G-ZANY	EMERGENCY CHECKLIST	
VERSION 1.0		DA40-D

DODAR PROCESS

Diagnosis / Options / Decide / Assign tasks and Action / Review decision

NITS MEMONIC

Nature / Intentions / Time / Special Instructions

ENGINE PROBLEMS ON GROUND

POWER LEVER _____ IDLE
BRAKES _____ AS REQUIRED
OIL PRESSURE _____ CHECK (RED RANGE)
RED RANGE – SHUT DOWN IMMEDIATELY
PFD/MFD _____ SHUTDOWN
Do not touch PFD/MFD - Wait for "Shutdown in progress" to disappear
ELECTRICAL CONSUMERS _____ OFF
ENGINE MASTER _____ OFF
NOTE: If considered necessary, the engine must be shut down. Otherwise the cause of the problem must be established in order to re-establish engine performance.

If the problem cannot be cleared, the airplane must not be flown.

ENGINE PROBLEMS DURING TAKE-OFF

POWER LEVER _____ MAX
IN AIR _____ LAND AHEAD
ECU SWAP _____ ECU B

ON THE GROUND

POWER LEVER _____ IDLE
BRAKES _____ AS REQUIRED
ON RUNWAY & SAFE TO DO SO _____ VACATE
ATC _____ INFORM
If sufficient time is remaining, the risk of fire in the event of a collision can be reduced as follows:
EMERGENCY FUEL VALVE _____ OFF
PFD/MFD _____ SHUTDOWN
Do not touch PFD/MFD - Wait for "Shutdown in progress" to disappear
ENGINE MASTER _____ OFF
ELECTRIC MASTER _____ OFF

ENGINE PROBLEM IN FLIGHT

ENGINE RUNNING ROUGH _____ FLY SPEED 73KIAS
POWER LEVER _____ MAX
ENGINE CAUTION LIGHT _____ CHECK
If the caution light is on, the engine instruments must be checked. Proceed in accordance with Instrument indications outside of green range.
ICING CONDITIONS _____ ALTERNATE AIR ON
FUEL QTY (MAINT TANK) _____ CHECK
FUEL TRANSFER PUMP _____ ON
EMERGENCY FUEL VALVE _____ OFF
ECU SWAP _____ ECU B
If selecting ECU B does not solve the problem, switch back to AUTOMATIC.
LAND _____ ASAP
Be prepared for an emergency landing in accordance with – Emergency Landing with Engine Off.

LOSS OF POWER _____ FLY SPEED 73KIAS
ICING CONDITIONS _____ ALTERNATE AIR ON
FUEL QTY (MAINT TANK) _____ CHECK
FUEL TRANSFER PUMP _____ ON
EMERGENCY FUEL VALVE _____ OFF
ECU SWAP _____ ECU B
If selecting ECU B does not solve the problem, switch back to AUTOMATIC.

POWER LEVER _____ AS REQD < 5000ft
Engine combustion may stop unrecognised during descents with idle power at altitudes above 5000 ft with outside air temperatures below –10deg C
POWER LEVER _____ > 5000ft – MIN 30%+
POWER LEVER _____ CLEAR ENGINE OCASSIONALLY
Be prepared for an emergency landing in accordance with – Emergency Landing with Engine Off.

CERTAIN AIRSPEEDS (IN EMERGENCIES)

Engine failure after take-off (FLAPS T/O)	850kg – 59KT 1000kg – 66KT 1150kg –72KT
Airspeed for best glide angle (FLAPS UP)	850kg – 60KT 1000kg – 68KT 1150kg –73KT
Emergency Landing with ENG OFF (FLAPS UP)	850kg – 60KT 1000kg – 68KT 1150kg –73KT
Emergency Landing with ENG OFF (FLAPS T/O)	850kg – 59KT 1000kg – 66KT 1150kg –72KT
Emergency Landing with ENG OFF (FLAPS LDG)	850kg – 58KT 1000kg – 63KT 1150kg –71KT

RESTARTING ENGINE

ENGINE OFF _____ PROP WINDMILL
AIRSPEED _____ 73 KIAS
DESCEND _____ 6000ft <
Restarting the engine with windmilling propeller is possible at airspeeds between 73 and 120 KIAS and altitudes below 6000 ft pressure altitude
POWER LEVER _____ IDLE
EMERGENCY FUEL VALVE _____ NORMAL
ALTERNATE AIR _____ ON
FUEL TRANSFER PUMP _____ ON
AVIONIC MASTER _____ OFF
ENGINE MASTER _____ ON
AIRSPEED _____ 73-110KIAS
ENGINE DOES NOT FIRE _____ ECU RESET
ENGINE MASTER _____ OFF - ON
AVIONIC MASTER _____ ON – IF REQUIRED
If it is not possible to start the engine – adopt glide configuration – carry out emergency landing in accordance with EMERGENCY LANDING WITH ENGINE OFF.

ENGINE OFF _____ PROP STATIONARY
AIRSPEED _____ 73 KIAS
DESCEND _____ 6000ft <
Only if the ENGINE MASTER is switched OFF and ON again, glowing will be initiated. Glowing must be initiated shortly before the restart attempt. If glowing was done above 6000 ft pressure altitude, it must be repeated.
POWER LEVER _____ MAX
EMERGENCY FUEL VALVE _____ NORMAL
ALTERNATE AIR _____ ON
FUEL TRANSFER PUMP _____ ON
AVIONIC MASTER _____ OFF
ELECTRIC MASTER _____ ON
ENGINE MASTER _____ ON
ELECTRIC MASTER _____ START
AVIONIC MASTER _____ ON – IF REQUIRED
By increasing the airspeed above approximately 105 KIAS, the propeller will begin to rotate due to windmilling and the engine can thus be started. For this, the ELECTRIC MASTER should be set ON. A loss of altitude of at least 1000ft must be expected.
AIRSPEED _____ >105KIAS
If it is not possible to start the engine:- adopt glide configuration, carry out emergency landing as in EMERGENCY LANDING WITH ENGINE OFF

ENGINE PROBLEMS

OSCILATING RPM _____ CONFIRMED
POWER SETTING _____ CHANGE
Following a failure of the governor the RPM should be adjusted with the power lever. Every effort should be made not to exceed 2500 RPM. If the problem does not clear:
ECU SWAP _____ ECU B
If the problem does not clear itself, switch back to AUTOMATIC and land on the nearest airfield.
ECU SWAP _____ AUTO
LAND _____ ASAP

Constant propeller overspeed indicates that the defective governor holds the propeller blades at the fine pitch stop. Do NOT excess
PROPELLOR OVERSPEED _____ CONFIRMED
POWER LEVER _____ REDUCE BELOW 2300RPM
FLAPS _____ CHECK UP
AIRSPEED _____ 73 KIAS
POWER LEVER _____ AS REQD
ECU SWAP _____ ECU B
If the problem does not clear:
ECU SWAP _____ AUTO
LAND _____ ASAP

If an increased climb rate is required:
FLAPS _____ T/O POSITION
AIRSPEED _____ 66 KIAS
POWER LEVER _____ AS REQD

If situation requires increased engine power, a maximum of % 2500 RPM is permissible for a maximum of 10 minutes. Set % the power lever to a maximum of 2300 RPM as soon as % increased engine power is not required anymore.

Please refer to DA40-D-AFM

This is a training checklist & NOT to Supersede the Aircraft Manufactures AFM provided and required aircraft specific checks.

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ENGINE PROBLEMS CONT.

PROPELLOR UNDERSPEED _____ CONFIRMED
POWER LEVER _____ AS REQUIRED
ECU SWAP _____ ECU B

If selecting ECU B does not solve the problem, switch back to AUTOMATIC. Due to this problem the propeller RPM will drop to 1400 RPM or below. There will be no climb performance and no go-around power available. Level flight should be possible except in rough weather.

ECU SWAP _____ AUTO
LAND _____ ASAP

FUEL PUMP FAILURE _____ CONFIRMED
EMERGENCY FUEL VALVE _____ EMERG. TRANSFER
AUX TANK _____ MONITOR
MAIN TANK _____ MONITOR

The emergency fuel valve must be switched back to NORMAL before the auxiliary tank indication reads zero! Otherwise, the engine will stop during flight when the auxiliary tank is empty.

EMERGENCY FUEL VALVE _____ NORMAL

AUX tank quantity must not be less than 1 US gal and MAIN tank quantity must not be more than 15 US gal.

ELECTRICAL

COMPLETE FAILURE _____ ELECTRIC SYSTEM
CIRCUIT BREAKERS _____ CHECK (Pressed in)
ESS BUS _____ ON

If there is still no electrical power available:

EMERGENCY SWITCH _____ ON
FLOOD LIGHT _____ AS REQUIRED
POWER LEVER _____ AS REQUIRED
LAND _____ ASAP

Refer to 4B.6 - FAILURES IN FLAP OPERATING SYSTEM.

VOLTAGE _____ RED RANGE

Red Range ((above 15.5 V or below 11 V) is indicated

ESS BUS _____ ON
LAND _____ ASAP

DOOR WARNING LIGHT

DOOR WARNING _____ LIGHT ON
AIRSPEED _____ REDUCE IMMEDIATELY
CANOPY _____ CHECK CLOSED
REAR PASSENGER DOOR _____ CHECK CLOSED
CANOPY UNLOCKED _____ AIRSPEED BELOW 140KIAS
REAR DOOR UNLOCKED _____ AIRSPEED BELOW 140KIAS

Do not try to lock the rear door in flight. The safety latch may disengage and the door opens. Usually this results in a separation of the door from the airplane.

LAND _____ ASAP

If the rear door has been lost the airplane can be safely flown to the next suitable airfield.

CARBON MONOXIDE

CABIN HEAT _____ OFF
VENTILATION _____ OPEN
EMERGENCY WINDOWS _____ OPEN
AIRSPEED _____ REDUCE BELOW 120KIAS
CANOPY _____ COOLING GAP

Suspicion of carbon monoxide. In case of suspicion of carbon monoxide contamination in the cabin, the front canopy may be unlatched during flight. This allows it to partially open, in order to improve ventilation. The canopy will remain open in this position. Flight characteristics will not be affected significantly.

FIRE & SMOKE

ENGINE FIRE _____ CONFIRMED
EMERGENCY FUEL VALVE _____ OFF
FUEL TRANSFER PUMP _____ OFF
ENGINE MASTER _____ OFF
ELECTRIC MASTER _____ OFF
CANOPY _____ OPEN
ARIPLANE _____ EVACUATE

If Electrical Fire with Smoke

ELECTRIC MASTER _____ OFF
ENGINE RUNNING _____ POWER LEVER IDLE
ENGINE MASTER _____ OFF
CANOPY _____ OPEN
ARIPLANE _____ EVACUATE

Smoke & fire during take-off – if take-off can be aborted

POWER LEVER _____ IDLE
CABIN HEAT _____ OFF
BRAKES _____ APPLY
AFTER STOPPING _____ AS ABOVE

Smoke & fire during take-off – airborne

CABIN HEAT _____ OFF
LAND _____ ASAP

After climbing to a height from which the selected landing area can be reached safely

SAFE HEIGHT _____ TOP OF CHECKLIST

Carry out emergency landing with engine off. Allow for increased landing distance due to the flap position.

SMOKE AND FIRE IN FLIGHT _____ LAND ASAP
CHECKLIST _____ AS ABOVE
WINDOWS/CANOPY _____ OPEN

ICING CONDITIONS

PITOT HEAT _____ ON
CABIN HEAT _____ ON
AIR DISTRIBUTOR LEVER _____ DEFROST
POWER LEVER _____ INCREASE/AS REQ
ALTERNATE AIR _____ ON
EMERGENCY WINDOWS _____ OPEN
ATC _____ INFORM
LEAVE ICING AREA _____ ASAP

Leave the icing area (by changing altitude or turning back, in order to reach zones with a higher ambient temperature).

EMERGENCY LANDING

AIRPSEED _____ SEE BELOW
RADIO _____ ADVICE ATC
EMERGENCY FUEL VALVE _____ OFF
ENGINE MASTER _____ OFF

When it is certain that the landing field will be reached

FLAPS _____ LDG
SAFETY HARNESS _____ TIGHTEN
ELECTRICAL MASTER _____ OFF

POST-FLIGHT REVIEW AIDE-MEMOIRE

What happened and why / Was the outcome positive or not / How do we repeat or avoid / Impact on Safety / Were SOP's followed / What are the learning points / Further action require

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