

**BRISTELL BR23****CHECKLIST****1****Before Engine Start**

<b>Preflight/Daily inspection</b>	COMPLETED
<b>Passenger briefing</b> .....	COMPLETED
<b>Papers / Map</b> .....	CHECKED/ON BOARD
<b>Loose objects</b> .....	SECURED
<b>Circuit breakers</b> .....	CHECK ALL IN
<b>Master Switch</b> .....	ON
<b>Backup Battery</b> .....	ON
<b>EFIS switch</b> .....	ON
<b>Seat Belts</b> .....	FASTEN
<b>Rudder pedals</b> .....	ADJUSTED/SECURED
<b>Flight Controls</b> .....	FULL / FREE AND CORRECT
<b>Trims</b> .....	SET elevator and aileron
<b>Fuel Caps</b> .....	SECURED
<b>Wing Lockers</b> .....	CLOSED & LOCKED
<b>Canopy</b> .....	CLOSED & LOCKED
<b>Parking brake</b> .....	ON
<b>Altimeter</b> .....	SET PFD
<b>PFD</b> .....	Set split (PFD and EMS)
<b>Fuel quantity</b> .....	CHECK/SET ON EMS
<b>Weight &amp; Balance</b> .....	SET/CHECK Limits

**2 BRISTELL BR23****CHECKLIST****Engine Start**

<b>Fuel selector</b> .....	LEFT TANK
<b>Fuel pump</b> .....	ON
<b>Choke</b> .....	AS NEEDED
<b>Prop control</b> .....	FULL FORWARD
<b>Throttle</b> .....	JUST OPEN
<b>Strobe Light</b> .....	ON
<b>Start Engine</b> .....	TURN KEY TO START
<b>Oil Pressure</b> .....	CHECK 2-7 BAR
<b>Engine RPM</b> .....	2000 RPM FOR WARMING UP (OIL < 50°C)
<b>Choke</b> .....	GRADUALLY RELEASE

**After Engine Start**

<b>Backup Battery</b> .....	OFF
<b>Fuel pump</b> .....	OFF
<b>Avionic switch</b> .....	ON Check minimum 11.0V
<b>ALT-1 switch</b> .....	ON Check increase to 13.4V
<b>ALT-2 switch</b> .....	ON Check increase to 13.8V

**Engine Limits:**

<b>Speed</b>	5500 - 5800 rpm (5 min.) 5500 rpm (continuous)
<b>Cyl. Head Temp.</b>	90° – 135° C (135°C max.)
<b>Oil Temp.</b>	90°C - 110°C (130°C max.)
<b>Exh. Gas Temp.</b>	880°C max..
<b>Oil Pressure</b>	2 - 5 bar (7 bar max. cold eng.)
<b>Fuel Pressure</b>	0,15 – 0,4 bar

**BRISTELL BR23****CHECKLIST****3****Before Taxiing**

<b>Cockpit lights</b> .....	AS REQUIRED
<b>Nav lights</b> .....	ON
<b>Parachute</b> .....	SAFETY PIN REMOVED
<b>Wind direction</b> .....	CHECK (For runway in use)
<b>Transponder</b> .....	Set to 7000
<b>Oil Temp</b> .....	MIN. 30°C
<b>Time</b> .....	CHECK (Start flight timing)
<b>Radio call</b> .....	APPLY
<b>Parking Brake</b> .....	RELEASE / CHECK BRAKES

**4 BRISTELL BR23****CHECKLIST****ENGINE RUN-UP**

<b>Parking brake</b> .....	ON
<b>Fuel selector</b> .....	RIGHT TANK
<b>Engine instruments</b> .....	CHECK, WITHIN LIMITS
<b>Prop control</b> .....	FULL FORWARD
<b>Ignition Check</b> .....	THROTTLE 4000 RPM
<b>Test Ignition</b> .....	Drop MAX.300 diff 115 rpm
<b>Carburetor Heat</b> .....	PULL HOT, Check drop MIN. 150 RPM, PUSH OFF
<b>Prop control</b> .....	CYCLE 2 times at 4500 RPM, Check drop > 200 rpm
<b>Prop control</b> .....	FULL FORWARD
<b>Engine instruments</b> .....	CHECK OIL & FUEL PRESS
<b>Throttle</b> .....	IDLE (1700-2000 RPM)
<b>Fuel Selector</b> .....	LEFT TANK
<b>Fuel pump</b> .....	ON, check pressure

**BEFORE TAKEOFF**

<b>Flaps</b> .....	SET 10° (stage 1)
<b>Altimeter</b> .....	CHECK BOTH
<b>Instruments</b> .....	CHECK WITHIN LIMITS
<b>Canopy</b> .....	CHECK CLOSED & LOCKED
<b>Seat Belts</b> .....	FASTEN
<b>Landing Light</b> .....	ON
<b>PFD</b> .....	FULL SCREEN

**BRISTELL BR23****CHECKLIST****5****TAKEOFF**

**Wind**..... CHECK  
**Brakes**..... RELEASE  
**Throttle** ..... MAX (Min. 5500 RPM)  
**Airspeed indication**..... CHECK "ALIVE"  
**Initial climb**..... 64 KIAS (V<sub>x</sub>)

**CLIMB**

**> 100 ft: Prop control**..... < 5500 RPM  
**> 150 ft: Flaps**..... UP  
**Climb speed** ..... 74 KIAS

**Level off**

**Manifold Pressure**..... 26-26,5 Inch  
**Prop control**..... 4800-4850 RPM  
**Fuel pump**..... OFF  
**Engine Instruments** ..... CHECK WITHIN LIMITS

**APPROACH**

**Brakes** ..... OFF / CHECK PRESSURE  
**Seat belts** ..... FASTEN  
**Autopilot**..... DISENGAGE  
**PFD** ..... FULL SCREEN  
**Engine Instruments** ..... CHECK WITHIN LIMITS  
**Landing Light** ..... ON  
**Fuel Pump** ..... ON check pressure and QTY  
**Carburetor heat** ..... PULL HOT (if applicable)  
**Throttle**..... 21-15 Inch  
**Prop control**..... 4800-4850 RPM  
**Fuel Selector**..... FULLEST TANK

**6 BRISTELL BR23****CHECKLIST****LANDING**

**Airspeed**..... 75 KIAS  
**Flaps** ..... SET 10° (stage 1)  
**Airspeed**..... 70 KIAS  
**Airspeed**..... 65 KIAS  
**Flaps** ..... SET 25° (stage 2)  
**Airspeed**..... 60 KIAS  
**On Final: Propeller**..... FULL FORWARD

**AFTER LANDING**

**Throttle**..... As required for taxi  
**Carburetor Heat** ..... OFF  
**Flaps** ..... UP  
**Fuel Pump** ..... OFF  
**Landing Light** ..... As required

**AIRCRAFT PARKING**

**Parking Brake** ..... SET  
**Prop control**..... CHECK FULL FORWARD  
**Throttle** ..... IDLE  
**Trims** ..... SET TO NEUTRAL  
**Instruments** ..... CHECK WITHIN LIMITS  
**Time** ..... CHECK (Stop flight timing)  
**Ignition Switch** ..... TURN KEY OFF & REMOVE

**BRISTELL BR23****CHECKLIST****7**

Lights.....	OFF
EFIS.....	OFF
Avionics Switch .....	OFF
Alt-2 and Alt-1.....	OFF
Master switch.....	OFF
Fuel Selector.....	OFF
Parachute .....	SAFETY PIN IN

### Performance data for variable pitch propellor

Engine speed over 5500 rpm is restricted to 5 minutes.

Run the engine in accordance with the following table.

Power setting	Engine speed (rpm)	Performance (kW) / (HP)	Torque (Nm) / (ft. lb)	Manifold pressure (in.Hg)
Take-off power	5800	73.5 / 100	121.0 / 89.24	27.5
Max. continuous power	5500	69.0 / 90	119.8 / 88.36	27
75 %	5000	51.0 / 68	97.4 / 71.84	26
65 %	4800	44.6 / 60	88.7 / 65.42	26
55 %	4300	38.0 / 50	84.3 / 62.17	24

## AIRCRAFT LIMITS

<b>V<sub>NE</sub> never exceed</b>	157 KTS	
<b>V<sub>A</sub> maneuvering</b>	99 KTS	
<b>V<sub>no</sub> Max cruising speed</b>	136 KTS	
<b>V<sub>fe</sub></b>	82 KTS	
<b>V<sub>X</sub> best angle climb</b>	62 KTS	
<b>V<sub>Y</sub> best rate climb</b>	74 KTS	
<b>Cruise climb</b>	75 KTS	
<b>V<sub>s1</sub> stall clean</b>	51 KTS	
<b>V<sub>so</sub> full flaps</b>	44 KTS	
<b>Best glide speed</b>	67 KTS	
<b>Max. dem. crosswind</b>	15 KTS	
<b>G-limits flaps up</b>	+4 / -2	
<b>G-limits flaps down</b>	+2 / 0	
<b>Empty weight</b>	448	KG
<b>Max baggage weight wings</b>	2x20	KG
<b>Max baggage behind the seats</b>	28	KG
<b>Max. T/O weight</b>	750	KG
<b>Max Forward CG Limit</b>	25%	MAC
<b>Max AFT CG Limit</b>	31%	MAC



# **Bristell EMERGENCY Procedures**

## **ENGINE FAILURE DURING T/O RUN**

**Throttle** ..... IDLE  
**Brakes** ..... APPLY  
**Ignition** ..... OFF

## **ENGINE FAILURE AFTER TAKEOFF**

**Airspeed** ..... 67 KNOTS  
**Flaps** ..... AS NECESSARY  
**Fuel Selector** ..... OFF  
**Ignition Switch** ..... OFF  
**Master switch** ..... OFF

*Land straight ahead, turning only to avoid obstacles*

## **LOSS OF ENGINE POWER IN FLIGHT**

**Speed** ..... 67 KIAS  
**Inflight Engine Restart** ... APPLY  
OR PERFORM EMERGENCY LANDING

## **EMERGENCY DESCENT**

**Airspeed** ..... MAX PERMITTED:  
   $V_{NE}$  = 157 KIAS  
   $V_{no}$  = 136 KIAS  
   $V_A$  = 99 KIAS  
**Engine RPM** ..... MAX. 5800 RPM

# **Bristell EMERGENCY Procedures**

## **ENGINE FIRE DURING T/O RUN**

- Throttle** ..... IDLE
- Fuel Selector** ..... OFF
- Fuel Pump** ..... OFF
- Cabin Heating** ..... OFF
- Brakes** ..... APPLY AS NEEDED

*When airplane is under control:*

- Ignition** ..... TURN KEY OFF
- Master** ..... OFF
- Parking Brake** ..... SET

**Evacuate the aircraft!**

## **ENGINE FIRE IN-FLIGHT**

- Cabin Heat** ..... PUSH OFF
  - Fuel Selector** ..... OFF
  - Throttle** ..... MAX
  - Ignition Switch** ..... OFF AFTER ENGINE STOPS
  - Airspeed** ..... EMERGENCY DECENT
  - Master Switch** ..... OFF
- Perform emergency landing!**

**Evacuate the aircraft!**

## **COCKPIT FIRE**

- Master Switch** ..... OFF
- Cabin Heating** ..... OFF
- Ventilation** ..... OPEN

**PERFORM EMERGENCY LANDING AS SOON AS POSSIBLE**

# **Bristell EMERGENCY Procedures**

## **IN-FLIGHT ENGINE RESTART**

<b>Airspeed</b> .....	75 KIAS
<b>Fuel Pump</b> .....	ON
<b>Fuel Selector</b> .....	FULLEST TANK
<b>Throttle</b> .....	JUST OPEN
<b>Carburetor Heat</b> .....	PULL HOT
<b>Ignition Switch</b> .....	TURN KEY
<i>After engine is running</i>	
<b>Engine instruments</b> .....	CHECK, WITHIN LIMITS
<b>Avionics</b> .....	ON
<b>Fuel Pump</b> .....	OFF

## **EMERGENCY LANDING WITHOUT ENGINE POWER**

<b>Airspeed</b> .....	67 KIAS
<i>Locate suitable terrain without obstacles</i>	
<b>Propeller control</b> .....	FINE PITCH (fully Forward)
<b>Trim</b> .....	Adjust
<b>Seat Belts</b> .....	Tighten
<b>Landing Light</b> .....	ON
<b>Flaps</b> .....	Extend as needed
<b>Radio call</b> .....	Apply (MAYDAY)
<b>Transponder</b> .....	Set 7700
<b>Approach</b> .....	WITHOUT STEEP TURNS
<b>Fuel Selector</b> .....	OFF
<i>Before Touchdown</i>	
<b>Master Switch</b> .....	OFF

# Bristell EMERGENCY Procedures

## POWER-ON FORCED LANDING

A precautionary landing is generally carried out in the cases where the pilot may be disorientated, the aircraft has no fuel reserve or possibly in bad weather conditions.

1. Choose landing area, determine wind direction.
2. Report your intention to land and landing area location.
3. Perform low-altitude passage into wind over the right-hand side of the chosen area with flaps extended as needed and thoroughly inspect the landing area.
4. Perform circle pattern.
5. Seat belts - fasten
6. Perform approach at increased idling with flaps in landing position (25°) at 67 KIAS.
7. Reduce power to idle when flying over the runway threshold and touch-down at the very beginning of the chosen area.
8. After stopping the airplane:

**Ignition Switch**..... TURN KEY OFF & REMOVE  
**ALL Switches**..... OFF  
**FUEL selector**..... OFF  
**Airplane** ..... lock and seek assistance

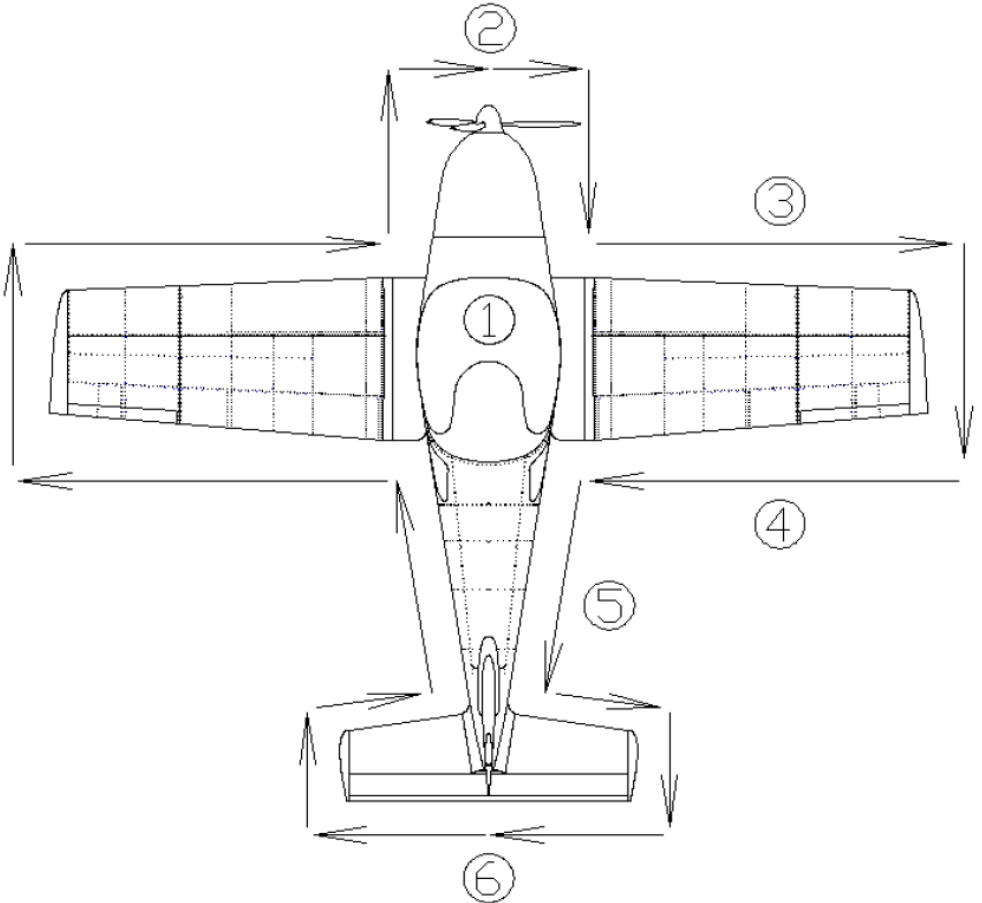
## RECOVERY FROM UNINTENTIONAL SPIN

**Power** ..... IDLE  
**Flaps** ..... RETRACT  
**Ailerons** ..... NEUTRAL  
**Rudder** ..... FULL OPPOSITE  
**Elevator** ..... PUSH FORWARD

**HOLD THESE INPUTS UNTIL THE ROTATION STOPS THEN:**

**Rudder** ..... NEUTRAL  
**Elevator** ..... PULL GENTLY TO RECOVER FROM DIVE

# Bristell Pre-flight Inspection



- |                                |                                     |
|--------------------------------|-------------------------------------|
| 1) Ignition .....              | OFF                                 |
| Avionics/Instruments .....     | Check condition                     |
| Cockpit .....                  | Check for loose items and condition |
| Master switch .....            | ON                                  |
| Avionics switch.....           | ON                                  |
| Fuel quantity indication ..... | Compare visual with indication      |
| Flaps .....                    | Check operation                     |
| Lights .....                   | Check operation                     |
| Pitot tube heating .....       | Check function                      |
| All switches .....             | OFF                                 |
| Control System.....            | Check function, free movement       |
| Canopy.....                    | Condition of attachment, cleanness  |

# Bristell Pre-flight Inspection

- 2) Engine cowling condition
  - Propeller, blades and spinner condition
  - Oil quantity check
  - Coolant quantity check
  - Engine mount and exhaust manifold condition
  - Inlets free of obstruction
  - Fuel system draining / gascollator
  - Nose gear condition
- 3) Wing surface condition
  - Leading edge condition
  - Stall strips condition
  - Wing locker, Closed and locked
  - Pitot free of obstruction
  - Fuel vent openings
- 4) Wing tip, surface condition, attachment
  - Lights, condition attachment
  - Aileron, surface condition, attachment
  - Flap, surface condition, attachment
  - Wing locker, Closed and locked
  - Fuel caps, in place en closing
  - Pitot free of obstruction
  - Fuel vent openings
- 5) Landing gear, check for condition and damage
  - Weel attachment, brakes condition and pressure tires
  - Wing lower surface and fuselage bottom surface condition
  - Static port free of obstructions
- 6) - Vertical Tail Unit Condition of Surface, Attachment free rudder Movement, (press tail down to have nosegear free) antenna.
  - Horizontal Tail Unit Condition of surface, Attachment, free elevator movement elevator tips and mass balance.
  - Check trim/anti-servo tab
  - Check free movement of tab for full elevator movement