CHECK FLIGHT CERTIFICATE

MD 902 EXPLORER ENGINE PW206E/PW207E	**CFS 303 issue 1**	Registration:

Date:	Crew:	Observer:

Performance	Climb #1	Climb #2	
Average Weight			
Average Altitude			ft
Average Temp.			°C
Speed			KIAS
Achieved Rate			fpm
Scheduled Rate			fpm
Margin			fpm
Permitted Margin	-20	-20	fpm

Airfield:

Start Weight Kg/Lbs*:

Takeoff cg:

Performance:

SATIS/UNSATIS/NOT APPLICABLE*

*(delete as applicable)**

Defects

No.	Defect	-/R/FT	Action?

(use a continuation sheet as necessary)

Conclusions/Comments

I CERTIFY that I have tested the above aircraft and have detailed the deficiencies and unsatisfactory features above. Those items annotated R or FT must be dealt with as shown in the notes on the reverse side.

Name:	Signed:	Date:	Licence No.:
For CAA Use only	Report Logged by:	Date:	Report No.:

NOTES

General

Only CAA personnel or pilots specifically briefed to carry out CAA Check Flights may conduct the test.
General notes on test conduct can be found in the CAA Check Flight Handbook.
This sheet replaces any flight test certificate given in the schedule.
Registration: If the aircraft is not on the UK register, add the manufacturers serial number and expected UK registration (if known).
Crew: Captain, co-pilot, Flight engineer (where applicable).
Airfield: Departure airfield.
Start Weight: Actual all up weight at first engine start. Also delete Kg or Lbs as appropriate.
Takeoff cg: Actual cg at lift-off, preferably as a % of the Mean Aerodynamic Chord.

Performance

A full description of climb analysis is given in the CAA Check Flight Handbook.
Climb#1/Climb#2: Enter in these columns data from the first and second climbs.
Average Weight: The aircraft all up weight at the midpoint of the measured climb.
Average Altitude: The altitude at which the line drawn to average the measured points passes through at the mid time.
Average Temp: The temperature at which the line drawn to average the measured points passes through at the mid time.
Speed: The target climb speed (Indicated Airspeed.)
Achieved Rate: The climb rate as given by the slope of the line drawn to average the measured altitude points in feet per minute.
Scheduled Rate: The expected gross rate of climb read from the appropriate graph in the Flight Manual with any adjustments for configuration differences. For large aircraft, the basic gross data are normally to be found in a separate supplement labelled 'Additional Flight Test Data'.
Margin: The difference between the Scheduled and Achieved rates of climb (negative if achieved is lower than scheduled).

Defects

Enter all defects from the flight. All defects must also be entered in the Technical Log. Procedural items entered in the Technical Log (such as re-stowing oxygen masks) need not be entered here. Items affecting flight safety which were known before the flight, whether or not they were deferred should be entered. In the latter case, the defect should be annotated accordingly after the details.
No.: The first column is to allow the items to be numbered.
Defect: Enter details of the defect.
-/R/FT: Classify each defect according to its impact on safety, regardless of whether it can be deferred according to the MEL. Any deferrals should be dealt with in the normal way in the Technical Log. Items requiring rectification (or deferral under the MEL) before further flight for hire or reward or before the issue of the CofA should be marked 'R'. Additionally, items that require re-checking in-flight following rectification (such as inadequate climb performance) should be marked 'FT'. Items requiring both should be marked 'R/FT'.
Action?: This column should be left blank unless further information is required from the engineers or the item is considered to be of sufficient import that CAA action is considered necessary, then the person/department/agency from whom further action is required should be noted in this column. Annotate accordingly if an MOR or similar report is to be raised.

Conclusions/Comments

Any conclusions, notes or comments useful for tracking defects may be entered.
Name: Only the pilot who carried out the test may sign this sheet.

CAA Check Flight Schedules

All CAA Check Flight Schedules (CFSs) are prepared based on a design standard which, before September 2003, was the UK Type Certificate. Following the creation of EASA there may be different design standards in service within the European Union (EU) - this may include modifications approved in any EU country.

It is the responsibility of the flight crew to ensure that the exercises and limitations in the CFS are correct for the aircraft under test.

The prime source of information will be the aircraft flight manual and in the event of conflict the flight manual should be taken as overriding.

CAA policy is that pilots who conduct airtests on the behalf of the Authority must be acceptable to the Authority, must have been briefed on techniques and safety considerations before carrying out the tests in these schedules and must have carried out an airtest within the last 4 years.

The CAA does not accept responsibility for the use of a CAA CFS on a test flight not directly under their control.

CHECK FLIGHT SCHEDULE

MD 902 EXPLORER
ENGINE PW206E/PW207E

CFS 303 Issue 1

Registration		Test Date	

INTRODUCTION

This schedule is only applicable to the MD 902 helicopter. It is based on the assumption that the everyday operation of the helicopter serves as a continuous check of the correct functioning of all normal services.

The Check Flight must be carried out by an experienced pilot acceptable to the Airworthiness Division of the CAA, in accordance with this schedule and the general guidance given in the CAA Check Flight Handbook. The crew are expected to monitor the behaviour of all equipment and systems and report any unserviceable items.

In addition to completing all the tests in the schedule, any characteristics which are considered to be unsafe or undesirable must also be recorded.

WARNING

1 Although it may be legal to carry passengers on a test flight with a Certificate of Airworthiness in force, it is strongly recommended, for Airworthiness Flight Tests and other tests entailing greater risk than normal flight, that;
a) It is preferable to use ballast, and
b) Before accepting any passengers on a Check Flight the pilot in command should inform them that the risk is greater than on an ordinary flight.

2 Under no circumstances are the limitations contained in the CAA approved Flight Manual to be exceeded.

Should there be any query regarding the Check Flight or the results, the local CAA Surveyor or the Helicopter Flight Test Section at Airworthiness Division Flight Department, Aviation House, Gatwick must be consulted.

It recommended that the tests are performed in the sequence given. The results are to be written in ink in the spaces provided.

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APPENDICES

Appendix 1	Sidewards and rearwards flight
Appendix 2	Single Engine Climb Performance Charts – PW206E
Appendix 3	Single Engine Climb Performance Charts – PW207E
Appendix 4	Autorotation RPM Chart

1. Pre-Flight Information

Aircraft Variant	MD902	Engine	PW 206E/ 207E

Registration		Engine No		
Airframe No		Hours total		
Airframe Hrs		TSO		
Operator/Maint. Organisation				
Airfield				

Pilot(s)	
Observer	

2. Loading

Note: The helicopter shall be loaded to maximum all up weight if possible. Any ballast must be securely installed

Take-off Weight		Lb
Fuel		Lb
CoG Position		

3. General Flight Information

Airfield Press. Alt.		ft	QFE/QNH	/	
Wind	/		OAT		°C
Weather					

Engine Start		Land	
Take-Off		Shut down	

4. Pre-Start Checks

		Satis.	Remarks
4.1	Carry out the normal external inspection		
	Check for correct functioning of external lighting		
	Check for correct functioning pitot heating		
4.2	Doors & windows : Condition & operation		
	Seats & harnesses		
	Placards : Legibility & accuracy		
4.3	If a standby horizon is installed, switch ON		
	Confirm Horizon powered and erecting		
4.4	Select Power Switch to BAT/EXT		
	Note:		
	IIDS Power up check		
	IIDS Lamp Test		
	IIDS Fire Detector Test		
	IIDS "Display by Exception" Mode		

Note: The BATT DISCHARGE message in the IIDS illuminates whenever the bus voltage is <26v for more than 5 sec, regardless of power source.

4.5	Twistgrip throttle checks		
(i)	Reduce Left engine twistgrip below normal. Left EEC & MAN captions illuminate		
(ii)	Left twistgrip to shut off Index marks aligned		
(iii)	Reduce Right engine twistgrip below normal. Right EEC & MAN captions illuminate		
(iv)	Right twistgrip to shut off Index marks aligned		
(v)	Press EEC Reset		
	MAN captions clear		
	EEC captions flash		
(vi)	Left twistgrip to NORMAL Left EEC caption clears		
(vii)	Right twistgrip to NORMAL Right EEC caption clears		
(viii)	Repeat using CoPilot Twistgrip, if installed		

Caution: EEC Reset may not function if twist grip moved too rapidly. If this occurs, cycle power switch OFF and ON to unlock EEC from MANUAL mode.

4.6 Complete pre-start checks as per FM

5 Engine Start and Ground Checks

5.1 Start

Start time

Perform either an automatic or manual start of each engine, noting satisfactory behaviour and acceleration to idle.

Start mode	Automatic/manual	Automatic/manual
	Eng 1	Eng 2
Max EGT	ºC	ºC
Satisfactory Acceleration		

(delete as required)

5.3 Generator Loads

Check generators shortly after battery start with both engines at FLY.

	Satis.	Remarks
Left Gen.		%
Right Gen.		%
Loads within 10 % of each other		
Left GEN off, left GEN caution, Gen. Load 0 - +1% Right Gen. Load increased appropriately		
Confirm appropriate single generator automatic shedding functions as intended for the electrical system		
Left GEN on - load share restored, caution clear.		
Right GEN off, right GEN caution, Gen. Load 0 - +1%, Left Gen. Load increased appropriately		
Left GEN off. Confirm double generator failure automatic shedding functions as intended.		
Batt Switch to ESNTL, Confirm Left VSCS SHED Batt Switch NORMAL		
Both GEN on - load share restored, GEN cautions clear, automatically shed buses restored where appropriate.		

5.4 N_p overspeed test

Carry out an N_P overspeed test in accordance with the procedure in Section 8 of the Flight Manual.

	Satis.	Remarks
N_p Overspeed test		

5.5 Engine Torque Matching

Let engines stabilise at FLY

Left Engine Torque	%
Right Engine Torque	%

Note Torques to be matched ± 3%

5.6 Train Mode Operation

Both engines at FLY, CLP 0

	Satis.	Remarks
LEFT ENGINE - TRAIN. LEFT N_p 92%, Tq split, LEFT Tq zero.		
RIGHT ENGINE - TRAIN. Tqs matched at 100 % N_R.		
RIGHT ENGINE - FLY. LEFT N_P 92%, LEFT Tq zero.		
RIGHT ENGINE - IDLE. N_R and LEFT N_p 100%. RIGHT N_p 65%		
LEFT ENGINE – FLY. LEFT N_P 100%, RIGHT engine at idle		
RIGHT ENGINE - FLY. Tqs matched at 100% N_P/N_R		

RIGHT ENGINE - TRAIN. RIGHT N_p 92%, Tq split, RIGHT Tq zero.		
LEFT ENGINE - TRAIN. Tqs matched at 100% N_R		
LEFT ENGINE - FLY. RIGHT N_p 92%, RIGHT Tq zero.		
LEFT ENGINE - IDLE. N_R and RIGHT N_p 100%. LEFT N_P 65%		
RIGHT ENGINE - FLY. RIGHT N_P 100%, LEFT engine at idle		
LEFT ENGINE - FLY. Tqs matched at 100% N_P/N_R		

5.7 Power Assurance Check

5.7.1 Use IIDS Power Assurance Check Procedure

IIDS OAT	°C
Pressure Alt	ft

		Margin
Left Engine	N_G	
	EGT	

		Margin
Right Engine	N_G	
	EGT	

Transfer the figures to Section 12.2

5.7.2 Perform manually in accordance with RFM Section 5-12 procedure:

IIDS OAT	°C
Pressure Alt	ft
Target Torque (from RFM)	

Record:

Left Engine	N_G	%
	EGT	ºC

Right Engine	N_G	%
	EGT	ºC

Transfer the data to Section 12.2 for analysis and comparison with the automatic procedure results above.

5.8 VSCS Checks

NOTE: Ensure SAS and AP are deselected

L and R VSCS switches OFF TOTAL STAB FAIL caption illuminated		
VSCS needles centred		
Select L VSCS switch ON Select R VSCS TEST then ON RIGHT STAB FAIL caption clears within 5-8 sec		
Reselect L & R VSCS OFF Select R VSCS switch ON Select L VSCS TEST then ON LEFT STAB FAIL caption clears within 5-8 sec		
Confirm indicator needles approx. 55% rt. with 0 CLP		

5.9 Lighting Controls

	Satis.	Remarks
Check cabin and cockpit area lights are functional.		
Check floodlights operational.		
LT MSTR switch ON. IIDS brightness drops. Confirm brightness control works.		
Check GO-NO GO lights functional (amber for 8 sec) and dimming functional. (where applicable)		
Console lights - confirm all console and avionics lighting functional.		
Instrument lights - confirm instrument and VSCS indicator lighting functional.		
LT MSTR switch OFF. IIDS brightness increases.		

5.10 Intentionally Blank

5.11 Cabin Heat

Both engines FLY, Nr 100%. CAB HEAT SWITCH ON, COCKPIT HEAT CONTROL up

	Satis.	Remarks
EGTs rise by approx. 10 Deg C.		
Hot air from windscreen defog nozzles.		
FOOT HEATER CONTROLS on - functional. (CAUTION - exposed fan under instrument panel)		
CABIN HEAT CONTROL on - functional.		
One engine to IDLE - no hot air flow from ducts.		
CABIN HEAT - OVRD air flows.		
CABIN HEAT OFF, EGTs reduce.		
Return both engines to FLY		

Reset cabin heat as required.

5.12 Vent Systems

Both engines at FLY, Nr 100%

	Satis.	Remarks
AC/VENT - VENT LOW - note airflow from all cockpit and cabin gaspers.		
AC/VENT - VENT HIGH - airflow increases.		

5.13 Hydraulic System

Select both engines to FLY
Confirm “1HYD2” caution extinguished

	Satis.	Remarks
SELECT HYD TEST SYS 1 Confirm: HYD 1 - 250 PSI max HYD 2 - 1000 PSI +100/-50 1 HYD caption illuminated		
Release HYD TEST switch 1 HYD caption extinguished HYD 1 pressure recovers		
SELECT HYD TEST SYS 2 Confirm: HYD 1 - 1000 PSI +100/-50 HYD2 - 250 PSI max. HYD 2 caption illuminated. Verify pedals unboosted.		
Release HYD TEST switch Confirm caption clear, Pedals boosted, HYD 2 Pressure recovers		

5.14 AFCS and Cyclic Trim

	Satis.	Remarks
Perform a full test of AFCS and cyclic trim systems		

5.15 NOTAR Fan Balance
Pedals neutral (approx 1” right), engines in FLY, collective down, 100% N_R

Record NOTAR fan balance from IIDS BMS: Limit 0.1 IPS		ips

5.16 Main Rotor Balance

Record MR balance from IIDS BMS: Limit 0.3 IPS		ips

5.17 Low Rotor rpm Warning

With both engines in FLY, raise collective to >5% pitch and maintain for more than 5 seconds.

Lower collective to full down and friction ON.

Switch both engines to idle.

Confirm ENG OUT warning flashes and the low rotor audio activates for one cycle		
Confirm low rotor audio activates again as N_R decreases below 88% until AOG logic disables warning.		

Return engine switches to FLY.

5.18 Instruments:

Check legibility, general condition, functioning correctly, BITE and accuracy of colour bands and markings.

ASI		
Standby Altimeter		
Standby Attitude Indicator		
E2 Compass		
VSCS Indicators		
EADI/EHSI		
KAV480 ADS		
Radar Altimeter (if fitted)		
GH3000 ESIS		

COMPLETE PRE-FLIGHT CHECKS

6 Low Speed Envelope

Note Take off time	

6.1 Lift to IGE Hover at 100% Nr and check:

	Satis.	Remarks
Collective friction release functions correctly - fwd posn functional on pilot's collective only, positive OFF position.		
Rear posn, momentary OFF, both collectives.		
Verify normal control response and positions.		
Right VSCS indicator at or near max. left deflection.		
Left VSCS indicator approx. 55% left of centre.		
Check correct operation of cyclic trim.		

6.2 Sideways and Rearwards Flight (SAS Engaged)

(See Appendix 1 for test method)

	Satis.	Remarks
Sideways flight right and left up to 17 kts		
Rearwards flight up to 17 kts		
Left and right 360 degree axial turns.		
Control Response and Position		
Subjective vibration levels		
All instruments and IIDS within proper limits.		

6.3 Hover manoeuvres, SAS Disengaged

Carry out gentle hover manoeuvres with SAS disengaged. Confirm satisfactory handling Characteristics **Re-engage SAS as required**		

6.4 Main Rotor Balance

Record MR balance from IIDS BMS: Limit 0.2 IPS		ips

7. Performance - Single engine climbs.

On each engine in turn, carry out climb at V_y (70kt – 1.25kt/1000ft) for 4 min. The climb should be carried out in stable, non turbulent conditions away from cloud.

7.1 Left Engine

Select LEFT ENG FLY, RIGHT ENG IDLE

	Satis.	Remarks
EGT and Tq gauges rescale to OEI limits		

Do not exceed any of the following:

	PW206E	PW207E
Tq	115%	115%
EGT	885°C	900°C
N_g	100.4%	99.8%

Warning ***DO NOT use 124 % Tq.***

Fuel at start of climb: lb

When a stable condition has been established on a steady heading, slip ball bisected by the left hand vertical line, roll attitude as required to maintain heading, and in as calm conditions as possible, record:

										Eng.	
Time	Alt	OAT	IAS	Tq	N_g	EGT	N_R/N_p	VSCS 1	VSCS 2	Temp	Press
0											
0:30											
1:00											
1:30											
2:00											
2:30											
3:00											
3:30											
4:00											

Fuel at end of climb: lb

Reduce power to <100% Tq, 820°C EGT ***Select Right Engine to FLY***

After climb, obtain accurate OAT by flying at approx. mid-climb altitude at climb speed for 1 min.

Alt Ft OAT ºC

NOTE: The climb performance must be analysed and compared with the schedule performance-see Para 12.1

7.2 Right Engine

Select RIGHT ENG FLY, LEFT ENG IDLE

	Satis.	Remarks
EGT and Tq gauges rescale to OEI limits		

Do not exceed any of the following:

	PW206E	PW207E
Tq	115%	115%
EGT	885°C	900°C
N_g	100.4%	99.8%
V_y	70kt @SL, less 1.25kt/1000ft	

Warning ***DO NOT use 124 % Tq.***

Fuel at start of climb: lb

When a stable condition has been established on a steady heading, slip ball bisected by the left hand vertical line, roll attitude as required to maintain heading, and in as calm conditions as possible, record:

										Eng.	
Time	Alt	OAT	IAS	Tq	N_g	EGT	N_R/N_p	VSCS 1	VSCS 2	Temp	Press
0											
0:30											
1:00											
1:30											
2:00											
2:30											
3:00											
3:30											
4:00											

Reduce power to <100% Tq, 820°C EGT ***Select Left Engine to FLY***

Fuel at end of climb: lb

After climb, obtain accurate OAT by flying at approx. mid-climb altitude at climb speed for 1 min.

Alt Ft OAT ºC

NOTE: The climb performance must be analysed and compared with the schedule performance-see Para 12.1

8 Forward Flight Envelope

8.1 Main Rotor Balance

Trim the aircraft at 80kt, level flight, N_R 100%

Record MR balance from IIDS BMS:
Limit 0.2 IPS

LAT	ips
VERT	ips

8.2 Handling

At max. continuous power, check and record the following items :

8.2.1 Stabilised level flight.

Note:

P. Alt	OAT	IAS

Note: Vibration level

Control response

8.2.2 VSCS

Confirm both VSCS indicators are approx 55% left

8.2.3 Steep turns left & right (approx 45°)

Note: Vibration level

Control response

Collective balance (zero friction)

8.2.4 Maximum speed test
Increase speed progressively to V_{NE} using max. continuous power

Note:

P. Alt		ft	Fuel		Lb
OAT		°C	AUW		Lb
DA (from IIDS)		ft	V_{NE} (Placard)		Kt

Note: Vibration level

Control response

8.2.5 Carry out gentle turns (approx 10° AoB) left & right.

Note: Vibration level

Control response

8.3 Climb

Reduce airspeed to V_y (70kt) and increase power to Take-off power.

Confirm both VSCS indicators are approx 55% left

Reduce power and recover to level flight.

8.4 Main Rotor Balance

Trim the aircraft at 120kt, level flight, N_R 100%

Record MR balance from IIDS BMS:
Limit 0.2 IPS

LAT	ips
VERT	ips

8.5 Hydraulic System

Perform check at 100 KIAS.

Confirm "1HYD2" caution extinguished

	Satis.	Remarks
Select - HYD TEST SYS 1. Confirm the test function is disabled in flight and HYD 1 pressure does not decrease		
Select and start the ELPSE TIME display from the menu. Select HYD TEST SYS 2. Confirm: HYD 2 caption overwrites ELPSE TIME		
HYD 2 < 250 PSI, HYD 1 >1000 PSI		
Verify pedals unboosted.		
Release switch. Confirm HYD 2 pressure recovers and pedals boosted		
HYD 2 caution extinguishes and ELPSE TIME display returns, with timer still running. Reset timer		

9. SAS/AP Checks

9.1 Basic Stabilisation (AP mode)

At 110kt, level flight, engage AP and trim.

a) Without retrimming, displace the cyclic to alter pitch angle by 5° nose up. Release cyclic and check pitch attitude returns to datum ±1° with minimal overshoot.		
b) Repeat a) for 5° nose-down. (Do not exceed V_{NE})		
c) Repeat a) for 10° left roll		
d) Repeat a) for 10° right roll		

9.2 SAS

From the above condition, engage SAS and retrim if necessary.

a) Without retrimming, displace the cyclic to alter pitch angle by 5° nose-up. Release cyclic and confirm that pitch attitude behaviour is well damped		
b) Repeat a) for 10° right roll		

9.3 Decouple

Re-engage AP
Press AFCS disconnect on cyclic

Confirm AP/SAS disengages satisfactorily.		
Confirm satisfactory handling characteristics with AFCS disengaged.		

Re-engage AP/SAS as required

9.4 Yaw damping

Disengage SAS/AP, VSCS L & R ON.

Stabilise the aircraft in a climb at 90kt, max continuous power

Disturb the aircraft in yaw by lowering the collective to reduce power by 5% Tq and raising it again, with pedals fixed.

Confirm that any yaw oscillation is well damped.		

Re-engage AP/SAS as required

9.5 Alt Hold

Engage AP at 110kt. Engage ALT. Confirm height held ± 50ft.		
Reduce power by 10% Tq Confirm height is maintained within ±50ft		
Increase power by 10% Tq. Confirm height is maintained within ±50ft		
Use cyclic beep trim to modify altitude reference		
Decrease power below that required for level flight at 65kt. Confirm LOW A/S illuminates at 40kt approx with audio alert (if installed)		

Recover to level flight and engage AP

9.6 IAS Hold

Engage AP
Engage IAS hold.

Confirm airspeed held ±5kt.		
Reduce reference airspeed by 30kt using beep trim		
Increase reference airspeed by 30kt using beep trim.		
Without retrimming, increase airspeed by 20kt by forward cyclic displacement. Release cyclic and confirm original airspeed regained within ±5kt.		

WARNING: Do not exceed V_{NE}

9.7 VS/ALT SEL

With APengaged, stabilise the aircraft in level flight, 90kt.
Using Altitude Select, set a target altitude approx 1500ft higher.
Using VS select, set a rate of climb of 500 fpm and engage VS mode.

Confirm aircraft climbs at 500fpm. It will be necessary to adjust power to maintain Airspeed		
Confirm audio alert 1000ft before target altitude		
Confirm ALT engages and target altitude is acquired with minimal overshoot. Adjust collective to maintain 90kt.		
Without adjusting collective, pull back on cyclic to initiate a gentle climb. Confirm audio alert at +300ft.		
Release cyclic and confirm initial height is regained.		

9.8 Heading Hold

Engage ALT hold at 110kt. Keep feet just off the pedals
Turn heading bug to aircraft heading and engage HDG mode

Turn heading bug 90° right using knob on EHSI Confirm aircraft turns onto new heading ±4°		
Turn heading bug 90° left using beep trim Confirm aircraft turns onto new heading ±4°		

9.9 Beep trim

Confirm satisfactory functioning of cyclic beep trim with upper modes deselected		

9.10 Fly Through

With IAS > 65kt, engage AP. Confirm satisfactory fly-through when manoeuvring without using beep trim.		

9.11 Go around

Engage AP, and trim the aircraft at 100kt S&L
Engage VS mode and select 300fpm RoD
Centre the heading bug and engage HDG.
Turn the heading bug through 90º.
When stabilised in the descent and turn, press GA

Confirm the aircraft rolls wings level and climbs at 750fpm.		

9.12 ILS

If possible, an ILS approach should be performed using AFCS APR mode		

10. Autorotation

Climb 1,000 feet above the selected density altitude. Establish 60 KIAS autorotation. It is recommended that both engines remain in FLY, but it is acceptable to select IDLE once established in autorotation if an N_p split cannot be achieved in FLY.

WARNING If IDLE is selected for autorotation, ensure that FLY is reselected prior to recovery.

Autorotative rpm is scheduled for collective fully down and for 10° collective. If aircraft weight and/or density altitude do not permit the complete lowering of the collective, perform the test at 10° collective and note below:

Fuel	lb
AUW	lb
Pressure Alt	ft
OAT	°C
Density Alt	Ft
Collective position	0/10%
Achieved N_R	%

The autorev data should be compared with the maintenance manual schedule – see para 12.3 of this document and Chapter 18 of the Maintenance Manual

	Satis.	Remarks
Complete 30° AOB turns to left and right in autorotation.		
Confirm both VSCS indicators are approx 50% right		

At 70 kt, carry out rapid recovery from autorotation (Tq between 1 and 3 % to 80% Tq in 3 sec)

See warning above

NOTE:

Engine response and absence of surge		
Transient rotor droop	%	

11. Landing and Shutdown

Note Landing time	

11.1	Confirm no tendency to lateral padding or ground resonance during a smooth touchdown with a slow gentle collective lowering		

NOTE: Should any divergent oscillations be noted, lift off immediately, reposition the aircraft and carry out a normal landing.

11.2 Logic Check

Land, set CLP to 0%, wait 5 sec minimum
Both engine selector switches to IDLE

	Satis.	Remarks
Low rotor warning does not activate, ENG OUT does not illuminate		

11.3 Shut down engines

Confirm both Eng. selector switches	IDLE	
Left engine	MAN	(twistgrip out of detent)
Unnecessary bleed air and electrical equipment	OFF	
L BOOST	OFF	
L GEN	OFF	
L ENG Selector	OFF	

Snap L ENG Twist Grip to OFF position. Pressure to rotate throttle past OFF gate should be 30-40 lb		
Confirm engine has shut down		

Right engine	MAN	(twistgrip out of detent)
R BOOST	OFF	
R GEN	OFF	
R ENG Selector	OFF	

Snap Rt. ENG Twist Grip to OFF position. Pressure to rotate throttle past OFF gate should be 30-40 lb		
Confirm engine has shut down		

	Satis.	Remarks
Apply rotor brake. Confirm satisfactory braking.		sec

Press EEC RESET

Return twistgrips to Normal detent.

12 Post- Flight Action

12.1 Performance Climb

Plot the data on the analysis sheet provided and determine the achieved rate of climb. The scheduled performance must be obtained from Appendix 2 and compared with the achieved performance.

12.2 Power Assurance Check

		Manual				Automatic
		From Section 5.7.2	Target (from RFM)	Margin		Margin Section 5.7.1
Left Engine	N_g	%	%	%		%
	EGT	°C	°C	°C		°C
Right Engine	N_g	%	%	%		%
	EGT	°C	°C	°C		°C

12.3 Autorotation

Collective position	%
Achieved N_R	%
Schedule N_R (Refer to Maintenance Manual, Chapter 18) & Appendix 4	%

13 <u>CHECK FLIGHT CERTIFICATE</u>

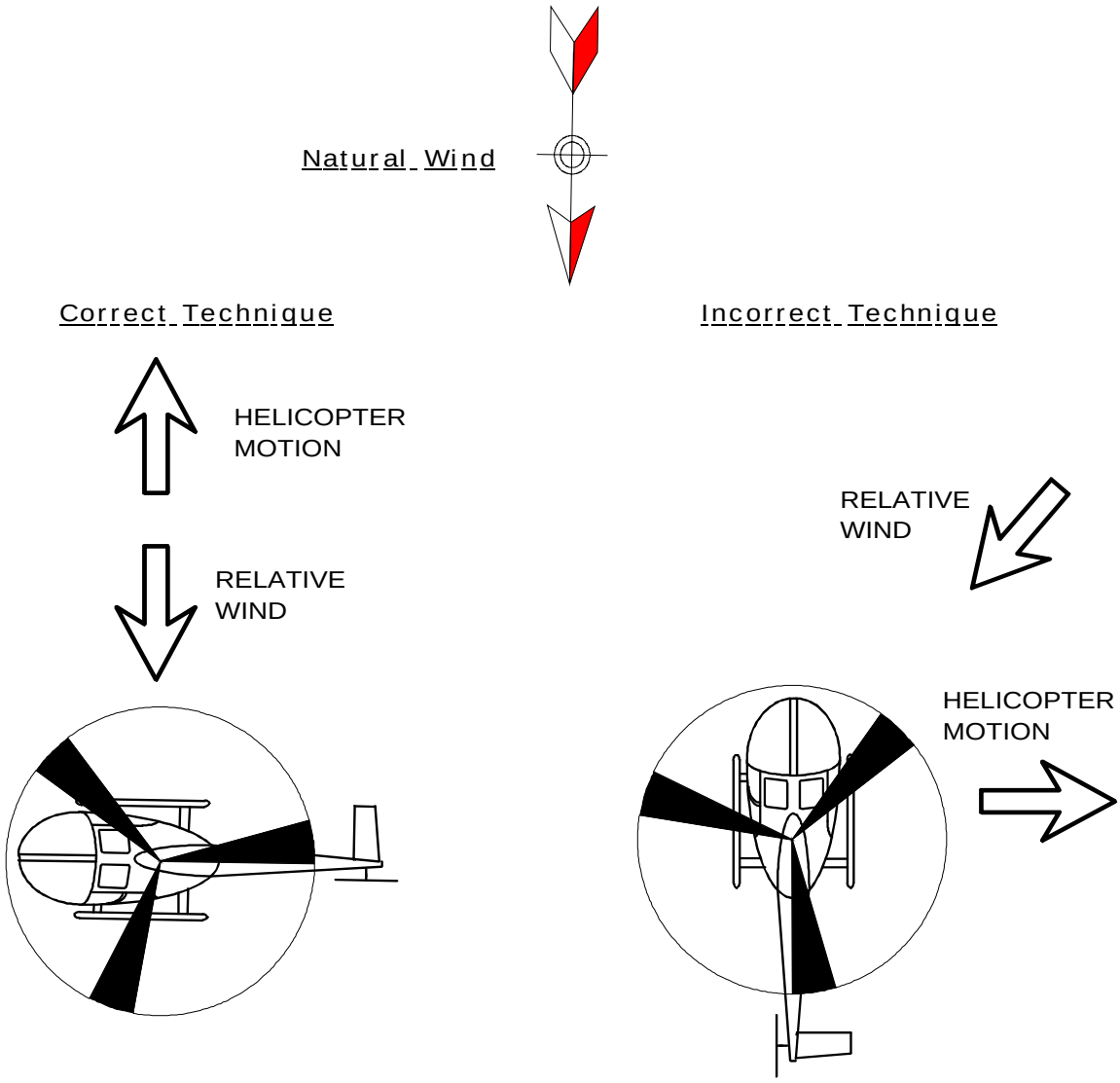
Complete a statement of defects and sign the attached Check Flight Certificate (front page), stating clearly whether the helicopter needs to be reflown.
When complete, the report must be passed to the appropriate local surveyor with the performance graph.

Appendix 1

Sidewards and Rearwards Flight

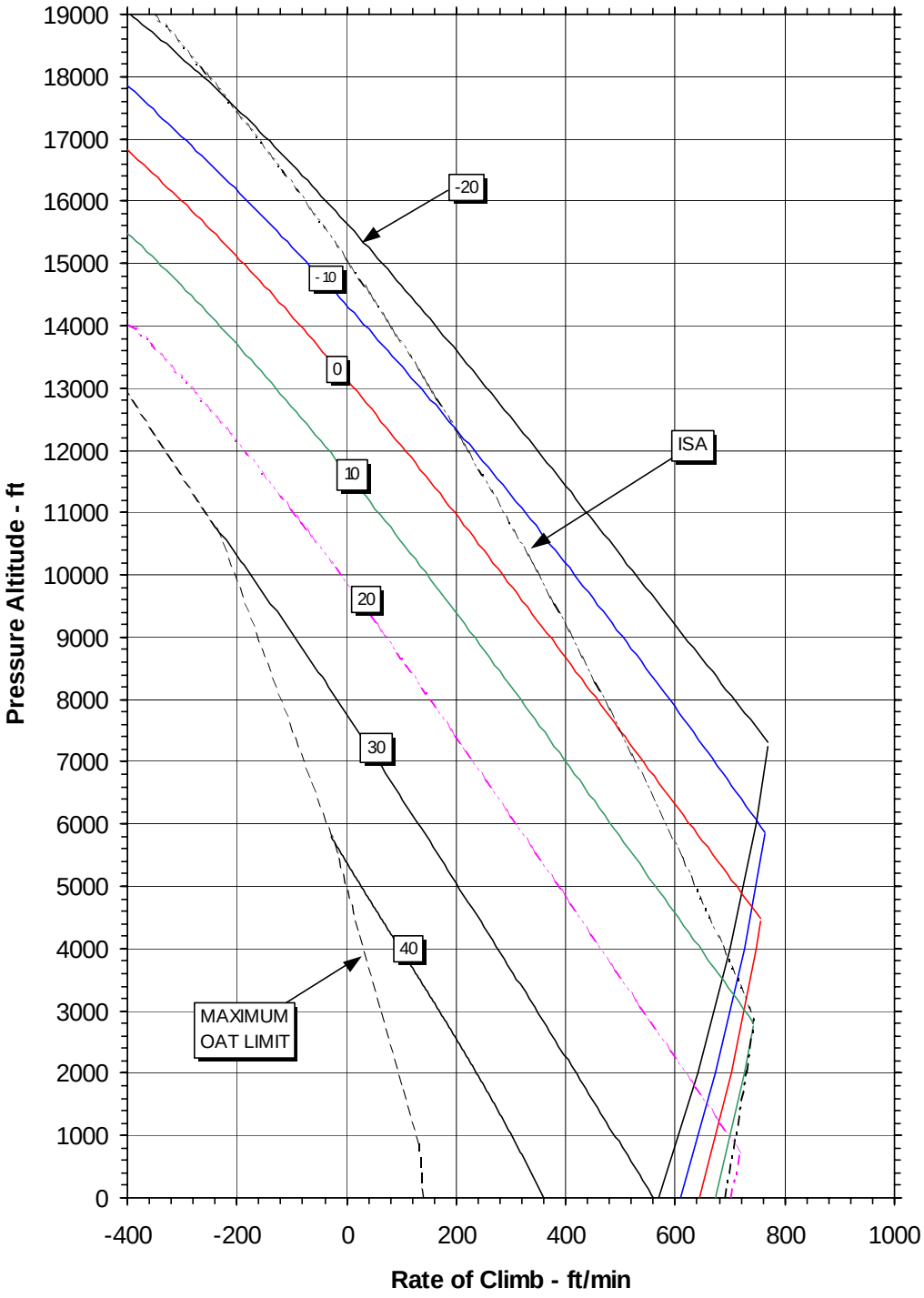
For the sidewards flight tests, the helicopter should be rotated so that the natural wind is on the side. The aircraft should then be gently accelerated into the wind and stabilised. The mean natural wind should be added to the estimated ground speed to give the required relative air speed.

For rearwards flight, the helicopter should be aligned tail into wind and gently accelerated rearwards to achieve the required relative airspeed.

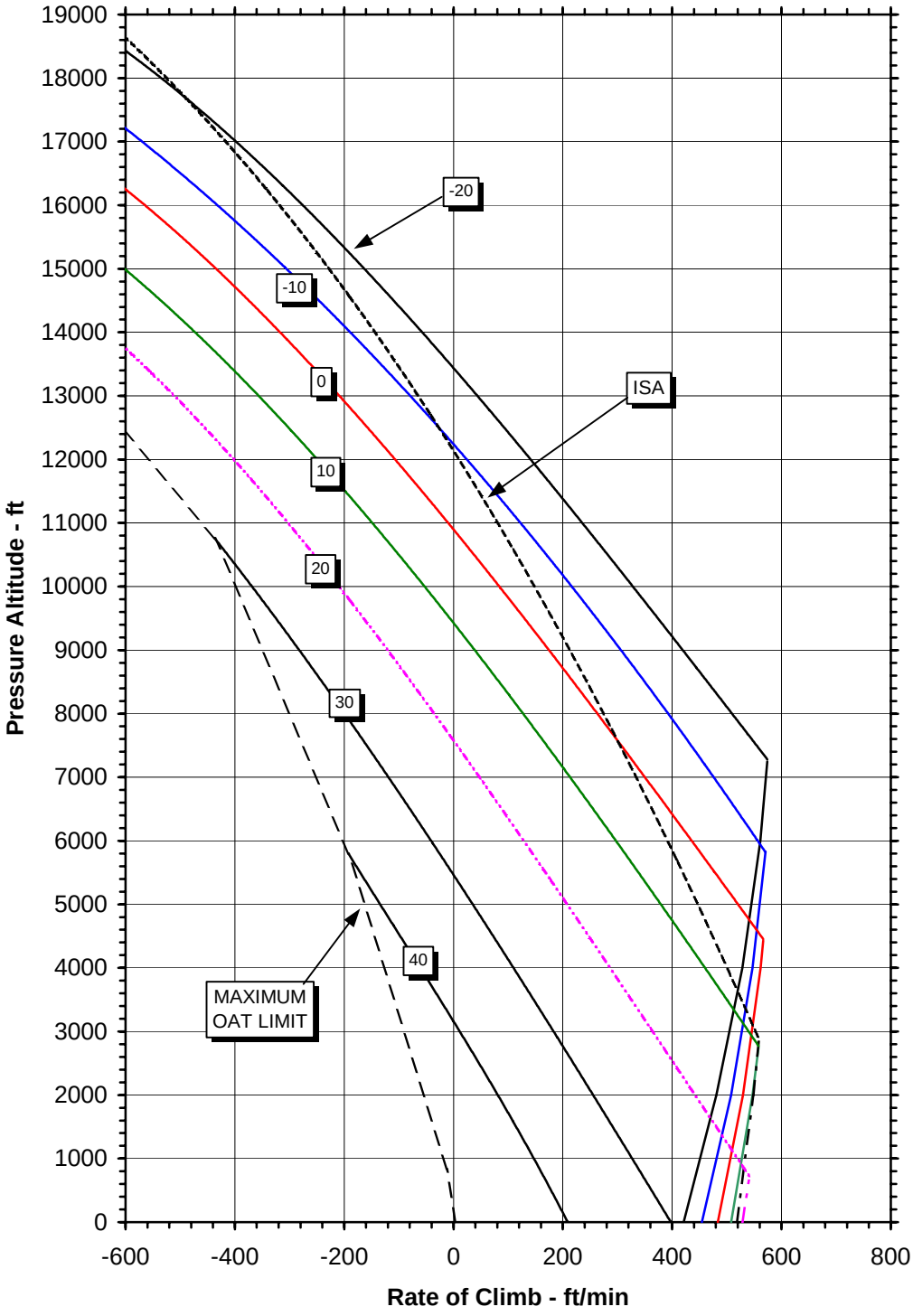


Appendix 2

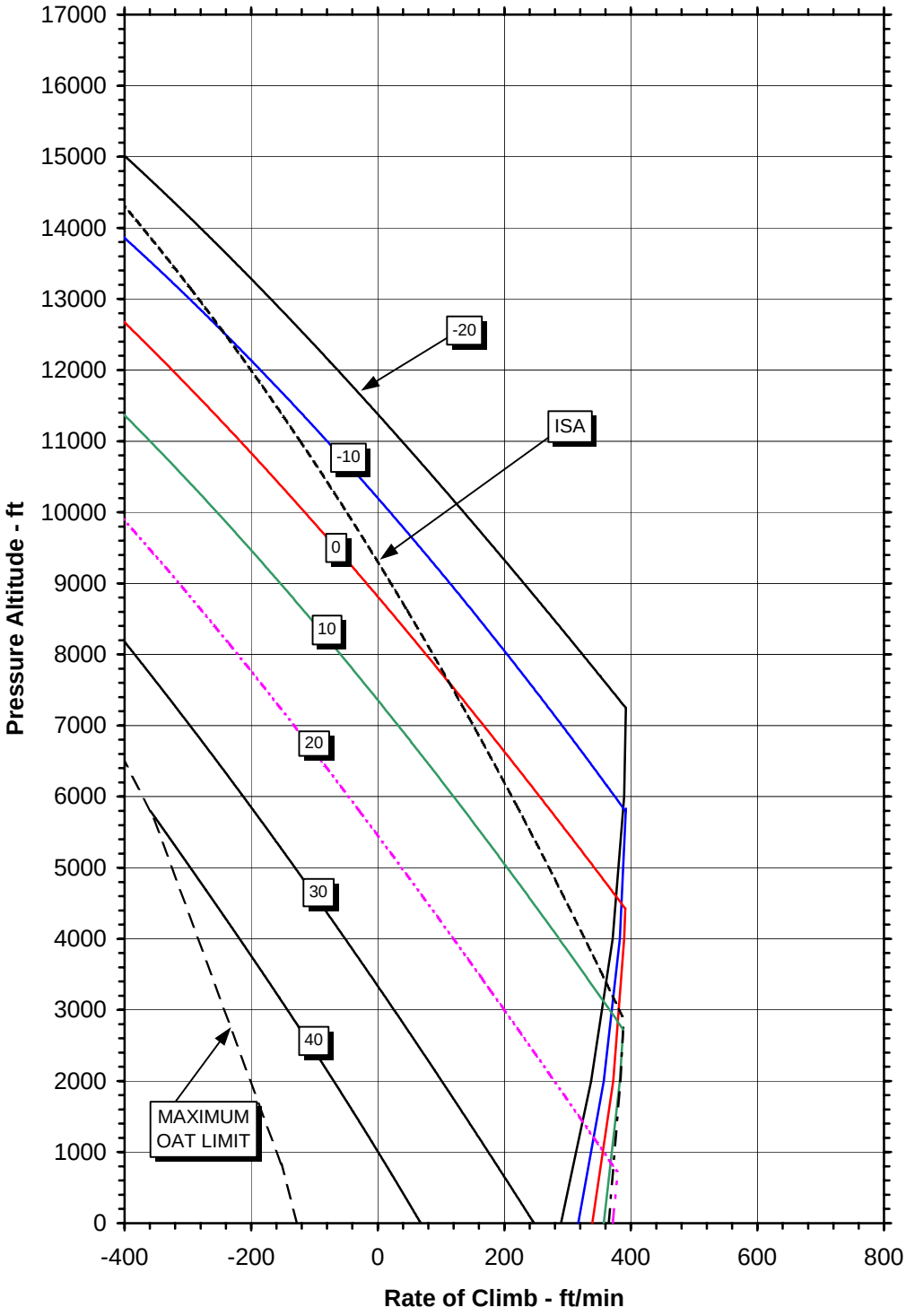
PW206E Engine
115% Torque, OEI, Rate of Climb,5000 lb



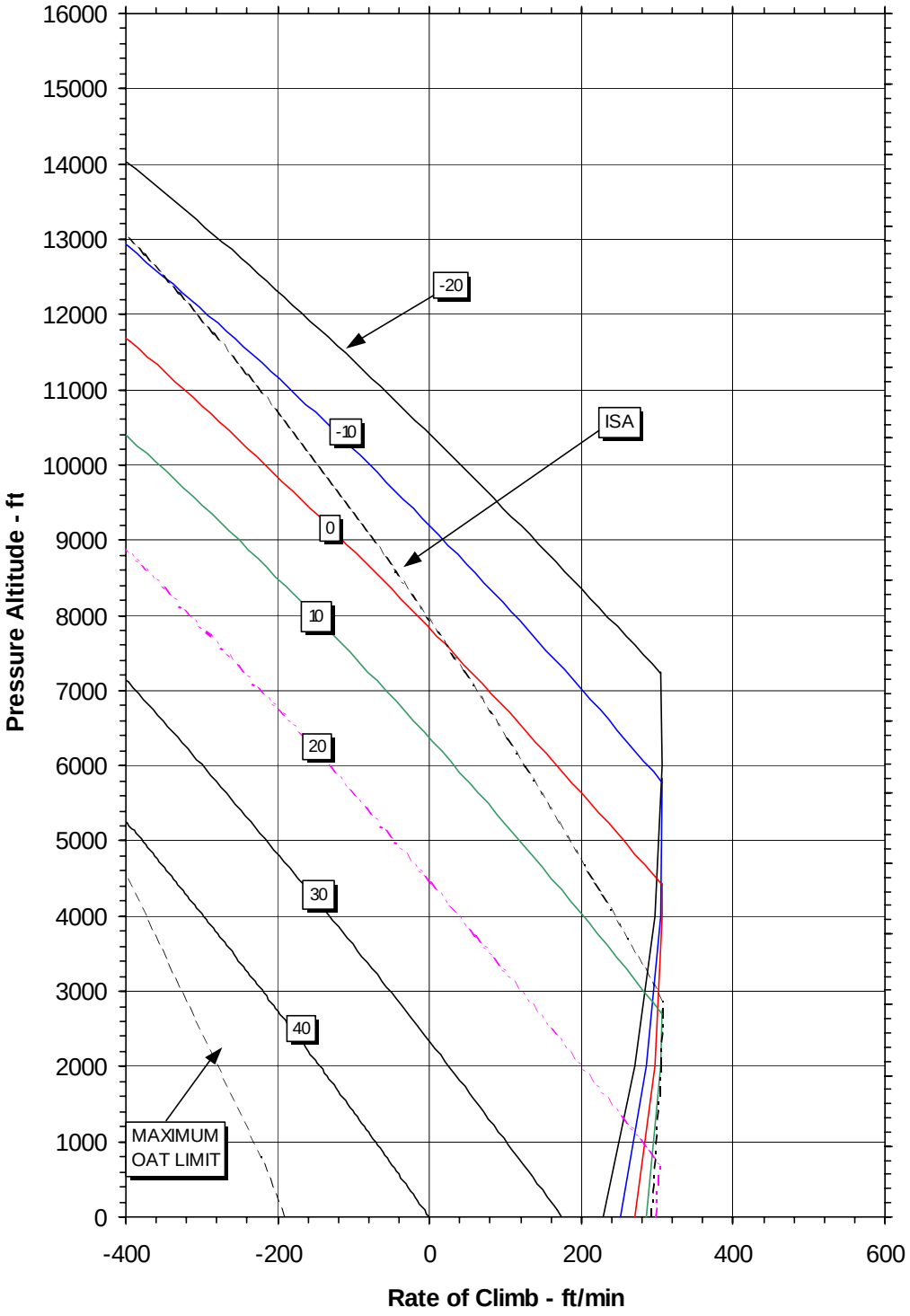
PW206E Engine
115% Torque, OEI, Rate of Climb, 5500 lb



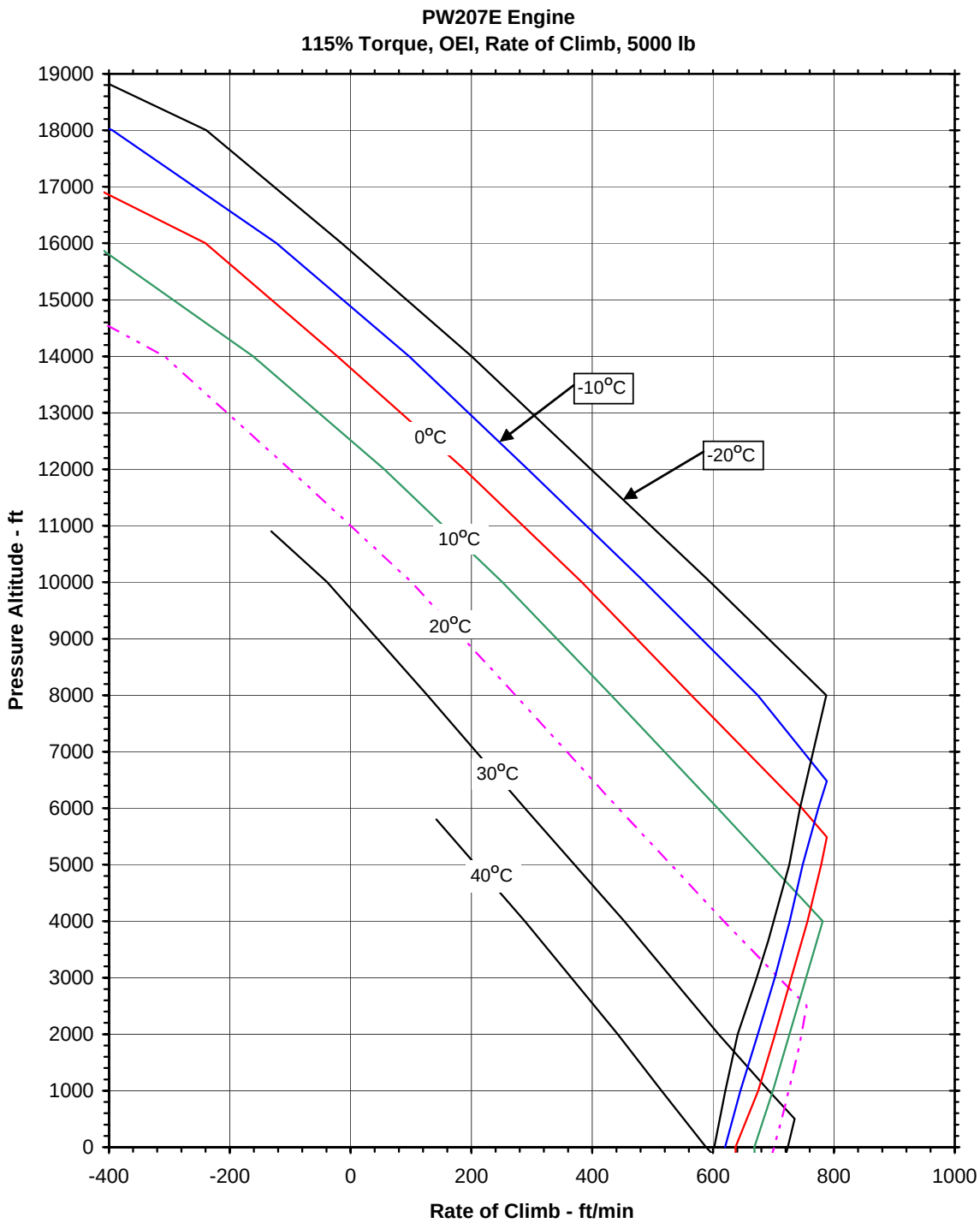
PW206E Engine
115% Torque, OEI, Rate of Climb, 6000lb

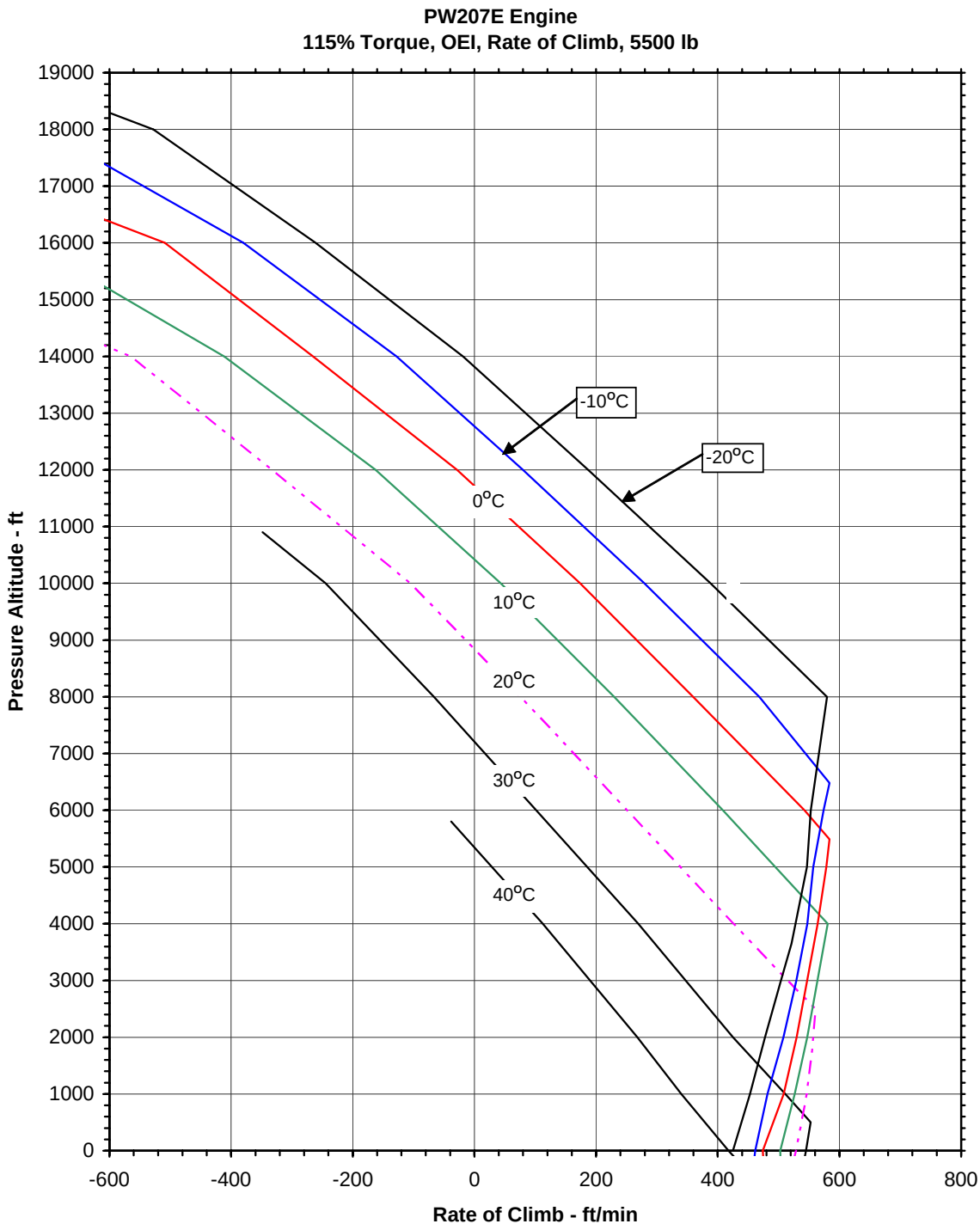


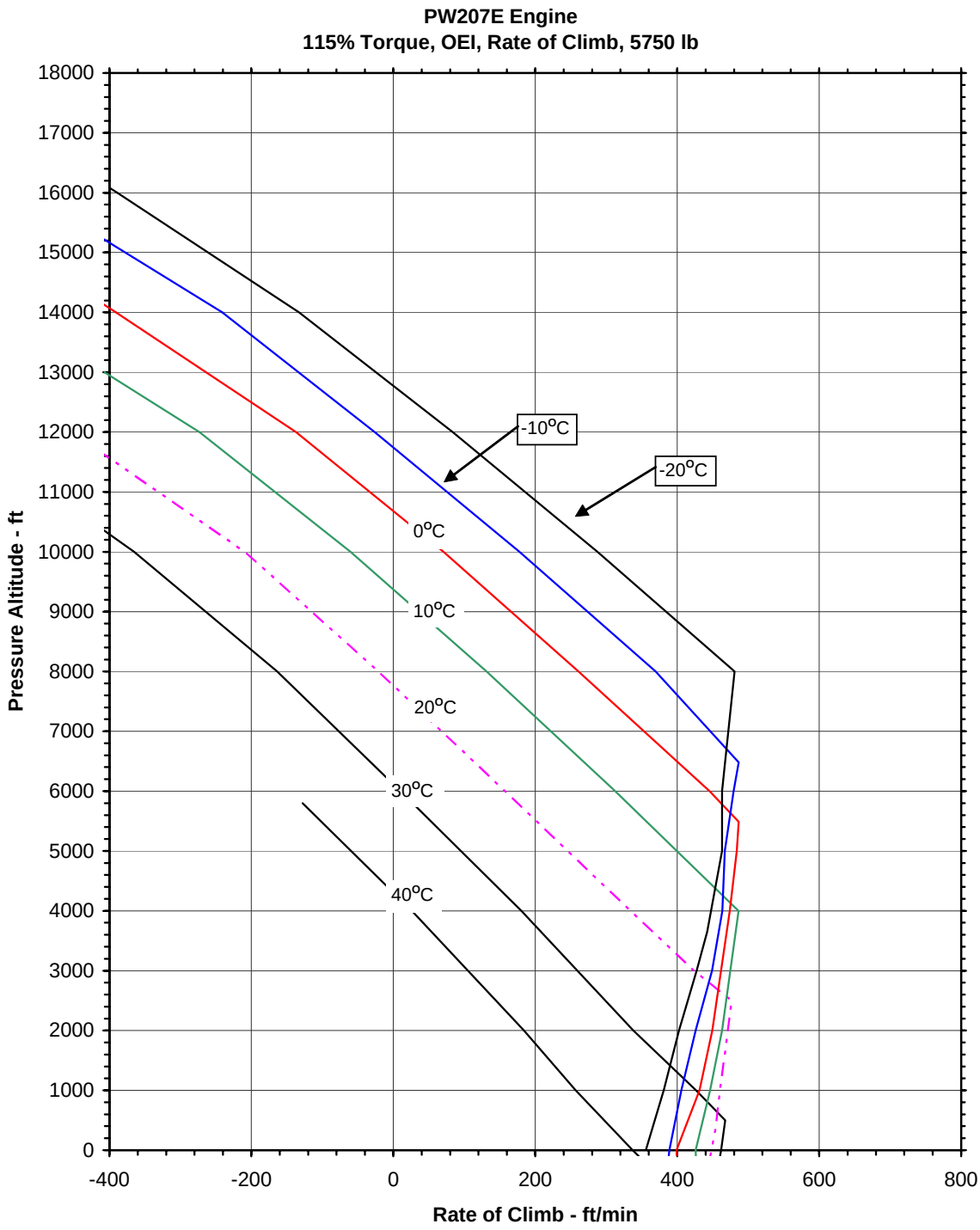
PW206E Engine
115% Torque, OEI, Rate of Climb, 6250 lb

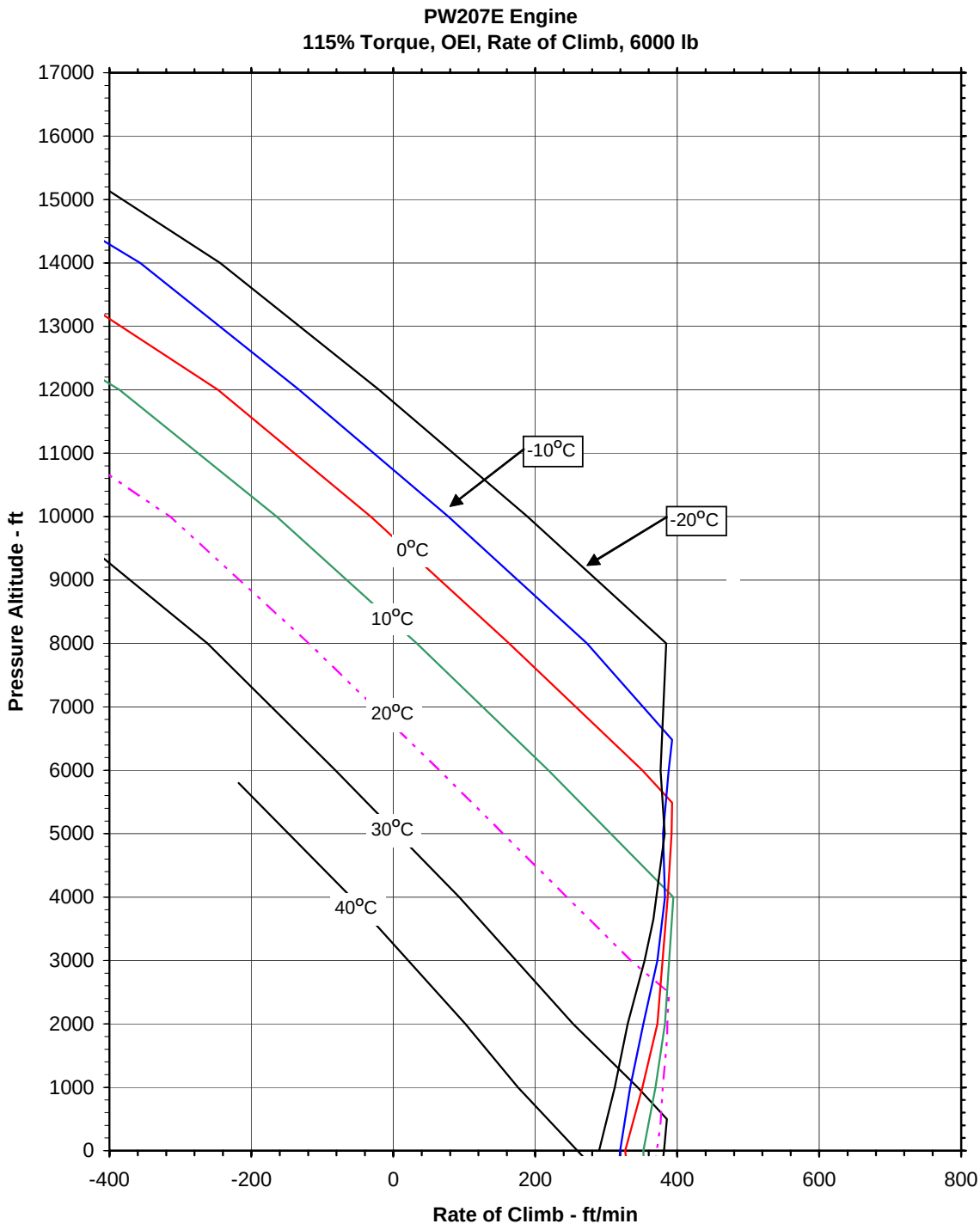


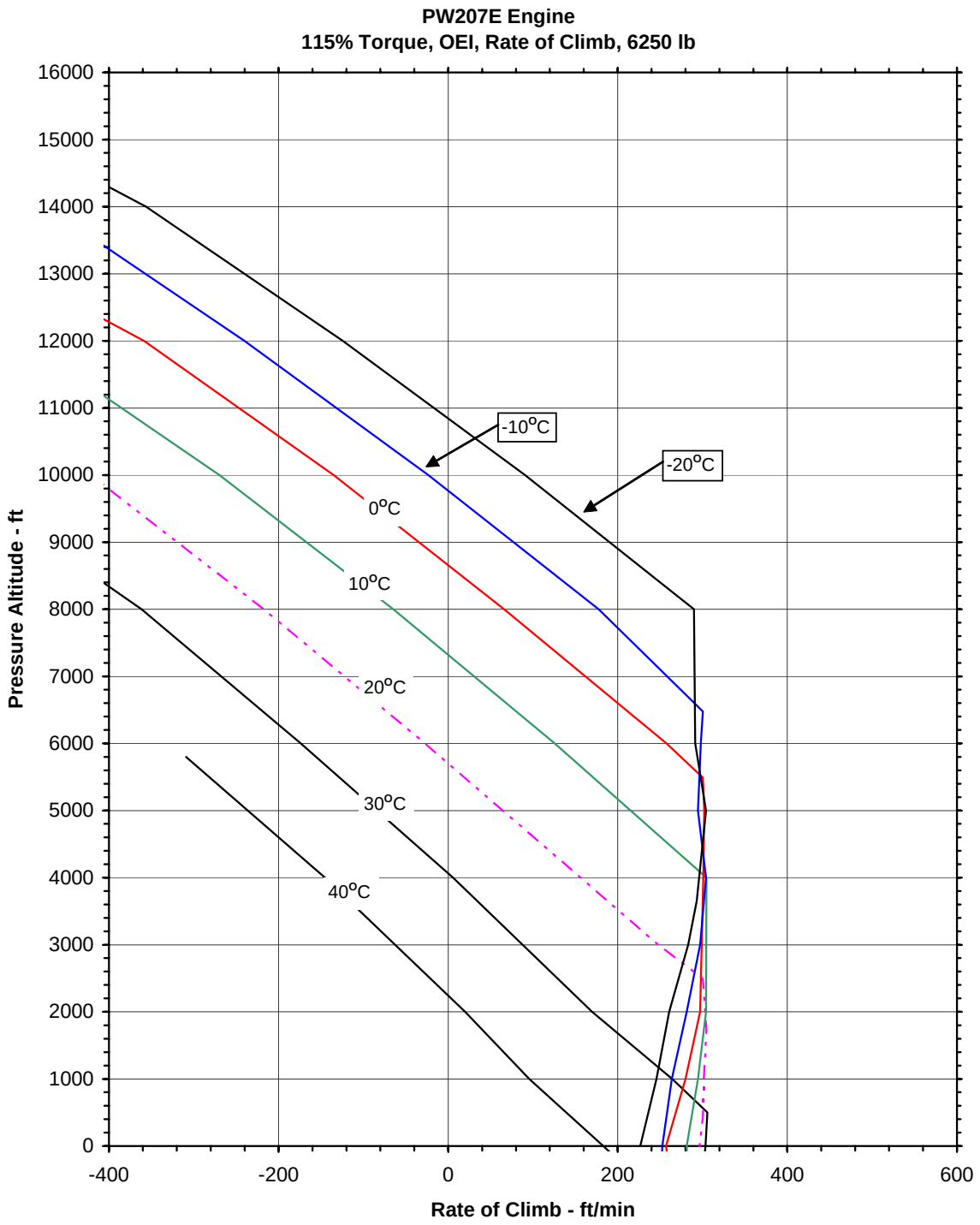
Appendix 3


PW207E Engine
115% Torque, OEI, Rate of Climb, 5000 lb
Pressure Altitude - ft
Rate of Climb - ft/min
19000
18000
17000
16000
15000
14000
13000
12000
11000
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
-400
-200
0
200
400
600
800
1000
-10°C
-20°C
0°C
10°C
20°C
30°C
40°C


PW207E Engine
115% Torque, OEI, Rate of Climb, 5500 lb
Pressure Altitude - ft
Rate of Climb - ft/min
19000
18000
17000
16000
15000
14000
13000
12000
11000
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
-600
-400
-200
0
200
400
600
800
-10°C
-20°C
0°C
10°C
20°C
30°C
40°C

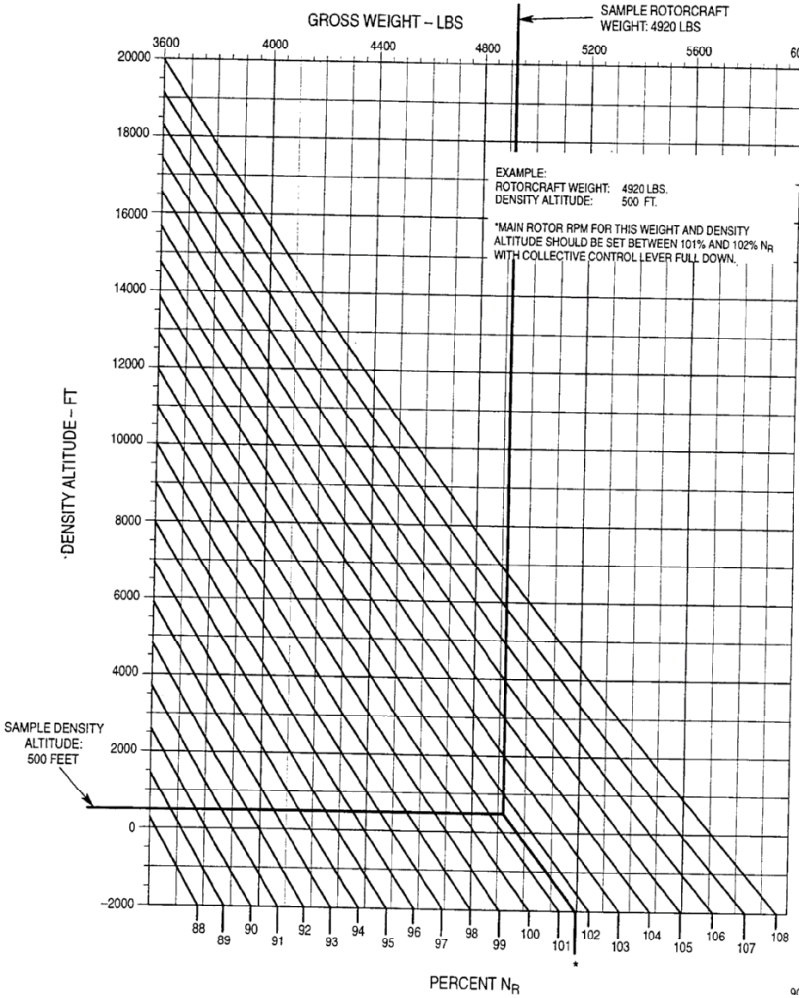

PW207E Engine
115% Torque, OEI, Rate of Climb, 5750 lb
Pressure Altitude - ft
Rate of Climb - ft/min
18000
17000
16000
15000
14000
13000
12000
11000
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
-400
-200
0
200
400
600
800
-10°C
-20°C
0°C
10°C
20°C
30°C
40°C


PW207E Engine
115% Torque, OEI, Rate of Climb, 6000 lb
Pressure Altitude - ft
Rate of Climb - ft/min
17000
16000
15000
14000
13000
12000
11000
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
-400
-200
0
200
400
600
800
-10°C
-20°C
0°C
10°C
20°C
30°C
40°C

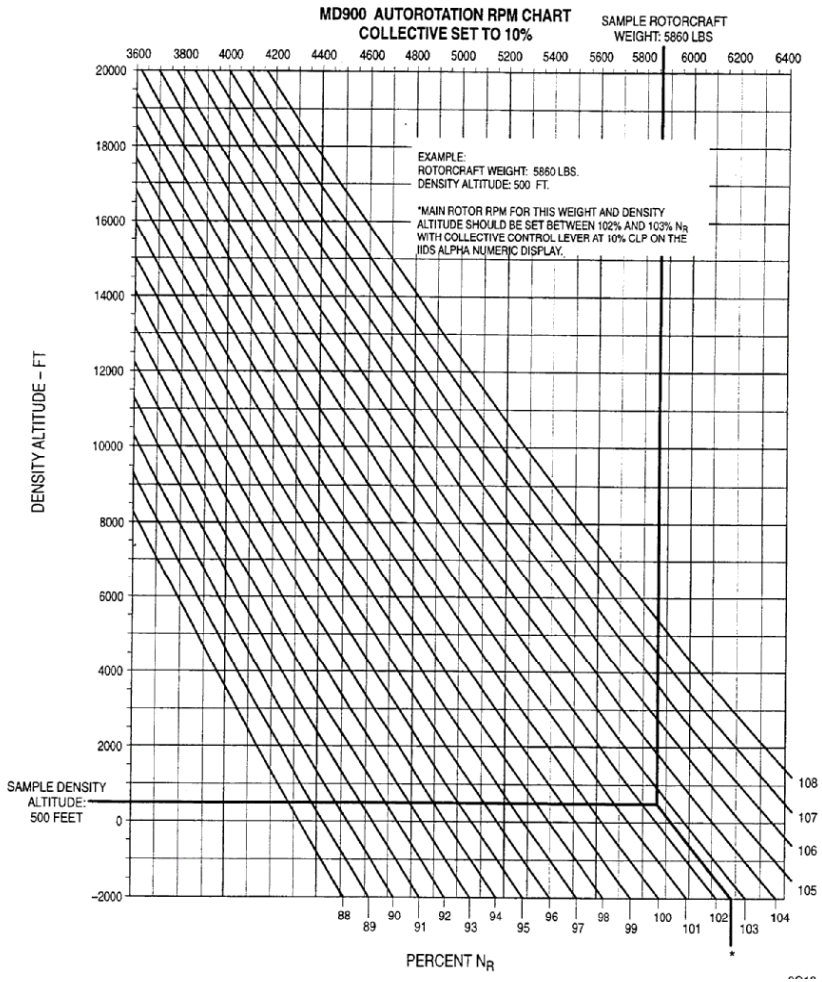

PW207E Engine
115% Torque, OEI, Rate of Climb, 6250 lb
Pressure Altitude - ft
Rate of Climb - ft/min
16000
15000
14000
13000
12000
11000
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
-400
-200
0
200
400
600
-10°C
-20°C
0°C
10°C
20°C
30°C
40°C

Appendix 4
Autorotative Rotor rpm

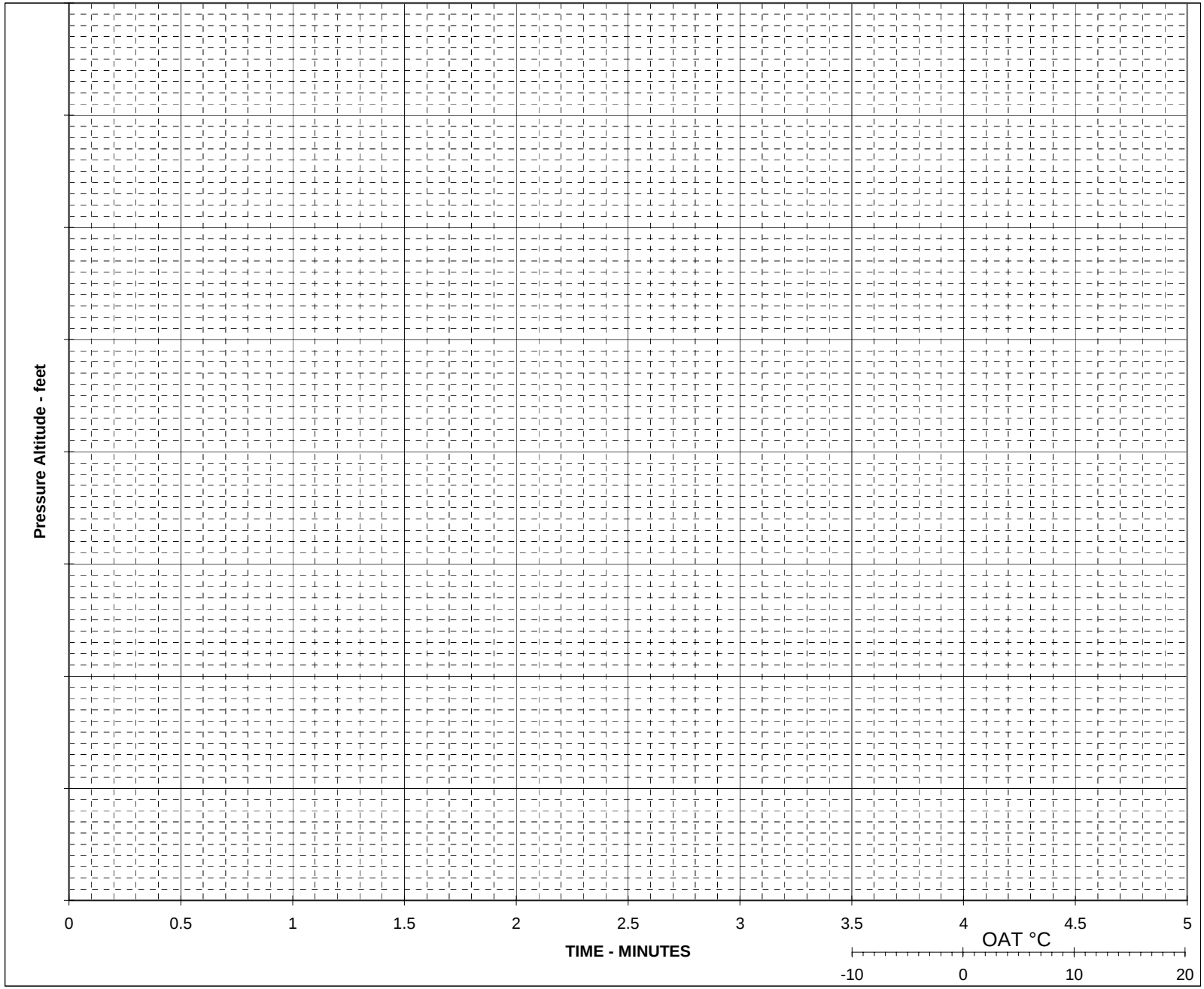
Collective full down



Collective 10%



From Maintenance Manual Chapter 18-00-00



AIRCRAFT TYPE
REGISTRATION
DATE OF TEST

Mean Weight		
No 1	_____	Kg
No 2	_____	Kg
Mean Altitude		
No 1	_____	feet
No 2	_____	feet
Mean OAT		
No 1	_____	°C
No 2	_____	°C
ACHIEVED ROC		
No 1	_____	ft/min
No 2	_____	ft/min
SCHEDULED ROC		
No 1	_____	ft/min
No 2	_____	ft/min
DELTA ROC		
No 1	_____	ft/min
No 2	_____	ft/min