DA42 - TDI QRH

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USE OF THIS CHECKLIST

This Checklist is to be used at all times, together with the Company Operations Manual and Standard Operating Procedures. However, information contained in this Checklist does not take precedence over the CASA approved Aircraft Flight Manual and other regulatory requirements.

The **Normal Checklist** (indicated by a **GREEN** table) contains the routine procedures for normal operation of the aircraft that provide an acceptable level of airworthiness. Checklist titles encased in **BLACK** are to be committed to memory and actioned without recourse to the written checklist.

The **Abnormal Checklist** (indicated by a **YELLOW** table) contains procedures which, if followed, will maintain an acceptable level of airworthiness or reduce operational risk resulting from a failure or abnormal condition. The procedures under this part supplement Normal Checklist when a failure or abnormal condition exists.

The **Emergency Checklist** (indicated by a **RED** table) contains procedures to protect the occupants and the aircraft from harm during a critical situation requiring an immediate response. The procedures under this part supplement the Normal Checklist when an emergency condition exists. Checklist titles encased in **BLACK** are to be committed to memory and actioned without recourse to the written checklist. These are of particular relevance to critical emergency related procedures were immediate action is required.

In addition to the outlined items in both Emergency & Abnormal Checklists, the following steps are considered part of all emergency/abnormal situations:

Control the Aircraft

Assess the Situation

Take Appropriate Action

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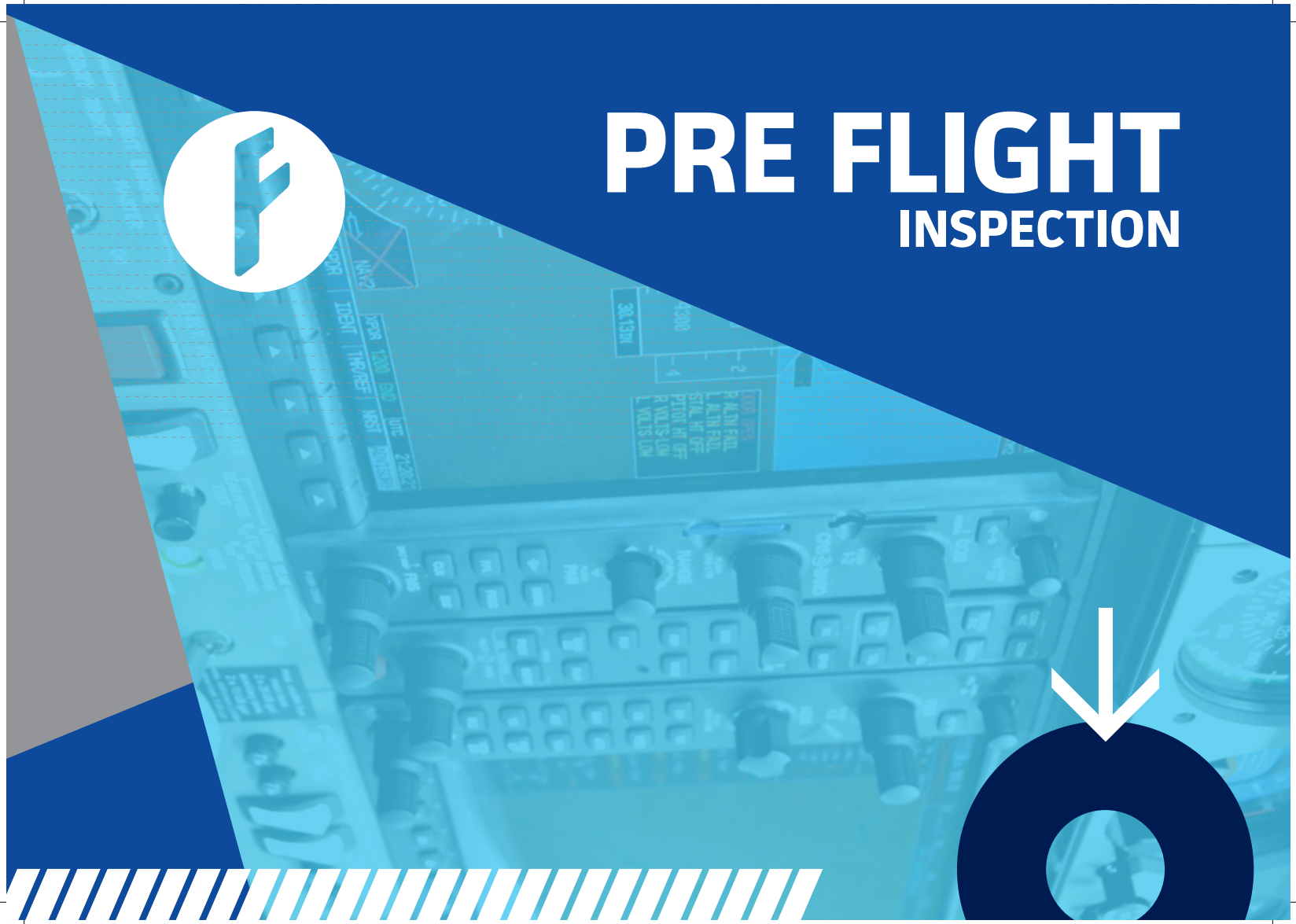
LIMITATIONS

AIRSPEEDS	
V NE	194
V NO	155
V A	120 < 1542 KG < 126
V FE	111 – LDG
	137 – APP
V Y	77 < 1700 KG < 79
V LOR | V LOE	156 | 194
V LE	194
V MCA / V YSE	68 / 82
V S0	57 – 1785 KG
V S1	64 – 1785 KG
V R	70 < 1700 KG < 72
V APPROACH	90
V AT	76
X-WIND	20

WEIGHTS	
M TOW	1785 KG
M LW	1700 KG
M ZFW	1650 KG
M BAGGAGE (NOSE)	30 KG
M BAGGAGE (CABIN)	45 KG
M BAGGAGE (EXT)	18 KG

OTHERS	
FUEL	50 USG
	76.4 USG - INCLUDING AUX TANKS
OIL	4.8 QTZ - MIN
	6.3 QTZ - MAX

PRE FLIGHT
INSPECTION



1. CABIN	
Documentation	Complete & Current
Ignition Key	Out
Front Canopy & Rear Door	Clean, Undamaged & Check Lock
Switches	All OFF
Circuit Breakers	Set In
Gear Selector	DOWN
Power Levers	Check Condition & Movement
	IDLE
Electrical Master	ON
Gear Selector	3 GREENS
Lights & Pitot Heat	All ON & Inspect
Flaps	LDG
Variable Elevator Backstop	Check
Fuel Quantities	Check
Lights & Pitot Heat	All OFF
Electrical Master	OFF
Loose Items	Check & Secure
Flight Controls & Trim	Full & Free Movement
Baggage	Stowed & Secure

2. LEFT MAIN LANDING GEAR	
Landing Gear Strut	Inspect, min **4 cm** bare piston
Landing Gear Door	Inspect
Down & Up Lock Switches	Inspect
Tyre Pressure (**65 PSI**)	Check
Wear & Tread	Inspect
Tyre, Wheel & Brake	Inspect
Brake Line Connection	Check for Leaks
Slip Marks	Inspect
Chocks	Remove

3. LEFT ENGINE NACELLE	
3 Air Inlets / 2 Air Outlets	Inspect
Engine Oil Level	Check, at least **5 min** after shutdown
Gearbow Oil Level	Inspect
Cowling	Inspect
Gascolator	Drain
Venting Pipe	Clear
Exhaust	Inspect
Propeller	Inspect
Nacelle Underside	Check for Excessive Contaminants
AUX Tank Outlet	Inspect
AUX Tank Drain	Drain & Inspect
AUX Tank Filler	Inspect

4. LEFT WING	
Wing Surface	Inspect
Step	Inspect
Lower Surface Air Intake & Openings	Inspect
Tank Drain	Drain & Inspect
Stall Warning	Check
Tank Filler	Inspect (as required)
Pitot Probe	Check & Orifices Open
Wing Tip	Inspect
Position & Strobe Lights	Inspect
Tie-Down	Check & Remove
Aileron, Linkage, Hinges & Pin	Inspect
Aileron Paddles	Inspect
Flap, Linkage, Hinges & Pin	Inspect
Nacelle Underside Fuel Cooler Vents	Inspect

5. LEFT FUSELAGE	
Canopy	Inspect
Rear Door & Window	Inspect
Fuselage Skin	Inspect
Antennas	Inspect

6. EMPENNAGE	
Stabilizers & Control Surfaces	Inspect
Hinges	Inspect
Elevator & Rudder Trim Tabs	Inspect & Check Locking Wire
Tie-Down	Check & Remove
Tail Skid & Lower Fin	Inspect

7. RIGHT FUSELAGE	
Fuselage Skin	Inspect
Window	Inspect
Canopy	Inspect

8. RIGHT WING	
Nacelle Underside Fuel Cooler Vents	Inspect
Flap, Linkage, Hinges & Pin	Inspect
Aileron Paddles	Inspect
Aileron, Linkage, Hinges & Pin	Inspect
Tie-Down	Check & Remove
Position & Strobe Lights	Inspect
Wing Tip	Inspect
Tank Filler	Inspect
Tank Drain	Drain & Inspect
Lower Surface Air Intake & Openings	Inspect
Step	Inspect
Wing Surface	Inspect

9. RIGHT ENGINE NACELLE	
3 Air Inlets / 2 Air Outlets	Inspect
Engine Oil Level	Check, at least **5 min** after shutdown
Gearbow Oil Level	Inspect
Cowling	Inspect
Gascolator	Drain
Venting Pipe	Clear
Exhaust	Inspect
Propeller	Inspect
Nacelle Underside	Check for Excessive Contaminants
AUX Tank Outlet	Inspect
AUX Tank Drain	Drain & Inspect
AUX Tank Filler	Inspect

10. RIGHT MAIN LANDING GEAR	
Landing Gear Strut	Inspect, amin **4 cm** bare piston
Landing Gear Door	Inspect
Down & Up Lock Switches	Inspect
Tyre Pressure (**65 PSI**)	Check
Wear & Tread	Inspect
Tyre, Wheel & Brake	Inspect
Brake Line Connection	Check for Leaks
Slip Marks	Inspect
Chocks	Remove

11. FRONT FUSELAGE	
Front Baggage Doors	Inspect
Nose Landing Gear Strut	Inspect
Down & Up Lock Switches	Inspect
Tyre Pressure (87 PSI)	Check
Wear & Tread	Inspect
Slip Marks	Inspect
Gear Door Linkages	Inspect
Chocks	Remove
Strut Fairing	Inspect (if installed)
Wheel Fairing	Inspect
Tow Bar	Remove
Landing & Taxi Lights	Inspect
OAT Sensor	Check
EPU Connector	Check

NORMAL
CHECKLIST

1. BEFORE START	
Pre-Flight	Completed
Documentation	On-Board
Start Position	Suitable
PAX Brief	Completed
Harness	Secured
Front Canopy & Rear Door	Secured / Cooling Gap
Rudder Pedals	Adjusted
Fuel Selector	ON, Safety Guard Closed
Power Levers	**IDLE**
Park Brake	Reset ON
Alternate Air	Closed
Manual Gear Extension Handle	Pushed In
Gear Selector	DOWN
Switches	All OFF
Alternate Static	Closed
Alternators	ON
ECU Swaps	AUTO
Electrical Master	ON
Circuit Breakers	Checked
ELT	Armed / Portable
CO Detector	Tested
Emergency Switch	OFF & Guarded
G1000 Database	**Verified**
PFD | MFD	**Checked | Back-Up**
Flight Times	**Checked**
MR & Trip Sheet	**Completed**
Fuel Quantities	**Checked or Reset**
Fuel T's	**> -5°C**
Voltage	**> 12 V**

2. START PROCEDURE	
Start LH Engine First	
Engine Master	ON
Annunciation Panel	Checked & Glow Indication **OFF**
Starter	Engage, hold until above **500 rpm**
Oil Pressure	**Outside RED within 3 s**
Voltage | Ammeter	Checked | Charging
Annunciation Panel	Checked

3. AFTER START	
Throttle (2)	900 RPM ± 20
	Strobe – **OFF**
Warm Up	
Throttle (2)	IDLE, for **2 min**
	1400 RPM, until Oil T's **> 50°C** & Coolant T's **> 60°C**
Fuel Selectors	X-Feed
Pitot Heat	ON, then OFF
Avionics Master	ON
Flaps	UP
ANN Test (AUX – 5/6)	Checked & Tested
Radios – COM 1	CTR / CTA
– COM 2	ATIS / AWIS / CTAF
ATIS & QNH	Checked & Set
Transponder	Checked Code & STBY
Standby AI	Caged
Flight Plan	Loaded & Verified
Fuel Selectors	ON

4. TAXI	
Brakes	Checked
Turning Left | Right	Compass & HSI ↓ | ↑
	Right | Left Skid
	AI No Topple

5. PRE-TAKE-OFF		
Park into Wind		
	Park Brake	ON
T	Throttle (2)	IDLE
	Trims	Tested & Set for T/O
M	Electrical Master	ON
	Engine Masters	ON
P	Pitch	N/A
F	Fuel Selectors	ON
	Flaps	Checked & UP
I	Instruments	Left to Right Checked
		HDG & CDI Set
		ALT Set
	Autopilot	AP Engaged & Tested
		CWS Tested
		AP Disengaged
		Electric Trim Tested
S	Switches – ECU Test Buttons	Press & Hold Both
Check Annunciation Panel		
	ECU A/B Fail Lights	ON, RPM Increase, OFF
	ECU B Fail Light	ON, RPM Cycle, OFF
	ECU A Fail Light	ON, RPM Cycle, OFF
	RPM	IDLE
	ECU Test Buttons	Release Both
	ECU Swaps	ECU B
		AUTO

5. PRE-TAKE-OFF (continued)		
LH Engine Available Power Check First		
	Throttle	Max **10 s**
	Annunciation Panel	Checked
		RPM between 2240-2300
		LOAD between 90-100%
	Throttle	IDLE
Repeat for RH Engine Available Power Check		
C	Circuit Breakers	Checked
	Controls	Correct, Full & Free
H	Hatches & Harnesses	Secured
T.O.S.B. & Taxi Call		

6. LINE-UP		
F	Flaps	UP
A	Avionics	Set Current & Next Frequencies
S	Switches & Lights	Strobe – **ON** for entering RWY
		Landing – **ON** for T/O
T	Transponder	Set ALT when entering RWY
	Trim	Checked
	Pitot Heat	As Required
	Hatches & Harnesses	Secured

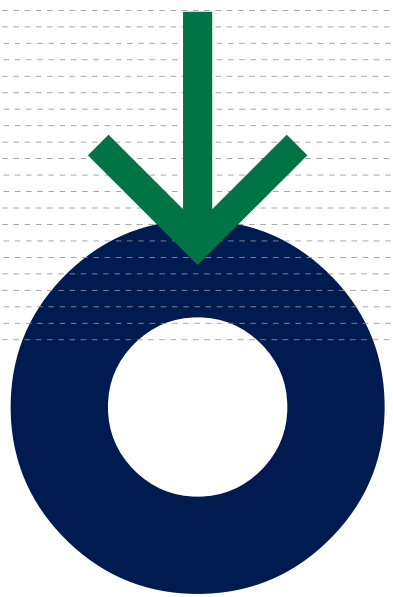
7. AFTER TAKE-OFF		
Positive ROC		
	Gear	UP
300 FT		
	Flaps	UP
	Lights	Landing – **OFF**

8. PRE-LANDING		
B	Brakes	OFF & Operating
O	Oil T's & P's	GREEN
U	Undercarriage	Gear Warning Tested
		DOWN, 3 **GREENS**
M	Electrical Master	ON
	Engine Master	ON
F	Fuel Selector	ON
	Fuel Quantities	Checked & Sufficient
A	Autopilot	Disengaged
H	Hatches & Harnesses	Secured
L	Lights	Landing – **ON**

9. SHORT FINAL		
C	Carby Heat	N/A
P	Pitch	N/A
U	Undercarriage	3 **GREENS**
F	Flaps	As Required
	Rudder Trim	Neutral

10. AFTER LANDING		
F	Flaps	UP
A	Avionics	Set Current Frequency & Taxi Call
S	Switches	Landing – **OFF**
		Strobe – **OFF** / **ON** if crossing RWY
T	Transponder	Checked Code & STBY
	Trim	Set for T/O
	Pitot Heat	OFF
	Alternate Air	Closed

11. SHUTDOWN	
Park Brake	ON
Throttle (2)	IDLE, for **2 min**
Annunciation Panel	**Checked**
Avionics Master	L – BOTH – R – BOTH – OFF – BOTH
Engine Masters	OFF
Flight Times	OFF
Electrical Master	Checked
Switches	All **OFF**



ABNORMAL
CHECKLIST

ECU A/B FAIL	
On Ground	
Terminate flight	
In-Flight	
ECU Test Button	Press for **2 s**
	If indication re-appears – Land **ASAP**
	If no indication – Continue flight, Engine to be serviced after landing

LOW VOLTAGE	
On Ground	
Alternators	Checked ON
Circuit Breakers	Checked
	If **unchanged, terminate** flight
In-Flight	
Alternators	Checked ON
Circuit Breakers	Checked
Unnecessary Electrical Equipment	OFF
	If **unchanged,** follow 'ALTERNATOR FAILURE'

ALTERNATOR FAILURE	
Alternator (affected side)	OFF
Unnecessary Electrical Equipment	OFF
If both Alternators failed, follow 'BOTH ALTERNATORS FAILURE'	

LOW COOLANT TEMPERATURE	
Throttle	Reduced
Coolant Fluid	Expect Loss
Be prepared for an engine failure, land ASAP	

LOW OIL TEMPERATURE	
Throttle	Increase
IAS	Reduce

HIGH OIL TEMPERATURE	
Throttle	Reduce
Be prepared for an engine failure, land ASAP	

LOW FUEL TEMPERATURE (RED RANGE)	
Throttle	Increase
IAS	Reduce
If not returning yellow, land ASAP	

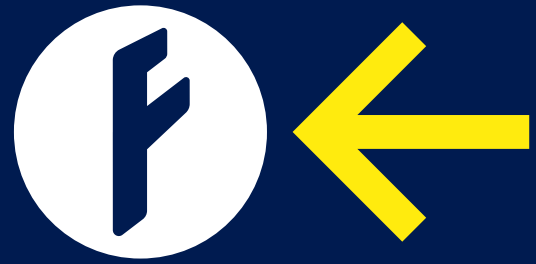
HYDRAULIC PUMP FAILURE	
Gear	Check indication lights
Be prepared for manual gear extension	

AUX FUEL TRANSFER FAILURE	
Transfer Pumps	OFF
Fuel Quantities	Checked
Remaining Transfer Pump	ON
Fuel Selectors	Use CROSSFEED to maintain imbalance between tanks **± 1 USG**

RPM HIGH	
Throttle	Reduce, keep in green range
	If unchanged, follow 'RPM OVERSPEED', land **ASAP**

VARIABLE ELEVATOR BACKSTOP FAILURE	
If 1-2 Power Levers **> 20%**	Do not stall in any configuration
If 2 Power Levers **< 20%**	V AT > 82 KTS

EMERGENCY
CHECKLIST



ENGINE FAILURE DURING TAKE-OFF	
Throttle (2)	IDLE
Brakes	Applied
ATC	Informed
Engine Masters	OFF
Fuel Selectors	OFF
Electrical Master	OFF

ENGINE FAILURE DURING FLIGHT & ENGINE SHUTDOWN	
Rudder	Maintain Directional Control
Throttle (2)	Max
IAS	> 82 KTS
Gear	UP
Flaps	UP
Throttle (affected side)	Retard to identiy
Engine Master (affected side)	OFF
Throttle (**LIVE** side)	MCP
Alternator (affected side)	OFF
Fuel Selector (affected side)	OFF

ENGINE TROUBLESHOOTING	
Alternate Air	OPEN
Fuel Quantities	Checked
Transfer Pump	Considered
Fuel Selector	ON / CROSSFEED
ECU Swap	ECU B
If not successful	
ECU Swap	AUTO
Circuit Breakers	Checked
If not successful, continue with 'ENGINE SHUTDOWN'	

ENGINE RESTART	
Altitude ≤ 8000 FT	
IAS	80-120 KTS
Throttle	IDLE
Fuel Selector	ON
Alternate Air	As Required
Alternator	ON
Engine Master	ON
If propellar is not windmilling	
Starter	Engaged
Circuit Breakers	Checked
If engine does not start, feather again	
IAS	82 KTS
Throttle	MAX
Engine Master	ON
IAS	Increase to get RPM **above 1800 RPM**
Engine Master	OFF
IAS	82 KTS

OSCILLATING RPM / RPM OVERSPEED	
Throttle	Change Setting / Reduce
If not successful	
ECU Swap	ECU B
If not successful	
ECU Swap	AUTO
If not successful, land ASAP	

LANDING WITH DEFECTIVE MAIN TYRE	
ATC	Advised
Touchdown	Land on 'good' tyre
	Keep wing on 'good' side low
	Use brakes as required

AFTER TOUCHDOWN WITH DEFECTIVE BRAKES	
Engine Masters	OFF
Fuel Selectors	OFF
Electrical Masters	OFF

DOOR OPEN	
IAS	Reduced
Front Canopy & Rear Door	Visually Checked
If unlocked	
IAS	< 140 KTS
Land ASAP	

BOTH ALTERNATORS FAILURE	
Avionics Masters	OFF
Alternators	OFF
Transponder	STBY
Gear	DOWN, when down & locked, pull Manual Gear Extension Handle
Pitot Heat	OFF
Lights	All OFF

COMPLETE ELECTRICAL FAILURE	
Circuit Breakers	Checked
Horizon Emergency Switch	ON
Throttle (2) & Flaps	Via lever positions and engine noise
Land ASAP	
Gear	Follow 'MANUAL GEAR EXTENSION'

ENGINE FIRE IN-FLIGHT / AFTER TAKE-OFF	
Cabin Heat	OFF
Canopy	Unlatched as required
IAS	< 120 KTS
Follow 'ENGINE SHUTDOWN'	

Follow 'ENGINE SHUTDOWN'	
Engine Masters	OFF
Fuel Selectors	OFF
ATC	Informed
Electrical Masters	OFF
Canopy	Opened

ELECTRICAL FIRE / SMOKE ON GROUND	
Electrical Master	OFF
Throttle (2)	IDLE
Engine Masters	OFF
Fuel Selectors	OFF
Canopy	Opened

ELECTRICAL FIRE / SMOKE IN-FLIGHT	
Emergency Switch	ON
ATC	Informed
Avionics Master	OFF
Electrical Master	OFF
Cabin Heat	OFF
Canopy	Unlatched as required
IAS	< 120 KTS
Land ASAP	

UNINTENTIONAL FLIGHT INTO ICING CONDITIONS	
Pitot Heat	ON
Cabin Heat	ON
Throttle (2)	Increased Periodically
Alternate Air	As Required
When pitot heat fails	
Alternate Static	OPEN

LANDING GEAR UNSAFE WARNING	
If more than 20 s	
IAS	< 156 KTS, < 110 KTS when cold
Gear	Recycle
If extension unsuccessful, follow 'MANUAL GEAR EXTENSION'	
If retraction unsuccessful, consider flight with gear down	

MANUAL GEAR EXTENSION	
IAS	< 156 KTS
Gear	Test Indicator
Bus Voltage	Checked
Circuit Breakers	Checked
Gear	DOWN
Manual Gear Extension Handle	Pull

STARTER NOT DISENGAGING	
Throttle (affected side)	IDLE
Engine Master (affected side)	OFF
Electric Master	OFF

HIGH COOLANT TEMPERATURE	
If 'LOW COOL LEVEL' light is off	
Throttle (affected side)	Reduce
IAS	Increase
Land ASAP	
If 'LOW COOL LEVEL' light is on	
Throttle (affected side)	Reduce
Coolant Fluid	Expect Loss
Be prepared for an engine failure	

HIGH OIL TEMPERATURE	
Oil P's	Checked
Throttle (affected side)	Reduce
Oil	Expect Loss
If Oil T's return to green	
IAS	Increase
If Oil T's does not return to green, be prepared for an engine failure	

LOW OIL PRESSURE	
Throttle (affected side)	Reduce
Be prepared for an engine failure, land ASAP	

HIGH FUEL TEMPERATURE	
Throttle (affected side)	Reduce
IAS	Increase
	Transfer fuel from AUX to Main tank
If not returning to green, land ASAP	

LEARN TO FLY

22-24 Northern Ave,
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