

NAME—OR RANK AND NUMBER

JOINT SERVICE DESIGNATIONS FOR LUBRICANTS

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Name

When your new Editor* asked me to write this article, I recognized that it was a tribute to my advancing years. The subject he proposed was 'Joint Service Designations', the groups of two or three letters and a number, such as OMD-75, allocated to lubricants and associated products used predominantly by the Armed Forces. The most recent catalogue of these will be found in Defence Standard 01-5/2—HMSO (December, 1977) (BR 1336), but it is my task to discuss their origins and history, which go back to 1929 although the designations now used were devised in 1944.

In June of the latter year the first *Handbook of Service Lubricants* was published by the Joint Advisory Service on Lubrication (Ministry of Supply and Admiralty), its stated purpose being 'to make more widely known the Service grades of oils and greases recommended for retention by the Inter-Services Committee co-ordinating lubricant specifications. . . .' In peacetime the three Services had tended to go their individual ways with little attempt at co-ordinating similar requirements. The number of lubricants listed was over 300, since in addition to those covered by specifications, the use of commercial products was widespread. The shortages and restraints of war made rationalization inevitable. The Committee's aim was to select a basic series of lubricants, thus achieving economic use of valuable raw materials, simplifying supply, storage, and handling, and anticipating the Jost Report on industry's needs by some twenty-two years.

This work was beset by many problems, not least that of devising a simple and logical scheme for identifying products. At that time, items had names devised to fit each individual Service's catalogue, usually of the 'Stand, hat, officers, for the use of' type much beloved by comedians. Perhaps the best example in the lubricant field was 'Oil, Marine Animal, for Fuses, Time, Mechanical', bought in tiny bottles quite unable to accommodate such a lengthy title. Laughable though such names may be, they were essential for use in manually compiled lists which contained thousands of entries. (It may be said in passing that similar names are now being devised for computerized systems, particularly by supra-national bodies—such is progress.) To complicate the issue, acronyms such as SMLO (Special Mineral Lubricating Oil) and (more confusing) ICE (Internal Combustion Engine) Oil were also used, along with arbitrary names steeped in tradition such as Oil 'A' and Rangoon Oil, familiar to all veteran Gunners and redolent of Empire.

However, a glimmering of light could be seen. Since 1929 a rudimentary U.K. system had existed using the letters M (=mineral) and C (=compounded) followed by a number representing the average viscosity in Redwood No. 1

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seconds at 140°F, e.g. M80. In addition, under Lease-Lend, U.S. military engine and gear oils were being imported bearing symbols such as OE-30-HD and GO90, thus introducing the SAE (Society of Automotive Engineers) classifications, along with greases known by the NLGI (National Lubricating Grease Institute of the U.S.A.) number, e.g. Grease No. 3. With these ideas in mind, the present system was devised and is summarized below.

As already stated, Joint Service Designations consist of a group of two or three letters followed by a number.

Rank

The significance of the letter groups is as follows:

Oils

- OC Oil, Compounded. A blend of mineral and fatty oil only.
- OEP Oil, Extreme Pressure. An oil containing additives which enable it to withstand extreme gear-tooth pressure.
- OF Oil, Fatty. A plain fatty oil or a fatty oil plus solvent.
- OM Oil, Mineral. A plain mineral oil. Minor proportions of additives such as pour-point depressants or anti-foam agents are sometimes permitted.
- OMD Oil, Mineral, Detergent. A heavy duty internal combustion engine oil containing detergent (or dispersant) additives.
- OX Oil, Miscellaneous. A synthetic oil or mineral oil containing modifying additives and not covered by the designations OC, OEP, or OMD.

Greases

- LG Lime-base Grease. A grease consisting primarily of lime (calcium) soap and mineral oil.
- XG Miscellaneous Grease. A grease made from other soaps and/or from synthetic oils, or containing additives such as graphite or molybdenum disulphide.

Specialities

- ZX Speciality, Miscellaneous. A material not included in other classes.

Temporary Corrosion Preventives

- PX Protective, Miscellaneous. A material used for temporary protection against corrosion of metal equipment in storage.

Miscellaneous Fluids

- AL A material used for engine thrust augmentation, anti-freeze, de-icing, cooling or other miscellaneous applications.

Number

The numbers for oils indicate the approximate viscosity in centistokes at 100°F, and for greases a typical worked penetration by the standard ASTM/IP (American Society for Testing of Materials/Institute of Petroleum) method. In the ZX, PX, and AL groups the numbers are allocated serially and have no technical significance.

The system was approved by all three Services in 1949 and has been in use ever since with remarkable success. It has also been adopted by Australia and is used to a limited extent by some NATO nations. The classification of lubricants has stood the test of time reasonably well, although there are now areas where changes could be made. The most obvious example is that of greases, where technological advances and more stringent user requirements

have led to the obsolescence of the designation SG (soda-based) and to more sophisticated products which all fall into the 'XG' category. This is now uncomfortably crowded around the popular 280 penetration level, and could be sub-divided.

One potential hazard of the system has not, fortunately, materialized. Older readers may remember the late Commander Campbell, of 'Brains Trust' fame, telling of a ship's doctor who carried a box with numbered compartments, each containing a remedy for some specific complaint, so that No. 11 (for example) could be the cure for sore throats. The horrifying part of the story was that if No. 11 was empty, equal parts of Nos. 5 and 6 would be used. The equivalent problem for us would be for some 'instant expert' to decide that in the absence of XG-285, XG-284 or XG-286 would do equally well, a decision which could be disastrous. Luckily we have escaped such rash decisions, or perhaps our mistakes, like those of the doctor mentioned above, are buried at sea.

Acknowledgement

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