EAST EUROPE – SIBERIA AREA

This brief covers the various routes to Eastern Europe and Russia. It also covers the routes across Russia to India, China and Japan.

METRIC UNITS

Ht, elevation, FL: metres.	Surface wind: metres per sec.		
Speed and Upper wind: kph.	Cloud: tenths or octas.		
Distance: km and metres.	QFE: (mmHg) mb to foreign operators.		
Approx conversions:	SPEED (km/hr)	/2	= knots
	WIND (m/sec)	×2	= knots
	ROC/ROD (m/sec)	×200	= ft/min

See conversion tables in relevant charting documentation.

Note: Conversions should be crosschecked by all pilots.

ALTIMETRY

C.I.S (excluding member countries listed below)

At or above TL: RVSM FL

At or below Trans Ht in the aerodrome area: Ht in metres (i.e. QFE).

At or below Trans Ht outside the aerodrome area: Altitude in metres (i.e. QNH).

QNH available on request. It may be included on the ATIS (e.g. Moscow) and on HF broadcasts.

Lido charts give:

1. Ht inft and metres (QFE).
2. Equivalent altitude inft (QNH).
3. FL in feet and metres (1013.2).
4. Trans Ht and a derived Trans Alt.

AFGHANISTAN

RVSM only available between FL340-410 due Military Ops.

BALTIC STATES (ESTONIA, LATVIA, LITHUANIA) –

As Western Europe.

BELARUS

FL290-410 ICAO RVSM FL System will be used and at crews request expressed in meters or as a FL.

BULGARIA

At or above Transition Level, Flight Levels in feet. At or below Transition Height, height (QFE) in metres. However ATC now often give clearances below Transition in feet on QNH as opposed to metres on QFE.

CZECH AND SLOVAK REPUBLICS

As Western Europe.

GEORGIA

As Western Europe.

HUNGARY

As Western Europe.

MOLDOVA

As Western Europe.

MONGOLIA

At or above Transition Level, Flight Levels in Metres (Using China's Metric FLAS RVSM – FL290-FL410). Vertical separation is based on semi-circular rules using MAG track. Plan to move to Russian RVSM levels in 2013.

POLAND

As Western Europe.

ROMANIA

As Western Europe but metres may be used below Transition Altitude.

UKRAINE

FL290-410 ICAO RVSM FL System will be used and at crews request expressed in meters or as a FL.

RVSM

ATC will apply 1,000ft separation between "Approved" aircraft. Item 10 of the ICAO flight plan should contain "W" to indicate RVSM approved aircraft.

STRATEGIC LATERAL OFFSETS PROCEDURES (SLOP)

In non radar environments it is the pilots decision whether to offset 1 or 2 nautical miles to the RIGHT of the centreline.

Within radar airspace lateral offsets, of 1 mile to the RIGHT of centreline, require approval from ATC.

SUSPENSION OF RVSM

ATC will consider suspending RVSM procedures when there are pilot reports of greater than moderate turbulence. Vertical separation will then be 600 m (2,000ft).

WAKE TURBULENCE

Pilots encountering wake turbulence should contact ATC as soon as possible and request either:

1. Flight Level change,
2. A vector if possible, or
3. A lateral offset.

DEVIATION ACTIONS TAKEN BY THE PILOT

When deviating for any reason by 90 m (300ft) or more from cleared flight level by ATC in RVSM airspace, report to the relevant ATS unit concerned via radio or data link as soon as practicable.

RVSM TRANSITION PROCEDURES

Russia-Mongolia (LHR-PEK/LHR-HKG):

- Expect climb from FLft to FLm 5 mins after boundary (GINOM/NIGOR).

Mongolia-Russia (PEK-LHR):

- Expect descent from FLm to FLft to be level 5 mins before boundary (AMUTA).

Russia-Mongolia (LHR-PVG):

- Expect climb from FLft to FLm to be level 5 mins before boundary (DARNO).

Mongolia-Russia (PVG-LHR/HKG-LHR):

- Expect climb from FLft to FLm 5 mins after boundary (DARNO).

CONTINGENCY

In case of no communication with ATC/ATS at the switch over time the following contingency procedure as per Doc 4444 chapter 15.3 shall be followed:

- Make a call on the emergency frequency 121.5 MHz to announce your intentions then:
- In airspace where procedural separation is being applied, maintain the last assigned speed and level, or minimum flight altitude if higher, for a period of 20 minutes following the aircraft's failure to report its position over a compulsory reporting point and thereafter adjust level and speed in accordance with the filed flight plan.

MINIMUM SAFE ALTITUDES

C.I.S determined MSAs are as follows:

- In the take-off and landing area at least 1,000ft (300 m).

- In the approach area and along airways:
  - Over relatively flat terrain at least 2,000ft (600 m).
  - In mountainous areas at least 3,000ft (900 m) above the highest obstacle located within 13.5 nm (25 km) of the airway centre line.

BORDER CROSSING

CHINA

Border crossing only allowed within a specified air corridor or over a specified entry/exit point. ATC must be contacted 15-20 mins prior to the border giving call sign, ETA for border and FL. Border crossing clearance should then be issued.

The border must not be crossed without ATC permission. A position report must be made when crossing the border and the change to metric cruising levels for China co-ordinated.

INDIA

Call 10 mins prior to the FIR boundary.

PAKISTAN

Call 15 mins prior to the FIR boundary.

UZBEKISTAN

Call 10 mins prior to FIR boundary.

TOKYO/C.I.S

N-Bound	Call KHABAROVSK CONTROL on HF requesting clearance to cross the C.I.S border and enter KHABAROVSK FIR, also the requested FL. There may be difficulty establishing contact with KHABAROVSK CONTROL on both HF and VHF when N-bound over the SEA OF JAPAN. SAPPORO CONTROLmay be able to relay entry clearance.
S-Bound	Call KHABAROVSK CONTROL and request relay to SAPPORO of estimate for the FIR boundary and requested FL. If unsuccessful call TOKYO CONTROL on HF.

AIR TRAFFIC CONTROL

C.I.S

Almost all airfield marker beacons are modulated to 3,000 Hz – airways lamp activates.

Communications
In the C.I.S care should be taken to adhere to standard phraseology as understanding of English is limited. Communications sometimes take place through an interpreter rather than direct with the controller, thus requests for further descent etc, should be made early. There is often an apparent lack of awareness among the controllers of deteriorating situations.

ATC may ask: “Request your flying conditions”, which means information as to whether you are flying over/in/below cloud, wind and ground speed in km/hr. A conversion table is given in the Flight Guide Supplement.

VHF is satisfactory and is used over practically the whole of the C.I.S except for part of KHABAROVSK FIR and on the Oceanic portion of the ARCTICA route, where HF is required. On W-bound flights there is sometimes difficulty establishing contact with KHABAROVSK ATC on both VHF and HF when over the SEA of JAPAN. In such case SAPPORO CONTROL may be able to relay entry clearance.

The standard ICAO phonetic alphabet is used throughout the C.I.S. However, reporting points are sometimes given using their Russian name instead of the phonetic callsign.

SELCAL is not usually available.

The control frequency in use must be closely monitored. In case of no direct contact with the appropriate control/centre, try a sub-centre/relay.

Direct routings are not normally available, but deviations due to weather may be permitted with ATC permission and will probably be with Radar assistance.

121.5 is available at all ACCs.

Transponders are used as normal, including emergency codes. A discrete code should be given by ATC, otherwise squawk A2000.

Flight Plan
A Flight Plan must be filed and clearance received for all flights. In the Flight Plan indicate:

Cruising levels, on standard setting, in tens of metres with 4 digits and prefixed with S, e.g. 8,850 m = S0885.

Speed in km/hr as 4 figures with the prefix K, e.g. 600 km/hr = K0600.

Speed Control
There is a 270 kts speed restriction below FL100 down to transition level.

Max rate of descent = 3,000 fpm below FL100.

Departures and Arrivals
Arriving aircraft usually stepped down with numerous level changes.

PAR control may be poor; information may be given as deviation from C/L and G/P in metres, corrective action being left to the pilot.

Departure may consist of short stepped climbs with several requests for passing levels.

ILS Glide Slope
Many provincial airfields have glideslope angles which are shallower than the standard 3°.

TCAS

Not all aircraft operating in the C.I.S have standard transponders, so nearby traffic may not show as TCAS targets. The ability of TCAS to resolve a conflict with some C.I.S aircraft is limited, even when targets are shown on the display – so an RA generated on our aircraft may not have a co-ordinated manoeuvre on the other aircraft.

DIVERSION

If an emergency landing becomes necessary, ATC will provide Radar assistance for an approach and landing at a suitable aerodrome. The approach details will be given by the Approach Control Unit concerned and the approach itself will, if possible, be assisted by PAR. Information may be given as deviation from the centre line and glide path in m, corrective action being left to the crew.

An SAS 767 from Tokyo to Stockholm was forced to seek a diversion following an engine shut down. A Mayday call was made and ATC efficiently vectored the aircraft for an ILS at Syktyvkar, 61 38N 50 50E. Using standard phrases there were no language problems. The landing QFE was at first given in mm but on request both QFE and QNH were given in mb. The time from the Mayday call to touch down was some 50 minutes.

In the case of a normal diversion to a civil aerodrome, the diversion should be requested from ATC in the usual way.

ALTERNATES

Over Siberia the number of adequate civil en-route alternates is limited. See Siberia Flight Progress chart for information relating to routes and alternates.

The route SE over Afghanistan is rather better served.

It should be emphasised that ground handling facilities at en-route alternate airfields may be severely limited and diversion to such airfields should be for emergency only.

Any Guidance on ground manoeuvring, found within the airfield brief for those airfields, is given to ensure that the aircraft does not become disabled by departing the paved surface as some of the taxiways are not suitable for use. Crews should consider the use of differential braking and asymmetric power when executing 180 degree turns on the runway.

Information from the AIP and Boeing airfield surveys has been used to determine the suitability of taxiways, however, crews should request marshalling assistance if there is any doubt about wheel clearance on the paved surface.

Parking should be restricted to ‘taxi out’ stands as the availability of a suitable towbar and tug cannot be assured.

Fuel grade TS-1 (written TC-1) is the Russian equivalent of Jet-A1 and available at all the airfields.

De-icing is not generally an issue, however anti-icing can be problematic as there may be no published hold-over times available for the fluid used.

ARCTICA 1 ROUTE

This northerly route takes the aircraft over Norway and above the Arctic Circle to 7730N6600E and down over Siberia.

From LATEN,7230N3205E to NARKI,7527N8726E on B483 is classified as an Oceanic leg and all normal Oceanic procedures should be followed. Clearance for this leg will be passed by BODO Oceanic Eastbound and by Khatanga Control Westbound.

MET reports at En-Route reporting points may be requested during the Oceanic leg.

FUEL – LOW EN ROUTE TEMPERATURES

At the flight planning stage consideration should be given to the forecast en-route temperatures and the freeze point of fuel in tanks. Consult the FCOM for your aircraft type bearing in mind that extra fuel may be required to carry out the recommended procedures to keep fuel temperatures above limits.

COMPASS UNRELIABLE

Between reporting point's Narki,7527N8726E and Agada,7012N10811E, on the Arctica 1 Route, flights enter the Compass Unreliable area. Details on procedures to be adopted in case of Navigational Equipment failures can be found within the relevant FCOM.

TERRAIN

Note the high Safety Altitudes in the area of Almaty (24,000ft) and Kabul (over 19,000ft). This is of significance in case of a pressurisation failure.

Across Siberia, the terrain is rather lower. The Urals reach 6,300ft asl but there are further mountains to the E. On the Arctica route the terrain on the island of Novaya Zemlya is believed to not exceed a maximum of 6,700ft asl with a lower range of mountains on the mainland to 2,600ft asl just beyond the coast in point Narki of B483. At about 118E there are mountains to 10,200ft asl S of R22 and nearer the coast there is much high ground up to 8,800ft asl.