Ground Training Maintenance Support (GTMS) Contract

Appendix A to Annex A Statement of Requirement

Equipment and Maintenance Schedules (WITH IMAGES)

November 2017

Ver 6

Defence Equipment & Support

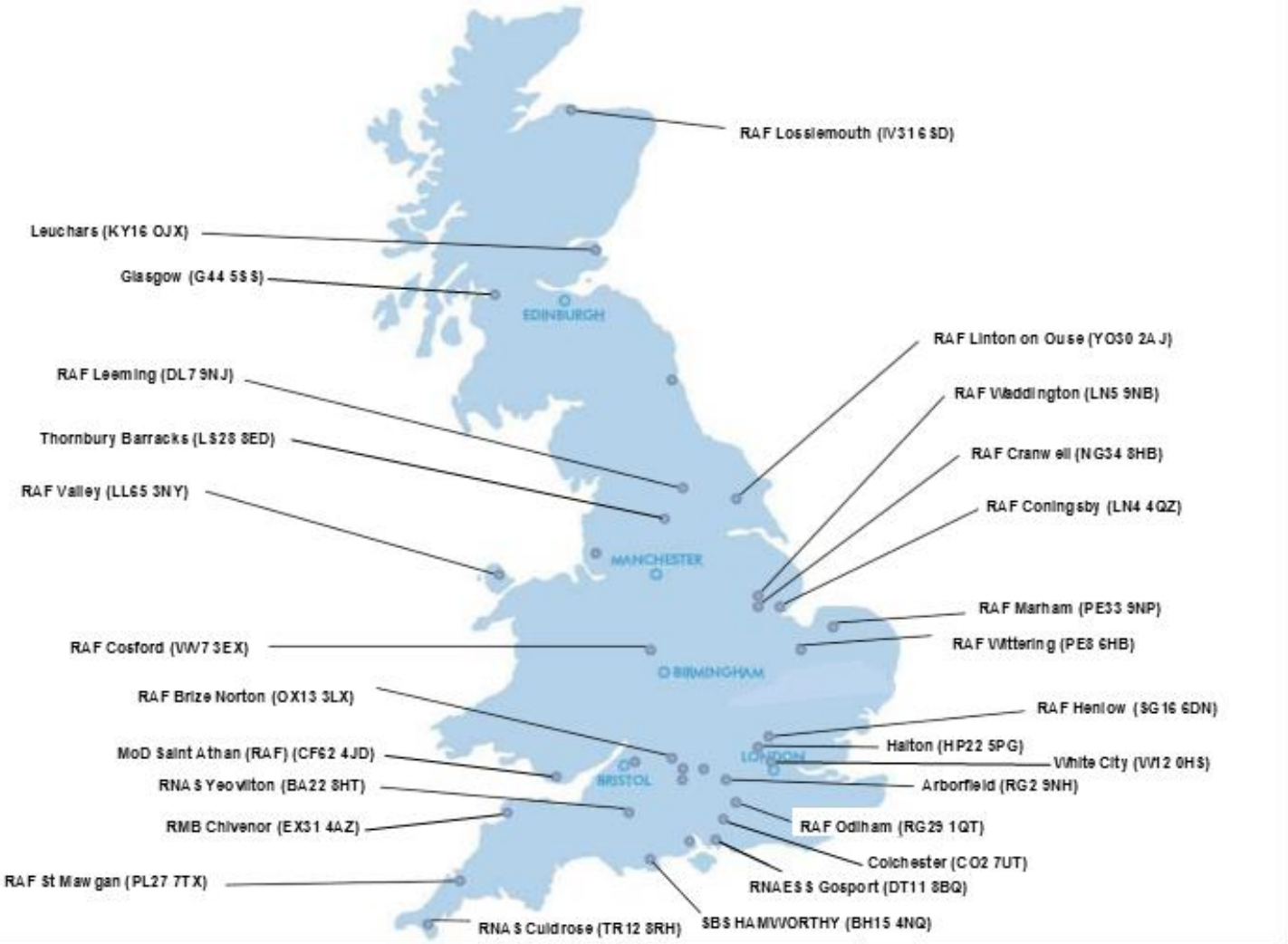
MINISTRY OF DEFENCE

READER TO NOTE

IMPORTANT

Whilst every effort has been made to ensure that the information is accurate, the Authority cannot accept any liability for errors or omissions in the following information.

Sites Supported under the FsAST GTMS Contract



Opening Hours

MOD Lyneham 08:00-16:00 Mon-Fri (No Access Wednesday pm).

RAF Cosford 08:00 - 17:00 Mon-Fri.

RNAESS Gosport 08:00-16:00 Mon-Fri.

All other sites 08:00-16:00 Mon-Fri (excludes RAF Waddington Service Requirements)

CHANGE RECORD

Issue	Synopsis of change	Date Incorporated	Change Initials
	All Non GTMS equipment removed from FISC	01/03/17	AW
	Map on Page 2 amended,	01/03/17	AW
	Map on AA-2 updated and ammended	07/09/17	CJW
V1	Updated to reflect all current GTMS Equipment	18/09/17	CJW
V2	Updated with In Service Dates (I.S.D) on tables and reviewed post bidders clarifications questions	04/10/17	CJW
V3	Update maintenance tables according to contractor records. Update Page Numbers	20/10/17	CJW
V4	Amend maintenance tables on the following pages; AA-16, AA-62, AA-66, AA-89, AA-95	23/10/17	CJW
V5	Completely reviewed and Clarification Questions taken into account. Please double check for bidding purposes. (HSPT, A400M PTT, A400M Training Loads, FEST, PTS equip).	2/11/17	CW
V6	Updated post Clarification Question, pages AA-74 to AA77 inclusive. (1 month to 6 month Interval period for Maintenance).	8/11/17	CW

Contents

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Service Schedules and Sequence

Currently there exist a number of service schedule formats, developed by the incumbent contractors or within the original manufacturer's documentation. In order to help the reader the Authority has reviewed these documents and generated a single format for review purposes.

NB Users have been consulted to gain their agreement to amend some task frequencies, from those previously undertaken.

The example below shows a number of tasks to be conducted over a period of time.
To eliminate any doubt or confusion to the reader the tasks shown would be as follows;

Greyed tasks = tasks primarily undertaken by the User under normal day to day usage.

At the 6 month point the contractor undertakes the scheduled tasks the preceding daily and weekly tasks (where applicable) will need to be observed to ensure a comprehensive inspection and service routine is undertaken. This applies even when the User normally undertakes the daily and weekly tasks. At the 12 month point the daily, weekly and 6 month tasks will be undertaken in addition to the activities identified at the 12 month point. This process continues for the 24 month point etc. At the end of the service frequency the cycle repeats.

Preventative Maintenance Description	Daily	Weekly	6 Mths	12 Mths	24 Mths	Remarks
Complete full software diagnostics Tests	X	X	X			
Cabinet, Models, Monitors and Keyboard Examine clean and polish	X	X	X			Vacuum dust away from vents
System Check security & condition	X	X	X			
Change Filter			X			
Grease linkages			X			Inspect for damage
RCD Electrical Check.				X		
Motherboard Battery Replacement					X	

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Equipment Located at RAF Cosford

Name of Equipment: Air Benches.
Original Equipment Manufacturer: Air Benches Ltd.

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	OSD
7	RAF Cosford	CALL OUT CATEGORY = **GOLD**	186 hrs per bench	Not Known	Ad infinitum

The Air Benches are used when filing or cutting carbon fibre or composite materials. The bench top is a very fine mesh and when air is switched on it vacuums all filed or cut particles through the mesh and through filters into a waste collector.

Preventative Maintenance Description	12 Mths	Remarks
Check condition of mains cable and connector	X	
PAT test equipment	X	Record PAT Test and apply a proof of PAT Test sticker on device(s)
Remove top cover and inspect Pre-filters for condition and damage	X	Replace Filters if unserviceable
Remove Pre-Filter and inspect main filter for condition and damage	X	Replace Filters if unserviceable
Reassemble and start Air Bench	X	
Using Test points take and record air pressure differential readings	X	Leave area in a clean and tidy manner

Notes
Call out category is Gold for RAF Cosford and Bronze for all other sites.

Due to carbon fibre dust being present Disposable coveralls, dust masks and gloves must be worn when assembling or disassembling Air Benches.

Name of Equipment: Analogue Communications Trainer
Original Equipment Manufacturer: Unknown.

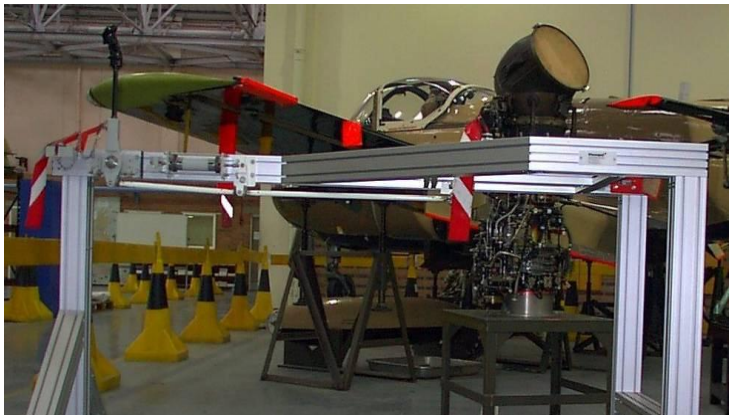
Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	OSD
6	RAF Cosford	CALL OUT CATEGORY = **GOLD**	250 Hours Per system	01/1993	Ad infinitum

Analogue Comms Trainers are used to introduce students to the fundamentals of AM and FM.

Preventative Maintenance Task	12 Mths	Remarks
PAT test equipment	X	Record PAT Test and apply a proof of PAT Test sticker on device(s)

Name of Equipment: Basic Flying Controls Rod Trainer
Acronym of Equipment: BFCRT
Original Equipment Manufacturer: Pennant Training Systems Ltd.

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	OSD
4	RAF Cosford	CALL OUT CATEGORY = **GOLD**	386 hrs	Not Known	31/03/2024



System Overview

The Basic Flying Controls Rod Trainer (BFCRT) represents a basic control run system, which is mounted to a framework. Representative parts of a simple Control Run are fitted to the Rig, these being a Control Column, Treble Pivot Arm, Torque Tube Assembly, Elevator, Rigging Board and Control Rods. Rigging Pins are supplied for the Control Column and the Elevator bell-crank. This will allow these two items to be locked while rigging exercises are performed.

Preventative Maintenance Task	12 Mths	Remarks
Main Structure & Components Brush & Clean	X	
Bearings & Greasing points oil/grease	X	
Control Column Spring Unit Oil	X	
Castors Oil	X	
Brass Rigging Board Clean	X	
Out of Position Plate Clean & Polish	X	
Operate controls to ensure no restrictions	X	

Name of Equipment: Budworth Compressor
Original Equipment Manufacturer: Unknown.

Quantity	Location/ Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	OSD
1	RAF Cosford	CALL OUT CATEGORY = **GOLD**	10 hrs	Not Known	ad infinitum

This is an Engine ground running test facility and utilises a Budworth two stage axial compressor. Blading is of free vortex design with first stage stator blades adjustable for stager. It is used to deliver training associated with Aero Engine Design & Principles of Operation.

Preventative Maintenance Task	6 Mth	12 Mth	Remarks
Compressor Electric Motor	X		Examine /Lubricate
Safety Guard	X		Examine
Variable Inlet Guide Vanes	X		Examine /Operate
Torque Meter and Pipe	X		Examine
Manometer connections and pipes	X		Examine
Variable exhaust air control valve	X		Examine /Operate
Compressor Rear Bearing	X		Examine / Lubricate
Whole Compressor Rig	X		Examine /Operate
MOD Form 755F	X		Sign
PAT Test (if applicable)		X	Record PAT Test and apply a proof of PAT Test sticker on device(s)

Note:
Safety Precautions & Limitations of use; Maintainer to read before undertaking maintenance

Name of Equipment: Cockpit Pressurisation Trainer
Acronym of Equipment: CPT
Original Equipment Manufacturer: GEL**-** Pennant Training Systems Ltd have installed a new operating system.

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
1	RAF Cosford	CALL OUT CATEGORY = **GOLD**	420 hrs	2003	31/03/2024

The CPT is designed to "emulate" the cockpit pressurisation process in order to safely provide the environment for trainees to develop their skills and as such a significantly lower pressure and volumes of gases are required in comparison to the related activity on live aircraft. Each part of the trainer is mounted on wheels or castors for ease of movement.
The CPT consists of:

A Facsimile Aircraft Cockpit: This is made of fibre glass, which has access steps and platforms either side.

A Facsimile Pressurisation Trolley: This supplies air at a very low pressure (1psi) to the CPT. The trolley obtains air at high pressure (100 psi) from the hangar air supply and reduces the pressure for use with the CPT. The gauges are all falsely calibrated to simulate operating at high pressure. The trolley also has a small electrical compressor which can be used to provide the low pressure air supply.

An Instructor's Console: The system is computer controlled from the instructor's console, enabling the instructor to monitor every aspect and to introduce faults during the training.

Preventative Maintenance Task	12 Mths	36 Mths	Remarks
Cleaning - remove dust from all areas (Aircraft/Cockpit/Ground Trolley/IOS) etc. using mild detergent/water and lint free cloths	X		
Check all air connections are secure, including leaks when air pressure supplied (including gauges, internal and external valves)	X		
Test the system - Check all I/O connections are present including instructor induced faults	X		

Preventative Maintenance Task	12 Mths	36 Mths	Remarks
Check operation of Emergency Stop	X		
PAT Test	X		Record PAT Test and apply a proof of PAT Test sticker on device(s).
Motherboard Battery Replacement		X	

The CPT was reprogramed and additional faults were added November 2014.

Name of Equipment: Flight Engineering System Trainer.
Acronym of Equipment: FEST.
Original Equipment Manufacturer: Data Sciences.

Quantity	Location/ Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
1	RAF Cosford	CALL OUT CATEGORY = **GOLD**	Please see note below	Not Known	ad infinitum

To instruct engineering students the rudiments of flight characteristics e.g. changes in load/centre of gravity etc. A capsule module sitting on six hydraulic rams giving the capsule full motion simulation. A gull type side door on the left hand side lifts up to provide access to the simulator. Inside is a full width screen and seating for two personnel. There is a recess in the floor for a joystick to be fitted.

Location RAF Cosford. N.B. Was relocated from RAF Cranwell in 2013 Note:- All spares now at Cosford with the exception of the Capsule CRT which is at Cranwell due to space issues.

Note
Average usage is 10 hours month.

Preventative Maintenance Task	Daily	**Wkly**	**Mthly**	**3 Mths**	**6 Mths**	**12 Mths**	**Remarks**
DAILY/START UP CHECKS							
Inspect cabling around the capsule, motion platform, cabling to and from the Simulator Control Rack, Aircraft Environment Rack and the Instructor Operating Station.	X						These are general Safety Checks to be undertaken before applying power. Inspect and report any damage.
Check the correct installation of the Instructor Operating Station notepad PC, either in the Capsule or on the IOS Desk, as appropriate.	X						
Check the security of the leads to the repeat monitor.	X						
Check for any oil leaks around the hydraulic rams and control valve assemblies on the motion Platform base.	X						Challenger Capsule External Safety Checks to be undertaken before applying power Inspect and report any damage.
Check that the transducers mounted on the side of the rams are firmly fixed to their mountings, that the fixing nuts and bolts are tight and that the wires from them are not chafing on any part of the framework.	X						
Check that there is no chafing of the hydraulic hoses from the control valves to the rams.	X						
Check that there are no signs of bolts or nuts working loose and that there are no signs of creepage of any joints at the upper or lower ends of the rams.	X						

Preventative Maintenance Task	Daily	**Wkly**	**Mthly**	**3 Mths**	**6 Mths**	**12 Mths**	**Remarks**
Check the tightness of all connections and cable forms running between the capsule and the power pack support and that these cables are not showing signs of chaffing against the framework.	X						
Check the door lock on the capsule holds the door firmly closed and that the release catch/handle works correctly.	X						Challenger Capsule Internal Safety Checks to be undertaken before applying power Inspect and report any damage.
Check for loose items around the fascia and that the seals are firmly located with the seat belts in good condition and firmly located in their mountings.	X						
Check that all switches, controls and lamps are intact and are firmly located in their places on the various panels.	X						
Check that both low level lights are operating.	X						
Check that the sticks and pedals move freely over the full extent of their travel.	X						
Check that there are no signs of cracking in any part of the capsule material, either inside the capsule, around the fascia panels or external to the capsule which may indicate flexing or movement of the capsule structure.	X						

Preventative Maintenance Task	Daily	**Wkly**	**Mthly**	**3 Mths**	**6 Mths**	**12 Mths**	**Remarks**
	X						Applying Power to the system Inspect and report any damage. The system is powered by a 3 phase electricity supply. An isolation switch is located along with the Hydraulic Power Unit and Air conditioning Unit. The main power switch is located in the simulator control rack. NOTE it is important to follow the correct power on procedure.
On the ICS Insert the key and turn to the RUN position.	X						
Press the GREEN power button. To reset the RCD, the button is located next to the E-Stop button on the ICS.	X						
Ensure all MCBs are in the OFF position.	X						
Turn master power switch on the front of the PDC to the ON position.	X						
Switch the left most MCB down to the ON Position. The Power On Lamp on the front of the PDC will illuminate power will be applied to the IOS.	X						
Observe the Power and Voltmeter Readings to ensure that there is a supply. If these do not function the master switch may have been turned off.	X						
In the event that an MCB will not reset or the RCD trips continually when reset, this normally indicates a fault.	X						Instructional staff please notify Maintenance Contractor to investigate faults.

Preventative Maintenance Task	Daily	**Wkly**	**Mthly**	**3 Mths**	**6 Mths**	**12 Mths**	**Remarks**
Power on the IOS PC using the switch marked POWER located on the right hand side of the unit, sliding it towards the port replicator.	X						
Once the unit is switched on the power is distributed to each item of equipment. The computer system automatically checks the status of the equipment during the power up cycle. If errors are detected by the motion system error messages will be displayed on the Instructors Control System (ICS). The PCs in the AER will perform their start up procedure, which includes batch files which automatically load and start the FEST system Software.	X						
Check the appropriate lights on the System Control Panel are lit.	X						
Check Display on the Operators Control Console is showing the normal start up display.	X						
Now turn ON the two rightmost MBCs labelled 24V CAPS, MOTION.	X						
Open the Aircraft Equipment Rack. If the small green LED on the uppermost switch is not lie then push the power button on the top and bottom PCs (The power button is the uppermost with a centrally mounted green LED, this LED is lit when power is applied)	X						

Preventative Maintenance Task	Daily	**Wkly**	**Mthly**	**3 Mths**	**6 Mths**	**12 Mths**	**Remarks**
The ICS start screen shows the status of the motion system. The START and STOP button flash together. Before the system can be used the YELLOW RESET button MUST be pushed. The monitor label shows OK.	X						
At this point it is possible to enter the analysis mode of the motion system.	X						Knowledge of the operation and content of the analysis pages is not necessary for the operation of the FEST.
The IOS software starts automatically from reset.	X						
In the event that the Emergency-Stop has been operated, the visual PC and the Cockpit PC running Windows 95 may run SCAN DISK. This checks the PC hard disk to ensure that no bad sectors or files are found. This procedure takes 3-4 minutes. Errors will if possible be corrected automatically. In rare circumstances user input is required to remedy a problem.	X						Please allow this operation (Scan Disk) to complete should the PC commence the task. If the system starts but does not display the normal start-up screen, connect a usable monitor and keyboard to the Visual PC and Cockpit PC and check the display. NOTE; The cause of an error message must be ascertained and corrected before proceeding to use the FEST.

Preventative Maintenance Task	Daily	Wkly	Mthly	3 Mths	6 Mths	12 Mths	Remarks
NOTE							**The power to move the motion capsule is supplied by hydraulic oil under pressure to six cylinders in the motion base. Oil pressure is generated by the hydraulic pump and the pressure is temporarily stored in an accumulator located in the lower part of the motion base. The positions of the rams are controlled via six electronically driven control valves. It is essential that no-one is allowed very close to or under the system while the system is pressurised since it is possible that the motion base and capsule may start to move without any audible warning**
NOTE							**Prior to commencing the first lesson of the day the following procedure must be completed – There are two stages**
On start-up the motion software tests the system hydraulics and raises the capsule to its highest setting.	X						
Next the MOT programme should be run. This programme ensures that the hydraulic oil used by the motion system is at its correct operating temperature.	X						This procedure takes 3-4 minutes.

Preventative Maintenance Task	Daily	**Wkly**	**Mthly**	**3 Mths**	**6 Mths**	**12 Mths**	**Remarks**
The AUTODRV should be run at the start of each class to ensure smooth operation of the FEST. During this sequence the message bar on the IOS indicates the status of the system. Once the test has completed select RESETDRV and this takes you back to the start-up screen.	X						This takes 2-3 minutes
The motion control switches located on the ICS and within the capsule are lit to highlight their option and state. On completion of the motion test the GREEN start switch at the lower left of the ICS will illuminate. After approx. 20s it will flash this indicates that the motion system is ready.	X						The GREEN start button flashes quickly when initialising and slowly when active, awaiting input, pushing the button when it is flashing quickly has no effect
Failure to run the AUTODRV programme may result in damage to the Motion system, reduced life of the motion system components and incorrect operation (bumpy) operation.	X						
The system is now ready for students/Instructor to enter the capsule. The readiness of the system to start training is shown by the GO button on the IOS changing from Grey to Green.	X						Not required to be followed by maintainer.

Preventative Maintenance Task	Daily	**Wkly**	**Mthly**	**3 Mths**	**6 Mths**	**12 Mths**	**Remarks**
During a lesson the controls in the capsule are active, the student should be briefed on their operation prior to the start of the Lesson. Specifically the location and function of the RED STOP button located on the side consoles and the operation of the intercom should be explained. The personnel undertaking the lesson enter the capsule and close the door. The FEST is fitted with an interlock which prevents its operation if the door is not full closed.	X						Not required to be followed by maintainer.
Prior to commencing a flight, the personnel in the capsule should be asked to check and adjust their seat to ensure that they may operate the pedals correctly. Please remind them to fasten their seat belts using the intercom.	X						Not required to be followed by maintainer.
At the start of a lesson the IOS PC awaits conformation from the motion system that it is operational. This is identified on the message bar at the bottom of the IOS screen.	X						
As part of the Safety Operation of the FEST it is good practice to note the person undertaking the daily inspection, date and time and if the inspection/ start up test and that the inspection was satisfactory in the Log Book.	X						Any faults considered a hazard or impact on ability to deliver the training or will affect H&S of the device needs to be reported to the maintainer ASAP. The instructor is responsible for determining whether any item warrants service attention before the system is put into normal use.

Preventative Maintenance Task	Daily	Wkly	Mthly	3 Mths	6 Mths	12 Mths	Remarks
The instructor is responsible for determining whether any item warrants service attention before the system is put into normal use.	X						
The operation of the FEST is a two man operation. Firstly the GREEN START button on the ICS should be pressed and then either the START may be pressed on the IOS PC or the RESET switch on the right side panel. On pressing the ICS start button the light is extinguished and the RED light on the STOP switch is illuminated.	X						
Once START is pressed on the IOS the motion base will rise after a 10 second countdown (the progress of which is repeated in the IOS message bar) and start moving in accordance with the pilots inputs.	X						
Use the mouse to double click on GO. The button changes to a stop sign. The system is now running.	X						

Preventative Maintenance Task	Daily	**Wkly**	**Mthly**	**3 Mths**	**6 Mths**	**12 Mths**	**Remarks**
EMERGENCY If During the conduct of a lesson an emergency situation occurs there are two courses of action open to the user. Press the motion STOP button to halt the motion system gracefully. The system comes to rest at its lowest position within 10 seconds. Press the EMERGENCY STOP button to shut down the system, including all electrical power. This brings the motion system to an abrupt halt after which it descends quickly to its lowest position.	X						Maintainer to check regardless of user daily or weekly checks during routine scheduled maintenance events.
CAUTION The emergency stop button should only be used in the event of an emergency. Use of this facility to shut down the system during normal operation may cause damage or other system problems in the long term.	X						
Once all the above has been undertaken the date, time together with the name and signature of the person conducting the tests MUST be entered in the Maintenance Log together with any observations or faults.	X						NB User Log template and logbook already in being at RAF Cranwell will transfer on relocation of equipment to RAF Cosford in 2012-1213.
Assuming that the daily check are ok the system is ready to use.	X						

Preventative Maintenance Task	Daily	**Wkly**	**Mthly**	**3 Mths**	**6 Mths**	**12 Mths**	**Remarks**
Weekly Maintenance Checks.							**All of these checks can be conducted while power is applied to the system except for those on the Hydraulic Power Unit and the Air Conditioning Unit which should only be conducted with power isolated from the system unless otherwise specified.**
If the Challenger Capsule has not been run during the previous week, then at least 1 run of each flight model should be completed after the AUTODRV run as part of the daily checks.		**X**					
Challenger Capsule/IOS desk Check operation of emergency stop and motion stop switches (this will involve re-applying power to the system each time).		**X**					
Challenger Capsule At least one of the runs should be stopped by using the STOP button inside the capsule to check the operation of the particular function during a run.		**X**					
Challenger Capsule: check that the air circulation fans in the capsule are operating and the vents are clear.		**X**					
Challenger Capsule: Check that the audio speakers in the capsule are working correctly.		**X**					
Challenger Capsule: Check the throttle operation from 0 to 100%.		**X**					

Preventative Maintenance Task	Daily	**Wkly**	**Mthly**	**3 Mths**	**6 Mths**	**12 Mths**	**Remarks**
Challenger Capsule: Clean all monitor screens and displays (those internal to the Capsule, those on the IOS desk and the large repeat monitors) using a lint free cloth and, if necessary, some commercially available screen or glass cleaner.		**X**					
Challenger Capsule: Clean the lens on the video camera, if it appears necessary, using a lint free cloth and, if necessary, some commercially available screen or glass cleaner.		**X**					
Challenger Capsule/IOS desk: Using the controls on the IOS, the percentage stiffness figures for the stick and rudders should be changed to 100% then to 0% and then reset to their original values, to ensure correct operation of the force feedback system.		**X**					
IOS Desk: Clean the heads on the video recorder, using a head cleaning cassette.		**X**					
IOS Desk : Print a test page on the printer.		**X**					

Preventative Maintenance Task	Daily	Wkly	Mthly	3 Mths	6 Mths	12 Mths	Remarks
Computers : IF the emergency stop buttons are regularly used to power down the system, each PC in the system will accumulate a number of undeleted temporary files ,which if not removed will eventually fill the hard disc of each PC, causing the system to fail if not removed. All temporary files (identified as tmp files) should be deleted from each PC. This should be done using Microsoft Explorer facility on the IOS Laptop PC to access the C:\ drives on the other computers. This procedure should be followed immediately after the power has been applied to the system. It should not be necessary to perform this action if the system is always powered down using the User Guide.		X					
Hydraulic Power Unit : Check the Units oil filters for damage/leaks.		X					
Hydraulic Power Unit: Check the oil temperature on the hydraulic power unit. This will indicate worsening of the heat exchange conditions and the need for further service. This check should be conducted after the oil has reached its normal operating temperature.		X					
Hydraulic Power Unit Check the units oil level, and top up when the levels reaches the minimum level indicator.		X					

Preventative Maintenance Task	Daily	Wkly	Mthly	3 Mths	6 Mths	12 Mths	Remarks
Air conditioning Unit: Visually examine the chiller as follows : Remove any foreign matter /debris from the unit, check for fluid system leaks and refrigeration system seepages Any refrigeration leeks will be identified by small drops of oil under/adjacent to the leakage. Repair any fluid systems leaks as necessary. Examine all components and check all holding down bolts, securing straps and brackets –adjust /tighten as necessary, examine the condenser and ensure that the tubes and fins are clean. Remove any dust / dirt by brushing or blowing with an airline, check that the fan blade is tight on its shaft and in good condition. Check the guard is intact and secure.		X					
Air Conditioning Unit: Check that the refrigerant sight glass is full (clear) during operation and that the central core is GREEN. Should bubbles appear in the main liquid line sight glass, a possible shortage of refrigerant charge and/or a system leak is indicated. Contact Maintenance contractor if faults found ASAP. Should the sight glass control core be seen to be tending towards YELLOW, IMMEDIATELY stop the chiller and isolate the compressor by closing its suction and discharge valves –Maintainer to be called to investigate and repair ASAP. A yellow core indicates the possible ingress of water into the refrigeration system. Check that all thermostat and control settings are at the correct set point-adjust as necessary.		X					NOTE Bubbles occur in the sight glass normally when the condenser cooling airflow is restricted or when the condenser cooling air is too warm.

Preventative Maintenance Task	Daily	**Wkly**	**Mthly**	**3 Mths**	**6 Mths**	**12 Mths**	**Remarks**
Once all the above has been undertaken the date, time together with the name and signature of the person conducting the tests MUST be entered in the Maintenance Log together with any observations or faults.		**X**					NB User Log template already in being at RAF Cranwell and assumption that on transfer of device to RAF Cosford in 2012-1213 log book (and template) will transfer with the equipment.
MONTHLY CHECKS							**These Checks must be carried out with the system powered off unless otherwise stated**
Hydraulic Power Unit: Clean the outside of the unit. This will enable leaks to be detected more easily and rectified without delay.			**X**				
Hydraulic Power Unit: Check the units air filters and replace the cartridge if necessary. This checking period may require changing according to experience with the system and ambient conditions.			**X**				
Hydraulic Power Unit: Check the pressure preload of the units accumulators. The correct checking and loading instruments must always be used.			**X**				
Challenger Capsule : Grease the linear transducer bearing seal plate.			**X**				
Challenger Capsule : Check the hydraulic accumulator pre charge pressure (34 Bar or 500 psig).			**X**				

Preventative Maintenance Task	Daily	**Wkly**	**Mthly**	**3 Mths**	**6 Mths**	**12 Mths**	**Remarks**
Air conditioning Unit: Ensure the electrical supply is isolated, open the local panel and perform the following: Check all overload /circuit breaker settings are correct to the wiring diagrams. Check all electrical components and terminals are tight and there are no loose wires. Close the panel but do not apply power. Visual check the settings of the high and low pressure cut-out switches. Examine all instruments for damage and adherence to pipe work. Should any seepage be noted, repair that section of insulation.			**X**				
Once all the above has been undertaken the date, time together with the name and signature of the person conducting the tests MUST be entered in the Maintenance Log together with any observations or faults.			**X**				NB User Log template already in being at RAF Cranwell and assumption that on transfer of device to RAF Cosford in 2012-1213 log book (and template) will transfer with the equipment.
THREE MONTHLY MAINTENANCE							**These Checks must be carried out with the system powered off unless otherwise stated.**
Hydraulic Power Unit: Undertake a leak check on the pumps, solenoid valves and regulation components using the test stand to assess whether the components are due for replacement.				X			
Once all the above has been undertaken the date, time together with the name and signature of the person conducting the tests MUST be entered in the Maintenance Log together with any observations or faults.				X			NB User Log template already in being at RAF Cranwell and assumption that on transfer of device to RAF Cosford in 2012-1213 log book (and template) will transfer with the equipment.

Preventative Maintenance Task	Daily	Wkly	Mthly	3 Mths	6 Mths	12 Mths	Remarks
SIX MONTHLY MAINTENANCE							**These Checks must be carried out with the system powered off unless otherwise stated.**
Hydraulic Power Unit: Undertake a leak check on the pumps, solenoid valves and regulation components using the test stand to assess whether the components are due for replacement.					X		
Hydraulic Power Unit : The heat exchanger must be cleaned.					X		
Once all the above has been undertaken the date, time together with the name and signature of the person conducting the tests MUST be entered in the Maintenance Log together with any observations or faults.					X		
TWELVE MONTHLY MAINTENANCE							**These Checks must be carried out with the system powered off unless otherwise stated.**
Hydraulic Power Unit: Change the units Oil supply. During the process the reservoir should be cleaned if necessary.						X	
Hydraulic Power Unit : The heat exchanger must be cleaned.						X	
Challenger Capsule: Replace the two 12V back-up batteries.						X	Battery type YUASA NP7-12.

Preventative Maintenance Task	Daily	**Wkly**	**Mthly**	**3 Mths**	**6 Mths**	**12 Mths**	**Remarks**
Once all the above has been undertaken the date, time together with the name and signature of the person conducting the tests MUST be entered in the Maintenance Log together with any observations or faults.						X	

Note:

Daily checks are carried out by the end-user.

Name of Equipment: Generic Flying Controls Trainer.
Acronym of Equipment: GENFLY.
Original Equipment Manufacturer: Pennant Training Systems Ltd.

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
4	RAF Cosford	CALL OUT CATEGORY = **GOLD**	800 hrs per year (200 hrs per rig per year)	09/2001	31/03/2024

A generic flying controls training system to meet the need to provide a safe and effective environment in which to train mechanics and technicians to perform a complete range of hands-on maintenance activities associated with a variety of aircraft flying control systems.

Traditional methods of instruction have, until now, relied upon using a combination of actual or facsimile components, part-task trainers and operational aircraft. Whilst remaining a useful type of training aid, aircraft components do not present the student with the practical constraints of the real-aircraft working environment. Part-Task trainers are usually dedicated to a specific type of system and, again, do not provide a wholly realistic working environment for individuals and teams. Operational aircraft are expensive and often unavailable to use for maintenance training; they cannot generally have their systems 'failed' for training purposes; they represent only one or two types of flying control system and present a health and safety risk to the student.

GenFly provides the solution to all these problems and, at the same time, extends the range and type of practical training that can be carried out, enabling students to be trained more effectively in preparation for their operational duties on any type of aircraft, with any type of flying controls system, including:

- Conventional flying control systems
- Fly-by-wire
- Fly-by-light
- Active Control Technologies

The advanced systems incorporated in GenFly include:

- Dual channel Fly-by-Wire controls replacing conventional mechanical linkages
- Three axes electrically controlled trim systems
- Three axes artificial feel systems
- Three auto stabilisation systems
- Three axes autopilot system
- Wing mounted spoilers
- Conversion of the elevators into tailerons
- Enhancement of the spoiler system to include lift dump facilities (option)

- Conversion of the fixed tail plane to a variable tail plane (option)
- Solid stick technology (option)
- Stall warning system

In addition to the above flying control systems, GenFly also incorporates:

- Landing Gear Systems (Both Main and Nose wheels); Auxiliary Systems (e.g. nose wheel steering and wheel braking systems including electronic anti-skid systems)

GenFly allows the instructor to assign hands-on practical work to individual students or to task student teams. The students gain a practical understanding of aircraft hydraulics, flying controls, landing gear and services; GenFly training covers system design, operation and components. Students can also be trained in failure mode recognition, fault diagnosis and rectification, through simulated faults injected from the Instructor Workstation.

Preventative Maintenance Task	**6 Mthly**	**12 Mthly**	**24 Mths**	**36 Mths**	**Remarks**
Computers Perform BITF	X				
IOS Computer Archive the systemlog.txt	X				
Clean Cabinets & framework & check security of components	X				
Check cable assemblies	X				
Computers Check fans/filters	X				
ETI Record	X				
RCD Mechanical check	X				
Lubricate all rotated components & hinges	X				
Check operation of Jacks	X				
Check operation of Emergency Stop	X				
Castors Grease 4x foot pad jacking screws & set as detailed in IDM	X				
IOS Computer Check latest IOS Help file is at latest issue of IOS manual.	X				
Hoist Check Sling & Recertify		X			

Preventative Maintenance Task	**6 Mthly**	**12 Mthly**	**24 Mths**	**36 Mths**	**Remarks**
Carry out noise measurements & verify that max recorded noise <85 DBs.		X			
PAT Test.		X			Record PAT Test and apply a proof of PAT Test sticker on device(s).
OM-15 Oil replacement for the Hydraulic tank		X			
RCD Electrical Check.			X		
Motherboard battery replacement.				X	

Name of Equipment: Gaseous Oxygen Trainer
Acronym of Equipment: GOT
Original Equipment Manufacturer: EDM.

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
8	RAF Cosford	CALL OUT CATEGORY = **GOLD**	1,312 hrs. per year (164 hrs. per rig)	2003	31/03/2024

The GOT is generic training equipment for teaching tri-services aircraft mechanics and technicians. The GOT is a generic oxygen system set out on a vertical board mounted on a mobile frame; it allows maintenance personnel to practice dismantling, assembling, functional testing and leak checking of the GOT. This replicates the processes and procedures involved with aircraft maintenance, and educate training personnel to diagnose and rectify system faults.

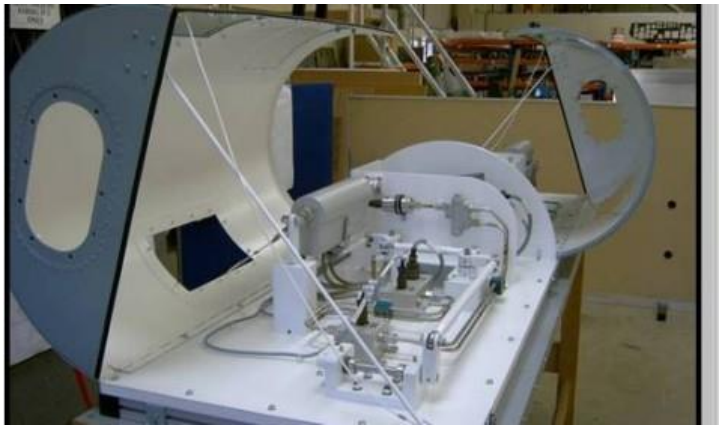
The GOT consists of:
Charging Valve, In Line Filter, Non Return Valves, Pressure Vessels, Cylinder Valves, Line Valve Contents Gauge, Pressure Reducing Valve, Pressure Demand Regulator Panel, Personal Equipment Connector .

Preventative Maintenance Task	12 MThs	Remarks
Check the GOT installation for insecurity, cracks, external damage or leaks	X	
Functional test on contents gauge, Demand regulator and all components replacing any faulty items as necessary	X	
Check the GOT installation for insecurity, cracks, external damage or leaks	X	

Name of Equipment: Hand Skills (Genskills) Trainer
Acronym of Equipment:
Original Equipment Manufacturer: Pennant Training Systems Ltd.

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
16	RAF Cosford	CALL OUT CATEGORY= **GOLD**	Statistical information not known, to be determined	Not Known	ad infinitum

NOTE: Each suite consists of two units.



The Hand Skills Trainers are used to introduce and train Army, Royal Air Force and Royal Navy aeronautical trainees in the hand skills necessary to work on aircraft components including the removal and refitting of representative aircraft components, rigid and flexible pipes, electrical connectors, Line Replacement Items and push pull rod controls. The closing shell on the Hand Skills Trainer add realism to the training, tasks are carried out whilst working through restricted access apertures in a simulated aircraft fuselage following the removal of quick release fasteners and panels. Tasks will also include the use of general hand tools, torque loading and wire locking. The Hand Skills trainers at Arborfield were relocated to DSAE Lyneham following the closure of Arborfield in Sept 2015.

Maintenance Related Documentation
The following documentation is available on support maintenance of the System;
Operating and Maintenance Manual 73800/3002.
Engineering Data Pack 73800/3004.
Illustrated Spare Parts List 73800/3003.

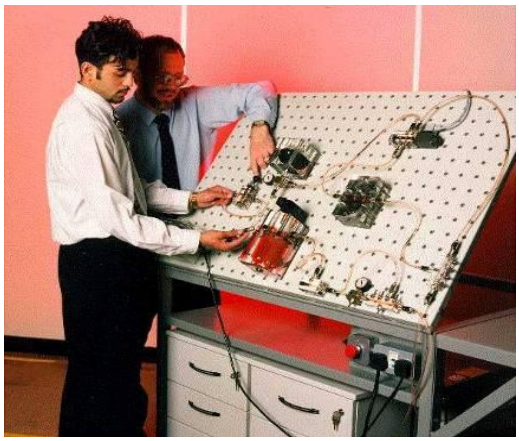
Before Use Checks
Ensure the HST workshop bench is positioned on a level floor.
Check the HST base frame is secure on the workshop bench.
Check the HST for obvious signs of external damage.
Check the functionality of the stay rod, pivot and cover locking plate.

Preventative Maintenance Task	Weekly	6 Mthly	Remarks
Inspect the HST base frame and cover latches. Check it is securely attached to the bench.	X	X	
Functionally test the fit of all access panels to check for damaged fasteners.	X	X	
Remove access panels 1, 3 & 4 and open access panel 2.	X	X	
Check the condition of the cover panels and security of the fasteners and receptacles.	X		
Open the hinged cover and support with the stay rod. Examine for damage: On the cover structure, skin and paint condition, the hinge, the stay rod, pivot, stowage clip, cover locking plate, restraint cord and attachment points.	X	X	
Check the condition and security of: The LRI compartment bulkheads, the workstation floor, support platforms.	X	X	
Examine the flying control components: The PFCU and mountings, the torque tube lever assembly, the two bell crank lever assemblies, the control rods, paying particular attention to the condition of the lock wire holes.	X	X	
Operate the flying control components by disconnecting the control link from the floor to the inner lever on the torque tube lever assembly.			
Examine the hydraulic components: The 6 port manifold, the 4 port manifold, the 3 way depressurising valve. The pressure transducer. The rigid pipes, paying particular attention to the lock wire holes in the pipe nuts and all identification labels are present. The flexible hoses, paying particular attention to the lock wire holes in the pipe nuts and all identification labels are present.	X	X	
Check the condition and security of the electrical harness. Ensure all connectors operate correctly and the plugs are securely attached to the wiring. All identification labels are present.	X	X	
Remove and examine the LRI paying particular attention to the locating holes. Check the condition and security of the mounting tray paying particular attention to the locating pins. Refit the LRI and wirelock.	X	X	

Preventative Maintenance Task	Weekly	6 Mthly	Remarks
Lubricate the following with light oil: Panel 2 hinge. Workstation cover hinge.	X	X	
Close the workstation cover and refit / close the access panels.	X	X	

Name of Equipment: Hydraulic System Principles Trainer
Acronym of Equipment: HSPT
Original Equipment Manufacturer: Pennant Training Systems Ltd.

Quantity	Location /Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
21	21 RAF Cosford	CALL OUT CATEGORY = **GOLD**	Cosford =15 Hrs. per month (per board) = 4,500 hrs. total per year Arborfield 100 Hrs. total per year per board	12/1996	31/03/2024



The Hydraulic System Principles Trainer (HSPT) enables practical hydraulic principles to be taught by either instructor demonstration or independent, practical exercises for the student. Students are able to carry out a range of practical training exercises, thus enabling progressive understanding of the fundamental principles of hydraulics. The HSPT has the flexibility to allow build up systems from simple basics to the more advanced systems of modern aircraft. The HSPT supports training in the following elements of hydraulic system maintenance: compliance with safety requirements; familiarise the student with standard hydraulic component symbols and circuits; operation of systems and their controls, repairs of hydraulic systems by replacement of components**.** The equipment at Arborfield was relocated to Lyneham following the closure of Arborfield in Sept 2015.

Workstation configuration
Each HSPT workstation comprises an individual trolley-mounted worktable, with integral hydraulics system drive units, re-configurable transparent hydraulic modules and flexible self-sealing connecting hoses. The HSPT also includes a hydraulic power pack consisting of a pump, low-pressure regulator and distributor manifolds. The type and range of components available are sufficient to provide the flexibility to enable students to carry out a range of practical training exercises.

The hydraulic modules which, along with self-sealing connecting hoses, enables the Instructor or Student to configure various hydraulic systems. These modules can be assembled onto the workstation by means of pegs which locate into a matrix of bushed holes on a worktable. Storage for the modules is provided in drawers located below the work surface, and their positions are indicated both with a symbol (indicating the module function) and a silhouette. This enables the rapid identification of any missing items. The optional items are not so identified. The two hydraulic power packs (electrically and manually driven) are stored on hooks below the work surface, to the side of the drawers.

Preventative Maintenance Task	**12 Mthly**	**Remarks**
Power up the system	X	
Check the electrical distribution board for functionality	X	
PAT Test (240 ac Volt components)	X	Record PAT Test and apply a proof of PAT Test sticker on device(s)
Check the 24V power supply for operation	X	
Check circuit breakers for operation	X	
Check Motor for operation	X	
Check hand-pump for operation	X	
Check all hoses for functionality and check for leaks	X	
Check all Perspex components for functionality and check for any leaks	X	
Record ETI	X	
Check operation of doors of the workstation for locking, opening/closing	X	
Check all electrical cables for operation and test for continuity	X	

Preventative Maintenance Task	**12 Mthly**	**Remarks**
Check Micro switches for operation	X	
Record missing items	X	Report to Authority and cost replacement items.
Record U/S items and if labels are available attach them to the U/S item	X	
If spares are available fix faulty items	X	
Clean Workstation	X	
Check hydraulic flow	X	
Carry out Oil change using Tellus 46 Oil, plus RED concentrate Dye	X	Tellus 46 Oil & Red Concentrate Dye
Replace Motor Filter	X	
Check condition of the gasket for the Motor and Hand-pump	X	
Check operation of Emergency Stop	X	
RCD Electrical Check.	X	

Name of Equipment: Jaguar Propulsion System Trainer
Acronym of Equipment: JPST
Original Equipment Manufacturer: Unknown.

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
1	RAF Cosford	CALL OUT CATEGORY = **GOLD**	516 Hrs	11/1984	31/03/2024

The JPST is designed to teach principles of engine starting, ground running and associated fault diagnosis and practices of mechanical operating aero-engines and the associated systems.

The Propulsion System Trainer is controlled by an Intel 8086 microprocessor and associated peripherals. It comprises a facsimile of an RAF Jaguar GR Mk1 aircraft fuselage complete with fitted cockpit, a modified Adour Mk 102 port engine installation together with simulated engine test sets type A and D. Large scale repeat instrument displays, and engine cross section displays, electronic and intercom racks and a simple instructor station. The JPST also provides an interface to drive an animated display unit engine start, run and reheat sequence and operation.

Preventative Maintenance Task	1 Mth	Remarks
Aircraft Facsimile		
Instruments glasses and indicator lamp faces (cockpit and refuel/defuel panel)	X	Examine. Remove surface dust. Clean and polish surfaces using minimal pressure
Cockpit interior	X	Clean and examine
Facsimile exterior	X	Clean and examine
Seat vibration system roller bearing	X	Examine, and if required apply grease

Preventative Maintenance Task	**1 Mth**	**Remarks**
Canopy operating/restraint mechanism	X	Examine, particularly for cracks and security of attachment. Operate
Aircraft ground power socket assembly.	X	Examine
Refuel/defuel connector assembly.	X	Examine
Port access ladder locating mechanism	X	Examine, particularly for cracks
Engine thrust bearing	X	Examine, particularly for cracks and security of attachment
Engine support bearings (2)	X	Examine, particularly for cracks and security of attachment
Test Sets		
Exterior	X	Clean and examine- report any damage to Customer
Interior	X	Clean and examine- report any damage to Customer
Repeat Display Cabinet		
Instrument glasses and indicator lamp faces	X	Examine. Remove surface dust Clean and polish surfaces using minimal pressure
Cabinet Exterior	X	Clean and examine- report any damage to Customer
Cabinet Interior	X	Clean and examine- report any damage to Customer
Castors	X	Lubricate
Instructor's Station		
Switch faces	X	Examine. Remove surface dust. Clean and polish surfaces using minimal pressure
Trainer Shutdown Switch	X	Operate
Linkages and Electronics Cabinets		

Preventative Maintenance Task	1 Mth	Remarks
Cabinet exterior	X	Clean and examine- report any damage to Customer
Cabinet Interior	X	Clean and examine- report any damage to Customer
Intercom Cabinet		
Cabinet exterior	X	Clean and examine- report any damage to Customer
Cabinet interior	X	Clean and examine- report any damage to Customer
Hinges, latches and castors	X	Lubricate

Note

PDS and modification work is covered under a separate contract with the Design Authority

Name of Equipment: Radar System Trainer
Original Equipment Manufacturer: LabVolt.

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
6	RAF Cosford	CALL OUT CATEGORY = **GOLD**	400 hrs per system per year	Not Known	ad infinitum

The Labvolt Milliwatt Radar is used for training of ground based radar systems.
This is a suite consisting of:

Lab-Volt Analogue Radar Trainer includes:

Target Table
Target Table Controller
Power Supply/Antenna Motor Drive
Synchroniser/Antenna Controller
Rotating Antenna Pedestal
Parabolic Antenna
Dual Cannel Sampler
Clutter Generator
Target Positioning System
Radar Transmitter
Radar Receiver
Analogue MTI Processor
PPI Scan Converter
Horn Antenna
Cables and Accessories
PC Display
Keyboard and Mouse
Target /Ancillaries Set

Lab-Volt Digital Radar System Digital includes:

Target Table
Target Table Controller
Pedestal and Antenna
Power supply/Ant drive
Radar Transmitter
Radar Receiver
Dual Channel Sampler
Digital Acquisition Unit
DAU PSU
Cable Set
Target /Ancillaries Set
PC Inc. keyboard and mouse
Display
Phased Array
Controller
Cables

Preventative Maintenance Task	**12 Mths**	**Remarks**
Check condition of mains cable and connector	X	
PAT Test	X	Record PAT Test and apply a proof of PAT Test sticker on device(s)
Check condition of interconnecting cables	X	
Check operation of switches.	X	
Check movement of Targets on Target Table	X	Lubricate as required with a light machine oil if necessary
Perform Functional Test	X	
Clean units and Target Table with a clean dry lint-free cloth	X	

Name of Equipment: Pressure Refuelling Trainer
Acronym of Equipment: PRT
Original Equipment Manufacturer: GEL

Quantity	Location/ Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
1	RAF Cosford	CALL OUT CATEGORY = **GOLD**	8-16 hrs per week (5 day week)	2003	31/03/2024

The PRT is generic training equipment for teaching tri-services aircraft mechanics and technicians the knowledge and skill set of working with pressure refuelling systems. The Line Training Flight (LTF) is tasked with training all aircraft engineering trainees undergoing basic trade training in the theory and practices associated with airfield operations. In particular they are tasked with training these students in aircraft pressure refuelling practices and defueling.
The PRT consists of:

- A Facsimile Aircraft Fuselage: This is made of fibre glass including access steps
- A Facsimile Bowser Trolley: This is used to act as a refuel/de-fuel bowser, by sending electronic signals to the Aircraft Fuselage/Instructor Console. This replaces the actual bowser for training purposes
- An Instructor's Console: The system is computer controlled from the instructor's console, enabling the instructor to monitor every aspect and to introduce faults during the training

Preventative Maintenance Task	12 Mths	36 Mths	Remarks
Cleaning - remove dust from all areas (Bowser/Aircraft/Cockpit/ IOS) etc. using mild detergent/water and lint free cloths	X		
Hose Reel Drive - Remove chain guard/excess old grease and apply Castrol LMX grease	X		
Test the system - including fuel hose to ensure reel turns freely. Rewind the fuel hose ensuring clutch operates. Check all I/O connections are present including instructor induced faults.	X		
Check operation of Emergency Stop	X		
Motherboard Battery Replacement		X	
PAT Test	X		Record PAT Test and apply a proof of PAT Test sticker on device(s)

Name of Equipment: Second-Line Avionics Trainer.
Acronym of Equipment: SLAT.
Original Equipment Manufacturer: ECC

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
11 1	RAF Cosford Contractor	CALL OUT CATEGORY = **GOLD**	Currently used every 10 days – high usage (circa 650 hrs per device per year)	1996	31/03/2024

The trainer provides a combination of simulated and emulated test equipment and line replaceable items with which students interact during practical training of diagnostic and repair procedures.

The Second Line Avionics Trainer (SLAT) provides hands on training in a working environment, enabling trainees to understand and practice the use of Automatic Test Equipment (ATE), Special to Type Electrical Engineering Test Equipment (STEETE) and General Purpose Test Equipment (GPTE), whilst performing fault finding procedures.

SLAT is designed to reinforce the Best Working Practices essential to personnel and aircraft safety. These include:

- Awareness and use of calibration date
- Use of Air Publications and supporting technical documentation
- Line Replaceable Item (LRI) preparation, strip down and reassembly
- Printed Electronic Card handling techniques
- Use of extender boards, interface leads and sub-assembly supports
- Functional testing of LRI's
- Diagnosis to sub-assembly level
- Interpretation of measurement tolerances
- Setting up, adjustment and LRI parameter monitoring procedures
- Configuration control

Preventative Maintenance Task	**12 Mths**	**36 Mths**	**Remarks**
IOS VDU Display Clean	X		Location -Instructors Facilities:
IOS Keyboard Clean	X		Location - Instructors Facilities
Student Station Exterior Clean	X		SLAT Equipment
Student Station Interior Clean	X		SLAT Equipment
SLAT LRI's Inspect, clean	X		SLAT Equipment
ATE Cabinet Inspect and clean	X		SLAT Equipment
Test Equipment Inspect and clean	X		SLAT Equipment
Check Trainer Condition	X		Student Station
Monitor Clean VDU Screen	X		Student Station
Keyboard Clean	X		Student Station
Mouse Clean	X		Student Station
LED Test	X		
Check power rail for 12v(dc to dc convertor)	X		
Display Test	X		
Switch Functionality	X		
PAT Test	X		Record PAT Test and apply a proof of PAT Test sticker on device(s)
Fan filters Replace	X		
Motherboard Battery replacement		X	

Notes
NB 1 system is a fully functional reference equipment but used by Customer to deliver Training

Name of Equipment: Synthetic Environmental Procedural Trainer – SEPT 2 (FX)
Acronym of Equipment: SEPT 2 FX
Original Equipment Manufacturer: Pennant Training Systems Ltd.

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
1 SEPT 2 FX	RAF Cosford	CALL OUT CATEGORY = **GOLD**	369 hrs	Not Known	31/03/2024

SEPT provides training in marshalling and ground handling of aircraft in complete safety and without the costs of using real aircraft.

The student is presented with a 150° wrap-round screen. Three high resolution projectors provide a computer generated display of the airfield and moving aircraft. Realism is enhanced by multi-channelled surround sound effects.

Training scenarios and aircraft movements are controlled by the instructor. The instructor can amend scenarios, inserting hazards and emergencies, changing weather conditions, communicate with the student through an integrate communication system and record student actions. The complete exercise can be viewed by other students, and used for later debrief.

SEPT allows students to rehearse procedures and practices their marshalling on various types of aircraft from fast jet to large multi-engine aircraft through to rotary-winged.

After classroom instruction students consolidate their learning through practical exercises on the trainer which provides an ideal preparation ground for the real situation where the marshal must give clear and positive direction to the pilot. It also enables the student to practice handling different aircraft types, in varied weather conditions, time of day/night and emergency situations.

Preventative Maintenance Task	Daily	Wkly	1 Mth	**6 Mths**	**12 Mths**	**24 Mths**	**36 Mths**	**60 Mths**	**Remarks**
Rubbish/unauthorised equipment remove	X			X	X				SEPT Facility & Room advise Customer
Lighting Check	X			X	X				SEPT Facility & Room
Power cables Route/check for damage	X			X	X				
Main floor area/training equipment remove dust		X		X	X				SEPT Facility & Room
Headsets Clean &Test functionality		X	X	X	X				
Projector Lamp warning indicators Check/replace lamps if necessary			X	X	X				
Projector Lens Clean			X	X	X				
Projectors/Computer Check & clean air filters				X	X				
System Power up				X	X				
Rack fans Ensure operating				X	X				
PAT Test					X				PC/Visual Systems Record PAT Test and apply a proof of PAT Test sticker on device(s)
Television					X				Record PAT Test and apply a proof of PAT Test sticker on device(s)
Camera					X				Record PAT Test and apply a proof of PAT Test sticker on device(s)
Subwoofer					X				Record PAT Test and apply a proof of PAT Test sticker on device(s)

Preventative Maintenance Task	Daily	Wkly	1 Mth	6 Mths	12 Mths	24 Mths	36 Mths	60 Mths	Remarks
RCD Electrical Check.						X			
Motherboard Battery replacement							X		
UPS Battery replacement								X	

Name of Equipment: Weapons System Trainer Rig
Acronym of Equipment: WSTR
Original Equipment Manufacturer: Thales (Design Authority)

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
1	RAF Cosford	CALL OUT CATEGORY = **GOLD**	As at August 2012 use is negligible. For bidding purposes assume 50 hrs max	11/1984	31/03/2024

This is a Tornado Ground Instructional Aircraft (GIA) used to instruct principles and practices used for loading/unloading weapons and associated systems. The WST is based on a time expired Tornado aircraft used for ground instructional purposes and allocated the title Ground Instructional Aircraft (GIA). The WST is unique in that it combines simulation technology with a Tornado GIA. The simulated element was manufactured and then integrated to the GIA at RAF Cosford.

The WST comprises of:

- A prototype Tornado aircraft modified and adapted to represent typical operational aircrafts weapon systems
- An Instructors Control Console
- An IBM Computing System
- An Interface System
- Note the Contractor is only responsible for the Instructors Control Console, IBM Computing System and Interface System. Faults with the aircraft are to be reported to the Customer

Maintenance:

The Ground Instructional Aircraft element of the Trainer will be maintained by appropriate aircraft technicians. The daily maintenance involving the switching on, functional checks and switching off will be carried out by the trainer instructors.

NB the Design Authority for this device is Thales Simulation.

Preventative Maintenance Task	**12 Mths**	**Remarks**
Clean instructors control console keypad and VDU screen using a proprietary cleaner	X	
Check PSU voltages and adjust if necessary	X	
Check the operating characteristics of the ELCB using a Martin Dale RCB Tester 5A 1728043	X	Trip time = 30 mSecs Trip current = 30 mA
Check all fixings for tightness	X	Tighten any loose nuts and bolts etc.
PAT Test (if applicable)	X	Record PAT Test and apply a proof of PAT Test sticker on device(s)

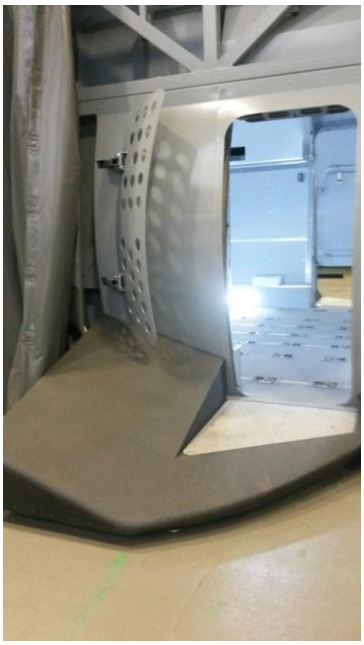
Equipment at Other Locations

Name of Equipment: A400M Atlas Part Task Trainers (PTT)
Original Equipment Manufacturer: Exsel Dytecna.

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	OSD
3	RAF Brize Norton: 1 Parachute Training School 1 Air Movements School 1 Air Dispatch	CALL OUT CATEGORY = **SILVER**	Statistical information not known, to be determined	2017	2052

Air Movements School - ATLAS Part Task Trainer (PTT) A

Air Dispatch - ATLAS Part Task Trainer (PTT) B



Parachute Training School - ATLAS Part Task Trainer (PTT) C

Preventative Maintenance Task for PTT A, B, C	Daily	Wkly	Mnthly	**6 Mths**	**12 Mths**	**Remarks**
General Structure		X		X		Check for damage and advise Customer & Authority
Access Steps	X			X		Check for damage and advise Customer & Authority
Lights & Switches	X			X		Check operation/function – replace bulbs as required
Ramps and Ramp Supports				X		Carry out load test to ensure Safe working loads can be achieved. Record tests and issue certificate to notify User that tests have been undertaken-and that ramp(s) are safe/unsafe to use. Advise Customer & Authority
Toe Ramps (if fitted)				X		If applicable in above
Floor Area			X	X		Check for damage and advise Customer & Authority
Seats (if Fitted)		X		X		Check for damage and advise Customer & Authority
Painted Surfaces				X		Check for damage and advise Customer & Authority
Gear Box Sump				X		Check Levels and replenish as necessary (OEP-80)
Lifting Chains and Couplings				X		Clean with a suitable cleaner, examine, lubricate (OMD-90) ensure secure Load test and ensure Safe Working Loads (SWL) are displayed on each item (if applicable)
Hoists (if fitted)				X		Carry out load test to ensure SWL loads can be achieved. Record tests and issue certificate to notify User that tests have been undertaken-and that Hoist(s) are safe/unsafe to use Customer &
Hinges				X		Inspect –lubricate with light machine oil

Preventative Maintenance Task for PTT A, B, C	Daily	Wkly	Mnthly	**6 Mths**	**12 Mths**	**Remarks**
Signs, Markings and Labels (if fitted)			X	X		Check for damage and advise Customer & Authority
Door Retaining Latches (if fitted)				X		Check for damage and advise Customer & Authority. Lubricate with light machine oil
Cables and Connectors			X	X		Check for damage as far as possible and advise Customer & Authority of any damage or wear
Limit Switches (if fitted)				X		Examine and functionally test. Advise Customer & Authority if items unsafe/ needs repair.
Emergency Stop (if fitted)	X			X		Examine and functionally test. Advise Customer & Authority if items unsafe/ needs repair.
Warning Lamps (if fitted)	X			X		Examine and functionally test. Advise Customer & Authority if items unsafe/ needs repair.
Input cables and connectors				X		Examine, test resistance of Circuit Protective Conductor. Test insulation resistance. Advise Customer & Authority if items unsafe/ needs repair.
Tie Down Points		X		X		Inspect all fixings for serviceability and condition. Advise Authority & Customer of any issues
PAT Test (if applicable)					X	Record PAT Test and apply a proof of PAT Test sticker on device(s). Advise Customer & Authority if items unsafe/ needs repair.

Name of Equipment: A400M (ATLAS) Training Loads
Acronym of Equipment:
Original Equipment Manufacturer: Exsel Dytecna Limited

Quantity	Location/ Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	OSD
80	RAF Brize Norton	CALL OUT CATEGORY = **BRONZE**	Statistical information not known, to be determined	2017	31/03/2032

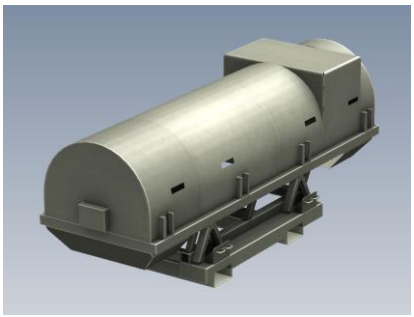
The Contractor for the design, manufacture and support is Exsel Dytecna Limited, all loads should be in service by end-Oct-17 and the Contract expires on 31 March 18. All of the training loads are located in RAF Brize Norton, and split over two locations the A400M Schoolhouse and the Defence Movements Training Squadron (DMTS).

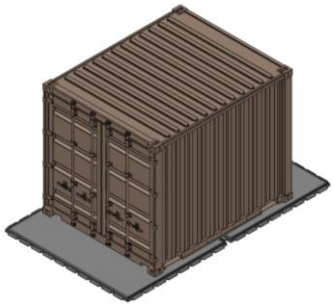
Current points of contact are:

a. DMTS Sgt Kevin Full - Kev.Full104@mod.gov.uk Tel: 01993 894336

b. 24Sqn FS Jase Crooks - 24Sqn-CFltALM10@mod.uk Tel: 01993 842551





The Contractor shall be responsible for the provision and management of spares for the Training Loads.
The Contractor shall be responsible for the obsolescence management of spares for the Training Loads.
The Contractor shall report the consumption of Training Load spares at the quarterly progress meeting and in the six-monthly written progress report.
The Contractor shall collate and make available to the Authority the following data regarding Training Load spares:

- Critical items
- Failure rates
- Demand usage
- Real usage profile

All equipment shall be maintained in accordance with the maintenance plan.
The Contractor shall provide preventative maintenance for the training loads. Maintenance periods are to be agreed in advance with the Authority.
The Contractor shall not undertake repairs without the express agreement of the Authority, due to the "In-Service" date of the relevant load and the manufacturers 1 year warranty period. Costs for repairs shall be quoted using agreed rates.

MAINTENANCE TASKS TO BE ISSUED AT A LATER DATE.

Name of Equipment: Aircraft AC Power Supply Trainer - Non-Paralleling.
Acronym of Equipment: ACPST (NP).
Original Equipment Manufacturer: Pennant Training Systems Ltd.

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	OSD
6 Rigs (2 boards =1 ACPST Rig)	RNAESS Gosport	CALL OUT CATEGORY = **SILVER**	70 hrs per rig	01/1990	31/03/2024

The Aircraft AC Power Supplies Trainer (ACPST) provides a fully simulated representation of aircraft electrical component layout that facilitates instruction in the basic principles and techniques employed in modern aircraft electrical power generation, control, and distribution systems in normal and abnormal operating conditions. It also provides instruction in safety practices and procedures.

The trainer is used for student hands-on practical exercise in fault diagnosis and rectification using simulated first-line test equipment. Exercise scenarios, including fault conditions, are set up by instructors drawing from a library of faults. Students are allowed "free play" to carry out diagnostic routines to identify faults then carry out rectification procedures. Further operation of the trainer enables the student to confirm the correctness or otherwise of his diagnosis and rectification actions.

Preventative Maintenance Description	1 Mth	12 Mths	24 Mths	36 Mths	Remarks
Full Software diagnostics Tests	X	X			Diagnostic Test operated via SW on PC

Preventative Maintenance Description	1 Mth	12 Mths	24 Mths	36 Mths	Remarks
Examine for damage • Cabinet • Models • Monitors and Keyboard Clean and polish device	X	X			
System Check security & condition	X	X			
RCD Mechanical Check	X	X			
PAT Test		X			Record PAT Test and apply a proof of PAT Test sticker on device(s).
Computers Check airflow of Fans		X			
Fan filters Replace		X			
RCD Electrical Check			X		
Motherboard Battery Replacement				X	

Name of Equipment: Aircraft Power Supply Trainer - Engine Electrical System Trainer.
Acronym of Equipment: ACPST (EEST).
Original Equipment Manufacturer: ECC

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	OSD
1	RNAESS Gosport	CALL OUT CATEGORY = **SILVER**	100 hrs	01/1990	31/03/2024

Functionality and use as per ACPST above however this is rig designed specifically to address an Aircraft Engine Electrical System.

Preventative Maintenance Description	3 Mth	6 Mth	12 Mth	24 Mth	36 Mth	Remarks
Diagnostics Complete full diagnostics	X	X	X	X	X	
Cabinet, Models, Monitors and Keyboard Examine clean and polish	X	X	X	X	X	
System Check security & condition	X	X	X	X	X	
RCD Mechanical check	X	X	X	X	X	
Computers Check airflow of Fans		X	X	X	X	
Check operation of emergency stop		X	X	X	X	
Fan filters Replace		X	X	X	X	
PAT Test			X	X	X	
RCD Electrical Check.				X	X	
Motherboard battery replacement					X	

Name of Equipment: Air Benches.
Original Equipment Manufacturer: Air Benches Ltd.

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	OSD
4	RAF Wittering	CALL OUT CATEGORY = **BRONZE**	186 hrs per bench	Not Known	Ad infinitum

The Air Benches are used when filing or cutting carbon fibre or composite materials. The bench top is a very fine mesh and when air is switched on it vacuums all filed or cut particles through the mesh and through filters into a waste collector.

Preventative Maintenance Description	6 Mths	Remarks
Check condition of mains cable and connector	X	
PAT test equipment	X	Record PAT Test and apply a proof of PAT Test sticker on device(s)
Remove top cover and inspect Pre-filters for condition and damage	X	Replace Filters if unserviceable
Remove Pre-Filter and inspect main filter for condition and damage	X	Replace Filters if unserviceable
Reassemble and start Air Bench	X	

Using Test points take and record air pressure differential readings	X	Leave area in a clean and tidy manner

Notes

Call out category is Gold for RAF Cosford and Bronze for all other sites.

Due to carbon fibre dust being present Disposable coveralls, dust masks and gloves must be worn when assembling or disassembling Air Benches.

Name of Equipment: Air Navigation Trainer Suite.
Acronym of Equipment: ANT.
Original Equipment Manufacturer: BAE Systems.

Quantity	Location/ Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	OSD
1 (Classroom Suite) of: 12 Student Stations 6 Instructor Consoles 2 Wireless Networks 1 Power Supply Cabinet 2 PCs for Sortie Data 36 Touch Screens 12 Tablet PCs	RAF Cranwell	CALL OUT CATEGORY = **GOLD**	Please see note below	01/1993	Ad infinitum

The ANT is the major tool used for training Weapon System Operators (WSOps) in airmanship and muilti-tasking, using basic navigation, radar and systems monitoring as vehicles for skills development. It is largely PC based system that allows relatively inexpensive training to be achieved in a controlled environment.

Preventative Maintenance Description	Weekly	Mthly	Remarks
Clean Instructor monitor screens	X		Use clean soft lint free cloth to remove dust and other particles.
Clean Student Touchscreen monitor Screens	X		**The display area is highly prone to scratching.** Ensure monitor is switched off and

			use clean soft lint free cloth to remove dust and other particles. If cleaner is needed use only non-amonia, non-Alcohol based cleaner and do not spray cleaner directly on the screen. Do not use Water of oil on the screen.
Clean Keyboards and Mice		X	Use a proprietary PC equipment cleaner to clean keyboards and mice

Notes

Two of the student consoles are declared unserviceable and are intended as a source of spare parts
Estimated yearly usage. At this time the usage is low. Due to the nature of the use of this suite of equipment usage rates cannot be provided with any certainty.

Name of Equipment: Analogue Communications Trainer
Original Equipment Manufacturer: Unknown.

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	OSD
4	RNAESS Gosport	CALL OUT CATEGORY = **BRONZE**	250 Hours Per system	01/1993	Ad infinitum

Analogue Comms Trainers are used to introduce students to the fundamentals of AM and FM.

Preventative Maintenance Task	12 Mths	Remarks
PAT test equipment	X	Record PAT Test and apply a proof of PAT Test sticker on device(s)

Name of Equipment: Basic Communication Procedures Trainer
Acronym of Equipment: BCPT
Original Equipment Manufacturer:

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	OSD
1	RAF Cranwell	CALL OUT CATEGORY = **GOLD**	**100** hrs	Not Known	ad infinitum

The BCPT (Basic Communications System Trainer) is used to provide training in intercom and radio procedures for a maximum of 6 students by visually and aurally emulating the Radio Operator's position in a Dominie or generic ISTAR capable aircraft. The system is capable of being split into two totally independent networked sub-systems to provide maximum training flexibility.

Equipment includes:

- 2 Server Instructor/Ground Stations
- 6 Instructor Stations
- 6 Student Consoles

Preventative Maintenance Task	Weekly	Mthly	12 Mths	Remarks
Clean all computer Screens	X			Clean all screens at the start of the week.
Air Filter – Remove lower front panel of cabinet, remove filter and replace with a clean one.		X		Wash with detergent and store removed filter for re-use.
Clean all Keyboards and optical mice with proprietary cleaner		X		
PAT Tested			X	

Name of Equipment: Benches
Original Equipment Manufacturer: Unknown
Support Level: Preventative Maintenance/Inspection Only

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
17	**Parachute Engineering Squadron (PES) RAF Brize Norton OX18 3LX**	N/A	Statistical information not known, to be determined	Not Known	ad infinitum

Inspection Frequency Yearly.

MAINTENANCE TASKS TO BE ISSUED AT A LATER DATE.

Name of Equipment: BT380
Original Equipment Manufacturer: Unknown
Support Level: Preventative Maintenance/Inspection Only

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
8	**Parachute Engineering Squadron (PES) RAF Brize Norton OX18 3LX**	N/A	Statistical information not known, to be determined	Not Known	ad infinitum

MAINTENANCE TASKS TO BE ISSUED AT A LATER DATE.

Name of Equipment: BT380 Cutaway Harness
Original Equipment Manufacturer: Unknown.
Support Level: Preventative Maintenance/Inspection Only.

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
16 2	**Parachute Engineering Squadron (PES),** **Parachute Training School (PTS) at** **RAF Brize Norton OX18 3LX**	N/A	Statistical information not known, to be determined	Not Known	ad infinitum

MAINTENANCE TASKS TO BE ISSUED AT A LATER DATE.

Name of Equipment: BT380 Dummy Container.
Original Equipment Manufacturer: Unknown.
Support Level: Preventative Maintenance/Inspection Only.

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
3	**Parachute Engineering Squadron (PES)** **RAF Brize Norton OX18 3LX**	N/A	Statistical information not known, to be determined	Not Known	ad infinitum

MAINTENANCE TASKS TO BE ISSUED AT A LATER DATE.

Name of Equipment: BT380 Foam Filled (FF)
Original Equipment Manufacturer: Unknown
Support Level: Preventative Maintenance/Inspection Only

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
13	**Parachute Engineering Squadron (PES)** **RAF Brize Norton OX18 3LX**	N/A	Statistical information not known, to be determined	Not Known	ad infinitum

MAINTENANCE TASKS TO BE ISSUED AT A LATER DATE.

Name of Equipment: BT380 GTA SL
Original Equipment Manufacturer:
Support Level: Preventative Maintenance/Inspection Only

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
4	**SBS Ham worthy, Poole, Dorset, BH15 4NQ**	N/A	Statistical information not known, to be determined	Not Known	ad infinitum

MAINTENANCE TASKS TO BE ISSUED AT A LATER DATE.

Name of Equipment: BT380 GTA Hanging
Original Equipment Manufacturer:
Support Level: Preventative Maintenance/Inspection Only

Quantity	Location/ Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
3	**SBS Hamworthy Poole, Dorset, BH15 4NQ**	N/A	Statistical information not known, to be determined	Not Known	ad infinitum

MAINTENANCE TASKS TO BE ISSUED AT A LATER DATE.

Name of Equipment: BT380 Wet Drag Harness
Original Equipment Manufacturer: Unknown.
Support Level: Preventative Maintenance/Inspection Only.

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
1 3 1	**RAF Brize Norton, OX18 3LX** **Poole, BH15 4NQ** **RAF St Athan, CF62 4WA**	N/A	Statistical information not known, to be determined	Not Known	ad infinitum

MAINTENANCE TASKS TO BE ISSUED AT A LATER DATE.

Name of Equipment: BT533 Cutaway
Original Equipment Manufacturer: Unknown
Support Level: Preventative Maintenance/Inspection Only

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
4 4	**Parachute Engineering Squadron (PES)** **Parachute Training School (PTS)** **RAF Brize Norton OX18 3LX**	N/A	Statistical information not known, to be determined	Not Known	ad infinitum

MAINTENANCE TASKS TO BE ISSUED AT A LATER DATE.

Name of Equipment: BT533 Harness
Original Equipment Manufacturer: Unknown
Support Level: Preventative Maintenance/Inspection Only

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
5 1	**Parachute Engineering Squadron (PES)** **Parachute Training School (PTS)** **RAF Brize Norton OX18 3LX**	N/A	Statistical information not known, to be determined	Not Known	ad infinitum

MAINTENANCE TASKS TO BE ISSUED AT A LATER DATE.

Name of Equipment: BT533 Foam Filled (FF)
Original Equipment Manufacturer: Unknown
Support Level: Preventative Maintenance/Inspection Only

Quantity	Location/ Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
3	**(PES),RAF Brize Norton OX18 3LX**	N/A	Statistical information not known, to be determined	Not Known	ad infinitum

MAINTENANCE TASKS TO BE ISSUED AT A LATER DATE.

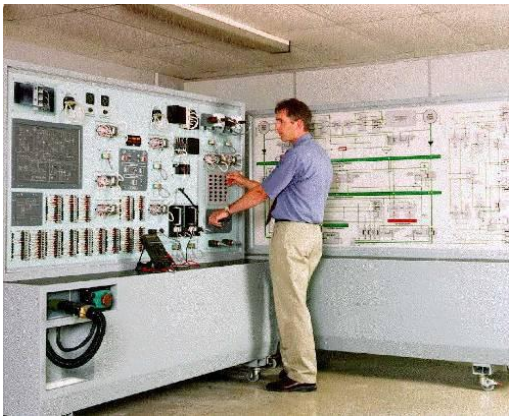
Name of Equipment: C-130J Mock Up for Parachutists
Original Equipment Manufacturer: Unknown – Pennant have refurbished this equipment
Support Level: Full Support

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
1	**(PES), RAF Brize Norton OX18 3LX**	CALL OUT CATEGORY = **BRONZE**	Statistical information not known, to be determined	Not Known	31/03/2030

Preventative Maintenance Task	Daily	1 Mth	6 Mths	12 Mths	Remarks
Examine for general physical damage and report faults immediately	X				
Examine Electrical systems for security and report faults immediately	X				
Operate lighting controls to ensure correct functionality	X				
Visually inspect charge indicator LED on emergency light fittings	X				
Check for cleanliness					
Test all components on the lighting systems are operating correctly		X	X	X	
Test all components on the intercom system are operating correctly		X	X	X	
Test emergency lighting using the self-test key switch.		X	X	X	
Examine condition of floor surfaces including attachment points.		X	X	X	
Examine security and condition of all mechanical and electrical sub-assemblies for loose items, fasteners, connectors etc. for signs of damage, cracks, loose or missing items.			X	X	
Examine the condition of all accessible wiring for any signs of damage or abrasion.			X	X	
Each emergency lighting unit should be tested as per monthly test but for its rated duration of 3 hours. The date of the test and its results shall be recorded.			X	X	
Static line cables to be examined by a Competent Person				X	
Static line cables to be checked for correct height				X	
Annual electrical testing to be carried out.				X	

Name of Equipment: DIRECT CURRENT POWER SUPPLIES TRAINER
Acronym of Equipment: DCPST (T) – Twin Engine
Original Equipment Manufacturer: Pennant.

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
5 (2 boards =1 DCPST)	5 MoD Lyneham Service Schedule Applicable to Single or Twin Variants	CALL OUT CATEGORY = **SILVER**	Arborfield 2,500 Hrs (450 Hrs per device)	06/1996	31/03/2024



The DCPST are used to provide a fully simulated representation of single engine and twin engine aircraft electrical component layout. This facilitates instruction in the basic principles and techniques employed in modern aircraft electrical power generation, control, and distribution systems in normal and abnormal operating conditions. It also provides instruction in system safety practices and procedures. Following basic instruction the DCPST is used for student “hands-on” practical exercises in fault diagnosis and rectification using simulated first-line test equipment in service with the Army. The equipment at Arborfield was relocated to Lyneham following the closure of Arborfield in Sept 2015.

The instructors set up exercise scenarios that will include fault conditions drawn from a library of faults. This allows students “free play” to carry out diagnostic routines to identify faults and then carry out procedures to rectify the identified fault(s). Further operation of the DCPST enables the student to confirm the correctness or otherwise of his diagnosis and rectification actions.

During student exercises the Instructors can monitor individual actions and a full record of actions and reactions by the student is taken for later use in de-briefing sessions. By comparing student actions against a “standard” timed procedure performance rating is possible.

An important feature of the DCPST is to enhance the students understanding of the electrical power system, with the ability to operate in a stepped sequence. Sequences of normally rapid events, such as relay switching and the exciting and de-exciting of the generators, can be demonstrated in non-real time in easy steps.

The DCPST is intended to be used initially by the Instructors for classroom tuition with up to 16 students per class, then by students under Instructor control, for “hands-on” experience, and finally by individual students for their practical examination.

Preventative Maintenance Task	6 Mths	12 Mths	36 Mths	Remarks
Cabinet, Models, Monitors and Keyboard	X	X		Examine clean and polish
System: Check security & condition	X	X		
RCD Mechanical check	X	X		
Diagnostics: Complete full diagnostics	X	X		Built in test facility
Computers: Check airflow of Fans	X	X		
Check operation of emergency stop	X	X		
Fan filters Replace	X	X		
PAT Test		X		Record PAT Test and apply a proof of PAT Test sticker on device(s)
RCD Electrical Check.		X		
Motherboard battery replacement			X	

Note

Call out category for DSAE Lyneham is Silver.

Name of Equipment: Dummy Low Level Parachute (LLP) Parachute Equipment Load (PEL)
Original Equipment Manufacturer: Unknown
Support Level: Preventative Maintenance/Inspection Only

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
53	**Parachute Engineering Squadron (PES) RAF Brize Norton OX18 3LX**	N/A	Statistical information not known, to be determined	Not Known	ad infinitum

Harness Release and Drag – Low level Parachute		
Preventative Maintenance Task	**6 Mth**	**Remarks**
LLP Mk 1 Assembly	X	Examine
Rigging Lines and Raisers	X	Examine and remove any twists and tangles
Pack and Harness	X	Examine
Capwell Release Units and Capwell Covers	X	Examine, particularly the wire loop for frayed or broken strange. Replace as necessary
Ejector Snap-hook	X	Examine and check for function
Metal Fittings	X	Examine
Carry Bag	X	Examine, particularly for security
Completion of Maintenance		
Equipment	X	Examine and Clean as necessary
MoD Form 707SE/715	X	Sign for completion of maintenance
Supervisory Requirements		
Equipment	X	Inspect
MoD Form 707SE/715	X	Ensure all tradesmen have signed for completion of maintenance and countersign

Name of Equipment: Dummy Low Level Parachute (LLP)
Original Equipment Manufacturer: Unknown
Support Level: Preventative Maintenance/Inspection Only

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
67 11 4 8 6 7 4 99	**Parachute Training School (PTS)** **Parachute Engineering School (PES)** **Chivenor, EX31 4AZ** **Colchester, CO2 7UT** **RAF St Athan, CF62 4WA** **Thornbury Barracks, LS28 8HH** **White City, W12 7RW** **TOTAL**	N/A	Statistical information not known, to be determined	Not Known	ad infinitum

Harness Release and Drag – Low level Parachute		
Preventative Maintenance Task	**6 Mth**	**Remarks**
LLP Mk 1 Assembly	X	Examine
Rigging Lines and Raisers	X	Examine and remove any twists and tangles
Pack and Harness	X	Examine
Capwell Release Units and Capwell Covers	X	Examine, particularly the wire loop for frayed or broken strange. Replace as necessary
Ejector Snap-hook	X	Examine and check for function
Metal Fittings	X	Examine
Carry Bag	X	Examine, particularly for security
Completion of Maintenance		
Equipment	X	Examine and Clean as necessary
MoD Form 707SE/715	X	Sign for completion of maintenance
Supervisory Requirements		
Equipment	X	Inspect
MoD Form 707SE/715	X	Ensure all tradesmen have signed for completion of maintenance and countersign

Name of Equipment: Dummy Low Level Reserve Parachute (LLRP)
Original Equipment Manufacturer: Unknown
Support Level: Preventative Maintenance/Inspection Only

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
154 2 13 2 26 3 4	**RAF Brize Norton OX18 3LX** **Chivenor, EX31 4AZ** **Colchester, CO2 7UT** **Poole, BH15 4NQ** **RAF St Athan, CF62 4WA** **Thornbury Barracks, LS28 8HH** **White City, W12 7RW**	N/A	Statistical information not known, to be determined	Not Known	ad infinitum

Harness Release and Drag – Low level Parachute		
Preventative Maintenance Task	**6 Mth**	**Remarks**
LLP Mk 1 Assembly	X	Examine
Rigging Lines and Raisers	X	Examine and remove any twists and tangles
Pack and Harness	X	Examine
Capwell Release Units and Capwell Covers	X	Examine, particularly the wire loop for frayed or broken strange. Replace as necessary
Ejector Snap-hook	X	Examine and check for function
Metal Fittings	X	Examine
Carry Bag	X	Examine, particularly for security
Completion of Maintenance		
Equipment	X	Examine and Clean as necessary
MoD Form 707SE/715	X	Sign for completion of maintenance
Supervisory Requirements		
Equipment	X	Inspect
MoD Form 707SE/715	X	Ensure all tradesmen have signed for completion of maintenance and countersign

Name of Equipment: Dummy Low Level Parachute - LLP (PEL)
Original Equipment Manufacturer: Unknown
Support Level: Preventative Maintenance/Inspection Only

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
1 2 1	**Chivenor, EX31 4AZ** **Thornbury Barracks, LS28 8HH** **White City, W12 7RW**	N/A	Statistical information not known, to be determined	Not Known	ad infinitum

Harness Release and Drag – Low level Parachute		
Preventative Maintenance Task	**6 Mth**	**Remarks**
LLP Mk 1 Assembly	X	Examine
Rigging Lines and Raisers	X	Examine and remove any twists and tangles
Pack and Harness	X	Examine
Capwell Release Units and Capwell Covers	X	Examine, particularly the wire loop for frayed or broken strange. Replace as necessary
Ejector Snap-hook	X	Examine and check for function
Metal Fittings	X	Examine
Carry Bag	X	Examine, particularly for security
Completion of Maintenance		
Equipment	X	Examine and Clean as necessary
MoD Form 707SE/715	X	Sign for completion of maintenance
Supervisory Requirements		
Equipment	X	Inspect
MoD Form 707SE/715	X	Ensure all tradesmen have signed for completion of maintenance and countersign

Name of Equipment: Dummy Parachute Equipment Load (PEL)
Original Equipment Manufacturer:
Support Level: Preventative Maintenance/Inspection Only

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
20 17	**Colchester, CO2 7UT** **St Athan, CF64 4WA**	N/A	Statistical information not known, to be determined	Not Known	ad infinitum

MAINTENANCE TASKS TO BE ISSUED AT A LATER DATE.

Name of Equipment: Dummy Static Line Equipment Strap (SLES)
Original Equipment Manufacturer:
Support Level: Preventative Maintenance/Inspection Only

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
2 7 1	**Colchester, CO2 7UT** **RAF Brize Norton, OX18 3LX** **RAF St Athan, CF62 4WA**	N/A	Statistical information not known, to be determined	Not Known	ad infinitum

MAINTENANCE TASKS TO BE ISSUED AT A LATER DATE.

Name of Equipment: Euro Fighter Cockpit Mock-up.
Acronym of Equipment: EFCMU.
Original Equipment Manufacturer: EDM.

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	I.S.D	O.S.D.
1	RAF Henlow	CALL OUT CATEGORY = **BRONZE**	600 hrs	2002	Not Known	31/03/2027

The EFCMU is a standalone trainer based at RAF Henlow and is used for sizing, fitting and integration of Aircrew Equipment Assemblies (AEA), preliminary appraisal of anthropometric acceptability of aircrew and evolution of in service AEA modifications for front line operational support. The cockpit ejector seat including the life support fittings, flying controls and switches simulate the correct adjustment and full range of movement, replicating simulated levels of force. All flight instruments are represented graphically but do not operate.

Preventative Maintenance Task	6 Mths	12 Mths	Remarks
Grease adjustable levelling jacks	X		Coat with a small amount of general-purpose grease as a protection aid
Seat- Lubricate any linkage pivot points, levers and pull handles	X		Application of light Machine Oil NB Maintainer to consult with User (competent person) to enquire if seat is still fit for purpose (e.g. serviceability / rips tears etc. that may need repair) Any faults to be reported to the Authority
Pedal Assembly - All linkage pivot points, levers or pull handles, should be inspected to establish if items are fit for purpose. Where necessary, apply a light coat of machine oil or grease	X		
PAT Test		X	Record PAT Test and apply a proof of PAT Test sticker on device(s)
Communication System		X	Please refer to the Davis Industrial Communications User Guide (held on site)

Notes

The following appear as warning notices on the CM-U and stand.

A) All parts appertaining to the CM-U are TRAINING AIDS only and are not fit for flight purposes.

B) Lifting points are indicated, along with the Fork Truck access points.

3.0 OPERATION

3.1 Securing the base frame

Prior to any training being undertaken, the base frame of the CM-U must be raised off the casters/ floor, by using the adjustable levelling jacks. After the base frame has been levelled, the jacks must be locked by means of the locking nuts.

Note: The ingress/egress for the system for the cockpit is the responsibility of RAF Henlow.

3.2 Electrical Supply

240 Volt 50Hz Single Phase – 3 Pin Plug.
The base Frame will have a central Earth Point

3.3 Removable Canopy

The removal of the Canopy is a two-man operation, with one person standing either side of the Canopy and using the Lifting Handles, lift the Canopy vertically ensuring the locating pegs are clear of the cockpit.

3.4 Communication System

Refer to Davis Industrial Communications User Guide

3.5 Canard Removal and Positioning

The removal and positioning of the Canard is a two-man operation, remove the front cover allowing access to the Spring Locking assembly

Positioning
One person has to support the Canard, while the second person releases the Spring Lock situated inside the fuselage. This releases the Canard to enable rotation into its new position and the Spring Lock is re-engaged. This procedure applies to both port and starboard.

Removal
One person has to support the Canard, while the second person releases the Spring Lock situated inside the fuselage, making sure that the Spring Lock is in its "Locked Out" Position. This enables the fitting of the Canard using two people.

Name of Equipment: Fan Descent Trainer (FDT) including Harnesses
Original Equipment Manufacturer: Unknown.

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	OSD
1 Unit	RAF Brize Norton	CALL OUT CATEGORY = **BRONZE**	*10 hrs*	Not Known	ad infinitum

The Fan Descent Trainer is used to introduce height to the exit lessons. Recently modified, it has had a complete mechanical overhaul and a staircase added. Additionally one of the 6 doors has been widened to the same width as the Skyvan ramp to allow tailgate exits to be practised from height.

Fan Decent Trainers (FDC)				
Preventative Maintenance Task	**Before Use**	**6 Mths**	**Remarks**	**POL**
Exit Safety Bar/Gate	X	X	Examine	
Exit Safety Bar/Gate – Safety Pin	X	X	Examine	
Jumping Platform	X	X	Examine as far as possible	
Top Roller Assembly		X	Examine as far as possible (at 6 Mths, Clean, Examine and Lubricate)	Solvent: 33D/1923265 Lubricant: XG-279
Top Roller Assembly - Frame		X	Examine as far as possible	Solvent: 33D/1923265 Lubricant: XG-279
Cable Drum Assembly		X	Examine	
Cable Drum Assembly - Bracket		X	Examine	
Cable Drum Assembly – Cable Drum		X	Examine (at 6 Mths Clean and Examine)	Solvent: 33D/1923265

Preventative Maintenance Task	Before Use	6 Mths	Remarks	POL
Bearings		X	Lubricate	Lubricant: XG-279
Cable	X	X	Examine as far as possible and ensure it is secure	Iaw AP 119K-0001-1
Swivel	X	X	Examine as far as possible	
Fan Assembly	X	X	Examine as far as possible (at 6 Mths Clean and Examine)	Solvent: 33D/1923265
Fan Assembly – Blade Securing Arms	X	X	Examine as far as possible and ensure it is secure	
Fan Assembly – Fan Blades	X	X	Examine as far as possible and ensure it is secure	
Fan Assembly – Fan Safety Guard	X	X	Examine as far as possible	
Fan		X	Check Function	
Counter Weight Rope (If fitted)	X	X	Examine as far as possible	
Counter Weight Rope – Spool Guard (If fitted)	X	X	Examine as far as possible	
Harness	X	X	Examine as far as possible	
Harness - Back Pad	X	X	Examine as far as possible	
Harness – Snap-hook and “D” Ring	X	X	Examine and check for function	
Completion of Maintenance				
Equipment		X	Examine, check for function and clean as necessary	
Lift Measurement Units (Descents)	X	X	Record as Necessary	
MoD Form 755E	X	X	Sign for completion of maintenance	
MoD Form 707P/715 (Harness Only)	X	X	Sign for completion of maintenance	
MoD Form 707SE/715 (Harness Only)		X	Ensure all tradesmen have signed for completion of maintenance and countersign	
MoD Form 755G		X	Sign for completion of maintenance	
Supervisory Requirements				
Equipment		X	Inspect	
MoD Form 755G		X	Ensure all tradesmen have signed for completion of maintenance and countersign	

Name of Equipment: Fatigue Tester.
Original Equipment Manufacturer: Avery-Denison.

Quantity	Location/ Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
1	RNAESS Gosport	CALL OUT CATEGORY = **BRONZE**	6 Hrs	Not Known	ad infinitum

Avery Denison Fatigue Machine. This applies sinusoidal tensile load to specimen test pieces through a cam driven by an electric motor. Number of cycles to failure is automatically recorded.

Preventative Maintenance Task	12 Mths	Remarks
Inspect Mains Plug and Lead for damage	X	
Check switches and functionality	X	
Check condition of any safety covers etc.	X	
Check Dial Test Indicators' for operation	X	Maintainer – No requirement to calibrate DTI's.
Check security of device to table	X	Inspect all location points –tighten if required
Check operation of device	X	
PAT Test (if applicable)	X	Record PAT Test and apply a proof of PAT Test sticker on device(s)
Clean and lubricate (light machine oil)	X	Check for damage and advise Authority

Name of Equipment: Fault Diagnostic Rig.
Acronym of Equipment: FDR.
Original Equipment Manufacturer: Unknown.

Quantity	Location/ Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
6	MoD Lyneham	CALL OUT CATEGORY = **BRONZE**	20 hrs per rig	Not Known	ad infinitum

The test rigs are used to train students in fault finding. Faults can be simulated via a series of switches underneath a cover (Left Hand Side) of each rig. The equipment was relocated to Lyneham following the closure of Arborfield in Sept 2015.

Preventative Maintenance Task	6 Mth	12 Mth	Remarks
PAT Test (if applicable)		X	Record PAT Test and apply a proof of PAT Test sticker on device(s)
Functional	X	X	
Clean	X	X	

Name of Equipment: FESTO Didactic Hydraulic Rig.
Original Equipment Manufacturer: FESTO.

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
4	RNAESS Gosport	CALL OUT CATEGORY = **BRONZE**	36 hrs per rig per year	03/1997	ad infinitum

The FESTO Didactic Hydraulic Rig is used for training of hydraulic systems to train students of all ranks.

Preventative Maintenance Task	**12 Mths**	**Remarks**
Inspect Mains Plug and Lead for damage	X	Repair as necessary
Conditions for Starting Switch the main switch on with the key, and press the ON button. The electric motor should start using an “inching” mode of operation, and direction of rotation should be checked	X	
Replace Hydraulic Oil	X	The oil should be checked for contamination and the presence of water, clean tank remove any contamination NB The oil used in the FESTO NG06 rigs is ESSO NUTO H22 This is a mineral oil of viscosity class ISO-VG22(19.8 24.2 mm ²/s at 40ºC) in accordance with DIN 51524 and DIN 51525.
Replace Filter	X	Check for contamination / signs of any metal particles – consideration if contamination found if it is the result of normal operation or if debris caused by internal component faults, which will require further investigation – advice Authority if necessary.
Drive Units	X	Examine, especially for excessive noise. Check quietness of the running of the pump and electric motor (the coupling may be defective) If faults found advise Authority
Hoses	X	Check the hoses, particularly at the points where they are fixed or by hose clips, and replace them if necessary. Advise Authority if items are unserviceable.
Valve	X	The relief valve associated with the pump should be set to 6000KPa (60 bar/870 lbf/in²)Check the settings of pressure and flow –control valves against the technical data .Examine and advise Authority if items are unserviceable

Preventative Maintenance Task	12 Mths	Remarks
Cylinders	X	Make a visual check of the pistons and scraper rings Examine and advise Authority if items are unserviceable
Accumulator	X	Check the gas filling pressure replenish if necessary advise Authority if items are unserviceable
PAT Test	X	Record PAT Test and apply a proof of PAT Test sticker on device(s)
Following oil and filter change run up device and check /top up oil level if necessary to ensure system is fit for use	X	

Name of Equipment: Flight Load Simulator
Acronym of Equipment: FLS
Original Equipment Manufacturer: Unknown

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
2	RAF Brize Norton 2 C-130J	CALL OUT CATEGORY = **BRONZE**	150 Days per FLS per year	Not Known	31/03/2036

Hercules C130 FLS

The FLS units are to provide a range of training courses including the 17 week movement operator's course giving basic recruits training towards becoming movement's trade's persons. The Flight Load Simulator (FLS) consists of Qty 2 x C130 full size ground based mock ups located at RAF Brize Norton. The FLS are designed to be used as training aids which represent the C-130J MK 4 and MK 5 Hercules currently in use with UK services. Following the withdrawal of the VC-10, the VC-10 Flight Load simulator was scrapped.

Preventative Maintenance Task	6 Mths	12 Mths	Remarks
General Structure	X		Check for damage and advise Customer & Authority
Access Steps	X		Check for damage and advise Customer & Authority
Lights & Switches	X		Check operation/function –replace bulbs as required
Ramps and Ramp Supports	X		Carry out load test to ensure Safe working loads can be achieved. Record tests and issue certificate to notify User that tests have been undertaken-and that ramp(s) are safe/unsafe to use. Advise Customer & Authority
Toe Ramps (if fitted)	X		If applicable in above
Floor Area	X		Check for damage and advise Customer & Authority
Seats (if Fitted)	X		Check for damage and advise Customer & Authority
Painted Surfaces	X		Check for damage and advise Customer & Authority
Gear Box Sump	X		Check Levels and replenish as necessary (OEP-80)
Lifting Chains and Couplings	X		Clean with a suitable cleaner, examine, lubricate (OMD-90) ensure secure Load test and ensure Safe Working Loads (SWL) are displayed on each item (if applicable)
Hoists (if fitted)	X		Carry out load test to ensure SWL loads can be achieved. Record tests and issue certificate to notify User that tests have been undertaken-and that Hoist(s) are safe/unsafe to use Customer &
Hinges	X		Inspect –lubricate with light machine oil
Signs, Markings and Labels (if fitted)	X		Check for damage and advise Customer & Authority

Preventative Maintenance Task	6 Mths	12 Mths	Remarks
Door Retaining Latches (if fitted)	X		Check for damage and advise Customer & Authority. Lubricate with light machine oil
Cables and Connectors	X		Check for damage as far as possible and advise Customer & Authority of any damage or wear
Limit Switches (if fitted)	X		Examine and functionally test. Advise Customer & Authority if items unsafe/ needs repair.
Emergency Stop (if fitted)	X		Examine and functionally test. Advise Customer & Authority if items unsafe/ needs repair.
Warning Lamps (if fitted)	X		Examine and functionally test. Advise Customer & Authority if items unsafe/ needs repair.
Input cables and connectors	X		Examine, test resistance of Circuit Protective Conductor. Test insulation resistance. Advise Customer & Authority if items unsafe/ needs repair.
Tie Down Points	X		Inspect all fixings for serviceability and condition. Advise Authority & Customer of any issues
PAT Test (if applicable)		X	Record PAT Test and apply a proof of PAT Test sticker on device(s). Advise Customer & Authority if items unsafe/ needs repair.

Notes

C130 -
Items to be repaired / serviced by Customer

- Dash 4A Palletisation Guide Rails
- Winch (single winch shared between the two C130 mock-ups)
- Power Converter

These devices are maintained by the Customers Role Equipment (CRE) team. Any damage or areas of concern to these items are to be reported to the Customer for any corrective action.

Items to be inspected / repaired by the maintainer

Power Cables from the Converter to the Winch are supported under FISC.

Name of Equipment: Flight Swing Simulators (FSS) Assembly (Framed); Including Harnesses and Flight Steps
Original Equipment Manufacturer: Unknown?

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	OSD
8 2 8 4 7 15 3 4 50	RAF Brize Norton Chivenor, EX31 4AZ Colchester, CO2 7UT Leeming, DL7 9NJ Poole, BH15 4NQ St Athan, CF62 4WA Thornbury Barracks, LS28 8HH White City, W12 7RW TOTAL	CALL OUT CATEGORY = **BRONZE**	***10 hrs***	Not Known	ad infinitum

MAINTENANCE TASKS TO BE ISSUED AT A LATER DATE.

Name of Equipment: Flight Swing Simulators (FSS) Assembly (Hanging); Including Harnesses and Flight Steps
Original Equipment Manufacturer: Unknown
Support Level: Full Support

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
20	**Parachute Engineering Squadron (PES)** **RAF Brize Norton** **OX18 3LX**	CALL OUT CATEGORY = **BRONZE**	Statistical information not known, to be determined	Not Known	ad infinitum

MAINTENANCE TASKS TO BE ISSUED AT A LATER DATE.

Name of Equipment: Gazelle Part Task Engineering Trainer
Original Equipment Manufacturer: Alenia Marconi

Quantity	Location/ Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
1	MoD Lyneham	CALL OUT CATEGORY = **SILVER**	126 Hrs	01/1974	31/03/2024

The Trainer is used to confirm and endorse the technical instruction given to all grades of Aircraft and Avionics technicians during technical training. The equipment was relocated to Lyneham following the closure of Arborfield in Sept 2015.

The Cockpit:

The cockpit reproduces the general appearance of the Gazelle cockpit. The instrument panel and controls comprise of functional exact replicas of the aircraft items and non-functional dummies or photographic representations. A roof panel carries functional rotor brake, fuel shut off, and throttle control levers. Two pilot seats are fitted and a 3 – place bench seat is fitted to the rear of the cockpit.
An instructor's panel is fitted externally on the rear of the cockpit and provides system control and fault injection switches. The panel can be swung over a 180 degree arc to allow the instructor to sit inside or stand outside the cockpit.

The Engine Mock-Up:

An approximate representation of the engine with a simulated fuel control unit is fitted behind the cockpit. Accurate representations of the engine idling speed, maximum governed engine speed and isodrome baffle plate adjustment control are available.

A simulator voltage regulator is fitted below the engine mock-up. This has an adjustment that simulates adjustment of the generator output voltage.

Visual Display Unit:

The visual display unit is a two projector system which projects all relevant parts of the Astazou engine internal details and accessories, rotor hub and the central warning panel onto a screen on

the wall. It is driven by the visual display computer. Two animated strip scales show engine and rotor RPM and further illuminated captions describe the normal start up and shut down sequences.

Computer Cabinet:

The computer cabinet contains three PC's one for running, one for the visual display, and one for the Instructors Operating Station (IOS), networked together. The cabinet also contains all the interface boards and power supplies.

The engine noise simulation is simulated by one of the PC's and feeds to a speaker on the rear bulkhead. An intercom which can accommodate six headsets has the provision made to inject engine noise.

Maintenance:

The daily maintenance involving the switching on, functional checks and switching off will be carried out by the training instructors.

Fault rectification and scheduled maintenance shall be the responsibility of the contractor.

IMPORTANT

The following Maintenance tasks have been extracted from Chapter 4 of the Gazelle Maintenance Manual (Doc Ref MM773 (56) D0001 Issue 3 dated 29/11/02 soft copy provided).

Maintainer/Bidders are to review the relevant documentation for the comprehensive directives to undertake the scheduled maintenance and to obtain the correct sequences of inspection/repair/maintenance. The high level schedule below is designed only to indicate the frequency of servicing to assist your assessment of the levels of effort that will be required to undertake this activity under the FISC contract.

Task Description	**1 Mth**	**3 Mths**	**6 MThs**	**12 MThs**	**Remarks**
Visually inspect the whole Trainer for signs of damage, corrosion, scratches, and loose components	X				Check for damage and advise Authority
Clean Projector Air filter	X				The following procedures must be carried out with the Trainer Powered Down Para 4.1.3 page 4-1
Using the BITE facility, check the operation of each Switch, Lever, Lamp, Indicator and Meter in the Cockpit, ensuring that indicated values are correct over the full operating range	X				The following procedures must be carried out with the Trainer Powered Up Para 4.1.4 page 4-1

Task Description	1 Mth	3 Mths	6 MThs	12 MThs	Remarks
Verify that the Blower Unit fitted in the bottom of the right hand bay of the Equipment Cabinet is running smoothly	X				
Verify that the fans fitted to the Models and IO PC, the VDU PC, the Instructors PC and the Expansion Box are running smoothly	X				
The condition of the Projector Lamp needs inspected	X				Replace if relevant messages are displayed when projector is in use (see Para 4.1.4 page 4-2 for specific details)
The Printer requires no internal cleaning, keep fluids away from the interior of the printer. A test page should be printed to determine if there are any problems with the print quality	X				
With Engines 1 and 2 running at flight idle, and with all volume controls set to their maximum settings, use a sound meter to measure the output of each channel, this should be 77dBA ± 3dBA @ 1m.	X				See section in document for specific details on how to correct
					The following procedures must be carried out with the Trainer **Powered Down**
The Residual Current Devices RCD1 and RCD2 require to be checked for correct operation on the AC/DC Distribution Module	X				See section in document for specific details on how to correct Para 4.1.4 page 4-2
The Residual Current Device (RCD) requires to be checked for correct operation in the Consumer Unit	X				

Task Description	1 Mth	3 Mths	6 MThs	12 MThs	Remarks
The Projector Lens is to be wiped with a soft lint free cloth.	X				
Interior of Cockpit, speaker screens and Dummy Engine Assemblies should be cleaned and vacuumed to minimise dirt and dust accumulation. Clean cockpit screens, seats wind screen(s)	X				using an anti-static glass cleaner and a soft lint free cloth
The three Monitors on the Instructors Console and the Monitor in the left hand bay of the Equipment Cabinet are to have their screens cleaned with a soft lint free cloth	X				It is important not to use any cleaning solvents or abrasives, as this could damage the anti-reflection and anti-static coating on the screens
The Projector Screens are to be dusted with a very soft brush	X				It is important not to use any cleaning solvents or abrasives as this could damage the delicate surface
The fan filters in the Models & IO PC and in the Expansion Box require cleaning	X				see section in document for specific details on how to undertake this task Para 4.1.4 page 4-2
The EMC Honeycomb Grilles in the Equipment Cabinet doors and roof require vacuuming to minimise dirt and dust accumulation. Care needs to be taken to avoid damaging the Grilles, as they are very fragile	X				Care needs to be taken to avoid damaging the Grilles, as they are very fragile.
The Keyboards and mouse in the Instructors Console and in the left hand bay of the Equipment Cabinet, require vacuuming to minimise dirt and dust accumulation	X				See section in document for specific details on how to clean the mouse Para 4.1.4 page 4-2

Task Description	1 Mth	3 Mths	6 MThs	12 MThs	Remarks
The Audio Commas Instructors Headsets and Base Stations, and Student Headsets require light vacuuming to remove any dust deposits	X				
The Mains Cable, VGA Cable, and Serial Data Cable to the Touch-screen are to be checked for signs of damage	X				This is required as the Cables are subject to repeated flexing as the Touch Screen is moved around
The Touch Screen Arm is to be checked for correct movement	X				Adjustment in accordance with Para 4.2.1.3.
The inside of the Equipment Cabinet should be cleaned and vacuumed to minimise dirt and dust accumulation		X			Para 4.1.5 page 4-3
The AC/DC Distribution Module contains Power Supplies, which have built in fans; it is necessary to check that the fans are operational		X			Great care must be taken during this check, as hazardous voltages are present within the AC/DC Distribution Module. See section in document for specific details on how to clean Para 4.1.5 page 4-3
Through the removable side panels, gain access to the Cyclic Lever Linkages. Clean the surplus grease off all Linkage Bearings and Rod-end Bearings and lightly grease with graphite grease XG-279. Check correct operation of the Cyclic Friction Adjuster, and the spring loaded friction cup, which simulates switching off the aircraft power servos		X			Para 4.1.5 page 4-3

Task Description	1 Mth	3 Mths	6 MThs	12 MThs	Remarks
Remove the Collective Levers* protective shrouds. Clean the surplus grease off all Linkage Bearings and Rod-end Bearings and lightly grease with graphite grease XG-279. Clean the surplus grease off the potentiometer gear train and lightly grease with general purpose grease XG-274. Replace all panels and covers		X			*Note: Do not grease the friction lock on the Pilots Collective Lever.
Remove the cover from the Overhead Controls. Lightly oil all moving parts with oil OM-13. Replace cover		X			
					The following procedures must be carried out with the Trainer Powered Up
The Audio Communications require testing in accordance with the Drake Handbook P3615		X			The Instructor Base Stations and Student Belt packs may require having their audio outputs adjusted to a volume which is comfortable to the user. The Five Student Belt packs are located on the framework underneath the rear seats in the Cockpit
Calibration of Analogue Output and Analogue Input cards is required		X			Refer to the EDP for the Advantech PCL-727 Analogue Output Card User's Manual, and the CIO-DAS16/Jar Analogue Input Card User's Manual
Calibration of Touch Screen is to be carried out in accordance with Para 4.2.5.		X			
			X		The following procedures must be carried out with the Trainer Powered Down

Task Description	1 Mth	3 Mths	6 MThs	12 MThs	Remarks
Check the Cyclic Levers travels			X		As detailed in Para 4.2.1.2 Calibration Procedures
Check the Collective Lever forces and movements, and adjust as necessary			X		As detailed in Para 4.2.1.1 Calibration Procedures
					The following procedures must be carried out with the Trainer Powered Up
Check the calibration of all indicators, components and controls if necessary make any adjustments.			X		As detailed in Para 4.2.2 Electrical Calibration
The Mains Cable to the Touch Screen is to have an Insulation/Continuity check carried out				X	This is required as the Mains Cable is subject to repeated flexing as the Touch Screen is moved around
Undertake Calibration checks for any component not already check under the tasks above				X	Please refer to Para 4-5 to 4-9
PAT Test (if applicable)				X	Record PAT Test and apply a proof of PAT Test sticker on device(s)

Name of Equipment: Generic Airborne Radar System
Acronym of Equipment: GARS
Original Equipment Manufacturer: ECC.

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
9 1	RNAESS Gosport Contractor	CALL OUT CATEGORY = **BRONZE**	100 hrs per unit	01/1990	31/03/2024

The generic airborne radar system has been designed to provide instructional features that support task training at varying levels of complexity. The system's training capacity extends to radar system theory, system operation and basic skills, trouble-shooting and fault isolation techniques. The training system includes;

- Generic Airborne Radar maintenance simulator
- Simulated operator training
- Simulated maintenance training
- Spare parts supply support
- Maintenance instruction manual
- Depot repair service

Preventative Maintenance Task	**1 Mth**	**12 Mths**	**Remarks**
Carry out Built In Test (BITE) check	X		
Carry Out functional checks	X		
Cabinet, Models, Monitors and Keyboard Examine clean and polish	X		
System Check security & condition	X		
PAT Test		X	Record PAT Test and apply a proof of PAT Test sticker on device(s)

Note
NB 1 GARS Reference Equipment at Contractors premises

Name of Equipment: Generic Air Load Master Trainer
Original Equipment Manufacturer:
Acronym of Equipment: GALMT

Equipment will be put up for disposal at the end of the present contract 31st March 2018.

Quantity	**Location/Remarks**	**Corrective Maintenance Service Level Required**	**Estimated Yearly Usage**	**I.S.D**	**O.S.D.**
1	RAF Cranwell	CALL OUT CATEGORY =	90 hrs	2002	30/04/2018

		GOLD			

Fig 1

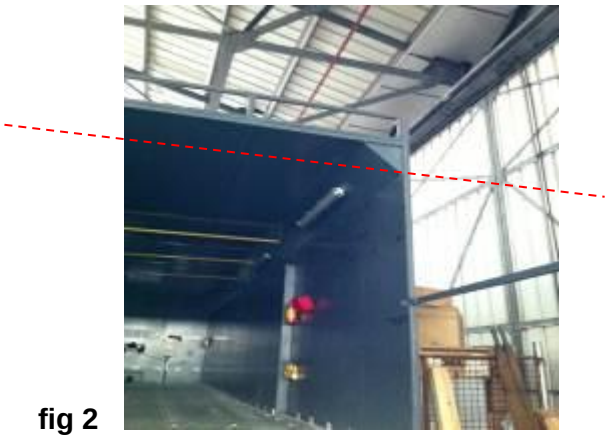


fig 2

The GALMT is a generic representation of an aircraft fuselage and is used for training RAF Aircrew in the practical aspects of loading transport. GALMT students are required to plan, prepare, load and secure cargo, using all types of current restraint equipment, in compliance with current loading regulations, within prevailing floor loading criteria and within weight and balance limitations. Adjacent to the main structure is a small classroom containing a simple procedural trainer and a PC. The GALMT has been modified with the addition of a roof. This was carried out for health and safety reasons. The roof and associated equipment are not covered by FISC contract Fast/00108 (i.e. everything above dashed red line on fig 2). The GALMT was re-located from Hangar 266 to Hangar 30 in 2015.

Preventative Maintenance Task	**6 Mths**	**12 Mths**	**Remarks**
General Structure	X		Check for damage and advise Customer & Authority if items unsafe/ needs repair
Access Steps	X		Check for damage and advise Customer & Authority
Lights & Switches	X		Check operation/function –replace bulbs as required
Ramps and Ramp Supports	X		Carry out load test to ensure Safe working loads can be achieved. Record tests and issue certificate to notify User that tests have been undertaken-and that ramp(s) are safe/unsafe to use. Advise Customer & Authority of any unsafe items
Toe Ramps (if fitted)	X		As above remarks
Floor Area	X		Check for damage and advise Customer & Authority
Seats (if Fitted)	X		Check for damage and advise Customer & Authority

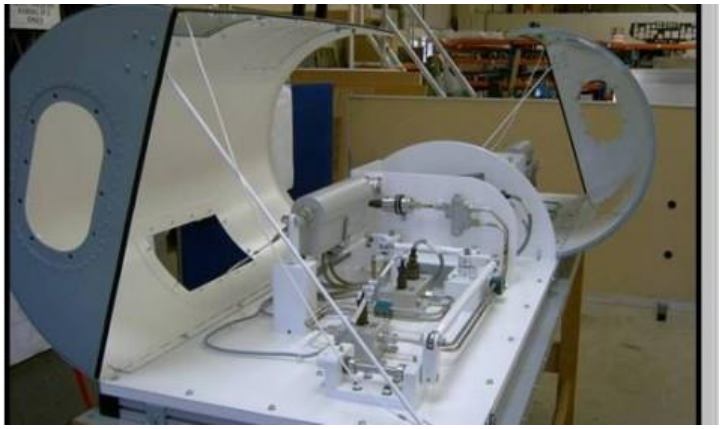
Preventative Maintenance Task	**6 Mths**	**12 Mths**	**Remarks**
Tie Down Points	X		Check for damage and advise Customer & Authority
Painted Surfaces	X		Check for damage and advise Customer & Authority
Gear Boxes / lifting equipment	X		Check Levels and replenish all hydraulic oils as necessary Check for damage and advise Customer & Authority
Lifting Chains and Couplings	X		Clean with a suitable cleaner, examine, lubricate ensure secure
Hoists (if fitted)	X		Carry out load test to ensure Safe working loads can be achieved. Record tests and issue certificate to notify User that tests have been undertaken-and that Hoist(s) are safe/unsafe to use advise Customer & Authority
Hinges	X		Inspect –lubricate with light machine oil
Signs, Markings and Labels (if fitted)	X		Check for damage and advise Customer & Authority
Door Retaining Latches (if fitted)	X		Check for damage and advise Customer & Authority. Lubricate with light machine oil
Cables and Connectors	X		Check for damage as far as possible and advise Customer & Authority of any damage or wear
Limit Switches (if fitted)	X		Examine and functionally test advise Customer & Authority of any faults
Emergency Stop (if fitted)	X		Examine and functionally test advise Customer & Authority of any faults
Warning Lamps (if fitted)	X		Examine and functionally test advise Customer & Authority of any faults
Input cables and connectors	X		Examine, test resistance of Circuit Protective Conductor. Test insulation resistance. Advise Customer & Authority if items unsafe/ needs repair
PAT Test (if applicable)		X	Record PAT Test and apply a proof of PAT Test sticker on device(s) advise Customer & Authority

Preventative Maintenance Task	**6 Mths**	**12 Mths**	**Remarks**
GALMT Adjoining Classroom			
Floor Area	X		Check for damage and advise Customer & Authority
General Structure	X		Check for damage and advise Customer & Authority
Lights & Switches	X		Check operation/function – replace bulbs as required
Seats	X		Check for damage and advise Customer & Authority
Painted Surfaces	X		Check for damage and advise Customer & Authority
Door Hinges and latches/locks	X		Inspect – lubricate with light machine oil .if required Check for damage and advise Authority
Signs, Markings and Labels (if fitted)	X		Check for damage and advise Authority
Procedure Trainer	X		Check for Damage and ensure device functions as designed – advise Customer & Authority of any damage of loss of functionality
PAT Test Procedure Trainer and lighting systems within classroom (if applicable)		X	Record PAT Test and apply a proof of PAT Test sticker on device(s)

Name of Equipment: Hand Skills Trainer (HST)
Acronym of Equipment: Genskills
Original Equipment Manufacturer: Pennant.

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
20 Suites See note	11 RNAESS Gosport 9 MoD Lyneham	CALL OUT CATEGORY= **BRONZE**	Statistical information not known, to be determined	Not Known	ad infinitum

NOTE: Each suite consists of two units.



The Hand Skills Trainers are used to introduce and train Army, Royal Air Force and Royal Navy aeronautical trainees in the hand skills necessary to work on aircraft components including the removal and refitting of representative aircraft components, rigid and flexible pipes, electrical connectors, Line Replacement Items and push pull rod controls. The closing shell on the Hand Skills Trainer add realism to the training, tasks are carried out whilst working through restricted access apertures in a simulated aircraft fuselage following the removal of quick release fasteners and panels. Tasks will also include the use of general hand tools, torque loading and wire locking. The Hand Skills trainers at Arborfield were relocated to DSAE Lyneham following the closure of Arborfield in Sept 2015.

Maintenance Related Documentation
The following documentation is available on support maintenance of the System;
Operating and Maintenance Manual 73800/3002.
Engineering Data Pack 73800/3004.
Illustrated Spare Parts List 73800/3003.

Before Use Checks
Ensure the HST workshop bench is positioned on a level floor.
Check the HST base frame is secure on the workshop bench.
Check the HST for obvious signs of external damage.
Check the functionality of the stay rod, pivot and cover locking plate.

Preventative Maintenance Task	**Weekly**	**6 Mths**	**Remarks**
Inspect the HST base frame and cover latches. Check it is securely attached to the bench.	X	X	
Functionally test the fit of all access panels to check for damaged fasteners.	X	X	
Remove access panels 1, 3 & 4 and open access panel 2.	X	X	
Check the condition of the cover panels and security of the fasteners and receptacles.	X		
Open the hinged cover and support with the stay rod. Examine for damage: On the cover structure, skin and paint condition, the hinge, the stay rod, pivot, stowage clip, cover locking plate, Restraint cord and attachment points.	X	X	
Check the condition and security of: The LRI compartment bulkheads, the workstation floor, Support platforms.	X	X	
Examine the flying control components: The PFCU and mountings, the torque tube lever assembly, the two bellcrank lever assemblies, The control rods, paying particular attention to the condition of the lock wire holes.	X	X	
Operate the flying control components by disconnecting the control link from the floor to the inner lever on the torque tube lever assembly.			
Examine the hydraulic components: The 6 port manifold, the 4 port manifold, The 3 way depressurising valve. The pressure transducer. The rigid pipes, paying particular attention to the lock wire holes in the pipe nuts and all identification labels are present. The flexible hoses, paying particular attention to the lock wire holes in the pipe nuts and all identification labels are present.	X	X	
Check the condition and security of the electrical harness. Ensure all connectors operate correctly and the plugs are securely attached to the wiring. All identification labels are present.	X	X	
Remove and examine the LRI paying particular attention to the locating holes. Check the condition and security of the mounting tray paying particular attention to the locating pins. Refit the LRI and wire lock.	X	X	

Preventative Maintenance Task	Weekly	6 Mthly	Remarks
Lubricate the following with light oil: Panel 2 hinge. Workstation cover hinge.	X	X	
Close the workstation cover and refit / close the access panels.	X	X	

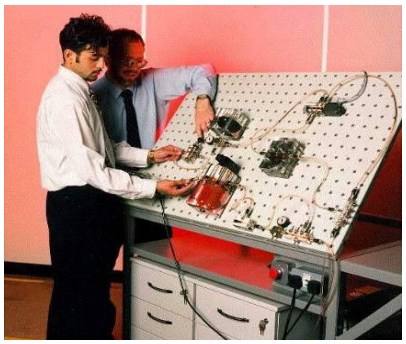
Name of Equipment: Hung up Parachute Recovery Assembly (HUPRA)
Original Equipment Manufacturer: Unknown
Support Level: Preventative Maintenance/Inspection Only

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
2 1	**Parachute Engineering Squadron (PES)** **RAF Brize Norton OX18 3LX** **Colchester, CO2 7UT**	N/A	Statistical information not known, to be determined	Not Known	ad infinitum

MAINTENANCE TASKS TO BE ISSUED AT A LATER DATE.

Name of Equipment: Hydraulic System Principles Trainer
Acronym of Equipment: HSPT
Original Equipment Manufacturer: Pennant.

Quantity	Location/ Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
12	11 MoD Lyneham 1 Contractor	CALL OUT CATEGORY = **BRONZE**	Cosford =15 Hrs. per month (per board) = 4,500 hrs. total per year Arborfield 100 Hrs. total per year per board	12/1996	31/03/2024



The Hydraulic System Principles Trainer (HSPT) enables practical hydraulic principles to be taught by either instructor demonstration or independent, practical exercises for the student. Students are able to carry out a range of practical training exercises, thus enabling progressive understanding of the fundamental principles of hydraulics. The HSPT has the flexibility to allow build up systems from simple basics to the more advanced systems of modern aircraft. The HSPT supports training in the following elements of hydraulic system maintenance: compliance with safety requirements; familiarise the student with standard hydraulic component symbols and circuits; operation of systems and their controls, repairs of hydraulic systems by replacement of components**.** The equipment at Arborfield was relocated to Lyneham following the closure of Arborfield in Sept 2015.

Workstation configuration

Each HSPT workstation comprises an individual trolley-mounted worktable, with integral hydraulics system drive units, re-configurable transparent hydraulic modules and flexible self-sealing connecting hoses. The HSPT also includes a hydraulic power pack consisting of a pump, low-pressure regulator and distributor manifolds. The type and range of components available are sufficient to provide the flexibility to enable students to carry out a range of practical training exercises.

The hydraulic modules which, along with self-sealing connecting hoses, enables the Instructor or Student to configure various hydraulic systems. These modules can be assembled onto the workstation by means of pegs which locate into a matrix of bushed holes on a worktable. Storage for the modules is provided in drawers located below the work surface, and their positions are indicated both with a symbol (indicating the module function) and a silhouette. This enables the rapid identification of any missing items. The optional items are not so identified. The two hydraulic power packs (electrically and manually driven) are stored on hooks below the work surface, to the side of the drawers.

Preventative Maintenance Task	**12 Mths**	**Remarks**
Power up the system	X	
Check the electrical distribution board for functionality	X	
PAT Test (240 ac Volt components)	X	Record PAT Test and apply a proof of PAT Test sticker on device(s)
Check the 24V power supply for operation	X	
Check circuit breakers for operation	X	
Check Motor for operation	X	
Check hand-pump for operation	X	
Check all hoses for functionality and check for leaks	X	
Check all Perspex components for functionality and check for any leaks	X	
Record ETI	X	
Check operation of doors of the workstation for locking, opening/closing	X	
Check all electrical cables for operation and test for continuity	X	
Check Micro switches for operation	X	
Record missing items	X	Report to Authority and cost replacement items.
Record U/S items and if labels are available attach them to the U/S item	X	
If spares are available fix faulty items	X	
Clean Workstation	X	
Check hydraulic flow	X	

Preventative Maintenance Task	12 Mths	Remarks
Carry out Oil change using Tellus 46 Oil, plus RED concentrate Dye	X	Tellus 46 Oil & Red Concentrate Dye
Replace Motor Filter	X	
Check condition of the gasket for the Motor and Hand-pump	X	
Check operation of Emergency Stop	X	
RCD Electrical Check.	X	

Name of Equipment: Lower Leg Wheel Trainer (LLWT)
Original Equipment Manufacturer: Unknown
Support Level: Full Support

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
4	**Parachute Engineering Squadron (PES) RAF Brize Norton OX18 3LX**	CALL OUT CATEGORY = **BRONZE**	Statistical information not known, to be determined	Not Known	ad infinitum

MAINTENANCE TASKS TO BE ISSUED AT A LATER DATE.

Name of Equipment: LPS Cutaway
Original Equipment Manufacturer: Unknown
Support Level: Preventative Maintenance/Inspection Only

Quantity	Location/ Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
15	**Parachute Engineering Squadron (PES) Shed RAF Brize Norton OX18 3LX**	N/A	Statistical information not known, to be determined	Not Known	ad infinitum

MAINTENANCE TASKS TO BE ISSUED AT A LATER DATE.

Name of Equipment: Lynx Part Task Trainer
Original Equipment Manufacturer: Alenia Marconi

Quantity	Location /Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
1	MoD Lyneham	CALL OUT CATEGORY = **SILVER**	268 Hrs	01/1978	31/03/2024

The equipment is used to confirm and endorse the technical instruction given to all grades of Aircraft and Avionics technicians during technical training. The equipment was relocated to Lyneham following the closure of Arborfield in Sept 2015.

The Cockpit:

The cockpit reproduces the general appearance of the Lynx cockpit. The instrument panel and controls comprise of functional exact replicas of the aircraft items and non-functional dummies or photographic representations. A roof panel carries functional AC and DC electrical systems control panel or a fuel system control panel, engine anti icing switches and miscellaneous switch panel. A functional roof panel control quadrant is also fitted with the engine condition levers, speed select levers and rotor brake. Two pilot seats are fitted and a seat is fitted to the rear of the cockpit.
An instructor's panel is fitted externally on the rear of the cockpit and provides system control and fault injection switches. The panel can be swung over a 180 degree arc to allow the instructor to sit inside or stand outside of the cockpit.

The Engine Mock-Up:

Identical mock-ups of each GEM engine are fitted to a platform at the rear of the cockpit. Both dummy engines are fitted with a functional free turbine governor datum adjustments and specific gravity adjuster controls which are accurate representations of the actual aircraft controls in terms of appearance and characteristics.
Each engine is also fitted with a functional test socket which allows an engine protection control unit test set to inject signals into and monitor signals from the engine whilst it is being run. The facility enables fault diagnostics and adjustments practices to be implemented.

Visual Display Unit:

The visual display unit is a two projector system which projects all relevant parts of the Astazou engine internal details and accessories, rotor hub and the central warning panel onto a screen on the wall. It is driven by the visual display computer. Two animated strip scales show engine and rotor RPM and further illuminated captions describe the normal start up and shut down sequences.

Computer Cabinet:

The computer cabinet contains three PC's, one for system running, one for the visual display and one for the instructors operating station (IOS) networked together. The cabinet also contains all the interface boards and power supplies. The engine noise simulation is simulated by one of the PC's feeds to a speaker on the rear bulkhead. An intercom which can accommodate six headsets has the provision made to inject engine noise.

Maintenance:

The daily maintenance involving the switching on, functional checks and switching off will be carried out by the training instructors.

Fault rectification and scheduled maintenance shall be the responsibility of the contractor.

IMPORTANT

The following Maintenance tasks have been extracted from Chapter 4 of the Lynx Maintenance Manual (Doc Ref 10822/LYNX/MM Issue 3 dated 27/11/02 soft copy provided as part of the bidding documentation pack). Maintainer/Bidders are to review the relevant documentation for the comprehensive directives to undertake the scheduled maintenance and to obtain the correct sequences of inspection/repair/maintenance. The high level schedule below is designed only to indicate the frequency of servicing to assist in the assessment of the levels of effort that will be required to undertake this activity under the FISC contract.

Preventative Maintenance Task	**1 Mth**	**3 Mth**	**6 Mths**	**12 Mths**	**Remarks**
Check Cockpit operations of switch, Lever, Lamp, Indicator and Metre.	X				
Verify blowing unit is running smoothly	X				
Verify fans fitted to Models, IO PC, VDU PC and Instructors PC is running smoothly.	X				
Visually inspect projector lamp and wipe lens	X				
Vacuum and clean interior cockpit and dummy engine.	X				
Clean all screens including monitors and projector screens.	X				
Check all cables for signs of damage	X				
Clean and vacuum equipment cabinet		X			
Check fans of Distribution Module are operational		X			
Test audio communications		X			
Caliberate analogue input and output cards		X			
Visually inspect the whole Trainer for signs of damage, corrosion, scratches, and loose components			X		Check for damage and advise Authority
					The following procedures must be carried out with the Trainer Powered Up Para 4.1.4 page 4-1
Using the BITE facility, check the operation of each Switch, Lever, Lamp, Indicator and Meter in the Cockpit, ensuring that indicated values are correct over the full operating range			X		
Verify that the Blower Unit fitted in the bottom of the right hand bay of the Equipment Cabinet is running smoothly			X		

Preventative Maintenance Task	**1 Mth**	**3 Mth**	**6 Mths**	**12 Mths**	**Remarks**
Verify that the fans fitted to the Models and IO PC, the VDU PC, the Instructors PC and the Expansion Box are running smoothly			X		
The condition of the Projector Lamp needs inspected			X		Replace if relevant messages are displayed when projector is in use (see Para 4.1.4 page 4-2 for specific details)
The Printer requires no internal cleaning, keep fluids away from the interior of the printer. A test page should be printed to determine if there are any problems with the print quality			X		
With Engines 1 and 2 running at flight idle, and with all volume controls set to their maximum settings, use a sound meter to measure the output of each channel, this should be 77dBA ± 3dBA @ 1m			X		see section in document for specific details on how to correct
					The following procedures must be carried out with the Trainer Powered Down
Clean Projector Air filter			X		
The Residual Current Devices RCD1 and RCD2 require to be checked for correct operation on the AC/DC Distribution Module			X		see section in document for specific details on how to correct t Para 4.1.4 page 4-2
The Residual Current Device (RCD) requires to be checked for correct operation in the Consumer Unit			X		
The Projector Lens is to be wiped with a soft lint free cloth			X		
Interior of Cockpit, speaker screens and Dummy Engine Assemblies should be cleaned and vacuumed to minimise dirt and dust accumulation. Clean cockpit screens, seats wind screen(s)			X		Using an anti-static glass cleaner and a soft lint free cloth.

Preventative Maintenance Task	1 Mth	3 Mth	6 Mths	12 Mths	Remarks
The three Monitors on the Instructors Console and the Monitor in the left hand bay of the Equipment Cabinet are to have their screens cleaned with a soft lint free cloth			X		It is important not to use any cleaning solvents or abrasives, as this could damage the anti-reflection and anti-static coating on the screens.
The Projector Screens are to be dusted with a very soft brush.			X		It is important not to use any cleaning solvents or abrasives as this could damage the delicate surface.
The fan filters in the Models & IO PC and in the Expansion Box require cleaning			X		see section in document for specific details on how to undertake this task Para 4.1.4 page 4-2
The EMC Honeycomb Grilles in the Equipment Cabinet doors and roof require vacuuming to minimise dirt and dust accumulation. Care needs to be taken to avoid damaging the Grilles, as they are very fragile			X		Care needs to be taken to avoid damaging the Grilles, as they are very fragile.
The Keyboards and mouse in the Instructors Console and in the left hand bay of the Equipment Cabinet, require vacuuming to minimise dirt and dust accumulation			X		See section in document for specific details on how to clean the mouse Para 4.1.4 page 4-2
The Audio Comms Instructors Headsets and Base Stations, and Student Headsets require light vacuuming to remove any dust deposits			X		
The Mains Cable, VGA Cable, and Serial Data Cable to the Touch screen are to be checked for signs of damage			X		This is required as the Cables are subject to repeated flexing as the Touch Screen is moved around.
The Touch Screen Arm is to be checked for correct movement			X		Adjustment in accordance with Para 4.2.1.4.
The inside of the Equipment Cabinet should be cleaned and vacuumed to minimise dirt and dust accumulation			X		Para 4.1.5 page 4-3

Preventative Maintenance Task	1 Mth	3 Mth	6 Mths	12 Mths	Remarks
The AC/DC Distribution Module contains Power Supplies, which have built in fans; it is necessary to check that the fans are operational			X		Great care must be taken during this check, as hazardous voltages are present within the AC/DC Distribution Module. see section in document for specific details on how to clean Para 4.1.5 page 4-3
Through the removable floor panels, gain access to the Cyclic Lever (pilot position only). Clean the surplus grease off all Linkage Bearings and Rod-end Bearings and lightly grease with graphite grease XG-279				X	Para 4.1.5 page 4-3
Remove the Collective Lever protective shrouds. Clean the surplus grease off all Linkage Bearings and Rod-end Bearings and lightly grease with graphite grease XG-279. Clean the surplus grease off the potentiometer gear train and lightly grease with general purpose grease XG-274. Replace all panels and covers				X	Note: Do not grease the friction lock on the Pilots Collective Lever.
At the Co-pilots Collective Lever Linkages, clean the surplus grease off the potentiometer gear train and lightly grease with general-purpose grease XG-274. Replace all panels and covers				X	
Remove the cover from the Overhead Controls. Lightly oil all moving parts with oil OM-13. Replace cover				X	
Remove No.1 Engine Condition Lever Assembly, and support. Clean the surplus grease off the potentiometer gear train and lightly grease with general-purpose grease XG-274. Lightly oil all miniature ball races with oil OM-13. Replace the Assembly, ensuring no cables are trapped				X	

Preventative Maintenance Task	1 Mth	3 Mth	6 Mths	12 Mths	Remarks
Remove No.2 Engine Condition Lever Assembly, and support. Clean the surplus grease off the potentiometer gear train and lightly grease with general-purpose grease XG-274. Lightly oil all miniature ball races with oil OM-13. Replace the Assembly, ensuring no cables are trapped				X	
Remove the Speed Select Lever Assembly, and support. Clean the surplus grease off the potentiometer gear train and lightly grease with general-purpose grease XG-274. Lightly oil all miniature ball races with oil OM-13. Replace the Assembly, ensuring no cables are trapped				X	
Remove the Rotor Brake Assembly, and support. Lightly oil all miniature ball races with oil OM-13. Replace the Assembly, ensuring no cables are trapped				X	
					The following procedures must be carried out with the Trainer Powered Up
The Audio Communications require testing in accordance with the Drake Handbook P3615			X		The Instructor Base Stations and Student Belt packs may require their audio outputs to be adjusted to a volume which is comfortable to the user. The Five Student Belt-packs are located within the Voltage Regulator Assembly.
Calibration of Analogue Output and Analogue Input cards is required				X	Refer to the EDP for the Advantech PCL-727 Analogue Output Card User's Manual, and the CIO-DAS16/Jar Analogue Input Card User's Manual.
Calibration of Touch Screen is to be carried out in accordance with Para 4.2.5				X	

Preventative Maintenance Task	**1 Mth**	**3 Mth**	**6 Mths**	**12 Mths**	**Remarks**
					The following procedures must be carried out with the Trainer Powered Down
Check the neutral position of the Cyclic Levers. If the neutral position is incorrect, reset by rotating the spring housing block assembly at the base of the Pilots Cyclic Lever				X	Check the Cyclic Levers loadings as detailed in Para 4.2.1.3 Calibration Procedures.
Check the Collective Lever forces and movements, and adjust as necessary				X	As detailed in Para 4.2.1.2 Calibration Procedures and adjust as necessary
Check the Speed Select Lever loadings				X	As detailed in Para 4.2.1.1.2 Calibration Procedures, and adjust as necessary.
Check the Rotor Brake Lever loadings				X	As detailed in Para 4.2.1.1.3 Calibration Procedures, and adjust as necessary.
					The following procedures must be carried out with the Trainer Powered Up
Check the calibration of all indicators, components and controls if necessary make any adjustments. The Mains Cable to the Touch Screen is to have an Insulation/Continuity check carried out				X	As detailed in Para 4.2.2 Electrical Calibration
The Mains Cable to the Touch Screen is to have an Insulation/Continuity check carried out				X	This is required as the Mains Cable is subject to repeated flexing as the Touch Screen is moved around.
Undertake Calibration checks for any component not already check under the tasks above				X	Please refer to Para 4-2 Pages 4-5 to 4-13
PAT Test (if applicable)				X	Record PAT Test and apply a proof of PAT Test sticker on device(s)

Name of Equipment: Green Mats
Original Equipment Manufacturer:
Support Level: Preventative Maintenance/Inspection Only

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
7 14	**Chivenor, EX23 4AZ** **RAF St Athan, CF62 4WA**	N/A	Statistical information not known, to be determined	Not Known	ad infinitum

MAINTENANCE TASKS TO BE ISSUED AT A LATER DATE.

Name of Equipment: Large Mats
Original Equipment Manufacturer: Unknown
Support Level: Preventative Maintenance/Inspection Only

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
4 – Large Mats	**Parachute Engineering Squadron (PES)** **RAF Brize Norton** **OX18 3LX**	N/A	Statistical information not known, to be determined	Not Known	ad infinitum

MAINTENANCE TASKS TO BE ISSUED AT A LATER DATE.

Name of Equipment: Small Mats
Original Equipment Manufacturer: Unknown
Support Level: Preventative Maintenance/Inspection Only

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
287 10	**RAF Brize Norton OX18 3LX** **RAF St Athan, CF62 4WA**	N/A	Statistical information not known, to be determined	Not Known	ad infinitum

MAINTENANCE TASKS TO BE ISSUED AT A LATER DATE.

Name of Equipment: Night Vision Goggle Trainer (NVGT)
Original Equipment Manufacturer: Nightreadiness

Quantity	Location/ Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
1	**RAF Henlow**	CALL OUT CATEGORY = **BRONZE**	Statistical information not known, to be determined	2014	ad infinitum

OEM Equipment to return to OEM if faulty and unable to fix it On site. Please note this will be subject to a separate task to be authorised by the Authority.

MAINTENANCE TASKS TO BE ISSUED AT A LATER DATE.

Name of Equipment: Parachute Harness System (PHS)
Original Equipment Manufacturer: Unknown

Qty	Location	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
1 2 4 3 1 1 2 1 1 1 1 1 19	Colerne Barracks RAF Coningsby RAF Cranwell RNAS Culdrose RAF Leeming RAF Linton on Ouse RAF Lossiemouth RAF Marham RAF St Mawgan RAF Valley RAF Wittering RNAS Yeovilton PHS's in total	CALL OUT CATEGORY = **BRONZE**	Unable to provide individual site usage. Please assume usage average as 2 hrs per month for bidding purposes.	Not Known	Currently Apr 18 awaiting Extension

Parachute Harness System

The equipment provides a safe platform with which to recognise stages and procedures for safe parachuting. It enables the students to practice their emergency drills under safe conditions. There are nineteen (19) Parachute Harness Systems. The frames are tubular staging connected together as per the instruction manual and a wooden platform located for the student to stand on and a harness that the student wears and this is connected to overhead springs that are fitted to the top of the frame.

Qty 19 Parachute Harness Systems

Preventative Maintenance Task	**12 Mths**	**Remarks**
		The contractor will visit each site once a year on or not more than four weeks before the due date to conduct an annual inspection and provide the following inspection and preventative maintenance services for these systems
If any problems or defects are found and are considered to affect the safe operation of the system it is to be placed unserviceable and FsAST PT informed by e mail immediately. This will be documented on inspection documents supplied and a hard copy sent to FsAST PT.		
Carry out a full on site detailed inspection annually of the VRPT tower frame and associated fittings with particular emphasis of ensuring continued safe use, this will include	X	
Ensure Tower frame correctly assembled iaw assembly and disassembly booklet supplied	X	
Inspect all tower frame beams and platform beams for signs of corrosion	X	
Inspect rivets on all tower frame beams and platform beams to make sure none are loose or missing	X	
Inspect wooden platform for splits or any damage and security of fixing to beams.	X	
All Stand Alone Tower Frames		If devices are unassembled when the annual inspection is due then a complete inspection of all the individual components shall be carried out and the documentation will state that only component safety checks have been carried out

Preventative Maintenance Task	12 Mths	Remarks
Complete Inspection Documentation	X	Attached to the equipment is a booklet containing Maintenance /Inspection records. On completion of the Service/Maintenance the contactor shall (using a blank form) Document details of work carried out and spares used if any, on the maintenance / inspection record document A counter signature on the maintenance / inspection record document from the unit contact will be required. (This signature will only state that the contractor has been present at the equipment location and not to agree what work has been carried out) Annotate when the next inspection is due and sign and date the maintenance / inspection record document Once all documentation has been completed and entered on to the template, the contractor will keep one copy, one copy stays in the booklet with the equipment and one copy sent to the FsAST PT

Name of Equipment: Quarter Scale Chinook Model.
Acronym of Equipment: QSCM.
Original Equipment Manufacturer: Boeing.

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
1	RAF ODIHAM	CALL OUT CATEGORY = **BRONZE**	10 hrs	01/1982	30/04/2019

The Chinook Model Quarter Scale (QSCM) is to train ground crew technicians and engineering officers in the fundamentals of tandem rotary theory of flight, its associated flying controls, and rotor heads. The Quarter Scale Chinook Model displays a fully representative and dynamic working model of the Chinook HC Mk.II flying controls system.

Preventative Maintenance Task	**12 Mths**	**Remarks**
Main Structure & Components Brush & Clean	X	
Bearings & Greasing points oil/grease	X	
Control Column Spring Unit Oil	X	
Castors Oil	X	
Brass Rigging Board Clean		
Out of Position Plate Clean & Polish	X	
Re-rig QSCM if not rigged required		
Check operation of rig with power on		
PAT Test	X	Record PAT Test and apply a proof of PAT Test sticker on device(s)

Name of Equipment: Parachute Racks
Original Equipment Manufacturer: Unknown
Support Level: Preventative Maintenance/Inspection Only

Quantity	**Location/Remarks**	**Corrective Maintenance Service Level Required**	**Estimated Yearly Usage**	**I.S.D**	**O.S.D.**
5	**Parachute Engineering Squadron (PES)** **RAF Brize Norton OX18 3LX**	N/A	Statistical information not known, to be determined	Not Known	ad infinitum

MAINTENANCE TASKS TO BE ISSUED AT A LATER DATE.

Name of Equipment: Radar System Trainer
Original Equipment Manufacturer: LabVolt.

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
3	RNAESS Gosport	CALL OUT CATEGORY = **SILVER**	400 hrs per system per year	Not Known	ad infinitum

The Labvolt Milliwatt Radar is used for training of ground based radar systems.
This is a suite consisting of:

Lab-Volt Analogue Radar Trainer includes:

Target Table
Target Table Controller
Power Supply/Antenna Motor Drive
Synchroniser/Antenna Controller
Rotating Antenna Pedestal
Parabolic Antenna
Dual Cannel Sampler
Clutter Generator
Target Positioning System
Radar Transmitter
Radar Receiver
Analogue MTI Processor
PPI Scan Converter
Horn Antenna
Cables and Accessories
PC Display
Keyboard and Mouse
Target /Ancillaries Set

Lab-Volt Digital Radar System Digital includes:

Target Table
Target Table Controller
Pedestal and Antenna
Power supply/Ant drive
Radar Transmitter
Radar Receiver
Dual Channel Sampler
Digital Acquisition Unit
DAU PSU
Cable Set
Target /Ancillaries Set
PC Inc. keyboard and mouse
Display
Phased Array
Controller
Cables

Preventative Maintenance Task	**12 Mths**	**Remarks**
Check condition of mains cable and connector	X	
PAT Test	X	Record PAT Test and apply a proof of PAT Test sticker on device(s)
Check condition of interconnecting cables	X	
Check operation of switches.	X	
Check movement of Targets on Target Table	X	Lubricate as required with a light machine oil if necessary
Perform Functional Test	X	
Clean units and Target Table with a clean dry lint-free cloth	X	

Name of Equipment: Large Ramps
Original Equipment Manufacturer: Unknown
Support Level: Preventative Maintenance/Inspection Only

Quantity	**Location/Remarks**	**Corrective Maintenance Service Level Required**	**Estimated Yearly Usage**	**I.S.D**	**O.S.D.**
3 1 2	**RAF Brize Norton OX18 3LX** **Colchester** **Thornbury Barracks**	N/A	Statistical information not known, to be determined	Not Known	ad infinitum

High, Medium and Low Ramps			
Preventative Maintenance Task	**6 Mths**	**Remarks**	**POL**
Main Structure	X	Examine	
Main Structure - Cable	X	Examine	Iaw AP 119K-0001-1
Main Structure – Anchor Points	X	Examine	
Flooring	X	Examine and clean as necessary	
Surface Finish	X	Look for deterioration of finish, restore as necessary (paint)	
Completion of Maintenance			
Equipment	X	Examine and clean as necessary	
MoD Form 755G	X	Sign for completion of maintenance	
Supervisory Requirements			
Equipment	X	Inspect	
MoD Form 755G	X	Ensure all tradesmen have signed for completion of maintenance. Countersign.	

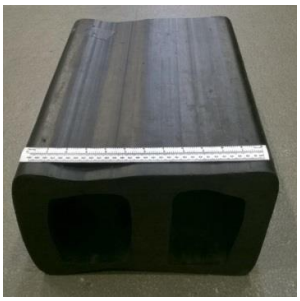
Name of Equipment: Small Ramps
Original Equipment Manufacturer: Unknown
Support Level: Preventative Maintenance/Inspection Only

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
8 2 1 2 2 1 16	**RAF Brize Norton OX18 3LX** **Colchester, CO2 7UT** **RAF Leeming, DL7 9NJ** **Poole, BH15 4NQ** **RAF St Athan, CF62 4WA** **White City, W12 7RW** **TOTAL**	N/A	Statistical information not known, to be determined	Not Known	ad infinitum

High, Medium and Low Ramps			
Preventative Maintenance Task	**6 Mths**	**Remarks**	**POL**
Main Structure	X	Examine	
Main Structure - Cable	X	Examine	Iaw AP 119K-0001-1
Main Structure – Anchor Points	X	Examine	
Flooring	X	Examine and clean as necessary	
Surface Finish	X	Look for deterioration of finish, restore as necessary (paint)	
Completion of Maintenance			
Equipment	X	Examine and clean as necessary	
MoD Form 755G	X	Sign for completion of maintenance	
Supervisory Requirements			
Equipment	X	Inspect	
MoD Form 755G	X	Ensure all tradesmen have signed for completion of maintenance. Countersign.	

Name of Equipment: Rubber Bergan Blocks
Original Equipment Manufacturer: Unknown
Support Level: Preventative Maintenance/Inspection Only

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
56	**Parachute Engineering Squadron (PES) RAF Brize Norton OX18 3LX**	N/A	Statistical information not known, to be determined	Not Known	ad infinitum



MAINTENANCE TASKS TO BE ISSUED AT A LATER DATE.

Name of Equipment: 54(R) Squadron Mission Simulator (Sentry Rear Crew Mission Simulator)
Acronym of Equipment: Sentry E3D Mission Simulator.
Original Equipment Manufacturer: Boeing.

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
1	RAF Waddington	**As defined within serials 44-70 of ANNEX E to SoW of contract FsASTC/00146**	50 weeks a year - 5 days per week	Not Known	31/12/2030

The RAF operates six E-3D Sentry aircraft in the airborne surveillance and command-and-control role. The aircraft are based at RAF Waddington, where they are operated by No 8 squadron as the UK's contribution to the NATO Airborne Early Warning (AEW) and Control Force. The E-3D also forms one arm of the UK Intelligence, Surveillance, Target Acquisition and Reconnaissance aircraft. The E-3D Sentry, known to the RAF as the AEW Mk1, is based on the commercial Boeing 707-320B aircraft, which has been extensively modified and updated to accommodate modern mission systems.

The normal crew complement of 18 comprises four flight-deck crew, three technicians and an 11-man mission crew. The mission crew comprises a tactical director (mission crew commander), a fighter allocator, three weapons controllers, a surveillance controller, two surveillance operators, a data-link manager, a communications operator and an electronic-support- measures operator. The Sentry's roles include air and sea surveillance, airborne command and control, weapons control and it can also operate as an extensive communications platform.

Sentry AEW Mk1 Mission Simulator

The Sentry AEW Mk1 Mission Simulator (MS) consists of ten (10) student consoles, a Display Technician's (DT) position and data processing equipment arranged in a pattern which represents the aircraft installation. In addition, a Joint Tactical Information Distribution System (JTIDS) rack is installed, which consists of a cabinet, aircraft Line Replaceable Units (LRUs), power supplies and internal cooling fans.

The MS is not intended to be a full representation of the Sentry AEW Mk1 aircraft, and neither motion or cabin structure are simulated. Four instructors' consoles are provided, with facilities to run exercise scenarios on any of the student consoles. The MS consists of standard aircraft LRUs, interfaced with the instructors' console by additional routing equipment, and driven by as-aircraft computer programs running on a standard aircraft IBM CC-2E computer. There is also a simulated aircraft communication system available at all consoles and controlled by four (4) dedicated communications consoles. To complete the simulator, there are power distribution, power interlock and air conditioning systems.

The software used to run the MS is the standard Aircraft Operational Computer Programme (AOCP). Training exercises make use of processed mission data and special training scenario data, loaded via Hard Disc Drives. The software contains Built-in-Test (BIT) functions which may be used in the MS to fault find to aircraft LRU Level.

The primary role of the MS is to train Sentry AEW mission crews at all levels from initial training to operational continuation and refresher training. The secondary role is to provide training for Sentry AEW avionic maintenance tradesmen and pre-employment training for MS tradesmen.

SIMULATOR CONFIGURATION

The MS consists of the following equipment:

- A replica of the aircraft crew facilities, consisting of ten (10) situation display consoles and a DT position used for student training. The DT position is also used for loading aircraft software
- Four (4) additional aircraft situation display consoles used as instructor/controller positions
- A MS-unique Equipment Interface Rack containing power supplies, power interlocks and the simulated communications systems
- A suite of dedicated communications consoles for controlling and monitoring the simulated communications system
- Cooling Systems
    - Forced balanced air system
    - Draw-through air system
    - Ambient air cooling from the room air conditioning

Notes

Cooling Systems

These systems are fed from the building plant room via under floor ducting. The cooling air is monitored by the simulator Environmental Control System (ECS) and, if the pressure or temperature of the air breaks set limits, the MS automatically powers down after 90 seconds. The ECS consists of pressure and temperature sensors within the air ducting which triggers the alarm and shutdown process.

Failure of Power, Cooled Air and Vacuum Services to the Simulator Room

Power, Cooled air and vacuum services are supplied from systems outside the simulator suite. Failures of these services are not the responsibility of the FISC contractor.

Safety and scheduled Maintenance tasks

Extracts taken from Sentry AEW Mk 1 Mission Simulator Safety and Maintenance Notes AP 101S-0340-5A2 2nd Edition February 2000.

List of Hazardous Substances incorporated in the Simulator

Substance	Location	Document Reference

Beryllium Oxide	Throughout electronic equipment	AP 100B-10S.1802
Cadmium	Throughout equipment	AP 100B-10S.1804
Polytetrafluoroethylene	Cable Insulation	AP 100B-10S.2600
Battery	JTIDS Rack	AP 100B-10S.0700

List of Hazardous Substances Authorised for use on the Simulator

Substance	Item Ref	Document Reference
Contact Fluid Electrolube 1	6850-99-9143344	JSP 515 SDS 1823
Contact Oil Electrolube 2AX	6850-99-2253690	JSP 515 SDS 7106
Desiccant, Silica gel bag	4440-99-2246994	JSP 515 SDS 1598
Isopropyl alcohol	6810-99-2200965	JSP 515 SDS 0463
Lubriplate 105	9150-99-8680134	
Silicone compound XG-250 (NATO S-736)	5970-99-2244975 (Aerosol) 5970-99-2248408 (1Kg Tub)	JSP 515 SDS 0314 and 0318
Silicone Paste (Heat Sink compound)	5999-99-2246475	JSP 515 SDS 0581
Solder	3439-99-2015256	JSP 515 SDS 7557

The simulator contains heavy LRUs that require a two person lift or the use of mechanical lift aids. Before attempting to remove or refit a heavy LRUs; read the local manual handling risk assessment and obey any instructions it contains. Further information refer to JSP 375 Vol 2 Lft 4.

Extracts taken from Sentry AEW Mk 1 Mission Simulator Scheduled and Out of Phase Maintenance Register AP 101S-0340-5A1 Sect 4 Chapter 1 No 2nd Edition February 2000.

Schedule Maintenance is undertaken on a rolling 24 week cycle.

Preventative (Scheduled) Maintenance Task Item	**Operation**	**Freq**	**Remarks**
Basic Week 1	5C Cards 101,201	24 Wks	Calendar Time (by week)
Basic Week 2	5C Cards 101,301	24 Wks	Calendar Time (by week)
Basic Week 3	5C Cards 101,401 (Inst 1)	24 Wks	Calendar Time (by week)
Basic Week 4	5C Cards 101,401 (Inst 2)	24 Wks	Calendar Time (by week)
Basic Week 5	5C Cards 101,201	24 Wks	Calendar Time (by week)
Basic Week 6	5C Cards 101,401 (Inst 3)	24 Wks	Calendar Time (by week)

Preventative (Scheduled) Maintenance Task Item	Operation	Freq	Remarks
Basic Week 7	5C Cards 101,402	24 Wks	Calendar Time (by week)
Basic Week 8	5C Cards 101,401 (Inst 4)	24 Wks	Calendar Time (by week)
Basic Week 9	5C Cards 101,402	24 Wks	Calendar Time (by week)
Basic Week 10	5C Cards 101,401 (Seat 9)	24 Wks	Calendar Time (by week)
Basic Week 11	5C Cards 101,401 (Seat 10)	24 Wks	Calendar Time (by week)
Basic Week 12	5C Cards 101,401 (Seat 11)	24 Wks	Calendar Time (by week)
Basic Week 13	5C Cards 101,201	24 Wks	Calendar Time (by week)
Basic Week 14	5C Cards 101,301	24 Wks	Calendar Time (by week)
Basic Week 15	5C Cards 101,401 (Seat 12)	24 Wks	Calendar Time (by week)
Basic Week 16	5C Cards 101,401 (Seat 13)	24 Wks	Calendar Time (by week)
Basic Week 17	5C Cards 101,201	24 Wks	Calendar Time (by week)
Basic Week 18	5C Cards 101,401 (Seat 14)	24 Wks	Calendar Time (by week)
Basic Week 19	5C Cards 101,401 (Seat 15)	24 Wks	Calendar Time (by week)
Basic Week 20	5C Cards 101,401 (Seat 16)	24 Wks	Calendar Time (by week)
Basic Week 21	5C Cards 101,201	24 Wks	Calendar Time (by week)
Basic Week 22	5C Cards 101,401(Seat 17)	24 Wks	Calendar Time (by week)
Basic Week 23	5C Cards 101,401(Seat 18)	24 Wks	Calendar Time (by week)
Basic Week 24	5C Cards 101	24 Wks	Calendar Time (by week)

Extracts taken from Sentry AEW Mk 1 Mission Simulator Basic Maintenance Schedule AP 101S-0340-5C 2nd Edition February 2000.

Card	Operation	Remarks
101	Electrical Interconnect Rack. Rack door air filter (Qty 3)	Ensure Clean (Replace as Required)

Card	Operation	Remarks
201 Block 1	Situation Display Console Keyboard (Qty 4)	Clean (Vacuum)
201 Block 2	Situation Display Console Keyboard (Qty 10)	Clean (Vacuum)
	Computer Console Control Power Supply Inlet Screen	Clean (Vacuum)
201 Block 3	JTIDS Rack Cable Assemblies	(I)Look for Damage (ii)Ensure Secure
301 Block 1	Line Printer Form thickness control arms	Lubricate (AP 101B-5301-1Q3A Para 4-7.3.1)
301 Block 2	JTIDS equipment Carry out BIT	AP101B-5301-1F1 Table 13-7
401 Block 1	Situational Display Console (Qty 4) EMI Grille-Inlet (rear) (Qty 2) EMI Grille-Outlet (bottom) (Qty 3)	Clean (AP 101B-5301-1Q1)
	Writing Table	Lubricate mechanism (AP 101B-5301-1Q1)
	External surfaces	Clean
401 Block 2	Situational Display Console (Qty 10) EMI Grille-Inlet (rear) (Qty 2) EMI Grille-outlet (bottom)(Qty 3)	Clean (AP 101B-5301-1Q1
	Writing Table	Lubricate mechanism (AP 101B-5301-1Q1)
		Note –Maintenance is to be carried out on only one of the 14 SDCs each week as detailed in the 700c

Card	Operation	Remarks
402 Block 1	Simulated Aircraft Systems-Digital Systems Electronic Command Signals Programmer Cabinet E23 Bottom Inlet grille (Qty 2) Top Inlet Grille (Qty 2)	Clean (AP 101B-5301-1-1Q)
	Digital Display Indicator Computer Console. EMI panel-shroud rear (Qty 2) EMI Panel -bottom	Clean (AP 101B-5301-1-1Q)
402 Block 1	JTIDS Rack Blower	Ensure correct operation
	Blower Filter	Ensure Clean
	Extractor fan (Qty 6)	Ensure correct operation Clean (Vacuum)
	Power Supply unit	Ensure correct output 24± 2.4VDC

Out of Phase Maintenance Register

Out of Phase Maintenance	Item	Freq	Operation
ECSP Cabinet E23	Bottom Inlet Grille (Qty2)	24 Months	Clean (AP 101B-5301-1Q1)
ESCP Cabinet E23	Top Outlet Grille (Qty 2)	12 Months	Clean (AP 101B-5301-1Q1)

Component Life Register

Preventative (Scheduled) Maintenance Task Item	Operation	Freq	Remarks
JTIDS Rack Battery Pack	Bay Maintenance	8 Months	

Extracts taken from Sentry AEW Mk 1 Mission Simulator Daily Servicing Schedule AP 101S-0340-5B1 2nd Edition February 2000.

Definitions

- **Pre Use** –The work to be undertaken to prepare the simulator for the day's simulator sorties**.**
- **Turn Round** –The work to be carried out between each simulator sortie.
- **After Use** – The power down process on completion of the days sorties.

Pre Use

Item	Operation	Remarks
CO2 System	Set alarm panel (Qty 2) to manual & stow override pin (Qty 3) in case	
Air Conditioning Control	Forced Air, Draw Thru Air switches set to Auto Ensure AC system healthily lamp is lit	
Situation Display Consoles (Qty 14) CRT Display screen	Clean	Using isopropyl alcohol
Situation Display Consoles (Qty 14) Computer Console	Clean	Using isopropyl alcohol
Power Distribution (High Voltage -400 Hz 100A)	Formal sequence of applying power to simulator equipment	Sequence described in AP 101S-0340-5B1 This gives the sequence of operating a number of power switches and ensuring the conformation warning lights follow correctly.
Power Supply Electrical Interconnect Rack	Formal sequence of applying power to simulator equipment	Sequence described in AP 101S-0340-5B1 This gives the sequence of operating a number of power switches and ensuring the conformation warning lights follow correctly.
Power Supply Environmental Control System	Formal sequence of applying power to simulator equipment	Sequence described in AP 101S-0340-5B1 This gives the sequence of operating a number of power switches and ensuring the conformation warning lights follow correctly.

Item	Operation	Remarks
Electronic Command Signals Programmer & Computer Consoles Control Power Supply	Formal sequence of applying power to simulator equipment	Sequence described in AP 101S-0340-5B1 This gives the sequence of operating a number of power switches and ensuring the conformation warning lights Follow correctly.
Power Supply Computer Consoles	Formal sequence of applying power to simulator equipment	Sequence described in AP 101S-0340-5B1 This gives the correct sequence to operate a number of power switches ensuring the conformation warning lights follow correctly.
Printer Reader Group(Qty 3)	Formal sequence of applying power to simulator equipment	Sequence described in AP 101S-0340-5B1 This gives the sequence of operating a number of power switches and ensuring the conformation warning lights follow correctly.
Situation Display Console (Qty 14)	Formal sequence of applying power to simulator equipment	Sequence described in AP 101S-0340-5B1 This gives the sequence of operating a number of power switches and ensuring the conformation warning lights follow correctly.
Diagnostic SW programme	Run	Sequence described in AP 101S-0340-5B1 Takes approx. 4 minutes to run
Instructor Consoles (Qty 2)	Formal sequence of applying power to simulator equipment	Sequence described in AP 101S-0340-5B1 This gives the sequence of operating a number of power switches and ensuring the conformation warning lights follow correctly.

Item	Operation	Remarks
Communications Simulation Panels (Qty 4)	Formal sequence of applying power to simulator equipment	Sequence described in AP 101S-0340-5B1 This gives the sequence of operating a number of power switches and ensuring the conformation warning lights follow correctly.

Turn Round

Item	Operation	Remarks
Line Printer	Replenish Paper as required	AP 101S-0340-5B1
Display Control Panel (Qty 14)	Power switch set to ON Power ON Indicator- Ensure Lit	
Alarms/Display Control Panel	ASPL Mode Switch –set Test Mode Switch-set Scale Exp switch-set	
CRT Displays	Ensure test pattern displayed	
Colour SEL	Set to 1	
Category Select switch (Qty 36) and Feature Switches (Qty 3)	Set to off	
Display Control Panel	Set brightness and Contrast as required for comfortable viewing	
ADS Panel	Rotary Control (Qty 10) set fully clock wise	
Seat 13 Data Destruct switch	Ensure set to normal	

Power Down

Item	Operation	Remarks
Display Control Panel (Qty 14)	Set to off Ensure power lights are off	AP 101S-0340-5B1
Computer Consoles	Set to off Ensure power lights are off	

Item	Operation	Remarks
Electronic Command Signals Programmer	Set to off Ensure power lights are off	
Control Power Supply	Set to off Ensure power lights are off	
Data Processing –Printer reader group Qty 3)	Ensure RMA not fitted Set to off Ensure power lights are off	
Line Printer	Set to off Ensure power lights are off	
Operator Computer Control Panel	Formal sequence of closing the system down	Sequence described in AP 101S-0340-5B1 This gives the sequence of operating a number of power switches and ensuring the conformation warning lights follow correctly.
Electrical Interconnect Rack	Formal sequence of closing the system down	Sequence described in AP 101S-0340-5B1 This gives the sequence of operating a number of power switches and ensuring the conformation warning lights follow correctly.
Power Supply (High Voltage)	Formal sequence of closing the system down	Sequence described in AP 101S-0340-5B1 This gives the sequence of operating a number of power switches and ensuring the conformation warning lights follow correctly.

Name of Equipment: Side Door Exit Trainer
Original Equipment Manufacturer: Unknown.

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	OSD
2 1 2 2 1 **8**	RAF Brize Norton Chivenor Colchester St Athan White City **TOTAL**	CALL OUT CATEGORY = **BRONZE**	**10 hrs**	Not Known	ad infinitum

Preventative Maintenance Task	Daily	Weekly	1 Mth	6 Mths	12 Mths	Remarks
Examine for general physical damage and report faults immediately	X					
Examine Electrical systems for security and report faults immediately	X					
Operate lighting controls to ensure correct functionality	X					
Visually inspect charge indicator LED on emergency light fittings	X					
Check for cleanliness		X				
Test all components on the lighting systems are operating correctly			X	X	X	
Test all components on the intercom system are operating correctly			X	X	X	
Test emergency lighting using the self-test key switch.			X	X	X	
Examine condition of floor surfaces including attachment points.			X	X	X	
Examine security and condition of all mechanical and electrical sub-assemblies for loose items, fasteners, connectors etc. for signs of damage, cracks, loose or missing items.				X	X	
Examine the condition of all accessible wiring for any signs of damage or abrasion.				X	X	
Each emergency lighting unit should be tested as per monthly test but for its rated duration of 3 hours. The date of the test and its results shall be recorded.				X	X	
Static line cables to be examined by a Competent Person					X	
Static line cables to be checked for correct height					X	
Annual electrical testing to be carried out.					X	

Name of Equipment: Skyvan Part Task Trainer (SPTT)
Original Equipment Manufacturer: Unknown.

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	OSD
1 1	RAF Brize Norton Colchester	CALL OUT CATEGORY = **BRONZE**	***10 hrs***	Not Known	ad infinitum

C130, Skyvan and Open Mock Fuselages				
Preventative Maintenance Task	**Weekly**	**6 Mths**	**Remarks**	**POL**
Structure	X	X	Examine	
Flooring	X	X	Examine	
Catwalk (C130 Mock Fuselage)	X	X	Examine	
External Walkway (Skyvan Mock Fuselage)	X	X	Examine	
Anchor Cables	X	X	Examine	IAW AP 119K-0001-1
Anchor Cables - Points	X	X	Examine	
Anchor Cables - Static Lines	X	X	Examine and check for Function	
Exit Doors (C130 Mock Fuselage)	X	X	Examine and check for Function	
Door Springs	X	X	Examine	
Seat Units	X	X	Examine	
Seat Units - Seat Belts	X	X	Examine	
Electrical System	X	X	Check for Function	
Surface Finish		X	Check for deterioration of finish and restore as necessary (Paint)	
Completion of Maintenance				
Equipment	X	X	Examine (at 6 Mths, clean as necessary)	
MoD Form 755E	X		Sign for completion of maintenance	
MoD Form 755G		X	Sign for completion of maintenance	
Supervisory Requirements				
Equipment		X	Inspect	
MoD Form 755G		X	Ensure all tradesmen have signed for completion of maintenance	

Name of Equipment: Smoke Tunnel
Original Equipment Manufacturer: Unknown.

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
1	RNAESS Gosport	CALL OUT CATEGORY = **BRONZE**	12 hrs	Not Known	ad infinitum

The equipment is a Plint & Partners Flow visualisation rig and comprises a vertical suction type wind tunnel with smoke visualisation. Flow is vertically upwards to avoid sinking of smoke filaments at low speeds. The smoke generator produces small quantities of smoke by vaporisation of kerosene.

Preventative Maintenance Task	12 Mths	Remarks
Check condition of mains cable and connectors	X	Check operation/function repair as required
Check all fixings for tightness	X	Tighten any loose nuts and bolts etc.
Check condition of interconnecting cables	X	Check operation/function repair as required
PAT Test (if applicable)	X	Record PAT Test and apply a proof of PAT Test sticker on device(s)
Check operation of switches.	X	Check operation/function repair as required
Perform Functional Test	X	Check for damage and advise Authority – Assess motor noise/vibration. Maintainer may need to consult User for help in conducting functional test
Clean units with a clean dry lint-free cloth	X	Check for damage and advise Authority

Name of Equipment: Spring Damper
Original Equipment Manufacturer: Unknown.

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
1	RNAESS Gosport	CALL OUT CATEGORY = **BRONZE**	12 hrs	Not Known	ad infinitum

Didactic Forced damped vibration rig. Simple damped spring mass system in which the forcing frequency can be varied to illustrate the effects of forcing frequency on amplitude of vibration Frequency above and below resonance.

Preventative Maintenance Task	12 Mths	Remarks
Check condition of mains cable and connectors	X	Check operation/function repair as required
Check all fixings for tightness	X	Tighten any loose nuts and bolts etc.
Check condition of interconnecting cables	X	Check operation/function repair as required
PAT Test (if applicable)	X	Record PAT Test and apply a proof of PAT Test sticker on device(s)
Check operation of switches	X	Check operation/function repair as required
Perform Functional Test	X	Check for damage and advise Authority – Assess motor noise/vibration. Maintainer may need to consult User for help in conducting functional test
Clean units with a clean dry lint-free cloth.	X	Check for damage and advise Authority

Name of Equipment: Synthetic Environmental Procedural Trainer
Acronym of Equipment: SEPT
Original Equipment Manufacturer: Pennant.

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
1 SEPT 1	RNAESS Gosport	CALL OUT CATEGORY = **SILVER**	369 hrs	2000	31/03/2026

SEPT provides training in marshalling and ground handling of aircraft in complete safety and without the costs of using real aircraft.

The student is presented with a 150° wrap-round screen. Three high resolution projectors provide a computer generated display of the airfield and moving aircraft. Realism is enhanced by multi-channelled surround sound effects.

Training scenarios and aircraft movements are controlled by the instructor. The instructor can amend scenarios, inserting hazards and emergencies, changing weather conditions, communicate with the student through an integrate communication system and record student actions. The complete exercise can be viewed by other students, and used for later debrief.

SEPT allows students to rehearse procedures and practices their marshalling on various types of aircraft from fast jet to large multi-engine aircraft through to rotary-winged.

After classroom instruction students consolidate their learning through practical exercises on the trainer which provides an ideal preparation ground for the real situation where the marshal must give clear and positive direction to the pilot. It also enables the student to practice handling different aircraft types, in varied weather conditions, time of day/night and emergency situations.

Preventative Maintenance Task	Daily	Wkly	1 Mth	6 Mths	12 Mths	24 Mths	36 Mths	60 Mths	Remarks
Rubbish/unauthorised equipment remove	X			X					SEPT Facility & Room advise Customer
Lighting Check	X			X					SEPT Facility & Room

Preventative Maintenance Task	Daily	Wkly	1 Mth	**6 Mths**	**12 Mths**	**24 Mths**	**36 Mths**	**60 Mths**	**Remarks**
Power cables Route/check for damage	X			X					
Main floor area/training equipment remove dust		X		X					SEPT Facility & Room
Headsets Clean &Test functionality		X	X	X					
Projector Lamp warning indicators Check/replace lamps if necessary			X	X					
Projector Lens Clean			X	X					
Projectors/Computer Check & clean air filters				X					
System Power up				X					
Rack fans Ensure operating				X					
PAT Test					X				PC/Visual Systems Record PAT Test and apply a proof of PAT Test sticker on device(s)
Television					X				Record PAT Test and apply a proof of PAT Test sticker on device(s)
Camera					X				Record PAT Test and apply a proof of PAT Test sticker on device(s)

Preventative Maintenance Task	Daily	Wkly	1 Mth	6 Mths	12 Mths	24 Mths	36 Mths	60 Mths	Remarks
Subwoofer					X				Record PAT Test and apply a proof of PAT Test sticker on device(s)
RCD Electrical Check.						X			
Motherboard Battery replacement							X		
UPS Battery replacement								X	

Name of Equipment: Systems Based Trainer
Acronym of Equipment: SBT
Original Equipment Manufacturer: CAE.

Quantity	Location/ Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	OSD
2 Classrooms	RNAESS Gosport	CALL OUT CATEGORY = **SILVER**	Statistical information not known, to be determined	Not Known	ad infinitum

The System Based Trainer (SBT) is a PC based software training package that allows trainees to gain practical experience with aircraft systems, engines and avionics. The SBT was originally used at RNAS Yeovilton to train Lynx MK.8 aircrew and maintainers. It uses the same high-fidelity simulation software found on the FMS.

Since the SBT system is based on the same underlying simulation model that is found on the Lynx Mk 8 FMS the malfunctions available for the FMS are, where appropriate, available on the SBT,

i.e. those malfunctions which do not rely on cuing systems not available on the SBT (e.g. motion or aural cues).

The SBT includes the ability to display schematic representations of specified aircraft systems. The schematics provided are the same as those found on the LCPT system. There are ten sets of SBT student equipment and two sets of instructor equipment. This is installed in two classrooms; each of five student equipment sets plus one instructor equipment set.

The SBT consists of:

(a) A desk-side computing equipment chassis.

(b) A pair of high-resolution, flat panel desktop monitors used to display:

1. A high-quality graphical virtual cockpit representation of the Lx Mk 8 SRU aircraft with SIFF and DAS modifications.
2. Schematics of specified aircraft systems
3. Instructional (lesson) material
4. Menus, toolbars and dialogue boxes used to provide control over the SBT system

(c) USB keyboard and mouse

(d) USB joystick to represent the ACP Stiff Stick for PID turret control and TSD-G Free Marker position.

Instructor equipment sets are provided with two ceiling mounted high-resolution projectors enable the instructor equipment to be used for group instruction of up to ten individuals. All student and instructor equipment sets in the classrooms are autonomous and operable independently, thus providing the greatest degree of flexibility with respect to system usage.

The SBT is useable in either free play mode, in which the supported aircraft systems can be arbitrarily manipulated, or under the direction of a predetermined lesson script. An Instructor Assistance Tool (IAT) is provided with the SBT system to enable instructional staff to script lessons. The SBT supports training within a gaming area that includes representation of both land and sea. For commonality with the LCPT, the same terrain database generated for the LCPT system is used on the SBT system

Basic Maintenance for the SBT is carried out under the FISC contract (FsASTC00108) with a call out facility with CAE (contract FsASTC/00???). The call out facility with CAE is limited to four call outs a year.
Contact details for CAE are:

Manned Telephone hours: Mon – Fri 08:00-16:00

Call-out telephone no: (01444) 251053/251054

Preventative Maintenance Task	**3 Mths**	**12 Mths**	**Remarks**
Main Host PC	X		Air intake filters vacuum cleaned.
Radar PC		X	
Passive Infra-red Device (PID)	X		Air intake filters vacuum cleaned.

SBT Computers		X	Covers removed and inside vacuumed.
SBT Monitors	X		Screens Cleaned

Table 3 - SBT PREVENTATIVE MAINTENANCE GUIDE

Name of Equipment: Training Harness (TH) 3 (Fan)
Original Equipment Manufacturer: Unknown
Support Level: Preventative Maintenance/Inspection Only

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
8	**Parachute Engineering Squadron (PES)** **RAF Brize Norton OX18 3LX**	N/A	Statistical information not known, to be determined	Not Known	ad infinitum

MAINTENANCE TASKS TO BE ISSUED AT A LATER DATE.

Name of Equipment: Training Harness 1 & 2 LPS
Original Equipment Manufacturer: Unknown
Support Level: Preventative Maintenance/Inspection Only

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D
2	**Parachute Engineering Squadron (PES)** **RAF Brize Norton OX18 3LX**	N/A	Statistical information not known, to be determined	Not Known	ad infinitum

MAINTENANCE TASKS TO BE ISSUED AT A LATER DATE.

Name of Equipment: Training Harness (TH) 1 and 2 LPS
Original Equipment Manufacturer: Unknown
Support Level: Preventative Maintenance/Inspection Only

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
62	**Parachute Engineering Squadron (PES)** **RAF Brize Norton OX18 3LX**	N/A	Statistical information not known, to be determined	Not Known	ad infinitum

MAINTENANCE TASKS TO BE ISSUED AT A LATER DATE.

Name of Equipment: Training Harness (TH) 3 Hanging
Original Equipment Manufacturer: Unknown
Support Level: Preventative Maintenance/Inspection Only

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
16	**Parachute Engineering Squadron (PES)** **RAF Brize Norton OX18 3LX**	N/A	Statistical information not known, to be determined	Not Known	ad infinitum

MAINTENANCE TASKS TO BE ISSUED AT A LATER DATE.

Name of Equipment: Virtual Reality Parachute Trainer 2 & Virtual Reality Parachute Trainer 2 (mobile)
Original Equipment Manufacturer: Pennant.

Quantity	Location /Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
9 Fixed VRPT 2a **9 Mobile VRPT 2b**	RAF Brize Norton	CALL OUT CATEGORY = **BRONZE**	**768** hrs	2011	31/03/2026

VRPT 2a

VRPT 2b Mobile

The Virtual Reality Parachute Trainer (VRPT) system has been developed to assist training ab initio students in under-canopy training, fault/malfunction recognition and decision making across all disciplines of parachute operations. To maximise training capacity and capability with the potential to greatly enhance safety, the VRPT can train up to a maximum of 8 students in an immersive training aid, giving the student a real time experience in a virtual world that simulates a parachute descent in either free fall or static line. The VRPT2 static rigs are VRPT2a and the mobile is VRPT2b.
The operating instructor can control all aspects of the type of equipment used (including aircraft), canopy functionality and environment (including wind parameters). The student can be observed or advised during the decent, dependent on the capability of the student, to enhance his learning experience. This is completed in a safe and controlled environment with an instructor close by at all times.
The Virtual Reality Parachute Trainer (VRPT) consists of 8 tower frames, plus computer hardware and software including VR headsets. Replica parachutes used are modelled on the following:

Airborne Systems Europe Low Level Parachute (ASE LLP)
GQ360 (Static Line Square)
Lightweight Parachute System (LPS)
BT80 Multi Mission System (MMS) (Freefell and Static Line)
BT533 – Tandem.

The software incorporates Emergency drills and corrective actions for associated malfunctions of the listed parachutes including:

Operation of the reserve parachute
Cut away and operation of the reserve parachute.

Additionally replicated malfunctions (where applicable) can be selected by the operating instructor as follows:

Streaming Malfunction
- (Canopy not inflating)
Line over the canopy
Broken steering Line
Steering line restriction
Broken rigging line
Holes in the canopy
Malformed canopy (misshaped)
High twists at the mouth of the canopy.
Low twists at the base of the rigging lines
Slider stuck up
No Canopy
Bag Lock - Tandem Systems
Nothing above head
Collapsed drogue
Broken Bridle Line
Drogue and bag above your head

To realise the objectives of the VRPT, the operating instructor retains both direct control and overall supervision of the training exercises delivered to the trainees. This is achieved via the instructor workstation, the embedded control software and image databases.

The Preventative Maintenance for VRPT 2a is detailed below:

Preventative Maintenance Task	**Daily**	**Weekly**	**3 Mths**	**6 Mths**	**12 Mth**	**24 Mth**	**36 Mth**	**Remarks**
Ensure training area is kept clear of rubbish, unauthorized equipment and apparatus not associated with the VRPT 2.	X							
Check harness and clasps for serviceability in line with RAF procedures								
Check the 3 ring circus is secure	X							
Check the 4 x Karabiners are attached and locked	X							
Check the Gimbal assembly witness mark is ‘in line’ ensuring the nut has not moved	X							
Check the Gimbal support plate 6 x nuts are present and secure	X							
Check the 4 x arrestor wires are secure and undamaged	X							
Check the control pulleys are free	X							

Preventative Maintenance Task	Daily	Weekly	3 Mths	6 Mths	12 Mth	24 Mth	36 Mth	Remarks
running								
Check umbilical is secure at both ends and undamaged	X							
Check the student computer connections are correctly	X							
Check the circuit breaker is on	X							
With power on:	X							
Check headset display is correct	X							
Check display response is correct whilst operating (riser) sensors	X							
Carry Out Daily Check		X						
Ensure floor areas are cleaned to limit dirt and dust collection		X						
Trip the circuit breaker (blue button) and check the mains power is isolated		X						
Load the BIT tracker screen and carry out diagnostic checks on the harness interfaces (harness under test)		X						
Select ALT + F4 to exit Client Screen		X						
Double click on Hardware Tester icon		X						
Check screen responds to movement of headset and hand sensors		X						
Check screen responds to riser input cable movements (NW, NE,		X						

Preventative Maintenance Task	Daily	Weekly	3 Mths	6 Mths	12 Mth	24 Mth	36 Mth	Remarks
SE and SW)								
Check response to micro switches Red, Silver, Yellow, Ripcord and Bergen		X						
Switch ON brake and check that the brake unit functions correctly		X						
Select ESC to exit Hardware Tester.		X						
Double click on VRPT Client icon		X						
PTSL attend to check integrity			X					
Carry out weekly check			X					
Clean and dust facility training equipment, screens and surfaces as required			X					
Lifting frames, cables and gimbals to be examined i.a.w. LOLER (Lifting rigs).				X				
Carry out 3 monthly check				X				
Internally clean equipment using compressed air				X				
Carry out a 6 monthly check					X			
Clean and examine the Instructor/Student computers					X			
Ensure each computer setting is correct.					X			
Carry out PAT testing i.a.w. Code of Practice for in-service inspection and testing of electrical equipment					X			
Check the RCD Trip Rating for 1/2 x, 1x and 5x, tripping times						X		

Preventative Maintenance Task	Daily	Weekly	3 Mths	6 Mths	12 Mth	24 Mth	36 Mth	Remarks
Replace all computer motherboard batteries							X	

The Maintenance for the VRPT 2b is:

Preventative Maintenance Task	Daily	6 Mths	12 Mths	36 Mth	Remarks
Ensure training area is kept clear of rubbish, unauthorized equipment and apparatus not associated with the VRPT 2.	X				
Ensure the area is adequately illuminated					
Ensure the frame is correctly assembled, and all pins are fitted and locked.	X				
Inspect system VR Glasses-Vuzix headset for damage and clean as required (see notes).	X				
Check harness assembly for serviceability in line with RAF procedures.	X				
Check all cables are secure, correctly routed and undamaged.	X				
Check the computer connections are correct.	X				
Check the RCD trip operates correctly.	X				
Check the RCD is on.	X				
With system powered up check the following:	X				
Connect USB cables.	X				
Check headset display is correct.	X				
Check display response is correct whilst operating (toggle) sensors.	X				
On the SWS; Load the Hardware Checker screen and carry out diagnostic checks on the harness interfaces (harness under test).	X				

Preventative Maintenance Task	Daily	6 Mths	12 Mths	36 Mth	Remarks
Select Esc to exit Client Screen	X				
Double click on Hardware Tester icon. (Shortcut Path: "C:\VRPT2_Mobile\Tools\Hardware Tester\VRPT2 Hardware Tester.exe").	X				
Check screen responds to movement of hand sensors (figure 2).	X				
Check both Brakes operate when the brake is selected to ON, and check that both release when selected OFF.	X				
Close the Hardware Checker.	X				
Double click on VRPT Client icon to enter program.	X				
Assemble Mobile VRPT 2 system i.a.w. Installation Manual 97000-3008, checking the following:		X			
Cleanliness of components		X			
Material condition of all components		X			
Correctness of assembly.		X			
Clean laptops using compressed air, paying particular attention to keyboards and vent areas.		X			
Lubricate interface Box wing nut clamps.		X			
Carry out functional check of system, including full Hardware Testing, to ensure all sensors are functioning correctly		X			
Carry out a 6 monthly check			X		
Clean and examine the Instructor/Student computers			X		
Ensure each computer settings are correct.			X		
Carry out PAT testing i.a.w. Code of Practice for in-service inspection and testing of electrical equipment			X		
Replace all computer motherboard batteries				X	

Name of Equipment: Weapons System Demonstration Rig.
Acronym of Equipment: WSDR.
Original Equipment Manufacturer: Pennant.

Quantity	Location/ Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
1	RNAESS Gosport	CALL OUT CATEGORY = **SILVER**	380 Hrs. per year	08/1995	31/03/2024

The Weapon System Demonstration Rig (WSDR) is designed to provide training for weapons loading and weapon control systems on fixed wing and rotary wing aircraft. The port side of the Rig is used for rotary wing weapon systems, the starboard side for fixed wing weapon systems. Although the weapon systems do not represent a specific aircraft type, they are based on Sea Harrier for the fixed wing systems and Lynx for the rotary wing systems. The trainer also provides a comprehensive audit of the trainee's actions to enable full information feed-back to be provided post the training exercise.

Preventative Maintenance Task	6 Mth	12 Mth	24 Mth	36 Mth	Remarks
Diagnostics Complete full diagnostics	X				
Computers Check airflow of Fans	X				
Cabinet, Models, Monitors and Keyboard Examine clean and polish	X				
System Check security & condition	X				
RCD Mechanical Check	X				
Corrosion check of wing, pylon EMRU's for fixed and rotary		X			
Cabinet, Models, Monitors and Keyboard Examine clean and polish		X			
Replace Fan filters		X			
RCD Electrical Check			X		
Motherboard Battery Replacement				X	

Name of Equipment: Wind Tunnels
Original Equipment Manufacturer:

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
3	RNAESS Gosport	CALL OUT CATEGORY = **BRONZE**	60 hrs per tunnel	Not Known	ad infinitum

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Figure 1 - Tunnel 1 **Figure 2 - Tunnel 2** **Figure 3 - Tunnel 3**

Tunnel 1 - Subsonic wind tunnel with a cross section of 300 mm x 300 mm. Used to demonstrate the pressure distribution over an aerofoil, with a 36 channel manometer, at angles of attack ranging from zero degrees through to stall.

Tunnel 2 - Subsonic wind tunnel with a cross section of 300 mm x 300 mm. Used for experiments to illustrate the effects of high lift devises on the lift and drag of an aerofoil and the effect of these on stall.

Tunnel 3 - Subsonic wind tunnel with a cross section of 600 mm x 600 mm. Used to support larger scale model experiments. Lift and drag may be monitored using either a Plint and Partners Three component balance or an Aerotech six component overhead load cell balance depending of the mounting of the model test piece. Data acquisition captured using dedicated Aerotech software.

Preventative Maintenance Task	12 Mths	Remarks
Check condition of mains cable and connectors	X	Check operation/function repair as required
Check all fixings for tightness	X	Tighten any loose nuts and bolts etc.
Check condition of interconnecting cables.	X	Check operation/function repair as required
PAT Test (if applicable)	X	Record PAT Test and apply a proof of PAT Test sticker on device(s)
Check operation of switches.	X	Check operation/function repair as required

Preventative Maintenance Task	12 Mths	Remarks
Perform Functional Test	X	Check for damage and advise Authority – Assess motor noise/vibration. Maintainer may need to consult User for help in conducting functional test
Clean units with a clean dry lint-free cloth.	X	Check for damage and advise Authority

The wind tunnels have undergone a software update and recalibration this year (2015).

Name of Equipment: Y Door Exit Trainer
Original Equipment Manufacturer: Unknown
Support Level: Full Support

Quantity	Location/Remarks	Corrective Maintenance Service Level Required	Estimated Yearly Usage	I.S.D	O.S.D.
1	**RAF Leeming Yorkshire DL7 9NJ**	CALL OUT CATEGORY = **BRONZE**	Statistical information not known, to be determined	Not Known	ad infinitum

Mock Doors		
Preventative Maintenance Task	**6 Mths**	**Remarks**
Frame	X	Examine
Ramp	X	Examine
Ramp – Boards	X	Examine
Ramp – Rubber Matting	X	Examine
Surface Finish	X	Look for deterioration of finish, restore as necessary (paint)
Completion of Maintenance		
Equipment	X	Examine and clean as necessary
MoD Form 755G	X	Sign for completion of maintenance
Supervisory Requirements		
Equipment	X	Inspect
MoD Form 755G	X	Ensure all tradesmen have signed for completion of maintenance. Countersign.