

## The Maintenance Release

“Think of the Maintenance Release (M.R.) as an accurate and convenient window on the health and recent activity of a particular aircraft. Every aircraft must carry a current MR that has been issued by an authorised person and signed by the person responsible for the periodic inspection.”

*Out-n-back*

*Civil Aviation Safety Authority (CASA) Website*

“Sub-regulation 133 (1) (c) of the CARs directs that an aircraft shall not commence flight unless there is in force a valid maintenance release covering the period of that proposed flight. This is to ensure that the pilot-in-command is made aware that all required maintenance on the aircraft has been completed and certified, that no maintenance is scheduled to take place during the proposed flight and of all defects in the aircraft.”

*CAAP 43-1 (1)*

*Civil Aviation Safety Authority (CASA)*

CASA split aircraft up into two maintenance categories, CLASS A and CLASS B. The definitions of these categories are:

- CLASS A            -        Regular Public Transport Aircraft (RPT).
- CLASS B           -        Any other category than RPT.

Club aircraft are only operated in the ‘Private’, ‘Air work’ or ‘Charter’ category. Therefore the aircraft are maintained under the CLASS B maintenance requirements. CASA Stipulate the requirements for each class of aircraft in the Civil Aviation Regulations (CARs). The requirements are:

### CLASS A

1. CASA CAR 39 - An approved system of maintenance.

### CLASS B

1. CASA CAR 42A - The manufactures schedule of maintenance.
  - The Cessna Progressive Care Program.
  - 200 Hours or 1 year, whichever comes first.
  - Details of maintenance required in the aircraft maintenance manual.
2. CASA CAR 42B – The CASA Schedule.
  - CASA CAR Schedule 5.
  - 100 Hours or 1 year, whichever comes first.
3. CASA CAR 42C – A CASA approved system of maintenance.

“When issuing a maintenance release for a private CLASS B aeroplane below 5700 kg, the person signing the maintenance release (Aircraft Maintenance Engineer) is to list all calendar time based maintenance due in the next 12 months as well as an estimate, based on previous operation of the aeroplane, of time-life’d maintenance that is expected to fall due within the next 12 months.”

*CAAP 43-1 (1)*

*Civil Aviation Safety Authority (CASA)*

It is the responsibility of the Pilot In Command to ensure the aircraft will not exceed any of these limitations during the flight. The astute pilot should check the maintenance release prior to conducting the pre-flight inspection.

A copy of a maintenance release has been attached as *Appendix A*. The MR should be checked in order of the parts. I.e. Part 1, 2, 3.

## The Maintenance Release





The times listed on the maintenance release are referred to as Aircraft Time In Service. This is the time the aircraft has been 'flying'. It is most accurately timed by either a 'Tacho' or 'Air switch'. A VDO, which times engine start to engine stop will not accurately represent the time in the air.

When a timing device is replaced the numbers on the timer no longer match the aircraft time in service. Remember the tacho and air switch are only 'counters' used to add the days flying time to the aircraft time in service at the completion of each days flying.

### Example:

The example aircraft has '5000' hours Total Time In Service (TTIS) (indicated on the tacho). The tacho malfunctions and is replaced with a new unit. The new tacho reads '0'. The aircraft has still flown 5000 hours and the M.R. will still indicate '5000' hours in the Aircraft Time In Service column. At the completion of the days flying, the hours (timed on the tacho) are recorded in the 'Flight Time' column on the M.R. These hours are then added to the Aircraft Time In Service. For example, if the aircraft had flown 4 hours on the tacho that day, the Aircraft Time In Service at the end of the day would be 5004 hours.

Here is a summary of timing devices used in aircraft:


Gauge	Times	Works on	Photo
<b>VDO</b>	Engine start/stop	Engine oil pressure	
<b>Tacho</b>	Engine hours	Engine RPM	
<b>Air switch</b>	40KTS Start/stop	Airspeed	
<b>Hobbs switch</b>	Master on/off	Electrical current	

### Additional items that should be checked on the M.R

1. Check the 'OIL' column and monitor the oil consumption of the aircraft. The recording of oil use is a requirement. See Appendix A 'Item 8' of 'Part 1'.
2. Check the progressive total column (running from 0-200 hours). Compare the hours flown to the colour of the oil. The more hours flown since the last oil change, the darker the oil. If an aircraft has just had an oil change and the oil is black (not honey coloured); further inspections of the engine should be made.

## The Maintenance Release

### APPENDIX A – A Class B aeroplane sample Maintenance Release (Part 1 & 2).



**Australian Government**  
Civil Aviation Safety Authority

**Maintenance Release**  
Civil Aviation Regulation 43



**A128430**

Part 1

**EXPIRES** 4/2/15 OR 808.0

**Aircraft Type** CESSNA 172S VH-1VW

This Maintenance Release has been issued by virtue of Regulation 43(7) (a) of the Civil Aviation Regulations and except where it ceases to be in force by virtue of Regulation 45 or Regulation 46 of the Civil Aviation Regulations shall remain in force until the expiry date or aircraft time in service shown whichever is the earlier.

Issued by 	SPECIALISTS APPROVAL C569077 ISSUE 08	Aircraft total time in service at issue 608.0	Time 1000	Date 4/2/14	Place YCDR
Signed 		AME licence/authority no. Tony Chamberlin 419617		Operational Category CHARTER	
		<input checked="" type="checkbox"/> IFR <input type="checkbox"/> VFR Night <input type="checkbox"/> VFR Day			







**Maintenance requirements** - The following maintenance, in addition to daily inspections, is required to be carried out on the aircraft during the period for which this Maintenance Release is expressed to remain in force, in order to comply with requirements or conditions imposed under the Civil Aviation Regulations.

Schedules/System of Maintenance applicable to this aircraft: CESSNA 172S M.M. 045-12-00 PROGRESSIVE CARE PROGRAM

Item no.	Maintenance required	Due at date/ Aircraft TTIS	Completed with, entered & certified in Log Book or Part 2 of MR	Date
1/	INSP OP 13	658.0	C/O REFER PART 2	18/2/14
2/	INSP OP 1, 2, 13 22, 23, 24	708.0	C/O AMS JDB 14/05/14	13/3/14
3/	IFR RADIO INSP VAC RELIEF VALVE FILTER - RENEW	708.0	C/O AMS JDB 14/05/14	13/3/14
4/	AD/LYC/90A2	718.0	C/O AMS JDB 14/05/14	13/3/14
5/	INSP OP 13	758.0	C/O REFER PART 2	5/4/14
6/	INSP OP 12, 16, 17, 20, 26	758.0	C/O AMS JDB 14/05/14	13/3/14
7/	INSP OP 36	778.0		

Item no.	Maintenance required	Due at date/ Aircraft TTIS	Completed with, entered & certified in Log Book or Part 2 of MR	Date
8/	RECORD ENGINE OIL UPLIFTS	DAILY		

Part 2

Item no.	Endorsements	Date, signature and licence no.	Item no.	Clearing endorsements	Clearing signature, licence/authority no. and date
1	INSP OP 13 DUE 658.0	18/2/14  751426	1	INSP OP 13 C/O @ 658.0	 751426 19/2/14
2	LH door handle fails to spring closed when door contacts frame	21/2/14  782909	2	HANDLER / LATCH ASSY REMOVED, NEW SPRING FITTED ASSY RE-INSTALLED 1mm CIRCLAMP. AMS JDB 14/05/14	 751426 13/4/14
3	OIL & FILTER CHANGE DUE 758.0	5/4/14  751426	3	OIL & FILTER CHANGE C/O @ 758.3 TTIS	 751426 5/4/14

A signature in Part 2 of this Maintenance Release certifying for the completion of maintenance shall constitute a certification required by Civil Aviation Regulation 422E.



## The Maintenance Release

### APPENDIX A – A Class B aeroplane sample Maintenance Release (Part 3).

#### DAILY INSPECTION CERTIFICATIONS AND AIRCRAFT TIME-IN-SERVICE

Part 3

Date	Daily Inspection Certification		Aircraft Time in Service				Cycle Totals, e.g. Landing/Start Pressurisation	
	(Pilot, LAME, MA)		Flight Time		Progressive Total			
	Signature	Licence no.	Hrs	Min	Hrs	Min	L	P
			Brought Forward:		608.0			
4/2/14	<i>[Signature]</i>	413617	0.6		608.6	2 0.6		
5/2/14	<i>[Signature]</i>	779703	2.2		610.8	18 0.8		
6/2/14	<i>[Signature]</i>	782909	2.0		612.8	6 4.8		
7/2/14	<i>[Signature]</i>	782909	3.2		616.0	2 8.0		
8/2/14	<i>[Signature]</i>	782909	5.3		621.3	18 13.3		
9/2/14	<i>[Signature]</i>	572533	3.6		624.9	12 16.9		
10/2/14	<i>[Signature]</i>	300578	2.1		627.0	4 19.0		
11/2/14	<i>[Signature]</i>	589484	1.7		628.7	11 20.7		
12/2/14	<i>[Signature]</i>	572533	4.7		633.4	7 25.4		
13/2/14	<i>[Signature]</i>	782909	2.2		635.6	2 27.6		
14/2/14	<i>[Signature]</i>	782909	4.3		639.9	7 31.9		
15/2/14	<i>[Signature]</i>	562421	3.3		643.2	4 35.2		
16/2/14	<i>[Signature]</i>	589484	5.0		648.2	4 40.2		
17/2/14	<i>[Signature]</i>	589484	2.4		650.6	4 42.6		
18/2/14	<i>[Signature]</i>	854861	3.9		654.5	11 46.5		
19/2/14	<i>[Signature]</i>	542397	0.6		655.0	7 47.0		
20/2/14	<i>[Signature]</i>	660747	0.8		655.8	4 47.8		
21/2/14	<i>[Signature]</i>	542397	2.7		658.5	9 50.5		
22/2/14	<i>[Signature]</i>	782909	1.0		659.5	13 51.5		
23/2/14	<i>[Signature]</i>	782909	3.3		662.8	14 54.8		
24/2/14	<i>[Signature]</i>	589484	3.4		666.2	3 58.2		
25/2/14	<i>[Signature]</i>	782909	3.5		669.7	10 61.7		
26/2/14	<i>[Signature]</i>	604534	2.0		671.7	1 63.7		
27/2/14	<i>[Signature]</i>	433148	1.0		672.7	2 64.7		
28/2/14	<i>[Signature]</i>	782909	2.8		675.5	17 67.5		
01/3/14	<i>[Signature]</i>	782909	0.4	1.9	676.0	8 67.4		
02/3/14	<i>[Signature]</i>	589484	1.7		677.7	8 70.8		
03/3/14	<i>[Signature]</i>	589484	0.7		678.4	9 71.5		
04/3/14	<i>[Signature]</i>	542397	3.1		681.5	11 74.6		
05/3/14	<i>[Signature]</i>	589484	3.5		685.0	9 78.0		
06/3/14	<i>[Signature]</i>	782909	1.5		686.5	9 79.5		
07/3/14	<i>[Signature]</i>	542397	0.6		687.1	7 80.1		
08/3/14	<i>[Signature]</i>	562421	4.1		691.2	13 84.2		
09/3/14	<i>[Signature]</i>	589484	1.9		693.1	13 86.1		
10/3/14	<i>[Signature]</i>	589484	1.3		694.4	10 87.4		
11/3/14	<i>[Signature]</i>	782909	5.5	5.2	700.0	18 93.0		
12/3/14	<i>[Signature]</i>	589484	2.9		702.9	21 95.9		
13/3/14	<i>[Signature]</i>	436140	0.6		703.5	2 96.5		
14/3/14	<i>[Signature]</i>	751426	2.5		706.0	9 99.0		
15/3/14	<i>[Signature]</i>	589484	2.7		708.7	17 101.7		
16/3/14	<i>[Signature]</i>	589484	1.8		710.5	4 103.5		
17/3/14	<i>[Signature]</i>	796570	0.5		711.0	5 104.0		
18/3/14	<i>[Signature]</i>	589484	3.5		714.5	3 107.5		
19/3/14	<i>[Signature]</i>	768740	2.2		716.7	10 109.7		

A signature in Part 3 of this Maintenance Release certifying for the completion of maintenance shall constitute a certification required by Civil Aviation Regulation 422E

#### DAILY INSPECTION CERTIFICATIONS AND AIRCRAFT TIME-IN-SERVICE

Part 3

Date	Daily Inspection Certification		Aircraft Time in Service				Cycle Totals, e.g. Landing/Start Pressurisation	
	(Pilot, LAME, MA)		Flight Time		Progressive Total			
	Signature	Licence no.	Hrs	Min	Hrs	Min	L	P
			Brought Forward:		716.7			
20/3/14	<i>[Signature]</i>	787395	1.4		718.1	1 10.1		
21/3/14	<i>[Signature]</i>	589484	2.3		720.4	3 12.4		
22/3/14	<i>[Signature]</i>	751426	2.0		722.4	13 14.4		
23/3/14	<i>[Signature]</i>	589484	3.9		726.3	19 18.3		
24/3/14	<i>[Signature]</i>	589484	2.2		728.5	11 20.5		
25/3/14	<i>[Signature]</i>	787395	2.1		730.6	3 22.6		
26/3/14	<i>[Signature]</i>	572533	1.8		732.4	20 24.4		
27/3/14	<i>[Signature]</i>	572533	1.8		734.2	12 26.2		
28/3/14	<i>[Signature]</i>	572533	0.7		734.9	2 26.9		
29/3/14	<i>[Signature]</i>	793946	2.3		737.2	1 29.2		
30/3/14	<i>[Signature]</i>	793946	2.5		739.7	1 31.7		
31/3/14	<i>[Signature]</i>	782909	1.4		741.1	4 33.1		
01/4/14	<i>[Signature]</i>	589484	3.0		744.1	8 36.1		
02/4/14	<i>[Signature]</i>	751426	3.7		747.8	27 39.8		
03/4/14	<i>[Signature]</i>	751426	4.5		752.3	19 44.3		
04/4/14	<i>[Signature]</i>	782909	3.0		755.3	17 47.3		
05/4/14	<i>[Signature]</i>	572533	1.1		756.4	20 48.4		
06/4/14	<i>[Signature]</i>	300578	3.4		759.8	3 51.8		
07/4/14	<i>[Signature]</i>	782909	1.9		761.7	18 53.7		
08/4/14	<i>[Signature]</i>	562421	3.0		764.7	15 56.7		
09/4/14	<i>[Signature]</i>	562421	2.6		767.3	16 59.3		
10/4/14	<i>[Signature]</i>	562421	1.9		769.2	3 102.2		
11/4/14	<i>[Signature]</i>	755746	—		769.2	— 102.2		
12/4/14	<i>[Signature]</i>	782909	2.7		771.9	7 104.9		
13/4/14	<i>[Signature]</i>	752077	3.8		775.7	4 107.7		

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