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Supplement
Pilot´s Operating Handbook

for the

Cessna 206
Equipped with TAE Centurion 4.0 installation

Issue 1

Serial No.: _____

Registration No.: _____

This supplement must be attached to the Pilot's Operating Handbook when the TAE Centuruin 4.0 installation has been installed in accordance with STC EASA. A.S.02565.

The information contained in this supplement supersedes or adds to the approved original Pilot´s Operating Handbook only as set forth herein.
For limitations, procedures, performance and loading information not contained in this supplement, consult original approved Pilot´s Operating Handbook.

EASA Approved | EASA.A.S.02565
13 April 2007

TAE-Nr.: 72-0310-72021

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LOG OF REVISIONS

Revision	Page	Description	Approved	
			Date	Endorsed

Remark: The parts of the text which changed are marked with a vertical line on the margin of the page.

General remark

The content of this POH supplement is developed on basis of the FAA-approved POH.

This POH supplement is applicable to the Cessna U206F, TU206F, U206G, TU206G, 206H and T206H with TAE Centurion 4.0 installation.

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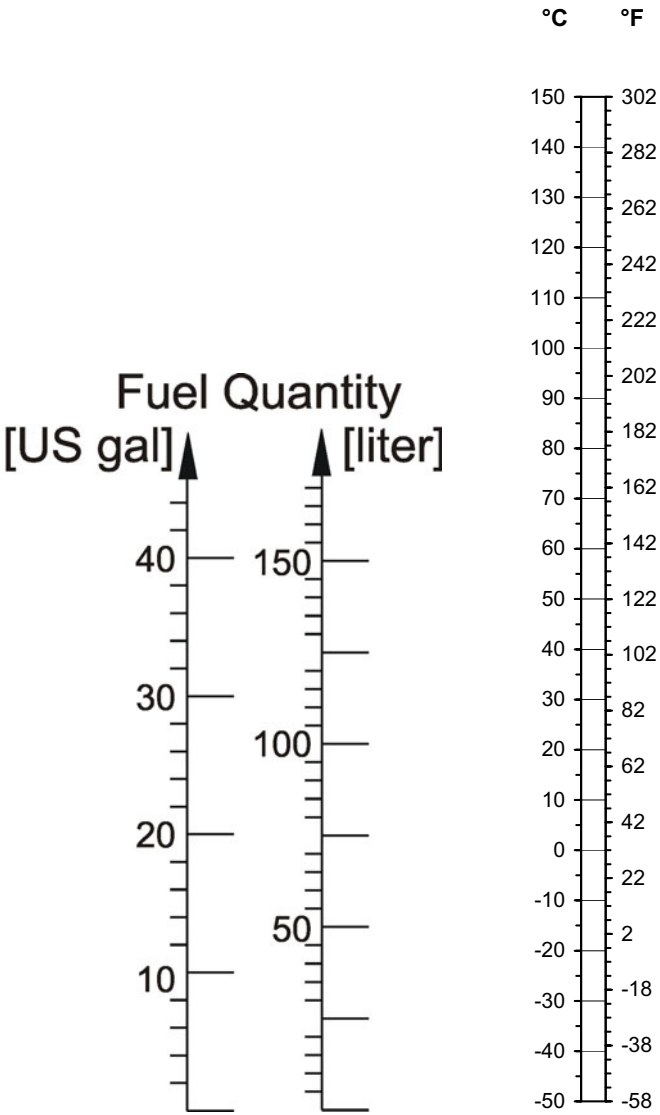
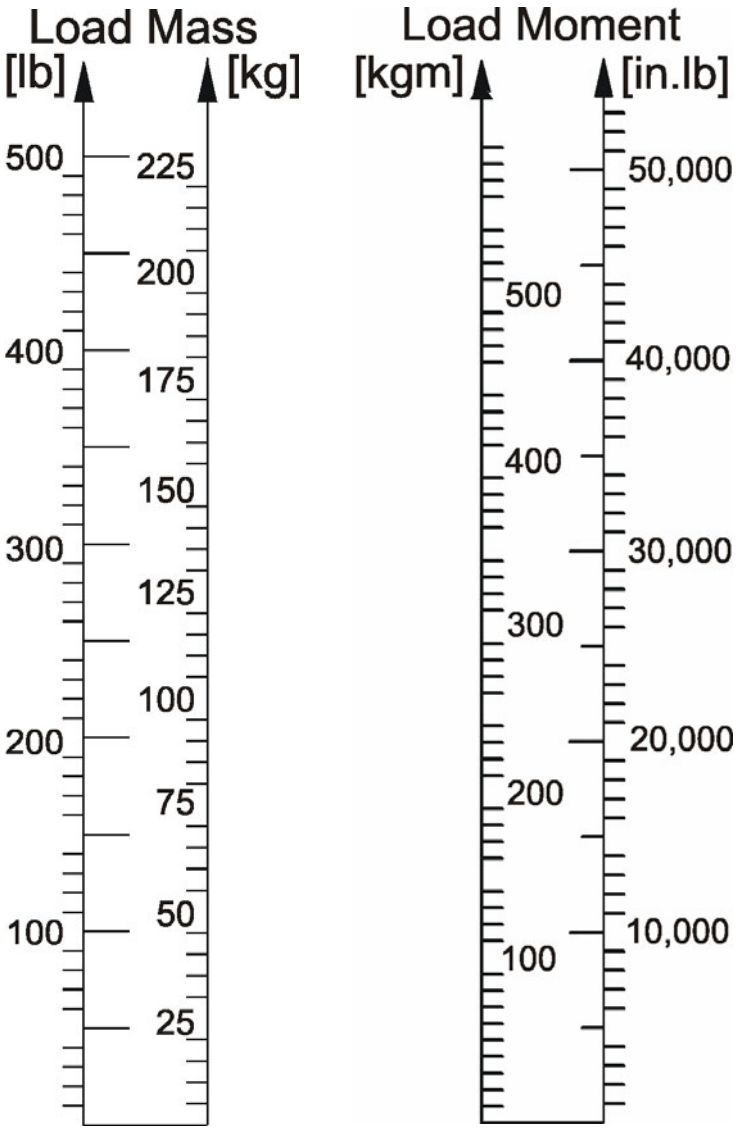
CONVERSION TABLES

VOLUME		
Unit [Abbr.]	Conversion factor SI to US / Imperial	Conversion factor US / Imperial to Si
Liter [l] US gallon [US gal] US quart [US qt] Imperial gallon [Imp gal] Cubic inch [in³]	[l] / 3,7854 = [US gal] [l] / 0,9464 = [US qt] [l] / 4,5459 = [Imp gal] [l] x 61,024 = [in³]	 [US gal] x 3,7854 = [l] [US qt] x 0,9464 = [l] [Imp gal] x 4,5459 = [l] [in³] / 61,024 = [l]
TORQUE		
Unit [Abbr.]	Conversion factor SI to US / Imperial	Conversion factor US / Imperial to Si
Kilopondmeter [kpm] Foot pound [ft.lb] Inch pound [in.lb]	[kpm] x 7,2331 = [ft.lb] [kpm] x 86,7962 = [in.lb]	 [ft.lb] / 7,2331 = [kpm] [in.lb] / 86,7962 = [kpm]
TEMPERATURE		
Unit [Abbr.]	Conversion factor SI to US / Imperial	Conversion factor US / Imperial to Si
Degree Celsius [ºC] Degree Fahrenheit [ºF]	[ºC] x 1,8 + 32 = [ºF]	 ([ºF] - 32) / 1,8 = [ºC]
SPEED		
Unit [Abbr.]	Conversion factor SI to US / Imperial	Conversion factor US / Imperial to Si
Kilometers per hour [km/h] Meters per second [m/s] Miles per hour [mph] Knots [kts] Feet per minute [fpm]	[km/h] / 1,852 = [kts] [km/h] / 1,609 = [mph] [m/s] x 196,85 = [fpm]	 [mph] x 1,609 = [km/h] [kts] x 1,852 = [km/h] [fpm] / 196,85 = [m/s]

PRESSURE		
Unit [Abbr.]	Conversion factor SI to US / Imperial	Conversion factor US / Imperial to Si
Bar [bar] Hectopascal [hpa] =Millibar [mbar] Pounds per square inch [psi] inches of mercury column [inHg]	[bar] x 14,5038 = [psi] [hpa] / 33,864= [inHg] [mbar] / 33,864 = [inHg]	 psi] / 14,5038 = [bar] [inHg] x 33,864 = [hPa] [inHg] x 33,864 = [mbar]
MASS		
Unit [Abbr.]	Conversion factor SI to US / Imperial	Conversion factor US / Imperial to Si
Kilogramm [kg] Pound [lb]	[kg] / 0,45359 = [lb]	 [lb] x 0,45359 = [kg]
LENGTH		
Unit [Abbr.]	Conversion factor SI to US / Imperial	Conversion factor US / Imperial to Si
Meter [m] Millimeter [mm] Kilometer [km] Inch [in] Foot [ft] Nautical mile [nm] Statute mile [sm]	[m] / 0,3048 = [ft] [mm] / 25,4 = [in] [km] /1,852 = [nm] [km] / 1,609 = [sm]	 [in] x 25,4 = [mm] [ft] x 0,3048 = [m] [nm] x 1,852 = [km] [sm] x 1,609 = [km]
FORCE		
Unit [Abbr.]	Conversion factor SI to US / Imperial	Conversion factor US / Imperial to Si
Newton [N] Decanewton [daN] Pound [lb]	[N] / 4,448 = [lb] [daN] / 0,4448 = [lb]	 [lb] x 4,448 = [N] [lb] x 0,4448 = [daN]


°C
°F
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
-40
-50
302
282
262
242
222
202
182
162
142
122
102
82
62
42
22
2
-18
-38
-58
Fuel Quantity
[US gal]
[liter]
40
30
20
10
150
100
50


Load Mass
[lb]
[kg]
500
400
300
200
100
225
200
175
150
125
100
75
50
25
Load Moment
[kgm]
[in.lb]
500
400
300
200
100
50,000
40,000
30,000
20,000
10,000

ABBREVIATIONS

TAE	Thielert Aircraft Engines GmbH, developing and manufacturing company of TAE Centurion 4.0
FADEC	Full Authority Digital Engine Control
CED	Compact Engine Display Multifunctional instrument for indication of engine data of TAE Centurion 4.0
AED	Auxiliary Engine Display Multifunctional instrument for indication of engine and airplane data

SECTION 1
GENERAL

CONVENTIONS IN THIS HANDBOOK

This manual contains following conventions and warnings. They should be strictly followed to rule out personal injury, property damage, impairment to the aircraft's operating safety or damage to it as a result of improper functioning.

▲ **WARNING:** Non-compliance with these safety rules could lead to injury or even death.

■ CAUTION: Non-compliance with these special notes and safety measures could cause damage to the engine or to the other components.

◆ Note: Information added for a better understanding of an instruction.

UPDATE AND REVISION OF THE MANUAL

▲ **WARNING:** A safe operation is only assured with an up to date POH supplement. Information about actual POH supplement issues and revisions are published in the TAE Service Bulletin TM TAE 000-0004.

◆ Note: The TAE-No of this POH supplement is published on the cover sheet of this supplement.

ENGINE

Engine manufacturer:..... Thielert Aircraft Engines GmbH
Engine model: .....Centurion 4.0 BE
Number of cylinders: 8
Engine cooling: .....Liquid cooled
Horsepower rating (depending on installation):
Cessna U206F and TU206F:
.....Centurion 4.0 BE-221: 300 HP (221 kW) @ 2300 rpm

Cessna U206G, TU206G, 206H, T206H
..... Centurion 4.0 BE-228: 310 HP (228 KW) @ 2300 rpm

The Centurion 4.0 is a liquid cooled 4-stroke V8-cylinder engine with DOHC (double overhead camshaft). It is a Diesel-principle engine having direct fuel injection with common-rail technology and turbocharging. The engine is controlled by a FADEC system. The propeller is driven by a built-in gearbox (i = 1.69) with mechanical vibration damping and overload release. The engine includes an electrical self starter and an alternator.

■ CAUTION: The engine requires an electrical power source for operation. If the batteries and alternators fail simultaneously, this leads to engine stop. Therefore, it is important to pay attention to indications of alternator failure.

Due to it's specific characteristic, all of the information from the original flight manual is no longer valid with reference to:

- carburetor and carburetor pre-heating
- ignition magnetos and spark plugs, and
- mixture control and priming system

PROPELLER

Manufacturer: ..... MT Propeller Entwicklung GmbH
Model: MTV-9-D/210-58
Diameter: ..... 2.10 m (82.7 in)
Type: .....3-blade, constant speed

FUEL

◆ Note: The maximum permissible tank capacity has been reduced due to the higher specific density of kerosene compared to AVGAS

Model	Total	Usable	Unusable
U206F, TU206F until S/N U20602126 Standard tanks	58.4 US gal (221.2 L)	55.4 US gal (209.8 L)	3 US gal (11.4 L)
U206F, TU206F until S/N U20602126 Long-range tanks	75.5 US gal (285.8 L)	70.5 US gal (266.8 L)	5 US gal (19 L)
U206F, TU206F U206G, TU206G Standard tanks	54.8 US gal (207.6 L)	51.8 US gal (196.2 L)	3 US gal (11.4 L)
U206F, TU206F U206G, TU206G Long-range tanks	71.9 US gal (272.2 L)	66.9 US gal (253.2 L)	5 US gal (19 L)
U206G, TU206G 206H, T206H Integral Tanks	82.7 US gal (313 L)	77.7 US gal (294 L)	5 US gal (19 L)

Approved Fuel Grades

■ CAUTION: If non-approved fuels are used, this may lead to dangerous engine malfunctions.

Fuel: ..... JET A, JET A-1 (ASTM D1655)
..... JP-8, JP-8+100 (MIL-DTL-83133E)

Oils

Engine sump capacity: ..... 2.65 US gallon (10 L)
Engine oil: ..... Shell Helix Ultra 5W-30
..... Shell Helix Ultra 5W-40
..... AeroShell Oil Diesel 10W-40

Gearbox oil: ..... Shell EP 75W-90 API GL-4
..... Shell Spirax GSX 75W-80

Coolant: ..... Water/Radiator Protection mixed at a ratio of 50:50

Radiator Protection: ..... BASF Glysantin Protect Plus/ G48
..... Valvoline/ Zerex Glysantin G48

◆ Note: The ice flocculation point of the coolant is -36°C.

■ CAUTION: Normally it is not necessary to fill the cooling liquid or gearbox oil between maintenance intervals. If the level is too low, please notify the service department immediately.

▲ **WARNING:** The engine must not be started under any circumstances if the level is too low.

Maximum Certificated Weights:

Maximum Takeoff Weight: ..... 3600 lb (1633 kg)
Maximum Landing Weight ..... 3600 lb (1633 kg)

Cabin and Entry Dimensions

No change, refer to original POH

Baggage Spaces and Entry Dimensions

No change, refer to original POH

Specific Loadings

No change, refer to original POH

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SECTION 2
LIMITATIONS

Airspeed Limitations

No change, refer to original POH.

Airspeed Indicator Markings

No change, refer to original POH.

Powerplant Limitations

Engine manufacturer:..... Thielert Aircraft Engines GmbH

Cessna U206F, TU206F:

Engine model:..... Centurion 4.0 BE-221

Take-off and Max. continuous power:..... 221 kW (300 HP)

Take-off and Max. continuous RPM (propeller): 2300

Cessna U206G, TU206G, 206H, T206H:

Engine model:..... Centurion 4.0 BE-228

Take-off and Max. continuous power:..... 228 kW (310 HP)

Take-off and Max. continuous RPM (propeller): 2300

◆ Note — In the absence of any other explicit statements, all of the information on RPM in this supplement to the Pilot's Operating Handbook are propeller RPM.

Propeller Manufacturer: ..... MT-Propeller

Propeller type:.....3-blade, constant speed

Model: MTV-9-D/210-58

Diameter: .....2.10 m (82.7 in)

Engine operating limits for takeoff and continuous operation:

◆ Note: The operating limit temperature is a temperature limit below which the engine may be started, but not operated at the Take-off RPM. The warm-up RPM to be selected can be found in Section 4 of this supplement.

▲ **WARNING:** The aircraft may not be operated if it is cold soaked below -25°C (-13°F)
It is not allowed to start the engine outside of these temperature limits.

Min. oil temperature (engine starting temperature): .. -25°C (-13°F)
Min. oil temperature
(min. operating limit temperature): .....50°C (122°F)
Maximum oil temperature: .....140°C (284°F)
Min. coolant temp.
(engine starting temperature): ..... -25°C (-13°F)
Min. coolant temp.
(min. operating limit temperature): .....60°C (140°F)
Max. cooling water temperature: .....105°C (221°F)
Min. gearbox temperature ..... -25°C (-13°F)
Max. gearbox temperature: .....120°C (248°F)

▲ **WARNING** The engine may only be operated at take-off RPM if the engine operation parameters are within the green arc on the CED

Minimum oil pressure: ..... 1.0 bar (14.5 psi)
Minimum oil pressure (at Take-off power) ..... 2.3 bar (33.4 psi)
Minimum oil pressure (in flight) ..... 2.3 bar (33.4 psi)
Maximum oil pressure ..... 6.5 bar (94.3 psi)
Maximum oil pressure (cold start < 20 sec.): .... 7.0 bar (101.5 psi)
Maximum oil consumption: ..... 0.1 l/h (0.1 quart/h)

Engine Instrument Markings

The engine data of the Centurion 4.0 installation to be monitored is integrated in the combined engine instrument CED. The ranges of the individual engine monitoring parameters are shown in the following table, see also Figure 2-1.

Instrument		Red range	Yellow range	Green range	Yellow range	Red range
Tachometer	[RPM]	---	---	0 - 2300	---	> 2300
Oil pressure	[mbar]	0-1000	1000-2300	2300-6500	6500-7000	> 7000
	[psi]	0 - 17.4	17.4 - 33.4	33.4 - 94.3	94.3-101.5	>101.5
Coolant temperature	[°C]	< -25	-25...+ 60	60 - 101	101 - 105	> 105
	[°F]	< -13	-13..+140	140 - 214	214 - 221	> 221
Oil temperature	[°C]	< -25	-25...+ 50	50 - 125	125 - 140	> 140
	[°F]	< -13	-13...+122	122 - 257	257 - 284	> 284
Gearbox temperature	[°C]	---	---	< 115	115 - 120	> 120
	[°F]	---	---	< 239	239 - 248	> 248
Load	[%]	---	---	0 - 100	---	---

Table 2-1 Markings of the engine instruments

◆ Note: If an engine reading is in the yellow or red range, the "Caution" lamp is activated. It only extinguishes when the "CED-Test/ Confirm" button is pressed. If this button is pressed longer than a second, a selftest of the instrument is initiated.

■ CAUTION: Operation in yellow range should not last more than 5 min. After 5 min. refer to Emergency procedures for operation in red range, Section 3

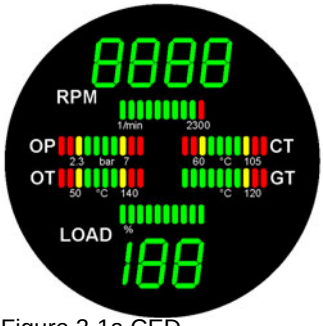

Figure 2-1a CED

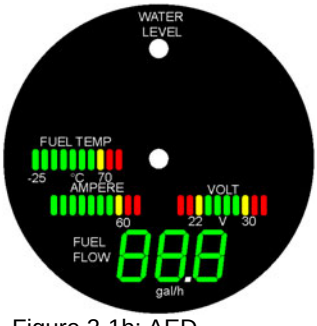

Figure 2-1b: AED

Weight Limits

No change, refer to original POH.

Center of Gravity Limits

No change, refer to original POH.

Maneuver Limits

Refer to original POH. .

■ CAUTION Intentionally initiating spins or negative-G flights is prohibited

Flight Loads Factor Limits

No change, refer to original POH.

Kinds of Operation

No change, refer to original POH.

Fuel Limitations

■ CAUTION: Using non-approved fuels and additives can lead to dangerous engine malfunctions.

Approved fuel grades:..... JET A, JET A-1 (ASTM D1655)
..... JP-8, JP-8+100 (MIL-DTL-83133E)

Due to the higher specific density of Kerosene in comparison to Aviation Gasoline (AVGAS), the permissible tank capacity has been reduced for the Centurion 4.0 installation.

Model	Total	Usable	Unusable
U206F, TU206F until S/N U20602126 Standard tanks	58.4 US gal (221.2 L)	55.4 US gal (209.8 L)	3 US gal (11.4 L)
U206F, TU206F until S/N U20602126 Long-range tanks	75.5 US gal (285.8 L)	70.5 US gal (266.8 L)	5 US gal (19 L)
U206F, TU206F U206G, TU206G Standard tanks	54.8 US gal (207.6 L)	51.8 US gal (196.2 L)	3 US gal (11.4 L)
U206F, TU206F U206G, TU206G Long-range tanks	71.9 US gal (272.2 L)	66.9 US gal (253.2 L)	5 US gal (19 L)
U206G, TU206G 206H, T206H Integral tanks	82.7 US gal (313 L)	77.7 US gal (294 L)	5 US gal (19 L)

◆ NOTE: Takeoff and land with the fuel selector valve handle in the BOTH position.

◆ NOTE To ensure maximum fuel capacity and minimize cross-feeding when refueling, always park the airplane in a wings-level, normal ground attitude and place the fuel selector in the Left or Right position. Refer to Figure 1-1 of the original POH for normal ground attitude definition.

■ CAUTION: To prevent air from penetrating into the fuel system avoid flying the tanks dry. As soon as the "Low Level" Warning Lamp illuminates, switch to a tank with sufficient fuel or land as soon as possible.

■ CAUTION: With ¼ tank or less, prolonged uncoordinated flight (slipping) is prohibited when operating on either left or right tank.

◆ NOTE: When switching from dry tank, turn auxiliary fuel pump on momentarily.

Altitide Limits

The Cessna 206 with Centurion 4.0 installation has been qualified up to 20.000 ft.

Flap limitations

No change, refer to original POH

Systems and Equipment Limits

No change, refer to original POH

Placards

Wing, adjacent to the fuel filler caps:

"JET FUEL ONLY - Refer to POH supplement"

U206F, TU206F, U206G, TU206G standard tanks:

"CAP. 98.1 LITERS (25.9 US GALLONS)
USABLE TO BOTTOM OF FILLER INDICATOR TAB"

U206F, TU206F until S/N U20602126 standard tanks

"CAP. 104.9 LITERS (27.7 US GALLONS)
USABLE TO BOTTOM OF FILLER INDICATOR TAB"

U206F, TU206F, U206G, TU206G long-range tanks

"CAP. 126.6 LITERS (33.45 US GALLONS)
USABLE TO BOTTOM OF FILLER INDICATOR TAB"

U206F, TU206F until S/N U20602126 long-range tanks

"CAP. 133.4 LITERS (35.25 US GALLONS)
USABLE TO BOTTOM OF FILLER INDICATOR TAB"

U206G, TU206G, 206H, T206H integral tanks

"CAP. 147 LITERS (38.85 US GALLONS)
USABLE TO BOTTOM OF FILLER INDICATOR TAB"

Fuel selector valve:

U206F, TU206F, U206G, TU206G standard tanks:
Left/ Right position: 98.1 L (25.9 US GAL)
Both position: 196.2 L (51.8 US GAL)

U206F, TU206F until S/N U20602126 standard tanks
Left/ Right position: 104.9 L (27.7 US GAL)
Both position: 209.8 L (55.4 US GAL)

U206F, TU206F, U206G, TU206G long-range tanks
Left/ Right position: 126.6 L (33.45 US GAL)
Both position: 253.2 L (66.9 US GAL)

U206F, TU206F until S/N U20602126 long-range tanks
Left/ Right position: 133.4 L (35.25 US GAL)
Both position: 266.8 L (70.5 US GAL)

U206G, TU206G, 206H, T206H integral tanks
Left/ Right position: 147 L (38.85 US GAL)
Both position: 294 L (77.7 US GAL)

On the oil funnel or at the flap of the engine cowling:

"Oil, see POH supplement"

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SECTION 3
EMERGENCY PROCEDURES
INDEX OF CHECKLISTS

GENERAL

▲ **WARNING:** Due to an engine shut-off or a FADEC diagnosed failure there may be a loss of propeller valve control current which leads to a low pitch setting of the propeller. This might result in propeller overspeed. Airspeeds below 100 KIAS are suitable to avoid overspeed in failure case. If the propeller speed control fails, climb flights can be performed at a powersetting of 100%.

AIRSPEEDS FOR EMERGENCY OPERATION

Maximum Glide (1633 kg, 3600 lbs) .....80 KIAS

ENGINE FAILURES

ENGINE FAILURE DURING TAKE-OFF ROLL

Abort Takeoff

(1) Load Control ..... IDLE (pull full out)
(2) Brakes.....APPLY AS REQUIRED
(3) Wing flaps (if extended) .....RETRACT
to increase the braking effect on the runway
(4) Engine Master.....OFF
(5) Battery Switches .....OFF
(6) Auxiliary Fuel Pump.....OFF
(7) Fuel Selector Valve.....OFF

ENGINE FAILURE IMMEDIATELY AFTER TAKE-OFF

(1) Airspeed.....80-85 KIAS (flaps up)
.....70-75 KIAS (flaps down)
(2) Load Control ..... IDLE (pull full out)
(3) Fuel Selector Valve.....OFF
(4) Engine Master.....OFF
(5) Wing Flaps..... AS REQUIRED (FULL recommended)
(6) Battery Switches .....OFF
(7) Auxiliary Fuel Pump.....OFF
(8) Cabin Door.....UNLATCH
(9) Land..... Straight Ahead

ENGINE FAILURE DURING FLIGHT (RESTART PROCEDURE)

(1) Airspeed..... BEST GLIDE (75-80 KIAS)
(2) Fuel Selector Valve.....BOTH
(3) Auxiliary Fuel Pump.....ON
(4) Load Control .....IDLE
(5) Engine Master ..... Cycle OFF to ON
(if the propeller does not turn, then additionally Starter ON)

◆ Note: The propeller will normally continue to turn as long as the airspeed is above 65 KIAS. Should the propeller stop at an airspeed of more than 65 KIAS, the reason for this should be found out before attempting a restart. If it is obvious that the engine or propeller is blocked, do not use the Starter.

◆ Note: If the Engine Master is in OFF position, the Load Display shows 0% even if the propeller is turning.

(6) Check the engine power: ..... Load Control 100%, engine parameters, check altitude and airspeed

FORCED LANDINGS

EMERGENCY LANDING WITHOUT ENGINE POWER

(1) Passenger Seats ..... As far forward as practical
(2) Passenger Seat Backs .....Most upright position
(3) Seats and Seat Belts .....Secure
(4) Airspeed.....80-85 KIAS (flaps up)
.....70-75 KIAS (flaps down)
(5) Load Control .....IDLE
(6) Engine Master.....OFF
(7) Auxiliary Fuel Pump.....OFF
(8) Fuel Selector Valve.....OFF
(9) Flaps .....AS REQUIRED ((FULL recommended)
(10) Battery Switches .....OFF (when landing is assured)
(11) Doors ..... UNLATCH prior to touchdown
(12) Touchdown ..... Slightly tail low
(13) Brakes..... APPLY HEAVILY

EMERGENCY LANDING WITH ENGINE POWER

(1) Passenger Seats ..... As far forward as practical
(2) Passenger Seat Backs .....Most upright position
(3) Seats and Seat Belts .....Secure
(4) Airspeed.....80-85 KIAS
(5) Wing Flaps.....20°
(6) Selected Field ..... FLY OVER
noting terrain and obstructions, then retract flaps upon reaching a safe altitude and airpseed
(7) AVIONICS Switch .....OFF
(8) Wing Flaps.....40° (on final approach)
(9) Airspeed.....70-75 KIAS
(10) Load Control .....IDLE
(11) Doors ..... UNLATCH prior to touchdown
(12) Touchdown ..... Slightly tail low
(13) Battery Switches .....OFF
(14) Brakes..... APPLY HEAVILY

DITCHING
No change, refer to original POH

FIRES

DURING START ON GROUND

(1) Load control ..... IDLE
(2) Engine Master ..... OFF
(3) Fuel Selector Valve ..... OFF
(4) Auxiliary Fuel Pump ..... OFF
(5) Battery Switches ..... OFF
(6) Extinguish the flames with a fire extinguisher.

Examine the fire damage thoroughly and repair or replace the damaged parts before the next flight.

ENGINE FIRE IN FLIGHT

(1) Load control ..... IDLE
(1) Engine Master ..... OFF
(2) Fuel Selector Valve ..... OFF
(3) Auxiliary Fuel Pump (if in use) ..... OFF
(4) Cabin Heat and Air ..... OFF (except overhead vents)
(5) Airspeed ..... 105-110 (if fire not extinguished, increase glide speed to find an airspeed - within the airspeed limitation- which will provide an incombustible mixture)
(6) Forced Landing .... EXECUTE (as described in Emergency Landing Without Engine Power)

ELECTRICAL FIRE IN FLIGHT

The first signs of an electrical fire is usually the odour of burning or smouldering insulation. Proceed as follows:

(1) Avionics Power Switch.....OFF
(2) All electrical consumers, except Engine Master .....OFF

▲ **WARNING** The powerplant needs electrical power to operate. If the wire fire is not extinguished, alternately turn off Batteries or Alternators to further isolate the fire source.
Do NOT turn off both batteries and both alternators, this will lead to engine shutdown.

(3) Vents, Cabin Air, Heat ..... CLOSED
(4) Fire Extinguisher (if available) ..... ACTIVATE

▲ **WARNING** After the fire extinguisher has been used, make sure that the fire is extinguished before exterior air is used to remove smoke from the cabin

(5) Vents, Cabin Air, Heat .....OPEN, when sure that fire is completley extinguished.
(6) Land as soon as possible

▲ **WARNING** Do not attempt to isolate the source of the fire by checking each electrical component.

(7) Circuit Breakers ....CHECK for OPEN circuits, do not reset
(8) Activate only the minimum amount of equipment necessary to complete a safe landing. Activate required systems one at a time. Pause several seconds between activating each system to isolate malfunctioning system

CABIN FIRE

(1) Avionics Power Switch.....OFF
(2) All electrical consumers, except Engine Master .....OFF

▲ **WARNING** The powerplant needs electrical power to operate. If the wire fire is not extinguished, alternately turn off Batteries or Alternators to further isolate the fire source.
Do NOT turn off both batteries and both alternators, this will lead to engine shutdown.

(3) Vents, Cabin Air, Heat ..... CLOSED
(4) Fire Extinguisher (if available) ..... ACTIVATE

▲ **WARNING** After the fire extinguisher has been used, make sure that the fire is extinguished before exterior air is used to remove smoke from the cabin

(5) Vents, Cabin Air, Heat .....OPEN, when sure that fire is completely extinguished
(6) Land as soon as possible

WING FIRE IN FLIGHT
Refer to original POH

ICING

Refer to original POH.
Use Load Control to vary RPM and propeller pitch control as required.

EXCESSIVE FUEL VAPOR

FUEL FLOW STABILIZATION PROCEDURE

If flow fluctuations of 4 Liter/Hr (1 GPH) or more, or power surges occur

(1) Auxiliary Fuel Pump.....ON
(2) Fuel Temperature Caution Light.....Check if Illuminated
(3) Fuel Selector Valve.....Select Opposite Tank if vapor symptoms continue
(4) Auxiliary Fuel Pump.....OFF after fuel flow has stabilized

ABNORMAL LANDINGS

Refer to original POH

ELECTRICAL POWER SUPPLY SYSTEM MALFUNCTIONS

▲ **WARNING:** The Centurion 4.0 engine requires a voltage source for its operation. If both alternators fail, the engine's further running time is dependent upon the batteries and switched-on equipment.
The pilot should de-activate all equipment which is not absolutely necessary, depending upon the situation. Table 3-1 only gives a reference. The following is recommended:

Equipment	
COM 1	ON
COM 2	OFF
NAV 1	ON
NAV 2	OFF
Encoder/ Transponder	ON
Multi-Function Display (if installed)	OFF
Stormscope (if installed)	OFF
Electrical Vacuum Pump	ON
Instrument Lights	OFF
De-icing equipment	OFF
Pitot Heat	OFF
Strobe lights	OFF
Navigation Lights	OFF
Convenience outlet	OFF
Turn Coordinator	OFF
Attitude indicator	ON
HSI / PFD (if installed)	ON
Electrical Fuel Pump	OFF
Instrument / Flood lights	OFF
Autopilot	OFF
Landing Light	OFF
CED/AED	ON
Engine Control	ON

Table 3-1 Power consumers

ONE ALTERNATOR WARNING LAMP ILLUMINATES DURING NORMAL ENGINE OPERATION.

(1) Ammeter ..... CHECK.
(2) Alternator Circuit Breakers.....CHECK BOTH - IN

■ CAUTION If the FADEC was supplied by battery only until this point, the RPM can momentarily drop, when the alternator will be switched on. In any case: leave the alternator circuit breaker IN !

(3) Nonessential Electrical Equipment (eg. Blower, Lights, Heater, Autopilot) : .....OFF
(4) Flight may be continued, but the pilot should:
    i) Check and monitor other Alternator
    ii) Inspect engine and Alternator before next flight

BOTH ALTERNATOR WARNING LAMPS ILLUMINATE DURING NORMAL ENGINE OPERATION.

(1) Ammeter ..... CHECK.
(2) Alternator Circuit Breakers.....CHECK BOTH - IN

■ CAUTION If the FADEC was supplied by battery only until this point, the RPM can momentarily drop, when the alternator will be switched on. In any case: leave the alternator circuit breaker IN !

(3) Nonessential Electrical Equipment (eg. Blower, Lights, Heater, Autopilot) :.....OFF
(4) Flight may be continued, but the pilot should:
    i) Land as soon as possible
    ii) Expect an engine failure
    iii) Be prepared for an emergency landing

AMMETER SHOWS BATTERY DISCHARGE DURING NORMAL ENGINE OPERATION FOR MORE THAN 5 MINUTES

(1) Alternator Circuit Breakers.....CHECK - IN.

■ CAUTION If the FADEC was supplied by battery only until this point, the RPM can momentarily drop, when the alternator will be switched on. In any case: leave the alternator circuit breaker IN !

(2) Nonessential Electrical Equipment .....OFF
(3) Flight may be continued, but the pilot should:
    i) Land as soon as practical
    ii) Expect an engine failure
    iii) Be prepared for an emergency landing

LOW VOLTS WARNING LIGHT ILLUMINATED

(1) Alternator Circuit Breakers.....Check all IN
(2) If both were IN: ..... Land as soon as possible
(3) If both were OUT: .....Check charging current

FADEC MALFUNCTION IN FLIGHT

◆ Note: The FADEC consists of two components that are independent of each other: FADEC A and FADEC B. In case of malfunctions in the active FADEC, it automatically switches to the other.

a) One FADEC Lamp is flashing

1. Press FADEC-Testknob at least 2 seconds
2. FADEC Lamp extinguished (LOW warning category) :
   a) Continue flight normally
   b) Inform service center after landing
3. FADEC Lamp steady illuminated (HIGH warning category)
   a) Monitor the other FADEC lamp
   b) Land as soon as practical
   c) Select an airspeed to avoid engine overspeed
   d) Inform service center after landing

b) Both FADEC Lamps are flashing

◆ Note: The Load Display may not correspond to the actual value.

1. Press FADEC-Testknob at least 2 seconds
2. FADEC Lamps extinguished (LOW warning category):
   a) Continue flight normally
   b) Inform service center after landing
3. FADEC Lamps steady illuminated (HIGH warning category):
   a) Check the available engine power
   b) Expect engine failure
   c) Flight can be continued, however the pilot should
      i) Select an airspeed to avoid engine overspeed
      ii) Land as soon as practical
      iii) Be prepared for an emergency landing

d) Inform service center after landing.

In case a tank was flown empty, proceed at the first signs of insufficient fuel feed as follows:

(1) Immediately switch the Fuel Selector tank with sufficient fuel quantity
(2) Auxiliary Fuel Pump.....ON
(3) Select an airspeed to avoid engine overspeed
(4) Engine parameters ..... CHECK (airspeed/altitude change, whether the engine responds to changes in the Load Control position).
(5) If the engine acts normally, continue the flight and land as soon as practical.

▲ **WARNING** The high-pressure pump must be checked before the next flight.

c) Abnormal Engine Behavior

If the engine acts abnormally during flight and the system does not automatically switch to the B-FADEC, it is possible switch to the B-FADEC manually.

▲ **WARNING:** It is only possible to switch from the automatic position to B-FADEC (A-FADEC is active in normal operation, B-FADEC is active in case of malfunction). This only becomes necessary when no automatic switching occurred in case of abnormal engine behavior.

(1) Select an appropriate airspeed to avoid engine overspeed
(2) "Force B" switch.....Switch to B-FADEC
(3) Flight may be continued, but the pilot should:
    i) Select an airspeed to avoid engine overspeed
    ii) Land as soon as practical
    iii) Be prepared for an emergency landing
(4) When no improvement switch "Force B" to normal position

ENGINE MALFUNCTION

LOSS OF ENGINE POWER IN FLIGHT

(1) Load Control .....FULL FORWARD
(2) Fuel Selector Valve..... to tank with sufficient fuel quantity
(3) Auxiliary Fuel Pump.....ON
(4) Best Glide Speed..... ESTABLISH
(5) Engine Parameters (FADEC lamps, oil pressure and temperature, fuel quantity)..... CHECK

If normal engine performane is not achieved, the pilot should:

i) Land as soon as possible
ii) Expect an engine failure
iii) Be prepared for an emergency landing

ENGINE MALFUNCTION DURING FLIGHT

◆ Note: Flying a tank dry activates both FADEC lamps flashing

In case that one tank was flown dry, at the first signs of insufficient fuel feed proceed as follows:

(1) Immediatly switch Fuel Selector to tank with suffucient fuel quantity
(2) Auxiliary Fuel Pump.....ON
(3) Engine Parameters (FADEC lamps, oil pressure and temperature, fuel quantity)..... CHECK
(4) If the engine operates normally, continue the flight and land as soon as practical.

▲ **WARNING** The high-pressure pump must be checked before the next flight.

PROPELLER RPM TOO HIGH:

With propeller RPM between 2,400 and 2,500 for more than 10 seconds or over 2,500:

(1) Reduce power
(2) Select an appropriate airspeed to avoid engine overspeed.
(3) Fly at reduced propeller RPM and engine power.
(4) Land as soon as practical.

◆ Note: If the propeller speed control fails, climb flights can be performed at a power setting of 100%. In case of overspeed the FADEC will reduce the engine power at higher airspeeds to avoid propeller speeds above 2500rpm.

FLUCTUATIONS IN PROPELLER RPM:

If the propeller RPM fluctuates by more than + / - 100 RPM with a constant load control position:

(1) Change the power setting and attempt to find a setting where the propeller RPM no longer fluctuates.
(2) If this does not work, set the maximum power at an airspeed < 110 KIAS until the propeller speed stabilizes.

If the problem is resolved, continue the flight. Inspect before next flight.

(3) If the problem continues, reduce power to 55% - 75% or select a power level where the propeller RPM fluctuations are minimum.
(4) Fly at an airspeed below 110 KIAS and land as soon as practical.

LOW OIL PRESSURE:

(< 2.3 BAR (33.5 PSI) IN CRUISE OR < 1.0 BAR (14.5 PSI) AT IDLE)

(1) Reduce power as quickly as possible

(2) Check oil temperature: If the oil temperature is high or near operating limits:

i) Fly to the next airfield or landing strip

ii) Expect an engine failure

iii) Be prepared for an emergency landing

◆ Note: During warm-weather operation or prolonged climbouts at low airspeed, engine temperatures could rise into the yellow range and trigger the "Caution" lamp. This warning allows the pilot to avoid overheating of the engine as follows:

(1) Increase airspeed by decreasing climb angle.

(2) Reduce power, if the engine temperatures approach the red area.

HIGH OIL TEMPERATURE ("OT" in RED RANGE):

(1) Increase airspeed and reduce power as quickly as possible

(2) Check oil pressure: if the oil pressure is lower than normal (< 2.3 bar (33.5 psi) in cruise or < 1.0 bar (14.5 psi at idle):

i) Land as soon as possible

ii) Expect an engine failure

iii) Be prepared for an emergency landing

(3) If the oil pressure is in the normal range:

i) Land as soon as practical

HIGH COOLANT TEMPERATURE ("CT" in RED RANGE):

(1) Increase airspeed and reduce power as quickly as possible
(2) If this reduces the coolant temperature to within the normal operating range quickly, continue flight normally and observe coolant temperature.
(3) If the coolant temperature does not drop:
    i) Land as soon as practical
    ii) Expect an engine failure
    iii) Be prepared for an emergency landing

LAMP "COOLANT" ILLUMINATES

(1) Increase airspeed and reduce power as quickly as possible
(2) Coolant temperature "CT"..... CHECK and OBSERVE
(3) Oil temperature "OT" ..... CHECK and OBSERVE
(4) If the coolant temperature and/or oil temperature are rising into yellow or red range,
    i) Land as soon as practical
    ii) Expect an engine failure
    iii) Be prepared for an emergency landing

HIGH GEARBOX TEMPERATURE ("GT" TO in RED RANGE):

(1) Reduce power to 55% - 75% as quickly as possible.
(2) Land as soon as practical.

LAMP "HIGH FUEL TEMPERATURE" ILLUMINATES

(1) Fuel Selector .....to other tank if sufficient fuel quantity
(2) Increase Airspeed

EMERGENCY DESCENT PROCEDURES

Refer to Original POH. Set Load Control at IDLE. Propeller and mixture control not applicable for Centurion 4.0 installation.

VACUUM SYSTEM FAILURE

LOW VACUUM WARNING COMES ON and/ or

LOW SUCTION GAGE INDICATION

(1) Standby Vacuum Pump .....ON

(2) Suction Gage .....CHECK VACUUM RESTORED

■ Caution If vacuum is not restored, with the standy vacuum pump operating, a failure has occured elsewhere in the vacuum system. Refer to „Emergency Operation in Clouds“, Section 3 of the original POH.

(3) When flying in IMC..... Return to VFR conditions or land as soon as practical.

FOR CESSNA 206H NAVIII and T206H NAVIII ONLY

No change to procedures for:

- AIR DATA SYSTEM FAILURE
- ATTITUDE AND HEADING REFERENCE SYSTEM FAILURE
- DISPLAY COOLING ADVISORY

MAXIMUM GLIDE

Best Glide Speed: .....80 KIAS for 1633 kg (3600 lb)
Maximum Glide Ratio.....~8.1 : 1
Conditions: ..... Propeller windmilling, flaps up, zero wind

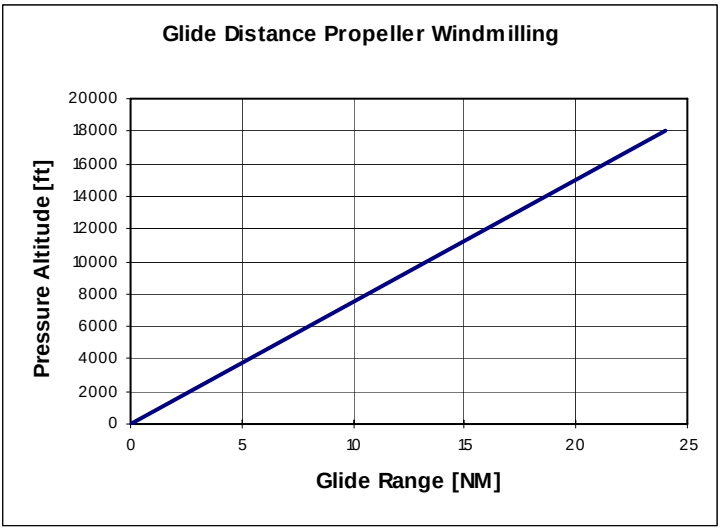

Figure 3-1 Maximum Glide

SECTION 4
NORMAL PROCEDURES

Airspeeds for normal operation

Takeoff

Normal Climb .....75-85 KIAS

Takeoff, Flaps 20°, speed at 50 ft.....74 KIAS

En-route Climb

Normal, Sea Level .....95 - 105 KIAS

Best Rate of Climb, Sea Level to 16.000 ft.....87 KIAS

Best Rate of Climb, 20.000 ft.....81 KIAS

Balked Landing

Maximum power, full flaps .....66 KIAS

Preflight Inspection

Carry out preflight inspection according to original POH, except:

CABIN <u>without</u> Garmin G1000 installation:

(1) Pitot Tube Cover.....REMOVE, check for pitot blockage
(2) Pilot's Operating Handbook and Supplement..AVAILABLE
(3) Cargo Door Locking Pin.....Remove and Stow
(4) Airplane Weight and Balance .....Checked
(5) Parking Brake .....SET
(6) Control Wheel Lock ..... REMOVE
(7) Engine Master Switch .....OFF
(8) Avionics Master Switch.....OFF
(9) BAT1 Switch .....ON
(10) Bus Voltage .....Check
(11) Avionics Switch.....ON
(12) Avionics Cooling Fan ..... Check audibly for operation
(13) Fuel Quantity Indicators..... Check Quantity

(14) Avionics Switch ..... OFF

◆ Note: When 2 Avionics Switches are installed, check cooling fan with only one avionics switch ON, while the other switch is OFF

(15) Engine Light Panel..... Check for warnings
(16) Fuel Quantity Indicators ... CHECK QUANTITY and Ensure Low Fuel Annunciators (L Low Fuel R) are extinguished
(17) Static Pressure Alternate Source Valve (if installed) ... OFF

For Cessna 206H and T206H, otherwise continue with (19):

(18) Annunciator Panel Switch ..... PLACE and HOLD IN TST POSITION and ensure all original annunciators illuminate.
(19) Annunciator Panel Test Switch ..... RELEASE. Check that appropriate annunciators remain on.

◆ Note: When Battery is turned ON, some annunciators will flash for approximately 10 seconds gefore illuminating steadily. When panel TST switch is toggled up and held in position, all remaining lights will flash until the switch is released.

For all:

(20) Fuel Selector Valve ..... BOTH
(21) Flaps ..... EXTEND
(22) Pitot Heat (when installed) ..... ON
(Carefully check that pitot tube is warm to the touch within 30 seconds)
(23) Pitot Heat ..... OFF
(24) BAT1 Switch ..... OFF
(25) BAT2 Switch ..... ON
(26) Bus Voltage ..... Check
(27) BAT2 Switch ..... OFF
(28) Trim Controls ..... NEUTRAL
(29) Oxygen Supply Pressure (when installed) ..... Check
(30) Oxygen Masks (when installed) ..... Check

CABIN for 206H and T206H <u>with</u> Garmin G1000 installation:

(1) Pitot Tube Cover .....REMOVE, check for pitot blockage
(2) Pilot's Operating Handbook and Supplement..AVAILABLE
(3) Garmin G1000 Cockpit Reference Guide .....AVAILABLE
(4) Cargo door Locking Pin .....REMOVE and STOW
(5) Airplane Weight and Balance .....Checked
(6) Parking Brake .....SET
(7) Control Wheel Lock ..... REMOVE
(8) Engine Master Switch .....OFF
(9) Avionics Switch (BUS 1 and BUS 2).....OFF
(10) BAT1 Switch .....ON
(11) Primary Flight Display (PFD) ..... Verify ON
(12) Fuel QTY (L and R) .....Check
(13) LOW FUEL L and LOW FUEL R Annunciators .Verify OFF
(14) LOW VOLTS Annunciators.....Verifiy ON
(15) LOW VACUUM Annunciator..... Verify ON
(16) Avionics Switch (BUS1) .....ON
(17) Forward Avionics Fan ..... Check audibly for operation
(18) Avionics Switch (BUS1) .....OFF
(19) Avionics Switch (BUS2) .....ON
(20) Aft Avionics Fan..... Check audibly for operation
(21) Avionics Switch (BUS2) .....OFF
(22) Pitot Heat .....ON
(Carefully check that pitot tube is warm to the touch within 30 seconds)
(23) Stall Warning System ..... CHECK
(To check the system, gently move the stall vane upward and verify that the stall warning horn is heard)
(24) Pitot Heat .....OFF
(25) Engine Light Panel..... Check for warnings
(26) Flaps ..... EXTEND
(27) BAT1 Switch .....OFF
(28) Static Pressure Alternate Source Valve.....OFF
(29) Fuel Selector Valve.....BOTH
(30) BAT2 Switch .....ON

(31) Bus Voltage .....Check
(32) BAT2 Switch .....OFF
(33) Trim Controls ..... NEUTRAL
(34) Oxygen Supply Pressure .....Check
(35) Oxygen Masks .....Check
(36) Fire Extinguisher .....Check gage green arc

Continue Preflight Inspection according to original POH, additionally:
Check engine and gearbox oil level, secure cap and door.
Check all air inlets for blockage.

Before Starting Engine

(1) Preflight Inspection .....Complete
(2) Passenger Briefing .....Complete
(3) Seats, Seat Belts, Shoulder Harnesses... Adjust and Lock. Make sure inertia reel locks
(4) Brakes.....TEST and SET
(5) Circuit breakers..... Check IN
(6) Electrical Equipment .....OFF

■ **Caution:** The Avionics Switch must be OFF during engine start to prevent possible damage to avionics.

(7) AVIONICS Switch .....OFF
(8) Cowl Flaps .....OPEN
(9) Fuel Selector Valve.....BOTH

Starting Engine Using Battery

▲ **WARNING** It is not allowed to start-up the engine using external power.

(1) Brakes.....HOLD
(2) Load Control .....IDLE
(3) Battery Switches ..... ON (Check Volts)
(4) Strobe Lights.....ON
(5) Auxiliary Fuel Pump.....ON
(6) Propeller Area..... CLEAR
(7) „Force B“ Switch ..... verifiy „FADEC A“ selected
(8) Engine Master.....ON
(9) Glow Control Light .....CHECK ON, then OFF
(10) Starter ..... ENGAGE immediately until engine starts
(11) Oil Pressure ..... CHECK

■ CAUTION: If after 3 seconds the minimum oil pressure of 1 bar is not indicated: Shut down the engine immidiately!

(12) CED test button .....PRESS (to delete Caution light)
(13) Alternator Circuit Breakers..... Verify IN
(14) Avionics Power Switch.....ON
(15) Amp Meter/ Indication.....Check positive charging current
(16) Auxiliary Fuel Pump.....OFF
(17) Warm Up

Let the engine warm up for about 2 minutes at idle speed.Increase rpm to 1400 until Engine and Gearbox Oil temperature 50°C, Coolant temperature 60°C

(18) Navigation Lights .....As required

Before Takeoff

Refer to Original POH, except:

Fuel Selector..... BOTH

Throttle, Magnetos, Propeller control not applicable, perform FADEC and Propeller adjustment function check instead:

FADEC and propeller adjustment function check

(1) Load Control .... IDLE (both FADEC lamps should be OFF)
(2) FADEC Test Button ..... PRESS and HOLD button
..... for entire test
(3) Automatic FADEC Self Test ..... Verify
a) Both FADEC lamps ON, rpm increases.

▲ **WARNING:** If the FADEC lamps do not come on at this point, it means that the test procedure has failed and take-off is not allowed.

b) The FADEC automatically switches to B-component (only FADEC B lamp is ON).
c) The propeller control is activated, RPM decreases.
d) The FADEC automatically switches to channel A (only FADEC A lamp is ON), RPM increases.
e) The propeller control is activated, RPM decreases.
f) FADEC A light goes OFF, idle RPM is reached, the test is completed.

(4) FADEC Test Button ..... RELEASE

◆ Note: If the test button is released before the self test is completed, the FADEC immediately switches over to normal operation.

◆ Note: While switching from one FADEC to another, it is normal to hear and feel a momentary surge in the engine.

▲ **WARNING:** If there are prolonged engine misfires or the engine shuts down during the test, take off is not allowed.

▲ **WARNING:** The whole test procedure has to be performed without any failure. In case the engine shuts down or the FADEC Lamps are flashing, take off is prohibited. This applies even if the engine seems to run without failure after the test.

FADEC and propeller adjustment function check finished

Takeoff

Before Takeoff, perform Full Power Check.

Power Check

(1) Brakes.....HOLD
(2) Load Control .....FULL FORWARD
.....load display min. 95%, 2240-2300 RPM
(3) Load Control .....IDLE

It is important to check full load engine operation early in the takeoff roll. Discontinue takeoff at any sign of rough engine operation or sluggish engine acceleration.
Short Field Takeoff

(1) Wing Flaps.....20°
(2) Brakes.....Apply
(3) Load Control .....100% (full forward)
(4) Brakes.....Release
(5) Elevator Control .....maintain slightly tail low attitude
(6) Liftoff airspeed ..... 57-64 KIAS (depending on weight)
(7) Climb airspeed until all abstacles are cleared .....
.....67-74 KIAS (depending on weight)
(8) Wing Flaps.... Retract slowly when airspeed is 80-90 KIAS

Climb

(1) Best rate of climb speed ..... 87 KIAS
(2) Engine Load..... 100%
(3) Fuel Selector Valve..... BOTH
(4) Cowl Flaps ..... OPEN as required

Cruise

(1) Cruise power..... max. 100%, 75 or less is recommended
(2) Auxiliary Fuel Pump..... OFF
(3) Cowl Flaps ..... as required
(4) Trim..... As Required
(5) Engine Parameters ..... MONITOR
(6) Fuel Flow and Balance ..... MONITOR
(7) FADEC Warning Lamps ..... MONITOR

Descent

No change, Mixture not applicable, refer to original POH.

Before Landing

(1) Passenger Seats ..... as fas forward as practical
(2) Seat Backs ..... most upright position
(3) Seats and Seat Belts ..... secured and locked
(4) Fuel Selector Valve..... BOTH
(5) Landing and Taxi Lights..... ON
(6) Autopilot (if installed) ..... OFF

Landing

No change, refer to original POH.

Balked Landing

(1) Engine Load..... 100% (full forward)
(2) Wing Flaps..... 40°
(3) Climb Speed ..... 67 KIAS
(4) Cowl Flaps ..... OPEN
(5) Wing Flaps Retract slowly while accelerating to 80-85 KIAS

After Landing

(1) Wing Flaps ..... UP
(2) Cowl Flaps ..... OPEN

Securing Airplane/ Engine Shutdown

(1) Parking Brake ..... SET
(2) Auxiliary Fuel Pump (if used) ..... OFF
(3) Load Control ..... IDLE
(4) Avionics Power Switch ..... OFF
(5) All Electrical Equipment ..... OFF
(6) Engine Master ..... OFF
(7) Battery Switches ..... OFF
(8) Control Lock ..... INSTALL
(9) Fuel Selector Valve ..... LEFT or RIGHT to prevent cross feeding

Cold Weather Operation

Special attention should be paid to operation of the aircraft and the fuel system in winter or before any flight at low temperatures. Correct preflight draining of the fuel system is particularly important and will prevent the accumulation of water.
The following limitations for cold weather operation are established due to temperature."Operating limits".
(Refer Section 2 „Limitations“)

▲ **WARNING:** The aircraft may not be operated if it is cold soaked below -25°C (-13°F)
It is not allowed to start the engine outside of these temperature limits.

◆ Note: It is advisable to refuel before each flight and to enter the type of fuel filled and the additives used in the aircraft log-book.

Special care must be taken regarding the accumulation of frost,

snow or ice on the aircraft. Remove all frost, snow or ice, especially on the wing and control surfaces to ensure aerodynamic performance and controllability. Ice or snow may not interfere with the movement of control surfaces.

If snow or slush covers the runway, allowance must be made for take-off distances which will be increasingly extended as snow or slush depth increases. The depth and consistency of this cover can, in fact, prevent take-off in many instances.

Cold weather starting procedures are the same as the normal starting procedures. Use caution to prevent inadvertent forward movement of the airplane during starting when parked on snow or ice.

Hot Weather Operation

◆ Note: Engine temperatures may rise into the yellow range and activate the "Caution" Lamp when operating in hot weather or longer climbouts at low speed. This warning gives the pilot the opportunity to keep the engine from possibly overheating by doing the following:
i) increase airspeed by decreasing vertical speed.
ii) reduce power, if the engine temperatures approach the red range.

Noise Characteristics

The noise levels for the Cessna 206 with TAE Centurion 4.0 have been established in accordance with ICAO Annex 16, Volume I, Part II, Chapter X.

Configuration:
TAE Centurion 4.0 engine with MTV-9-D/210-58 propeller.

With 300 HP Rating:
Noise Limit: .....85.0 dB(A)
Actual Noise Level: .....81.6 dB(A)

With 310 HP Rating:
Noise Limit: .....85.0 dB(A)
Actual Noise Level: .....81.8 dB(A)

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SECTION 5
PERFORMANCE

Table of Contents

SAMPLE PROBLEM

The following sample flight problem uses information derived from the airplane performance charts and tables to determine the predicted performance for a typical flight.
The first step in flight planning is to determine the aircraft weight and center of gravity, as well as information about the flight. For this sample problem, the following information is known:

AIRPLANE CONFIGURATION Cessna 206H

- Takeoff Weight ..... 1610 kg (3550 lb)
- Usable Fuel ..... 294.0 l (77.7 US gal)

TAKEOFF CONDITIONS

- Field Pressure Altitude 3500ft
- Temperature .....24°C (ISA+16°C)
- Wind Component along Runway .....12 Knot Headwind
- Field Length.....1219 m (4000 ft)

CRUISE CONDITIONS

- Total Distance..... 880 km (475 NM)
- Pressure Altitude ..... 11500 ft
- Temperature .....8°C (ISA + 16°C)
- Expected Wind Enroute.....10 Knot Headwind

LANDING CONDITIONS

- Field Pressure Altitude ..... 3000 ft
- Temperature .....25°C (ISA + 16°C)
- Field Length.....915 m (3000 ft)

TAKEOFF

The takeoff distance tables, Figure 5-15 to 5-20 of this supplement, show the takeoff ground roll and horizontal distance to reach 50 feet above ground level. The distances shown are based on the short field technique. Conservative distances can be established by reading the tables at the next higher value of weight, altitude and temperature. For example, in this particular sample problem, the takeoff distance information presented for a weight of 3600 pounds, takeoff field pressure altitude of 4000 feet, and a temperature of ISA +20°C should be used. Using the conservative values results in the following:

- Ground Roll.....446 m (1463 ft)
- Total Distance to clear 15 m (50 ft) obstacle 723 m (2373 ft)

Since the takeoff distance tables are based upon a zero wind conditions, a correction for the effect of winds must be made. Using the 12-knot headwind component, the following corrections can be made:

- Correction for headwind (10% for each 10 knots)..... .....12% decrease
- Corrected ground roll (446 - 12%) .....392 m (1288 ft)
- Corrected distance to clear 15 m obstacle (709 - 12%)..... .....636 m (2087 ft)

These distances are well within the available takeoff field length. Corrections for grass runways and sloped runways are also applicable and should be applied. These corrections are calculated in the same manner as the wind correction above. Refer to Figure 5-15 to 5-20 of this supplement for correction factors to be applied.

Climb

The time, fuel, and distance to climb tables, Figure 5-21, 5-23 and 5-25, allow determination of the time, fuel, and distance to

climb from sea level to a specified pressure altitude. To determine the values to be used for flight planning, the start-of-climb time, fuel, and distance values are subtracted from the end-of-climb (cruise altitude) values. Again, conservative values are obtained by using the next lower altitude value for start of climb or next higher altitude values for end of climb. Using conservative values for the sample data, the following calculations are made:

Climb estimates SL to 3000 ft

- Time to climb ..... 2.7 min
- Distance to climb .....4.1 NM
- Fuel to climb ..... 3.0 l

Climb estimates SL to 12000 ft

- Time to climb ..... 11.1 min
- Distance to climb .....19.3 NM
- Fuel to climb ..... 12.2 l

Climb estimates 3000 to 12000 ft

- Time to climb ..... 8.4 min
- Distance to climb .....15.2 NM
- Fuel to climb ..... 9.2 l

The above values reflect climb for a standard day and are sufficient for most flight planning. However, further correction for the effect of temperature on climb can be made. The effect of temperature on climb performance is to increase the time, fuel, and distance to climb by approximately 10% for each 10° C above ISA. In our example, using a temperature of ISA + 16° C, the correction to be applied is 16%.

Corrected climb estimates 3000 to 12000 ft (ISA +16 °C)

- Time to climb (8.4 + 16 %)..... .9.7 min
- Distance to climb (15.2 + 16%).....17.6 NM
- Fuel to climb (9.2 + 16%)..... 10.7 l (2.8 US gal)

CRUISE

The selected cruise altitude should be based upon airplane performance, trip length, and winds aloft. A typical cruise altitude and the expected winds aloft are given for this sample problem. Power selection for cruise should be based upon the cruise performance characteristics presented in Figure 5-29 of this supplement. Note that fuel economy and range are substantially improved at lower power settings.
For this sample problem, an engine load of 70% will be used. Using the data for 12000 ft results in the following:

- True airspeed..... 148 kt
- Cruise fuel flow .....43.9 l/hr (11.6 US gal)

The effect of a temperature on cruise performance is to increase the airspeed and range by approximately 1% for each 10° C above ISA. In our example, using a temperature of ISA + 16° C, the correction to be applied is 1.6%.This results in:

- Corrected true airspeed (148 + 1.6 %) ..... 150 kt

FUEL REQUIRED

The total fuel requirement for the flight may be estimated using the performance information in Figures 5-29 of this supplement. The resultant cruise distance is:

- Total distance (from sample problem) ..... 475 NM
- Corrected climb distance ..... 17.6 NM
- Cruise Distance..... 457.4 NM

Using the predicted true airspeed from the cruise performance table, Figure 5-13 of this supplement, and applying the expected 10-knot headwind, the ground speed for cruise is expected to be 140 knots. Therefore, the time required for the cruise portion of the trip is:

- 457.4 NM / 140 kt = 4.27 hrs

The fuel required for cruise is:

- 4.27 x 43.9 l/hr = 187.5 l (49.5 US gal)

A 45 minute IFR reserve at the 70% load at 12000 ft requires:

- 45/60 x 43.9 l/hr = 32.9 l (8.7 US gal)

The total estimated fuel required is as follows:

- Engine start, taxi, takeoff ..... 4 l (1 US gal)
- Climb ..... 10.7 l (2.8 US gal)
- Cruise ..... 187.5 l (49.5 US gal)
- Reserve ..... 32.9 l (8.7 US gal)
- Total fuel required..... 235.1 l (62.0 US gal)

Once the flight is underway, ground speed checks will provide a more accurate basis for estimating the time enroute and the corresponding fuel required to complete the trip with ample reserve.

Landing

No change, refer to original POH

Performance data for Cessna U206F & TU206F (300 HP)

SHORT FIELD TAKE-OFF DISTANCE AT 1633 kg (3600 lb)
Cessna U206F, TU206F

Conditions:
Full Power (2300 RPM) Prior to Brake Release
Flaps 20°, Paved, level, dry runway, Zero Wind
Speed at Lift Off: 64 KIAS
Speed over 50 ft. Obstacle: 74 KIAS

Notes:

(1) Decrease distances 10% for each 10 knots headwind. For operation with tailwinds up to 10 Knot increase distances by 10% for each 2.5 knots.

(2) For operation on dry, grass runway, increase distances by 15% of the „ground roll" figure.

(3) Consider additionals for wet grass runway, softened ground or snow.

PRESS ALT [FT]	DISTANCE [m]	Temperature - °C ISA	ISA + 10	ISA + 20	ISA + 30
0	Gnd Roll	312	336	362	388
	50 ft	506	545	587	630
1000	Gnd Roll	330	356	383	411
	50 ft	535	577	621	666
2000	Gnd Roll	349	376	405	435
	50 ft	566	610	656	705
3000	Gnd Roll	369	398	428	460
	50 ft	599	646	695	746
4000	Gnd Roll	391	421	453	487
	50 ft	634	683	735	790
5000	Gnd Roll	414	446	480	516
	50 ft	672	724	779	836
6000	Gnd Roll	439	473	509	546
	50 ft	712	767	825	886
7000	Gnd Roll	465	501	539	579
	50 ft	754	813	875	939
8000	Gnd Roll	493	531	572	614
	50 ft	800	862	927	996

Figure 5-1: Takeoff Distance [m] at 1633 kg (3600 lb)

PRESS ALT [FT]	DISTANCE [ft]	Temperature - °C ISA	ISA + 10	ISA + 20	ISA + 30
0	Gnd Roll	1024	1103	1187	1275
	50 ft	1661	1789	1925	2067
1000	Gnd Roll	1083	1166	1255	1348
	50 ft	1756	1892	2036	2186
2000	Gnd Roll	1145	1234	1328	1426
	50 ft	1858	2001	2154	2313
3000	Gnd Roll	1212	1306	1405	1509
	50 ft	1966	2118	2279	2447
4000	Gnd Roll	1283	1382	1487	1597
	50 ft	2081	2242	2413	2591
5000	Gnd Roll	1359	1464	1575	1691
	50 ft	2204	2375	2555	2744
6000	Gnd Roll	1440	1551	1669	1792
	50 ft	2335	2516	2707	2907
7000	Gnd Roll	1526	1644	1769	1899
	50 ft	2475	2667	2870	3081
8000	Gnd Roll	1618	1743	1876	2014
	50 ft	2625	2828	3043	3267

Figure 5-2: Takeoff Distance [ft] at 1633 kg (3600 lb)

SHORT FIELD TAKE-OFF DISTANCE AT 1497 kg (3300 lb)
Cessna U206F, TU206F

Conditions:
Full Power (2300 RPM) Prior to Brake Release
Flaps 20°, Paved, level, dry runway, Zero Wind
Speed at Lift Off: 61 KIAS
Speed over 50 ft. Obstacle: 71 KIAS

Notes:

(1) Decrease distances 10% for each 10 knots headwind. For operation with tailwinds up to 10 Knot increase distances by 10% for each 2.5 knots.

(2) For operation on dry, grass runway, increase distances by 15% of the „ground roll" figure.

(3) Consider additionals for wet grass runway, softened ground or snow.

PRESS ALT [FT]	DISTANCE [m]	Temperature - °C ISA	ISA + 10	ISA + 20	ISA + 30
0	Gnd Roll	249	268	289	310
	50 ft	404	435	468	503
1000	Gnd Roll	263	284	305	328
	50 ft	427	460	495	532
2000	Gnd Roll	278	300	323	347
	50 ft	452	487	524	562
3000	Gnd Roll	295	317	342	367
	50 ft	478	515	554	595
4000	Gnd Roll	312	336	362	388
	50 ft	506	545	587	630
5000	Gnd Roll	330	356	383	411
	50 ft	536	577	621	667
6000	Gnd Roll	350	377	406	436
	50 ft	568	612	658	707
7000	Gnd Roll	371	400	430	462
	50 ft	602	648	698	749
8000	Gnd Roll	393	424	456	490
	50 ft	638	687	740	794

Figure 5-3: Takeoff Distance [m] at 1497 kg (3300 lb)

PRESS ALT [FT]	DISTANCE [ft]	Temperature - °C ISA	ISA + 10	ISA + 20	ISA + 30
0	Gnd Roll	817	880	947	1017
	50 ft	1325	1427	1536	1649
1000	Gnd Roll	864	930	1001	1075
	50 ft	1401	1509	1624	1744
2000	Gnd Roll	913	984	1059	1137
	50 ft	1482	1596	1718	1845
3000	Gnd Roll	967	1041	1121	1203
	50 ft	1568	1689	1818	1952
4000	Gnd Roll	1023	1103	1186	1274
	50 ft	1660	1788	1924	2066
5000	Gnd Roll	1084	1168	1256	1349
	50 ft	1758	1894	2038	2189
6000	Gnd Roll	1148	1237	1331	1429
	50 ft	1863	2007	2159	2319
7000	Gnd Roll	1217	1311	1411	1515
	50 ft	1974	2127	2289	2458
8000	Gnd Roll	1291	1390	1496	1607
	50 ft	2094	2256	2427	2606

Figure 5-4: Takeoff Distance [ft] at 1497 kg (3300 lb)

SHORT FIELD TAKE-OFF DISTANCE AT 1360 kg (3000 lb)
Cessna U206F, TU206F

Conditions:
Full Power (2300 RPM) Prior to Brake Release
Flaps 20°, Paved, level, dry runway, Zero Wind
Speed at Lift Off: 57 KIAS
Speed over 50 ft. Obstacle: 67 KIAS

Notes:

(1) Decrease distances 10% for each 10 knots headwind. For operation with tailwinds up to 10 Knot increase distances by 10% for each 2.5 knots.

(2) For operation on dry, grass runway, increase distances by 15% of the „ground roll" figure.

(3) Consider additionals for wet grass runway, softened ground or snow.

PRESS ALT [FT]	DISTANCE [m]	Temperature - °C			
		ISA	ISA + 10	ISA + 20	ISA + 30
0	Gnd Roll	194	209	225	242
	50 ft	315	340	365	392
1000	Gnd Roll	205	221	238	256
	50 ft	333	359	386	415
2000	Gnd Roll	217	234	252	271
	50 ft	353	380	409	439
3000	Gnd Roll	230	248	267	286
	50 ft	373	402	433	464
4000	Gnd Roll	243	262	282	303
	50 ft	395	426	458	492
5000	Gnd Roll	258	278	299	321
	50 ft	418	451	485	521
6000	Gnd Roll	273	294	317	340
	50 ft	443	477	514	552
7000	Gnd Roll	290	312	336	361
	50 ft	470	506	545	585
8000	Gnd Roll	307	331	356	382
	50 ft	498	537	578	620

Figure 5-5: Takeoff Distance [m] at 1360 kg (3000 lb)

PRESS ALT [FT]	DISTANCE [ft]	Temperature - °C ISA	ISA + 10	ISA + 20	ISA + 30
0	Gnd Roll	638	687	739	794
	50 ft	1034	1114	1199	1287
1000	Gnd Roll	674	726	782	839
	50 ft	1094	1178	1268	1361
2000	Gnd Roll	713	768	827	888
	50 ft	1157	1246	1341	1440
3000	Gnd Roll	755	813	875	939
	50 ft	1224	1319	1419	1524
4000	Gnd Roll	799	861	926	994
	50 ft	1296	1396	1502	1613
5000	Gnd Roll	846	912	981	1053
	50 ft	1372	1479	1591	1708
6000	Gnd Roll	896	966	1039	1116
	50 ft	1454	1567	1686	1810
7000	Gnd Roll	950	1024	1102	1183
	50 ft	1541	1661	1787	1919
8000	Gnd Roll	1008	1085	1168	1254
	50 ft	1634	1761	1895	2034

Figure 5-6: Takeoff Distance [ft] at 1360 kg (3000 lb)

TIME, FUEL AND DISTANCE TO CLIMB
AT 1633 KG (3600 lb), Cessna U206F, TU206F

Conditions:
Flaps Up, Cowl Flaps Open
Full Power
Standard Day - ISA conditions

Notes :

(1) Add 4 l (1 US gal) of fuel for engine start, taxi and takeoff allowance.
(2) Increase time, distance and fuel used by 10% for 10°C above standard temperature.
(3) Distances shown are based on zero wind.

Press. Alt.	OAT	Vy	ROC	Time	Distance	Fuel used	
[FT]	[°C]	[KIAS]	[FPM]	[MIN]	[NM]	[l]	[US Gal]
0	15	87	1078	0,0	0,0	0,0	0,0
1000	13	87	1071	0,9	1,4	1,0	0,3
2000	11	87	1063	1,9	2,8	2,0	0,5
3000	9	87	1056	2,8	4,3	3,0	0,8
4000	7	87	1048	3,8	5,8	4,0	1,1
5000	5	87	1040	4,7	7,4	5,0	1,3
6000	3	87	1032	5,7	9,0	6,1	1,6
7000	1	87	1023	6,7	10,7	7,1	1,9
8000	-1	87	1015	7,6	12,5	8,2	2,2
9000	-3	87	1006	8,6	14,3	9,2	2,4
10000	-5	87	997	9,6	16,2	10,3	2,7
11000	-7	87	988	10,6	18,2	11,4	3,0
12000	-9	87	979	11,7	20,3	12,4	3,3
13000	-11	87	969	12,7	22,4	13,5	3,6
14000	-13	87	942	13,7	24,7	14,6	3,9
15000	-15	87	898	14,8	27,1	15,8	4,2
16000	-17	87	853	16,0	29,6	16,9	4,5
17000	-19	85	808	17,2	31,6	18,1	4,8
18000	-21	82	762	18,4	33,3	19,3	5,1
19000	-23	82	717	19,8	36,4	20,6	5,4
20000	-25	81	671	21,2	39,2	21,9	5,8

Figure 5-7: Time, fuel and distance to climb 1633 kg (3600 lb)

MAXIMUM CLIMB RATE AT 1633 KG (3600 lb)

Cessna U206F, TU206F

Conditions:
Flaps Up, Cowl Flaps Open
Full Power
Standard Day - ISA conditions

Notes :

(1) For operation in air colder than this table provides, use coldest data shown.

(2) For operation in air warmer than this table provides, use extreme caution.

Press. Alt. [FT]	Climb Speed [KIAS]	RATE OF CLIMB - Feet per Minute Temperature - ºC			
		ISA	ISA+10	ISA+20	ISA+30
0	87	1078	1038	998	959
1000	87	1071	1031	991	951
2000	87	1063	1023	983	943
3000	87	1056	1015	975	935
4000	87	1048	1007	967	926
5000	87	1040	999	958	918
6000	87	1032	991	950	909
7000	87	1023	982	941	900
8000	87	1015	973	932	891
9000	87	1006	964	923	881
10000	87	997	955	913	872
11000	87	988	946	904	862
12000	87	979	936	894	852
13000	87	969	927	884	841
14000	87	942	900	857	815
15000	87	898	855	813	771
16000	87	853	811	769	728
17000	85	808	766	725	684
18000	82	762	721	680	640
19000	82	717	676	635	595
20000	81	671	630	590	550

Figure 5-8: Maximum climb rate at 1633 kg (3600 lb)

TIME, FUEL AND DISTANCE TO CLIMB
AT 1497 KG (3300 lb), Cessna U206F, TU206F

Conditions:
Flaps Up, Cowl Flaps Open
Full Power
Standard Day - ISA conditions

Notes :

(1) Add 4 l (1 US gal) of fuel for engine start, taxi and takeoff allowance.
(2) Increase time, distance and fuel used by 10% for 10°C above standard temperature.
(3) Distances shown are based on zero wind.

Press. Alt.	OAT	Vy	ROC	Time	Distance	Fuel used	
[FT]	[°C]	[KIAS]	[FPM]	[MIN]	[NM]	[l]	[US Gal]
0	15	87	1242	0,0	0,0	0,0	0,0
1000	13	87	1235	0,8	1,2	0,9	0,2
2000	11	87	1228	1,6	2,4	1,7	0,5
3000	9	87	1221	2,4	3,7	2,6	0,7
4000	7	87	1213	3,3	5,0	3,5	0,9
5000	5	87	1206	4,1	6,4	4,4	1,2
6000	3	87	1198	4,9	7,8	5,2	1,4
7000	1	87	1190	5,8	9,3	6,1	1,6
8000	-1	87	1182	6,6	10,8	7,0	1,9
9000	-3	87	1173	7,4	12,4	8,0	2,1
10000	-5	87	1165	8,3	14,0	8,9	2,3
11000	-7	87	1156	9,2	15,7	9,8	2,6
12000	-9	87	1147	10,0	17,5	10,7	2,8
13000	-11	87	1138	10,9	19,3	11,6	3,1
14000	-13	87	1110	11,8	21,2	12,6	3,3
15000	-15	87	1063	12,7	23,2	13,5	3,6
16000	-17	87	1015	13,7	25,4	14,5	3,8
17000	-19	85	967	14,7	27,1	15,5	4,1
18000	-21	82	919	15,7	28,5	16,5	4,4
19000	-23	82	871	16,9	31,0	17,6	4,6
20000	-25	81	822	18,0	33,4	18,6	4,9

Figure 5-9: Time, fuel and distance to climb 1497 kg (3300 lb)

MAXIMUM CLIMB RATE AT 1497 KG (3300 lb)

Cessna U206F, TU206F

Conditions:
Flaps Up, Cowl Flaps Open
Full Power
Standard Day - ISA conditions

Notes :

(1) For operation in air colder than this table provides, use coldest data shown.

(2) For operation in air warmer than this table provides, use extreme caution.

Press. Alt. [FT]	Climb Speed [KIAS]	RATE OF CLIMB - Feet per Minute Temperature - ºC			
		ISA	ISA+10	ISA+20	ISA+30
0	87	1242	1200	1157	1115
1000	87	1235	1193	1150	1108
2000	87	1228	1185	1143	1100
3000	87	1221	1178	1135	1092
4000	87	1213	1170	1127	1084
5000	87	1206	1162	1119	1076
6000	87	1198	1154	1111	1068
7000	87	1190	1146	1102	1059
8000	87	1182	1138	1094	1050
9000	87	1173	1129	1085	1041
10000	87	1165	1120	1076	1032
11000	87	1156	1111	1067	1023
12000	87	1147	1102	1057	1013
13000	87	1138	1093	1048	1003
14000	87	1110	1065	1020	975
15000	87	1063	1018	974	929
16000	87	1015	971	927	883
17000	85	967	924	880	837
18000	82	919	876	833	790
19000	82	871	828	786	743
20000	81	822	780	738	696

Figure 5-10: Maximum climb rate at 1497 kg (3300 lb)

TIME, FUEL AND DISTANCE TO CLIMB
AT 1361 KG (3000 lb), Cessna U206F, TU206F

Conditions:
Flaps Up, Cowl Flaps Open
Full Power
Standard Day - ISA conditions

Notes :

(1) Add 4 l (1 US gal) of fuel for engine start, taxi and takeoff allowance.
(2) Increase time, distance and fuel used by 10% for 10°C above standard temperature.
(3) Distances shown are based on zero wind.

Press. Alt.	OAT	Vy	ROC	Time	Distance	Fuel used	
[FT]	[°C]	[KIAS]	[FPM]	[MIN]	[NM]	[l]	[US Gal]
0	15	87	1436	0,0	0,0	0,0	0,0
1000	13	87	1429	0,7	1,0	0,7	0,2
2000	11	87	1422	1,4	2,1	1,5	0,4
3000	9	87	1415	2,1	3,2	2,2	0,6
4000	7	87	1408	2,8	4,3	3,0	0,8
5000	5	87	1401	3,5	5,5	3,8	1,0
6000	3	87	1393	4,2	6,7	4,5	1,2
7000	1	87	1386	5,0	8,0	5,3	1,4
8000	-1	87	1378	5,7	9,3	6,1	1,6
9000	-3	87	1370	6,4	10,6	6,8	1,8
10000	-5	87	1362	7,1	12,0	7,6	2,0
11000	-7	87	1354	7,9	13,5	8,4	2,2
12000	-9	87	1345	8,6	15,0	9,2	2,4
13000	-11	87	1336	9,4	16,6	10,0	2,6
14000	-13	87	1307	10,1	18,2	10,8	2,9
15000	-15	87	1256	10,9	19,9	11,6	3,1
16000	-17	87	1205	11,7	21,8	12,4	3,3
17000	-19	85	1154	12,6	23,2	13,3	3,5
18000	-21	82	1103	13,5	24,3	14,1	3,7
19000	-23	82	1051	14,4	26,5	15,0	4,0
20000	-25	81	999	15,4	28,4	15,9	4,2

Figure 5-11: Time, fuel and distance to climb 1361 kg (3000 lb)

MAXIMUM CLIMB RATE AT 1361 KG (3000 lb)

Cessna U206F, TU206F

Conditions:
Flaps Up, Cowl Flaps Open
Full Power
Standard Day - ISA conditions

Notes :

(1) For operation in air colder than this table provides, use coldest data shown.

(2) For operation in air warmer than this table provides, use extreme caution.

Press. Alt. [FT]	Climb Speed [KIAS]	RATE OF CLIMB - Feet per Minute Temperature - ºC			
		ISA	ISA+10	ISA+20	ISA+30
0	87	1436	1390	1345	1300
1000	87	1429	1383	1338	1292
2000	87	1422	1376	1331	1285
3000	87	1415	1369	1323	1278
4000	87	1408	1362	1316	1270
5000	87	1401	1355	1308	1262
6000	87	1393	1347	1300	1254
7000	87	1386	1339	1292	1246
8000	87	1378	1331	1284	1238
9000	87	1370	1323	1276	1229
10000	87	1362	1315	1267	1220
11000	87	1354	1306	1259	1211
12000	87	1345	1297	1250	1202
13000	87	1336	1288	1240	1193
14000	87	1307	1259	1211	1163
15000	87	1256	1209	1162	1115
16000	87	1205	1158	1112	1065
17000	85	1154	1108	1062	1016
18000	82	1103	1057	1012	966
19000	82	1051	1006	961	916
20000	81	999	955	910	866

Figure 5-12: Maximum climb rate at 1361 kg (3000 lb)

CRUISE PERFORMANCE, RANGE AND ENDURANCE

Cessna U206F, TU206F Standard Tanks

Conditions:
Takeoff weight 1633 kg (3600 lb)
Flaps Up, Cowl Flaps Closed
Zero wind
Standard Day - ISA conditions

Notes:

(1) Endurance information are based on 196.2 l (51.8 US gal) usable fuel. The table assumes 4L for startup and taxi. Time, fuel and distance for climb and 45 min. reserve are included. Range and Endurance apply for cruise phase only.

(2) Increase true airspeed (KTAS) and maximum range (NM) by 1% per 10°C above ISA temperature.

PRESS ALT	LOAD	KTAS	FUEL FLOW		RANGE	HOURS
[FT]	[%]		[L/Hr]	[US Gal/Hr]	[NM]	
0	100	151	62,6	16,5	351	2,3
0	90	145	55,0	14,5	399	2,7
0	80	139	48,6	12,8	445	3,2
0	70	131	42,5	11,2	496	3,8
0	60	123	36,7	9,7	552	4,5
0	50	113	30,8	8,1	621	5,5
2000	100	154	62,6	16,5	352	2,3
2000	90	148	55,0	14,5	401	2,7
2000	80	141	48,6	12,8	447	3,2
2000	70	134	42,5	11,2	498	3,7
2000	60	125	36,7	9,7	554	4,4
2000	50	115	30,8	8,1	623	5,4

Figure 5-13: Cruise performance, range and endurance (sheet 1/3)

PRESS ALT [FT]	LOAD [%]	KTAS	FUEL FLOW [L/Hr]	FUEL FLOW [US Gal/Hr]	RANGE [NM]	HOURS
4000	100	157	62,6	16,5	354	2,3
4000	90	151	55,0	14,5	403	2,7
4000	80	144	48,6	12,8	449	3,1
4000	70	136	42,5	11,2	500	3,7
4000	60	127	36,7	9,7	556	4,4
4000	50	116	30,8	8,1	624	5,4
6000	100	160	62,6	16,5	356	2,2
6000	90	154	55,0	14,5	405	2,6
6000	80	146	48,6	12,8	451	3,1
6000	70	138	42,5	11,2	502	3,6
6000	60	129	36,7	9,7	558	4,3
6000	50	118	30,8	8,1	626	5,3
8000	100	163	62,6	16,5	357	2,2
8000	90	156	55,0	14,5	406	2,6
8000	80	149	48,6	12,8	453	3,0
8000	70	141	42,5	11,2	504	3,6
8000	60	131	36,7	9,7	560	4,3
8000	50	120	30,8	8,1	627	5,2
10.000	100	166	62,6	16,5	358	2,2
10.000	90	159	55,0	14,5	408	2,6
10.000	80	152	48,6	12,8	454	3,0
10.000	70	143	42,5	11,2	505	3,5
10.000	60	133	36,7	9,7	561	4,2
10.000	50	122	30,8	8,1	628	5,2
12.000	90	162	55,0	14,5	409	2,5
12.000	80	155	48,6	12,8	456	2,9
12.000	70	146	42,5	11,2	507	3,5
12.000	60	135	36,7	9,7	562	4,2
12.000	50	123	30,8	8,1	628	5,1

Figure 5-13: Cruise performance, range and endurance (sheet 2/3)

PRESS ALT [FT]	LOAD [%]	KTAS	FUEL FLOW [L/Hr]	FUEL FLOW [US Gal/Hr]	RANGE [NM]	HOURS
14.000	90	166	55,0	14,5	410	2,5
14.000	80	157	48,6	12,8	457	2,9
14.000	70	148	42,5	11,2	508	3,4
14.000	60	138	36,7	9,7	563	4,1
14.000	50	125	30,8	8,1	629	5,0
16.000	90	169	55,0	14,5	411	2,4
16.000	80	160	48,6	12,8	458	2,9
16.000	70	151	42,5	11,2	509	3,4
16.000	60	140	36,7	9,7	564	4,0
16.000	50	127	30,8	8,1	628	5,0
18.000	80	163	48,6	12,8	458	2,8
18.000	70	153	42,5	11,2	509	3,3
18.000	60	142	36,7	9,7	563	4,0
18.000	50	129	30,8	8,1	627	4,9
20.000	80	166	48,6	12,8	458	2,8
20.000	70	156	42,5	11,2	508	3,3
20.000	60	144	36,7	9,7	562	3,9
20.000	50	131	30,8	8,1	625	4,8

Figure 5-13: Cruise performance, range and endurance (sheet 3/3)

CRUISE PERFORMANCE, RANGE AND ENDURANCE

Cessna U206F, TU206F Long Range Tanks

Conditions:
Takeoff weight 1633 kg (3600 lb)
Flaps Up, Cowl Flaps Closed
Zero wind
Standard Day - ISA conditions

Notes:

(1) Endurance information are based on 253.2 l (66.9 US gal) usable fuel. The table assumes 4L for startup and taxi. Time, fuel and distance for climb and 45 min. reserve are included. Range and Endurance apply for cruise phase only.

(2) Increase true airspeed (KTAS) and maximum range (NM) by 1% per 10°C above ISA temperature.

PRESS ALT [FT]	LOAD [%]	KTAS	FUEL FLOW [L/Hr]	FUEL FLOW [US Gal/Hr]	RANGE [NM]	HOURS
0	100	151	62,6	16,5	489	3,2
0	90	145	55,0	14,5	550	3,8
0	80	139	48,6	12,8	608	4,4
0	70	131	42,5	11,2	672	5,1
0	60	123	36,7	9,7	743	6,0
0	50	113	30,8	8,1	830	7,4
2000	100	154	62,6	16,5	493	3,2
2000	90	148	55,0	14,5	554	3,7
2000	80	141	48,6	12,8	613	4,3
2000	70	134	42,5	11,2	677	5,1
2000	60	125	36,7	9,7	748	6,0
2000	50	115	30,8	8,1	835	7,3

Figure 5-14: Cruise performance, range and endurance (sheet 1/3)

PRESS ALT [FT]	LOAD [%]	KTAS	FUEL FLOW [L/Hr]	FUEL FLOW [US Gal/Hr]	RANGE [NM]	HOURS
4000	100	157	62,6	16,5	497	3,2
4000	90	151	55,0	14,5	559	3,7
4000	80	144	48,6	12,8	618	4,3
4000	70	136	42,5	11,2	682	5,0
4000	60	127	36,7	9,7	754	5,9
4000	50	116	30,8	8,1	840	7,2
6000	100	160	62,6	16,5	501	3,1
6000	90	154	55,0	14,5	564	3,7
6000	80	146	48,6	12,8	623	4,3
6000	70	138	42,5	11,2	687	5,0
6000	60	129	36,7	9,7	759	5,9
6000	50	118	30,8	8,1	844	7,2
8000	100	163	62,6	16,5	505	3,1
8000	90	156	55,0	14,5	568	3,6
8000	80	149	48,6	12,8	628	4,2
8000	70	141	42,5	11,2	692	4,9
8000	60	131	36,7	9,7	763	5,8
8000	50	120	30,8	8,1	849	7,1
10.000	100	166	62,6	16,5	509	3,1
10.000	90	159	55,0	14,5	573	3,6
10.000	80	152	48,6	12,8	633	4,2
10.000	70	143	42,5	11,2	697	4,9
10.000	60	133	36,7	9,7	768	5,8
10.000	50	122	30,8	8,1	853	7,0
12.000	90	162	55,0	14,5	577	3,6
12.000	80	155	48,6	12,8	637	4,1
12.000	70	146	42,5	11,2	702	4,8
12.000	60	135	36,7	9,7	773	5,7
12.000	50	123	30,8	8,1	857	6,9

Figure 5-14: Cruise performance, range and endurance (sheet 2/3)

PRESS ALT [FT]	LOAD [%]	KTAS	FUEL FLOW [L/Hr]	FUEL FLOW [US Gal/Hr]	RANGE [NM]	HOURS
14.000	90	166	55,0	14,5	582	3,5
14.000	80	157	48,6	12,8	642	4,1
14.000	70	148	42,5	11,2	707	4,8
14.000	60	138	36,7	9,7	777	5,6
14.000	50	125	30,8	8,1	861	6,9
16.000	90	169	55,0	14,5	586	3,5
16.000	80	160	48,6	12,8	646	4,0
16.000	70	151	42,5	11,2	711	4,7
16.000	60	140	36,7	9,7	781	5,6
16.000	50	127	30,8	8,1	864	6,8
18.000	80	163	48,6	12,8	650	4,0
18.000	70	153	42,5	11,2	715	4,7
18.000	60	142	36,7	9,7	784	5,5
18.000	50	129	30,8	8,1	866	6,7
20.000	80	166	48,6	12,8	653	3,9
20.000	70	156	42,5	11,2	718	4,6
20.000	60	144	36,7	9,7	787	5,4
20.000	50	131	30,8	8,1	868	6,6

Figure 5-14: Cruise performance, range and endurance (sheet 3/3)

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Performance data for Cessna U206G, TU206G Cessna 206H, T206H (310 HP)

SHORT FIELD TAKE-OFF DISTANCE AT 1633 kg (3600 lb)
Cessna U206G, TU206G, 206H, T206H

Conditions:
Full Power (2300 RPM) Prior to Brake Release
Flaps 20°, Paved, level, dry runway, Zero Wind
Speed at Lift Off: 64 KIAS
Speed over 50 ft. Obstacle: 74 KIAS

Notes:

(1) Decrease distances 10% for each 10 knots headwind. For operation with tailwinds up to 10 Knot increase distances by 10% for each 2.5 knots.

(2) For operation on dry, grass runway, increase distances by 15% of the „ground roll" figure.

(3) Consider additionals for wet grass runway, softened ground or snow.

PRESS ALT [FT]	DISTANCE [m]	Temperature - °C ISA	ISA + 10	ISA + 20	ISA + 30
0	Gnd Roll	307	331	356	382
	50 ft	498	537	577	620
1000	Gnd Roll	325	350	376	404
	50 ft	527	567	610	656
2000	Gnd Roll	343	370	398	427
	50 ft	557	600	646	693
3000	Gnd Roll	363	391	421	452
	50 ft	589	635	683	734
4000	Gnd Roll	385	414	446	479
	50 ft	624	672	723	777
5000	Gnd Roll	407	439	472	507
	50 ft	661	712	766	823
6000	Gnd Roll	432	465	500	537
	50 ft	700	754	812	872
7000	Gnd Roll	458	493	530	570
	50 ft	742	800	860	924
8000	Gnd Roll	485	523	562	604
	50 ft	787	848	912	980

Figure 5-15: Takeoff Distance [m] at 1633 kg (3600 lb)

PRESS ALT [FT]	DISTANCE [ft]	Temperature - °C			
		ISA	ISA + 10	ISA + 20	ISA + 30
0	Gnd Roll	1007	1085	1168	1254
	50 ft	1634	1760	1894	2034
1000	Gnd Roll	1065	1147	1235	1326
	50 ft	1728	1861	2003	2151
2000	Gnd Roll	1127	1214	1306	1402
	50 ft	1827	1969	2119	2275
3000	Gnd Roll	1192	1284	1382	1484
	50 ft	1934	2083	2242	2407
4000	Gnd Roll	1262	1360	1463	1571
	50 ft	2047	2206	2373	2549
5000	Gnd Roll	1337	1440	1550	1664
	50 ft	2168	2336	2514	2699
6000	Gnd Roll	1416	1526	1642	1763
	50 ft	2297	2475	2663	2860
7000	Gnd Roll	1501	1617	1740	1869
	50 ft	2435	2623	2823	3031
8000	Gnd Roll	1592	1715	1845	1981
	50 ft	2582	2782	2993	3214

Figure 5-16: Takeoff Distance [ft] at 1633 kg (3600 lb)

SHORT FIELD TAKE-OFF DISTANCE AT 1497 kg (3300 lb)
Cessna U206G, TU206G, 206H, T206H

Conditions:
Full Power (2300 RPM) Prior to Brake Release
Flaps 20°, Paved, level, dry runway, Zero Wind
Speed at Lift Off: 61 KIAS
Speed over 50 ft. Obstacle: 71 KIAS

Notes:

(1) Decrease distances 10% for each 10 knots headwind. For operation with tailwinds up to 10 Knot increase distances by 10% for each 2.5 knots.

(2) For operation on dry, grass runway, increase distances by 15% of the „ground roll" figure.

(3) Consider additionals for wet grass runway, softened ground or snow.

PRESS ALT [FT]	DISTANCE [m]	Temperature - °C ISA	ISA + 10	ISA + 20	ISA + 30
0	Gnd Roll	245	264	284	305
	50 ft	397	428	461	494
1000	Gnd Roll	259	279	300	322
	50 ft	420	453	487	523
2000	Gnd Roll	274	295	318	341
	50 ft	444	479	515	553
3000	Gnd Roll	290	312	336	361
	50 ft	470	507	545	585
4000	Gnd Roll	307	331	356	382
	50 ft	498	536	577	620
5000	Gnd Roll	325	350	377	405
	50 ft	527	568	611	656
6000	Gnd Roll	344	371	399	429
	50 ft	559	602	647	695
7000	Gnd Roll	365	393	423	454
	50 ft	592	638	686	737
8000	Gnd Roll	387	417	449	482
	50 ft	628	676	728	781

Figure 5-17: Takeoff Distance [m] at 1497 kg (3300 lb)

PRESS ALT [FT]	DISTANCE [ft]	Temperature - °C ISA	ISA + 10	ISA + 20	ISA + 30
0	Gnd Roll	803	866	931	1000
	50 ft	1303	1404	1511	1622
1000	Gnd Roll	850	915	985	1058
	50 ft	1378	1485	1598	1715
2000	Gnd Roll	899	968	1042	1119
	50 ft	1458	1570	1690	1815
3000	Gnd Roll	951	1025	1102	1184
	50 ft	1543	1662	1788	1920
4000	Gnd Roll	1007	1085	1167	1253
	50 ft	1633	1759	1893	2033
5000	Gnd Roll	1066	1149	1236	1327
	50 ft	1729	1863	2005	2153
6000	Gnd Roll	1130	1217	1310	1406
	50 ft	1832	1974	2124	2281
7000	Gnd Roll	1197	1290	1388	1490
	50 ft	1942	2093	2252	2418
8000	Gnd Roll	1270	1368	1472	1580
	50 ft	2060	2219	2388	2564

Figure 5-18: Takeoff Distance [ft] at 1497 kg (3300 lb)

SHORT FIELD TAKE-OFF DISTANCE AT 1360 kg (3000 lb)
Cessna U206G, TU206G, 206H, T206H

Conditions:
Full Power (2300 RPM) Prior to Brake Release
Flaps 20°, Paved, level, dry runway, Zero Wind
Speed at Lift Off: 57 KIAS
Speed over 50 ft. Obstacle: 67 KIAS

Notes:

(1) Decrease distances 10% for each 10 knots headwind. For operation with tailwinds up to 10 Knot increase distances by 10% for each 2.5 knots.

(2) For operation on dry, grass runway, increase distances by 15% of the „ground roll" figure.

(3) Consider additionals for wet grass runway, softened ground or snow.

PRESS ALT [FT]	DISTANCE [m]	Temperature - °C ISA	ISA + 10	ISA + 20	ISA + 30
0	Gnd Roll	191	206	222	238
	50 ft	310	334	359	386
1000	Gnd Roll	202	218	234	252
	50 ft	328	353	380	408
2000	Gnd Roll	214	230	248	266
	50 ft	347	374	402	432
3000	Gnd Roll	226	244	262	282
	50 ft	367	395	426	457
4000	Gnd Roll	240	258	278	298
	50 ft	389	419	450	484
5000	Gnd Roll	254	273	294	316
	50 ft	412	443	477	512
6000	Gnd Roll	269	290	312	335
	50 ft	436	470	505	543
7000	Gnd Roll	285	307	330	355
	50 ft	462	498	536	575
8000	Gnd Roll	302	325	350	376
	50 ft	490	528	568	610

Figure 5-19: Takeoff Distance [m] at 1360 kg (3000 lb)

PRESS ALT [FT]	DISTANCE [ft]	Temperature - °C ISA	ISA + 10	ISA + 20	ISA + 30
0	Gnd Roll	627	676	727	781
	50 ft	1017	1096	1179	1266
1000	Gnd Roll	663	714	769	826
	50 ft	1076	1159	1247	1339
2000	Gnd Roll	702	756	813	873
	50 ft	1138	1226	1319	1417
3000	Gnd Roll	742	800	861	924
	50 ft	1204	1297	1396	1499
4000	Gnd Roll	786	847	911	978
	50 ft	1275	1373	1478	1587
5000	Gnd Roll	832	897	965	1036
	50 ft	1350	1455	1565	1681
6000	Gnd Roll	882	950	1022	1098
	50 ft	1430	1541	1658	1781
7000	Gnd Roll	935	1007	1084	1164
	50 ft	1516	1634	1758	1887
8000	Gnd Roll	991	1068	1149	1234
	50 ft	1608	1732	1864	2001

Figure 5-20: Takeoff Distance [ft] at 1360 kg (3000 lb)

TIME, FUEL AND DISTANCE TO CLIMB
AT 1633 KG (3600 lb), Cessna U206G, TU206G, 206H, T206H

Conditions:
Flaps Up, Cowl Flaps Open
Full Power
Standard Day - ISA conditions

Notes :

(1) Add 4 l (1 US gal) of fuel for engine start, taxi and takeoff allowance.

(2) Increase time, distance and fuel used by 10% for 10°C above standard temperature.

(3) Distances shown are based on zero wind.

Press. Alt.	OAT	Vy	ROC	Time	Distance	Fuel used	
[FT]	[°C]	[KIAS]	[FPM]	[MIN]	[NM]	[l]	[US Gal]
0	15	87	1130	0,0	0,0	0,0	0,0
1000	13	87	1123	0,9	1,3	1,0	0,3
2000	11	87	1116	1,8	2,7	2,0	0,5
3000	9	87	1108	2,7	4,1	3,0	0,8
4000	7	87	1100	3,6	5,5	4,0	1,0
5000	5	87	1092	4,5	7,0	5,0	1,3
6000	3	87	1084	5,4	8,6	6,0	1,6
7000	1	87	1076	6,3	10,2	7,0	1,8
8000	-1	87	1067	7,3	11,9	8,0	2,1
9000	-3	87	1059	8,2	13,6	9,1	2,4
10000	-5	87	1050	9,2	15,5	10,1	2,7
11000	-7	87	1041	10,1	17,3	11,2	3,0
12000	-9	87	1031	11,1	19,3	12,2	3,2
13000	-11	87	987	12,1	21,4	13,3	3,5
14000	-13	87	943	13,1	23,6	14,4	3,8
15000	-15	87	898	14,2	25,9	15,5	4,1
16000	-17	87	853	15,3	28,5	16,7	4,4
17000	-19	85	808	16,5	30,5	17,9	4,7
18000	-21	82	763	17,8	32,2	19,1	5,0
19000	-23	82	717	19,2	35,3	20,4	5,4
20000	-25	81	671	20,6	38,1	21,7	5,7

Figure 5-21: Time, fuel and distance to climb 1633 kg (3600 lb)

MAXIMUM CLIMB RATE AT 1633 KG (3600 lb)
Cessna U206G, TU206G, 206H, T206H

Conditions:
Flaps Up, Cowl Flaps Open
Full Power
Standard Day - ISA conditions

Notes :

(1) For operation in air colder than this table provides, use coldest data shown.

(2) For operation in air warmer than this table provides, use extreme caution.

Press. Alt. [FT]	Climb Speed [KIAS]	RATE OF CLIMB - Feet per Minute Temperature - ºC			
		ISA	ISA+10	ISA+20	ISA+30
0	87	1130	1089	1049	1008
1000	87	1123	1082	1041	1000
2000	87	1116	1074	1033	992
3000	87	1108	1067	1025	984
4000	87	1100	1059	1017	975
5000	87	1092	1050	1009	967
6000	87	1084	1042	1000	958
7000	87	1076	1033	991	949
8000	87	1067	1025	982	940
9000	87	1059	1016	973	931
10000	87	1050	1007	964	921
11000	87	1041	997	954	911
12000	87	1031	988	944	901
13000	87	987	944	901	858
14000	87	943	900	857	815
15000	87	898	856	814	772
16000	87	853	811	770	728
17000	85	808	767	725	684
18000	82	763	722	681	640
19000	82	717	676	636	596
20000	81	671	631	591	551

Figure 5-22: Maximum climb rate at 1633 kg (3600 lb)

TIME, FUEL AND DISTANCE TO CLIMB
AT 1497 KG (3300 lb), Cessna U206G, TU206G, 206H, T206H

Conditions:
Flaps Up, Cowl Flaps Open
Full Power
Standard Day - ISA conditions

Notes :

(1) Add 4 l (1 US gal) of fuel for engine start, taxi and takeoff allowance.

(2) Increase time, distance and fuel used by 10% for 10°C above standard temperature.

(3) Distances shown are based on zero wind.

Press. Alt.	OAT	Vy	ROC	Time	Distance	Fuel used	
[FT]	[°C]	[KIAS]	[FPM]	[MIN]	[NM]	[l]	[US Gal]
0	15	87	1299	0,0	0,0	0,0	0,0
1000	13	87	1292	0,8	1,1	0,9	0,2
2000	11	87	1285	1,5	2,3	1,7	0,5
3000	9	87	1278	2,3	3,5	2,6	0,7
4000	7	87	1270	3,1	4,8	3,4	0,9
5000	5	87	1263	3,9	6,1	4,3	1,1
6000	3	87	1255	4,7	7,4	5,2	1,4
7000	1	87	1247	5,5	8,8	6,1	1,6
8000	-1	87	1239	6,3	10,3	7,0	1,8
9000	-3	87	1231	7,1	11,8	7,8	2,1
10000	-5	87	1222	7,9	13,4	8,7	2,3
11000	-7	87	1213	8,7	15,0	9,6	2,5
12000	-9	87	1204	9,6	16,7	10,6	2,8
13000	-11	87	1157	10,4	18,4	11,5	3,0
14000	-13	87	1110	11,3	20,3	12,4	3,3
15000	-15	87	1063	12,2	22,3	13,4	3,5
16000	-17	87	1016	13,2	24,5	14,3	3,8
17000	-19	85	968	14,2	26,2	15,3	4,0
18000	-21	82	920	15,3	27,6	16,3	4,3
19000	-23	82	871	16,4	30,1	17,4	4,6
20000	-25	81	823	17,6	32,4	18,5	4,9

Figure 5-23: Time, fuel and distance to climb 1497 kg (3300 lb)

MAXIMUM CLIMB RATE AT 1497 KG (3300 lb)
Cessna U206G, TU206G, 206H, T206H

Conditions:
Flaps Up, Cowl Flaps Open
Full Power
Standard Day - ISA conditions

Notes :

(1) For operation in air colder than this table provides, use coldest data shown.

(2) For operation in air warmer than this table provides, use extreme caution.

Press. Alt. [FT]	Climb Speed [KIAS]	RATE OF CLIMB - Feet per Minute Temperature - ºC			
		ISA	ISA+10	ISA+20	ISA+30
0	87	1299	1256	1212	1169
1000	87	1292	1249	1205	1161
2000	87	1285	1241	1197	1154
3000	87	1278	1234	1190	1146
4000	87	1270	1226	1182	1138
5000	87	1263	1218	1174	1130
6000	87	1255	1210	1166	1121
7000	87	1247	1202	1157	1113
8000	87	1239	1194	1149	1104
9000	87	1231	1185	1140	1095
10000	87	1222	1176	1131	1086
11000	87	1213	1167	1122	1076
12000	87	1204	1158	1112	1067
13000	87	1157	1112	1067	1021
14000	87	1110	1065	1020	976
15000	87	1063	1018	974	930
16000	87	1016	971	927	884
17000	85	968	924	881	837
18000	82	920	876	834	791
19000	82	871	829	786	744
20000	81	823	781	738	697

Figure 5-24: Maximum climb rate at 1497 kg (3300 lb)

TIME, FUEL AND DISTANCE TO CLIMB
AT 1361 KG (3000 lb), Cessna U206G, TU206G, 206H, T206H

Conditions:
Flaps Up, Cowl Flaps Open
Full Power
Standard Day - ISA conditions

Notes :

(1) Add 4 l (1 US gal) of fuel for engine start, taxi and takeoff allowance.

(2) Increase time, distance and fuel used by 10% for 10°C above standard temperature.

(3) Distances shown are based on zero wind.

Press. Alt.	OAT	Vy	ROC	Time	Distance	Fuel used	
[FT]	[°C]	[KIAS]	[FPM]	[MIN]	[NM]	[l]	[US Gal]
0	15	87	1499	0,0	0,0	0,0	0,0
1000	13	87	1492	0,7	1,0	0,7	0,2
2000	11	87	1485	1,3	2,0	1,5	0,4
3000	9	87	1478	2,0	3,1	2,2	0,6
4000	7	87	1471	2,7	4,1	3,0	0,8
5000	5	87	1464	3,4	5,3	3,7	1,0
6000	3	87	1456	4,1	6,4	4,5	1,2
7000	1	87	1449	4,7	7,6	5,2	1,4
8000	-1	87	1441	5,4	8,9	6,0	1,6
9000	-3	87	1433	6,1	10,2	6,8	1,8
10000	-5	87	1425	6,8	11,5	7,5	2,0
11000	-7	87	1417	7,5	12,9	8,3	2,2
12000	-9	87	1408	8,2	14,4	9,1	2,4
13000	-11	87	1358	9,0	15,9	9,9	2,6
14000	-13	87	1307	9,7	17,5	10,7	2,8
15000	-15	87	1257	10,5	19,2	11,5	3,0
16000	-17	87	1206	11,3	21,0	12,3	3,2
17000	-19	85	1155	12,2	22,4	13,1	3,5
18000	-21	82	1103	13,0	23,6	14,0	3,7
19000	-23	82	1052	14,0	25,7	14,9	3,9
20000	-25	81	1000	14,9	27,6	15,7	4,2

Figure 5-25: Time, fuel and distance to climb 1361 kg (3000 lb)

MAXIMUM CLIMB RATE AT 1361 KG (3000 lb)
Cessna U206G, TU206G, 206H, T206H

Conditions:
Flaps Up, Cowl Flaps Open
Full Power
Standard Day - ISA conditions

Notes :

(1) For operation in air colder than this table provides, use coldest data shown.

(2) For operation in air warmer than this table provides, use extreme caution.

Press. Alt. [FT]	Climb Speed [KIAS]	RATE OF CLIMB - Feet per Minute Temperature - ºC			
		ISA	ISA+10	ISA+20	ISA+30
0	87	1499	1452	1405	1359
1000	87	1492	1445	1398	1352
2000	87	1485	1438	1391	1344
3000	87	1478	1431	1384	1337
4000	87	1471	1424	1376	1329
5000	87	1464	1416	1369	1321
6000	87	1456	1409	1361	1313
7000	87	1449	1401	1353	1305
8000	87	1441	1393	1345	1297
9000	87	1433	1385	1336	1288
10000	87	1425	1376	1328	1279
11000	87	1417	1368	1319	1270
12000	87	1408	1359	1310	1261
13000	87	1358	1309	1261	1213
14000	87	1307	1259	1212	1164
15000	87	1257	1209	1162	1115
16000	87	1206	1159	1112	1066
17000	85	1155	1109	1062	1017
18000	82	1103	1058	1012	967
19000	82	1052	1007	962	917
20000	81	1000	955	911	867

Figure 5-26: Maximum climb rate at 1361 kg (3000 lb)

CRUISE PERFORMANCE, RANGE AND ENDURANCE

Cessna U206G, TU206G with Standard Tanks

Conditions:
Takeoff weight 1633 kg (3600 lb)
Flaps Up, Cowl Flaps Closed
Zero wind
Standard Day - ISA conditions

Notes:

(1) Endurance information are based on 196.2 l (51.8 US gal) usable fuel. The table assumes 4L for startup and taxi. Time, fuel and distance for climb and 45 min. reserve are included. Range and Endurance apply for cruise phase only.

(2) Increase true airspeed (KTAS) and maximum range (NM) by 1% per 10°C above ISA temperature.

PRESS ALT	LOAD	KTAS	FUEL FLOW		RANGE	HOURS
[FT]	[%]		[L/Hr]	[US Gal/Hr]	[NM]	
0	100	153	65,1	17,2	337	2,2
0	90	147	57,2	15,1	384	2,6
0	80	141	50,5	13,4	430	3,1
0	70	133	43,9	11,6	483	3,6
0	60	125	37,9	10,0	539	4,3
0	50	115	31,8	8,4	608	5,3
2000	100	156	65,1	17,2	339	2,2
2000	90	150	57,2	15,1	386	2,6
2000	80	143	50,5	13,4	432	3,0
2000	70	136	43,9	11,6	485	3,6
2000	60	127	37,9	10,0	541	4,3
2000	50	116	31,8	8,4	610	5,2

Figure 5-27: Cruise performance, range and endurance (sheet 1/3)

PRESS ALT [FT]	LOAD [%]	KTAS	FUEL FLOW [L/Hr]	FUEL FLOW [US Gal/Hr]	RANGE [NM]	HOURS
4000	100	159	65,1	17,2	340	2,1
4000	90	153	57,2	15,1	388	2,5
4000	80	146	50,5	13,4	434	3,0
4000	70	138	43,9	11,6	488	3,5
4000	60	129	37,9	10,0	544	4,2
4000	50	118	31,8	8,4	611	5,2
6000	100	162	65,1	17,2	342	2,1
6000	90	156	57,2	15,1	390	2,5
6000	80	148	50,5	13,4	436	2,9
6000	70	140	43,9	11,6	490	3,5
6000	60	131	37,9	10,0	546	4,2
6000	50	120	31,8	8,4	613	5,1
8000	100	165	65,1	17,2	343	2,1
8000	90	159	57,2	15,1	392	2,5
8000	80	151	50,5	13,4	438	2,9
8000	70	143	43,9	11,6	491	3,4
8000	60	133	37,9	10,0	547	4,1
8000	50	122	31,8	8,4	615	5,0
10.000	100	168	65,1	17,2	345	2,0
10.000	90	162	57,2	15,1	393	2,4
10.000	80	154	50,5	13,4	439	2,9
10.000	70	145	43,9	11,6	493	3,4
10.000	60	135	37,9	10,0	549	4,1
10.000	50	124	31,8	8,4	616	5,0
12.000	90	165	57,2	15,1	395	2,4
12.000	80	157	50,5	13,4	441	2,8
12.000	70	148	43,9	11,6	495	3,3
12.000	60	138	37,9	10,0	550	4,0
12.000	50	125	31,8	8,4	617	4,9

Figure 5-27: Cruise performance, range and endurance (sheet 2/3)

PRESS ALT [FT]	LOAD [%]	KTAS	FUEL FLOW [L/Hr]	FUEL FLOW [US Gal/Hr]	RANGE [NM]	HOURS
14.000	90	168	57,2	15,1	396	2,4
14.000	80	160	50,5	13,4	442	2,8
14.000	70	151	43,9	11,6	496	3,3
14.000	60	140	37,9	10,0	551	3,9
14.000	50	127	31,8	8,4	617	4,8
16.000	90	171	57,2	15,1	397	2,3
16.000	80	163	50,5	13,4	443	2,7
16.000	70	153	43,9	11,6	497	3,2
16.000	60	142	37,9	10,0	552	3,9
16.000	50	129	31,8	8,4	617	4,8
18.000	80	166	50,5	13,4	443	2,7
18.000	70	156	43,9	11,6	497	3,2
18.000	60	145	37,9	10,0	552	3,8
18.000	50	131	31,8	8,4	616	4,7
20.000	80	169	50,5	13,4	443	2,6
20.000	70	159	43,9	11,6	497	3,1
20.000	60	147	37,9	10,0	551	3,7
20.000	50	133	31,8	8,4	615	4,6

Figure 5-27: Cruise performance, range and endurance (sheet 3/3)

CRUISE PERFORMANCE, RANGE AND ENDURANCE

Cessna U206G, TU206G with Long Range Tanks

Conditions:
Takeoff weight 1633 kg (3600 lb)
Flaps Up, Cowl Flaps Closed
Zero wind
Standard Day - ISA conditions

Notes:

(1) Endurance information are based on 253.2 l (69.9 US gal) usable fuel. The table assumes 4L for startup and taxi. Time, fuel and distance for climb and 45 min. reserve are included. Range and Endurance apply for cruise phase only.

(2) Increase true airspeed (KTAS) and maximum range (NM) by 1% per 10°C above ISA temperature.

PRESS ALT	LOAD	KTAS	FUEL FLOW		RANGE	HOURS
[FT]	[%]		[L/Hr]	[US Gal/Hr]	[NM]	
0	100	153	65,1	17,2	471	3,1
0	90	147	57,2	15,1	531	3,6
0	80	141	50,5	13,4	588	4,2
0	70	133	43,9	11,6	656	4,9
0	60	125	37,9	10,0	727	5,8
0	50	115	31,8	8,4	813	7,1
2000	100	156	65,1	17,2	475	3,0
2000	90	150	57,2	15,1	536	3,6
2000	80	143	50,5	13,4	593	4,1
2000	70	136	43,9	11,6	661	4,9
2000	60	127	37,9	10,0	732	5,8
2000	50	116	31,8	8,4	818	7,0

Figure 5-28: Cruise performance, range and endurance (sheet 1/3)

PRESS ALT [FT]	LOAD [%]	KTAS	FUEL FLOW [L/Hr]	FUEL FLOW [US Gal/Hr]	RANGE [NM]	HOURS
4000	100	159	65,1	17,2	480	3,0
4000	90	153	57,2	15,1	540	3,5
4000	80	146	50,5	13,4	598	4,1
4000	70	138	43,9	11,6	667	4,8
4000	60	129	37,9	10,0	737	5,7
4000	50	118	31,8	8,4	823	7,0
6000	100	162	65,1	17,2	484	3,0
6000	90	156	57,2	15,1	545	3,5
6000	80	148	50,5	13,4	603	4,1
6000	70	140	43,9	11,6	672	4,8
6000	60	131	37,9	10,0	743	5,7
6000	50	120	31,8	8,4	828	6,9
8000	100	165	65,1	17,2	488	3,0
8000	90	159	57,2	15,1	550	3,5
8000	80	151	50,5	13,4	608	4,0
8000	70	143	43,9	11,6	677	4,7
8000	60	133	37,9	10,0	748	5,6
8000	50	122	31,8	8,4	833	6,8
10.000	100	168	65,1	17,2	492	2,9
10.000	90	162	57,2	15,1	554	3,4
10.000	80	154	50,5	13,4	613	4,0
10.000	70	145	43,9	11,6	682	4,7
10.000	60	135	37,9	10,0	753	5,6
10.000	50	124	31,8	8,4	837	6,8
12.000	90	165	57,2	15,1	559	3,4
12.000	80	157	50,5	13,4	618	3,9
12.000	70	148	43,9	11,6	687	4,6
12.000	60	138	37,9	10,0	757	5,5
12.000	50	125	31,8	8,4	842	6,7

Figure 5-28: Cruise performance, range and endurance (sheet 2/3)

PRESS ALT [FT]	LOAD [%]	KTAS	FUEL FLOW [L/Hr]	FUEL FLOW [US Gal/Hr]	RANGE [NM]	HOURS
14.000	90	168	57,2	15,1	563	3,4
14.000	80	160	50,5	13,4	622	3,9
14.000	70	151	43,9	11,6	691	4,6
14.000	60	140	37,9	10,0	762	5,4
14.000	50	127	31,8	8,4	846	6,6
16.000	90	171	57,2	15,1	567	3,3
16.000	80	163	50,5	13,4	627	3,9
16.000	70	153	43,9	11,6	696	4,5
16.000	60	142	37,9	10,0	766	5,4
16.000	50	129	31,8	8,4	849	6,6
18.000	80	166	50,5	13,4	630	3,8
18.000	70	156	43,9	11,6	699	4,5
18.000	60	145	37,9	10,0	769	5,3
18.000	50	131	31,8	8,4	852	6,5
20.000	80	169	50,5	13,4	633	3,8
20.000	70	159	43,9	11,6	703	4,4
20.000	60	147	37,9	10,0	772	5,3
20.000	50	133	31,8	8,4	853	6,4

Figure 5-28: Cruise performance, range and endurance (sheet 3/3)

CRUISE PERFORMANCE, RANGE AND ENDURANCE
Cessna U206G, TU206G, 206H, T206H with Integral Tanks

Conditions:
Takeoff weight 1633 kg (3600 lb)
Flaps Up, Cowl Flaps Closed
Zero wind
Standard Day - ISA conditions

Notes:

(1) Endurance information are based on 294 l (77.7 US gal) usable fuel. The table assumes 4L for startup and taxi. Time, fuel and distance for climb and 45 min. reserve are included. Range and Endurance apply for cruise phase only.

(2) Increase true airspeed (KTAS) and maximum range (NM) by 1% per 10°C above ISA temperature.

PRESS ALT [FT]	LOAD [%]	KTAS	FUEL FLOW [L/Hr]	FUEL FLOW [US Gal/Hr]	RANGE [NM]	HOURS
0	100	153	65,1	17,2	567	3,7
0	90	147	57,2	15,1	636	4,3
0	80	141	50,5	13,4	702	5,0
0	70	133	43,9	11,6	780	5,8
0	60	125	37,9	10,0	861	6,9
0	50	115	31,8	8,4	960	8,4
2000	100	156	65,1	17,2	573	3,7
2000	90	150	57,2	15,1	643	4,3
2000	80	143	50,5	13,4	709	5,0
2000	70	136	43,9	11,6	787	5,8
2000	60	127	37,9	10,0	869	6,9
2000	50	116	31,8	8,4	968	8,3

Figure 5-29: Cruise performance, range and endurance (sheet 1/3)

PRESS ALT [FT]	LOAD [%]	KTAS	FUEL FLOW [L/Hr]	FUEL FLOW [US Gal/Hr]	RANGE [NM]	HOURS
4000	100	159	65,1	17,2	579	3,6
4000	90	153	57,2	15,1	649	4,3
4000	80	146	50,5	13,4	716	4,9
4000	70	138	43,9	11,6	795	5,8
4000	60	129	37,9	10,0	876	6,8
4000	50	118	31,8	8,4	975	8,3
6000	100	162	65,1	17,2	585	3,6
6000	90	156	57,2	15,1	656	4,2
6000	80	148	50,5	13,4	723	4,9
6000	70	140	43,9	11,6	802	5,7
6000	60	131	37,9	10,0	884	6,7
6000	50	120	31,8	8,4	982	8,2
8000	100	165	65,1	17,2	591	3,6
8000	90	159	57,2	15,1	663	4,2
8000	80	151	50,5	13,4	730	4,8
8000	70	143	43,9	11,6	809	5,7
8000	60	133	37,9	10,0	891	6,7
8000	50	122	31,8	8,4	989	8,1
10.000	100	168	65,1	17,2	597	3,5
10.000	90	162	57,2	15,1	669	4,1
10.000	80	154	50,5	13,4	737	4,8
10.000	70	145	43,9	11,6	817	5,6
10.000	60	135	37,9	10,0	898	6,6
10.000	50	124	31,8	8,4	996	8,1
12.000	90	165	57,2	15,1	676	4,1
12.000	80	157	50,5	13,4	744	4,7
12.000	70	148	43,9	11,6	824	5,6
12.000	60	138	37,9	10,0	905	6,6
12.000	50	125	31,8	8,4	1003	8,0

Figure 5-29: Cruise performance, range and endurance (sheet 2/3)

PRESS ALT [FT]	LOAD [%]	KTAS	FUEL FLOW [L/Hr]	FUEL FLOW [US Gal/Hr]	RANGE [NM]	HOURS
14.000	90	168	57,2	15,1	683	4,1
14.000	80	160	50,5	13,4	751	4,7
14.000	70	151	43,9	11,6	831	5,5
14.000	60	140	37,9	10,0	913	6,5
14.000	50	127	31,8	8,4	1009	7,9
16.000	90	171	57,2	15,1	689	4,0
16.000	80	163	50,5	13,4	758	4,7
16.000	70	153	43,9	11,6	838	5,5
16.000	60	142	37,9	10,0	919	6,5
16.000	50	129	31,8	8,4	1015	7,9
18.000	80	166	50,5	13,4	764	4,6
18.000	70	156	43,9	11,6	844	5,4
18.000	60	145	37,9	10,0	925	6,4
18.000	50	131	31,8	8,4	1020	7,8
20.000	80	169	50,5	13,4	770	4,6
20.000	70	159	43,9	11,6	850	5,4
20.000	60	147	37,9	10,0	930	6,3
20.000	50	133	31,8	8,4	1024	7,7

Figure 5-29: Cruise performance, range and endurance (sheet 3/3)

SECTION 6
WEIGHT & BALANCE

Airplane Weighing Form

Cessna 206 with Centurion 4.0 Installation

Weiging Point	Scale Reading	- Tare	= Net Weight	x Arm	= Moment
L Main				A=	
R Main				A=	
Nose				B=	
Total As weiged					
CG = Total Moment ÷ Total Weight					
Additions or subtractions to as weighed condition					
Basic Empty Weight				CG=	

1 The basic empty weight includes full engine oil, full gearbox oil, full coolant liquid and unusable fuel.
2 Refer to original POH for aircraft dimensions and weighing procedure

Figure 6-1: Airplane Weighing Form

Airplane Weighing Procedure

The aircraft must be weighed with full engine oil, full gearbox oil, full coolant liquid and unusable fuel.

Refer to original POH for procedure.

Weight & Balance Record

Amend Figure 6-2 of original POH after installation of Centurion 4.0.

Center of Gravity Limits

No change, refer to original POH.

Weight & Balance Loading Form

◆ Note: This form replaces the sample loading form of the original POH.

Serial Number:_____ Date:_____
Reg. Number:_____ Initials:_____

Item	Description	Mass	Moment
1.	Basic Empty Weight Use the values for your airplane with the present equipment. Unusable fuel, engine oil, gearbox oil and coolant are included. See Figure 6-1 of this supplement.		
2.	Usable Fuel @ 6.7 lb/US Gal (@ 0.8 kg/L)		
3.	Pilot & Passenger (Station 32 to 43)		
4.	Center Passengers (Station 69 to 79)		
	AFT Passengers (Station 94 to 100)		
	Baggage IV or V (Station 109 to 145; 180 lbs max)		
5.	* Cargo „A“ (station 10 to 50)		
	* Cargo „B“ (station 50 to 84)		
	* Cargo „C“ (station 84 to 109)		
	* Cargo „D“ (station 109 to 145)		
6.	Cargo Pack (station 10 to 84, 300 lbs max)		
7.	**Ramp Weight and Moment**		
8.	Fuel allowance for start, taxi and runup Normally 9 lb (4 kg)	-	-
9.	Takeoff Condition (subtract step 8 from 7) See note 1 and 2.		

1 The Takeoff Condition Weight must not exceed 3600 lb.
2 The Takeoff Condition Moment must be within the Minimum Moment to Maximum Moment range at the Takeoff Condition Weight. (Refer to Moment Limits, in the original POH)

* Maximum allowable cargo loads will be determined by the type and number of tie-downs used, as well as by the airplane weight and c.g. limitation. Floor loadings must not exceed 200 lbs per square foot.

Figure 6-2: Weight and Balance Loading Form

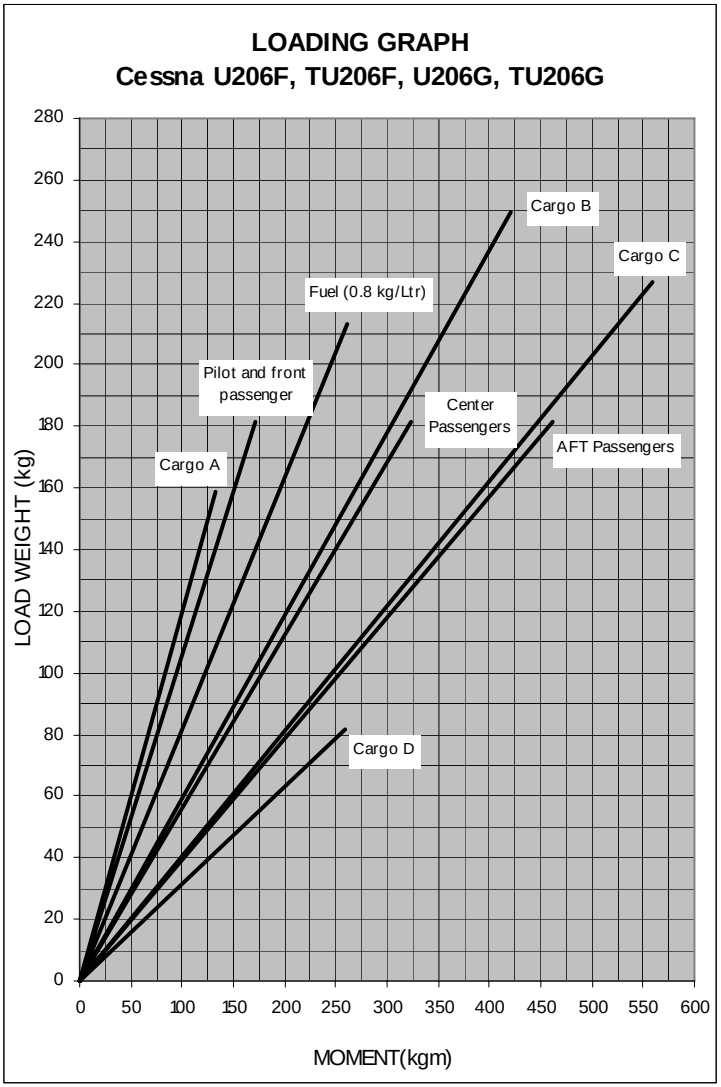

Figure 6-3: Loading Graph for Cessna U206F, TU206F, U206G, TU206G - **with Fuel Bladder Tanks** (see Note page 6-8)

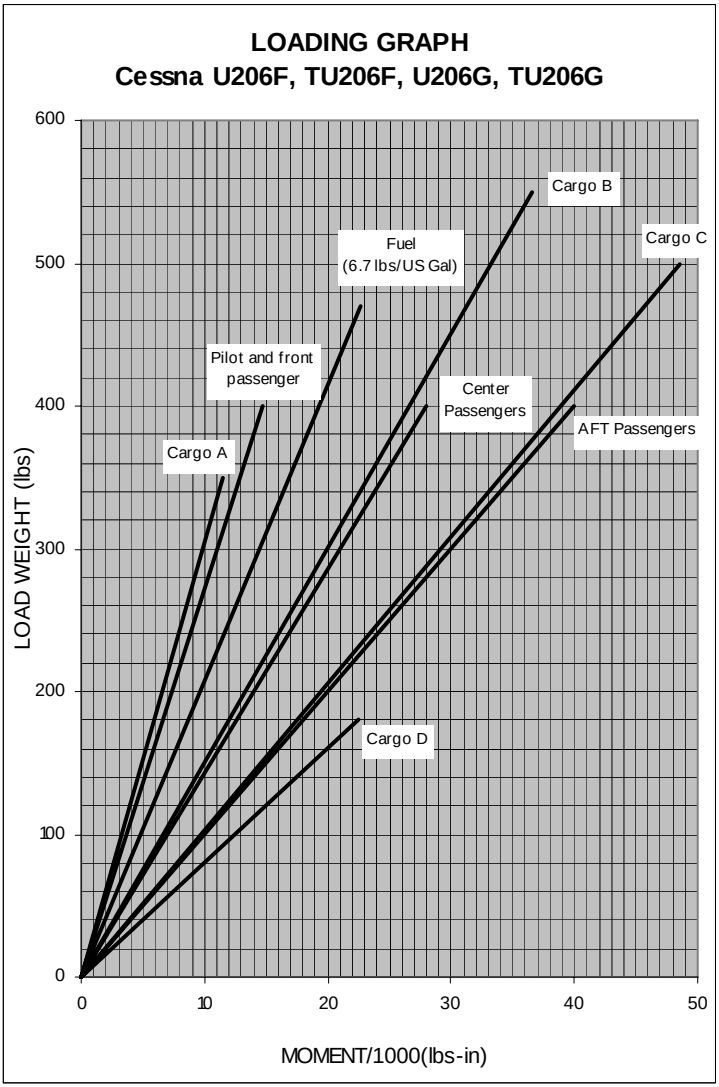

Figure 6-4: Loading Graph for Cessna U206F, TU206F, U206G, TU206G - **with Fuel Bladder Tanks** (see Note page 6-8)

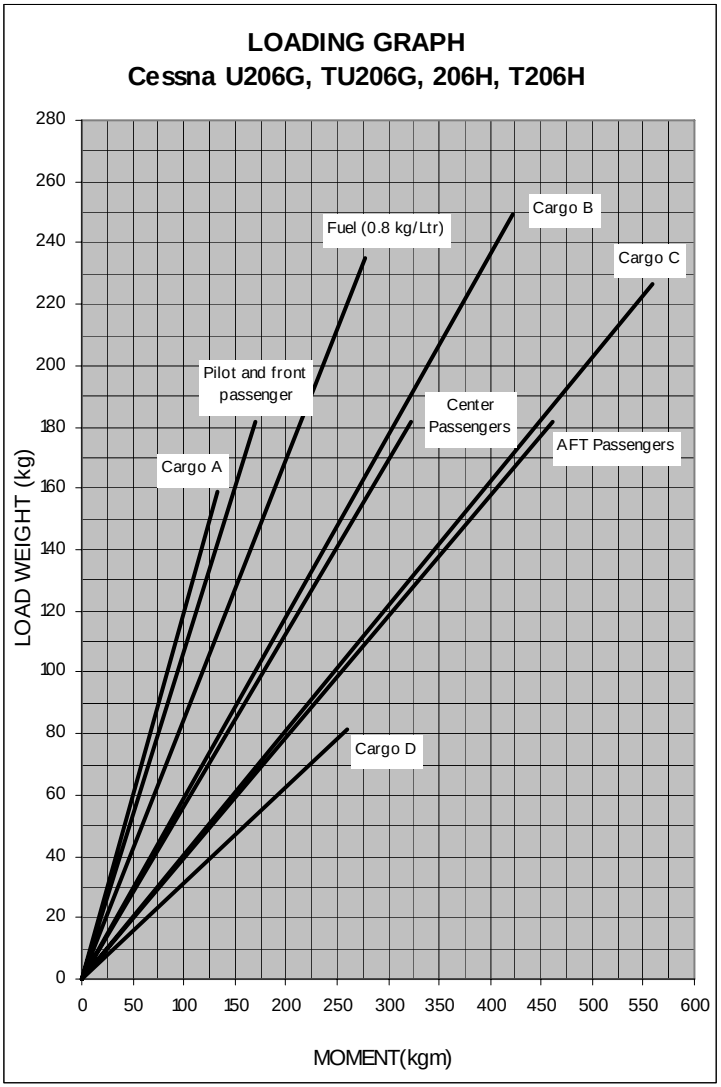

Figure 6-5: Loading Graph for Cessna U206G, TU206G, 206H, T206H - **with Integral Fuel Tanks** (see Note page 6-8)

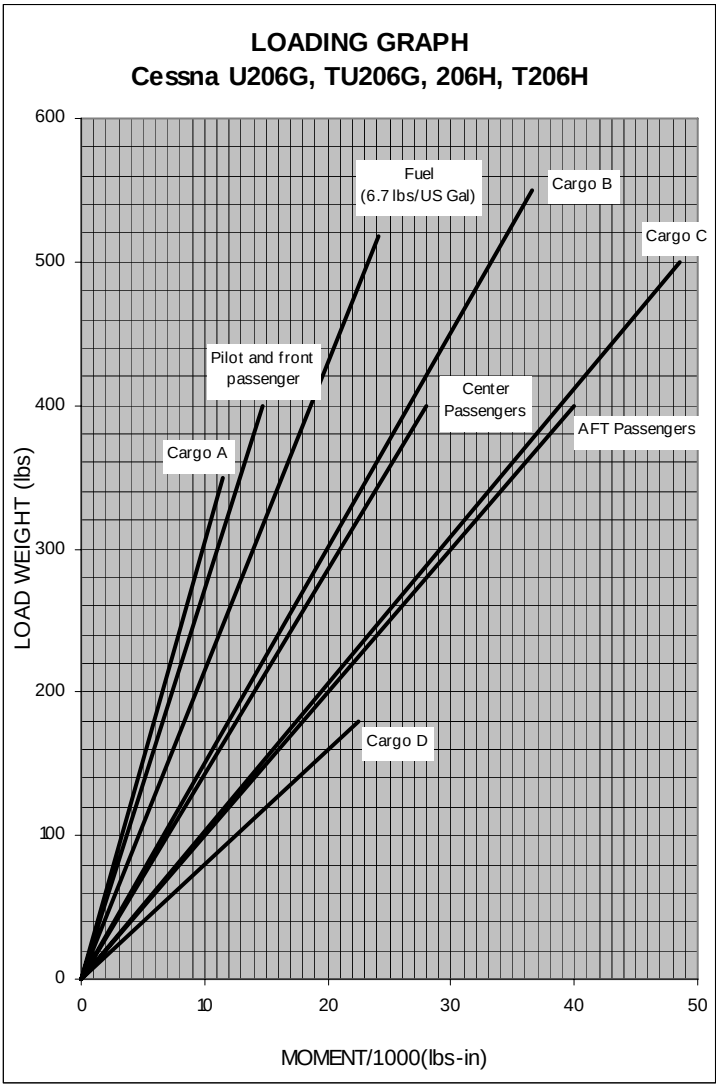

Figure 6-6: Loading Graph for Cessna U206G, TU206G, 206H, T206H - **with Integral Fuel Tanks** (see Note page 6-8)

◆ Note: Lines representing adjustable seats show the pilot or passenger center of gravity on adjustable seats positioned for an average occupant. Refer to Loading Arrangement Diagram in the original POH for forward and aft limits of occupants c.g. range.

Moment Limits

No change, refer to original POH.

SECTION 7
AIRPLANE AND SYSTEMS DESCRIPTION

Engine and Propeller

The Centurion 4.0 is a liquid cooled 4-stroke V8-cylinder engine with DOHC (double overhead camshaft). It is a Diesel-principle engine having direct fuel injection with common-rail technology and turbocharging. The engine is controlled by a FADEC system. The propeller is driven by a built-in gearbox (i = 1.69) with mechanical vibration damping and overload release. The engine includes an electrical starter and two alternators.

The constant speed propeller MTV-9-D/210-58 has three propeller blades and is electronically controlled by the FADEC.

Engine Controls

The engine Centurion 4.0 is operated by the pilot exclusively by means of the Load Control.
Due to the Diesel principle, mixture control, carburetor pre-heating, ignition magnetos and spark-plugs as well as priming system are omitted.

INSTRUMENT PANEL

The instrument panel is slightly modified. The original engine instruments are removed, instead the CED and AED is installed. The figures below indicate the changes to the instrument panel.

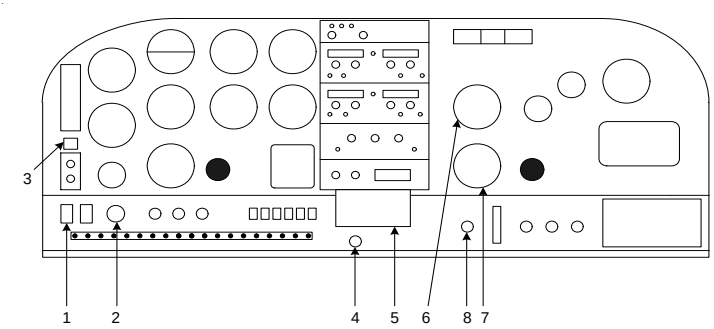

Figure 7-1: Panel for Cessna (T)U206F with Centurion 4.0 installation (example)

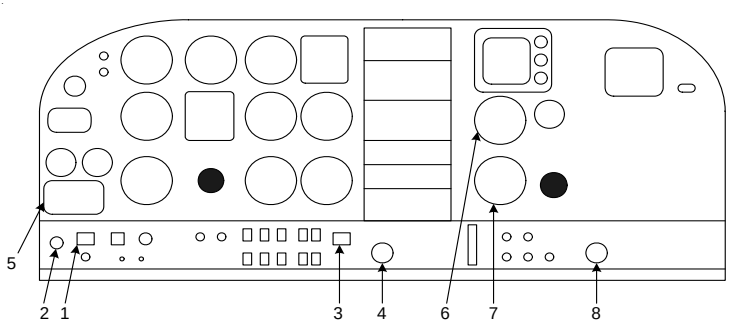

Figure 7-2: Panel for Cessna (T)U206G with Centurion 4.0 installation (example)

.

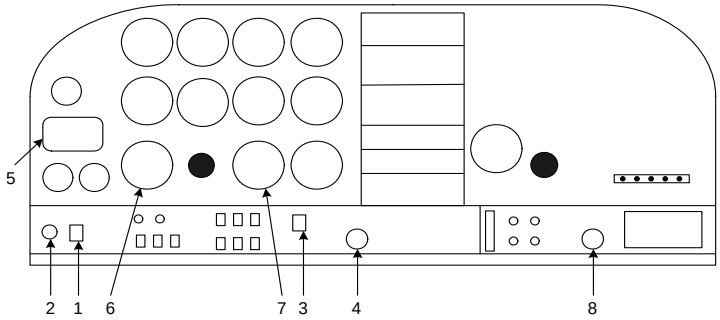

Figure 7-3: Panel for Cessna (T)206H with Centurion 4.0 installation (example)

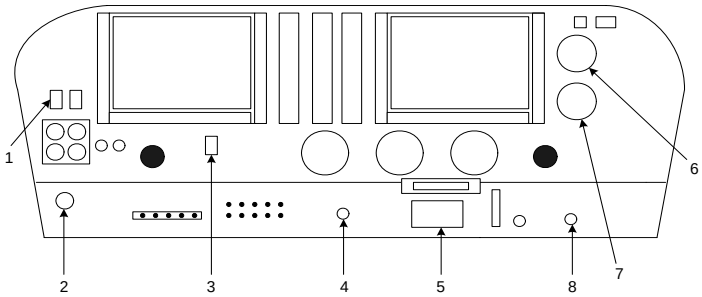

Figure 7-4: Panel for Cessna (T)206H with Garmin G1000 avionics and Centurion 4.0 installation (example)

1. BAT 1 / 2
2. Starter Pushbutton
3. Engine Master
4. Load Control
5. Light Panel, see figure (Item : Light Panel)
6. CED
7. AED
8. Alternate Air Door Control

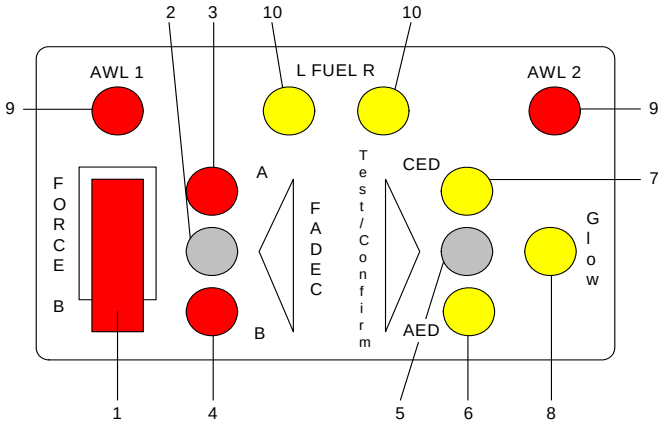

Figure 7-5: Light Panel

1. Force B Switch
2. FADEC Test Button
3. FADEC ECU A Warning Light
4. FADEC ECU B Warning Light
5. CED/AED Test/Confirm Button
6. AED Caution Light
7. CED Caution Light
8. Glow Light
9. Alternator 1/2 Warning Light
10. Low Fuel L/R Caution Light

FUEL SYSTEM

The fuel flows from the wing tanks, through the reservoir tanks to the fuel selector which included the LEFT, RIGHT, BOTH and OFF position. The electrically driven fuel pump supports the fuel flow to the filter module if required. Then, the engine-driven feed pump and the high-pressure pump supply the rail, from where the fuel is injected into the cylinders depending upon the position of the load control and regulation by the FADEC. Surplus fuel flows through the Fuel Selector Valve back into the pre-selected tank. The fuel return ensures a quicker warm up of the fuel in the tank in use. To avoid high fuel tank temperatures a thermostat-controlled radiator has been installed to cool the return flow. If the return fuel becomes to hot a caution lamp will illuminate.

- CAUTION: In flight conditions with one wing pointing downward continuously (e.g. slipping), switch the fuel selector to the upward pointing fuel tank.

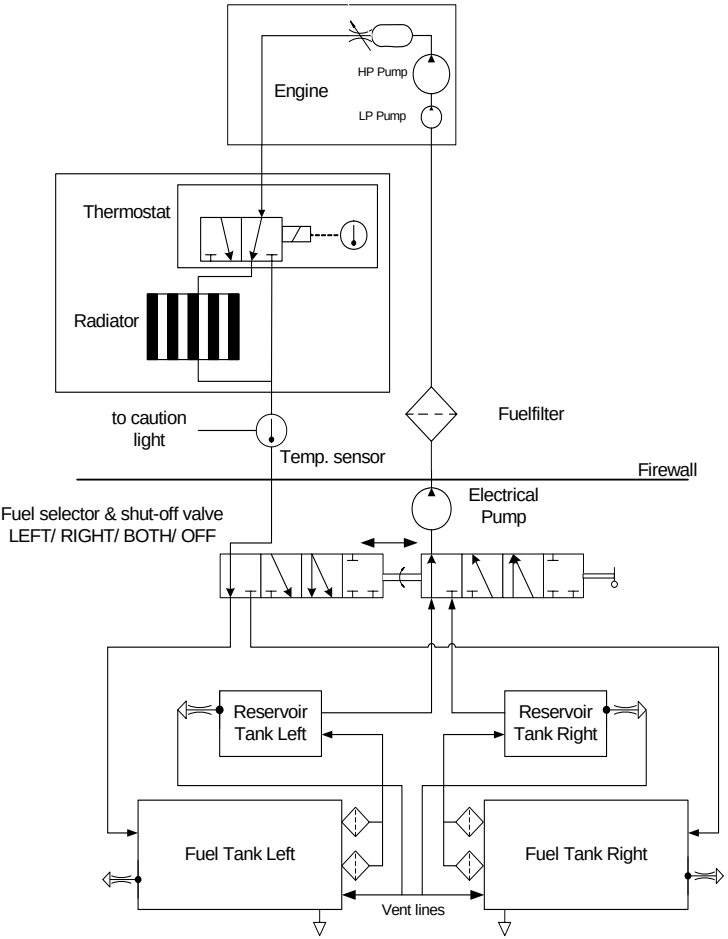

Figure 7-6: Schematic of the Fuel System

ELECTRICAL SYSTEM

The electrical system of the Centurion 4.0 installation differs from the original installation and is equipped with the additional following operating and display elements:

1. Push Button „Starter“
   Controls the starter.
2. Alternator Warning Lamps "AWL 1" and "AWL 2"
   Illuminates when the power output of the alternator is too low or the circuit breaker Alternator is switched off. Normally, this warning lamp always illuminates when the "Engine Master" is switched on without revolution and extinguishes immediately after starting the engine.
3. Switch „Engine Master“
   The switch “Engine Master” controls the two redundant FADEC components and the Alternator Excitation Battery with two independent contacts. The Alternator Excitation Battery is used to ensure that the Alternator continues to function
4. Switch "Force B"
   If the FADEC does not automatically switch from A-FADEC to the B-FADEC in case of an emergency despite of obvious necessity, this switch allows to switch manually to the B-FADEC. When "Force B" switch is selected the FADEC can not automatically switch back to FADEC A.

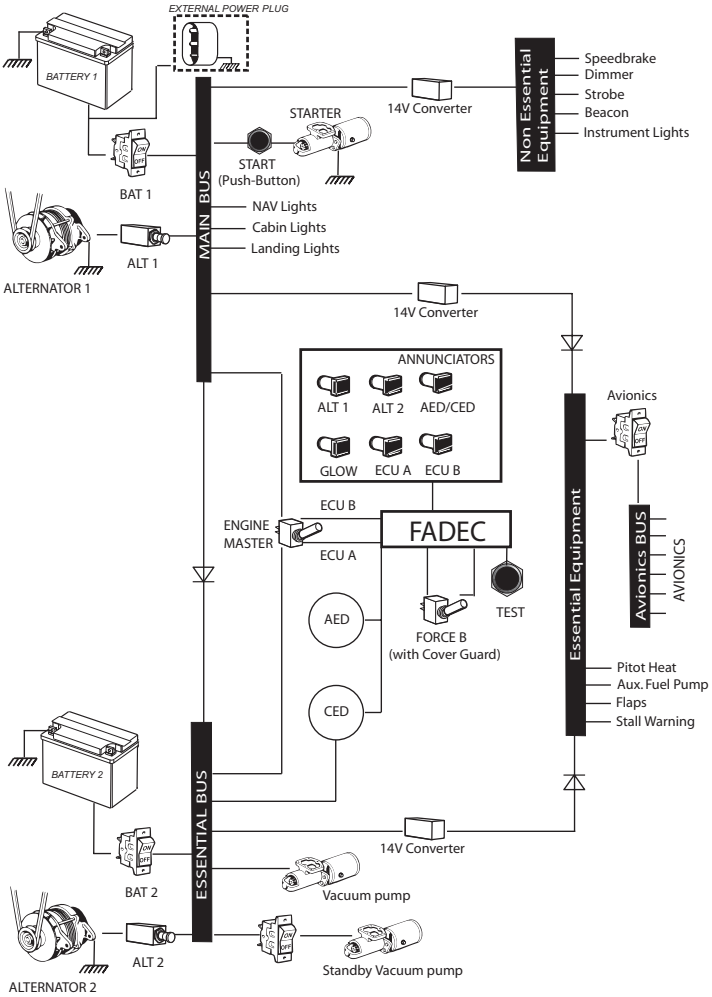

Figure 7-7: Basic Schematic of the Electrical System of the Cessna (T)U206F & G (14V) with Centurion 4.0 installation

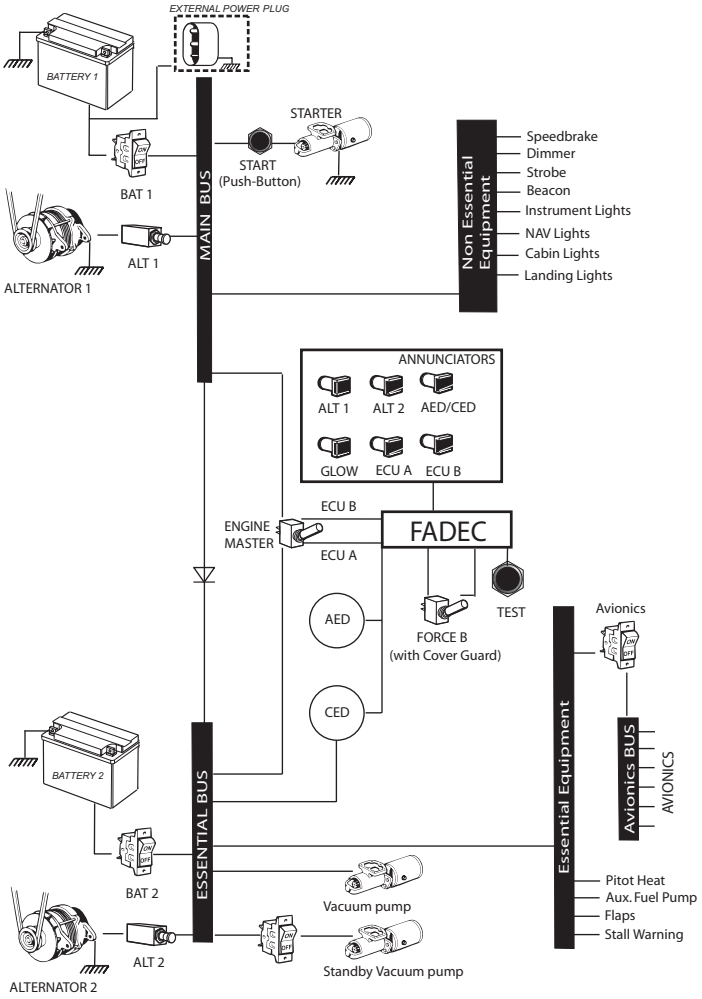

Figure 7-8: Basic Schematic of the Electrical System of the Cessna (T)U206F & G (28V) with Centurion 4.0 installation

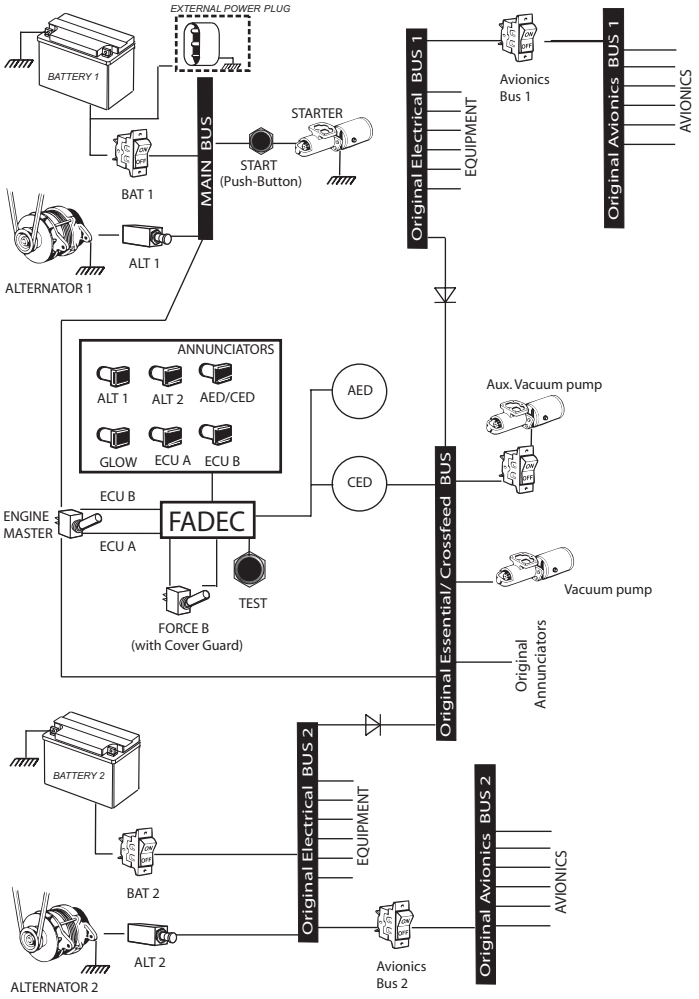

Figure 7-9: Basic Schematic of the Electrical System of the Cessna (T)206H (without Garmin G1000) with Centurion 4.0 installation

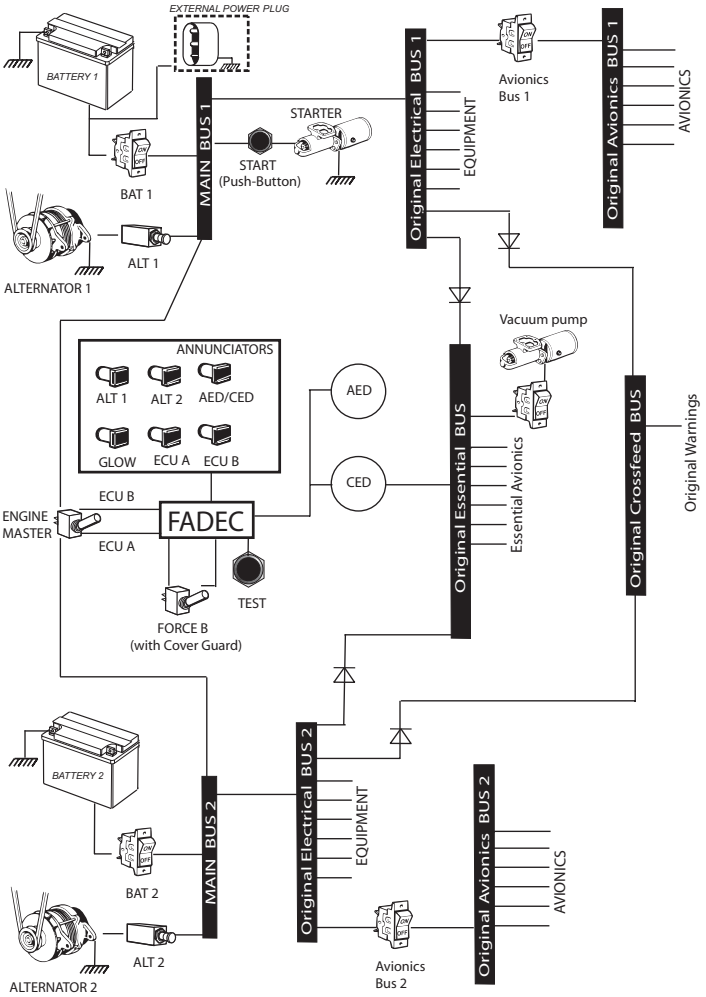

Figure 7-10: Basic Schematic of the Electrical System of the Cessna (T)206H (**with Garmin G1000**) with Centurion 4.0 installation

FADEC-RESET

In case of a FADEC-warning, one or both FADEC warning lamps are flashing. If then the "FADEC" Test Knob is pressed for at least 2 seconds,

a) the active warning lamps will extinguish if it was a LOW category warning.

b) the active warning lamps will be illuminated steady if it was a HIGH category warning.

■ CAUTION If a FADEC-warning occurred, contact your service center.

COOLING

The Centurion 4.0 is fitted with a liquid-cooling system whose thermostat regulates the flow of coolant between the large and small cooling circuit.
The coolant exclusively flows through the small circuit up to a coolant temperature of 84°C and then between 84°C and 96°C both through the small and the large circuit.
If the coolant temperature rises above 96°C, the complete volume of coolant flows through the large circuit and therefore through the radiator. This allows a maximum cooling water temperature of 105°C.
There is a sensor in the expansion reservoir which sends a signal to the warning lamp "Coolant" on the AED if the coolant level is low.
The coolant temperature is measured in the housing of the thermostat and passed on to the FADEC and CED.

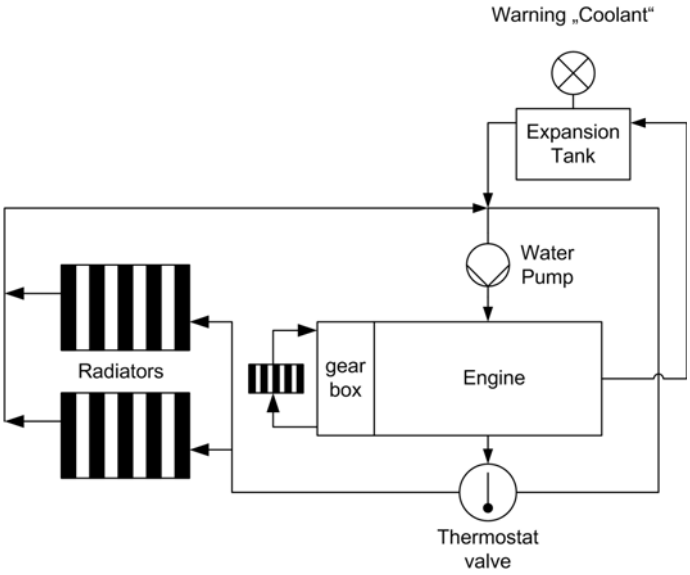

Figure 7-11 Cooling System Centurion 4.0

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SECTION 8
AIRPLANE HANDLING, SERVICE AND MAINTENANCE

■ CAUTION: Normally, a refill of coolant or gearbox oil between service intervals is not necessary. In case of low coolant or gearbox oil levels, inform the maintenance company immediately.

▲ **WARNING:** Do not start the engine in any case when filling levels are below the corresponding minimum marking.

ENGINE OIL

The Centurion 4.0 is filled with 7-10 l engine oil (refer to section 1 of this supplement for specification).
A dip stick is used to check the oil level. It is accessible by a flap on the upper side of the engine cowling.
Notice that on warm engines 5 minutes after engine shut-off there are 80% of the entire engine oil in the oil pan and therefore visible on the oil dipstick. On warm engines oil should be added if the oil dip stick shows oil levels below 50%. After 30 minutes the actual oil level is visible on the dip stick.
The drain screw is located on the lower left-hand side of the oil pan, the oil filter is on the upper left-hand side of the housing.
The oil system has to be checked for sealing after the first 5 operating hours (visual inspection).
Checks and changes of oil and oil filter have to be performed regularly according to the Operation and Maintenance Manual OM-03-01. The Supplement of the Aircraft Maintenance Manual AMM-72-01 has to be considered as well.

GEARBOX OIL

To ensure the necessary propeller speed, the Centurion 4.0 is equipped with a reduction gearbox filled with 1.5 l gearbox oil. (refer to section 1 of this supplement for specification)
The drain screw is located at the lowest point of the gearbox. A filter is installed upstream of the pump, as well as microfilter in the Constant Speed Unit. Check the gearbox for sealing after the first 5 hours of operation (visual inspection). Regular checks as well as oil and filter changes have to be performed in accordance with the Operation and Maintenance Manual OM-03-01.
The Supplement of the Aircraft Maintenance Manual AMM-72-01 has to be considered as well.

FUEL

The Centurion 4.0 may only be operated with kerosene fuel. Due to the higher specific density of turbine engine fuel in comparison to aviation gasoline (AVGAS) the permissible capacity for standard tanks was reduced as mentioned in Section 1.
Appropriate placards are attached near the fuel filler connections. For temperature limitations refer to Section 2 "Limitations" and Section 4 "Normal Operation".

It is recommended to refuel before each flight and to enter the type of fuel into the log-book.

COOLANT

To cool the engine a liquid cooling system was installed with a water/BASF Glysantin Protect Plus/G48 mixture at a ratio of 1:1. A heat exchanger for cabin heating is part of the cooling system. Check the cooling system for sealing after the first 5 hours of operation (visual inspection).
The coolant has to be changed in accordance with the Operations and Maintenance Manual OM-03-01. The Supplement of the Aircraft Maintenance Manual AMM-72-01 has to be considered as well.

◆ Note: The ice flocculation point of the coolant is -36°C.

■ CAUTION: The water has to satisfy the following requirements:

(1) Visual appearance: colorless, clear and no deposits allowed
(2) pH-value: 6.5 to 8.5
(3) maximum water hardness: 2.7 mmol/l
(4) maximum hydrogen carbonate concentration: 100 mg/l
(5) maximum chloride concentration: 100 mg/l
(6) maximum sulfate concentration: 100 mg/l

◆ Note: The waterworks also provide information. In general, tap water may be diluted with distilled water.
Pure distilled water may not be used to mix with BASF Glysantin Protect Plus/G48.

■ CAUTION Between scheduled maintenance topping-up coolant or gearbox oil should not be necessary. If low coolant or low gearbox oil level is detected, inform your service centre immediately.

▲ **WARNING** It is not allowed to start the engine with low level coolant or gearbox oil.

Battery and Excitation Battery Maintenance

The batteries need to be checked and changed in accordance with the Operations and Maintenance Manual OM-03-01.
See also Supplement of the Aircraft Maintenance Manual AMM-72-01.

Engine Cleaning

The engine needs to be cleaned in accordance with the Operations and Maintenance Manual OM-03-01.
See also Supplement of the Aircraft Maintenance Manual AMM-72-01.