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**AVIATION ENGLISH PATTERNS OF SPEECH.
A BRIEF DESCRIPTION AND ANALYSIS
OF THE AVIATION PHRASEOLOGY
USED IN ROUTINE AIR-GROUND COMMUNICATION**

Streszczenie

Artykuł pokrótce opisuje i analizuje wzorce mowy angielskiej frazeologii lotniczej używane podczas komunikacji pomiędzy kontrolerem ruchu lotniczego i pilotem w rutynowych sytuacjach.

I. Introduction

Air traffic control radio communication = radiotelephony (R/T) (referred to as 'airspeak') between the air traffic controller (ATC) and the pilot provides the means by which pilots and ground personnel communicate with each other. Radiotelephony communication is used to direct, inform, question, request, and respond, where the air traffic controller directs and controls pilots. The focus of the communication is aircraft take-off and landing, flight navigation, and so on.

Aviation phraseology comprises specific terminology (a wide range of terms and expressions) applied in a typical verbal communication (routine and non-routine situations) involving the pilot and the air traffic controller who are expected to acquire specific aviation language competence. In routine communications, there is a prescribed protocol for pilots and controllers defined as a set of standard rules for data representation, various techniques used to clarify, simplify and standardize spoken communications over two-way radios. Signalling protocol uses abbreviated codes and standardized wording uttered in a specific order of a particular context (the context is necessary for clear message understanding).

Aviation English as a controlled type of language with the grammar and vocabulary restrictions in order to reduce or eliminate ambiguity and complexity falls into the type of a so-called “simplified” or “technical” language. Gabrielatos explains that: “Simplified English aims at ‘facilitating the work of writers (technical editors) and users (technicians, mechanics and pilots) of operation and maintenance manuals’¹. Although not made explicit in the literature, Simplified English seems to follow the principles established by the General Theory of Terminology”².

All the Aviation English phraseology has been standardised by the International Civil Aviation Organization (ICAO) to avoid ambiguity and potential sources of error. Pilots and controllers have attached meanings to words that only exist in the world of aviation.

II. Patterns of speech in aviation English – the analysis

Many general language lexical units have undergone a terminologization process, that is, they have acquired specialized meanings in the specialized aviation contexts. Lexical features, despite their wider occurrence, have a limited meaning when used in the aviation context. They are different with respect to their semantic and pragmatic dimensions. They are independent of the language spoken commonly.

The routine words and phrases used in messages between pilots and controllers are not to be potential sources of confusion. That is why the careful assignment of words and phrases to cover the field of R/T is achieved by the rule of one concept – one expression. All the words heard on radio have specific meanings, applications and limitations, e.g. abeam, accelerate vs. expand vs. expedite, altitude vs. flight level, slot or squawk. Around these specific concepts we build phrases and patterns. These can be free combinations or phraseological units. To use aviation English phraseology fluently and quickly, it is necessary to assimilate not just single words but most of all phrases called “chunks” and patterns. The patterns involve the use of highly frequent words – performative verbs (verbs carried out simply by means of uttering them aloud, e.g. contact, climb, taxi, etc.) which occur with single words or phrases, e.g. report long final (long final – a noun phrase). Virtually every word that is used in aviation English has some important connotation and the way these words are combined often carries a message that is far greater than just the sum of the words. The performative verbs used in aviation are the ones we build different patterns around. These are as follows:

abort, acknowledge, accelerate, backtrack, cancel, check, climb, confirm,
contact, depart, descend, disregard, estimate, exit, expand, expedite, go aro-

¹ Shawcross, Philip: *English and Aircraft Maintenance*. Paris: Berlin 1993

² Gabrielatos, Costas: *Central modals in an aviation corpus: Frequency and distribution*. Letras de Hoje 2006

und, ident, land, line up, maintain, monitor, orbit, report, resume, roll on, roll out, take off, taxi, vacate, verify

All the radiotelephony (R/T) phraseology can be categorized into:

1. single terms
2. phraseological units / phrases
3. patterns (single words together with phrases):
 1. collocations
 2. fixed expressions
 3. semi-fixed expressions
 4. formulas

In aviation English phraseology there are different combinations of words. Some of them are free which consist of notional and form words, and in which notional words have the function of independent parts of the sentence, e.g. to report final / abeam of, to request progressive taxi; others are fixed, limited in their combinative power, e.g. to miss a slot, to expedite descent. These combinations of words (called phraseological units) are fixed, in which neither words nor the order of words can be changed.

In the classification suggested by I.V. Arnold, phraseological units can be classified as parts of speech (syntactical classification):

1. noun phrases
2. verb phrases
3. adjective phrases
4. adverb phrases
5. preposition phrases
6. interjection phrases

Referring to the aviation English phraseology, the classification is limited to:

- a. noun phrases
- b. verb phrases
- c. adverb phrases

a. Noun phrases:

1. N + N

e.g. DEPARTURE INFORMATION,
DEPARTURE FREQUENCY,
TRANSITION LEVEL,
TRANSITION ALTITUDE,
LEVEL CHANGE,
STAND NUMBER,
RADAR CONTACT,
SLOT TIME,
TRAFFIC PATTERN / TRAFFIC CIRCUIT,

RUNWAY HEADING,
DISTRESS SITUATION,
FLIGHT LEVEL,
FLIGHT PLAN,
RADIO CHECK,
RADAR APPROACH,
RADAR CONTACT,
FLIGHT FOLLOWING,
BASE LEG

2. A + N

e.g. ACTIVE RUNWAY,
HOLDING POINT,
LOW PASS,
LONG LANDING,
LONG FINAL,
ROLLING DEPARTURE,
BASIC TRAFFIC,
BLIND TRANSMISSION,
FULL STOP,
IMMEDIATE DEPARTURE,
INNER, (OUTER, MIDDLE) MARKER,
UNKNOWN TRAFFIC,
PRESENT HEADING,
REPORTING POINT,
FINAL, (MISSED, VISUAL, SHORT) APPROACH,
PRESENT POSITION,
PROGRESSIVE TAXI,
DOWNWIND, (UPWIND, CROSSWIND) LEG

3. N + prep. + N

e.g. RUNWAY IN USE

4. V + V

e.g. TOUCH AND GO

5. V + prep.

e.g. RUN-UP,
START-UP,
ROLL-ON,
ROLL-OUT,
TAKE-OFF,
READ-BACK,
TOUCH-DOWN

6. Adj., + prep.,

e.g. WARM-UP

7. Adj. + prep. + N

e.g. STRAIGHT-IN APPROACH / LANDING
STRAIGHT-OUT DEPARTURE

b. Verb phrases:

1. V + N

e.g. HOLD POSITION

2. V + prep.

e.g. GO AHEAD,
STAND BY,
TAXI BACK,
GO AROUND,
LINE UP, TO
READ BACK, TO
RUN UP, TO
START UP, TO
WARM UP,
TAKE OFF,
PUSH BACK

3. V + adj.

e.g. LAND SHORT,
HOLD SHORT

4. V + prep. + N

e.g. LAND ON NUMBERS

5. V + (prep.)+ and + V

e.g. LINE UP AND WAIT,
CLIMB AND MAINTAIN,
DESCEND AND MAINTAIN

c. Adverb phrase:

1. Prep. + N

e.g. AT (OWN) DISCRETION

All the above phrases together with performative verbs constitute a set of combinations called standard formulations or patterns. These combinations can be

grouped according to the classification of Academician V. Vinogradov³, who divided phraseological units into:

1. phraseological combinations
2. phraseological unities
3. phraseological fusions.

Phraseological combinations (collocations) – almost all possible configurations with the use of performative verbs as well as words of wide meaning (e.g. to make) that occur in the air-ground protocol language (routine) spoken by controllers and pilots are as follows:

- **accelerate** speed / approach
- **acknowledge** last transmission
- final / missed / visual / short **approach**
- approach / start-up / push-back **approved**
- land / start-up **at (your) own discretion**
- **cancel** landing intentions / take-off
- **cleared** to taxi / for take-off / to land / to line up / for touch and go / straight-in ILS approach / NDB approach / touch-and-go / low approach
- unable to **comply**
- **confirm** your position / level, squawk
- **contact** ground 118.05 / Alexander Information 125.750 / departure 121.750
- **continue** approach / climb to FL 330 / descent / taxi / present heading
- taxi / departure / land **at (your) own discretion**
- **disregard** transmission / last message
- **expand** roll on / roll-out
- **expect** ATZ in 3 minutes / ILS Y Runway 27 approach / approach time 52 / start-up at 35 / departure 45
- **expedite** climb / descent to FL 80 / turn / taxi
- **hold short** of runway ... / apron Alpha
- **immediate** departure / take-off
- **make** an AFIL / own circuit / (type of approach/departure) / straight-in approach / low approach / low pass
- **maintain** present heading / altitude / runway heading
- **miss** a slot / taxiway ...
- **monitor** ATIS / on frequency ...
- **omit** position reports
- **ready** to start up
- **report** T overhead / abeam of / intersection of / stand position / airborne / inbound / outbound / leaving / reaching ... / passing FL 80 / Airbus on final

³ Vinogradov, Vladimir: Structure and classification of phraseological units. Ministry of Education and science of Ukraine Chernivtsi National University College of Modern European Languages Department of English 2001.

- in sight / outer marker when reaching / speed / runway in sight / heading and level / runway vacated / final / marshaller in sight
- **request** departure information / instructions to land full stop / push back / rolling departure / progressive taxi / flight following / level change / start-up / cross runway ... / vectors / low pass / low approach / touch-and-go / VMC / descent / file flight plan / taxi for local VFR flight / runway 14 / backtrack
 - **resume** own navigation / position reporting
 - **state** your present position / your intentions / altitude / flight level / your endurance
 - **taxi** to holding point runway (27) / with caution / via taxiway ...
 - unknown / slow moving / fast moving / closing / opposite / same direction / overtaking / crossing left to right **traffic**
 - **state** your intentions / your position / fuel / POB (Persons On Board)
 - **traffic** on final / on downwind / on upwind
 - **unable** to expedite.

Phraseological unities (fixed expressions, also called domain-specific lexical chunks) – these are word groups used in a particular context; often they allow no replacement in any of their components. The patterns are relatively stable and fixed. The examples include:

- ready to copy
- next report at (name of reporting point)
- at your own discretion
- according (to) flight plan
- runway vacated
- that is correct (controller's reply when pilot reads back route clearance)
- line up and wait
- line up holding point runway ... and wait
- report when reaching
- behind landing aircraft line up runway ... behind and wait
- hold short of the runway
- traffic in sight
- clear of traffic
- no delay expected
- orbit in present position.

Some phraseological units have word synonyms:

- SAY AGAIN = repeat (in a specific context required)
- I SAY AGAIN = I repeat
- READ BACK = repeat (in an appropriate context)
- HOLD SHORT = stop
- GO AHEAD = speak
- STAND BY = wait

Semi-fixed expressions – they are similar to fixed expressions except they allow replacement in at least one or more of their components chosen from a relatively small group of words whereas fixed expressions prohibit replacement. These are the following patterns:

- EXPECT ... AT (time)
- e.g. expect traffic at 3 o'clock
- expect opposite traffic at 11
- expect approach time at 45
- expect next reporting point at
- EXPECT ... (minutes) DELAY DUE TO ... (reason)
- e.g. expect 10 minutes delay due to 747 taxiing behind
- CONTACT ... (frequency) WHEN AIRBORNE
- TAXI VIA (taxiway ...) TO HOLDING POINT RUNWAY ...
- REPORT (aircraft) ON FINAL IN SIGHT
- REPORT WHEN REACHING (altitude/FL)
- IS FLIGHT LEVEL ... AVAILABLE?
- CAN YOU ACCEPT FLIGHT LEVEL ... ?
- STAND BY FOR ...
- e.g. stand by for start
- ESTIMATE ... AT
- e.g. estimate next reporting point at 35
- FLIGHT LEVEL ... NOT AVAILABLE DUE ...
- e.g. FL 240 not available due traffic
- ... TRAFFIC AT ... O'CLOCK
- e.g. unknown traffic at 11 o'clock
- REPORT WHEN READY FOR ...
- e.g. report when ready for departure.

Phraseological fusions (idioms) - they do not exist in aviation English phraseology to avoid situations of miscommunications, misinterpretations or meaning dilemmas. "Direct statements which avoid idiomatic expressions are easier to understand than indirect statements or colloquialisms or slang"⁴.

Formulas, where it is impossible to find their equivalents among the parts of speech, are used as complete utterances and syntactically shaped like sentences.

A.I. Smirnitsky was the first among Russian scholars who paid attention to sentences that can be treated as complete formulas. They differ from all the combinations so far discussed because they are not equivalent to words in distribution and are semantically analysable. In aviation English the following formulas convey the meanings of whole sentences:

⁴ International Civil Aviation Organization. Manual of Radiotelephony (Doc 9432). 2007.

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- HOW DO YOU READ?
 - I READ YOU (FIVE BY) FIVE
 - I READ YOU FOUR BY FIVE
 - I READ YOU THREE BY FIVE
 - I READ YOU TWO BY FIVE
 - I READ YOU ONE BY FIVE
 - TRAFFIC IN SIGHT-
 - I DON'T HAVE THE TRAFFIC
 - TRAFFIC ON UPWIND
 - TRAFFIC ON DOWNWIND
 - DISTRESS SITUATION OUT
 - DISTRESS SITUATION OVER
 - FLY OVER THE AIRFIELD
 - READY TO COPY CLEARANCE
 - RADIO CHECK
 - DO YOU WANT VECTORS?
 - ARE YOU READY FOR IMMEDIATE DEPARTURE?
 - BE READY FOR IMMEDIATE DEPARTURE
 - RESUME OWN NAVIGATION
 - WORDS TWICE
 - SAY AGAIN
 - SPEAK SLOWER
 - ACKNOWLEDGE LAST TRANSMISSION

Moreover, single words or simple phrases in aviation English phraseology also convey the meaning of the whole utterance:

- 'WILCO' – (abbreviation of 'will comply') 'I understand your message and will comply with it'
- 'ROGER' – 'I have received all of your last transmission' (under no circumstances to be used in reply to a question 'Read back' or a direct answer in the affirmative 'affirm' or negative 'negative')
- 'UNABLE' – 'I cannot comply with your request, instruction or clearance' ('unable' is normally followed by a reason)
- 'IDENT' – 'give identification of your aircraft'
- 'BREAK' – 'I hereby indicate the separation between portions of the message' (used where there is no clear distinction between the text and other portions of the message)
- 'BREAK BREAK' – 'I hereby indicate the separation between messages', transmitted to different aircraft in a very busy environment
- 'CORRECTION' – 'an error has been made in this transmission; the correct version is ...' (uttered by the pilot to the controller) e.g. 'cleared to land runway

- 27, correction runway 25' – we correct only this part of the message which has been wrongly transmitted
- 'OVER' – 'my transmission is ended and I expect a response from you' (not normally used in VFR communications)
 - 'OUT' – 'this exchange of transmissions is ended and I do not expect any response' (normally used to indicate the end of an exchange of transmissions)
 - 'APPROVED' – 'permission for the proposed action granted'
 - 'READ BACK' – 'repeat all, or the specified part, of this message back to me exactly as received'.

Ripley argued that things such as homophony, punctuation, and intonation can greatly impact communications. There are some commonly used homophones, homonyms and synonyms in aviation ATC flight communication. Homographs do not apply directly to radiotelephony (R/T).

Common aviation homophones:

- brake / break
- two / to
- missed / mist
- right / write
- hear / here

In R/T the use of a correct homonym is drawn from the context. Some examples of common aviation homonyms:

- zulu – name of letter Z / time at Greenwich meridian
- contact approach – a type of approach to an airport / command to radio the controller who handles approaches
- roll – a rotation about the longitudinal axis of the aircraft, created by movement of the ailerons / a flight manoeuvre with 360° rotation about the longitudinal axis of the aircraft
- intersection – the point at which two taxiways cross each other / points where radials from VOR beacons cut across each other.

It is important to note that, while the aviation English term cannot convey more than one particular meaning for the purpose of safety, there are different terms and phrases that designate one particular concept. These synonyms do not pose any threat as far as ambiguity of meanings or miscommunication is concerned. These are as follows:

- **circle the airport / circle the runway / go around** – fly around the airport
- **say / verify / confirm** – to check information already given
- **mayday / pan-pan** – signaling emergency
- **ramp / apron** – a paved area near the runway
- **GMT (Greenwich Mean Time) / UTC (Coordinated Universal Time)** – time used in aviation based on the 24-hour clock format

- **make a three sixty turn / orbit** – to make a complete turn
- **traffic pattern / traffic circuit** – the rectangular pattern of routes that an aircraft must keep to when approaching or circling an airport.

In many circumstances the use of prepositions is optional on the part of the pilot / controller, e.g.

- ACCORDING (to) FLIGHT PLAN
- START UP (at) 27 (two seven) - start up 27 minutes after the full hour.

However, there are some instances when the preposition “to” is omitted or is used together with certain words just to avoid confusion, e.g.

- CLIMB 2000 FEET but CLIMB **TO ALTITUDE** 2000 FEET.

Abbreviations have become part of aviation terminology used in the air-ground communication. These abbreviations are normally spoken using the constituent letters, rather than the aviation spelling alphabet. Some are uttered as complete words, and these have been indicated by an asterisk.

- AFIL* (Air-filed flight plan): ‘I would like to make an AFIL’
- ATIS* (Automatic Terminal Information Service)
- ATZ (Aerodrome Traffic Zone): ‘out of ATZ, 5miles SE of Rybnik’
- EET (Estimated Elapsed Time): ‘State your EET at Olkusz’
- ETA (Estimated Time of Arrival)
- IFR (Instrument Flight Rules)
- ILS (Instrument Landing System)
- QNH (more like a code) QHN 1002
- RVR (Runway Visual Range)
- VFR (Visual Flight Rules): ‘VFR from Rybnik to Kielce’
- VMC (Visual Meteorological Conditions)
- VOR (Very High Frequency Omni-directional Radio Range)
- UTC (Coordinated Universal Time).

They are incorporated into routine air-ground communication patterns, e.g.:

- make an AFIL,
- state your EET at (point)
- report JED VOR overhead
- request taxi for local VFR
- monitor ATIS on (frequency).

III. Conclusion

Aviation English possesses plain syntactic patterns and limited lexical features. In the air traffic control, all the phraseology is defined as complete and intelligible

for all those who have acquired the aviation competence. The wording is very dependent on context. The resultant ATC speech is often unintelligible to the outside listener because it is a lexicon of specialized terms, abbreviations and acronyms; even if the words can be made out, they do not make much sense without some knowledge of the air traffic control task. The correct interpretation of this speech relies heavily on the experience and training of pilots and controllers who must be conscious of and avoid common types of linguistic misunderstandings.

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