	Date Incorporated
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

## A.2 Introduction

**A.2.1 Purpose:** The MPTF is the statement by the Applicant to the TAA that an acceptable Safety Assessment has been prepared for the Air System and its equipment. It can also form the basis for a subsequent initial RTS or MPTF (In-Service) for the Air System.

The MPTF describes the approved Air System configuration(s), the operating envelope, limitations, design standard, standard of operational software, and the parameters within which the Air System may be flown. It also includes the approved Special Clearances and advice on their application.

**A.2.2 Structure:** This MPTF comprises specific statements and 4 supporting parts:

Part A covers the purpose and management of the MPTF and any other relevant information that does not appear as a flying limitation.

Part B covers limitations on the handling and use of the basic Air System.

Part C covers those additional limitations and constraints that may be imposed by systems integral to the Air System.

Part D covers those limitations and constraints imposed when the Air System is operating in a particular role.

The limitations in Parts B, C and D may be at one of two levels: either for normal use or for operational emergency use only.

**A.2.3 Amendment:** Amendments will be promulgated automatically to the agencies detailed within the distribution list. Suggestions for amendment are to be forwarded to:

*{Contact details of the TAA}*

## A.3 Description

The *{Air System identifier}* is an *{Air System description}*, procured against *{reference to agreed characteristics against which contract was let}* for use by *{service operator}* in the following roles:

*{Primary Roles}*

*{Secondary Roles}*

*{Tertiary Roles}*

The *{Air System identifier}* was designed to meet the requirements of *{Type Certification Basis (TCB), or appropriate design standard eg European Union Aviation Safety Agency (EASA), Joint Aviation Requirements (JAR), Federal Aviation Regulations (FAR), Defence Standard (Def Stan) (including anthropometric considerations)}*. It is manufactured in *{country of origin}* by *{manufacturer}* under *{arrangements to ensure manufacture will meet the design}*. Any non-compliances are to be clearly shown.

The DO(s) for various elements of the Air System are listed below:

*This list will highlight all DOs who have a role in maintaining the configuration control of the Air System.*

**Air System:** *{Air System DO and contact details}*

**Engine:** *{Engine DO and contact details}*

**Equipment or major system:** *{Equipment or Co-ordinating DO}*

Where appropriate, a Certificate of Design has been produced to certify the extent to which the design satisfies the requirements of the specification, including any exceptions or limitations.

#### A.4 Air System Life and Fatigue

The limitations in Parts B, C and D are valid for the life of the Air System. The Air System life is *{Air System life eg x hours or assessed on condition}*. This life and elements of the Maintenance and servicing schedule are based on the following assumed spectrum:

*{design usage spectrum}*

#### A.5 Statement of Operating Intent and Usage (SOI / SOIU)

The use of the *{Air System identifier}* has been reviewed by the ADH or AM(MF) and TAA within the roles and fleets as detailed below:

*{List of all Marks, Roles or fleets (groupings) of Air System that operate to different usage spectrum.}*

The SOI / SOIU for *{Air System identifier}* has been issued at *{SOI / SOIU reference}* and has been passed to *{Air System DO}* for comparison against the assumed design spectrum. Any perceived differences between the Air System use described by the SOI / SOIU and the way in which the Air System is actually being operated are to be highlighted to *{SOI / SOIU issuing authority}* for resolution or SOI / SOIU amendment.

The current SOI / SOIU for this Air System is *{SOI / SOIU reference}*, issued *{date}* the key points of which are:

*{SOI / SOIU executive summary}*

#### A.6 Air System Configuration

The design standard of *{Air System identifier}* to which this MPTF applies is given below:

Users of the MPTF are to note that, unless listed or referenced below, a Modification / item of equipment is not authorized to be fitted or used. In case of doubt, refer to *{Contact details of the Delivery Team Engineering Authority}*.

*Within section A6 the Air System Configuration will be built up through the sub-sections of:*

##### A.6.1 Basic Design Standard

*The initial design of the manufacturer. If there are several DOs, then multiple entries will be required.]*

Production Design Standard(s). Configuration Status Record *{number and issue state}*

Plus any class AA modifications.

##### A.6.2 Modifications

This will provide a cross-reference to a list that is under the configuration control of the TAA, all modifications introduced since the initial design.

Modifications affecting the MPTF:



#### A.6.4 Other equipment

*Subject to TAA's discretion, Modifications or authorisations for any equipment that is fitted to, or carried in, the Air System but is not covered by sub-sections A.6.1 or A.6.2, ie "Equipment 'not-basic' to the Air System". Everything listed under "Other Equipment" must have a Safety Assessment to determine the safety impact and any associated limitations incorporated in the ADS. Such Safety Assessments may be integral to (or supplements to) the Safety Assessment, or can be based on the equipment's own Safety Assessment, provided specific consideration of the Air System integration aspects is added.  
Freight carried iaw standard rules is not included.*

#### Aircrew Equipment Assemblies (AEA)

*This section should detail the AEA that have been specifically cleared for use with the Air System. Ideally cross reference should be made to AEA schedule DAP108B-0001-1 (providing appropriate procedures are in place for the TAA to approve AEA introduction), thereafter the table of AEA in the MPTF should endorse a limited amount of AEA. The limitations for AEA will be given at C.1. The following further subdivisions are suggested, but others may be used at the discretion of the TAA.*

#### Role Equipment (when applicable)

*The limitations for Role Equipment will be given at C.21 or Part D, as appropriate.  
**Armament and non-armament stores** (when applicable).  
The limitations for armament and non-armament stores will be given at C.20 or Part D, as appropriate.  
**Airborne Equipment (AE)** (when applicable).  
**Helicopter Under-Slung Load Equipment (HUSLE)** (when applicable).  
**Cleared carry-on equipment** (when applicable).  
The limitations for AE, HUSLE and Miscellaneous Items of Carry-on equipment will be given at Part D.*

#### A.7 Related Documents

**A.7.1** The production design is airworthy when operated by qualified Service or Civilian Aircrew within the limitations promulgated in Parts B, C and D of this MPTF and iaw the information and provisions contained in the following related documents:

*Enter in the form given below for all Airworthiness related documents, including: Aircrew Manual, Operating Data Manual (ODM), Flight Reference Cards, Technical Publications (Tech Pubs), MOD F700, etc.*

*{document}* to the latest standard, published and maintained by *{publication organization eg Officer Commanding Defence Aircrew Publications Squadron, Agency tasked to maintain the ODM}* on behalf of *{sponsor eg TAA / ADH / AM(MF)}*.

**A.7.2** To ensure the Air System retains its design Airworthiness it will be serviced and maintained iaw:

*{Tech Pubs reference}* to the latest standard, published and maintained by *{publication organization}* under the authority of *{document sponsor}*.

*{Component lifing policy reference}* to the latest standard, published and maintained by *{publication organization}* under the authority of *{document sponsor}*.



*The following sub-section is used when appropriate.*

**A.7.3** Other documents referred to in this MPTF which contain information relevant to the Airworthiness and operation of this Air System are:

*{Document Reference eg BRd766C}* to the latest standard, published and amended by *{publication organization}* under the authority of *{document sponsor}*.

*The following sub-section is used when appropriate to a main MPTF document that has a Classified Supplement, or to the Supplement itself.*

**A.7.4** The Classified Supplement *{Document Reference}*, *{Issue}*, *{Amendment}*.

or

The main MPTF *{Document Reference}*, *{Issue}*, *{Amendment}*.

## Part B – Air System Design and Handling Limitations

*This part of the MPTF contains Air System design and handling limitations that provide for airworthy operation of the Air System by qualified Service or Civilian Aircrew. This part covers the information to Aircrew, for limitations that are basic to flying the Air System without external stores or other role equipment fitted. Thus, it covers items such as: speed, altitude, manoeuvres, environmental conditions, take-off and landing etc. They are to be expressed in a manner that allows them to be respected by the Aircrew. The conditions pertaining to a particular limit are to be expressed unambiguously. Where the meaning of a term is not formally defined it needs to be explained (eg ramp mass). Conflict, or perceived conflict, of information will be avoided. When operation is dependent on the Air System configuration this will be expressed unambiguously, eg including reference to the relevant modification number.*

### B.1 Environmental Conditions

*Snow, icing, cold weather limits, hot weather limits, operation in sandy or dusty environments.*

### B.2 Temperature Envelope

*Maximum and minimum temperatures (ie with reference to International Standard Atmosphere see also Def Stan 00-970 Part 1 /4 section 7) for ground operation and flight, dew point limits, hot and cold soak limits. To assist the Aircrew an indication needs to be provided as to where the temperature will be measured.*

### B.3 Flight Envelope

*Altitude / Speed / All Up Mass limits expressed in written or (preferably) graphical form (eg flight velocity diagrams). Instrument flying and degraded mode flight envelopes, formation flying, air-to-air refuelling envelope, speeds limits for systems (eg flaps, undercarriage) and degraded systems (eg one hydraulic system) etc.*

### B.4 Mass and Centre of Gravity

*Maximum all up mass (AUM) and any other AUM related limits eg maximum take-off mass if different to landing mass, maximum towing mass, jacking mass, slinging mass. Longitudinal and lateral centre of gravity limits. This may be a graph with AUM and Centre of Gravity as the axes. For fixed wing Air Systems it may include: ramp mass, maximum take-off mass, maximum overload take-off mass, maximum landing mass and maximum fuel mass. (Note that this document takes the scientific view that mass is not the same as weight).*

### B.5 Manoeuvre Limits

*Angle of bank limits (may be a graph), G limits, incidence, stalling and spinning, roll limits, aerobatics and unusual manoeuvres. For rotorcraft will include: hovering and low speeds flight envelope, spot turn limits. (Note any additional limits with external configurations by referring to roles (Part D).)*

**B.6 Ground Operations, Take-Off and Landing**

*Airfield or alternative surface limitations: ground running restrictions, towing and taxiing, Air System tie down / restraint arrangements for engine ground runs, for rotorcraft: rotor brake, rotor engaging and disengaging, cross wind take-off and landing, maximum rate of descent on landing, Air System arresting systems, sloping ground limits, undercarriage, tyres and brakes limits, taxiing limits, running take-off and running landing limits, engine off landings. Limitations on ship operations: ships from which operation is cleared or prohibited, airspeed and approach limits, landing spots etc.*

**B.7 Instrument and Night Flying**

*Limitations for unaided instrument or night flying, ie without night-vision goggles (NVG)s etc. Any special to type limits which need to be observed only at night. Any external configurations which affect these and refer to Part D. Refer to instrument flying envelope at Paragraph 1. Helicopter Type Allowance (needs to state if pressure error is or is not included) and any special to type limits.*

**B.8 Electro-Optic Flying**

*Air System / equipment combination related limits only, NOT equipment related limits for flying with NVG, FLIR, visor displays etc. May include primary and reversionary modes. Equipment-related limitations (eg those relating to temperature storage of NVG) must not be included in the MPTF but must appear in the appropriate equipment publication. Aircrew will be aware of equipment limitations by receiving the required training before they are authorized to use it.*

**B.9 Electromagnetic Compatibility**

*Basic Air System High Intensity Radio Transmission Area (HIRTA) limits, reference to any additional limits due to role configuration (Part D).*

**B.10 Minimum Crew**

*Minimum Crew. The minimum number of Certificate of Qualification on Type (CQT) Aircrew (Pilot & Non-Pilot) will be stated for all relevant flight conditions. Additionally, due to the nature of Remotely Piloted Air Systems (RPAS) operations, the minimum number of ground crew required during the launch and recovery phase will be stated.*

*Guidance Material. In determining minimum crew, the following factors will be considered: maintenance of lookout, conduct of normal and emergency operating procedures and crew workload. Stipulation of minimum crew by task (eg take-off and landing) or crew position (eg cockpit seat or RPAS ground control station position) may be required.*

*Guidance Material. Operation of the Air System by non-CQT personnel (eg test flying, students, Passengers, Supernumerary Crew) as permitted within the MRP RA 2000 Series, will be detailed in ADH / AM(MF) Orders.*

Table example:

<b>Flight Condition</b>	<b>Day VFR</b>	<b>Night VFR</b>	<b>IFR</b>	<b>NVD</b>
<i>Pilot CQT Aircrew</i>				
<i>Non-Pilot CQT Aircrew</i>				

## Part C – System Limitations and Constraints

*This part of the MPTF covers those systems integral to the Air System and contains limitations that provide for airworthy operation of the Air System by qualified Service or Civilian Aircrew. Only system limitations that have an impact on the airworthy operation of the Air System, to a required performance standard, by qualified Service or Civilian Aircrew are to be included. They are to be expressed in a manner that allows them to be respected by the Aircrew. The conditions pertaining to a particular limit are to be expressed unambiguously. Where the meaning of a term is not formally defined (eg ejection mass) it needs to be explained. Conflict, or perceived conflict, of information will be avoided. When operation is dependent on the Air System configuration this will be expressed unambiguously, eg including reference to the relevant modification number. Where system limitations are wholly described in Part B they need not be repeated in Part C. Where this is not the case, system limitations need to be comprehensively covered under the relevant heading. Role-related limitations, ie those covering different external stores configurations and specific roles, will appear in Part D.*

### C.1 Aircrew Equipment

*Generally cleared by exception; that is to say: if it is issued for use it is authorized to use. Where there are Air System limitations associated with the equipment / Air System combination they will appear here. Equipment limitations will only appear in the MPTF when they need to be brought to the attention of the Aircrew and do not exist elsewhere. For MPTF purposes Aircrew equipment includes carry-on equipment. Any items specifically cleared for use need to be either listed in the AEA section of the Design Standard in Part A or covered by a modification.*

### C.2 Fuels, Oils & Lubricants

*List of all permitted fuels, oils and lubricants, with associated limits if any.*

### C.3 Auxiliary Power Units (APU)

*All APU and starter system limits, air and ground use, system temperature limits, starting limits, running time.*

### C.4 Electrical System

*Any relevant limits including those associated with degraded modes or load shedding, battery limits. Limitations on the testing of warning systems in flight.*

### C.5 Hydraulic System

*System temperature and pressure limits. Any limits associated with degraded modes, ground use limits, limitations on any services provided by hydraulic system.*

**C.6 Fuel System**

*Minimum fuel for flight, altitude limits associated with booster or fuel pump operation, any cross-feeding limitations, refuelling and de-fuelling limits, in flight refuelling limitations, use of icing inhibitors.*

**C.7 Engines and Transmission**

*System temperature and pressure limits: starting limits, running time, limits on in-flight shut down or in flight re-light. Torque: compressor speed, gas temperature free turbine limits. If required, sub-sections on: propellers, reheat, water injection, rotors etc.*

**C.8 Environmental Conditioning System**

*Associated system limits and operational constraints for Aircrew, cargo and equipment, including oxygen system.*

**C.9 Canopy / Windscreen**

*Associated system limits, operational constraints.*

**C.10 Undercarriage**

*Associated system limits, operational constraints.*

**C.11 Emergency and Escape Systems**

*Needs to include any limits associated with escape systems, emergency avionics such as cockpit voice recorders, sonar location beacons etc. Limitations on ejection mass and how mass is defined (eg walk out mass, total mass etc). Emergency lighting limitations.*

**C.12 Fire Protection System**

*All limitations associated with fire detection and firefighting system for airframe and engine.*

**C.13 Ice Detection and Ice Protection Systems**

*All limitations associated with the functioning of the ice detection system and ice protection (de-icing, anti-icing) systems. Limitations on the operational envelope imposed by the capability of the ice detection / protection are expressed in Parts B1, B2, B3 and B6 as appropriate.*

**C.14 Flying Control System**

*All limitations associated with flying controls, lifting surfaces etc.*

### C.15 Stability Augmentation / Autopilot System

*Limitations associated with any form of stability augmentation or autopilot system, including degraded mode limits. Stability augmentation equipment, autopilot modes including engagement / disengagement / mode failure constraints, any specific flying control limitations eg any need to keep hands on stick, minimum operating height to allow for recovery from runaway.*

### C.16 Communication Systems

*Limitation of the use of communication equipment: including homing equipment and data links (for example RPAS), operational performance constraints.*

### C.17 Navigation Systems and Sensors

*Limitation associated with use of navigation equipment eg GPS, Radio Altimeter (RAD Alt), Tactical Air Navigation System (TACAN), digital maps, Performance Based Navigation (PBN), Reduced Vertical Separation Minimum (RVSM) etc; operational constraints which affect performance.*

### C.18 Mission Management Systems

*Mission management systems include weapon aiming systems.*

### C.19 Operational / Mission Sensors

*Any limitations or operational constraints associated with Enterprise Service Monitoring (ESM), optical, sonar, sonic sensor systems, Identification Friend or Foe (IFF), radar (Note this needs to include operating performance constraints such as areas of blanking etc).*

### C.20 Defensive Aids

*Installed system limits where these form part of an integrated suite or are individual items.*

### C.21 Armament System

*Identification of armament / stores management systems, stores and associated limits (eg HIRTA, Radiation Hazards (RAD Haz)) imposed on the Air System by its armament systems. Carriage, and release and jettison limits may either be included here (where they can be simply expressed, for example where an Air System carries a single store type and which is not configuration dependent), or reference may be made to Part D (where there may be a number of different stores, configurations and other associated variables). MPTF limitations need to be consistent with weapon aiming and mission management system limits. Limitations associated with the use of integral guns, as opposed to role fit guns, would appear here. Role fit guns would appear in Part D.*

### C.22 Role Equipment

*Where the TAA or privileged DO judges it convenient and appropriate, rather than using Part D, list equipment and respective limits for equipment which is related to a role or roles but is normally carried in or on the Air System as normal fit.*

## Part D – Role Limitations and Constraints

*The Air System configuration(s) for each role needs to be listed including any items that are not considered part of the basic design standard or are to be removed from the basic design standard. Cleared equipment for each role fit must be listed (eg HUSLE). Any additional or different limits to those in Parts B and C which need to be observed as a result of these configurations must be detailed.*

*Where equipment is role-related but not considered a role fit item (eg a hoist which is fitted all the time as opposed to solely during Search and Rescue (SAR) missions) this needs to be included in Part C.*

*When operation is dependent on the Air System configuration this will be expressed unambiguously; eg including reference to the relevant modification number. If necessary, compatibility matrices are to be used.*

*Part D is likely to be highly Air System specific.*

*The headings suggested are indicative and not prescriptive.*

*Examples of section headings for a Fixed Wing Air System include:*

- Authorized Configurations (with associated carriage, release and jettison limits)*
- Air to Air Refuelling*
- Target Towing*
- Loading Limitations (including Passengers and freight)*
- Ferry Configurations*
- Air Drop*
- Parachuting*
- Reconnaissance*

*Examples of section headings for Rotorcraft include:*

- Underslung Load Operations*
- Winch Operations*
- Casualty Evacuation*
- Anti-Submarine Warfare (ASW)*
- Anti-surface warfare (ASuW)*
- Troop Carrying*
- SAR*
- Parachuting*
- Surveillance*