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The Characteristics of Phrasal Verbs in Marine Engineering English

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Abstract: Owing to the technical feature of marine engineering English (MEE), phrasal verbs which appear in MEE have special lexical, syntactic and semantic features. This paper aims at finding these characteristics of phrasal verbs in marine engineering English.
Key words: marine engineering English; phrasal verbs; characteristics

1. DEFINITION OF PHRASAL VERBS

Phrasal verbs can be considered as a special kind of verbs. Different linguists have given different definitions to illustrate their understanding about phrasal verbs.

In An Encyclopedic Dictionary of Language and Languages, phrasal verbs are described as 'a type of verb consisting of a sequence of a lexical element plus one or more particles such as *sit down, come in*. There are many such verbs in English. Subtypes may be distinguished on syntactic or semantic grounds, and a phrasal verb is sometimes used in a narrower sense to refer to one or other of these subtypes.'

In Longman Dictionary of Phrasal Verbs, phrasal verbs are defined as 'idiomatic combinations of a verb and adverb or a verb and preposition (or verb with both adverb and preposition).

Randolph Quirk in A Comprehensive Grammar of the English Language (Quirk, 1985) states that 'A phrasal verb belongs to multi-word verbs. The main category of multi-word verbs consists of such combinations as drink up, dispose of, and get away with, which are called phrasal verb, prepositional verb, and phrasal-prepositional verb respectively. However, these combinations are considered multi-word verbs only where they behave as a single unit. Thus a phrasal verb consists of a verb plus an adverb and functions as a single unit. The meaning of the combination manifestly cannot be predicted from the meanings of verb and particle in isolation.'

F.R.Palmer in The English Verb (Palmer, 1965) states that 'A phrasal verb consists of two elements, a verb and an adverbial particle. An adverbial particle is an adverb which follows a verb and is regarded and parsed as a part of the verb. The adverbial particle is treated like a suffix of the verb stem. In a phrasal verb with a literal meaning, there is a verb of notion. The particle indicates the direction of motion. The phrasal verb as a whole occupies a final resultant position. In a phrasal verb with a purely idiomatic meaning, it would be difficult to see what kind of direction could be implied by the particle.

From the above definitions, we can see that there are mainly two views on phrasal verbs. One is the

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broad sense of phrasal verbs, i.e., a phrasal verb consists of a verb and an adverb or a verb and preposition (or verb with both adverb and preposition). The other is the narrow sense of phrasal verbs, i.e. phrasal verbs are verb plus adverb constructions. In this paper, the author adopts the narrow sense of phrasal verbs. All the analyses are based on this definition.

2. PHRASAL VERBS FOUND IN MARINE ENGINEERING ENGLISH

With the application of computer software, especially SPSS, and SNOBOL4 investigations on the phrasal verbs constituents and their distribution in marine engineering English (MEE) were carried out. First, the author chooses the 56 particles in Oxford Dictionary of Current Idiomatic English. The 56 particles are: *aback, aboard, about, above, abreast, abroad, across, adrift, after, aground, ahead, aloft, along, alongside, apart, around, aside, astray, away, back, backwards, before, behind, below, between, beyond, by, counter, down, downhill, downstairs, forth, forward(s), home, in, indoors, in front, inside, near, off, on, on top, out, outside, over, overboard, past, round, through, to, together, under, underground, up, upstairs and without.*

Then by running the program oneword.sno, the particles in MEE were obtained. Next step is the time-consuming manual labor-sorting and rearrangement, frequencies of phrasal verbs in MEE were obtained. And Table 1 presented below are the phrasal verbs in MEE. The total occurrences of these phrasal verbs are 956 and among them there are 166 word types.

Table 1: Phrasal verbs in MEE and their respective frequencies

Phrasal verbs	**Fr.**	**Phrasal verbs**	**Fr.**	**Phrasal verbs**	**Fr.**	**Phrasal verbs**	**Fr.**
carry out	86	set up	63	switch on	73	build up	50
shut down	44	shut off	34	pick up	28	start up	28
cut off	2513	take up	17	open up	17	make up	16
take off	11	bring out	12	drop out	11	send out	11
hold down	10	open out	10	heat up	10	warm up	10
slow down	9	bring about	10	switch off	9	set off	9
go out	9	give out	9	give off	9	cut out	9
carry off	6	clean out	8	fall off	8	tighen up	6
pull out	6	lay out	6	dry out	6	hang up	5
break up	5	stand up	5	point out	5	cool down	5
leave down	4	blow out	5	close off	5	come off	4
press down	4	pump down	3	print out	4	carry away	4
drive out	4	bring up	4	give up	4	pump up	4
burn out	4	pump out	4	break away	4	travel out	4
blow off	4	use up	3	break down	4	tie up	3
turn off	3	step up	3	take out	3	come up	3
send away	3	work up	2	cut down	3	set out	3
turn out	3	come away	2	stand out	3	lay down	3
run down	3	drain off	2	put down	3	follow up	3
keep on	2	turn up	2	draw up	2	draw in	2
come out	2	pick out	2	stress up	2	rust away	2
blow down	2	break through	1	bear away	2	drain out	2
sort out	2	load up	1	wipe off	2	light off	2
work out	2	join up	1	put up	2	put in	2
pull up	1	touch up	1	line up	2	go ahead	2

To be continue…

Continued

Phrasal verbs	**Fr.**	**Phrasal verbs**	**Fr.**	**Phrasal verbs**	**Fr.**	**Phrasal verbs**	**Fr.**
clean down	1	phase out	1	pump down	2	push down	1
turn down	1	turn around	1	lay off	2	lock up	1
mark up	1	slow up	1	pay out	1	check up	1
rise up	1	pull in	1	knock up	1	rub up	1
measure out	1	fall out	1	cancel out	1	cool out	1
sum up	1	back down	1	wear off	1	settle down	1
put out	1	leave out	1	show up	1	go off	1
get out	1	keep up	1	go round	1	bring down	1
break off	1	connect together	1	drop off	1	make out	1
let out	1	drain away	1	carry on	1	go through	1
knock out	1	wear away	1	leave off	1	catch up	1
blow away	1	burn away	1	keep down	1	hold out	1
corrode away	1	send away	1	move forward	1	die away	1
lead away	1	swing away	1	eat away	1	slacken away	1
move away	1	hold on	1	scrape away	1	speed up	1
stand by		pull down	1	burn off	1	flow down	1
come through		go around	1				

3. CHARACTERISTICS OF PHRASAL VERBS IN MEE

3.1 Syntactic features

3.1.1 The use of passive transform

In MEE, the passive transform of phrasal verbs are preferred. The passive transform pattern is derived from the active by transposing the direct object to the front position and by changing the form of the verb. The particle immediately follows the (main) verb. For instance:

1) 013IM96J0306 Switching losses are the losses which occur when the

013IM96J0307 device *is switched on* and *off*.

2) 010DE95B1995 The conversion of white

010DE95B1996 metal into oxides of its constituent metals can only *be*

010DE95B1997 *brought about* by heat in the bearings;

The reason for the frequent use of passive transform of phrasal verbs in MEE is that it is clearer in meaning since scientists are more interested in action and facts than the actors. Many references to people are unnecessary and confusing. The passive transform, with elimination of the doer, is favored by the demand of impersonality and it also allows the scientists to introduce the most important information at the beginning. Therefore the passive transforms of phrasal verbs with the elimination of doer is the best choice for technical register.

3.1.2 Inseparability

Most of the phrasal verbs in MEE are used inseparably, i.e., the verb+particle+object pattern is the predominant one if the object is nominal. For example:

3) 011EM81B0396 On a heavy fault or short circuit, the pull on the plunger by the attraction of the coil is also heavy and this *pulls up the piston* very rapidly, tripping the breaker practically instantaneously.

4) 018EI96J2801 Water admitted with the oil in the ratio of about 1 to 20 also *carries off any acids* which may have formed in the oil.

In this verb+particle+object structure, the prominence (the information focus) is given to the NP-object, that is, to the object of the process of *pull up, carries off*. While in the verb+object+particle structure, the prominence is given to the process itself by enclosing the object and putting the adverb particle in end position. The preference of inseparable phrasal verbs in MEE indicates that marine engineering English as a sub register of technical English is information-oriented.

3.2 Lexical features of phrasal verbs in MEE

Some phrasal verbs have nominalised versions in MEE. The following table presents the nominalised phrasal verbs and their respective frequencies.

Table 2: The nominalised phrasal verbs in MEE

back-up 1	cut-off 22	make-up 2	pull-up 1
break-down 11	cut-out 6	pick-up 2	set-up 65
break-in 1	lay-out 2	pull-in 1	stand-by 10
turn-on 1	upturn 1	pull-out 1	take-off 3
turn-down 1	turn off 2		

From the above table we can see that there are two types of nominalization of phrasal verbs in MEE. One is the left branching, and the other is the right branching. The left branching pattern is that the combination of an adverb plus a verb, such as *upturn*. The right branching pattern is that the verb comes first and is followed by the adverbial particle, such as *pick-up, set-up*, etc. In MEE most of the nominalised phrasal verbs belong to the left branching pattern.

3.3 Semantic features of phrasal verbs in MEE

The field of discourse of MEE is mainly the principles of marine engineering (i.e. the main or auxiliary machinery), such as how marine engines work, what their constructions or materials are and how they should be maintained or repaired. The functional tenor of marine engineering English is informative. It is expressed in the most formal way. Therefore it is far more concerned with being accurate and concise than giving variety and color to the way than it expresses itself.

According to their usage in marine engineering, the author classifies the phrasal verbs in MEE into the following groups:

3.3.1 Actions of operating the main and auxiliary machinery and associated control system

For example: *shut down* (to stop working) and *start up* (to start working) are phrasal verbs which are used to describe the actions of operating engine equipment. They usually connect with such words as *engines, valves, throttles, propulsion equipment, generator, machine, prime mover* and so on.

5) 001ME92B0727 Once the injector pump cuts off the high pressure fuel supply the needle valve will *shut down* quickly under the spring compression force.

6) 001ME92B1180 After being satisfied that everything in the engine crankcase is correct, *start up* the crankcase lubricating oil pump and check that at working pressure, oil flows uniformly from all the bearings.

3.3.2 Actions related to the fuel oil system

Fuel oil is thought to be one of the main factors having much to do with the operation and maintenance of an engine. The fuel oil system for a diesel engine can be considered in two parts: the fuel supply and the fuel injection system. For example: when *shut off* is used in the description of the process of fuel oil supply, it means to stop (supply), as in:

7) 001ME92B0853 Once a fire is detected the engine should be slowed down, fuel shut off from the affected cylinders and cylinder lubrication increased to minimize the risk of seizure.

3.3.3 Actions denoting the temperature control

For example:

to heat up : to (cause to) become hot again after it has cooled

8) 004DE95B3375 Therefore, if the output of a pump should be reduced suddenly and the valve chamber heat up, do not jump to the conclusion that it is fuel running.

to cool down: to (cause to) become less hot

9) 001ME92B1941 Close steam stop valves on boiler when pressure is reduced. Drain boiler when it has *cooled down* or fill with treated water.

3.3.4 Actions related to the dismantling, maintenance, repair and reassemly of engine equipment

For example:

to tighten up: to (cause to) become more firm or severely controlled

10) 018EI96J3450 Assuming now everything to be in order and the bearings thoroughly cleaned, oiled and refitted, tighten up bearing bolt-nuts by spanner, leaving out the shims from gland, places the tip of a finger.

to drive out: to make something move away

11) 004DE95B1590 On no account should a spindle be *driven out* by means of blows delivered on the screwed end by a heavy hammer.

3.3.5 Actions related to gas exchange

A basic part of the cycle of an internal combustion engine is the supply of fresh air and removal of exhaust gas. The is the gas exchange. The process of gas exchange is: Scavenging is the removal of exhaust gases by blowing in fresh air. Charging is the filling of the engine cylinder with a supply or charge of fresh air ready for compression. With supercharging a larger mass of air is supplied to the cylinder by blowing it in under pressure. Older engines were naturally aspirated—taking fresh air only at atmospheric pressure. Modern engines make use of exhaust gas driven turbo-chargers to supply pressurized fresh air for scavenging and supercharging. In this process, the phrasal verb *blow out (to or cause to be sent out by blowing)* is used to describe the action of gas exchange, such as the following example:

12) 001ME92B0029 Pressurized fresh air charges into the cylinder, *blowing out* any residual exhaust gases from the last stroke through the exhaust ports.

3.3.6 Actions related to marine communication

For example:

to send out: to cause (something such as a message or goods) to reach other people

13) 019RT85B1623 For example, if the signals at A and B are sent out simultaneously and arrive at exactly the same time at the ship, it is an indication that the ship is travelling a station continues operation with minor errors. When this happens, a special blink signal is *sent out* that produces a blinking light warning on the loran receiver from pane.

3.3.7 Actions related to the movement of marine engine equipment

For example:

to fall off: to become suddenly lower; take a downward direction

14) 001ME92B2414 Even with filters fitted ducts can become partially blocked and fan performance can fall off to upset the balance.

3.3.8 Actions related to the clarifying process

For example:

to clean out: to empty, tidy, or clean (something)

15) 001ME92B1482 Remove cylinder heads, *clean out* water spaces, examine valves, etc.

3.3.9 Actions related to the process of explosion

For example:

to blow off: to cause to be removed by explosion or force of wind

16) 001ME92B1339 In such case the cylinder affected should be of an engine, the explosion wave—if not thus dissipated—can pass along the inside of the engine, *blowing off* other doors seriatim, either at one or both sides of the engine.

3.3.10 Actions related to the process of insulation drying

For example:

to dry out: to (cause to) become very dry

17) 002EE66B3041 When commutators are so wet that the insulation does not *dry out* when the winding insulation is dried, they require special attention.

3.3.11 Actions related to the routine pumping operation and operation of bilge, ballast and cargo pumping system

The pumps employed on board ship can be divided into two main categories: positive displacement pumps and centrifugal pumps. Displacement pumps are those where the volume of the pump chamber is alternately increased to draw the liquid in from the suction pipe and then decreased to force the liquid out into the delivery pipe. Central pumps are those wherein an impeller rotating at high speed throws the liquid by centrifugal force from the centre to the periphery of the impeller where the liquid is discharged through the delivery outlet. Because of the wide uses of pumps on board ships, the word *pump* is frequently employed in MEE and many phrasal verbs are derived from the noun *pump*. *Pump up* and *pump out* are cases in point, as in the following examples:

18) 001ME92B3799 If two tanks are installed, the empty tank should be *pumped up* directly…

19) 001ME92B2522 The vapor is then condensed, collected and *pumped out* by the distillate pump.

Any unevaporated sea water is *pumped out* by the brine pump.

3.3.12 Actions related to the setting of data logging system

For example:

to print out (of a computer) to produce (a printed form of the results of an inquiry or calculation)

20) 002EE66B0336 When at sea, the data logger is set to *print out* the state of the total system once every hour. However, if desired, it may be made to *print out* at any time, allowing an immediate determination of the status of the system.

4. CONCLUSION

Owing to the technical feature of marine engineering English, the phrasal verbs in MEE have special lexical, syntactic and semantic features. Lexically, some phrasal verbs have nominalized versions in MEE. that there are two types of nominalization of phrasal verbs in MEE. There are two types of nominalization: left branching and right branching. In MEE most of the nominalized phrasal verbs belong to the left branching pattern. Syntactically, when used transitively, phrasal verbs in MEE tend to use the form of verb+particle+object. In this structure, the prominence (the information focus) is given to the NP-object. This shows that MEE is information-oriented. Furthermore, the passive transforms of phrasal verbs are frequently used. This phenomenon indicates that in scientific writing scientists are more interested in action and facts than the actors. The passive transform, with elimination of the doer, is favored by the demand of impersonality and it also allows scientists to introduce the most important information at the beginning. Semantically, phrasal verbs in MEE have special technical meanings and according to their usage in marine engineering, the author classifies them into 12 groups.

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