



Ministry
of Defence

Air Command Secretariat
Spitfire Block
Headquarters Air Command
Royal Air Force
High Wycombe
Buckinghamshire
HP14 4U

Ref: 2019/07141

[REDACTED]
[REDACTED]

4 July 2019

Dear [REDACTED]

Thank you for your e-mail of the 6 June 2019 requesting the following information;

I require the training syllabus for the courses that I attended and if possible the training hours as evidence.

During my service career I attended the following courses.

30th July 1998 - 20th May 1999: Airframe Mechanic course CG 2019

25th February 2002 - 21st November 2002: Airframe SAC (Technician) where I qualified - Operational Performance Standard.

16th April 2007 - 9th May 2007: Multi - Skill Assimilation Training, Course 1238/130

I am treating your correspondence as a request for information under the Freedom of Information Act 2000 (FOIA).

A search for the information has now been completed, and I can confirm that information in scope of your request is held.

Copies of each of the syllabus are attached electronically, the training objectives and training hours for each course are detailed within each document. Please note that the attached documents are subject to the following Intellectual Property Rights regulations:

The documents are the property of the Secretary for State for Defence of the United Kingdom and Northern Ireland (The Authority). The documents are supplied by the Authority on the express terms that it may not be copied, used or disclosed to others, other than for the purpose of meeting the requirements of the relative training courses.

If you are not satisfied with this response or wish to complain about any aspect of the handling of your request, then you should contact us in the first instance at the address above. If informal resolution is not possible and you are still dissatisfied then you may apply for an independent internal review by contacting the Information Rights Compliance team, Ground Floor, MOD Main Building, Whitehall, SW1A 2HB (e-mail CIO-FOI-IR@mod.uk). Please note that any request for an internal review must be made within 40 working days of the date on which the attempt to reach informal resolution has come to an end.

If you remain dissatisfied following an internal review, you may take your complaint to the Information Commissioner under the provisions of Section 50 of the Freedom of Information Act. Please note that the Information Commissioner will not normally investigate your case until the MOD internal process has been completed. The Information Commissioner can be contacted at: Information Commissioner's office, Wycliffe House, Water Lane, Wilmslow, Cheshire, SK9 5AF. Further details of the role and powers of the Information Commissioner can be found on the Commissioner's website at <https://ico.org.uk/>

Yours sincerely

Air Command Secretariat

Intentionally Left Blank

PART VIII

SECTION	SYLL HOURS	NON-SYLL HOURS	NUMBER OF CELLS				INSTRUCTOR HOURS			JUSTIFICATION
			1	2	3	4	Flight Commander	Medical/Dental	Totals	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(j)	(k)	(l)
Part V Service Diversions										
Z1 Arrival	4		4				4		4	
Z9 Routine Administration	16		16				16		16	
Z10 Departure	4		4				4		4	
TOTAL Service Diversions	24	0	24	0	0	0	24	0	24	
TOTAL (Part III).	1067	0							1967	
TOTAL (Part IV).	201	0							201	<div style="border: 1px solid black; padding: 5px; background-color: #e0e0e0;"> Course Duration 1292 hours = 32.3 weeks </div>
TOTAL (Part V).	24	0							24	
GRAND TOTAL	1292	0							2192	

PART VIII

SECTION	SYLL HOURS	NON-SYLL HOURS	NUMBER OF CELLS				INSTRUCTOR HOURS								JUSTIFICATION	
			1	2	3	4	Padre	Phys Ed	Discip Staff	Regt	Trade 10	Educ	Accred Staff	Total		
			(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)		(p)
Part IV Airman Training																
Z2 Introduction to Training	2		2							1		1				2
Z3 Common Core Skills	16		16							16						16
Z4 Physical Education	160		160							160						160
Z6 Beliefs and Values	6		6				6									6
Z7 Flight Safety	1		1									1				1
Z12 Drill	8		8							8						8
Z14 Quality Self-Learning Pack	0		0													0
Z15 Introduction to PATS	2		2									2				2
Z16 PATS Debrief	2		2									2				2
Z17 NVQ Log Book Brief	2		2												2	2
Z18 Distance Learning Brief	2		2												2	2
Total Airman Training	201		201				6	160	9	16	4	2	4	201		

PART VIII

Class Size: Maximum 16 Minimum 14

CLASS SIZE AND ASSESSMENT OF INSTRUCTIONAL HOURS

SECTION (a)	SYLL HOURS (b)	NON SYLL HOURS (c)	NUMBER OF CELLS					INSTRUCTOR HOURS								JUSTIFICATION (s)		
			1 (d)	2 (e)	4 (f)	8 (g)	16 (h)	Educ (i)	Educ CPF (k)	Trade A/F (l)	Trade AFTS Elec (m)	Trade Prop (n)	Trade Wpn (o)	Trade ESTS (p)	Trade ETTF (q)		Total (r)	
Part III Trade Training																		
TA0 Lead In To Training	48		48															48
TA1 Mathematics for Engineers	49		49							48								48
TA3 Engineering Science	96		68	28				49										49
TA4 Electrical Principals	30		18	12				124										124
TA6 Aircraft Technology	15		11	4				42										42
TA7 Application of Computers	30		30							19								19
TA15 AAES	4		2		2				30									30
TA20 Introduction to Maintenance	15		13		2									10				10
TA21 Engineering Skills	116		52	58	6					11				10				21
TA22 Trade Electrics	54		44		10										192			192
TA23 A/C Construction & Maint	133		66	9	58						84							84
TA24 Airframe Repairs	105		33	72						316								316
TA26 Hydraulics	93		30	38	25					177								177
TA28 Undercarriages & Retardation	72		38		34					206								206
TA29 E C S	43		29		14					174								174
TA30 Oxygen Systems	33		19	2	12					85								85
TA31 Fuel, Fire, Transp & Ice Prot	25		21	2	2					71								71
Examinations and Assessments	106		6	60	40					33								33
Total Trade Training	1067	0	577	285	205	0	0	215	30	1398	84	0	20	220	0	1967		

1. One cell required for classroom and off-aircraft tasks.

2. Two and four cells required for close supervision of practical tasks when required to ensure safety, adherence to maintenance procedures and correct use of tools and equipment.

Intentionally Left Blank

PART VII

ASSESSMENT STRATEGY

1. During each Training Phase the student is to be continually assessed by the instructor regarding his or her attitude, performance and safety. On completion of a training phase, a written assessment is to be made on the students overall attitude and competence and recorded in accordance with current RAF Cosford Training Instructions. The course is to be assessed using a variety of methods and these are to include examinations, assignments and practical tests. The student will be required to undertake examinations as laid out in the appropriate course examinations manual, successfully complete one or more practical test jobs to a given standard and within a set time, and complete all assignments within the laid down time-scales and to the agreed standard.
2. All BTEC assignments and other assessment devices will be assessed and graded in accordance with the BTEC assessment criteria.
3. All examinations, other than BTEC purposes, will be marked against a marking guide that defines the standard of work required. The student will be expected to demonstrate an acceptable application of skills and theoretical knowledge and must achieve a minimum of 60% of the available marks to pass the exam. In addition the student must achieve 100% pass on all testing where safety is implied.
4. Where assessment is required for both an external awarding body and RAF Cosford, then the more rigorous should be adopted.
5. Instructional staff are to raise Special Reports in accordance with the guidelines laid out in Training Instructions.

Intentionally Left Blank

PART VI

LIST OF EQUIPMENT AND RESOURCES REQUIRED FOR COURSE No 1304 WHICH IS UNAVAILABLE

AT 1 S OF TT

Item No	Sect/Ref No Nato Stock No	Description	Qty	Training Section(s)	Training Objectives Unable To Be Completely Satisfied Through Lack of Equipment
1		FRP cutting, drilling and abrading equipment. A fully equipped bay complying with all the necessary Health & Safety requirements for cutting, drilling and abrading preformed FRP panels.	A/R 1	TA24	5.2 Identify and describe the operation of the tools required to cut, drill and abrade FRP material. 5.4 Cut, drill and abrade preformed FRP panels and components using conventional and specialist hand tools.
2		Pressurisation trainer.	1	TA29	4.3 Carry out cabin pressure and leak tests.
3		Oxygen training facility. Training aircraft with serviceable gaseous oxygen systems.	1 4	TA30	7.1 Carry out maintenance activities on gaseous and liquid oxygen systems.

PART VI

TRAINING SECTION (a)	EQUIPMENT (b)
TA31 (continued)	Bench mounted fire protection system. CBT suite with software.
Examinations & Assessment Consolidation 1.3	Training aircraft complete with documentation. Harrier wing sling. Jacks and trestles (Harrier) complete with pads and adaptors. Jacks and trestles (Jaguar) complete with pads and adaptors. Hydraulic servicing trolley Mk 19. Nitrogen charging trolley (4 cylinder). Rigging and symmetry equipment (Harrier). Rigging and symmetry equipment (Jaguar). Hi-way staging front/rear, port/stbd. Flap/slat test set (Jaguar). Port/stbd platforms. Tailplane pointers/protractors (Jaguar). Pitot/static test sets and adaptors. Spoiler and tailplane checking device (Jaguar). Undercarriage microswitch test set (Jaguar). Weight-on-wheels override test set (Jaguar). Flap stands (Jaguar). Wing stand (Harrier). Transformer/rectifier. Reduced length ground locks (Jaguar). Storage racks. Fitters bench. Composite tool kit (Jaguar). Composite tool kits 2-man (Harrier). Maintenance schedules. Incidence probe protractor (Jaguar). Vernier caliper. Micrometer. Spoiler set-up gauge (Jaguar).

TRAINING SECTION (a)	EQUIPMENT (b)
Examinations & Assessment Consolidation 1.3 (continued)	0 - 90° clinometer. Rudder damper set-up gauge.

PART VI

TRAINING SECTION (a)	EQUIPMENT (b)
TA28 (continued)	<p>Undercarriage leg 1st line maintenance kit (Jaguar). Aircraft wheel and brake change kit (Jaguar). Fitters bench complete with 2 vices. Basic engineering toolkit. Specialist toolkit. Aircraft undercarriage components complete with spares, APs and documentation . Selection of undercarriage components, wheels, tyres, brake units, arrestor hooks and brake parachutes. High Pressure Tyre Inflation Unit (HPTIU). Portable tyre inflation unit. Tyre inflation safety cage. Tyre removal machine. Bench mounted aircraft wheel brake system. Wheel brake system bleed kit. Mechanical/hydraulic nose wheel steering demonstration rig. CBT suite with software. Generic Flying Controls Trainer (Genfly). Lotox fume cabinet. Torque analyser. Precision measuring instrument tool kit. Surface table. Surface plate. Aircraft lubrication kit.</p>
TA29	<p>Training aircraft complete with documentation. Cabin conditioning animated display unit. Selection of cabin air conditioning/pressurisation components. Cabin pressure test trolley. Cabin pressure test set. Bench mounted atmospheric control system. CBT suite with software.</p>

TRAINING SECTION (a)	EQUIPMENT (b)
	<p>V flange coupling training bench. Pressurisation trainer (x 2). Nitrogen trolley. Nitrogen walk-round kit. Trolley accumulator.</p>
TA30	<p>Training aircraft with serviceable gaseous oxygen systems, complete with documentation. Training aircraft with removable pot LOX system, complete with documentation. Oxygen training facility. Gaseous oxygen charging trolley (4 cylinder). Ground power unit. Selection of oxygen components. Bench mounted oxygen system capable of recharging and leak testing. 100 litre LOX charging trolley. 1890 litre bulk LOX tank. LOX pot (x 5). Photo-electric hygrometer. CBT suite with software. LOX PPE (x 8 sets). Oxygen tool kit.</p>
TA31	<p>Training aircraft complete with documentation. Selection of anti-icing components. Bench mounted ice protection system. Selection of transparencies. Bench mounted windscreen wiper/wash system. Fuel tank examination rig. Selection of fuel system components. Selection of rigid, flexible and external fuel tanks. Selection of fire protection system components.</p>

PART VI

TRAINING SECTION (a)	EQUIPMENT (b)	TRAINING SECTION (a)	EQUIPMENT (b)
TA24	Composite tool kit. Croppers, pneumatic. Drill, pneumatic, angle (Desoutter). Drill, pneumatic, pistol grip. Drill, pneumatic, straight. Dynafite kit. Fitters bench c/w two vices. Generic airframe structures (fuselage). Generic airframe structures (mainplane). Guillotine (treadle). Metal roller. Miller, pneumatic. Nibbler, hand. Nibbler, pneumatic. Probelight kit. Riveter, Avdel Type 734. Riveter, Cherry Lock. Riveter, Cherry Max. Riveter, Chobert Type 707 and 715. Riveter, Huck. Riveter, pneumatic hammer. Riveter, Tucker Pop Type TT1B. Selection of structural components. Shears, ARO. Shears, R37. Specialist tool kit. Vacuum cleaner, pneumatic (Desoutter). A fully equipped bay with suitable equipment for carrying out FRP repairs. CAI suite with software. Sheet metal joggler.	TA26	Training aircraft (Jet Provost) complete with documentation. Training aircraft (Jaguar) complete with documentation. Hydraulic servicing trolley Mk 19B. Nitrogen charging trolley (4 cylinder). Bench mounted hydraulic system. Composite tool kit (Jet Provost). Composite tool kit (Jaguar). Stopwatch. Selection of sectioned hydraulic components. Risbridger replenishment gun. Hydraulic Systems Principles Trainer (HSPT) with 16 stations. Powered flying control unit demonstration system. Fly-by-wire animated display unit. Selection of powered flying control units and artificial feel units. CAI suite and software. Permaswage kit. Workbenches fitted with 2 vices. Inflation adaptors (Mk2/Mk6). Minor component boards. Gas charging boards. Landing gear demonstration rig. Secondary flying control demonstration rig. Generic Flying Controls Trainer (Genfly).
		TA28	Training aircraft (Jet Provost) complete with lifting jacks and documentation. Training aircraft (Jaguar) complete with lifting jacks and documentation. Composite tool kit (Jet Provost). Composite tool kit (Jaguar). Hydraulic servicing trolley Mk 19B. Nitrogen charging trolley (4 cylinder). Undercarriage leg 1 st line maintenance kit (Jet Provost).

PART VI

TRAINING SECTION (a)	EQUIPMENT (b)	TRAINING SECTION (a)	EQUIPMENT (b)
	<p>Circuit breakers: 1 PH, 3PH old and new types. Cable: Nyvin, Tersil, EFGlass, Uni-EFGlass, Gore-Tex, Kapton, Co-Axial and Fibre-Optic. Terminal blocks (Ward Brooke), Quick Release and WB torque wrenches. Switches: Toggle, rotary, push, dimmer and control column. Switches: Reed, float, inertia, fire, diaphragm, bellows, bi-metallic and Bourdon. Aircraft instruments: ASI, Altimeter, Machmeter and VSI. Fire wire systems: Capacitive and resistive. Desynn transmission system.</p>	<p>TA23 (continued)</p>	<p>Teleflex control system examples. Bowden control system examples. Chain control system examples. Push-pull rod control system examples. 3 point trammel. Examples of quick release fasteners. Examples of aircraft structural materials. Aircraft jacks and trestles (to suit training aircraft). Steel measuring tape. CAI suite with software. Flying control rigs. Cable rig. Petrol driven vacuum cleaner. Training fuselage (Hawk). Sectioned training wing (Hunter). Spring balance. Plumb bob. Spirit level. Incidence gauge set (Jet Provost). Dihedral gauge set (Jet Provost). Straight edge. Rigging board set (Jet Provost). 'A' frame steps. Selection of ground support equipment. Viper engine and stand. Selection of slings. Aircraft jacking pads and adaptors. Generic aircraft trainer (Genfly). Aircraft lubrication kit. Hard hats.</p>
<p>TA23</p>	<p>Training aircraft complete with documentation. Training aircraft sectioned. Aircraft Servicing Platform Mobile Adjustable Mk 2. Aircraft Servicing Ladder (Giraffe) Type D4. Examples of carbon fibre reinforced plastic. Examples of Kevlar reinforced plastic. Composite tool kit (to suit training aircraft). Fiche reader. Heavy duty electric vacuum cleaner. Air line operated vacuum cleaner. Endoprobe kit. Fibroscope. Light source box. MOD F700 (Jaguar). Minilift Hoist Multi Purpose Mk2 c/w Hoist Heavy. Minilift Jib No.3 Mk 2. Minilift Jib No.5. 10° adjustable level. 90° clinometer. MC clinometer. Cable tensiometer.</p>		

PART VI

TRAINING SECTION (a)	EQUIPMENT (b)	TRAINING SECTION (a)	EQUIPMENT (b)
TA20	Television Monitor and Stand. VHS VCR. CAI suite with software. Training aircraft fitted with AAES.	TA21 (continued)	Training Aircraft. Lotoxane cabinet. Portable LEV Equipment. Basic Corrosion Workshop Toolkit. Vacublast Abrasive Blasting Machine (Junior). Fibroscope. Endoprobes, Light Source Box and Guide. Microscopes. Magnifiers. Video Probe 2000.
TA21	Television Monitor and Stand. VHS VCR. CCTV. CAI suite with software. Basic Workshop Engineering Toolkit. Torque Wrenches. Torque Range Multiplier. Digital Torque Analyser. Guillotine (Treadle Type). Workshop Grinding Machine. Power Drilling Machine (Pillar Type). Bench Mounted Shears. Recirculated Air Ovens. Surface Plates. Marking-out Table. Vernier Calipers. Vernier Height Gauges. Digital Micrometers. Metric Micrometer Calipers. Imperial Micrometer Calipers. Metric Internal Micrometers. Imperial Internal Micrometers. Depth Micrometers. Bore Gauges. Vernier Bevel Protractors. Dial Test Indicators. Vee Blocks.	TA22	Training aircraft complete with aircraft AP Topics 1 and 10 and training documentation. Transformer/rectifiers. Animated display unit. Multimeters (Fluke Model 25). Digital voltmeters. CAI suite with software. Voltage/resistance measurement boards. Examples of aircraft generators. Examples of rotary and static inverters. Examples of linear and rotary actuators. Bonding leads and forks. Static discharge wicks. Tank units. 200v AC and 28v DC aircraft male and female connectors. Small busbar. Dummy Type 'J' and Type 'K' aircraft batteries + battery connectors. Pitot heads, combined and independent. Pitot static piping and fittings. Static plate with blanks. Fuses: HRC, ceramic, glass, slow blow, dummy red and yellow.

PART VI
EQUIPMENT

TRAINING SECTION (a)	EQUIPMENT (b)
TA0	Scientific calculators.
TA1	Scientific calculators.
TA3	1 Meter hardwood rules. Structures Universal Stand. Forces on a Beam Set. Polygon of Forces Set. Masses Set of 4. Metal Flywheel. Linear Air Track. Air blower. Multisecond Timer. Photo Timing gate. Accessories Kit. Young's Modulus of Wires Apparatus. Hard Drawn Steel and Brass Wire 0.45mm. Spring Balance 0 to 10N and 0 to 25N. Newton's Weights 5M, 10N, 20N and Hangers. Inclined Planes and Accessories. Wooden Blocks. Micrometer 0 to 25mm. Shear Force Beam. Screw Jack. Sash Cord.
TA4	Unilab power supplies. Stabilised power supply system. Electro-magnetic power supplies. Test leads, stackable. Single function meters. Multimeters.

TRAINING SECTION (a)	EQUIPMENT (b)
TA4 (continued)	Signal generators. Oscilloscopes. 500v meggers. Van de Graf machines. Locktronic: Boards, links, transformers, carriers. Single phase transformers. Lab transformers. Bridge rectifiers. Intikit: Logic tutors and carriers. Farnell power supplies.
TA6	Laboratory (Aerodynamics). Supersonic wind tunnel. Subsonic, 2 ft diameter wind tunnel (Plint TE44CH). Flight demonstration wind tunnel and models. Wind generators. Smoke tunnel. Venturi tube. CCTV replay chain. Aerotech 3 component balance. Acquisition system. CAI suite with software.
TA7	IBM Compatible PCs, minimum specifications: Pentium 133 processor, 16 Mbyte RAM, 1.2 Gbyte hard disk, 14in VGA colour monitor, A4 laser printers, printer sharers manual 4PC-1 printer. Software: MS DOS, MS Windows, MS Office, CPU Simulator.
TA15	Training aircraft fitted with AAES.

PART VI

SECTION (a)	AP NUMBER (b)	TITLE (c)
Examinations & Assessment Consolidation 1.3	AP100B-01 AP101B-3101-1 to 6 AP101B-0603-1 to 6	RAF Engineering – Orders and Procedures. Jaguar GR Mk 1/1A, set of complete publications. Harrier GR Mk3, 3A & 3C, set of complete publications.

PART VI

SECTION (a)	AP NUMBER (b)	TITLE (c)
TA30 (continued)	AP107D-0207-12 AP107D-0208-12 AP107D-0215-123 AP107D-0311-12 AP107D-0400A AP108F-0901-123A AP119F-2707-125F AP119L-0001-1 AP119L-0001-D2 AP119L-0501-5F	Demand Oxygen and Inflation Regulators Mk 21 Series. Demand Oxygen and Inflation Regulators Mk 20 Series. Seat Mounted Oxygen Regulator Assembly Type 517. Oxygen Flow Indicator Transmitters. Low Pressure Oxygen Hoses. Oxygen Masks Types H, H1A, H2 and R. Oxygen Charging Trolley (Four Cylinder). Mk 2 Oxygen and Nitrogen Characteristics, Associated Hazards and Safety Precautions. Identification of Gas Cylinders. LOX and Nitrogen 1890 Litre Storage Tanks.
TA31	AP100B-01 AP100C-02 AP101A-0700-1 AP101A-0800-1 AP101B-0501-5A2 AP101B-4101-1EN AP105B-1000-1C AP106B-0001-5F AP106B-0002-1 AP106B-0100-16 AP106B-0200-1C6 AP106B-0200-1F6 AP106B-0303-0 AP107C-0101-1 AP107C-0102-13A AP107C-0104-13 AP107C-0200-1 AP107E-0001-1 AP107E-0102-1 AP107E-0104-1 AP107E-0106-1	RAF Engineering – Orders and Procedures. Maintenance Data System – Aircraft Work Recording. Aircraft Windscreens and Associated Components. Transparent Plastic Aircraft Components. Safety and Maintenance Notes – Nimrod MR Mk 1. Aircraft Servicing Manual – Tornado GR Mk 1. Hydraulic Windscreen Wiper Units, Dunlop Windscreen Wiper System. Aircraft Fuel Tanks General Information. Safety Precautions During Repair of Aircraft Tanks. Aircraft Non-Integral Metal Fuel Tanks (including external tanks). Aircraft Flexible Tanks, Marston Exelsior. Aircraft Flexible Tanks, (FTP Industries Ltd). Aircraft Plastic External Fuel Tanks. Hot Rod Ice Detector. Ice Detector System, Smiths Type. Ice Detectors, English Electric. Anti-Icing and De-Icing Equipment Coolants and Anti-Freeze Solutions. Fire Prevention in Aircraft. Firewire Elements and Accessories. Relay Unit, Graviner. Control Units and Detector Heads, Firetec.

PART VI

SECTION (a)	AP NUMBER (b)	TITLE (c)
TA29	AP100B-01 AP101A-0300-1 AP101B-0501-1A AP101B-0501-1B AP101B-0603-1A AP101B-0603-1C AP101B-3101-15 AP101B-3101-1EJ AP101B-4401-1F AP105C-05130-1 AP107B-0001-1 AP107B-0103-1 AP107B-0143-13A AP107B-0245-1 AP107B-0245-3A AP107B-0521-123A AP107B-0521-5F AP107B-0524-13A AP107B-09100-13A AP107B-09103-13A AP107B-09107-13A AP107B-0996-13A AP107B-0998-13A AP107B-0999-13A AP107B-1071-13A AP3456B AP3456E	RAF Engineering – Orders and Procedures. Aircraft Rigid Pipelines. Aircraft Servicing Manual – Nimrod. Aircraft Servicing Manual – Nimrod. Aircraft Servicing Manual – Harrier. Aircraft Servicing Manual – Harrier. Aircraft Servicing Manual – Jaguar. Aircraft Servicing Manual – Jaguar. Aircraft Servicing Manual – Hawk. Anti-G Valve, Hymatic Type AG2. General Information on Pressurising and Air Conditioning. VCCP Type 1. Cold Air Unit. Temperature Control Equipment. Temperature Control Equipment. Water Extractor. Water Extractor (Bay Servicing). Water Extractor. Outwards and Inwards Relief valve. NRV High Temperature. Pressure Regulating Valve. Non-return Valve. Slave Discharge Valve. Cabin Pressure Control Valve. Ram Air and Depressurisation Valve. Flying – Aircraft Systems. Flying – The Aircrew, Airmanship and Aircraft Performance.
TA30	AP100B-01 AP100C-01 AP100C-02 AP101B-4101-1EL AP107D-0001-1 AP107D-0201-123A AP107D-0206-12	RAF Engineering – Orders and Procedures. The Maintenance Data System – System Description. The Maintenance Data System – Aircraft Work Recording. Tornado GR Mk1 Chap 25. General Information on Oxygen Equipment. Demand Oxygen Regulators Mk 17 Series. Miniaturised Oxygen Demand Regulators Types 417, 417 Mk1 & 417 Mk 2.

PART VI

SECTION (a)	AP NUMBER (b)	TITLE (c)
TA26	AP100A-01 AP100B-01 AP100C-01 AP100C-02 AP100C-06 AP101B-3101 AP101A-0300-1 AP101A-0301-1 AD119A-0301-D1 AP119F Series AP119F-1519-1 AP119F-2705-125F AP119L-0001-D2 Vickers GB-B-9003	RAF Engineering – Organisation and Policy. RAF Engineering – Orders and Procedures. MDS – System Description. MDS – Non-Aircraft Work Recording. MDS – Aircraft Engineering Documentation. Jaguar Topic 1 to 6 inclusive. Aircraft Pipelines and Pipeline Components. Aircraft Flexible Hoses with Re-usable End Fittings. Standard Colour Scheme for Identification of Metals. Hydraulic Servicing Trolleys. Inflation Adapter Mk 2 and Mk 6A. Nitrogen Charging Trolley. Identification of Gas Cylinders. Logical Trouble Shooting in Hydraulic Systems.
TA28	AP100A-01 AP100B-01 AP100C-01 AP100C-02 AP100C-03 AP100C-04 AP100C-06 AP100C-50 AP104F-0001-1 AP104H-0001 AP105B-0700-1 AP119A-0512-1 AP119A-1000 Series AP119F-0009-1 AP119F-0009-1 AP119F-3202-1 AP119F-3203-1 AP119A-0801-1	RAF Engineering – Organisation and Policy. RAF Engineering – Orders and Procedures. MDS – System Description. MDS – Aircraft Work Recording. MDS – Non-Aircraft Work Recording. RAF Engineering – MDS System Repair Line Work Recording. RAF Engineering – Documentation. RAF Engineering – Test & Measurement Equipment Calibration Policy and Procedures. Main Landing Wheels. Aircraft Tyres and Tubes – General Information. Maxaret Anti-Skid Units. Component Cleaning Processes. Data Books of Ground Support Equipment. High Pressure Tyre Inflator Mk 1. Portable Tyre Inflation Kits BOC Type, Topics 1, 2 and 5F. Tyre Removal Machines – Dunlop. Tyre Removal Machines (Twin Tyres) – Dunlop. Ball, Roller and PTFE Bearings.

PART VI

SECTION (a)	AP NUMBER (b)	TITLE (c)
TA23 (continued)	AP101A-0202-1 AP101A-0204-1 AP101A-0206-1 AP101A-0600-6 AP101A-0601-1 AP101A-1402-1 AP101B-3101-1CJ AP101B-3101-3 AP119A-0200-1A AP119A-0509-1 AP119A-0510-6 AP119A-0801-1 AP119A-20001-1 AP119F-0602-1 AP119F-1101-1 AP119F-2008-15F FAP1086 FAP101B-4101-1	Chains In Control Systems. Teleflex Controls. Flexible Wire Cables In Aircraft Control Systems. Standard Repairs to Airframes. Employment and Repair of Aircraft Composite Material. Sheet Metal Fasteners. Jaguar GR Mk 1/1A - Procedures Following Hazardous Incidents. Jaguar GR Mk 1/1A - Topic 3. Corrosion Manual - General Considerations. Aircraft Cleaning and Restoration of Protective Finishes. Aircraft Glass Fibre Repairs. Ball, Roller and PTFE Bearings. Non-Destructive Testing - General Information. Universal Jacking Trestles. Cable Tensiometer. Aircraft Servicing Ladder (Giraffe) Type D4. Catalogue of General RAF Equipment (Fiche). Tornado GR1 - Topic 1 (Fiche).
TA24	AP101A-0600-1 AP101A-0601-1 AP101A-1401-1 AP101B-01 AP101B-0400-6A AP119A-0200-1 AP119A-0504-1 AP119A-0601-0 AP119G-0902-16 AP119G-0904-1 AP119G-0912-1 AP1464B	Standard Repairs to Airframes. Composite Materials. Riveting Processes Used on Aircraft. RAF Engineering - Orders and Procedures. Standard Repairs - Canberra. Corrosion Manual. General Adhesives, Glazing and Sealing Compounds. Aircraft painting and Marking. Pop Riveter TT1A and Intensifier. Chobert Riveter Pneumatic. Mandrel Cropping Tool. RAF Engineering - General Engineering.

PART VI

SECTION (a)	AP NUMBER (b)	TITLE (c)
TA21	AP100B-01 AP100B-10 AP101A-0001-1 AP101A-1401-1 AP119A-0200-1 AP119A-0428-1 AP119A-0504-1 AP119G-0128-1 AP119G-0129-1 AP119A-0301-1 AP119G-0002-1 AP119G-0137-1 Def Stan 00-970 AP1464G	RAF Engineering - Orders and Procedures. Engineering Substances Hazardous to Health. Aircraft Mechanical Locking Standards and Practices. Riveting Processes. Corrosion Manual. Identification of Threaded Fasteners. General Adhesives, Glazing and Sealing Compounds. Torque Wrenches, Checking Rigs and Fixtures. Vacu-blast Information. Metals and Alloys. Heat Treatment of Aluminium Alloys. Air Circulating Heat Treatment Oven. Minimum Standards of Protection for Service Aircraft. Aircraft Engineering-General.
TA22	AP100B-01 BS3939	RAF Engineering - Orders and Procedures. Electronic and Logic Symbols.
TA23	AD100Z-0001-D1A AD100Z-0001-D1B AD100Z-0002-D1 AP 830 AP100A-01 AP100B-01 AP100C-01 AP100C-02 AP100C-03 AP100C-04 AP100C-05 AP100C-06 AP100C-22 AP100E-10 AP100Z-0001-1 AP100Z-0100 AP101A-0001-1 AP101A-0201-1	Engineering APs - Identification of Equipment Items. Engineering APs - Significance of the Third Element. Technical Air Publications in Microfiche. RAF Supply Regulations. RAF Engineering - Organisation and Policy. RAF Engineering - Orders and Procedures. Maintenance Data System - System Description. Maintenance Data System - Aircraft Recording. Maintenance Data System - Non-Aircraft Work Recording. Maintenance Data System - Repair Line Work Recording. Maintenance Data System - Data Coding. Maintenance Data System - Aircraft Engineering Documentation. Maintenance Data System - Logic Analysis. RAF Engineering - Management of GSE. RAF Catalogue of Coded AP's. RAF Engineering - Air Publications System. Aircraft Wire Locking Standards and Practices. Bowden Controls.

PART VI
PUBLICATIONS

SECTION (a)	AP NUMBER (b)	TITLE (c)
TA0		BTEC First Mathematics for Technicians – A. Greer and G. W. Taylor.
TA1	N/A	Nil.
TA3		Mechanical Engineering Science – Hannah and Hillier. Engineering Science – Hughes and Hughes. Engineering Science – W. Bolton. Advanced Design and Technology – Norman et al. Fluid Mechanics, level III – Madill. Mechanics of Flight – A C Kermode. Aircraft Flight – Barnard and Philpott. Basic Engineering Thermodynamics – Joel.
TA4	3275 Pt 2 3302	Aircraft Electrical Systems. Basic Electricity and Radio.
TA6	AP3456A	Flying – The Principles of Flight. Mechanics of Flight.
TA7	N/A	Nil
TA15	N/A	Nil.
TA20	AP110A-0601-1 AP100A-01 AP100B-01 AP100B-10 AP100C-10 JSP375 JSP418 HSW Act 1974 EP Act 1990 AP400A-0004	Radiation Safety. RAF Engineering – Organisation and Policy. RAF Engineering – Orders and Procedures. Engineering Substances Hazardous to Health. RAF Logistics Quality Manual. Advice and Guidance on HSW Act 1974. Environmental Manual. Health and Safety at Work Act 1974. Environmental Protection Act 1990. Manual of Health and Safety.

PART VI

SECTION (a)	AF NUMBER (b)	TITLE (c)	RUNNING TIME (d)
TA23 (continued)	AF8798 AF7742 AF8919 AF9515	For Our Health and Safety. Bearings and their Lubrication Pts 1 & 2 (BP). Aircraft Structural Integrity. It's Not My Problem. Jaguar in Production (BAe).	
TA24	AF3786 AF7998 AF1757	The Choice is Yours. Safety in Your Hands. Glass Reinforced Plastics.	21 mins
TA26	AF8165 AF8796	Close Encounters of the Contamination Kind. Hydraulics.	20 mins 15 mins
TA28	AF6992 AF7614 AF8142	Hazards of Hydroplaning. Rotary Hydraulic Arresting Gear. Time to Stop Again.	13 mins 22 mins 28 mins
TA29	AF6496 AF9408	The Effects Of acceleration On The Human Body. Fighting 'G'. Locally produced videos.	20 mins
TA30	AF5879 AF6192 AF6845 AF7481 AF7842	The Use Of Oxygen In Flight. Pt 1 The Use Of Oxygen In Flight. Pt 2 Living With Oxygen. Oxygen Fire In The Air. Man From LOX.	21 mins 21 mins 10 mins 8 mins
TA31	AF6541	Aviation Fuel Handling.	10 mins
Exams & Assessments	N/A	Nil.	N/A

PART VI

SECTION (a)	AF NUMBER (b)	TITLE (c)	RUNNING TIME (d)
TA7	N/A	Nil	N/A
TA15	N/A	Nil.	N/A
TA20	N/A	Nil	N/A
TA21	AF8021VT AF9046VT AF8221VT AF8112VT AF8119VT AF8743VT AF7674VT 205 (Loc)	Corrosion Control. Aircraft Corrosion. Husbandry in Naval Aircraft. Stress and Strain. Heat Treatment. Non-ferrous Metals. Its All on the Drawing. Tornado Washing.	20 mins 18 mins
TA22	AF4708 AF5607 AF5609 AF5615 AF5616 AF6641 AF6903 AF7517 AF9462	Electricity and Magnetism. Electrical Terms. What is Electricity. AC and DC. Generation of Electricity. Elements of Electrical Circuits. Electrical Cables and Connector Safety. Electrical Safety. Aircraft Wiring Husbandry.	18 mins 25 mins 14 mins 10 mins 10 mins 10 mins 10 mins 11 mins
TA23	AF7873 AF7981 AF8029 AF8118 AF8919 AF9213 AF7937 AF7938 AF7939 AF7940	Flammable Liquids Beware. Your House In Order. Crane Safety. Principles of Lubrication. Aircraft Structural Integrity. Hazardous Operation. Lift and Weight. Thrust and Drag. Balance and Stability. Controls and their Effect.	20 mins 20 mins 20 mins 23 mins

PART VI

FILMS

SECTION (a)	AF NUMBER (b)	TITLE (c)	RUNNING TIME (d)
General Interest/ Flight Safety	AF7111	The Human Factor – Accident Prevention.	17 mins
	AF7387	The Buccaneer.	24 mins
	AF7539	Servicing the Harrier.	30 mins
	AF7676	Fly Harrier.	7 mins
	AF7749	Jaguar – Technical Evaluation.	15 mins
	AF7844	Working with Helicopters.	18 mins
	AF7851	Nobody's Fault.	20 mins
	AF7889	MRCA – Development to First Flight.	23 mins
	AF7981	Your House in Order.	20 mins
	AF7997	It Shall Be The Duty.	28 mins
	AF7998	Safety in Your Hands..	14 mins
AF7999	Power to Fly – Development of Flight.	20 mins	
TA0	AF2744	Basic Electricity Parts 1 to 15.	15 mins
	AF6619	An Introduction to the Jet Engine.	14 mins
	AF7786	Basic Theory of Flight Part 3 – Flight Forces.	14 mins
	AF7783	Basic Theory of Flight Part 4 – Stability.	13 mins
TA1	N/A	Nil.	N/A
TA3	N/A	Nil.	N/A
TA4	AF4708	Electricity and Magnetism – Parts 2 and 3.	18 mins
	AF5607	Electrical Terms.	17 mins
	AF5609	What is Electricity.	13 mins
	AF5611	Electricity and Movement.	11 mins
	AF5615	AC and DC.	10 mins
	AF5616	Generation of Electricity.	10 mins
	AF6641	Elements of Electrical Circuits.	11 mins
	AF7517	Electrical Principles of Safety.	11 mins
TA6	AF7937	Lift and Weight.	
	AF7938	Thrust and Drag.	
	AF7939	Balance and Stability.	
	AF7940	Controls and their Effect.	

PART V

Z10 - DEPARTURE

T.O. No. (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR HOURS (h)
			Class (d)	Pract (e)	Total (f)		
1	Complete all administration procedures associated with departure from RAF Cosford.		4.00	0.00	4.00		4.00
Z10 TOTAL HOURS			4.00	0.00	4.00		4.00

TOTAL HOURS-Part V	8.00	16.00	24.00	8.00
---------------------------	-------------	--------------	--------------	-------------

PART V

SERVICE DIVERSIONS

Z1 - ARRIVAL

T.O. No. (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR. HOURS (h)
			Class (d)	Pract (e)	Total (f)		
1	Complete all administration procedures associated with arriving at RAF Cosford.		4.00	0.00	4.00		4.00
Z1 TOTAL HOURS			4.00	0.00	4.00		4.00

Z9 - ROUTINE ADMINISTRATION

T.O. No. (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR. HOURS (h)
			Class (d)	Pract (e)	Total (f)		
1.1	Complete all administration procedures associated with the day to day life of an airman including explanations of General Service Regulations and Procedures as they occur.	Time provided for resolution of student administrative problems without loss of essential training.	0.00	16.00	16.00		0.00
Z9 TOTAL HOURS			0.00	16.00	16.00		0.00

PART IV

Z17 - NVQ LOGBOOK BRIEF

T.O. No. (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR. HOURS (h)
			Class (d)	Pract (e)	Total (f)		
1	Participate in a briefing on the NVQ assessment strategy and the use of the candidate logbooks.	Briefing to be carried out by a NVQ co-ordinator.	2.00	0.00	2.00	1	2.00
Z17 TOTAL HOURS			2.00	0.00	2.00		2.00

Z18 - DISTANCE LEARNING BRIEF

T.O. No. (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR. HOURS (h)
			Class (d)	Pract (e)	Total (f)		
1.1	Describe the concepts and requirements of Distance Learning, including the use of materials, assessment procedures and available support.		2.00	0.00	2.00	1	2.00
Z18 TOTAL HOURS			2.00	0.00	2.00		2.00

TOTAL HOURS - Part IV	18.00	183.00	201.00	201.00
------------------------------	--------------	---------------	---------------	---------------

PART IV

Z15 - INTRODUCTION TO PRINCIPLES ADVANCED TECHNOLOGY SQUADRON (PATS)

T.O. No. (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR. HOURS (h)
			Class (d)	Pract (e)	Total (f)		
1	<p>a. State the procedures to be observed in the event of a fire or emergency evacuation of Fulton Block.</p> <p>b. State the precautions to be observed whilst working in the principles laboratories.</p> <p>c. State the content of the Principles element of the course and explain its importance as underpinning knowledge for the trade element.</p>	<p>Briefing by suitable PATS staff and/or supervisor.</p> <p>Briefing by suitable PATS staff and/or supervisor.</p> <p>Briefing by suitable PATS staff and/or supervisor.</p>	2.00	0.00	2.00	1	2.00
Z15 TOTAL HOURS			2.00	0.00	2.00		2.00

Z16 - PATS DEBRIEF

T.O. No. (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR. HOURS (h)
			Class (d)	Pract (e)	Total (f)		
1	Participate in a debrief of the Principles element of training.	By suitable PATS staff and/or supervisor.	2.00	0.00	2.00	1	2.00
Z16 TOTAL HOURS			2.00	0.00	2.00		2.00

PART IV

Z12 - DRILL

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR. HOURS (h)
			Class (d)	Pract (e)	Total (f)		
1.1	Carry out ceremonial drill practice.		0.00	8.00	8.00	1	8.00
Z12 TOTAL HOURS			0.00	8.00	8.00		8.00

Z14 - QUALITY SELF-LEARNING PACK

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR. HOURS (h)
			Class (d)	Pract (e)	Total (f)		
1	Complete the Quality Self-Learning Pack.	Completed in student's own time.	0.00	0.00	0.00	-	0.00
Z14 TOTAL HOURS			0.00	0.00	0.00		0.00

PART IV

Z6 - BELIEFS AND VALUES

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR. HOURS (h)
			Class (d)	Pract (e)	Total (f)		
1.1	Demonstrate a deeper understanding of citizenship and corporate life, express his beliefs and ideas, recognise problems and indicate virtues.	iaw Syllabus of Training for Padres.	6.00	0.00	6.00	1	6.00
Z6 TOTAL HOURS			6.00	0.00	6.00		6.00

Z7 - FLIGHT SAFETY

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR. HOURS (h)
			Class (d)	Pract (e)	Total (f)		
1	Demonstrate an awareness of the principles of flight safety compatible with economy in resource expenditure.	Flight safety awareness will be consolidated throughout trade training.	1.00	0.00	1.00	1	1.00
Z7 TOTAL HOURS			1.00	0.00	1.00		1.00

PART IV

Z4 - PHYSICAL EDUCATION

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR. HOURS (h)
			Class (d)	Pract (e)	Total (f)		
1	Maintain an adequate level of physical fitness.	iaw the appropriate PEd Syllabus of Training, QR 430-433 & ASI Vol 1 Inst 5.	0.00	160.00	160.00	1	160.00
Z4 TOTAL HOURS			0.00	160.00	160.00		160.00

Attitudinal Goals:

The student should:

1. Develop a personal commitment to personal fitness.
2. Appreciate the need for physical fitness in the RAF.
3. Appreciate the need to lead a healthy life style.
4. Appreciate the continuing need to be involved in sport on the unit.
5. Appreciate the contribution of sport in developing team spirit, high morale and physical fitness.
6. Appreciate the contribution of adventure and expedition training in developing self-reliance, confidence and high morale.

PART IV
AIRMAN TRAINING

Z2 - INTRODUCTION TO TRAINING

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR. HOURS (h)
			Class (d)	Pract (e)	Total (f)		
1	a. Describe the organisation of No 1 S of TT, the chain of command down to training flight level and name his commanding officers.	Briefing by Trade Training Officer (TTO) and/or Supervisor.	0.50		2.00	1	2.00
	b. State the standards to which discipline, personal conduct and cleanliness of domestic accommodation are to be maintained.	Briefing by Disciplinary staff.	0.50				
	c. Identify the fire points, fire exits, toilet facilities, break facilities and relevant offices in the training squadron.	Tour of squadron buildings conducted by an AFTS instructor.		1.00			
Z2 TOTAL HOURS			1.00	1.00	2.00		2.00

Z3 - COMMON CORE SKILLS

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR. HOURS (h)
			Class (d)	Pract (e)	Total (f)		
1	Undertake TOs iaw D RAF REGT AP3242B Vol 1 (Training Manual) and AP3242B Vol 4 (Diagnostic Tests) syllabuses of training dated Nov 92.		2.00	14.00	16.00	1	16.00
Z3 TOTAL HOURS			2.00	14.00	16.00		16.00

Intentionally Left Blank

PART III

EXAMINATIONS AND ASSESSMENT CONSOLIDATION

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR. HOURS (h)
			Class (d)	Pract (e)	Total (f)		
1.1	Use hand tools to complete a test job involving sheet metal work and riveting.	Skill of Hand (A).	0.00	14.00	14.00	2	28.00
1.2	Demonstrate skills and knowledge gained in TA24 by carrying out a complex repair across ribs and stringers of an aircraft structure.	Skill of Hand (B).	2.00	46.00	48.00	1/2	94.00
1.3	Demonstrate skills and knowledge gained in TA22, TA23, TA26, TA28, TA29, TA30 and TA31 by carrying out a range of practical tasks.	Practical assessment exercise.	2.00	38.00	40.00	4	160.00
1.4	Pass a final theory examination based on all trade training sections of the course.		2.00	0.00	2.00	1	2.00
1.5	Complete a debrief of the course.		2.00	0.00	2.00	1	2.00
TOTAL HOURS			8.00	98.00	106.00		286.00

PART III

TA31 - FUEL, FIRE, TRANSPARENCIES AND ICE PROTECTION

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR. HOURS (h)
			Class (d)	Pract (e)	Total (f)		
6.3	Examine extinguishers, mounting brackets and components in fire extinguisher systems.		1.00	1.00	2.00	1/4	5.00
7.1	Obtain a pass mark in an examination.		2.00	0.00	2.00	1	2.00
8.1	Carry out a debrief on phase content (TA29, 30 & 31) and assessment.		2.00	0.00	2.00	1	2.00
TA31 TOTAL HOURS			21.00	4.00	25.00		33.00

PART III

TA31 - FUEL, FIRE, TRANSPARENCIES AND ICE PROTECTION

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR HOURS (h)
			Class (d)	Pract (e)	Total (f)		
2.1	Describe the methods used for demisting aircraft transparencies.		1.00	0.00	1.00	1	1.00
2.3	Describe the methods of minor repair to aircraft transparencies and the action to be taken if repair cannot be effected.		1.00	0.00	1.00	1	1.00
2.4	Describe the methods used to remove rain from aircraft transparencies.		1.00	0.00	1.00	1	1.00
3.1	Describe the effects of ice build up on aircraft and the methods used to detect ice formation.	14588F/I9.	2.00	0.00	2.00	1	2.00
4.1	Describe the purpose, function and methods of aircraft in-flight ice protection and removal.	14588F/I9.	4.00	0.00	4.00	1	4.00
5.1	Recognise types of aircraft fuel tanks and state where procedures for their removal/fitment can be found.		2.00	0.00	2.00	1	2.00
5.2	State the hazards and precautions to be observed when carrying out maintenance tasks on aircraft fuel tanks and associated components.	14574F/A1.	2.00	0.00	2.00	1	2.00
5.3	Recognise contamination of, and common faults relating to, aircraft fuel tanks and associated components.		1.00	1.00	2.00	1/2	3.00
6.1	Explain the necessity for fire protection systems in aircraft and identify the aircraft fire zones.		1.00	1.00	2.00	1/2	3.00
6.2	Describe the principle of operation of and examine components in fire detection systems.		1.00	1.00	2.00	1/4	5.00

Intentionally Left Blank

PART III

TA30 - OXYGEN SYSTEMS

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR. HOURS (h)
			Class (d)	Pract (e)	Total (f)		
2.1	Describe the methods of supplying oxygen in aircraft.	14588F/G7.	1.00	0.00	1.00	1	1.00
3.1	Describe the construction and operation of a gaseous oxygen storage system.	14588F/G7.	2.00	0.00	2.00	1	2.00
3.2	Describe the procedure for replenishing an aircraft gaseous oxygen system.	14588F/G7.	1.00	0.00	1.00	1	1.00
4.1	Describe the dangers and safety precautions associated with the storage and handling of Liquid Oxygen (LOX).	14588F/G7.	2.00	0.00	2.00	1	2.00
4.2	Describe the principle operation of aircraft LOX systems and explain the purpose of their components.	14588F/G7.	3.00	2.00	5.00	1/2	7.00
5.1	Describe the principle of operation of a Molecular Sieve Oxygen Concentrator System (MSOCS).	14588F/G7.	2.00	0.00	2.00	1	2.00
6.1	Describe the principle of operation of typical oxygen delivery systems.	14588F/G7.	3.00	0.00	3.00	1	3.00
7.1	Carry out maintenance activities on aircraft oxygen systems.	14588F/G7.	4.00	12.00	16.00	1/4	52.00
7.2	Explain the methods used to detect contamination in oxygen systems and state the actions to be taken if contamination is found.		1.00	0.00	1.00	1	1.00
TA30 TOTAL HOURS			19.00	14.00	33.00		71.00

Intentionally Left Blank

PART III

TA29 - ENVIRONMENTAL CONTROL SYSTEMS

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR. HOURS (h)
			Class (d)	Pract (e)	Total (f)		
1.1	Complete TA29, TA30 and TA31 phase arrival procedures and participate in phase specific Health and Safety briefs.	14574F/A1.	1.00	0.00	1.00	1	1.00
2.1	Explain the purpose and function of a typical aircraft cabin conditioning system.	14588F/H8.	12.00	0.00	12.00	1	12.00
2.2	Describe the composition, structure and properties of the atmosphere and the effects of altitude on the human body.	14574F/E.	2.00	0.00	2.00	1	2.00
3.1	Describe the purpose and methods of conditioning equipment bays.		2.00	0.00	2.00	1	2.00
3.2	Recognise, dismantle and reassemble V-flange couplings.		2.00	2.00	4.00	1/4	10.00
4.1	Describe the purpose and methods of sealing aircraft pressure cabins and examine the associated components.	14588F/H8.	2.00	2.00	4.00	1/4	10.00
4.2	Explain the operation of and locate components in a typical cabin pressure control system.	14588F/H8.	4.00	2.00	6.00	1/4	12.00
4.3	Carry out cabin pressure and leak tests.	AFS 11, 12 & 20. ACC10.	2.00	6.00	8.00	1/4	26.00
5.1	Explain the purpose of and identify selected components in an anti-G system.		2.00	2.00	4.00	1/4	10.00
TA29 TOTAL HOURS			29.00	14.00	43.00		85.00

PART III

TA28 - UNDERCARRIAGES & RETARDATION

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR. HOURS (h)
			Class (d)	Pract (e)	Total (f)		
6.1	Describe types of landing gear assemblies in service and identify component parts of landing gear assemblies.	14588F/E5.	1.00	1.00	2.00	1/4	5.00
6.2	Describe the principles of operation of shock absorbers fitted to landing gear assemblies.	14588F/E5.	3.00	0.00	3.00	1	3.00
6.3	Describe the principle of operation of nosewheel steering systems.	14588F/E5.	2.00	0.00	2.00	1	2.00
6.4	Examine landing gear assemblies.	14588F/E5.	1.00	1.00	2.00	1/4	5.00
6.5	Replenish shock absorbers fitted to aircraft.		2.00	4.00	6.00	1/4	18.00
6.6	Examine, remove, fit and adjust selected components from an undercarriage and carry out associated functional tests.		8.00	16.00	24.00	1/4	72.00
7.1	Obtain a pass mark in an examination.		2.00	0.00	2.00	1	2.00
8.1	Carry out a debrief on phase content and assessment.		2.00	0.00	2.00	1	2.00
TA28 TOTAL HOURS			38.00	34.00	72.00		174.00

PART III

TA28 - UNDERCARRIAGES & RETARDATION

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR. HOURS (h)
			Class (d)	Pract (e)	Total (f)		
1.1	Complete phase arrival procedures and partake in a phase specific Health and Safety brief.		1.00	0.00	1.00	1	1.00
2.1	List the principle methods of retarding the forward movement of an aircraft on the ground and explain how aerodynamic and emergency retardation are achieved.		2.00	0.00	2.00	1	2.00
2.2	State the precautions when working with brake parachutes and arrestor hooks.		1.00	0.00	1.00	1	1.00
2.3	Describe the operation of typical arrestor hook systems.		1.00	0.00	1.00	1	1.00
3.1	Describe the purpose and principle of operation of an aircraft braking system.	14588F/E5.	3.00	0.00	3.00	1	3.00
3.2	Describe the purpose and principles of operation of aircraft mechanical anti-skid devices and electronic anti-skid systems.	14588F/E5.	3.00	0.00	3.00	1	3.00
4.1	Describe the operation of selected types of brake unit.	14588F/E5.	3.00	0.00	3.00	1	3.00
4.2	Examine, remove and fit brake units and associated components in braking and anti-skid systems, to include functional testing.		1.00	12.00	13.00	1/4	49.00
5.1	Identify and describe the basic construction of wheel assemblies, tyres and tubes.	14588F/E5.	2.00	0.00	2.00	1	2.00

Intentionally Left Blank

PART III

TA26 - HYDRAULICS

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR. HOURS (h)
			Class (d)	Pract (e)	Total (f)		
10.3	Carry out functional tests and checks on primary and secondary flying control systems.	14588F/A1.	1.00	7.00	8.00	1/4	29.00
11.1	Obtain a pass mark in an examination.		2.00	0.00	2.00	1	2.00
12.1	Carry out a debrief on phase content and assessment.		2.00	0.00	2.00	1	2.00
TA26 TOTAL HOURS			68.00	25.00	93.00		206.00

PART III

TA26 - HYDRAULICS

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR. HOURS (h)
			Class (d)	Pract (e)	Total (f)		
6.2	Describe the general procedure for carrying out a permaswage repair to a straight run of rigid pipeline.		2.00	0.00	2.00	1	2.00
7.1	Describe the operating principles of mechanically controlled and Fly By Wire (FBW) powered flying control systems.	14588F/D4.	8.00	0.00	8.00	1	8.00
8.1	Examine, remove and fit minor components in a hydraulic system.		1.00	5.00	6.00	1/4	21.00
8.3	Explain the purpose and procedures for draining, priming and bleeding hydraulic circuits.		2.00	0.00	2.00	1	2.00
9.1	Check and charge aircraft hydraulic accumulators with nitrogen.	14588F/A1.	2.00	2.00	4.00	1/4	10.00
9.2	Check and replenish aircraft hydraulic reservoirs.	14588F/A1.	1.00	1.00	2.00	1/4	5.00
10.1	Operate selected hydraulic maintenance trolleys.		2.00	2.00	4.00	1/4	10.00
10.2	Carry out functional tests and checks on normal and emergency landing gear systems.	14588F/A1.	1.00	7.00	8.00	1/4	29.00

PART III

TA26 - HYDRAULICS

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR. HOURS (h)
			Class (d)	Pract (e)	Total (f)		
1.1	Complete phase arrival procedures and participate in a phase specific Health and Safety brief.		1.00	0.00	1.00	1	1.00
2.1	Describe the basic principles of operation of aircraft hydraulic systems and identify selected types of hydraulic oil.	14588F/A1 & 14568F/D4.	10.00	0.00	10.00	2	20.00
3.1	Explain the purpose and function of aircraft primary and secondary hydraulic power supply circuits.	14588F/A1.	12.00	0.00	12.00	2	24.00
4.1	State the effects of contamination in an aircraft hydraulic system.	14588F/A1.	2.00	0.00	2.00	1	2.00
5.1	Explain the purpose and function of selected synchronised operating circuits.		8.00	0.00	8.00	2	16.00
5.2	Explain the purpose and function of normal and emergency operating circuits.		8.00	0.00	8.00	2	16.00
5.3	Explain the purpose and function of a screwjack operated flying control system.		2.00	0.00	2.00	1	2.00
6.1	Examine, remove and fit rigid pipelines and hoses.	14588F/A1.	1.00	1.00	2.00	1/4	5.00

PART III

TA24 - AIRFRAME REPAIRS

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR. HOURS (h)
			Class (d)	Pract (e)	Total (f)		
3.7	Explain the uses of jigs and jury rigging during structural repairs.		1.00	0.00	1.00	1	1.00
3.8	Explain the need for corrosion protection measures during repair and describe methods of application.	14578F/C3.	1.00	0.00	1.00	1	1.00
3.9	Describe the methods used to seal airframe structure during repair.		2.00	38.00	40.00	1/2	78.00
4.1	Carry out a simple repair in a free area of an aircraft component.		2.00	0.00	2.00	1	2.00
5.1	State the hazards and relevant health and safety precautions to be observed when cutting, drilling and abrading Fibre Reinforced Plastic (FRP) materials.	14574F/A1.	1.00	0.00	1.00	1	1.00
5.2	Identify and describe the operation of the tools required to cut, drill and abrade FRP material.		1.00	0.00	1.00	1	1.00
5.3	Describe, in simple terms, the processes involved when carrying out selected repairs to FRP panels and components.		0.00	8.00	8.00	2	16.00
5.4	Cut, drill and abrade preformed FRP panels and components using conventional and specialist hand tools.		2.00	0.00	2.00	1	2.00
6.1	Obtain a pass mark in an examination.		2.00	0.00	2.00	1	2.00
7.1	Carry out a debrief on phase content and assessment.						177.00
TA24 TOTAL HOURS			33.00	72.00	105.00		

PART III

TA24 - AIRFRAME REPAIRS

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR HOURS (h)
			Class (d)	Pract (e)	Total (f)		
1.1	Complete phase arrival procedures and participate in a phase specific Health and Safety brief.	14574F/A1.	1.00	0.00	1.00	1	1.00
1.2	Describe, in simple terms, the procedure by which airframe structural damage is assessed and how subsequent repair is determined and effected.		2.00	0.00	2.00	1	2.00
2.1	Operate pneumatic tools to fit, broach and remove solid and Tucker pop rivets.		2.00	4.00	6.00	1/2	10.00
2.2	Operate pneumatic tools to fit, close and remove Avdel and Chobert rivets.		2.00	4.00	6.00	1/2	10.00
2.3	Operate pneumatic tools to fit, close and remove Cherry-lock, Cherry-Max and Huck fasteners.		2.00	4.00	6.00	1/2	10.00
2.4	Fit and remove Dzus, Hi-Lok and Jo-bolt fasteners.		2.00	4.00	6.00	1/2	10.00
3.1	Relate categories of repair to lines of maintenance.		1.00	0.00	1.00	1	1.00
3.2	Extract selected repair information from Air Publications.		2.00	0.00	2.00	1	2.00
3.3	Explain the need for materials to be controlled through Certificates of Conformity (COC), batch numbers and associated unit documentation.		1.00	0.00	1.00	1	1.00
3.4	Joggle, cut and dimple aluminium alloy sheet.		1.00	4.00	5.00	1/2	9.00
3.5	Operate selected repair tools and describe methods of manufacture.		2.00	2.00	4.00	1/2	6.00
3.6	Demonstrate the procedures for repairing airframe structures.		2.00	4.00	6.00	1/2	10.00

PART III

TA23 - AIRCRAFT CONSTRUCTION & MAINTENANCE

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR. HOURS (h)
			Class (d)	Pract (e)	Total (f)		
6.9	Describe the operation of selected hydraulic lifting jacks and raise an aircraft on jacks.	14588F/F6.	1.00	4.00	5.00	1/4	17.00
6.10	Place an aircraft into rigging position and carry out rigging and symmetry checks.	14588F/F6.	2.00	3.00	5.00	1/4	14.00
6.11	Select and use universal jacking trestles.	14588F/F6.	1.00	1.00	2.00	1/4	5.00
6.12	State the procedures to be carried out following a hazardous incident.		1.00	0.00	1.00	1	1.00
6.13	Explain the need for Non Destructive Testing (NDT).		2.00	0.00	2.00	1	2.00
7.1	Carry out a practical assessment covering skills and knowledge gained in TA23.		2.00	30.00	32.00	1/4	122.00
7.2	Obtain a pass mark in an examination.		2.00	0.00	2.00	1	2.00
8.1	Carry out a debrief on phase content and assessment.		2.00	0.00	2.00	1	2.00
TA23 TOTAL HOURS			66.00	67.00	133.00		316.00

PART III

TA23 - AIRCRAFT CONSTRUCTION & MAINTENANCE

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR. HOURS (h)
			Class (d)	Pract (e)	Total (f)		
4.2	Carry out pre-use checks on and use lifting equipment to raise and lower a load under supervision.	14574F/A1.	1.00	3.00	4.00	1/4	13.00
4.4	Interpret and apply the maintenance policy for GSE.		2.00	0.00	2.00	1	2.00
5.3	State the methods of reporting faults and use F700 series documents to record work done and certify completion of a maintenance task.		8.00	6.00	14.00	1/2	20.00
5.5	Record details of scheduled aircraft maintenance tasks and maintenance procedures on the MOD F707MC, F707MP, F707MS or F2988 series work cards.		2.00	2.00	4.00	1/4	10.00
5.6	Recognise and state the purpose of Special Technical Instructions (STIs), Servicing Instructions (SIs), Preliminary Warning Instructions (PWIs), Local Engineering Instructions (LEIs), Modifications (Mods) and Special Trial Fits (STFs).		2.00	0.00	2.00	1	2.00
5.7	Explain the independent check regulations appropriate to his trade.		1.00	0.00	1.00	1	1.00
5.8	Interpret trade responsibilities for the maintenance of AAES.		1.00	0.00	1.00	1	1.00
6.5	Identify and examine selected bushes and bearings.		2.00	2.00	4.00	1/4	10.00
6.7	Explain the principles relating to aircraft zonal surveys.		2.00	0.00	2.00	1	2.00
6.8	Carry out maintenance tasks on, and functionally check, Bowden and Teleflex remote control systems.		3.00	3.00	6.00	1/4	15.00

PART III

TA23 - AIRCRAFT CONSTRUCTION & MAINTENANCE

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR. HOURS (h)
			Class (d)	Pract (e)	Total (f)		
2.9	Explain, in simple terms, the function and effect of selected aircraft flying control surfaces and their relationship to movement of the pilot's input controls.	14574F/E.	2.00	0.00	2.00	1	2.00
2.10	Recognise and explain, in simple terms, the function and effect of selected aircraft trimming devices and their relationship to movement of the pilot's input controls.	14574F/E.	1.00	0.00	1.00	1	1.00
2.11	Explain the meaning of aerodynamic balance and recognise the methods by which aerodynamic balance is achieved.	14574F/E.	1.00	0.00	1.00	1	1.00
2.12	Explain the purpose and recognise examples of flying control mass balance.	14574F/E.	1.00	0.00	1.00	1	1.00
3.1	Carry out maintenance of cable and chain operated control systems and set the tensions in these system.	14588F/D4. JPS/A.	3.00	5.00	8.00	1/4	23.00
3.2	Describe the general procedures for rigging and checking the range of movement of manually operated flying controls.		2.00	0.00	2.00	1	2.00
3.3	Describe the construction of, locate, examine, remove, adjust, fit and lubricate components of a push-pull rod control system.	14588F/D4.	2.00	4.00	6.00	1/4	18.00

PART III

TA23 - AIRCRAFT CONSTRUCTION & MAINTENANCE

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR. HOURS (h)
			Class (d)	Pract (e)	Total (f)		
1.1	Complete phase arrival procedures and participate in a phase specific Health and safety brief.	14574F/A1.	2.00	0.00	2.00	1	2.00
2.1	Recognise types of airframe construction, identify structural components and state the causes of structural deterioration.	14578F/B2. JPS/A1 & A2.	3.00	1.00	4.00	1/2	5.00
2.2	Recognise structural materials used in aircraft construction and state the precautions to be observed when working in/on aircraft structures.	14578F/A1. JPS/A1 & A2.	2.00	1.00	3.00	1/4	6.00
2.3	Describe the construction and characteristics of selected transparencies.	JPS/A7.	1.00	1.00	2.00	1/2	3.00
2.4	Identify, operate and check the locked position of Quick Release Fasteners (QRF) on aircraft.		1.00	1.00	2.00	1/2	3.00
2.6	Describe the basic principles of aircraft aerodynamics and how they influence aircraft design, construction and maintenance.	14574F/E.	4.00	0.00	4.00	1	4.00
2.7	Recognise, explain the purpose of and simply describe the operating principles of selected lift augmentation devices.	14574F/E.	2.00	0.00	2.00	1	2.00
2.8	Explain the meaning of stability and simply describe the means of achieving stability about the lateral, longitudinal and normal axes.	14574F/E.	2.00	0.00	2.00	1	2.00

PART III

TA22 - TRADE ELECTRICS

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (d)	INSTR. HOURS (e)
			Class (f)	Pract (g)	Total (h)		
22.24	Obtain a pass mark in an examination.		2.00	0.00	2.00	1	2.00
22.25	Carry out a debrief on phase content and assessment.		2.00	0.00	2.00	1	2.00
TA22 TOTAL HOURS			42.00	12.00	54.00		84.00

PART III

TA22 - TRADE ELECTRICS

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR HOURS (h)
			Class (d)	Pract (e)	Total (f)		
22.16	Recognise the components and describe the operation of a basic engine high-energy ignition system.		1.00	1.00	2.00	1	2.00
22.17	Recognise and state the function of aircraft instrumentation.		2.00	0.00	2.00	1	2.00
22.18	Recognise and state the function of selected transducers used in aircraft control and instrumentation systems.		1.00	0.00	1.00	1	1.00
22.19	Describe the construction and basic operation of selected gauging and indication systems.	14575F/D4.	4.00	0.00	4.00	1	4.00
22.20	Explain the purpose, recognise the components and describe the basic operation of aircraft pitot-static systems.	14575F/D4.	2.00	1.00	3.00	1/4	6.00
22.21	Describe the procedure for examining a pitot-static system for degradation/moisture ingress.	14574F/D4.	1.00	0.00	1.00	1	1.00
22.22	State the maintenance responsibilities for aircraft pitot-static systems.	14574F/D4.	1.00	0.00	1.00	1	1.00
22.23	Use a digital multimeter to carry out voltage and resistance measurements.		2.00	4.00	6.00	1/4	18.00

PART III

TA22 - TRADE ELECTRICS

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR HOURS (h)
			Class (d)	Pract (e)	Total (f)		
22.9	Identify and state the purpose and basic operation of micro-switches and proximity switches, and the trade responsibilities for their fitting and adjustment.		1.00	0.00	1.00	1	1.00
22.10	Describe the uses and basic operation of linear and rotary actuators used in aircraft systems.		2.00	0.00	2.00	1	2.00
22.11	Recognise and state the basic operation of an aircraft centralised warning system.		1.00	0.00	1.00	1	1.00
22.12	Connect and disconnect aircraft electrical connectors.	14575 (D4).	1.00	1.00	2.00	1/4	5.00
22.13	Explain the need for the correct husbandry of all aircraft wiring including fibre-optic cable, and state how this is achieved.		2.00	0.00	2.00	1	2.00
22.14	Apply external electrical power to an aircraft, observing all relevant safety precautions.		1.00	4.00	5.00	1/4	17.00
22.15	Describe the uses and basic operation of electrical solenoids and relays in aircraft systems.		1.00	0.00	1.00	1	1.00

PART III

TA22 - TRADE ELECTRICS

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR. HOURS (h)
			Class (d)	Pract (e)	Total (f)		
22.1	State the safety precautions necessary to safeguard personnel and equipment in an electrical workshop.	14574 (A1).	2.00	0.00	2.00	1	2.00
22.2	State the need for and the purpose of electrical systems fitted to aircraft.	14575 (A1).	1.00	0.00	1.00	1	1.00
22.3	Identify and describe the basic functions of the major components of an aircraft power supply system.	14575 (B2, C3).	3.00	0.00	3.00	1	3.00
22.4	Interpret basic aircraft wiring diagrams and symbols.	14575F/A1.	2.00	1.00	3.00	1	3.00
22.5	Recognise and state the purpose of aircraft batteries and the safety precautions to be observed when handling them.		1.00	0.00	1.00	1	1.00
22.6	State the purpose of earthing and bonding of aircraft and their components.		1.00	0.00	1.00	1	1.00
22.7	Identify and describe the operation of selected fuses and circuit breakers.		2.00	0.00	2.00	1	2.00
22.8	Recognise, state the purpose of, and explain the basic operation of selected aircraft switches, indicators and lamps.		3.00	0.00	3.00	1	3.00

Intentionally Left Blank

PART III

TA21 - ENGINEERING SKILLS (AT/FT version)

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR. HOURS (h)
			Class (d)	Pract (e)	Total (f)		
9.5	Describe the methods of mixing and applying adhesives.	BTEC 14578F/D4. BTEC 14574/A1.	2.00	0.00	2.00	1	2.00
10.1	Select and use reamers.	BTEC 4921F/7.	1.00	1.00	2.00	1/2	3.00
10.2	Remove and fit taper pins.	BTEC 4921F/7.	0.50	1.50	2.00	1/2	3.50
12.2	Set selected torque wrenches/tools.	BTEC 4921F/8.	2.00	2.00	4.00	1/2	6.00
13.1	Remove broken, damaged or corroded studs.	BTEC 4921F/7. BTEC 4921F/8.	0.50	1.50	2.00	1/2	3.50
13.2	Fit and remove wire thread inserts.	BTEC 4921F/7.	2.00	2.00	4.00	1/2	6.00
14.1	Fit and remove solid rivets.	BTEC 4921F/9.	1.00	3.00	4.00	1/2	7.00
14.2	Fit and remove solid countersunk rivets.	BTEC 4921F/9.	0.50	3.50	4.00	1/2	7.50
14.3	Use hand tools to fit and remove blind rivets.	BTEC 4921F/9.	0.50	2.50	3.00	1/2	5.50
15.1	Carry out a practical task to consolidate skills taught in A21.		0.00	16.00	16.00	2	32.00
16.1	Obtain a pass mark in an examination.		2.00	0.00	2.00	1	2.00
17.1	Participate in an End of Phase debrief on Engineering Skills phase content and assessment.		2.00	0.00	2.00	1	2.00
A21 TOTAL HOURS			52.00	64.00	116.00		192.00

PART III

TA21 - ENGINEERING SKILLS (AT/FT version)

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR HOURS (h)
			Class (d)	Pract (e)	Total (f)		
3.6	Carry out removal of corrosion using hand and mechanical methods.	BTEC 14574F/D4.	4.00	2.00	6.00	1/2	8.00
3.7	Explain the procedures for detecting and neutralising spillage of corrosive fluids and carry out associated remedial actions.	BTEC 4921F/3. BTEC 14578F/C3.	2.00	2.00	4.00	1/4	10.00
3.8	Explain the design considerations in the use of materials for aircraft structures.		2.00	0.00	2.00	1	2.00
4.1	Identify metals and alloys and explain the effect of heat treatment on metal specifications.	BTEC 4921F/2.	3.00	0.00	3.00	1	3.00
4.1a	State the characteristics, composition and uses for Fibre Reinforced Plastic (FRP) materials in aircraft components and structure.		2.00	0.00	2.00	1	2.00
4.2	Select and use precision measuring instruments.	BTEC 4921F/6.	8.00	4.00	12.00	1/4	24.00
6.2	Interpret the limit systems used in the manufacture of engineering components.		1.00	0.00	1.00	1	1.00
6.5	Check round work for distortion.	BTEC 4921F/6.	1.00	1.00	2.00	1/2	3.00
7.1	Measure, mark, cut and shape an aluminium alloy block to broad tolerances to within $\pm 0.4\text{mm}$ (1/64") (0.016") of stated measurement and ± 1 deg of stated angle.		0.00	8.00	8.00	2	16.00
7.2	Measure, mark, cut and shape an aluminium alloy sheet to broad tolerances to within $\pm 0.4\text{mm}$ (1/64") (0.016") of stated measurement and ± 1 deg of stated angle.		0.00	12.00	12.00	2	24.00

PART III

TA21 - ENGINEERING SKILLS (AT/FT version)

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR HOURS (h)
			Class (d)	Pract (e)	Total (f)		
1.1	State the safety precautions necessary to safeguard personnel and equipment in the workshop.	BTEC 4921F/1. BTEC 14574F/A1.	1.00	0.00	1.00	1	1.00
1.2	Explain the properties of engineering materials and the forces to which they may be subjected.		4.00	0.00	4.00	1	4.00
2.1	Identify engineering drawings and projections.		1.00	0.00	1.00	1	1.00
2.2	Describe the reason for and identify additional views of components on an engineering drawing.		1.00	0.00	1.00	1	1.00
2.3	Interpret dimensions and abbreviations on a working drawing.		2.00	0.00	2.00	1	2.00
2.4	Identify common types of fastening and locking devices on a working drawing.		0.50	0.00	0.50	1	0.50
2.5	Recognise and use information contained in an approved engineering drawing.		0.50	0.00	0.50	1	0.50
3.1	State the nature of and identify common forms of aircraft corrosion.	BTEC 4921F/3. BTEC 14578F/C3.	1.00	2.00	3.00	1/2	5.00
3.2	Explain the methods of preventing corrosion in aircraft.	BTEC 4921F/3. BTEC 14578F/C3.	2.00	0.00	2.00	1	2.00
3.3	Explain the methods of maintaining protective finishes.	BTEC 14578F/C3.	2.00	0.00	2.00	1	2.00

Intentionally Left Blank

PART III

TA20 – INTRODUCTION TO MAINTENANCE

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR. HOURS (h)
			Class (d)	Pract (e)	Total (f)		
1.1	State the precautions to be observed to safeguard personnel in a workshop and hangar environment.		1.00	2.00	3.00	1	3.00
1.2	a. State the responsibilities within the chain of command under the HSW Act 1974 and the EP Act 1990 regulations. b. Explain the HSW and EP implications of operating or handling the equipment or substances relevant to their Trade/Branch and course of instruction.		4.00	0.00	4.00	1	4.00
1.3	State the general safety precautions to ensure the safety of personnel from risks associated with falls and falling objects.		1.00	0.00	1.00	1	1.00
1.4	Understand the purpose and operate effectively within a Quality Control System.		2.00	0.00	2.00	1	2.00
1.5	Explain the dangers when working in a radiation hazardous area and the safety precautions.		1.00	0.00	1.00	1	1.00
1.6	Examine an AAES for correct fitment of safety devices.	BTEC 48KA1 Training to be delivered by Eng Tech W instructional staff iaw Eng Tech W Instructional Specification for Aircraft AAES Common Module.	2.00	2.00	4.00	1/4	10.00
TA20 TOTAL HOURS			11.00	4.00	15.00		21.00

Intentionally Left Blank

PART III

TA15 - AIRCRAFT ASSISTED ESCAPE SYSTEMS

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (f)	INSTR. HOURS (g)
			Class (d)	Pract (e)	Total (h)		
15.1	Check visually that the Aircraft Assisted Escape System (AAES) is in the "Safe for Parking" or "Safe for Maintenance" condition on all relevant aircraft types.	1. Training to be delivered by Eng Tech W instructional staff iaw Eng Tech W Instructional Specification for Aircraft Assisted Escape Systems (AAES) Common Module. 2. Training to be delivered at a frequency to ensure compliance with requirements of AP109A-0100-2(R)1 4th Edition Part 1 Lft 201. 3. Implementation of this training is to be arranged by Sqn training management within the constraints of para 2 above.	2.00	2.00	4.00	1/4	10.00
TA15 TOTAL HOURS			2.00	2.00	4.00		10.00

Intentionally Left Blank

PART III

TA7 – APPLICATION OF COMPUTERS

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (i)	INSTR HOURS (j)
			Class (f)	Pract (g)	Total (h)		
7.1	Describe the factors governing the selection of a computer system for a particular engineering application.	BTEC 6467B.	2.00	0.00	2.00	1	2.00
7.2	Recognise the hardware and software of computer systems and describe their inter-relationship.	BTEC 6467B.	6.00	0.00	6.00	1	6.00
7.3	Analyse the use of utilities and applications packages.	BTEC 6467B.	2.00	2.00	4.00	1	4.00
7.4	Describe the use of high and low level languages.	BTEC 6467B.	2.00	0.00	2.00	1	2.00
7.5	Use commercial or pre-prepared software/firmware packages to produce documents of Service correspondence and reports.	BTEC 6467B.	0.00	14.00	14.00	1	14.00
7.6	Obtain a satisfactory result in an examination of the Applications of Computers	BTEC 6467B.	2.00	0.00	2.00	1	2.00
			14.00	16.00	30.00		30.00

Intentionally Left Blank

PART III

TA6 - AIRCRAFT TECHNOLOGY (14574F, Unit value 1.0)

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR. HOURS (h)
			Class (d)	Pract (e)	Total (f)		
1.1	Complete phase arrival procedures and participate in a phase specific Health and Safety brief.	14574F/A1.	1.00	0.00	1.00	1	1.00
2.1	Explain the relationship between and calculate the aerodynamic forces acting on an aircraft in level flight and during simple manoeuvres.	14574F/E5.	2.00	0.00	2.00	1	2.00
2.2	Explain how an aircraft produces lift with reference to Bernoulli's Equation and the factors that determine the magnitude of lift forces.	14574F/E5.	2.00	4.00	6.00	1/2	10.00
2.3	Describe lift dependent drag and its effect on the total drag of an aircraft.	14574F/E5.	1.00	0.00	1.00	1	1.00
2.4	Explain the unfavourable aerodynamic effects of operating primary flight controls.	14574F/E5.	1.00	0.00	1.00	1	1.00
3.1	Obtain a satisfactory result in an examination of A6 Aerospace Technology.		2.00	0.00	2.00	1	2.00
4.1	Carry out a debrief on phase content and assessment.		2.00	0.00	2.00	1	2.00
TA6 TOTAL HOURS			11.00	4.00	15.00		19.00

PART III

TA4 - ELECTRICAL PRINCIPLES (14575F, Unit value 1.0)

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR HOURS (h)
			Class (d)	Pract (e)	Total (f)		
4.10	Obtain a satisfactory result in an examination of TA4 Electrical Principles.		2.00	0.00	2.00	1	2.00
TA4 TOTAL HOURS			18.00	12.00	30.00		42.00

PART III

TA4 - ELECTRICAL PRINCIPLES (14575F, Unit value 1.0)

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR. HOURS (h)
			Class (d)	Pract (e)	Total (f)		
4.1	Explain the characteristics of a simple electrical circuit.	A1.	3.00	5.00	8.00	1/2	13.00
4.2	Identify selected values of resistors.	A1.	1.00	0.00	1.00	1	1.00
4.3	Explain the difference between direct current and alternating current systems.	A1.	1.00	0.00	1.00	1	1.00
4.4	Explain the nature of a magnetic field and the behaviour and applications of electromagnetic circuits.	A1.	2.00	1.00	3.00	1/2	4.00
4.5	Explain the principles of electromagnetic induction and relate them to practical applications.	A1.	2.00	1.00	3.00	1/2	4.00
4.6	Identify and explain the functions of selected electronic devices.	E5.	3.00	2.00	5.00	1/2	7.00
4.7	Explain the behaviour and applications of capacitors.	E5.	1.00	3.00	4.00	1/2	7.00
4.8	Describe the construction of elementary printed circuit boards.	E5.	1.00	0.00	1.00	1	1.00
4.9	Describe the basic principles of operation of a VHF radio system.	G7.	2.00	0.00	2.00	1	2.00

Intentionally Left Blank

PART III

TA3 - ENGINEERING SCIENCE (14567F, Unit value 2.0)

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (f)	INSTR. HOURS (g)
			Class (d)	Pract (e)	Total (h)		
3.20	Determine engine power output and efficiencies.	F23.	2.00	0.00	2.00	1	2.00
3.22	Explain the lift and drag equations relating to an aerofoil section.	G25, 14574F.	2.00	1.00	3.00	1/2	4.00
3.23	Explain the effects of angle of attack and airspeed on aerofoil performance.	G26, 14574F.	1.00	1.00	2.00	1/2	3.00
3.24	Analyse boundary layer and boundary layer control.	G27, 14574F.	1.00	1.00	2.00	1/2	3.00
3.25	Explain the concepts of transonic/supersonic flight.	G28.	2.00	1.00	3.00	1/2	4.00
3.26	Complete an assignment covering any topic within TA3.		0.00	4.00	4.00	2	8.00
3.27	Complete an end of phase examination covering TOs 3.14 to 3.24 inclusive.		4.00	0.00	4.00	1	4.00
TA3 TOTAL HOURS			68.00	28.00	96.00		124.00

PART III

TA3 - ENGINEERING SCIENCE (14567F, Unit value 2.0)

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (f)	INSTR. HOURS (g)
			Class (d)	Pract (e)	Total (h)		
3.10	Investigate the relationship between displacement, velocity and acceleration for angular motion and explain the effects of centripetal acceleration.	C14.	2.00	2.00	4.00	1/2	6.00
3.11	Explain processes involving energy transfer.	D15.	4.00	2.00	6.00	1/2	8.00
3.12	Explain the steady flow energy equation.	D16.	2.00	0.00	2.00	1	2.00
3.13	Explain the principles of work done, potential energy and linear kinetic energy.	D17.	4.00	0.00	4.00	1	4.00
3.14	Complete a mid phase examination covering TOs 3.1 to 3.11 and TO 3.13.		4.00	0.00	4.00	1	4.00
3.15	Explain the basic gas laws.	E18.	2.00	0.00	2.00	1	2.00
3.16	Explain continuity and Bernoulli's equation.	E19, 14574F E5.	2.00	0.00	2.00	1	2.00
3.17	Apply continuity and Bernoulli's equation.	E20, 14574F E5.	1.00	1.00	2.00	1/2	3.00
3.19	Explain the basic thermodynamic relationships.	F22.	7.00	1.00	8.00	1/2	9.00

PART III

TA3 - ENGINEERING SCIENCE (14567F, Unit value 2.0)

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (f)	INSTR. HOURS (g)
			Class (d)	Pract (e)	Total (h)		
3.1	Identify and explain internal and external systems	A1.	2.00	0.00	2.00	1	2.00
3.2	Produce and interpret block diagrams of systems referred to in the Aircraft Technology modules.	A2.	2.00	0.00	2.00	1	2.00
3.3	Produce and interpret practical measuring systems in a block diagram form, identifying the functional elements.	F3.	2.00	0.00	2.00	1	2.00
3.4	Explain the concept of force.	B5.	4.00	4.00	8.00	1/2	12.00
3.5	Explain the principles of co-planar forces.	B6.	6.00	2.00	8.00	1/2	10.00
3.6	Determine a resultant turning moment as torque.	B8.	2.00	0.00	2.00	1	2.00
3.7	Explain the principle of moments and system equilibrium.	B9.	2.00	2.00	4.00	1/2	6.00
3.8	Investigate the relationship between displacement, velocity and acceleration for linear motion.	C12.	4.00	2.00	6.00	1/2	8.00
3.9	Explain the principle of conservation of momentum for linear motion.	C13.	4.00	4.00	8.00	1/2	12.00

Intentionally Left Blank

PART III

TA1 – MATHEMATICS FOR ENGINEERS

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (f)	INSTR HOURS (g)
			Class (d)	Pract (e)	Total (h)		
1.1	Use appropriate electronic aids to solve problems.	BTEC 14166HH 1.1 & 1.2.	3.00	0.00	3.00	1	3.00
1.2	Solve problems using formulae and also check answers by numerical substitution.	BTEC 14166HH 5.1, 5.2 & 6.1.	14.00	0.00	14.00	1	14.00
1.3	Evaluate problems relating to areas, perimeters and mass.	BTEC 14166HH 11.	5.00	0.00	5.00	1	5.00
1.4	Draw graphs from given data and read values by interpolation and determine linear laws.	BTEC 14166HH 7 (only up to quadratics, not including exponentials nor logarithms).	4.00	0.00	4.00	1	4.00
1.5	Solve problems expressed algebraically selecting the appropriate formulae using linear, simultaneous and quadratic equations.	BTEC 14166HH 5.1 & 6.2.	6.00	0.00	6.00	1	6.00
1.6	Use trigonometrical relationship in an engineering context.	BTEC 14166HH 10.	9.00	0.00	9.00	1	9.00
1.7	Represent physical quantities as vectors and undertake addition and subtraction of vector quantities.	BTEC 14166HH.	6.00	0.00	6.00	1	6.00
1.8	Obtain a satisfactory result in an examination.		2.00	0.00	2.00	1	2.00
TA1 TOTAL HOURS			49.00	0.00	49.00		49.00

Intentionally Left Blank

PART III

TA0 – LEAD IN TO TRAINING

NOTE: The material in this section is to be taught by a suitably qualified instructor. In doing so the instructor is to use every opportunity to relate the material to its use during the trade aspects of the latter course. Sqn management must decide those who will front these classes.

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (f)	INSTR. HOURS (g)
			Class (d)	Pract (e)	Total (h)		
0.22	Describe in general terms the meaning of forces, equilibrium and the effects of out of balance forces.		2.00	0.00	2.00	1	2.00
0.23	Describe the forces acting on an aircraft in flight.		1.00	0.00	1.00	1	1.00
0.24	Describe the basic construction of a gas turbine engine and the services provided.		1.00	0.00	1.00	1	1.00
0.25	Complete an end of phase test.		2.00	0.00	2.00	1	2.00
0.26	Participate in an end of phase debrief.		1.00	0.00	1.00	1	1.00
TA0 Total Hours			48.00	0.00	48.00		48.00

PART III

TA0 – LEAD IN TO TRAINING

NOTE: The material in this section is to be taught by a suitably qualified instructor. In doing so the instructor is to use every opportunity to relate the material to its use during the trade aspects of the latter course. Sqn management must decide those who will front these classes.

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (d)	INSTR. HOURS (e)
			Class (f)	Pract (g)	Total (h)		
0.13	Evaluate area and volume of given shapes.		2.00	0.00	2.00	1	2.00
0.14	Draw graphs from given data and read values, by both interpolation and extrapolation.		2.00	0.00	2.00	1	2.00
0.15	Solve basic arithmetic problems using vectors.		2.00	0.00	2.00	1	2.00
0.16	Solve basic right-angled triangle problems using Pythagoras' Theorem.		1.00	0.00	1.00	1	1.00
0.17	State selected SI and Imperial units and define the prefixes used in conjunction with SI units.		1.00	0.00	1.00	1	1.00
0.18	Describe the nature of voltage, current and resistance and state their relationship in simple DC electrical circuits.		2.00	0.00	2.00	1	2.00
0.19	Identify the effects and calculate the values of circuit voltage, current and resistance for series and parallel circuits.		1.00	0.00	1.00	1	1.00
0.20	Describe the relationship between mass, gravitational acceleration and weight, performing simple calculations.		1.00	0.00	1.00	1	1.00
0.21	Describe the relationship between mass, density and volume, performing simple calculations.		1.00	0.00	1.00	1	1.00

PART III

SUMMARY OF COURSE CONTENT – TRADE TRAINING

TA0 – LEAD IN TO TRAINING

NOTE: The material in this section is to be taught by a suitably qualified instructor. In doing so the instructor is to use every opportunity to relate the material to its use during the trade aspects of the latter course. Sqn management must decide those who will front these classes.

T.O. No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (f)	INSTR. HOURS (g)
			Class (d)	Pract (e)	Total (h)		
0.1	Explain that learning is work.		1.00	0.00	1.00	1	1.00
0.2	Describe the benefits of learning.		1.00	0.00	1.00	1	1.00
0.3	Describe different learning styles.		1.00	0.00	1.00	1	1.00
0.4	Identify factors that can affect the ability to learn.		1.00	0.00	1.00	1	1.00
0.5	Discuss the techniques used in revision and examinations.		1.00	0.00	1.00	1	1.00
0.6	Solve basic arithmetic calculations using whole numbers and fractions.		4.00	0.00	4.00	1	4.00
0.7	Solve basic arithmetic calculations using decimals.		2.00	0.00	2.00	1	2.00
0.8	Solve arithmetic problems that include both decimals and fractions.		1.00	0.00	1.00	1	1.00
0.9	Define the terms and solve simple problems involving percentages and ratios.		2.00	0.00	2.00	1	2.00
0.10	Solve problems using BODMAS.		1.00	0.00	1.00	1	1.00
0.11	Perform mathematical calculations using indices within an engineering context.		3.00	0.00	3.00	1	3.00
0.12	Solve basic algebraic problems.		10.00	0.00	10.00	1	10.00

Intentionally Left Blank

PART II ALLOCATION OF HOURS

PART III - CRITICAL PATH & FLEXIBILITY

Z1	Arrival	4
Z2	Introduction to Training	2
TA0	Lead In To Training	48
TA7	Applications of Computers	30
Z19	Distance Learning Brief	2
TA20	Introduction to Maintenance	15
Z14	Quality Self-Learning Pack	0
TA21	Engineering Skills + Skill of Hand A	130
TA22	Trade Electric	54
TA23	Aircraft Construction and Maintenance	133
TA24	Airframe Repairs + Skill of Hand B	153
TA26	Hydraulics	93
TA28	Undercarriages and Retardation	72
TA29	Environmental Control Systems	48
TA30	Oxygen Systems	33
TA31	Fuel, Fire, Transparency & Ice Protection	25

Assumption: Within each Part III module it is assumed that TOs are taught in the order listed.

TA0 & TA7 can be taught in parallel.

Z14 is delivered as part of A20.

TA21 and TA22 can be taught in parallel.

TA15 Aircraft Assisted Escape Systems 4

Optional module to maintain AAES currency. Deliver, if required, anywhere after TA22 and before Consolidated Practical Assessment.

TA24 could be taught at any point after completion of TA23.

TA29, TA30 and TA31 are ideally taught in sequence as a block, but they could be started after completion of TA26.

PART IV & V FLEXIBILITY

Part IV and V subjects Z3, Z4, Z6, Z7, Z9 & Z12 can delivered in any order (to meet specific requirements).

Z3	Common Core Skills	16
Z4	Physical Education	160
Z6	Beliefs and Values	6
Z7	Fight Safety	1
Z9	Routine Administration	16
Z12	Drill	8

Consolidated Practical Assessment		40
Final Examination and Debrief		4
Z17	NVQ Logbook Brief	2
Z15	Introduction to PATS	2
TA1	Mathematics Aerospace	49
TA3	Engineering Science	96
TA4	Electrical Principles	30
Z16	PATS Debrief	2
TA6	Aircraft Technology	15
Z10	Departure	4

TA1, TA3 & TA4 can be delivered in sequence or in parallel as per PATS requirements.

TA6 will be taught by AFTS staff. TA6 can be started after TA1 and specified TOs from TA3 have been completed.

PART I

17. Reference/Remarks. The reference/remarks column of the part three contains information relating to BTEC objectives. Where the specific BTEC unit is referred to in the section title, this is not duplicated in the column. Where BTEC objectives have been mapped into trade areas then the full reference is included. The JPS reference is the second reference followed by NVQ references.

PART I

10. Trade Testing. The system of trade testing will be by the achievement of a satisfactory standard in:
 - a. All specified training objectives.
 - b. Practical exercises in each training section.
11. Instructional Specification (IS). The syllabus is not intended to be used by supervising and instructional staff as the basis for preparation of lesson notes. Staff should refer to the IS which contains a complete list of objectives. However, it would be useful for trade instructors to be familiar with Part III to give them an overview of the course and how their subject fits into it.
12. Conditions and Standards. The conditions under which each TO is performed and the statement of standards indicating the level of performance to be achieved by the student is stated in the relevant IS.
13. Metrication. Throughout the course both Imperial and Metric systems are to be employed and practised for dimensions, working tolerances and units of weight, force, area and pressure. As a general rule, unless otherwise specified, the units to be used primarily are those in the relevant aircraft or equipment AP; where this is not clear, SI units are preferred. English, American and Metric standards are to be covered for thread forms, bolt and spanner sizes and torque loading.
14. Planning Information:
 - a. The number of cells for classroom lessons is 1 and the number of cells for practical lessons is as indicated.
15. Health and Safety at Work and Environmental Protection Act. The person under training is to understand and comply with the statutory requirements of the HSW Act 1974 and the Environmental Protection Act 1990 (EPA) relevant to the course of instruction and in the training environment. Specific trade related safety precautions and all statutory guidance concerning individual responsibilities for HSW and Control of Substances Hazardous to Health (COSHH) is included in the IS for the syllabus.
16. Quality Assurance (QA). Throughout the course the student will be working within a QA environment and will be expected to comply with all current regulations. In addition to the formal training on QA, this will help to reinforce the service ethos and commitment to Quality systems.

PART I

5. Security Grading. The contents of this course are up to and including RESTRICTED, the syllabus is FOR OFFICIAL USE ONLY.
6. Sponsor. The course sponsor is HQSTC LPS 1a.
7. Course Size.
 - a. Maximum number: 16.
 - b. Minimum number: 14.
8. Syllabus Review Date. This syllabus is to be reviewed annually by the training school staff commencing one year after the issue date.
9. Abbreviations:

AAES	Aircraft Assisted Escape System
AP	Air Publication
ASI	Air Staff Instruction
BTEC	Business & Technology Education Council
C	Classroom
DL	Distance Learning
FAFA	First Aid Fire Appliance
FOD	Foreign Object Damage
GSE	Ground Support Equipment
HSW	Health and Safety at Work Act (1974)
iaw	in accordance with
IT	Information Technology

JPS	Job Performance Statement
JSP	Joint Services Publication
MCOQ	Multiple Choice Objective Questions
NVQ	National Vocational Qualification
P	Practical
PEd	Physical Education
PMA	Personnel Management Agency
QR	Queens Regulations
SI	System International
TDO	Training and Development Officer
TO	Training Objective
VHF	Very High Frequency

In Part III it is inferred that each TO is prefaced with the phrase "The student must be able to...". Reference should be made to AP3376 Vol 3 Part 2 1st Edition Dec 98 for detailed description of relevant JPS. The JPS prefixed C refers to section 1 leaflet 3 and the JPS prefixed A refers to section 2 leaflet 3.

PART I
INTRODUCTION

1. **Aim of the Course.** The aim of the course is to train Senior Aircraftsmen and women in the trade of Airframe Mechanic to Airframe Technician (SAC) as specified in the AP 3376 series, and to develop the skills, knowledge and attitudes to enable them to be effective members of the RAF.
2. **Summary of Training Requirement.**
 - a. As directed by AP3376 series, the tradesmen will satisfactorily complete the TOs identified in part III of this document.
 - b. **Training Strategy.** This course will be attended as trade assimilation training.
 - c. **Assessment.** Student performance is continually assessed by:
 - (1) Observation of practical tasks.
 - (2) Classroom questioning.
 - (3) Obtaining a satisfactory result in final examinations.
 - (4) Satisfying assessment criteria required by external bodies.
3. **Eligibility.** Entry to the training course is by selection in accordance with current regulations.
4. **Duration of the Course.** The duration of the course is 32.3 weeks, divided as follows:
 - a. Effective training time Parts III and IV : 1268 hours.
 - b. Non-effective training time Part V : 24 hours.

Intentionally Left Blank

RELEVANT IMPERIAL UNITS, CORRESPONDING METRIC UNITS AND METRIC EQUIVALENTS

Imperial measurements are being retained because graduates will meet both metric and imperial systems in the workplace and therefore need an understanding of them.

Relevant Imperial Unit	Corresponding Metric Unit	Metric Equivalent	Relevant Imperial Unit	Corresponding Metric Unit	Metric Equivalent
LENGTH			CAPACITY		
Inch	Centimetre (cm)	2.54 cm	Fluid Ounce	Millilitre (mL)	28.413 mL
Foot	Metre (m)	0.305 m	Pint	Litre (L)	0.568 L
Yard	Metre (m)	0.914 m	Gallon	Litre (L)	4.546 L
Mile	Kilometre (km)	1.609 km	MASS		
Nautical Mile (UK)	Metre (m)	1853 m	Ounce	Gram (g)	28.35 g
AREA			Pound	Kilogram (kg)	0.454 kg
Square Inch	Square Centimetre (cm ²)	6.452 cm ²	Hundredweight	Kilogram (kg)	50.802 kg
Square Foot	Square Metre (m ²)	0.093 m ²	Ton	Tonne	1.016 tonne
Square Yard	Square Metre (m ²)	0.836 m ²	VOLUME		
Square Mile	Square Kilometre (km ²)	2.59 km ²	Cubic Inch	Cubic Centimetre (cc)	16.387 cc
FORCE			Cubic Foot	Cubic Metre (m ³)	0.028 m ³
Pound Force	Newton (N)	4.448 N	Cubic Yards	Cubic Metre (m ³)	0.765 m ³
Pound Force Foot	Newton Metre (Nm)	1.356 Nm	ENERGY		
Ton Force	Kilonewton (kN)	9.964 kN	Foot Pound Force	Joule (J)	1.356 J
PRESSURE			British Thermal Unit	Kilojoule (kJ)	1.055 kJ
Inch of Water	Millibar (mb)	2.491 mb	Therm	Megajoule (MJ)	105.51 MJ
Pound Force / Inch Sq.	Pascal (Pa)	6985 Pa	POWER		
SPEED			Horsepower	Kilowatt (kW)	0.746 kW
Foot / Second	Metres/Second (m/s)	0.305 m/s	ILLUMINANCE		
Knot (UK)	Metres/Second (m/s)	0.515 m/s	Foot Candle	Lux	10.764 lux

INDEX

PART (a)	TITLE (b)	PAGE (c)
I	Introduction.	1-1 to 1-4
II	Allocation of Hours.	2-1
III	Summary of Course Content - Trade Training.	3-0-1 to EXAM 1
IV	Summary of Course Content - Airman Training.	4-1 to 4-6
V	Service Diversions.	5-1 to 5-2
VI	Films, Publications and Equipment.	6-1 to 6-17
VII	Assessment Strategy.	7-1
VIII	Class Size and Assessment of Instructional Hours.	8-1 to 8-3

AMENDMENT RECORD

AL No (a)	AL DATE (b)	INCORPORATED BY (c)	DATE (d)
1	JUN 01	I THOMSON <i>[Signature]</i>	20 JUN 01

SYLLABUS OF TRAINING

CN 1304

AIRFRAME TECHNICIAN (SAC) ASSIMILATION

Mar 01

DISTRIBUTION LIST

SYLLABUS OF TRAINING FOR:

COURSE No: CN 1304 MAR 01

COURSE TITLE: AIRFRAME TECHNICIAN (SAC) ASSIMILATION (4th EDITION)

Distribution: **Copies**

External:

HQSTC RAF High Wycombe (LPS1a) 1

HQPTC RAF Innsworth GT(Cosford) 1

TDSU RAF Halton ASF Manager 1

Internal:

No 1 S of TT RAF Cosford (Training Documentation Control Cell) 10

CN 1304 MAR 01

ROYAL AIR FORCE COSFORD



IMPORTANT

THIS IS A REGISTERED DOCUMENT
DO NOT DEFACE OR DESTROY

THIS IS COPY NUMBER 015
IN THE UNIT SYLLABUS REGISTER
THE REGISTER IS MAINTAINED WITHIN
TDSB BY THE SYLLABUS CO-ORDINATOR

SYLLABUS OF TRAINING

AIRFRAME TECHNICIAN
(SAC) ASSIMILATION
(4TH EDITION)

NO 1 S OF TT

Copy No.....

1

CN1557 AIRFRAME MECHANIC COURSE

PART III - SUMMARY OF COURSE CONTENT - TRADE TRAINING

A1 Mathematics

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
1/1	Whole numbers and Decimals.	Carry out the 4 basic arithmetic operations on whole numbers, decimals and fractions.		1	6	-	6	6
1/2	Graphs.	Draw line graphs from given data and read values.		1	2	-	2	2
1/3	Areas and volumes.	Calculate area and volume of rectangular and cylindrical cross sections.		1	2	-	2	2
Total A1					10	-	10	10

A3 Engineering Science

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
1/1	SI Units.	State selected SI and imperial units.		1	1	-	1	1
1/2	Mass, Weight and Gravity.	Describe in general terms the relationship between mass, gravitational acceleration and weight.		1	1	-	1	1
1/3	Motion.	Describe in general terms the meaning of forces, equilibrium and the effects of out of balance forces.		1	2	-	2	2
Total A3					4	-	4	4

A4 Basic Electricity

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
1/1	Circuit Characteristics.	Explain the characteristics of a simple electrical circuit.		1	4	-	4	4
1/2	AC and DC Systems.	Explain the difference between AC and DC systems.		1	1	-	1	1
1/3	Electrical System.	Describe the major components of an electrical system.		1	2	-	2	2
1/4	Capacitors.	State the purpose of, and the safety pre- cautions when working with capacitors.		1	1	-	1	1
					8	-	8	8
Total A4								

A5 Materials

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j	
					C f	P g	T h		
1/1	Material Properties.	Explain the properties of engineering materials and the forces to which they may be subjected.	EP 37.	1	2	-	2	2	
1/2	Fatigue.	State terms and describe processes relating to fatigue.		1	1	-	1	1	
1/3	Metals and Alloys.	Describe how the properties of metals can be improved and the effects of heat treatment.		1	2	-	2	2	
1/4	Composites.	State terms associated with, and describe materials used in, composite structures.		1	1½	½	2	2	
	Total A5					6½	½	7	7

A6 Aerodynamics

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
1/1	Atmosphere.	Describe the composition and characteristics of the atmosphere and how these change with altitude.		1	1	-	1	1
1/2	Flight Forces.	Describe the 4 main forces acting on an aircraft in flight.		1	2	-	2	2
1/3	Lift.	Describe how an aerofoil produces lift.		1	3	-	3	3
1/4	Drag.	Describe the main types of drag and how they are produced.		1	2	-	2	2
1/5	Stability.	Describe how stability is achieved about the 3 axes.		1	2	-	2	2
1/6	Control.	Describe how an aircraft is controlled about the 3 axes.		1	2	-	2	2
1/7	Powered Controls.	Explain the purpose of powered flying controls and control configured vehicles.		1	2	-	2	2
2/1	Examination	Obtain a pass mark in a Trade Principles (A1, A3, A5 and A6) examination.		1	2	-	2	2
					16	-	16	16
Total A6								

A20 Introduction to Maintenance

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
1/1	Personnel Safety.	State the precautions to be observed to safeguard personnel in a workshop and hangar environment.	EP 57, F2, SODEA 102.	1	1	-	1	1
1/2	Fire Prevention.	State the precautions to be taken to reduce fire risk and the procedure taken in the event of a fire.	F2.	1	2	-	2	2
1/3	HSW and Environmental Protection (EP). HSW and EP Implications.	a. State their responsibilities within the chain of command under the HSW Act (1974) and the EP Act (1990) regulations. b. Explain the HSW and EP implications of operating the equipment and handling or disposing of substances relevant to their Trade/Branch and the course instruction.	SAK SODEA 4. GAI 2125. JSP 375. GAI 2125. JSP 418. SAK SODEA 35.	1	4	-	4	4
1/4	Falls and Falling Objects.	State the general safety precautions to ensure the safety of personnel from risks associated with falls and falling objects.	AP5120-0411	1	1	-	1	1
2/1	Introduction to Aircraft.	Describe the basic features and roles of RAF aircraft.	AS&C 1, HLC 1.	1	1	-	1	1
3/1	Aircraft Hazards	Describe the general hazards associated with working on aircraft.	AS&C 1, 2.	1	2	-	2	2
3/2	Radio Frequency (RF) Radiation Hazards.	Explain the dangers involved when working in radiation hazardous areas and the safety precautions to be observed.	AS&C 2. SODEA 17.	1	2	-	2	2

A20 Introduction to Maintenance

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C	P	T	
					f	g	h	
4/1	Flight Safety.	Explain the purpose of flight safety.	GA 29.	1	1	-	1	1
5/1	Foreign Object Damage (FOD).	Explain the possible effects of foreign objects on aircraft and the methods used to prevent FOD.	AS&C 2, EP 112, GA 26, 28.	1	2	-	2	2
6/1	Aircraft Assisted Escape Systems (AAES).	Examine an AAES for correct fitment of safety devices.	AES 1 & 2, AS&C 2 paras 4a, 5a & c.	1 4	2 -	- 2	2 2	2 8
7/1	Aircraft Maintenance.	Describe the aircraft maintenance organisation within the RAF and the need for recording.	SODEA 2, 8.	1	1	-	1	1
7/2	Quality Assurance.	Operate effectively within a Quality Control System.	SODEA 126.	1	2	-	2	2
8/1	Air Publications.	Describe the engineering Air Publication system.	SODEA 8, 10, 13.	1	2	-	2	2
9/1	Supply.	Explain the function of a supply organisation and identify an item of equipment.	GA 48, SUP 2.	1 2	3 -	- 1	3 1	3 2
10/1	Engineering Support Facilities.	Explain the role of typical engineering support facilities.		1	1	-	1	1
13/1	Examination	Obtain a pass mark in an examination.		1	2	-	2	2
	Total A20				29	3	32	39

A21 Engineering Skills

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
1/1	Workshop Safety Precautions.	State the safety precautions necessary to safeguard personnel and equipment in the workshop.	EP 57, GA 22.	1	2	-	2	2
1/2	Composite Tool Kits.	State the method used to control tools in a workshop composite tool kit.	EP 112.	1	1	-	1	1
2/1	Orthographic Projection.	Recognise and state the difference between 1st and 3rd angle projection and additional views.	EP 1.	1	1	-	1	1
2/2	Isometric and Oblique views.	Recognise and state the purpose of Isometric and Oblique views.	EP 1.	1	1	-	1	1
2/3	Abbreviations.	Interpret a given selection of symbols and dimensioning used in workshop drawings.	EP 1.	1	1	-	1	1
2/4	Workshop Drawings.	Interpret a selection of workshop drawings.	EP 1.	1	1	-	1	1
2/5	Title Block.	Interpret the information given in a title block.	EP 1	1	1	-	1	1

A21 Engineering Skills

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
3/1	Corrosion.	Visually recognise types of corrosion and state their effects and causes.	EP 62.	1	8	-	8	8
3/4	Cleaning and degreasing.	Describe the procedures for preparation and application of approved cleaning and degreasing tasks.	EP 64.	1 2	4 -	- 2	4 2	4 4
3/5	Visual examination.	Examine materials for cracks, flaws and corrosion.	EP 90.	1 2	2 -	- 2	2 2	2 4
3/6	Corrosion Removal.	Describe the procedures for the removal of light corrosion.	EP 63, 68 & 69.	1	6	-	6	6
4/1	Metal Identification.	Identify metals and alloys and explain the effect of heat treatment on metal specification.	EP 38.	1	1	-	1	1
4/2	Precision Measuring Instruments.	Select and use precision measuring instruments.	EP 32, 33 & 36.	1 4	8 -	- 4	8 4	8 16

A21 Engineering Skills

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
4/3	Cutting and Filing to Broad Tolerances.	Measure, mark, cut and shape metal to broad tolerances to within $\pm 0.4\text{mm}$ ($1/64''$) (0.016ins) of stated measurements and ± 1 degree of stated angle.	EP 4, 7, and 10.	1 2	6 -	- 18	6 18	6 36
4/4	Marking of Metals.	Apply identification markings to metals.	EP 83.	1 2	$1/2$ -	- $1/2$	$1/2$ $1/2$	$1/2$ 1
4/5	Marking out onbars and tubes.	Perform measuring and marking tasks on round bars and tubes and test flat surfaces for accuracy.	EP 10.	1 2	2 -	- 2	2 2	2 4
4/6	Guillotine.	Cut aluminium alloy sheet using tinmans shears, treadle operated guillotine and bench mounted shears.	EP 6, 7.	1 2	1 -	- 1	1 1	1 2
4/7	Practical task.	Cut and shape aluminium alloy sheet to broad tolerances to within $\pm 0.4\text{mm}$ ($1/64''$) ($.016\text{ins}$) of stated measurements and ± 1 degree of angle.	EP 4, 6 & 7.	2	-	12	12	24
5/1	Grinding Machine.	Sharpen/shape selected tools on an approved workshop grinding machine.	EP 57, 76.	1 2	$1/2$ -	- $1 1/2$	$1/2$ $1 1/2$	$1/2$ 3

A21 Engineering Skills

NO.	SUBJECT	OBJECTIVE	REF/ REMARKS	NO OFF CELLS	SYLL HRS			INSTR HRS
					C f	P g	T h	
a	b	c	d	e	j			
6/1	Screwthread systems.	Identify selected screwthread systems.	EP 9, 35.	1 2	4	-	4	4
6/4	Non-adjustable gauges.	Select and use non-adjustable gauges.	EP 35.	1 2	1 -	- 1	1 1	1 2
8/1	Drills and Drilling.	Drill holes using hand brace and vertical floor mounted electric drilling machine.	EP 7, 57 and 100.	1 2	2 -	- 4	2 4	2 8
9/1	Threaded fasteners and associated tools.	Identify, state the purpose of and carry out the assembly and dismantling of Aircraft Threaded Fasteners.	EP 5, 11.	1 2	6 -	- 4	6 4	6 8
9/2	Locking Devices.	Select and use locking devices.	EP 13, 72.	1 2	2 -	- 4	2 4	2 8
9/3	Wire Locking.	Carry out wire locking tasks.	EP 13.	1 2	1 -	- 3	1 3	1 6
9/4	Peening.	Lock nut and bolt/screw assemblies by peening.	EP 13.	1 2	½ -	- ½	½ ½	½ 1
9/5	Adhesives	State the hazard associated with and describe the use of typical adhesives.	EP 72.	1	2	-	2	2
11/1	Screwthread Manufacture.	Manufacture internal and external screwthreads.	EP 9, 14.	1 2	2 -	- 5	2 5	2 10

A21 Engineering Skills

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
12/1	Torque tools.	Select and use torque tools.	EP 16.	1 2	2 -	- 2	2 2	2 4
13/1	Broken Studs.	Remove broken or damaged studs.	EP 11, 23.	1 2	½ -	- 1½	½ 1½	½ 3
14/1	Solid Rivets and Riveting.	Fit and remove solid rivets.	AS&C 3, EP 84.	1 2	4 -	- 10	4 10	4 20
14/2	Solid Countersunk Rivets and Riveting.	Fit and remove solid countersunk rivets.	EP 7, 84.	1 2	2 -	- 8	2 8	2 16
14/3	Tucker pop rivets and riveting.	Fit and remove Tucker pop rivets.	AS&C 3, EP 85.	1 2	1 -	- 5	1 5	1 10
15/1	Consolidation task.	Carry out a practical task to consolidate skills taught in A21.		4	-	18	18	72
16/1	Examination.	Obtain a pass mark in an examination.		1	2	-	2	2
	Total A21				79	109	188	341

A23 Structures

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
3/1	Airframe Construction.	Recognise types of airframe construction, identify structural components and state the causes of structural deterioration.	AS&C 12. AR 4, 5.	1	3	1	4	4
3/2	Structural Materials.	Recognise structural materials and state the need for care when working in/on structures.	AS&C 1.	1	1	1	2	2
3/3	Pylons, Markings and Fuel Storage.	Recognise pylons, selected servicing markings and state the methods of storing fuel in/on aircraft.	AS&C 1.	1	1	1	2	2
3/4	Quick Release Fasteners (QRF).	Identify, operate and state the procedure for replacement of defective QRF on aircraft.	EP 18. AR 3.	1 2	2 -	- 2	2 2	2 4
4/1	Tell-tale/Restraint Wire.	Identify and fit tell-tale /restraint wire to emergency switches and levers.	AS&C 6, 53.	1 2	1 -	- 1	1 1	1 2
5/1	Air Publications (APs).	Extract information from engineering APs for tasks appropriate to his trade.	SODEA 2, 10 & 11.	1	3	3	6	6
5/2	Engineering Terminology.	Interpret standard RAF engineering terminology	SODEA 3.	1	2	-	2	2
5/3	Aircraft Documentation	State the methods of reporting faults and use F700 series documents to certify completion of a maintenance task.	SODEA 1, 2, 5.	1	4	4	8	8

A23 Structures

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
5/5	Aircraft Interior Cleaning.	Clean interiors of aircraft.	AS&C 15, GHA 20.	1 3	2 -	- 1	2 1	2 3
5/6	Practical Task.	Locate and wire lock selected components on an aircraft.	EP 13.	1 3	1 -	- 3	1 3	1 9
5/7	Supply Procedure.	Identify technical equipment and compile information required to obtain such equipment.	SODEA 5. GA 48.	1	4	2	6	6
6/1	Examination of Structure.	Examine aircraft skin and structure for faults.	AS&C 3.	1 3	2 -	- 3	2 3	2 9
7/1	Visual Examination.	Visually examine materials for cracks and flaws.	EP 90.	1 2	1 -	- 1	1 1	1 2
8/1	Bonded Structures.	Recognise and state the purpose of honeycomb and Redux bonded structures.	AR 4, 5.	1	2	-	2	2
8/2	Glass Reinforced Plastic (GRP) Structures.	Examine and clean GRP components.	AS&C 3, 30.	1 2	1 -	- 1	1 1	1 2
8/3	Composite Structures.	Explain the health hazards and safety precautions relevant to composite structure and components.	AS&C 121.	1	1	-	1	1

A23 Structures

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
9/1	Scheduled Maintenance.	Interpret aircraft maintenance policy and record details of scheduled aircraft maintenance tasks on MOD F707MC, F707MP, F707MS or F2988 series workcards.	EP 64.	1	6	-	6	6
9/2	Special Technical Instruction (STI), Servicing Instruction (SI), Preliminary Warning Instruction (PWI).	Recognise and state the purpose of STIs, SIs and PWIs.	SODEA 7.	1	2	-	2	2
9/3	Interpret STIs, SIs and PWIs.	Interpret information in STIs, SIs and PWIs.	SODEA 7, 8.	1	1	-	1	1
9/4	Satisfy an STI, SI or PWI.	Satisfy an on-aircraft STI, SI or PWI and record compliance.	SODEA 39.	3	-	2	2	6
10/1	Lubrication.	Select lubricants, lubrication equipment and explain lubrication procedures.	EP 8, FF&L 1, 2.	1	2	-	2	2
10/2	Lubrication Task.	Carry out a lubrication task on an aircraft.	EP 8.	2	-	4	4	8
11/1	Ground Support Equipment (GSE).	Use selected GSE.	GSE 14.	1 2	2 -	- 4	2 4	2 8

A23 Structures

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j	
					C f	P g	T h		
11/2	Lamps and Floodlights.	Operate inspection lamps, torches and floodlights.	GSE 25. ES 74.	1 2	1 -	- 1	1 1	1 2	
11/3	Lifting Equipment.	Carry out pre-use examination and when supervised, use lifting equipment to raise and lower a load.	GSE 5.	1 4	1 -	- 3	1 3	1 12	
11/4	Working at Height.	State the general safety precautions to ensure the safety of personnel from risks associated with falls or falling objects.		1	1	-	1	1	
12/1	Lifting Jacks.	State the principle of operation of hydraulic lifting jacks and the methods of lifting aircraft.	AS&C 63.	1	2	-	2	2	
12/2	Universal Jacking Trestles.	Select and describe the uses of universal jacking trestles.		1	2	-	2	2	
12/5	Aircraft Jacking.	Explain procedures for and precautions to be observed when raising an aircraft on jacks.	AS&C 63.	1	2	-	2	2	
12/8	Practical Jacking.	Raise an aircraft on jacks.	AS&C 63.	3	-	4	4	12	
13/1	Consolidation.	Carry out a Primary maintenance.		3	-	14	14	42	
14/1	Examination.	Obtain a pass mark in an examination.		1	2	-	2	2	
Total A23						55	56	111	188

A24 Airframe Repairs

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
3/1	Rivets and Powered Tools.	Describe the methods of using pneumatic hand tools to fit and close solid and Tucker pop rivets.	EP 15, 18 & 87.	1	3	-	3	3
3/6	Practical Tasks.	Carry out practical tasks to demonstrate knowledge gained in TO A24/3/1.	EP7, 81, 87 and AR3.	2	-	14	14	28
6/1	Battle Damage and Fly-in Repairs.	State the purpose and authority for Fly-in repairs and Battle Damage repairs.	AR 15.	1	1	-	1	1
					4	14	18	32
Total A24								

A25 Electrics and Pitot Statics

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
1/1	Need and Purpose of Electrical Systems.	State the need for, and the purpose of, electrical systems on aircraft.	ES 18. LS 8.	1	1	-	1	1
1/2	Electrical Cables and Connectors.	<p>a. State the purpose, construction and use of electrical cables.</p> <p>b. State the need for the correct husbandry of aircraft wiring and how this is achieved.</p> <p>c. Recognise, examine, disconnect and connect selected electrical connectors and terminations.</p>	ES 1, 12 and AVM3.	1 4	2 -	- 1	2 1	2 4
1/3	Aircraft Earthing and Bonding.	State the purpose of earthing and bonding.	ES 63.	1	1	1	2	2
1/4	Fuses and Circuit Breakers.	a. Identify and recognise the condition of selected fuses and circuit breakers.	AS&C 7, ES 5, 18 & 47.	1	1	-	1	1
1/5	Switches, Indicators and Lamps.	<p>a. Recognise, and explain the purpose of selected switches and indicators.</p> <p>b. Identify selected filament lamps.</p>	ES 1, 2, 3, 18 & 47.	1	4	-	4	4

A25 Electrics and Pitot Statics

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
1/6	Motors and Actuators.	State the purpose, function and applications of electric motors and actuators.	ES 18, 27, 66.	1	1	-	1	1
2/1	Aircraft Batteries and Battery Installations.	Identify, locate and examine batteries and stowages.	ES 6 & 18.	1 4	½ -	- ½	½ ½	½ 2
2/2	Aircraft Power Supplies.	Describe the major components of an aircraft power supply circuit.	ES 3, 27, 66.	1	1	-	1	1
2/3	Centralised Warning System (CWS).	Recognise and state the purpose of a centralised warning system.	ES 47.	1	1	-	1	1
2/4	Applying External Electrical Power to an Aircraft.	Apply external electrical power to an aircraft.	GSE 28 and GHA 5.	1 4	1 -	- 1	1 1	1 4
4/1	Pitot Static System and Components.	Describe the operation of a pitot static system, locate and examine system components.	AS&C 9, 55.	1 4	3 -	- 2	3 2	3 8
5/1	Examination.	Obtain a pass mark in an examination.		1	2	-	2	2
	Total A25				18½	5½	24	37½

A26 Hydraulics

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
1/1	Hydraulic Principles.	Describe the basic principles of operation of aircraft hydraulic systems and identify selected types of hydraulic oil.	FF&L 1.	1	7	-	7	7
2/1	Supply Circuits.	State the purpose and function of components in supply circuits.	HS 4, 5.	1 2	3 -	- 1	3 1	3 2
2/2	Operating Circuits.	Locate and state the purpose and function of components in a selected operating circuit.	HS 9.	1 2	2 -	- 1	2 1	2 2
2/3	Landing Gear Retraction.	Explain the purpose of landing gear retraction systems and examine their components.	HS 8, AS&C 8, 16 & 20.	1 2	1 -	- 3	1 3	1 6
2/4	Landing Gear Emergency Lowering.	Describe the operation of selected landing gear emergency lowering systems.	HS 17.	1	2	-	2	2
2/5	Functional Tests.	Carry out functional tests and checks on landing gear systems.	AS&C 8. HS 17.	1 3	2 -	- 4	2 4	2 12
2/6	Reset Emergency System.	Reset landing gear systems after emergency lowering.	HS 17.	1 3	1 -	- 4	1 4	1 12

A26 Hydraulics

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
3/1	Gas Charging Trolley.	State the purpose of and procedure for using a gas charging trolley and carry out the pre-use checks.	GSE 29.	1 2	1 -	- 3	1 3	1 6
3/2	Replenish Accumulators.	Charge aircraft hydraulic accumulators with gas.	GSE 29, HS 1, 3, PS 1 & EP 15.	1 4	1 -	- 3	1 3	1 12
4/1	Replenishing Reservoirs.	Check and replenish hydraulic reservoirs.	AS&C 52, HS 1.	1 2	2 -	- 4	2 4	2 8
5/1	Secondary Hydraulic Supply.	State the methods used to provide secondary hydraulic pressure and locate secondary hydraulic circuits.	AS&C 37.	1 2	1 -	- 1	1 1	1 2
6/1	Pipeline Identification.	State the purpose of and identify pipelines and hoses.	AS&C 23.	1	1	-	1	1
6/2	Pipeline Examination and Removal.	Examine, remove and fit rigid pipelines and hoses.	AS&C 23.	1 2	2 -	- 2	2 2	2 4
7/2	Minor Components.	Examine, remove and fit minor components in a hydraulic system.	HS 4, 5, 6. SODEA 2.	1 4	1 -	- 3	1 3	1 12
7/3	Major Components.	Examine, remove and fit hydraulic system major components.	EP 27. HS 19.	2	-	4	4	8

A26 Hydraulics

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
7/4	Drivekeys and Shafts.	Recognise, remove, examine and fit drivekeys, splined and serrated drive shafts.	EP 27.	1	2	2	4	4
8/1	Draining, Priming and bleeding.	Drain, prime and bleed hydraulic circuits.	HS 14.	1 2	2 -	- 3	2 3	2 6
9/1	Hydraulic Maintenance Trolleys.	State the procedure for operating a hydraulic maintenance trolley.		1	2	-	2	2
10/1	Consolidation Tasks.	Carry out a practical task to consolidate skills and knowledge gained.		4	-	13	13	52
11/1	Complex circuit.	Describe the operation of a complex hydraulic circuit.	HS 27.	1	2	-	2	2
12/1	Sampling.	State the purpose and method of taking hydraulic oil samples.	FF&L 2.	1	1	-	1	1
13/1	Bay Maintenance Procedures.	State the purpose of and procedures for bay maintenance of hydraulic components.	HS 10, 11. SODEA 5.	1	2	-	2	2
13/3	Component Bay Maintenance.	Carry out bay maintenance and pre-issue maintenance on selected hydraulic components.	HS 11.	4	-	16	16	64
15/1	Examination.	Obtain a pass mark in an examination.		1	2	-	2	2
	Total A26				40	67	107	250

A27 Flying Controls

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
1/1	Flying Controls.	Recognise, state the purpose and function of basic flying control surfaces and state the purpose of aerodynamic and mass balance.	AS&C 1,4 & 34.	1	3	1	4	4
1/2	Cable Operated Control Systems.	Describe the operation of and identify components in cable operated flying control systems, check tension in control cables.	AS&C 34. EP 20. GSE 20.	1 2	2 -	- 2	2 2	2 4
1/3	Chain operated Control Systems.	Identify, clean, examine and lubricate components in chain operated control systems.	EP 93, 94 and AS&C 34.	1 2	1 -	- 1	1 1	1 2
1/5	Push-Pull Rod Control Systems.	Describe the construction of, locate, clean, examine and lubricate selected component parts of push-pull rod control systems.	AS&C 34, EP 117.	1 2	2 -	- 2	2 2	2 4
2/1	Remote Control Systems.	Identify, locate, examine and functionally test components in Bowden and Teleflex remote control systems.	EP 95, 115.	1 2	3 -	- 2	3 2	3 4
3/2	Independent Check Regulations.	Explain the independent check regulations appropriate to his trade.	SODEA 12.	1	1	-	1	1
4/2	Consolidation Tasks.	Carry out practical tasks to consolidate skills and knowledge gained.	AS&C 4, 34, 46, 124 and GSE 20.	1 4	2 -	- 10	2 10	2 40
4/3	Mainplane Slat Replacement.	Remove, refit or replace aircraft mainplane slats.	AS&C 73.	1 4	2 -	- 8	2 8	2 32

A27 Flying Controls

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
6/1	Powered Flying Controls.	Describe the operation of, locate and examine components in powered flying control systems.	AS&C 34 and 36.	1 2	6 -	- 2	6 2	6 4
6/2	Replacing PFCUs.	State the procedures used to remove and fit powered flying control units.	AS&C 86. EP 23.	1	2	-	2	2
6/3	Practical Replacement of a PFCU.	Remove and fit/refit powered flying control units.	AS&C 34, 86. EP 23.	4	-	24	24	96
9/1	Fly-by-Wire (FBW).	Describe the principles of FBW and Fly-by- Optical-Wire (FBOW) control systems and state the possible sources of mechanical and electrical inputs to a powered flying control system.	LS 102.	1	2	-	2	2
10/1	Examination.	Obtain a pass mark in an examination.		1	2	-	2	2
	Total A27				28	52	80	215

A28 Landing Gear and Retardation

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
1/1	Retardation Methods.	Describe the methods used to retard the forward movement of aircraft.	AS&C 1.	1	2	-	2	2
1/2	Brake Parachute, Arrestor Hook and Airbrake.	State the precautions when working on brake parachutes, arrestor hooks and airbrakes.	AS&C 60.	1	2	-	2	2
2/1	Brake Units.	Describe the operation of selected types of brake unit.	HS 2.	1	6	-	6	6
2/2	Mechanical Anti-Skid Systems.	Describe the operation of mechanical anti-skid systems.	HS 2.	1	2	-	2	2
2/3	Electronic Anti-Skid Systems.	Describe the operation of electronic anti-skid systems.	HS 2.	1	1	-	1	1
2/4	Brake Systems.	Identify and locate component parts of aircraft braking systems.	HS 2, 7 & 13.	1 2	2 -	- 2	2 2	2 4
2/5	Brake Unit Replacement.	Examine, remove and fit brake units, associated components and pipelines.	AS&C 19, 23. HS 2, 7, 13, 14 & 26.	1 4	2 -	- 12	2 12	2 48
2/6	Functional Tests.	Functionally test wheel brake and anti-skid systems.	HS 2.	1 4	1 -	- 3	1 3	1 12
3/1	Bay Maintenance of Brake Systems.	Carry out bay maintenance of brake units, anti-skid and brake system components.	HS 12, 13.	1 2	2 -	- 12	2 12	2 24

A28 Landing Gear and Retardation

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
4/1	Wheel and Tyre construction.	Identify and describe the construction of wheel, tyre and tube assemblies.	AS&C 18, 19, 21 & 82.	1	6	-	6	6
4/2	Examining Wheels and Tyres.	Examine wheel and tyre assemblies fitted to aircraft.	AS&C 18.	1 2	1 -	- 1	1 1	1 2
4/3	Removing and Fitting Wheels and Tyres.	Remove and fit wheel and tyre assemblies from/to aircraft.	AS&C 19.	1 4	1 -	- 4	1 4	1 16
4/4	Tyre Inflation.	Check tyre pressures and inflate tyres fitted to aircraft.	AS&C 10, 18, PS 8 & EP 15.	1 4	1 -	- 5	1 5	1 20
5/1	Bay Maintenance of Wheels and Tyres.	Carry out bay maintenance of wheel and tyre assemblies.	AS&C 10, 18, 21, 82 & PS 8.	1 4	4 -	- 12	4 12	4 48
6/1	Landing Gear Assembly Types.	Describe types of landing gear assemblies in service and identify component parts of landing gear assemblies.	AS&C 16, 20.	1	2	-	2	2
6/2	Shock Absorbers.	Describe the principle of operation of shock absorbers fitted to landing gear assemblies.	AS&C 16, 40.	1	2	-	2	2
6/3	Examine Landing Gear Assemblies.	Examine and lubricate landing gear assemblies.	AS&C 16, 20.	1 2	1 -	- 3	1 3	1 6
6/4	Replenish Shock Absorbers.	Replenish shock absorbers fitted to aircraft.	AS&C 8, 16, 20 & 24.	1 4	2 -	- 6	2 6	2 24

A28 Landing Gear and Retardation

NO.	SUBJECT	OBJECTIVE	REF/ REMARKS	NO OFF CELLS	SYLL HRS			INSTR HRS
					C f	P g	T h	
a	b	c	d	e	j			j
7/3	Nosewheel Steering.	Describe the principle of operation of nosewheel steering systems and examine and lubricate their components.	AS&C 120.	1 2	1 -	- 1	1 1	1 2
8/1	Bay Maintenance of Shock Absorbers.	Carry out bay maintenance of shock absorber units.	AS&C 40.	1 4	1 -	- 15	1 15	1 60
9/1	Examination.	Obtain a pass mark in an examination.		1	2	-	2	2
	Total A28				44	76	120	310

A29 Cabin Environment

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
1/1	Environmental Control.	Explain the necessity for controlling cabin environment.	AAC 2, 3.	1	3	-	3	3
1/2	Air Supplies.	Explain the function of ram air and charge air.	PS 2.	1	1	-	1	1
1/3	Air Cooling Systems.	Explain the methods of cooling air and identify components in air cooling systems.	AAC 1.	1	4	-	4	4
1/4	Air Conditioning Systems.	Explain the operation of a typical air conditioning system.	AAC 1, 2, PS 2 & 5.	1	8	-	8	8
1/5	Cabin Sealing.	State the purpose and methods of sealing aircraft pressure cabins and examine the associated components.	AS&C 26, 28.	1 2	2 -	- 2	2 2	2 4
1/6	Cabin Pressure Control.	Explain the operation of pressure control in an aircraft and locate components in cabin pressure control systems.	AAC 3, 9 and PS 5.	1 2	3 -	- 6	3 6	3 12
1/7	Equipment Bay Cooling.	Describe how the conditioning of aircraft equipment bays is effected.	AAC 2, 3.	1	1	-	1	1
1/8	Pipelines, Ducts and Couplings.	Identify selected pipelines, ducts and couplings in air conditioning systems.	AAC 2, 3.	1	3	-	3	3

A29 Cabin Environment

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
1/9	Maintenance of Environmental Control Systems.	Examine and replace components, pipelines, ducts and couplings in environmental control systems.	AAC 1, 2, 3, 8 PS 2 & 5.	1 2	2 -	- 8	2 8	2 16
1/10	V-band clamps.	Recognise, remove and refit V-band clamps.	EP 97.	1 4	2 -	- 1	2 1	2 4
1/11	Cabin Pressure Testing.	State the purpose and method of cabin pressure testing.	AAC 3, PS 2 & 5.	1 2	2 -	- 4	2 4	2 8
2/2	Anti-G System.	Explain the purpose of and identify components in an Anti-G system.	PS 4.	1 2	2 -	- 4	2 4	2 8
2/3	Bay Maintenance of Pneumatic Components.	State the procedures for bay maintenance and pre-use checks on pneumatic components.	PS 6, 7.	1 2	2 -	- 4	2 4	2 8
3/1	Examination.	Obtain a pass mark in an examination.		1	2	-	2	2
	Total A29				37	29	66	97

A30 Oxygen

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
					1/1	Oxygen Systems.	Describe the methods of supplying oxygen in an aircraft.	
1/2	Gaseous Oxygen Storage Systems.	State the operation of a typical gaseous oxygen storage system.	OS 1, 2.	1	3	-	3	3
1/3	Liquid Oxygen (LOX) Systems.	State the operation of selected types of LOX systems and state the purpose of their components.	OS 1, 2.	1	10	-	10	10
1/4	Molecular Sieve Oxygen Concentrator System (MSOCS).	State the principle of operation of a MSOCS.	OS 13.	1	2	-	2	2
1/5	Oxygen Delivery Systems.	State the operation of selected oxygen delivery systems.	OS 1, 2.	1	4	-	4	4
1/6	Examining Oxygen System Components.	Examine, remove and fit components, pipelines, hoses and couplings in oxygen systems.	OS 1, 2, 3, 4.	1 4	2 -	- 4	2 4	2 16
2/1	Replenish Gaseous Oxygen Systems.	Replenish gaseous oxygen systems.	OS 1, 5.	1 4	1 -	- 7	1 7	1 28
3/1	Leak Testing Oxygen Systems.	Carry out leak testing on oxygen systems.	OS 2, 5.	1 2	2 -	- 2	2 2	2 4

A30 Oxygen

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
4/2	Functional Checks and Tests.	Carry out functional checks and tests on oxygen systems.	OS 1, 2.	1 4	2 -	- 4	2 4	2 16
5/1	Examination.	Obtain a pass mark in an examination.		1	2	-	2	2
Total A30					30	17	47	94

A31 Ice-protection, Fuel and Fire Protection

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
1/1	Anti-Icing.	Describe the conditions for and the effects of ice formation on an aircraft.	AS&C 81.	1	1	-	1	1
1/2	Ice Detection.	State the methods used to detect the formation of ice and icing conditions.	AS&C 81.	1	1	-	1	1
1/3	Ice Protection.	Describe the purpose, function and methods of in flight ice protection.	AS&C 75.	1	1	-	1	1
1/4	Windscreen Ice Protection.	Describe the function of selected types of windscreen ice-protection systems.	AS&C 14, 75.	1	2	-	2	2
1/5	Maintenance of Ice Protection Systems.	Carry out maintenance of ice-protection systems.	AS&C 75.	1 3	2 -	- 2	2 2	2 6
2/1	Transparencies.	Describe the construction and characteristics of selected transparencies.	AS&C 47.	1	2	-	2	2
2/2	De-Misting Transparencies.	Describe the methods used for demisting aircraft transparencies.	AS&C 29.	1 2	1 -	- 1	1 1	1 2
2/3	Examine and Clean Transparencies.	Examine and clean transparencies.	AS&C 13.	1 2	1 -	- 3	1 3	1 6
3/1	Rain Clearing Systems.	State the procedures for maintenance of windscreen wiper/wash systems and carry out a functional check.	AS&C 14, 25.	1 2	1 -	- 1	1 1	1 2

A31 Ice-protection, Fuel and Fire Protection

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
3/2	Rain Repellent.	State the procedure for applying rain repellent.	AS&C 27.	1	1	-	1	1
4/1	Fuel Identification.	Identify fuel and state the need to detect contamination in fuel.	FF&L 1, 2.	1	2	-	2	2
4/2	Fuel Tank Types.	Recognise selected types of fuel tanks and explain the position and numbering system of fuel tanks in aircraft.	FT 20.	1	1	-	1	1
5/4	Examining Fuel Tanks.	Examine flexible fuel tanks for defects.	FT 2.	1 2	1 -	- 2	1 2	1 4
5/5	Replacing Fuel Tank Components.	Fit or remove aircraft fuel tank components.	FT 9.	1 4	1 -	- 15	1 15	1 60
7/1	Fire Protection.	State the necessity for fire protection systems in aircraft and identify aircraft fire zones.	AS&C 5.	1	1	1	2	2
7/2	Fire Detection Systems.	State the principle of operation of, and examine components in, fire detection systems.	AS&C 5, 72.	1 2	1 -	- 1	1 1	1 2

A31 Ice-protection, Fuel and Fire Protection

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
7/3	Fire Extinguishing Systems.	Examine extinguishers, mounting brackets and components in fire extinguishing systems.	AS&C 5, 71 & 72.	1 2	1 -	- 2	1 2	1 4
8/1	Examination.	Obtain a pass mark in an examination.		1	2	-	2	2
					23	28	51	110
Total A31								

A50 Final Airfields

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
1/1	Safety Precautions.	State the safety precautions necessary to safeguard personnel, aircraft and equipment on an airfield.	AS&C 2, GA 26, 28. SODEA 102.	1	3	-	3	3
1/2	Armed Aircraft.	State the safety precautions to be observed when working on or in the vicinity of an armed aircraft.	AS 109.	1	4	-	4	4
2/1	Refuel and Defuel.	Refuel and/or defuel an aircraft.	GHA 9.	1 4	4 -	- 2	4 2	4 8
2/2	Applying External Electrical Power.	Apply external electrical power to an aircraft.	GHA 3, 5. ES 74, 75, 76.	1 2	1 -	- 2	1 2	1 4
2/3	Engine Driven GSE.	Operate specified items of engine driven GSE.	GHA 17, 18, 20 PS 3.	1 2	2 -	- 3	2 3	2 6
2/5	LOX Replenishing Trolley.	Replenish a 75 litre LOX trolley from bulk storage.	OS 6.	1 4	2 -	- 2	2 2	2 8
2/6	Replenishing LOX Systems.	Replenish aircraft LOX systems.	OS 1.	1 4	2 -	- 2	2 2	2 8
3/1	Flight Servicing Information.	State where the information relating to flight servicings can be found and their period of validity.	SODEA 1, 2, 6.	1	4	-	4	4

A50 Final Airfields

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
3/2	AAES Flight Servicing.	Carry out flight servicing on an AAES.	AES 1, 2.	1 4	4 -	- 4	4 4	4 16
3/8	Engine Examination.	Examine engine, engine bay and associated equipment.	E&AC 1.	1 4	2 -	- 2	2 2	2 8
3/9	Checking and Replenishing Engine Oil.	Check and replenish a gas turbine engine oil system.	E&AC 20.	1 4	1 -	- 2	1 2	1 8
3/10	Accelerometers and Fatigue Meters.	Read and reset accelerometers and record fatigue meter readings.	AS&C 12	1 2	1 -	- 1	1 1	1 2
3/13	Aircraft Lighting - Checking.	Functionally check an aircraft lighting system.	ES 47.	1 4	1 -	- 1	1 1	1 4
3/22	Flight Servicing.	Carry out aircraft flight Servicings.	AES 2. AVM 59.AS&C 3, 9, 12 & 17.FT 1 & 2. LS 1. SE 1. SODEA 1 & 2.	1 4	7 -	- 9	7 9	7 36
3/23	IT Equipment.	Recognise and operate selected items of IT equipment.	SODEA 34.	1 4	4 -	- 3	4 3	4 12

A50 Final Airfields

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
4/1	Cockpit Familiarisation.	Carry out cockpit checks prior to moving an aircraft.	AES 1. AS&C 6, 8, 53. GHA 16.	1 4	1 -	- 2	1 2	1 8
4/2	Aircraft Handling.	Act as a member of a team to carry out a ground handling task on fixed or rotary wing aircraft.	GHA 1.	1 4	2 -	- 2	2 2	2 8
4/3	Parking and Picketing.	Assist in the parking of and state the need to picket an aircraft.	GHA 2.	1 2	1 -	- 1	1 1	1 2
4/4	Engine Starting and Running.	Assist in the starting and running of an aircraft engine.	ES 77. GHA 3. INST 2. LS 10.	1 4	4 -	- 4	4 4	4 16
4/5	Marshalling.	Marshall a fixed wing aircraft.	GHA 1.	1 5	2 -	- 4	2 4	2 20
5/1	Hardened Aircraft Shelter (HAS) Purpose and Safety.	State the necessity for and the safety precautions to be observed in a HAS.	GHA 15	1	1	-	1	1

A50 Final Airfields

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
6/1	Anti-icing and De-icing.	State the methods used and the safety precautions taken for anti-icing and de-icing of aircraft on the ground.	GHA 10 & 19.	1	1	-	1	1
6/2	Aircraft Washing.	State the necessity and procedures for washing/decontaminating aircraft.	AS&C 83, 122.	1	1	-	1	1
6/3	Aircraft Toilets.	Identify, state the procedures and precautions when servicing toilet facilities.	AS&C 15.	1	1	-	1	1
7/1	Crash Procedures.	State the safety precautions and procedures for making a crashed aircraft safe.	F 4.	1	1	-	1	1
9/1	Built in Test Equipment (BITE).	State the purpose of aircraft onboard BITE, and describe its use as an aid for fault diagnosis.	AVM 1, 2.	1	1	-	1	1
9/2	Integrated Avionic Control Systems.	State the concept of integrated avionic control systems employed in modern aircraft.	AVM 51.	1	1	-	1	1
10/1	Consolidation Tasks.	Carry out flight line consolidation tasks.		4	-	15	15	60
12/1	Examination and Debrief.	Obtain a pass mark in an examination.		1	2	-	2	2
	Total A50				61	61	122	295

Progress Examination

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
1/1	Theory Examination	Pass a theory examination paper covering all sections completed to date.		2	4	-	4	8
1/2	Oral Boards	Pass an examination consisting of oral tests on training sections completed to date.		16	4	-	4	64
1/3	Practical Boards	Pass a practical examination on training sections completed to date.		8	-	8	8	64
Total Progress Exam					8	8	16	136

Skill of Hand Test Job

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
1/1	Practical Task.	Carry out a practical task involving sheet metal work and riveting.		4	-	20	20	80
Total Skill of Hand Test Job					-	20	20	80

Final Examination and Debrief

NO. a	SUBJECT b	OBJECTIVE c	REF/ REMARKS d	NO OFF CELLS e	SYLL HRS			INSTR HRS j
					C f	P g	T h	
1/1	Theory Examination	Pass a theory examination paper covering all sections completed during the entire course.		2	4	-	4	8
1/2	Oral Boards	Pass an examination consisting of oral tests on training sections completed during the entire course.		16	4	-	4	64
1/3	Practical Boards	Pass a practical examination on training sections completed during the entire course.		8	-	12	12	96
1/4	Debrief	Complete a debrief of the Airframe Mechanic course.	On completion of training	1	2	-	2	2
Total Final Exams and Debrief					10	12	22	170
Total Exams and Debrief					18	40	58	386

DEVIATIONS FROM SAKS

REF	SAKS AND TITLE	REASONS FOR DEVIATION
AS&C 3	Examining External Skin and Structure of Aircraft.	Para 5 covered in theory only (Fabric covered components).
AS&C 14	Examining and Replenishing Ice/Rain Protection Systems.	Limited application - not cost effective in equipment or time.
AS&C 15	Inspecting and cleaning aircraft cockpit and passenger cabin interiors.	Para 3e will be taught in theory but as none of the training aircraft at RAF Cosford have toilet facilities fitted practical exercises cannot be carried out.
AS&C 28	Fitting canopy or door seals and panel sealing strips.	Replacing seals in pressure cabins will be taught in theory only as practical exercises would not be cost effective.
AS&C 32	Examining non-ejection crew and passenger seats.)	No relevant equipment available at No1S of TT, skills covered by other tasks.
AS&C 33	Fit and remove aircraft non-ejection crew and passenger seats.)	
AS&C 37	Examining Ram Air Turbine (RAT) units.)	
AS&C 57	Fit/Remove RAT Units.	Theory only no suitable aircraft available. Removal of components together with disconnection/reconnection of hoses and pipelines taught throughout A26 Hydraulics phase.
AS&C 59	Remove Aircraft Doors.	This SAKS is not explicitly taught, however, it is implicate in the course.
AS&C 60	Fit and Remove Drag Parachutes.	Para 7 taught in theory and practically demonstrated.
AS&C 62	Examine and maintain aircraft arrestor hook gear.	Para 4 taught in theory only, however, it is implicate in the course.
AS&C 66	Remove/Refit or Replace airbrakes.	The principles and skills of removing, fitting and adjusting of components is taught throughout the course.

DEVIATIONS FROM SAKS

REF	SAKS AND TITLE	REASONS FOR DEVIATION
AS&C 79	Assisting in Fitting and/or Removing Aircraft Pylon Assemblies.	No suitable aircraft available.
AS&C 87	Examine and Lubricate Aircraft Drag Parachute Release Gear Mechanisms.	Principles and skills required to examine and lubricate are taught throughout the course.
AS&C 117	Remove and Fit/Refit Components of Canopy Operating and Associated Mechanical Jettison Systems.	Para 3f, g and h - no facilities available.
AS&C 122	Decontaminating Aircraft.	Taught in theory only - corrosion hazard.
EP 68	Removing Paint and Rust using Correct Solutions.	Taught in theory only - impractical due to HSW Act and COSHH.
EP 69	Applying Protective Treatment to Equipment.	Taught in theory only - impractical due to HSW Act and COSHH.
EP 72	Using Adhesives and Jointing Compounds.	Taught in theory only - impractical due to HSW Act and COSHH.
GHA 10	Anti-icing and de-icing Parked Aircraft.	Theory only - weather dependent operation.
GHA 19	Operating Hand Operated and Engine Driven Defrosting and De-icing Trolleys.	Theory only - weather dependent operations.
GHA 21	Operating Multi-purpose Cleaning Equipment.	Theory only - facilities not available.
GSE 22	Operating Pedestrian Operated Ground Support Equipment.	Limited application - not cost effective in equipment or time.
HLC 1	Working on helicopters.	Taught only that necessary to enable the mechanic to approach a helicopter safely. The remainder considered to be PET and OJT.
HS 12	Maintaining Aircraft Hydraulic Wheel Brake Units.	Para 3a not taught, considered PET or OJT.

PART III

SUMMARY OF COURSE CONTENT - TRADE TRAINING

MODULE 1 - FUEL SYSTEMS & FIRE EXTINGUISHING SYSTEMS

TO No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR HOURS (h)
			Class (d)	Pract (e)	Total (f)		
	<u>SUBJECT 1.1 - PHASE ARRIVAL & SAFETY BRIEF</u>						
1.1.1	Complete phase arrival procedures and participate in a phase specific Health & Safety brief.		1.00	0.00	1.00	2	2.00
	<u>SUBJECT 1.2 - FUEL SYSTEM</u>						
1.2.1	Describe the composition of an aircraft fuel system.		1.00	0.00	1.00	1	1.00
1.2.2	Explain the purpose and describe the basic operation of fuel transfer, in-flight refuelling and selected aircraft fuel system components.		3.00	0.00	3.00	1	3.00
1.2.3	Explain the purpose and describe the basic operation of an aircraft fuel pressurisation and venting system.		2.00	0.00	2.00	1	2.00
1.2.4	Explain the purpose and describe the basic operation of an aircraft fuel contents gauging system.		1.00	0.00	1.00	1	1.00
1.2.5	Describe the methods and indications used in an aircraft fuel management system.		2.00	0.00	2.00	1	2.00
1.2.6	Describe the procedure for carrying out a typical flexible tank replacement.		3.00	0.00	3.00	1	3.00
	<u>SUBJECT 1.3 - FIRE EXTINGUISHING SYSTEMS</u>						
1.3.1	Describe the construction and operation of aircraft extinguishing systems.		2.00	0.00	2.00	1	2.00

PART III

TO No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR HOURS (h)
			Class (d)	Pract (e)	Total (f)		
1.4.1	<u>SUBJECT 1.4 - CONSOLIDATION</u> Consolidate the principles and operation of fuel and fire systems during fault diagnosis exercises.		0.00	8.00	8.00	4	32.00
MODULE 1 TOTAL HOURS			15.00	8.00	23.00		48.00

PART III

SUMMARY OF COURSE CONTENT - TRADE TRAINING

MODULE 2 - TRADE ELECTRICS

TO No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR HOURS (h)
			Class (d)	Pract (e)	Total (f)		
	<u>SUBJECT 2.1 - PHASE ARRIVAL & SAFETY BRIEF</u>						
2.1.1	Complete phase arrival procedures and participate in a phase specific Health & Safety brief.		1.00	0.00	1.00	2	2.00
	<u>SUBJECT 2.2 - PROXIMITY SWITCHES</u>						
2.2.1	Identify, state the purpose, basic operation and trade responsibilities of proximity switches.		0.25	0.00	0.25	1	0.25
	<u>SUBJECT 2.3 - DATABUS & FIBRE OPTICS</u>						
2.3.1	Identify, state the purpose, basic operation and trade responsibilities of a typical aircraft databus system.		2.00	0.00	2.00	1	2.00
2.3.2	Identify, state the purpose, basic operation and trade responsibilities of Fibre Optic (FO) data transmission systems.		1.00	0.00	1.00	1	1.00
	<u>SUBJECT 2.4 - WIRING HUSBANDRY</u>						
2.4.1	Explain the need for correct husbandry of all aircraft wiring including Fibre Optic (FO) cable and state how this is achieved.		0.75	0.00	0.75	1	0.75
	<u>SUBJECT 2.5 - WIRING DIAGRAMS & SYMBOLS</u>						
2.5.1	Interpret basic aircraft wiring diagrams and symbols.		1.00	2.00	3.00	1/4	9.00

PART III

TO No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR HOURS (h)
			Class (d)	Pract (e)	Total (f)		
	<u>SUBJECT 2.6 - MULTIMETERS & FAULT FINDING</u>						
2.6.1	Use a digital multimeter to carry out voltage and resistance measurements.		0.50	1.50	2.00	1/4	6.50
2.6.2	Carry out simple fault finding of electrical circuits to component level.		0.50	1.50	2.00	1/4	6.50
MODULE 2 TOTAL HOURS			7.00	5.00	12.00		28.00

PART III

SUMMARY OF COURSE CONTENT - TRADE TRAINING

MODULE 3 - GAS TURBINES

TO No (a)	TRAINING OBJECTIVE (b)	REFERENCES/REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR HOURS (h)
			Class (d)	Pract (e)	Total (f)		
3.1.1	<u>SUBJECT 3.1 - PHASE ARRIVAL & SAFETY BRIEF</u> Complete phase arrival procedures and participate in a phase specific Health & Safety brief.		2.00	0.00	2.00	2	4.00
3.2.1	<u>SUBJECT 3.2 - GAS TURBINE THEORY</u> Describe in simple terms the fundamentals of gas turbine theory.		4.00	0.00	4.00	1	4.00
3.3.1	<u>SUBJECT 3.3 - CONSTRUCTION & OPERATION</u> Describe the construction and theory behind typical intake design, both fixed and variable.		2.00	0.00	2.00	1	2.00
3.3.2	Describe in simple terms, the general construction and principle of operation of compressors.		4.00	0.00	4.00	1	4.00
3.3.3	Describe in simple terms, the general construction and principle of operation of the combustion section.		2.00	0.00	2.00	1	2.00
3.3.4	Describe in simple terms, the general construction and principle of operation of turbine sections.		3.00	0.00	3.00	1	3.00
3.3.5	Describe in simple terms, the general construction and principle of operation of the exhaust section.		3.00	0.00	3.00	1	3.00

PART III

TO No (a)	TRAINING OBJECTIVE (b)	REFERENCES/REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR HOURS (h)
			Class (d)	Pract (e)	Total (f)		
3.3.6	State the purpose and describe the construction of internal and external gearboxes, accessory drives and the need for engine driven accessories.		1.00	0.00	1.00	1	1.00
3.4.1	<u>SUBJECT 3.4 - ENGINE AIRFLOW</u> Describe the airflow through a bypass turbofan engine		2.00	0.00	2.00	1	2.00
3.5.1	<u>SUBJECT 3.5 - ENGINE INSTRUMENTATION AND PERFORMANCE</u> Identify and state the purpose of the engine instrumentation.		2.00	0.00	2.00	1	2.00
3.5.2	Explain, in simple terms, the factors affecting thrust and how gas turbine performance is measured.		3.00	0.00	3.00	1	3.00
3.6.1	<u>SUBJECT 3.6 - AAES SAFETY LECTURE</u> Check visually that the Aircraft Assisted Escape System (AAES) is in the "Safe for Parking", "Safe for Maintenance" or "Safe" condition on all relevant aircraft types.	This subject is to be delivered by Eng Tech W instructional staff.	1.00	0.00	1.00	4	4.00
3.7.1	<u>SUBJECT 3.7 - GENERIC AIRCRAFT MODEL</u> Recognise and operate the training equipment of the GAM.		2.00	3.00	5.00	2/4	16.00
3.8.1	<u>SUBJECT 3.8 - STARTING & IGNITION</u> Describe (to block diagram level) the principles of operation of gas turbine starting and ignition systems and their components.		4.00	0.00	4.00	1	4.00
3.8.2	State the purpose and explain the operation of a secondary power system.		2.00	2.00	4.00	1/4	10.00

PART III

TO No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR HOURS (h)
			Class (d)	Pract (e)	Total (f)		
3.8.3	Participate in a practical exercise on the operation of the GAM secondary power system.		0.00	3.00	3.00	4	12.00
	<u>SUBJECT 3.9 - BEARINGS AND LUBRICATION</u>						
3.9.1	Describe a typical gas turbine engine bearing arrangement.		1.00	0.00	1.00	1	1.00
3.9.2	Describe (to block diagram level) the principles of operation of gas turbine lubrication systems and their components.		3.00	1.00	4.00	1/2	5.00
3.9.3	State the reason for, the principles of and the methods of health monitoring on gas turbine engines.		2.00	1.00	3.00	1/2	4.00
3.9.4	Participate in a practical exercise on the operation of the GAM engine lubrication system.		0.00	3.00	3.00	4	12.00
	<u>SUBJECT 3.10 - FUEL SYSTEMS</u>						
3.10.1	Describe (to block diagram level) the principles of operation of gas turbine fuel systems and their components.		9.00	1.00	10.00	1/2	11.00
3.10.2	Describe (to block diagram level) the principles of operation of gas turbine electronic fuel control system.		3.00	1.00	4.00	1/2	5.00
3.10.3	Explain the operation of the GAM electronically controlled main engine fuel system.		2.00	0.00	2.00	1	2.00
3.10.4	Participate in a practical exercise on the operation of the GAM digitally controlled main engine fuel system.		0.00	6.00	6.00	4	24.00

PART III

TO No (a)	TRAINING OBJECTIVE (b)	REFERENCES/REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR HOURS (h)
			Class (d)	Pract (e)	Total (f)		
3.11.1	<u>SUBJECT 3.11 - AIR SYSTEM AND AIRFLOW CONTROL</u> Describe (to block diagram level) the principles of operation of gas turbine air systems and their components.		2.00	0.00	2.00	1	2.00
3.11.2	Describe in simple terms, the general construction and principle of operation of variable inlet guide vanes and bleed valves.		3.00	1.00	4.00	1/2	5.00
3.12.1	<u>SUBJECT 3.12 - REHEAT SYSTEMS</u> Describe (to block diagram level) the principles of operation of gas turbine reheat systems and their components.		4.00	1.00	5.00	1/2	6.00
3.12.2	Explain the operation and control of the GAM reheat system.		2.00	0.00	2.00	1	2.00
3.12.3	Participate in a practical exercise on the operation of the GAM digitally controlled main engine reheat system.		0.00	3.00	3.00	4	12.00
3.13.1	<u>SUBJECT 3.13 - CONSOLIDATION</u> Carry out an APST consolidation exercise.		0.00	8.00	8.00	4	32.00
3.13.2	Consolidate the principles and construction of gas turbine engines.		0.00	4.00	4.00	4	16.00
3.13.3	Consolidate gas turbine engine systems training with reasoning and practical tasks.		0.00	8.00	8.00	4	32.00
3.14.1	<u>SUBJECT 3.14 - INSPECTION</u> Carry out inspection tasks on gas turbine engines.		2.00	4.00	6.00	1/4	18.00
MODULE 3 TOTAL HOURS			70.00	50.00	120.00		265.00

PART III

SUMMARY OF COURSE CONTENT - TRADE TRAINING

MODULE 4 - ASSESSMENT & DEBRIEF

TO No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR HOURS (h)
			Class (d)	Pract (e)	Total (f)		
4.1.1	<u>SUBJECT 4.1 - ASSESSMENT</u> Obtain a pass mark in an exam covering the content of modules 1 to 3 of CN1238.		2.00	0.00	2.00	1	2.00
4.2.1	<u>SUBJECT 4.2 - DEBRIEF</u> Participate in an end of course debrief.		2.00	0.00	2.00	4	8.00
MODULE 4 TOTAL HOURS			4.00	0.00	4.00		10.00

TOTAL HOURS-PART III	100.00	59.00	159.00	340.00
-----------------------------	--------	-------	--------	--------

(INTENTIONALLY BLANK)

PART V

SERVICE DIVERSIONS

Z1 STATION ARRIVAL

TO No (a)	TRAINING OBJECTIVE (b)	REFERENCES/ REMARKS (c)	SYLLABUS HOURS			No of CELLS (g)	INSTR HOURS (h)
			Class (d)	Pract (e)	Total (f)		
1.1	Complete all relevant arrival procedures associated with attending CN1238 at RAF Cosford.		1.00	0.00	1.00		1.00
Z1 TOTAL HOURS			1.00	0.00	1.00		1.00
TOTAL HOURS-PART V			1.00	0.00	1.00		1.00

(INTENTIONALLY BLANK)