

Update to WinGD engine designation

All WinGD engines

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1 Introduction

WinGD's engine designation is being updated to include designations for new fuel types and technologies currently in development. TIN 016 is being adapted with respect to the following designation parameters:

- The Technology Level (TL) has been adapted for the introduction of a major new technology
- Fuel Type Application (FTA) is introduced for new fuels, including methanol and ammonia

The new engine designation will be used for new engines and upgrades.

As upgrades are applied, older engine designations will be phased out.

2 Engine designation

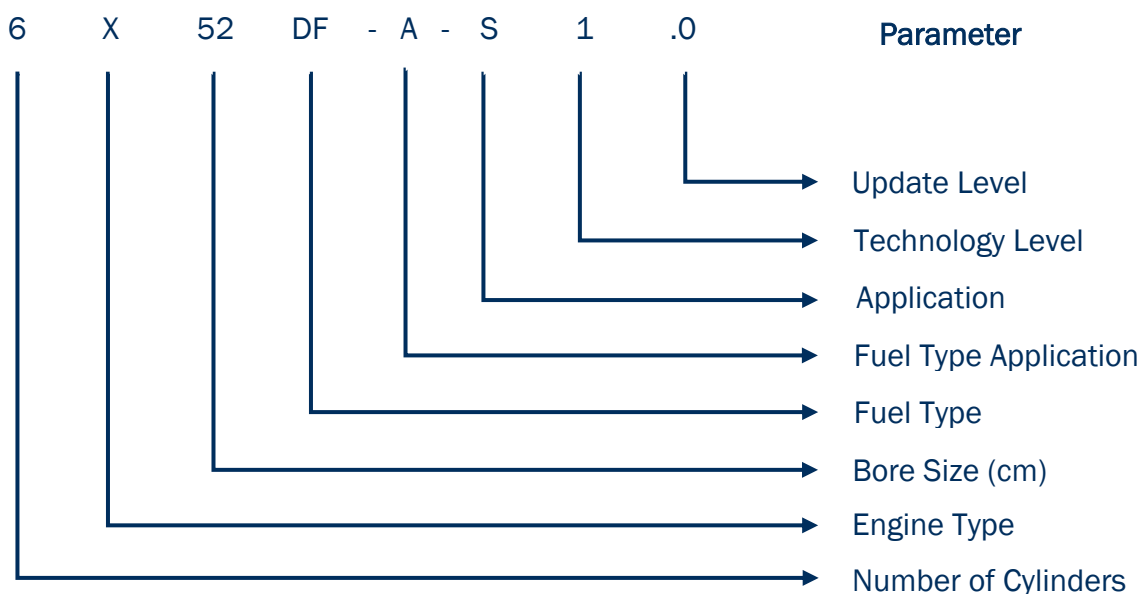


Figure 2-1: Example engine designation 6X52DF-A-S1.0, representing a WinGD 6-cylinder, short-stroke X-Engine designed for dual-fuel operation with ammonia and diesel.

Table 2-1: Definition of engine designation parameters

Parameter	Definition	Current options
n	Number of Cylinders	5-12
ET	Engine Type	X
BS	Bore Size (cm)	35, 40, 52, 62, 72, 82, and 92
FT	Fuel Type	DF: Dual-Fuel (natural gas, methanol, or ammonia, in addition to conventional diesel fuels) Blank: Engines using only conventional diesel fuels
FTA	Fuel Type Application	M: Methanol A: Ammonia Blank: Others
A	Application	S: Short-stroke engines P: Power generation engine Not applicable for conventional X engines in marine applications
TL	Technology Level - Based on upgrade or major technology level applied	1: Diesel engines with maximum 21 bar MEP at R1 DF engines without iCER DF-M and DF-A engines 2: Diesel engines with maximum 23 bar MEP at R1 DF engines with iCER
UL	Update Level - Based on new design features	Starts at zero. Each new revision increases by one.

Table 2-2: Engine designation examples

	n	ET	BS	FT	FTA	A	TL	UL
5X52DF-1.0	5	X	52	DF			1	0
6X52DF-2.0	6	X	52	DF			2	0
7X52DF-A-S1.0	7	X	52	DF	A	-S	1	0
8X52DF-M-S1.0	8	X	52	DF	M	-S	1	0
7X62-S2.0	7	X	62			-S	2	0
5X72DF-2.2	5	X	72	DF			2	2
9X82-2.0	9	X	82				2	0
12X92DF-2.0	12	X	92	DF			2	0