

ATP 3.3.4.2(C)

NATIONAL SRD – CZECH REPUBLIC (Formerly National Annex D)

1. Introduction.

Czech Republic has no indigenous tanker assets. Czech Republic has 1 type of receiver aircraft – JAS-39C/D Gripen. These aircraft are leased from Sweden.

2. Technical Data of JAS-39**DIMENSIONS**

Span (incl. launchers)	8.4 m
Length (excl. pitot tube)	14.1m
Height overall	4.5 m
Wheel track	2.4 m
Wheel base	5.2 m

WEIGHTS

Empty weight	6.8 tonnes
Internal fuel	2.4 tonnes
Total load capacity	5.3 tonnes
Max take-off weight.	14 tonnes



Figure 1 – Technical Data of JAS-39



a. General Information.

- The JAS-39 Gripen C/D are equipped with a telescopic retractable probe mast located on the left side above the air intake.
- The drogue is affected by aerodynamic effects in the vicinity of the airframe (mainly bow wave). Missed contact may lead the drogue to hit the airframe or glass-cocpit.
- The JAS-39 is not equipped with probe nozzle light.
- Global position of the probe, particularly for the JAS-39D, is a major constraint for AAR.



1) JAS-39 C: The probe tip in extended position (204cm plus 38cm probe tip) is at the level of the pilot's seat.



2) JAS-39 D: The probe's tip position in extended position is between the first and the second seat.

- Lateral position of the probe tip and the glass-cockpit is 68cm (*Fig. 2*).



Figure 2

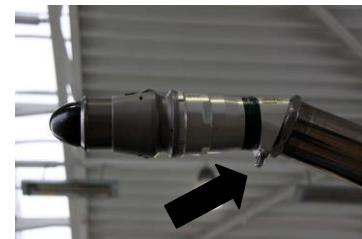


Figure 3

b. Refueling Heights and Speeds.

- AAR envelope below 25,000ft speed 180 – 325KIAS. From 25,000ft up to 33,00ft speed 220-325KIAS/M0.9.
- The recommended speed range when connected to the AAR drogue is 220-275 KIAS.
- The receiver closure rate is 2-3ft/sec. Don't exceed 4ft/sec.

c. AAR Operations.

- The JAS-39 requires MA-3 or MA-4 coupling for the soft drogue (<50psi).
- AAR shall not occur in turbulence greater than light.
- JAS-39 probe mast contains a pin which may be a “snag” point during coupling engagements and disengagements with the probe nozzle. This pin could damage the drogue canopy which could adversely affect the drag force of the drogue, resulting in instability during extension and rewind operations (*Fig. 3*).
- After an AAR mission with the JAS-39, maintenance will inspect the drogue assembly of the appropriate hose system(s) for canopy tears and other damage. This is due to the location of the Gripen's probe pin.

d. Fuel Types Available for JAS-39.

- Primary fuel is F-34 (JP-8). F-35 (JP-1), civil JET-A1 are cleared as alternative fuels.

e. Receiver Types Certified.

- SWE KC-130 (TP-84T)
- USA KC-135MPRS
- FAF KC-135FR
- USA KC-10
- DEU A-310MRTT

f. Dimensions.

- See aircraft drawing (*2. Technical Data of JAS-39*).

g. RV Aids.

- The aircraft has the following radio, navigation and RV aids:
 - (1) VHF, UHF, HF and HQ I/II radios.
 - (2) VOR, DME, INS/GPS.

h. Restrictions / Limitations

- Permissible RV procedures for air-to-air refuelling with JAS39 are, in order of priority, **Alpha**, **Echo**, **Golf** and **Foxtrot**.
- AAR using the Boom Drogue Adaptor is prohibited due to the position of the probe mast.
- AAR the JAS-39 in degraded flight control system is not authorized.
- Max. speed MACH for extended probe is 0.90. This limit is based upon the aerodynamic loads on the receiver's probe while in contact.
- Max. high for AAR is 33,000ft.
- Max. closing speed for coupling is 4ft/sec.

3. POC for National SRD

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4. POC for Tanker/Receiver Clearances

(As for National SRD).

5. POC for STANEVAL

(As for National SRD).

6. National SRD Last Updated. 1 Feb 13.

7. National Reservations. Establishment of ATP-3.3.4.2(C) will be applied only for JAS-39 aircraft in accordance aircraft manufacturer approval for air-to-air refuelling.