Zelf Vliegen

Checklist Blackshape PH-4P4



Blackshape PH-4P4 frontseat Checklist

ATTENTION!
DO NOT
STOW THIS CHECKLIST
IN DIRECT SUNLIGHT

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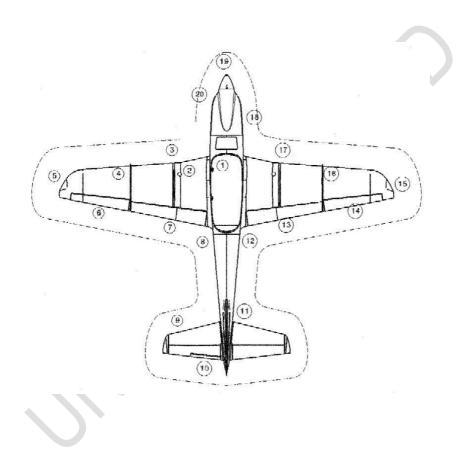
Preflight Inspection Blackshape PH-4P4

NOTE:

The PIC (Pilot in Command) is solely responsible and must, before every flight, perform a complete inspection of the aircraft, known as "pre-flight inspection". Below the complete list of "pre-flight inspection" is listed.

GEAR SWITCH DOWN!!!		
IN CABIN CHECKS		
Airplane documents	CHECK	
Flight controls	CHECK (for proper direction of movement)	
Ignition Key	PULLED OUT	
Parking Brake	ON	
Throttle	IDLE	
BATT	ON	
Avionics	ON	
Fuel quantity	CHECK	
Circuit breakers	Pressed in	
Flaps	CHECK (extend and retract fully)	
Trim	CHECK (fully up, fully down, neutral)	
Exterior lights	CHECK	
Avionics	OFF	
BATT	OFF	
Foreign Object inspection	CHECK	
Baggage	STOWED	
Canopy	Clean and undamaged	
Parking Brake	OFF	

Walk around check and visual inspection



	WALK AROUND CHECKS		
1	Canopy and opening handle - CHECK		
2	Tank Cap - CHECK closed		
3	Left main landing gear:		
	(A) Main Leg conditions		
	(B) Shocks conditions		
	(C) Tire wear		
	(D) Tire pressure		
4	Leading edge and wing skin (LH):		
	(A) CHECK integrity, cleaning and good conditions		
	(B) CHECK inspections doors		
	(C) CHECK the static/pitot for possible contamination or obstruction		
5	Left wing tip:		
	(A) CHECK integrity and good conditions		
	(B) CHECK control fittings attachment points, control and joints		
6	Left aileron:		
	(A) CHECK integrity and good conditions		
-	(B) CHECK control fittings attachment points, control and joints		
7	Left flap and hinges:		
	(A) CHECK integrity and good conditions		
8	(B) CHECK plays and controls Left side fuselage - Visual inspection		
9	Fixed horizontal tail plane:		
9	(A) CHECK the leading edge, verify its cleaning		
	(B) CHECK fin junction		
10	Elevator:		
	(A) CHECK integrity and good conditions of elevators		
	(B) CHECK control fittings attachment points		
	(C) CHECK movements		
	(D) CHECK trim		
11	Vertical Empennage and Rudder:		
•	(A)CHECK integrity and good conditions		
	(B) CHECK control fittings attachment points		
	(C) CHECK movements (min plays)		
12	Right Side Fuselage - Visual inspection		
13	Right Flap and hinges:		
	(A) CHECK integrity and good conditions		
	(B) CHECK plays and controls		

14	Right aileron:		
	(A) CHECK integrity and good cond	itions	
	(B) CHECK control fittings attachme		
15	Right wing tip:		
13	(A) CHECK integrity and good conditions		
	(B) CHECK strobe and navigation lights		
16	Leading edge and wing skin (RH):		
	(A)CHECK integrity, cleaning and good conditions		
	(B) CHECK inspections doors		
17	Right main landing gear:		
	(A) Main leg conditions		
	(B) Shocks conditions		
	(C) Tire wear		
	(D) Tire pressure		
18			
	(A) CHECK integrity, cleaning and good conditions		
	(B) CHECK Air intake		
19	Propeller and spinner:		
	(A) CHECK fixing and condition of n	naterial (absence of chipping,plays)	
20	Control engine compartment:		
	(A)Foreign bodies	absent	
	(B) Colling circuit	absence of leaks	
	(C) Coolant	CHECK quantity	
	(D) Coolant Radiator	Absence of leaks	
	(E) Oil circuit	Absence of leaks	
	(F) Propeller	rotate 6/10 round	
	(G) Oil	CHECK level	
	(H) Oil Radiator	Absence of leaks	
	(I) Fuel circuit	Absence of leaks	
	(L) Gascolator	Bleeding	
	(M) Throttle control cables	CHECK	
	(N) Air ducts and filters	Visual inspection	
	(O) Air-box	CHECK	
	(P) Breakings and reference marks		
	(Q) Silentblocs	CHECK	
	(R) Cowling	CLOSE and LOCK (visual check)	

NORMAL CHECKLIST BLACKSHAPE PH-4P4

BEFORE STARTING THE ENGINE

WARNING

BEFORE STARTING THE ENGINE, THE CANOPY MUST BE CLOSED AND LATCHED AFTER STARTING THE ENGINE, THE CANOPY MUST STAY IN THE CLOSED AND LATCHE POSITION UNTIL THE ENGINE IS SHUT DOWN DURING ENGINE OPERATION IT IS PROHIBITED TO ENTER OR EXIT THE AIRPLANE

AINI EARL		
Gear switch down	CHECK	
Preflight inspection	COMPLETED	
Documents	ON BOARD	
Rudder pedals	ADJUSTED	
Safety pin for emergency ballistic	REMOVE	
parachute		
Fuel Selector	LEFT OR RIGHT (least full)	
Belts	FASTENED	
Parking Brake	ON	
Flight controls	FREE and CORRECT	
Throttle	IDLE	
RPM (prop control)	MAX	
BATT	ON	
Avionics	ON	
Warning lights landing gear	CHECK	
Canopy	CLOSED and LOCKED	

STARTING THE ENGINE		
Fuel Selector	LEFT OR RIGHT (least full)	
Ignition Key	Insert	
Throttle	IDLE	
Choke	OPEN (if necessary)	
Carburetor Heat	OFF	
BATT	CHECK ON	
Avionics	CHECK ON	
Radio	OFF	
Fuel Pump	ON	
Strobe	ON	
Time	NOTED	
Propeller Area	CLEAR	
Avionics	OFF	
Starting Engine – key in position	START (Max for 10 seconds)	
After starting		
Alternator	ON	
Avionics	ON	
RPM	2000 RPM for 2 minutes then 2500	
	RPM	
Fuel Pump	OFF	
Fuel pressure	CHECK	
Choke	CLOSED (push)	
Engine Instruments	CHECK	
Oil pressure	CHECK (max 7 bar, cold situation)	

BEFORE TAXI		
Oil Pressure	CHECK (green arc)	
Oil Temperature	+/- 50°C (increasing during taxi)	
Avionics	SET	
Radio	ON AND SET	
Altimeter	QNH	
Navigation lights	ON	

	TAXI
Parking Brake	OFF
Throttle	As required
Brakes	CHECK
Directional Control	CHECK
Flight / navigation instruments	CHECK
Compass	CHECK

ENGINE RUN-UP	
Parking Brake	ON
Throttle	2000-2500 RPM
Circuit Breakers	CHECK all in
	Engine
Oil temperature	50°C - 110°C
Oil pressure	2.0 – 5.0 bar
CHT	MAX 135°C
Throttle	4000 RPM
Magnetos	Cycle L – BOTH – R
	(Max Drop 300 RPM
	Max Difference L/R 120 RPM)
RPM full back 3 times	Decrease RPM / increase MP
(first flight of the day, 1 time	Decrease RPM / decrease OIL pressure
otherwise)	Decrease RPM / increase RPM
	(max time 5 sec. to be at 4000 RPM)
Throttle	IDLE
Amp	CHECK (light off)
Fuel quantity	CHECK
Fuel selector	RIGHT (or fullest)
Flight Instruments	CHECK
Flaps	T/O
Flight controls	FREE and CORRECT
Trim	NEUTRAL
Safety Belts	FASTENED

ONLY FOR RFI "GOPRO" SWITCH ON

RUNWAY ITEMS	
Parking Brake	OFF
Fuel Pump	ON
BATT / ALT	CHECK ON
Ignition	ВОТН
Flaps	CHECK (TO position)
Trim	CHECK neutral
Take off area / final	FREE
Transponder	ALT or AUTO
Landing Light	ON
Controls	FREE

TAKE OFF and CLIMB		
Take off authorization	RECEIVED (if applicable)	
Brakes	RELEASED	
Throttle	FULL POWER	
Directional Control	Keep with pedals	
Airspeed	CHECK increasing	
Rotate	V_R 55 KIAS and V_{TO} 60 KIAS	
Brakes	APPLY (temporarily after lift-off)	
Vertical Speed	CHECK increasing	
Climb Speed	75 KIAS	
Landing Gear	UP	
Flaps (above 300 feet AGL)	UP	
Climb Speed	85 KIAS	
Landing Light	OFF	
Fuel pump	OFF (above 1000 ft)	
Throttle	As required	
Trim	SET	

CRUISE		
MP / RPM	SET	
Engine		
Oil temperature	90° - 110°C	
Oil pressure	2.0 – 5.0 bar	
CHT	Less than 135°C	
Carburetor Heat	As required	

DESCENT	
Flight and avionics instruments	SET
RPM	MAX
Fuel pump	ON
Carburetor Heat	As required
Throttle	As required
Flaps	CHECK V _{FE} - as required

BEFORE LANDING	
Landing light	ON
Safety Belts	FASTENED
BATT / ALT	CHECK ON
Ignition	CHECK BOTH
Fuel Pump	CHECK ON
Throttle	As required
Speed	75 KIAS **
Landing gear	DOWN and LOCKED (3 greens)
Speed	70 KIAS (advise flaps 20 degrees) **
Speed	65 KIAS (short runway landing)
Brakes (after landing)	As required

AFTER LANDING	
Flaps	UP
Landing Light	OFF
Fuel Pump	OFF
Time	NOTED

WARNING

FOR STRONG HEADWIND, CROSSWIND, DANGER OF WINDSHEAR OR TURBULENCE: A HIGHER APPROACH SPEED SHOULD BE SELECTED

	TAXI
Power	2000 – 2500 RPM x 1 minute
Transponder	STBY or AUTO

ENGIN	IE SHUT OFF
Parking Brake	ON
Engine Instruments	CHECK
Radio	OFF
ALT	OFF
RPM	Min 1600 – 1700 RPM
Ignition	OFF
Key	Remove
BATT	OFF
Fuel Selector	Keep in latest used position
Avionics	OFF
All electrical switches	OFF
Safety pin for emergency ballistic	INSERT
parachute	
Place caps on the pitot tube and	
any other safety	

FLIGHT IN RAIN

NOTE:

FLIGHT PERFORMANCE MIGHT BE REDUCED. T/O DISTANCE AND MAXIMUM HORIZONTAL AIR SPEED MIGHT BE ESPECIALLY AFFECTED. THE INFLUENCE ON FLIGHT CHARACTERISTICS OF THE AIRPLANE MIGHT BE SUBJECT TO VARIATION. FLIGHTS THROUGH HEAVY RAIN SHOULD BE AVOIDED DUE TO THE REDUCED VISIBILITY

WARNING NO WATERPROOF

OPERATING SPEEDS AND LIMITATIONS

OPERATING SPEEDS	
Take-off for 50 feet obstacle	75 KIAS
Beste Angle (Vx) wing flaps cruise	65 KIAS at 10 degrees
Beste Rate (Vy) wing flaps cruise	85 KIAS at 1100 fpm
Glide	70 KIAS (2 persons)
Vno Speed in rough air	135 KIAS
Va speed with full control surfaces	
deflections	85 KIAS
Vne (never exceed)	164 KIAS
Vfe flaps 10 degrees (T/O)	80 KIAS POH
Vfe flaps 20 degrees (approach)	75 KIAS POH
Vfe flaps 30 degrees (landing)	70 KIAS POH
Vldg	70 KIAS 20 degrees **
Downwind flaps 10 degrees	20 / 5000 / 80
Base flaps 20 degrees (gear down)	23 / 5000 / 75
Final flaps 30 degrees (advise 20 degrees)	23 / MAX / 70
Crosswind max	16,1 kts
Balked landing (go-around)	70 KIAS

^{**}NOTE: Increase Speed by 5 kts if 2 persons weight above standard.

MANEUVERING LOAD FACTORS		
No flaps +4(6) -2		
Flaps	+2	0.0

APPROVED MANEUVERS

This airplane is for non-aerobatic use only.

The aerobatic use does not includes:

- All the maneuvers related to "normal" flights, Stalls (except whip stalls), Lazy eight, Turns with angle of inclination not exceeding 60 degrees

ENGINE POWER SETTING			
Power setting	Engine speed (RPM)	MP	Speed
100% TO perform	5800	28	140 KIAS (max 5 min)
Max cruise	5500	28	135 KIAS
90%	5000	28	130 KIAS
75%	5000	26	120 KIAS
65%	5000	24	100 KIAS
55%	5000	22	90 KIAS

EMERGENCY CHECKLIST BLACKSHAPE PH-4P4

ENGINE FAILURES

ENGINE FAILURE DURING TAKE-OFF RUN		
Engine Throttle	IDLE	
Brakes	As required	
Flaps	UP	
Fuel Selector	OFF	
Ignition	OFF	
BATT / ALT	OFF	

ENGINE FAILURE IMMEDIATELY AFTER TAKE-OFF		
Insufficient engine power		
Airspeed	70 KIAS **	
Engine Throttle	FULL Power	
Fuel Selector	LEFT or RIGHT	
Ignition	вотн	
Fuel Pump	Check ON	

WARNING

IF ADEQUATE ENGINE PERFORMANCE CANNOT BE RESTORED IMMEDIATELY, PREPARE FOR AN EMERGENCY LANDING. IF POSSIBLE, LAND STRAIGHT AHEAD, AVOIDING OBSTACLES

SHORTLY BEFORE LANDING		
Engine Throttle	IDLE	
Fuel Selector	OFF	
Ignition	OFF	
Flaps	As required	
BATT / ALT	OFF	
Engine off	Perform Emergency Landing	

ENGINE FAILURE IN FLIGHT		
Airspeed	70 KIAS **	
Engine Throttle	OPEN 1/3	
Carb Heat	OPEN	
Fuel Selector	LEFT or RIGHT	
	BOTH	
Fuel Pump	ON	
Ignition	START	
If no improvement	Perform emergency	

LOW FUEL PRESSURE		
Fuel Pump	ON	
Fuel Selector	LEFT or RIGHT	
Fuel Quantity CHECK		
Get ready to perform Emergency Power-Off Landing		
Land as soon as possible		

LOW OIL PRESSURE	
OIL Temp	CHECK
Get ready to handle an imminent engine failure: reach the glide range of an area suitable for an	Emergency landing
Ignition	OFF
Get ready to perform	Emergency Power-Off landing

HIGH OIL TEMPERATURE		
OIL Temp above green arc	Reduce power to minimum	
If Oil Temp FALLS		
Land	As soon as possible	
If OIL Temp does NOT FALL		
CHECK CHT and EGT		
CHT and EGT Fall	Land as soon as possible	
CHT and EGT does NOT FALL		
Get ready to perform	Emergency landing	

ROUGH ENGINE OPERATION	
Engine Throttle	Maintain the position
Carburetor Heat	ON
Fuel Pump	ON
Ignition Cycle	L – BOTH – R – BOTH
Engine Parameters	CHECK
If no improvement – get ready	Emergency Power-Off landing

EMERGENCY LANDING

EMERGENCY POWER-OFF LANDING	
Airspeed	70 KIAS
Fuel Selector	OFF
Ignition	OFF
Safety belts	FASTENED
Radio	Communicate on 121,5 Mhz, give
	location and intention
Landing gear	DOWN (3 greens)
Flaps	As required
BATT / ALT	OFF
After touchdown	Apply brakes as required

PRECAUTIONARY POWER-ON LANDING	
NOTE:	
A PRECAUTIONARY LANDING WOULD BE REQUIRED IF CONTINUING THE	
FLIGHT WOULD ENDANGER	THE AIRCRAFT OR ITS OCCUPANTS.
CIRCUMSTANCES, INCLUDING	MECHANICAL DEFECTS, LOW FUEL
QUANTITY OR DETERIORATING W	/EATHER CONDITIONS COULD REQUIRE
A PRECAUTIONARY LANDING.	
Identify landing area. Pay particular attention to wind direction and	
0	bstacles
Safety belts	FASTENED and TIGHTENED
Initiate	DESCENT
Flaps	As required
Landing gear	DOWN (3 greens)
Fly over the landing area (not below 500 ft) to confirm suitablility and that	
the approach route is free of obstacles	
Climb to circuit	
Radio	Communicate location and intentions

PRECAUTIONARY POWER-ON LANDING CHECKLIST

PRECAUTIONARY POWER-ON LANDING (CONTINUATION)		
Approach		
Engine Throttle	As required	
Fuel Pump	ON	
Flaps	LANDING	
Airspeed	70 KIAS **	
Touchdown shall be performed with minimum airspeed, nose wheel		
should be kept above the ground as long as possible		
After touchdown		
Brakes	As required	
Fuel Selector	OFF	
Ignition	OFF	
BATT / ALT	OFF	

NOTE:

IF NO SUITABLE LEVEL LANDING AREA CAN BE FOUND, AN UP-HILL LANDING SHOULD BE PERFORMED IF POSSIBLE

GLIDING

GLIDING	
Flaps	UP
Airspeed	70 KIAS **
Glide ratio	11:1
E C 4.000 G	C 1 1 .1 . C. C. C. 1

Example: for every 1.000 ft of altitude the aircraft can move forward 15.000 ft or 2.8 NM

LANDING GEAR FAILURE		
Circuit Breaker	CHECK (reset if tripped)	
Airspeed	MAX 70 KIAS	
Landing gear lever	DOWN	
Landing gear lights	CHECK (3 greens)	
If the landing gear does not go down due to electrical issue		
Airspeed	Max 65 KIAS	
Actuate individually each emergency gear extension handle until their		
stops to ensure the gear is down and locked		
Follow the normal landing procedure		
Airspeed	Max 80 KIAS	
If the landing gear does not go down due to mechanical issue		
Airspeed	Max 65 KIAS	
Landing gear	FULL UP	
Flaps	FULL UP	
Follow	Emergency landing procedure	

FIRE and SMOKE

ENGINE FIRE DURING START-UP ON THE GROUND		
CONTINOUS		
If the engine starts		
High RPM for 2 – 3 minutes		
Shut off (inspect for damages)		
If the engine fails to start		
FULL OPEN		
CONTINOUS		
OFF		
CLOSE		
OFF		
OFF		
Evacuate the aircraft		
Extinguish the fire using a powder of CO ² extinguisher direction the jet		
directly on the intake of the engine cowling.		

IN FLIGH	T ENGINE FIRE
Fuel Selector	OFF
Engine Throttle	FULL power
Cabin Heater	CLOSE
Airspeed	70 KIAS **
Fuel Pump	OFF
Ignition	OFF
Flaps	As required
Get ready for	Emergency Power-off landing
BATT / ALT	OFF in final

IN FLIGHT CABIN FIRE		
BATT	OFF	
Cabin Heater	OFF	
Cabin Ventilation	CLOSE	
Fire	Smother	
When fire is out		
Cabin Ventilation	OPEN	
Cabin Heater	Keep OFF	
If the situation cannot be controlled		
Proceed to	Emergency landing immediate	

FIRE OF ELECTRICAL ORIGIN INCLUDING SMOKE DURING FLIGHT		
BATT	OFF	
Cabin Ventilation	CLOSE	
Cabin heater	CLOSE	
Fire	Smoother	
If fire is out and electricity	is required to continue the flight	
Cabin Ventilation	OPEN	
Avionic Switch	OFF	
All switches	OFF	
Circuit Breakers	Press All	
Circuit Breakers	Press BATT	
BATT Switch	ON	
Avionic Switch	ON	
Circuit Breakers	Operate individually and check the	
	presence of smoke	
Radio	ON	
Land as soon as possible		
If the situation cannot be controlled		
Proceed	Emergency landing immediate	

GROUND FIRE OF ELECTRICAL ORIGIN INCLUDING SMOKE			
If engine is OFF			
BATT / ALT	OFF		
If engine is RUNNING			
Engine Throttle	IDLE		
Fuel selector	OFF		
Ignition	OFF		
Canopy	OPEN		
Extinguisher	Use as required		

	UNINTENTIONAL FLIGHT INTO ICING AREA		
1	Leave the area of ice formation through a change of altitude and/or flight direction. Fly to an area with a higher air temperature.		
2	Keep moving the control surfaces to maintain their movability.		
3	Increase RPM to avoid icing of propeller blades (Maximum RPM)		

WARNING IN CASE OF FORMATION OF ICE ON THE WINGS, THE STALL SPEED WILL INCREASE

RECOVERING FROM UNINTENTIONAL SPIN		
Engine Throttle	IDLE	
Rudder Pedals	Opposed to direction of rotation	
Control Stick	Ease forward, ailerons neutral	
Rudder Pedals	Centered after rotation stop	
Flaps	UP	
Elevator	Pull cautiously. Bring the airplane from descent into level flight. Do not exceed the maximum permissible airspeed (Vne).	

WARNING

THE AIRCRAFT IS NOT SUITABLE TO SPIN MANEUVRES. SPIN RECOVERY HAS NOT BEEN DEMONSTRATED. IF RECOVERY MANEUVRES FAIL, PREPARE TO ACTUATE THE BALLISTIC RECOVERY SYSTEM ACCORDING TO MANUFACTURER'S INSTRUCTION.

	LANDING WITH A DEFLATED TIRE ON THE MAIN LANDING GEAR
1	Final approach with flaps in LDG position
2	Land airplane on the side of runway opposite to the side with the
	defective tire to compensate for change in direction which is to be
	expected during the landing roll.
3	Land with wing slightly tipped in the direction of non-defective tire. To
	increase the maneuverability during rolling, the nose-wheel should be
	brought to the ground as soon as possible after touch-down.
4	To ease the load on the defective tire, the aileron should be fully
	applied in the direction of the non-defective tire.

ELECTRICAL FAILURE

TOTAL ELECTRICAL FAILURE		
BATT Circuit Breaker	If tripped, reset (only once)	
BATT / ALT	CHECK ON	
If no improvement	Land as soon as possible	

GENERA	ATOR FAILURE
GEN Annunciator illuminated / Indication on Avionic System	
(Dynon)	
BATT	RESET OFF/ON
GEN Circuit Breaker	If tripped, reset
If unsuccessful	
(A) Switch OFF all non-flight essential electrical consumers	
(B) Monitor Voltmeter/Ammeter	
(C) Land as soon as possible	

NOTE:

ON SHUTDOWN OF GENERATOR, THERE IS UP TO 30 MINUTES OF BATTERY POWER IF IT IS FULLY CHARGED AND PROPERLY MAINTAINED.

ELECTRIC CHARGE		
AMP / VOLT	CHECK	
ALT	OFF	
VOLT	Green arc	
ALT	ON	
VOLT	CHECK	
If no improvement		
GEN	OFF	

FLAP SYSTEM FAILURE		
Flaps Mode	MAN	
Flaps Actuator	Check operation / position	
If no improvement		
Flaps circuit breaker	RESET	
Actuator CHECK operation		
In case of failure Landing procedure with no flaps		

TRIM SYSTEM FAILURE		
Circuit Breaker	CHECK, reset if tripped	
Trim Control	CHECK correct operation	
If no improvement	Continue the flight normally considering a greater effort on the control stick	

IN FLIGHT LOSS OF CANOPY		
Airspeed	Do not exceed 65 KIAS	
Maneuverability	CHECK at 60 KIAS	
Land as soon as possible		

OPENING THE EMERGENCY PARACHUTE		
Level aircraft	If possible	
Ensure Min opening height if possible	Min 33 m	
Fuel Selector	OFF	
Alternator	OFF	
BATT	OFF	
All electrical switches	OFF	
Opening handle	Pull vigoursly	
Safety belts	Fastened and tightened	
Open canopy safety latches		
Before impact	Curried up position	
After impact	Move away from the aircraft asap	

NOTE:

SHOULD YOU ACUALLY NEED TO OPEN THE EMERGENCY BALLISTIC PARACHUTE, ALLOW FOR THE TIME IT WILL NEED TO UNWRAP COMPLETELY (ABOUT 2 SECONDS).

WARNING

THE CAPACILITY OF THE BALLISTIC RECOVERY SYSTEM HAS NOT BEEN DEMONSTRATED IN FLIGHT



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Circuitbreakers PH-4P4 (situated right lower panel)

Front			
Spare	NA	Flaps	3A
AP pitch/roll	3A	Trim	1A
Right LG	7%A	Aux starter	4A
Nose LG	7%A	12 V Socket	5A
Left LG	7%A	Prop	AN
LG control	2A	VOR	AN
Taxi lights	1A	Transp	3A
Strobe lights	7%A	Intercom	1A
Nav/pos lights	3A	Com	5A
Fuel pump2	NA	T.C.U	NA
Fuel pump1	2A	Pax display	5A
Avionics master	15A	Pilot display	5A