

2021 Multiplex Electrical System

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This manual illustrates and describes the operation of features or equipment which may be either standard or optional on this vehicle. This manual may also include a description of features and equipment which are no longer available or were not ordered on this vehicle. Please disregard any illustrations or descriptions relating to features or equipment which are not on this vehicle. PACCAR reserves the right to discontinue, change specifications, or change the design of its vehicles at any time without notice and without incurring any obligation. The information contained in this manual is proprietary to PACCAR. Reproduction, in whole or in part, by any means is strictly prohibited without prior written authorization from PACCAR Inc.

Chapter 1 | INTRODUCTION

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About this Programming Guide

This programming guide is designed to help dealers and technicians understand some of the programming options available for Kenworth and Peterbilt trucks, as well as how to update those parameters.

How to Read This Document

The programming guide is divided into several chapters. Each chapter covers either the parameters that can be programmed, or procedures used to program the parameters.

Each parameter detailed includes an explanation of the parameter, any related or connected parameters, and a table detailing the parameter. The columns in each of these parameter tables are described in the following table.

Table 1: Parameter Table Explanation

Column Name	Explanation
P-Code	Parameter's p-code number
Default Value	Default value entered in the parameter
Minimum Value	Minimum value that can be entered
Maximum Value	Maximum value that can be entered
Unit Type	Unit value of parameter, such as 'mph' or 'seconds'

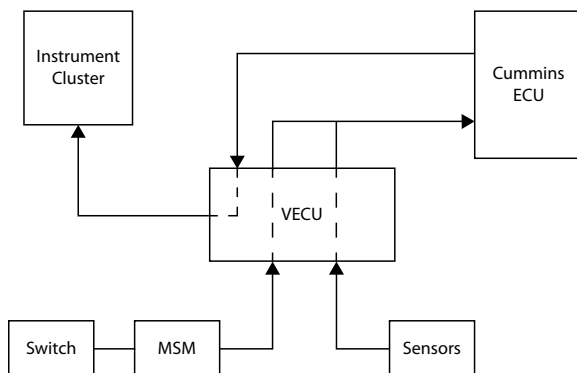
i NOTE

Some parameters are visible to customers but cannot be modified by them. These parameters will be noted as either nonprogrammable (cannot be changed) or only modifiable by PACCAR employees.

Cummins Engine Integration on Vehicles with VECU

Vehicle Electronic Control Unit (VECU) BUS communication is different for vehicles with a Cummins engine versus those with an MX engine. On vehicles equipped with a Cummins engine, most engine parameters are controlled by the Cummins *Electronic Control Unit (ECU)*. The *VECU* is not used to control or program these functions. Instead, the *VECU* works as a pass-through router, sending signals from sensors or switches to the Cummins *ECU*, and notifications from the Cummins *ECU* to the instrument panel. The *VECU* does not make any decisions on the signal being sent.

Figure 1: Cummins Integration Block Diagram



Many of the parameters covered in this document are for MX engines only. If your vehicle has a Cummins engine, these settings will not be shown in the *PACCAR Vehicle Pro (PVP)* system, and cannot be modified using *PVP*. For example, *Fast Idle Control (FIC)* must be programmed on the Cummins *ECU* using Cummins INSITE™. However, PTO function has to be programmed using Cummins INSITE™ and *PVP* if the *Power Take Off (PTO)* is air actuated. To setup an air operated *PTO*, the *Multiplex Solenoid Bank (MSB)* would need to be programmed for the air solenoid to assign a function to the solenoid that activates the *PTO*. *DAVIE4* is required to update the software parameters in addition to performing a "switch learn" for the *PTO* switch being assigned for the function.

Please refer to the Cummins manual for information on adjusting these variables.

Chapter 2 | APPLIES TO

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Build Information for Models with VMUX

The *VECU Multiplex (VMux)* architecture utilizes a *VECU* to control various systems on the truck.

Full VMUX system installation began May 28, 2021 (although some trucks were built and released before this date) on PACCAR Heavy Duty vehicles and either EPA21 Diesel or EPA18 Natural Gas engines. The tables below may help identify trucks equipped with the VMUX system architecture.

Table 2: Heavy Duty

Models	Production Build Dates	Engine Emissions Level	Control Unit	Hardware Part Number	Software Version
T680, T880, W990	May 28, 2021 - Present	EPA18 (Natural Gas), EPA21 (Diesel)	VECU2	VECU2: Q21-1139-XXX-XXX	VECU2: 2188275 ¹
567, 579	May 28, 2021 - Present	EPA18 (Natural Gas), EPA21 (Diesel)	VECU2	VECU2: Q21-1139-XXX-XXX	VECU2: 2188275 ²

Table 3: Medium Duty

Models	Production Build Dates	Engine Emissions Level	Control Unit	Hardware Part Number	Software Version
T180, T280, T380, T480	July 19, 2021 - Present	EPA21 (Natural Gas), EPA21 (Diesel)	VECU2	VECU2: Q21-1139-XXX-XXX	VECU2: 2322677 ³
535, 536, 537, 548	July 19, 2021 - Present	EPA21 (Natural Gas), EPA21 (Diesel)	VECU2	VECU2: Q21-1139-XXX-XXX	VECU2: 2322677 ⁴

Table 4: 520 Model

Models	Production Build Dates	Engine Emissions Level	Control Unit	Hardware Part Number	Software Version
520	Oct 08, 2018 - Present	EPA18 (Natural Gas), EPA17 (Diesel)	VECU2	VECU2: Q21-1139-000-000	VECU2: 2188275 ⁵

Identifying Control Units

Control Units can be identified using any of the methods below:

- Smart Wheel

¹ This is the value that is displayed in the Truck Settings of the instrument cluster for "VECU Software ver.".

² This is the value that is displayed in the Truck Settings of the instrument cluster for "VECU Software ver.".

³ This is the value that is displayed in the Truck Settings of the instrument cluster for "VECU Software ver.".

⁴ This is the value that is displayed in the Truck Settings of the instrument cluster for "VECU Software ver.".

⁵ This value, "VECU Software ver," can be found in the Truck Info sub-menu, located in the Settings menu of the Digital Display."

- [DAVIE4](#)
- [Electronic Catalog \(ECAT\)](#)



NOTE

Using [Menu Control Switch \(MCS\)](#) is the recommended method for determining the type of control unit in the truck.

Identifying System Using DAVIE4

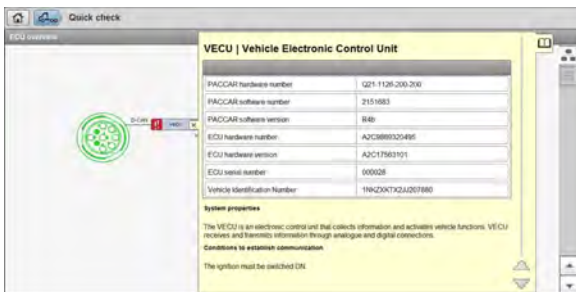
1. Connect to the vehicle with [DAVIE4](#).
2. Once the truck is identified select **Quick Check**.



If the truck is equipped with a [VECU](#), it will be displayed on the [ECU Overview](#) screen.



3. To view the software and hardware part numbers, click on the [VECU i-pane](#).



Chapter 3 | SPECIAL TOOLS

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Special Tools

You need special tools to program and update the [VECU](#).

PACCAR Vehicle Pro (PVP) - Formerly called [PACCAR Engine Pro \(PEP\)](#), [PVP](#) is a North American software application used for making changes or adjusting Digital Display, [VECU](#), engine, transmission (TX only), [Chassis Module Primary \(CMP\)](#), and [Chassis Module Secondary \(CMS\)](#) parameters.

DAVIE4 - DAVIE4 is the diagnostic tool used for programming and troubleshooting the [VECU](#) and the functions it controls. Connecting to the [VECU](#) with [DAVIE4](#) requires the latest available version. Refer to ePortal for the latest release.

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Accessing PACCAR Vehicle Pro

You will need a username and password set up for the [PVP](#) system.

Use this procedure to access the [PVP](#) system. The [PVP](#) system is used to see current settings for a chassis and to make changes to the system.

1. Sign in to ePortal using your ePortal username and password.

The PVP ePortal website is [Eportal.Paccar.Net](#).

2. From ePortal, click on **Applications**.
3. Click on the **Software** link.

The Software link is found on the left hand menu.

4. Click on the **PACCAR Vehicle Pro** link.
The Home Page opens to the Chassis Lookup section.



5. Enter the eight character chassis number in the Chassis Lookup field and press **Search**.

The chassis number is the last 8 of the truck's [Vehicle Identification Number \(VIN\)](#).

The *Edit Current Engine Parameters for Chassis* page appears.

If the chassis number entered is not found, the page indicates the chassis number is not found. Check the chassis number entered and try again. If you are still unable to access the chassis, contact your support representative.

Programming Modules on a Truck



WARNING

The vehicle's battery should be fully charged or connected to an external power source before beginning this procedure. Failure to do so could cause the vehicle to lose power during the procedure, which can damage the module.



WARNING

The service computer connected to the diagnostic connector should be fully charged or connected to an external power source before beginning this procedure. Failure to do so could cause the computer to lose power during the procedure, which can damage the module.



NOTE

All parameter changes must be made using [PVP](#) before beginning this procedure.



NOTE

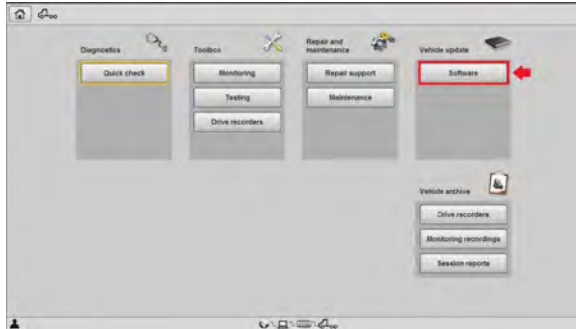
This procedure does not apply to programming new/blank modules.

This procedure describes programming a [VECU](#) as an example, but can be used to program any component listed in [DAVIE4](#).

1. Open [DAVIE4](#) and select **Identify Vehicle**.



2. Click on **Software**.



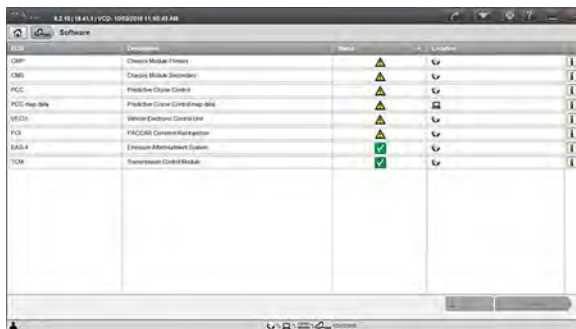
3. Select the module that needs to be programmed, then click **Retrieve Software**.

i NOTE

Modules with out of date software will display a yellow triangle in the status column.

i NOTE

Figure below is for reference only; ptions shown change based on the configuration of the vehicle.



The new software downloads. If the download is successful an expiration date displays in the **Location** column to the right of the **Status** column.

4. Select the module, then click **Update**.
5. Confirm that you would like to proceed with programming.



- Verify that the conditions are fulfilled, then click the arrow to proceed.



- Follow the instructions on the screen.



Programming is successful. Click the arrow to go back to the software screen. From there you may exit or program another module.



Programming a new Multiplex Switch

- Turn off the engine and set all switches to OFF.
- Connect computer to *On Board Diagnostics (OBD)* connector.
- Login to the *DAVIE4* application.

The username and password for the *DAVIE4* application is the same as for ePortal.

- Run **Quick Check** before adding a switch to show the current configuration.
- Select the *Repair Support* tab.
- Select the *Driver Environment* drop down.
- Select *Learn Dash Switches*.
- Cycle the key when prompted by *DAVIE4*.
- Run *Quick Check* and verify new switch is included in system.
- Clear any inactive *Diagnostic Trouble Code (DTC)*.

Chapter 5 | BASIC

Enable Faststop Recorder (AE01019).....	26
Faststop Recorder Threshold (AE01020).....	26
Fuel Density (AE01013).....	26

Enable Faststop Recorder (AE01019)

This setting enables/disables the Faststop Recorder.

Faststop Recorder allows the engine to trigger a recording event when vehicle deceleration is greater than [Faststop Recorder Threshold \(AE01020\)](#) on page 26. The Faststop Recorder will record data 5 seconds before and 5 seconds after the trigger. Three Faststop Recorder events will be stored.



NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.



NOTE

This parameter is for MX engines only.

Table 5: Enable Faststop Recorder (AE01019)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AE01019	ENABLED	DISABLED	ENABLED	FLAG

Faststop Recorder Threshold (AE01020)

This setting controls the Faststop Recorder deceleration threshold at which a Faststop recording will trigger.



NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.



NOTE

This parameter is for MX engines only.

Table 6: Faststop Recorder Threshold (AE01020)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AE01020	8.96	2.24	15.68	MPH/SEC

Fuel Density (AE01013)

Fuel Density allows the customer to reprogram the engine controller with a fuel density that more precisely represents the local fuel variation used in their vehicles, which will improve the accuracy of the controller's calculated fuel economy.



NOTE

This parameter is for MX engines only.

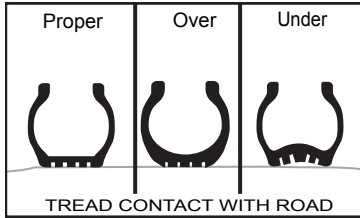
Table 7: Fuel Density (AE01013)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AE01013	855	780	950	g/L

Chapter 6 | TIRES

Tires (AA01262).....	32
Tire Size (TR02).....	32
Tire Revolutions Per Mile (TR01).....	32

Your tires are a very important part of your vehicle's whole braking system. How fast you can stop depends mostly on how much friction you get between the road and your tires. In addition, keeping your tires in good condition is essential to the safe, efficient operation of your vehicle. Regular, frequent inspection and the right care will give you the assurance of safe and reliable tire operation. Here are some tips on maintaining your tires.



WARNING

DO NOT repair damaged tires unless you are fully qualified and equipped to do so. Wheel and tire assemblies cannot be worked on without proper tools and equipment, such as: safety cages or restraining devices. Have all tire repairs performed by an expert. Stand away from the tire assembly while the expert is working. Failure to do this may result in death or injury.

Checking Inflation Pressure

Low pressure is a tire's worst enemy. Underinflation allows tires to flex improperly, causing high temperatures to build up. Heat causes early tire damage such as flex break, radial cracks, and ply separation. Low pressure may affect control of your vehicle, especially at the front wheels. Most tire wear problems are caused by underinflation as the result of slow leaks, so check tire pressure regularly. Lower tire pressure does not provide better traction on ice or snow. Give your tires a visual test every day, and check inflation with a gauge every week:

- When checking tire pressure, inspect each tire for damage to sidewalls, cuts, cracks, uneven wear, rocks between duals, etc. If a tire appears underinflated, check for damage to the wheel assembly. Don't forget to check between dual wheels. If you find wheel damage, have an expert tire service repair it.
- Maximum tire pressure will be indicated on the sidewall of a tire.
- Check pressure only when the tires are cool. Warm or hot tires cause pressure buildup and will give you an inaccurate reading. So never deflate a warm tire to the specified pressure.

WARNING

DO NOT operate a vehicle with underinflated tires. The extra heat caused by underinflation can cause sudden tire failure such as a tire fire or blow out, which can cause an accident resulting in death or personal injury. Low pressure may affect control at the front wheels, which could result in an accident involving death or personal injury. Keep your tires inflated to the manufacturer's recommended air pressure.

WARNING

DO NOT attempt to raise the vehicle to remove or install a damaged tire and wheel assembly if you are not fully qualified and not equipped with the proper tools and equipment. DO NOT attempt to reinflate a tire that has been run flat. Obtain expert help. A person can be seriously injured or killed if using the wrong service methods. Truck tires and wheels should be serviced only by trained personnel using proper equipment. Follow OSHA regulations per section 1910.177.

NOTE

Follow all warnings and cautions contained within the tire and wheel manufacturers literature.

Overloaded Tires

Overloading your truck is as damaging to your tires as underinflation. The following chart shows how neglect or deliberate abuse can affect the life of your tires.


Table 8: Effects of Load and Pressure on Tire Life

Vehicle Load	Tire Pressure	Expected Total Tire Mileage
Normal	Normal	Normal

Vehicle Load	Tire Pressure	Expected Total Tire Mileage
20% Over	20% Low	70%
40% Over	30% Low	50%
60% Over	35% Low	40%
80% Over	45% Low	30%
100% Over	55% Low	25%

Overinflated Tires


Overinflating the tires reduces the tread contact area with the road surface, concentrating all of the vehicle weight on the center of the tread. This causes premature wear of the tire.

 **WARNING**


Overinflated tires can cause accidents. They wear more quickly than properly inflated tires and are more subject to punctures, cracks, and other damage. They could fail and cause you to lose control of your vehicle resulting in an accident causing death or personal injury. Be sure all tires are inflated correctly according to the manufacturer's recommendations.

Matching Tires

Be sure to buy matched tires for your vehicle, especially on the rear axles. Mismatched tires can cause stress between axles and cause the temperature of your axle lubricant to get too hot. Matched tires will help your driveline last longer and will give you better tire mileage.

 **WARNING**


DO NOT mismatch tires, it can be dangerous. Never mix tires of different design such as steel belted radials and bias ply tires, etc. Mixing tire types and sizes will adversely affect the road holding ability of both types of tires and can lead to loss of vehicle control and causing death or personal injury.

 **WARNING**


DO NOT install regrooved or reinforcement repaired tires on steering axles. They could fail unexpectedly and cause you to lose control of your vehicle resulting in an accident causing death or personal injury.

Replacing Tires

Front: Replace front tires when less than 4/32 -in. of tread remains. Check at three places equally spaced around the tire. Drive Axles or Trailers: Replace tires on drive axles or trailers when less than 2/32 -in. of tread depth remains in any major groove. Check at three places equally spaced around the tire.

 **WARNING**


DO NOT replace original equipment tires with load ratings less than the original tires. Doing so could lead to unintentional overloading of the tire, which could cause a failure resulting in loss of vehicle control and an accident. Failure to comply may result in death, personal injury, equipment or property damage.

 **NOTE**

To prolong your tires' life and make them safer, have their radial and lateral run-out checked at your dealer. And of course you should have your tires balanced anytime you change a tire.

Tire Chains

If you need tire chains, install them on both sides of each driving axle.

 **NOTE**

To prolong your tires' life and make them safer, have their radial and lateral run-out checked at your dealer. And of course you should have your tires balanced anytime you change a tire.

Speed Restricted Tires



WARNING

This vehicle is equipped with speed restricted tires. Check each tire's sidewall and/or tire manufacturer's data book for maximum rated speed. The vehicle should not be operated at speeds in excess of the maximum rated speed. Failure to comply with these speed restrictions could cause sudden tire failure, which can result in property damage or personal injury.

Tires (AA01262)

This setting contains a list with the specific tire names and sizes. The circumference of the tire is used to determine vehicle speed and distance traveled.

Tire Size (TR02)

This setting includes a dropdown list of common tire sizes.



NOTE

The equipped tires in the vehicle must not be listed in [Tires \(AA01262\)](#) on page 32 for this setting to be used.

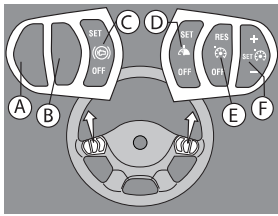
Tire Revolutions Per Mile (TR01)

This setting controls the tire revolutions per mile and is used only in the case that the tires equipped in the vehicle are not listed in [Tire Size \(TR02\)](#) on page 32 and [Tires \(AA01262\)](#) on page 32.

Chapter 7 | ENGINE BRAKE

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Primary Retarder Disable Threshold Speed (AE01008).....	35

The engine brake is primarily intended for prolonged braking, for example when decelerating from high speed on a level road or when driving downhill. This reduces service brake wear.



The engine brake is activated by operating steering wheel switch (C).

i NOTE

- The engine brake is activated by operating steering wheel switch (C).
- To save the service brakes and to prevent the engine brake valve from becoming stuck, it is wise to regularly use the engine brake.

The braking effect decreases as the engine speed falls.

The most appropriate area of use for the engine brake is in the blue area of the revolution counter. The engine brake delivers the highest braking effect in this area.

When using the engine brake, adjust the gear selection so that the engine speed remains in the most favorable range. In case of an AS Tronic Lite gearbox, gear selection is automatic.

The engine brake is automatically switched off when:

- The engine speed drops below 1000 rpm.
- The ABS/ASR system has established a tendency for the wheels to lock.
- The accelerator pedal is depressed.
- The vehicle speed control or engine speed control has been activated.

! WARNING

If the ABS/ASR control is activated, the engine brake will be switched off as long as the control is in operation. On vehicles where the ABS/ASR control fails to function or on vehicles not equipped with ABS/ASR, use of the engine brake may lead to the risk of skidding on slippery surfaces.

Engine brakes activation during open driveline (Manual Only) (AE00001)

This setting enables/disables Auto-Retarder.

The possible values for this setting are:

- 0 - Engine Brakes enabled while Driveline Open
- 1 - Engine Brakes disabled while Driveline Open

i NOTE

This parameter is for MX engines only.

Table 9: Engine brakes activation during open driveline (Manual Only) (AE00001)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00001	1	0	1	FLAG



NOTE

Parameter P011 must be set to "Enabled in VECU" for this parameter to be enabled.

Primary Retarder Disable Threshold Speed (AE01008)

This setting controls at which speed the Retarder will disengage.



NOTE

This parameter is for MX engines only.

Table 10: Primary Retarder Disable Threshold Speed (AE01008)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AE01008	1.86	1.86	29.83	MPH



NOTE

Parameter P011 must be set to "Enabled in VECU" for this parameter to be enabled.

Chapter 8 | FAST IDLE CONTROL

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Fast Idle Control (FIC)

FIC is a function that allows the operator to increase the engine rpm during stationary operations with the park brake engaged. The function receives input from steering wheel switches, dash switches, cab throttle, service brake and clutch pedal. This function has preprogrammed minimum and maximum values. This allows the driver to adapt to changing engine speed requirements. Examples include:

- Raising engine speed for faster engine warm-up on cold days.
- Raising engine speed to improve *Heating, Ventilation, and Air Conditioning (HVAC)* performance in extreme conditions while parked.
- Improving service operations, such as charging of the batteries or air system.

FIC will become active and allow the operator to control the engine speed with the Set/Accel and Resume/Decel switches once all of the following conditions are met:

- The Cruise Control switch is in the ON position.
- The vehicle is stationary.
- The transmission is in neutral.
- The parking brake is set.

FIC is overridden if the accelerator is pressed down and exceeds the value that is set by the *FIC* setting. *FIC* will automatically deactivate if the clutch pedal or the service brake pedal are depressed and the engine will return to base idle speed.

Fleet managers may find that adjusting some of the *FIC* settings yields better fuel economy when an application requires extended idle operations. The *FIC* module allows a fleet owner to set limits in order to enhance overall operating economy. *FIC* is a standard feature of the engine, but can be disabled to ensure that engine idle speed cannot be altered.



NOTE

The default *FIC* settings are useful for the majority of applications, so modifications of the default settings typically are not necessary. Before changing the default parameters, it is strongly recommended to consult the customer and/or body builder to determine the specific vehicle application.



NOTE

FIC is not to be used in place of *PTO*.

Maximum Target Engine Speed in Fast Idle Control (AA00042)

This setting controls the maximum engine speed available during *FIC* mode. While engine idle speed can be controlled during *FIC*, engine speed will not exceed the value listed in this setting except if controlled by the accelerator pedal.



NOTE

This parameter is for MX engines only.

Table 11: Maximum Target Engine Speed in Fast Idle Control (AA00042)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00042	1900	550	2000	RPM

Increase in FIC Target Engine Speed on a Long Press of the SET/ACCEL SWITCH (AA01110)

This setting controls the amount engine speed is increased during *FIC* mode when the Set/Accel switch is pressed and held.

NOTE

This parameter is for MX engines only.

Table 12: Increase in FIC Target Engine Speed on a Long Press of the SET/ACCEL SWITCH (AA01110)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01110	250	10	1000	RPM/S

Decrease in FIC Target Engine Speed on a Long Press of the RESUME/DECEL SWITCH (AA01111)

This setting controls the amount engine speed is decreased during *FIC* mode when the Resume/Decel switch is pressed and held.

NOTE

Briefly pressing the Resume/Decel switch reduces engine speed by the amount entered in [Decrease in FIC Target Engine Speed on a Bump of the RESUME/DECEL SWITCH \(AA01112\)](#) on page 39.

NOTE

This parameter is for MX engines only.

Table 13: Decrease in FIC Target Engine Speed on a Long Press of the RESUME/DECEL SWITCH (AA01111)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01111	250	10	1000	RPM/S

Decrease in FIC Target Engine Speed on a Bump of the RESUME/DECEL SWITCH (AA01112)

This setting controls the amount engine speed is decreased during *FIC* mode when the Resume/Decel switch is briefly pressed.

NOTE

Pressing and holding the Resume/Decel switch reduces engine speed by the amount entered in [Decrease in FIC Target Engine Speed on a Long Press of the RESUME/DECEL SWITCH \(AA01111\)](#) on page 39.



 NOTE
This parameter is for MX engines only.

Table 14: Decrease in FIC Target Engine Speed on a Bump of the RESUME/DECEL SWITCH (AA01112)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01112	100	10	1000	RPM

Increase in FIC Target Engine Speed on a Bump of the SET/ACCEL SWITCH (AA01113)

This setting controls the amount engine speed is increased during *FIC* mode when the Set/Accel switch is briefly pressed.

 NOTE
Pressing and holding the Set/Accel switch increases engine speed by the amount entered in Increase in FIC Target Engine Speed on a Long Press of the SET/ACCEL SWITCH (AA01110) on page 39.

 NOTE
This parameter is for MX engines only.

Table 15: Increase in FIC Target Engine Speed on a Bump of the SET/ACCEL SWITCH (AA01113)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01113	100	10	1000	RPM

Enable Fast Idle Control (AA01109)

This setting is used to enable *FIC* functions. FIC allows engine idle speed adjustment within preprogrammable limits. For example, engine idle speed can be increased to improve *HVAC* performance while the vehicle is parked or to speed up engine warm-up in cold weather conditions.


 NOTE
This parameter is for MX engines only.

Table 16: Enable Fast Idle Control (AA01109)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01109	ENABLED	DISABLED	ENABLED	FLAG

Lower Limit of FIC (AA01267)

This setting is used determine the lower limit of *FIC*



NOTE

This parameter is for MX engines only.

Table 17: Lower Limit of FIC (AA01267)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01267	650	550	750	RPM

Chapter 9 | ENGINE TUNING

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Minimum Speed for High Exhaust Temp Warning (AE01021)

This parameter controls what at what vehicle speed the High Exhaust Temp Warning will trigger.



NOTE

This parameter is for MX engines only.

Table 18: Minimum Speed for High Exhaust Temp Warning (AE01021)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AE01021	5	5	49	MPH

Engine Idle Speed (AE00002)

This parameter controls base engine idle speed.



NOTE

This parameter is for MX engines only.

Table 19: Engine Idle Speed (AE00002)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AE00002	600	550	650	RPM

Chapter 10 | MISC

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Enable Stationary Regen, Minimum Vehicle Speed Threshold for Regen in PTO (AE01036).....	46
Rear Axle Ratio (AA01259).....	47

Miscellaneous Options

This section covers the miscellaneous parameters options available in *PVP*.

Enable Fan-Assist during Regen in PTO Mode (AE01018)

This setting is used to determine if the engine fan will be enabled to assist with DPF Regeneration while in PTO Mode.

Table 20: Enable Fan-Assist during Regen in PTO Mode (AE01018)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AE01018	DISABLED	DISABLED	Enable FAN ASSIST W/ Eng Regen in PTO Mode	FLAG

Enable Regen in PTO Mode (AE01034)

This setting is used to Enable/Disable DPF Regeneration while in PTO Mode.

Regen in PTO Mode allows the engine to perform DPF regenerations while PTO Mode is active and vehicle is stationary, allowing the engine to run continuously without the need to exit PTO Mode to perform a stationary DPF regeneration. This functionality is not California Air Resources Board (CARB) compliant for MX engines manufactured prior to June 2015.

Table 21: Enable Regen in PTO Mode (AE01034)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AE01034	DISABLED	DISABLED	ENABLE ENG REGEN IN PTO MODE	FLAG

Enable Stationary Regen, Minimum Vehicle Speed Threshold for Regen in PTO (AE01036)

This setting controls the speed threshold where DPF Regeneration in PTO Mode is allowed to occur.

 NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 22: Enable Stationary Regen, Minimum Vehicle Speed Threshold for Regen in PTO (AE01036)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AE01036	4.97	0	4.97	MPH

Rear Axle Ratio (AA01259)

This setting controls the vehicle's rear axle ratio.

Table 23: Rear Axle Ratio (AA01259)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01259	3.36	1	20	RATIO

Chapter 11 | SPEED CONTROL MANAGEMENT

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Speed Control Management (SCM)

The *Speed Control Management (SCM)* feature is intended to help encourage fuel-efficient shifting habits by reducing engine acceleration or restricting vehicle speed at elevated engine speeds. Speed Control Management consists of two control strategies: *Progressive Shift (PGS)* and *Gear Down Protection (GDP)*, which may be enabled separately or in combination.

PACCAR offers pre-approved and validated *PGS* and *GDP* settings for most manual and automated-manual transmission powertrain configurations. Upon selection of at least one of the *SCM* features, optimized gear and shift point selections are identified by PACCAR and programmed into the vehicle. These selections are based on the customer's powertrain configuration and requested performance optimization goals.

Standard Feature

- Without *SCM*

Feature Options

- *PGS*
- *GDP*
- *PGS* and *GDP*

Progressive Shift (PGS)

The *PGS* module is typically used to improve fuel economy by encouraging the driver to upshift earlier in lower gears. By shifting earlier, engine speed is reduced, resulting in improved fuel economy. *PGS* is a "soft" RPM limit that restricts engine acceleration when the engine speed is above a predefined engine speed limit. This provides a balance between encouraging a driver to shift at lower engine speeds and the driver's needs to remain in a gear longer to execute a shift under heavy load. The driver's perception of the restricted engine acceleration gives a clear indication to execute an upshift. Along with limiting engine acceleration, *PGS* also provides a visual notification to the driver to shift via the driver display. Full engine acceleration is restored after the driver executes a shift and the engine speed falls below the customer-defined *PGS* engine speed limit.

The *PGS* module will provide up to two engine speed limits, allowing customers to use a more aggressive limit in lower gears and a less aggressive limit in higher gears. 9 to 13-speed transmissions will receive a two-step engine speed limit, and 18-speed transmissions will receive a single step. The first and last gear in which each progressive shift range is programmed ensuring it is properly configured to the customer's application and for the specified powertrain components.

Minimum gear for PGS Step 1 (AA01173) on page 54 indicates the first gear number in which *PGS* will become active and *Maximum gear for PGS Step 1 (AA01172)* on page 53 indicates the last gear the first *PGS* step will be active.

Maximum gear for PGS Step 2 (AA01170) on page 53 specifies the last gear that the second step of *PGS* will be active. While *PGS* is active, engine speed will be "soft" limited to *Engine Speed Soft Limit for PGS Step 1 (AA01174)* on page 54 or *Engine Speed Soft Limit for PGS Step 2 (AA01175)* on page 54 depending on the currently selected gear and the defined gear ranges for each step.

Gear Down Protection (GDP)

The *GDP* module encourages the driver to shift into top gear when operating the vehicle at the target operating speed. This is done by restricting the road speed in gears below top gear. When enabled, *GDP* restricts operation of the vehicle at the target operating speed when not in top gear. This effectively prevents engine operation at excessive RPMs and, as a result, helps to improve fuel economy. *GDP* is a "hard" limit. The engine RPM, and therefore vehicle speed, will be limited to a specified value in the specified gears. Along with limiting engine RPM and vehicle speed, this function also provides a visual notification to the driver to shift via the driver display.

The *GDP* module offers a single programmable engine speed limit. Selection of the *GDP* module will automatically set the engine speed limit at one or two gears below top gear depending upon the combination of transmission, rear axle ratio, and equipped tires. Changes to the factory settings can be made post-delivery via a PRS file from the PACCAR Engine Support Center.

Minimum gear to enable GDP (AA01165) on page 52 specifies the first selected gear in which the *GDP* "hard" engine speed limiter will become active, while *Maximum gear for GDP to be enabled (AA01169)* on page 53 specifies the last selected gear that the *GDP* engine speed limiter will remain active.

Application Guidelines

The **SCM** features are intended to be used with manual and automated-manual transmissions while operating in manual mode. The **SCM** feature is not available with 2-speed rear axles, auxiliary transmissions, Allison transmissions, or multi-speed transfer cases. A full list of application guidelines includes:

- Transmissions
 - Available on chassis equipped with Eaton 9, 10, 11, 13, or 18-speed manual transmissions
 - Available on chassis equipped with Eaton Ultrashift automated manual transmissions (while operating in manual mode)
 - Not available on chassis equipped with Allison transmissions
 - Not available on chassis with auxiliary transmissions
- Rear Axle Ratio
 - Available on chassis with 2.53 to 4.33 rear axle ratios
 - Not available on chassis equipped with multi-speed rear axles

Enable the gear down protection feature (AA01257)

This setting enables the gear down protection.


	NOTE
This parameter is for MX engines only.	

Table 24: Enable the gear down protection feature (AA01257)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01257	DISABLED	DISABLED	ENABLED	FLAG

Enable the progressive shift feature (AA01258)

This setting enables the progressive shift feature.

	NOTE
This parameter is for MX engines only.	

Table 25: Enable the progressive shift feature (AA01258)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01258	DISABLED	DISABLED	ENABLED	FLAG

SCM Custom Option Code Control (AA01377)

This setting enables the **SCM** custom option code control.



 NOTE
This parameter is for MX engines only.

Table 26: SCM Custom Option Code Control (AA01377)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01377	Default SCM Only (Default)	Default SCM Only (Default)	SCM: CUSTOM PARAMETERS REQ 1000276 AND/OR 1000277	FLAG

Minimum gear to enable GDP (AA01165)

This setting controls the minimum gear the vehicle can be in to enable [GDP](#).

 NOTE
This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.



 NOTE
This parameter is for MX engines only.

Table 27: Minimum gear to enable GDP (AA01165)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01165	9	0	18	GEAR

GDP Engine Speed Limit (AA01166)

This setting controls the engine speed limit when the vehicle is in [GDP](#).

 NOTE
This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.



 NOTE
This parameter is for MX engines only.

Table 28: GDP Engine Speed Limit (AA01166)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01166	1680	1330	1930	RPM

Maximum gear for GDP to be enabled (AA01169)

This setting controls the maximum gear the vehicle can be in to enable *GDP*.

 NOTE
This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.



 NOTE
This parameter is for MX engines only.

Table 29: Maximum gear for GDP to be enabled (AA01169)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01169	9	0	18	GEAR

Maximum gear for PGS Step 2 (AA01170)

This setting controls the maximum gear the vehicle can be in for *PGS* step 2.

 NOTE
This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.



 NOTE
This parameter is for MX engines only.

Table 30: Maximum gear for PGS Step 2 (AA01170)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01170	8	0	18	GEAR

Maximum gear for PGS Step 1 (AA01172)

This setting controls the maximum gear the vehicle can be in for *PGS* step 1.

 NOTE
This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.


 NOTE
This parameter is for MX engines only.

Table 31: Maximum gear for PGS Step 1 (AA01172)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01172	6	0	18	GEAR

Minimum gear for PGS Step 1 (AA01173)

This setting controls the minimum gear the vehicle can be in for [PGS](#) step 1.



NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.



NOTE

This parameter is for MX engines only.

Table 32: Minimum gear for PGS Step 1 (AA01173)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01173	2	0	18	GEAR

Engine Speed Soft Limit for PGS Step 1 (AA01174)

This setting controls the "soft" engine speed limit when the vehicle is in [PGS](#) step 1.



NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.



NOTE

This parameter is for MX engines only.

Table 33: Engine Speed Soft Limit for PGS Step 1 (AA01174)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01174	1500	0	4000	RPM

Engine Speed Soft Limit for PGS Step 2 (AA01175)

This setting controls the "soft" engine speed limit when the vehicle is in [PGS](#) step 2.



NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.



NOTE

This parameter is for MX engines only.

Table 34: Engine Speed Soft Limit for PGS Step 2 (AA01175)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01175	1500	0	4000	RPM

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Driver Reward

The Driver Reward feature is designed to improve fuel economy by providing incentive for drivers to meet customer-defined goals for fuel economy and idle time. The vehicle speed limit may be lowered when goals are not met, or increased to reward drivers for meeting the goals.



NOTE

The Driver Reward feature is only available vehicles equipped with PACCAR MX engines manufactured after June 2015, and is not compatible with vehicles equipped with early model year 2015 or prior engines.

Standard Feature

- Without Driver Reward

Feature Options

- Fuel Economy Evaluation
- Idle Time Evaluation

The Driver Reward feature provides the driver with increased vehicle speed for meeting customer-defined fuel consumption and idle time goals. The customer has the option of evaluating driver performance based on Fuel Economy, Idle Time Percentage, or both. [Offset Mode \(AA00013\)](#) on page 62 may also be configured to apply vehicle speed rewards to the cruise control vehicle speed limit, the accelerator pedal vehicle speed limit, or both.

The Fuel Economy option allows the engine to monitor and compare actual fuel economy to [Fuel consumption threshold for EXPECTED driver reward state \(AA01055\)](#) on page 60, which is the threshold at which neither a reward nor penalty will be imposed on the driver. The [Maximum Vehicle Speed Bonus \(AA00009\)](#) on page 59 will be applied if the measured fuel economy is greater than or equal to [Fuel consumption threshold for BONUS driver reward state \(AA01054\)](#) on page 59. The [Maximum Vehicle Speed Penalty \(AA00010\)](#) on page 59 will be applied if the measured fuel economy is less than or equal to [Idle percentage threshold for PENALTY driver reward state \(AA01059\)](#) on page 62. As the driver improves the measured fuel economy, the maximum vehicle speed will increase with the driver's performance, until the [Maximum Vehicle Speed Bonus \(AA00009\)](#) on page 59 has been reached. As the driver decreases the measured fuel economy, the vehicle speed penalty will gradually increase with the driver's performance, until the [Maximum Vehicle Speed Penalty \(AA00010\)](#) on page 59 has been reached.

The Percent Idle Time option allows the engine to monitor the percentage of engine idle time and compare it to [Idle percentage threshold for EXPECTED driver reward state \(AA01058\)](#) on page 61, which is the threshold at which neither a reward nor penalty will be imposed on the driver. The [Maximum Vehicle Speed Bonus \(AA00009\)](#) on page 59 will be applied if the recorded percentage of idle time is less than or equal to [Idle percentage threshold for BONUS driver reward state \(AA01057\)](#) on page 61. The [Maximum Vehicle Speed Penalty \(AA00010\)](#) on page 59 will be applied if the recorded percentage of idle time is greater than or equal to [Idle percentage threshold for PENALTY driver reward state \(AA01059\)](#) on page 62. As the driver decreases the recorded percentage of idle time, the maximum vehicle speed will increase until the [Maximum Vehicle Speed Bonus \(AA00009\)](#) on page 59 has been reached. As the driver decreases the recorded percentage of idle time, the vehicle speed penalty will gradually increase until the [Maximum Vehicle Speed Penalty \(AA00010\)](#) on page 59 has been reached.

If Fuel Economy and Percent Idle Time are both enabled, the Driver Reward performance criteria are evaluated individually and the overall vehicle speed bonus or penalty will be determined from the lowest individual bonus or penalty.

On Greenhouse Gas (GHG) compliant vehicles, [Standard Maximum Speed Limit \(LSL\) \(AA00088\)](#) on page 96 will limit the overall maximum speed of the vehicle, until the [Vehicle Speed Limiter \(VSL\)](#) expiration distance has been exceeded. The [VSL](#) expiration distance is available in the chassis information within [PEP](#), and may not be changed. For vehicles which have exceeded the [VSL](#) expiration distance, the [Standard Maximum Speed Limit \(LSL\) \(AA00088\)](#) on page 96 will be ignored. In order to provide a speed bonus on vehicles subject to the GHG [VSL](#), the [Maximum Accelerator Pedal Vehicle Speed \(AA00086\)](#) on page 96 or [Maximum Cruise Control Target Speed \(AA00003\)](#) on page 74 must be lower than [Standard Maximum Speed Limit \(LSL\) \(AA00088\)](#) on page 96.

The six parameters which control the bonus, expected, and penalty thresholds of fuel economy and idle time evaluations are configurable using ONLY the [PVP](#) interface, and the default values listed in Programmable Parameters will be applied automatically during the ordering process. As the engine progresses in mileage or changes duty-cycles, these parameters may be altered to more appropriately fit the engine's expected behavior.

Driver Reward Functionality (AA01047)

This setting enables Driver Rewards.

Table 35: Driver Reward Functionality (AA01047)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01047	DISABLED	DISABLED	ENABLED	FLAG

Maximum Vehicle Speed Bonus (AA00009)

This setting controls the maximum speed bonus that can be applied through the Driver Reward system.


	NOTE
This parameter is for MX engines only.	

Table 36: Maximum Vehicle Speed Bonus (AA00009)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00009	5	0	10	MPH

Maximum Vehicle Speed Penalty (AA00010)

This setting controls the maximum speed penalty that can be applied through the Driver Reward system.



	NOTE
This parameter is for MX engines only.	

Table 37: Maximum Vehicle Speed Penalty (AA00010)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00010	-5	-10	0	MPH

Fuel consumption threshold for BONUS driver reward state (AA01054)

This setting controls the MPG at which the maximum vehicle speed bonus is applied. The vehicle speed limit is gradually increased as the MPG approaches this limit.

 NOTE

The [Enable the Driver Fuel Efficiency part of the Driver Reward Speed Limiter \(AA01247\)](#) on page 63 setting must be enabled for this setting to be used.

 NOTE

This parameter is for MX engines only.

Table 38: Fuel consumption threshold for BONUS driver reward state (AA01054)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01054	6.49	0	63	MPG

Fuel consumption threshold for EXPECTED driver reward state (AA01055)

This setting controls the expected mpg of the vehicle for the Driver Reward system. This is the fuel economy at which no vehicle speed bonus or penalty is applied.

 NOTE

The [Enable the Driver Fuel Efficiency part of the Driver Reward Speed Limiter \(AA01247\)](#) on page 63 setting must be enabled for this setting to be used.

 NOTE


This parameter is for MX engines only.

Table 39: Fuel consumption threshold for EXPECTED driver reward state (AA01055)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01055	6	0	63	MPG

Fuel consumption threshold for PENALTY driver reward state (AA01056)

This setting controls the MPG at which the maximum vehicle speed penalty is applied. The vehicle speed limit is gradually decreased as the MPG approaches this limit.

 NOTE

The [Enable the Driver Fuel Efficiency part of the Driver Reward Speed Limiter \(AA01247\)](#) on page 63 setting must be enabled for this setting to be used.

 NOTE

This parameter is for MX engines only.

Table 40: Fuel consumption threshold for PENALTY driver reward state (AA01056)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01056	6	0	63	MPG

Enable the Vehicle Idle Time Percentage (AA01248)

This setting enables the Driver Reward system to use the percentage of vehicle idle time as a control for increasing or decreasing maximum vehicle speed.



 NOTE
This parameter is for MX engines only.

Table 41: Enable the Vehicle Idle Time Percentage (AA01248)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01248	Disabled	Disabled	Enable Idle Time Percentage	FLAG

Idle percentage threshold for BONUS driver reward state (AA01057)

This setting controls the idle time percentage at which the maximum vehicle speed bonus is applied. The vehicle speed limit is gradually increased as the idle time percentage approaches this limit.

 NOTE
The Enable the Vehicle Idle Time Percentage (AA01248) on page 61 setting must be enabled for this setting to be used.


 NOTE
This parameter is for MX engines only.

Table 42: Idle percentage threshold for BONUS driver reward state (AA01057)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01057	5	0	100	%

Idle percentage threshold for EXPECTED driver reward state (AA01058)

This is the idle time percentage at which no vehicle speed bonus or penalty is applied.



NOTE

The [Enable the Vehicle Idle Time Percentage \(AA01248\)](#) on page 61 setting must be enabled for this setting to be used.



NOTE

This parameter is for MX engines only.

Table 43: Idle percentage threshold for EXPECTED driver reward state (AA01058)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01058	10.00	0	100	%

Idle percentage threshold for PENALTY driver reward state (AA01059)

This setting controls the idle time percentage at which the maximum vehicle speed penalty is applied. The vehicle speed limit is gradually decreased as the idle time percentage approaches this limit.



NOTE

The [Enable the Vehicle Idle Time Percentage \(AA01248\)](#) on page 61 setting must be enabled for this setting to be used.



NOTE

This parameter is for MX engines only.

Table 44: Idle percentage threshold for PENALTY driver reward state (AA01059)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01059	15.00	0	100	%

Offset Mode (AA00013)

This setting controls whether the bonuses and penalties from the Driver Reward system apply to driving using pedals, cruise control, or both.

The possible values for this setting are:

NONE - No Reward

PEDAL - Pedal

CRUZ - Cruise

BOTH - Both



NOTE

This parameter is for MX engines only.

Table 45: Offset Mode (AA00013)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00013	BOTH	NONE	BOTH	DISCRETE

Driver Reward Averaging Distance (AA01229)

This setting controls the distance used to determine the operator's performance for both the Fuel Economy and Freight Fuel Consumption metrics for Driver Reward. Fuel Economy and Fuel Consumption rewards or penalties are updated every time the miles set in this control pass.



NOTE

This parameter is for MX engines only.

Table 46: Driver Reward Averaging Distance (AA01229)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01229	596.51	6.21	621.37	MILES

Enable the Driver Fuel Efficiency part of the Driver Reward Speed Limiter (AA01247)

This setting enables the Driver Reward system to use fuel efficiency as a control for increasing or decreasing maximum vehicle speed.



NOTE

This parameter is for MX engines only.

Table 47: Enable the Driver Fuel Efficiency part of the Driver Reward Speed Limiter (AA01247)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01247	Disabled	Disabled	Enable Fuel Economy	FLAG

Chapter 13 | DRIVER SHIFT AID

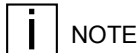
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Driver Shift Aid

Driver Shift Aid (DSA) helps reduce engine fuel consumption by informing the driver to upshift in order to reduce engine speed. It provides visual notifications through the driver display, encouraging the operator to perform upshifts at predefined engine speeds. *DSA* is compatible with vehicles equipped with manual transmissions or automatic transmissions operating in manual mode.

Enables driver shift aid functionality (AA01249)

This setting enables *DSA* functionality.



NOTE

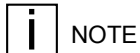
This parameter is for MX engines only.

Table 48: Enables driver shift aid functionality (AA01249)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01249	Disabled	Disabled	Enable Driver Shift Aid	FLAG

Minimum Driver Shift Aid Vehicle Speed (AA00015)

This setting controls the minimum vehicle speed needed to enable *DSA*. *DSA* will not activate unless the vehicle is traveling at or above the speed entered in this option.



NOTE

This parameter is for MX engines only.

Table 49: Minimum Driver Shift Aid Vehicle Speed (AA00015)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00015	3	0	124	MPH

Driver Shift Aid Lowest Active Gear (AA00016)

This setting indicates the lowest transmission gear available to maintain active *DSA*. If the current gear is lower than the entry in in this setting, then *DSA* is not active.



NOTE

This parameter is for MX engines only.

Table 50: Driver Shift Aid Lowest Active Gear (AA00016)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00016	1	1	30	DISCRETE

Driver Shift Aid Highest Active Gear (AA00017)

This setting indicates the highest transmission gear available to maintain active [DSA](#). If the current gear is higher than the entry in in this setting, then DSA is not active.


 NOTE
This parameter is for MX engines only.

Table 51: Driver Shift Aid Highest Active Gear (AA00017)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00017	10	1	30	DISCRETE

Trans gear ratio (AA01250)

This setting determines the gear number for the vehicle's top gear. For example, on trucks with 16 gear speeds this would be the 16th gear, while on trucks with 10 speeds this would be the 10th gear.


 NOTE
This parameter is for MX engines only.

Table 52: Trans gear ratio (AA01250)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01250	1	1	18	GEAR

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Enable Application Road Speed Limiter (AA01280)

This setting enables or disables *Application Road Speed Limiter (ARSL)*.



NOTE

This parameter is for MX engines only.

Table 53: Enable Application Road Speed Limiter (AA01280)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01280	DISABLED	DISABLED	ENABLED	FLAG

Configures Polarity of ARSL switch input (AA01281)

This setting controls polarity for the *ARSL* switch.



NOTE

This parameter is for MX engines only.

Table 54: Configures Polarity of ARSL switch input (AA01281)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01281	ENABLED	DISABLED	ENABLED	FLAG

ARSL Speed Limit #1 (AA01282)

This setting controls the #1 Speed limit when Application Road Speed Limiter is enabled.



NOTE

This parameter is for MX engines only.

Table 55: ARSL Speed Limit #1 (AA01282)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01282	3.73	0	55.3	MPH

Determines source of ARSL Switch Signal (AA01284)

This setting controls *ARSL* switch source.

Possible options for this setting are:

2 - Hardwired to primary chassis module

4 - CAN Input to B/K/S-CAN


	NOTE
This parameter is for MX engines only.	

Table 56: Determines source of ARSL Switch Signal (AA01284)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01284	2	2	4	DISCRETE

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Cruise Control (CC)

The *Cruise Control (CC)* feature allows the operator to set and maintain a target vehicle speed, as well as adjust it when necessary, within programmable limits. This allows the driver to keep the vehicle at a constant vehicle speed, but still easily adapt to changing vehicle speed requirements. The *CC* module also allows a fleet owner to set preprogrammed limits in order to enhance overall operating economy.

NOTE

CC is a standard feature of the engine, and the default *CC* settings are useful for a majority of applications. Before changing the default parameters, it is strongly recommended to consult the customer and/or body builder to review the *CC* options.

CC is controlled using the:

- ON/OFF switch.
- Set/Accel switch.
- Resume/Decel switch.

The ON/OFF switch is used to activate and deactivate *CC*. When the switch is in the ON position, the operator can use the Set/Accel switch and Resume/Decel switch to control *CC* functions. When the switch is in the OFF position, *CC* is deactivated and the engine does not automatically maintain an operator-desired vehicle speed.

When *CC* is on, the Set/Accel switch allows the operator to activate *CC* and assign the current vehicle speed as the Cruise Control target speed. While *CC* is active, the operator is free from having to control the vehicle speed using the accelerator pedal. While *CC* is actively controlling vehicle speed, the Set Accel switch can be used two ways:

1. Briefly pressing the Set/Accel switch will cause the vehicle speed to increase by the value in the *Increment step for brief operation of switch (AA01002)* on page 75 setting.
2. Pressing and holding the Set/Accel switch accelerates vehicle speed until the switch is released or the speed entered in the *Maximum Cruise Control Target Speed (AA00003)* on page 74 setting is reached.

When *CC* is on, the Resume/Decel switch allows the operator to activate *CC* and resume maintaining a previously set vehicle cruise speed. The stored target vehicle speed is reset with an ignition key cycle. While *CC* is actively controlling vehicle speed, the Set/Resume switch can be used two ways:

1. Briefly pressing the Resume/Decel switch will cause the vehicle speed to decrease by the value in the *Decrement step for brief operation of switch (AA01001)* on page 75 setting.
2. Pressing and holding Resume/Decel switch decreases vehicle speed until the switch is released or the speed entered in the *Minimum Speed to Enable Cruise Control (AA00004)* on page 75 setting is reached.

Maximum Cruise Control Target Speed (AA00003)

This setting controls the maximum vehicle speed available during *CC* mode.

NOTE

For vehicles with Cummins engine, the default value for this setting is 100.04 mph.

NOTE

This setting cannot be higher than the maximum vehicle speed.

Table 57: Maximum Cruise Control Target Speed (AA00003)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00003	64	25	100	MPH

Decrement step for brief operation of switch (AA01001)

This setting controls the amount vehicle speed is decreased during **CC** mode when the Resume/Decel switch is briefly pressed.



NOTE

Pressing and holding the Resume/Decel switch reduces vehicle speed by the amount entered in [Large decrement step for the cruise target speed \(AA01004\)](#) on page 76.



NOTE

This parameter is for MX engines only.

Table 58: Decrement step for brief operation of switch (AA01001)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01001	1	0.62	6.21	MPH

Increment step for brief operation of switch (AA01002)

This setting controls the amount vehicle speed is increased during **CC** mode when the Set/Accel switch is short pressed.



NOTE

Pressing and holding the Set/Accel switch increases vehicle speed by the amount entered in [Large increment step for the cruise target speed \(AA01005\)](#) on page 76.



NOTE

This parameter is for MX engines only.

Table 59: Increment step for brief operation of switch (AA01002)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01002	1	.62	6.21	MPH

Minimum Speed to Enable Cruise Control (AA00004)

This setting controls the minimum speed required to activate **CC**. If the vehicle is not traveling at or above this speed, then **CC** mode cannot be activated.



NOTE

This parameter is for MX engines only.

Table 60: Minimum Speed to Enable Cruise Control (AA00004)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00004	10	10	40	MPH

Enable the Dynamic Cruise Control function (AA00005)

This setting is used to enable *Dynamic Cruise Control (DCC)*. *DCC* helps improve fuel economy on uphill grades by lowering the cruise control set speed and reducing the amount of torque applied before the vehicle reaches its steady-state climbing speed. *DCC* performs a similar function to *Predictive Cruise Control (PCC)* on uphill grades, except all of the cruise control speed adjustments are made without any 'predictive' knowledge of the road ahead.

**NOTE**

This parameter is for MX engines only.

Table 61: Enable the Dynamic Cruise Control function (AA00005)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00005	OFF	OFF	ON	FLAG

Large decrement step for the cruise target speed (AA01004)

This setting controls the amount vehicle speed is decreased during *CC* mode when the Resume/Decel switch is pressed and held.

**NOTE**

Briefly pressing the Resume/Decel switch reduces vehicle speed by the amount entered in *Decrement step for brief operation of switch (AA01001)* on page 75.

**NOTE**

This parameter is for MX engines only.

Table 62: Large decrement step for the cruise target speed (AA01004)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01004	1	0	6.21	MPH

Large increment step for the cruise target speed (AA01005)

This setting controls the amount vehicle speed is increased during *CC* mode when the Set/Accel switch is pressed and held.



NOTE

Briefly pressing the Set/Accel switch increases vehicle speed by the amount entered in [Increment step for brief operation of switch \(AA01002\)](#) on page 75.



NOTE

This parameter is for MX engines only.

Table 63: Large increment step for the cruise target speed (AA01005)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01005	2	0	6.21	MPH

Enable or disable the corrective braking functionality (AA01006)

This setting controls whether corrective braking functionality is enabled during **CC** mode. Corrective braking allows the driver to apply the service brakes while above the current cruising speed, without canceling cruise control.



NOTE

This parameter is for MX engines only.

Table 64: Enable or disable the corrective braking functionality (AA01006)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01006	Disable	Disable	Enable	FLAG

Engine brake uninterrupted if cruise control is 'set' while engine brakes are active (AA01209)

This setting determines whether the engine brake is interrupted if the vehicle's cruise control setting is on and a cruise speed is set.



NOTE

This parameter is for MX engines only.

Table 65: Engine brake uninterrupted if cruise control is 'set' while engine brakes are active (AA01209)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01209	ENABLED	DISABLED	ENABLED	FLAG

Adaptive Cruise Control System Type (AA01238)

This setting indicates what version of the *adaptive cruise control (ACC)* system is used on the vehicle.

The possible values for this setting are:

- 0 - Fusion 2.1 or earlier
- 1 - Fusion 2.2
- 3 - Fusion 2.9



NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.



NOTE

This parameter is for MX engines only.

Table 66: Adaptive Cruise Control System Type (AA01238)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01238	0	0	3	DISCRETE

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PACCAR Engine Brake

The PACCAR Engine Brake is a fully integrated engine compression brake that provides braking forces through the driveline. It reduces wear on the service brakes and improves vehicle control in deceleration events when active. The PACCAR Engine Brake operates using a *Right Hand Stalk (RHS)*, and is customizable to meet the requirements of the driver or fleet.

Standard Feature

- PACCAR Engine Brake *RHS*
- Manual Mode (both with *CC* turned ON and OFF)

The PACCAR Engine Brake *RHS* allows the driver to turn retarder ON and OFF.

The default setting for the PACCAR Engine Brake is Manual Mode. Manual Mode allows the engine to provide braking when the PACCAR Engine Brake *RHS* is in the ON position, the engine is not being fueled, and the *CC* is inactive. The driver may use the *RHS* to select from three or four levels of braking power: Low (33%), Medium (66%), High (100%), and Max Mode (100%) (AMT ONLY).

When the PACCAR Engine Brake *RHS* is in the ON position, the driver will be notified by an indicator on the driver display.

Feature Options

- Engine Brake Engagement Delay
- Engine Brake Behavior When *CC* is ON:
 - Manual Mode
 - Coast Mode
 - Latch Mode
- *Downhill Speed Control (DSC)* (Auto-Retard in *CC*)
- *Downhill Speed Limiter (DSL)*

The customer has the option to select from three operating modes for the PACCAR Engine Brake when the PACCAR Engine Brake *RHS* is ON and *CC* is ON and inactive. The three operating modes are mutually exclusive of one another:

- Manual Mode is the default setting for the PACCAR Engine Brake when the PACCAR Engine Brake *RHS* is ON and *CC* is ON and inactive. It behaves the same way as the Manual Mode described in Standard Features portion of this section.
- Coast Mode allows the engine to provide braking when the PACCAR Engine Brake *RHS* is ON, the *CC* is ON and inactive, and the service brake is applied. The PACCAR Engine Brake will deactivate in Coast Mode when the service brake pedal is released or *CC* is activated.
- Latch Mode allows the engine to provide braking when the PACCAR Engine Brake *RHS* is ON, *CC* is ON and inactive, and the service brake pedal is applied. Latch Mode will continue to provide braking after the service brake pedal is released and will deactivate when the accelerator pedal is applied or *CC* is activated.

The engine can be programmed to delay the activation of the engine brake, if needed, using *Time Delay for Retarder Activation (AA00039)* on page 82. For example, the driver may wish to deactivate *CC* by quickly pressing the brake pedal without activating the engine brake when using Coast or Latch mode. Specifying a delay would allow this to occur, but still provide engine braking when the driver presses the brake pedal for a prolonged period during a braking event.

DSC allows the engine to provide braking when the PACCAR Engine Brake *RHS* is ON, *CC* is active and the vehicle speed exceeds the *CC* target speed plus the *Auto-Retarder Target Vehicle Speed Offset (AA00038)* on page 82. A lower offset value in *Auto-Retarder Target Vehicle Speed Offset (AA00038)* on page 82 will cause the engine brake to activate sooner and more often than a larger offset value. For example, truck A and truck B both have the same *CC* target speed. Truck A has an offset value of 4 MPH, and truck B has an offset value of 6 MPH. Once the offset value is reached the engine brakes will be engaged. Truck A will activate the engine brakes more often than truck B. A lower offset value is recommended for vehicles operating in steep terrain.

DSC will deactivate when the vehicle speed has been reduced to the *CC* target speed or when *CC* is deactivated. *DSC* will function independently of all other PACCAR Engine Brake parameters.

The *DSL* allows the engine to provide braking when the PACCAR Engine Brake *RHS* is ON and the vehicle speed exceeds the *Maximum Accelerator Pedal Vehicle Speed (AA00086)* on page 96 plus the *Downhill Speed Limiter Vehicle*

Speed Offset (AA00037) on page 81. The **DSL** will function independently of all other PACCAR Engine Brake parameters.

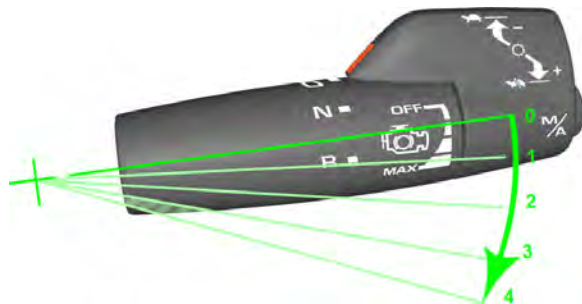
In Manual Mode, the **DSL** will activate if the vehicle speed exceeds the **Maximum Accelerator Pedal Vehicle Speed (AA00086)** on page 96 plus the **Downhill Speed Limiter Vehicle Speed Offset (AA00037)** on page 81. If the **DSL** is already active, the PACCAR Engine Brake power will be increased, but if the **DSL** is already at maximum capacity, the **DSL** will have no effect on the PACCAR Engine Brake. The **DSL** will automatically deactivate when the vehicle speed has been reduced to the **Maximum Accelerator Pedal Vehicle Speed (AA00086)** on page 96.

There are two versions of the **RHS**, depending on the transmission configuration.

The **RHS** for Automated Manual Transmission Configurations has five vehicle retarder positions. They are defined as:

- Position 0 is retarder OFF (0% requested retarder).
- Position 1 is retarder ON and 33% requested retarder.
- Position 2 is retarder ON and 66% requested retarder.
- Position 3 is retarder ON and 100% requested retarder.
- Position 4 is retarder ON and Max Mode, or the maximum amount of engine retarder torque (100% requested retarder)

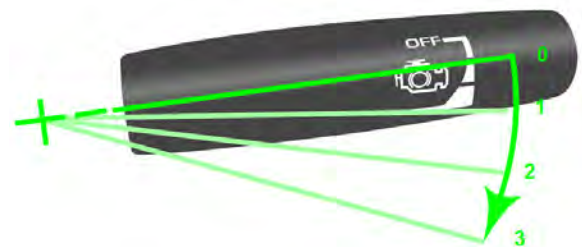
Figure 2: AMT RHS Retarder Positions



The **RHS** for Manual and Allison Transmission Configurations has four retarder positions. They are defined as:

- Position 0 is retarder OFF (0% requested retarder).
- Position 1 is retarder ON and 33% requested retarder.
- Position 2 is retarder ON and 66% requested retarder.
- Position 3 is retarder ON and 100% requested retarder.

Figure 3: Manual and Allison RHS Retarder Positions



Downhill Speed Limiter Vehicle Speed Offset (AA00037)

This settings controls the vehicle offset speed for the **DSL** system.

i NOTE

This parameter is for MX engines only.

Table 67: Downhill Speed Limiter Vehicle Speed Offset (AA00037)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00037	4	2	6	MPH

Auto-Retarder Target Vehicle Speed Offset (AA00038)

This setting controls the vehicle offset speed for the *DSC* system.



NOTE

This parameter is for MX engines only.

Table 68: Auto-Retarder Target Vehicle Speed Offset (AA00038)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00038	2	2	6	MPH

Time Delay for Retarder Activation (AA00039)

This setting controls the time delay from when the driver engages the engine brakes and when the brakes activate.



NOTE

This parameter is for MX engines only.

Table 69: Time Delay for Retarder Activation (AA00039)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00039	0.1	0.1	3	SEC

Engine Retarder Mode (AA01255)

This setting controls the retarder mode type when cruise control is turned on but not being actively used.

The possible values for this setting are:

Manual Retarder Control

MX Retarder State Cruise Control On Coast Mode

MX Retarder State Cruise Control On Manual Mode

MX Retarder State Cruise Control On Latch Mode



NOTE

This parameter is for MX engines only.

Table 70: Engine Retarder Mode (AA01255)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01255	Manual Retarder Control	Manual Retarder Control	MX Retarder State Cruise Control On Latch Mode	DISCRETE

Enable Downhill Speed Limit (AA01046)

This setting enables/disables *DSL*.

 NOTE
This parameter is for MX engines only.

Table 71: Enable Downhill Speed Limit (AA01046)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01046	DISABLED	DISABLED	ENABLED	FLAG

Enable Auto-Retarder (AA01178)

This setting enables/disables Auto-Retarder.



 NOTE
This parameter is for MX engines only.

Table 72: Enable Auto-Retarder (AA01178)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01178	DISABLED	DISABLED	ENABLED	FLAG

 NOTE
Parameter P011 must be set to "Enabled in VECU" for this parameter to be enabled.

Chapter 17 | ENGINE IDLE SHUTDOWN TIMER

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EIST Enable Park brake reset (AA00019).....	86
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Engine Idle Shutdown Timer (EIST)

The *Engine Idle Shutdown Timer (EIST)* allows fleet owners to impose limits on engine idling time for MX-powered vehicles. EIST initiates when engine speed is constant, the vehicle is stationary or at standstill, and the accelerator pedal is motionless. EIST has several customizable options to meet the needs of any application, including:

- Overruling EIST by fuel, engine coolant, and/or oil temperatures, allowing uninterrupted engine warm-up intervals.
- Overruling EIST during low battery voltage, allowing uninterrupted battery recharging.
- Separate timer intervals depending on if the parking brake is engaged or not.
- Separate timer intervals during, or completely disabling EIST, while engine is in *PTO* mode.

EIST Enable Park brake reset (AA00019)

This setting enables using the parking brake as a reset timer for *EIST*. If this setting is enabled, the timers are reset when switching from Park to Standstill or vice versa.



NOTE

This parameter is for MX engines only.

Table 73: EIST Enable Park brake reset (AA00019)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00019	ON	OFF	ON	FLAG

Enable Engine Idle Shutdown Timer (AA01251)

This setting is used to enable *EIST*.



NOTE


This parameter is for MX engines only.

Table 74: Enable Engine Idle Shutdown Timer (AA01251)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01251	ENABLED	DISABLED	ENABLED	FLAG

EIST Ambient Temp Override (AA01252)

This setting is used to enable the air temp idle timer override for *EIST*. When enabled, the engine will continue operation whenever the air temperature is below the setting in *EIST High Ambient Temp Threshold (AA00023)* on page 87 or above the setting in *EIST Low Ambient Temp Threshold (AA00024)* on page 88. Additionally the timer will continue to count down until *Time remaining to shutdown from the moment of EIST warning (AA01097)* on page 90 is reached and pause there.

 NOTE

This parameter is for MX engines only.

Table 75: EIST Ambient Temp Override (AA01252)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01252	NONE	NONE	ENABLE	FLAG

EIST Low Coolant Temp Threshold (AA00022)

This setting is used to set the minimum coolant temperature needed to override *EIST*. If the engine's coolant temperature falls below the value entered in this setting, then EIST is overridden and the engine continues running.

 NOTE

This parameter is for MX engines only.

Table 76: EIST Low Coolant Temp Threshold (AA00022)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00022	30	2	260	FAHRENHEIT

EIST High Ambient Temp Threshold (AA00023)

This setting is used to set the maximum ambient air temperature needed to override *EIST*. If the *EIST Ambient Temp Override (AA01252)* on page 86 setting is enabled, then the EIST is overridden whenever the ambient air temperature is above the value entered in this setting.

 NOTE

The value entered in this setting must be above the value entered in *EIST Low Ambient Temp Threshold (AA00024)* on page 88.

 NOTE

This parameter is for MX engines only.

Table 77: EIST High Ambient Temp Threshold (AA00023)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00023	80	-41	490	FAHRENHEIT

EIST Low Ambient Temp Threshold (AA00024)

This setting is used to set the minimum ambient air temperature needed to override *EIST*. If the *EIST Ambient Temp Override (AA01252)* on page 86 setting is enabled, then the EIST is overridden whenever the ambient air temperature is below the value entered in this setting.



NOTE

The value entered in this setting must be below the value entered in *EIST High Ambient Temp Threshold (AA00023)* on page 87.



NOTE

This parameter is for MX engines only.

Table 78: EIST Low Ambient Temp Threshold (AA00024)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00024	40	-41	490	FAHRENHEIT

Idle time in PTO mode (AA00025)

This setting controls the maximum engine idle time when the vehicle is in *PTO* Mode.



NOTE

This parameter is for MX engines only.

Table 79: Idle time in PTO mode (AA00025)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00025	5	1	1092	MINUTE

Idle Time w/Park Brake Engaged (AA00026)

This setting controls the maximum engine idle time when the vehicle is in *EIST* and the parking brake is set.



NOTE

This parameter is for MX engines only.

Table 80: Idle Time w/Park Brake Engaged (AA00026)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00026	5	1	1092	MINUTE

Idle Time w/Park Brake Released (AA00027)

This setting controls the maximum engine idle time when the vehicle is in *EIST* and the parking brake is not set.

NOTE

The *EIST w/ Park Brake Released (AA01096)* on page 90 setting must be enabled to allow engine idle operation when the parking brake is not set.

NOTE

This parameter is for MX engines only.

Table 81: Idle Time w/Park Brake Released (AA00027)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00027	5	1	1092	MINUTE

EIST in PTO mode (AA01253)

This setting is used to enable *EIST* during *PTO* mode. If this setting is enabled, then EIST can be activated while the vehicle is in PTO mode.

NOTE

This parameter is for MX engines only.

Table 82: EIST in PTO mode (AA01253)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01253	DISABLE	DISABLE	ENABLE	FLAG

EIST Reset from Engine Load (AA00029)

This setting enables using the engine load as a reset timer for *EIST*. When this setting is enabled and engine load exceeds the value entered in *EIST Engine Load Override Threshold (AA01095)*, then EIST is reset and engine shutdown is delayed by either *Idle time in PTO mode (AA00025)* on page 88, *Idle Time w/Park Brake Engaged (AA00026)* on page 88, or *Idle Time w/Park Brake Released (AA00027)* on page 89 dependent on park brake status and PTO status.

NOTE

If the *EIST Override from Engine Load (AA00030)* setting is enabled, then this setting must be disabled.

NOTE

This parameter is for MX engines only.

Table 83: EIST Reset from Engine Load (AA00029)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00029	Enabled	Disabled	Enabled	FLAG

EIST w/ Park Brake Released (AA01096)

This setting is used to enable *EIST* when the parking brake is not set. If this setting is enabled, then EIST can be activated when the parking brake is not set. Otherwise, the parking brake must be set for EIST to be activated.

 NOTE

This parameter is for MX engines only.

Table 84: EIST w/ Park Brake Released (AA01096)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01096	Enabled	Disabled	Enabled	FLAG

Time remaining to shutdown from the moment of EIST warning (AA01097)

This setting is used to set how long after an *EIST* shutdown warning message is displayed before the engine shuts down. When a shutdown warning message is sent from *EIST*, the engine will continue operating for the amount of time entered in this setting unless an *EIST* override occurs.

For example, if the value entered in this setting is '60,' then the engine will shut down 60 seconds (1 minute) after a shutdown warning timer begins. If an *EIST* override occurs during this time, then the timer returns to the value entered in this setting until the override disappears.

Shutdown override conditions include:

- Ambient air temperature
- Battery *State of Charge (SoC)*
- Coolant temperature
- Engine Load Interrupt
- Fuel temperature
- Oil temperature
- *PTO* Mode Interrupt

 NOTE

This parameter is for MX engines only.

Table 85: Time remaining to shutdown from the moment of EIST warning (AA01097)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01097	60	30	255	SEC

EIST Accelerator Pedal Reset (AA00032)

This setting enables using the accelerator pedal as a reset timer for *EIST*. If this setting is enabled, depressing the accelerator pedal will reset to base timer of *Idle time in PTO mode (AA00025)* on page 88, *Idle Time w/Park Brake Engaged (AA00026)* on page 88, or *Idle Time w/Park Brake Released (AA00027)* on page 89.


 NOTE
This parameter is for MX engines only.

Table 86: EIST Accelerator Pedal Reset (AA00032)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00032	Enabled	Disabled	Enabled	FLAG

EIST Service Brake Reset (AA00033)

This setting enables using the foot brake as a reset timer for *EIST*. If this setting is enabled, depressing the foot brake will reset to base timer of *Idle time in PTO mode (AA00025)* on page 88, *Idle Time w/Park Brake Engaged (AA00026)* on page 88, or *Idle Time w/Park Brake Released (AA00027)* on page 89.

 NOTE
This parameter is for MX engines only.

Table 87: EIST Service Brake Reset (AA00033)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00033	Enabled	Disabled	Enabled	FLAG

EIST Clutch Pedal Reset (AA00034)

This setting enables using the clutch pedal as a reset timer for *EIST*. If this setting is enabled, depressing the clutch pedal will reset to base timer of *Idle time in PTO mode (AA00025)* on page 88, *Idle Time w/Park Brake Engaged (AA00026)* on page 88, or *Idle Time w/Park Brake Released (AA00027)* on page 89.


 NOTE
This parameter is for MX engines only.

Table 88: EIST Clutch Pedal Reset (AA00034)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00034	Enabled	Disabled	Enabled	FLAG

Battery State of Charge Overrule (AA01254)

This setting allows *EIST* to be overridden when the vehicle's batteries need to be recharged. When enabled, if the vehicle is idling mode and the vehicle's batteries have a low level of charge, the vehicle will stay idling to help recharge the batteries. It will also delay engine shutdown by the amount of time entered in *Time remaining to shutdown from the moment of EIST warning (AA01097)* on page 90.

NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

NOTE

This parameter is for MX engines only.

Table 89: Battery State of Charge Overrule (AA01254)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01254	NONE	NONE	ON	FLAG

EIST w/ Park Brake Engaged (AA01101)

This setting enables *EIST* when the park brake is set. When enabled, *Idle Time w/Park Brake Engaged (AA00026)* on page 88 will activate when the vehicle is stationary and the parking brake is engaged.

NOTE

This parameter is for MX engines only.

NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 90: EIST w/ Park Brake Engaged (AA01101)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01101	NON GHG CHASIS	GHG CHASIS	NON GHG CHASSIS	FLAG

EIST PTO Override (AA00035)

This setting is used to allow *EIST* to be overridden during *PTO* mode. When this setting is enabled, *EIST* timers will interrupt while *PTO* mode is active.

If both this setting and *EIST Override from Engine Load (AA00030)* are true, both conditions must be met before the interrupt occurs. This combined setting allows fleet managers to prevent mis-use of the PTO interrupt by also requiring a specific engine load to also be met.



NOTE

This parameter is for MX engines only.

Table 91: EIST PTO Override (AA00035)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00035	Enabled	Disabled	Enabled	FLAG

Resets EIST on PTO change (AA01100)

This setting controls whether *EIST* resets when the vehicle either enters into or leaves *PTO* Mode.



NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.



NOTE

This parameter is for MX engines only.

Table 92: Resets EIST on PTO change (AA01100)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01100	NON GHG CHASSIS	GHG CHASSIS	NON GHG CHASSIS	FLAG

Chapter 18 | VEHICLE SPEED LIMITER - SSL/GHG

Vehicle Speed Limiter (VSL).....96
Maximum Accelerator Pedal Vehicle Speed (AA00086).....96
Standard Maximum Speed Limit (LSL) (AA00088).....96
TSC1 Checksum Enable for P4 Speed Limiter (AA01227)..... 97
VSL Offset to enable the torque limit (AA01228).....97
Enable VRSL functionality (AA01330).....97

Vehicle Speed Limiter (VSL)

The [VSL](#) is designed to improve fuel economy by reducing the maximum vehicle speed.

Standard Feature

- Without [VSL](#)

The speed of the vehicle will be limited to the maximum value of [Maximum Accelerator Pedal Vehicle Speed \(AA00086\)](#) on page 96 or [Maximum Cruise Control Target Speed \(AA00003\)](#) on page 74.

Feature Options

- [VSL](#)

On Greenhouse Gas (GHG) compliant vehicles, [Standard Maximum Speed Limit \(LSL\) \(AA00088\)](#) on page 96 will limit the overall maximum speed of the vehicle. For example, if [Maximum Accelerator Pedal Vehicle Speed \(AA00086\)](#) on page 96 is set to 55 mph, [Maximum Cruise Control Target Speed \(AA00003\)](#) on page 74 is set to 70 mph, and [Standard Maximum Speed Limit \(LSL\) \(AA00088\)](#) on page 96 is set to 64 mph, the vehicle can be driven to a maximum speed of 55 mph with the pedal. If [CC](#) is enabled the vehicle speed may be increased to a maximum of 64 mph, as the vehicle will not exceed the value of [Standard Maximum Speed Limit \(LSL\) \(AA00088\)](#) on page 96 when the engine is fueled.

For non-GHG compliant vehicles, [Standard Maximum Speed Limit \(LSL\) \(AA00088\)](#) on page 96 is ignored, allowing [Maximum Accelerator Pedal Vehicle Speed \(AA00086\)](#) on page 96 and [Maximum Cruise Control Target Speed \(AA00003\)](#) on page 74 to determine the overall maximum speed of the vehicle.

Maximum Accelerator Pedal Vehicle Speed (AA00086)

This setting controls the top vehicle speed using the accelerator pedal. When driving using the accelerator pedal, the vehicle will not go faster than the speed entered in this setting.



NOTE

For vehicles with Cummins engine, the default setting for this value is 155.34 mph.

Table 93: Maximum Accelerator Pedal Vehicle Speed (AA00086)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00086	64	25	155	MPH

Standard Maximum Speed Limit (LSL) (AA00088)

This setting controls the [Legal Speed Limit \(LSL\)](#). The LSL is the vehicle's normal maximum speed, except in special circumstances, such as speed bonuses received through the Driver Reward system.



NOTE

For vehicles with Cummins engine, the default setting for this value is 155.34 mph.



NOTE

This parameter may be locked if the GHG mileage has not expired. Contact your Vehicle Support Representative for more information.

Table 94: Standard Maximum Speed Limit (LSL) (AA00088)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00088	64	0	155	MPH

TSC1 Checksum Enable for P4 Speed Limiter (AA01227)

This setting enables the *Torque Speed Control Message (TSC1)* P4 (Speed Limiter) message checksum. The checksum is used to determine if an error occurred during the transmission of the P4 message from one *ECU* to another.



CAUTION

This parameter is for internal use only and should not be changed.



NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 95: TSC1 Checksum Enable for P4 Speed Limiter (AA01227)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01227	Disabled	Disabled	Enabled	FLAG

VSL Offset to enable the torque limit (AA01228)

This setting controls the offset amount from the *VSL* that enables engine torque limit while the vehicle speed is increasing.



NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.



NOTE

This parameter is for MX engines only.

Table 96: VSL Offset to enable the torque limit (AA01228)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01228	1.86	1.25	4.34	MPH

Enable VRSL functionality (AA01330)

This setting enables *Variable Road Speed Limiter (VRSL)* functionality.



NOTE

This parameter is for MX engines only.

Table 97: Enable VRSL functionality (AA01330)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01330	DISABLED	DISABLED	ENABLED	FLAG

Chapter 19 | ELECTRIC OVER AIR

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Multiplex Solenoid Bank (MSB) Functions.....	102
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Air Solenoids

Air solenoids are the devices that translate the electrical signal into physical change that controls the air pressure in various circuits. The air solenoids are mounted to a *MSB* in the frame rail. The solenoids are designed to stack on each other so that they share a common air supply rail which reduces the amount of air lines on the vehicle.

Table 98: Air Solenoid Types

Type	Description
Latching (<i>MSB</i>)	Requires a signal voltage to close or open a solenoid. Will remain in position if power is disconnected.
Non-latching	Requires 12v to change a valve from its normal position. Will revert back to its normal position if power is disconnected.

For safety reasons, certain circuits are designed with non-latching type solenoids. Since the *MSB* only contains latching solenoids, all non-latching air solenoid functions are not controlled by the *MSB*. These circuits include but are not limited to Lift Axles, Tag Axle Lock, *Engine Over-speed Air Shutdown (EOAS)*, Inside/Outside Air Intake and *Hill Start Aid (HSA)*.

Multiplexed Solenoid Bank (MSB) System

The *MSB* are *Controller Area Network (CAN)* driven modules mounted either in passenger side frame rail behind the cab, or on the rearward crossmember behind the cab. It communicates to the *CMP* via *J-CAN* to control the multiplexed air solenoids. This reduces the amount of wires needed to run up to 6 air solenoids per bank. The air supply connects directly to the *MSB*, distributing air to each solenoid.

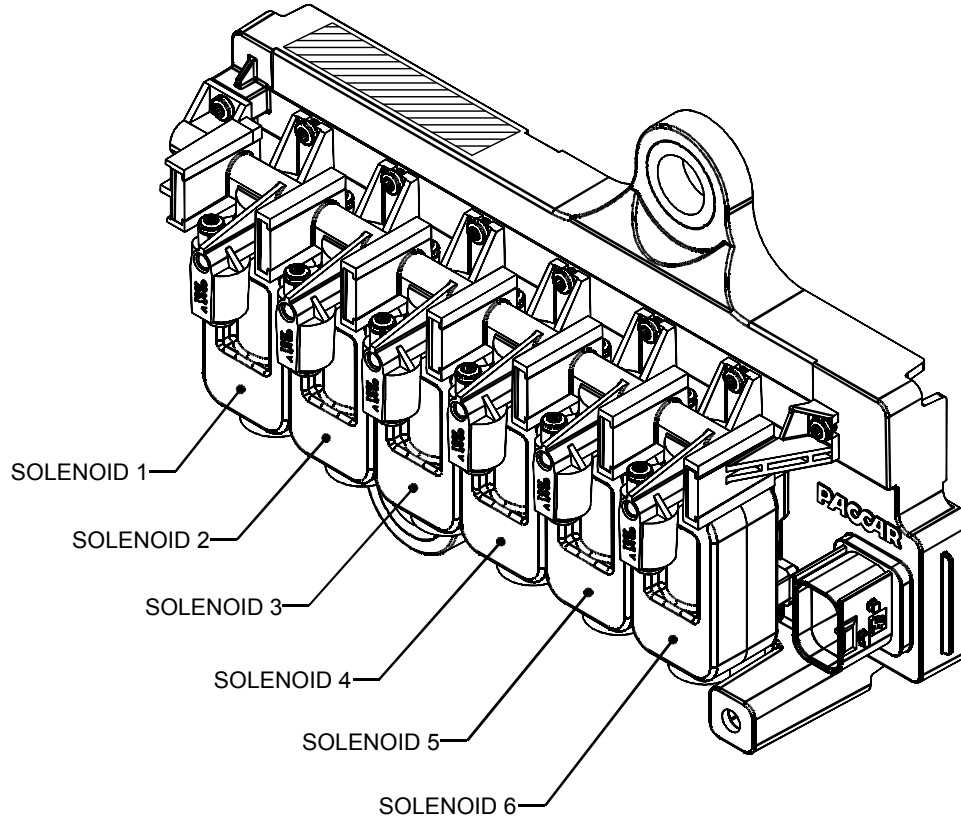


NOTE

Solenoid functions and positions are assigned through PACCAR Vehicle Pro (PVP), then programmed using *DAVIE4*.

The Multiplexed Air Solenoids are mounted directly to the *MSB*. When commanded, the solenoids apply or remove air pressure from its respective circuit. All multiplexed solenoids are latching solenoids, meaning they require signal voltage to open or close a solenoid. The solenoid will remain in position if power is disconnected.

Figure 4: MSB Identification



i NOTE
 MSB has been updated to integrate the end cap into the end solenoid. MSB part number remains the same, but end solenoid has updated part number.

Figure 5: Multiplex Solenoid Bank Architecture

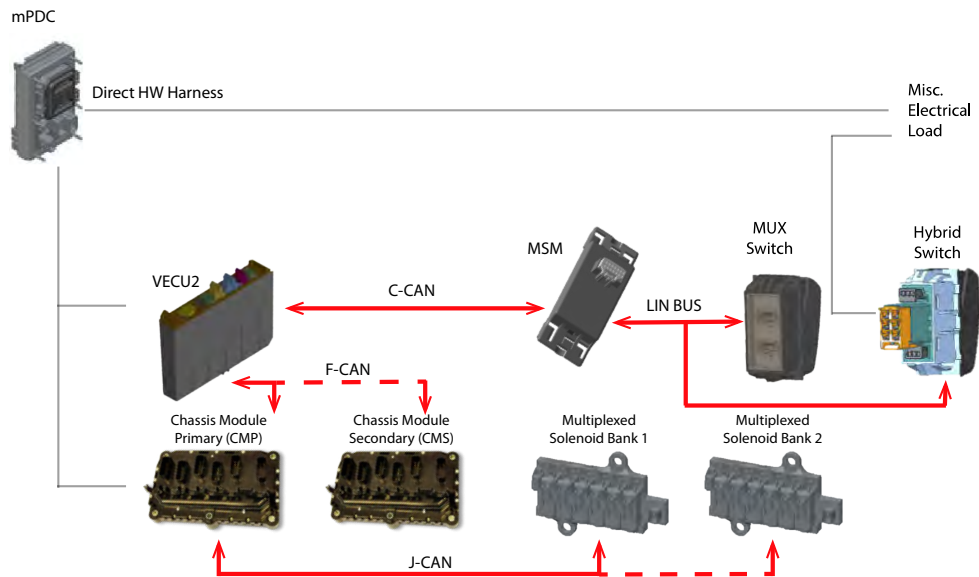
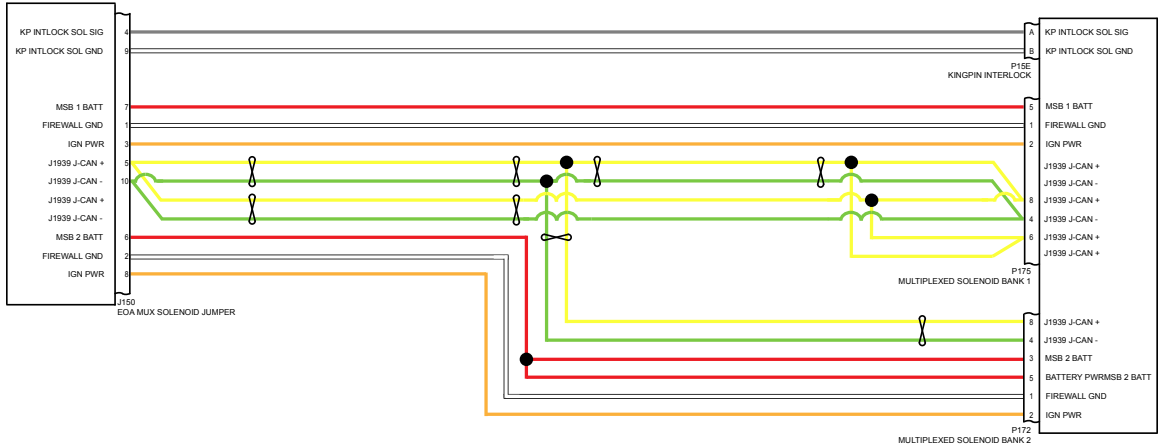


Figure 6: MSB Harness Schematic



Multiplex Solenoid Bank (MSB) Functions

The following section details the *Electric Over Air (EOA)* parameters related to the *MSB*.

Defines the function assignment for bank 1 valve 1 (AA01114)

This setting controls what option is assigned to *EOA* function 1. *EOA* function 1 is located at *MSB* 1, valve 1.

i NOTE

See *EOA Parameter Options* on page 107 for the list of options available for this parameter.

i NOTE

Entries in the 12 *EOA* functions (*Defines the function assignment for bank 1 valve 1 (AA01114)* on page 102 through *Defines the function assignment for bank 2 valve 6 (AA01125)* on page 106) must all have different values entered. There cannot be any duplicate parameter options entered.

Table 99: Defines the function assignment for bank 1 valve 1 (AA01114)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01114	0	0	113	DISCRETE

Defines the function assignment for bank 1 valve 2 (AA01115)

This setting controls what option is assigned to *EOA* function 2. *EOA* function 2 is located at *MSB* 1, valve 2.

i NOTE

See *EOA Parameter Options* on page 107 for the list of options available for this parameter.

i NOTE


Entries in the 12 *EOA* functions (*Defines the function assignment for bank 1 valve 1 (AA01114)* on page 102 through *Defines the function assignment for bank 2 valve 6 (AA01125)* on page 106) must all have different values entered. There cannot be any duplicate parameter options entered.

Table 100: Defines the function assignment for bank 1 valve 2 (AA01115)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01115	0	0	113	DISCRETE

Defines the function assignment for bank 1 valve 3 (AA01116)

This setting controls what option is assigned to *EOA* function 3. *EOA* function 3 is located at *MSB* 1, valve 3.

 NOTE
See <i>EOA Parameter Options</i> on page 107 for the list of options available for this parameter.



 NOTE
Entries in the 12 <i>EOA</i> functions (<i>Defines the function assignment for bank 1 valve 1 (AA01114)</i> on page 102 through <i>Defines the function assignment for bank 2 valve 6 (AA01125)</i> on page 106) must all have different values entered. There cannot be any duplicate parameter options entered.

Table 101: Defines the function assignment for bank 1 valve 3 (AA01116)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01116	0	0	113	DISCRETE

Defines the function assignment for bank 1 valve 4 (AA01117)

This setting controls what option is assigned to *EOA* function 4. *EOA* function 4 is located at *MSB* 1 valve 4.

 NOTE
See <i>EOA Parameter Options</i> on page 107 for the list of options available for this parameter.


 NOTE
Entries in the 12 <i>EOA</i> functions (<i>Defines the function assignment for bank 1 valve 1 (AA01114)</i> on page 102 through <i>Defines the function assignment for bank 2 valve 6 (AA01125)</i> on page 106) must all have different values entered. There cannot be any duplicate parameter options entered.

Table 102: Defines the function assignment for bank 1 valve 4 (AA01117)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01117	0	0	113	DISCRETE

Defines the function assignment for bank 1 valve 5 (AA01118)

This setting controls what option is assigned to *EOA* function 5. *EOA* function 5 is located at *MSB* 1 valve 5.



NOTE

See [EOA Parameter Options](#) on page 107 for the list of options available for this parameter.



NOTE

Entries in the 12 *EOA* functions ([Defines the function assignment for bank 1 valve 1 \(AA01114\)](#) on page 102 through [Defines the function assignment for bank 2 valve 6 \(AA01125\)](#) on page 106) must all have different values entered. There cannot be any duplicate parameter options entered.

Table 103: Defines the function assignment for bank 1 valve 5 (AA01118)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01118	0	0	113	DISCRETE

Defines the function assignment for bank 1 valve 6 (AA01119)

This setting controls what option is assigned to *EOA* function 6. *EOA* function 6 is located at *MSB* 1 valve 6.



NOTE

See [EOA Parameter Options](#) on page 107 for the list of options available for this parameter.



NOTE

Entries in the 12 *EOA* functions ([Defines the function assignment for bank 1 valve 1 \(AA01114\)](#) on page 102 through [Defines the function assignment for bank 2 valve 6 \(AA01125\)](#) on page 106) must all have different values entered. There cannot be any duplicate parameter options entered.

Table 104: Defines the function assignment for bank 1 valve 6 (AA01119)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01119	0	0	113	DISCRETE

Defines the function assignment for bank 2 valve 1 (AA01120)

This setting controls what option is assigned to *EOA* function 7. *EOA* function 7 is located at *MSB* 2 valve 1.



NOTE

See [EOA Parameter Options](#) on page 107 for the list of options available for this parameter.



NOTE


Entries in the 12 *EOA* functions ([Defines the function assignment for bank 1 valve 1 \(AA01114\)](#) on page 102 through [Defines the function assignment for bank 2 valve 6 \(AA01125\)](#) on page 106) must all have different values entered. There cannot be any duplicate parameter options entered.

Table 105: Defines the function assignment for bank 2 valve 1 (AA01120)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01120	0	0	113	DISCRETE

Defines the function assignment for bank 2 valve 2 (AA01121)

This setting controls what option is assigned to [EOA](#) function 8. EOA function 8 is located at [MSB](#) 2 valve 2.

 NOTE
See EOA Parameter Options on page 107 for the list of options available for this parameter.



 NOTE
Entries in the 12 EOA functions (Defines the function assignment for bank 1 valve 1 (AA01114) on page 102 through Defines the function assignment for bank 2 valve 6 (AA01125) on page 106) must all have different values entered. There cannot be any duplicate parameter options entered.

Table 106: Defines the function assignment for bank 2 valve 2 (AA01121)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01121	0	0	113	DISCRETE

Defines the function assignment for bank 2 valve 3 (AA01122)

This setting controls what option is assigned to [EOA](#) function 9. EOA function 9 is located at [MSB](#) 2 valve 3.

 NOTE
See EOA Parameter Options on page 107 for the list of options available for this parameter.


 NOTE
Entries in the 12 EOA functions (Defines the function assignment for bank 1 valve 1 (AA01114) on page 102 through Defines the function assignment for bank 2 valve 6 (AA01125) on page 106) must all have different values entered. There cannot be any duplicate parameter options entered.

Table 107: Defines the function assignment for bank 2 valve 3 (AA01122)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01122	0	0	113	DISCRETE

Defines the function assignment for bank 2 valve 4 (AA01123)

This setting controls what option is assigned to [EOA](#) function 10. EOA function 10 is located at [MSB](#) 2 valve 4.



NOTE

See [EOA Parameter Options](#) on page 107 for the list of options available for this parameter.



NOTE

Entries in the 12 *EOA* functions ([Defines the function assignment for bank 1 valve 1 \(AA01114\)](#) on page 102 through [Defines the function assignment for bank 2 valve 6 \(AA01125\)](#) on page 106) must all have different values entered. There cannot be any duplicate parameter options entered.

Table 108: Defines the function assignment for bank 2 valve 4 (AA01123)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01123	0	0	113	DISCRETE

Defines the function assignment for bank 2 valve 5 (AA01124)

This setting controls what option is assigned to *EOA* function 11. *EOA* function 11 is located at *MSB* 2 valve 5.



NOTE

See [EOA Parameter Options](#) on page 107 for the list of options available for this parameter.



NOTE

Entries in the 12 *EOA* functions ([Defines the function assignment for bank 1 valve 1 \(AA01114\)](#) on page 102 through [Defines the function assignment for bank 2 valve 6 \(AA01125\)](#) on page 106) must all have different values entered. There cannot be any duplicate parameter options entered.

Table 109: Defines the function assignment for bank 2 valve 5 (AA01124)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01124	0	0	113	DISCRETE

Defines the function assignment for bank 2 valve 6 (AA01125)

This setting controls what option is assigned to *EOA* function 12. *EOA* function 12 is located at *MSB* 2 valve 6.



NOTE

See [EOA Parameter Options](#) on page 107 for the list of options available for this parameter.



NOTE

Entries in the 12 *EOA* functions ([Defines the function assignment for bank 1 valve 1 \(AA01114\)](#) on page 102 through [Defines the function assignment for bank 2 valve 6 \(AA01125\)](#) on page 106) must all have different values entered. There cannot be any duplicate parameter options entered.

Table 110: Defines the function assignment for bank 2 valve 6 (AA01125)













P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01125	0	0	113	DISCRETE

EOA Parameter Options















Kenworth EOA Parameter Options



















This table includes the options available for [EOA](#) parameters for Kenworth trucks.

Table 111: EOA Functions

Function Description	Function Number	Icon
2 (Two) Speed Rear Axle	10	
2 (Two) Speed Rear Axle With Park Brake Interlock	9	
2 (two) Speed Rear Axle With Speed Interlock	112	
3 (three) Position Transfer Case Low Valve	108	
3 (three) Position Transfer Case Neutral Valve	109	
3 (three) Position Transfer Case High Valve	110	
Air Accessory Control 1	62	
Air Accessory Control 1 With Park Brake Interlock	63	
Air Accessory Control 2	92	
Air Accessory Control 2 With Park Brake Interlock	93	
Air Accessory Control 3	94	
Air Accessory Control 3 With Park Brake Interlock	95	

Function Description	Function Number	Icon
Air Accessory Control 4	96	
Air Accessory Control 4 With Park Brake Interlock	97	
Air Suspension Dump With Park Brake Interlock	1	
Air Suspension Dump With Speed Interlock	2	
Air Suspension Overinflation With Speed Interlock	8	
Air Suspension Overinflation With Park Brake Interlock	113	
Auxiliary Transmission 3 (Three) Position Control (High)	35	
Auxiliary Transmission 3 (Three) Position Control (Neutral)	86	
Auxiliary Transmission 3 (Three) Position Control With Park Brake Interlock (High)	17	
Auxiliary Transmission 3 (Three) Position Control With Park Brake Interlock (Neutral)	87	
Fifth Wheel Slide With Speed Interlock	11	
Front Drive Axle Declutch With Speed Interlock	12	
Interaxle <i>Differential lock (Diff lock)</i> With Speed Interlock	13	
Interaxle <i>Differential lock (Diff lock)</i> With Speed Interlock and Auto Engagement	111	
Kingpin Release With Park Brake Interlock	14	
<i>PTO</i> #1	37	

Function Description	Function Number	Icon
<i>PTO</i> #1 With Park Brake Interlock	20	
<i>PTO</i> #2	38	
<i>PTO</i> #2 With Park Brake And <i>PTO</i> #1 Interlock	79	
<i>PTO</i> #2 With Park Brake Interlock	21	
<i>PTO</i> #2 With <i>PTO</i> #1 Interlock	80	
<i>PTO</i> #3	104	
<i>PTO</i> #3 with Park Brake Interlock	105	
<i>PTO</i> #4	106	
<i>PTO</i> #4 with Park Brake Interlock	107	
<i>PTO</i> Speed High Low	91	
<i>PTO</i> 2 (Two) Position (Fwd/Rev) (Valve 1)	36	
<i>PTO</i> 2 (Two) Position (Fwd/Rev) (Valve 2)	90	
<i>PTO</i> 2 (Two) Position (Fwd/Rev) With Park Brake Interlock (Valve 1)	19	
<i>PTO</i> 2 (Two) Position (Fwd/Rev) With Park Brake Interlock (Valve 2)	89	

Function Description	Function Number	Icon
Rear Axle Declutch With Park Brake Interlock (Valve 1)	15	
Rear Axle Declutch With Park Brake Interlock (Valve 2)	88	
Trailer Air Suspension Dump With Park Brake Interlock	4	
Trailer Air Suspension Dump With Speed Interlock	3	
Trailer Belly Dump Gate (Forward) With Speed Interlock	24	
Trailer Belly Dump Gate (Rear) With Speed Interlock	25	
Trailer Dump Gate	39	
Trailer Dump Gate (Forward)	41	
Trailer Dump Gate (Rear)	42	
Trailer Dump Gate With Speed Interlock	22	
Trailer Lift Axle (Forward)	6	
Trailer Lift Axle (Rear)	7	
Trailer Lift Axle (Single)	5	
Trailer Tow / Pintle Hook	43	
Transfer Case (Hi/Low) With Speed Interlock	16	
Truck Dump Gate	44	
Truck Dump Gate With Speed Interlock	26	
Wheel <i>Differential lock (Diff lock)</i> (Ctr Rear)	47	

Function Description	Function Number	Icon
Wheel <i>Differential lock (Diff lock)</i> (Ctr Rear) With Speed Interlock	29	
Wheel <i>Differential lock (Diff lock)</i> (Ctr Rear) With Two Speed Interlock	100	
Wheel <i>Differential lock (Diff lock)</i> (Dual Rear)	49	
Wheel <i>Differential lock (Diff lock)</i> (Dual Rear) With Speed Interlock	31	
Wheel <i>Differential lock (Diff lock)</i> (Dual Rear) With Two Speed Interlock	102	
Wheel <i>Differential lock (Diff lock)</i> (Front Axle)	50	
Wheel <i>Differential lock (Diff lock)</i> (Front Axle) With Speed Interlock	32	
Wheel <i>Differential lock (Diff lock)</i> (Front Axle) With Two Speed Interlock	103	
Wheel <i>Differential lock (Diff lock)</i> (Fwd Rear)	46	
Wheel <i>Differential lock (Diff lock)</i> (Fwd Rear) With Speed Interlock	28	
Wheel <i>Differential lock (Diff lock)</i> (Fwd Rear) With Two Speed Interlock	99	
Wheel <i>Differential lock (Diff lock)</i> (Rr Rear)	48	
Wheel <i>Differential lock (Diff lock)</i> (Rr Rear) With Speed Interlock	30	
Wheel <i>Differential lock (Diff lock)</i> (Rr Rear) With Two Speed Interlock	101	

















Function Description	Function Number	Icon
Wheel <i>Differential lock (Diff lock)</i> (Single Rear)	45	
Wheel <i>Differential lock (Diff lock)</i> (Single Rear) With Speed Interlock	27	
Wheel <i>Differential lock (Diff lock)</i> (Single Rear) With Two Speed Interlock	98	
















Peterbilt EOA Parameter Options

This table includes the options available for *EOA* parameters for Peterbilt trucks.







Table 112: EOA Functions

Function Description	Function Number	Icon
2 (Two) Speed Rear Axle	10	
2 (Two) Speed Rear Axle With Park Brake Interlock	9	
2 (two) Speed Rear Axle With Speed Interlock	112	
3 (three) Position Transfer Case Low Valve	108	
3 (three) Position Transfer Case Neutral Valve	109	
3 (three) Position Transfer Case High Valve	110	
Air Accessory Control 1	62	
Air Accessory Control 1 With Park Brake Interlock	63	
Air Accessory Control 2	92	
Air Accessory Control 2 With Park Brake Interlock	93	
Air Accessory Control 3	94	

Function Description	Function Number	Icon
Air Accessory Control 3 With Park Brake Interlock	95	
Air Accessory Control 4	96	
Air Accessory Control 4 With Park Brake Interlock	97	
Air Suspension Dump With Park Brake Interlock	1	
Air Suspension Dump With Speed Interlock	2	
Air Suspension Overinflation With Speed Interlock	8	
Air Suspension Overinflation With Park Brake Interlock	113	
Auxiliary Transmission 3 (Three) Position Control (High)	35	
Auxiliary Transmission 3 (Three) Position Control (Neutral)	86	
Auxiliary Transmission 3 (Three) Position Control With Park Brake Interlock (High)	17	
Auxiliary Transmission 3 (Three) Position Control With Park Brake Interlock (Neutral)	87	
Fifth Wheel Slide With Speed Interlock	11	
Front Drive Axle Declutch With Speed Interlock	12	
Interaxle <i>Differential lock (Diff lock)</i> With Speed Interlock	13	
Kingpin Release With Park Brake Interlock	14	
<i>PTO</i> #1	37	

Function Description	Function Number	Icon
<i>PTO</i> #1 With Park Brake Interlock	20	
<i>PTO</i> #2	38	
<i>PTO</i> #2 With Park Brake And <i>PTO</i> #1 Interlock	79	
<i>PTO</i> #2 With Park Brake Interlock	21	
<i>PTO</i> #2 With <i>PTO</i> #1 Interlock	80	
<i>PTO</i> #3	104	
<i>PTO</i> #3 with Park Brake Interlock	105	
<i>PTO</i> #4	106	
<i>PTO</i> #4 with Park Brake Interlock	107	
<i>PTO</i> 2 (Two) Position (Fwd/Rev) (Valve 1)	36	
<i>PTO</i> 2 (Two) Position (Fwd/Rev) (Valve 2)	90	
<i>PTO</i> 2 (Two) Position (Fwd/Rev) With Park Brake Interlock (Valve 1)	19	
<i>PTO</i> 2 (Two) Position (Fwd/Rev) With Park Brake Interlock (Valve 2)	89	
Trailer Air Suspension Dump With Park Brake Interlock	4	
Trailer Air Suspension Dump With Speed Interlock	3	

Function Description	Function Number	Icon
Transfer Case (Hi/Low) With Speed Interlock	16	
Wheel <i>Differential lock (Diff lock)</i> (Ctr Rear)	47	
Wheel <i>Differential lock (Diff lock)</i> (Ctr Rear) With Speed Interlock	29	
Wheel <i>Differential lock (Diff lock)</i> (Ctr Rear) With Two Speed Interlock	100	
Wheel <i>Differential lock (Diff lock)</i> (Dual Rear)	49	
Wheel <i>Differential lock (Diff lock)</i> (Dual Rear) With Speed Interlock	31	
Wheel <i>Differential lock (Diff lock)</i> (Dual Rear) With Two Speed Interlock	102	
Wheel <i>Differential lock (Diff lock)</i> (Front Axle)	50	
Wheel <i>Differential lock (Diff lock)</i> (Front Axle) With Speed Interlock	32	
Wheel <i>Differential lock (Diff lock)</i> (Front Axle) With Two Speed Interlock	103	
Wheel <i>Differential lock (Diff lock)</i> (Fwd Rear)	46	
Wheel <i>Differential lock (Diff lock)</i> (Fwd Rear) With Speed Interlock	28	
Wheel <i>Differential lock (Diff lock)</i> (Fwd Rear) With Two Speed Interlock	99	
Wheel <i>Differential lock (Diff lock)</i> (Rr Rear)	48	
Wheel <i>Differential lock (Diff lock)</i> (Rr Rear) With Speed Interlock	30	

Function Description	Function Number	Icon
Wheel <i>Differential lock (Diff lock)</i> (Rr Rear) With Two Speed Interlock	101	
Wheel <i>Differential lock (Diff lock)</i> (Single Rear)	45	
Wheel <i>Differential lock (Diff lock)</i> (Single Rear) With Speed Interlock	27	
Wheel <i>Differential lock (Diff lock)</i> (Single Rear) With Two Speed Interlock	98	
Work Brake (Winch Brake)	53	
Work Brake (Winch Brake) With Speed Interlock	52	

Dump Functions

The following section details the [EOA](#) truck and trailer dump parameters.

Defines the speed threshold for Truck Dump Gate function (AA01126)

This setting controls the maximum speed the vehicle can be traveling and still allow the truck dump gate to be engaged. If the vehicle is traveling faster than the speed listed in this setting, then the truck dump gate cannot be engaged.

Table 113: Defines the speed threshold for Truck Dump Gate function (AA01126)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01126	24.85	0	40.39	MPH

Defines the speed threshold for Trailer Dump Single function (AA01127)

This setting controls the maximum speed the vehicle can be traveling and still allow the trailer dump single function to be engaged. If the vehicle is traveling faster than the speed listed in this setting, then the trailer dump single function cannot be engaged.

Table 114: Defines the speed threshold for Trailer Dump Single function (AA01127)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01127	24.85	0	40.39	MPH

Defines the speed threshold for Trailer Dump Forward function (AA01128)

This setting controls the maximum speed the vehicle can be traveling and still allow the trailer dump forward function to be engaged. If the vehicle is traveling faster than the speed listed in this setting, then the trailer dump forward function cannot be engaged.

Table 115: Defines the speed threshold for Trailer Dump Forward function (AA01128)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01128	24.85	0	40.39	MPH

Defines the speed threshold for Trailer Dump Center function (AA01129)

This setting controls the maximum speed the vehicle can be traveling and still allow the trailer dump center function to be engaged. If the vehicle is traveling faster than the speed listed in this setting, then the trailer dump center function cannot be engaged.

Table 116: Defines the speed threshold for Trailer Dump Center function (AA01129)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01129	24.85	0	40.39	MPH

Defines the speed threshold for Trailer Dump Rear function (AA01130)

This setting controls the maximum speed the vehicle can be traveling and still allow the trailer dump rear function to be engaged. If the vehicle is traveling faster than the speed listed in this setting, then the trailer dump rear function cannot be engaged.

Table 117: Defines the speed threshold for Trailer Dump Rear function (AA01130)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01130	24.85	0	40.39	MPH

Lift Axle Functions

Trailer Lift Axles

Trailer lift axles can be controlled by either the electrical or the air systems. Trailer lift axles that are controlled by the electrical system are programmed with the electric trailer options. Trailer lift axles that are controlled by the air system are programmed with the [EOA Parameter Options](#) on page 107.

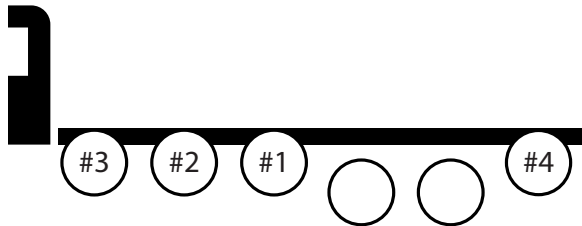
Chassis Lift Axles

Chassis lift axles are controlled by a signal output from a chassis module.

Lift axles are numbered as follows:



When a lift axle is behind the drive axles, it is referred to as a tag axle.



There are three types of chassis lift axles offered.

1. Steerable lift axle without park brake
2. Non-steerable lift axle without park brake
3. Non-steerable lift axle with park brake

Table 118: Steerable lift axle without park brake

Raise Condition Logic	Lower Condition Logic
Lift axle switch is inactive OR	Lift axle switch is active AND
Park brake is engaged OR	Park brake is NOT engaged AND
In reverse gear OR	Not in reverse gear AND
Ignition is OFF	Ignition is ON

This type of lift axle must have the following calibration settings:

Control type = 1
 Behavior = 0

Table 119: Non-steerable lift axle without park brake

Raise Condition Logic	Lower Condition Logic
Lift axle switch is inactive OR	Lift axle switch is active AND
Park brake is engaged OR	Park brake is NOT engaged AND
Ignition is OFF	Ignition is ON

This type of lift axle must have the following calibration settings:

Control type = 1
 Behavior = 1

Table 120: Non-steerable lift axle with park brake

Raise Condition Logic	Lower Condition Logic
Lift axle switch is inactive AND	Lift axle switch is active OR
Park brake is not engaged AND	Park brake is engaged OR
Ignition is ON	Ignition is OFF

This type of lift axle must have the following calibration settings:

Control type = 2

Behavior = 2

Lift Axle Control Switch Configuration (Does Not Apply to Trailer) (AA01136)

This parameter configures the lift axle control switches. It allows one switch to operate multiple lift axles.

The possible values for this setting are:

0 - Each switch controls a single lift axle. (Not Installed or Disabled)

1 - One switch controls a group of lift axles. (Installed or Enabled) This setting is valid only for Kenworth vehicles.


 NOTE
This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 121: Lift Axle Control Switch Configuration (Does Not Apply to Trailer) (AA01136)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01136	0	0	1	DISCRETE

Lift Axle Switch Location and CAN Configuration (AA01137)

This parameter configures where the lift axle control switches are located.

The possible values for this setting are:

Dash Mounted

Rocker Mounted


 NOTE
This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 122: Lift Axle Switch Location and CAN Configuration (AA01137)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01137	Dash Mounted	Dash Mounted	Rocker Mounted	DISCRETE

Lift Axle 1 control type (Closest to Drive Axle) (AA01138)

This setting documents what type of controller is on lift axle 1.

The possible values for this setting are:

Not installed
 Steerable
 Non-Steerable

Table 123: Lift Axle 1 control type (Closest to Drive Axle) (AA01138)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01138	Not Installed	Not Installed	Non-Steerable	DISCRETE

Lift Axle 2 control type (AA01139)

This setting documents what type of controller is on lift axle 2.

The possible values for this setting are:

Not Installed
 Steerable
 Non-Steerable

Table 124: Lift Axle 2 control type (AA01139)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01139	Not Installed	Not Installed	Non-Steerable	DISCRETE

Lift Axle 3 control type (AA01140)

This setting documents what type of controller is on lift axle 3.

The possible values for this setting are:

Not Installed
 Steerable
 Non-Steerable

Table 125: Lift Axle 3 control type (AA01140)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01140	Not Installed	Not Installed	Non-Steerable	DISCRETE

Lift Axle 4 control type (Tag or 4th Pusher) (AA01141)

This setting documents what type of controller is on lift axle 4 or tag.

The possible values for this setting are:

Not Installed
 Steerable
 Non-Steerable

Table 126: Lift Axle 4 control type (Tag or 4th Pusher) (AA01141)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01141	Not Installed	Not Installed	Non-Steerable	DISCRETE

Lift Axle 1 behavior (Closest to Drive Axle) (AA01142)

This setting controls the behavior of lift axle 1.

The possible values for this setting are:

No Interlock
 AutoReverse Interlock
 Park Brake Interlock

Table 127: Lift Axle 1 behavior (Closest to Drive Axle) (AA01142)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01142	No Interlock	No Interlock	Park Brake Interlock	DISCRETE

Lift Axle 2 behavior (AA01143)

This setting controls the behavior of lift axle 2.

The possible values for this setting are:

No Interlock
 AutoReverse Interlock
 Park Brake Interlock

Table 128: Lift Axle 2 behavior (AA01143)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01143	No Interlock	No Interlock	Park Brake Interlock	DISCRETE

Lift Axle 3 behavior (AA01144)

This setting controls the behavior of lift axle 3.

The possible values for this setting are:

No Interlock
 AutoReverse Interlock
 Park Brake Interlock

Table 129: Lift Axle 3 behavior (AA01144)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01144	No Interlock	No Interlock	Park Brake Interlock	DISCRETE

Lift Axle 4 behavior (Tag or 4th Pusher) (AA01145)

This setting controls the behavior of lift axle 4 or tag.

The possible values for this setting are:

No Interlock
AutoReverse Interlock
Park Brake Interlock

Table 130: Lift Axle 4 behavior (Tag or 4th Pusher) (AA01145)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01145	No Interlock	No Interlock	Park Brake Interlock	DISCRETE

Lift Axle High Speed Interlock (AA01391)

This setting enables the lift axle high speed interlock.

Table 131: Lift Axle High Speed Interlock (AA01391)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01391	DISABLED	DISABLED	ENABLED	FLAG

Differential Lock Functions**Defines the speed threshold for Inter Axle Diff Lock function (AA01146)**

This setting controls the vehicle's speed threshold for the axle *Differential lock (Diff lock)* function.

Table 132: Defines the speed threshold for Inter Axle Diff Lock function (AA01146)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01146	39.77	0	70	MPH

Defines the speed threshold for Wheel Differential Lock Front Axle function (AA01147)

This setting controls the vehicle's speed threshold for the wheel *Differential lock (Diff lock)* function on the front axle.

Table 133: Defines the speed threshold for Wheel Differential Lock Front Axle function (AA01147)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01147	24.85	0	70	MPH

Defines the speed threshold for Wheel Differential Lock Single Rear Axle function (AA01148)

This setting controls the vehicle's speed threshold for the wheel *Differential lock (Diff lock)* function on a single rear axle.

Table 134: Defines the speed threshold for Wheel Differential Lock Single Rear Axle function (AA01148)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01148	24.85	0	70	MPH

Defines the speed threshold for Wheel Differential Lock Forward Rear Axle function (AA01149)

This setting controls the vehicle's speed threshold for the wheel *Differential lock (Diff lock)* function on the forward rear axle.

Table 135: Defines the speed threshold for Wheel Differential Lock Forward Rear Axle function (AA01149)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01149	24.85	0	70	MPH

Defines the speed threshold for Wheel Differential Lock Center Rear Axle function (AA01150)

This setting controls the vehicle's speed threshold for the wheel *Differential lock (Diff lock)* function on the center rear axle.

Table 136: Defines the speed threshold for Wheel Differential Lock Center Rear Axle function (AA01150)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01150	24.85	0	70	MPH

Defines the speed threshold for Wheel Differential Lock Rear Rear Axle function (AA01151)

This setting controls the vehicle's speed threshold for the wheel *Differential lock (Diff lock)* function on the rear rear axle.

Table 137: Defines the speed threshold for Wheel Differential Lock Rear Rear Axle function (AA01151)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01151	24.85	0	70	MPH

Defines the speed threshold for Wheel Differential Lock Dual Rear Axle function (AA01152)

This setting controls the vehicle's speed threshold for the wheel *Differential lock (Diff lock)* function on a dual rear axle.

Table 138: Defines the speed threshold for Wheel Differential Lock Dual Rear Axle function (AA01152)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01152	24.85	0	70	MPH

Defines the speed threshold for the work brakes function (AA01153)

This setting controls the vehicle's speed threshold for the work brakes function.

Table 139: Defines the speed threshold for the work brakes function (AA01153)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01153	3.11	3.11	30	MPH

Defining the PTO 1 type (AA01154)

This setting controls where *Electric Over Hydraulic (EOH) PTO* is installed, if the truck has it.

The possible values for this setting are:

Not Electric Over Hydraulic

Electric Over Hydraulic

Electric Over Hydraulic with Park Brake

Electric Over Hydraulic with Pump Mode

Table 140: Defining the PTO 1 type (AA01154)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01154	Not Electric Over Hydraulic	Not Electric Over Hydraulic	Electric Over Hydraulic with Pump Mode	DISCRETE

Determines if Suspension Dump is required (AA01155)

This setting controls whether *PTO* triggers a suspension dump when a *PTO* engagement interlock occurs.

Table 141: Determines if Suspension Dump is required (AA01155)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01155	NONE	NONE	AUTO SUSP DUMP W/PTO ENGAGEMENT INTERLOCK	DISCRETE

Defines the speed threshold for fifth wheel slide (AA01157)

This setting controls the vehicle's speed threshold for the fifth wheel slide function.

Table 142: Defines the speed threshold for fifth wheel slide (AA01157)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01157	6.84	0	9.94	MPH

Defines the speed threshold for Air Suspension Dump (AA01158)**Table 143: Defines the speed threshold for Air Suspension Dump (AA01158)**

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01158	4.35	0	158.45	MPH

Defines the speed threshold for trailer suspension dump function (AA01159)

This setting controls the vehicle's speed threshold for the trailer suspension dump function.

Table 144: Defines the speed threshold for trailer suspension dump function (AA01159)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01159	4.35	0	158.45	MPH

Defines the speed threshold for air over inflation function (AA01160)

This setting controls the vehicle's speed threshold for the air over-inflation function.

Table 145: Defines the speed threshold for air over inflation function (AA01160)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01160	15.53	0	158.45	MPH

Lift Axle Switch Location and CAN Configuration (AA01137)

This parameter configures where the lift axle control switches are located.

The possible values for this setting are:

Dash Mounted

Rocker Mounted

**NOTE**

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 146: Lift Axle Switch Location and CAN Configuration (AA01137)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01137	Dash Mounted	Dash Mounted	Rocker Mounted	DISCRETE

Defining the PTO 2 Type (AA01156)

This setting controls where *EOH PTO 2* is installed, if the truck has it.

The possible values for this setting are:

Not Electric Over Hydraulic

Electric Over Hydraulic
 Electric Over Hydraulic with Park Brake
 Electric Over Hydraulic with Pump Mode

Table 147: Defining the PTO 2 Type (AA01156)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01156	Not Electric Over Hydraulic	Not Electric Over Hydraulic	Electric Over Hydraulic with Pump Mode	DISCRETE

Configuration of Trailer Tow Hook (AA01206)

This setting controls whether the vehicle has a trailer tow hook or not.

Table 148: Configuration of Trailer Tow Hook (AA01206)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01206	DISABLED	DISABLED	ENABLED	FLAG

Defines the high speed threshold for Wheel Differential Lock Center Rear Axle function (AA01210)

This setting controls the vehicle's speed threshold for the wheel *Differential lock (Diff lock)* function on the center rear axle.

Table 149: Defines the high speed threshold for Wheel Differential Lock Center Rear Axle function (AA01210)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01210	25.00	11.00	70.00	MPH

Defines the high speed threshold for Wheel Differential Lock Dual Rear Axle function (AA01211)

This setting controls the vehicle's speed threshold for the wheel *Differential lock (Diff lock)* function on a dual rear axle.

Table 150: Defines the high speed threshold for Wheel Differential Lock Dual Rear Axle function (AA01211)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01211	25.00	11.00	70.00	MPH

Defines the high speed threshold for Wheel Differential Lock Front Axle function (AA01212)

This setting controls the vehicle's speed threshold for the wheel *Differential lock (Diff lock)* function on the front axle.

Table 151: Defines the high speed threshold for Wheel Differential Lock Front Axle function (AA01212)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01212	25.00	11.00	70.00	MPH

Defines the high speed threshold for Wheel Differential Lock Forward Rear Axle function (AA01213)

This setting controls the vehicle's speed threshold for the wheel *Differential lock (Diff lock)* function on the forward rear axle.

Table 152: Defines the high speed threshold for Wheel Differential Lock Forward Rear Axle function (AA01213)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01213	25.00	11.00	70.00	MPH

Defines the high speed threshold for Wheel Differential Lock Rear Rear Axle function (AA01214)

This setting controls the vehicle's speed threshold for the wheel *Differential lock (Diff lock)* function on the rear rear axle.

Table 153: Defines the high speed threshold for Wheel Differential Lock Rear Rear Axle function (AA01214)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01214	25.00	11.00	70.00	MPH

Defines the high speed threshold for Wheel Differential Lock Single Rear Axle function (AA01215)

This setting controls the vehicle's speed threshold for the wheel *Differential lock (Diff lock)* function on a single rear axle.

Table 154: Defines the high speed threshold for Wheel Differential Lock Single Rear Axle function (AA01215)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01215	25.00	11.00	70.00	MPH

High Speed Threshold for Inter Axle Diff Lock (AA01232)

This setting controls the highest speed the vehicle can travel with the inter axle differential lock engaged.

Table 155: High Speed Threshold for Inter Axle Diff Lock (AA01232)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01232	25	11	70	MPH

Speed Threshold for 3 position transfer case (AA01233)

This setting controls the maximum vehicle speed when using a three-speed transfer case.

Table 156: Speed Threshold for 3 position transfer case (AA01233)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01233	6.21	0	158.44	MPH

High Speed Threshold for Disengagement of Front Drive Axle Declutch (AA01234)

This setting controls the maximum speed the vehicle can be traveling when disengaging the transfer face from the front drive axle.

Table 157: High Speed Threshold for Disengagement of Front Drive Axle Declutch (AA01234)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01234	24.99	10.99	69.99	MPH

Speed Threshold for Disengagement of Front Drive Axle Declutch (AA01235)

This setting controls the minimum speed the vehicle can be traveling when disengaging the transfer face from the front drive axle.

Table 158: Speed Threshold for Disengagement of Front Drive Axle Declutch (AA01235)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01235	24.99	0.00	69.99	MPH

Model of Transfer Case Equipped (AA01230)

This setting indicates the model of transfer case equipped on the vehicle.

The possible values for this setting are:

None

SPRING HIGH DUAL LOW

SPRING HIGH

FULL AIR CONTROL

Table 159: Model of Transfer Case Equipped (AA01230)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01230	None	None	FULL AIR CONTROL	DISCRETE

Enable Tailshaft Speed Interlock for PTO Engagement - (AA01361)

This setting controls whether *PTO* is engaged if tailshaft speed is detected. This feature is used on vehicles with splitshafts.

Table 160: Enable Tailshaft Speed Interlock for PTO Engagement - (AA01361)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01361	DISABLED	DISABLED	ENABLED	FLAG

Maximum Tailshaft Speed for Safe Engagement of PTO - (AA01362)

This setting controls the maximum tailshaft speed available to allow safe PTO engagement.

Table 161: Maximum Tailshaft Speed for Safe Engagement of PTO - (AA01362)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01362	70	00	200	RPM

Two-Speed Rear Axle Speed Threshold (AA01379)

This setting controls the two-speed rear axle speed threshold.


 NOTE
This parameter is for MX engines only.

Table 162: Two-Speed Rear Axle Speed Threshold (AA01379)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01379	3.72	0.63	70	MPH

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Electric Trailer Options

Options in this section control how the truck interacts with a connected trailer.

ETO Spare Circuit 1 Function Option (AA01131)

This setting controls what function is sent through pin #1 of the ISO 3731 trailer electric connector.

The possible values for this setting are:

Not Installed

(2) Dump Gates w/ 3m coil BOC LH rail (FWD)

ISO 3731 switch 1 ID trailer floodlight

ISO 3731 switch 1 ID trailer dump gate (Single)

ISO 3731 switch 1 ID trailer air suspen

ISO 3731 switch 1 ID trailer 3rd lift axle

ISO 3731 switch 1 ID trailer Hotline

2-SP CKT THRU ABS ISO 3731 CONN

ADD 7-WAY RECPT W/TRAC KIT WIRED TO 3 DASH SW & BKUP LAMP SW

ADD 7-WAY RECPT TO EOF WIRED TO 3 DASH SW & BKUP LAMP SW

ADD 4-WAY RECPT TO BOC WIRED TO 3 DASH

(2) Dump Gates w/ 3m coil BOC LH rail (FWD) with Speed Interlock

ISO 3731 switch 1 ID trailer dumpgate (Single) with Speed Interlock

ISO 3731 switch 1 ID trailer air suspen with Speed Interlock

ISO 3731 switch 1 ID trailer air suspen with Park Brake Interlock

Table 163: ETO Spare Circuit 1 Function Option (AA01131)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01131	Not Installed	Not Installed	ISO 3731 switch 1 ID trailer air suspen with Park Brake Interlock	DISCRETE

ETO Spare Circuit 2 Function Option (AA01132)

This setting controls what function is sent through pin #2 of the ISO 3731 trailer electric connector.

The possible values for this setting are:

Not Installed

(2) Dump Gates w/ 3m coil BOC LH rail (REAR)

ISO 3731 switch 2 ID trailer floodlight

ISO 3731 switch 2 ID trailer dumpgate (Single)

ISO 3731 switch 2 ID trailer air suspen

ISO 3731 switch 2 ID trailer 3rd lift axle

ISO 3731 switch 2 ID trailer Hotline

2-SP CKT THRU ABS ISO 3731 CONN

ADD 7-WAY RECPT W/TRAC KIT WIRED TO 3 DASH SW & BKUP LAMP SW

ADD 7-WAY RECPT TO EOF WIRED TO 3 DASH SW & BKUP LAMP SW

ADD 4-WAY RECPT TO BOC WIRED TO 3 DASH

(2) Dump Gates w/ 3m coil BOC LH rail (REAR) with Speed Interlock

ISO 3731 switch 2 ID trailer dumpgate (Single) with Speed Interlock
 ISO 3731 switch 2 ID trailer air suspen with Speed Interlock
 ISO 3731 switch 2 ID trailer air suspen with Park Brake Interlock
 Trailer Beacon Light

Table 164: ETO Spare Circuit 2 Function Option (AA01132)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01132	Not Installed	Not Installed	Trailer Beacon Light	DISCRETE

ETO Spare Circuit 3 Function Option (AA01133)

This setting controls what function is sent through pin #3 of the ISO 3731 trailer electric connector.

The possible values for this setting are:

Not Installed

- (1) Trailer Dump Gate w/ 3m coil BOC (Single)
- (1) Trailer Dump Gate w/ 3m coil BOC (Center)
- (1) Truck Dump Gate w/ 3m coil BOC
- ADD 7-WAY RECPT W/TRAC KIT WIRED TO 3 DASH SW AND BKUP LAMP SW
- ADD 7-WAY RECPT TO EOF WIRED TO 3 DASH SW AND BKUP LAMP SW
- ADD 4-WAY RECPT TO BOC WIRED TO 3 DASH
- (1) Trailer Dump Gate w/ 3m coil BOC (Single) with Speed Interlock
- (1) Trailer Dump Gate w/ 3m coil BOC (Center) with Speed Interlock
- (1) Truck Dump Gate w/ 3m coil BOC with Speed Interlock
- Trailer Air Suspension
- Trailer Air Suspension with Speed Interlock
- Trailer Air Suspension with Park Brake Interlock

Table 165: ETO Spare Circuit 3 Function Option (AA01133)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01133	Not Installed	Not Installed	Trailer Air Suspension with Park Brake Interlock	DISCRETE

J560 Center Pin (#7) Function Option (AA01134)

This setting controls what function is sent through the configurable pin of the J560 connector pin.

The possible values for this setting are:

- Not Installed
- 7-Way switch, Trailer flood light
- 7-Way switch, Hotline
- 7-Way switch, Trailer air suspension
- 7-Way switch, Overfill
- 7-Way switch, 3rd Axle Lift
- 7-WAY SW: DUMPGATE /GUARD (Single)
- 7-WAY SW: DUMPGATE /GUARD (Single) with Speed Interlock

Trailer Air Suspension with Speed Interlock
 Trailer Air Suspension with Park Brake Interlock

Table 166: J560 Center Pin (#7) Function Option (AA01134)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01134	Not Installed	Not Installed	Trailer Air Suspension with Park Brake Interlock	DISCRETE

Trailer Hotline Switch (AA01135)

This setting enables single switch control of lift axles.

The possible values for this setting are:

- Not Installed
- Trailer Hotline IGN switched
- Trailer Hotline IGN switched w/Alarm

Table 167: Trailer Hotline Switch (AA01135)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01135	Trailer Hotline IGN switched w/ Alarm	Not Installed	Trailer Hotline IGN switched	DISCRETE

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Backup alarm parameters

A vehicle backup alarm is controlled by the vehicle control unit, through the chassis module, as a multiplex signal. The parameters enable the backup alarm function and has a separate parameter for a switch to mute the alarm if needed.

Backup Alarm Mute Switch (AA01205)

This setting controls whether the vehicle has a backup alarm mute switch.

Table 168: Backup Alarm Mute Switch (AA01205)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01205	DISABLED	DISABLED	SW: FOR BACKUP ALARM MUTE W/ BUZZER	FLAG

Enable Backup Alarm (AA01244)

This setting controls whether the vehicle has a backup alarm system or not.

Table 169: Enable Backup Alarm (AA01244)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01244	DISABLED	DISABLED	BACKUP ALARM ENABLED	FLAG

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Exterior lighting parameters

This group of parameters provide functionality with exterior lighting depending on specific application of the vehicle in motion or stationary.

Flood Lights Activation (AA01179)

This setting turns the vehicle's flood light on when the vehicle is in reverse.

The possible values for this setting are:

Default

Key OffACC or Key On and Reverse Gear Engaged

Key OffACC or Key On and Park Brake Set

Key OffACC or Key On and Reverse Gear or Park Brake Set

Table 170: Flood Lights Activation (AA01179)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01179	Default	Default	Key OffACC or Key On and Reverse Gear or Park Brake Set	DISCRETE

Beacon Lamp DTC - On/Off (AA01216)

This setting enables *DTC* monitoring of the beacon lamp.

Table 171: Beacon Lamp DTC - On/Off (AA01216)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01216	DISABLED	DISABLED	ENABLED	FLAG

Spot Lamp DTC - On/Off (AA01217)

This setting enables *DTC* monitoring of the spot lamp.

Table 172: Spot Lamp DTC - On/Off (AA01217)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01217	DISABLED	DISABLED	ENABLED	FLAG

Work Lights or Flood Lamps 2 DTC - On/Off (AA01219)

This setting enables *DTC* monitoring of the work lights or flood lamps 2.

Table 173: Work Lights or Flood Lamps 2 DTC - On/Off (AA01219)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01219	DISABLED	DISABLED	ENABLED	FLAG

Work Lights or Flood Lamps 3 DTC - On/Off (AA01220)

This setting enables *DTC* monitoring of the work lights or flood lamps 3.

Table 174: Work Lights or Flood Lamps 3 DTC - On/Off (AA01220)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01220	DISABLED	DISABLED	ENABLED	FLAG

Work Lights or Flood Lamps 1 DTC - On/Off (AA01221)

This setting enables *DTC* monitoring of the work lights or flood lamps 1.

Table 175: Work Lights or Flood Lamps 1 DTC - On/Off (AA01221)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01221	DISABLED	DISABLED	ENABLED	FLAG

Parameter needed for DRL (AA01266)

This setting enables *Daytime Running Lamp (DRL)*. If this setting is enabled, it allows DRL to turn on once the park brake is released.

Table 176: Parameter needed for DRL (AA01266)


P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01266	DISABLED	DISABLED	ENABLED	FLAG

Activation of DRL head lamps (AA01271)

This setting turns on the *DRL* via the dimmed low beam headlights.

Table 177: Activation of DRL head lamps (AA01271)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01271	DISABLED	DISABLED	ENABLED	FLAG

 NOTE This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Head lamp Type (AA01272)

This setting determines the types of head lamps installed on the vehicle.

The possible values for this setting are:

- Halogen
- HID
- LED


 NOTE This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 178: Head lamp Type (AA01272)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01272	Halogen	Halogen	LED	FLAG

Turn Lamp DRL (AA01273)

This setting enables turn lamp *DRL* on the vehicle.


 NOTE This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 179: Turn Lamp DRL (AA01273)


P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01273	DISABLED	DISABLED	ENABLED	FLAG

PB Driving Lamp installed (AA01274)

This setting enables the optional driving lamps installed in the vehicle's bumper. It enables both the inboard (driving and highbeam assistance) and outboard (fog and cornering) lights.

Table 180: PB Driving Lamp installed (AA01274)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01274	DISABLED	DISABLED	ENABLED	FLAG

 NOTE

This parameter is only applicable on Peterbilt HD models.

 NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Cornering lamps installed (AA01275)

This setting enables cornering lamps on the vehicle, if they are installed.

Table 181: Cornering lamps installed (AA01275)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01275	DISABLED	DISABLED	ENABLED	FLAG

 NOTE

This parameter is only applicable on Peterbilt HD models.

 NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Brake Lamps with Engine Retarder (AA01225)

This setting controls whether the brake lamps activate when the engine retarder is active.

Table 182: Brake Lamps with Engine Retarder (AA01225)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01225	ENABLED	Omit Brake Light W/ Engine Brake	ENABLED	FLAG

Marker Lamp Switch Configuration (AA01278)

This setting determines configuration of the marker lamp switch.

0 - Single Lamp Control Switch

2 - Separate Marker Lamp Control Switch


 NOTE
This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 183: Marker Lamp Switch Configuration (AA01278)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01278	DISABLED	DISABLED	2	FLAG

Enables DRL Activation to Illuminate Fog Lamps in Bumper to Meet DRL Height Requirements (AA01305)

This setting enables/disables *DRL* functionality utilizing the fog lights.



 NOTE
This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 184: Enables DRL Activation to Illuminate Fog Lamps in Bumper to Meet DRL Height Requirements (AA01305)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01305	DISABLED	DISABLED	ENABLED	FLAG

Automatic Headlamps (AA01310)

This setting enables/disables automatic headlight activation.

 NOTE
This setting is only used for Medium Duty vehicles.


 NOTE
This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 185: Automatic Headlamps (AA01310)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01310	DISABLED	DISABLED	ENABLED	FLAG

Fog Lamp Configuration (AA01312)

When this setting is enabled, the fog lights function as driving lights.

Possible values for this setting are:

- 0 - Fog Lamp
- 1 - Driving Lamp

Table 186: Fog Lamp Configuration (AA01312)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01312	ENABLED	DISABLED	ENABLED	FLAG

 NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Override DRL with Turn Signal (AA01313)

When this setting is enabled, the corresponding [DRL](#) will deactivate when the turn signal is activated.

 NOTE

If [Enables DRL Activation to Illuminate Fog Lamps in Bumper to Meet DRL Height Requirements \(AA01305\)](#) on page 142 is enabled, then this setting is disabled.

 NOTE


This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 187: Override DRL with Turn Signal (AA01313)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01313	DISABLED	DISABLED	ENABLED	FLAG

Disables Position Lamp Illumination While Turn Signals Are Activated (AA03143)

This setting determines

 NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

 NOTE

This parameter only applies to Heavy Duty vehicles.

Table 188: Disables Position Lamp Illumination While Turn Signals Are Activated (AA03143)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01343	DISABLED	DISABLED	ENABLED	FLAG

DRL Inhibit Override When Speed is Greater Than 7MPH (AA01345)

This setting determines if *DRL* will automatically turn on above 7MPH if an optional DRL disable switch has been used to turn them off.



NOTE

This parameter is for MX engines only.

Table 189: DRL Inhibit Override when speed is greater than 7MPH (AA01345)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01345	DISABLED	DISABLED	ENABLED	FLAG

Turn Lamp DRL DTC - On/Off (AA01207)

When this setting is enabled, fault detection for turn lamp *DRL* will be active.

Default settings are as follows:

- Medium Duty = ENABLED



NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 190: Turn Lamp DRL DTC - On/Off (AA01207)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01207	DISABLED	DISABLED	ENABLED	FLAG

Turn Side DTC - On/Off (AA01208)

When this setting is enabled, fault detection for side turns will be active.

Default settings are as follows:

- Kenworth T680, T880, and W990 = DISABLED
- Peterbilt 567 and 579 = ENABLED


 NOTE
This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 191: Turn Side DTC - On/Off (AA01208)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01208	DISABLED	DISABLED	ENABLED	FLAG

Enable Dedicated DRL (AA01256)

This setting enables dedicated [DRL](#).

Default values:


- Kenworth T680 Classic, T880, and W990 = DISABLED
- Kenworth T680 Next Gen and Medium Duty = ENABLED
- Peterbilt 567 = DISABLED
- Peterbilt 579 and Medium Duty = ENABLED

Table 192: Dedicated DRL (AA01256)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01256	DISABLED	DISABLED	ENABLED	FLAG

Tail lamps with DRLs (AA01328)

This setting determines if the tail lamps illuminate with [DRL](#).

 NOTE
This parameter is automatically enabled for Canadian vehicles.


 NOTE
This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 193: Tail lamps with DRLs (AA01328)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01328	DISABLED	DISABLED	ENABLED	FLAG

DRL Inhibit Switch Type (AA01329)

This setting determines the type of switch used to inhibit *DRL*.

Possible values for this setting are:

- 0 - Latching
- 1 - Momentary
- 2 - None



NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 194: DRL Inhibit Switch Type (AA01329)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01329	1	0	2	DISCRETE

Enable Headlamp Flash to Pass (AA01336)

This setting enables flash to pass utilizing the headlamps.



NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 195: Enable Headlamp Flash to Pass (AA01336)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01336	DISABLED	DISABLED	ENABLED	FLAG

Enable Headlamp Flashers (WigWags) - (AA01356)

This setting enables the vehicle's headlamp flashers/WigWags. These lights are for emergency services or when towing, where the OEM lights need to flash both back and forth and side to side.

Table 196: Enable Headlamp Flashers (WigWags) - (AA01356)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01356	DISABLED	DISABLED	ENABLED	FLAG

Duration of One Full Wigwag Cycle in ms - (AA01357)

This setting controls the duration of the vehicle's headlamp flashers in milliseconds.

Table 197: Duration of One Full Wigwag Cycle in ms - (AA01357)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01357	500	200	20,000	MS

Percent of WigWag Period that Left Headlamp is Active - (AA01358)

This setting

Table 198: Percent of WigWag Period that Left Headlamp is Active - (AA01358)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01358	50	10	90	Percent

Output Status Behavior of Lighting Command - (AA01363)

This setting controls how lights connected to the K-CAN or S-CAN work in connection with the vehicle's headlamps when they are flashing. If this setting is set to Steady State, then the lights on the body do not sync with the headlamps when flashing. If this setting is set to Flash State, then the lights on the body sync with the headlamps when flashing.

Possible options for this setting are:

Steady State

Flash State

Table 199: Output Status Behavior of Lighting Command - (AA01363)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01363	Steady State	Steady State	Flash State	FLAG

Activates Rear Brake (Stop) Lamps with Park Brake Applied - (AA01365)

This setting controls whether the rear brake lamps illuminate when the park brake is applied.

Table 200: Activates Rear Brake (Stop) Lamps with Park Brake Applied - (AA01365)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01365	DISABLED	DISABLED	ENABLED	FLAG

Fault Detection on Rear Turn Lamps of Tractor (AA01383)

This setting enables fault detection on rear turn lamps on the tractor.

**NOTE**

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 201: Fault Detection on Rear Turn Lamps of Tractor (AA01383)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01383	ENABLED	DISABLED	ENABLED	FLAG

High Beams Disable Low Beams (AA01384)

This setting controls whether activating high beams also deactivates low beams.

**NOTE**

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 202: High Beams Disable Low Beams (AA01384)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01384	DISABLED	DISABLED	ENABLED	FLAG

Chapter 23 | INTERIOR LIGHTING

Sleeper Dome Lamp DTC - On/Off (AA01218).....	150
Timeout for Dome Lamp when door is left open (AA01396).....	150

Sleeper Dome Lamp DTC - On/Off (AA01218)

This setting enables *DTC* monitoring of the sleeper dome lamp.

Table 203: Sleeper Dome Lamp DTC - On/Off (AA01218)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01218	DISABLED	DISABLED	ENABLED	FLAG

Timeout for Dome Lamp when door is left open (AA01396)

This setting controls the time the Dome Lamp is light on when door is left open.

Table 204: Timeout for Dome Lamp when door is left open (AA01396)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01396	600	300	1200	SEC

Chapter 24 | POWER TAKE OFF (PTO)

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Power Take Off (PTO)

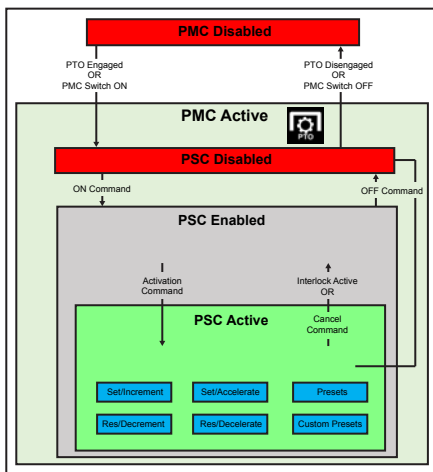
PTO mode is a PACCAR specific function offered on MX powered vehicles with *VECU* control units, which provides PACCAR MX speed controls to meet the needs of various vehicle applications.

PTO Mode consists of two systems, *PTO Mode Control (PMC)* and *PTO Speed Control (PSC)*. *PMC* becomes active when the physical *PTO* is engaged or the *PMC* switch is active. When active, *PMC* displays the green telltale and allows for all *PTO* limits and safeties to be applied. However, *PMC* only allows for engine speed control from the CAB or Remote throttle, control from the switches is not allowed at this stage.

PSC becomes enabled once the cruise control set to ON switch is set to ON, and the white icon is shown on the display. *PSC* becomes active when the set/resume button or presets are activated. *PSC* allows speed control of the engine via switches, body inputs or *CAN*. When a cancel command is issued from an interlock, *PSC* is still enabled but not active. The only way to fully disable *PSC* is to press the cruise control ON/OFF switch or stop requesting via *CAN*, although *PMC* may remain active until both the *PMC* switch is turned off and/or the *PTO* is disengaged.

PTO Mode is fully customizable with multiple programmable operator input functions, engine speed controls, vehicle speed parameters, and safety interlocks. Interlocks can make the operation of *PTO*-driven equipment safer and more convenient for the driver, and can protect both the chassis drivetrain and *PTO*-driven auxiliary equipment from misuse and potential damage. When an interlock is active, *PSC* will transition from active to enabled, and engine speed will reduce to the minimum *PMC* speed for the selected control location.

Figure 7: PMC and PSC Interaction Diagram



EIST may also be disabled in *PTO* Mode to allow for extended operations with the engine at idle. The engine is also capable of logging time and fuel consumption in *PTO* Mode separately from non-*PTO* operation.

While the engine is in *PTO* mode, many different limitations can be imposed by software in the vehicle controller. These limitations may include:

- Engine Speed
- Engine Speed Ramp-Up/Ramp-Down Rates
- Maximum Engine Torque Output
- Vehicle Speed
- Engine Idle Time
- Safety Interlocks

The purpose of this section is to describe the *PTO* Mode programming features and capabilities.

- *PTO Controls* on page 153 is intended to provide an overview of how control switches can be wired and integrated to the truck.
- *PTO: PTO Mode Control Configurations* on page 155 begins to list all the parameters that define *PTO* Mode. Once these parameters are defined, more parameters are presented that customize how the operator will control the *PTO* Mode function.

1. Cab Station - These parameters are for switches and controls located inside the cab.

- [PTO: Cab Station Engine Speed Control Options](#) on page 163
 - [PTO: Cab Station Presets](#) on page 165
 - [PTO: Cab Station Limits](#) on page 158
 - [PTO: Cab Station Engine Speed Control Interlocks](#) on page 160
 - [PTO: Cab Station Custom Presets](#) on page 168
2. Remote Station - These parameters are for controls that are external to the cab.
 - [PTO: Remote Station Limits](#) on page 171
 - [PTO: Remote Station Engine Speed Control Interlocks](#) on page 174
 - [PTO: Remote Station Engine Speed Control Options](#) on page 176
 - [PTO: Remote Station Presets](#) on page 178
 3. Cab and/or Remote Station - These parameters are dedicated to applications that use a combination of cab and/or remote station controls.
 - [PTO: Cab And/Or Remote Station Custom Presets](#) on page 182
 - [PTO: Cab And/Or Remote Station: Engine Speed Control Interlocks](#) on page 186
 4. Advanced Parameters
 - [PTO: Pedal](#) on page 186
 - [PTO: Remote CAN Control](#) on page 187
 - [PTO: Advanced Settings](#) on page 188

Additional transmission configuration may be necessary depending on the equipped transmission and/or transfer case. PACCAR recommends consulting the transmission manufacturer for information related to specific wiring harnesses and transmission programming requirements for proper [PTO](#) functionality.

PTO Controls

Default OE Installed PTO Controls

Enabling and controlling the engine for [PTO](#) Mode can be performed via a signal sent directly from a driver operated electric switch in dash (or from steering wheel switches, if equipped). Driver [PTO](#) Mode request options are usually installed at the factory for dash switches or for steering wheel switches.

The control hardware required for this feature is usually factory installed. Refer to [Figure 8: Cab Station Dash Switches](#) on page 154 for information on how the dash switches are implemented and [Figure 9: Cab Station Steering Wheel Switches](#) on page 154 for information on how the steering wheel switches are implemented.

Figure 8: Cab Station Dash Switches

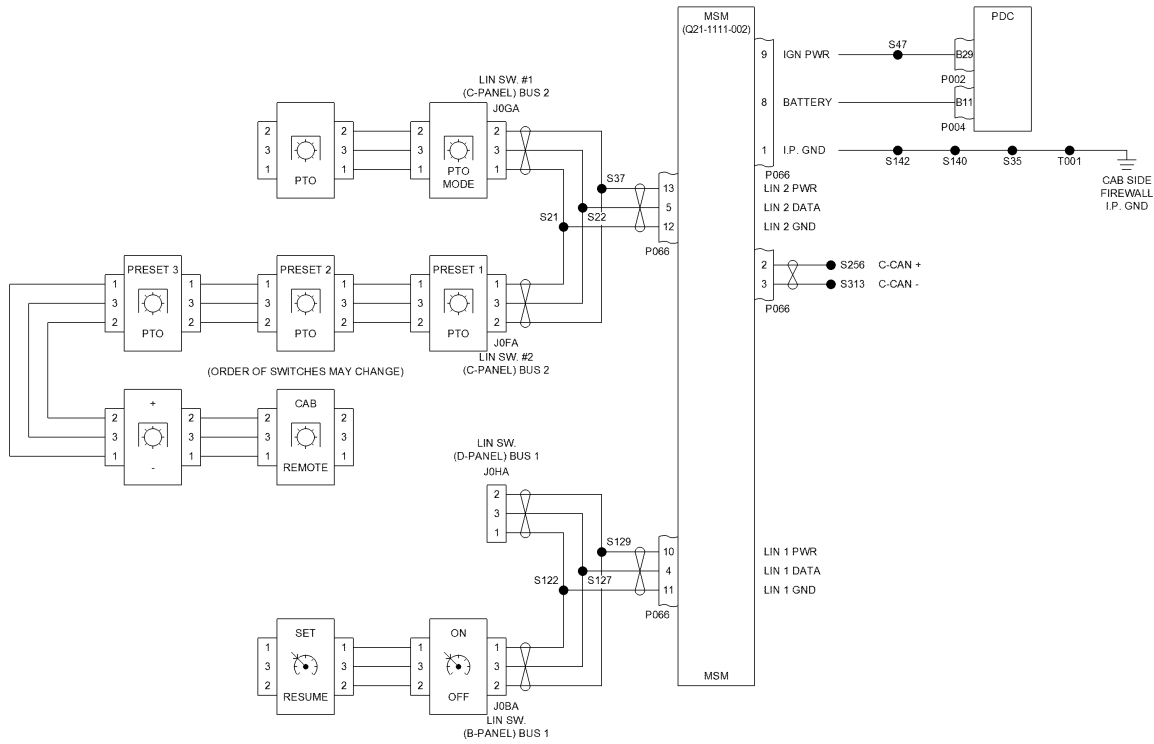
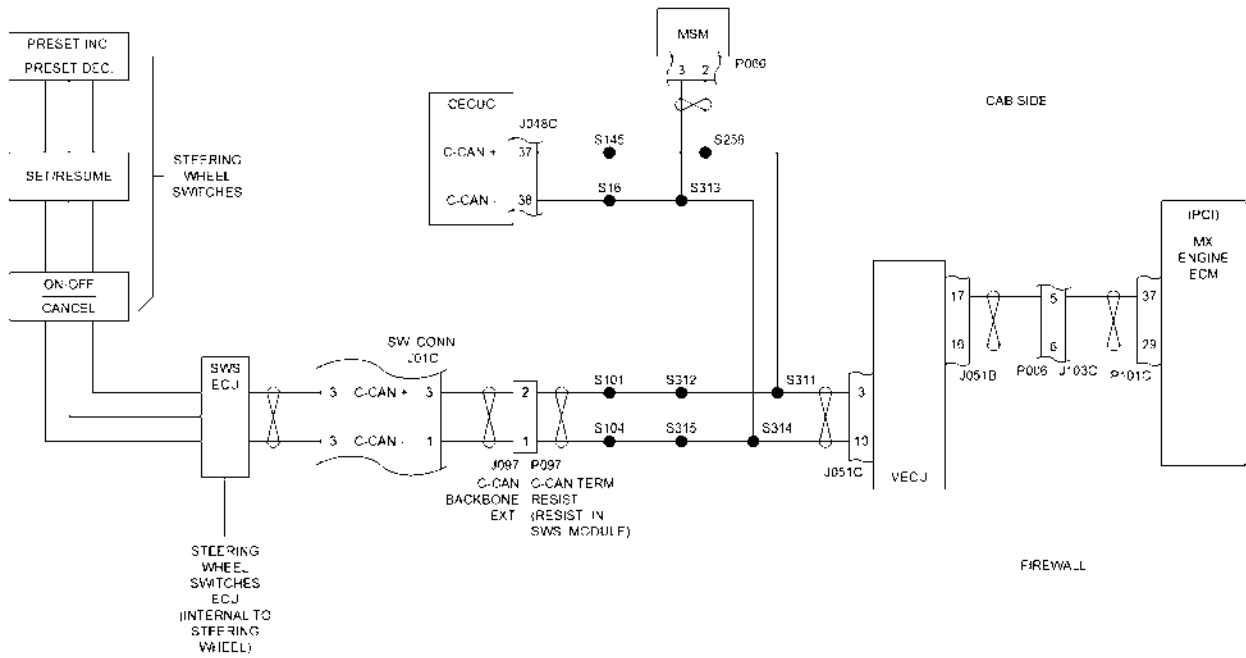


Figure 9: Cab Station Steering Wheel Switches



Factory OE Dash Controls for Aftermarket Air Operated PTO

Aftermarket air actuated *PTO*'s may be installed and be controlled by the factory driver controls inside the cab. The signal is processed through the *VECU* unit to the multiplex solenoid bank to operate that assigned air solenoid. The *VECU* can be customized to require a feedback signal (such as the *PTO* engagement indicator lamp on the dash) before increasing engine speed.

The control hardware required for this feature is usually factory installed.

CAN Based PTO Mode Request

PTO Mode requests can be initiated when a signal is sent through a *CAN* network connection.

This setup requires a customer-provided *CAN* based controller.

Remote Station PMC

Remote Station *PMC* includes the following possible setups:

1. Remote Station Switches
2. Remote Station Accelerator
3. Remote Station *CAN* Based Controls
4. Remote Station *TSC1* Controls

PMC Remote Station Accelerator

Remote Station Accelerator is generally a customer installed accelerator typically installed outside the cab. The accelerator can be used to implement *Engine Speed Control (ESC)* in Remote *PTO* Mode, if fitted. Remote Station accelerator will provide continuously variable *ESC* in a similar manner as the ordinary cab mounted accelerator used to drive the truck.

PMC Remote Station Accelerator requires additional programming and aftermarket parts to access and control this feature. With appropriate hardware and software, this feature may be combined with any of the following *PMC*:

1. *PTO* Mode Activation for one of the following options:
 - Remote Station Switches *ESC*
 - *CAN* based *ESC*
2. Factory installed Sensors that interact with Engine *PTO* (any/all of the following, depending on programming):
 - Service Brake Switch
 - Parking Brake Switch
 - Clutch Switch
 - Neutral Position Signal from Transmission (Not applicable to manual transmissions)
 - Vehicle Speed Sensor
 - Engine Speed Sensor

PTO: PTO Mode Control Configurations

PTO Governor Responsiveness (AA01008)

This setting adjusts the engine's response to speed or torque changes during *PTO* mode.



NOTE

This parameter is for MX engines only.

Table 205: PTO Governor Responsiveness (AA01008)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01008	1	1	8	FACTOR

Cab Accelerator Pedal Type in PTO Mode (AA00067)

This setting controls whether the accelerator pedal is used to change engine torque or engine speed while using the cab accelerator pedal in *PTO* Mode. This setting allows operators to use the accelerator pedal in the way best suited for their vehicle operation.



NOTE

[Enable Cab Accelerator Active in Cab Station PMC \(AA00068\)](#) on page 156 must be enabled for this setting to be changed.

The possible values for this setting are:

Torque Pedal
Speed Pedal



NOTE

A torque pedal is the typical automotive-style pedal that is used in cars and trucks for normal driving.



NOTE

This parameter is for MX engines only.

Table 206: Cab Accelerator Pedal Type in PTO Mode (AA00067)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00067	Torque Pedal	Torque Pedal	Speed Pedal	FLAG

Enable Cab Accelerator Active in Cab Station PMC (AA00068)

This setting enables using the accelerator pedal while the vehicle is in cab station *PTO* Mode.



NOTE

This setting must be enabled to allow changes to the [Cab Accelerator Pedal Type in PTO Mode \(AA00067\)](#) on page 156 setting.



NOTE

This parameter is for MX engines only.

Table 207: Enable Cab Accelerator Active in Cab Station PMC (AA00068)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00068	Enabled	Disabled	Enabled	FLAG

Enable Cab Accelerator Active in Remote Station PMC (AA01038)

This setting enables using the accelerator pedal while the vehicle is in remote *PTO* Mode.


 NOTE
This parameter is for MX engines only.

Table 208: Enable Cab Accelerator Active in Remote Station PMC (AA01038)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01038	Disabled	Disabled	Enabled	DISCRETE

Enable Remote Pedal in Remote Station PMC (AA00069)

This setting is used to enable remote pedal inputs during *PTO* mode. This option must be enabled to allow pedal input from remote locations.

 NOTE
This parameter is for MX engines only.

Table 209: Enable Remote Pedal in Remote Station PMC (AA00069)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00069	Enabled	Disabled	Enabled	DISCRETE

Fan On in PTO Mode: CAB and REMOTE Station (AA01180)

This setting turns engine fan on when PTO mode is active.


 NOTE
This parameter is for MX engines only.

Table 210: Fan On in PTO Mode: CAB and REMOTE Station (AA01180)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01180	Disabled	Disabled	Enabled	FLAG

Type of PTO Controls - Cab/Remote/Both (AA01009)

This setting determines whether *PTO* controls are for cab station, remote station, or both cab and remote stations. The options available for this setting are:

NONE

PTO MODE CONTROL - REMOTE STATION

PTO MODE CONTROL - CAB & REMOTE STATION

PTO MODE CONTROL - CAB STATION



NOTE

The vehicle must have a multiplexed Cab/Remote selection switch in the dash to use the CAB & REMOTE STATION option.



NOTE

This parameter is for MX engines only.

Table 211: Type of PTO Controls - Cab/Remote/Both (AA01009)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01009	NONE	NONE	<i>PTO</i> MODE CONTROL	FLAG

PTO: Cab Station Limits**Maximum Engine Speed - Accelerator Controlled (AA00061)**

This setting controls the maximum speed the engine can achieve when in cab station *PTO* Mode using the accelerator pedal. The engine will not exceed this speed when being controlled by the accelerator pedal, regardless of pedal position. This setting is initially equal to *Maximum Engine Speed - Switch Controlled (AA00062)* on page 158.



NOTE

This parameter is for MX engines only.

Table 212: Maximum Engine Speed - Accelerator Controlled (AA00061)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00061	2000	550	2200	RPM

Maximum Engine Speed - Switch Controlled (AA00062)

This setting controls the maximum speed the engine can achieve when in cab station *PTO* Mode using the cab switches. The engine will not exceed this speed when being controlled by the steering wheel or dash switches.



NOTE

This parameter is for MX engines only.

Table 213: Maximum Engine Speed - Switch Controlled (AA00062)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00062	2000	550	2200	RPM

Maximum Vehicle Speed (AA00063)

This setting controls the vehicle speed limit while in cab station *PTO* mode. The vehicle will no longer accelerate when this limit has been reached, while PTO mode is active. This setting affects all input methods of increasing vehicle speed.

**NOTE**

This parameter is for MX engines only.

Table 214: Maximum Vehicle Speed (AA00063)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00063	6	6	158	MPH

Maximum Rate of Engine Speed INCREASE (AA01012)

This setting controls the rate of engine speed increase in cab station *PTO* mode. The value entered in this setting limits the rate of engine speed increase to a maximum number of rpm/s for any in-cab controls.

**NOTE**

This parameter is for MX engines only.

Table 215: Maximum Rate of Engine Speed INCREASE (AA01012)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01012	1000	10	2000	RPM/S

Maximum Rate of Engine Speed DECREASE (AA01013)

This setting controls the rate of engine speed decrease in cab station *PTO* mode. The value entered in this setting limits the rate of engine speed decrease to a maximum number of rpm/s for any in-cab controls.

**NOTE**

This parameter is for MX engines only.

Table 216: Maximum Rate of Engine Speed DECREASE (AA01013)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01013	1000	10	2000	RPM/S

Maximum Engine Torque Output (AA01016)

This setting controls the engine torque limit when the vehicle is in cab station *PTO* mode. The engine torque output will not exceed this value while in PTO mode.

**NOTE**

This parameter is for MX engines only.

Table 217: Maximum Engine Torque Output (AA01016)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01016	1903	148	1903	LB-FT

Minimum Engine speed (AA00064)

This setting controls the minimum speed the engine will operate at while in cab *PTO* mode. The engine will retain this minimum speed if no other commands occur to increase the engine speed.



NOTE

This parameter is for MX engines only.

Table 218: Minimum Engine speed (AA00064)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00064	650	550	2200	RPM



NOTE

If *Maximum Vehicle Speed (AA00063)* on page 159 is greater than 6.2 MPH, then the value entered in this setting cannot be greater than 800 RPM.

PTO: Cab Station Engine Speed Control Interlocks**Clutch Interlock (AA00055)**

This setting controls if the clutch pedal will be used as a speed control interlock in cab station *PSC*.

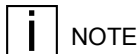
The possible values for this setting are:

- 0 - Clutch Interlock Disabled, *PSC* may remain active.
- 1 - Clutch Interlock Enabled, clutch pedal cancels *PSC*.
- 2 - Clutch Interlock Enabled, clutch pedal cancels *PSC* and disables accelerator pedal.



NOTE

If the vehicle has an automatic transmission, this setting must be set to Disabled.



NOTE

This parameter is for MX engines only.

Table 219: Clutch Interlock (AA00055)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00055	1	0	2	DISCRETE

Custom Interlock (AA00056)

This setting controls how *PSC* operates when a custom interlock is active.

The possible values for this setting are:

- 0 - Custom Interlock Disabled, *PSC* may remain active.
- 1 - Custom Interlock Enabled, cancels *PSC*.
- 2 - Custom Interlock Enabled, cancels *PSC* and disables accelerator pedal.

**NOTE**

This setting should be set to 0 (Disabled) if there is no *CMS* installed on the vehicle.

**NOTE**

This parameter is for MX engines only.

Table 220: Custom Interlock (AA00056)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00056	0	0	2	DISCRETE

Neutral Interlock (AA00057)

This setting controls how *PSC* operates when the vehicle is not in neutral.

The possible values for this setting are:

- 0 - Neutral interlock is disabled, *PSC* may remain active when vehicle is not in neutral.
- 1 - Neutral interlock is enabled, cancels *PSC* when vehicle is not in neutral.
- 2 - Neutral interlock is enabled, cancels *PSC* when vehicle is not in neutral and disables accelerator pedal.

**NOTE**

This parameter is for MX engines only.

Table 221: Neutral Interlock (AA00057)

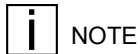
P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00057	1	0	2	DISCRETE

Park Brake Interlock (AA00058)

This setting controls how *PSC* operates when the parking brake is not set.

The possible values for this setting are:

- 0 - Park Brake Interlock is disabled, *PSC* may remain active when disengaging park brake.
- 1 - Park Brake Interlock is enabled, disengaging park brake cancels *PSC*.
- 2 - Park Brake Interlock is enabled, disengaging park brake cancels *PSC* and disables accelerator pedal.



NOTE

This parameter is for MX engines only.

Table 222: Park Brake Interlock (AA00058)

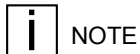
P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00058	1	0	2	DISCRETE

Service Brake Interlock: Pressed Equals No PTO Speed Control (AA00059)

This setting controls how *PSC* operates when the service brake is pressed.

The possible values for this setting are:

- 0 - Service Brake Interlock disabled, *PSC* may remain active.
- 1 - Service Brake Interlock enabled, brake pedal application cancels *PSC*.
- 2 - Service Brake Interlock enabled, brake pedal application cancels *PSC* and disables accelerator pedal.

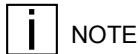


NOTE

This parameter is for MX engines only.

Table 223: Service Brake Interlock: Pressed Equals No PTO Speed Control (AA00059)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00059	1	0	2	DISCRETE



NOTE

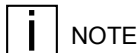
If the entry in *Maximum Vehicle Speed (AA00063)* on page 159 is greater than 30 MPH, then this setting must be enabled.

Service Brake Interlock: NOT Pressed Equals No PTO Speed Control (AA01023)

This setting controls how *PSC* operates when the service brake is not pressed.

The possible values for this setting are:

- 0 - Service Brake Interlock disabled, *PSC* may remain active.
- 1 - Service Brake Interlock enabled, releasing brake pedal cancels *PSC*.
- 2 - Service Brake Interlock enabled, releasing brake pedal cancels *PSC* and disables accelerator pedal.



NOTE

If the entry in *Service Brake Interlock: Pressed Equals No PTO Speed Control (AA00059)* on page 162 is a 1 or 2, then the entry in this field must be a 0.



NOTE

This parameter is for MX engines only.

Table 224: Service Brake Interlock: NOT Pressed Equals No PTO Speed Control (AA01023)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01023	0	0	2	DISCRETE

PTO: Cab Station Engine Speed Control Options

Engine Speed Ramp-up w/ long press of SET/ACCEL (AA01010)

This setting controls the engine acceleration rate from in-cab controls during cab station *PTO* mode. This setting affects the acceleration rate of all in-cab switch-based controls.



NOTE

This parameter is for MX engines only.

Table 225: Engine Speed Ramp-up w/ long press of SET/ACCEL (AA01010)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01010	250	10	1000	RPM/S

Engine Speed Ramp-down w/ long press of RES/DECEL (AA01011)

This setting controls the engine deceleration rate from in-cab controls during cab station *PTO* mode. This setting affects the deceleration rate of all in-cab switch-based controls.



NOTE

This parameter is for MX engines only.

Table 226: Engine Speed Ramp-down w/ long press of RES/DECEL (AA01011)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01011	250	10	1000	RPM/S

Engine Speed Increase with bump of SET/ACCEL (AA01014)

This setting controls the amount the engine speed is increased with the short press of the Set/Accel switch. This setting is closely connected with *Maximum Rate of Engine Speed INCREASE (AA01012)* on page 159.



NOTE

This parameter is for MX engines only.

Table 227: Engine Speed Increase with bump of SET/ACCEL (AA01014)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01014	50	10	1000	RPM

Engine Speed Decrease with bump of RES/DECEL (AA01015)

This setting controls the amount the engine speed decreases when the operator short presses the Resume/Decel switch. This setting is closely connected with [Maximum Rate of Engine Speed DECREASE \(AA01013\)](#) on page 159.

**NOTE**

This parameter is for MX engines only.

Table 228: Engine Speed Decrease with bump of RES/DECEL (AA01015)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01015	50	10	1000	RPM

Preset +/- Switch Type (AA00060)

This setting controls the type of presets available while in cab *PTO* mode.

In Toggle Mode, up to 6 Presets are available. Pressing the "+" key will cause the engine speed to jump to the next highest configured Preset until the last preset is reached. Pressing "-", will cause the engine to jump to the next lowest Preset through the Toggle Presets stopping at Preset 1.

Note that the presets must be configured sequentially. Preset 1 < Preset 2 < Preset 6, however undesired presets can be set to 0, if all 6 are not required. Example: Preset 1 = 900, Preset 2 = 1000, Preset 3 = 1150, Preset 4,5,6 = 0.

In Dedicated (2 Presets) Mode, pressing "-" will cause the engine speed to jump to Dedicated Preset 1, and pressing "+" will cause the engine speed to jump to Dedicated Preset 2.

The possible values for this setting are:

- 0 - Preset engine settings disabled
- 1 - Enable Toggle (6 presets)
- 2 - Enable Dedicated (2 presets)

If using option 1, the presets are adjusted using:

- [Toggle Preset 1 \(AA01017\)](#) on page 165
- [Toggle Preset 2 \(AA01018\)](#) on page 165
- [Toggle Preset 3 \(AA01019\)](#) on page 166
- [Toggle Preset 4 \(AA01020\)](#) on page 166
- [Toggle Preset 5 \(AA01021\)](#) on page 167
- [Toggle Preset 6 \(AA01022\)](#) on page 167

If using option 2, the presets are adjusted using:

- [Dedicated Preset 1 \(AA00065\)](#) on page 167
- [Dedicated Preset 2 \(AA00066\)](#) on page 168

**NOTE**

This parameter is for MX engines only.

Table 229: Preset +/- Switch Type (AA00060)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00060	2	0	2	DISCRETE

Set/Res Enabled (AA01044)

This setting is used to enable cab *PTO* controls using the Set/Resume switch in the cab. If this setting is enabled, cab PTO functions can be activated using the Set/Resume switch on the cab's dashboard or steering wheel (if installed).


 NOTE
This parameter is for MX engines only.

Table 230: Set/Res Enabled (AA01044)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01044	Enabled	Disabled	Enabled	FLAG

PTO: Cab Station Presets**Toggle Preset 1 (AA01017)**

This setting controls the cab pre-programmed speed 1 variable. This option is only available if *Preset +/- Switch Type (AA00060)* on page 164 is set to "Enable Toggle (6 Presets)", otherwise this parameter must = 0. The preset is reached by pressing the increment/decrement (+/-) switch.



 NOTE
This parameter is for MX engines only.

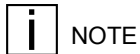
Table 231: Toggle Preset 1 (AA01017)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01017	800	1	2200	RPM

 NOTE
The value entered in this variable must be greater than the entry in <i>Minimum Engine speed (AA00064)</i> on page 160 and less than the <i>Maximum Engine Speed - Switch Controlled (AA00062)</i> on page 158. If there is an entry in <i>Toggle Preset 2 (AA01018)</i> on page 165, then the entry in this field must be less than that value.

Toggle Preset 2 (AA01018)

This setting controls the cab pre-programmed speed 2 variable. This option is only available if *Preset +/- Switch Type (AA00060)* on page 164 is set to "Enable Toggle (6 Presets)" and there is a value entered in *Toggle Preset 1 (AA01017)* on page 165, otherwise this parameter must = 0. The preset is reached by pressing the increment/decrement (+/-) switch.

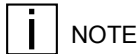


NOTE

This parameter is for MX engines only.

Table 232: Toggle Preset 2 (AA01018)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01018	900	0	2200	RPM

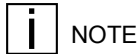


NOTE

The value entered in this variable must be greater than the entry in [Toggle Preset 1 \(AA01017\)](#) on page 165 and less than the entry in [Maximum Engine Speed - Switch Controlled \(AA00062\)](#) on page 158. If there is an entry in [Toggle Preset 3 \(AA01019\)](#) on page 166, then the entry in this field must be less than that value.

Toggle Preset 3 (AA01019)

This setting controls the cab pre-programmed speed 3 variable. This option is only available if [Preset +/- Switch Type \(AA00060\)](#) on page 164 is set to "Enable Toggle (6 Presets)" and there is a value entered in [Toggle Preset 2 \(AA01018\)](#) on page 165, otherwise this parameter must = 0. The preset is reached by pressing the increment/decrement (+/-) switch.



NOTE

This parameter is for MX engines only.

Table 233: Toggle Preset 3 (AA01019)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01019	1000	0	2200	RPM



NOTE

The value entered in this variable must be greater than the entry in [Toggle Preset 2 \(AA01018\)](#) on page 165, and less than the entry in [Maximum Engine Speed - Switch Controlled \(AA00062\)](#) on page 158. If there is an entry in [Toggle Preset 4 \(AA01020\)](#) on page 166, then the entry in this field must be less than that value.

Toggle Preset 4 (AA01020)

This setting controls the cab pre-programmed speed 4 variable. This option is only available if [Preset +/- Switch Type \(AA00060\)](#) on page 164 is set to "Enable Toggle (6 Presets)" and there is a value entered in [Toggle Preset 3 \(AA01019\)](#) on page 166, otherwise this parameter must = 0. The preset is reached by pressing the increment/decrement (+/-) switch.



NOTE

This parameter is for MX engines only.

Table 234: Toggle Preset 4 (AA01020)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01020	1100	0	2200	RPM

i NOTE

The value entered in this variable must be greater than the entry in [Toggle Preset 3 \(AA01019\)](#) on page 166 and less than the entry in [Maximum Engine Speed - Switch Controlled \(AA00062\)](#) on page 158. If there is an entry in [Toggle Preset 5 \(AA01021\)](#) on page 167, then the entry in this field must be less than that value.

Toggle Preset 5 (AA01021)

This setting controls the cab pre-programmed speed 5 variable. This option is only available if [Preset +/- Switch Type \(AA00060\)](#) on page 164 is set to "Enable Toggle (6 Presets)" and there is a value entered in [Toggle Preset 4 \(AA01020\)](#) on page 166, otherwise this parameter must = 0. The preset is reached by pressing the increment/decrement (+/-) switch.

i NOTE

This parameter is for MX engines only.

Table 235: Toggle Preset 5 (AA01021)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01021	1200	0	2200	RPM

i NOTE

The value entered in this variable must be greater than the entry in [Toggle Preset 4 \(AA01020\)](#) on page 166 and less than the entry in [Maximum Engine Speed - Switch Controlled \(AA00062\)](#) on page 158. If there is an entry in [Toggle Preset 6 \(AA01022\)](#) on page 167, then the entry in this field must be less than that value.

Toggle Preset 6 (AA01022)

This setting controls the cab pre-programmed speed 6 variable. This option is only available if [Preset +/- Switch Type \(AA00060\)](#) on page 164 is set to "Enable Toggle (6 Presets)" and there is a value entered in [Toggle Preset 5 \(AA01021\)](#) on page 167, otherwise this parameter must = 0. The preset is reached by pressing the increment/decrement (+/-) switch.

i NOTE

This parameter is for MX engines only.

Table 236: Toggle Preset 6 (AA01022)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01022	1300	0	2200	RPM

i NOTE

The value entered in this variable must be greater than the entry in [Toggle Preset 5 \(AA01021\)](#) on page 167 and less than the entry in [Maximum Engine Speed - Switch Controlled \(AA00062\)](#) on page 158.

Dedicated Preset 1 (AA00065)

This setting controls the cab dedicated speed 1 variable. This speed is set by pressing the decrement (-) button on the increment/decrement (+/-) switch. This option is only available if [Preset +/- Switch Type \(AA00060\)](#) on page 164 is set to

"Enable Dedicated (2 Presets)", otherwise this parameter must = 0. The value entered must be less than or equal to the value in [Dedicated Preset 2 \(AA00066\)](#) on page 168.

 NOTE

This parameter is for MX engines only.

Table 237: Dedicated Preset 1 (AA00065)


P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00065	800	0	2200	RPM

 NOTE

The value entered in this variable must be greater than the entry in [Minimum Engine speed \(AA00064\)](#) on page 160 and less than the entry in [Maximum Engine Speed - Switch Controlled \(AA00062\)](#) on page 158.

Dedicated Preset 2 (AA00066)


This setting controls the cab dedicated speed 2 variable. This speed is set by pressing the increment (+) button on the increment/decrement (+/-) switch. This option is only available if [Preset +/- Switch Type \(AA00060\)](#) on page 164 is set to "Enable Dedicated (2 Presets)" and there is a value entered in [Dedicated Preset 1 \(AA00065\)](#) on page 167, otherwise this parameter must = 0. The value entered must be greater than or equal to the value entered in [Dedicated Preset 1 \(AA00065\)](#) on page 167.

 NOTE

This parameter is for MX engines only.

Table 238: Dedicated Preset 2 (AA00066)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00066	900	0	2200	RPM

 NOTE

The value entered in this variable must be greater than the entry in [Minimum Engine speed \(AA00064\)](#) on page 160 and less than the entry in [Maximum Engine Speed - Switch Controlled \(AA00062\)](#) on page 158.

PTO: Cab Station Custom Presets

Custom Preset 1 Functionality (AA00049)

There are up to six custom preset switches available. The switches can control engine speed during cab station [PTO](#) or remote station [PTO](#). Remote Custom Presets can be configured to be used when in Cab station.

This setting controls how custom preset switch 1 is used to control engine speed during cab station [PTO](#). There are two options available for this setting:

- Momentary - Cancels preset engine speed request when switch is released
- Latch - Holds preset engine speed request when switch is released

i NOTE

Cab custom preset switches installed at the factory are physically latching switches. Programming the switch to be a momentary switch causes the engine speed request to be canceled when the switch is toggled off.

Using custom preset switch 1 sets the engine speed to the value defined in [Custom Preset 1 \(AA00050\)](#) on page 169.

i NOTE

This parameter is for MX engines only.

Table 239: Custom Preset 1 Functionality (AA00049)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00049	Cancel	Cancel	Latch	FLAG

Custom Preset 1 (AA00050)

There are up to three custom preset switches available in the cab. The switches can control engine speed during cab station *PTO* or both cab station and remote station *PTO*.

This setting controls the engine's speed when custom preset switch 1 is used for vehicles with cab station *PTO*.

i NOTE

Refer to [Custom Preset 1 Functionality \(AA00049\)](#) on page 168 for information on the available settings to use custom preset switch 1.

i NOTE

This parameter is for MX engines only.

Table 240: Custom Preset 1 (AA00050)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00050	750	0	2200	RPM

i NOTE

The value entered in this variable must be greater than the entry in [Minimum Engine speed \(AA00064\)](#) on page 160 and less than the entry in [Maximum Engine Speed - Switch Controlled \(AA00062\)](#) on page 158.

Custom Preset 2 Functionality (AA00051)

There are up to six custom preset switches available. The switches can control engine speed during cab station *PTO* or remote station *PTO*. Remote Custom Presets can be configured to be used when in Cab station.

This setting controls how custom preset switch 2 is used to control engine speed during cab station *PTO*. There are two options available for this setting:

- Momentary - Cancels preset engine speed request when switch is released
- Latch - Holds preset engine speed request when switch is released

i NOTE

Cab custom preset switches installed at the factory are physically latching switches. Programming the switch to be a momentary switch causes the engine speed request to be canceled when the switch is toggled off.

Using custom preset switch 2 sets the engine speed to the value defined in [Custom Preset 2 \(AA00052\)](#) on page 170.

i NOTE

This parameter is for MX engines only.

Table 241: Custom Preset 2 Functionality (AA00051)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00051	Cancel	Cancel	Latch	FLAG

Custom Preset 2 (AA00052)

There are up to three custom preset switches available in the cab. The switches can control engine speed during cab station *PTO* or both cab station and remote station *PTO*.

This setting controls the engine's speed when custom preset switch 2 is used for vehicles with cab station *PTO*.

i NOTE

Refer to [Custom Preset 2 Functionality \(AA00051\)](#) on page 169 for information on the available settings to use custom preset switch 2.

i NOTE

This parameter is for MX engines only.

Table 242: Custom Preset 2 (AA00052)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00052	850	0	2200	RPM

i NOTE

The value entered in this variable must be greater than the entry in [Minimum Engine speed \(AA00064\)](#) on page 160 and less than the entry in [Maximum Engine Speed - Switch Controlled \(AA00062\)](#) on page 158.

Custom Preset 3 Functionality (AA00053)

There are up to six custom preset switches available. The switches can control engine speed during cab station *PTO* or remote station *PTO*. Remote Custom Presets can be configured to be used when in Cab station.

This setting controls how custom preset switch 3 is used to control engine speed during cab station *PTO*. There are two options available for this setting:

- Momentary - Cancels preset engine speed request when switch is released
- Latch - Holds preset engine speed request when switch is released

i NOTE

Cab custom preset switches installed at the factory are physically latching switches. Programming the switch to be a momentary switch causes the engine speed request to be canceled when the switch is toggled off.

Using custom preset switch 3 sets the engine speed to the value defined in [Custom Preset 3 \(AA00054\)](#) on page 171.

i NOTE

This parameter is for MX engines only.

Table 243: Custom Preset 3 Functionality (AA00053)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00053	Cancel	Cancel	Latch	FLAG

Custom Preset 3 (AA00054)

There are up to three custom preset switches available in the cab. The switches can control engine speed during cab station *PTO* or both cab station and remote station *PTO*.

This setting controls the engine's speed when custom preset switch 3 is used for vehicles with cab station *PTO*.

i NOTE

Refer to [Custom Preset 3 Functionality \(AA00053\)](#) on page 170 for information on the available settings to use custom preset switch 3.

i NOTE

This parameter is for MX engines only.

Table 244: Custom Preset 3 (AA00054)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00054	950	0	2200	RPM

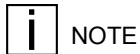
i NOTE

The value entered in this variable must be greater than the entry in [Minimum Engine speed \(AA00064\)](#) on page 160 and less than the entry in [Maximum Engine Speed - Switch Controlled \(AA00062\)](#) on page 158.

PTO: Remote Station Limits

Maximum Engine Speed - Cab and Remote Accelerator Controlled (AA00074)

This setting controls the maximum speed the engine can achieve when in remote *PTO* Mode using the accelerator pedal or from the remote accelerator. The engine will not go faster than the maximum speed entered no matter how much the accelerator pedal is depressed.



NOTE

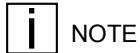
This parameter is for MX engines only.

Table 245: Maximum Engine Speed - Cab and Remote Accelerator Controlled (AA00074)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00074	2000	550	2200	RPM

Maximum Engine Speed - Switch or TSC1 Controlled (AA00075)

This setting controls the maximum speed the engine can achieve when in remote *PTO* Mode using the switches or request sent via CAN. The engine will not go faster than the maximum speed entered no matter how much the switch is depressed or *TSC1* message sent.



NOTE

This parameter is for MX engines only.

Table 246: Maximum Engine Speed - Switch or TSC1 Controlled (AA00075)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00075	2000	550	2200	RPM

Maximum Rate of Engine Speed INCREASE (AA01027)

This setting controls the rate of engine speed increase in remote station *PTO* mode. The value entered in this setting limits the rate of engine speed increase to a maximum number of RPMs for any remote station controls. This setting is closely connected with [Engine Speed Increase with bump of SET/ACCEL \(AA01029\)](#) on page 177.



NOTE

This parameter is for MX engines only.

Table 247: Maximum Rate of Engine Speed INCREASE (AA01027)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01027	1000	10	2000	RPM/S

Maximum Rate of Engine Speed DECREASE (AA01028)

This setting controls the rate of engine speed decrease in remote station *PTO* mode. The value entered in this setting limits the rate of engine speed decrease to a maximum number of RPMs for any remote station controls. This setting is closely connected with [Engine Speed Decrease with bump of RES/DECEL \(AA01030\)](#) on page 177.



NOTE

This parameter is for MX engines only.

Table 248: Maximum Rate of Engine Speed DECREASE (AA01028)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01028	1000	10	2000	RPM/S

Maximum Engine Torque Output (AA01031)

This setting controls the engine torque limit when the vehicle is in remote *PTO* mode. The engine torque rate will not go higher than the value entered.

**NOTE**

This parameter is for MX engines only.

Table 249: Maximum Engine Torque Output (AA01031)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01031	1903	148	1903	LB-FT

Remote: Minimum Engine Speed (AA00076)

This setting controls the minimum speed the engine will operate at while in remote station PTO Mode. The engine will retain this minimum speed if no other commands occur to increase the engine speed.

**NOTE**

This parameter is for MX engines only.

Table 250: Remote: Minimum Engine Speed (AA00076)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00076	650	550	2200	RPM

Maximum Vehicle Speed (AA01026)

This setting controls the vehicle speed limit while in remote *PTO* mode. This setting affects all input methods of increasing vehicle speed.

**NOTE**

This parameter is for MX engines only.

Table 251: Maximum Vehicle Speed (AA01026)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01026	0	0	158.45	MPH

PTO: Remote Station Engine Speed Control Interlocks

Clutch Interlock (AA00070)

This setting controls if the clutch pedal will be used as a speed control interlock in remote station *PSC*.

The possible values for this setting are:

0 - Disabled - Clutch Interlock is disabled, remain in Remote *PSC* when clutch is pressed.

1 - Enabled - Clutch Interlock is enabled

2 - Enabled w/ Cab Accelerator Disabled - Clutch Interlock is enabled, clutch pedal cancels *PSC* and disables accelerator pedal.



NOTE

This parameter is for MX engines only.

Table 252: Clutch Interlock (AA00070)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00070	2	0	2	DISCRETE

Custom Interlock (AA00071)

This setting controls if remote *PTO* mode is enabled when a custom interlock input is active.

The possible values for this setting are:

0; Disabled - Custom Interlock is disabled, remain in Remote *PSC* when custom interlock is active.

1; Enabled - Custom Interlock is enabled.

2; Enabled w/ Cab Accelerator Disabled - Custom Interlock is enabled, cancels *PSC* and disables accelerator pedal.



NOTE

This setting should be set to 0 (Disabled) if there is no *CMS* installed on the vehicle.



NOTE

This parameter is for MX engines only.

Table 253: Custom Interlock (AA00071)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00071	0	0	2	DISCRETE

Neutral Interlock (AA00072)

This setting controls if remote *PTO* mode is disabled when the vehicle is not in neutral.

The possible values for this setting are:

0; Disabled - Neutral Interlock is disabled, stay in Remote *PSC* when vehicle is not in neutral.

1; Enabled - Neutral Interlock is enabled.

2; Enabled w/ Cab Accelerator Disabled - Neutral Interlock is enabled, cancels *PSC* and disables accelerator pedal.

**NOTE**

This parameter is for MX engines only.

Table 254: Neutral Interlock (AA00072)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00072	2	0	2	DISCRETE

Park Brake Interlock (AA01039)

This setting controls if remote *PTO* mode is disabled when the parking brake is set or not.

The possible values for this setting are:

0; Disabled - Park Brake Interlock is disabled, remain in Remote *PSC* when park brake is not set.

1; Enabled - Park Brake Interlock Enabled

2; Enabled w/ Cab Accelerator Disabled - Park Brake Interlock Enabled, disengaging park brake cancels *PSC* and disables accelerator pedal.

**NOTE**

This parameter is for MX engines only.

Table 255: Park Brake Interlock (AA01039)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01039	2	0	2	DISCRETE

Service Brake Interlock, Pressed equals No PTO Speed Control (AA00073)

This setting controls if remote *PTO* mode is disabled when the service brake is pressed.

The possible values for this setting are:

0; Disabled- Service Brake Interlock is disabled

1; Enabled - Service Brake Interlock is enabled, remain in Remote *PSC* when service brake is pressed.

2; Enabled w/ Cab Accelerator Disabled - Service Brake Interlock is enabled, brake pedal application cancels *PSC* and disables accelerator pedal.

**NOTE**

This parameter is for MX engines only.

**NOTE**

If the value in *Maximum Vehicle Speed (AA01026)* on page 173 is greater than 30 MPH and the entries for *Neutral Interlock (AA00072)* on page 174 and *Park Brake Interlock (AA01039)* on page 175 are 0, then this setting must be enabled.

Table 256: Service Brake Interlock, Pressed equals No PTO Speed Control (AA00073)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00073	2	0	2	DISCRETE

Service Brake Interlock, NOT Pressed equals No PTO Speed Control (AA01040)

This setting controls if remote *PTO* mode is disabled when the service brake is not pressed.

The possible values for this setting are:

0; Disabled - Service Brake Interlock is disabled, remain in Remote *PSC* when service brake is not pressed.

1; Enabled - Service Brake Interlock is enabled.

2; Enabled w/ Cab Accelerator Disabled - Service Brake Interlock is enabled, releasing brake pedal cancels *PSC* and disables accelerator pedal.

**NOTE**

This parameter is for MX engines only.

**NOTE**

If *Service Brake Interlock, Pressed equals No PTO Speed Control (AA00073)* on page 175 is greater than 0, this parameter must be 0.

Table 257: Service Brake Interlock, NOT Pressed equals No PTO Speed Control (AA01040)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01040	0	0	2	DISCRETE

PTO: Remote Station Engine Speed Control Options**Engine Speed Ramp-up w/ long press of SET/ACCEL (AA01024)**

This setting controls the engine acceleration rate during remote PTO mode. This setting affects the acceleration rate of all remote control options.

**NOTE**

This parameter is for MX engines only.

Table 258: Engine Speed Ramp-up w/ long press of SET/ACCEL (AA01024)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01024	250	10	1000	RPM/S

Engine Speed Ramp-down w/ long press of RES/DECEL (AA01025)

This setting controls the engine deceleration rate during remote PTO mode. This setting affects the deceleration rate of all remote control options.



This parameter is for MX engines only.

Table 259: Engine Speed Ramp-down w/ long press of RES/DECEL (AA01025)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01025	250	10	1000	RPM/S

Engine Speed Increase with bump of SET/ACCEL (AA01029)

This setting controls the amount the engine speed is increased when a *PSC* increase command is requested from a remote control. This setting is closely connected with *Maximum Rate of Engine Speed INCREASE (AA01027)* on page 172.



This parameter is for MX engines only.

Table 260: Engine Speed Increase with bump of SET/ACCEL (AA01029)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01029	50	10	1000	RPM

Engine Speed Decrease with bump of RES/DECEL (AA01030)

This setting controls the amount the engine speed is decreased when a *PSC* increase command is requested from a remote control. This setting is closely connected with *Maximum Rate of Engine Speed DECREASE (AA01028)* on page 172.



This parameter is for MX engines only.

Table 261: Engine Speed Decrease with bump of RES/DECEL (AA01030)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01030	50	10	1000	RPM

Set/Res Input Enabled (AA01045)

This setting is enables the remote Set/Resume switches for Remote *PTO* use.



NOTE

This parameter is for MX engines only.

Table 262: Set/Res Input Enabled (AA01045)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01045	Enabled	Disabled	Enabled	FLAG

PTO: Remote Station Presets**Toggle Preset 1 (AA01032)**

This setting controls the remote pre-programmed speed 1 variable. This option is only available if [Preset Increment/Decrement Switch Type \(AA00079\)](#) on page 181 is set to "Enable Toggle (6 Presets)", otherwise this parameter must = 0. The preset is reached by pressing the increment/decrement (+/-) switch.



NOTE

This parameter is for MX engines only.

Table 263: Toggle Preset 1 (AA01032)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01032	800	0	2000	RPM



NOTE

The value entered in this variable must be greater than the entry in [Remote: Minimum Engine Speed \(AA00076\)](#) on page 173 and less than the entry in [Maximum Engine Speed - Switch or TSC1 Controlled \(AA00075\)](#) on page 172. If there is an entry in [Toggle Preset 2 \(AA01018\)](#) on page 165, then the entry in this field must be less than that value.

Toggle Preset 2 (AA01033)

This setting controls the cab pre-programmed speed 2 variable. This option is only available if [Preset Increment/Decrement Switch Type \(AA00079\)](#) on page 181 is set to "Enable Toggle (6 Presets)" and there is a value entered in [Toggle Preset 1 \(AA01032\)](#) on page 178, otherwise this parameter must = 0. The preset is reached by pressing the increment/decrement (+/-) switch.



NOTE

This parameter is for MX engines only.

Table 264: Toggle Preset 2 (AA01033)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01033	900	0	2000	RPM

i NOTE

The value entered in this variable must be greater than the entry in [Toggle Preset 1 \(AA01032\)](#) on page 178 and less than the entry in [Maximum Engine Speed - Switch or TSC1 Controlled \(AA00075\)](#) on page 172. If there is an entry in [Toggle Preset 3 \(AA01034\)](#) on page 179, then the entry in this field must be less than that value.

Toggle Preset 3 (AA01034)

This setting controls the cab pre-programmed speed 3 variable. This option is only available if [Preset Increment/Decrement Switch Type \(AA00079\)](#) on page 181 is set to "Enable Toggle (6 Presets)" and there is a value entered in [Toggle Preset 2 \(AA01033\)](#) on page 178, otherwise this parameter must = 0. The preset is reached by pressing the increment/decrement (+/-) switch.

i NOTE

This parameter is for MX engines only.

Table 265: Toggle Preset 3 (AA01034)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01034	1000	0	2000	RPM

i NOTE

The value entered in this variable must be greater than the entry in [Toggle Preset 2 \(AA01033\)](#) on page 178 and less than the entry in [Maximum Engine Speed - Switch or TSC1 Controlled \(AA00075\)](#) on page 172. If there is an entry in [Toggle Preset 4 \(AA01035\)](#) on page 179, then the entry in this field must be less than that value.

Toggle Preset 4 (AA01035)

This setting controls the cab pre-programmed speed 4 variable. This option is only available if [Preset Increment/Decrement Switch Type \(AA00079\)](#) on page 181 is set to "Enable Toggle (6 Presets)" and there is a value entered in [Toggle Preset 3 \(AA01034\)](#) on page 179, otherwise this parameter must = 0. The preset is reached by pressing the increment/decrement (+/-) switch.

i NOTE

This parameter is for MX engines only.

Table 266: Toggle Preset 4 (AA01035)

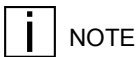
P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01035	1100	0	2000	RPM

i NOTE

The value entered in this variable must be greater than the entry in [Toggle Preset 3 \(AA01034\)](#) on page 179 and less than the entry in [Maximum Engine Speed - Switch or TSC1 Controlled \(AA00075\)](#) on page 172. If there is an entry in [Toggle Preset 5 \(AA01036\)](#) on page 180, then the entry in this field must be less than that value.

Toggle Preset 5 (AA01036)

This setting controls the cab pre-programmed speed 5 variable. This option is only available if [Preset Increment/Decrement Switch Type \(AA00079\)](#) on page 181 is set to "Enable Toggle (6 Presets)" and there is a value entered in [Toggle Preset 4 \(AA01035\)](#) on page 179, otherwise this parameter must = 0. The preset is reached by pressing the increment/decrement (+/-) switch.

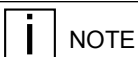


NOTE

This parameter is for MX engines only.

Table 267: Toggle Preset 5 (AA01036)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01036	1200	0	2000	RPM



NOTE

The value entered in this variable must be greater than the entry in [Toggle Preset 4 \(AA01035\)](#) on page 179 and less than the entry in [Maximum Engine Speed - Switch or TSC1 Controlled \(AA00075\)](#) on page 172. If there is an entry in [Toggle Preset 6 \(AA01037\)](#) on page 180, then the entry in this field must be less than that value.

Toggle Preset 6 (AA01037)

This setting controls the cab pre-programmed speed 6 variable. This option is only available if [Preset Increment/Decrement Switch Type \(AA00079\)](#) on page 181 is set to "Enable Toggle (6 Presets)" and there is a value entered in [Toggle Preset 5 \(AA01036\)](#) on page 180, otherwise this parameter must = 0. The preset is reached by pressing the increment/decrement (+/-) switch.



NOTE

This parameter is for MX engines only.

Table 268: Toggle Preset 6 (AA01037)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01037	1300	0	2000	RPM

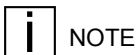


NOTE

The value entered in this variable must be greater than the entry in [Toggle Preset 5 \(AA01036\)](#) on page 180 and less than the entry in [Maximum Engine Speed - Switch or TSC1 Controlled \(AA00075\)](#) on page 172.

Dedicated Preset 1 (AA00077)

This setting controls the remote dedicated preset 1 variable. This option is only available if [Preset Increment/Decrement Switch Type \(AA00079\)](#) on page 181 is set to "Enable Dedicated (2 Presets)", otherwise this parameter must = 0. The preset is reached by pressing the decrement (-) button on the increment/decrement (+/-) switch. The entry in this setting must be less than or equal to the entry in [Dedicated Preset 2 \(AA00078\)](#) on page 181.



NOTE

This parameter is for MX engines only.

Table 269: Dedicated Preset 1 (AA00077)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00077	800	0	2000	RPM

 NOTE

The value entered in this variable must be greater than the entry in [Remote: Minimum Engine Speed \(AA00076\)](#) on page 173 and less than the entry in [Dedicated Preset 2 \(AA00078\)](#) on page 181.

Dedicated Preset 2 (AA00078)


This setting controls the remote dedicated preset 2 variable. This option is only available if [Preset Increment/Decrement Switch Type \(AA00079\)](#) on page 181 is set to "Enable Dedicated (2 Presets), otherwise this parameter must = 0. The preset is reached by pressing the increment (+) button on the increment/decrement (+/-) switch.

 NOTE

This parameter is for MX engines only.

Table 270: Dedicated Preset 2 (AA00078)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00078	900	0	2000	RPM

 NOTE

The value entered in this variable must be greater than the entry in [Remote: Minimum Engine Speed \(AA00076\)](#) on page 173 and less than the entry in [Maximum Engine Speed - Switch or TSC1 Controlled \(AA00075\)](#) on page 172.

Preset Increment/Decrement Switch Type (AA00079)

In Toggle Mode, up to 6 Presets are available. Pressing the "+" key will cause the engine speed to jump to the next highest configured Preset until the last preset is reached. Pressing "-", will cause the engine to jump to the next lowest Preset through the Toggle Presets stopping at Preset 1.

Note that the presets must be configured sequentially. Preset 1 < Preset 2 < Preset 6, however undesired presets can be set to 0, if all 6 are not required. Example: Preset 1 = 900, Preset 2 = 1000, Preset 3 = 1150, Preset 4,5,6 = 0.

In Dedicated (2 Presets) Mode, pressing "-" will cause the engine speed to jump to Dedicated Preset 1, and pressing "+" will cause the engine speed to jump to Dedicated Preset 2.

The possible values for this setting are:

- 0 - Preset engine settings disabled
- 1 - Enable Toggle (6 presets)
- 2 - Enable Dedicated (2 presets)

If using option 1, the presets are adjusted using:

- [Toggle Preset 1 \(AA01032\)](#) on page 178
- [Toggle Preset 2 \(AA01033\)](#) on page 178
- [Toggle Preset 3 \(AA01034\)](#) on page 179
- [Toggle Preset 4 \(AA01035\)](#) on page 179
- [Toggle Preset 5 \(AA01036\)](#) on page 180
- [Toggle Preset 6 \(AA01037\)](#) on page 180

If using option 2, the presets are adjusted using:

- [Dedicated Preset 1 \(AA00077\)](#) on page 180
- [Dedicated Preset 2 \(AA00078\)](#) on page 181

 NOTE
This parameter is for MX engines only.

Table 271: Preset Increment/Decrement Switch Type (AA00079)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00079	2	0	2	DISCRETE

PTO: Cab And/Or Remote Station Custom Presets


Custom Preset 1 Functionality (AA00043)

There are up to three custom preset switches available for remote. The switches can control engine speed during remote station *PTO* or both cab station and remote station *PTO*.


This setting controls how custom preset switch 1 is used to control engine speed during remote station *PTO*. There are two options available for this setting:


Momentary - Cancels preset engine speed request when switch is released

Latch - Holds preset engine speed request when switch is released

 NOTE
Cab custom preset switches installed at the factory are physically latching switches. Programming the switch to be a momentary switch causes the engine speed request to be canceled when the switch is toggled off.

Using custom preset switch 1 sets the engine speed to the value defined in [Custom Preset 1 \(AA00044\)](#) on page 183.

 NOTE
Allow Remote Custom Presets (AA00044, AA00046, AA00048) in CAB PTO mode (AA01203) on page 189 must be set to ON for this setting to function.

 NOTE
Use Custom Preset 1 Functionality (AA00049) on page 168 if the vehicle wants only cab station <i>PTO</i> Custom Presets.


 NOTE
This parameter is for MX engines only.

Table 272: Custom Preset 1 Functionality (AA00043)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00043	Cancel	Cancel	Latch	FLAG

Custom Preset 1 (AA00044)

There are up to three custom preset switches available for remote. The switches can control engine speed during remote station *PTO* or both cab station and remote station *PTO*.

This setting controls the engine's speed when custom preset switch 1 is used for vehicles with remote station *PTO*.

**NOTE**

Allow Remote Custom Presets (AA00044, AA00046, AA00048) in CAB PTO mode (AA01203) on page 189 must be set to ON for this setting to function.

**NOTE**

Refer to *Custom Preset 1 Functionality (AA00043)* on page 182 for information on the available settings to use custom preset switch 1.

**NOTE**

This parameter is for MX engines only.

Table 273: Custom Preset 1 (AA00044)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00044	750	0	2000	RPM

**NOTE**

If the custom preset is used to control cab PTO, the value entered in this variable must be greater than the entry in *Minimum Engine Speed (AA00064)* on page 160 and less than the entry in *Maximum Engine Speed - Switch Controlled (AA00062)* on page 158. If the custom preset is used to control remote PTO, the value entered in this variable must be greater than the entry in *Remote: Minimum Engine Speed (AA00076)* on page 173 and less than the entry in *Maximum Engine Speed - Switch or TSC1 Controlled (AA00075)* on page 172. If the custom preset is used to control both cab and remote PTO, the value entered in this variable should be greater than or equal to the lowest value of those two variables.

Custom Preset 2 Functionality (AA00045)

There are up to three custom preset switches available for remote. The switches can control engine speed during remote station *PTO* or both cab station and remote station *PTO*.

This setting controls how custom preset switch 2 is used to control engine speed during remote station *PTO*. There are two options available for this setting:

Momentary - Cancels preset engine speed request when switch is released

Latch - Holds preset engine speed request when switch is released


**NOTE**

Cab custom preset switches installed at the factory are physically latching switches. Programming the switch to be a momentary switch causes the engine speed request to be canceled when the switch is toggled off.

Using custom preset switch 2 sets the engine speed to the value defined in *Custom Preset 2 (AA00046)* on page 184.

**NOTE**

Allow Remote Custom Presets (AA00044, AA00046, AA00048) in CAB PTO mode (AA01203) on page 189 must be set to ON for this setting to function.

 NOTE

Use [Custom Preset 2 Functionality \(AA00051\)](#) on page 169 if the vehicle wants only cab station [PTO](#) Custom Presets.

 NOTE

This parameter is for MX engines only.


Table 274: Custom Preset 2 Functionality (AA00045)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00045	Cancel	Cancel	Latch	FLAG

Custom Preset 2 (AA00046)

There are up to three custom preset switches available for remote. The switches can control engine speed during remote station [PTO](#) or both cab station and remote station [PTO](#).

This setting controls the engine's speed when custom preset switch 2 is used for vehicles with remote station [PTO](#).

 NOTE

[Allow Remote Custom Presets \(AA00044, AA00046, AA00048\) in CAB PTO mode \(AA01203\)](#) on page 189 must be set to ON for this setting to function.

 NOTE

Refer to [Custom Preset 2 Functionality \(AA00045\)](#) on page 183 for information on the available settings to use custom preset switch 2.

 NOTE

This parameter is for MX engines only.

Table 275: Custom Preset 2 (AA00046)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00046	850	0	2000	RPM

 NOTE

If the custom preset is used to control cab PTO, the value entered in this variable must be greater than the entry in [Minimum Engine Speed \(AA00064\)](#) on page 160 and less than the entry in [Maximum Engine Speed - Switch Controlled \(AA00062\)](#) on page 158. If the custom preset is used to control remote PTO, the value entered in this variable must be greater than the entry in [Remote: Minimum Engine Speed \(AA00076\)](#) on page 173 and less than the entry in [Maximum Engine Speed - Switch or TSC1 Controlled \(AA00075\)](#) on page 172. If the custom preset is used to control both cab and remote PTO, the value entered in this variable should be greater than or equal to the lowest value of those two variables.


Custom Preset 3 Functionality (AA00047)

There are up to three custom preset switches available for remote. The switches can control engine speed during remote station [PTO](#) or both cab station and remote station [PTO](#).


This setting controls how custom preset switch 3 is used to control engine speed during remote station *PTO*. There are two options available for this setting:


Momentary - Cancels preset engine speed request when switch is released

Latch - Holds preset engine speed request when switch is released

 NOTE
Cab custom preset switches installed at the factory are physically latching switches. Programming the switch to be a momentary switch causes the engine speed request to be canceled when the switch is toggled off.

Using custom preset switch 3 sets the engine speed to the value defined in *Custom Preset 3 (AA00048)* on page 185.

 NOTE
<i>Allow Remote Custom Presets (AA00044, AA00046, AA00048) in CAB PTO mode (AA01203)</i> on page 189 must be set to ON for this setting to function.

 NOTE
Use <i>Custom Preset 3 Functionality (AA00053)</i> on page 170 if the vehicle wants only cab station <i>PTO</i> Custom Presets.


 NOTE
This parameter is for MX engines only.


Table 276: Custom Preset 3 Functionality (AA00047)


P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00047	Cancel	Cancel	Latch	FLAG

Custom Preset 3 (AA00048)

There are up to three custom preset switches available for remote. The switches can control engine speed during remote station *PTO* or both cab station and remote station *PTO*.

This setting controls the engine's speed when custom preset switch 3 is used for vehicles with remote station *PTO*.

 NOTE
<i>Allow Remote Custom Presets (AA00044, AA00046, AA00048) in CAB PTO mode (AA01203)</i> on page 189 must be set to ON for this setting to function.

 NOTE
Refer to <i>Custom Preset 3 Functionality (AA00047)</i> on page 184 for information on the available settings to use custom preset switch 3.


 NOTE
This parameter is for MX engines only.

Table 277: Custom Preset 3 (AA00048)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00048	950	0	2000	RPM


 NOTE

If the custom preset is used to control cab PTO, the value entered in this variable must be greater than the entry in [Minimum Engine Speed \(AA00064\)](#) on page 160 and less than the entry in [Maximum Engine Speed - Switch Controlled \(AA00062\)](#) on page 158. If the custom preset is used to control remote PTO, the value entered in this variable must be greater than the entry in [Remote: Minimum Engine Speed \(AA00076\)](#) on page 173 and less than the entry in [Maximum Engine Speed - Switch or TSC1 Controlled \(AA00075\)](#) on page 172. If the custom preset is used to control both cab and remote PTO, the value entered in this variable should be greater than or equal to the lowest value of those two variables.

PTO: Cab And/Or Remote Station: Engine Speed Control Interlocks

Custom Interlock Switch Behavior (AA01183)

This setting determines if an open circuit or a ground circuit is treated as an active interlock.

 NOTE

This parameter is for MX engines only.


Table 278: Custom Interlock Switch Behavior (AA01183)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01183	Active Ground	Active Open Circuit	Active Ground	FLAG

PTO: Pedal

Enable slew rate limit for speed pedal if configured for speed control (AA01181)

This setting enables the slew rate limit using the accelerator pedal to control engine speed during *PTO* mode.

 NOTE

This parameter is for MX engines only.

Table 279: Enable slew rate limit for speed pedal if configured for speed control (AA01181)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01181	Disabled	Disabled	Enabled	FLAG

Enable slew rate limit for torque pedal if configured for torque control (AA01182)

This setting enables the slew rate limit of the cab accelerator pedal, when the accelerator pedal is configured as a torque control pedal.



NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.



NOTE

This parameter is for MX engines only.

Table 280: Enable slew rate limit for torque pedal if configured for torque control (AA01182)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01182	Disabled	Disabled	Enabled	FLAG

CAB Pedal Disablement using PR170A pin 7 (AA01339)

This setting allows cab pedal to be disabled using PR170A pin 7.



NOTE

This parameter is for MX engines only.



NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 281: CAB Pedal Disablement using PR170A pin 7 (AA01339)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01339	Disabled	Disabled	Enabled	FLAG

PTO: Remote CAN Control**Enable Body Control from Source Address 7 (AA01041)**

This setting controls use of a remote *PTO* switch from Source Address 7.



NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.



NOTE


This parameter is for MX engines only.

Table 282: Enable Body Control from Source Address 7 (AA01041)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01041	Enabled	Disabled	Enabled	DISCRETE

Enable Body Control from Source Address 33 (AA01042)

This setting controls use of a remote *PTO* switch from Source Address 33.

	NOTE
This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.	


	NOTE
This parameter is for MX engines only.	


Table 283: Enable Body Control from Source Address 33 (AA01042)


P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01042	Enabled	Disabled	Enabled	DISCRETE

PTO: Advanced Settings

Disables PSC with Stop Lamp Active (AA01007)

This setting disables *PSC* for both cab and remote station controls when Stop Lamp is illuminated.

	WARNING
Continued command of engine speed when a stop engine lamp is illuminated may damage the engine.	

	NOTE
This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.	


	NOTE
This parameter is for MX engines only.	

Table 284: Disables PSC with Stop Lamp Active (AA01007)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01007	Enabled	Disabled	Enabled	DISCRETE

Allow Remote Custom Presets (AA00044, AA00046, AA00048) in CAB PTO mode (AA01203)

This setting allows remote Custom Presets to control engine speed in CAB *PTO* mode.



 NOTE
This parameter is for MX engines only.

Table 285: Allow Remote Custom Presets (AA00044, AA00046, AA00048) in CAB PTO mode (AA01203)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01203	ON	OFF	ON	FLAG

Retarder Interlock (AA01204)

This setting cancels *PSC* when retarders become active.

 NOTE
This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.


 NOTE
This parameter is for MX engines only.

Table 286: Retarder Interlock (AA01204)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01204	OFF	OFF	ON	DISCRETE

Cab Station Remote Inputs Control Engine Speed CAB PTO Mode (Exclude Remote Custom Preset) (AA00089)

This setting controls whether remote inputs can be used to control engine speed when the vehicle is in CAB PTO Mode. It does not affect remote custom presets.

The possible values for this setting are:

Remote Inputs Disabled in Cab PTO

Remote Inputs Enabled in Cab PTO

Table 287: Cab Station Remote Inputs Control Engine Speed CAB PTO Mode (Exclude Remote Custom Preset) (AA00089)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00089	Rem Inputs Disabled in Cab PTO	Rem Inputs Disabled in Cab PTO	Rem Inputs Enabled in Cab PTO	FLAG

Changes the SET/RES input on the Remote 12 pin connector to be Preset +/- (AA01342)

This setting changes the SET/RES input on the Remote 12 pin connector to be Preset +/-.

The options available for this setting are:

- 0 - Disable
- 1 - Enable



NOTE

This parameter is for MX engines only.

Table 288: Changes the SET/RES input on the Remote 12 pin connector to be Preset +/- (AA01342)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01342	DISABLE	DISABLE	ENABLE	FLAG

Enables Engine Retarder to Operate During PTO Mode (AA01373)

This setting controls whether the engine retarder can operate during PTO mode.

Table 289: Enables Engine Retarder to Operate During PTO Mode (AA01361)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01373	DISABLED	DISABLED	1	FLAG

Chapter 25 | CMP - ANALOG DTC ENABLE/ DISABLE

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Chassis Modules (CMP and CMS)

There are two modules for chassis component control; the *CMP* and the *CMS* (Also referred to as the *SCM*, and *Optional Chassis Module (OCM)*, respectively). The *CMP* is standard equipment for all *VECU* system trucks as it controls major functions such as exterior lighting, fuel level, and other options. The *CMS* may be found on trucks built from the factory with certain options such as more than two lift axles, snow plow, or a *Body Builder CAN (B-CAN)*.

Chassis Module Parameters

These parameters will enable or disable fault code monitoring of current and voltage at the chassis module for the assigned device. These parameters could be useful if the device is multiplexed, factory installed, and the specific parameter is enabled to monitor.

Fuel Level Sensor (Secondary) (N401)

This setting enables fault code monitoring of the secondary fuel level sensor.

Table 290: Fuel Level Sensor (Secondary) (N401)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N401	OFF	OFF	ON	FLAG

Main Transmission Oil Temp (N403)

This setting enables fault code monitoring of the main transmission oil temperature.



NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 291: Main Transmission Oil Temp (N403)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N403	OFF	OFF	ON	FLAG

Filter Gauges (fuel filter restriction) (N404)

This setting enables fault code monitoring of the filter gauges and fuel filter restriction.

Table 292: Filter Gauges (fuel filter restriction) (N404)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N404	OFF	OFF	ON	FLAG

Axle Temp Gauges (Rear Rear) (N406)

This setting enables fault code monitoring of the rear rear axle temperature gauges.



NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 293: Axle Temp Gauges (Rear Rear) (N406)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N406	OFF	OFF	ON	FLAG

Battery Energy Monitoring (via Ammeter) (N407)

This setting enables fault code monitoring of the battery energy levels via ammeter.

Table 294: Battery Energy Monitoring (via Ammeter) (N407)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N407	OFF	OFF	ON	FLAG

Remote Throttle Input (N408)

This setting enables fault code monitoring of the remote throttle input.

Table 295: Remote Throttle Input (N408)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N408	OFF	OFF	ON	FLAG

Axle Temp Gauges (Rear Front) (N409)

This setting enables fault code monitoring of the rear front axle temperature gauges.



NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 296: Axle Temp Gauges (Rear Front) (N409)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N409	OFF	OFF	ON	FLAG

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Chassis Modules (CMP and CMS)

There are two modules for chassis component control; the *CMP* and the *CMS* (Also referred to as the *SCM*, and *OCM*, respectively). The *CMP* is standard equipment for all *VECU* system trucks as it controls major functions such as exterior lighting, fuel level, and other options. The *CMS* may be found on trucks built from the factory with certain options such as more than two lift axles, snow plow, or a *B-CAN*.

Chassis Module Parameters

These parameters will enable or disable fault code monitoring of current and voltage at the chassis module for the assigned device. These parameters could be useful if the device is multiplexed, factory installed, and the specific parameter is enabled to monitor.

Auto Start/Stop Hood Tilt Switch (N421)

This setting enables fault code monitoring of the auto start/stop hood tilt switch.

Table 297: Auto Start/Stop Hood Tilt Switch (N421)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N421	OFF	OFF	ON	FLAG

Axle Temp Gauges (Rear Center) (N422)

This setting enables fault code monitoring of the rear center axle temperature gauges.



NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 298: Axle Temp Gauges (Rear Center) (N422)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N422	OFF	OFF	ON	FLAG

Axle Temp Gauges (Steer) (N423)

This setting enables fault code monitoring of the steer axle temperature gauges.



NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 299: Axle Temp Gauges (Steer) (N423)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N423	OFF	OFF	ON	FLAG

Fuel Temp Sensor (N424)

This setting enables fault code monitoring of the fuel temperature sensor.


 NOTE
This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 300: Fuel Temp Sensor (N424)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N424	OFF	OFF	ON	FLAG

Oil Temp Gauges (Aux Trans) (N429)

This setting enables fault code monitoring of the auxiliary transmission oil temperature gauges.


 NOTE
This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 301: Oil Temp Gauges (Aux Trans) (N429)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N429	OFF	OFF	ON	FLAG

Oil Temp Gauges (Split shaft PTO/transfer case) (N430)

This setting enables fault code monitoring of the split shaft PTO transfer case oil temperature gauges.


 NOTE
This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 302: Oil Temp Gauges (Split shaft PTO/transfer case) (N430)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N430	OFF	OFF	ON	FLAG

Lift Axle Air PressureGauge (#1) - DTC Enable (N425)

This setting enables fault code monitoring of the #1 lift axle pressure gauge.

Table 303: Lift Axle Air PressureGauge (#1) - DTC Enable (N425)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N425	OFF	OFF	ON	FLAG

Lift Axle Air PressureGauge (#2) - DTC Enable (N426)

This setting enables fault code monitoring of the #2 lift axle pressure gauge.

Table 304: Lift Axle Air PressureGauge (#2) - DTC Enable (N426)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N426	OFF	OFF	ON	FLAG

Lift Axle Air PressureGauge (#3) - DTC Enable (N427)

This setting enables fault code monitoring of the #3 lift axle pressure gauge.

Table 305: Lift Axle Air PressureGauge (#3) - DTC Enable (N427)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N427	OFF	OFF	ON	FLAG

Lift Axle Air PressureGauge (tag) - DTC Enable (N428)

This setting enables fault code monitoring of the lift axle pressure gauge.

Table 306: Lift Axle Air PressureGauge (tag) - DTC Enable (N428)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N428	OFF	OFF	ON	FLAG

Spare Analog Input DTC Enable (NA-OCM60) (N431)

This setting enables NA-OCM60 for fault code monitoring.

Table 307: Spare Analog Input DTC Enable (NA-OCM60) (N431)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N431	OFF	OFF	ON	FLAG

Spare Analog Input DTC Enable (NA-OCM61) (N432)

This setting enables NA-OCM61 for fault code monitoring.

Table 308: Spare Analog Input DTC Enable (NA-OCM61) (N432)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N432	OFF	OFF	ON	FLAG

Spare Analog Input DTC Enable (NA-OCM62) (N433)

This setting enables NA-OCM62 for fault code monitoring.

Table 309: Spare Analog Input DTC Enable (NA-OCM62) (N433)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N433	OFF	OFF	ON	FLAG

Suspension Load Air Pressure Gauge #2 - DTC Enable (N434)

This setting enables fault code monitoring of the suspension load air pressure gauge #2.

Table 310: Suspension Load Air Pressure Gauge #2 - DTC Enable (N434)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N434	OFF	OFF	ON	FLAG

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Auto-Desorb

Automatic HC Desorb functionality provides the truck with the ability to perform an HC Desorb (hydrocarbon desorption) automatically during extended idling. This feature is fully integrated into the aftertreatment system and will perform an HC Desorb when the truck is idling, conditions are met, and without any driver inputs, potentially eliminating the need for a Manual HC Desorb.

Prior to Auto HC Desorb functionality, customers had to perform a Manual HC Desorb before driving after idling for an extended amount of time.

Auto HC Desorb functions by periodically increasing engine speed and exhaust temperatures to maintain a low level of HC accumulation in the aftertreatment during extended idle. This operation will maintain a level of accumulated hydrocarbons so that the truck is always safe to be driven and there is minimal risk of aftertreatment damage. Drivers may experience unexpected changes in engine speed when Auto Desorbs occur, sometimes without notification depending on NAMUX version. When the Auto Desorb has completed, engine speed will return to the previous set speed.

Enables the Auto HC-Desorb functionality (AE01003)

This parameter enables/disables Auto-Desorb.



NOTE

This parameter is for MX engines only.

Table 311: Enables the Auto HC-Desorb functionality (AE01003)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AE01003	ENABLED	DISABLED	ENABLED	FLAG

Chapter 28 | AFTER-TREATMENT

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Exterior Notification of Regen

An external signal shall be provided to notify the operator that regeneration is occurring. The intention is that this signal shall drive a relay to power a notification method such as beacon lamps or horns. The parameter can disable the feature or can turn on the exterior device either in any active *PTO* state or only on when the *PTO* is turned on. In any case the function will only turn on when the vehicle is parked and an active regeneration is occurring.

Automatic Regen in PTO (MX Engine Only) (AA01367)

This setting enables automatic regen during *PTO*.



NOTE

This parameter is for MX engines only.

Table 312: Automatic Regen in PTO (MX Engine Only) (AA01367)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01367	DISABLED	DISABLED	ENABLED	FLAG

Exterior Notification for Regen Active (AA01243)

This setting controls when exterior notifications occur during active regeneration.

The possible values for this setting are:

- 0 - OFF
- 1 - ON with Regen Active and Park Brake
- 2 - Regen Active with Park Brake and PTO active



NOTE

This parameter is for MX engines only.

Table 313: Exterior Notification for Regen Active (AA01243)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01243	1	0	2	DISCRETE

Exterior Light flash for Regen Required Notification (AA01240)

This setting controls whether the exterior lights flash as part of a notification of active regeneration. This setting cannot be enabled if HID headlamps are enabled in *Head lamp Type (AA01272)* on page 140.


 NOTE
This parameter is for MX engines only.

Table 314: Exterior Light flash for Regen Required Notification (AA01240)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01240	DISABLED	DISABLED	ENABLED	FLAG

Vehicle Speed Threshold above which Exterior Notification of Regen required will be disabled in PTO mode (AA01241)

This setting indicates the vehicle speed where notifications of active regeneration are disabled when the vehicle is in PTO mode. When the vehicle is in PTO mode, and the vehicle is traveling at speeds above this threshold, then no notifications of active regeneration are shown.


 NOTE
This parameter is for MX engines only.

Table 315: Vehicle Speed Threshold above which Exterior Notification of Regen required will be disabled in PTO mode (AA01241)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01241	6.2	0	158.4	MPH

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Finding The Digital Output Parameters in PVP

The digital output parameters found in this chapter are located in [PVP](#) under the section titled **CMP - Digital Output FMI5 (Undercurrent / Open)**.

Chassis Modules (CMP and CMS)

There are two modules for chassis component control; the [CMP](#) and the [CMS](#) (Also referred to as the [SCM](#), and [OCM](#), respectively). The [CMP](#) is standard equipment for all [VECU](#) system trucks as it controls major functions such as exterior lighting, fuel level, and other options. The [CMS](#) may be found on trucks built from the factory with certain options such as more than two lift axles, snow plow, or a [B-CAN](#).

Chassis Module Parameters

These parameters will enable or disable fault code monitoring of current and voltage at the chassis module for the assigned device. These parameters could be useful if the device is multiplexed, factory installed, and the specific parameter is enabled to monitor.

Lift Axle #1 Solenoid Undercurrent/Open DTC Control (N412)

This setting enables fault code monitoring of the lift axle #2 solenoid.

Table 316: Lift Axle #1 Solenoid Undercurrent/Open DTC Control (N412)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N412	OFF	OFF	ON	FLAG

Lift Axle #2 Solenoid Undercurrent/Open DTC Control (N413)

This setting enables fault code monitoring of the lift axle #2 solenoid.

Table 317: Lift Axle #2 Solenoid Undercurrent/Open DTC Control (N413)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N413	OFF	OFF	ON	FLAG

Electric Over Air Solenoid Kingpin Release (N414)

This setting enables [EOA](#) solenoid kingpin release.

Table 318: Electric Over Air Solenoid Kingpin Release (N414)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N414	ON	OFF	ON	FLAG

Direction Indication/Hazard Lights LH Trailer (rear) Undercurrent/Open DTC Control (N415)

This setting enables fault code monitoring of the trailer rear left side direction indication/hazard lights.


 NOTE
This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 319: Direction Indication/Hazard Lights LH Trailer (rear) Undercurrent/Open DTC Control (N415)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N415	ON	OFF	ON	FLAG

Direction Indication/Hazard Lights RH Trailer (rear) Undercurrent/Open DTC Control (N416)

This setting enables fault code monitoring of the trailer rear right side direction indication/hazard lights.


 NOTE
This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 320: Direction Indication/Hazard Lights RH Trailer (rear) Undercurrent/Open DTC Control (N416)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N416	ON	OFF	ON	FLAG

Daytime Running Lights (DRL) LH (Peterbilt) Undercurrent/Open DTC Control (N417)

This setting enables fault code monitoring of the left side daytime running lights.


 NOTE
This parameter only applies to Peterbilt trucks.

Table 321: Daytime Running Lights (DRL) LH (Peterbilt) Undercurrent/Open DTC Control (N417)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N417	OFF	OFF	ON	FLAG

Daytime Running Lights (DRL) RH (Peterbilt) Undercurrent/Open DTC Control (N418)

This setting enables fault code monitoring of the right side daytime running lights.


	NOTE
This parameter only applies to Peterbilt trucks.	

Table 322: Daytime Running Lights (DRL) RH (Peterbilt) Undercurrent/Open DTC Control (N418)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N418	OFF	OFF	ON	FLAG

Fog/Driving Lamps (front) 1st set Undercurrent/Open DTC Control (N419)

This setting enables fault code monitoring of the first set of front fog/driving lamps.

Table 323: Fog/Driving Lamps (front) 1st set Undercurrent/Open DTC Control (N419)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N419	OFF	OFF	ON	FLAG

Front Tractor Position Lights (Park Lamps) Undercurrent/Open DTC Control (N420)

This setting enables fault code monitoring of the front tractor position lights/park lamps.

Table 324: Front Tractor Position Lights (Park Lamps) Undercurrent/Open DTC Control (N420)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N420	ON	OFF	ON	FLAG

Main Beam (High Beam) LH Undercurrent/Open DTC Control (N489)

This setting enables fault code monitoring of the left side high beam.

Table 325: Main Beam (High Beam) LH Undercurrent/Open DTC Control (N489)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N489	ON	OFF	ON	FLAG

Main Beam (High Beam) RH Undercurrent/Open DTC Control (N490)

This setting enables fault code monitoring of the right side high beam.

Table 326: Main Beam (High Beam) RH Undercurrent/Open DTC Control (N490)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N490	ON	OFF	ON	FLAG

Rear Tractor Position Lamps (Park Lamps) Undercurrent/Open DTC Control (N491)

This setting enables fault code monitoring of the rear tractor position lamps/park lamps.


	NOTE
The factory default value of this setting is OFF. Vehicles equipped with LED lighting should keep this setting to OFF. Turning this setting to ON on a vehicle with LED lighting can create a fault code error in the system.	

Table 327: Rear Tractor Position Lamps (Park Lamps) Undercurrent/Open DTC Control (N491)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N491	OFF	OFF	ON	FLAG

Reverse Lamps Undercurrent/Open DTC Control (N492)

This setting enables fault code monitoring of the reverse lamps.

Table 328: Reverse Lamps Undercurrent/Open DTC Control (N492)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N492	ON	OFF	ON	FLAG

Tractor Direction Indication, Brake and Hazard - RH Rear Lamp Undercurrent/Open DTC Control (N493)

This setting enables fault code monitoring of the right side rear tractor direction indication, brake, and hazard lights.

Table 329: Tractor Direction Indication, Brake and Hazard - RH Rear Lamp Undercurrent/Open DTC Control (N493)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N493	ON	OFF	ON	FLAG

Tractor Direction Indication, Brake and Hazard - LH Rear Lamp Undercurrent/Open DTC Control (N494)

This setting enables fault code monitoring of the left side rear tractor direction indication, brake, and hazard lights.

Table 330: Tractor Direction Indication, Brake and Hazard - LH Rear Lamp Undercurrent/Open DTC Control (N494)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N494	ON	OFF	ON	FLAG

Reverse Warning (aka Backup Alarm) Undercurrent/Open DTC Control (N495)

This setting enables fault code monitoring of the reverse warning/backup alarm.

Table 331: Reverse Warning (aka Backup Alarm) Undercurrent/Open DTC Control (N495)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N495	OFF	OFF	ON	FLAG

Tractor Direction Indication/Hazard/Side Turn Indication RH Front Lamp Undercurrent/Open DTC Control (N496)

This setting enables fault code monitoring of the right side front light.



NOTE

The factory default value of this setting is OFF. Vehicles equipped with LED lighting should keep this setting to OFF. Turning this setting to ON on a vehicle with LED lighting can create a fault code error in the system.

Table 332: Tractor Direction Indication/Hazard/Side Turn Indication RH Front Lamp Undercurrent/Open DTC Control (N496)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N496	OFF	OFF	ON	FLAG

Tractor Direction Indication/Hazard/Side Turn Indication LH Front Lamp Undercurrent/Open DTC Control (N497)

This setting enables fault code monitoring of the left side front light.



NOTE

The factory default value of this setting is OFF. Vehicles equipped with LED lighting should keep this setting to OFF. Turning this setting to ON on a vehicle with LED lighting can create a fault code error in the system.

Table 333: Tractor Direction Indication/Hazard/Side Turn Indication LH Front Lamp Undercurrent/Open DTC Control (N497)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N497	OFF	OFF	ON	FLAG

Tractor Direction Indication/Hazard/DRL - RH Front Lamp Undercurrent/Open DTC Control (N498)

This setting enables fault code monitoring of the right side front tractor direction indication, hazard, and daytime running lights.

Table 334: Tractor Direction Indication/Hazard/DRL - RH Front Lamp Undercurrent/Open DTC Control (N498)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N498	OFF	OFF	ON	FLAG

Tractor Direction Indication/Hazard/DRL - LH Front Lamp Undercurrent/Open DTC Control (N499)

This setting enables fault code monitoring of the left side front tractor direction indication, hazard, and daytime running lights.

Table 335: Tractor Direction Indication/Hazard/DRL - LH Front Lamp Undercurrent/Open DTC Control (N499)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N499	OFF	OFF	ON	FLAG

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Finding The Digital Output Parameters in PVP

The digital output parameters found in this chapter are located in [PVP](#) under the section titled **CMS - Digital Output FMI5 (Undercurrent / Open)**.

Chassis Modules (CMP and CMS)

There are two modules for chassis component control; the [CMP](#) and the [CMS](#) (Also referred to as the [SCM](#), and [OCM](#), respectively). The [CMP](#) is standard equipment for all [VECU](#) system trucks as it controls major functions such as exterior lighting, fuel level, and other options. The [CMS](#) may be found on trucks built from the factory with certain options such as more than two lift axles, snow plow, or a [B-CAN](#).

Chassis Module Parameters

These parameters will enable or disable fault code monitoring of current and voltage at the chassis module for the assigned device. These parameters could be useful if the device is multiplexed, factory installed, and the specific parameter is enabled to monitor.

City Horn Relay Undercurrent/Open DTC Control (N435)

This setting enables fault code monitoring of the city horn relay.

Table 336: City Horn Relay Undercurrent/Open DTC Control (N435)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N435	OFF	OFF	ON	FLAG

Aftertreatment External Notification Undercurrent/Open DTC Control (N436)

This setting enables fault code monitoring of the aftertreatment external notification.

Table 337: Aftertreatment External Notification Undercurrent/Open DTC Control (N436)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N436	OFF	OFF	ON	FLAG

Spare Digital Output Undercurrent/Open DTC Control (NA-OCM02) (N437)

This setting enables NA-OCM02 for fault code monitoring.

Table 338: Spare Digital Output Undercurrent/Open DTC Control (NA-OCM02) (N437)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N437	OFF	OFF	ON	FLAG

Lift Axle #3 Solenoid Undercurrent/Open DTC Control (N438)

This setting enables fault code monitoring of lift axle #3 solenoid.

Table 339: Lift Axle #3 Solenoid Undercurrent/Open DTC Control (N438)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N438	OFF	OFF	ON	FLAG

Lift Axle #4 Solenoid Undercurrent/Open DTC Control (N439)

This setting enables fault code monitoring of the lift axle #4 solenoid.

Table 340: Lift Axle #4 Solenoid Undercurrent/Open DTC Control (N439)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N439	OFF	OFF	ON	FLAG

Vehicle Thermal Management Undercurrent/Open DTC Control (NA-OCM69) (N480)

This setting enables NA-OCM69 fault code monitoring.

Table 341: Vehicle Thermal Management Undercurrent/Open DTC Control (NA-OCM69) (N480)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N480	OFF	OFF	ON	FLAG

Vehicle Thermal Management Undercurrent/Open DTC Control (NA-OCM72) (N481)

This setting enables NA-OCM72 fault code monitoring.

Table 342: Vehicle Thermal Management Undercurrent/Open DTC Control (NA-OCM72) (N481)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N481	OFF	OFF	ON	FLAG

Trailer Options - Dump Gate/Configurable Output Undercurrent/Open DTC Control (NA-OCM10) (N482)

This setting enables NA-OCM10 fault monitoring.

Table 343: Trailer Options - Dump Gate/Configurable Output Undercurrent/Open DTC Control (NA-OCM10) (N482)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N482	OFF	OFF	ON	FLAG

Trailer Options - ISO 3731/Spare/Aux Trailer Conn/Berg Box Undercurrent/Open DTC Control (NA-OCM25) (N483)

This setting enables NA-OCM25 fault monitoring.

Table 344: Trailer Options - ISO 3731/Spare/Aux Trailer Conn/Berg Box Undercurrent/Open DTC Control (NA-OCM25) (N483)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N483	OFF	OFF	ON	FLAG

Trailer Options - ISO 3731/Spare/Aux Trailer Conn/Berg Box Undercurrent/Open DTC Control (NA-OCM26) (N484)

This setting enables NA-OCM26 fault monitoring.

Table 345: Trailer Options - ISO 3731/Spare/Aux Trailer Conn/Berg Box Undercurrent/Open DTC Control (NA-OCM26) (N484)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N484	OFF	OFF	ON	FLAG

Trailer Options - ISO 3731/Spare/Aux Trailer Conn/Berg Box Undercurrent/Open DTC Control (NA-OCM33) (N485)

This setting enables NA-OCM33 fault monitoring.

Table 346: Trailer Options - ISO 3731/Spare/Aux Trailer Conn/Berg Box Undercurrent/Open DTC Control (NA-OCM33) (N485)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N485	OFF	OFF	ON	FLAG

Sky/Aux Lights (Panel) Undercurrent/Open DTC Control (N486)

This setting enables fault code monitoring of the sky/auxiliary lights panel.

Table 347: Sky/Aux Lights (Panel) Undercurrent/Open DTC Control (N486)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N486	OFF	OFF	ON	FLAG

Work Lamps (Frame Mounted) Undercurrent/Open DTC Control (N487)

This setting enables fault code monitoring of frame-mounted work lamps.

Table 348: Work Lamps (Frame Mounted) Undercurrent/Open DTC Control (N487)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N487	OFF	OFF	ON	FLAG

Snow Plow Lamp Undercurrent/Open DTC Control (N488)

This setting enables fault code monitoring of snow plow mounted lamps.

Table 349: Snow Plow Lamp Undercurrent/Open DTC Control (N488)

SEL Code	Default Value	Minimum Value	Maximum Value	Unit Type
N488	OFF	OFF	ON	FLAG

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PACCAR Driveline Protection

The PACCAR Driveline Protection feature allows the engine to reduce the maximum torque output in order to protect driveline components when the drivetrain reduction is calculated to be above a calibrated ratio. This functionality provides the rated torque in all conditions, and only reduces torque output if one or both of the following conditions are met:

- The vehicle has an auxiliary transmission with gear ratio greater than 1.0:1
- Vehicle has a transmission in a forward or reverse gear with a gear ratio equal to or greater than 13.0:1

Driveline protection is automatically included within the programming for all multi-torque engine ratings, as it utilizes the same software functions to enable the higher torque values of the multi-torque rating. Driveline protection on also includes a clutch dump protection that limits the engine speed while the vehicle is stationary and the clutch is depressed. This function applies to trucks with manual transmissions only.

Enable Driveline Protection (AA01236)

This setting is used to enable driveline protection.



NOTE

This parameter is for MX engines only.

Table 350: Enable Driveline Protection (AA01236)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01236	ENABLED	DISABLED	ENABLED	FLAG

Maximum driveline torque limit (AA01237)

This setting controls the maximum driveline torque limit. The engine torque is limited to keep the driveline torque to at or below this value. This parameter is not intended to be customer programmable, but will be selected automatically based on how the truck was ordered.



NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.



NOTE

This parameter is for MX engines only.

Table 351: Maximum driveline torque limit (AA01237)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01237	16595.1	3687.8	36878.1	FT-LB

Multi Speed Rear Axle Type (AA01246)

This setting indicates if the input is fitted and therefore will be processed.

The possible values for this setting are:

Single Speed Rear Axle

Two Speed Rear Axle Is Equipped (Must Set Secondary Rear Axle Ratio Parameter And DLP Parameters If Enabled)

Table 352: Multi Speed Rear Axle Type (AA01246)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01246	Single Speed Rear Axle	Single Speed Rear Axle	Single Speed Rear Axle	FLAG

Multi-torque Configuration (AA00006)

This setting controls if multi-torque is available only when cruise control is active or at all times.

The possible values for this setting are:

0 - Multi-Torque enabled with and without cruise control active

1 - Multi-Torque enable only while cruise control active



NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.



NOTE

This parameter is for MX engines only.

Table 353: Multi-torque Configuration (AA00006)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA00006	DISABLED	DISABLED	ENABLED	FLAG

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Enables/Disables Low Voltage Disconnect function (AA01268)

This setting enables the *Low Voltage Disconnect (LVD)* function.

The *LVD* will disconnect non-vital battery loads when battery voltage drops below the value set in *Battery voltage threshold at which the LVD bus will be disconnected (AA01270)* on page 226 for 3 minutes and the key switch is in the ACC or OFF position. During the next 30 seconds, the LVD will flash the Battery Disconnect Telltale in the Driver Information Display. As the telltale flashes an audio warning will also sound. During the last 2 minutes the *LVD* will emit a slow audible beep. After 2 minutes of flashing the warning on the Driver Performance Center (DPC), the *LVD* will shut-off any circuit connected through the *LVD* system. Even if the ignition switch is cycled OFF and ON again, the *LVD* will continue to fault until it sees battery voltage at, or above, the value set in *Battery voltage threshold at which the LVD bus will be disconnected (AA01270)* on page 226.

Table 354: Enables/Disables Low Voltage Disconnect function (AA01268)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01268	ENABLED	DISABLED	ENABLED	FLAG

Determines if LVD voltage cutoff threshold is selected by operator on display menu or selectable in PVP (AA01269)

This setting determines if the voltage threshold where the *LVD* function is set.

There are two options available for this setting:

- 0 - Selectable in *PVP*
- 1 - Selectable by driver on display menu

Table 355: Determines if LVD voltage cutoff threshold is selected by operator on display menu or selectable in PVP (AA01269)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01269	Selectable in PVP	Selectable in PVP	Selectable by driver on display menu	FLAG

Battery voltage threshold at which the LVD bus will be disconnected (AA01270)

This setting controls the voltage threshold where the *LVD* function activates. This setting is only used if *Determines if LVD voltage cutoff threshold is selected by operator on display menu or selectable in PVP (AA01269)* on page 226 is set to '0'.

Table 356: Battery voltage threshold at which the LVD bus will be disconnected (AA01270)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01270	12100	11100	12100	mV

Allow LVD to Turn Off Dome Lamps (AA01364)

This setting allows [LVD](#) to turn off cab interior dome lights if needed.

Table 357: Allow LVD to Turn Off Dome Lamps (AA01364)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01364	ENABLED	DISABLED	ENABLED	FLAG

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Enables Main Battery AS Monitor (AA01289)

This setting enables/disables Autostart Main battery monitor.



NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 358: Enables Main Battery AS Monitor (AA01289)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01289	DISABLED	DISABLED	ENABLED	FLAG

Enables Aux Battery AS Monitor (AA01290)

This setting enables/disables Autostart Aux battery monitor.



NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 359: Enables Aux Battery AS Monitor (AA01290)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01290	DISABLED	DISABLED	ENABLED	FLAG

Aux Battery SOC Low Threshold (AA01291)

This setting controls the Aux battery's low State of Charge threshold.

Table 360: Aux Battery SOC Low Threshold (AA01291)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01291	10	0	35	DISCRETE

AS Target Idle Speed (AA01293)

This setting controls target idle speed when Auto Start is active.



NOTE

This setting cannot exceed 800 RPM on vehicles with a Cummins engine.

Table 361: AS Target Idle Speed (AA01293)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01293	800	650	1200	RPM

Enables Engine Oil Temp AS Monitor (AA01295)

This setting enables/disables the Engine Oil Temperature Auto Start Monitor.

Table 362: Enables Engine Oil Temp AS Monitor (AA01295)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01295	ENABLED	DISABLED	ENABLED	FLAG

Enables Fuel Temp AS Monitor (AA01296)

This setting enables/disables the Fuel Temperature Auto Start Monitor.

Table 363: Enables Fuel Temp AS Monitor (AA01296)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01296	DISABLED	DISABLED	ENABLED	FLAG

Enables Sleeper Thermostat AS Request (AA01297)

This setting enables/disables the Sleeper Thermostat Auto Start Functionality.

Table 364: Enables Sleeper Thermostat AS Request (AA01297)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01297	DISABLED	DISABLED	ENABLED	FLAG

Oil Temp High Threshold (AA01298)

This setting controls the Oil Temperature Threshold where Auto Start will deactivate.

Table 365: Oil Temp High Threshold (AA01298)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01298	100	80	250	°F

Oil Temp Low Threshold (AA01299)

This setting controls the Oil Temperature Threshold where Auto Start will activate.

Table 366: Oil Temp Low Threshold (AA01299)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01299	20	-20	40	°F

Fuel Temp Low Threshold (AA01300)

This setting controls the Fuel Temperature Threshold where Auto Start will activate.

Table 367: Fuel Temp Low Threshold (AA01300)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01300	0	-40	40	°F

AS Door Interlock (AA01301)

This setting enables/disables the Door Interlock for Auto Start.

Table 368: AS Door Interlock (AA01301)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01301	DISABLED	DISABLED	ENABLED	FLAG

Max idle Time for SOC Request (ms) (AA01302)

This setting controls the max idle time when Auto Start has been initiated due to low State of Charge.

Table 369: Max idle Time for SOC Request (ms) (AA01302)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01302	240	60	240	MIN

Max Idle Time for Oil Temp Request (ms) (AA01303)

This setting controls the max idle time when Auto Start has been initiated due to low Oil Temp.

Table 370: Max Idle Time for Oil Temp Request (ms) (AA01303)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01303	240	60	240	MIN

Main Battery SOC High Threshold (AA01331)

This setting controls the Main battery's high State of Charge threshold.

Table 371: Main Battery SOC High Threshold (AA01331)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01331	80	70	90	%

Main Battery SOC Low Threshold (AA01332)

This setting controls the Main battery's Low State of Charge threshold.

Table 372: Main Battery SOC Low Threshold (AA01332)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01332	50	20	60	%

Aux Battery SOC High Threshold (AA01333)

This setting controls the Aux battery's High State of Charge threshold.

Table 373: Aux Battery SOC High Threshold (AA01333)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01333	80	70	90	%

Allows AS to Ignore the MIL lamp interlock (AA01334)

This setting allows Autostart to bypass Malfunction Indication Lamp (MIL) Interlock.


	NOTE
This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.	

Table 374: Allows AS to Ignore the MIL lamp interlock (AA01334)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01334	DISABLED	DISABLED	ENABLED	FLAG

Chapter 34 | LANE KEEP ASSIST

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Lane Keep Assist and/or Torque Overlay Steering Installed (AA01307)

This setting controls whether Lane Keep Assist or Torque Overlay Steering is equipped.

- 0 - Not Fitted
- 1 - TOS Installed
- 2 - TOS/LKA Installed W/ Disable Switch
- 3 - LKA Disabled
- 4 - LKA W/O Disable Switch



	NOTE
This parameter only applies to Heavy Duty vehicles.	

Table 375: Lane Keep Assist and/or Torque Overlay Steering Installed (AA01307)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01307	NOT FITTED	NOT FITTED	LKA W/O DISABLE SWITCH	DISCRETE

	NOTE
This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.	

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Anti-Theft (AA01346)

This setting enables/disables Anti-Theft functionality.

Table 376: Anti-Theft (AA01346)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01346	DISABLED	DISABLED	ENABLED	FLAG

Anti-Theft Driver Override (AA01347)

This setting enables/disables the Digital Display menu option for the driver to turn Anti-Theft on or off. When this parameter is disabled, the Digital Display menu option for Anti-Theft will have no effect on functionality.

Table 377: Anti-Theft Driver Override (AA01347)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01347	DISABLED	DISABLED	ENABLED	FLAG

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Dual Drive Digital Display Configuration (AA01340)

This setting enables a 2nd Digital Display for dual driving positions.



NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 378: Dual Drive Digital Display Configuration (AA01340)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01340	DISABLED	DISABLED	ENABLED	FLAG

Right-Hand Standup Digital Display Configuration (AA01341)

This setting enables a 2nd Digital Display for Right-Hand Standup position.

Possible values for this setting are:

- 0 - Disable
- 1 - Enable



NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 379: Right-Hand Standup Digital Display Configuration (AA01341)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01341	DISABLED	DISABLED	ENABLED	FLAG

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Audible Alarm when Door is Open and Park Brake is not set (AA01242)

This setting enables an audible alarm to sound when the driver's side door is opened and the parking brake is not set.

Table 380: Audible Alarm when Door is Open and Park Brake is not set (AA01242)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01242	DISABLED	DISABLED	ENABLED	FLAG

Radio Auto Mute with Seatbelt Unbuckled (AA01318)

This setting is used to determine if the radio will mute when the seatbelt is unbuckled.

Table 381: Radio Auto Mute with Seatbelt Unbuckled (AA01318)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01318	DISABLED	DISABLED	ENABLED	FLAG

Radio Auto Mute with Collision (AA01319)

This setting is used to determine if the radio will mute when a collision is detected.

Table 382: Radio Auto Mute with Collision (AA01319)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01319	DISABLED	DISABLED	ENABLED	FLAG

Radio Auto Mute with Lane Departure Warning (AA01320)

This setting is used to determine if the radio will mute when a Lane Departure Warning is active.

Table 383: Radio Auto Mute with Lane Departure Warning (AA01320)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01320	DISABLED	DISABLED	ENABLED	FLAG

Passenger Occupancy Status (AA01327)

This setting enables Passenger Occupancy detection if installed.



NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 384: Passenger Occupancy Status (AA01327)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01327	DISABLED	DISABLED	ENABLED	FLAG

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Enables Heated Mirrors if installed (AA01264)

This setting is used to enable heated mirrors if they are installed on the vehicle.



This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 385: Enables Heated Mirrors if installed (AA01264)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01264	DISABLED	DISABLED	ENABLED	FLAG

Inclement Driving Condition Interlock (AA01324)

This setting enables Inclement Driving Condition Interlock.



This parameter is for MX engines only.

Table 386: Inclement Driving Condition Interlock (AA01324)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01324	DISABLED	DISABLED	ENABLED	FLAG

Inclement Driving Condition Interlock Delay Interval (AA01325)

This setting controls the wiper delay for Inclement Driving Condition Interlock.

Possible options for this setting:

- 0 - Off
- 1 - 20 second pause
- 2 - 12 second pause
- 3 - 7 second pause
- 4 - 4 second pause
- 5 - Constant low speed
- 6 - Constant high speed



This parameter is for MX engines only.

Table 387: Inclement Driving Condition Interlock Delay Interval (AA01325)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01325	4	0	10	Discrete

Digital Mirror Trailer Detection (AA01378)

This setting enables the digital mirror trailer detection system.



NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.



NOTE

This parameter only applies to Heavy Duty vehicles.

Table 388: Digital Mirror Trailer Detection (AA01378)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01378	DISABLED	DISABLED	ENABLED	FLAG

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Variable Speed Fan (AA01263)

This setting is used to determine if a variable speed fan is installed on the vehicle.



NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 389: Variable Speed Fan (AA01263)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01263	DISABLED	DISABLED	ENABLED	FLAG

Engine fan with Park Brake (AA01276)

NOTE

This parameter is for MX engines only.

Table 390: Engine fan with Park Brake (AA01276)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01276	DISABLED	DISABLED	ENABLED	FLAG

Engine fan with Park Brake and HVAC (AA01277)

NOTE

This parameter is for MX engines only.

Table 391: Engine fan with Park Brake and HVAC (AA01277)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01277	DISABLED	DISABLED	ENABLED	FLAG

Fan Type (AA01344)

This setting is used to determine fan type.



 NOTE
This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 392: Fan Type (AA01344)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01344	VARIABLE SPEED FAN	VARIABLE SPEED FAN	ON/OFF FAN	FLAG

Engine Fan Low Air Protection (AA01380)

This setting engine fan low air protection.

 NOTE
This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.


 NOTE
This parameter applies to medium duty vehicles with Cummins engines.

Table 393: Engine Fan Low Air Protection (AA01380)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01380	ENABLED	DISABLED	ENABLED	FLAG

Engine Fan Override Dash Mounted Switch Installed (AA01326)

This setting enables the dash mounted engine fan override switch.

Table 394: Engine Fan Override Dash Mounted Switch Installed (AA01326)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01326	DISABLED	DISABLED	ENABLED	FLAG

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Advance ABS Installed (AA01285)

This setting controls if the vehicle is equipped with an Advance ABS system.

If the vehicle has hydraulic brakes, this setting must = 0.



NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 395: Advance ABS Installed (AA01285)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01285	DISABLED	DISABLED	ENABLED	FLAG

Brake Type Switch Signal Source (AA01286)

This setting controls the vehicles brake switch signal source.

1 = Air Brakes

2 = Hydraulic Brakes



NOTE

This parameter must be modified by a PACCAR employee. Contact PACCAR if this parameter needs to be changed.

Table 396: Brake Type Switch Signal Source (AA01286)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01286	1	1	2	DISCRETE

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Vehicle Parameters

Parameters in this section control basic functions related to the vehicle.

Secondary Fuel Tank (AA01311)

This setting controls whether there is a secondary fuel tank with level sensor installed..

Table 397: Secondary Fuel Tank (AA01311)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01311	DISABLED	DISABLED	ENABLED	FLAG

Chapter 42 | IGNITION CUTOFF TIMER

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Ignition Shutdown Timer Functionality (AA01352)

This setting is used to control the Ignition Shutdown Timer.

Table 398: Ignition Shutdown Timer Functionality (AA01352)

P-Code	Default Value	Minimum Value	Maximum Value	Unit Type
AA01352	DISABLED	DISABLED	ENABLED	FLAG

Glossary

Adaptive Cruise Control (ACC) – An electronic system that automatically adjusts the speed of a truck in cruise control to a predetermined following distance and/or time. This feature includes a warning system to warn the driver for collision avoidance.

Anti-lock Braking System – A federally mandated anti-skid braking device used on cars and trucks.

Application Road Speed Limiter – ARSL is an input provided to the customer that can be utilized to prevent a truck from going over a set speed when active. Typically used for dump trucks to prevent driving with bed up.

Automatic Traction Control – A function within a motor vehicle that can be switched on to help limit tire slip in acceleration on slippery surfaces by limiting engine torque and/or differential braking.

Body Builder CAN – CAN that handles communication between the *CMS* and body builder items such as body controller/PTO and starter battery *SoC*.

Cab CAN – A vehicle bus standard designed to allow microcontrollers and devices to communicate with each other within a vehicle without a host computer. This network is specific to the cab area.

Cab Electronic Control Unit – Cab control located inside the cab on vehicles with Namux 2 architecture and newer, from 2002 to present. It is replaced by the VECU controller that was phased in starting in 2018.

CECU VECU Multiplex – New vehicle multiplex architecture that uses both a *Cab Electronic Control Unit (CECU)* and a *VECU* to handle CAN communication.

Chassis Module Primary (CMP) – Chassis Module with standard functionality such as exterior lighting and electric-over-air.

Chassis Module Secondary (CMS) – Chassis Module with optional functionality like different temp sensors and body builder functionality.

Controller Area Network – A vehicle bus standard designed to allow microcontrollers and devices to communicate with each other within a vehicle without a host computer.

Cruise Control – A function within a motor vehicle that can be switched on to maintain a selected constant speed without the use of the accelerator.

DAVIE4 – A diagnostic tool used for programming and troubleshooting *ECUs* on the vehicle.

Daytime Running Lamp – It is an automotive lighting device on the front of a roadgoing motor vehicle, it is automatically switched on when vehicle's handbrake has been pulled down, or when the vehicle is in gear, emitting white, yellow or amber light.

Diagnostic Trouble Code – These are standard and OEM specific codes that request vehicle data or identify vehicle problems. Typically used with service tools. Technically defined as OBD-II PIDS, or on-board diagnostics parameter IDs.

Diesel Exhaust Fluid – A solution containing urea that is injected in the SCR aftertreatment system.

Differential lock – A device that disables the differential of a motor vehicle in slippery conditions to improve grip.

Downhill Speed Control – System that allows the engine to provide braking when the vehicle speed exceeds pre-determined vehicle speeds when the vehicle is in Cruise Control mode.

Downhill Speed Limiter – System that allows the engine to provide braking when the vehicle speed exceeds pre-determined vehicle speeds when speed is being controlled through pedal input.

Driver Shift Aid – A software module used to communicate the need to execute an upshift event to a customer to improve engine fuel consumption. Also known as DRSA.

Dynamic Cruise Control – System that detects objects in front of the vehicle to adjust the vehicle's speed to accommodate slower moving objects.

Electronic Catalog – System dealers and service personnel use to look up the specific chassis components when a truck comes in for service.

Electronic Control Unit – A device responsible for overseeing, regulating, and altering the operation of the truck's electronic systems.

Electronic Service Analyst – A PC based diagnostic service tool that supports both Kenworth and Peterbilt multiplexed cab electronics. The ESA tool is used in PACCAR factories, at dealership and fleet locations.

Electric Over Air – A term meant to highlight the difference between air system architectures. One is a pure air system that changes states using air valves, while an EOA system uses electrical switches to actuate/control air solenoids.

Electric Over Hydraulic – EOA system that uses electrical switches to actuate/control hydraulic functions.

Engine Idle Shutdown Timer – A function that shuts down the engine after a customer-prescribed amount of time when no overrule conditions are present.

Engine Over-speed Air Shutdown – Provides emergency overspeed shutdown protection for diesel engines and are the most effective way of preventing a runaway situation.

Engine Speed Control – Module used to limit the vehicle's engine speed in cab station or remote station *PTO* mode.

Fast Idle Control – Engine function that controls the idle of the engine when a higher idle is required, such as instances where a Power Take Off is being used or when stationary idling needs more coolant flow.

Frame CAN – FD capable CAN.

G-CAN – Sub CAN off of ABS (Bendix only).

Gear Down Protection – Module that encourages the driver to shift into top gear when operating the vehicle at the target operating speed.

Hill Start Aid – Momentarily prevents vehicle from moving while on a steep grade when brake pedal is released.

HVAC – System to control the temperature of the air inside the cab and the sleeper.

J-CAN – CAN network that handles communications between the *CMP* and the *MSB*.

Legal Speed Limit – The maximum speed the vehicle can normally travel, before modifications from the Driver Reward system and similar functions.

Low Voltage Disconnect – An electronic system that will disconnect or turn off electrical systems when a preset voltage is reached on the batteries caused by too much electrical drain from appliances or heaters inside the sleeper.

Master Switch Module – A smart module that interfaces with all of the multiplexed switches on the dash.

Menu Control Switch – Dash mounted, depressible knob used to control the Driver Information Display, located at the top of the instrument cluster.

Multiplex Solenoid Bank – This is a device with a set of electric over air solenoid connecting electric switches to air operated devices. On occasion this will be shortened to Solenoid Bank. The term Multiplex is added to clarify that the device is multiplexed with the vehicle controller as opposed to a bank of solenoids that are individually wired to the switch.

Multiplexed – Method by which multiple analog or digital signals are combined into one signal over a shared medium.

On Board Diagnostics – The vehicle's self-diagnostic and reporting system.

Optional Chassis Module – See *Chassis Module Secondary (CMS)* on page 259.

Original equipment manufacturer (OEM) – Refers to the company that originally manufactured the product, often synonymous with the truck makers/truck divisions unless otherwise noted.

Outside Air Temperature – Refers to the ambient temperature outside of the vehicle.

PACCAR Engine Pro – Former North American software application used to make changes or adjust engine parameters. Replaced by *PVP*.

PACCAR Vehicle Pro – North American software application used to make changes or adjust engine parameters.

Power Take Off – A term for methods of taking power from an operating power source, such as a running engine, which can be used to provide power to attachments or separate machines.

Predictive Cruise Control – An optional cruise control function that increases or decreases vehicle speed based on geographical terrain.

Progressive Shift – Module typically used to encourage earlier shifts in lower gears to improve fuel economy.

PTO Mode Control – System that provides configurable interlocks to restrict *PTO* Mode (if required).

PTO Speed Control – System that provides engine speed controls when vehicle is in *PTO* mode.

Right Hand Stalk - Multiplexed Stalk mounted on the right side of the steering column, used to control the engine retarder and transmission gear selection on specific truck configurations.

Selective Catalytic Reduction - An aftertreatment technology that eliminates NOx by using DEF.

Smart Clutch - Horton fan clutch for optional variable speed fan functionality.

Soft Top Speed Limit - The maximum speed the vehicle can travel, after modifications from the Driver Reward system and similar functions.

Solenoid Bank #1 - A J1939 based solenoid bank for controlling electric-over-air functions.

Solenoid Bank #2 - A J1939 based solenoid bank for controlling electric-over-air functions.

Speed Control Management - System designed to help encourage fuel-efficient shifting habits by reducing engine acceleration or restricting vehicle speed at elevated engine speeds.

State of Charge - Measurement of the amount of charge in the vehicle's battery.

Steering Wheel Switches - Switch controls installed on the vehicle's Smartwheel.

System Address 33 - This is the internal identifier for the Body Builder Module on a truck with VECU architecture.

Transmission Control Module - *ECU* that controls the vehicle's transmission.

Telematics - Customer installed 3rd party systems for tracking/monitoring trucks in the field. Also typically called "Communications Units."

Torque Speed Control Message - A CAN message used to handle torque speed control requests.

Vehicle Acceleration Limiter - System designed to improve fuel economy by limiting the maximum vehicle acceleration.

Vehicle Electronic Control Unit - Control unit, computer, installed inside the cab and processes all input and output from the driver controls to the cab and chassis.

Vehicle Identification Number - Unique code, including a serial number, used to identify a vehicle.

VECU Multiplex - New vehicle multiplex architecture that uses a *VECU* to handle CAN communication.

Variable Road Speed Limiter - System that prevents vehicle from exceeding a chosen vehicle speed limit. This speed limit is chosen by the operator and can be changed while driving.

Vehicle Speed Limiter - System designed to improve fuel economy by reducing the vehicle's maximum speed in pre-defined situations.

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