

CANADA FLIGHT SUPPLEMENT / GPH 205

Effective 0901Z 20 November 2008 to 0901Z 15 January 2009

MILITARY FLIGHT DATA AND PROCEDURES E1

MILITARY FLIGHT DATA AND PROCEDURES

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GENERAL INFORMATION

The information contained in this section is pertinent to military operations in Canada and the North Atlantic. Appropriate information on Flight Data and Procedures in the United States is also included. The current amendment lists for FLIP Documents directly related to the Military contents associated with the GPH 205 & GPH 205(S) are as follows:

	Amendment			
	List No.	Date	Issue	Effective Date
GPH 200	—	—	—	20 Nov 2008
206	—	—	—	20 Nov 2008
207	—	—	—	20 Nov 2008
204A	—	—	83	20 Nov 2008
209	CH3	—	—	15 Jun 2005
1 CAD Orders Vol 2	—	21 Sep 2007	—	
NDHQ Flying Orders Book 1	CH5	01 Feb 2006	—	25 May 2001
NDHQ Flying Orders Book 2	CH3	01 Feb 2006	—	25 May 2001
Manual of Instrument Flying	CH4	30 Sep 2004	—	31 Mar 2001
SIR Agreement	—	—	—	Dec 1994

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FLIGHT PROCEDURES

PROCEDURES FOR THE PREVENTION OF DANGEROUS MILITARY ACTIVITIES BETWEEN CANADA AND THE CIS

SECTION 1

Communication Channels:

For the purpose of implementing this Agreement, the armed forces of the Parties shall provide for establishing and maintaining, as necessary, communications at the following levels:

- (a) The Task Force Commander of the armed forces of one Party present in a Special Caution Area and the Task Force Commander of the armed forces of the other Party in the same Area;
- (b) Commander* of a ship, aircraft, ground vehicle or ground unit of the armed forces of one Party and the Commander* of a ship, aircraft, ground vehicle or ground unit of the armed forces of the other Party; and
- (c) Commander* of an aircraft of the armed forces of one Party and an air traffic control or monitoring facility of the other Party.

* "Commander" means the individual with authority to command or lead a ship, aircraft, ground vehicle or ground unit.

SECTION 2

Radio Frequencies:

1. To establish radio communication, as necessary, the following frequencies shall be used:
 - (a) between aircraft of the Parties or between an aircraft of one Party and an air traffic control or monitoring facility of the other Party: on VHF band frequency 121.5 MHz or 243.0 MHz, or on HF band frequency 4125.0 KHz (alternate 6215.0 KHz); after initial contact is made, the working frequency 130.0 MHz, or 4125.0 KHz should be used;
 - (b) between ships of the Parties and ship-to-shore: on VHF band frequency 156.8 MHz, or on HF band frequency 2182.0 KHz;
 - (c) between a ship of one Party and an aircraft of the other Party: on VHF band frequency 121.5 MHz or 243.0 MHz; after initial contact is made, the working frequency 130.0 MHz or 278.0 MHz shall be used; and
 - (d) between ground vehicles or ground units of the armed forces of the Parties: on VHF band frequency 44.0 MHz (alternate 46.5 MHz), or on HF band frequency 4125.0 KHz (alternate 6215.0 KHz).
2. The Parties agree to conduct necessary testing to ensure reliability of the communications channels agreed by the Parties.

SECTION 3

Signals and Phrases:

1. The Parties recognize that the lack of radio communication can increase the danger to the personnel and equipment of their armed forces involved in any incident which may arise as a result of dangerous military activities. Personnel of the armed forces of the Parties involved in such incidents who are unable to establish radio communication, or who establish radio communication but cannot be understood, shall try to communicate using those signals referred to in this Section. In addition, such personnel shall attempt to establish communications with other personnel of their armed forces, who in turn shall take measures to resolve the incident through communications channels set forth in this Agreement.
2. Ship-to-ship and ship-to-shore communications shall be conducted using signals and phrases as set forth in the International Code of Signals of 1965 and the Special Signals developed in accordance with the Agreement between the Government of the United States of America and the Government of the Commonwealth of Independent States on the Prevention of Incidents On and Over the High Seas of 1972. Aircraft-to-aircraft communications shall be conducted using signals and phrases for intercepting and intercepted aircraft contained in the Rules of the Air, Annex 2 to the 1944 Convention on International Civil Aviation (Chicago Convention). The additional signals and phrases contained in paragraph 4 of this Section may also be used.

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- Whenever aircraft of the Parties come into visual contact with each other, their aircrews shall monitor the frequency 121.5 MHz or 243.0 MHz. If it is necessary to exchange information, but communications in a common language are not possible, attempts shall be made to convey essential information and acknowledgement of instructions by using phrases referred to in paragraphs 2 and 4 of this Section. If radio communication is not possible, then visual signals shall be used.
- The following summary plus table contains frequencies signals and phrases for communications between aircraft, ships, ground vehicles or ground units, in accordance with this Agreement:

FREQUENCIES FOR USE WITH RUSSIAN MILITARY AIRCRAFT (RMA)

	Initial Contact		Sustained Communication
	Primary	Alternate	
VHF	121.5 MHz	None	130.0 MHz
UHF	243.0 MHz	None	278.0 MHz
HF	4125.0 KHz	6215.0 KHz	4125.0 KHz

Always monitor GUARD. Attempt contact on the primary frequency, if no response, attempt the alternate frequency (if available), interceptors use appropriate visual signal. If sustained communication is desired, the calling party uses the additional phrase "RADIO CONTACT". After the other party responds with "RADIO CONTACT", both parties switch to the appropriate sustained frequency

TABLE OF CALL SIGNS FOR USE WITH RUSSIAN FORCES

Type Platform	Russian C.S. (Phonetic)	United States C.S.	Canadian C.S.
Aircraft	SEDLO (Sed-low')	IVORY EAGLE	HORSE
ATC or Monitor	ZEMLYA (Zem-le-yaw')	ELECTRIC LIGHT	CLOUD
Ship	BUGEL (Boo'-gel)	PORT MAST	BEAVER
Ground Unit	POLYA (Po-le-yaw')	POST POUNDER	SWORD

MUTUALLY AGREED PHRASES

CLOSE TO TERRITORY	(within 27NM/50KM of sovereign airspace)
TERRITORY ENTERED	(in sovereign airspace)
STOP INTERFERENCE	(stop dangerous command net radio interference)
STOP LASER	(stop dangerous use of laser)
LASER DANGER	(planned use of laser may create danger in this area)
REQUEST LANDING	(self explanatory)
RADIO CONTACT	(desire radio contact on sustained communication frequency)
WILCO	(understood will comply)
CANNOT	(understood/unable to comply)
REPEAT	(say again)
AM LOST	(position unknown)
MAYDAY	(international distress call)
DESCEND	(self explanatory)

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PROCEDURES TO INITIATE CONTACT WITH / WARN RUSSIANS

1. Transmit his call sign three times
 2. Followed by "DELTA ECHO" (meaning from)
 3. Followed by your call sign (IVORY EAGLE or ELECTRIC LIGHT)
 4. Followed by appropriate agreed phrase. For example:
SEDLO, SEDLO, SEDLO, DELTA ECHO, IVORY EAGLE, agreed phrase"
- Expected Response:

RMA alters course, stops interference, etc.

Radio acknowledgement, if accomplished, should be as below:

1. RMA transmits your call sign three times
2. Followed by "DELTA ECHO"
3. Followed by his call sign (SEDLO)
4. Followed by appropriate agreed phrase, if required:
"IVORY EAGLE, IVORY EAGLE, IVORY EAGLE, DELTA ECHO, SEDLO"

SUBSEQUENT TRANSMISSIONS use call signs only once:

"IVORY EAGLE, DELTA ECHO, SEDLO, REQUEST LANDING"

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ADDITIONAL SIGNALS, PHRASES AND APPROPRIATE RESPONSES

MEANING OF SIGNAL/PHRASE	VISUAL SIGNALS FOR AIRCRAFT	PHRASE	PRONUNCIATION	APPROPRIATE RESPONSE
You are in close proximity to our national territory	DAY and NIGHT —The intercepting aircraft flying abeam and parallel to the intercepted aircraft, rocking wings and flashing navigation lights at slow regular intervals, followed by a series of shallow bank "S" turns, in the horizontal plane, approximately 10 degrees either side of line of flight.	"CLOSE TO TERRITORY"	CLOSE-TO TERR-I-TORY	Intercepted aircraft turns away from national territory.
You have entered into our national territory	DAY and NIGHT —The intercepting aircraft, flying abeam and parallel to the intercepted aircraft, rapidly flashing navigation lights while rocking wings, followed by a shallow turn executed in the horizontal plane, with a 15-20 degree bank in the direction of the intercepted aircraft. The approach shall be accomplished with great caution and not closer than one wing span. Repeat until intercepted aircraft acknowledges or radio contact is established.	"TERRITORY ENTERED"	TERR-I-TORY EN-TERED	Intercepted aircraft shall follow the appropriate instructions of the intercepting aircraft.
I need to land	DAY and NIGHT —The aircraft flashes its navigation lights repeatedly and rapidly while rocking wings, followed by a gentle porpoising of the aircraft.	"REQUEST LANDING"	RE-QUEST LAN-DING	Intercepting aircraft assists intercepted aircraft.
I request radio communications on 130.0 MHz or 278.0 MHz (Initial contact is established on 121.5 MHz or 243.0 MHz)	DAY and NIGHT — If 121.5 MHz and 243.0 MHz are inoperative, aircraft continuously alternates one long with one short flash of navigation lights while rocking wings.	"RADIO CONTACT"	RA-DI-O CON-TAC	Acknowledge requesting aircraft, ship, or air traffic control or monitoring facility with phrase "RADIO CONTACT". After contact is made, tune to 130.0 MHz or 278.0 MHz.
My aircraft requests radio contact with your ship on 121.5 MHz or 243.0 MHz	DAY and NIGHT — Aircraft circling the ship, in a left hand turn, at a safe distance and altitude until radio contact is established.	"RADIO CONTACT"	RA-DI-O CON-TAC	The aircraft and ship establish radio contact by exchanging the phrase "RADIO CONTACT"; then both shall switch to 130.0 MHz or 278.0 MHz, as appropriate, for further radio communication.
I am experiencing a dangerous level of interference with my command and control network. (Transmit PHRASE on contact frequency)	NONE	"STOP INTERFERENCE"	STOP IN-TER-FER-ENCE	Investigate the circumstances and, as appropriate, terminate any activities which may be causing the dangerous interference.
My planned use of a laser may create danger in this area. (Transmit PHRASE on contact frequency)	NONE	"LASER DANGER"	LAS-ER DAN-GER	Take appropriate measures to prevent harm to personnel or damage to equipment.
I am experiencing a dangerous level of laser radiation. (Transmit PHRASE on contact frequency)	NONE	"STOP LASER"	STOP LA-SER	Investigate the circumstances and, as appropriate, terminate any use of a laser that could harm to personnel or damage to equipment.

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MILITARY ADIZ - NORTH ATLANTIC

- (a) Military aircraft which will penetrate the ADIZ towards the continental land mass of Greenland and North America shall file an IFR or DVFR flight plan or Defense flight itinerary with an appropriate ATC unit or ADIZ station including the estimated time and place of ADIZ penetration. The pilot-in-command of an aircraft operating on an IFR flight plan and in accordance with an ATC clearance on a flight that will penetrate the ADIZ is not required to include estimated time and place of ADIZ penetration in the filed flight plan or in a routine in-flight position report.
- (b) Aircraft departing from a location within the ADIZ shall file an IFR or DVFR flight plan with an ATC unit or ADIZ station prior to take-off.
- (c) Aircraft departing from locations within Greenland or within the ADIZ where flight planning facilities are not available shall: contact an ATC unit or ADIZ station as soon as possible, and airfile, including estimated time and place of ADIZ penetration where applicable and Sondrestrom FIC 121.3 ADIZ 126.2 236.6

NOTE: Aircraft operating laterally within the ADIZ shall conduct as much of the flight as possible south of the centreline.

REPORTING: PX to ADIZ station as soon as possible after take-off.

TOLERANCES: Estimates shall be revised, with ATC or ADIZ station, if the aircraft will not be within 5 minutes on 20 nm.

RADIO EQUIPMENT: IFF/SIF - Military aircraft so equipped shall operate IFF/SIF in accordance with command directions (for US/CAN military aircraft, NORAD IFF/SIF Instr. 1-61 refers) RADAR - Radar assistance is available in emergencies.

VHF/UHF DIRECTION FINDING EQUIPMENT

VHF/UHF Direction Finding (DF) equipment installed at Canadian Forces ATC Units is authorized as a navigational aid for Canadian Forces aircraft operating under VFR or IFR. Service provided includes homing, check steers and bearings and emergency approach procedures.

MILITARY ADIZ - ICELAND

APPLICATION: All US military aircraft

FLIGHT PLANNING: File DVFR or IFR when the flight penetrates or operates within the Iceland Military ADIZ. Pilots departing on DVFR flight plans from joint use airports will append the initial call up to the appropriate civil authority with the phrase "DVFR to (destination)".

NOTE: Airfile will not be submitted for flights penetrating or operating within the Iceland Military ADIZ. However, changes may be initiated en route if the flight has continued IFR or DVFR to the point of change.

REPORTING: Prior to entering or operating in the ADIZ, report time, position and altitude at last reporting point along path and ETA next reporting point, or estimate time, position and altitude of penetration no sooner than 30 nor later than 15 minutes prior to penetration. Make position reports at least once an hour within ADIZ or as required, use established reporting points when practicable.

TOLERANCES:

TIME – Plus or minus 5 minutes.

DISTANCE – 20NM from centreline of proposed route if entering or operating within Military ADIZ.

ALTITUDE DEVIATION – None, unless an amended ATC clearance is obtained, or, if operating where no ATC clearance is required, prior notice is given to an appropriate facility, except that in this case normal descent may be initiated a reasonable distance from the intended destination.

REVISIONS: Transmit corrected information to an appropriate facility immediately it becomes apparent that the flight plan cannot be adhered to.

EMERGENCY PROCEDURES: If deviation from current flight plan becomes necessary, report this as soon as practicable to Military Flight Service and/or the appropriate Icelandic facility. Flight plans will not be submitted or changed in flight to provide initial entry into the ADIZ except in an emergency.

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USAF AIR REFUELING ROUTES IN CANADIAN AIRSPACE

The DND/DoT/DoD have established air refueling (AR) tracks and air traffic control procedures for use in Canadian airspace. The ARs are described below. For additional information, contact 1 Canadian Air Division. Attention: A3 ASR4.

NUMBER	ARIP	ARCP	NAVIGATION CHECK POINTS	EXIT	CR PLAN	REFUELING ALTITUDES	SCHEDULING UNIT	ASSIGNED ACC
AR-020 (NE)	N42 56 43 W67 30 29 YQI 250/82	N43 49 30 W66 04 59 YQI	N44 55 23 W63 24 09 YHZ	N46 09 12 W60 03 23 YQY	A 341.75 B 349.7 C 2-1-1 D 5/1 E 62/125 Note 1	15,000 - FL280	NEADS/DOAS/ROME, NY DSN 587-6247 Tel 315-334-6247 doas@neads.ang.af.mil	Boston 269.3 133.45 Moncton 368.5 123.9
AR-020 (SW)	N46 53 23 W57 53 27 YQY 086/100	N46 09 12 W60 03 23 YQY	N44 55 23 W63 24 09 YHZ	N43 49 30 W66 04 59 YQI	A 341.75 B 349.7 C 2-1-1 D 5/1 E 62/125 Note 1	15,000 - FL280 Note 2	NEADS/DOAS/ROME, NY DSN 587-6247 Tel 315-334-6247 doas@neads.ang.af.mil	Gander 294.5/133.9(W/B) 247.0/133.55(E/B) 266.3 Moncton 118.6
AR-62 (E)	N54 40 00 W70 51 00 YKL VOR/DME 292/143	N55 00 00 W68 41 00 YKL VOR/DME 304/068	N55 23 00 W65 43 00 YKL VOR/DME 070/049	N55 50 00 W60 51 00 YQR VOR/DME 017/152	A 242.05 B 243.45 C 5-1-0 D 3/1 E 51/114	FL210 thru FL280	NEADS/DOAS/ROME, NY DSN 587-6247 Tel 315-334-6247 doas@neads.ang.af.mil	GANDER FIR/ MONTREAL FIR ARCP: Montreal 132.9 EXIT: Gander 135.4
AR-62 (W)	N55 50 00 W60 51 00 YQR VOR/DME 017/152	N55 38 00 W63 10 00 YKL VOR/DME 091/133	N55 23 00 W65 43 00 YKL VOR/DME 070/049	N54 40 00 W70 51 00 YKL VOR/DME 292/143	A 242.05 B 243.45 C 5-1-0 D 3/1 E 51/114	FL210 thru FL280	NEADS/DOAS/ROME, NY DSN 587-6247 Tel 315-334-6247 doas@neads.ang.af.mil	GANDER FIR/ MONTREAL FIR ARCP: Gander 135.4 EXIT: Montreal 132.9

REMARKS AR-62 (E) & AR-62 (W): Track comes within 12NM of CYA732 (controlled by Goose Bay) Primary means of scheduling track reservation requests is email to: doas@neads.ang.af.mil. Transatlantic fighter crossings will still require altitude reservations.

Note 1 - Alternate Primary freq: 305.5. Alternate Backup freq: 265.65

Note 2 - AR20 (SW) REFUELING ALTITUDES: btwn FL230 and FL250, or btwn FL260 and FL280

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CANADIAN MILITARY AERONAUTICAL COMMUNICATIONS SYSTEM (MACS)

This service is provided for non-tactical air-ground communications and may be used for position reporting, weather information and search and rescue. MACS aeronautical stations have point-to-point relay capability which is also supported for message traffic by a teletype. Therefore, position reports and messages destined for any location may be relayed through any MACS station.

PHONE PATCH – Facilities are available at each MACS aeronautical station to provide official phone patch service in accordance with existing communication instructions. In addition to normal telephone lines, MACS Edmonton, Trenton and St John's have the capability of patching into GP CSN/AUTOVON. THIS FACILITY IS INSECURE. CLASSIFIED MATTERS SHALL NOT BE DISCUSSED.

TRENTON AUTOMATED HOURLY BROADCAST SCHEDULE			BROADCAST CONTENTS EACH HOUR		
TRANSMIT FREQUENCY & SCHEDULE	Time	Broadcast Elements	QAM = ACTUALS and QFZ = FORECASTS		
	H+00 to H+10	No Broadcast (Reserved for live transmission by DND personnel)			
Trenton Military 15034 kHz 1000Z-0000Z 6754 kHz 2300Z-1100Z	H+10 to H+15	YAW Shearwater YZX Greenwood YQX Gander YHZ Halifax	H+30 to H+35	LDZA Zagreb LDSP Split LIPY Ancona BGTL Thule	H+50 to H+55 YYC Calgary YOD Cold Lake YWG Winnipeg YEG Edmonton
	H+15 to H+20	YBG Bagotville YTR Trenton YOW Ottawa YYZ Toronto	H+35 to H+40	EINN Shannon EGPK Prestwick BIKF Keflavik LPLA Lajes	H+55 to H+60 QQ Comox YYJ Victoria YVR Vancouver YXX Abbotsford
Initial MACS Contact Freq East of 90° W 11232 kHz and 9007 kHz West of 90° W 11271 kHz and 8989 kHz	H+20 to H+25	YYC Calgary YOD Cold Lake YWG Winnipeg YEG Edmonton	H+40 to H+45	AW Shearwater YZX Greenwood YQX Gander YHZ Halifax	
	H+25 to H+30	YQQ Comox YYJ Victoria YVR Vancouver YXX Abbotsford	H+45 to H+50	YBG Bagotville YTR Trenton YOW Ottawa YYZ Toronto	

NOTE: In the eventuality of the automated broadcast system failure, voice broadcast will be initiated. (See voice weather broadcast schedule below for timings and locations.)

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VOICE WEATHER BROADCAST SCHEDULE		
<p>Trenton Military 15034 kHz 1000Z-0000Z 6754 kHz 2300Z-1100Z</p> <p>Initial MACS Contact Freq East of 90° W 11232 kHz and 9007 kHz</p> <p>West of 90° W 11271 kHz and 8989 kHz</p>	<p>H+20 to H+40 SSB Voice only</p>	<p>YQX Gander YHZ Halifax YAW Shearwater YZX Greenwood YBG Bagotville YTR Trenton YOW Ottawa YYZ Toronto/Lester B. Pearson Intl YWG Winnipeg YEG Edmonton YOD Cold Lake YQQ Comox YYJ Victoria YXX Abbotsford</p>

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CANADIAN MILITARY AERONAUTICAL COMMUNICATION SYSTEM (MACS)

EDMONTON

Remoted to Trenton

Voice Call – TRENTON MILITARY

Initial MACS Contact Frequency – 11271 kHz and 8989 kHz

FREQUENCIES	USB Voice	3047	3092	4703	5717	6706	6745	*6754	8989	9007
		11232	11265	11271	13257	15031	*15034	17994	18012	23250

TRENTON

Voice Call – TRENTON MILITARY

Initial MACS Contact Frequency – 11232 kHz and 9007 kHz

FREQUENCIES	USB Voice	3047	3092	4703	5717	6706	6745	*6754	8989	9007
		11232	11265	11271	13257	15031	*15034	17994	18012	23250

*Exclusive Weather Broadcast Frequency – Not monitored

ST. JOHN'S

Voice Call – Remoted to Trenton

Voice Call – TRENTON MILITARY

Initial contact frequencies – 11232 kHz and 9007 kHz

SEARCH AND RESCUE – Rescue co-ordination centres in Victoria, Trenton, and Halifax have the capability of communicating on any AEM (OR) SSB frequency by utilizing phone patch facilities through their connected communication facilities.

NOTE: During SAR operations, only those stations actively engaged in these operations will make use of 5717 kHz. Aircraft other than those participating in SAR operations will be instructed to change to another MACS frequency.

MACS TELEPHONE/FACSIMILE NUMBERS

MACS STATION	TELEPHONE
Edmonton AB	(403) 472-2531
Trenton ON	(613) 392-5238/965-3811
Trenton ON (Facsimile)	(613) 392-4791
Trenton ON (CSN)	(319) 827-8800

PILOT TO METRO SERVICE AND WX RADAR FACILITIES

Pilots will make maximum use of PMSV when requesting or reporting enroute weather. When changing to PMSV frequency notify the appropriate ATC unit.

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E12 MILITARY FLIGHT DATA AND PROCEDURES

FLIGHT DATA AND PROCEDURES - UNITED STATES

(U.S. AIRSPACE) GENERAL

When planning flights into United States (U.S.) airspace, aircrew should be aware of the pertinent information contained in the U.S. DOD planning and information documents and publications. GPH 270, FIH, DOD Enroute Supplements and corresponding FLIPs should be consulted before flight.

IN-FLIGHT TECHNICAL ASSISTANCE

Military aircraft requiring in-flight emergency or technical assistance may avail themselves of the facilities listed below. Phone patch may be available through these agencies.

- A. North American Aerospace Defence Command (NORAD)
Call sign: NORAD SECTOR freq: 364.2 MHz

- B. Strategic Command (STRAT COMM)
Call sign: SKYBIRD freq: 311.0 MHz

- C. Air Combat Command (ACC)
Call sign: GOLDEN freq: 381.3 MHz

- D. Air Mobility Command (AMC)
Call sign: MAINSAIL freq: 11175

NOTE: For frequency listings, telephone numbers, and additional procedures world-wide, see DOD Flight Information Handbook (FIH).

USE OF RUNWAY CONDITION READING

U.S. Navy/U.S. Army use of Runway Conditions Readings (RCR), runway condition (braking action) at USAF bases and certain U.S. Navy and U.S. Army airfields is determined by the use of decelerometers. Runway condition at USAF bases is reported by ATC facilities in terms of runway condition reading (RCR). By comparing the RCR to a table in the applicable aircraft flight manual, USAF pilots can determine predicted landing ground roll distances. However, similar tables are not available in the NATOPS manuals for naval aircraft or in army aircraft handbooks. Accordingly, a table of equivalents is furnished to provide a convenient method of converting RCR to comparable braking action and predicted landing ground roll distances for use by Navy and Army pilots. Runway condition at U.S. Navy and U.S. Army airfields will be reported by air traffic controllers in terms of equivalent braking action as delineated in the following table. NOTE - Joint USAF/NASA test have proven RCR measurements invalid where the only form of moisture affecting the runway is water. Readings taken during such conditions will be reported as Wet Runway - WR. Measurements taken when water is present in ice or slush will be reported as RCR 12 or the measured decelerometer reading, whichever is lower.

Runway Condition Reading (RCR)	Equivalent Braking Action	Percent Increase in Landing Roll
02 to 05	Nil	100% or more
06 to 12	Poor	99% to 46%
13 to 18	Fair (Medium)	45% to 16%
19 to 25	Good	15% to 0%

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Runway surface conditions and RCR readings as reported by base operation are appended to hourly aviation weather observations in coded form based on the following:

Wet Runway	WR
Slush on Runway	SLR
Loose Snow on Runway	LSR
Packed Snow on Runway	PSR
Ice on Runway	IR
Patchy conditions (ice, snow or water)	*P
Runway Sanded	SANDED

Asterisk code "P" will be used when the runway is less than fully covered by the coded RSC element. After patchy, a wet or dry report will be added to describe the portions of the runway not covered by ice, snow or slush. Examples:

Condition	Code
Pack snow on runway	PSR 15
Ice on runway - Decelerometer reading of 05.	
Condition patchy, runway sanded	IRO5P/SANDED

NOTE: The Air Force is conducting tests to determine the actual runway condition reading (RCR) of all USAF runways under wet runway conditions. As the tests are completed, the information will be included within the Aerodrome/Facility Remarks for each base.

The following conversion table from CRFI to RCR is provided for military operators operating in Canada whose aircraft operating instructions refer to RCR values.

CRFI	RCR	CRFI	RCR	CRFI	RCR
.2	3.6	.45	11.0	.6	17.0
.25	5.5	.5	13.0	.7	19.0
.3	7.5	.55	15.0	.75	20.5
.4	9.5				

BRAKING COEFFICIENT AND CONVERSION TABLE

GROUND VEHICLE FRICTION CORRELATION CHART										
Nominal Test Speed, 65 Km/h (40 mph) ⁹										
GROUND VEHICLE READING										
BRAKING ACTION LEVEL	RCR ¹	DECEL METERS ²	CRFI ³	MU-METER	SURFACE FRICTION TESTER ⁴	RUNWAY FRICTION TESTER ⁵	BV-11 SKIDDO-METER ⁴	GRIP TESTER ⁶	LOCKED WHEEL DEVICES ⁷	ICAO INDEX ⁸
GOOD	> 17	> 0.53	> 0.58	> 0.50	> 0.54	> 0.51	> 0.59	> 0.49	> 0.51	5
FAIR	12-17	0.37-0.53	0.40-0.58	0.35-0.50	0.38-0.54	0.35-0.51	0.42-0.59	0.34-0.49	0.37-0.51	3-4
POOR	6-11	0.17-0.36	0.20-0.39	0.15-0.34	0.18-0.37	0.18-0.34	0.21-0.41	0.16-0.33	0.18-0.36	2-3
NIL	≤ 5	≤ 0.16	≤ 0.17	≤ 0.14	≤ 0.16	≤ 0.15	≤ 0.19	≤ 0.14	≤ 0.15	1

NOTES:

1. RCR=Runway Condition Report=Decelerometer reading x 32
2. Decelerometers include Tapley, Bowmonk, and electronic recording decelerometer
3. CRFI=Canadian Friction Index
4. Measurements obtained with grooved aero tire inflated to 690 kPa (100 psi)
5. Measurements obtained with smooth ASTM 4 x 8.0 tire inflated to 210 kPa (30 psi)
6. Measurements obtained with smooth ASTM tire inflated to 140 kPa (20 psi)
7. ASTM E-274 skid trailer and E-503 diagonal-braked vehicle equipped with ASTM E-524 smooth test tires inflated to 170 kPa (24 psi)
8. ICAO=International Civil Aviation Organization
9. A wet runway produces a drop in friction with an increase in speed. If the runway has good texture, allowing the water to escape beneath the tire, then the friction value will be less affected by speed. Conversely, a poorly textured surface will produce a larger drop in friction with increase in speed. Friction characteristics can be further reduced by poor drainage because of inadequate slopes or depressions in the runway surface.

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MILITARY FLIGHT DATA AND PROCEDURES E15

NAVY/MARINE CORPS AIRFIELD CATEGORIES

Cat A Afd - Supports IFR operations, with authorized PAR approaches less than 100' HAT, 1/4 mile visibility or 1200' RVR.

Cat B Afd - Supports IFR operations, with authorized PAR approaches less than 200' HAT, 1/2 mile visibility or 2400' RVR - but not less than 100' HAT, 1/4 mile visibility or 1200' RVR.

Cat C Afd - Supports IFR operations, with authorized PAR approaches to not less than 200' HAT, 1/2 mile visibility or 2400' RVR.

Cat D Afd - All other airfields supporting IFR operations.

U.S. COAST GUARD SHORE RADIO STATIONS MAINTAINING WATCH ON 8364 kHz

The following Coast Guard radio stations listen on the 8 MHz ship radio telegraph calling band 8354-8374 kHz of which 8364 kHz is the centre frequency. Stations receiving a call in the 8 MHz band will normally reply on the frequencies indicated.

Activity Call

Boston NMF 8465
San Francisco NMC
Ketchikan NMJ 8728

MILITARY AIRCRAFT ACCIDENT/INCIDENT REPORTING PROCEDURES

OCURRENCE	ACTION BY
	Unit of Occurrence or Aircraft Captain or Senior Survivor
AIR/GROUND ACCIDENTS OF A AND B CATEGORY and/or FATAL, VERY SERIOUS OR SERIOUS INJURY and/or MISSING AIRCRAFT MISSING PERSON(S)	Notify the unit of ownership by fastest possible means. If impractical, phone National Defence Command Centre (1-613-996-9898). Inform NDCC duty watch officer of the nature of the call and ask for DFS. Give all available information in format below. NDCC will record this information. DFS will inform appropriate authorities concerning foreign military aircraft in Canada. If outside North America or Europe, notify the nearest Canadian diplomatic or Foreign Liaison Staff. If a fatality is involved, notify the local coroner and Attorney General of Province.
SIGNIFICANT EVENT (An aircraft event involving either prominent persons, or circumstances likely to create public interest.)	Telephone report to NDCC (1-613-945-5551) followed by an Aircraft Occurrence Report in format below.
AIR/GROUND ACCIDENTS/INCIDENTS	Notify the unit of ownership by fastest possible means. If impractical, telephone NDCC: (1-613-945-5551). Collect calls accepted.

CATEGORIES OF DAMAGE:

These definitions will determine the type of report.

ACCIDENTS

- A CATEGORY The aircraft is destroyed, declared missing or damaged beyond economical repair.
- B CATEGORY The aircraft must be shipped, not flown under its own power, to a contractor or depot level facility for repair.
- C CATEGORY The aircraft sustains damage to a major component requiring repair beyond field level resources including those occurrences where:

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E16 MILITARY FLIGHT DATA AND PROCEDURES

MILITARY AIRCRAFT ACCIDENT/INCIDENT REPORTING PROCEDURES

- (1) the aircraft must be flown to a contractor or depot level facility for repair;
- (2) the damaged major component is shipped to a contractor or depot level facility for repair;
- (3) the repair is carried out by a mobile repair party from depot level or contractor; or
- (4) the major component is damaged beyond economical repair.

INCIDENTS

D CATEGORY Damage to any component that is repaired within field level resources. Note that because powerplants are not classed as major components, any powerplant damage shall be classified in this category regardless of the repair level.

E CATEGORY The aircraft (including powerplant) has no damage, but accident potential exists.

ACCIDENT/INCIDENT REPORT FORMAT:

Send to: COMMAND OF OCCURRENCE

COMMAND OF OWNERSHIP

UNIT OF OWNERSHIP

info copy to:

NDHQ OTTAWA

LOGCON OTTAWA

DCIEM TORONTO (all accidents and incidents with aeromedical aspects)

Subject: AIR ACCIDENT/INCIDENT; or AIRCRAFT GROUND ACCIDENT/INCIDENT
(Add ARMAMENT IMPLICATIONS if appropriate)

1. Injury classification – Green (no injury)
 - Yellow (minor injury)
 - Red (major injury)
 - Black (fatal)
 - Grey (missing)
2. Aircraft type, registration number, and engine serial number if applicable.
3. Unit and Command to which aircraft belongs.
4. Geographic location of occurrence. Give specific position only in case of actual crash site. For other occurrences a general description is sufficient (local area etc.)
5. Category of Damage.
6. Person(s) involved - SIN, (include rank and name only for accidents), how to contact (when means of communication not obvious).
7. Type of flight (Training, Ferry, Testing, Display, etc, or N/A).
8. Description of occurrence. To include significant weather, property damage and armament factors if applicable.
9. What further reporting is planned? – none, Supplementary Report, CF210, Board of Inquiry. Note that if the answer is "none", the information required in the SR must be appended to the initial report (GA-135 refers).
10. Recommended immediate corrective action.
11. Casualties – name and nature of injury (minor injury, serious injury, very serious injury, killed, missing).

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MILITARY AIRCRAFT ACCIDENT/INCIDENT REPORTING PROCEDURES

12. Barrier engagement:
- (a) speed and weight at engagement;
 - (b) position and angle of engagement from runway centreline;
 - (c) use of brakes at engagement?
 - (d) chute used?
 - (e) runout distance;
 - (f) successful or unsuccessful - explain;
 - (g) reason for engagement;
 - (h) damage to arresting system;
 - (i) elapsed time until arresting system available for re-use;
 - (j) aircraft damage caused by engagement.

NEAR-MISS REPORTING PROCEDURES

NON-MILITARY PILOTS

Pilots experiencing a near-miss with military (DND) aircraft should report these occurrences to DND Attn: 1 CAD ICP at (204) 833-2500 Ext 5512 or Fax at (204) 833-2717.

NORTH ATLANTIC AND ALASKA AIR/GROUND COMMUNICATION FREQUENCIES

ANCHORAGE CENTRE

Annette Island (a)	118.5	118.5	284.6	284.6				
Barter Island (a)	120.6	120.6						
Big Delta	135.3	135.3	322.5	322.5				
Biorka Island (b)	126.6(c)	126.6	335.5(c)	335.5				
Fort Yukon	132.7	132.7	135.0	135.0	284.7	284.7	370.1	370.1
Gulkana (a)	119.5	119.5	127.9	127.9	317.5	317.5	360.8	360.8
Gustavus	133.2	133.2	357.6	357.6				
Lena Point								
(Juneau) (a)	133.9	133.9						
Level Island	118.0	118.0						
McGrath (a)	128.1	128.1	353.8	353.8				
Middleton Island (b)	133.6	133.6	269.4	269.4				
Murphy Dome (d) (e)	120.9	120.9	133.1	133.1	285.4	285.4	319.2	319.2
Talkeetna	119.6	119.6	254.3	254.3				
Yakutat (a)	119.0	119.0	263.1	263.1				

Remarks - Enroute radar NO NOTAM maint period 1230-1530Z± Sat, Sun & Mon; additionally, Deadhorse area enroute radar NO NOTAM maint period 15-17Z Sat & Sun, Murphy Dome (Fairbanks area) enroute radar NO NOTAM maint period 0230-0630Z± Sun, Middleton Island area enroute radar NO NOTAM maint period 12-14Z± Sun, King Salmon area enroute radar NO NOTAM maint period 21-23Z± dly and Fairbanks terminal radar alpha-numeric NO NOTAM maint period 16-17Z± Wed. (a) Radar not avbl. Secondary Radar only. (b) Secondary Radar only. (c) Unusable 050°M-110°M beyond 30NM below 7000'. (d) Primary radar. (e) Fairbanks & Kenai area enroute radar are severely restricted in its capability to display primary radar targets at the controllers position. Their traffic advisories may not be issued depending on whether or not the system is displaying a target on Non-Transponder equipped acft. For more specific data relating to target deficiencies in ATC Radar systems refer to AIM-2-30. Primary/secondary radar 150NM radius Fairbanks VOR unavailable 1230-1530Z± Sat & Mon, and 0430-0830Z± Sun.

FREDERIKSHAAB GNLD

A/G: 118.1 5526 Opr by Godthab Rdo.

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NORTH ATLANTIC AND ALASKA AIR/GROUND COMMUNICATION FREQUENCIES (Cont'd)

GROENNEDAL GNLD

A/G: 118.1 5526 (3023.5 SAR) For internal VFR flts only, O/R. Avbl for flts to/from Groennedal. Avbl for vital flts (SAR, ambulance). Avbl on 1 hour prior ntc to BGJHYS for assisting Julianehaab on 5526 kHz.

HOLSTEINSBORG GNLD

A/G: 118.1 5526 Opr by Sondrestrom Rdo.

JULIANEHAAB GNLD

118.1 opr 09-01Z O/T PPR no later than 21Z the preceding day.
5526 SVC area includes Nonssonssuaq.

LAJES FIELD PORTUGAL

USAF Global HF Station

A/G: Voice call Lajes

SSB: 15016 H24

UHF: 349.4 shared with AMC Comd Post & PTD

Remarks - Primary guard Santa Maria Oceanic CTA/FIR. Coded message bcst H + 24. Capsule bcst H + 05 & H + 35. PMSV : Lajes Metro avbl thru phone patch. Svc avbl: a) Phone patch, b) RTTY (clear/secure), c) HF-DF assist, d) Autod in access, e) ICAO TTY, f) Flt follow, g) AM svc avbl O/R. AUTOVON 895-3490. AUTOVON CONUS access 725-1410 Ext 7101 EUROPEAN access 246-1110 Ext 7101.

NEW YORK NY

A/G: North Atlantic Family A-129.9 (a) 3016 5598 8906 13306 17946 21964
North Atlantic Family E-129.9 (a) 2962 6628 8825 11309 13354 17952
Caribbean Family A- 130.7 (a) 2287 5550 6577 8846 8918 11396
13297 17907

Remarks - (a) Local and extended range.

PRINS CHRISTIAN SUND GNLD

A/G: 127.9 To be used for comm with the following ACC's dur periods of poor propagation cond: Gander, Goose, Reykjavik & Sondrestrom. Remote from Gander call "Gander Radio". Opr by Gander Rdo serving ACC Gander.

SAN FRANCISCO CA

A/G: For aircraft using the Polar Routes, ARINC has a remote LDOCF voice site at Barrow, Alaska, controlled from ARINC SFO Communications Centre. Although primarily for company type communications, ATC communications can be passed to and from Anchorage Centre under unusual or emergency situations. Site is available for Phone Patches and Radio Operator delivered message traffic. Barrow LDOCF frequencies are: 3494 6640 11342 13348 17925 21964.

SUKKERTOPPEN GNLD

A/G: 118.1 5526 opr by Godthab rdo

THULE AIR BASE GNLD

USAF HF/SSB Global Station

A/G: Voice callsign Thule

SSB: H24 Apr-Sep 8992 11175 13200 15016 (H24 oct-mar 4724 6739 8992 11175)

UHF: 243.0

VHF: 121.5

Remarks - CONUS DSN 259-9000 or 730-1530. Worldwide phone patch capable. Direct ATC Hotline to Reykjavik OAC and Edmonton ARTCC. Svc avbl: 1. HD/DF Assist. 2. Worldwide phone patch. 3. Discrete freq svc. 4. PMSV svc via phone patch.

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MILITARY FLIGHT DATA AND PROCEDURES E19

NORTH ATLANTIC AND ALASKA AIR/GROUND COMMUNICATION FREQUENCIES (Cont'd)

UPERNAVIK GNLD

A/G: 121.3 4745.5 opr 11-19Z closed 15-17Z Nov 1-Mar 31. for internal flights only.

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E20 MILITARY FLIGHT DATA AND PROCEDURES

INTENTIONALLY

LEFT

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