

## Biggles's Challenges

Many years ago, when I was but a small boy (and had hair!) I came across a book written by Captain W.E. Johns which described the heroic actions of a certain James Bigglesworth known by both friend and foe alike as "Biggles". I was immediately hooked on the stories, many of the early ones were apparently based on Captain W.E. Johns real experiences during World War I, and continued to read them on and off until my mid teens.

William Earl Johns was born in 1893 in Bengeo, Hertfordshire, England. During World War I he first served as machine-gunner, and from 1918 as fighter pilot with the RFC in France. He was shot down over Mannheim, became a POW, escaped, was caught again and sentenced to death and was only saved by the sudden ending of the war. He stayed with the Royal Air Force until 1931, first as flight instructor and later recruiting officer. When he left his rank was "Flying Officer", however he added "Captain" to his name after becoming a successful author. Captain W.E. Johns wrote a total of 98 Biggles books the first ("The Camels Are Coming") in 1932 and the last ("Biggles does some homework") in 1968.



Biggles was an ace pilot and could land his aeroplane anywhere, in any circumstances, in any conditions. These flights are designed to show that you are a similar, if not better, ace with a DC-3. I suggest, however that you do make sure that you have completed your last will and testament before setting out on these perilous flights!

One last thing – I bet that your chat up lines are/were considerably better than Biggles's. The following is from "The Camels Are Coming", where he meets the love of his life, Marie Janis. When his magneto shorts out, after picking up a new Camel from the Aircraft Park, Biggles makes a forced landing near Clarmes. At a nearby house he meets "a vision of blonde loveliness wrapped up in blue silk, smiling at him". "You were looking for me, perhaps?" she asks him, to which he replies, "Mademoiselle, I've been looking for you all my life".

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#### 813-03-01: Into the Crater

This flight takes off from Las Palmas, Peru which is situated 249ft ASL, and ends at Jauja which is 10,898 ft ASL. The tricky bit is that the Jauja runway lies at the bottom of a crater, the sides of which rise nearly 2,000ft higher than the runway.

From - To	Flight Description.				Course (Leg)	Distance (Leg)
	Dep. Rwy – 02	Init. Hdg – 015deg.	Init. Alt – 17,500ft	Apt Elev. – 203ft		
Las Palmas (SPLP) Peru  To  Jauja (SPJJ) Peru	<b>Departure:</b> Take off on runway heading north until you reach WP1 when you cross Rio Rimac. Tune VORDME JLP 116.90.				015deg	11NM
	<b>Enroute:</b> To WP2. Turn right to 084deg and follow the river valley and highway east into the mountains. Climb to altitude.				084deg	26NM
	To WP3. Follow the valley round to the left on a course of 050deg, and continue up the valley. You need to have reached your cruising altitude before you reach the top of the valley.				050deg	26NM
	To WP4. Turn sharp right to 148deg and keep to the right of the mountain peak.				148deg	16.9NM
	To WP5. Turn left to 084deg. Start your descent to 14,000ft when the DME reads 88NM.				084deg	34NM
	<b>Approach:</b> To WP6. Make a left turn to 354deg, and descend to exactly 13,000ft. At the same time reduce speed to 85kts, and get the flaps and undercarriage down. The waypoint is at the lake. To WP7. Turn left to 225deg. Keep your turn tight as you line up for runway 13. To runway. Turn to 142deg for your landing. Land – Jauja runway 13                      Length – 9,197ft                      Width – 149ft                      Surface – Hard				354deg 225deg 142deg	2.2NM 2.5NM 2.8NM
<b>Flight No: 813-03-01</b>	<b>Arrival Airport Elev. – 11,034ft.</b>			<b>Estimated totals for this flight&gt;&gt;&gt;</b>		<b>121NM</b>

### Biggles's Challenges

#### 813-03-02: Into Rio Amazonas

This is a fairly short flight from Macas to Rio Amazonas. The tricky bit is that the Rio Amazonas runway lies at the bottom of a crater, the sides of which rise nearly 4,000ft higher than the runway.

From - To	Flight Description.				Course (Leg)	Distance (Leg)
	Dep. Rwy – 2	Init. Hdg – 018deg.	Init. Alt – 7,500ft	Apt Elev. – 3,280ft		
Macas (SEMC) Ecuador  To  Rio Amazonas (SESM) Ecuador	Departure: To MAS. Tune Nav1 to MSV VOR/DME 112.50, and set OBS to 010deg. Tune Nav 2 to PAV VOR/DME 113.10 and set the OBS to 297deg. After take off, I suggest that you turn slightly to the right to avoid the ridge at the end of the runway.				018deg	2.6NM
	Enroute: To Fix 01. At MVS, turn right to 010deg and follow the OB course towards PAV. Start your climb towards 7,500ft, and follow the OBS needle. Waypoint reached when Nav 1 DME reads 25 NM.				010deg	25NM
	To Fix 02. At Fix 01, turn right to 027deg, and start your descent towards 7,300ft (not very far!). Get the flaps and undercarriage down, and the speed to no more than 85kts. Waypoint reached when the Nav 2 needle centers on 297 deg and DME reads 6NM.				027deg	18.2NM
	Approach: To PAV. At Fix 02, turn left to 297deg and head for the crater, and as soon as you are over the rim, push the stick forwards to achieve a descent rate of 4,000 FPM. When the speed builds up slacken off the descent rate and hold to around 1,000 FPM throughout the rest of the approach.				297deg	5.9NM
	To Fix 06. At PAV, turn to 322deg. Head as far as you dare into the corner of the crater. You will see a road or river climbing vertically up the crater wall – aim to the right of this.				322deg	1.5NM
To Fix 09. Make a sharp 180deg turn to the left. Be careful not to over bank the aeroplane. You should be at around 5,400ft ASL				211deg	0.8NM	
To Fix 12. Go as close to the right hand crater wall as you dare, and as far as you can into the corner. You can see a couple of blue rivers running down the wall – aim for the confluence. You should be at around 4,200ft ASL here.				138deg		
To runway. Make even sharper 180deg turn to the left, you may need to apply some power to avoid stalling.				Final Hdg 304	2.2NM	
Land –Rio Amazonas runway 30    Length – 5,065ft    Width – 82ft    Surface – Asphalt						
<b>Flight No. 813-03-02</b>	<b>Arrival Airport Elev. – 3,440ft.</b>					<b>57NM</b>
Estimated totals for this flight>>>						

### Biggles's Challenges

#### 813-03-03: Into Greenland

This is a low-level flight which starts from a very short runway that has a very tall hill conveniently placed at the far end! You then fly up a fjord, and land at an aerodrome where the runway is obscured until the last moment.

From - To	Flight Description.				Course (Leg)	Distance (Leg)
	Dep. Rwy – 32	Init. Hdg – 311deg.	Init. Alt – 1,500ft	Apt Elev. – 32ft		
Sisimiut (BGSS) Greenland  To  Sondre Stromfjord (BGSF) Greenland	Departure: To Fix 02. Tune Nav1 to SS DME 108.15. Set up for a short field take off. Lift off at about 75kts, and turn sharp left to 271deg. Don't worry too much about gaining altitude – concentrate on the turn and not running into the mountain!				256deg	1.4NM
	To Fix 03. Once you are over the sea, turn right to 302deg. Waypoint reached when the DME reads 4.7NM				302deg	3.4NM
	Enroute: To Fix 04. Turn right to 032deg, and follow the coast. Waypoint is the mouth of the fjord, where the DME reads 14.4NM. Keep an eye out of the right window to see the mouth of the fiord To Fix 07. Turn right and follow the fjord. You will pass a glacier on your right as you go up the fjord. The DME will read 56.4NM at the waypoint				032deg Av c'se 121deg	14.6NM  56.8NM
	To Fix 10. Don't go straight on, but follow the fjord round to the right, and continue to follow it right until the very end where a large glacier empties into the fjord. Tune Nav 1 to Kangerlussuaq runway 28 ILS/BC/DME 109.55				Av c'se 152deg	36.5NM
Approach: To Fix 11. Turn right to 193deg. You will see another fjord opening in front of you. Keep an eye on ILS – the waypoint is reached when the needle centres To runway. Turn right to 269deg. and follow the needle (don't forget that it's a back course). Do not start your descent, but get the aeroplane into a landing configuration. You will not be able to see the runway until you get very close. When you can see the runway threshold (DME will read about 2.4NM), start your descent. You will need to descend at around 800FPM to give yourself a chance of stopping on the runway. Land – Kangerlussuaq runway 28 Length – 9,181ft Width – 200ft Surface – Asphalt				193deg  Final Hdg 269deg	4.7NM  9.8NM	
<b>Flight No. 813-03-03</b>	<b>Arrival Airport Elev. – 133ft.</b>		Estimated totals for this flight>>>			<b>127NM</b>

### Biggles's Challenges

#### 813-03-04: Follow the Yellow Brick Road

Well it's a concrete road actually! Watch out for the steep approach with a bend in it.

From - To	Flight Description.				Course (Leg)	Distance (Leg)
	Dep. Rwy – 14	Init. Hdg – 132deg.	Init. Alt – 5,500ft	Apt Elev. – 2,659ft		
Galbraith Lake (PAGB) Alaska  To  Galbraith Lake (PAGB) Alaska	<b>Departure:</b> To WP1. After take off continue on runway heading 132deg, and start your climb towards 5,500ft. Look out to your right – the waypoint is when the valley opens out, just after passing over the lake				132deg	7.2NM
	<b>Enroute:</b> To WP2. Turn right to 184deg, and follow the valley upwards. There is a road that also tracks up the left hand side of the valley – use this to keep on track. The waypoint is the very top of the valley, shortly after passing through a small V shaped section, where you will find a small cornice and will be faced by a dead end. Start to slow down to 100kts..... To WP3. Follow the road round to the right.....				184deg	7.5NM
	<b>Approach:</b> To WP4. Turn left almost immediately so as to pass over the lowest part of the ridge. The road goes a trifle higher, but you will see it at soon as you are over the ridge. Get your undercarriage down and go to full flaps as quickly as possible. Dive at around 2,000 FPM and aim for the bend in the road, try to be at about 3,700 ft at this point. Follow the road into the valley below and you will start to see some dark huts at the end of the abandoned Chandalar Shelf runway appearing from behind the side of the mountain. When you can see both huts turn left and hug the side of the mountain as closely as you dare. Look for the abandoned airstrip about 2 miles before WP4. The truly adventurous might try for a touch and go on the road or in a nearby field. To WP5: At the end of the valley, climb and head NW for your return to your starting point at Galbraith Lake, PAGB				166deg	7.5NM
	To runway. Turn right to 79deg. Set up for landing depending on prevailing winds.				202deg	5.2NM
	Land – Chandalar Lake Rwy 14/32 Length – 3,008ft Width – 60ft Surface – Asphalt				338deg	25NM
					079deg	4.8NM
<b>Flight No. 813-03-04</b>	<b>Arrival Airport Elev. – 2,659ft.</b>			<b>Estimated totals for this flight&gt;&gt;&gt;</b>		<b>57NM</b>

## Biggles's Challenges

### 813-03-05: Into the Valleys

This is an interesting flight along a selection of glacier valleys, followed by a difficult landing. And for the return flight to Valdez, set up for a short take off at full power to the west and just follow Hwy 4 in to Valdez Canyon into the bay.

From - To	Flight Description.				Course (Leg)	Distance (Leg)
	Dep. Rwy – 24	Init. Hdg – 090deg.	Init. Alt – 1,500ft	Apt Elev. – 83ft		
Valdez (PAVD) Alaska  To  Thompson Pass (K55) Alaska	<b>Departure:</b> To Fix 05. Tune Nav 1 to JOH VORDME 116.70. After take off, make a 180 degree turn left to 092deg, climb to 1,500ft and head towards the end of the bay.				092deg	12.7NM
	<b>Enroute:</b>					
	To Fix 07. Follow the valley round to the left, and then right. Waypoint is when the DME reads 42.9 NM.....				Av c'se 023deg	4.2NM
	To Fix 09. Turn left, and head up the snow-covered valley. Set the throttle and pitch controls for full climb rate, and climb to 4,500ft. Watch the DME as you climb up the pass, the waypoint is reached when the DME reads 47.7NM.....				Av c'se 311deg	7.9NM
	To Fix 11. Turn right to 345deg and head along the valley.....				345deg	4.0NM
	To Fix 12. Follow the wide valley round to the right, and as it narrows start your descent towards 3,000ft. Waypoint is when the DME reads 52.4NM.....				086deg	3.5NM
	To Fix 13. Follow the valley round to the right, which then opens out into a wide brown valley.....				131deg	4.0NM
	To Fix 14. Note the time, turn left to 083deg, and keep as close to the left wall of the valley as you dare.....				083deg	1.9NM
	To Fix 15. Turn left to 050deg, and keep as close to the left wall of the valley as you dare. Waypoint reached 1.5mins after Fix 13.				050deg	1.9NM
	To Fix 16. Make a right 090deg turn as tightly as you can.....				–	0.6NM
<b>Approach:</b> To Fix 19. You will see a road in front of you. Head along the left side of the road, and aim to pass through the small valley, as the road climbs over the hill to the right. Get the aeroplane into a landing configuration with full flaps, and descend to exactly 2,300ft Keep to the right and hug the hill as closely as you can. Make sure you are at 2,300ft. The runway will appear in a shallow bowl in front of you. Keep round to the right to give yourself a bit more room, and then sideslip to the left and hope you can stop before the end of this rather short runway.						
Land – Thompson Pass Runway 24    Length – 2,530ft    Width – 110ft    Surface – Asphalt				238deg	3.8NM	
<b>Flight No. 813-03-05</b>	<b>Arrival Airport Elev. – 2,080ft.</b>			<b>Estimated totals for this flight&gt;&gt;&gt;</b>		<b>44.0NM</b>