

PACCAR Inc
ENGINEERING
PROGRAMMING GUIDE

**Q30-1043
MX-13 PROGRAMMING GUIDE**

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**Division approval is required from the non-releasing PACCAR division for new shared specifications*

REV	Description	Section	DWN	CHK	APV1	APV2	DVN	MFG	REL	DATE
B	Figure 8 typo correction	9	BJD	ZAS	NKH			JVL		01-21-2013
C	Eliminated unneeded HEST parameter, N066	5 & 16	BJD	BKR	NKH			JVL		2-4-2013
D	Updated for RC4 ECN2122649 HEST warning description and parameter name clarified	All 5.0	BEP	TTP	NKH			ATG		09-10-2013

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Programming Guide

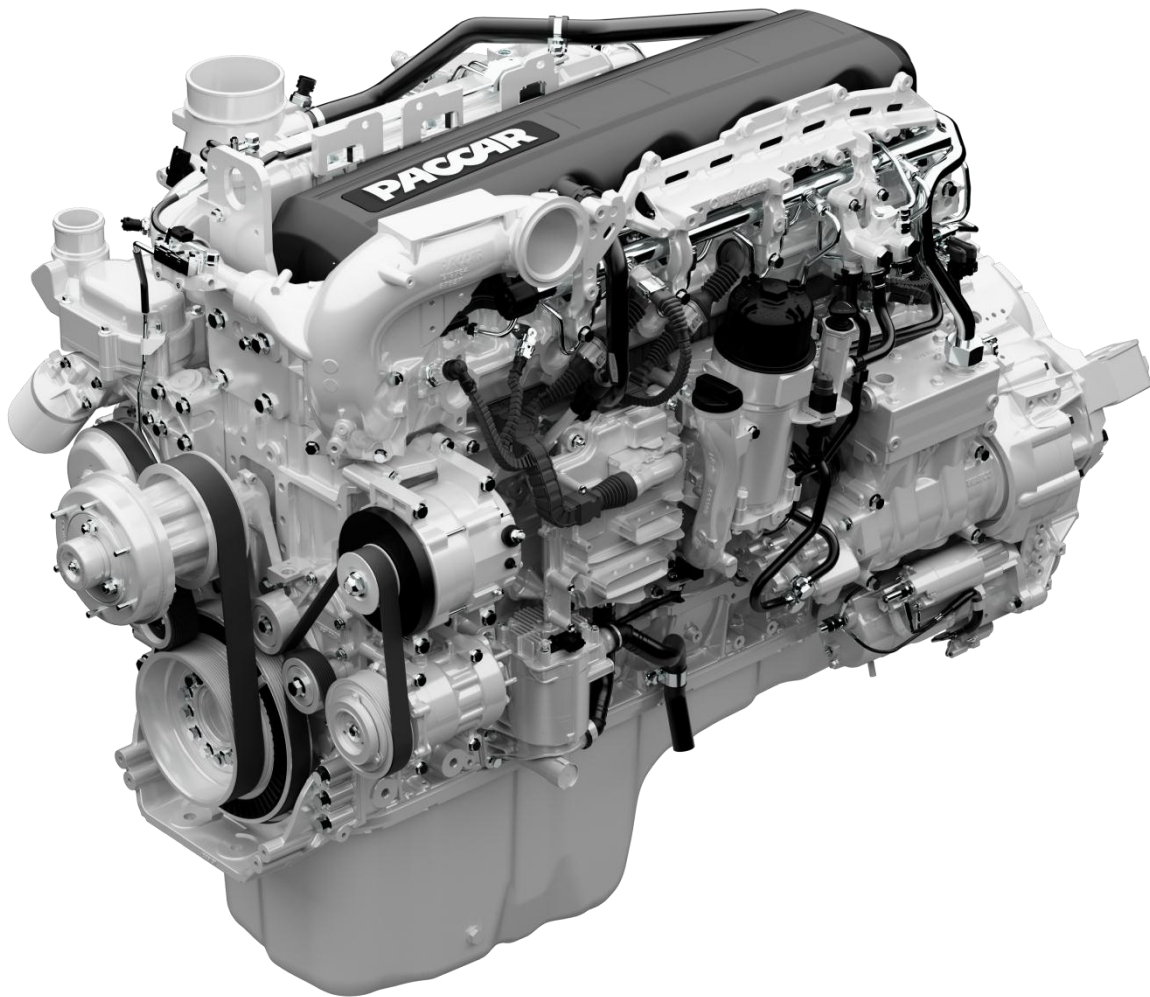


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1.0 Introduction

The purpose of this guide is to help dealers assist customers in making informed decisions regarding the programming of their engine.

2.0 References

PACCAR Engine Pro (PEP) is a North American software application used for making changes or adjusting engine parameters.

3.0 How to Read This Document

The programming guide is divided into several sections; each section represents a programmable feature offered with the engine. The sections are divided into subsections to organize the details of each feature: Overview, Standard Feature, Feature Options, Orderable Feature & Options, Programmable Parameters, Nonprogrammable Parameters, ON/OFF Requirements, Activate/Deactivate Requirements, and Additional Information.

Overview

The feature is summarized focusing on the customer benefits, options, and functionality.

Standard Feature

This subsection provides details of the stock or standard feature available with the engine.

Feature Options

This subsection provides details of the optional features available with the engine.

Orderable Feature & Options

Features and options that require action during the ordering or the aftermarket parameter setting change processes are detailed in a reference table. The table is divided into three columns: "Feature," "Sales Code," and "Description." The "Feature" column identifies the feature. The "Sales Code" column is the division sales code used to identify a feature's setting during the ordering process. The "Description" column provides a short summary of the feature.

Feature	Sales Code	Description
Feature Name	Sales Code #	High-Level description of feature

Programmable Parameters

Some features have individual parameters that are customizable; the details of these programmable parameters are given in a reference table. The reference table is



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divided into three columns: “Parameter Name”, “Number”, and “Min/Max/Default/Unit”. The “Number” column references a code number to identify the parameter during the ordering or the aftermarket parameter setting change processes. The “Min/Max/Default/Unit” column defines the minimum and maximum values of the parameter setting. If the parameter is not altered during specification of the vehicle, the default setting is delivered from the factory. The units associated with a parameter are labeled after the value of the parameter.

Parameter Name	Number	Min/Max/Default/Units
Parameter Name	N-Code	MIN = Value (Unit) MAX = Value (Unit) DEFAULT = Value (Unit)

Nonprogrammable Parameters

Unchangeable parameters, also known as nonprogrammable parameters, are used to assist in the explanation of a feature. A reference table is provided which is divided into two columns: “Parameter Name”, “Default/Unit”. The “Parameter Name” column identifies the parameter. The “Default/Unit” column defines the default or standard value and unit associated with it.

Parameter Name	Default/Units
Parameter Name	DEFAULT = Value (Unit)

ON/OFF Requirements

To define when a feature is enabled/ON or disabled/OFF, a reference table is used to detail the required conditions. The table is divided into two columns: ON and OFF. In each column there is a list of conditions that must be met for the feature to be ON or OFF. Also, both columns include a stipulation of “All” or “Any” in parentheses. “All” indicates that every condition listed in the column is required to turn the feature ON or OFF. “Any” indicates that only one of the conditions listed in the column is required to turn the feature ON or OFF.

ON (All/Any)	OFF (All/Any)
Setting	Setting

Activate/Deactivate Requirements

After a feature is ON, the function may not activate until it is triggered. A trigger is a certain event or action by an operator. Conversely, the function may not be deactivated until another event or operator action is taken. A function or feature may still be ON even when it is deactivated. To define the trigger points for activation and deactivation a reference table is given, listing the conditions required. The table is divided into two columns: “Activate” and “Deactivate”. In each column there is a list



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of conditions that must be met for the feature to be activated or deactivated. Also, both columns include a stipulation of “All” or “Any” in parentheses. The “All” indicates that every condition listed in the column is required to activate or deactivate the feature. The “Any” indicates that only one of the conditions listed in the column is required to activate or deactivate the feature.

Activate (All/Any)	Deactivate (All/Any)
Condition	Condition

Additional Information

Provides supplementary data that assists in describing the feature.



4.0 Engine Ratings

Overview

The engine rating states the peak power and torque of the engine. The engine is available with several power ratings, allowing the engine to provide the correct amount of power to complete the job while limiting the torque within driveline component limitations. All power ratings are programmable without changing hardware on the engine; however, increasing the power rating may put main driveline components at risk for premature wear or damage. Three of the ratings are available with multi-torque; these ratings are identified by the MT in the option name.

Standard Feature

- 380 hp at 1700 rpm, 1450 lbf-ft at 1000 rpm

Feature Options

- 405 hp at 1700 rpm, 1450 lbf-ft at 1000 rpm
- 405MT hp at 1700 rpm, 1550/1750 lbf-ft at 1000 rpm
- 430 hp at 1700 rpm, 1550 lbf-ft at 1000 rpm
- 430MT hp at 1700 rpm, 1550/1750 lbf-ft at 1000 rpm
- 455 hp at 1700 rpm, 1650 lbf-ft at 1000 rpm
- 455MT hp at 1700 rpm, 1550/1750 lbf-ft at 1000 rpm
- 485 hp at 1700 rpm, 1650 lbf-ft at 1000 rpm
- 500 hp at 1700 rpm, 1850 lbf-ft at 1100 rpm

Orderable Feature & Options

Feature	Sales Code	Description
380 HP	2072604	380 HP @1700, 1450 Lbf Ft @1000
405 HP	2072710	405 HP @1700, 1450 Lbf Ft @1000
405 HP MT	2072713	405 HP @1700, 1550-1750 Lbf Ft
430 HP	2072711	430 HP @1700, 1550 Lbf Ft @1000
430 HP MT	2072712	430 HP @1700, 1550-1750 Lbf Ft
455 HP	2072810	455 HP @1700, 1650 Lbf Ft @1000
455 HP MT	2072815	455 HP @1700, 1550-1750 Lbf Ft
485 HP	2072811	485 HP @1700, 1650 Lbf Ft @1000
500 HP	2072900	500 HP @1700, 1850 Lbf Ft @1100