

# Specific Features of Using Abbreviation in English Military Discourse

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**Abstract:** The article introduces the work is due to the fact that the socio-stylistic characteristics of a vast layer of abbreviated vocabulary, including aviation military vocabulary, is one of the most important and little-studied issues of interaction between society and language, and the study of abbreviated word formation in the military sphere is part of the general problem of secondary nomination and vocabulary expansion of the language. Vocabulary is the language system that reacts most quickly and adequately with its new formations to changes taking place in society. This is especially true in the military area. The purpose of the study in the article is to identify similarities and differences in the structure and semantics of military abbreviations in modern English. The features of abbreviation in the English military aviation discourse are highlighted.

**Key words:** abbreviation, military, aviation, discourse, structural-grammatical, models of phrases, prepositions, conjunctions, phenomena of synonymy, ambiguity.

## Introduction

One of the features of the development of languages at the present stage is the tendency to abbreviation. Recently, it has become, without exaggeration, a mass phenomenon. Various kinds of lexical abbreviations are presented in many languages. At the same time, the number of these abbreviations is so great that they have firmly entered the language, making up a significant part of their vocabulary, penetrating both oral and written speech. The use of abbreviations is one of the most characteristic features in the development of various terminological systems. The focus of this article is on the processes of abbreviation in the English military aviation discourse.

## Materials And Research

Any practical research must always be preceded by a study of theory. Therefore, before analyzing English military aviation abbreviations, we will consider some scientific ideas regarding abbreviations.

First of all, it should be noted that the problems of abbreviation and its features attracted the attention of many scientists. Among them is O. Jespersen, who reflects on the specificity of abbreviations for modern English and believes that it is no longer possible to meet them in such numbers in any language [1, p. 13].

Some researchers are concerned about the reasons for the formation of abbreviations in modern English. Thus, the Swedish scientist K. Suden singled out two factors that determine the occurrence of abbreviations: a functional factor associated with the transfer of emotional intention, and a factor of practical use, which consists in conveying a message in the most economical way [Ibid., p. 35].

G. Stern pointed out the phonetic, graphical and functional reasons for the formation of abbreviations, and also singled out the reasons associated with the economy of effort. V.V. Borisov believes that abbreviation in a broad sense can be understood as a process, as a result of which some initial unit loses some of its constituent elements and turns into an abbreviated unit [Ibid., p. 61]. It is this definition that we take as the starting point in our study.

The result of the abbreviation process are abbreviations of several types: truncations (helicopter → copter), initial abbreviations (Air Force → AF), mixed type (mobile floating assault brigade → MOFLAB) [Ibid., p. 121]. Initial abbreviations are divided into alphabetic (pronounced as a set of alphabetic names of letters), sound (pronounced as a normal word) and alpha-sound (when both methods are combined) [Ibid., p. 125].

In this article, we are looking at:

- abbreviation in professional aviation magazines;
- abbreviation in textbooks;
- abbreviation in the catalogs of products of aircraft manufacturers;
- abbreviation in technical instructions.

For analysis, we have identified the most typical cases of abbreviation in the texts of each genre. Let's start with professional magazines.

Abbreviations in professional journals. Based on the analysis of key English-language military aviation publications (Rotor and Wing, Helicopter Industry, Helicopter International, HeliOps, Vertical, Defense

Helicopter) we came to the conclusion that the most typical (by which we mean those with the highest frequency) abbreviations for them are the following: FADEC (Full Authority Digital Engine Control), HMDS (Helmet Mounted Display System), NOTAR (No-tailrotor), HELRAS (Helicopter Longrange Active Sonar), IFR (Instrument Flight Rules), NVG (night vision goggles), ADS-B (Automatic Dependent Surveillance - Broadcast), VTOL (Vertical Take off and Landing), HTAWS (Helicopter Terrain Awareness System), MASE (Modular Aircraft Survivability Equipment), ALIAS (Aircrew Labor In-cockpit Automation System), ANVIS (Aviator Night Vision Imaging System), CAAS (Common Avionics Architecture System), LiDAR (Light Detection and Ranging), AFCS (Automatic Flight Control System), STOL (Short Take off and Landing), VFR (Visual Flight Rules) [8–13].

These units are predominantly initial (with the exception of LiDAR, NOTAR and HELRAS, which are formed in a combined way: truncation + initial abbreviation) abbreviations of three types: sound, letter and letter-sound. Letters include HMDS, IFR, NVG, ADS-B, AFCS and VFR, sound ones include FADEC, NOTAR, HELRAS, MASE, ALIAS, ANVIS, CAAS, LIDAR, STOL. HTAWS and VTOL are alphanumeric abbreviations.

As you can see, sound abbreviations (or acronyms) make up the majority (9 units, or 53%). Letters occupy an intermediate position in terms of prevalence (6 units, or 35%). Finally, letter-sound abbreviations form the smallest group. They account for 12% (2 units).

In terms of structure, abbreviations are formed from phrases consisting of 3, 4 and 5 components. These components are nouns, adjectives, prepositions, particles, conjunctions, and other abbreviations. At the same time, the share of abbreviations formed from four-component combinations is 45%, from five-component combinations - 38% and three-component combinations - 17%.

## Results And Discussion

The following structural and grammatical models of phrases can be distinguished:

- 1) adjective + noun + noun (*Visual Flight Rules*);
- 2) noun + noun + noun (*night vision goggles*);
- 3) adjective + adjective + noun + noun (*Automatic Dependent Surveillance – Broadcast*);
- 4) adjective + noun + noun + noun (*Common Avionics Architecture System*);
- 5) noun + noun + noun + noun (*Helicopter Terrain Awareness System*);
- 6) adjective + noun + adjective + noun + noun (*Full Authority Digital Engine Control*);
- 7) adjective + noun + conjunction + noun (*Light Detection and Ranging*);
- 8) noun + noun + noun + noun + noun (*Aviator Night Vision Imaging System*);
- 9) noun + adjective + noun + adjective + abbreviation (*Helicopter Longrange Active Sonar*).

The most productive model was “adjective + noun + noun + noun” (*Automatic Flight Control System, Common Avionics Architecture System, Modular Aircraft Survivability Equipment*).

At the same time, it should be noted that the structure of the models listed above cannot be considered regular. They are not educated according to any single rule. The following examples can serve as evidence of some spontaneity in their formation: *VTOL*, *STOL* и *LiDAR*. In the first two cases (*Vertical take off and landing, Short Takeoff and Landing*) the union and is omitted, while in the third (*Light Detection and Ranging*) it is a full part of the abbreviation. As for the semantics of the abbreviations considered in the context of aviation magazines, no cases of synonymy and ambiguity were identified.

Abbreviations in technical instructions. Based on an analysis of the technical instructions for helicopters currently in service with the US Army, we concluded that the most typical abbreviations for

these documents are: *AC (alternating current), AM (amplitude modulation; amplitude modulated), CG (center of gravity), FH (frequency hopping), GW (gross weight), HF (high frequency), PA (pressure altitude), RPM (revolutions per minute), UTM (Universal Transverse Mercator), TGT (turbine gas temperature), IGE (in ground effect), OGE (out of ground effect), APU (auxiliary power unit), INS (inertial navigation system), R/C (rate of climb), R/D (rate of descent), IAS (indicated airspeed), TAS (true airspeed), KIAS (knots indicated airspeed), KTAS (Knots True Airspeed), ALT (altimeter, altitude), RADALT /RALT (radar altimeter), SAS (stability augmentation system)* [2–4].

Most of these abbreviations are initial abbreviations (21 units, or 91%). Only a few (ALT, RADALT/RALT) are formed by truncation (9%).

All of these abbreviations can be divided into alphabetic and sound. Letter (AC, AM, CG, FH, GW, HF, PA, RPM, UTM, TGT, IGE, OGE, APU, INS, R/C, R/D, IAS, KIAS, KTAS) make up the majority (19 units, or 83%). Sounds include ALT, TAS, RADALT/RALT, SAS. Их доля составляет 17%.

Structurally, all abbreviations (with the exception of ALT) are formed from two- and three-component phrases consisting of adjectives, nouns, prepositions and other abbreviations.

The share of abbreviations from two-component phrases is 41% (9 units), from three-component phrases - 59% (13 units).

Phrases are formed according to the following patterns:

- 1) noun + noun (*amplitude modulation*);
- 2) noun + preposition + noun (*revolutions per minute*);
- 3) preposition + noun + noun (*in ground effect*);
- 4) adjective + noun + noun (*inertial navigation system*);
- 5) adjective + noun (*gross weight*);
- 6) noun + adjective + noun (*Knots True Airspeed*);
- 7) noun + noun + noun (*stability augmentation system*);
- 8) adjective + adjective + noun (*Universal Transverse Mercator*);
- 9) abbreviation + noun (*radar altimeter*).

The most productive model was “adjective + noun” (*alternating current, gross weight, high frequency, true airspeed, indicated airspeed*).

It should be noted that in the formation of abbreviations, in some cases, elements of the original phrase, mainly prepositions, are omitted. For example, *center of gravity* → CG, *rate of climb* → R/C, *rate of descent* → R/D, where the preposition of is not part of the abbreviation (it either does not exist at all, or it is replaced by the graphic symbol /).

In semantic terms, the analysis of abbreviations showed the presence of such phenomena as polysemy and synonymy. We have identified cases where the same abbreviation is used to denote different concepts.

For example, AM is also amplitude modulation (*amplitude modulation*), и амплитудно-модулированный (*amplitude modulated*); ALT stands for both altimeter and altitude. It is also possible to give examples of the use of several abbreviations to denote the same concept: GW / GRWT / GWT для gross weight (взлетный вес); RALT / RADALT для radar altimeter (радиолокационный высотомер).

Abbreviations in the product catalogue. Next, consider the abbreviations in the product catalogs of such giants of the aircraft industry as Leonardo and Airbus. The most typical units are: FADEC (*Full Authority Digital Engine Control*), NVG (*Night Vision Goggles*), RWR (*Radar Warning Receiver*), FDS (*Flight Display Subsystem*), AFCS (*Automatic Flight Control System*), IGE (*in ground effect*), OGE (*out of ground effect*), MTOW (*Maximum Take Off Weight*), FND (*Flight Navigation Display*), HIFR (*Hover In Flight Refueling*), IFR (*Instrument Flight Rules*), VFR (*Visual Flight Rules*), HUMS (*Health and Usage Monitoring System*), APU (*auxiliary power unit*) [5; 6].

All of them are formed by initial abbreviation and are divided into alphabetic, sound and alpha-sound. Letter abbreviations are IFR, VFR, AFCS, FDS, NVG, RWR, FND, APU, IGE, OGE (10 units, or 71%), to sound – FADEC, HIFR, HUMS (3 units, or 21%), to alpha-sound – MTOW (1 unit, or 8%).

Abbreviations are formed from three-, four- and five-component phrases, which consist of adjectives, nouns, conjunctions, prepositions and other abbreviations. The proportion of abbreviations formed from three-component combinations is 72% (or 10 units), from four-component combinations - 14% (2 units), and from five-component combinations - 14% (2 units).

Structural-grammatical models of phrases can be represented as follows:

- 1) noun + noun + noun (*Night Vision Googles*);
- 2) adjective + noun + adjective + noun + noun (*Full Authority Digital Engine Control*);
- 3) abbreviation + noun + noun (*Radar Warning Receiver*);
- 4) adjective + noun + noun + noun (*Automatic Flight Control System*);
- 5) preposition + noun + noun (*out of ground effect*);
- 6) adjective + noun + noun (*Visual Flight Rules*);
- 7) noun + preposition + noun + noun (*Hover In Flight Refueling*);
- 8) noun + conjunction + noun + noun + noun (*Health and Usage Monitoring System*).

The most productive model was “noun + noun + noun” (*Night Vision Googles, Flight Display Subsystem, Flight Navigation Display, Instrument Flight Rules*).

When forming abbreviations, some elements of the original phrases are omitted, for example, the union and in the abbreviation *HUMS* (*Health and Usage Monitoring System* → *HUMS*).

As for the semantics of abbreviations considered in the context of aircraft industry product catalogs, no cases of synonymy and ambiguity were identified.

Abbreviations in textbooks. An analysis of textbooks devoted to military aircraft showed that the most typical abbreviations for them are the following: *CAS* (*calibrated airspeed*), *DVE* (*Degraded Visual Environment*), *EPIRB* (*Emergency Position Indicator Radio Beacon*), *IGE* (*in ground effect*), *OGE* (*out of ground effect*), *NOTAR* (*notail- rotor*), *AOA* (*angle of attack*), *ETL* (*Effective Translational Lift*), *AOI* (*angle of incidence*), *LTE* (*Loss of Tail Rotor Effectiveness*), *AGL* (*above ground level*), *RPM* (*revolutions per minute*), *IAS* (*indicated airspeed*), *SAS* (*stability augmentation system*), *ILS* (*instrument landing system*), *IFR* (*Instrument Flight Rules*), *FD* (*flight director*), *CG* (*center of gravity*), *TAS* (*true airspeed*) [7].

All of them (except *NOTAR*, it is formed by the combined method "truncation + initial abbreviation") are initial abbreviations that can be divided into letter and sound. Letters include *DVE*, *OGE*, *IGE*, *AOA*, *AOI*, *ETL*, *LTE*, *AGL*, *RPM*, *IAS*, *ILS*, *IFR*, *FD*, *CG*.

They make up the majority (14 units, or 74%); to sound – *CAS*, *SAS*, *EPIRB*, *NOTAR*, *TAS* (5 units, or 26%). Abbreviations are formed from two-, three- and five-component phrases consisting of adjectives, nouns and prepositions. The share of abbreviations formed from two-component combinations is 21% (4 units), from three-component combinations - 68% (13 units), and from five-component combinations - 11% (2 units).

The following structural and grammatical models were identified:

- 1) adjective + noun (*true airspeed*);
- 2) adjective + adjective + noun (*Effective Translational Lift*);
- 3) noun + noun + noun + noun + noun (*Emergency Position Indicator Radio Beacon*);
- 4) preposition + noun + noun (*above ground level*);
- 5) noun + preposition + noun (*angle of attack*);
- 6) noun + preposition + noun + noun + noun (*Loss of Tail Rotor Effectiveness*);
- 7) noun + noun + noun (*stability augmentation system*).

The most productive of these is the “noun + preposition + noun” model. (*angle of incidence*, *angle of attack*, *center of gravity*, *revolutions per minute*).

In the formation of abbreviations, in some cases, the elements of the original phrase are omitted. For example, the preposition of is not part of the abbreviations *CG* (*center of gravity*) и *LTE* (*Loss of Tail Rotor Effectiveness*), a the noun rotor is not part of the abbreviation *LTE* (*Loss of Tail Rotor Effectiveness*).

At the same time, there are a number of cases where prepositions remain part of abbreviations, for example *AOA* (*angle of attack*), *AOI* (*angle of incidence*). As for semantics, there were no cases of synonymy and ambiguity.

## Conclusion

Thus, having studied the features of abbreviations in magazines, technical instructions, textbooks and catalogs, we have come to a number of conclusions.

1. Initial abbreviations are the dominant type of abbreviations in English military aviation discourse. At the same time, letter abbreviations make up the majority, sound abbreviations occupy an intermediate position, and alpha-sound abbreviations are in the minority.

2. Abbreviations are formed mainly from three- and four-component phrases. The most productive structural and grammatical models of these phrases are “adjective + noun + noun + noun”, “noun + noun + noun”, “noun + preposition + noun”. The omission of prepositions and conjunctions of the original phrases in the formation of abbreviations is irregular. In some cases they remain part of the abbreviations, in others they do not.

3. From the point of view of semantics, it is necessary to note the following: the phenomena of synonymy and ambiguity, in general, are not widely used in the abbreviations of English military aviation discourse (although the fact that they occur in technical instructions, i.e. in that part of the discourse, where they should not be, arouses curiosity). The study also showed that the semantic content of aviation abbreviations is limited to the meanings of the elements that make them up.

4. Abbreviations can be combined into three thematic groups: the name of systems and instruments, types of takeoff and landing, flight rules.

As for the prospects for further research, we have identified two main areas:

- 1) study of changes in the semantics of military aviation abbreviations over time;
- 2) compiling a dictionary of English military aviation abbreviations.

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