

RA 5405 – Special Instructions (Technical)

Rationale

When a Fault or potential Fault impairs the Safety, serviceability or operational capability of an Air System (and related Products, Parts, Appliances), Airborne Equipment or Air Launched Weapons), temporary Instructions are issued to authorize remedial action. These Instructions, known as Special Instructions (Technical) (SI(T)), are approved and issued by the Type Airworthiness Authority (TAA)¹ or the Commodity Chief Engineer (CE). An SI(T) provides the authority to undertake a work package to identify, monitor, repair or prevent the potential Occurrence or re-Occurrence of a Fault.

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Regulation

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5405(1) The TAA or Commodity CE **shall** raise ►an◄ SI(T) when a work package is needed to identify, monitor, repair or prevent the Occurrence or re-Occurrence of a Fault.

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Delivery Team Responsibilities

1. Prior to issuing an SI(T), the TAA or Commodity CE **should** assess:
 - a. The effect of the Fault or potential Fault on the Type Airworthiness Safety Assessment / Equipment Safety Assessment and, if required, consult with the Operating Duty Holder (ODH) / Accountable Manager (Military Flying) on the effect on the Air System Safety Case.
 - b. Any effect that SI(T) compliance itself could introduce (for example, an SI(T) that requires the frequent disturbance of a critical Aircraft system could itself introduce a Risk to Airworthiness).
2. When an SI(T) is raised, the TAA or Commodity CE **should** notify the Design Organization (DO) and / or the Original Equipment Manufacturer.
3. The TAA or Commodity CE **should** take responsibility for:
 - a. Consulting with the Military Continuing Airworthiness Manager (Mil CAM)² to ensure the Maintenance organizations are able to fulfil the requirements of an instruction and the implications of applying the instructions to stored equipment.
 - b. Ensuring that SI(T)s comply with the applicable Type Certification Basis.
 - c. Promulgation of SI(T)s.
 - d. Maintaining registers for all SI(T)s, including an index of applicable SI(T)s in the Orders and Instructions issued by the TAA (Topic 2(N/A/R)1).
 - e. Ensuring that SI(T)s remain extant for the minimum required period and issuing clear instructions when they are superseded, time expired, fully completed, or otherwise cancelled.
 - f. Initiating appropriate follow up action as required, such as modifications or Instructions for Sustaining Type Airworthiness (ISTA)⁶ amendment.
 - g. Liaising with other TAA or Commodity CEs and Service Non-Destructive Testing (NDT) organizations.

¹ Where the Air System is ►not UK MOD owned, Type Airworthiness (TAW) 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. Dependant on the agreed delegation of TAW responsibilities TAM may be read in place of TAA as appropriate throughout this RA.

² Refer to RA 4947 – Continuing Airworthiness Management – MRP Part M Sub Part G.

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- h. Retaining an audit trail of all actions relating to the SI(T).
 - i. Conducting periodic summaries, at least every 6 months, of all instructions issued, extended or cancelled during the previous period.
 - j. Issuing the periodic summaries to all parties as appropriate.
 - k. Agreeing categories for the instruction from those listed at Annex A.
4. When an Airworthiness Directive (AD) or Service Bulletin (SB)³ for a civil derivative Air System is received, the TAA or Commodity CE **should** utilize the SI(T) process to initiate corrective action in the same way they would with a military Air Systems.
5. The TAA or Commodity CE **should** engage with the Release To Service (RTS) Authority (RTSA) or Sponsor⁴ during the production of an SI(T) to ensure sufficient evidence is made available to enable changes to be incorporated into the RTS, Military Permit to Fly (MPTF) (In-Service) or MPTF (Special Case Flying (SCF)) or the letter of release for ship-borne operations.
6. When an NDT technique is required to satisfy an SI(T), the relevant TAA or Commodity CE **should** engage the appropriate NDT organization as early as possible to enable development of the required technique.
7. The TAA **should** provide Officer Commanding Defence Aircrew Publications Squadron (OC DAPS) or a competent contractor with a draft copy of the SI(T) to enable DAPS or the competent contractor to determine whether operation or handling are affected.
8. **Armament Safety.** Special clearance procedures **should** be identified before ►an◄ SI(T) is issued which affects Air System weapons or equipment, which have an RTS or MPTF (In-Service) or MPTF (SCF) covering an armament capability.

Design Organization Responsibilities

9. When tasked, the DO **should** be responsible for the following:
- a. Retaining an audit trail of all actions relating to the SI(T).
 - b. Maintaining registers for all SI(T)s.
 - c. Conducting periodic summaries, at least every 6 months, of all instructions issued, extended or cancelled during the previous period.
 - d. Issuing the periodic summaries to all parties as appropriate.
 - e. Preparing a draft SI(T) for submission to the Delivery Team (DT) as required.
 - f. Advising the TAA or Commodity CE of the need for NDT.
 - g. Recommending acceptance of an SI(T) drafted by other DOs.
 - h. Initiating modification⁵, drawing amendment, ISTA amendment⁶ or other action to enable cancellation of the SI(T).
 - i. Providing technical advice.
 - j. Obtaining TAA or Commodity CE approval.
10. These procedures **should not** be used to circumvent more formal action. ►An◄ SI(T) **should** remain extant until the TAA or Commodity CE withdraws it for one of the following reasons:
- a. Issue of a superseding SI(T).
 - b. Issue of an over-riding publication amendment or design change.

³ Refer to RA 5805 – Airworthiness Directives and Service Bulletins (MRP Part 21 Subpart A).

⁴ Refer to RA 1162 – Air Safety Governance Arrangements for Civilian Operated (Development) and (In-Service) Air Systems or RA 1163 – Air Safety Governance Arrangements for Special Case Flying Air Systems.

⁵ For modifications the DO will be tasked by the TAA or Commodity CE.

⁶ Refer to RA 5815 – Instructions for Sustaining Type Airworthiness.

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- c. When further application is not required.

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Special Instructions (Technical)

General

11. SI(T) are of two types:
 - a. Urgent Technical Instructions (UTI) where remedial action is necessary within 14 days / 25 flying hours.
 - b. Routine Technical Instructions (RTI) for less urgent actions.
12. DO input into SI(T)s is at the discretion of the TAA or Commodity CE, noting DO activity may result as a means of investigating or resolving the identified issue.
13. When the TAA considers that it is neither practicable nor cost-effective to convert an AD or SB into SI(T) format the AD or SB may be issued under cover of ►an◄ SI(T). This also applies to civil-issued directives, assessed by the DO as applicable to Service Air Systems.
14. The UTI / RTI can be used to disseminate information of a technical, administrative or policy nature.

Layout and Content

15. The SI(T) Generic Template layout and content⁷ includes the prescribed paragraph numbering and paragraph headings. All content will be completed, except when a paragraph has no relevant content; then it will be annotated "Not Applicable" or as instructed in the detail for the paragraph heading.
16. Amendments that do not require the SI(T) to be re-satisfied are identified by the addition of a suffix letter to the original number. When amendments require the Instruction to be re-satisfied, a superseding Instruction will be issued using a new number.

TAA or Commodity CE Responsibilities

17. The TAA or Commodity CE is responsible for the following:
 - a. Ensuring that an RTI or UTI has been raised with the appropriate level of urgency.
 - b. Determining whether any extension may be applied locally to single-application or repetitive instructions. Where no latitude is permitted, a statement to that effect will be included in the instruction.
 - c. Ensuring that appropriately authorized staff⁸ approve release of SI(T).
 - d. Ensuring any issues regarding Health and Safety at Work, Control of Substances Hazardous to Health etc have been dealt with appropriately.
 - e. Ensuring action is taken to initiate updating of Airworthiness Information Systems⁹ on generation and cessation of instructions.
 - f. Ensuring the details of the equipment quoted are accurate and the availability of items required from stock is verified. For equipment managed in the MOD supply system, the details required are: The North Atlantic Treaty Organization (NATO) Stock Number, part number and NATO Commercial and Government Entity code. For equipment not managed in the MOD supply system, the required details are part number and manufacturer or supplier.

⁷ The SI(T) generic template is available on the MAA website.

⁸ Refer to RA 1003 – Delegation of Airworthiness Authority and Notification of Air Safety Responsibility.

⁹ Refer to RA 1223 – Airworthiness Information Management.

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- g. Ensuring the requirements and implications of applying the instruction to equipment fitted to flight simulators and synthetic trainers, fatigue test specimens, not-in-use equipment and equipment in store are met.
 - h. Ensuring the relevant approval(s) details have been included in the SI(T).
18. In addition, unless the Airworthiness Risk precludes it, the appropriate Mil CAM will be contacted in order to give advanced notification of the SI(T) to ensure that the instruction can be complied with and that any impact on availability and operational capability is understood. The following will be considered as a minimum:
- a. Availability of any spares required (including Fuels, Lubricants and Associated Products) and any specialist tooling.
 - b. The requirement for any specialist skills or training.
 - c. The potential impact on deployed operations and overseas exercises.
 - d. The potential impact on UK training.
19. Where a Commodity CE is the Engineering Authority for an equipment with multi-Air System applicability and has a requirement to issue ►an◄ SI(T) against this equipment, the issuing TAA will request an SI(T) reference number from the appropriate Commodity CE. The Air System TAA will be responsible for distributing the SI(T) and ensuring the Commodity DT is copied on any SI(T) returns.

ANNEX A
SI(T) - CATEGORIES

Equipment Category	Air System / Equipment Sponsor	Remarks
Aerial Targets	Trials Evaluation Services and Targets (TEST) Team	
Aircraft (by type)	Air System DT	
Air Cargo Equipment	Air Commodities DT	
Aircraft Assisted Escape Systems	Crew Escape Systems Team	
Airborne Equipment ¹⁰	C17 Command Support Team - Airborne Equipment	Sponsor requirement: SI(T) category – AD & AFE to form part of reference number, ie RTI/AD&AFE/0001
Airborne Night Vision Goggles	Air Commodities DT	
Air Refuelling	Voyager DT	See Note 1
Armaments	Hawk DT: Armament Support and Role Equipment (ASRE) for Hawk & Merlin Air System DT International Guns, Missiles & Rockets (IGMR): 70 mm Rockets (unguided), Hellfire missile (guided), Paveway (guided), 3 kg practice bomb (unguided), M60D Machine Gun, M134 Minigun & M3M Heavy Machine Gun Attack Helicopter DT: Apache gun	See Note 2 Includes Special-to-Type Test Equipment (STTE) Includes CRV7, Mauser, Aden and helicopter guns, other than Apache
Defence General Munitions	Defence General Munitions (DGM) DT: Depth Charge (unguided), Air Countermeasures (chaff / flare), Cartridge Electrically Operated Fire Extinguisher (not all, some sponsored by platform, ERU Cartridges, Misc – small explosive devices	
Electrical	Air Commodities DT	
Electronic Warfare	Air Platform Systems DT	
Engines (by type)	Air System DT	For engines fitted to more than one Aircraft type, lead will be taken by the nominated DT
General Purpose Automated Test Equipment	Air Commodities DT	
General Systems	Air Commodities DT	

¹⁰ As defined in MAA02 – Military Aviation Authority Master Glossary.

Equipment Category	Air System / Equipment Sponsor	Remarks
Ground Support Equipment	Air Commodities DT	Includes Armament Ground Support Equipment (GSE)
Guided Air-Launched Weapons (by type)	Lightweight and Medium Attack Systems Team (LMAS): Brimstone (guided) and Lightweight Multi-role Missile (guided) Long Range Precision: Storm Shadow Air to Air Missiles (AAM). Meteor, AMRAAM and ASRAAM	See Note 2 Includes STTE
Helicopter Under-Slung Load Equipment	Air Commodities DT	
Instruments	Air Commodities DT	
NDT Equipment	Air Commodities DT	
Photographic Equipment	Air Commodities DT	
Personal Aircrew Equipment and Oxygen Systems	Air Commodities DT	
Propellers	Air System DT	
Radio – Airborne	Air Commodities DT Electronic warfare and identification equipment: Air Platform Systems Team	See Note 2
Rescue Hoists	Air System DT	
Simulators (by type)	Flight Simulation & Synthetic Trainers (FsAST) Team	
Survival Equipment (by type)	Air Commodities DT	See Note 1
Test and Measuring Equipment	Operational Infrastructure Programme Team (OIP) – Test Equipment Management	See Note 1
Air Launched Torpedoes	Torpedoes, Tomahawk and Harpoon (TTH) DT (Sting Ray, Spearfish and Mark 54)	
Remotely Piloted Air Systems (RPAS)	Remotely Piloted Air System DT	

Notes:

1 Where STTE / Special to Type Airfield Support Equipment (STTASE) has been procured, the Air System / equipment sponsor procuring the equipment will be the Engineering Authority (EA) unless other arrangements have been agreed.

2 Multiple Air System / Equipment Sponsors may use a four element reference number to clearly identify SI(T) DT and equipment to ensure there is no reference number duplication by different equipment sponsors. For example: SI(T)/DT/Equipment/001.