Temporary Revisions (TRs) apply to this MMEL, which have been placed at the front of the document for convenience. All TRs overwrite and supersede the corresponding entry in the MMEL, and therefore must be incorporated in the document.

Please follow the instructions on each TR carefully, ensuring that the TR pages are inserted facing the effective page(s) in the MMEL.

The TRs should be incorporated in the order in which they were issued, as it is possible that a TR may be superseded by a later one.

Additionally please incorporate/amend the temporary revision record page and amend the list of effective pages accordingly.

CIVIL AVIATION AUTHORITY

MASTER MINIMUM EQUIPMENT LIST
TEMPORARY REVISION

APPLICABLE TO CAA MMELs FOR :

AIRCRAFT TYPE:	MMEL NORMAL REVISION No:
Beech Models B90/C90/C90A/E90	**Original**
Beech Models F90/200/B200/B200C	**1**
Beech Models 100/100A	**Original**
Britten Norman Islander BN-2A BN2B	**1**
Cessna CE208, 208A & 208B	**1**
Cessna 401,402,404 & 411	**Original**
Reims/ Cessna 406/ F406	**Original**
Cessna 414 & 421	**Original**
Cessna 425 & 441	**Original**
De Havilland Canada DHC-6 Series	**3**
De Havilland Canada DHC-7 Series	**3**
Dornier Do 228	**1**
Embraer EMB110	**2**
Fokker F27	**1**
Piper PA31/PA31-325/PA31-350/ PA31P/PA31P350	**3**

MASTER MINIMUM EQUIPMENT LIST
TEMPORARY REVISION

ACTION : Record the incorporation on the temporary revision record page and amend the list of effective pages accordingly.

REASON FOR ISSUE: The attached Temporary Revision has been devised to provide a common set of alleviations for the same items of equipment on similar aircraft. The TR is applicable to the CAA MMELs for the aircraft types listed above. The notes below give further guidance.

NOTES

1. The TR replaces the existing alleviations given in the MMEL normal revision.

2. The alleviations reflect current CAA policy and where appropriate JAR OPS 1. For a particular aircraft/ operator some parts of the alleviation will not be applicable e.g. single pilot operations. Alleviations which are not applicable should be ignored when considering the MEL.

3. Any existing alleviation in the MMEL for items not listed in this TR remain applicable.

4. It is assumed that the Captain/ Commander would normally occupy the left hand seat. This is reflected in the alleviations given here. Where the Captains instrument is required to be operative this is assumed to be the left hand instrument; it is not intended to imply that the aircraft could be flown with the Captain/ Commander seated in the right hand seat.

5. The item numbers given here may not align with that given in the particular MMEL, the existing MMEL numbering may be retained.

6. Item 20 deals with Pitot heaters, this should be included in Chapter 30 of the MEL. All of the other items are associated with Chapter 34.

MASTER MINIMUM EQUIPMENT LIST
TEMPORARY REVISION

ATA 34 - NAVIGATION

Insert in Master Minimum Equipment List facing page 34 -1 cancel the existing alleviations where applicable. Existing alleviations not listed in this TR remain applicable.

1. Altimeters			
(1) Single pilot operations	-	1	One altimeter is required. Any in excess of this may be inoperative provided: (a) The operative altimeter is on the captain's side, (b) Operations are confined to day VMC, and (c) Repairs or replacements are carried out within three calendar days.
(2) Two pilot operations	-	2	Any in excess of two may be inoperative provided : (a) One altimeter is operative for each pilot, (b) The required altimeters operate independently, (c) At least one of the above is a pneumatic, or servo pneumatic altimeter, and (d) Repairs or replacements are carried out within ten calendar days.
(3) Servo Pneumatic Altimeter Mode (If Installed)	-	0	(M) May be inoperative provided: (a) Altimeter remains in the pneumatic mode, and (b) Repairs or replacements are carried put within ten calendar days. NOTE Transponder mode "C" may be inoperative.

2. Airspeed Indicators			
(a) Single pilot operations	-	1	At least one must be operative on the Captains side. Any in excess may be inoperative.
(b) Two pilot operations	-	2	One required at each pilot station. Any in excess may be inoperative.
3. Attitude Indicator Systems			
(1) Aircraft not over 5700 kg MTOW and with 9 or less seats.			
(a) Single pilot operations	-	1	The Captains indicator must be operative.
(b) Two pilot operations	2	1	The co-pilot's indicator may be inoperative for day VMC operations provided repairs or replacements are carried out within three calendar days.
(2) Aircraft over 5700 kg or with more than 9 seats.			
(a) Single pilot operations	-	0	May be inoperative for day VMC operations provided : (a) The Standby Attitude Indicator operates normally, and (b) Repairs or replacements are carried out within three calendar days.
(b) Two pilot operations	2	1	One indicator may be inoperative for day VMC operations provided : (a) The Standby Attitude Indicator operates normally, and (b) Repairs or replacements are carried out within three calendar days.

MASTER MINIMUM EQUIPMENT LIST
TEMPORARY REVISION

ATA 34 - NAVIGATION

4. Standby Attitude Indicator (If Installed)			
(1) Single pilot operations	1	0	May be inoperative for day VMC operations provided: (a) The Captains indicator is operative, and (b) Repairs or replacements are carried out within three calendar days.
(2) Two pilot operations	1	0	May be inoperative for day VMC operations provided: (a) Both Attitude Indicators operate normally, and (b) Repairs or replacements are carried out within three calendar days.
5. Turn and Slip Indicators (If Installed)			
(1) Aircraft not fitted with a Standby Attitude Indicator			
(a) Single pilot operations	-	0	May be inoperative for day VMC operations only provided repairs or replacements are carried out within three calendar days.
(b) Two pilot operations	2	1	Captains indicator may be inoperative for day VMC operations provided: (a) Both Attitude Indicator Systems operate normally, and (b) Repairs or replacements are carried out within three calendar days.

5. Turn and Slip Indicators			
(1) Aircraft not fitted with a Standby Attitude Indicator (Cont...)			
(b) Two pilot operations (Cont...)	2	1	Co-Pilot's indicator may be inoperative provided: (a) Both Attitude Indicator Systems operate normally, and (b) Repairs or replacements are carried out within three calendar days.
(2) Aircraft fitted with a Standby Attitude Indicator			
(a) Single pilot operations	-	0	May be inoperative provided (a) The Standby Attitude Indicator operates normally, and (b) Repairs or replacements are carried out within ten calendar days.
(b) Two pilot operations	2	1	Either indicator may be inoperative provided repairs or replacements are carried out within ten calendar days.
	2	0	May be inoperative provided: (a) Three independent attitude indicators are operative, and (b) Repairs or replacements are carried out within three calendar days.

MASTER MINIMUM EQUIPMENT LIST
TEMPORARY REVISION

ATA 34 - NAVIGATION

6. Horizontal Situation Indication			
(1) Single Pilot operations			
(a) Horizontal Situation Indicator	-	0	May be inoperative provided : (a) The Captains RMI is operative, (b) Procedures are not dependant on the use of the HSI, and (c) Repairs or replacements are carried out within ten calendar days.
(b) Directional Gyros	-	1	The HSI or RMI must be operative on the Captains side. NOTE: If an HSI or RMI is also inoperative refer to the appropriate alleviation.
(c) Radio Magnetic Indicators	-	0	May be inoperative provided: (a) The Captains HSI is operative, (b) Procedures are not dependant upon the use of the RMI, and (c) Repairs or replacements are carried out within ten calendar days.

MASTER MINIMUM EQUIPMENT LIST
TEMPORARY REVISION

ATA 34 - NAVIGATION

6. Horizontal Situation Indication (Cont...)			
(2) Two Pilot operations			
(a) Horizontal Situation Indicator	2	1	One Indicator may be inoperative provided : (a) Procedures are not dependant upon the use of the remaining HSI, (b) Both directional gyros are operative, (c) An independent stabilised heading indication is available on each pilot's panel, and (d) Repairs or replacements are carried out within ten calendar days.
(b) Directional Gyros	2	1	One may be inoperative for day VMC provided : (a) A stabilised heading indication is available on each pilot's panel, (b) The Standby Compass operates normally, and (c) Repairs or replacements are carried out within three calendar days.
(c) Automatic Slaving	2	1	May be inoperative for one Directional Gyro provided : (a) A stabilised heading indication is available on each pilot's panel, (b) The Standby Compass operates normally, and (c) Repairs or replacements are carried out within ten calendar days.

MASTER MINIMUM EQUIPMENT LIST
TEMPORARY REVISION

ATA 34 - NAVIGATION

6. Horizontal Situation Indication (Cont...) (2) Two Pilot operations (cont ...) (d) Radio Magnetic Indicators	-	1	One Indicator may be inoperative provided : (a) Procedures are not dependant upon the use of the remaining RMI (b) Both Directional Gyros operate normally, (c) An independent stabilised heading indication is available on each pilot's panel, and (d) Repairs or replacements are carried out within ten calendar days.

MASTER MINIMUM EQUIPMENT LIST
TEMPORARY REVISION

ATA 34 - NAVIGATION

7. Standby Compass			
(1) Single Pilot operations	1	0	May be inoperative provided repairs or replacements are carried out within three calendar days.
(2) Two Pilot operations	1	0	May be inoperative provided : (a) Both directional gyros operate normally, and (b) Repairs or replacements are carried out within three calendar days.
8. Vertical Speed Indicator			
(1) Single Pilot operations	-	1	One VSI must be operative.
(2) Two Pilot operations	2	1	Either may be inoperative for day VMC provided repairs or replacements are carried out within ten calendar days.
9. Flight Director Systems (If Installed)	-	0	May be inoperative provided: (a) Procedures are not dependent upon their use, and (b) Repairs or replacements are carried out within ten calendar days.
10. Radio Altimeter (If Installed)	-	0	May be inoperative provided: (a) Approach minimums or operating procedures are not dependant upon their use, and (b) Repairs or replacements are carried out within ten calendar days. Note: Any effect on Ground Proximity Warning System operation must be considered.

MASTER MINIMUM EQUIPMENT LIST
TEMPORARY REVISION

ATA 34 - NAVIGATION

11. Weather Radar (If Installed)	-	0	(O) As required by Air Navigation Legislation. Required when flying for the purposes of public transport, except that a flight may commence if the system is unserviceable such that; (a) The weather radar display is provided to only one pilot, so long as the aircraft is flying only to the place at which it first becomes reasonably practicable for the system to be repaired, or (b) When the weather report or forecasts available to the Captain of the aircraft indicate that cumulo-nimbus clouds or other potentially hazardous weather conditions, which can be detected by the system when in working order, are unlikely to be encountered on the intended route or any planned diversion therefrom or the Captain has satisfied himself that any such weather conditions will be encountered in daylight and can be seen and avoided, and the aircraft is in either case operated throughout the flight in accordance with any relevant instructions given in the operations manual.
12. ATC Transponder	-	-	Any in excess of that required for the route(s) being flown may be inoperative.
13. Marker Beacon Receiver	-	0	May be inoperative provided approach minimums do not require its use.
14. Altitude Encoder	-	-	Any in excess of that required for the route(s) being flown may be inoperative.

MASTER MINIMUM EQUIPMENT LIST
TEMPORARY REVISION

ATA 34 - NAVIGATION

15. Navigation Equipment (VOR/ILS, ADF, DME, Loran, RNAV, INS, Doppler, GPS, MLS)	-	-	Any installed equipment in excess of that required may be inoperative provided the equipment or combinations of equipment needed to satisfy the minimum navigation (or area navigation) performance requirement for the route or region of operation is available. NOTE 1: When preparing the MEL the operator should itemise the equipment/ combinations of equipment needed for the particular operations for which the aircraft is approved. The effect of subsequent additional equipment failure should also be considered. NOTE 2 : Items which are installed but not required may be inoperative provided there is no effect on workload, crew training, procedures etc..
16. Instrument Source Select Switches. (If Installed)	-	0	(O) May be inoperative provided: (a) The associated instruments operate normally from isolated sources, (b) Inoperative switches are not moved in flight, and (c) Repairs or replacements are carried out within ten calendar days.

MASTER MINIMUM EQUIPMENT LIST
TEMPORARY REVISION

ATA 34 - NAVIGATION

17. Ground Proximity Warning System (If Installed)	-	0	As required by Air Navigation Legislation. May be inoperative. The aircraft may continue the flight or series of flights but shall not depart an airport where it is reasonably practicable for repairs or replacements to be made. Note: Particular circumstances may require the use of additional or alternate procedures. The alternate procedures would require the operator to consider the routes over which he is flying and ensure that the pilot adopted a flight path which would give him the protection which would otherwise be afforded.
18. Altitude Alerting System (If Installed)	-	0	As required by Air Navigation Legislation. May be inoperative. The aircraft may continue the flight or series of flights but shall not depart an airport where it is reasonably practicable for repairs or replacements to be made. Note: Required for RVSM operations.
19. Outside Air Temperature Indicator	-	1	An acceptable means of determining OAT must be available.

MASTER MINIMUM EQUIPMENT LIST
TEMPORARY REVISION

ATA 30 - ICE PROTECTION

Insert in Master Minimum Equipment List facing page 30-1 cancel the existing alleviation - if applicable.

20. Pitot Heaters (If Installed)			
(1) Single pilot operations and aircraft not over 5700 kg MTOW.	-	0	May be inoperative provided : (a) Operations are day VMC only, (b) Operations are not in known or forecast icing conditions, and (c) Repairs or replacements are carried out within three calendar days.
(2) Two pilot operations and aircraft over 5700 kg MTOW.	-	1	Maybe inoperative provided : (a) The pilot's or co-pilot's heater operates normally, (b) Operations are day VMC only, (c) Operations are not in known or forecast icing conditions, and (d) Repairs or replacements are carried out within three calendar days.
(3) Pitot Heat Failure Indicator (If Installed)	-	0	May be inoperative provided: (a) The flight is not conducted in known or forecast icing conditions, (b) All other parts of the pitot systems are confirmed operative before each flight, and (c) Repairs or replacements are carried out within three calendar days.

CIVIL AVIATION AUTHORITY

29 October 2001

MASTER MINIMUM EQUIPMENT LIST
TEMPORARY REVISION

APPLICABLE TO CAA MMEL FOR THE FOLLOWING AIRCRAFT TYPES:

AIRCRAFT TYPE:	MMEL NORMAL REVISION No:
Airbus Industrie A300-600	**2**
Airbus Industrie A319/A320/A321	**2**
ATR 42	**4**
ATR 72	**Initial issue**
BAC 1-11	**2**
BAe (HS) 125 series B up to 800B	**Initial issue**
BAe (HS) 748	**Initial issue**
Beech F90/200/B200/B200C series	**1**
Beech B90/C90/C90A/E90	**Initial issue**
Beech 100/A100	**Initial issue**
Beechjet 400/400A and MU300	**3**
Boeing 707-300 series	**Initial issue**
Boeing 727-100 and 200 series	**1**
Boeing 737-100/200/300/400/500 series	**3**
Boeing 747-100/200 series	**2**
Boeing 747-400	**3**
Boeing 757	**12**
Boeing 767	**Initial issue**
Canadair Challenger	**2**
Cessna Citation CE-500 series	**Initial issue**
Cessna CE-525	**Initial issue**
Cessna Citation CE-650	**Initial issue**
Cessna CE-208/208A/208B	**1**
Cessna 401/402/404/411	**Initial issue**
Reims / Cessna 406/F406	**Initial issue**
Cessna 414/421	**Initial issue**
Cessna 425/441	**Initial issue**
Dassault Aviation Fan Jet (Falcon 20)	**1**
Dassault Aviation Mystere Falcon 900	**Initial issue**
Dassault Aviation Falcon 900EX	**Initial issue**
De Havilland DHC-6	**3**

Cont…

CIVIL AVIATION AUTHORITY

29 October 2001

MASTER MINIMUM EQUIPMENT LIST
TEMPORARY REVISION

APPLICABLE TO CAA MMEL FOR THE FOLLOWING AIRCRAFT TYPES:

AIRCRAFT TYPE:	MMEL NORMAL REVISION No:
De Havilland DHC-7	**3**
De Havilland DHC-8	**1**
Dornier 228	**1**
Embraer EMB-110	**2**
Embraer EMB-120	**2**
Fokker F27	**1**
Fokker F100/F70	**2**
Gulfstream Aerospace Gulfstream IV	**3**
Islander BN-2A/BN-2B	**1**
Learjet 35/36/55	**Initial issue**
Lockheed L-188 Electra	**2**
Lockheed L-1011 Tristar	**1**
MCDonnell Douglas DC-10 (Models 10 and 30)	**Initial issue**
McDonnell Douglas DC-3	**Initial issue**
Piper PA31	**3**
Saab SF340A and 340B	**1**

CIVIL AVIATION AUTHORITY

29 October 2001

MASTER MINIMUM EQUIPMENT LIST
TEMPORARY REVISION

ACTION:

Insert pages 1, 2 and 3 of this TR after the TR Record page.
Insert page 4 of this TR at the front of the Preamble section.
Insert page 5 of this TR at the front of the Definitions section.
Insert page 6 of this TR immediately before and facing page 23-1.
Insert page 7 of this TR immediately before and facing page 25-1.
Insert page 8 of this TR immediately before and facing page 31-1.
Insert page 9 of this TR immediately before and facing page 34-1.
Insert page 10 of this TR immediately before and facing page 34-1.

Record the incorporation on the temporary revision record page and amend the list of effective pages accordingly.

REASON FOR ISSUE:

The TR reflects current CAA MMEL Policy for Cockpit Voice Recorders, Emergency Locator Transmitters, Flight Data Recorders, ACAS II and GPWS.

The Definitions and Preamble sections have also been updated to reflect current CAA MMEL Policy.

NOTES

1. This TR replaces any existing alleviation given in the MMEL normal revision and/or any previous TR on the same subject.

2. The existing MMEL numbering should be retained where applicable. In the absence of an applicable MMEL entry, the alleviation given in this TR should be added at the end of the relevant ATA chapter in the MMEL.

CIVIL AVIATION AUTHORITY

29 October 2001

MASTER MINIMUM EQUIPMENT LIST
TEMPORARY REVISION

PREAMBLE

Insert this page facing at the front of the Preamble section in the MMEL.

The CAA MMELs and Supplements are produced in conjunction with a base document, generally either the MMEL issued/approved by a Foreign Airworthiness Authority or the aircraft manufacturer at a specific quoted revision number and date. There may be occasions whereby the CAA MMEL or Supplement has not been updated to consider later revisions of the base document. This could lead to instances where there are alleviations in the base MMEL which have either been revised or deleted and are now more restrictive than the corresponding CAA MMEL or Supplement entry. Operators are invited to review all new base document MMEL revisions and where necessary advise the CAA MMEL section of any significantly more restrictive alleviations introduced by the revision. The CAA will then expedite review of these variations and, where required, issue amendments to the CAA MMEL or Supplement.

New or amended alleviations given in later issues of the base document shall not be used until the CAA MMEL or Supplement has been updated to confirm that issue of the base document is acceptable.

CIVIL AVIATION AUTHORITY

29 October 2001

MASTER MINIMUM EQUIPMENT LIST
TEMPORARY REVISION

DEFINITIONS

Insert this page facing at the front of the Definitions section in the MMEL.

"As required by Air Navigation Legislation / Operating Requirements": The associated item must comply with legal provisions such as the Air Navigation Order or any other legislation (JAR-OPS 1) in force during the flight.

Operators should refer to the JAR-OPS 1 MEL Policy document (Temporary Guidance Leaflet number 26) for suitable alleviations based upon the required equipment identified within JAR-OPS 1, subparts K and L (published in the JAA Administrative and Guidance, section four, Operations, part three).

“It is not reasonably practicable for repairs or replacements to be made”: This statement is intended to cover situations whereby there is a lack of a replacement part(s), inadequate engineering resources or manpower to enable the defect to be rectified.

Flight: For the purpose of a MEL, a flight is the period of time between the moment when an aeroplane begins to move by its own means, for the purpose of preparing for take-off, until the moment the aeroplane comes to a complete stop on its parking area, after the subsequent landing (and no subsequent take-off).

CIVIL AVIATION AUTHORITY

29 October 2001

MASTER MINIMUM EQUIPMENT LIST
TEMPORARY REVISION

ATA 23 - COMMUNICATIONS

Insert this page facing page 23-1 of the MMEL.

Cockpit Voice Recorder (CVR)	-	-	-	As required by Operating Requirements.

CIVIL AVIATION AUTHORITY

29 October 2001

MASTER MINIMUM EQUIPMENT LIST
TEMPORARY REVISION

ATA 25 - EQUIPMENT / FURNISHINGS

Insert this page facing page 25-1 of the MMEL.

Emergency Locator Transmitter (ELT) (If installed)	A	-	-	May be inoperative provided repairs or replacements are made within 6 further flights or 25 flying hours, whichever occurs first.
	D	-	-	Any in excess of those required may be inoperative.

CIVIL AVIATION AUTHORITY

29 October 2001

MASTER MINIMUM EQUIPMENT LIST
TEMPORARY REVISION

ATA 31 - INDICATING / RECORDING SYSTEMS

Insert this page facing page 31-1 of the MMEL.

Flight Data Recorder (FDR)	-	-	-	As required by Operating Requirements.

CIVIL AVIATION AUTHORITY

29 October 2001

MASTER MINIMUM EQUIPMENT LIST
TEMPORARY REVISION

ATA 34 - NAVIGATION

Insert this page facing page 34-1 of the MMEL.

Airborne Collision and Avoidance System (ACAS II) (If installed)				
(1) ACAS II System	A	-	0	(O) (M) As required by Air Navigation Legislation. May be inoperative provided the system is deactivated and secured, and (a) The aircraft may continue the flight or series of flights but shall not depart an airport where it is reasonably practicable for repairs or replacements to be made, and (b) Repairs or replacements must be carried out within 10 calendar days. Note: Local airspace requirements may require a permission to proceed or impose a more restrictive rectification interval.
(2) Combined Traffic Alert (TA) Resolution Advisory (RA) Dual Displays	C	-	1	(O) May be inoperative on the non-flying pilot side provided TA and RA elements and audio functions are operative on the flying pilot side. (Cont..)

CIVIL AVIATION AUTHORITY

29 October 2001

MASTER MINIMUM EQUIPMENT LIST
TEMPORARY REVISION

ATA 34 - NAVIGATION

Insert this page facing page 34-1 of the MMEL.

Airborne Collision and Avoidance System (ACAS II) (If installed) (Cont.)				
(3) Resolution Advisory (RA) Display System(s)	C	-	1	(O) One may be inoperative on the non-flying pilot side . OR
	C	-	0	(O) May be inoperative provided: (a) All Traffic Alert (TA) display elements and voice command audio functions are operative, and (b) TA only mode is selected by the crew.
(4) Traffic Alert (TA) Display System(s)	C	-	0	(O) May be inoperative provided all installed RA display and audio functions are operative.
Ground Proximity Warning System (GPWS) (including TAWS)	-	-	-	As required by Operating Requirements.

CIVIL AVIATION AUTHORITY

20 March 2002

MASTER MINIMUM EQUIPMENT LIST
TEMPORARY REVISION

TR-G6 APPLICABLE TO CAA MMEL FOR THE FOLLOWING AIRCRAFT TYPES:

GLOBAL TEMPORARY REVISION INDEX

AIRCRAFT TYPE:	G1	G2	G3	G4	G5	G6
Airbus Industrie A300-600				√	√	√
Airbus Industrie A319/A320/A321 Supplement				√	√	
ATR 42				√		
ATR 72				√	√	
BAC 1-11		√		√		√
BAe (HS) 125 series B up to 800B				√		√
BAe (HS) 748		√		√		√
Beech F90/200/B200/B200C series	√			√		√
Beech B90/C90/C90A/E90	√			√		√
Beech 100/A100	√			√		√
Beechjet 400/400A and MU300				√		√
Boeing 707-300 series				√		√
Boeing 727-100 and 200 series				√		
Boeing 737-100/200/300/400/500 series Supplement				√	√	
Boeing 747-100/200 series				√	√	
Boeing 747-400 Supplement				√	√	
Boeing 757 Supplement				√	√	
Boeing 767 Supplement				√	√	√
Canadair Challenger				√		√
Cessna Citation CE-500 series Supplement				√		
Cessna CE-525 Supplement				√		
Cessna Citation CE-650 Supplement				√		
Cessna CE-208/208A/208B	√			√		√
Cessna 401/402/404/411	√			√		√
Reims / Cessna 406/F406	√			√		√
Cessna 414/421	√			√		√
Cessna 425/441	√			√		√

CIVIL AVIATION AUTHORITY

20 March 2002

MASTER MINIMUM EQUIPMENT LIST
TEMPORARY REVISION

GLOBAL TEMPORARY REVISION INDEX (Cont.)

AIRCRAFT TYPE:	G1	G2	G3	G4	G5	G6
Dassault Aviation Fan Jet (Falcon 20)				√		√
Dassault Aviation Mystere Falcon 900		√		√		√
Dassault Aviation Falcon 900EX				√		
De Havilland DHC-6	√			√		√
De Havilland DHC-7	√	√		√		√
De Havilland DHC-8				√	√	
Dornier 228	√			√		√
Embraer EMB-110	√			√		√
Embraer EMB-120				√		
Fokker F27	√	√		√	√	√
Fokker F100/F70 Supplement				√	√	
Gulfstream Aerospace Gulfstream IV				√		√
Islander BN-2A/BN-2B	√			√		√
Learjet 35/36/55				√		√
Lockheed L-188 Electra				√		√
Lockheed L-1011 Tristar				√		√
MCDonnell Douglas DC-10 (Models 10 and 30)				√	√	√
McDonnell Douglas DC-3				√		
Piper PA31	√			√		√
Saab SF340A and 340B Supplement				√	√	

Note: The TR-G prefix designates a global Temporary Revision which is a policy change applicable to several aircraft types. Please note that revisions of the MMEL may have incorporated (and superseded) the Temporary Revisions previously issued.

CIVIL AVIATION AUTHORITY

20 March 2002

MASTER MINIMUM EQUIPMENT LIST
TEMPORARY REVISION

ACTION : Insert pages 1 and 2 of this TR immediately after the TR record page.

Insert page 3 of this TR immediately before and facing page 34-1 of the MMEL (or S34-1 for MMEL Supplements).

Record the incorporation on the temporary revision record page and amend the list of effective pages accordingly.

REASON FOR ISSUE: Update MMELs to include current CAA MMEL Policy on Radio Altimeters. Two notes have been introduced in order to ensure that the applicable dispatch deviations are used if the GPWS/TAWS and ACAS systems are also inoperative.

If either of these notes already exists in the current MMEL entry (as a note or as part of the alleviation), the existing wording in the MMEL should remain. These notes should be incorporated only if the current MMEL entry does not refer to these systems. If the MMEL entry refers to GPWS but not ACAS, then only the note for ACAS need be incorporated.

ATA 34 – NAVIGATION

Insert this page facing page 34-1 of the MMEL.

The following notes should be added to the entry for Radio Altimeters:

Note 1: If the loss of the radio altimeter prohibits normal operation of the GPWS/TAWS, the dispatch deviation and rectification interval for an inoperative GPWS/TAWS must be observed.

Note 2: If the loss of the radio altimeter prohibits normal operation of the ACAS, the dispatch deviation and rectification interval for an inoperative ACAS must be observed.

Civil Aviation Authority

MASTER MINIMUM EQUIPMENT LIST

CESSNA AIRCRAFT COMPANY

MODELS 414 AND 421 (EXCLUDING TURBOPROP)

30 August 1991

CESSNA AIRCRAFT COMPANY
MODELS 414 AND 421 (EXCLUDING TURBOPROP)

ORIGINAL

This Master Minimum Equipment List (MMEL) is issued by the Civil Aviation Authority at the above revision and is approved as the basis for the preparation and approval of individual operator's Minimum Equipment Lists (MELs) for aircraft of this Type.

Correspondence concerning this document should be addressed to the office listed below:-

Civil Aviation Authority
Safety Regulation Group
Aviation House
South Area
Gatwick Airport
Gatwick
West Sussex
RH6 0YR

Attention: Aircraft Projects
MMEL Section

CESSNA AIRCRAFT COMPANY
MODELS 414 AND 421 (EXCLUDING TURBOPROP)

INTENTIONALLY LEFT BLANK

CESSNA AIRCRAFT COMPANY
MODELS 414 AND 421 (EXCLUDING TURBOPROP)

REVISION RECORD

REVISION NO.	ISSUE DATE	INCORPORATED BY	DATE
Original	30 August 1991		

INTENTIONALLY LEFT BLANK

MASTER MINIMUM EQUIPMENT LIST
SUPPLEMENT

TEMPORARY REVISION RECORD

TR No.	Date	Page Affected	Incorporated By	Date Incorporation	Superseded By
G1	07/10/97	34-1			
G4	29/10/01	TR Record Page Preamble Definitions 23-1 25-1 31-1 34-1			
G6	20/03/2002	34-1			

Original
30 August 1991

CESSNA AIRCRAFT COMPANY
MODELS 414 AND 421 (EXCLUDING TURBOPROP)

TABLE OF CONTENTS

Civil Aviation Authority

MASTER MINIMUM EQUIPMENT LIST

Original
30 August 1991

CESSNA AIRCRAFT COMPANY
MODELS 414 AND 421 (EXCLUDING TURBOPROP)

INTENTIONALLY LEFT BLANK

Original

30 August 1991

CESSNA AIRCRAFT COMPANY
MODELS 414 AND 421 (EXCLUDING TURBOPROP)

LIST OF EFFECTIVE PAGES

Original
30 August 1991

CESSNA AIRCRAFT COMPANY
MODELS 414 AND 421 (EXCLUDING TURBOPROP)

INTENTIONALLY LEFT BLANK

Civil Aviation Authority

MASTER MINIMUM EQUIPMENT LIST

Original
30 August 1991

CESSNA AIRCRAFT COMPANY
MODELS 414 AND 421 (EXCLUDING TURBOPROP)

PREAMBLE

1. The CAA approved Master Minimum Equipment List (MMEL) provides owners/operators of United Kingdom registered aircraft, of the relevant type, with the basis for the preparation of their individual Minimum Equipment List (MELs). In the case of holders of Air Operators Certificates the MEL will be included in that Company's Operations Manual.

2. The approved MMEL represents a list of items of equipment which, under particular circumstances, can, to the satisfaction of the CAA, be unserviceable when the aircraft is despatched, while still retaining the required level of safety.

3. The CAA recognises that in some respects the standard and scale of equipment provided in the aircraft may exceed the minimum required to satisfy airworthiness or Air Navigation Legislation requirements. Where necessary to achieve a satisfactory level of safety with an inoperative item, appropriate limitations are imposed or the function transferred to another component.

4. The MMEL does not include items such as wings, engines and landing gear that are always required, nor is reference made to equipment such as passenger convenience and entertainment items which when inoperative obviously do not affect airworthiness. It is important to note therefore that ANY ITEM WHICH IS RELATED TO THE AIRWORTHINESS OF THE AIRCRAFT AND WHICH IS NOT INCLUDED IN THE MMEL IS ALWAYS REQUIRED TO BE OPERATIVE BEFORE A FLIGHT IS DESPATCHED. Likewise items required by Air Navigation Legislation. Additional Certification Requirements as appropriate, which are not listed must be operative.

5. The MMEL may not waive a limitation or an emergency procedure which is given in the Flight Manual (FM) or override an Airworthiness Directive (AD) /Mandatory Inspection unless the FM/AD provides otherwise. Similarly any Additional Certification Requirements, or other special provisions, as appropriate which have been determined as necessary by the CAA shall not be waived unless otherwise agreed or varied by the CAA.

6. An Owner/Operators MEL must receive CAA approval which thereby conveys the permission, required by the UK Air Navigation Order, to the Commander, for operation of the aircraft with specified items of equipment unserviceable.

7. The MEL may not be less restrictive than the MMEL therefore the number of items required for despatch shall not be less than the corresponding number in column 3 of the MMEL and any associated conditions shall be at least as severe as those specified in column 4.

8. The MMEL does not anticipate the effects of combinations of apparently unrelated unserviceabilities or allow for situations where systems are made inoperative for special purposes such as demonstration, test or crew training. Other provisions may apply to positioning or ferrying flights but these may not necessarily be included in the MMEL.

9. The MEL should indicate that a decision to operate the aircraft with multiple unserviceabilities should only be made after due consideration of possible interrelated or additive effects and, if necessary, following consultation with appropriate engineering specialists.

Original
30 August 1991

CESSNA AIRCRAFT COMPANY
MODELS 414 AND 421 (EXCLUDING TURBOPROP)

PREAMBLE (Cont...)

10. It is not the purpose of the MMEL to allow defects of other than optional items to remain unrectified indefinitely. The operational flexibility provided under the MMEL policy is justified only within a framework of controlled and sound programmes of repairs, replacement and servicing. Defects should be rectified expeditiously thus retaining the intended overall level of safety and reducing the possibility of a subsequent failure necessitating the removal of the aircraft from service. Some particular items in the MMEL may be subject to a limitation of flight hours, number of flights or consecutive calendar days, and these must be transferred into the MEL. In the MMEL some items are qualified in column 4 by the words:-

> "The aircraft may continue the flight or series of flights but shall not depart an airport where it is reasonably practicable for repairs or replacements to be made".

or similar wording. Operators with established routes shall specify in the MEL at which stations, in addition to the main maintenance base, such repair facilities exist.

11. This MMEL is based upon UK legislation and some of the alleviations it provides may not therefore necessarily comply with foreign legislation.

Original
30 August 1991

CESSNA AIRCRAFT COMPANY
MODELS 414 AND 421 (EXCLUDING TURBOPROP)

NOTES AND DEFINITIONS

1. In this list, the items of equipment are classified in systems according to the ATA 100 specification. Individual items within a given ATA classification are numbered sequentially.

2. "Item" (Column 1): The equipment, system, components or function as listed in Column 1.

   NOTE: Items annotated in UPPER CASE letters indicates the precise flight deck legend used.

3. "Number Installed" (Column 2): The number of the specified items normally installed in the aircraft. This number identifies the aircraft configuration considered in developing the MMEL.

   NOTE: The operator's MEL should list the number installed in a particular aircraft.

4. "Number Required for Despatch" (Column 3): The minimum number of the specified items required for operation provided the conditions defined in Column 4 are met.

5. "Remarks or Exceptions" (Column 4): This column includes a statement prohibiting operation or permitting operation with a specific number of items inoperative, provisos (conditions and limitations) for such operation and appropriate notes.

6. Dash (-): This symbol indicates a variable quantity when used in Columns 2 or 3.

   NOTE: The operator's MEL should list the numbers appropriate to his particular aircraft in Columns 2 and 3.

7. Asterisk (*): This symbol in Column 4 indicates that if the specified item is inoperative, a placard must be placed on or adjacent to the affected unit, component or control such that it is clear to the operating crew that it or it's associated system is inoperative.

8. "Inoperative": A system or item of equipment is deemed inoperative if it malfunctions such that it does not accomplish its intended purpose and/or is not consistently functioning within it's designed operating limit(s) or tolerance(s).

9. "(0)": The use of this symbol in Column 4 indicates that an appropriate operating procedure (or change to an existing procedure) must be established, published and utilised to maintain the required level of safety while operating under the terms of the (M)MEL.

   Normally, these procedures are accomplished by the flight crew. However, other personnel may be qualified and authorised to perform certain functions.

Original
30 August 1991

CESSNA AIRCRAFT COMPANY
MODELS 414 AND 421 (EXCLUDING TURBOPROP)

NOTES AND DEFINITIONS (Cont...)

10. "(M)": The use of this symbol in Column 4 indicates that an appropriate maintenance procedure must be established, published and utilised prior to the first flight undertaken following discovery of the defect and, if necessary, repeated at specified intervals during operation under the terms of the (M)MEL to maintain the required level of safety.

    Normally, these procedures are accomplished by maintenance personnel. However, other personnel may be qualified and authorised to perform certain functions.

    NOTE: Where an item is annotated (0)/(M), the "/" is defined as "and/or", which shows that there may be different options available in respect of the MEL procedures.

11. "As required by Air Navigation Legislation": The associated item must comply with legal provisions such as the Air Navigation Order or any other legislation in force during the flight.

12. "VMC" and "IMC": The definitions of these terms are those used in Section 2 of the Air Navigation Order - Rules of the air.

13. "Icing Conditions": An atmospheric condition that may cause ice to form on the aircraft or in the engines.

14. "Visible Moisture": An atmospheric environment containing water in any form that can be seen in natural or artificial light, i.e. clouds, fog, rain, sleet, hail, snow.

15. "Flight Hour": The time from the moment an aircraft leaves the surface of the earth until it touches it at the next point of landing.

    NOTE: The definition differs from that given in the Air Navigation Order.

16. "ER": Refers to "extended range" operations which may be defined as "operation of a two-engined aeroplane over a route that contains a point farther than one hour flying time at the normal one-engined inoperative cruise speed (in still air) from an adequate airport".

17. "Flight day": A 24 hour period (from midnight to midnight) during which at least one flight is scheduled for the affected aircraft.

18. "Authority": The competent regulatory authority according to the country of registry; for aircraft registered in the U.K. this is the Civil Aviation Authority.

19. "Deleted": When applied to an item number, indicates that the item was previously listed but is now required to be operative.

20. The models/variants covered by this Master Minimum Equipment List are 414 and 421 (excluding turboprop).

Original
30 August 1991

CESSNA AIRCRAFT COMPANY
MODELS 414 AND 421 (EXCLUDING TURBOPROP)

NOTES AND DEFINITIONS (Cont...)

21. "System": System means the group of directly related components which together performs a specified function, for example 'RPM indication system' would include the RPM indicator, tachometer generator, circuit breaker and associated circuitry.

21. Base documents used for the preparation of this MMEL are:

(a) FAA Cessna Models 414 and 421 MMEL, Revision 6 dated 10 April 1991.

(b) CAA Policy Statements dated 9 February 1990.

INTENTIONALLY LEFT BLANK

(1) System & Sequence Numbers Item		(2) Number Installed	(3) Number required for despatch	(4) Remarks or Exceptions
21	**AIR CONDITIONING**			
1.	Cabin Pressurisation System	1	0	*(0) May be inoperative provided: (a) The aircraft is operated unpressurised, (b) The aircraft is operated at an altitude at or below 10,000 feet AMSL, and (c) Cabin pressurisation switch is selected to "depressurise".
2.	Cabin Dump Valve	1	0	*(M)(0) May be inoperative provided: (a) Cabin dump valve is secured in the open position, (b) The aircraft is operated unpressurised, (c) The aircraft is operated at an altitude at or below 10,000 feet AMSL, and (d) Cabin pressurisation switch is selected to "depressurise".
3.	Cabin Differential Pressure Gauge	1	0	* May be inoperative provided: (a) Cabin altimeter is operative, (b) Cabin altitude warning system operates normally, and (c) Cabin rate of climb indicator is operative. OR
		1	0	*(0) May be inoperative provided: (a) The aircraft is operated unpressurised, (b) The aircraft is operated at an altitude at or below 10,000 feet AMSL, and (c) Cabin pressurisation switch is selected to "depressurise".

(1) System & Sequence Numbers Item	(2) Number Installed	(3) Number required for despatch	(4) Remarks or Exceptions
21 AIR CONDITIONING (Cont...)			
4. Cabin Altitude Indicator (Altimeter)	1	0	* May be inoperative provided: (a) Cabin differential pressure gauge is operative, and (b) Cabin altitude warning system is operative, and (c) A chart is available to convert cabin differential pressure to cabin altitude. OR
	1	0	*(0) May be inoperative provided: (a) The aircraft is operated unpressurised, (b) The aircraft is operated at an altitude at or below 10,000 feet AMSL, and (c) Cabin pressurisation switch is selected to "depressurise".
5. Cabin Rate of Climb Indicator	1	0	* May be inoperative provided: (a) The cabin altimeter is operative, and (b) The cabin differential pressure gauge is operative. OR
	1	0	*(0) May be inoperative provided: (a) The aircraft is operated unpressurised, and (b) The aircraft is operated at an altitude at or below 10,000 feet AMSL, and (c) Cabin pressurisation switch is selected to "depressurise".

(1) System & Sequence Numbers Item		(2) Number Installed	(3) Number required for despatch	(4) Remarks or Exceptions
21	**AIR CONDITIONING (Cont...)**			
6.	Cabin Altitude Control	1	0	*(0) May be inoperative provided: (a) The aircraft is operated unpressurised, (b) The aircraft is operated at an altitude at or below 10,000 feet AMSL, and (c) Cabin pressurisation switch is selected to "depressurise".
7.	Cabin Altitude Warning System	1	0	*(0) May be inoperative provided: (a) The aircraft is operated unpressurised, (b) The aircraft is operated at an altitude at or below 10,000 feet AMSL, and (c) Cabin pressurisation switch is selected to "depressurise". OR * May be inoperative for pressurised flight provided operations are conducted at or below 10,000 feet MSL.
8.	Heater	1	0	*(0) May be inoperative provided: (a) OAT is +5°C or greater throughout the flight, and (b) It is verified that no electrical or mechanical faults exist. NOTE 1 Consideration must be given to crew efficiency and passenger comfort. Factors which affect this include sector length, weather, type of clothing worn etc. NOTE 2 If the de-mist function is not available, an alternative means of ensuring adequate visibility shall be provided.

(1) System & Sequence Numbers Item		(2) Number Installed	(3) Number required for despatch	(4) Remarks or Exceptions
21	**AIR CONDITIONING (Cont...)**			
9.	Heater Fan	1	0	*(M) May be inoperative provided: (a) Heater or windshield defogging is not operated on the ground, and (b) Heater is turned off prior to landing.
10.	Air Conditioning System (Freon) (If Installed)	1	0	*(M) May be inoperative provided it is verified that: (a) No unsafe conditions exist, and (b) Other systems are not affected.
11.	Heater Hour Meter	1	0	*(0) May be inoperative.

(1) System & Sequence Numbers Item	(2) Number Installed	(3) Number required for despatch	(4) Remarks or Exceptions
22 AUTO FLIGHT			
1. Autopilot			
(1) Public Transport	-	-	*(M) May be wholly or partially inoperative provided: (a) The composition of the flight crew is in accordance with the appropriate requirements of Air Navigation Legislation or arrangements approved by the Authority for aircraft of this type, and (b) No electrical or mechanical fault exists that will have an adverse effect on any flight control function.
(2) Other than Public Transport	-	-	*(M) May be inoperative provided no electrical or mechanical fault exists that will have an adverse effect on any flight control function. NOTE See Flight Manual supplement for flap use restrictions.
2. Yaw Damper	1	0	*(M) May be inoperative provided: (a) Yaw damper is independent of and unrelated to autopilot operation or the autopilot is not used, (b) Yaw damper control switch is selected off, and (c) YAW DAMP circuit breaker is pulled and collared. NOTE See Flight Manual supplement for yaw damper/autopilot operating instructions.

Civil Aviation Authority

MASTER MINIMUM EQUIPMENT LIST

INTENTIONALLY LEFT BLANK

(1) System & Sequence Numbers Item	(2) Number Installed	(3) Number required for despatch	(4) Remarks or Exceptions
23 COMMUNICATIONS			
1. Communication Equipment			
(1) VHF	-	-	* As required by Air Navigation Legislation.
(2) HF	-	-	* As required by Air Navigation Legislation.
(3) UHF	-	-	* As required by Air Navigation Legislation.
2. NOT USED			
3. Cockpit Loudspeaker			
(1) Single Crew Operation	1	0	* May be inoperative provided a spare serviceable headset is carried on the flight deck.
(2) Dual Crew Operation	1	0	* May be inoperative provided operative headsets are available to the crew.
4. Passenger Address (If Installed)	1	0	* May be inoperative.

Civil Aviation Authority

MASTER MINIMUM EQUIPMENT LIST

INTENTIONALLY LEFT BLANK

24 ELECTRICAL POWER

(1) System & Sequence Numbers Item	(2) Number Installed	(3) Number required for despatch	(4) Remarks or Exceptions
1. NOT USED			
2. NOT USED			
3. Voltage Regulator (Selectable)	2	2	Both must be operative.
4. Low Voltage Warning Light	1	1	Must be operative.

Civil Aviation Authority

MASTER MINIMUM EQUIPMENT LIST

INTENTIONALLY LEFT BLANK

(1) System & Sequence Numbers Item		(2) Number Installed	(3) Number required for despatch	(4) Remarks or Exceptions
25	**EQUIPMENT/FURNISHINGS**			
1.	Cockpit Shoulder Harness	2	-	As required by Air Navigation Legislation. Right hand may be inoperative provided the seat is not occupied.
2.	Passenger Seats	-	-	*(M) All may be inoperative provided: (a) Affected seat does not block emergency egress to the aisle or exit, and (b) Affected seat is blocked and placarded "DO NOT OCCUPY". NOTE 1 A seat with an inoperative seat belt or shoulder harness is considered to be inoperative. NOTE 2 A seat with an inoperative recline mechanism is considered to be inoperative if the seat back cannot be secured in the upright position.
3.	Flotation Equipment (Lifejackets and Liferafts)	-	-	* As required by Air Navigation Legislation.
4.	Emergency Locator Transmitter (ELT)	1	0	* May be inoperative.
5.	Pilot's Seat Adjustment System	1	1	* Fore-Aft adjustment must operate normally. Vertical and/or recline adjustments may be inoperative provided the seat is secured in a position to suit individual pilots requirements.
6.	Ash Trays	-	-	* May be inoperative provided the affected seat(s) is restricted to non smoking passengers only.
7.	First Aid Kit	-	-	* As required by Air Navigation Legislation.
8.	Torch	-	-	* As required by Air Navigation Legislation.

Civil Aviation Authority

MASTER MINIMUM EQUIPMENT LIST

INTENTIONALLY LEFT BLANK

(1) System & Sequence Numbers Item		(2) Number Installed	(3) Number required for despatch	(4) Remarks or Exceptions
26	**FIRE PROTECTION**			
1.	Portable Fire Extinguisher	-	1	* One portable fire extinguisher must be operative for each enclosed passenger and crew compartment, one of which shall be convenient to a member of the flight crew.
2.	Engine Fire Extinguishing System (If Installed)	2	0	Both may be inoperative.

Civil Aviation Authority

MASTER MINIMUM EQUIPMENT LIST

INTENTIONALLY LEFT BLANK

(1) System & Sequence Numbers Item	(2) Number Installed	(3) Number required for despatch	(4) Remarks or Exceptions
27 FLIGHT CONTROLS			
1. NOT USED			
2. Wing Flap Position Indicator	1	0	* May be inoperative provided: (a) A notch or detent position preselect feature is part of the flap switch, (b) Flaps are visually checked for full travel and flap operation is not affected, and (c) Flaps are visually checked full up prior to each departure.
3. Electric Elevator Trim System (If Installed)	1	0	*(M) May be inoperative provided: (a) Manual trim is verified to be operating normally, and (b) Maintenance procedures verify that no electrical faults exist that will affect the trim system, (c) ELEV TRIM is selected OFF on control wheel, and (d) Associated circuit breaker is pulled and collared.
4. Trim Tab Position Indication (Rudder, Aileron and Elevator)	3	0	* Any or all may be inoperative provided: (a) Tab is checked for full range of operation, and (b) Tab operation is not affected, and (c) Tab is positioned to neutral prior to each departure and neutral position is verified by visual inspection.

Civil Aviation Authority

MASTER MINIMUM EQUIPMENT LIST

INTENTIONALLY LEFT BLANK

(1) System & Sequence Numbers Item		(2) Number Installed	(3) Number required for despatch	(4) Remarks or Exceptions
28	**FUEL**			
1.	Fuel Low Level Warning Lights	2	0	* One or both may be inoperative provided: (a) Both fuel tank quantity indicators are operative, and (b) Both fuel flow indicators are operative.
2.	Fuel Quantity Indicators	2	1	*(M)(0) One may be inoperative provided: (a) Both fuel flow meters operate normally and are monitored, (b) Both fuel low level warning lights are operative, (c) The aircraft may continue the flight or series of flights not to exceed six (6) sectors prior to completion of repairs, and (d) Operations shall be conducted in accordance with one of the following: (i) Fuel tanks are visually checked to be full prior to departure, OR (ii) Fuel in affected tank is not included for the purposes of flight planning, OR (iii) An approved alternate procedure is used to refuel the aircraft with fuel reserves increased by 10%.
3.	Fuel Totaliser	1	0	* May be inoperative.

Civil Aviation Authority

MASTER MINIMUM EQUIPMENT LIST

INTENTIONALLY LEFT BLANK

(1) System & Sequence Numbers Item	(2) Number Installed	(3) Number required for despatch	(4) Remarks or Exceptions
29 HYDRAULIC POWER			
1. Hydraulic Flow Caution Lights	2	1	*(M) One light may be inoperative provided the pump on the affected engine is verified to be operating normally by starting that engine first and ensuring HYD PRESS light extinguishes prior to each departure.

Civil Aviation Authority

MASTER MINIMUM EQUIPMENT LIST

INTENTIONALLY LEFT BLANK

AIRCRAFT: CESSNA AIRCRAFT COMPANY MODELS 414 and 421 (EXCLUDING TURBOPROP)	**REVISION NO:** ORIGINAL **DATE:** 30 AUGUST 1991	**PAGE:** 30-1

(1) System & Sequence Numbers Item		(2) Number Installed	(3) Number required for despatch	(4) Remarks or Exceptions
30	**ICE AND RAIN PROTECTION**			
1.	Pitot Heater	2	1	* One may be inoperative provided: (a) The aircraft is not operated into known or forecast icing conditions, (b) The available pitot heat is associated with the handling pilot's instruments, and (c) The aircraft may continue the flight or series of flights but shall not depart an airport where repairs or replacements can be made.
2.	Surface De-icing System (Wing, Vertical and Horizontal Stabiliser)	1	0	* May be inoperative provided aircraft is not operated in known or forecast icing conditions.
3.	Electric Windshield Anti-ice	1	0	* May be inoperative provided: (a) The aircraft is not operated into visible moisture, known or forecast icing conditions, and (b) The alcohol windshield de-ice system operates normally.
4.	Propeller De-icing/Anti-icing System	2	0	* Both may be inoperative provided aircraft is not operated in known or forecast icing conditions.
5.	Stall Warning/Angle of Attack Indicator Heater	1	0	* May be inoperative provided aircraft is not operated in known or forecast icing conditions.
6.	Wing Locker Fuel Tank Vent Heater	2	0	* Both may be inoperative provided aircraft is not operated in known or forecast icing conditions.

(1) System & Sequence Numbers Item	(2) Number Installed	(3) Number required for despatch	(4) Remarks or Exceptions
30 ICE AND RAIN PROTECTION (Cont...)			
7. Alcohol Windshield De-ice System	1	0	* May be inoperative provided: (a) The aircraft is not operated in visible moisture, known or forecast icing conditions with an outside air temperature below 5°C (41°F), and (b) The electrical windshield anti-ice system operates normally.
8. Static Port Heater	-	0	* May be inoperative provided aircraft is not operated in known or forecast icing conditions.

(1) System & Sequence Numbers Item	(2) Number Installed	(3) Number required for despatch	(4) Remarks or Exceptions
31 INDICATING/RECORDING SYSTEMS			
1. Clock	1	0	*(0) May be inoperative provided an accurate time piece is available on the flight deck indicating the time in hours, minutes and seconds.
2. Flight Hour Recorder	1	0	(0) May be inoperative.
3. Heater Hour Meter	1	0	(0) May be inoperative.

Civil Aviation Authority

MASTER MINIMUM EQUIPMENT LIST

INTENTIONALLY LEFT BLANK

(1) System & Sequence Numbers Item	(2) Number Installed	(3) Number required for despatch	(4) Remarks or Exceptions
32 LANDING GEAR			
1. Parking Brake	1	1	Must be operative.

Civil Aviation Authority

MASTER MINIMUM EQUIPMENT LIST

INTENTIONALLY LEFT BLANK

(1) System & Sequence Numbers Item		(2) Number Installed	(3) Number required for despatch	(4) Remarks or Exceptions
33	**LIGHTS**			
1.	Anti-collision Strobe Light System (Wing Tip)	1	0	* May be inoperative.
2.	Navigation Position Lights	3	0	* Any or all may be inoperative for daylight operations only.
3.	Cockpit and Instrument Lighting Systems	1	0	* May be inoperative provided: (a) Sufficient lighting is operative to make each required instrument, control and other device for which it is provided easily readable, (b) Direct rays and reflections do not impair visibility either inside or outside the aircraft, (c) Lighting intensity can be controlled or preset to a satisfactory level for the expected conditions, and (d) Lighting configuration at dispatch is acceptable to the flight crew.
4.	Landing Lights	2	0	* Both may be inoperative for daylight operations. OR
		2	1	* One may be inoperative for night operations provided: (a) The taxy light is operative, and (b) The aircraft may continue the flight or series of flights but shall not depart an airport where repairs or replacements can be made.
5.	Cabin Light System	-	0	* Individual lights may be inoperative provided lighting configuration is acceptable to the flight crew.
6.	Oscillating Beacon Lights (If Installed)	2	0	* Both may be inoperative.

(1) System & Sequence Numbers Item	(2) Number Installed	(3) Number required for despatch	(4) Remarks or Exceptions
33 LIGHTS (Cont...)			
7. Passenger Notice System (Fasten Seat Belt/No Smoking)			
(1) Public Transport	-	-	*(M) No seat may be occupied from which a passenger cannot see a readily legible sign and that seat must be blocked. OR *(0) All may be inoperative provided alternate procedures for display of a no-smoking sign (when required) and for notifying passengers are established and utilised.
(2) Other than Public Transport	-	0	* May be inoperative.
8. Taxy Light	1	0	* May be inoperative (refer to 33-4).
9. Wing Ice Lights	2	0	* One or both may be inoperative.
10. Recognition Lights (If Installed)	2	0	* One or both may be inoperative.

(1) System & Sequence Numbers Item		(2) Number Installed	(3) Number required for despatch	(4) Remarks or Exceptions
34	**NAVIGATION**			
1.	Altimeters	2	-	* As required by Air Navigation Legislation.
2.	Airspeed Indicator	2	-	* As required by Air Navigation Legislation.
3.	Gyroscopic Pitch and Bank Indicator System	2	1	* For single pilot operations the right hand indicator may be inoperative. The aircraft may continue the flight or series of flights but shall not depart an airport where repairs or replacements can be made.
		2	1	*(0) For two pilot operations, either indicator may be inoperative. The aircraft may continue the flight or series of flights but shall not depart an airport where repairs or replacements can be made.
4.	Gyroscopic Directional Indicator System	2	1	* For single pilot operations, right hand indicator may be inoperative provided standby (magnetic) compass operates normally. The aircraft may continue the flight or series of flights but shall not depart an airport where repairs or replacements can be made.
		2	1	*(0) For two pilot operations either indicator may be inoperative provided standby (magnetic) compass operates normally. The aircraft may continue the flight or series of flights but shall not depart an airport where repairs or replacements can be made.
5.	Gyroscopic Rate of Turn/Slip Skid Indicator	2	1	* For single pilot operations, right hand indicator may be inoperative. The aircraft may continue the flight or series of flights but shall not depart an airport where repairs or replacements can be made.

(Cont...)

(1) System & Sequence Numbers Item		(2) Number Installed	(3) Number required for despatch	(4) Remarks or Exceptions
34	**NAVIGATION (Cont...)**			
5.	Gyroscopic Rate of Turn/Slip Skid Indicator (Cont...)	2	1	*(0) For two pilot operations, either indicator may be inoperative. The aircraft may continue the flight or series of flights but shall not depart an airport where repairs or replacements can be made.
6.	Vertical Speed Indicator	2	1	* For single pilot operations, right hand indicator may be inoperative. The aircraft may continue the flight or series of flights but shall not depart an airport where repairs or replacements can be made.
		2	1	*(0) For two pilot operations, either indicator may be inoperative. The aircraft may continue the flight or series of flights but shall not depart an airport where repairs or replacements can be made.
7.	Flight Director	1	0	* May be inoperative provided operational procedures do not require its use.
8.	Altitude Alert/Preselect	1	0	* May be inoperative.
9.	Radio Altimeter	1	0	* May be inoperative provided operational procedures do not require its use.
10.	ATC Transponder	-	-	* As required by Air Navigation Legislation.
11.	Weather Radar/Thunderstorm Detection Equipment	1	0	* May be inoperative.

34 NAVIGATION (Cont...)

(1) System & Sequence Numbers Item		(2) Number Installed	(3) Number required for despatch	(4) Remarks or Exceptions
12.	Navigation Equipment			
	(1) VOR/ILS	-	-	* As required by Air Navigation Legislation.
	(2) LORAN (If Installed)	-	-	* As required by Air Navigation Legislation.
	(3) RNAV (If Installed)	-	-	* As required by Air Navigation Legislation.
	(4) OMEGA/VLF (If Installed)	-	-	* As required by Air Navigation Legislation.
	(5) INS (If Installed)	-	-	* As required by Air Navigation Legislation.
	(6) Doppler (If Installed)	-	-	* As required by Air Navigation Legislation.
13.	Marker Beacon	-	-	* As required by Air Navigation Legislation.
14.	Distance Measuring Equipment (DME)	-	-	* As required by Air Navigation Legislation.
15.	Radio Magnetic Indicator (RMI)	1	0	* May be inoperative.
16.	Automatic Direction Finding (ADF) System	1	-	* As required by Air Navigation Legislation.
17.	Non-stabilised Magnetic Compass	1	0	* May be inoperative provided: (a) Operations are conducted in day VMC conditions only, (b) Stabilised gyro compass system operates normally, and (c) The aircraft may continue the flight or series of flights but shall not depart an airport where repairs or replacements can be made.

Civil Aviation Authority

MASTER MINIMUM EQUIPMENT LIST

INTENTIONALLY LEFT BLANK

(1) System & Sequence Numbers Item	(2) Number Installed	(3) Number required for despatch	(4) Remarks or Exceptions
35 OXYGEN			
1. Oxygen System	-	-	* As required by Air Navigation Legislation.

Civil Aviation Authority

MASTER MINIMUM EQUIPMENT LIST

INTENTIONALLY LEFT BLANK

(1) System & Sequence Numbers Item	(2) Number Installed	(3) Number required for despatch	(4) Remarks or Exceptions
37 VACUUM/PRESSURE			
1. Vacuum Pumps	2	1	* One may be inoperative for day VMC only provided: (a) The standby (magnetic) compass operates normally, (b) The aircraft may continue the flight or series of flights not to exceed (six) 6 sectors but shall not depart an airport where repairs or replacements can be made.

Civil Aviation Authority

MASTER MINIMUM EQUIPMENT LIST

INTENTIONALLY LEFT BLANK

(1) System & Sequence Numbers Item		(2) Number Installed	(3) Number required for despatch	(4) Remarks or Exceptions
52	**DOORS**			
1.	Pneumatic Door Seal	1	0	* May be inoperative provided: (a) The aircraft is operated unpressurised, (b) The aircraft is operated at an altitude at or below 10,000 feet AMSL, and (c) Cabin pressurisation switch is selected to "depressurise".
2.	Cabin Door Warning Light	1	0	* May be inoperative provided: (a) A flight crewmember confirms by visual inspection that the cabin door is latched and secure prior to each departure, and (b) Fasten seat belt sign remains on or passengers are verbally briefed prior to each departure to remain seated with their seat belts fastened.

Civil Aviation Authority

MASTER MINIMUM EQUIPMENT LIST

INTENTIONALLY LEFT BLANK

(1) System & Sequence Numbers Item		(2) Number Installed	(3) Number required for despatch	(4) Remarks or Exceptions
61	**PROPELLERS**			
1.	Synchronizer/Synchrophaser	1	0	* May be inoperative provided the propeller syncrophaser is selected "OFF".
2.	Unfeathering Accumulator (If Installed)	2	0	* Both may be inoperative.

Civil Aviation Authority

MASTER MINIMUM EQUIPMENT LIST

INTENTIONALLY LEFT BLANK

(1) System & Sequence Numbers Item	(2) Number Installed	(3) Number required for despatch	(4) Remarks or Exceptions
73 ENGINE FUEL AND CONTROL			
1. Fuel Flow Indicators	2	1	* One may be inoperative provided: (a) Both Fuel Quantity Indicators operate normally, and (b) All other engine indications operate normally.

Civil Aviation Authority

MASTER MINIMUM EQUIPMENT LIST

INTENTIONALLY LEFT BLANK

(1) System & Sequence Numbers Item	(2) Number Installed	(3) Number required for despatch	(4) Remarks or Exceptions
77 ENGINE INDICATING			
1. Economy Mixture Indicators (EGT)	2	0	*(0) One or both may be inoperative provided: (a) Appropriate Flight Manual procedures are observed, and (b) Fuel reserves for the flight are increased by 5%.

Civil Aviation Authority

MASTER MINIMUM EQUIPMENT LIST

INTENTIONALLY LEFT BLANK

AIRCRAFT: CESSNA AIRCRAFT COMPANY MODELS 414 and 421 (EXCLUDING TURBOPROP)	**REVISION NO:** ORIGINAL **DATE:** 30 AUGUST 1991	**PAGE:** 79-1

(1) System & Sequence Numbers Item	(2) Number Installed	(3) Number required for despatch	(4) Remarks or Exceptions
79 OIL			
1. Oil Temperature Gauges	2	1	* One may be inoperative provided all other engine indicators operate normally.

Civil Aviation Authority

MASTER MINIMUM EQUIPMENT LIST

INTENTIONALLY LEFT BLANK